WKE

PROJECT ID: 2370-04-70

WITH: N/A

COUNTY: WAUKESHA

MAY 2022

ORDER OF SHEETS

TOTAL SHEETS = 72

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
2370-04-70	WISC 2022389	1

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

DUPLAINVILLE ROAD

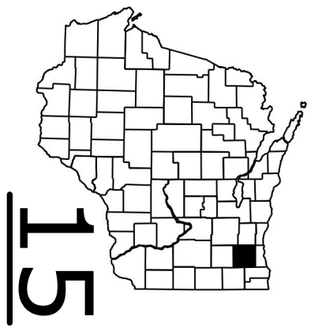
BRIDGE OVER SPRING CREEK B-67-0009

LOCAL STREET

WAUKESHA COUNTY

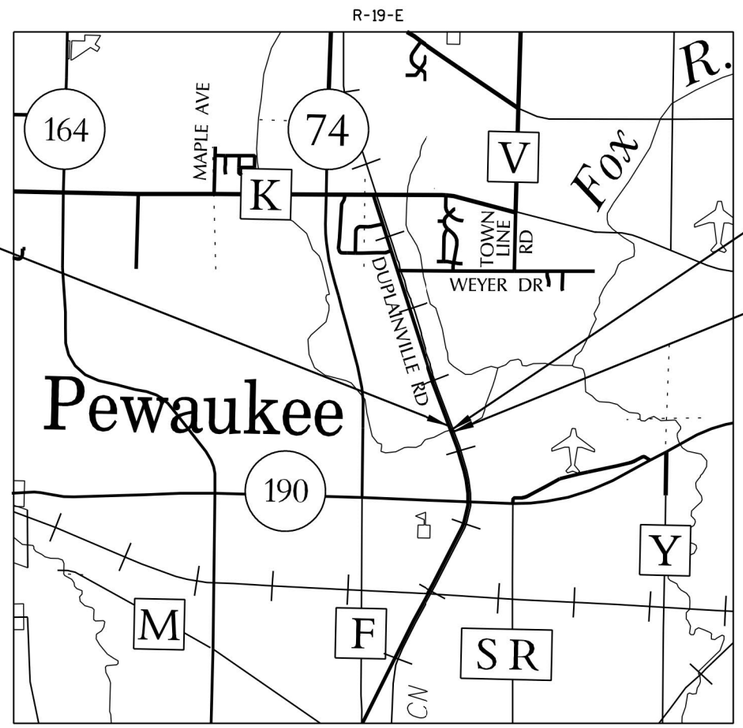
STATE PROJECT NUMBER

2370-04-70



N

R-19-E



BEGIN PROJECT

STA. 8+80.42

X = 692,949.78

Y = 189,491.08

T-7-N

STRUCTURE B-67-386

END PROJECT

STA. 11+15.17

X=693,055.12

Y=189,281.30

DESIGN DESIGNATION

A.A.D.T. (2022)	=	2,410
A.A.D.T. (2042)	=	2,730
D.H.V. (2042)	=	179
D.D.	=	59/41
T.	=	9.4%
DESIGN SPEED	=	40 MPH
ESALS	=	580,000

CONVENTIONAL SYMBOLS

PLAN

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

PROFILE

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

UTILITIES

- ELECTRIC (E)
- FIBER OPTIC (FO)
- GAS (G)
- SANITARY SEWER (SAN)
- STORM SEWER (SS)
- TELEPHONE (T)
- WATER (W)
- UTILITY PEDESTAL
- POWER POLE
- TELEPHONE POLE

LAYOUT

SCALE 0 0.5 MI.

TOTAL NET LENGTH OF CENTERLINE = 0.044 MI.

Coordinates on this plan are referenced to the Wisconsin County Coordinate System (WCCS), Waukesha, NAD 83 (2011).

Elevations shown on this plan are referenced to the North American Vertical Datum of 1988 NAVD 88 (2011).

ACCEPTED FOR CITY OF PEWAUKEE

3/9/2022 (Date)

Magdelene Wagner (Signature & Title of Official)

Digitally signed by Magdelene Wagner
DN: cn=Magdelene Wagner, o=City of Pewaukee, ou, email=wagnerm@pewaukee.wi.us, c=US
Date: 2022.03.09 12:22:35 -06'00'

ORIGINAL PLANS PREPARED BY

STRAND ASSOCIATES®
910 WEST WINGRA DRIVE
MADISON, WISCONSIN 53715
(608) 251-4843

WISCONSIN PROFESSIONAL ENGINEER
KEITH R. BEHREND
E-42073
MADISON
WI
3/7/2022

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	STRAND ASSOCIATES, INC.
Designer	STRAND ASSOCIATES, INC.
Project Manager	MICHAEL BAIRD
Regional Examiner	
Regional Supervisor	JEFF BOHEN
C.O. Examiner	

APPROVED FOR THE DEPARTMENT

DATE: 3/9/2022 Michael J. Baird (Signature)

E

2

GENERAL NOTES

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

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

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

THE LOCATION OF PROPOSED SIGNS AS SHOWN ON THE PLANS ARE APPROXIMATE. THE EXACT NUMBER OF SIGNS AND SIGN LOCATIONS ARE TO BE APPROVED BY THE ENGINEER IN THE FIELD.

DISTURBED AREAS WITHIN THE RIGHT-OF-WAY SHALL BE RESTORED AS DIRECTED BY THE ENGINEER.

PERMANENTLY RESTORE ANY AND ALL DISTURBED AREAS WITHIN 14 DAYS OF INITIAL DISTURBANCE. OR, IF NOT POSSIBLE, WITHIN 3 DAYS OF ANY DISTURBANCE, APPLY TEMPORARY SEED AND MULCH TO DISTURBED AREAS THAT WILL NOT BE PERMANENTLY RESTORED WITHIN 14 DAYS.

MISCELLANEOUS REMOVAL ITEMS SHALL BE REMOVED TO AN EXISTING JOINT, SAWCUT WHERE SHOWN ON THE PLANS, OR AS DIRECTED BY THE ENGINEER.

A SAWED JOINT SHALL BE REQUIRED WHERE NEW PAVEMENT IS TO MEET AN EXISTING PAVED SURFACE.

SILT FENCE SHALL BE PLACED AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER AND IN PLACE PRIOR TO CONSTRUCTION.

WETLANDS EXIST IN THE PROJECT AREA. DO NOT DISTURB AREAS OUTSIDE THE SLOPE INTERCEPTS.

ASPHALT BID/MIX SPECIFICATIONS

	THICKNESS	BID/MIX SPECIFICATION
UPPER LAYER	2"	4 MT 58-28 S
LOWER LAYER	4"	3 MT 58-28 S

UTILITIES

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md9542@att.com

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WISDNR

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DNR SOUTHEAST REGION
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PH: (262) 574-2141
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WISCONSIN CENTRAL LTD RAILROAD (CANADIAN NATIONAL)

JACKIE MACEWICZ
3912 S. POKEGAMA ROAD
SUPERIOR, WI 54880
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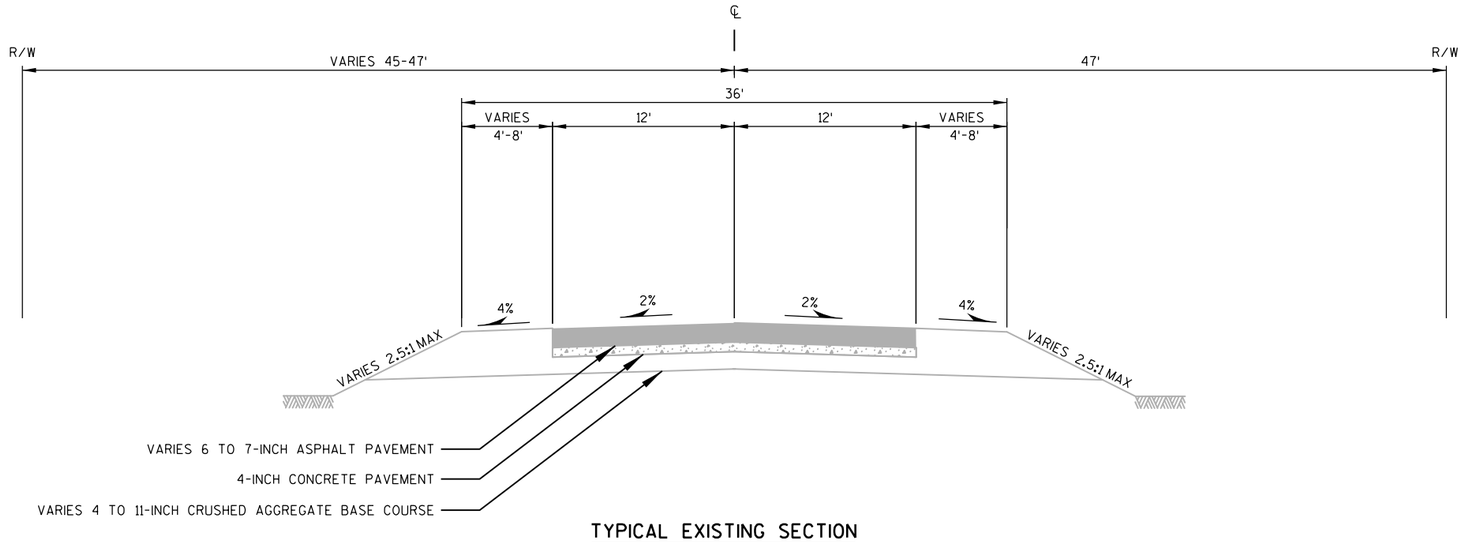
jackie.maceqicz@nc.na

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

*DENOTES MEMBER OF DIGGERS HOTLINE



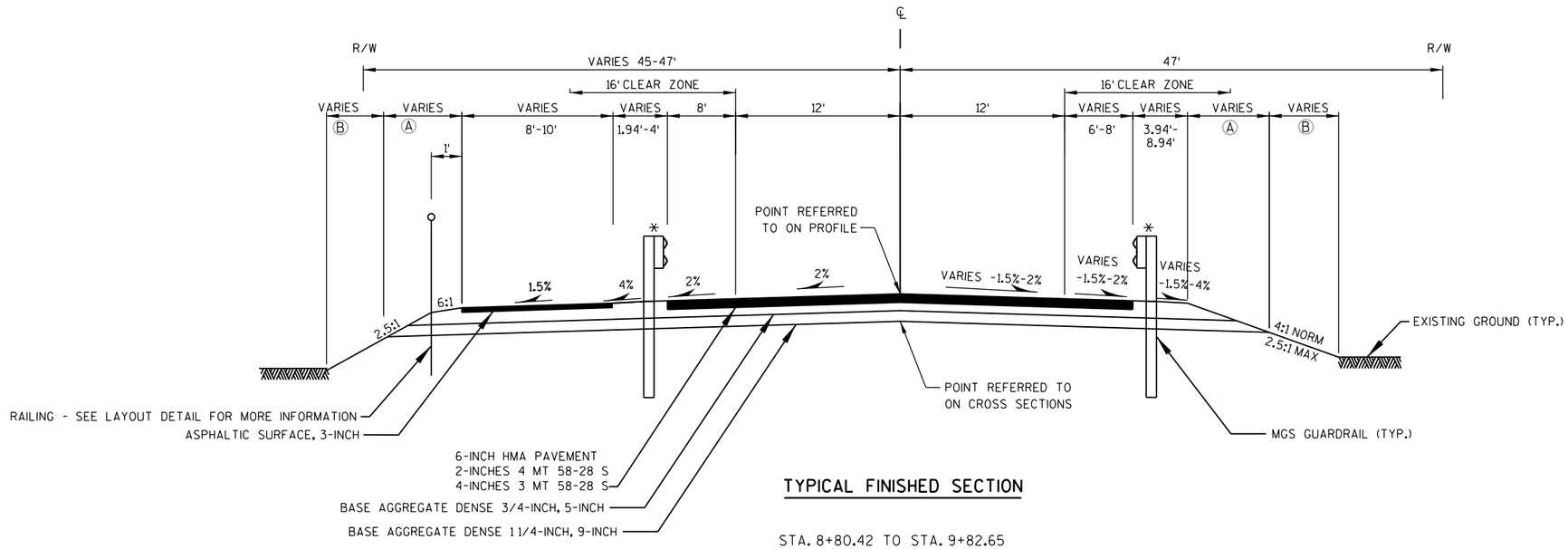
TYPICAL EXISTING SECTION

DUPLAINVILLE ROAD

Ⓐ SEEDING MIXTURE NO. 70 AND SEEDING NURSE CROP

Ⓑ SALVAGED TOPSOIL; SEEDING MIXTURE NO. 70; SEEDING NURSE CROP AND EROSION MAT URBAN CLASS 1 TYPE B

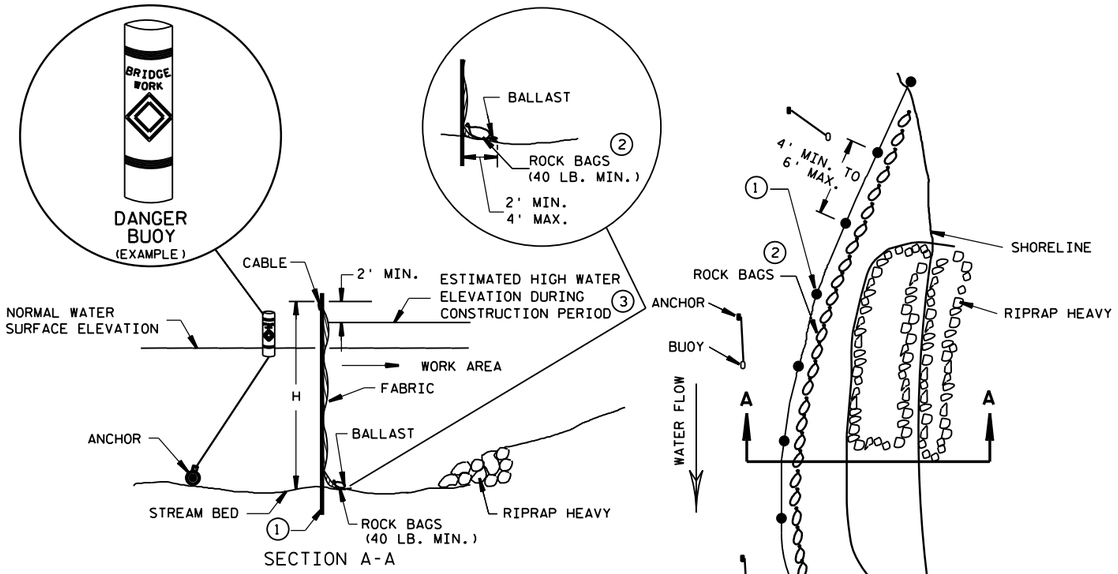
*SEE LAYOUT DETAIL FOR INFORMATION REGARDING MGS GUARDRAIL.



TYPICAL FINISHED SECTION

STA. 8+80.42 TO STA. 9+82.65
STA. 9+82.65 TO STA. 10+15.15 (B-67-386)
STA. 10+15.15 TO STA. 11+15.17

PROJECT NO: 2370-04-70	HWY: LOCAL ROAD	COUNTY: WAUKESHA	TYPICAL SECTIONS	SHEET 3	E



SECTION A-A

PLAN VIEW

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 ENGINEER'S 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.

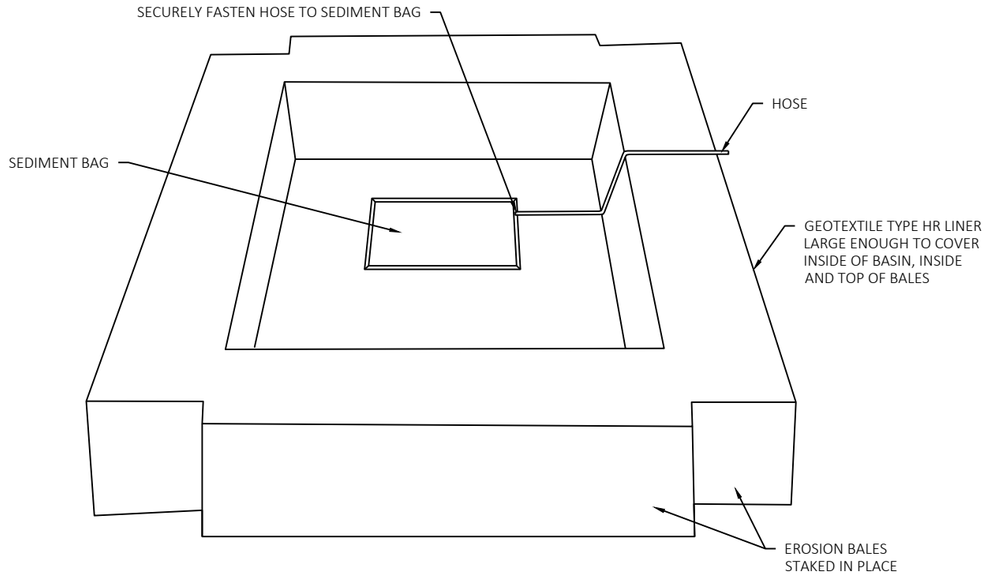
② INSTALL A CONTINUOUS LINE OF ROCK BAGS TO ANCHOR THE BARRIER TO THE STREAM BED.

③ ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION PERIOD. MINIMUM BARRIER HEIGHT SHALL BE 2 FEET GREATER THAN EITHER THE O2 ELEVATION OR THE ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION, WHICHEVER IS GREATER.

ENHANCED TURBIDITY BARRIER DETAIL

PROJECT NO:2370-04-70	HWY:LOCAL ROAD	COUNTY:WAUKESHA	CONSTRUCTION DETAIL	SHEET 4	E

2



NOTES

1. CONTRACTOR SHALL PUMP TURBID WATER FROM EXCAVATION TO SEDIMENT BAG PLACED INSIDE FABRIC LINED STAKED BALE ENCLOSURE PRIOR TO DISCHARGING TO DITCHES/INLETS/WETLANDS OR WATERWAYS.
2. SEDIMENT BAG TO BE PLACED IN AN UPLAND VEGETATED AREA OR EQUIVALENT LOCATION APPROVED BY THE ENGINEER.
3. BASIN TO BE KEPT LESS THAN 10% FULL OF SEDIMENT. GEOTEXTILE FABRIC AND SEDIMENTS TO BE DISPOSED BY THE CONTRACTOR OFF OF THE PROJECT SITE.
4. TEMPORARY SETTLING BASIN AND SEDIMENT BAG TO BE INCIDENTAL TO CONTRACT.
5. SEDIMENT BAG, BALES AND FABRIC TO BE REPLACED AS NECESSARY AND IS INCIDENTAL TO CONTRACT.
6. SIZE TO BE DETERMINED BY THE CONTRACTOR AS PART OF THE ECIP SUBMITTAL.

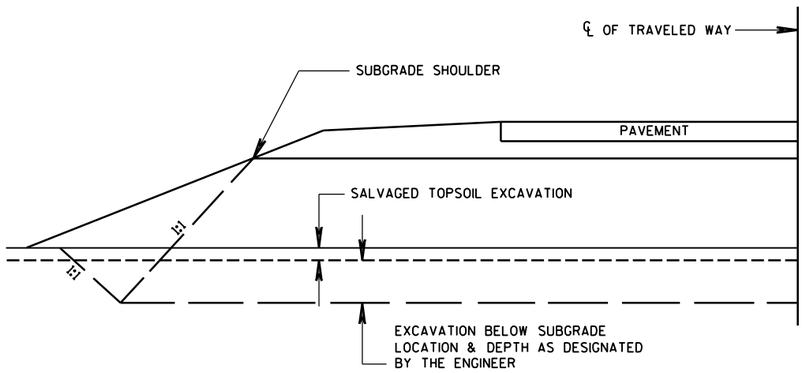
EXAMPLE TEMPORARY SETTLING BASIN DETAIL

2

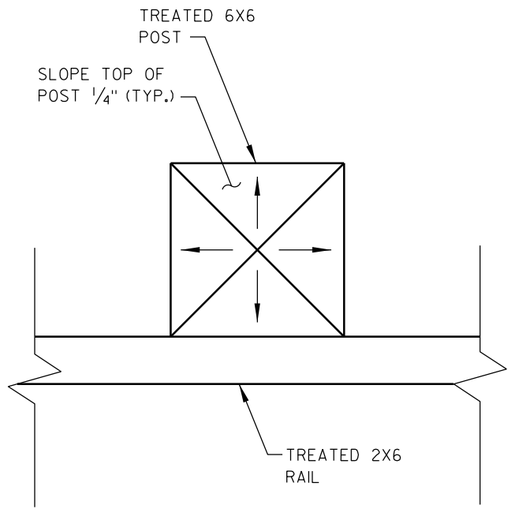
RUNOFF COEFFICIENT TABLE

	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											

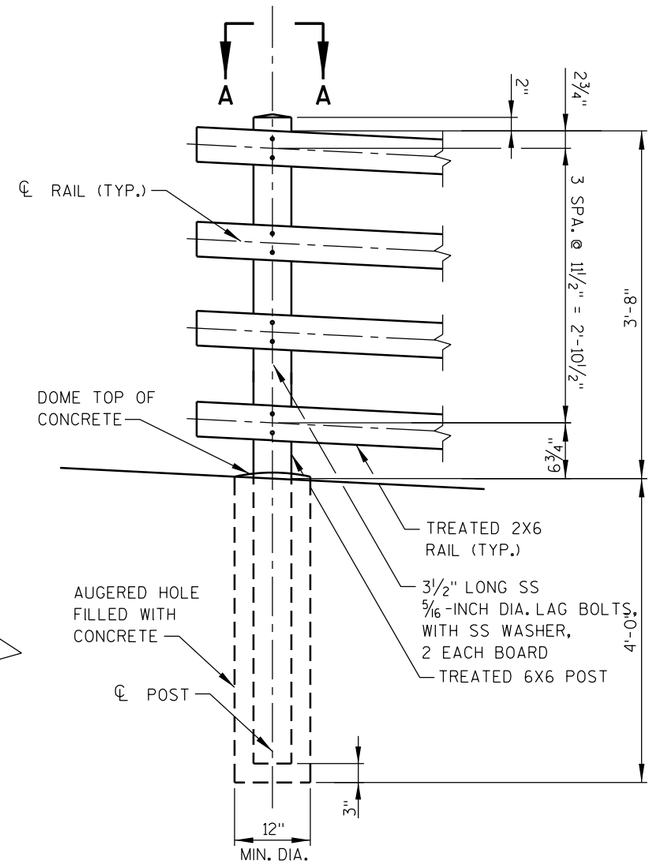
TOTAL PROJECT AREA = 0.48 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 0.40 ACRES



DETAIL FOR EXCAVATION BELOW SUBGRADE



SECTION A-A



RAILING DETAIL

STA. 8+80 TO STA. 9+73
STA. 10+25 TO STA. 11+16

NOTES

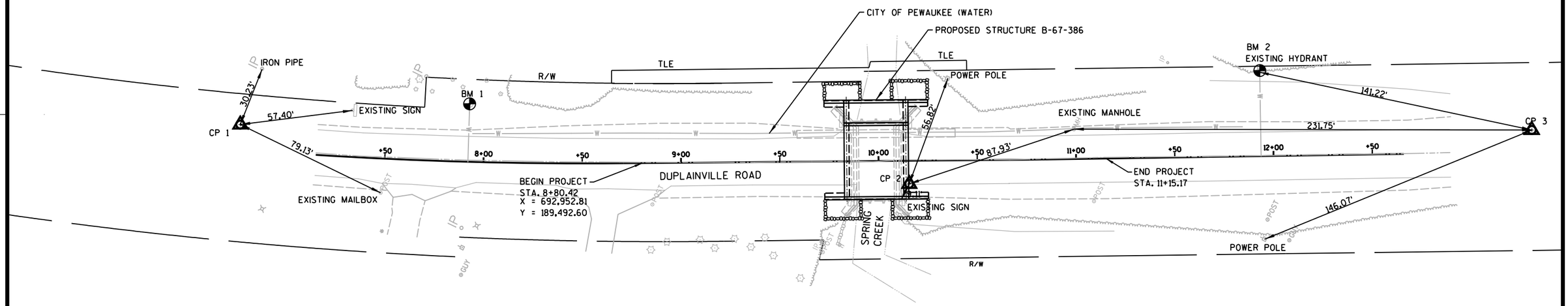
1. PROVIDE MAX. CENTERLINE POST SPACING EQUAL TO 6'-0".
2. POSTS SHALL BE VERTICAL.
3. HORIZONTAL RAILS SHALL MATCH THE SLOPE OF THE ADJACENT PATH.

CONTROL POINTS

NO.	STATION	OFFSET	Y	X	DESCRIPTION
1	9+18.31	24.02'LT	189,682.50	692,877.79	MAG NAIL
2	10+15.97	86.12'LT	189,365.15	692,999.76	MAG NAIL
3	10+31.93	14.71'LT	189,094.04	693,162.87	MAG NAIL

BENCH MARKS

NO.	STATION	OFFSET	DESCRIPTION	ELEV.
1	7+92.35	29.36'LT	TOP NUT OF HYDRANT	838.89
2	11+93.70	43.38'LT	TOP NUT OF HYDRANT	836.86



CONTROL POINT AND BENCH MARK DETAIL

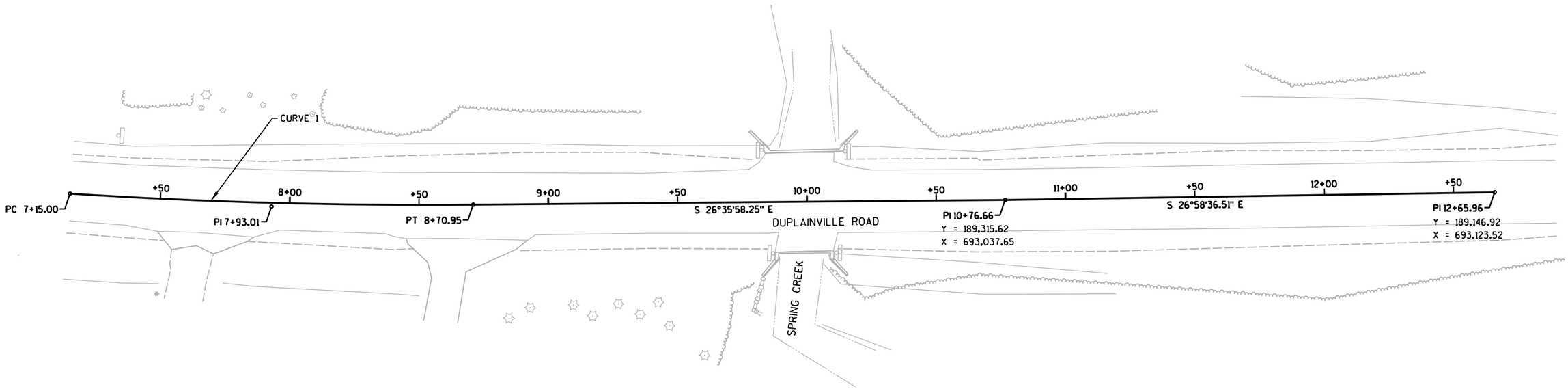
CONTROL POINTS

BENCH MARKS

PROJECT NO: 2370-04-70	HWY: LOCAL ROAD	COUNTY: WAUKESHA	CONSTRUCTION DETAIL	SHEET 7	E

2

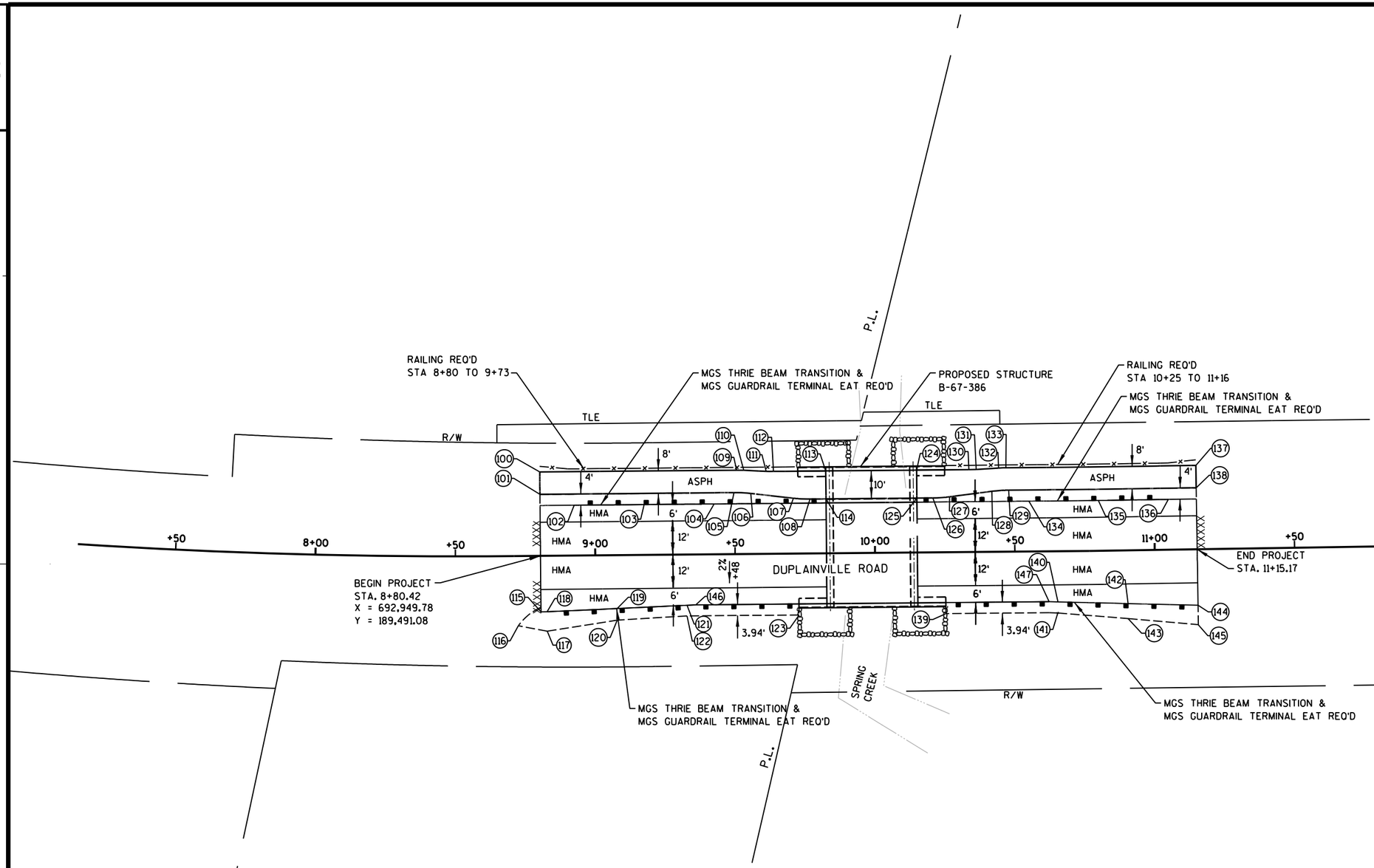
CURVE 1 DATA
P.I. = 7+93.01
Y = 189,569.31
X = 692,910.61
DELTA = 4° 09' 22" (LT)
D = 2° 39' 54"
T = 78.01'
L = 155.95'
R = 2,150.00'
P.C. = 7+15.00
Y = 189,641.41
X = 692,880.83
P.T. = 8+70.95
Y = 189,499.55
X = 692,945.54
S.E. = 2.5%



ALIGNMENT DETAIL

PROJECT NO: 2370-04-70	HWY: LOCAL ROAD	COUNTY: WAUKESHA	CONSTRUCTION DETAIL	SHEET 8	E

2



LEGEND

XXXXX	SAWING ASPHALT
HMA	2" HMA PAVEMENT 4 MT 58-28 S OVER 4" HMA PAVEMENT 3 MT 58-28 S
ASPH	ASPHALTIC SURFACE, 3-INCH

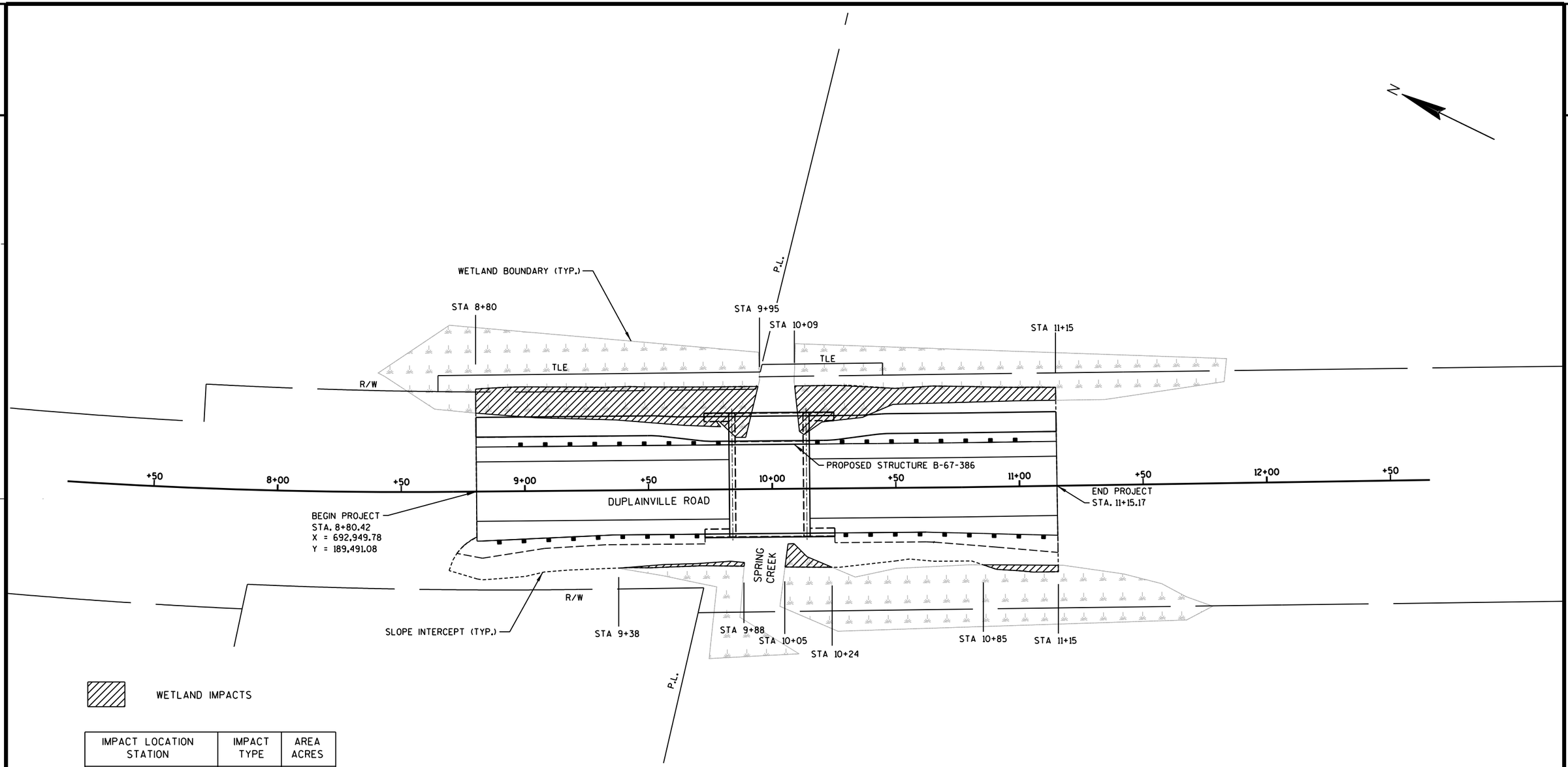
MGS GUARDRAIL TERMINAL EAT	STA 8+82.63 TO STA 9+35.75 RT
	STA 8+92.63 TO STA 9+45.75 LT
	STA 10+52.05 TO STA 11+05.17 LT
	STA 10+62.05 TO STA 11+15.17 RT
MGS THRIE BEAM TRANSITION	STA 9+35.75 TO STA 9+75.15 RT
	STA 9+45.75 TO STA 9+85.15 LT
	STA 10+12.65 TO STA 10+52.05 LT
	STA 10+22.65 TO STA 10+62.05 RT

POINT	STATION	OFFSET	REMARKS
100	8+80.42	30' LT	
101	8+80.42	22' LT	
102	8+92.63	18' LT	POST #1
103	9+17.63	18' LT	POST #5
104	9+42.63	18' LT	POST #9
105	9+49.81	22' LT	END RADIUS, R = 50'
106	9+55.80	21.64' LT	END RADIUS, R = 50'
107	9+70.97	19.81' LT	END RADIUS, R = 50'
108	9+76.96	19.45' LT	END RADIUS, R = 50'
109	9+50.77	30' LT	END RADIUS, R = 50'
110	9+53.38	29.93' LT	END RADIUS, R = 50'
111	9+61.35	29.52' LT	END RADIUS, R = 50'
112	9+63.96	29.45' LT	END RADIUS, R = 50'
113	9+82.65	29.45' LT	
114	9+82.65	19.45' LT	
115	8+80.42	20' RT	
116	8+72.29	24.91' RT	MATCH DRIVEWAY
117	8+82.63	26.94' RT	
118	8+82.63	20' RT	POST #1
119	9+07.67	19.06' RT	POST #5
120	9+07.67	23.21' RT	
121	9+32.63	18.12' RT	POST #9
122	9+32.63	21.94' RT	
123	9+72.65	21.94' RT	BASE AGGREGATE LIMIT
124	10+15.15	29.45' LT	
125	10+15.15	19.45' LT	
126	10+20.84	19.45' LT	END RADIUS, R = 50'
127	10+26.84	19.81' LT	END RADIUS, R = 50'
128	10+42.00	21.64' LT	END RADIUS, R = 50'
129	10+48.00	22' LT	END RADIUS, R = 50'
130	10+33.85	29.45' LT	END RADIUS, R = 50'
131	10+36.45	29.52' LT	END RADIUS, R = 50'
132	10+44.43	29.93' LT	END RADIUS, R = 50'
133	10+47.03	30' LT	END RADIUS, R = 50'
134	10+55.15	18' LT	POST #9
135	10+80.15	18' LT	POST #5
136	11+05.17	18' LT	POST #1
137	11+15.17	30' LT	
138	11+15.17	22' LT	
139	10+25.19	21.94' RT	BASE AGGREGATE LIMIT
140	10+65.23	18.1' RT	POST #9
141	10+65.23	22.04' RT	
142	10+90.17	19.02' RT	POST #5
143	10+90.17	24.34' RT	
144	11+15.17	20' RT	POST #1
145	11+15.17	26.94' RT	
146	9+35.75	18' RT	
147	10+62.05	18' RT	

PROJECT NO: 2370-04-70	HWY: LOCAL ROAD	COUNTY: WAUKESHA	LAYOUT DETAIL	SHEET	E

FILE NAME : S:\MAD\4600--4699\4621\003\Drawings\CAD\Micros\PLAN\021201_pd.DGN PLOT DATE : 2/1/2022 PLOT BY : _username_ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42

2

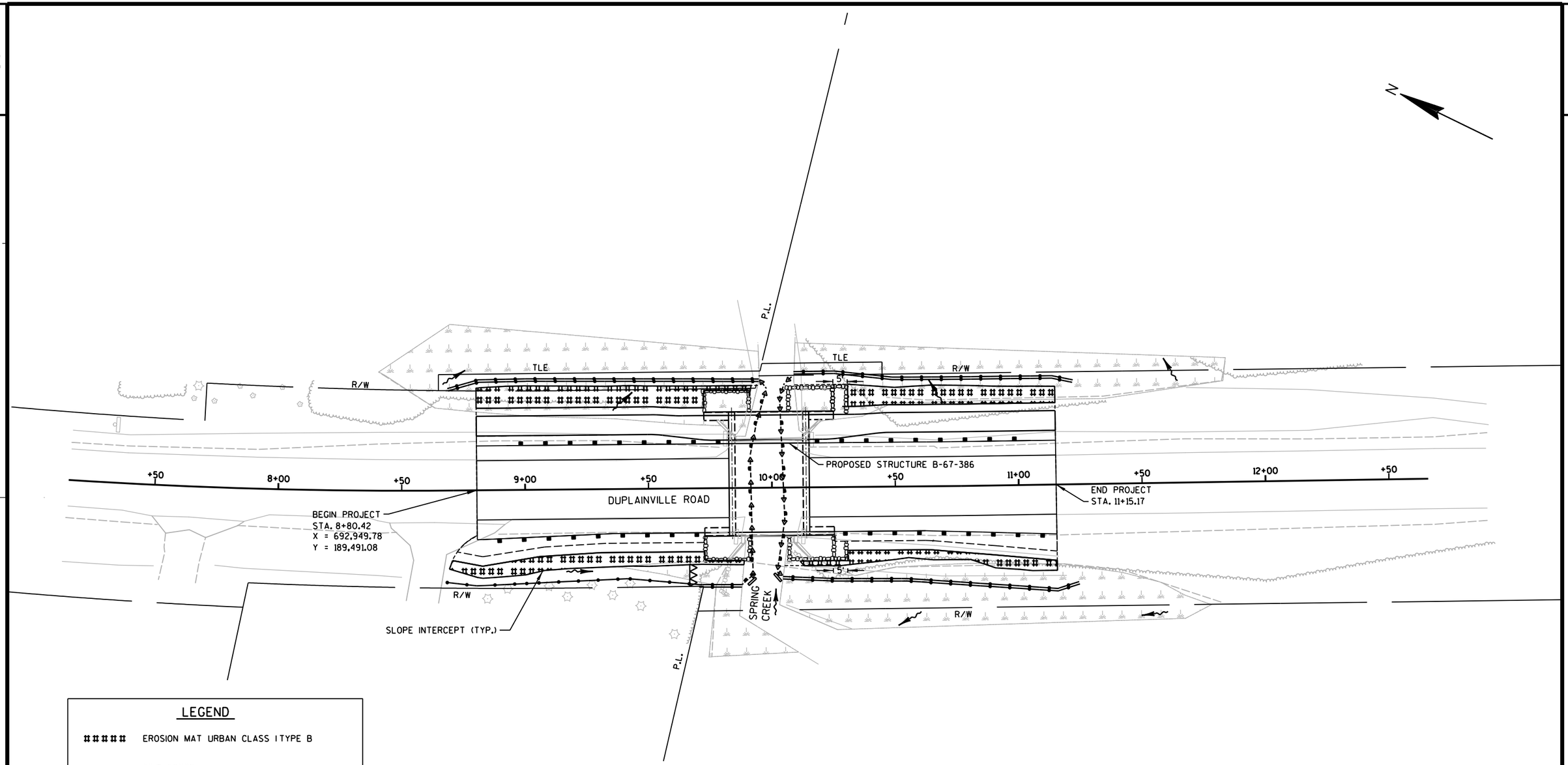


WETLAND IMPACTS

IMPACT LOCATION STATION	IMPACT TYPE	AREA ACRES
8+80 - 9+95 LT	RPE	0.036
10+09 - 11+15 LT	RPE	0.021
9+38 - 9+88 RT	RPF	0.001
10+05 - 10+24 RT	RPF	0.002
10+85 - 11+15 RT	RPF	0.002

PROJECT NO: 2370-04-70	HWY: LOCAL ROAD	COUNTY: WAUKESHA	WETLAND DETAIL	SHEET 10	E

2

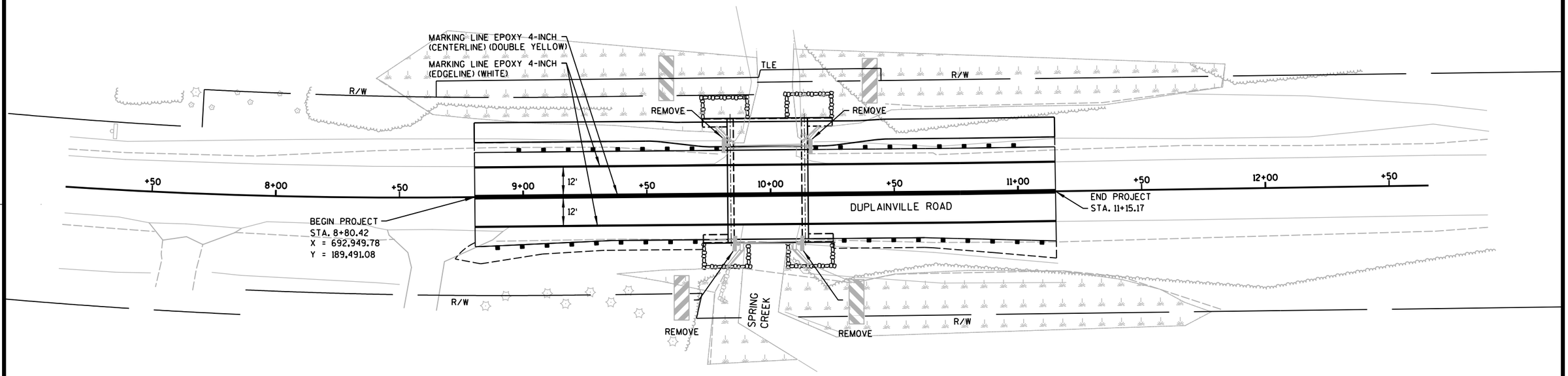


LEGEND

- EROSION MAT URBAN CLASS I TYPE B
- SILT FENCE
- SILT FENCE DOUBLE STAKED
- TEMPORARY DITCH CHECK
- ENHANCED TURBIDITY BARRIERS
- CONCRETE BARRIER TEMPORARY PRECAST
- RIPRAP HEAVY OVER GEOTEXTILE TYPE HR

PROJECT NO: 2370-04-70	HWY: LOCAL ROAD	COUNTY: WAUKESHA	EROSION CONTROL	SHEET 11	E

2



LEGEND

EXISTING SIGN ON STEEL POST

PROJECT NO: 2370-04-70	HWY: LOCAL ROAD	COUNTY: WAUKESHA	PAVEMENT MARKING AND SIGNING	SHEET 12	E

GENERAL NOTES

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

ANY SIGNS TEMPORARY OR EXISTING THAT CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE COVERED. THE COVERING OF WOOD POST MOUNTED SIGNS IS INCLUDED UNDER ITEM 643.5000 TRAFFIC CONTROL. IN LIEU OF COVERING WOOD POST MOUNTED SIGNS, THE CONTRACTOR MAY CHOOSE TO REMOVE AND REINSTALL THEM.

