SUP

PROJECT ID: 8220-03-73

COUNTY: TAYLOR

MARCH 2020

ORDER OF SHEETS

TOTAL SHEETS = 88

35

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

GILMAN - MEDFORD

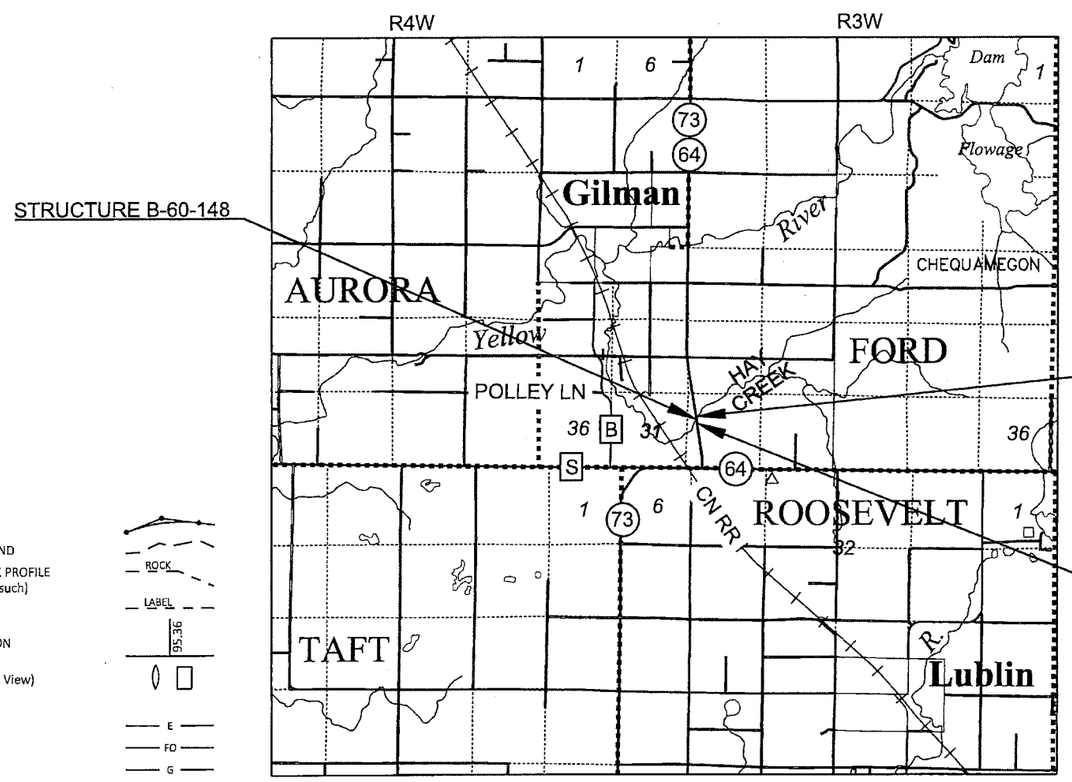
HAY CREEK BRIDGE B-60-148

STH 64

TAYLOR COUNTY

STATE PROJECT NUMBER
8220-03-73

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
8220-03-73	WISC 2020093	1



N

DESIGN DESIGNATION

A.A.D.T.	2021	=	1500
A.A.D.T.	2041	=	1700
D.H.V.		=	225
D.D.		=	60140
T.		=	14.7%
DESIGN SPEED		=	60 MPH
ESALS		=	591,300

CONVENTIONAL SYMBOLS

PLAN		PROFILE	
CORPORATE LIMITS		GRADE LINE	
PROPERTY LINE		ORIGINAL GROUND	
LOT LINE		MARSH OR ROCK PROFILE (To be noted as such)	ROCK
LIMITED HIGHWAY EASEMENT		SPECIAL DITCH	LABEL
EXISTING RIGHT OF WAY		GRADE ELEVATION	95.36
PROPOSED OR NEW R/W LINE		CULVERT (Profile View)	
SLOPE INTERCEPT		UTILITIES	
REFERENCE LINE	300'E8'	ELECTRIC	E
EXISTING CULVERT		FIBER OPTIC	FO
PROPOSED CULVERT (Box or Pipe)		GAS	G
COMBUSTIBLE FLUIDS	CAUTION	SANITARY SEWER	SAN
		STORM SEWER	SS
		TELEPHONE	T
MARSH AREA		WATER	W
		UTILITY PEDESTAL	
		POWER POLE	
WOODED OR SHRUB AREA		TELEPHONE POLE	