ALL "W" SIGNS SHALL BE 48"X48" UNLESS OTHERWISE NOTED.

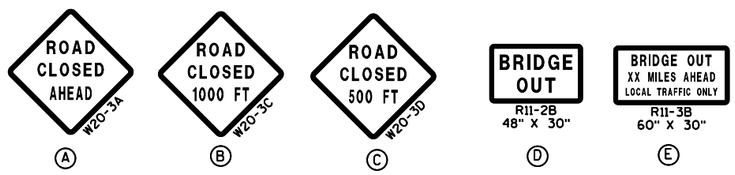
IMMEDIATELY RE-ESTABLISH "STOP" SIGNS THAT ARE REMOVED FOR A CONSTRUCTION OPERATION.

SIGNING ALONG DETOUR ROUTE WILL BE PROVIDED AS APART OF DUPLAINVILLE ROAD RECONSTRUCTION AND LINDSAY ROAD PATH PROJECT.

DO NOT PLACE ITEMS WITHIN 50 FEET OF RAILROAD RIGHT OF WAY, WITH THE EXCEPTION OF THE RAILROAD CROSSING WHERE INSURANCE IS REQUIRED IN THE NORTHEAST CORNER OF THE DETOUR ROUTE.

LEGEND

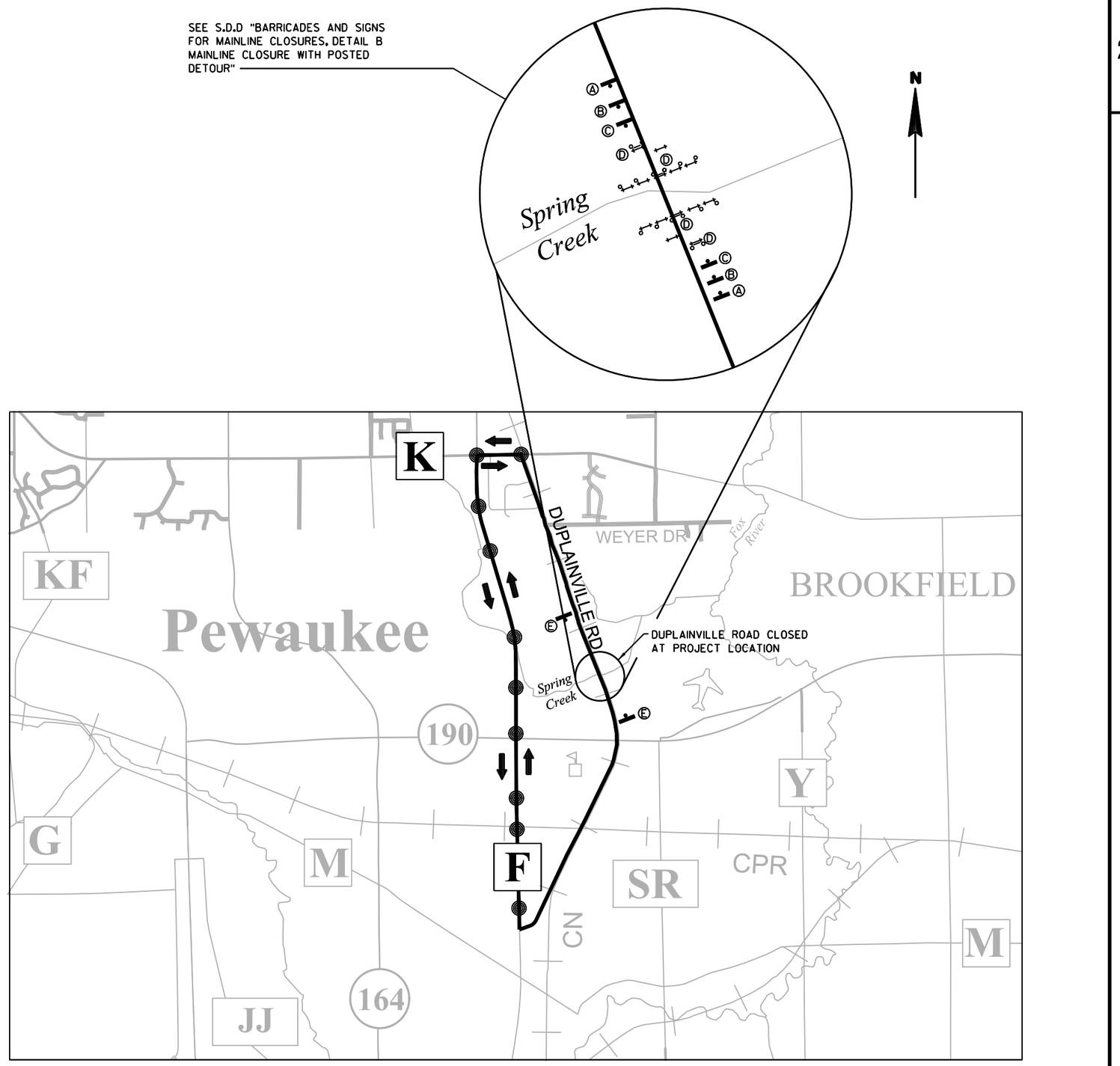
- DETOUR ROUTE
- BARRICADES TYPE III WITH ATTACHED TRAFFIC CONTROL SIGN (2 WARNING LIGHTS TYPE A REQ'D.)
- BARRICADES TYPE III WITHOUT SIGN (1 WARNING LIGHT TYPE A REQ'D.)
- BARRICADES TYPE III WITH ATTACHED TRAFFIC CONTROL SIGN
- WOOD POST WITH ATTACHED TRAFFIC CONTROL SIGN



TRAFFIC CONTROL SUMMARY (FOR INFORMATION ONLY)

CATEGORY	LOCATION	DESCRIPTION	SIGN CODE	SIZE INCH X INCH	EACH
0010	ROAD CLOSURE	TRAFFIC CONTROL BARRICADES TYPE III	---	---	14
		TRAFFIC CONTROL WARNING LIGHTS TYPE A	---	---	16
		ROAD CLOSED AHEAD	W20-3A	48X48	2
		ROAD CLOSED 1000 FT	W20-3C	48X48	2
		ROAD CLOSED 500 FT	W20-3D	48X48	2
		BRIDGE OUT	R11-2B	48X30	4
		BRIDGE OUT XX MILES AHEAD	R11-3B	60X30	2
		SUBTOTAL SIGNS			12

SEE S.D.D "BARRICADES AND SIGNS FOR MAINLINE CLOSURES, DETAIL B MAINLINE CLOSURE WITH POSTED DETOUR"



2370-04-70

Line	Item	Item Description	Unit	Total	Qty
0002	203.0270	Removing Structure Over Waterway Debris Capture (structure) 01. B-67-9	EACH	1.000	1.000
0004	205.0100	Excavation Common	CY	434.000	434.000
0006	206.1000	Excavation for Structures Bridges (structure) 01. B-67-386	LS	1.000	1.000
0008	210.1500	Backfill Structure Type A	TON	404.000	404.000
0010	213.0100	Finishing Roadway (project) 01. 2370-04-70	EACH	1.000	1.000
0012	305.0110	Base Aggregate Dense 3/4-Inch	TON	385.000	385.000
0014	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	625.000	625.000
0016	311.0110	Breaker Run	TON	35.000	35.000
0018	455.0605	Tack Coat	GAL	58.000	58.000
0020	460.2000	Incentive Density HMA Pavement	DOL	200.000	200.000
0022	460.6223	HMA Pavement 3 MT 58-28 S	TON	184.000	184.000
0024	460.6224	HMA Pavement 4 MT 58-28 S	TON	92.000	92.000
0026	465.0105	Asphaltic Surface	TON	32.000	32.000
0028	502.0100	Concrete Masonry Bridges	CY	197.000	197.000
0030	502.3200	Protective Surface Treatment	SY	167.000	167.000
0032	502.3210	Pigmented Surface Sealer	SY	83.000	83.000
0034	505.0400	Bar Steel Reinforcement HS Structures	LB	6,350.000	6,350.000
0036	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	23,400.000	23,400.000
0038	516.0500	Rubberized Membrane Waterproofing	SY	26.000	26.000
0040	550.0010	Pre-Boring Unconsolidated Materials	LF	52.000	52.000
0042	550.1100	Piling Steel HP 10-Inch X 42 Lb	LF	360.000	360.000
0044	603.8000	Concrete Barrier Temporary Precast Delivered	LF	25.000	25.000
0046	603.8125	Concrete Barrier Temporary Precast Installed	LF	25.000	25.000
0048	606.0300	Riprap Heavy	CY	148.000	148.000
0050	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	180.000	180.000
0052	614.0150	Anchor Assemblies for Steel Plate Beam Guard	EACH	4.000	4.000
0054	614.2500	MGS Thrie Beam Transition	LF	157.600	157.600
0056	614.2610	MGS Guardrail Terminal EAT	EACH	4.000	4.000
0058	618.0100	Maintenance And Repair of Haul Roads (project) 01. 2370-04-70	EACH	1.000	1.000
0060	619.1000	Mobilization	EACH	1.000	1.000
0062	624.0100	Water	MGAL	18.800	18.800
0064	625.0500	Salvaged Topsoil	SY	340.000	340.000
0066	627.0200	Mulching	SY	340.000	340.000
0068	628.1504	Silt Fence	LF	127.000	127.000
0070	628.1520	Silt Fence Maintenance	LF	1,198.000	1,198.000
0072	628.1905	Mobilizations Erosion Control	EACH	5.000	5.000
0074	628.1910	Mobilizations Emergency Erosion Control	EACH	3.000	3.000
0076	628.2008	Erosion Mat Urban Class I Type B	SY	344.000	344.000
0078	628.7504	Temporary Ditch Checks	LF	12.000	12.000
0080	630.0170	Seeding Mixture No. 70	LB	1.800	1.800
0082	630.0200	Seeding Temporary	LB	9.000	9.000
0084	630.0400	Seeding Nurse Crop	LB	3.600	3.600
0086	630.0500	Seed Water	MGAL	9.000	9.000
0088	638.2602	Removing Signs Type II	EACH	4.000	4.000
0090	638.3000	Removing Small Sign Supports	EACH	4.000	4.000
0092	642.5201	Field Office Type C	EACH	1.000	1.000
0094	643.0420	Traffic Control Barricades Type III	DAY	1,050.000	1,050.000
0096	643.0705	Traffic Control Warning Lights Type A	DAY	1,200.000	1,200.000
0098	643.0900	Traffic Control Signs	DAY	900.000	900.000

2370-04-70

Line	Item	Item Description	Unit	Total	Qty
0100	643.5000	Traffic Control	EACH	1.000	1.000
0102	645.0111	Geotextile Type DF Schedule A	SY	110.000	110.000
0104	645.0120	Geotextile Type HR	SY	282.000	282.000
0106	646.1020	Marking Line Epoxy 4-Inch	LF	940.000	940.000
0108	650.4500	Construction Staking Subgrade	LF	235.000	235.000
0110	650.5000	Construction Staking Base	LF	235.000	235.000
0112	650.6500	Construction Staking Structure Layout (structure) 01. B-67-386	LS	1.000	1.000
0114	650.9910	Construction Staking Supplemental Control (project) 01. 2370-04-70	LS	1.000	1.000
0116	650.9920	Construction Staking Slope Stakes	LF	235.000	235.000
0118	690.0150	Sawing Asphalt	LF	60.000	60.000
0120	715.0502	Incentive Strength Concrete Structures	DOL	1,182.000	1,182.000
0122	ASP.1T0A	On-the-Job Training Apprentice at $5.00/HR	HRS	250.000	250.000
0124	ASP.1T0G	On-the-Job Training Graduate at $5.00/HR	HRS	600.000	600.000
0126	SPV.0060	Special 01. Utility Line Opening (ULO)	EACH	2.000	2.000
0128	SPV.0090	Special 01. Railing	LF	184.000	184.000
0130	SPV.0090	Special 02. Silt Fence Double Staked	LF	472.000	472.000
0132	SPV.0180	Special 01. Enhanced Turbidity Barriers	SY	102.000	102.000
0134	SPV.0195	Special 01. Select Crushed Material for Travel Corridor	TON	25.000	25.000

EARTHWORK

CATEGORY	STATION	LOCATION	EXCAVATION COMMON CY	SALVAGED/ UNUSABLE PAVEMENT MATERIAL REMOVAL (1) CY	AVAILABLE MATERIAL (2) CY	EBS EXCAVATION (3) 5% OF AVAILABLE MATERIAL CY	311.0110 BREAKER RUN (4) TON	205.0100 EXCAVATION COMMON (5) CY	EBS EXCAVATION REDUCED (6) FACTOR 0.8 CY	UNEXPANDED FILL CY	EXPANDED FILL (7) FACTOR 1.25 CY	MASS ORDINATE (8)	WASTE CY	624.0100 WATER* MGAL
0010	8+80.42 - 9+82.65	LT & RT	162	44	118	6	11	168	5	138	173	-49	-49	0.3
	10+15.15 - 11+15.17	LT & RT	255	42	213	11	19	266	9	63	79	145	145	0.5
	TOTALS		417	86	331	17	35	434	14	201	251	97	97	0.8
	PAY QUANTITIES						35	434						0.8

1) SALVAGED/UNUSABLE MATERIALS ARE INCLUDED IN EXCAVATION COMMON COLUMN
2) AVAILABLE MATERIAL = EXCAVATION COMMON - SALGVAGED/UNUSABLE MATERIALS
3) EBS EXCAVATION TO BE BACKFILLED WITH BREAKER RUN.
4) BREAKER RUN = EBS EXCAVATION x 1.75 TONS/CY.
5) TOTAL EXCAVATION COMMON = EXCAVATION COMMON + EBS EXCAVATION.
6) REDUCED EBS IN FILL: EXCAVATED EBS MATERIAL IS USEABLE IN FILLS OUTSIDE THE 1:1 SLOPE. EBS IN FILL REDUCTION FACTOR = 0.8.
7) EXPANDED FILL FACTOR = 1.25
8) THE MASS ORDINATE + OR - QUANTITY CALCULATED FOR THE CATEGORY.
   PLUS QUANTITY INDICATES AN EXCESS OF MATERIAL WITHIN THE CATEGORY,
   MINUS QUANTITY INDICATES A SHORTAGE OF MATERIAL WITHIN THE CATEGORY

* ADDITIONAL QUANTITIES LISTED ELSEWHERE

FINISHING ROADWAY

CATEGORY	PROJECT I.D.	213.0100 EACH
0010	2370-04-70	1

ASPHALT ITEMS

CATEGORY	STATION	LOCATION	455.0605 TACK COAT GAL	460.6223 HMA PAVEMENT 3 MT 58-28 S TON	460.6224 HMA PAVEMENT 4 MT 58-28 S TON	465.0105 ASPHALTIC SURFACE TON
0010	8+80 - 9+83	LT & RT	29	93	47	16
	10+15 - 11+15	LT & RT	29	91	45	16
		TOTALS	58	184	92	32

BASE AGGREGATE SUMMARY

CATEGORY	STATION - 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*
0010	8+80 - 9+83	LT & RT	195	315	9.1
	10+15 - 11+15	LT & RT	190	310	8.9
		TOTALS	385	625	18.0

*ADDITIONAL QUANTITIES LISTED ELSEWHERE

RIPRAP

CATEGORY	STATION - STATION	LOCATION	606.0300 RIPRAP HEAVY CY	645.0120 GEOTEXTILE TYPE HR SY
0010	10+25 - 10+30	LT	5	7
	10+25 - 10+30	RT	3	5
		TOTALS	8	12

MGS SUMMARY

CATEGORY	STATION - STATION	LOCATION	614.2500 MGS THRIE BEAM TRANSITION LF	614.2610 MGS GUARDRAIL TERMINAL EAT EACH
0010	8+80 - 9+36	RT	39.4	---
	9+36 - 9+75	RT	---	1
	8+93 - 9+46	LT	39.4	---
	9+46 - 9+85	LT	---	1
	10+13 - 10+52	LT	---	1
	10+52 - 11+05	LT	39.4	---
	10+23 - 10+62	RT	---	1
	10+62 - 11+15	RT	39.4	---
		TOTAL	157.6	4

MOBILIZATION

CATEGORY	PROJECT I.D.	619.1000 EACH
0010	2370-04-70	1

FINISHING ITEMS

CATEGORY	STATION	LOCATION	625.0500 SALVAGED TOPSOIL SY	627.0200 MULCHING SY	630.0170 SEEDING MIXTURE NO. 70 LB	630.0400 SEEDING NURSE CROP LB	630.0200 SEEDING TEMPORARY LB	630.0500 SEED WATER MGAL
0010	8+80 - 9+83	LT/RT	159	---	0.8	1.6	---	5
	10+15 - 11+15	LT/RT	113	---	0.6	1.3	---	4
		UNDISTRIBUTED	68	340	0.4	0.7	9.0	---
		TOTALS	340	340	1.8	3.6	9.0	9

SILT FENCE SUMMARY

CATEGORY	STATION - STATION	LOCATION	628.1504 SILT FENCE LF	SPV.0090.02 SILT FENCE DOUBLE STAKED LF	628.1520 SILT FENCE MAINTENANCE LF
0010	8+68 - 9+96	LT	---	126	252
	8+68 - 9+87	RT	102	17	238
	10+03 - 11+24	RT	---	113	226
	10+09 - 11+22	LT	---	121	242
		UNDISTRIBUTED	---	25	95	240
		TOTALS	127	472	1,198

MOBILIZATIONS EROSION CONTROL

CATEGORY	628.1905 EACH
0010	5

MOBILIZATIONS EMERGENCY EROSION CONTROL

CATEGORY	628.1910 EACH
0010	3

EROSION MAT

CATEGORY	STATION - STATION	LOCATION	628.2008 URBAN CLASS I TYPE B SY
0010	8+80 - 9+83	LT/RT	160
	10+15 - 11+15	LT/RT	115
	UNDISTRIBUTED	---	69
		TOTAL	344

TURBIDITY BARRIERS

CATEGORY	STATION	LOCATION	SPV.0180.01 ENHANCED TURBIDITY BARRIERS SY	CONCRETE BARRIER TEMPORARY 603.8000 PRECAST DELIVERED LF	CONCRETE BARRIER TEMPORARY 603.8125 PRECAST INSTALLED LF
0010	9+90	LT & RT	52	12.5	12.5
	10+05	LT & RT	50	12.5	12.5
		TOTALS	102	25	25

TEMPORARY DITCH CHECKS

CATEGORY	STATION	LOCATION	628.7504 LF
0010	9+65	RT	10
	UNDISTRIBUTED	---	2
		TOTAL	12

3

SIGNING QUANTITIES

CATEGORY	STATION	LOCATION	SIGN CODE	SIGN MESSAGE	638.2602 REMOVING SIGNS TYPE II EACH	638.3000 REMOVING SMALL SIGN SUPPORTS EACH
0010	9+80	LT	W5-52L	CLEARANCE STRIPE	1	1
	9+85	RT	W5-52R	CLEARANCE STRIPE	1	1
	10+12	RT	W5-52L	CLEARANCE STRIPE	1	1
	10+15	LT	W5-52R	CLEARANCE STRIPE	1	1
				TOTALS	4	4

TRAFFIC CONTROL SUMMARY

CATEGORY	STATION	DURATION CALENDAR DAYS	643.0420 BARRICADES TYPE III EACH	643.0420 BARRICADES TYPE III DAYS	643.0900 SIGNS EACH	643.0900 SIGNS DAYS	643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A EACH	643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A DAYS
0010	ROAD CLOSURE	75	14	1,050	12	900	16	1,200

CONSTRUCTION STAKING SUMMARY

CATEGORY	STATION	LOCATION	650.4500 SUBGRADE LF	650.5000 BASE LF	650.9920 SLOPE STAKES LF
0010	8+80 - 11+15	LT & RT	235	235	235
		TOTALS	235	235	235

FIELD OFFICE TYPE C

CATEGORY	PROJECT I.D.	642.5201 EACH
0010	2370-04-70	1

TRAFFIC CONTROL

CATEGORY	PROJECT I.D.	643.5000 EACH
0010	2370-04-70	1

MARKING

CATEGORY	STATION	LOCATION	646.1020 LINE EPOXY 4-INCH (WHITE) LF	646.1020 LINE EPOXY 4-INCH (YELLOW) LF	REMARKS
0010	8+80 - 11+15	LT	235	---	EDGELINE
	8+80 - 11+15	RT	235	---	EDGELINE
	8+80 - 11+15	CL	---	470	CENTERLINE
		TOTALS	470	470	
		TOTAL	940		

CONSTRUCTION STAKING STRUCTURE LAYOUT

CATEGORY	STRUCTURE	650.6500 LS
0010	B-67-386	1

CONSTRUCTION STAKING SUPPLEMENTAL CONTROL

CATEGORY	PROJECT	650.9910 LS
0010	2370-04-70	1

SAWING ASPHALT

CATEGORY	STATION	LOCATION	690.0150 LF
0010	8+80 - 9+83	LT & RT	35
	10+15 - 11+15	LT & RT	25
		TOTAL	60

RAILING

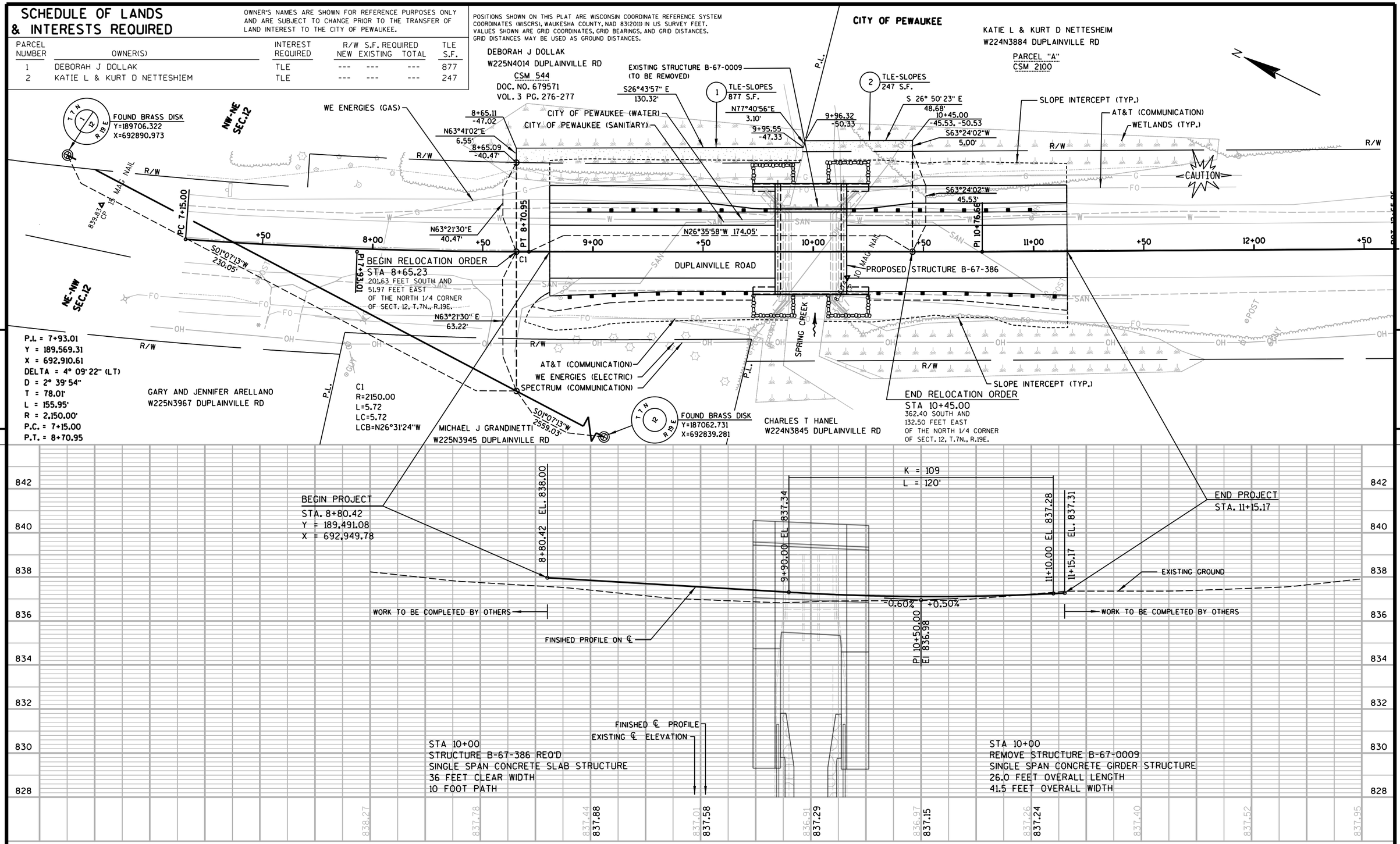
CATEGORY	STATION - STATION	LOCATION	SPV.0090.01 LF
0010	8+80 - 9+73	LT	93
	10+25 - 11+16	LT	91
		TOTAL	184

SCHEDULE OF LANDS & INTERESTS REQUIRED

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

PARCEL NUMBER	OWNER(S)	INTEREST REQUIRED	R/W S.F. REQUIRED NEW	EXISTING	TOTAL	TLE S.F.
1	DEBORAH J DOLLAK	TLE	---	---	---	877
2	KATIE L & KURT D NETTESHIEM	TLE	---	---	---	247

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

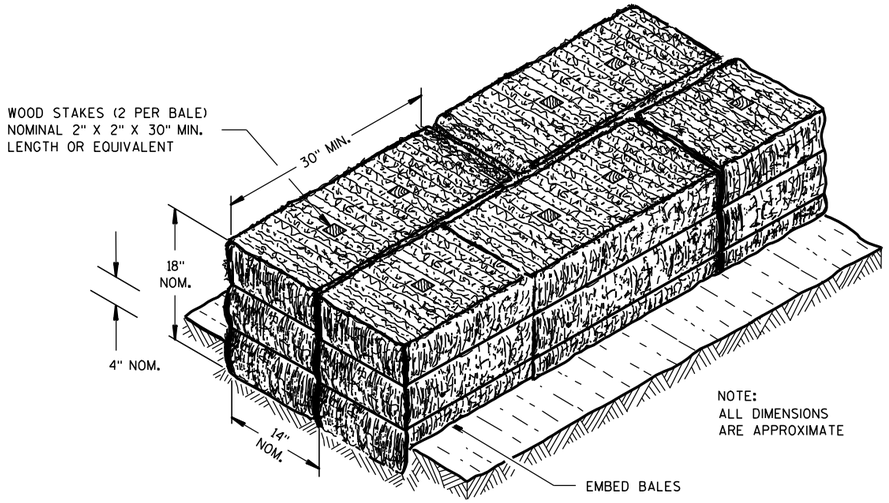


PROJECT NO: 2370-04-70	HWY: LOCAL ROAD	COUNTY: WAUKESHA	PLAN AND PROFILE	SHEET	E

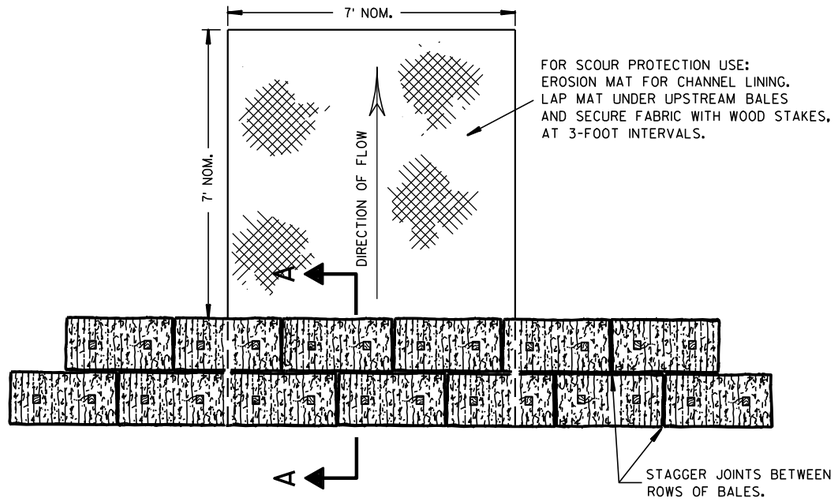
FILE NAME : S:\MAD\4600--4699\4621\003\Drawings\CAD\Micros\PLAN\050101_pp.dgn PLOT DATE : 2/1/2022 PLOT BY : _username_ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$

Standard Detail Drawing List

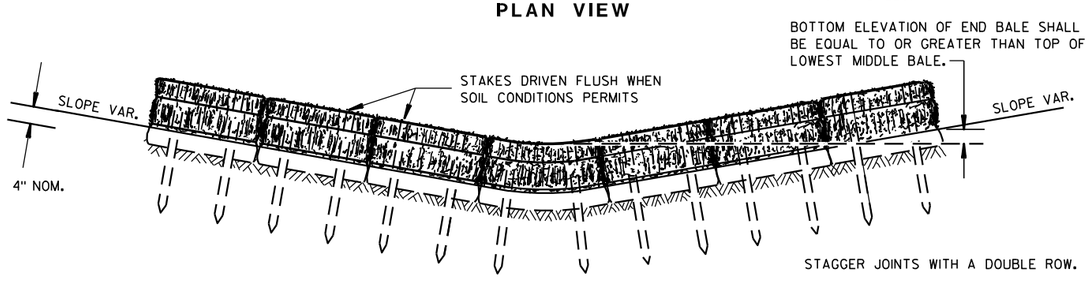
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E11-02	TURBIDITY BARRIER
12A03-10	NAME PLATE (STRUCTURES)
13C19-03	HMA LONGITUDINAL JOINTS
14B42-07A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07D	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B44-04A	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-04B	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-04C	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B45-05A	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05B	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05C	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05D	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
15C02-08A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-08B	BARRICADES AND SIGNS FOR VARIOUS CLOSURES
15C05-05	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 M.P.H. OR LESS
15C06-09	SIGNING & MARKING FOR TWO LANE BRIDGES
15C08-20A	LONGITUDINAL MARKING (MAINLINE)
15C11-09B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS



SECTION A-A



PLAN VIEW



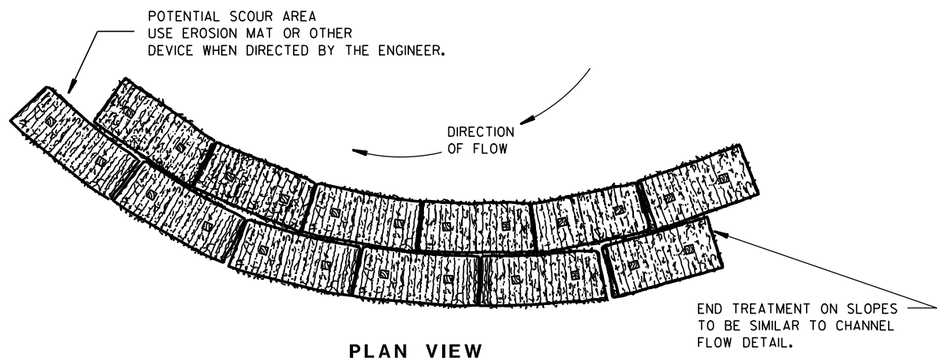
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES ①

GENERAL NOTES

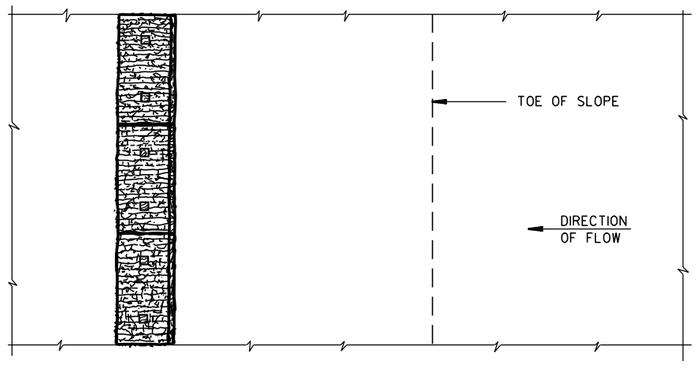
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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

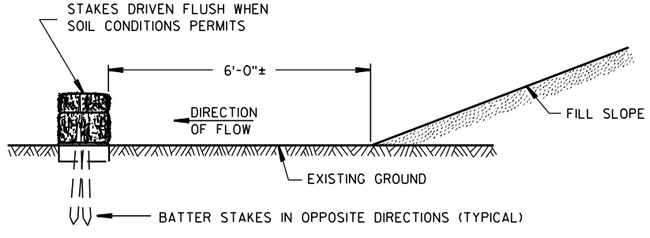


PLAN VIEW

WHEN ALTERING THE DIRECTION OF FLOW



PLAN VIEW



FRONT ELEVATION

WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

EROSION BALES FOR SHEET FLOW

TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

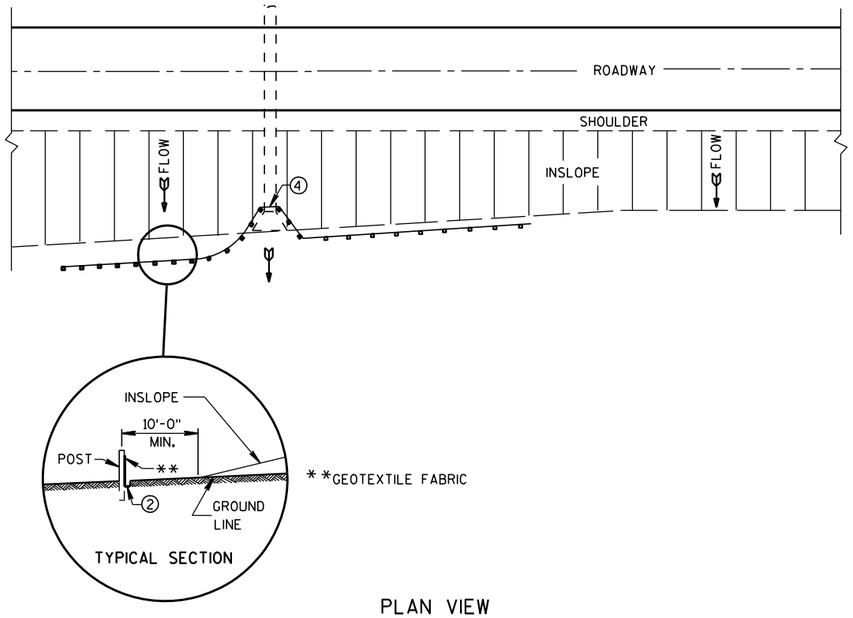
6/04/02 — DATE

/S/ Beth Cannestra — CHIEF ROADWAY DEVELOPMENT ENGINEER

FHWA

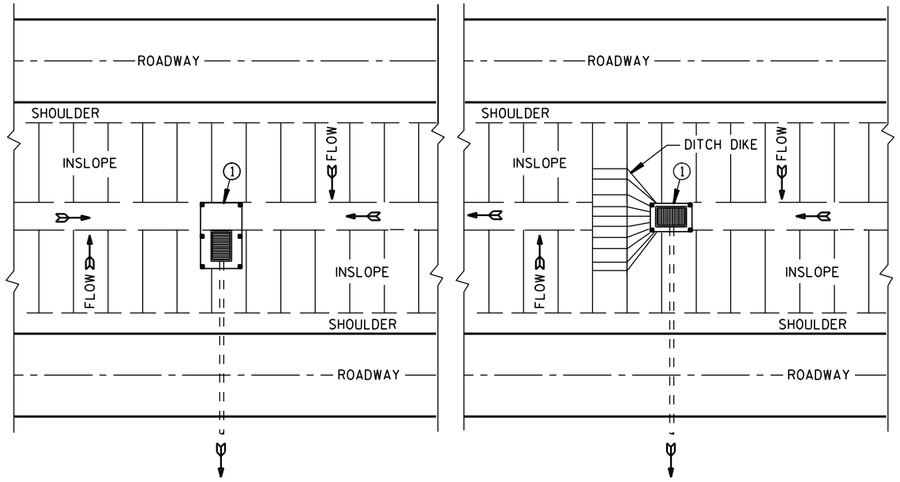
6

S.D.D. 8 E 8-3



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



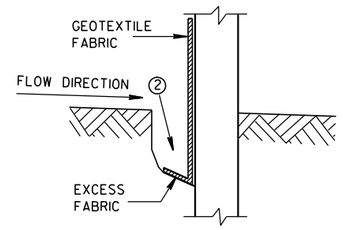
PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

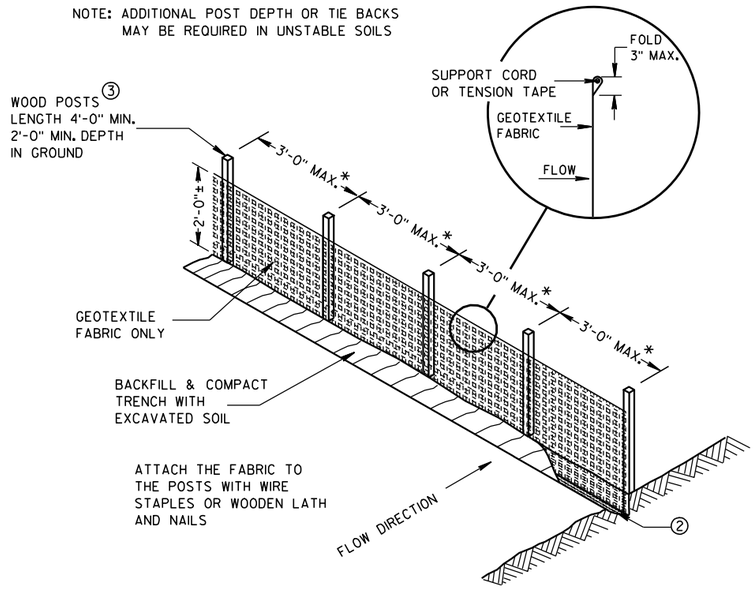
GENERAL NOTES

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

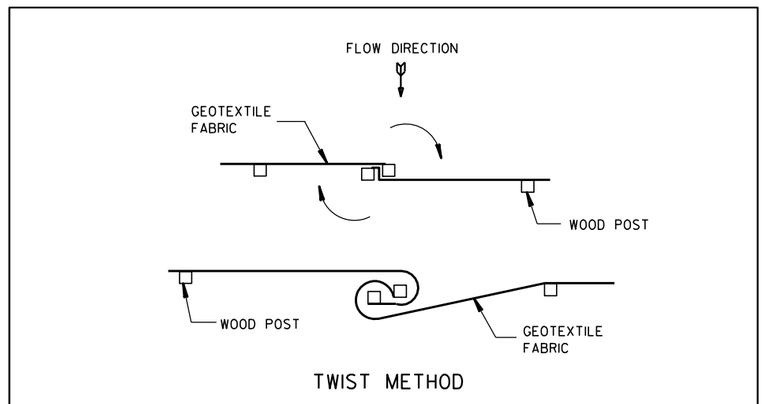
1. HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
2. FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
3. WOOD POSTS SHALL 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.



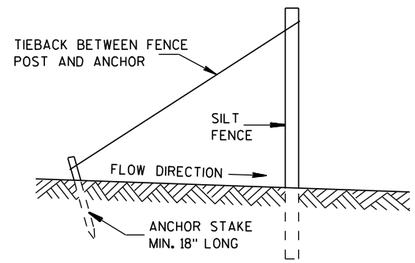
TRENCH DETAIL



SILT FENCE



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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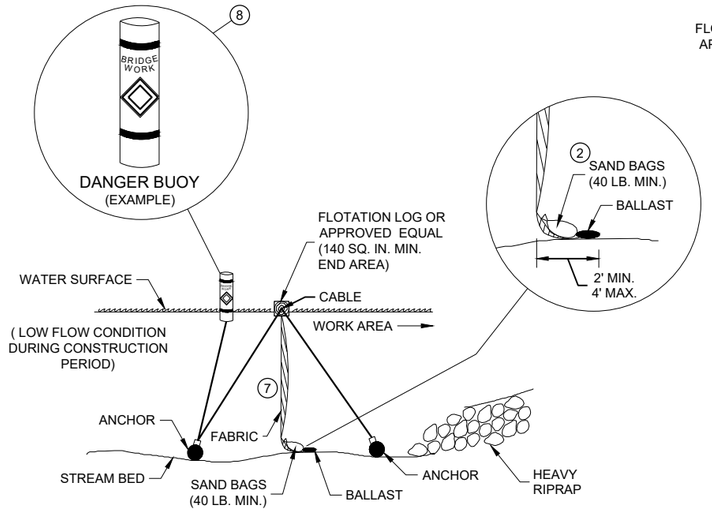
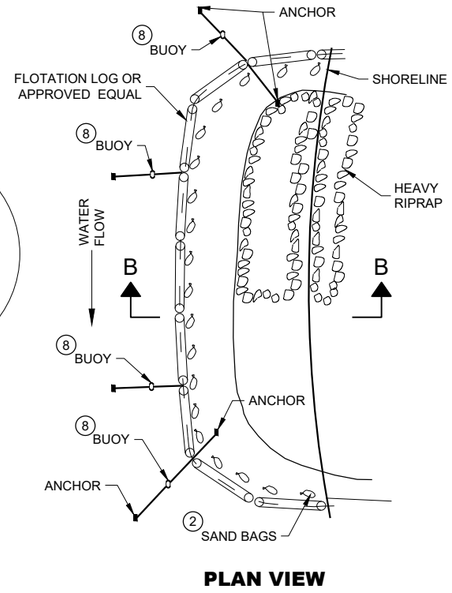
S.D.D. 8 E 9-6

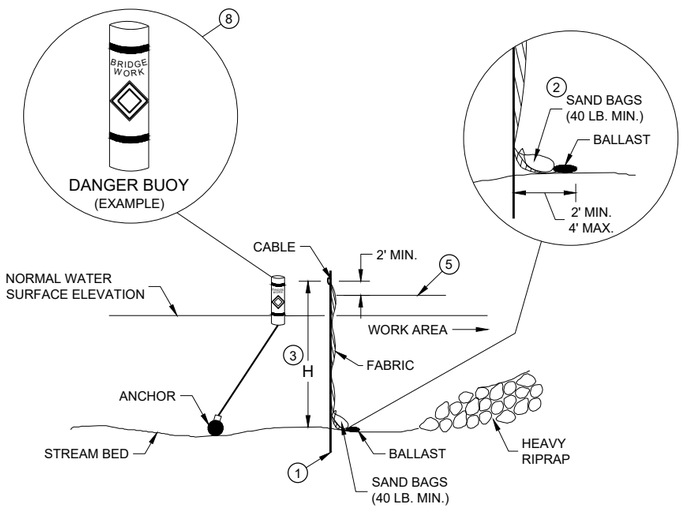


SECTION B - B

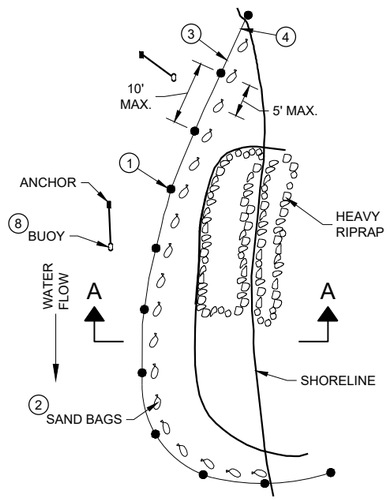


PLAN VIEW

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.

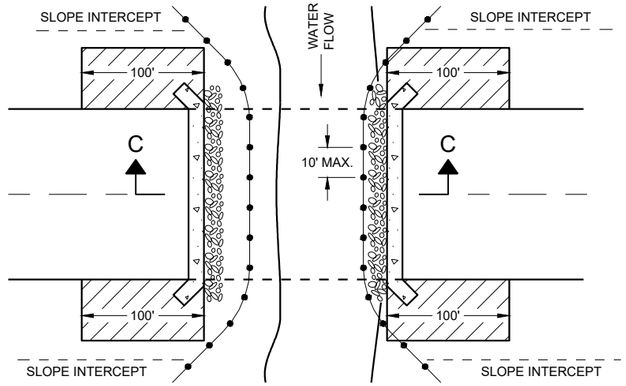
(4) IN WATERWAYS SUBJECT TO FLUCTUATING WATER ELEVATIONS, PROVISIONS SHOULD BE MADE TO ALLOW THE WATER TO EQUALIZE ON EACH SIDE OF THE BARRIER. THIS MAY BE ACCOMPLISHED BY LEAVING A PORTION OF THE BARRIER OPEN ON THE UPSTREAM END.

(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.

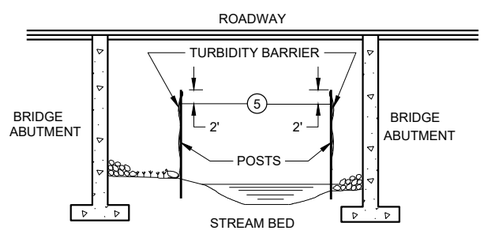
(6) FLOAT ALTERNATIVE WILL ONLY BE ALLOWED WITH WRITTEN APPROVAL OF THE ENGINEER, AND IS MEANT FOR LOCATIONS WHERE BEDROCK PREVENTS THE INSTALLATION OF POSTS.

(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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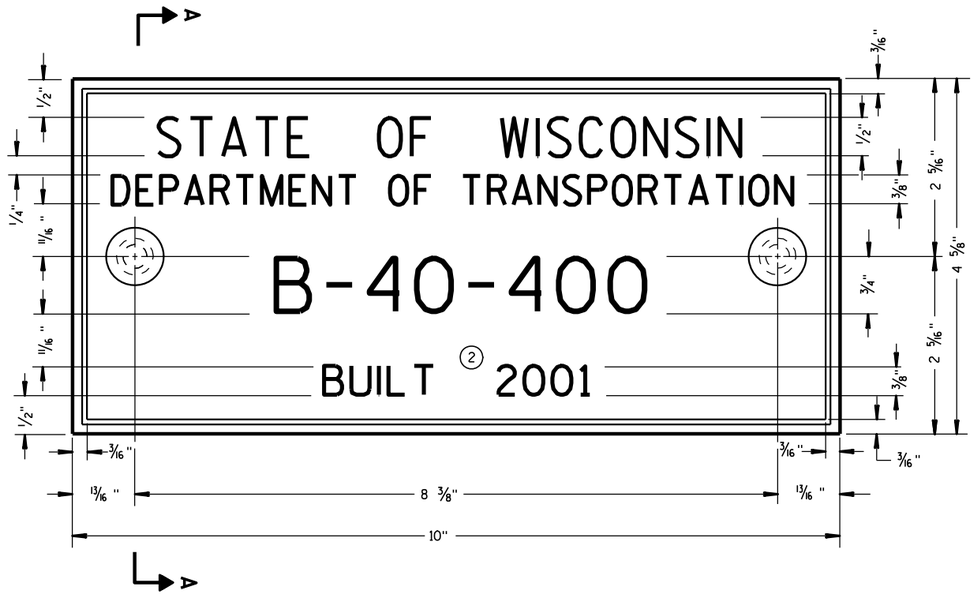
SDD 08E11 - 02



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

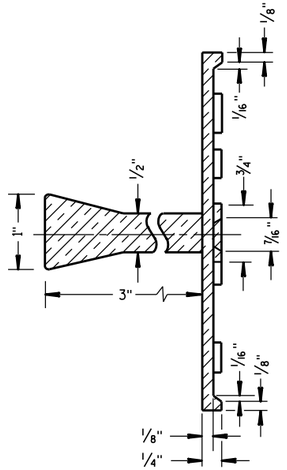
GENERAL NOTES

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.

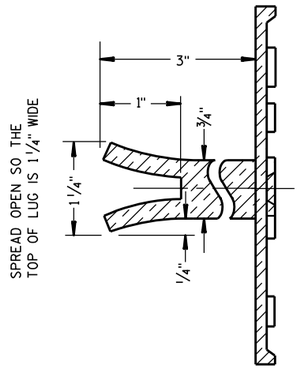
THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

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

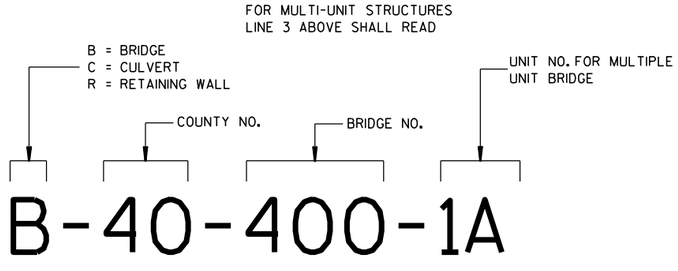
(2) REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.



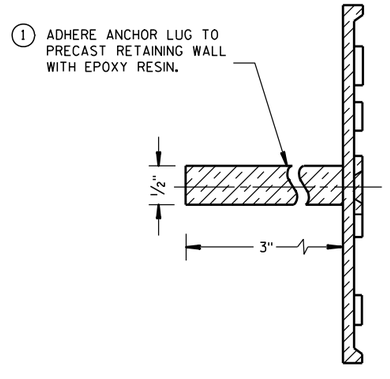
SECTION A-A



ALTERNATE LUG



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 DEVELOP ENGINEER

FHWA

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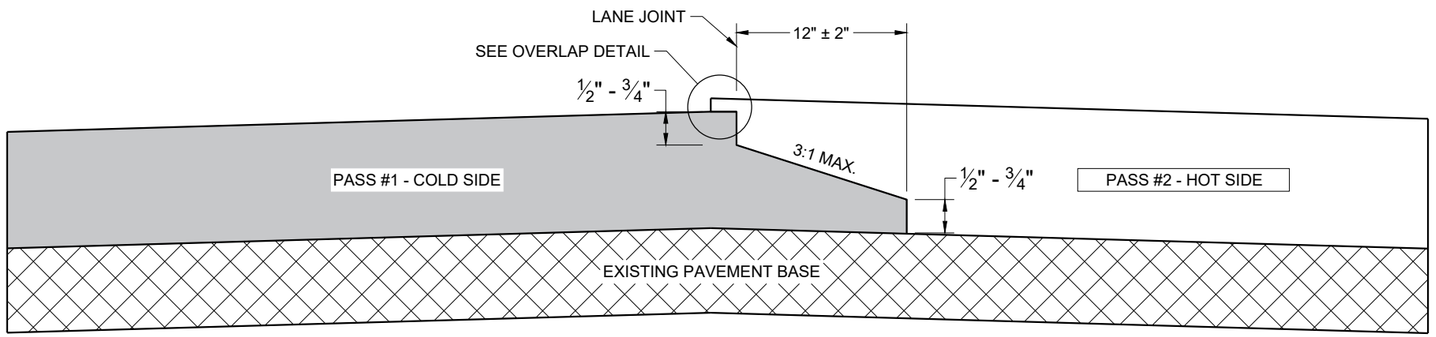
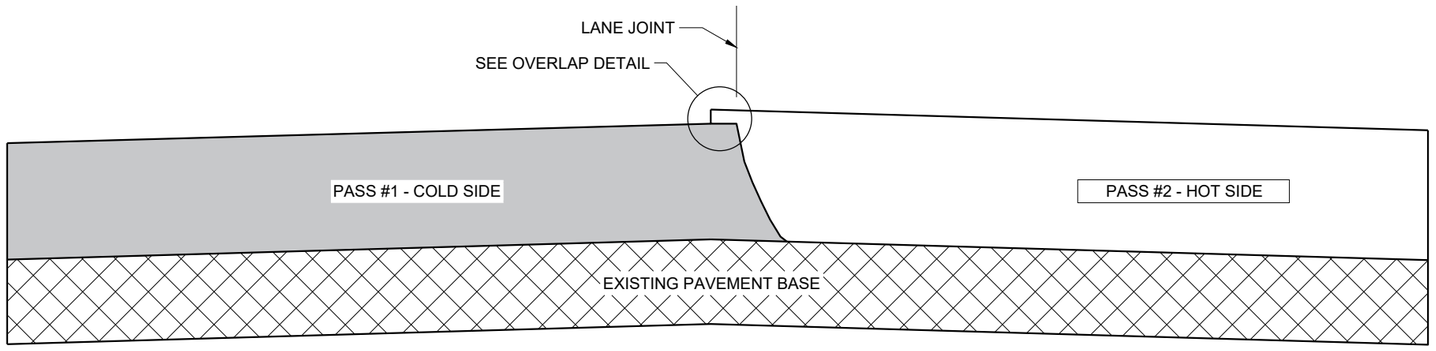
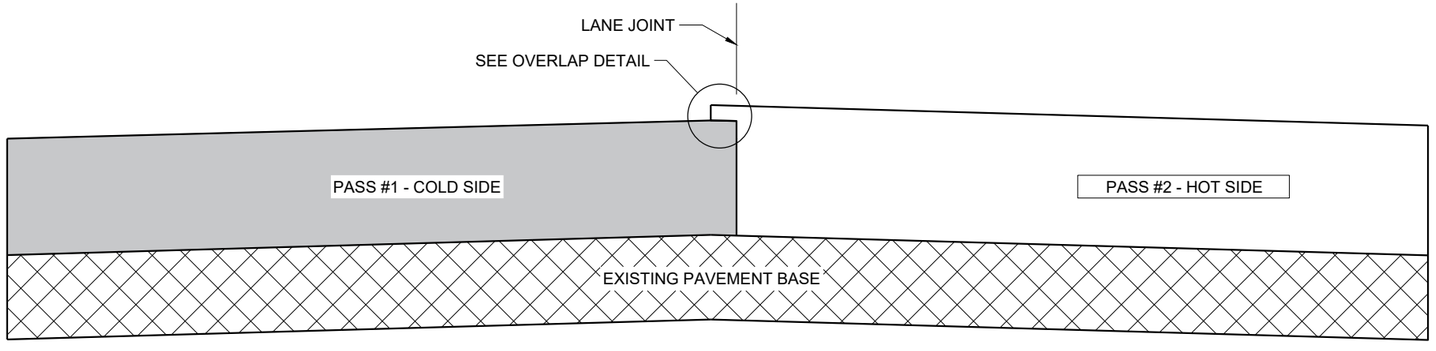
S.D.D. 12 A 3-10



TYPICAL PAVEMENT CROSS SECTION
NOTCHED WEDGE JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT (MILLED)

GENERAL NOTES

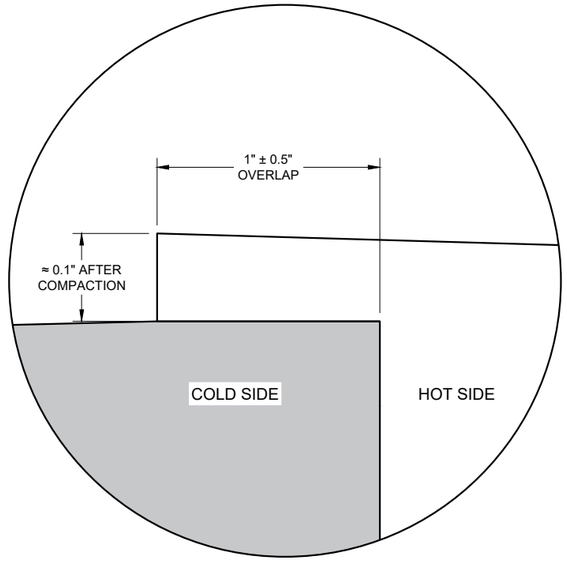
IN ADDITION TO THE DETAILS PROVIDED IN THIS DRAWING, CONFORM TO STANDARD SPECIFICATION 450.3.2.8 FOR WHEN A NOTCHED WEDGE JOINT IS REQUIRED AND FOR GENERAL JOINT CONSTRUCTION REQUIREMENTS.

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)

HMA LONGITUDINAL JOINTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2020
DATE

/S/ Steven Hefel
HMA PAVEMENT ENGIN

FHWA

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SDD 13C19 - 03

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SDD 13C19 - 03

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

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

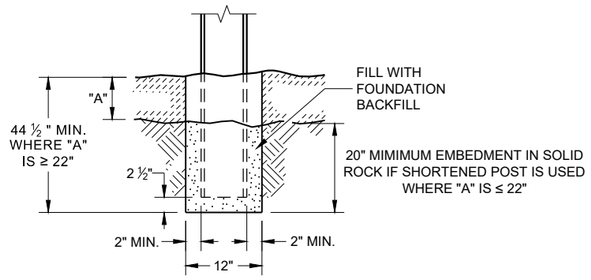
(3) IF ROCK IS ENCOUNTERED DURING EXCAVATION, PROVIDE A HOLE 12 INCHES IN DIAMETER EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2 1/2" INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS THE TO LENGTH AMD INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT. BACKFILL IS TO BE FREE OF LARGE ROCKS.

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

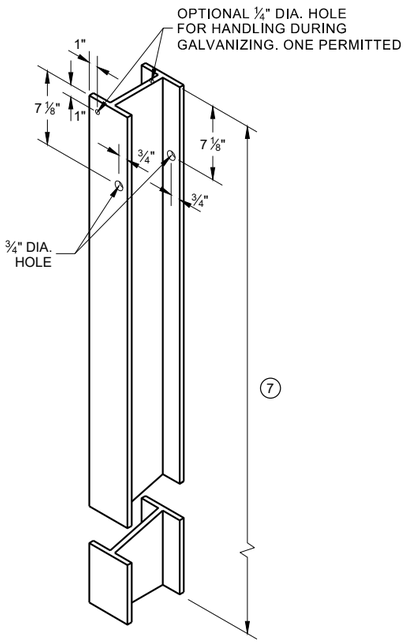
(5) FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS ±1". FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27 ¾" TO 32".

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

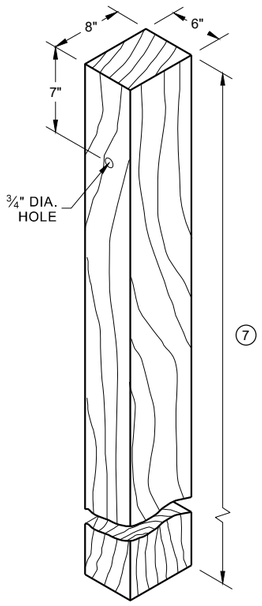
(7) TOTAL POST LENGTH FOR TYPE K IS 7' - 0".
TOTAL POST LENGTH FOR OTHER MGS TYPES IS 6' - 0".



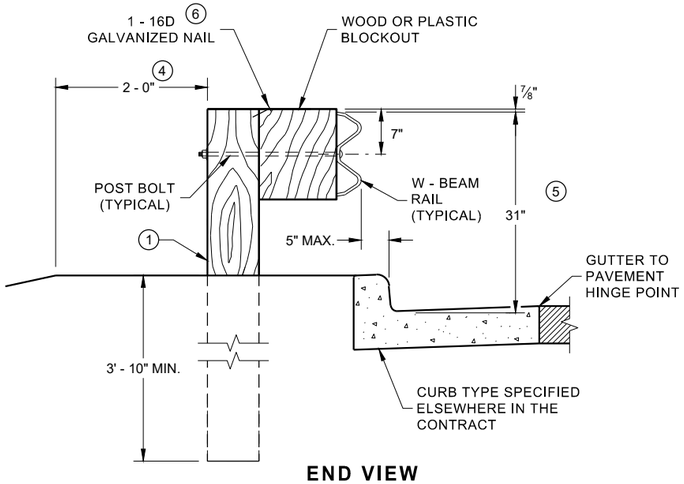
END VIEW
SETTING STEEL OR WOOD POST IN ROCK (3)



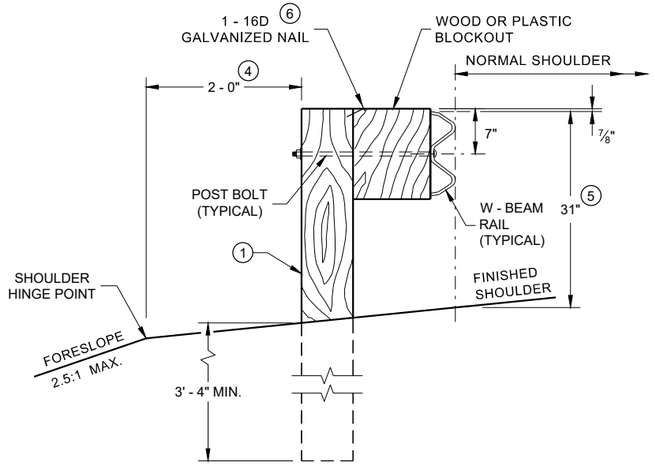
STEEL POST & HOLE PUNCHING DETAIL (W 6 X 9) (1)



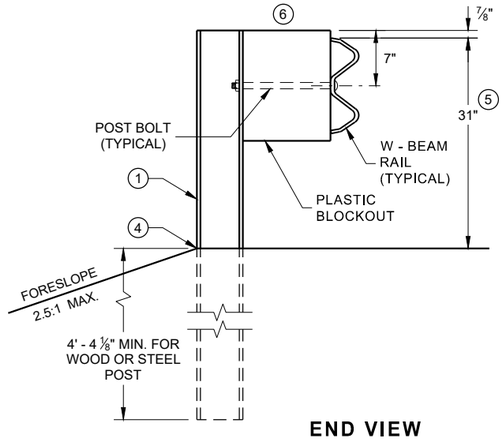
WOOD POST (6" X 8") NOMINAL (1)



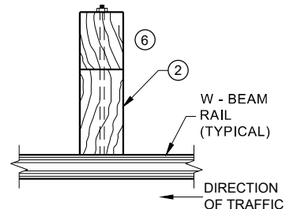
END VIEW
LOCATED ALONG A CURBED ROADWAY



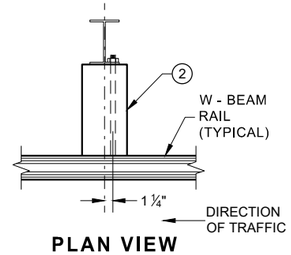
END VIEW
LOCATED ALONG A ROADWAY SHOULDER STANDARD INSTALLATION



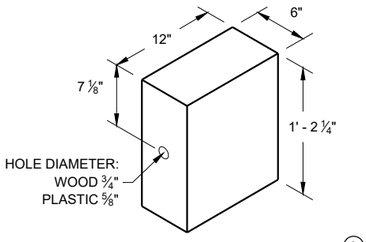
END VIEW
MGS LONGER POST AT HALFPOST SPACING W BEAM (K)



PLAN VIEW
WOOD POST, BLOCKOUT & BEAM



PLAN VIEW
STEEL POST, PLASTIC BLOCKOUT & BEAM

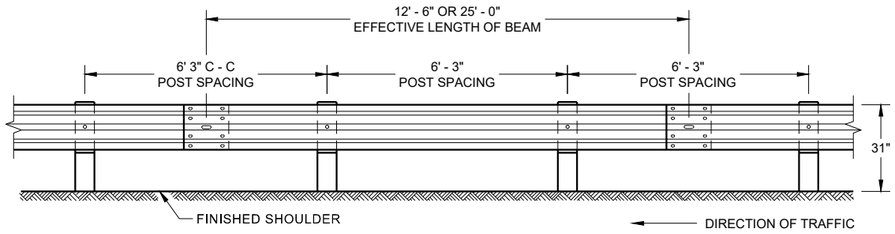


WOOD OR PLASTIC BLOCKOUT (2)

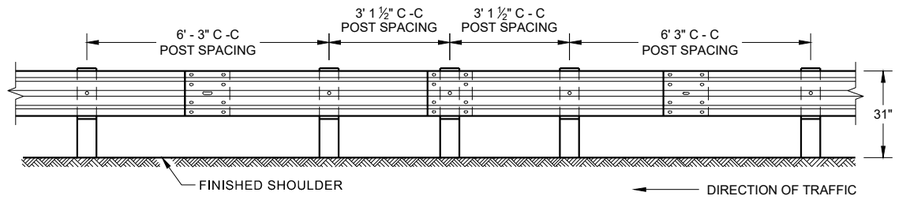
MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

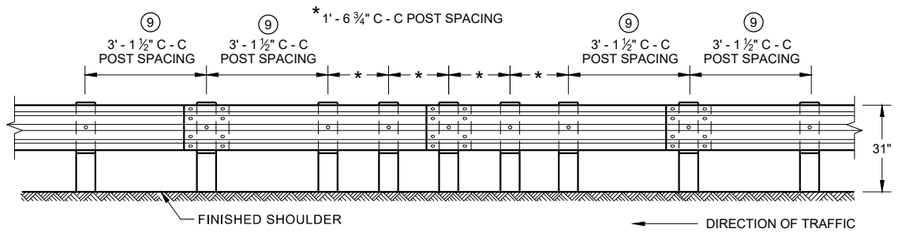
6
SDD 14B42 - 07a



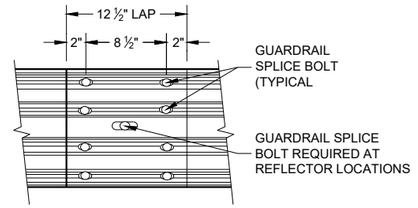
FRONT VIEW
POST SPACING STANDARD INSTALLATION



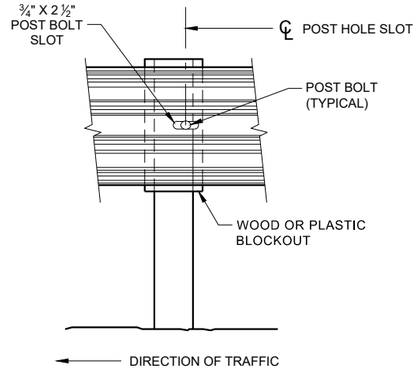
FRONT VIEW
HALF POST SPACING (HS) AND HALF POST SPACING WITH LONGER POSTS (K)



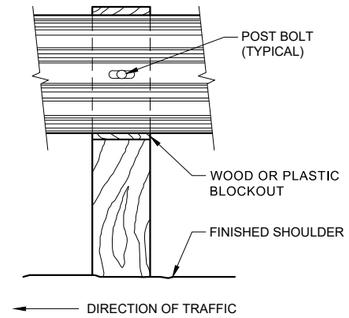
FRONT VIEW
QUARTER POST SPACING (QS)



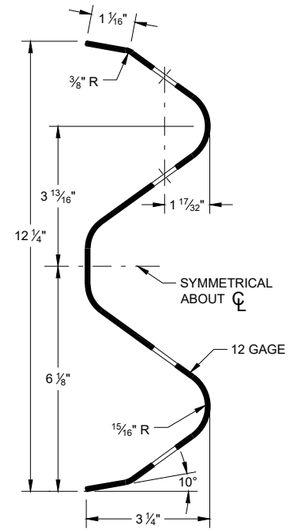
FRONT VIEW
MID-SPAN BEAM SPLICE



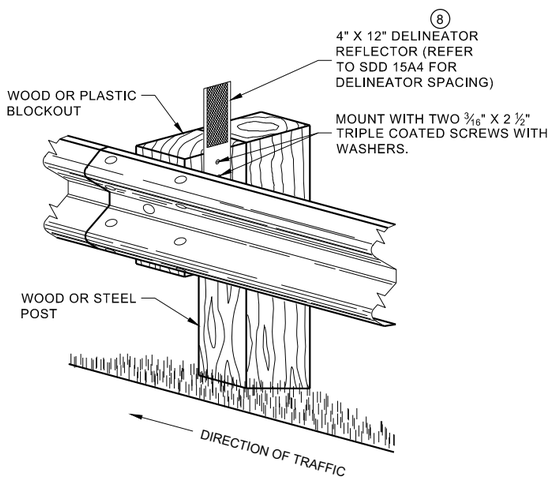
FRONT VIEW AT STEEL POST



FRONT VIEW AT WOOD POST



SECTION THRU W-BEAM RAIL



ONE SIDED REFLECTOR DETAIL AND TYPICAL INSTALLATION

GENERAL NOTES

⑧ DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

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

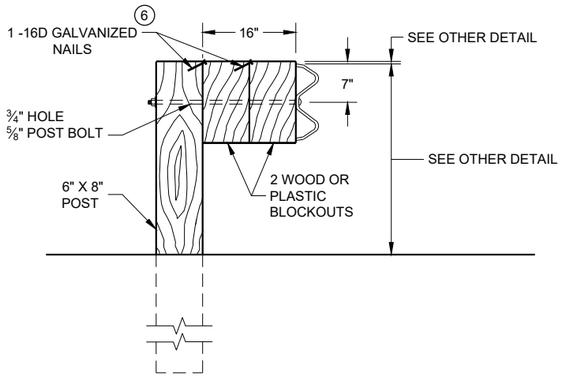
POST BOLTS ARE A ⅝" DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES ⅝" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT AND ⅝" DIAMETER F844 FLAT WASHER. POST BOLTS MAY BE LONGER IF MULTIPLE BLOCKOUTS ARE BEING USED.

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

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

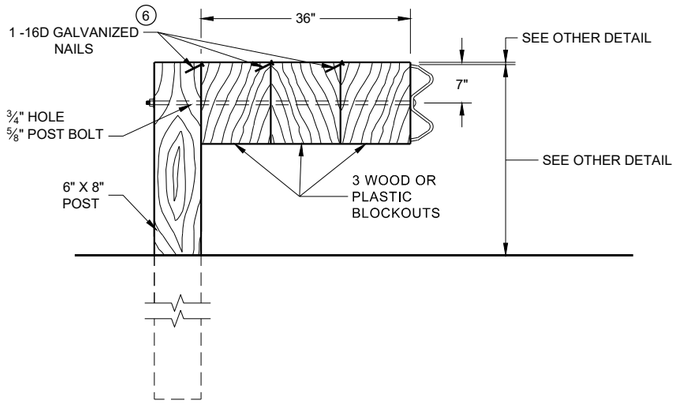
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6
SDD 14B42 - 07b



DETAIL FOR 16" BLOCKOUT DEPTH

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



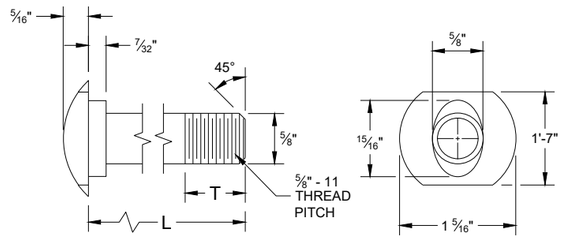
DETAIL FOR 36" BLOCKOUT DEPTH

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

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

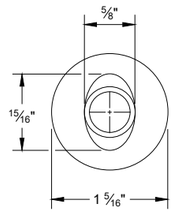
NOTE:

1. ALL FILLETS SHALL HAVE A MINIMUM RADIUS OF 3/16".
2. IF THE BOLT EXTENDS MORE THAN ¼" FROM THE NUT THE BOLT SHOULD BE TRIMMED BACK.

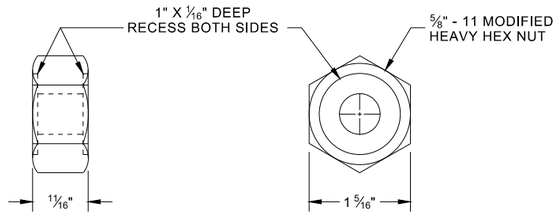


POST BOLT TABLE

L	T (MIN.)
1 ¼"	1 ⅛"
2"	1 ¾"
10"	4"
14"	4 1/16"
18"	4"
21"	4 1/16"
25"	4"

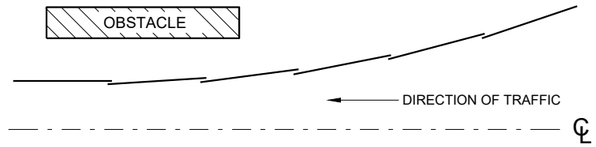


ALTERNATE BOLT HEAD

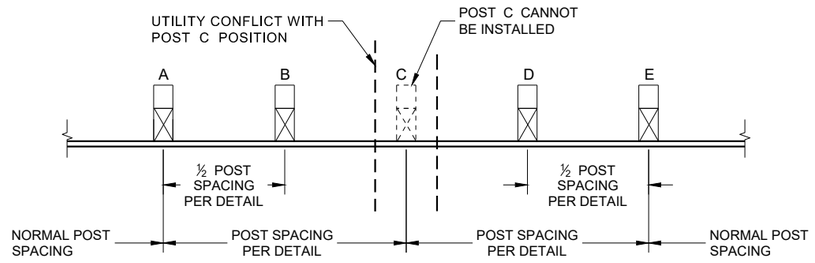


POST BOLT, SPLICE BOLT AND RECESS NUT

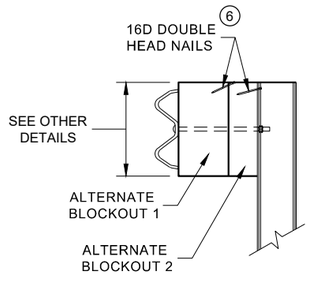
(6) WHEN USING STEEL POST AD WOOD BLOCKOUTS, INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.



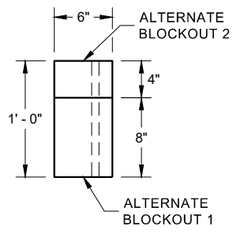
PLAN VIEW
BEAM LAPPING DETAIL



POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION



SIDE VIEW



PLAN VIEW

ALTERNATE WOOD BLOCKOUT DETAIL

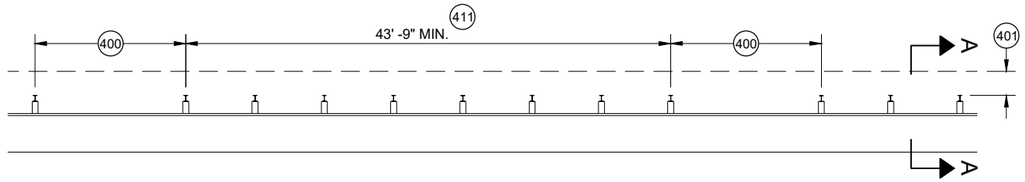
6

SDD 14B42 - 07c

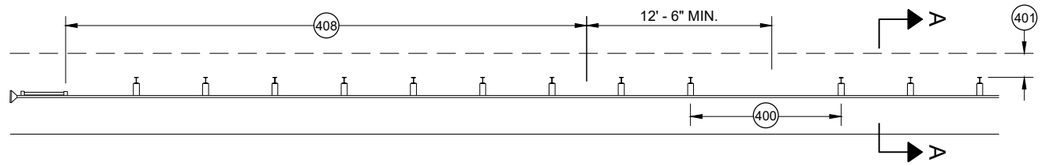
6

SDD 14B42 - 07c

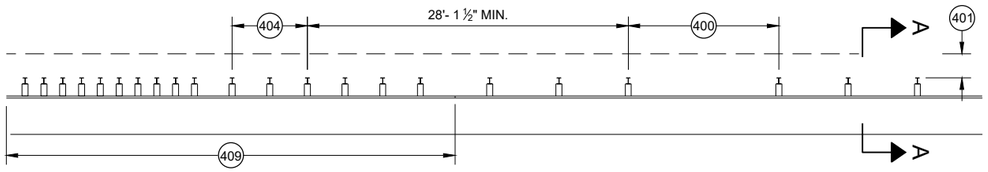
MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL



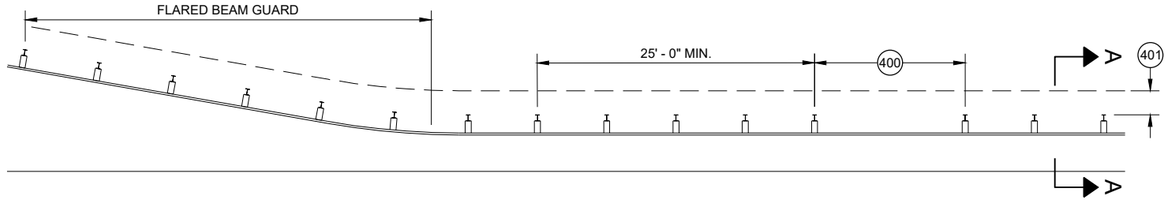
MISSING POST IN MGS GUARDRAIL



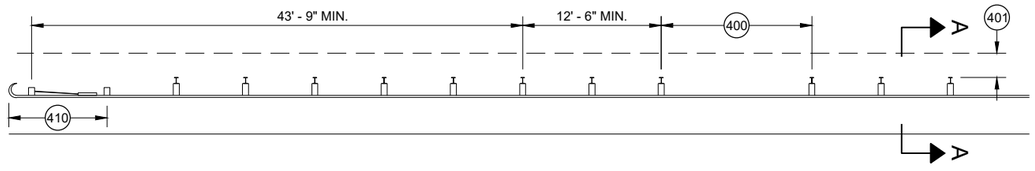
MISSING POST IN MGS GUARDRAIL NEAR EAT



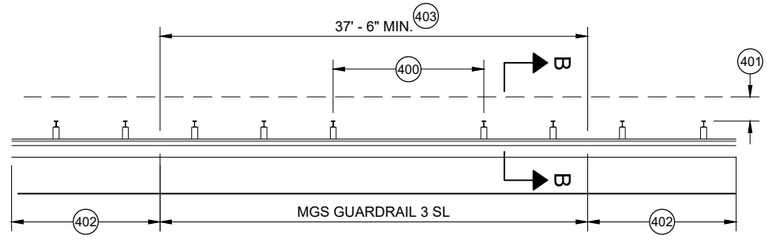
MISSING POST IN MGS GUARDRAIL NEAR AN APPROACH TRANSITION



MISSING POST IN MGS GUARDRAIL NEAR FLARED BEAM GUARD

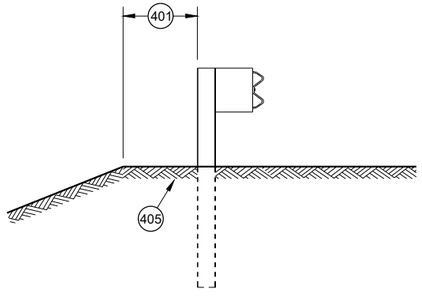


MISSING POST IN MGS GUARDRAIL NEAR A TYPE 2 END TERMINAL

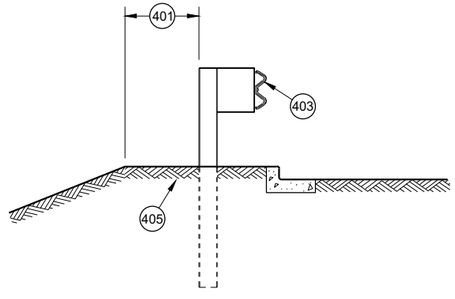


MISSING POST IN SHORT SPAN MGS GUARDRAIL NEAR CURB (SL) 407

(400) MAX SPAN 12' - 6"
(401) 2' MIN.
(402) MGS GUARDRAIL 3
(403) NESTING BEAM GUARD
(404) ASYMMETRIC TRANSITION
(405) SOIL WELL DRAINED AND COMPACTED
(406) SEE OTHER DRAWINGS IN THIS SDD
(407) SEE OTHER DRAWINGS FOR MIN. SPACING BETWEEN SPANS
(408) SEE SDD 14B44
(409) SEE SDD 14B45
(410) SEE SDD 14B47
(411) MINIMUM DISTANCE BETWEEN MISSING POST SPANS.



SECTION A - A 406



SECTION B - B 406

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2021 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVE UNIT SUPERVISOR
FHWA

6

SDD 14B42 - 07d

SDD 14B42 - 07d

GENERAL NOTES

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

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

(C) DIFFERENT MANUFACTURERS REQUIRE DIFFERENT PERFORATED W - BEAM RAIL END PANELS. SEE MANUFACTURER'S INFORMATION.

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

(E) HARDWARE MAY VARY BETWEEN MANUFACTURER. SEE MANUFACTURER'S DRAWING FOR INFORMATION.

DIMENSIONS MAY VARY, MANUFACTURER'S INFORMATION.

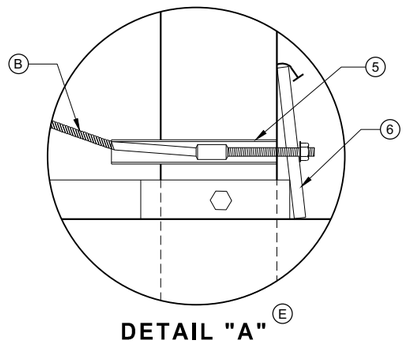
SEE SDD 14B42 FOR MORE INFORMATION.

* DO NOT ATTACH BLOCKOUTS TO POST 1 AND 2.

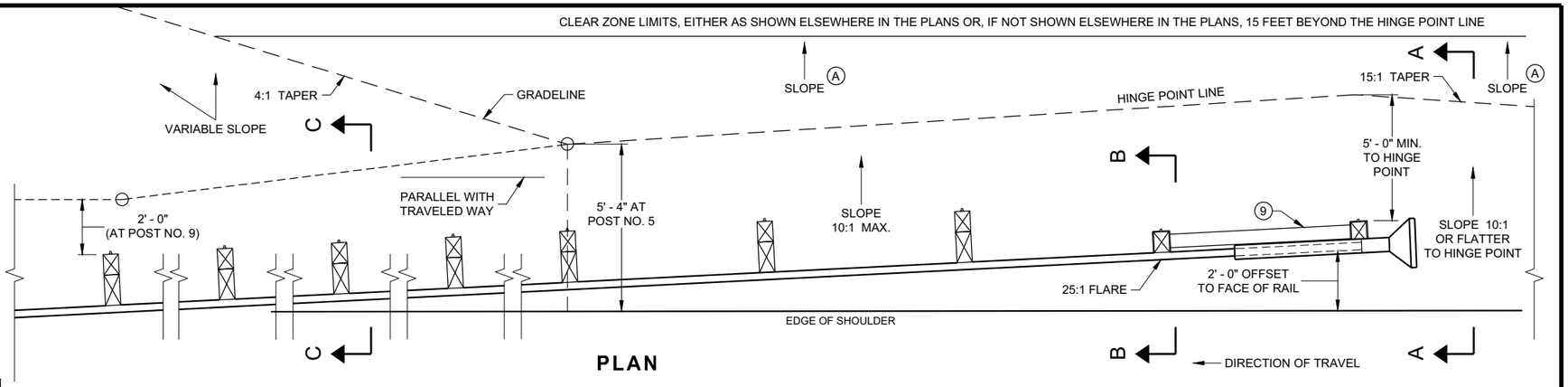
DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

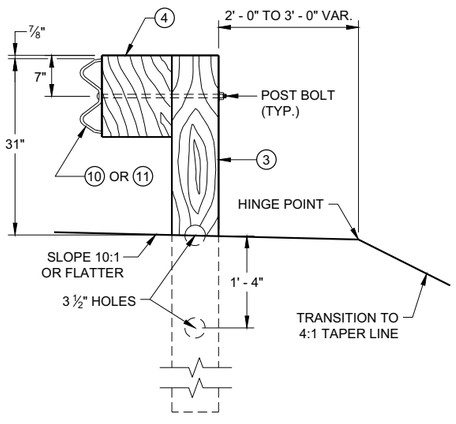
SEE MANUFACTURER'S DRAWING FOR SPLICE LOCATION, HARDWARE DIMENSIONS AND INSTALLATION INSTRUCTIONS.

THE CENTER OF THE UPPER 3 ½" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE UP TO A MAXIMUM OF 2" ABOVE GROUND LINE. WOOD BLOCKS ON POSTS NUMBERED 3 THROUGH 9 MAY BE ADJUSTED UP TO 3" ABOVE THE TOP OF POST.

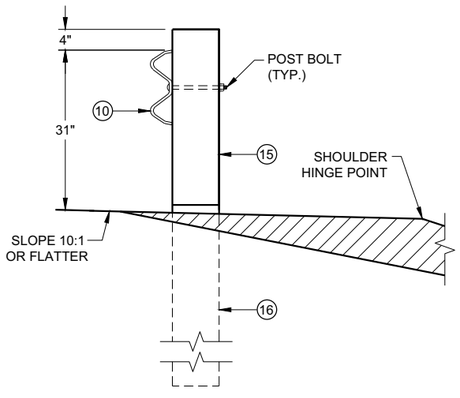


DETAIL "A" (E)

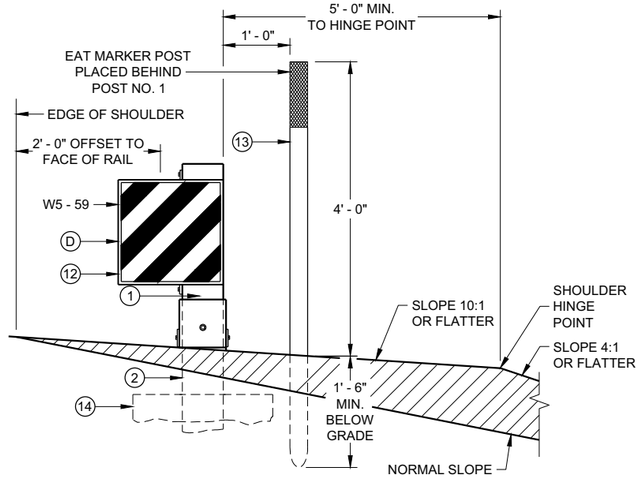




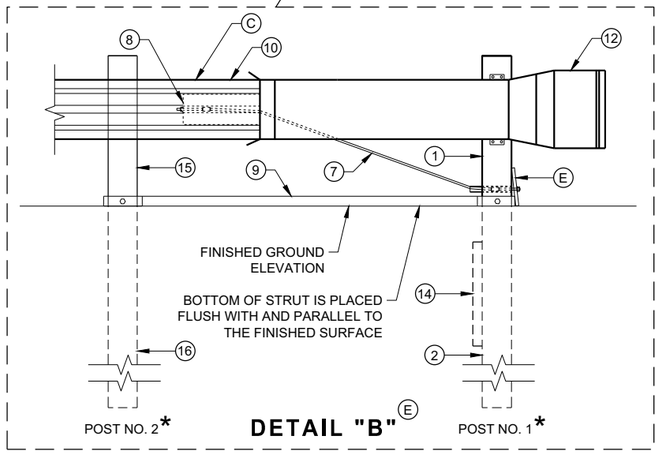
SECTION C - C
TYPICAL AT POST NOS. 3 - 9



SECTION B - B
TYPICAL AT POST NO. 2*



SECTION A - A
TYPICAL AT POST NO. 1*



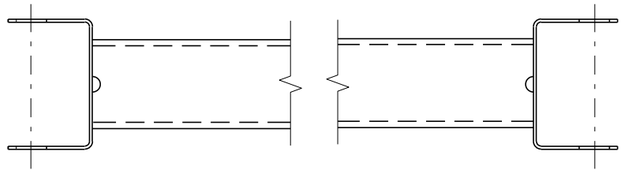
DETAIL "B" (E)

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

SDD 14B44 - 04a

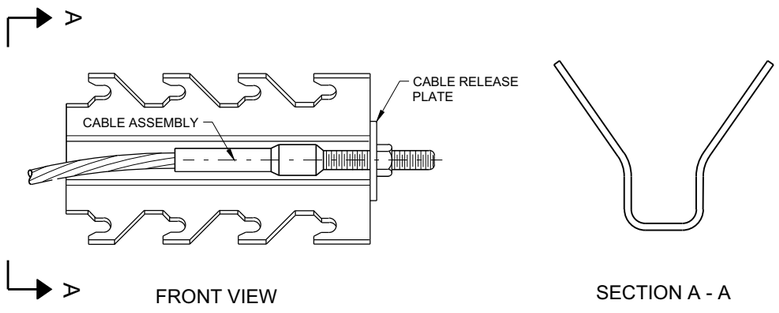
SDD 14B44 - 04a



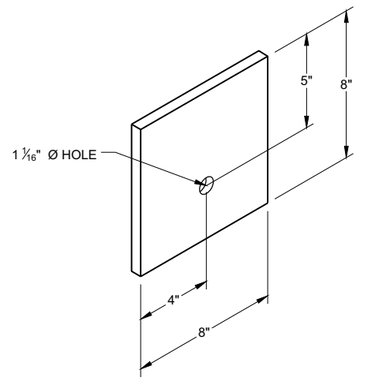
GENERIC GROUND STRUT ⑨ Ⓔ

BILL OF MATERIALS

PART NO.	DESCRIPTION MATERIALS PROVIDED BY MGS EAT MANUFACTURER. SEE MANUGACTURER'S DETAILS FOR MORE INFORMATION.
①	UPPER POST NO. 1 6" X 6" TUBE
②	LOWER POST NO. 1
③	WOOD CRT
④	WOOD BLOCKOUT
⑤	PIPE SLEEVE
⑥	BEARING PLATE
⑦	BCT CABLE ASSEMBLY
⑧	ANCHOR CABLE BOX
⑨	GROUND STRUT
⑩	PERFORATED W-BEAM RAIL END PANEL, 12'-6" LONG.
⑪	STANDARD W-BEAM RAIL. MULTIPLE SECTIONS REQUIRED. SECTIONS VARY IN LENGTH.
⑫	IMPACT HEAD
⑬	EAT MARKER POST - YELLOW (SEE APPROVED PRODUCTS LIST)
⑭	SOIL PLATE
⑮	UPPER POST NO. 2
⑯	LOWER POST NO. 2



GENERIC ANCHOR CABLE BOX ⑧ Ⓔ



BEARING PLATE ⑥ Ⓔ

6

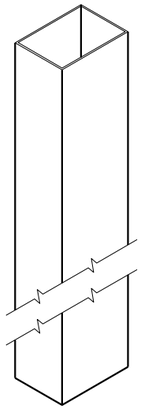
6

SDD 14B44 - 04b

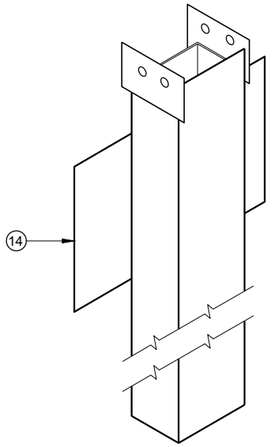
SDD 14B44 - 04b

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

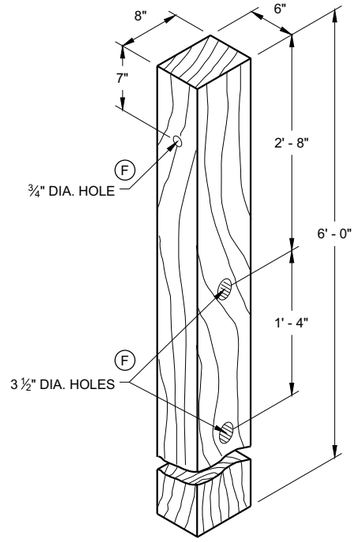
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



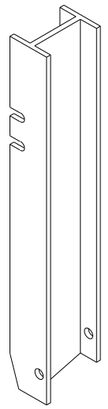
UPPER POST NO. 1 (1) (E)



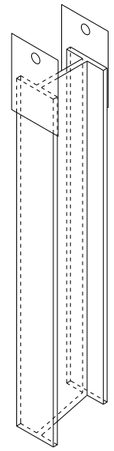
LOWER POST NO. 1 (2) (E)



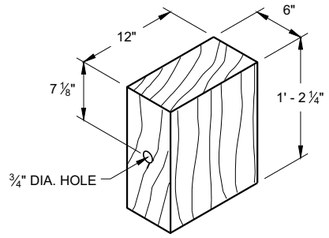
WOOD CRT POST (3) (E)
POSTS NUMBER 3-9



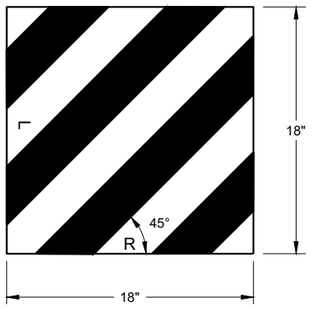
UPPER POST NO. 2 (15) (E)



LOWER POST NO. 2 (16) (E)

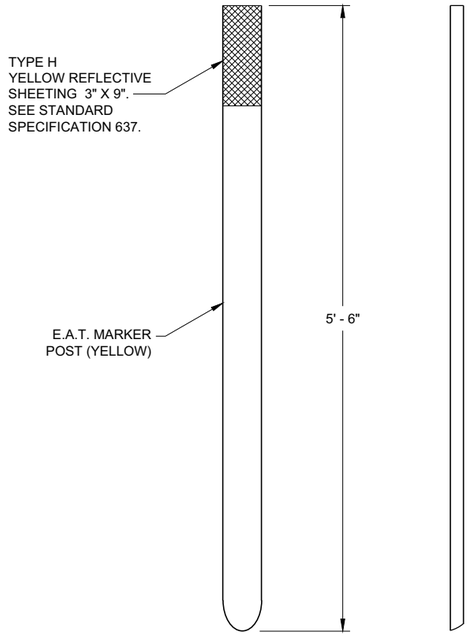


WOOD BLOCKOUT (4)
REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2



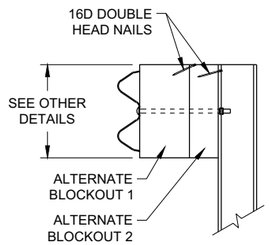
W5 - 59

REFLECTIVE SHEETING DETAIL (E)

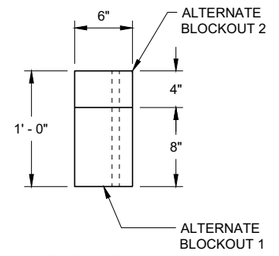


FRONT VIEW SIDE VIEW

E.A.T. MARKER POST (13)



SIDE VIEW



TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL

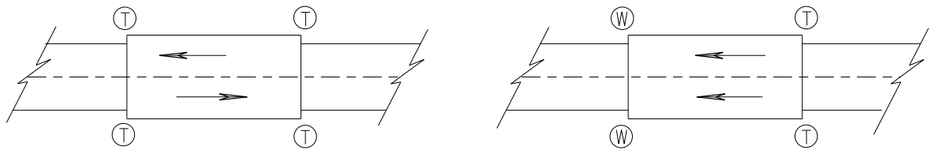
MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7/2018 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVE UNIT SUPERVISOR
FHWA

6

SDD 14B44 - 04c



TWO WAY TRAFFIC

ONE WAY TRAFFIC

(T) THRIE BEAM CONNECTION

(W) W-BEAM CONNECTION WHEN REQUIRED

TYPICAL LOCATIONS OF THRIE BEAM AND W-BEAM CONNECTIONS TO BRIDGE

GENERAL NOTES

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

TRANSITION USES STEEL POSTS ONLY.