LAYOUT

SCALE 0 2 MI

TOTAL NET LENGTH OF CENTERLINE = 0.10 MI

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

ORIGINAL PLANS PREPARED BY

benesch
Alfred Benesch & Company
1300 West Canal Street, Suite 150
Milwaukee, Wisconsin 53233
Phone: 414.269.1310 Job No. 20229.05

WISCONSIN PROFESSIONAL ENGINEER
BENJAMIN J. WEIGAND
E-39495
RACINE, WI

DATE: 10/15/19 (Professional Engineer Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	CBS SQUARED
Designer	BENESCH
Project Manager	JILL PETERMAN
Regional Examiner	REGIONAL EXAMINER
Regional Supervisor	ANDY STENSLAND, P.E.

APPROVED FOR THE DEPARTMENT

DATE: 10/30/19 Andy Stensland (Signature)

E

UTILITY CONTACTS

DAIRYLAND POWER COOPERATIVE
3200 EAST AVE SOUTH
P.O. BOX 817
LA CROSSE, WI 54602-0817
CHIP NORGREN
(608) 787-1514
chip.norgren@dairylandpower.com

JUMP RIVER ELECTRIC COOPERATIVE
1102 W 9TH STREET NORTH
P.O. BOX 99
LADYSMITH, WI 54848-0099
SAM HOWARD
(715) 532-5524
showard@jrec.com

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

OTHER AGENCIES

WISDNR
DNR NORTHERN REGION
107 SUTLIFF AVE
RHINELANDER, WI 54501
WENDY HENNIGES
(715) 365-8916
Wendy.Henniges@wisconsin.gov

DESIGN
ALFRED BENESCH & COMPANY
1300 WEST CANAL STREET
SUITE 150
MILWAUKEE, WI 53233
BEN WEIGAND
(414) 308-1310
bweigand@bensch.com

WISDOT
NORTHWEST REGION
1701 N. 4th STREET
SUPERIOR, WI 54880
JILL PETERMAN
(715) 392-7861
Jill.Peterman@dot.wi.gov

STANDARD ABBREVIATIONS

AGG	AGGREGATE	HORIZ	HORIZONTAL	SHLDR	SHOULDER
AADT	ANNUAL AVERAGE DAILY TRAFFIC	INL	INLET	SW	SIDEWALK
ASPH	ASPHALT DRIVEWAY	INV	INVERT	S	SOUTH
AVG	AVERAGE	JCT	JUNCTION	SPECS	SPECIFICATIONS
ADT	AVERAGE DAILY TRAFFIC	LT	LEFT	SF	SQUARE FEET
BM	BENCH MARK	LF	LINEAR FOOT	SY	SQUARE YARD
CB	CATCH BASIN	LS	LUMP SUM	STD	STANDARD
C/L	CENTERLINE	MH	MANHOLE	SDD	STANDARD DETAIL DRAWINGS
CONC	CONCRETE	ML	MATCH LINE	STH	STATE TRUNK HIGHWAYS
CO	COUNTY	N	NORTH	STA	STATION
CTH	COUNTY TRUNK HIGHWAY	Y	NORTH GRID COORDINATE	SS	STORM SEWER
CWT	HUNDREDWEIGHT	NO	NUMBER	STR	STRUCTURE OR STRUCTURAL
CY	CUBIC YARD	PAVT	PAVEMENT	TEL	TELEPHONE
DHV	DESIGN HOUR VOLUME	PERM	PERMANENT	TEMP	TEMPORARY
DIA	DIAMETER	PLE	PERMANENT LIMITED EASEMENT	TLE	TEMPORARY LIMITED EASEMENT
DWY	PRIVATE DRIVEWAY	PT	POINT	T	TON
FE	FIELD ENTRANCE	PCC	PORTLAND CEMENT CONCRETE	TYP	TYPICAL
E	EAST	PROJ	PROJECT	UG	UNDERGROUND
X	EAST GRID COORDINATE	PL	PROPERTY LINE	USH	UNITED STATES HIGHWAY
ELEC	ELECTRIC	R/L	REFERENCE LINE	W	WATER
ELEV	ELEVATION	RT	RIGHT	WM	WATER MAIN
ESALS	EQUIVALENT SINGLE AXLE LOADS	R/W	RIGHT-OF-WAY	WV	WATER VALVE
ESTR	EXISTING SIGN TO REMAIN	RD	ROAD	W	WEST
EXC	EXCAVATION	RDWY	ROADWAY	YD	YARD
EBS	EXCAVATION BELOW SUBGRADE	SEC	SECTION		
EXIST	EXISTING				
FT	FOOT				
AGG	GRAVEL DRIVEWAY				

GENERAL NOTES

1. 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.
2. NO TREES OR SHRUBS ARE TO BE REMOVED WITHOUT THE APPROVAL OF THE ENGINEER.
3. ASPHALTIC SURFACE PAVEMENT WEIGHT CALCULATIONS ARE BASED ON 112 LB/SY/IN.