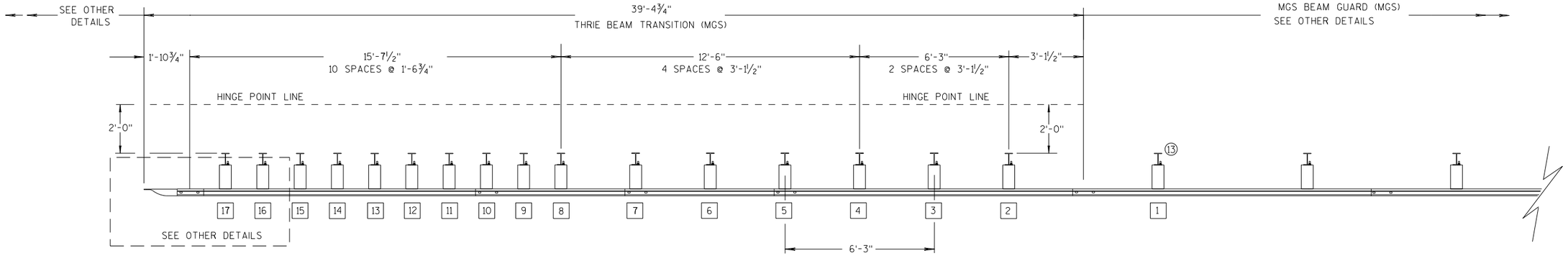
SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

POST 2 THROUGH 17 USES STEEL POST ONLY

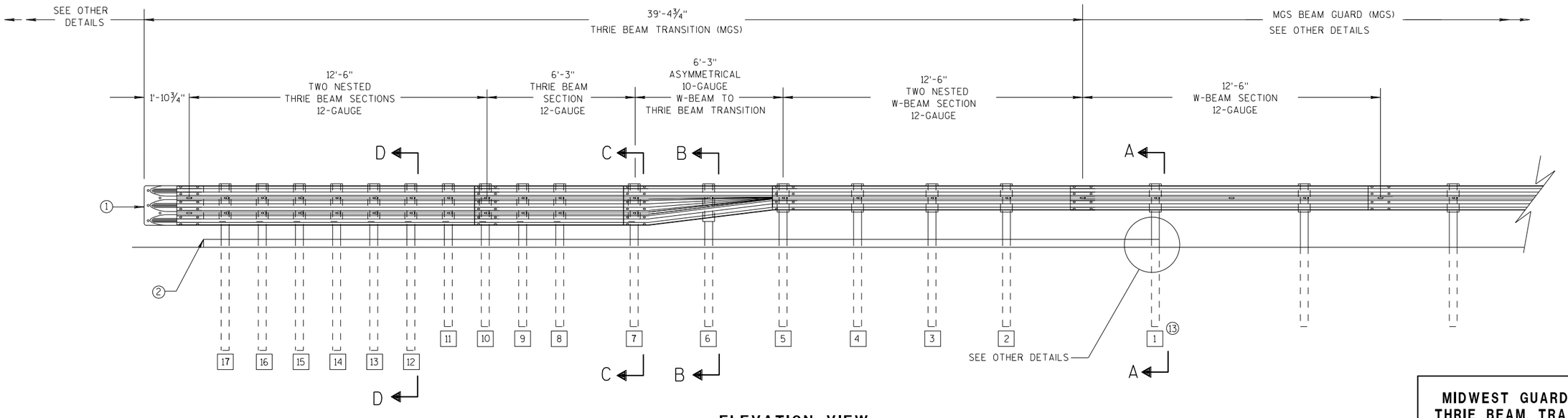
(1) BRIDGE RAILING TYPE "W" DOES NOT REQUIRE A TERMINAL CONNECTOR.

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

(13) STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD14B42



PLAN VIEW



ELEVATION VIEW

MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

S.D.D. 14 B 45-5a

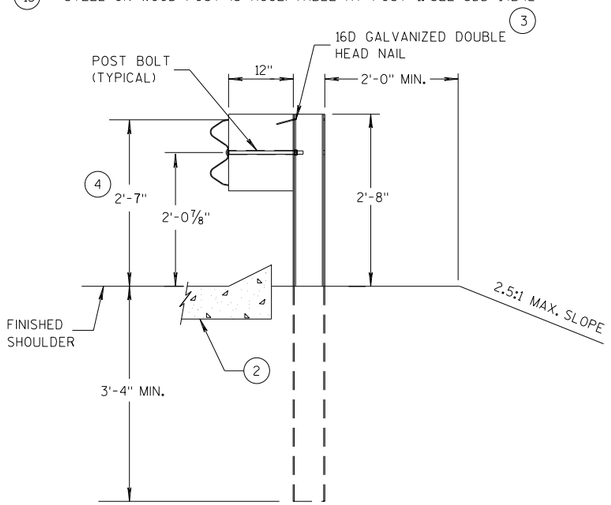
GENERAL NOTES

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

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

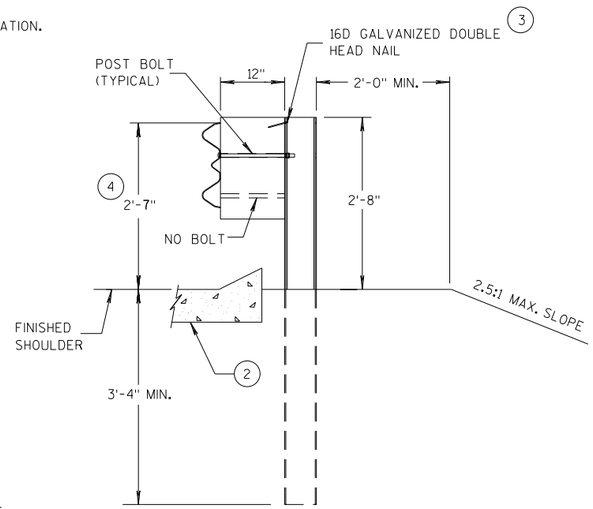
(4) TOLERANCE FOR TOP OF W-BEAM RAIL IS ± 1".

(13) STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD 14B42



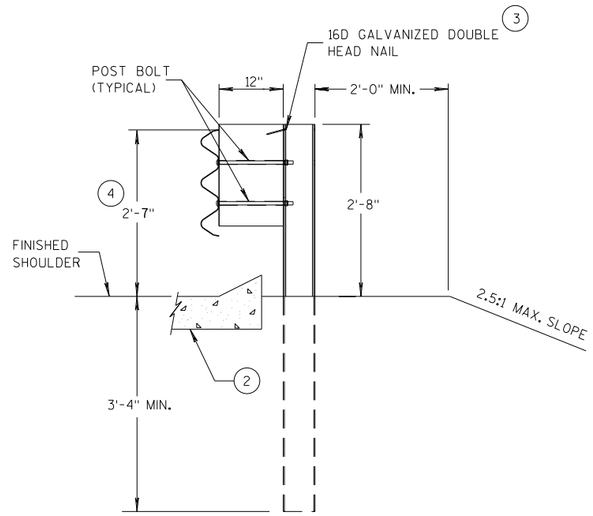
SECTION A-A (13)

POSTS 1-5



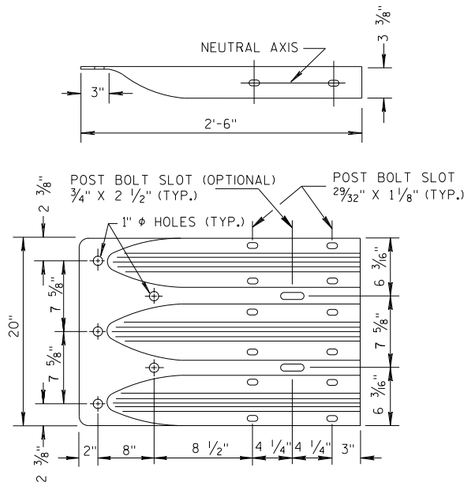
SECTION B-B

POST 6

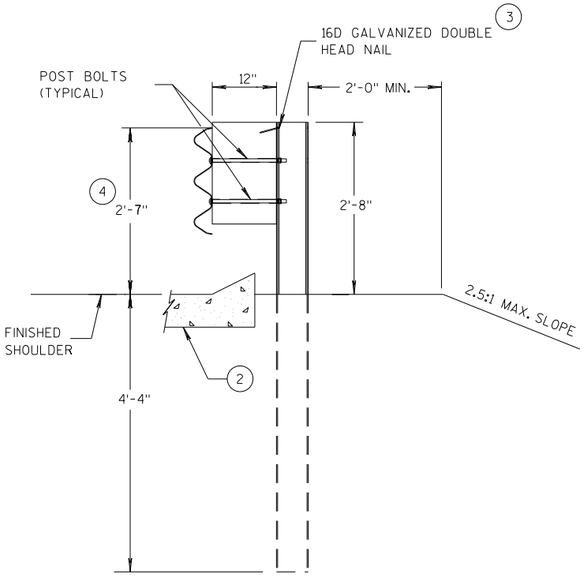


SECTION C-C

POSTS 7-11

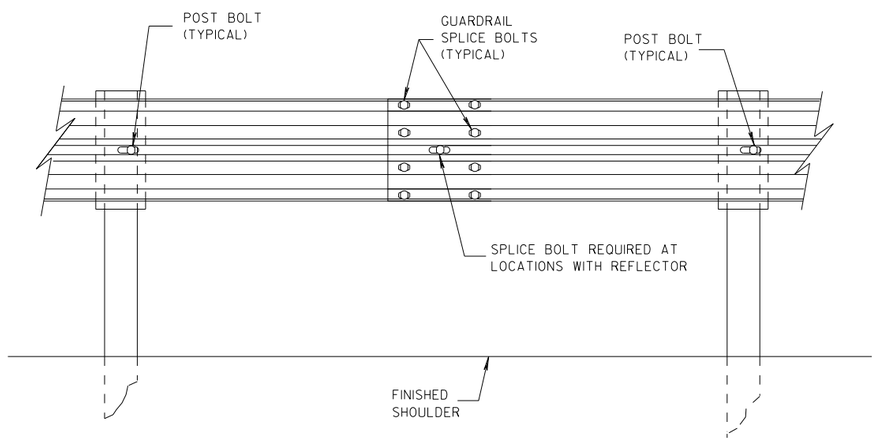


THRIE BEAM TERMINAL CONNECTOR



SECTION D-D

POSTS 12-17



SPLICE DETAIL

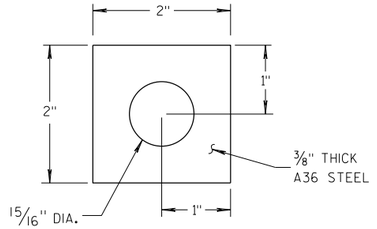
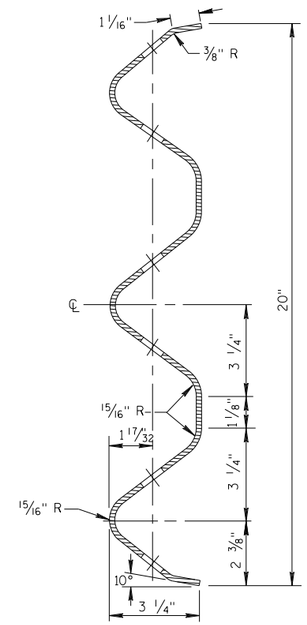


PLATE WASHER DETAIL



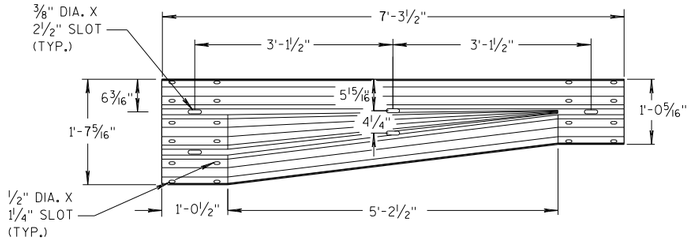
SECTION THRU THRIE BEAM RAIL ELEMENT

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

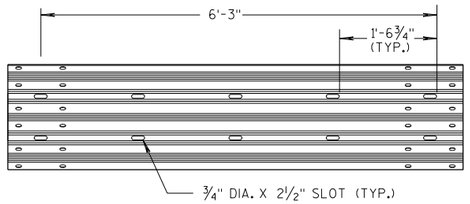
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOF

6

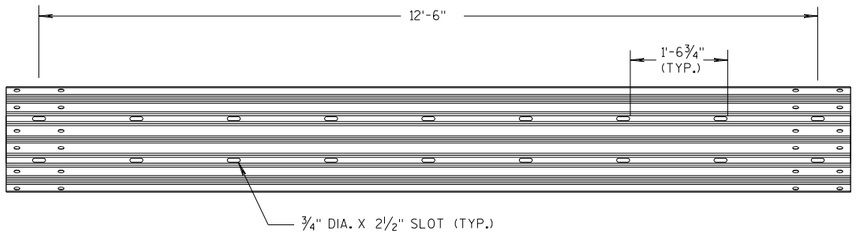
S.D.D. 14 B 45-5b



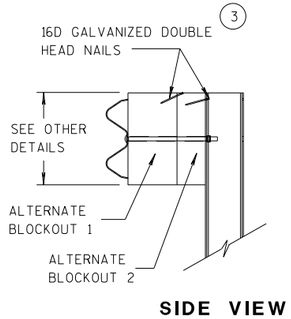
W-BEAM TO THRIE BEAM TRANSITION SECTION



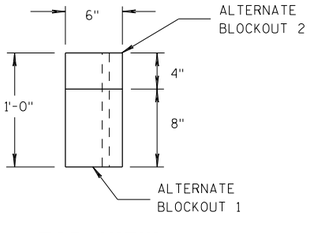
6'-3" THRIE BEAM SECTION



12'-6" THRIE BEAM SECTION

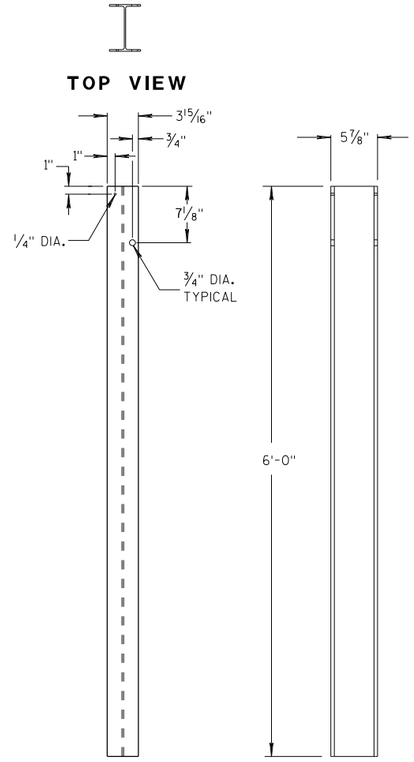


SIDE VIEW



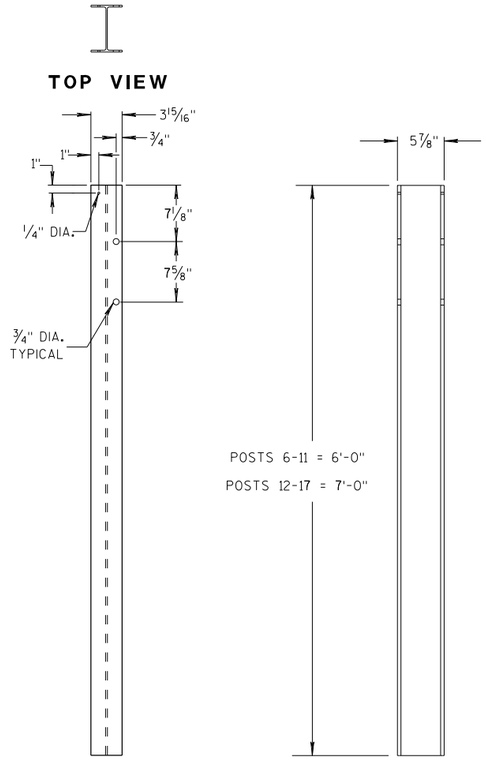
TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL



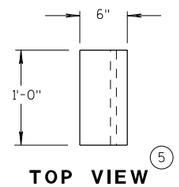
FRONT VIEW SIDE VIEW

STEEL POSTS 1-5 (13)

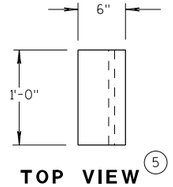


FRONT VIEW SIDE VIEW

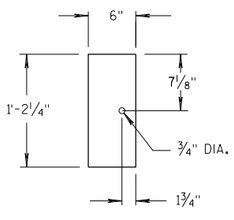
STEEL POSTS 6-17



TOP VIEW (5)

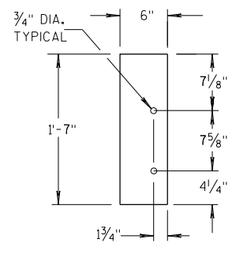


TOP VIEW (5)



FRONT VIEW

BLOCKOUT POSTS 1-5



FRONT VIEW

BLOCKOUT POSTS 6-17

GENERAL NOTES

STEEL POSTS ARE W6X9 OR W6X8.5.

BOLT HOLES FOR POST ARE ON FRONT AND OF SIDE OF POST.

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

(5) WOOD BLOCKS MAY BE CONSTRUCTED OUT OF 2 WOOD BLOCKS. SEE ALTERNATE WOOD BLOCK DETAIL.

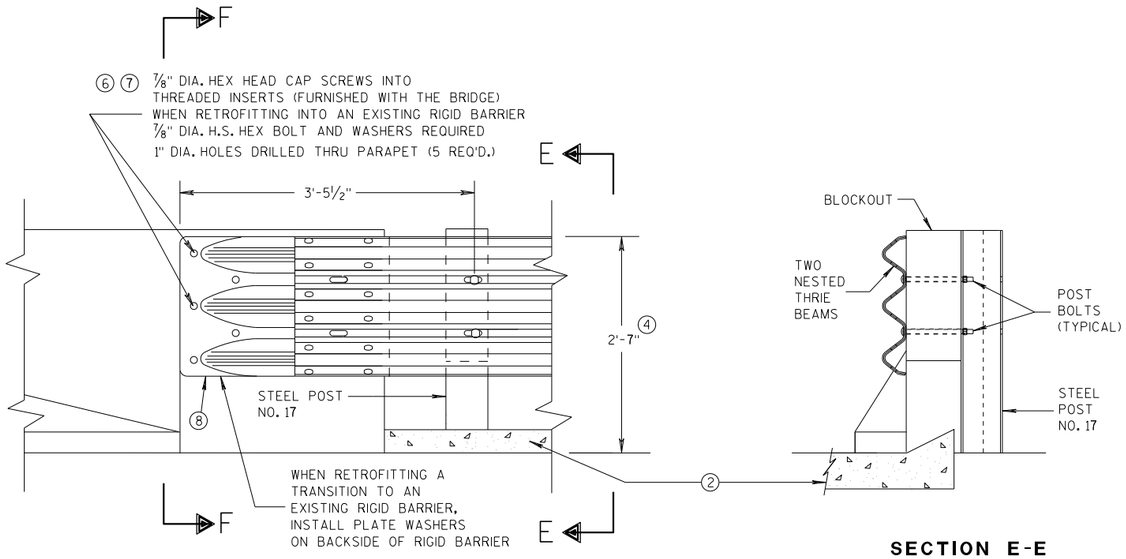
(13) STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD 14B42.

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

S.D.D. 14 B 45-5c



FRONT VIEW

SECTION E-E

THRIE BEAM CONNECTION TO BRIDGE PARAPET WITH SQUARE ENDS

GENERAL NOTES

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

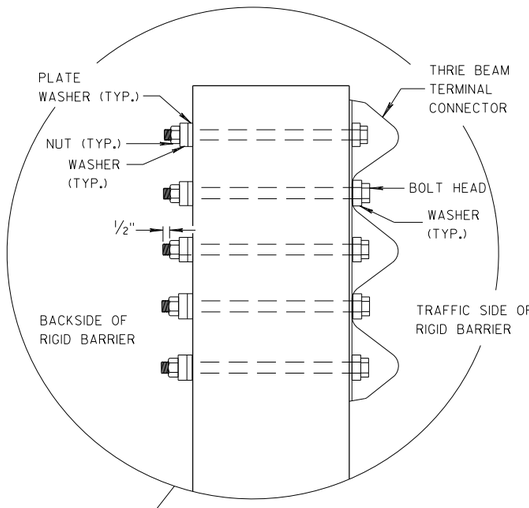
② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

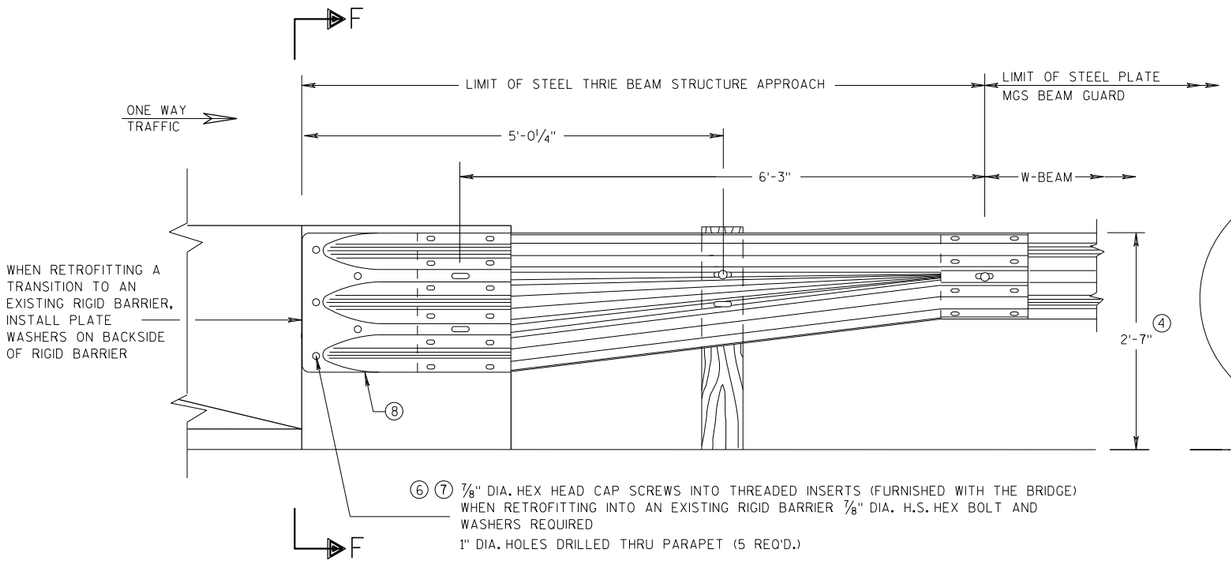
④ TOLERANCE FOR TOP OF BEAM IS ± 1".

⑥ DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

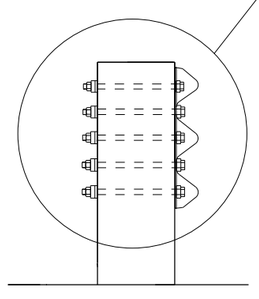
⑦ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/32" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.

⑧ THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 1/2".

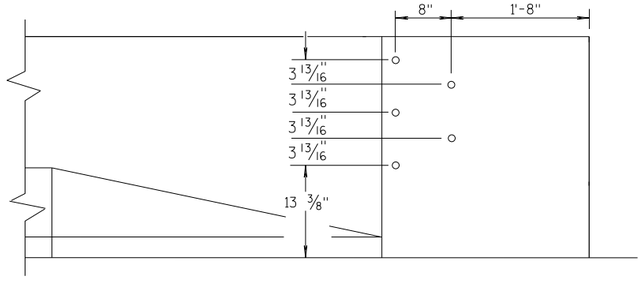




FRONT VIEW



SECTION F-F



DRILL HOLE LOCATION

W BEAM TRANSITION AND CONNECTION TO BRIDGE PARAPETS WITH SQUARE ENDS

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

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
07/2018 DATE
/S/ Rodney Taylor
ROADWAY STANDARDS D UNIT SUPERVI
NT
FHWA

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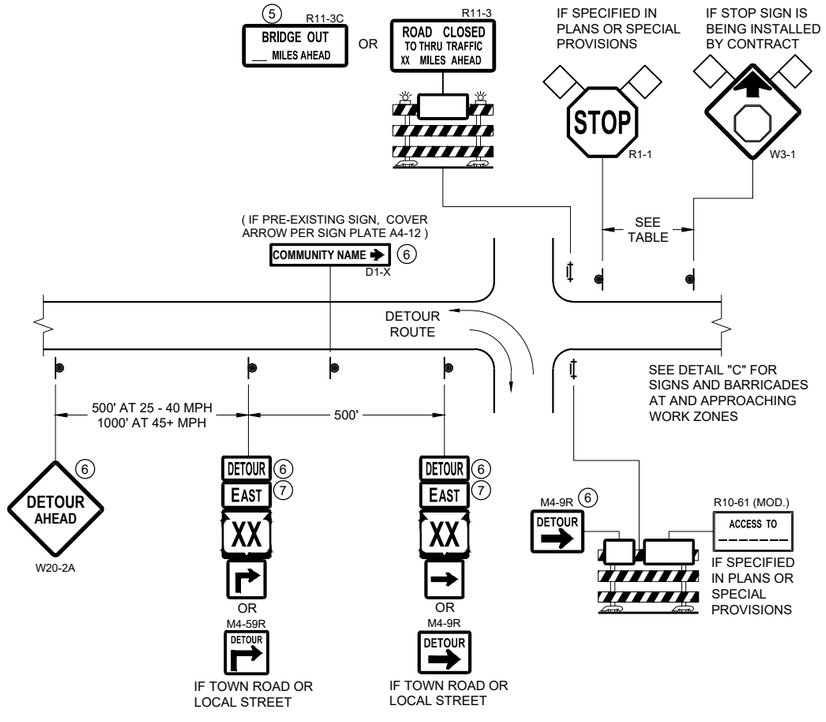
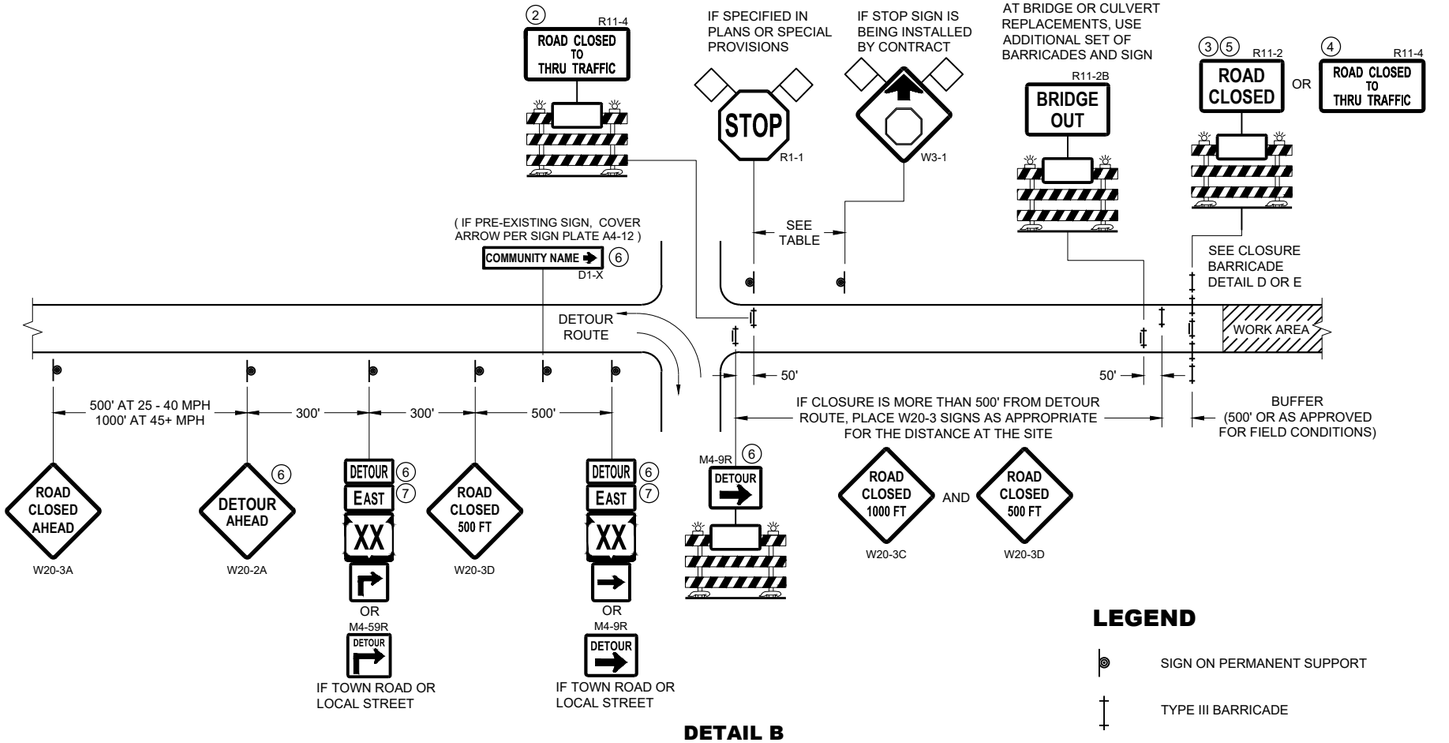
S.D.D. 14 B 45-5d



DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR

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



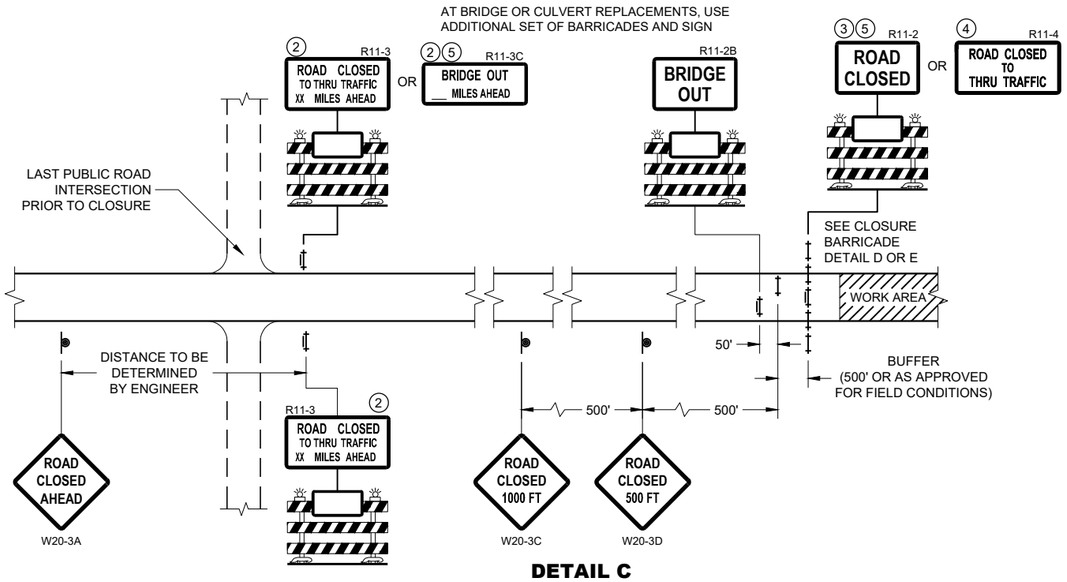
DETAIL B
MAINLINE CLOSURE WITH POSTED DETOUR

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

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



DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR

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

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

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA

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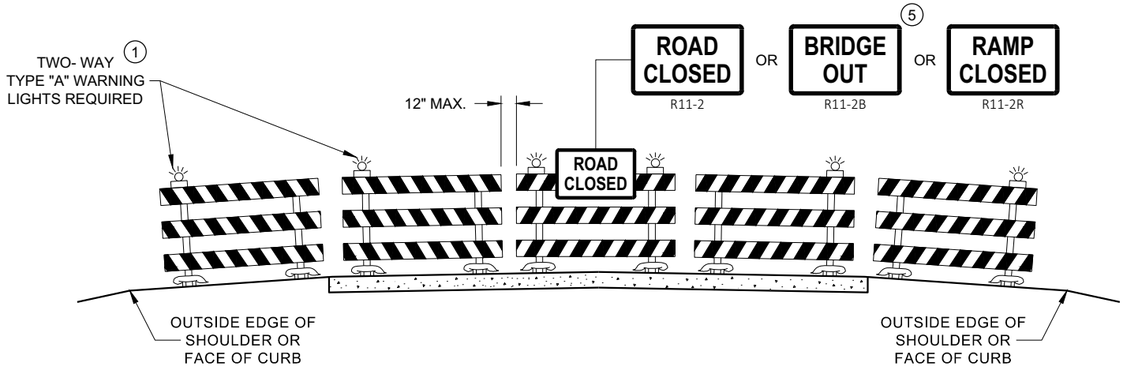
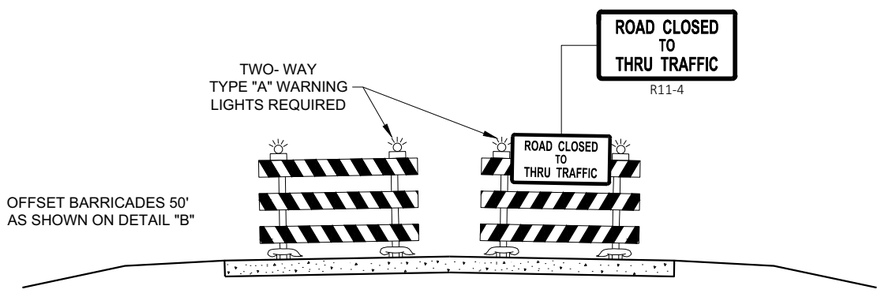
SDD 15C02 - 08a

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

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SDD 15C02 - 08b

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SDD 15C02 - 08b

GENERAL NOTES

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS.

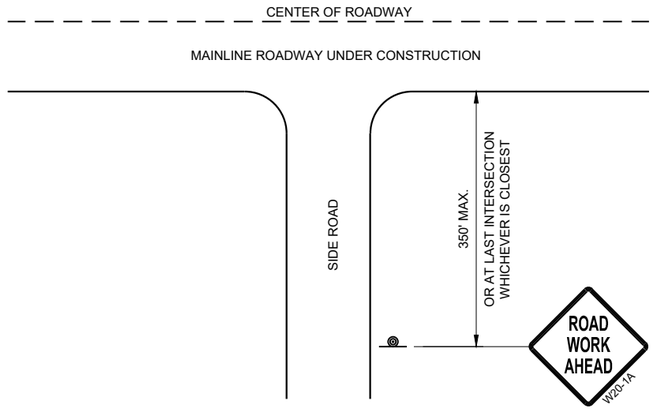
THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS, 36"X36" SIGNS MAY BE USED INSTEAD OF 48" X 48" SIGNS.

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

IF A "STOP" SIGN MUST BE REMOVED FOR A WORK OPERATION, A TEMPORARY "STOP" SIGN SHALL BE PLACED PRIOR TO THE SIGN REMOVAL, OR A FLAGGER SHALL BE PROVIDED UNTIL THE SIGN IS REESTABLISHED.

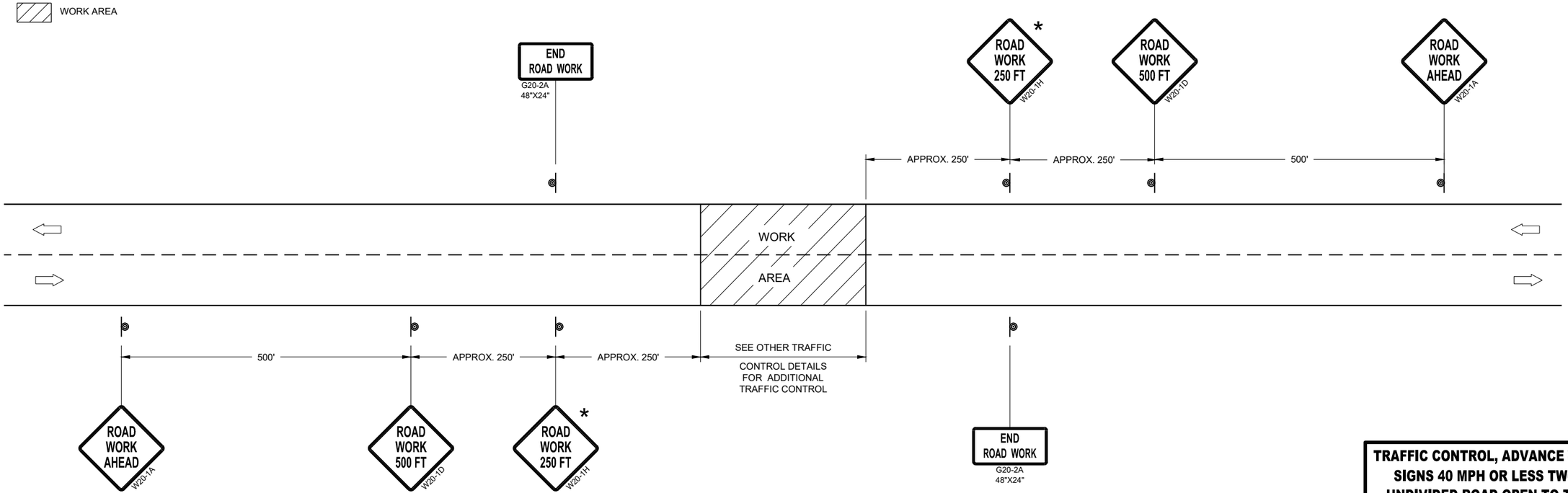
* THE THIRD W20-1 SIGN IS REQUIRED ONLY IF THERE IS AN INTERSECTION BETWEEN THE "ROAD WORK 500 FEET" SIGN AND THE WORK ZONE. ADJUST THE PLACEMENT OF THIS SIGN BASED ON INTERSECTION LOCATION AND OTHER FIELD CONDITIONS.



TYPICAL SIDE ROAD APPROACH WARNING SIGN DETAIL

LEGEND

- SIGN ON PERMANENT SUPPORT
- DIRECTION OF TRAFFIC
- WORK AREA



TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40MPH OR LESS

TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 MPH OR LESS TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
July 2018
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

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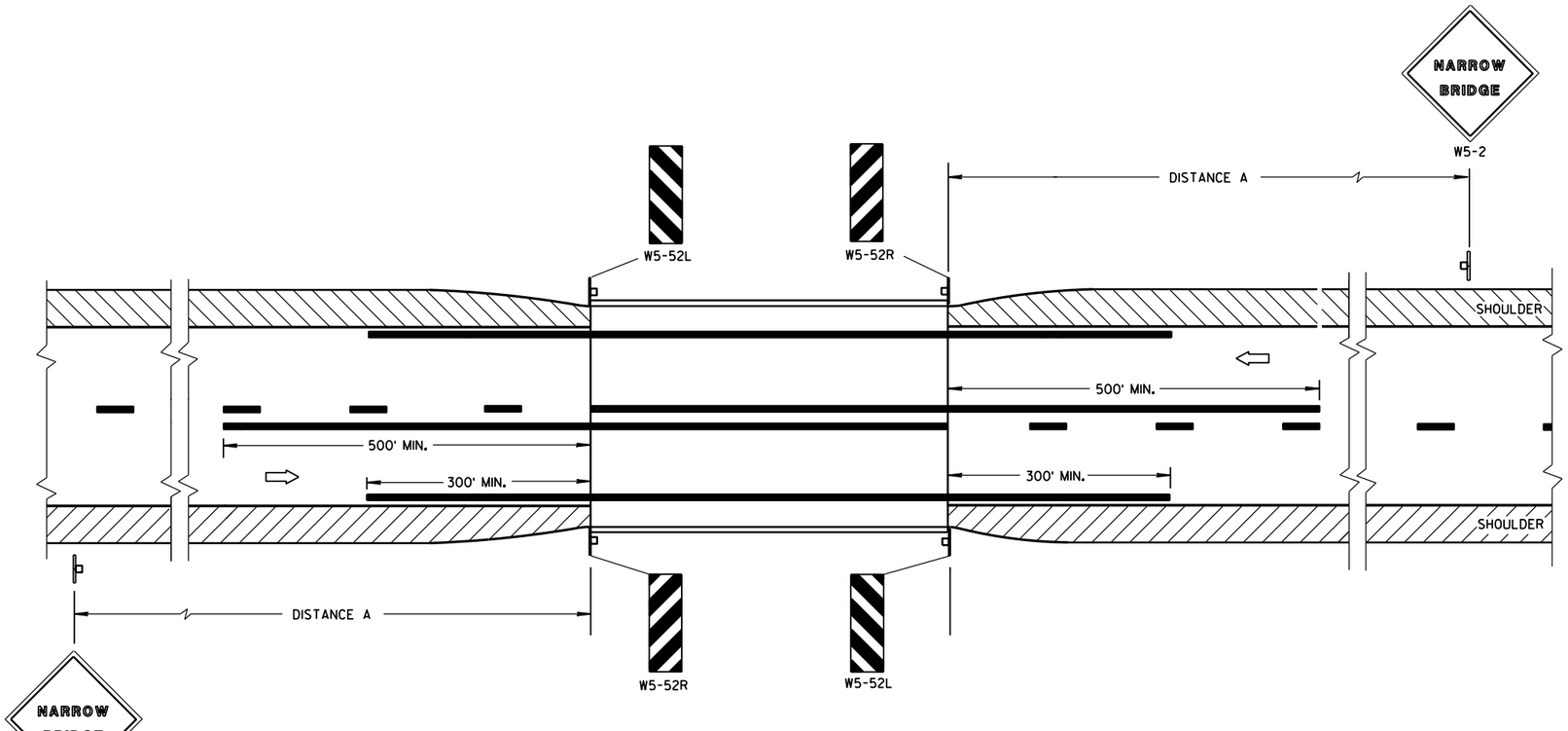
SDD 15C05 - 05



SITUATION 1

WARRANTING CRITERIA:

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

DISTANCE TABLE

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

GENERAL NOTES

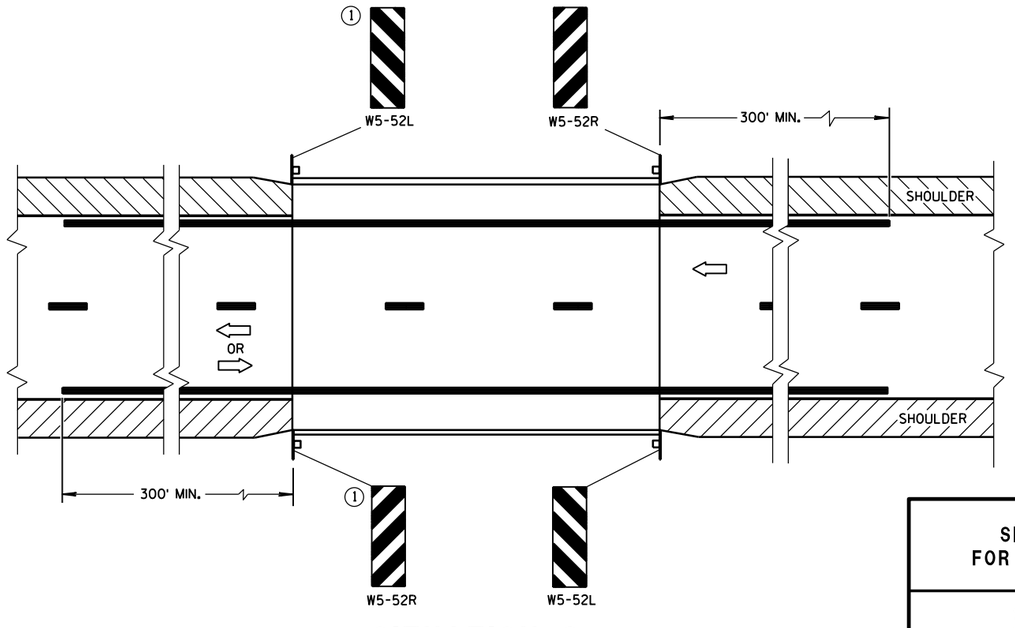
DETAILS OF TRAFFIC CONTROL DEVICES AND INSTALLATION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

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

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

(1) OMIT ON ONE-WAY TRAVELLED WAYS.

⇨ DIRECTION OF TRAFFIC



SITUATION 2

WARRANTING CRITERIA:

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

SIGNING & MARKING FOR TWO LANE BRIDGES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

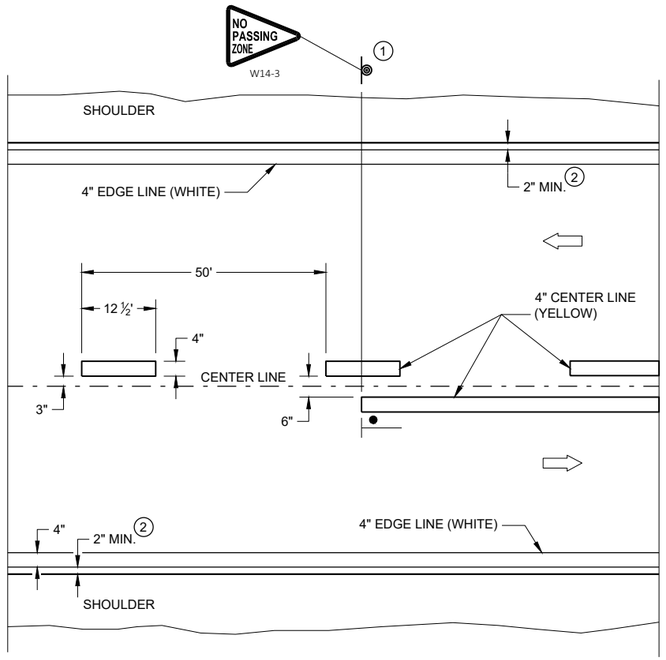
APPROVED
June 2017 — DATE
/S/ Matthew R. Rauch — STATE SIGNING AND MARKING ENGINEER
FHWA

6

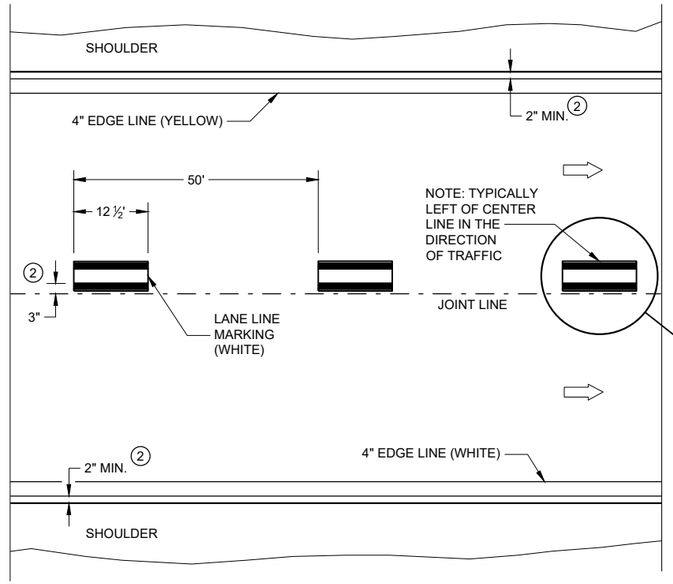
S.D.D. 15 C 6-9

6

S.D.D. 15 C 6-9

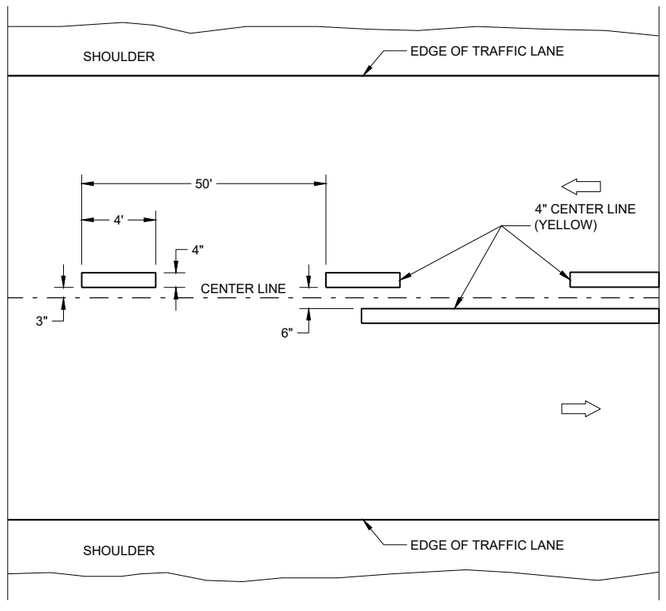


TWO WAY TRAFFIC

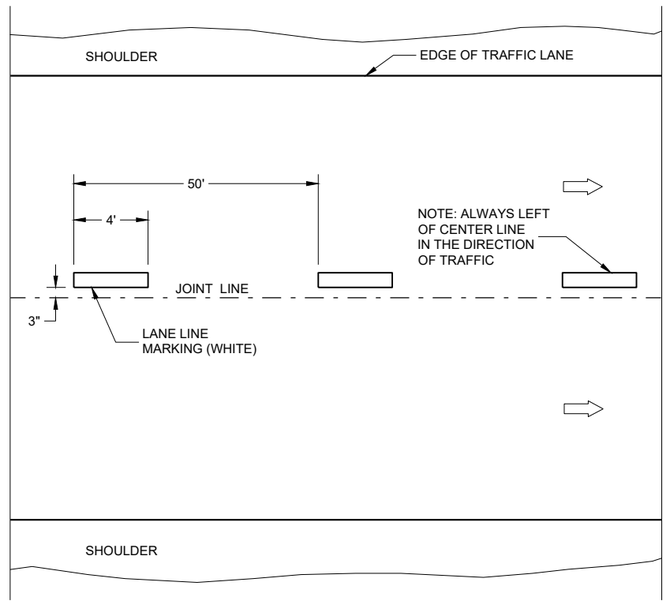


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY PAVEMENT MARKING

GENERAL NOTES

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

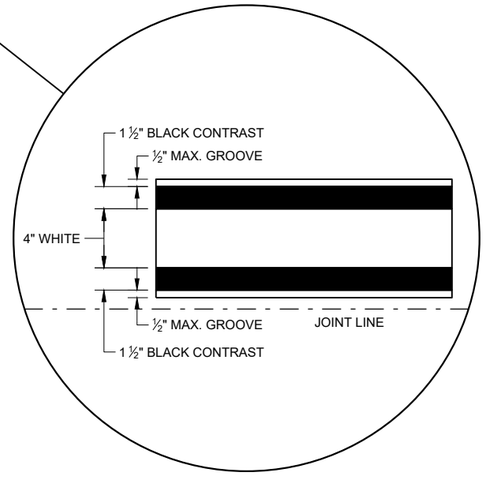
1. LOCATE THE NO PASSING ZONE W14-3 SIGN WITHIN 50 FEET OF THE "T" MARKING
2. MEASURE FROM EDGE OF MARKING TO JOINT LINE. THIS DOES NOT INCLUDE SPACE NEEDED FOR GROOVING OPERATIONS.

LEGEND

"T" MARKING

SIGN ON PERMANENT SUPPORT

DIRECTION OF TRAFFIC



LONGITUDINAL MARKING (MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2020
DATE
/S/ Matthew Rauch
STATEWIDE SIGNING AND M
ENGINEER

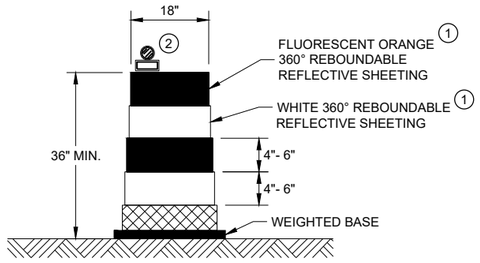
FHWA

SDD 15C08 - 20a

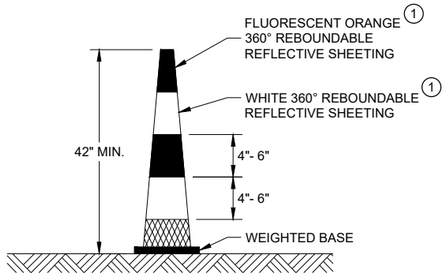
SDD 15C08 - 20a

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.

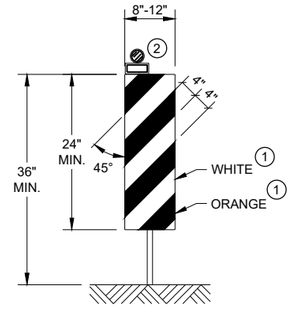


DRUM



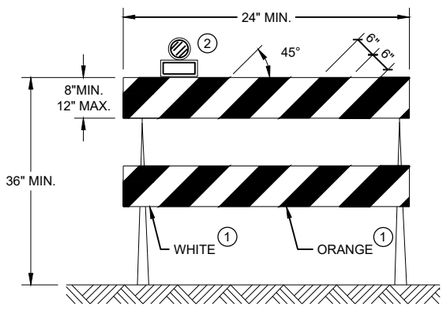
42" CONE

DO NOT USE IN TAPERS
½ SPACING OF DRUMS



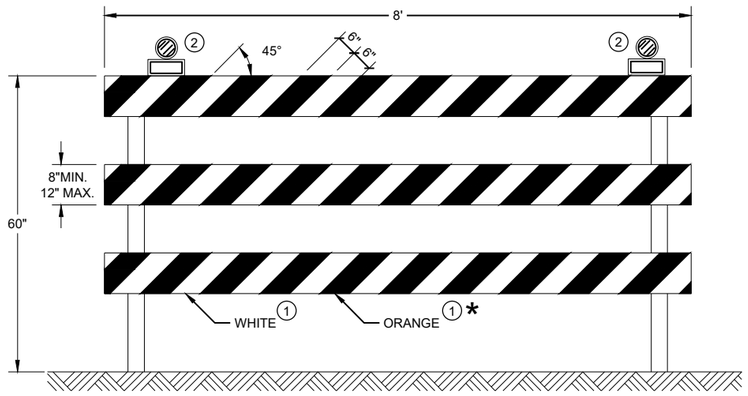
VERTICAL PANEL

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 ENGINEE

FHWA

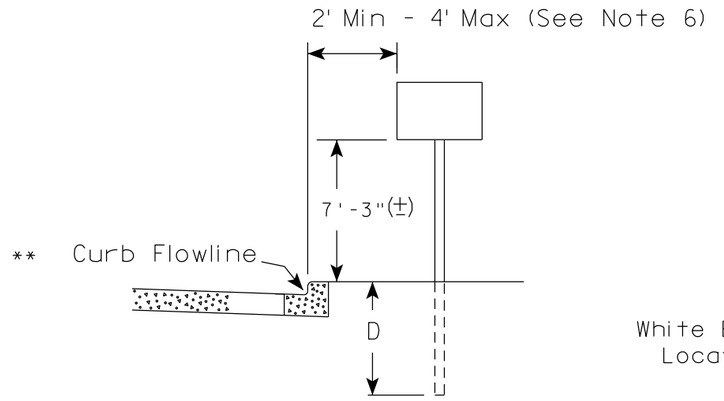
6

SDD 15C11 - 09b

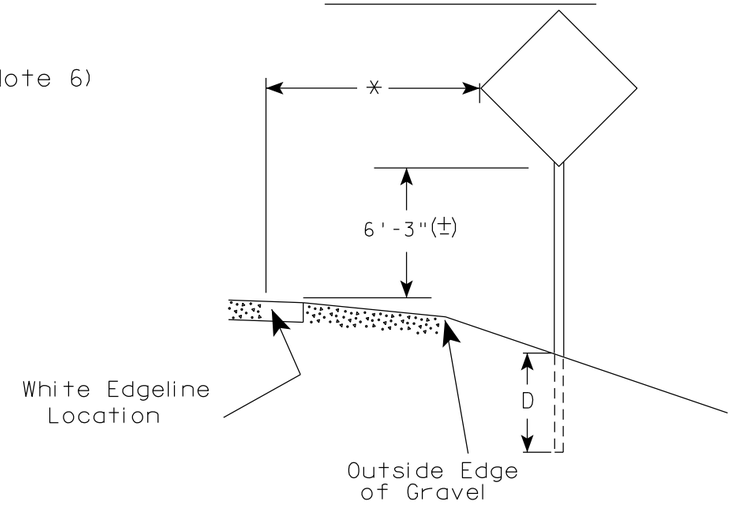
6

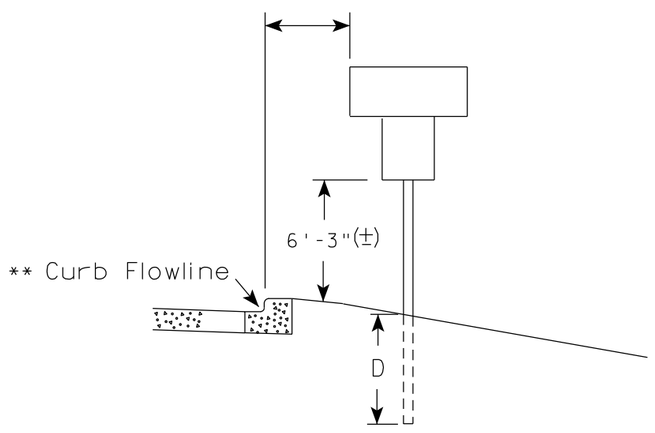
SDD 15C11 - 09b

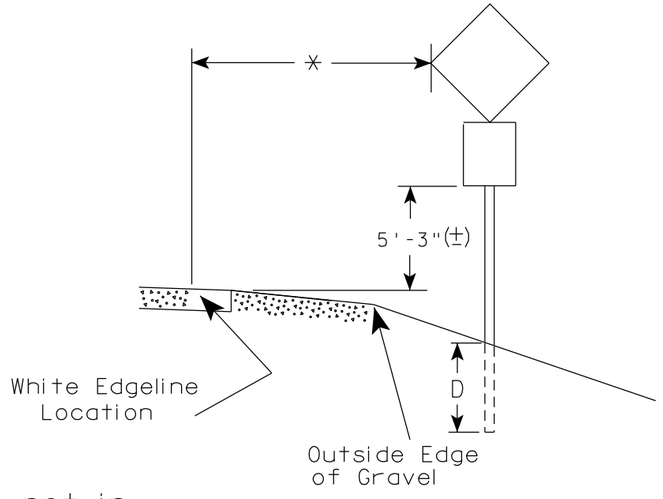
URBAN AREA



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.

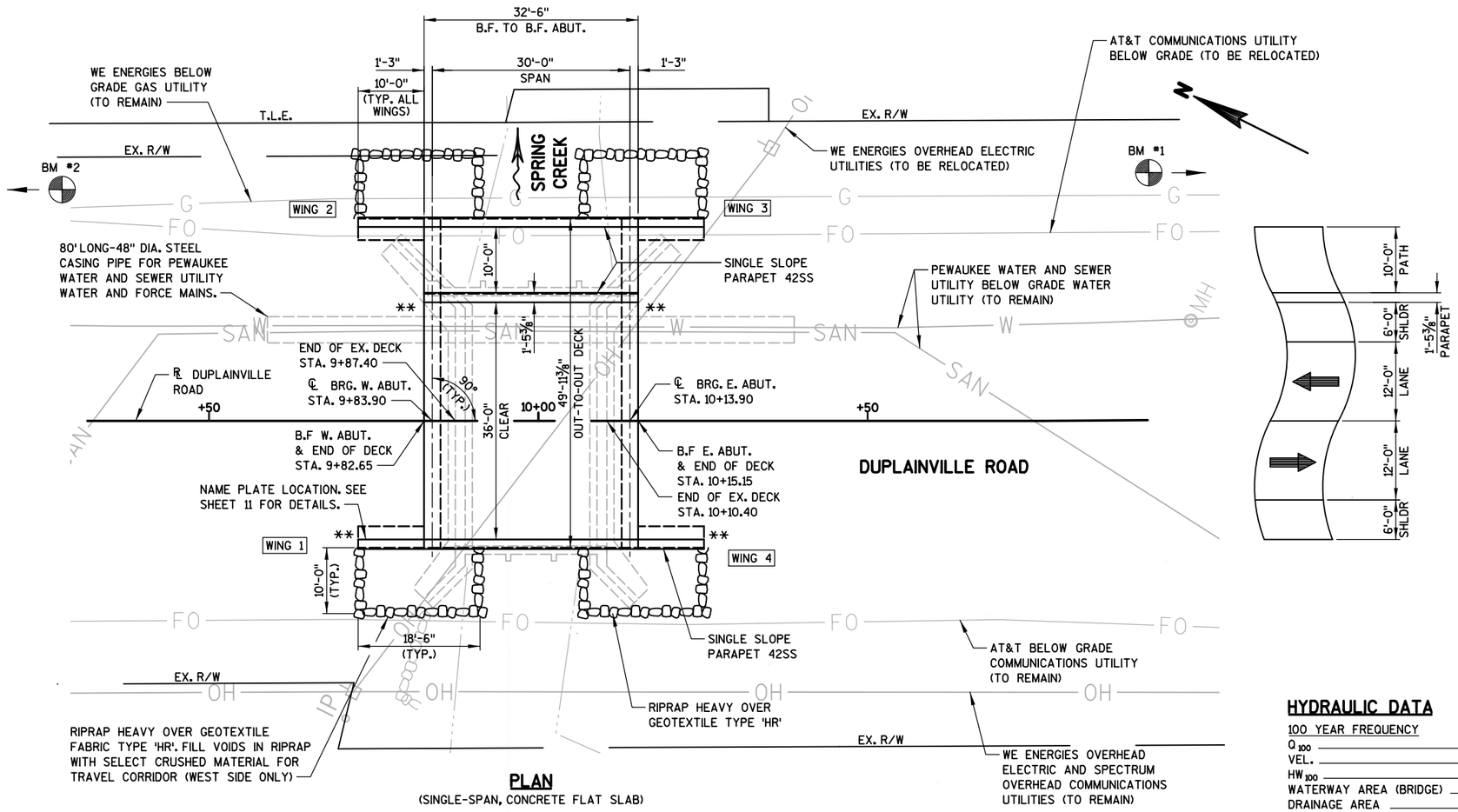
TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

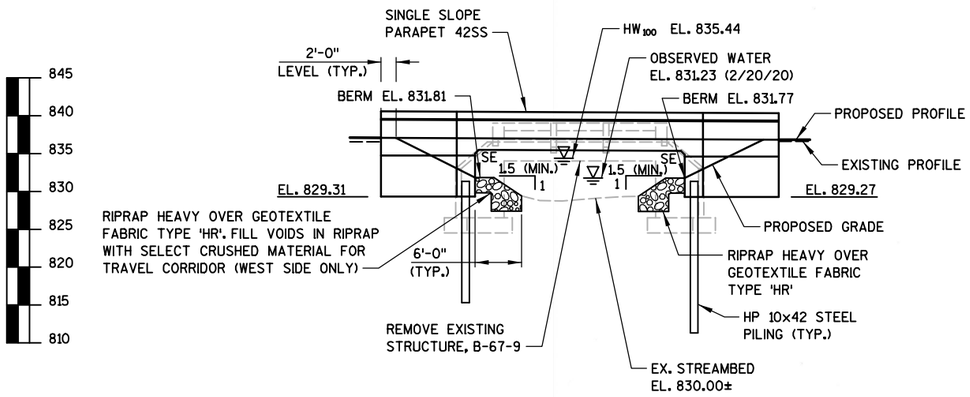
APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 43	E



PLAN
(SINGLE-SPAN, CONCRETE FLAT SLAB)



ELEVATION
(NORMAL TO SUBSTRUCTURES, LOOKING DOWNSTREAM)

WISCONSIN
EVAN J. CONSTANT E-48226 MADISON WI
PROFESSIONAL ENGINEER
12/1/2021

STATE PROJECT NUMBER

2370-04-70

DESIGN DATA
STRUCTURE DESIGNED FOR A FUTURE WEARING SURFACE OF 20 PSF

LIVE LOAD:

DESIGN LOADING	HL-93
INVENTORY RATING FACTOR	RF = 1.20
OPERATING RATING FACTOR	RF = 1.55
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV)	250 KIPS

MATERIAL PROPERTIES:

CONCRETE SUPERSTRUCTURE	f'c = 4,000 PSI
CONCRETE SUBSTRUCTURE	f'c = 3,500 PSI
HIGH STRENGTH BAR STEEL REINFORCEMENT	fy = 60,000 PSI

TRAFFIC DATA
A.D.T. (2022): 2,410
A.D.T. (2042): 2,730
DESIGN SPEED: 40 MPH

FOUNDATION DATA
ABUTMENTS TO BE SUPPORTED ON HP 10x42 STEEL PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 180 TONS* PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA.

* 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.

ESTIMATED PILE LENGTHS:

WEST ABUTMENT	20 FEET EACH
EAST ABUTMENT	25 FEET EACH

HYDRAULIC DATA

100 YEAR FREQUENCY

Q_{100}	817 C.F.S.
VEL.	8.03 F.P.S.
HW_{100}	EL. 835.44
WATERWAY AREA (BRIDGE)	101.71 SQ. FT.
DRAINAGE AREA	10.8 SQ. MI.
ROADWAY OVERTOPPING FREQUENCY	N/A
SCOUR CODE	5

2 YEAR FREQUENCY

Q_2	215 C.F.S.
VEL.	2.98 F.P.S.
HW_2	EL. 833.38

STRUCTURE DESIGN CONTACTS
DESIGN CONSULTANT CONTACT:
EVAN CONSTANT (608) 251-4843

BUREAU OF STRUCTURES CONTACT:
AARON BONK (608) 261-0261

LIST OF DRAWINGS

LEGEND
** PROVIDE FOR THRIE BEAM GUARD RAIL ATTACHMENT

BENCH MARKS

NO.	STATION	DESCRIPTION	ELEV.
BM 1	11+93.68, 43.29' LT	HYD, TOP NUT, LOCATED APPROX. 175' S. OF BRIDGE, ON E. SIDE OF DUPLAINVILLE RD.	836.85
BM 2	7+92.08, 29.35' LT	HYD. TOP NUT, LOCATED APPROX. 200' N. OF BRIDGE, ON E. SIDE OF DUPLAINVILLE RD.	838.88

NOTE: BM ARE LOCATED OUTSIDE OF PLAN EXTENTS SHOWN ON BRIDGE PLANS. SEE ROADWAY PLANS FOR ADDITIONAL INFORMATION.

NO.	DATE	REVISION	BY

STRAND ASSOCIATES®
910 WEST WINGRA DRIVE
MADISON, WISCONSIN 53715
(608)-251-4843
(608) 251-8655 FAX
WWW.STRAND.COM

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
ACCEPTED SDR 02/22/22
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-67-386

DUPLAINVILLE ROAD OVER SPRING CREEK

COUNTY WAUKESHA | ~~TOWN~~/CITY/~~VILLAGE~~ PEWAUKEE

DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
EJC	KRB	DTH	KRB

GENERAL PLAN

SHEET 1 OF 12
44

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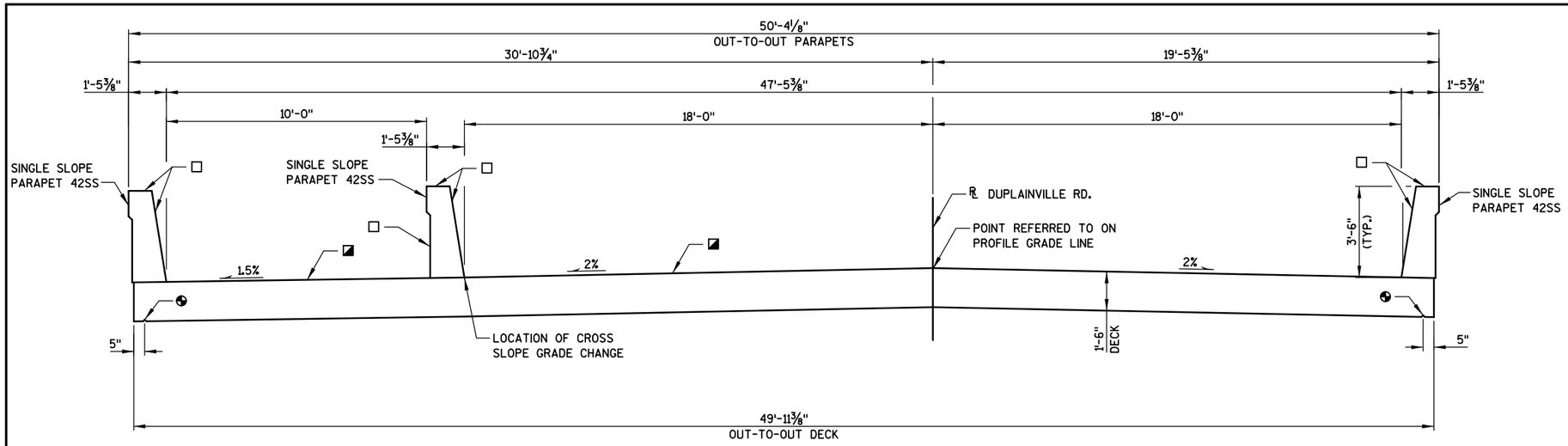
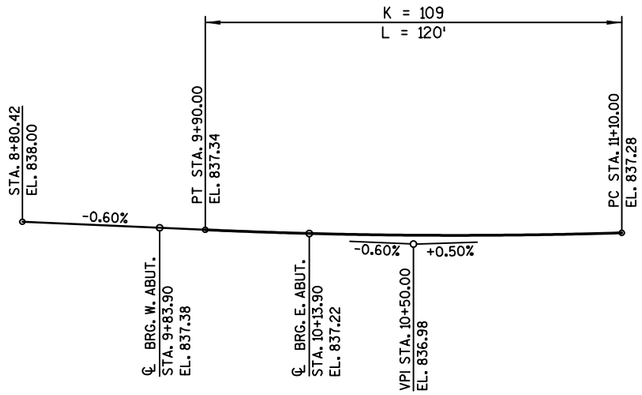
FILE NAME : S:\MAD\4600--4699\4621\003\Drawings\CAD\Micros\PLAN\080101_gp.dgn

STATE PROJECT NUMBER
2370-04-70

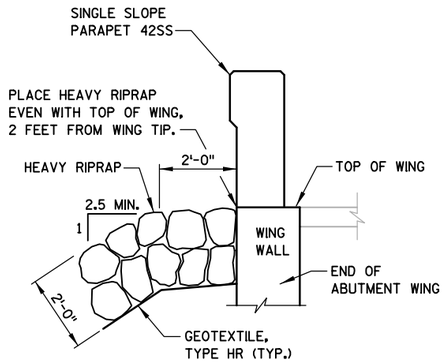


CROSS SECTION THRU SUPERSTRUCTURE

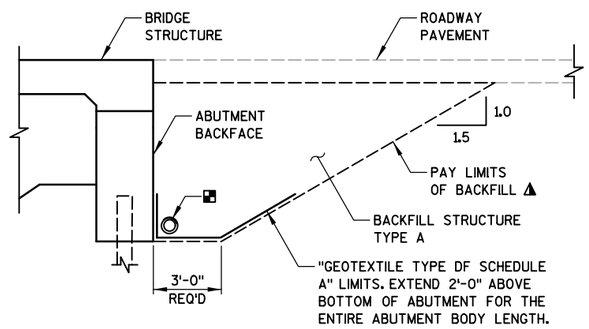
(LOOKING EAST)



PROFILE GRADE LINE - DUPLAINVILLE ROAD



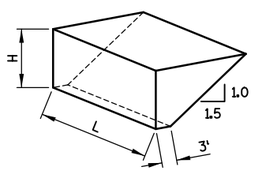
TYPICAL FILL SECTION AT WING TIPS



TYPICAL SECTION THRU ABUTMENT

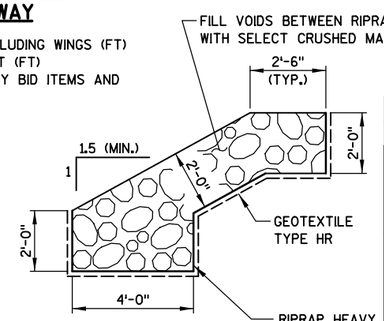
TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	WEST ABUT.	EAST ABUT.	SUPERS.	TOTAL
203.0270	REMOVING STRUCTURE OVER WATERWAY DEBRIS CAPTURE B-67-9	EACH	---	---	---	1
206.1000	EXCAVATION FOR STRUCTURES BRIDGES B-67-386	LS	---	---	---	1
210.1500	BACKFILL STRUCTURE TYPE A	TON	202	202	---	404
502.0100	CONCRETE MASONRY BRIDGES	CY	42.9	42.1	111.6	197
502.3200	PROTECTIVE SURFACE TREATMENT	SY	---	---	167	167
502.3210	PIGMENTED SURFACE SEALER	SY	11	11	61	83
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	3,180	3,170	---	6,350
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	1,865	1,855	19,680	23,400
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	13	13	---	26
550.0010	PRE-BORING UNCONSOLIDATED MATERIALS	LF	26	26	---	52
550.1100	PILING STEEL HP 10-INCH X 42 LB	LF	160	200	---	360
606.0300	RIPRAP HEAVY	CY	70	70	---	140
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	90	90	---	180
614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	EACH	1	1	2	4
645.0111	GEOTEXTILE TYPE DF SCHEDULE A	SY	55	55	---	110
645.0120	GEOTEXTILE TYPE HR	SY	135	135	---	270
SPV.0060.01	UTILITY LINE OPENING (ULO)	EACH	1	1	---	2
SPV.0195.XX	SELECT CRUSHED MATERIAL FOR TRAVEL CORRIDOR	TON	25	---	---	25
	NON-BID ITEMS					
	NAME PLATE	EACH				1
	FILLER	SIZE				1/2" & 3/4"



ABUTMENT BACKFILL DIAGRAM FOR WINGS PARALLEL TO ROADWAY

L = OUT TO OUT OF ABUTMENT, INCLUDING WINGS (FT)
H = AVERAGE ABUTMENT FILL HEIGHT (FT)
EF = EXPANSION FACTOR (1.20 FOR CY BID ITEMS AND 1.00 FOR TON BID ITEMS)
V_{CF} = (L)(3.0')(H) + (L)(0.5)(1.5H)(H)
V_{CY} = V_{CF} (EF)/27
V_{TON} = V_{CY} (2.0)



RIPRAP HEAVY DETAIL

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

ALL STATIONS AND ELEVATIONS ARE IN FEET.

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

THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BAR DIMENSIONS FOR BENDING ARE OUT-TO-OUT OF BARS.

THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES BRIDGES B-67-386" SHALL BE THE EXISTING GROUND LINE.

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

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

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 TYPE DF SHEDULE A" SHALL BE SET AT THE BOTTOM OF EXCAVATION AND EXTEND 2'-0" ABOVE BOTTOM OF ABUTMENT.

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

THE EXISTING STRUCTURE B-67-9, A 1-SPAN CONCRETE GIRDER BRIDGE, IS TO BE REMOVED.

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

AT ABUTMENTS, CONCRETE POURED UNDERWATER WILL BE ALLOWED AND SHALL BE DONE IN ACCORDANCE WITH SECTION 502.3.5.3 OF THE STANDARD SPECIFICATIONS.

LEGEND

- 3/4" V-GROOVE REQ'D. EXTEND TO 6" FROM F.F. OF ABUTMENT DIAPHRAGMS.
- PROTECTIVE SURFACE TREATMENT SHALL BE APPLIED TO THE TOP OF DECK.
- ▲ BACKFILL PAY LIMITS. BACKFILL BEYOND BACKFILL PAY LIMITS SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES. LIMITS OF EXCAVATION SHALL BE DETERMINED BY THE CONTRACTOR.
- PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN. SEE DETAIL ON "WEST ABUTMENT" SHEET.
- PIGMENTED SURFACE SEALER SHALL BE APPLIED TO THE INSIDE FACE, TOP, AND ENDS OF THE CONCRETE PARAPETS. IT SHALL ALSO BE APPLIED TO THE BACK FACE OF THE INTERIOR PARAPET.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-67-386

DRAWN BY DTH | PLANS CK'D. KRB

CROSS SECTION, QUANTITIES, NOTES & DETAILS

SHEET 2
45

8

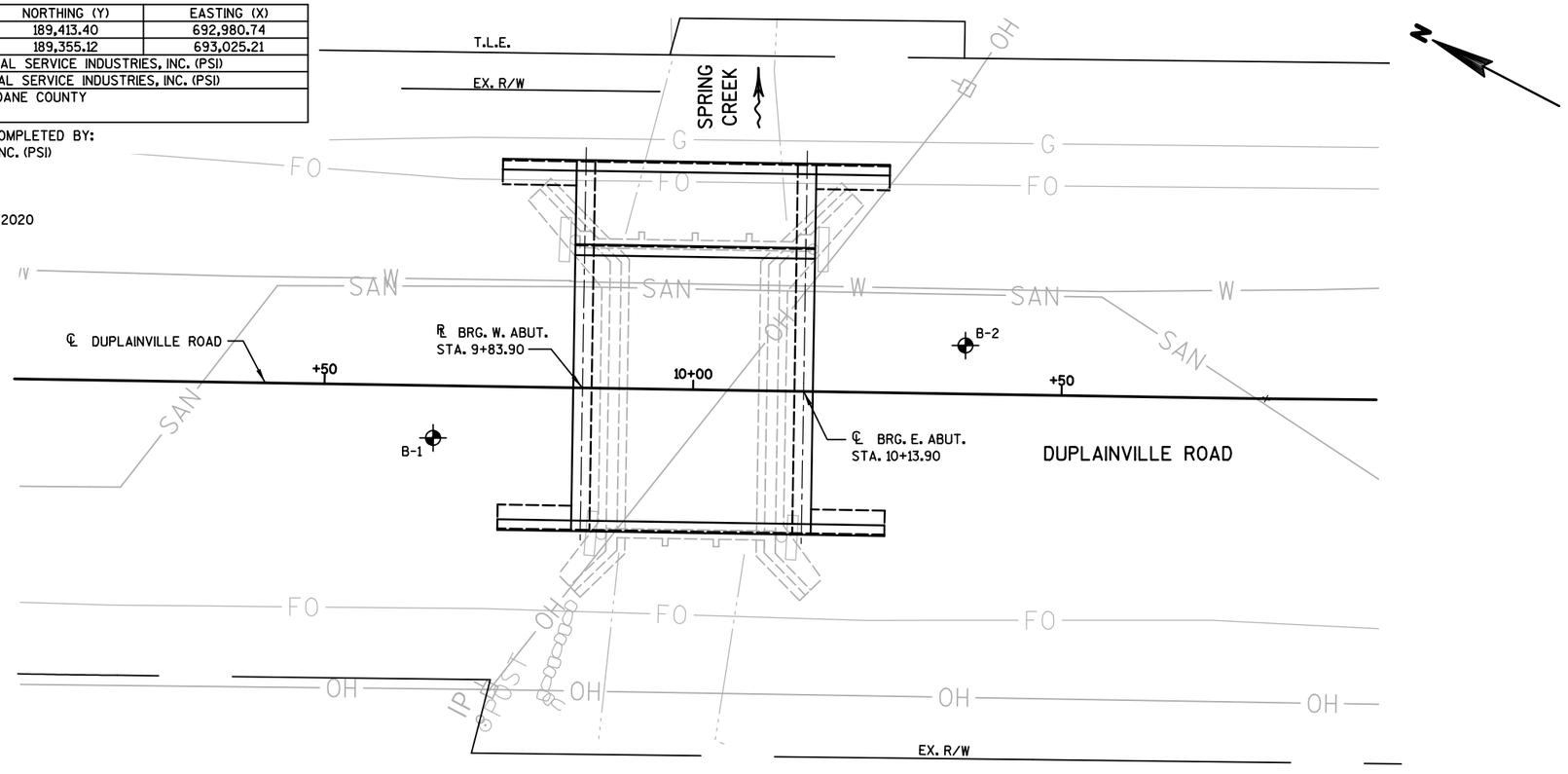
8

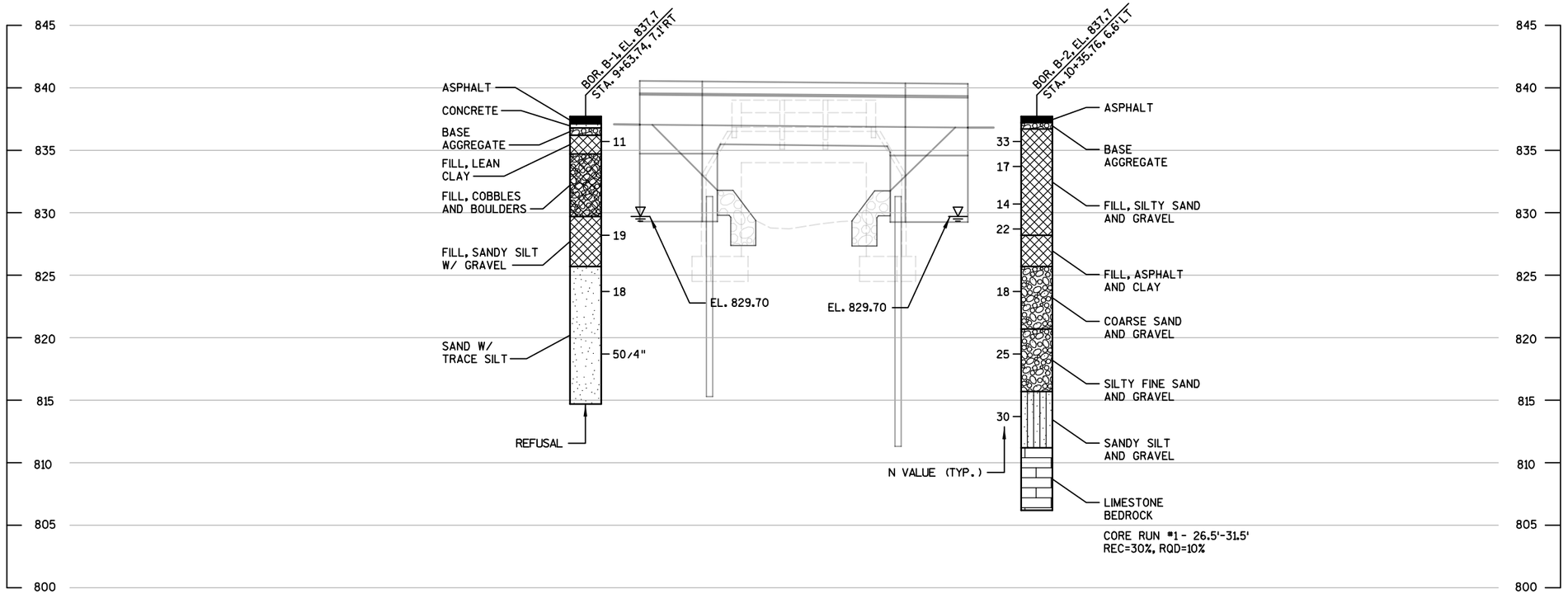
FILE NAME : S:\MAD\4600--4699\4621\003\Drawings\CAD\Micros\PLAN\080102_cs.dgn

BORING	DATE COMPLETED	NORTHING (Y)	EASTING (X)
1	2/19/2020	189,413.40	692,980.74
2	2/18/2020	189,355.12	693,025.21
BORINGS COMPLETED BY: PROFESSIONAL SERVICE INDUSTRIES, INC. (PSI)			
REPORT COMPLETED BY: PROFESSIONAL SERVICE INDUSTRIES, INC. (PSI)			
ALL COORDINATES REFERENCED TO DANE COUNTY COORDINATE SYSTEM			

BORINGS PERFORMED AND REPORT COMPLETED BY:
PROFESSIONAL SERVICE INDUSTRIES, INC. (PSI)
821 CORPORATE COURT, SUITE 100
WAUKESHA, WI 53189

BORINGS WERE PERFORMED ON 2/18/2020
AND 2/19/2020.