EROSION CONTROL GENERAL NOTES

1. RE-TOPSOIL DISTURBED AREAS, AS DESIGNATED BY THE ENGINEER. SEED AND PLACE EROSION MAT ON TOP-SOILED AREAS, AS DESIGNATED BY THE ENGINEER, WITHIN FIVE (5) CALENDAR DAYS AFTER PLACEMENT OF TOPSOIL. IF GRADED AREAS ARE LEFT EXPOSED FOR MORE THAN (14) CALENDAR DAYS, SEED THOSE AREAS WITH TEMPORARY SEED.
2. STOCKPILE EXCESS MATERIAL OR SPOILS ON UPLAND AREAS AWAY FROM WETLANDS, FLOODPLAINS AND WATERWAYS. STOCKPILED SOIL SHALL BE PROTECTED AGAINST EROSION. IF STOCKPILED MATERIAL IS LEFT FOR MORE THAN FOURTEEN (14) CALENDAR DAYS, SEED THE STOCKPILE WITH TEMPORARY SEED.
3. QUANTITIES FOR EROSION CONTROL ITEMS HAVE BEEN INCLUDED IN THE PROJECT, BUT ARE NOT REPRESENTED ON THE PLAN. THE LOCATIONS AND TYPE OF EROSION CONTROL ITEMS WILL BE DETERMINED BY THE CONTRACTOR'S ECIP AND BY THE ENGINEER. EROSION CONTROL ITEMS SHALL BE MAINTAINED UNTIL PERMANENT VEGETATION IS ESTABLISHED OR UNTIL THE ENGINEER DETERMINES THAT THE ITEM IS NO LONGER REQUIRED.