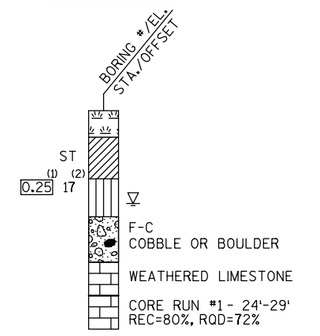
STATE PROJECT NUMBER

2370-04-70

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-67-386

DRAWN BY DTH | PLANS CK'D. KRB

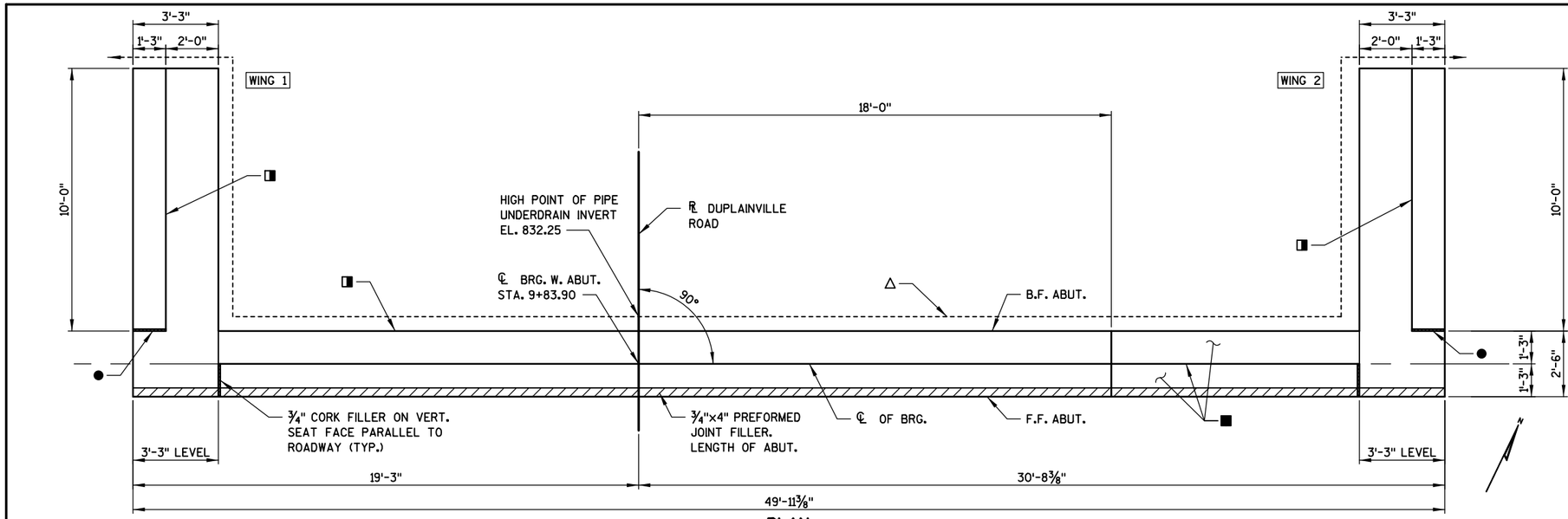
SUBSURFACE EXPLORATION

SHEET 3
46

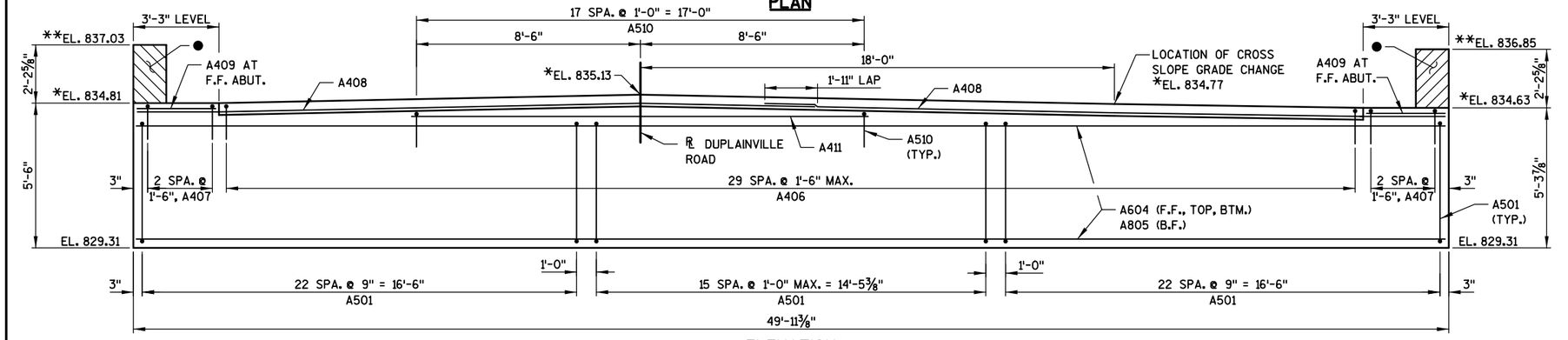
8

8

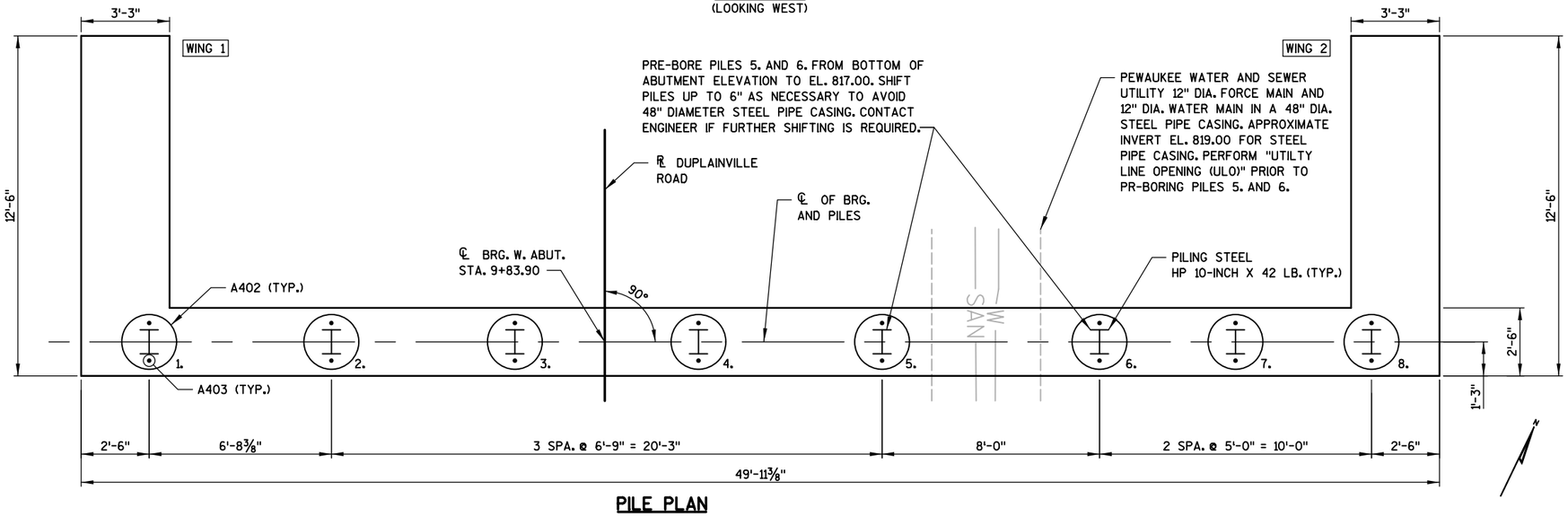
FILE NAME : S:\MAD\4600--4699\4621\003\Drawings\CAD\Micros\PLAN\080103_sx.dgn



PLAN



ELEVATION
(LOOKING WEST)



PILE PLAN

STATE PROJECT NUMBER

2370-04-70

NOTES

SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER 1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE. EXTEND SEALER 3" BELOW FINISHED ROADWAY SURFACE AT INSIDE FACE.

ADJUST A501 BARS INTERFERING WITH PILES.

SEE SHEET 6 FOR PILE SPLICE DETAILS.

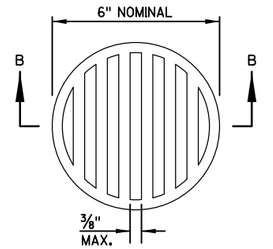
SEE SHEET 5 FOR REINFORCING DETAILS.

WEST ABUTMENT TO BE SUPPORTED ON PILING STEEL 10-INCH X 42 LB WITH A REQUIRED DRIVING RESISTANCE OF 180 TONS PER PILE. ESTIMATED 20 FEET LONG EACH.

SEE SHEET 2 FOR TYPICAL FILL SECTION AT WING TIPS.

LEGEND

- ● ½" FILLER, EXTEND FROM ABUT. SEAT TO TOP OF CONCRETE WING. FILLER INCLUDED IN WING LENGTH.
- ◨ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE.
- * TOP OF ABUTMENT ELEVATION GIVEN AT B.F. ABUTMENT.
- ** ELEVATION GIVEN AT B.F. ABUTMENT.
- △ PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. HIGH POINT EL. 832.25 AT ℄. ATTACH RODENT SHIELD AT ENDS OF PIPE. SEE DETAIL THIS SHEET.
- ■ STEEL TROWEL TOP SURFACE OF ABUTMENT. PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE ABUTMENT TOP BEFORE PLACING SUPERSTRUCTURE. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03".



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

THE RODENT SHIELD, PIPE COUPLING AND ATTACHMENT SCREWS SHALL BE INCLUDED WITH BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH."

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.

RODENT SHIELD DETAIL

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-67-386

DRAWN BY DTH | PLANS CK'D. KRB

WEST ABUTMENT

SHEET 4
47

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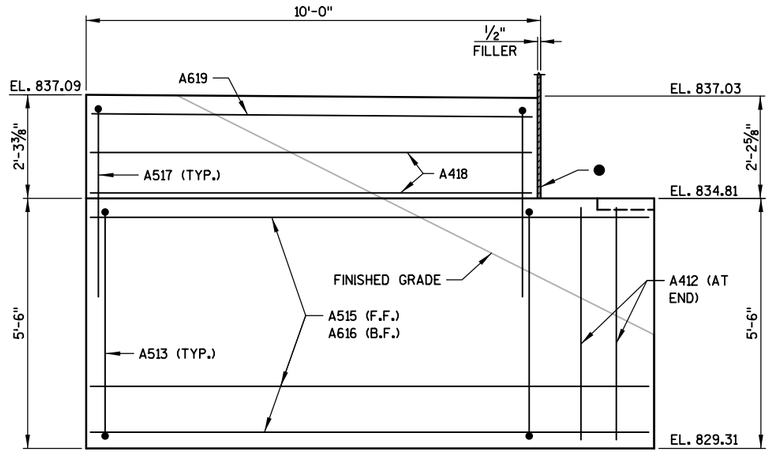
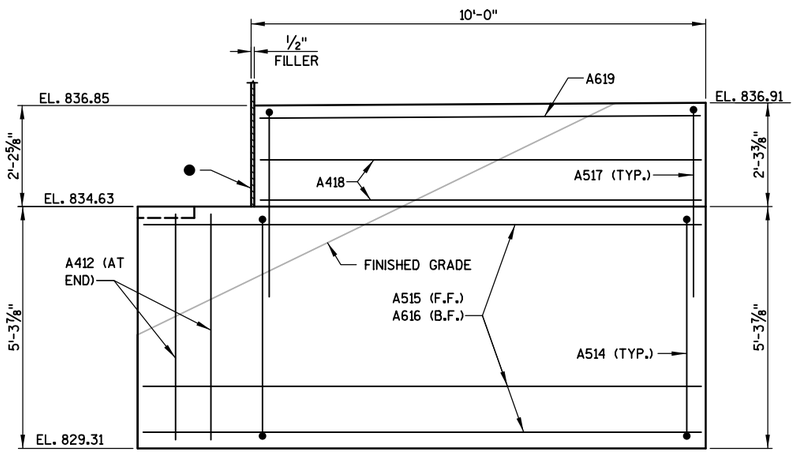
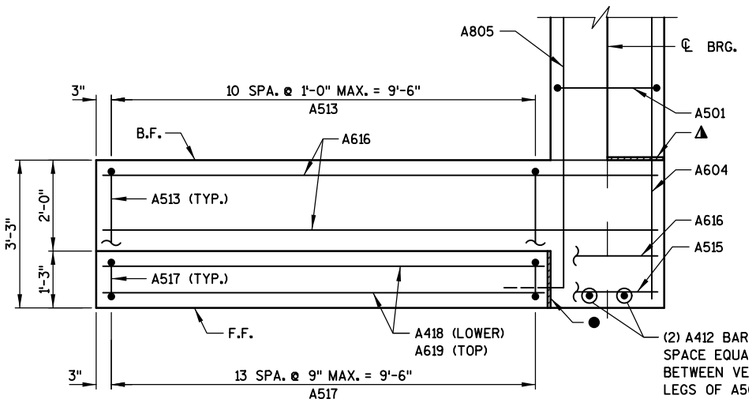


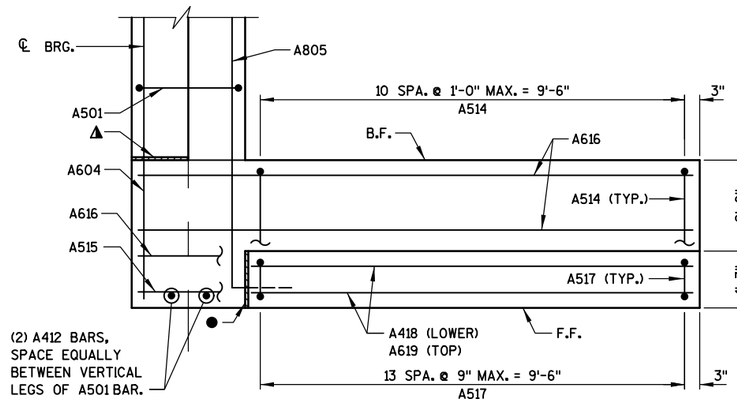
WING 1 ELEVATION
(FRONT FACE)



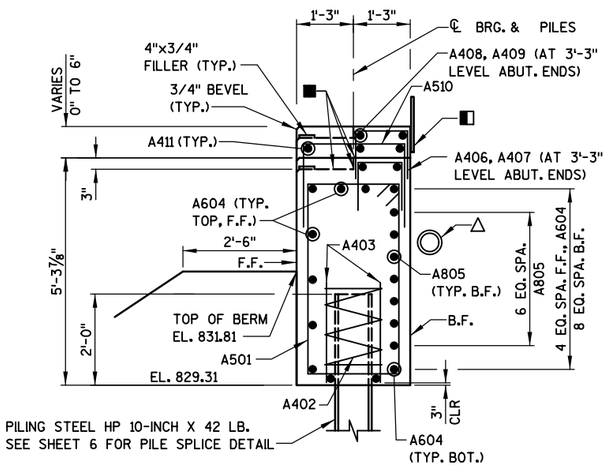
WING 2 ELEVATION
(FRONT FACE)



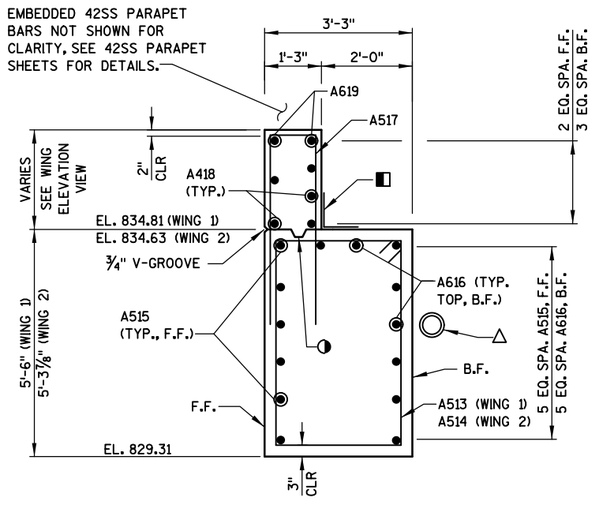
WING 1 PLAN



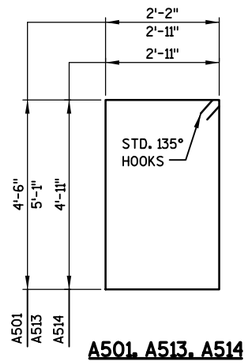
WING 2 PLAN



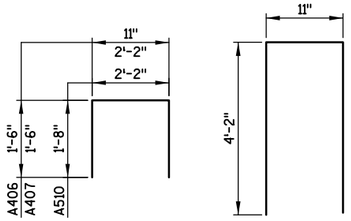
TYPICAL ABUTMENT SECTION



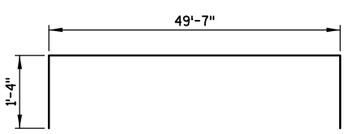
TYPICAL SECTION THRU WING



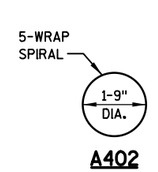
A501, A513, A514



A406, A407, A510 — A517



A805



A402

STATE PROJECT NUMBER

2370-04-70

WEST ABUTMENT BILL OF BARS

UNCOATED: 3,180 LBS
COATED: 1,210 LBS

BAR MARK	NO. REQ'D	LENGTH	BENT	COAT	LOCATION
A501	62	14'-0"	X		LOWER BODY - VERT.
A402	8	28'-0"	X		LOWER BODY - PILES - SPIRAL
A403	16	2'-3"			LOWER BODY - PILES - VERT.
A604	11	49'-7"			LOWER BODY - TOP, BOT., & F.F. - HORIZ.
A805	7	51'-10"	X		LOWER BODY - B.F. - HORIZ.
A406	30	3'-9"	X		LOWER BODY - TOP - VERT.
A407	6	5'-0"	X		LOWER BODY - TOP - VERT. - ENDS
A408	4	25'-10"			LOWER BODY - TOP - HORIZ.
A409	2	2'-11"			LOWER BODY - TOP - HORIZ.
A510	18	5'-3"	X		LOWER BODY - TOP - VERT. - MIDDLE
A411	3	17'-0"			LOWER BODY - TOP - HORIZ. - MIDDLE
A412	4	4'-11"			LOWER BODY - ENDS - VERT.
A513	11	16'-8"	X	X	LOWER WING - VERT. - WING 1
A514	11	16'-4"	X	X	LOWER WING - VERT. - WING 2
A515	12	12'-2"		X	LOWER WING - F.F. - HORIZ. - WINGS 1 & 2
A616	16	12'-2"		X	LOWER WING - B.F. - HORIZ. - WINGS 1 & 2
A517	28	9'-0"	X	X	UPPER WING - VERT. - WINGS 1 & 2
A418	10	9'-7"		X	UPPER WING - F.F., B.F. - HORIZ. - WINGS 1 & 2
A619	4	9'-7"		X	UPPER WING - TOP - HORIZ. - WINGS 1 & 2

LEGEND

◑ OPTIONAL CONSTRUCTION JOINT FORMED BY BEVELED 2"x6" KEYWAY WITH MEMBRANE ON BACKFACE.

● 1/2" FILLER TO EXTEND FROM ABUT. SEAT TO TOP OF CONCRETE PARAPET. FILLER INCLUDED IN WING LENGTH. SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.

◨ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE.

△ PIPE UNDERDRAIN WRAPPED (6-INCH), SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. HIGH POINT EL. 832.25 AT ℄. ATTACH RODENT SHIELD AT END OF PIPE UNDERDRAIN PER DETAIL ON "WEST ABUTMENT" SHEET.

▲ 3/4" CORK FILLER ON VERTICAL SEAT FACE THAT RUNS PARALLEL WITH ROADWAY.

■ STEEL TROWEL TOP SURFACE OF ABUTMENT. PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE ABUTMENT TOP BEFORE PLACING SUPERSTRUCTURE. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03".

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-67-386

DRAWN BY DTH | PLANS CK'D. KRB

WEST ABUTMENT DETAILS

SHEET 5
48

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STATE PROJECT NUMBER

2370-04-70

NOTES

SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER 1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE. EXTEND SEALER 3" BELOW FINISHED ROADWAY SURFACE AT INSIDE FACE.

ADJUST B501 BARS INTERFERING WITH PILES.

SEE THIS SHEET FOR PILE SPLICE DETAILS.

SEE SHEET 7 FOR REINFORCING DETAILS.

EAST ABUTMENT TO BE SUPPORTED ON PILING STEEL 10-INCH X 42 LB WITH A REQUIRED DRIVING RESISTANCE OF 180 TONS PER PILE. ESTIMATED 25 FEET LONG EACH.

SEE SHEET 2 FOR TYPICAL FILL SECTION AT WING TIPS.

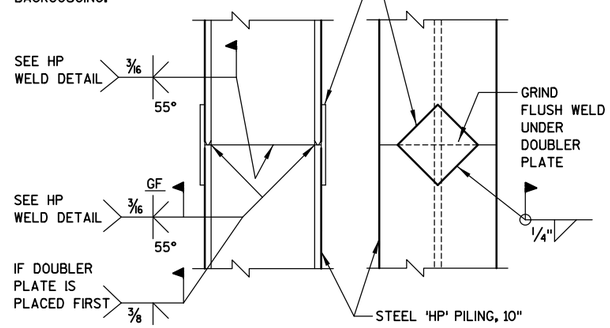
LEGEND

- ● ½" FILLER, EXTEND FROM ABUT. SEAT TO TOP OF CONCRETE WING. FILLER INCLUDED IN WING LENGTH.
- ◨ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE.
- * TOP OF ABUTMENT ELEVATION GIVEN AT B.F. ABUTMENT.
- ** ELEVATION GIVEN AT B.F. ABUTMENT.
- △ PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. HIGH POINT EL. 832.25 AT ℄. ATTACH RODENT SHIELD AT ENDS OF PIPE. SEE DETAIL THIS SHEET.
- ■ STEEL TROWEL TOP SURFACE OF ABUTMENT. PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE ABUTMENT TOP BEFORE PLACING SUPERSTRUCTURE. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03".

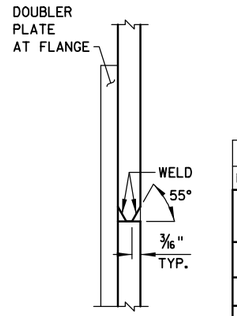
PILE SPLICE NOTES

STEEL 'HP' PILE MATERIAL SHALL BE A.S.T.M. A709 GR. 50.

GRINDING MAY BE USED IN LIEU OF BACKGOUGING.

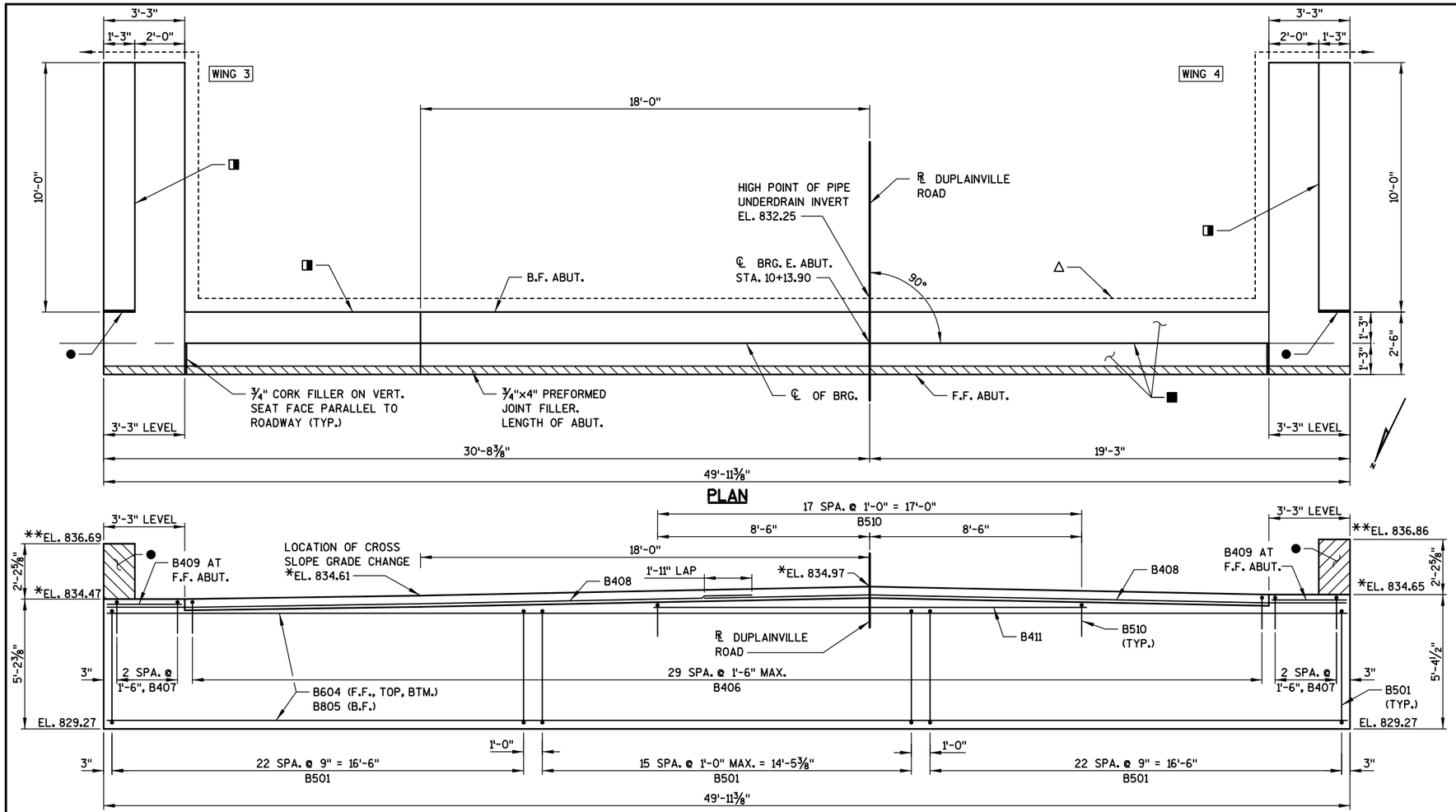


PILE SPLICE DETAILS



HP WELD DETAIL

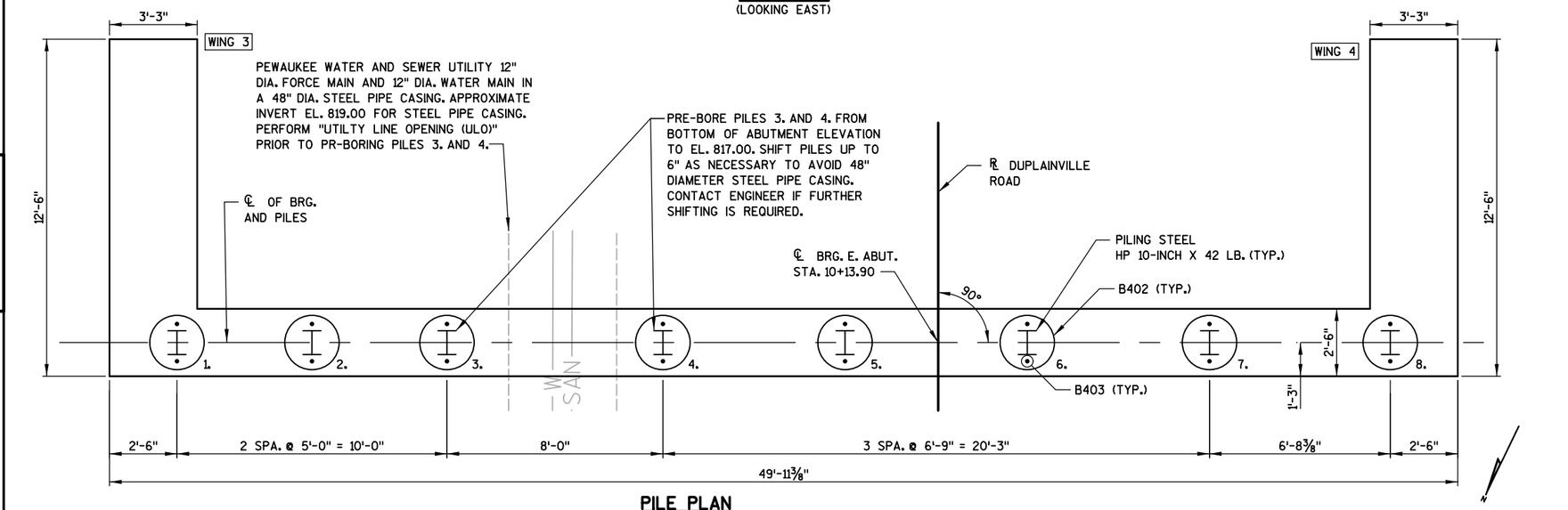
FLANGE SHOWN, WEB SIMILAR



PLAN

ELEVATION

(LOOKING EAST)



PILE PLAN

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-67-386

DRAWN BY DTH | PLANS CK'D. KRB

EAST ABUTMENT

SHEET 6
49

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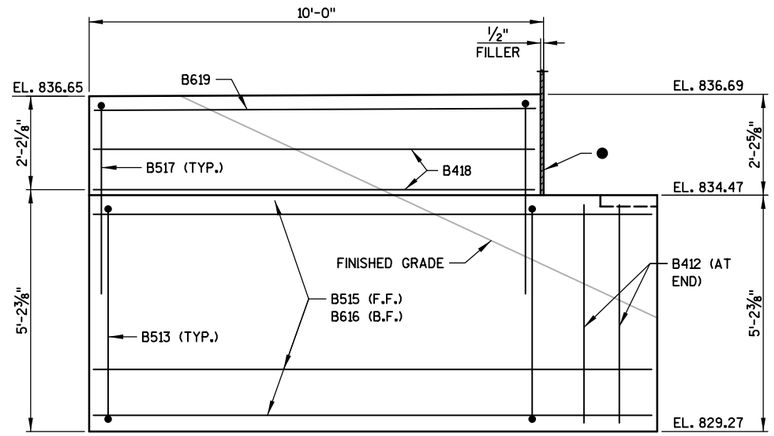
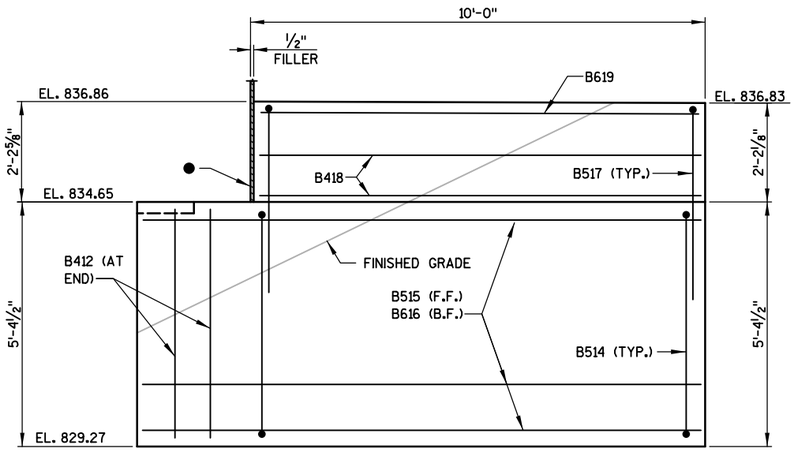
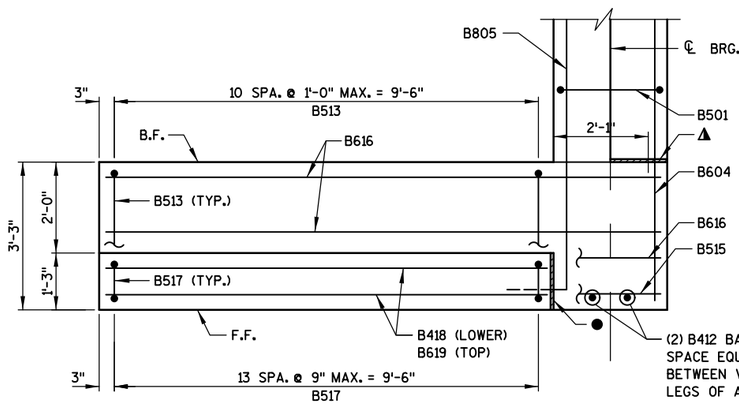


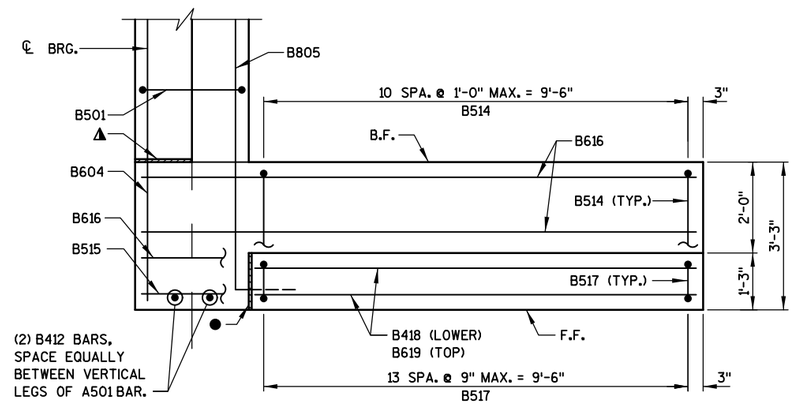
WING 3 ELEVATION
(FRONT FACE)



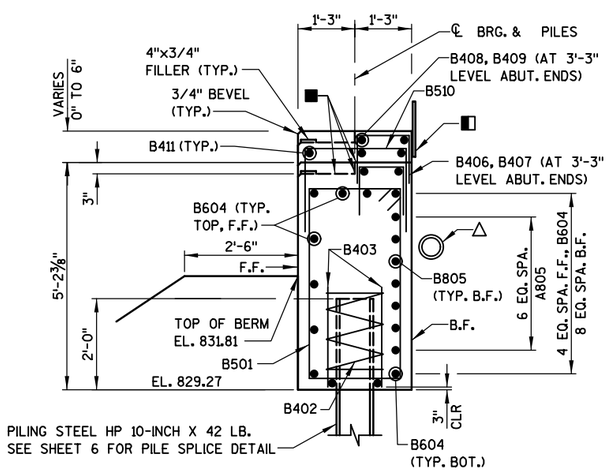
WING 4 ELEVATION
(FRONT FACE)



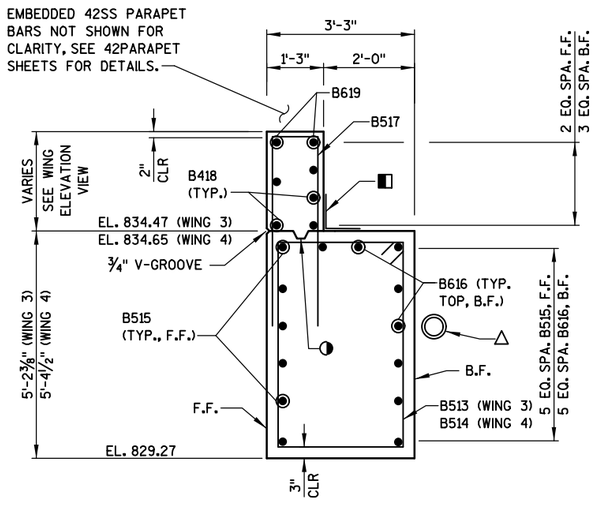
WING 3 PLAN



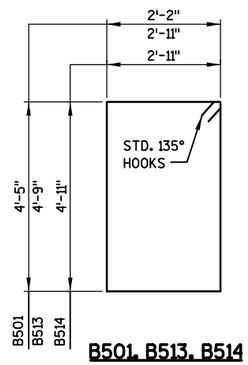
WING 4 PLAN



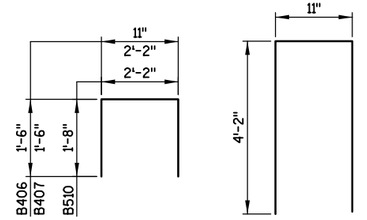
TYPICAL ABUTMENT SECTION



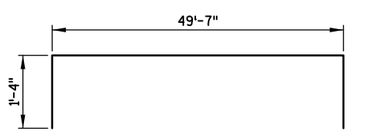
TYPICAL WING SECTION



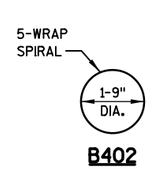
B501, B513, B514



B406, B407, B510 — B517



B805



B402

STATE PROJECT NUMBER

2370-04-70

EAST ABUTMENT BILL OF BARS

UNCOATED: 3,170 LBS
COATED: 1,200 LBS

BAR MARK	NO. REQ'D	LENGTH	BENT	COAT	LOCATION
B501	62	13'-10"	X		LOWER BODY - VERT.
B402	8	28'-0"	X		LOWER BODY - PILES - SPIRAL
B403	16	2'-3"			LOWER BODY - PILES - VERT.
B604	11	49'-7"			LOWER BODY - TOP, BOT., & F.F. - HORIZ.
B805	7	51'-10"	X		LOWER BODY - B.F. - HORIZ.
B406	30	3'-9"	X		LOWER BODY - TOP - VERT.
B407	6	5'-0"	X		LOWER BODY - TOP - VERT. - ENDS
B408	4	25'-10"			LOWER BODY - TOP - HORIZ.
B409	2	2'-11"			LOWER BODY - TOP - HORIZ.
B510	18	5'-3"	X		LOWER BODY - TOP - VERT. - MIDDLE
B411	3	17'-0"			LOWER BODY - TOP - HORIZ. - MIDDLE
B412	4	4'-9"			LOWER BODY - ENDS - VERT.
B513	11	16'-0"	X	X	LOWER WING - VERT. - WING 3
B514	11	16'-4"	X	X	LOWER WING - VERT. - WING 4
B515	12	12'-2"		X	LOWER WING - F.F. - HORIZ. - WINGS 3 & 4
B616	16	12'-2"		X	LOWER WING - B.F. - HORIZ. - WINGS 3 & 4
B517	28	9'-0"	X	X	UPPER WING - VERT. - WINGS 3 & 4
B418	10	9'-7"		X	UPPER WING - F.F., B.F. - HORIZ. - WINGS 3 & 4
B619	4	9'-7"		X	UPPER WING - TOP - HORIZ. - WINGS 3 & 4

LEGEND

◑ OPTIONAL CONSTRUCTION JOINT FORMED BY BEVELED 2"x6" KEYWAY WITH MEMBRANE ON BACKFACE.

● ½" FILLER TO EXTEND FROM ABUT. SEAT TO TOP OF CONCRETE WING. FILLER INCLUDED IN WING LENGTH. SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.

◨ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE.

△ PIPE UNDERDRAIN WRAPPED (6-INCH), SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. HIGH POINT EL. 832.25 AT ℄. ATTACH RODENT SHIELD AT END OF PIPE UNDERDRAIN PER DETAIL ON "WEST ABUTMENT" SHEET.

▲ ¾" CORK FILLER ON VERTICAL SEAT FACE THAT RUNS PARALLEL WITH ROADWAY.

■ STEEL TROWEL TOP SURFACE OF ABUTMENT. PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE ABUTMENT TOP BEFORE PLACING SUPERSTRUCTURE. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03".

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-67-386

DRAWN BY DTH | PLANS CK'D. KRB

EAST ABUTMENT DETAILS

SHEET 7
50

8

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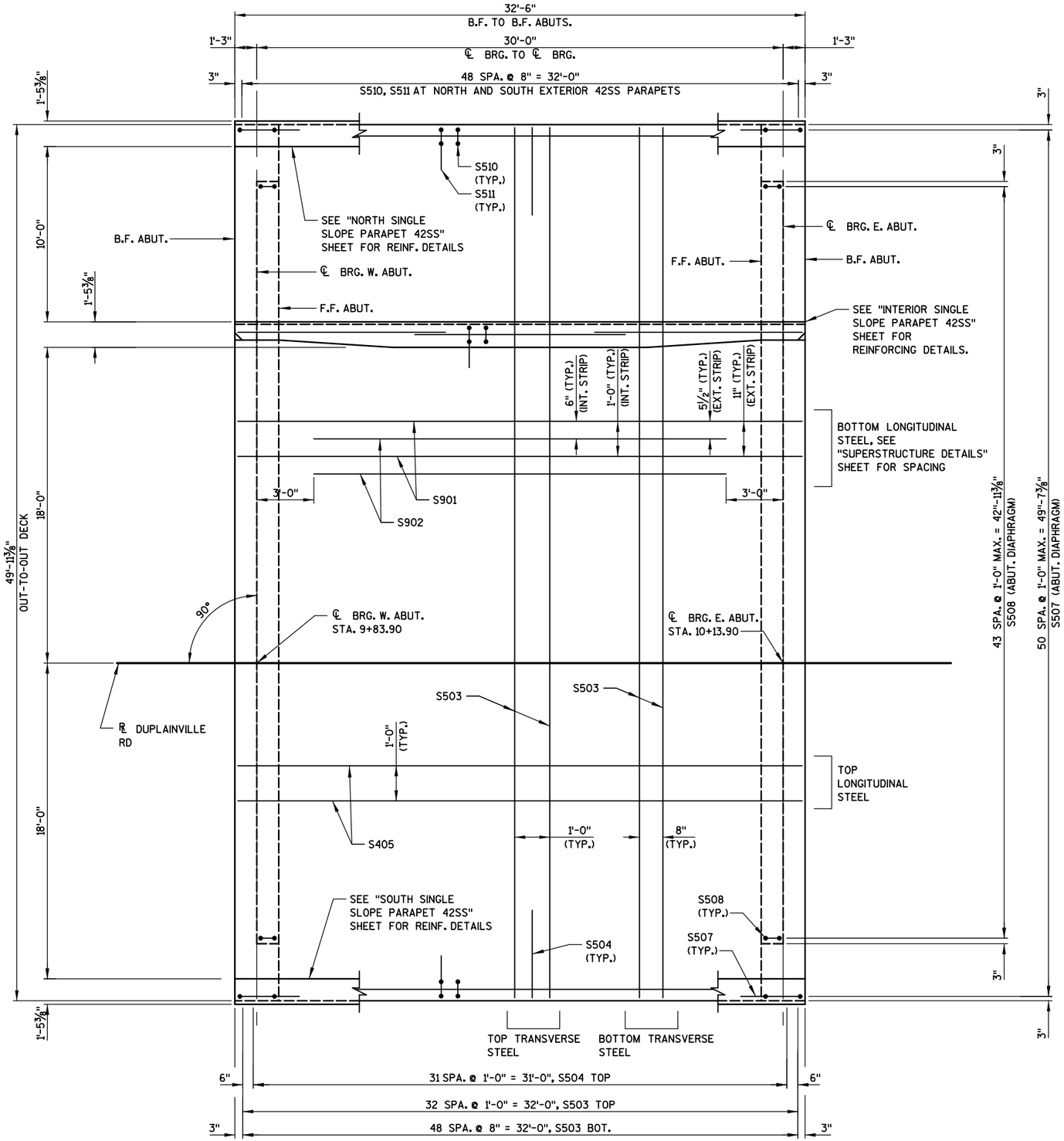
FILE NAME : S:\MAD\4600--4699\4621\003\Drawings\CAD\Micros\PLAN\080107_ea.dgn

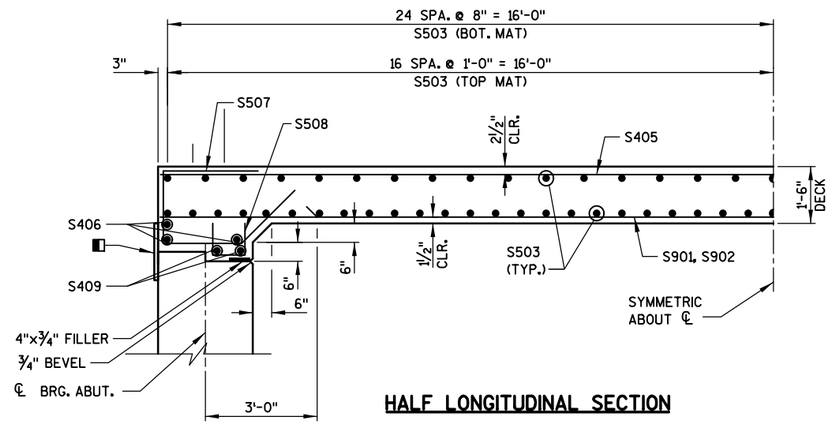
STATE PROJECT NUMBER
2370-04-70

LEGEND

■ 18" RUBBERIZED MEMBRANE WATERPROOFING.



PLAN



HALF LONGITUDINAL SECTION

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-67-386

DRAWN BY DTH | PLANS CK'D. KRB

SUPERSTRUCTURE

SHEET 8
51

8

8

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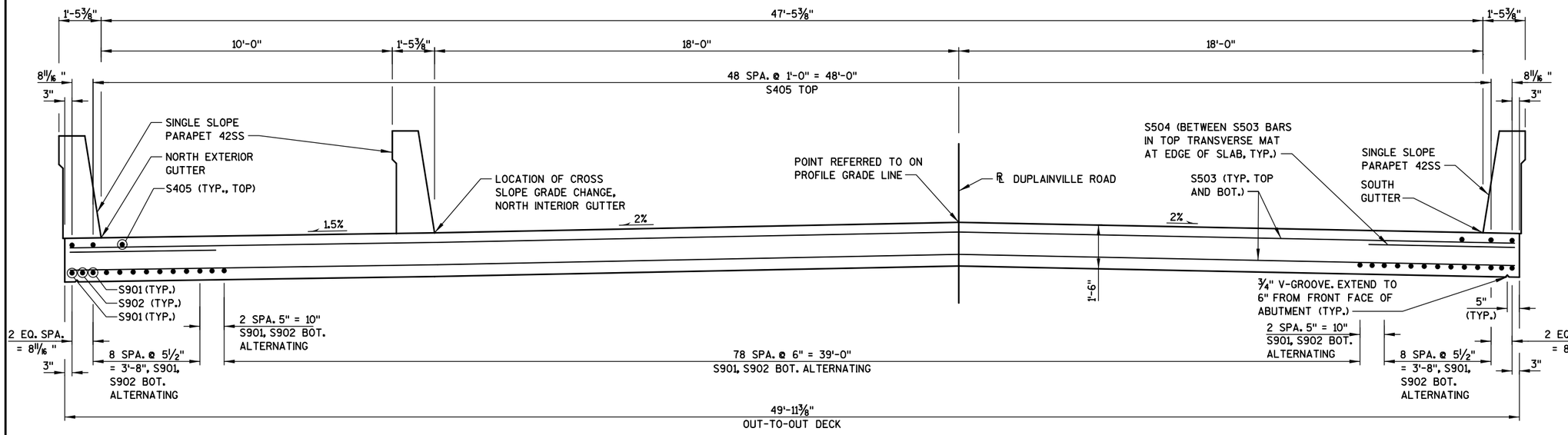


CROSS SECTION THRU SUPERSTRUCTURE

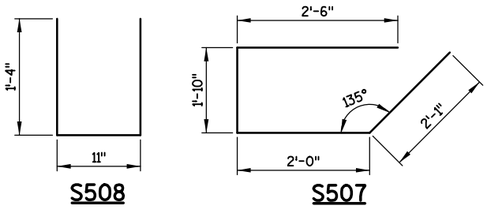
(LOOKING NORTH)

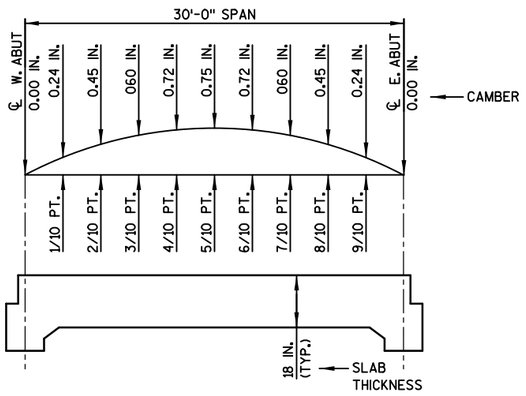
TOP OF DECK ELEVATIONS

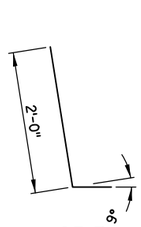
	CL BRG. W. ABUT.	1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10	CL BRG. E. ABUT.
STATION	9+83.90	9+86.90	9+89.90	9+92.90	9+95.90	9+98.90	10+01.90	10+04.90	10+07.90	10+10.90	10+13.90
* NORTH EDGE OF SLAB, 30.70'LT	836.85	836.83	836.81	836.79	836.77	836.76	836.74	836.73	836.72	836.70	836.69
NORTH INTERIOR GUTTER, 18.00'LT	837.02	837.00	836.98	836.96	836.95	836.93	836.92	836.90	836.89	836.87	836.86
CROWN AT RL	837.38	837.36	837.34	837.32	837.31	837.29	837.28	837.26	837.25	837.23	837.22
* SOUTH EDGE OF SLAB, 19.25'RT	837.02	837.00	836.98	836.96	836.95	836.93	836.92	836.90	836.89	836.87	836.86

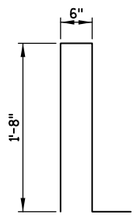
ELEVATIONS SHOWN ARE FINISHED GRADE ELEVATIONS.

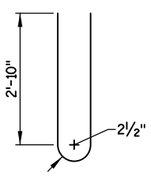
* DECK ELEVATIONS AT INSIDE FACE OF EXTERIOR PARAPETS (29.45'LT & 18.00'RT) ARE THE SAME AS AT THE OUTSIDE EDGE OF DECK (DECK LEVEL UNDER PARAPET, SEE "SINGLE SLOPE PARAPET 42SS" SHEET FOR DETAIL).

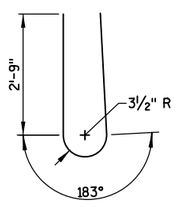


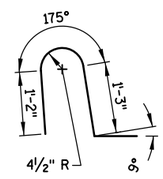


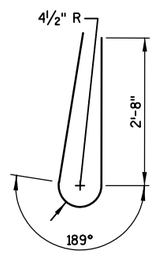


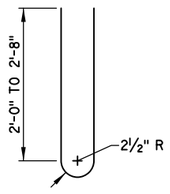


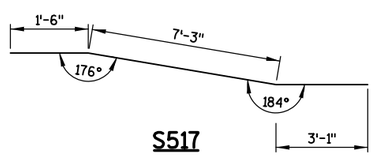


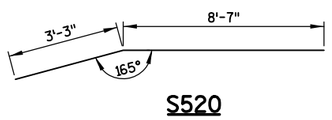












CAMBER AND SLAB THICKNESS DIAGRAM

CAMBER SHOWN IS BASED ON 3 TIMES DEAD LOAD DEFLECTION.

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

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

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

	TOP OF SLAB ELEVATION AT FINAL GRADE
MINUS.....	SLAB THICKNESS
PLUS.....	CAMBER
PLUS.....	FORM SETTLEMENT/DEFLECTION DUE TO PLACEMENT OF SLAB CONCRETE (TO BE COMPUTED BY THE CONTRACTOR)
EQUALS =	TOP OF SLAB FALSEWORK ELEVATION

SURVEY TOP OF SLAB ELEVATIONS

	CL BRG. W. ABUT	5/10 PT.	CL BRG. E. ABUT.
NORTH EXTERIOR GUTTER			
NORTH INTERIOR GUTTER			
CROWN ON R/L			
SOUTH GUTTER			

PRIOR TO RELEASING SLAB FALSEWORK, TAKE TOP OF DECK ELEVATIONS AT THE ℄ OF ABUTMENTS AND AT 5/10 PT. TO VERIFY CAMBER. TAKE ELEVATIONS ALONG THE GUTTER LINES AND CROWN ON ℞. RECORD THE ELEVATIONS IN THE ABOVE TABLE FOR THE "AS BUILT" PLANS.

SUPERSTRUCTURE BILL OF BARS

COATED: 19.680

BAR MARK	NO. REQ'D	LENGTH	BENT	COAT	LOCATION
S901	52	32'-2"		X	SLAB - LONGIT. - BOT.
S902	51	24'-0"		X	SLAB - LONGIT. - BOT.
S503	82	49'-7"		X	SLAB - TRANS. - TOP AND BOT.
S504	64	5'-0"		X	SLAB - TRANS. - TOP - EDGE
S405	51	32'-2"		X	SLAB - LONGIT. - TOP
S406	6	49'-7"		X	ABUT. DIAPHRAGM - HORIZ.
S507	102	8'-2"	X	X	ABUT. DIAPHRAGM - VERT.
S508	88	3'-4"	X	X	ABUT. DIAPHRAGM - VERT.
S409	4	43'-1"		X	ABUT. DIAPHRAGM - HORIZ.
S510	121	6'-8"	X	X	PARAPET - VERT.
S511	121	4'-5"	X	X	PARAPET - VERT.
S512	16	32'-2"		X	PARAPET - HORIZ.
S513	24	2'-9"	X	X	PARAPET - VERT.
S514	34	4'-4"	X	X	PARAPET - VERT.
S515	10	6'-5"	X	X	PARAPET - VERT.
S516	12	6'-6"	X	X	PARAPET - VERT.
S517	2	11'-10"	X	X	PARAPET - HORIZ.
S518	10	11'-10"		X	PARAPET - HORIZ.
⚠ S519	12	5'-5"	X	X	PARAPET - VERT.
S520	4	11'-10"	X	X	PARAPET - HORIZ.
S521	8	12'-0"		X	PARAPET - HORIZ.

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

BAR SERIES TABLE

BAR MARK	NO. REQ'D	LENGTH
S519	2 SERIES OF 6	4'-9" TO 6'-1"

BUNDLE AND TAG EACH SERIES SEPARATELY.

STATE PROJECT NUMBER

2370-04-70

NOTES

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

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

FILL IN THE TABLE OF "SURVEY TOP OF SLAB ELEVATIONS" FOR EACH SPAN ON AS BUILT PLANS.

SEE 42SS PARAPET SHEETS FOR REINFORCING DETAILS OF BRIDGE AND WING PARAPETS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-67-386

DRAWN BY DTH | PLANS CK'D. KRB

SUPERSTRUCTURE DETAILS

SHEET 9
52

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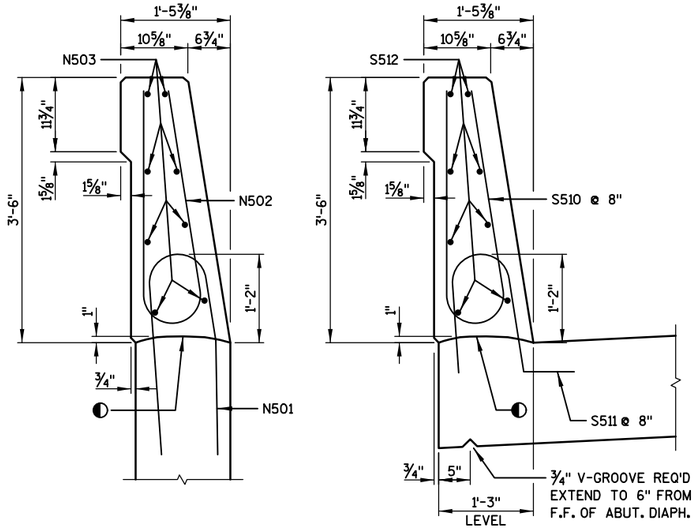
STATE PROJECT NUMBER
2370-04-70



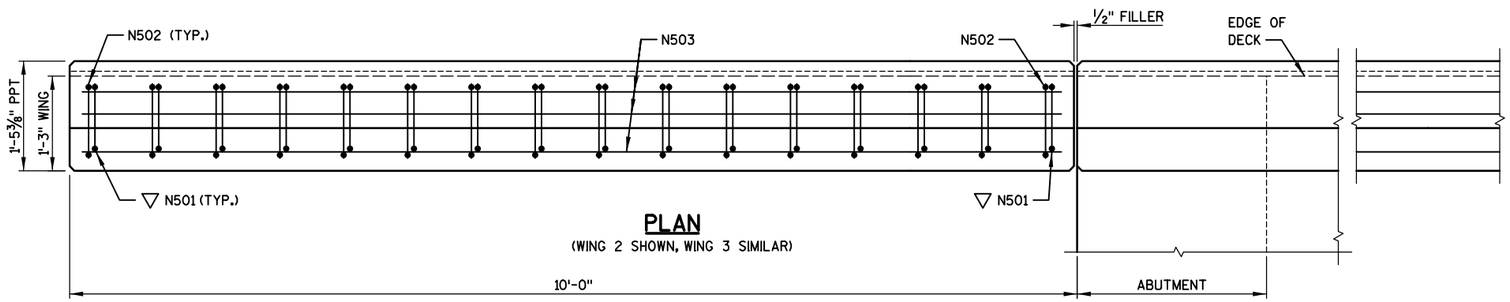
SECTION A-A

SECTION THRU PARAPET ON DECK

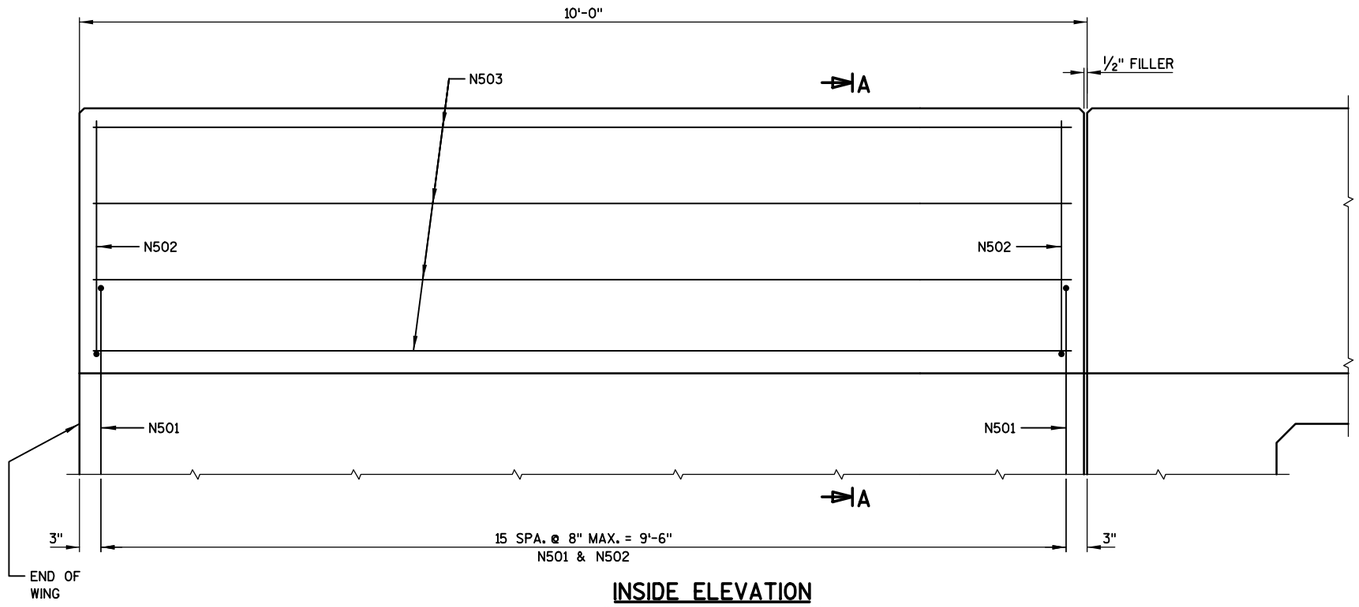
NORTH 42SS PARAPET
BILL OF BARS

COATED: 580 LBS

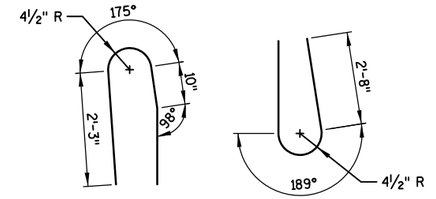
BAR MARK	W. ABUT. NO. REQ'D	E. ABUT. NO. REQ'D	LENGTH	BENT	COAT	LOCATION
N501	16	16	5'-10"	X	X	PARAPET - VERT.
N502	16	16	6'-8"	X	X	PARAPET - VERT.
N503	8	8	9'-7"	X	X	PARAPET - HORIZ.



PLAN
(WING 2 SHOWN, WING 3 SIMILAR)



INSIDE ELEVATION
(WING 2 SHOWN, WING 3 SIMILAR)



N501 N502

LEGEND

◐ CONST. JOINT - STRIKE OFF AS SHOWN.

▽ N501 BARS TO BE TIED TO WING STEEL BEFORE WING IS POURED.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-67-386

DRAWN BY DTH | PLANS CK'D. KRB

NORTH SINGLE SLOPE PARAPET 42SS

SHEET 10
53

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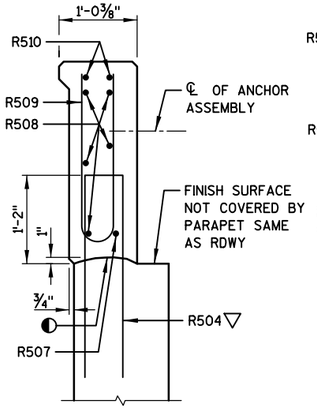
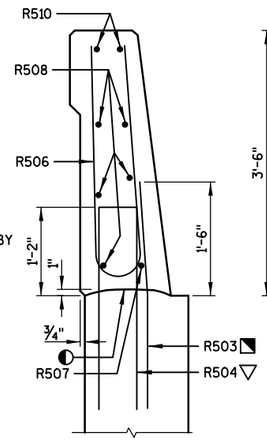
STATE PROJECT NUMBER

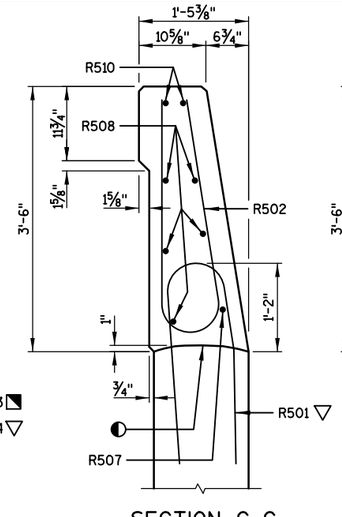
2370-04-70



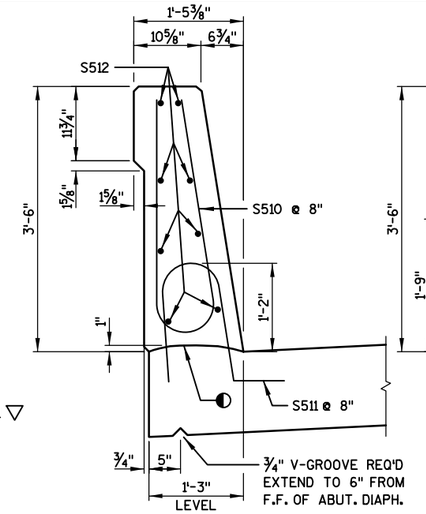
SECTION A-A



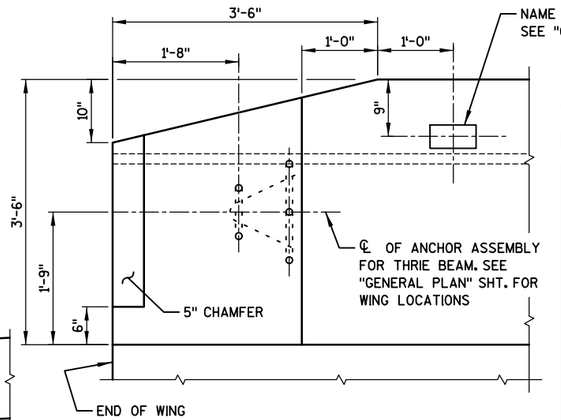
SECTION B-B



SECTION C-C



SECTION THRU PARAPET ON DECK



PARAPET END TREATMENT DETAIL

LOOKING AT INSIDE FACE OF PARAPET

SOUTH 42SS PARAPET BILL OF BARS

COATED: 730 LBS

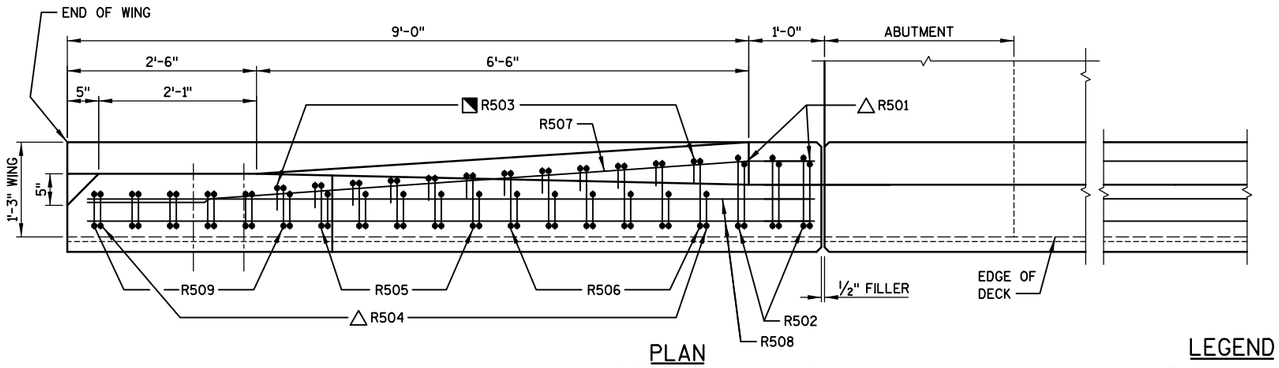
BAR MARK	W. ABUT. NO. REQ'D	E. ABUT. NO. REQ'D	LENGTH	BENT	COAT	LOCATION
R501	3	3	5'-10"	X	X	PARAPET - VERT.
R502	3	3	6'-8"	X	X	PARAPET - VERT.
R503	12	12	3'-0"	X	X	PARAPET - VERT.
R504	17	17	5'-7"	X	X	PARAPET - VERT.
R505	5	5	6'-5"	X	X	PARAPET - VERT.
R506	6	6	6'-6"	X	X	PARAPET - VERT.
R507	1	1	9'-7"	X	X	PARAPET - HORIZ.
R508	5	5	9'-7"		X	PARAPET - HORIZ.
⚠ R509	6	6	5'-5"	X	X	PARAPET - VERT.
R510	2	2	9'-7"	X	X	PARAPET - HORIZ.

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

BAR SERIES TABLE

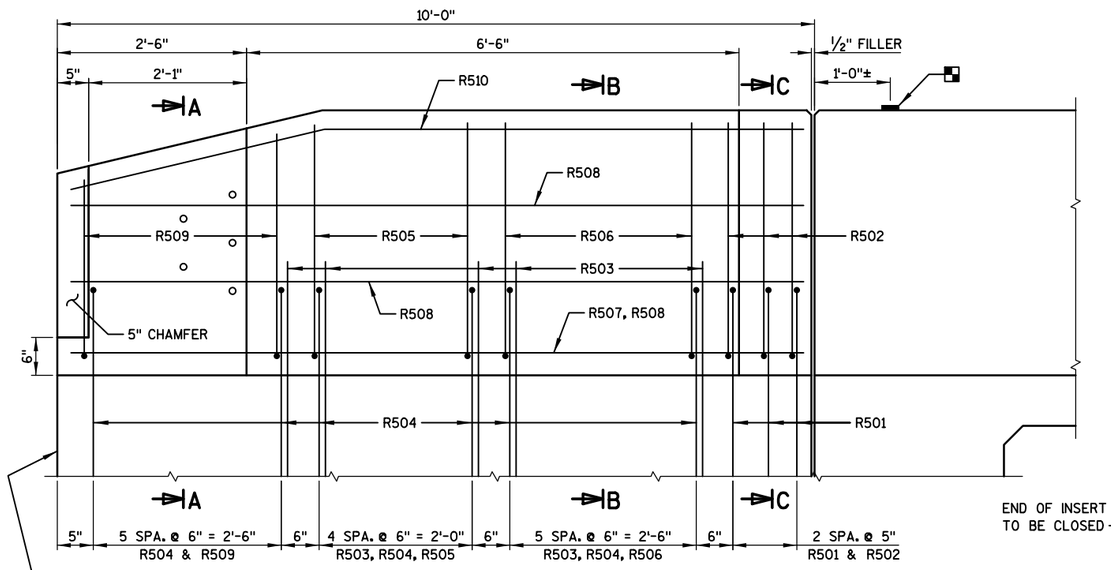
BAR MARK	W. ABUT. NO. REQ'D	E. ABUT. NO. REQ'D	LENGTH
R509	1 SERIES OF 6	1 SERIES OF 6	4'-9" TO 6'-1"

BUNDLE AND TAG EACH SERIES SEPARATELY.



PLAN

WING 1 CORNER SHOWN, WING 4 SIMILAR

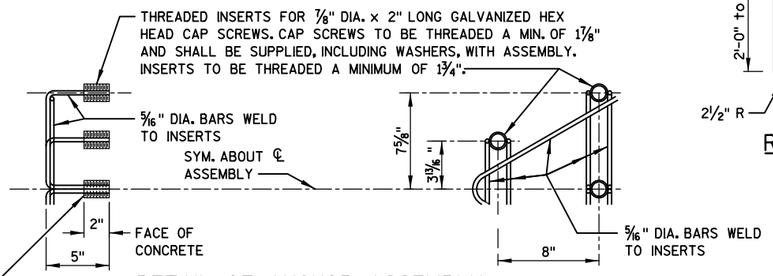


INSIDE ELEVATION

WING 1 CORNER SHOWN, WING 4 SIMILAR

LEGEND

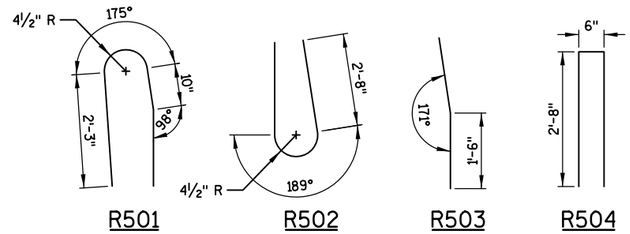
- ◐ CONST. JOINT - STRIKE OFF AS SHWON.
- ◪ R503 BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. USE CARE TO PLACE R503 BARS CORRECTLY ALONG TRANSITION OF PARAPET.
- ▽ R501 AND R504 BARS TO BE TIED TO WING STEEL BEFORE WING IS POURED.
- ◾ BENCH MARK CAP (WHEN SUPPLIED).



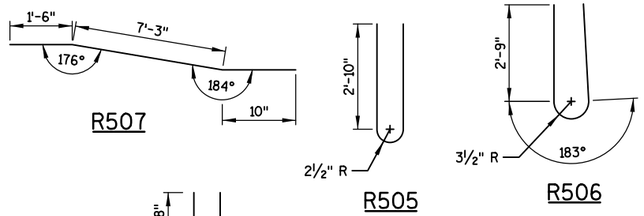
DETAIL OF ANCHOR ASSEMBLY

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

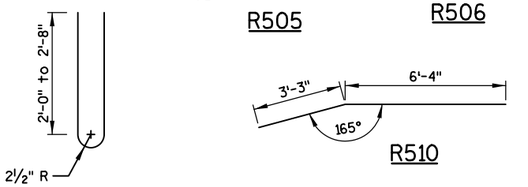
ASSEMBLY SHALL BE BID ITEM "ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD", EACH.



R501 R502 R503 R504



R507 R505 R506



R509 R510

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-67-386

DRAWN BY DTH | PLANS CK'D. KRB

SOUTH SINGLE SLOPE PARAPET 42SS

SHEET 11
54

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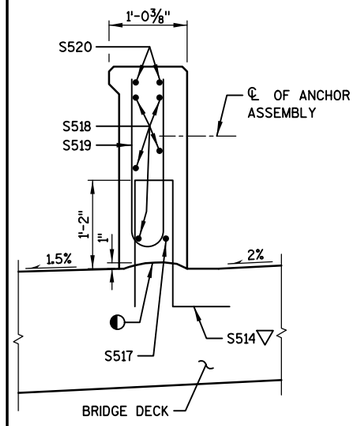
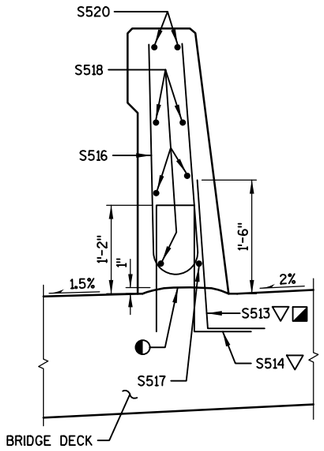


SECTION A-A



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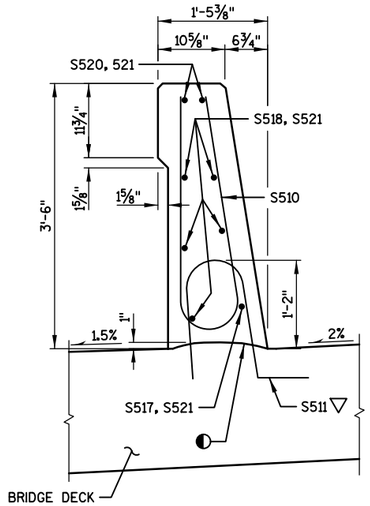

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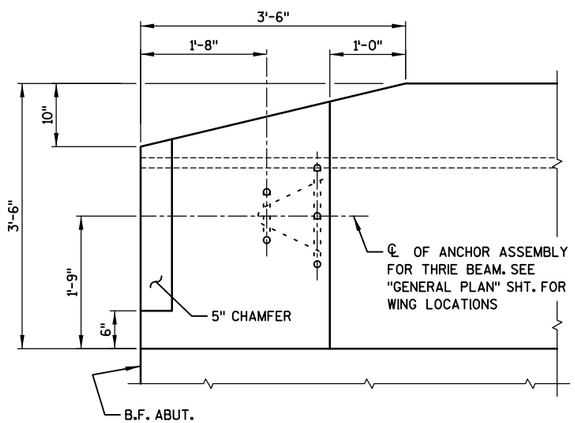
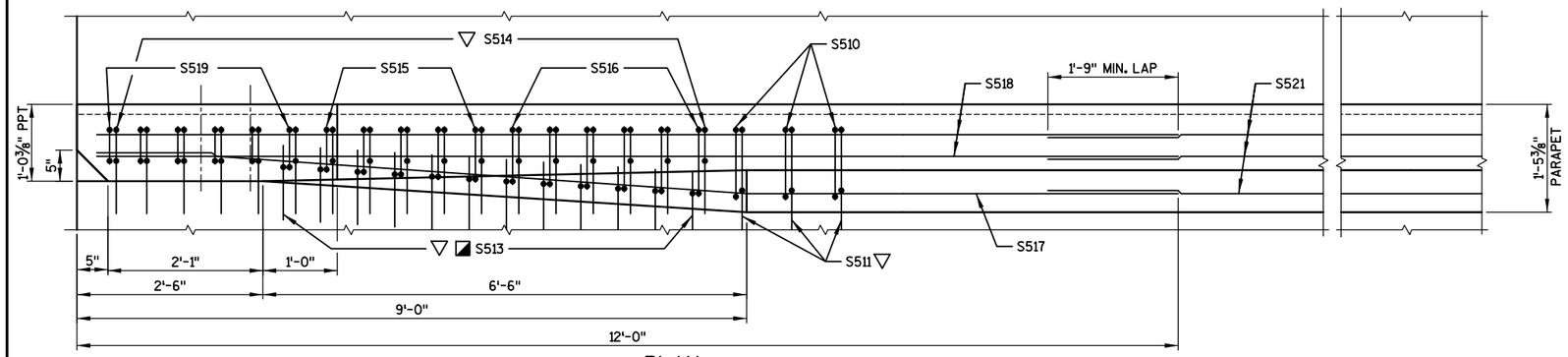


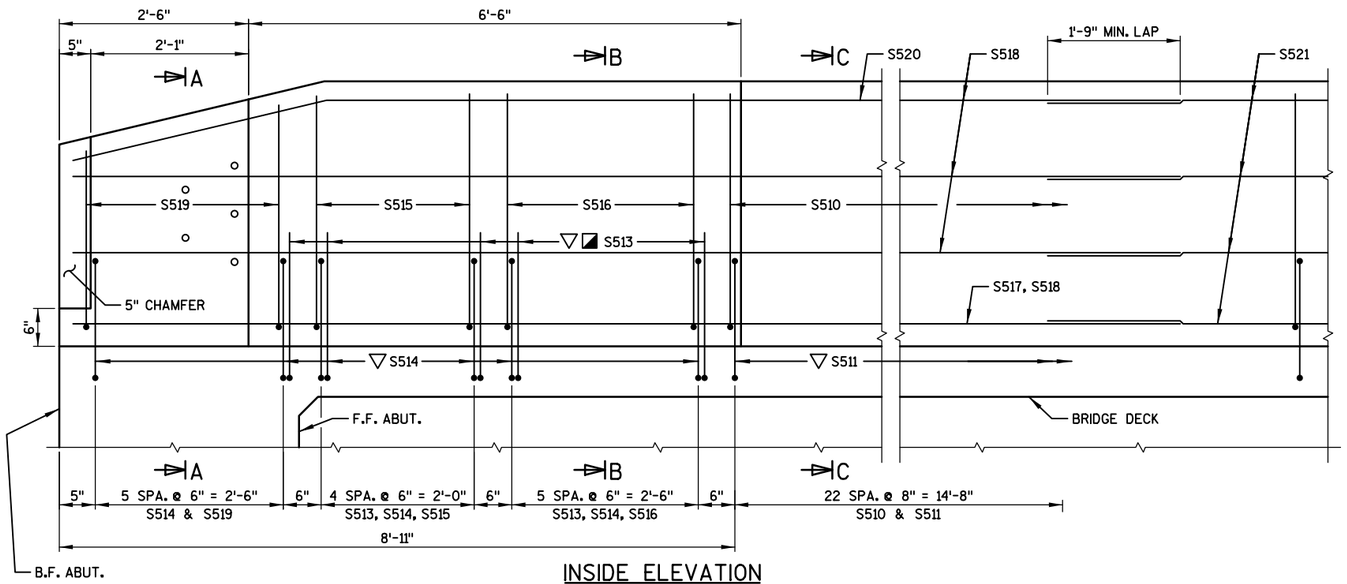
PARAPET END TREATMENT DETAIL

LOOKING AT INSIDE FACE OF PARAPET



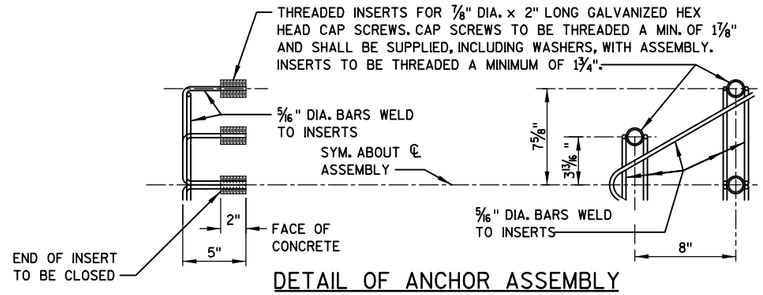
PLAN

WEST END INTERIOR PARAPET SHOWN, EAST END SIMILAR



INSIDE ELEVATION

WEST END INTERIOR PARAPET SHOWN, EAST END SIMILAR



DETAIL OF ANCHOR ASSEMBLY

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

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

STATE PROJECT NUMBER

2370-04-70

NOTES

SEE "SUPERSTRUCTURE DETAILS" SHEET FOR REINFORCING DETAILS.

LEGEND

◐ CONST. JOINT - STRIKE OFF AS SHWON.

◪ USE CARE TO PLACE S513 BARS CORRECTLY ALONG TRANSITION OF PARAPET.

▽ S511, S513, AND S514 BARS TO BE TIED TO SUPERSTRUCTURE STEEL BEFORE SUPERSTRUCTURE IS POURED.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-67-386

DRAWN BY DTH | PLANS CK'D. KRB

INTERIOR SINGLE SLOPE PARAPET 42SS

SHEET 12
55

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8

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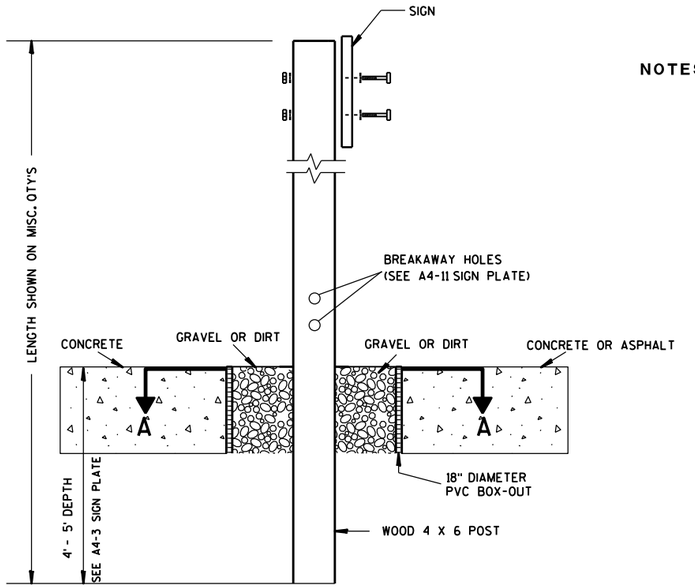
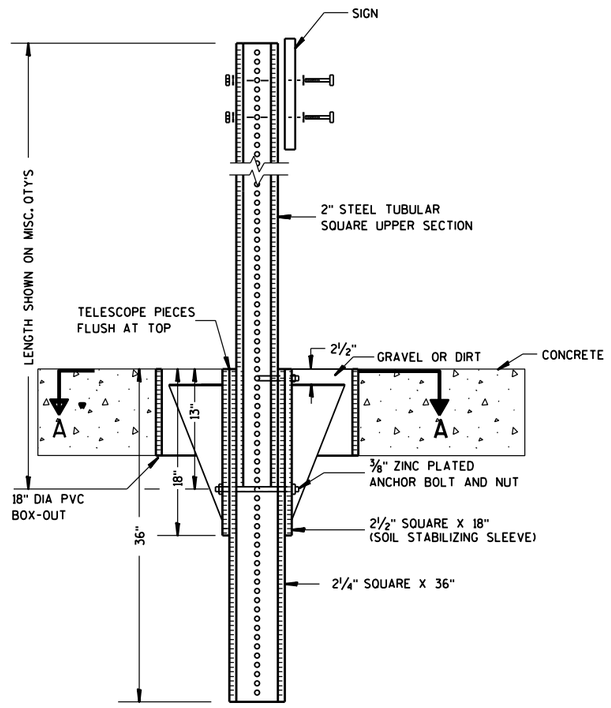


ELEVATION VIEW

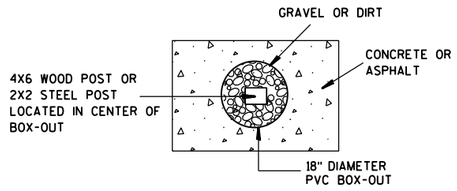
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

NOTES:
1. ALL MATERIAL TO BE APPROVED BY ENGINEER PRIOR TO INSTALLATION
2. SEE SIGN PLATE A4-8 FOR SIGN HARDWARE REQUIREMENTS
3. 18 INCH X 18 INCH SQUARE BOX-OUTS MAY BE USED FOR INSTALLATIONS IN EXISTING CONCRETE OR ASPHALT LOCATIONS.



ELEVATION VIEW

DETAIL OF STEEL 2 X 2 SIGN POST IN BOX-OUT



PLAN VIEW

FOR NEW CONCRETE/ASPHALT INSTALLATIONS

SIGN POST BOX-OUTS A4-3B

WISCONSIN DEPT OF TRANSPORTATION

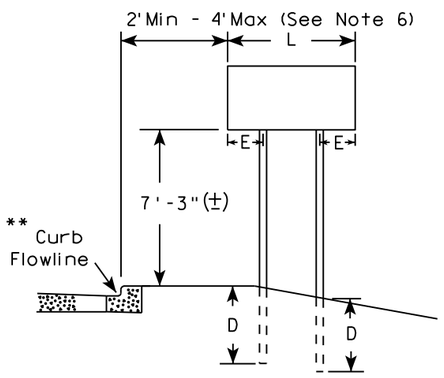
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 1/27/14 PLATE NO. A4-3B.1

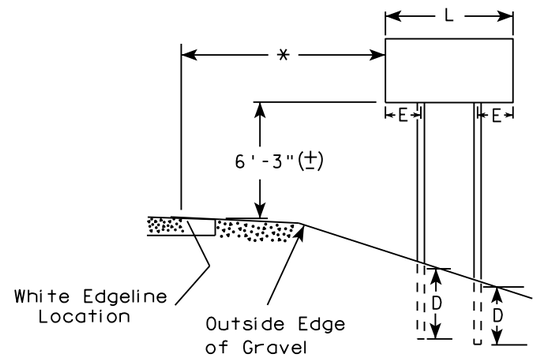
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

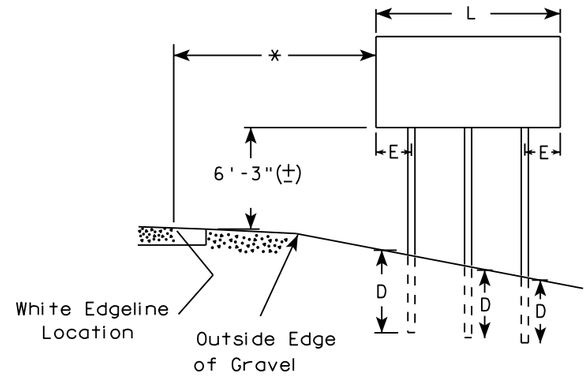
FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A43B.DGN PLOT DATE : 27-JAN-2014 09:48 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 13.659812:1.000000 WISDOT/CADDS SHEET 42

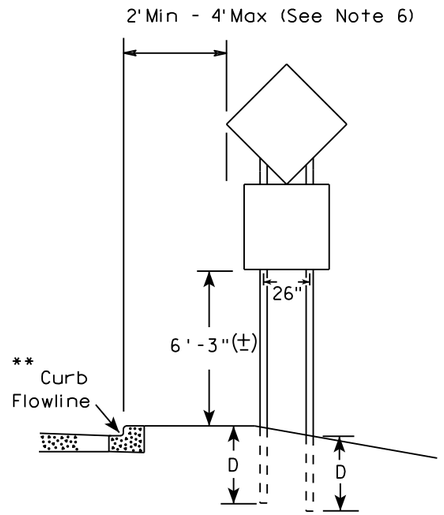
URBAN AREA



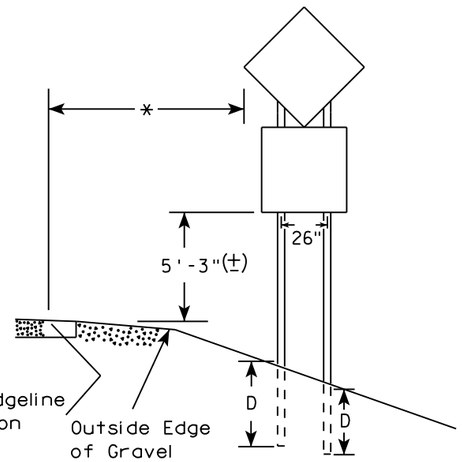
RURAL AREA (See Note 3)







48" DIAMOND WARNING SIGN



48" DIAMOND WARNING SIGN

SIGN SHAPE OTHER THAN DIAMOND (TWO POSTS REQUIRED)		
	L	E
***	Greater than 48" Less than 60"	12"
	60" to 108"	L/5

SIGN SHAPE OTHER THAN DIAMOND (THREE POSTS REQUIRED)	
L	E
Greater than 108" to 144"	12"

GENERAL NOTES

1. For 3 or 4 post installations, individual post spacing shall be greater than 3'-6".
2. See tables below for required number of posts.
3. For expressways and freeways, mounting height is 7'-3" (±) or 6'-3" (±) depending upon existence of sub-sign.
4. The (±) tolerance for mounting height is 3 inches.
5. J-Assemblies are considered to be one sign for mounting height.
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. Folding signs shall be mounted at a height of 5'-3" (±) or as directed by the engineer.
8. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), 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" (±).

* 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.

** 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.

*** See A4-3 sign plate for signs 4' or less in width and less than 20 S.F. in area.

POST EMBEDMENT DEPTH

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

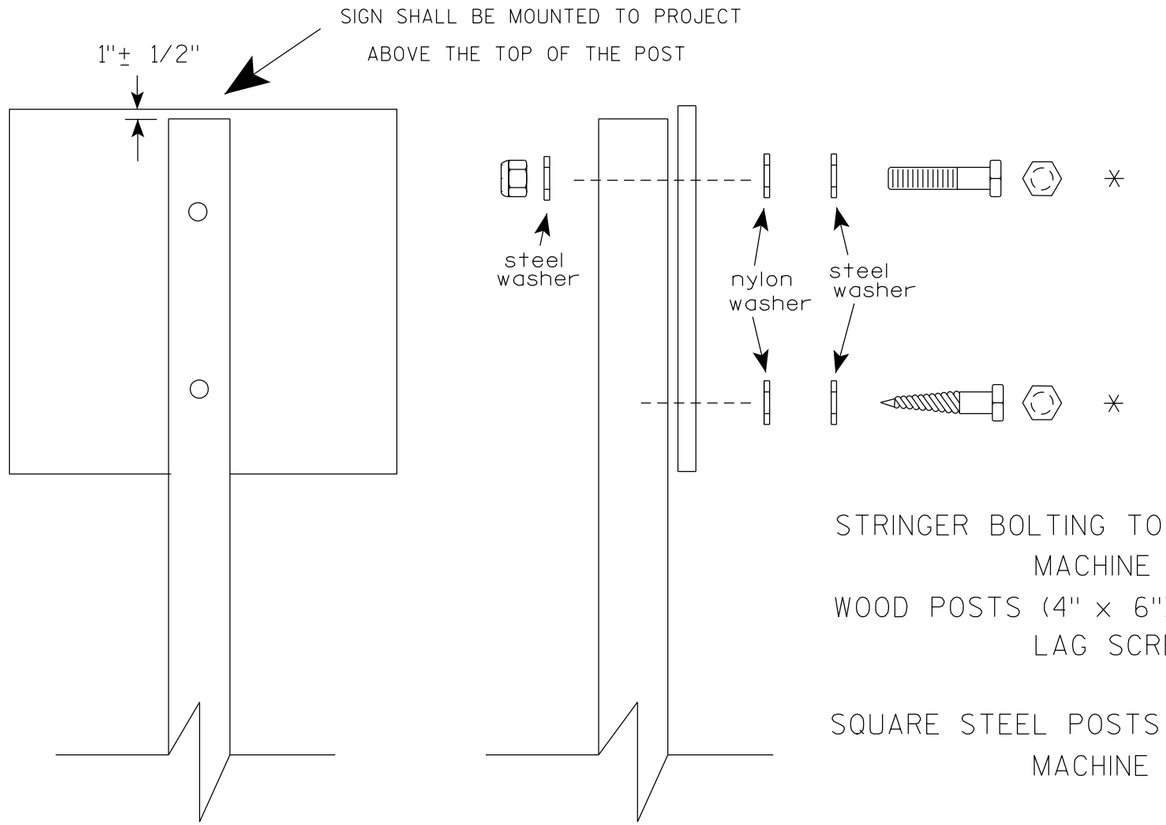
TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 8/21/17 PLATE NO. A4-4.15

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 57	E



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

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

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

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

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 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

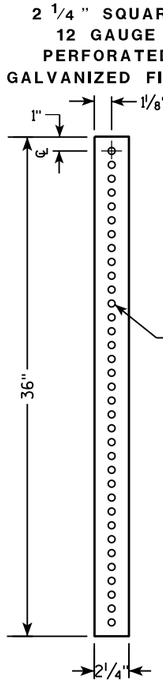
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

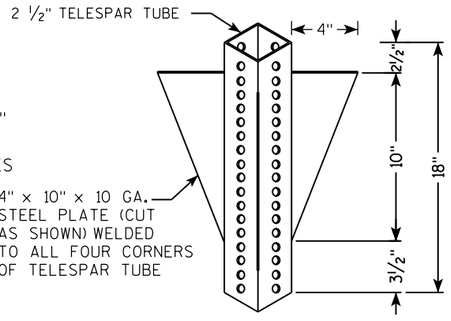
DATE 4/1/2020 PLATE NO. A4-8.9

TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM

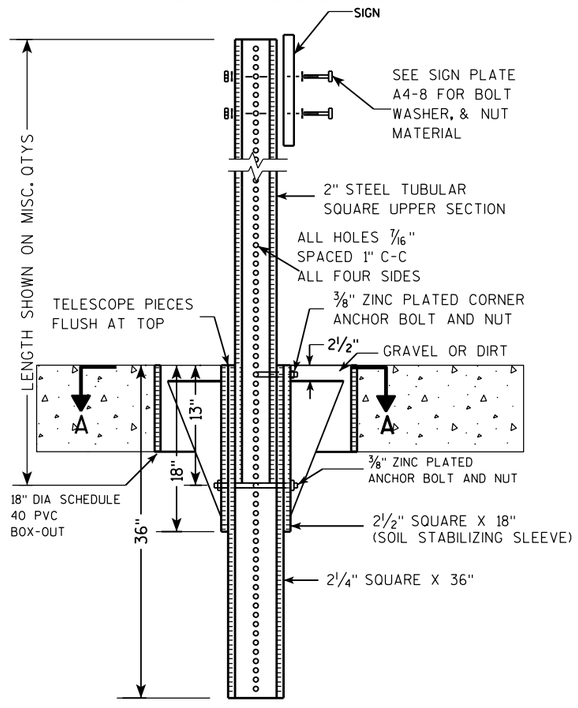
2 1/4 " SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH



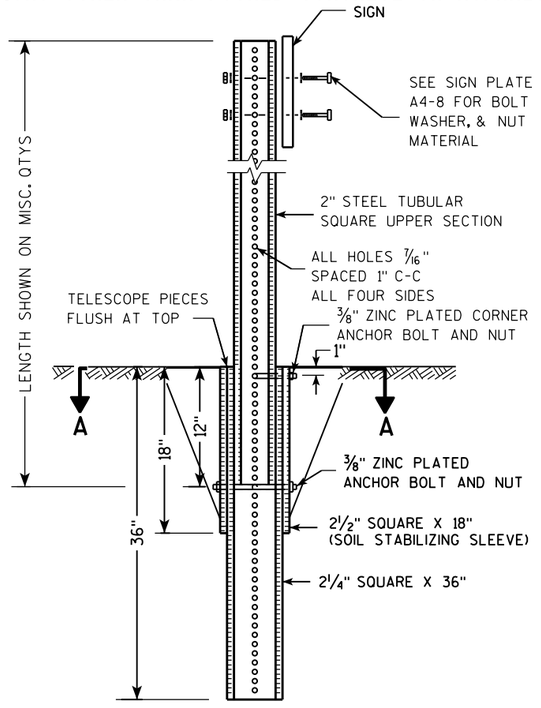
2 1/2 " SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH

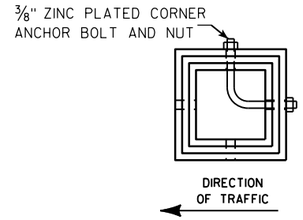


DETAIL OF TUBULAR STEEL SIGN POST
(IN POURED CONCRETE OR ASPHALT)



DETAIL OF TUBULAR STEEL SIGN POST
(IN LOCATIONS OTHER THAN POURED CONCRETE OR ASPHALT)





SECTION A-A

Area of Sign Installation (Sq. Ft.)	Number of Required Posts
9 or less	1
Greater than 9 less than or equal to 18	2
Greater than 18 less than or equal to 27	3

Signs wider than 3 feet or larger than 9 sq. ft shall be mounted on multiple posts (see above table).