ORDER OF SECTION 2 SHEETS

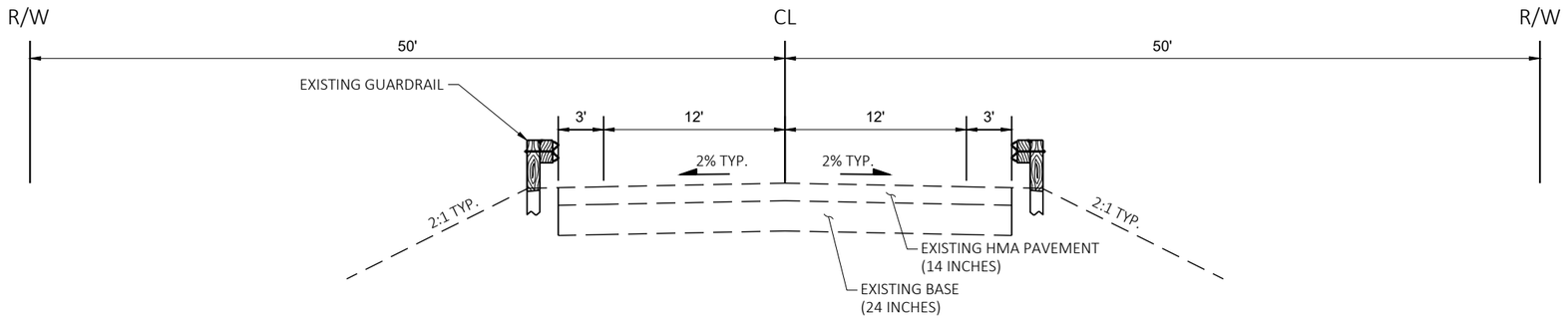
PROJECT NO: 8220-03-73	HWY: STH 64	COUNTY: TAYLOR	PROJECT OVERVIEW	SHEET 3	E

FILE NAME : Y:\MILWAUKEE\20200S\20229.05\ENG_DOCS\82200303\SHEETSPLAN\020101-PO.DWG
LAYOUT NAME - Plan 1 IN 100 FT

PLOT DATE : 8/13/2019 2:51 PM PLOT BY : WEIGAND, BEN PLOT NAME : PLOT SCALE : 1 IN:1000 FT

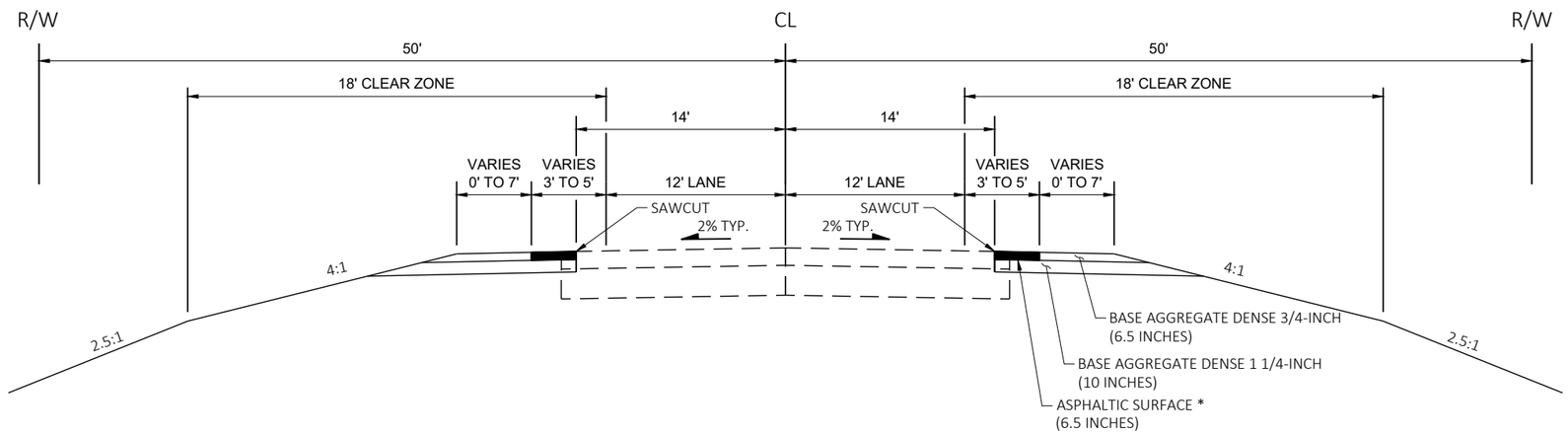
WISDOT/CADDS SHEET 42

2



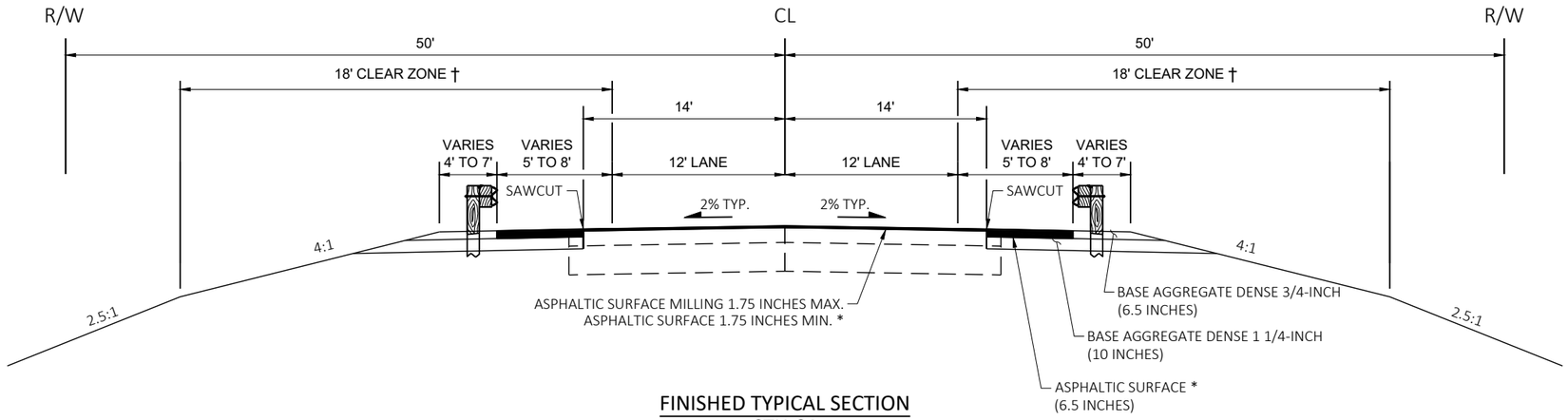
BORING LOG DATA				
BORING	LOCATION	OFFSET	ASPHALTIC PAVEMENT	BASE
B-1	104+85	14' LT	16"	26"
B-2	105+15	14' RT	14"	22"