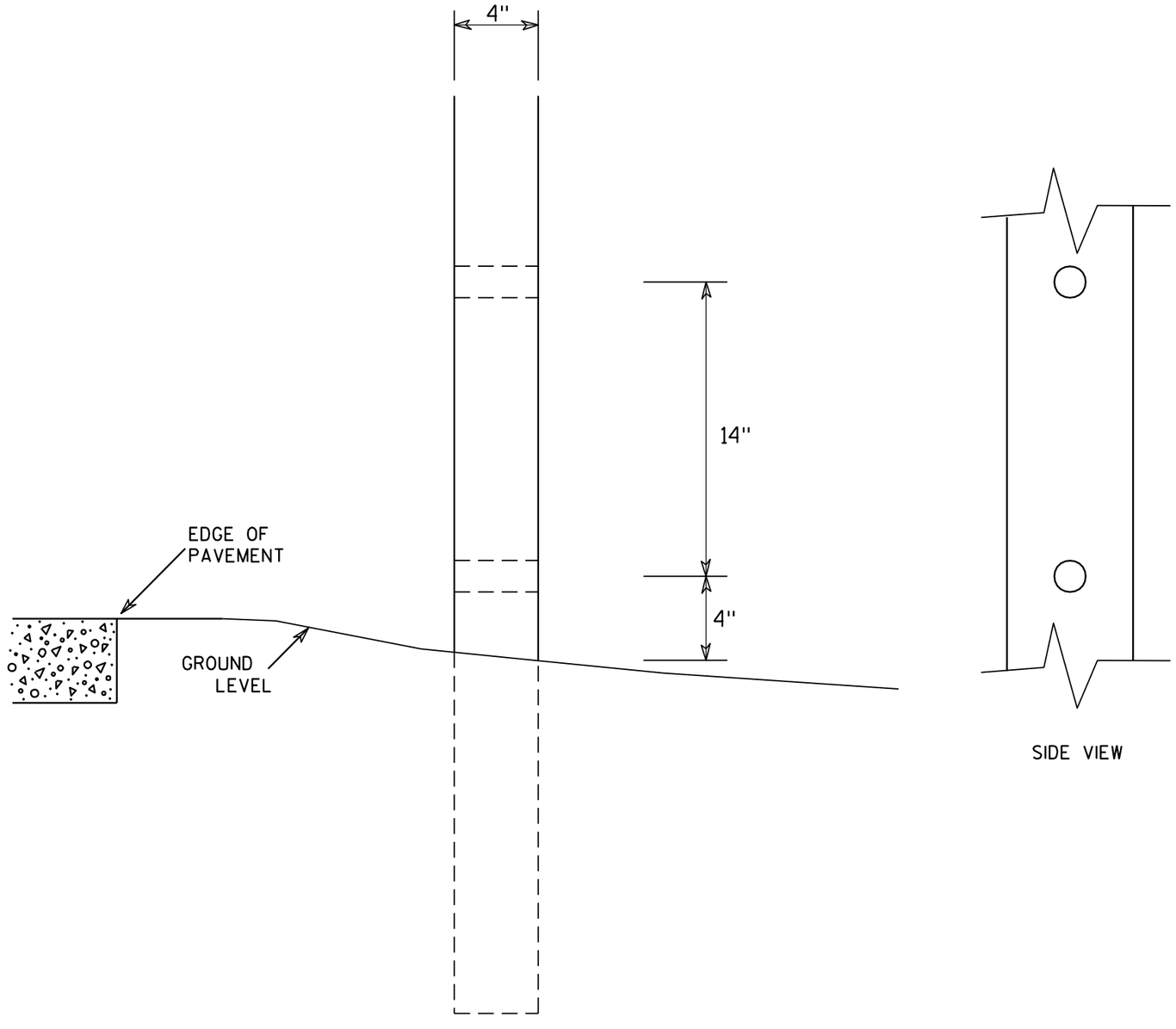
TUBULAR STEEL
SIGN POST
A4-9

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/05/15 PLATE 59 A4-9.9

PROJECT NO:	HWY:	COUNTY:		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

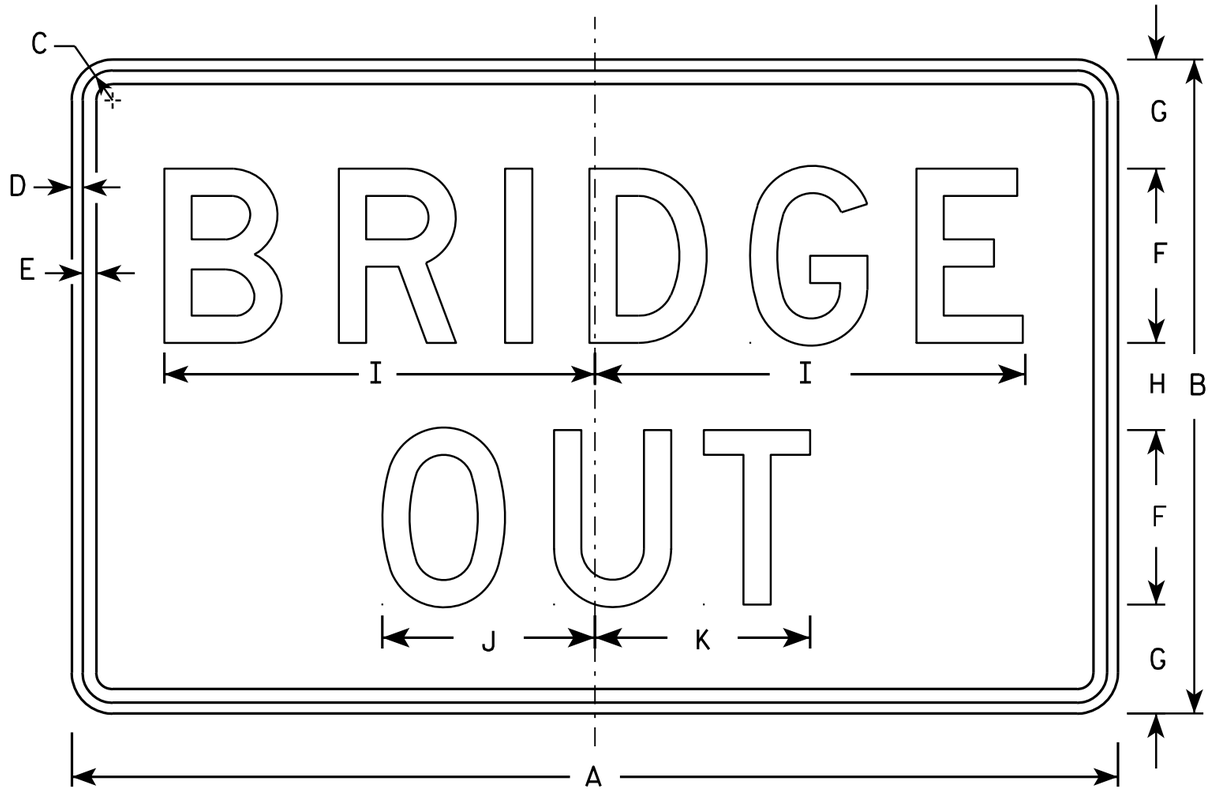
4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Chester J Spang for State Traffic Engineer

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

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 60	E



R11-2B

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48	30	1 3/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
2M	48	30	1 3/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
3	48	30	1 3/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
4	48	30	1 3/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
5	48	30	1 3/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0

STANDARD SIGN
R11-2B

WISCONSIN DEPT OF TRANSPORTATION

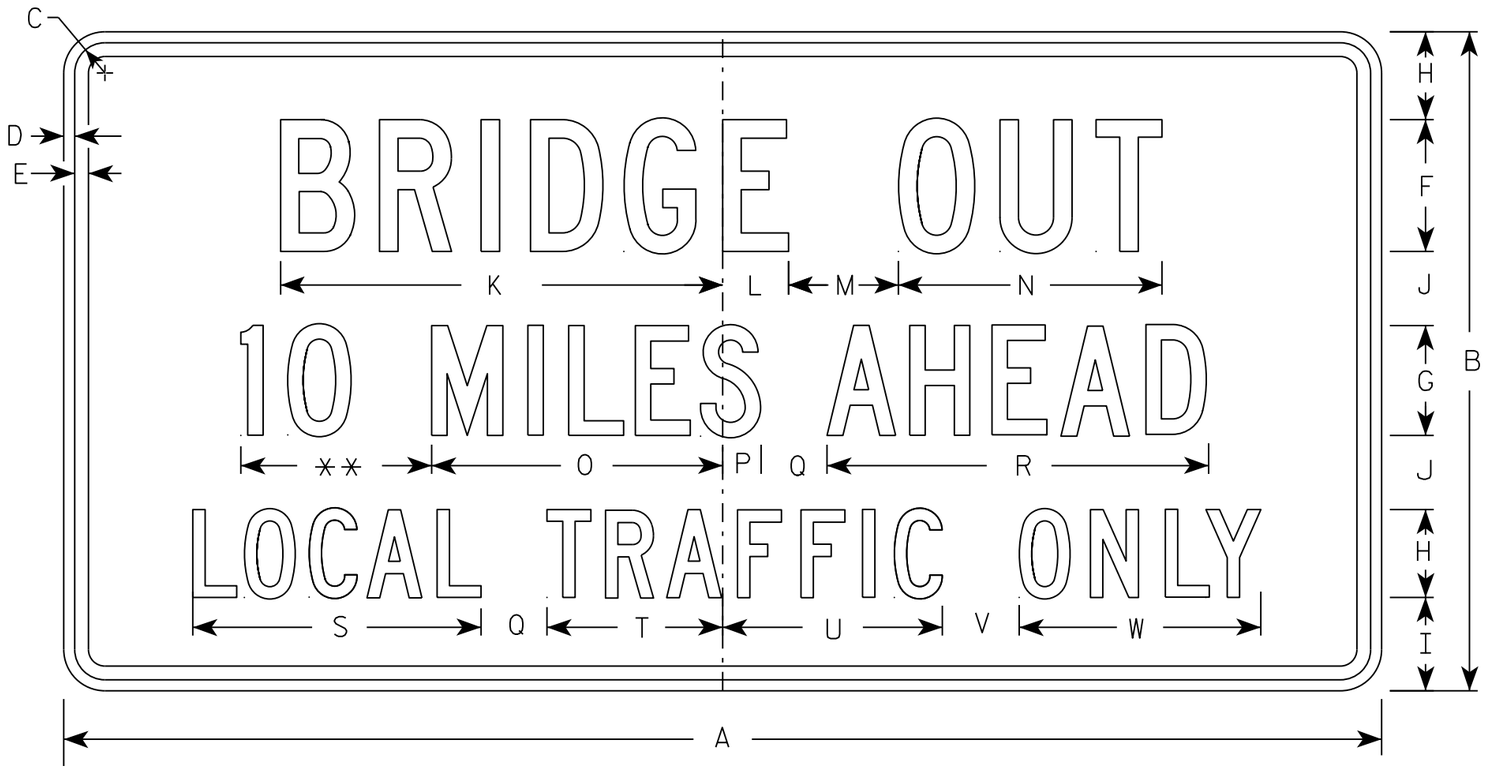
APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO:

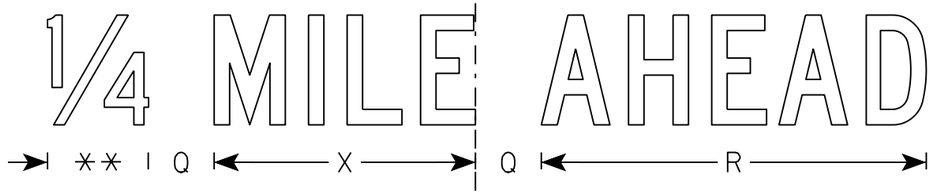
SHEET NO: 61 E

7



R11-3B

** See Note 5



NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate numerals to nearest quarter mile and optically adjust spacing to achieve proper balance.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36	18	1 3/8	1/2	5/8	4	3	2 1/2	2	2	13 1/4	2 1/4	3	8	8	1 1/2	2	10 3/4	8 3/8	4 3/4	6 1/2	2	6 3/4	7 1/8			4.5
2S	60	30	1 3/8	1/2	5/8	6	5	4	4 1/4	3 3/8	20 1/8	3	5	12	13 1/4	1 3/4	3	17 3/8	13 1/8	8	10	3 1/2	11	11 7/8			12.5
2M	60	30	1 3/8	1/2	5/8	6	5	4	4 1/4	3 3/8	20 1/8	3	5	12	13 1/4	1 3/4	3	17 3/8	13 1/8	8	10	3 1/2	11	11 7/8			12.5
3																											
4																											
5																											

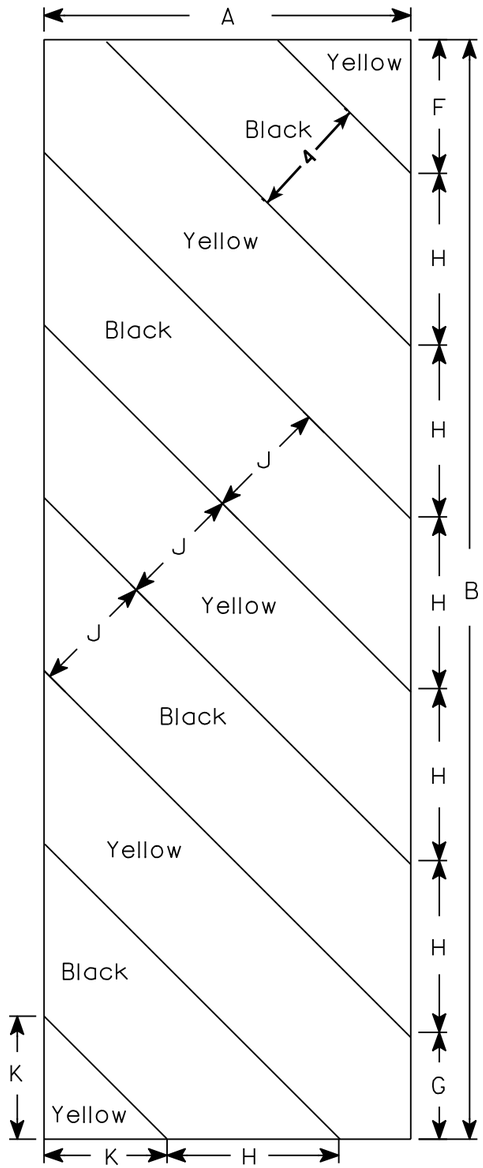
STANDARD SIGN
R11-3B

WISCONSIN DEPT OF TRANSPORTATION

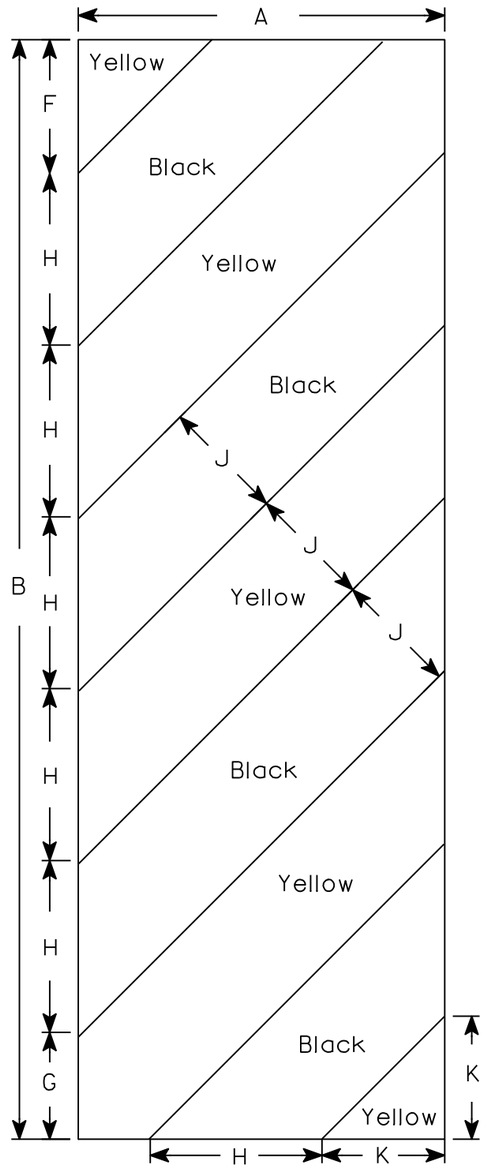
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/21/17 PLATE NO. R11-3B.3

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 62 | 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

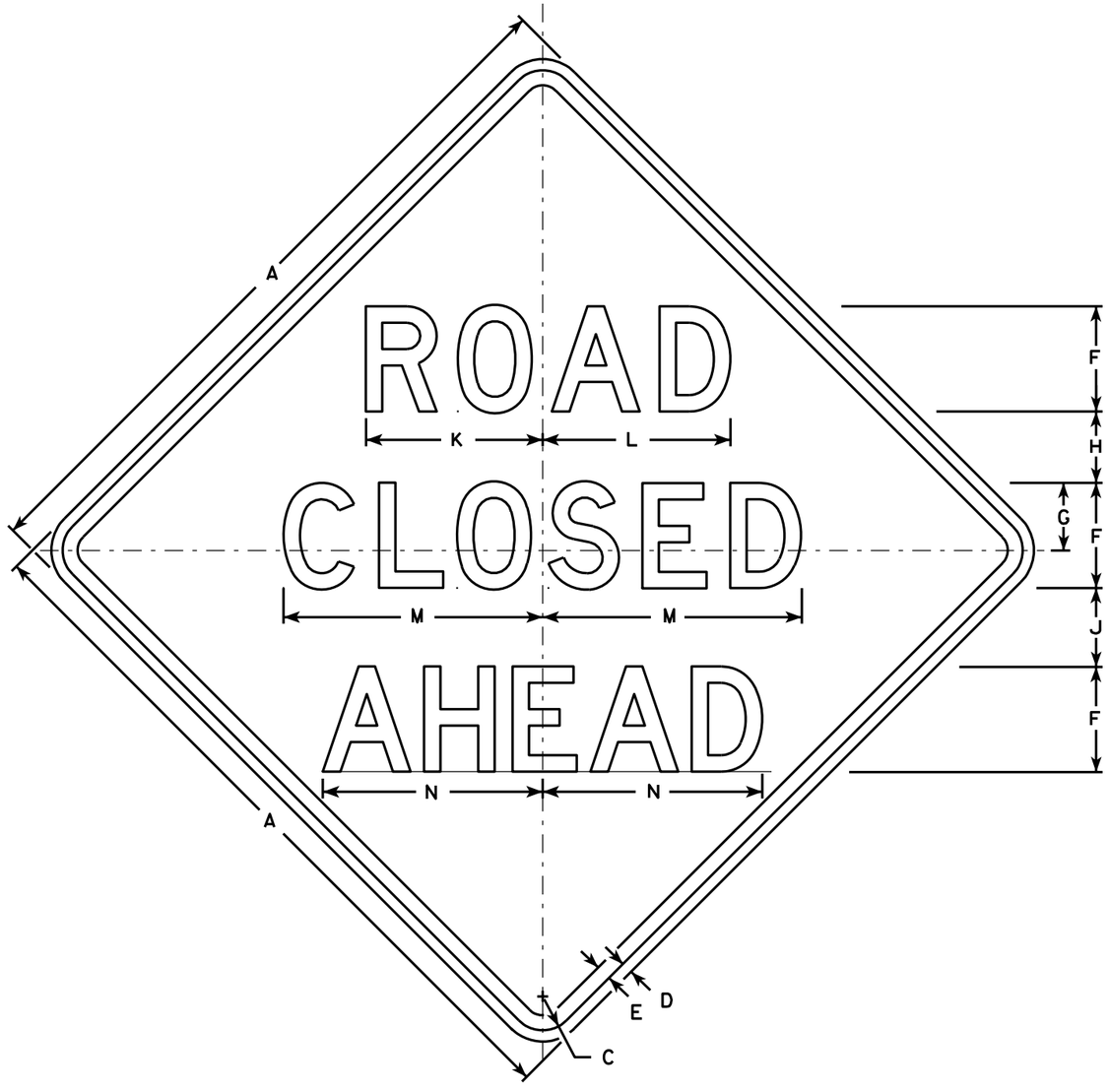
W5-52L & W5-52R

WISCONSIN DEPT OF TRANSPORTATION

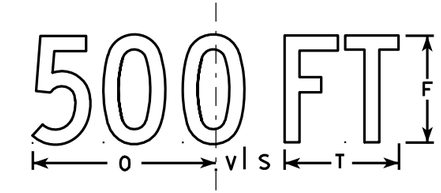
APPROVED Matthew R Rauch
for State Traffic Engineer

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

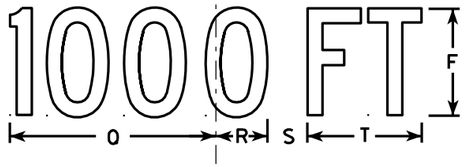
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 63 | E



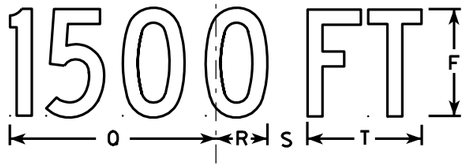
W20-3A



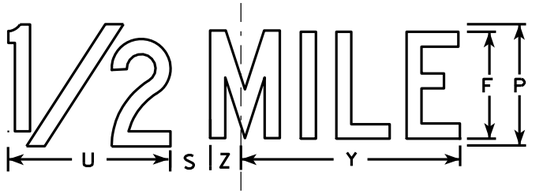
W20-3D



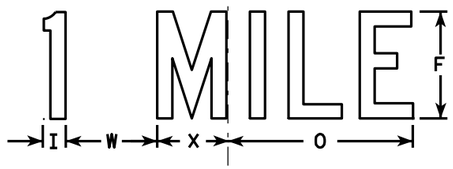
W20-3C



W20-3B



W20-3G



W20-3F

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Message Series - see note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Lines 1 and 2 are Series D.
   Line 3 is Series D for AHEAD and Series C for all other distances.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	5	3 3/8	3 1/2	1 1/8	4	8 3/8	8 7/8	12 1/2	11	9	6	10 1/8	2 1/2	1 7/8	5 5/8	8	1 3/8	4 1/2	3 1/2	10 3/4	1 3/4	9.0
2S	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
2M	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
3	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
4	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
5	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0

STANDARD SIGN
W20-3A, B, C, D, F & G

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer
DATE 3/18/11 PLATE NO. W20-3.7

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 64 | E

7

FILE NAME : C:\Users\PROJECTS\tr_stdplate\W203.DGN PLOT DATE : 18-MAR-2011 12:08 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 9.931739:1.000000
WISDOT/CADDS SHEET 42

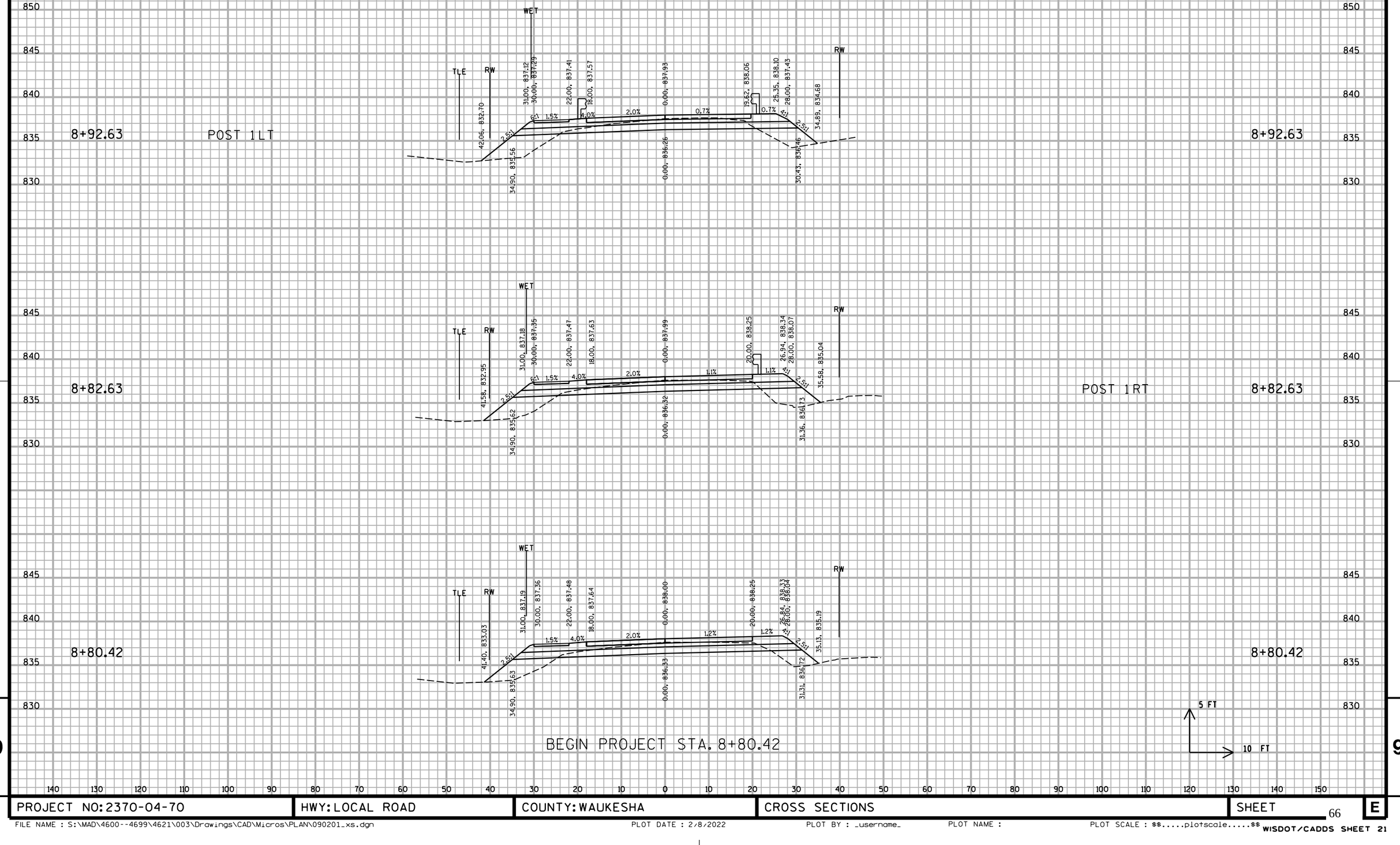
EARTHWORK SUMMARY											
			AREA (SF)			INCREMENTAL VOLUME (CY) (UNADJUSTED)			CUMMULATIVE VOLUME (CY)		
STATION	REAL STATION	DISTANCE	CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	UNEXPANDED FILL	CUT 1.00	FILL 1.25	MASS ORDINATE
8+80.42	880.42		45	12	35						
8+82.63	882.63	2.21	44	12	43	4	1	3	4	4	1
8+92.63	892.63	10.00	43	12	44	16	4	16	20	24	9
9+00.00	900.00	7.37	43	12	42	12	3	12	32	39	15
9+07.63	907.63	7.63	42	12	38	12	3	11	44	53	20
9+17.63	917.63	10.00	42	12	34	15	4	13	59	69	25
9+32.63	932.63	15.00	41	12	33	23	7	18	82	91	31
9+42.63	942.63	10.00	43	12	33	15	4	12	97	106	35
9+50.00	950.00	7.37	44	12	36	12	3	9	109	118	38
9+82.65	982.65	32.65	44	12	36	53	15	44	162	173	55
BRIDGE											
10+15.15	1015.15		66	11	17						
10+50.00	1050.00	34.85	66	12	17	85	15	22	247	200	12
10+55.17	1055.17	5.17	66	12	17	13	2	3	260	204	5
10+65.17	1065.17	10.00	68	12	15	25	4	6	285	211	-9
10+80.17	1080.17	15.00	69	12	14	38	7	8	323	221	-30
10+90.17	1090.17	10.00	71	12	28	26	4	8	349	231	-42
11+00.00	1100.00	9.83	73	12	16	26	4	8	375	241	-54
11+05.17	1105.17	5.17	73	12	15	14	2	3	389	245	-62
11+15.17	1115.17	10.00	76	12	13	28	4	5	417	251	-80

NOTES:
1 - CUT: CUT INCLUDES SALVAGED/UNUSABLE PAVEMENT MATERIAL
2 - SALVAGED/UNUSABLE PAVEMENT MATERIAL: ALL EXCAVATED PAVEMENT
3 - FILL: DOES NOT INCLUDE UNUSABLE PAVEMENT EXC VOLUME
4 - MASS ORDINATE: EXPANDED FILL - AVAILABLE MATERIAL

9

9

PROJECT NO: 2370-04-70 | HWY: LOCAL STREET | COUNTY: WAUKESHA | EARTHWORK | SHEET E



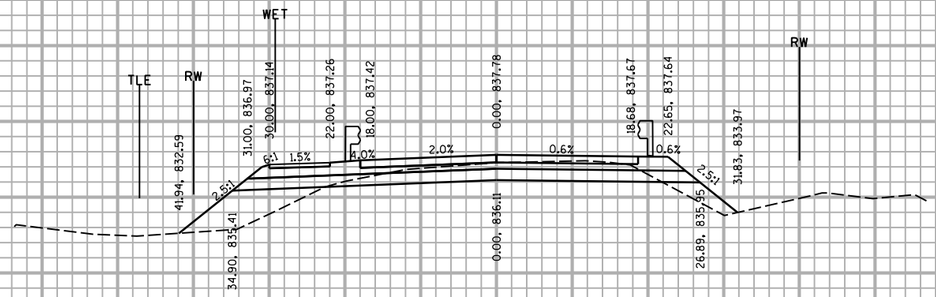
PROJECT NO: 2370-04-70	HWY: LOCAL ROAD	COUNTY: WAUKESHA	CROSS SECTIONS	SHEET E

FILE NAME : S:\MAD\4600--4699\4621\003\Drawings\CAD\Micros\PLAN\090201_xs.dgn PLOT DATE : 2/8/2022 PLOT BY : _username_ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$

WISDOT/CADDS SHEET 21

9+17.63

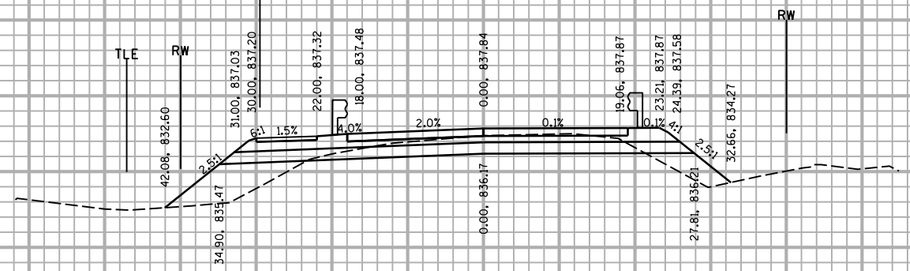
POST 5 LT



9+17.63

9+07.63

POST 5 RT



9+07.63

9+00.00

9+00.00

5 FT

10 FT

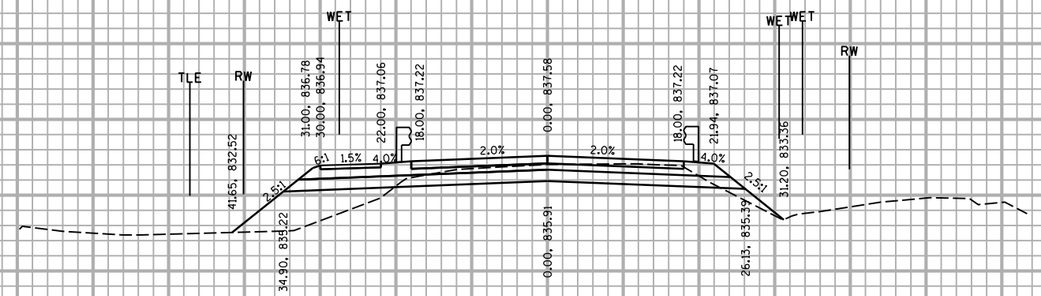
9

9

PROJECT NO: 2370-04-70	HWY: LOCAL ROAD	COUNTY: WAUKESHA	CROSS SECTIONS	SHEET	E

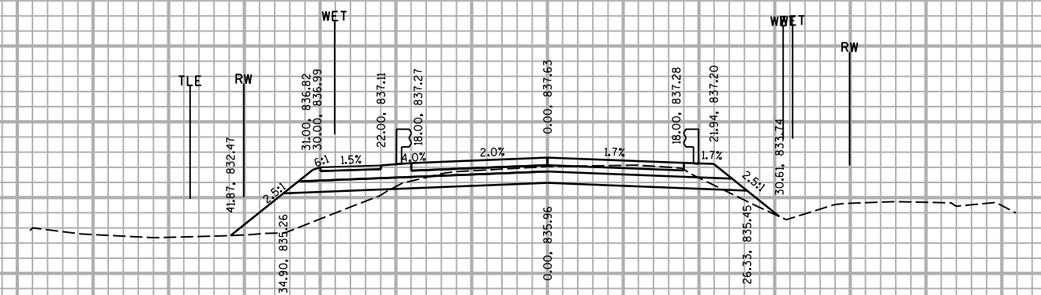
FILE NAME : S:\MAD\4600--4699\4621\003\Drawings\CAD\Micros\PLAN\090201_xs.dgn PLOT DATE : 2/8/2022 PLOT BY : _username_ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 21

STA. 9+82.65 TO STA. 10+15.15
B-67-386



9+50.00

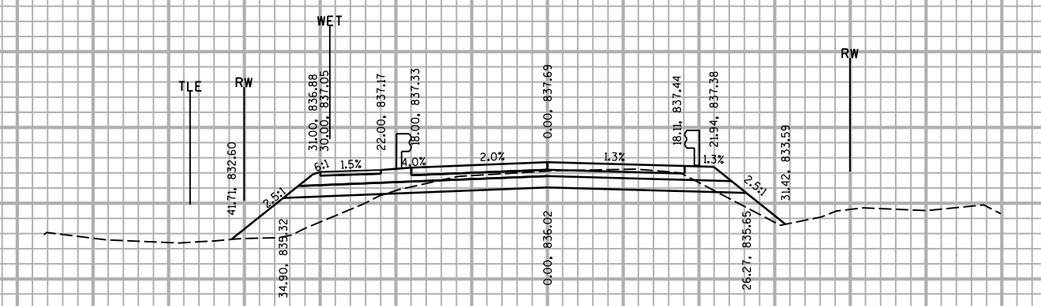
9+50.00



9+42.63

POST 9 LT

9+42.63



9+32.63

POST 9 RT

9+32.63

5 FT

10 FT

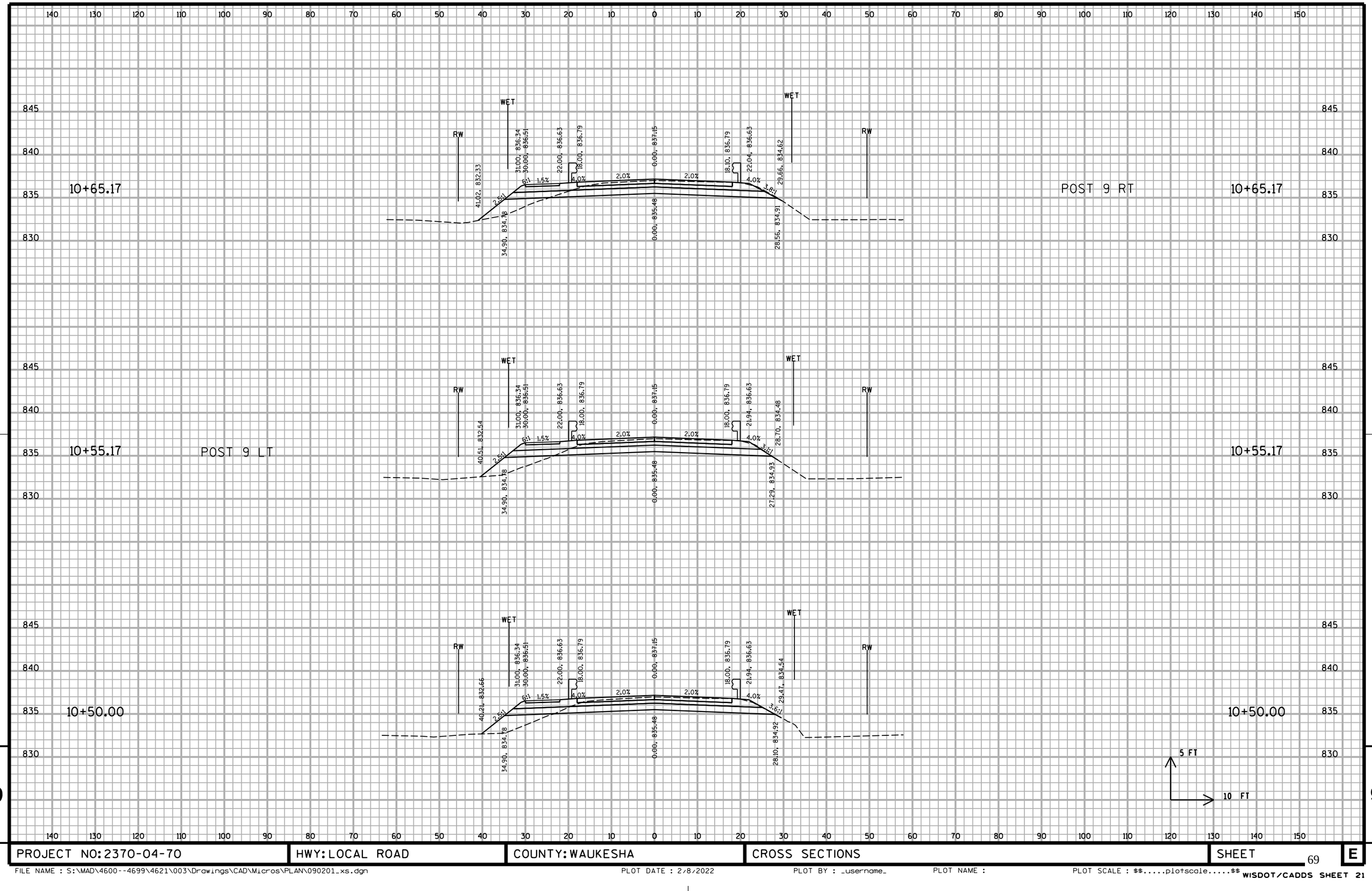
9

9

PROJECT NO: 2370-04-70 | HWY: LOCAL ROAD | COUNTY: WAUKESHA | CROSS SECTIONS | SHEET | E

FILE NAME : S:\MAD\4600--4699\4621\003\Drawings\CAD\Micros\PLAN\090201_xs.dgn PLOT DATE : 2/8/2022 PLOT BY : _username_ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$

WISDOT/CADDS SHEET 21



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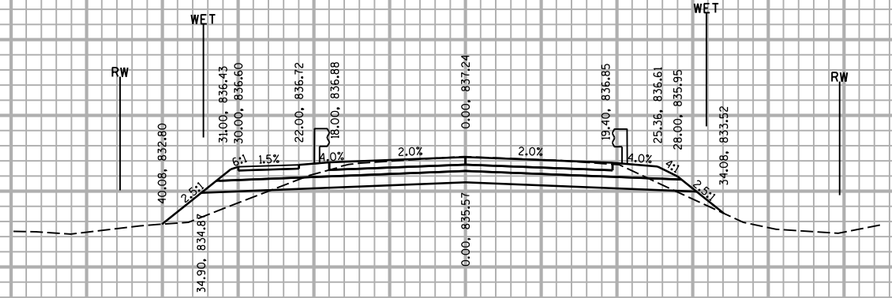
PROJECT NO: 2370-04-70	HWY: LOCAL ROAD	COUNTY: WAUKESHA	CROSS SECTIONS	SHEET	E

FILE NAME : S:\MAD\4600--4699\4621\003\Drawings\CAD\Micros\PLAN\090201_xs.dgn PLOT DATE : 2/8/2022 PLOT BY : _username_ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$

WISDOT/CADDS SHEET 21



11+00.00

10+90.17

POST 5 RT

10+90.17

10+80.17

POST 5 LT

10+80.17

5 FT

10 FT

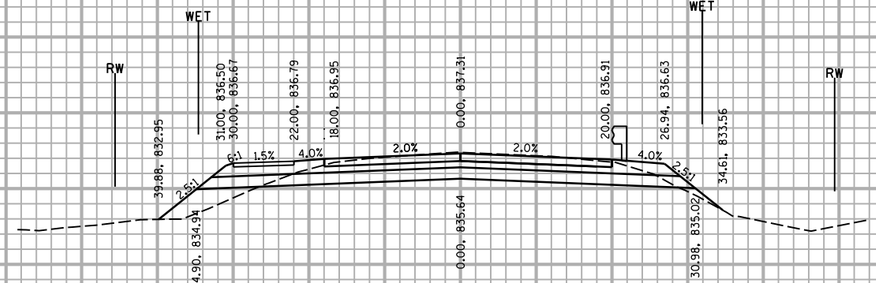
9

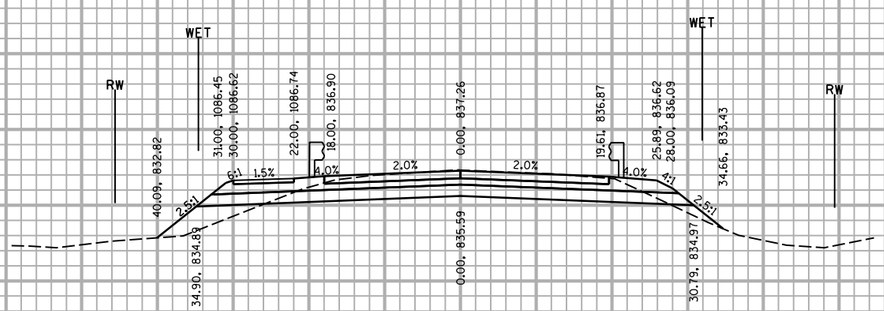
9

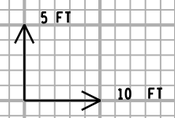
PROJECT NO: 2370-04-70	HWY: LOCAL ROAD	COUNTY: WAUKESHA	CROSS SECTIONS	SHEET	E

FILE NAME : S:\MAD\4600--4699\4621\003\Drawings\CAD\Micros\PLAN\090201_xs.dgn PLOT DATE : 2/8/2022 PLOT BY : _username_ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 21

END PROJECT STA. 11+15.17







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9

PROJECT NO: 2370-04-70	HWY: LOCAL ROAD	COUNTY: WAUKESHA	CROSS SECTIONS	SHEET	E

FILE NAME : S:\MAD\4600--4699\4621\003\Drawings\CAD\Micros\PLAN\090201_xs.dgn PLOT DATE : 2/8/2022 PLOT BY : _username_ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$

WISDOT/CADDS SHEET 21

Wisconsin Department of Transportation

Dedicated people creating transportation solutions
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