EXISTING TYPICAL SECTION
STH 64
STA 102+37 TO 107+63



* UPPER LAYER 1.75" 4 MT 58-34 S
LOWER LAYER 2.25" 4 MT 58-34 S
LOWER LAYER 2.50" 4 MT 58-34 S

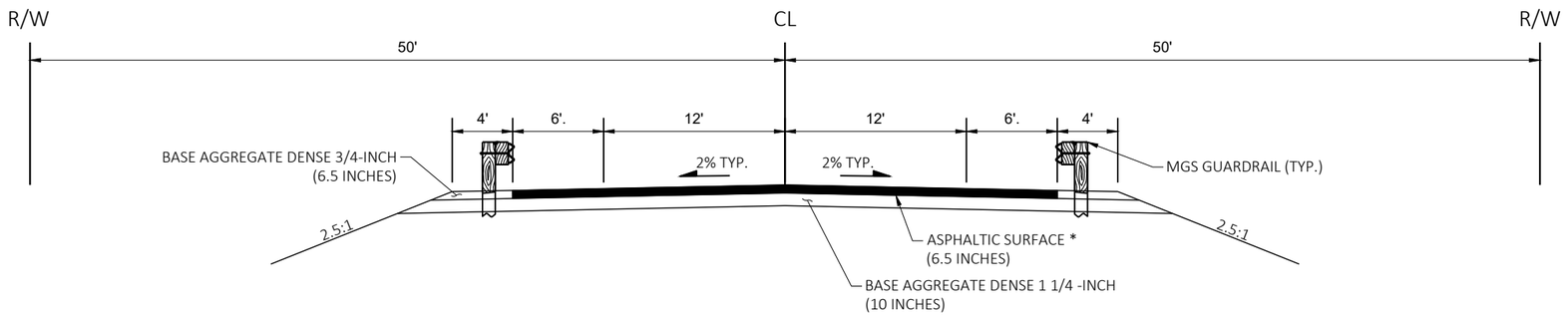
FINISHED TYPICAL SECTION
STH 64
STA 102+37 TO 103+50
STA 107+25 TO 107+63



FINISHED TYPICAL SECTION
STH 64
STA 103+50 TO 104+50
STA 105+50 TO 107+25

*	UPPER LAYER	1.75"	4 MT 58-34 S
	LOWER LAYER	2.25"	4 MT 58-34 S
	LOWER LAYER	2.50"	4 MT 58-34 S

† CLEAR ZONE WHERE NOT PROTECTED BY MGS GUARDRAIL

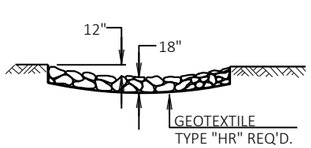


FINISHED TYPICAL SECTION
STH 64
STA 104+50 TO 104+65
STA 105+36 TO 105+50

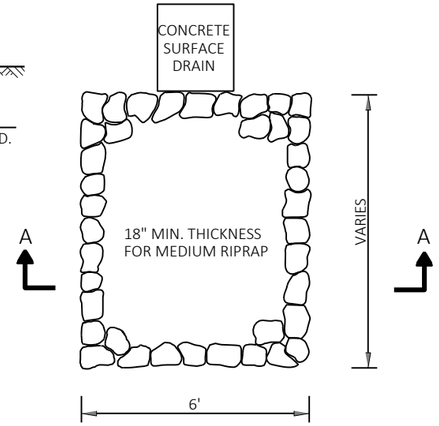
*	UPPER LAYER	1.75"	4 MT 58-34 S
	LOWER LAYER	2.25"	4 MT 58-34 S
	LOWER LAYER	2.50"	4 MT 58-34 S

PROJECT NO: 8220-03-73	HWY: STH 64	COUNTY: TAYLOR	TYPICAL SECTIONS	SHEET 5	E

FILE NAME : Y:\MILWAUKEE\20200S\20229.05\ENG_DOCS\82200303\SHEETSPLAN\020301-TS.DWG
LAYOUT NAME - 02
PLOT DATE : 10/11/2019 4:01 PM PLOT BY : WEIGAND, BEN PLOT NAME : PLOT SCALE : 1 IN:10 FT



SECTION A-A



RIPRAP MEDIUM TREATMENT DETAIL AT CONCRETE SURFACE DRAINS

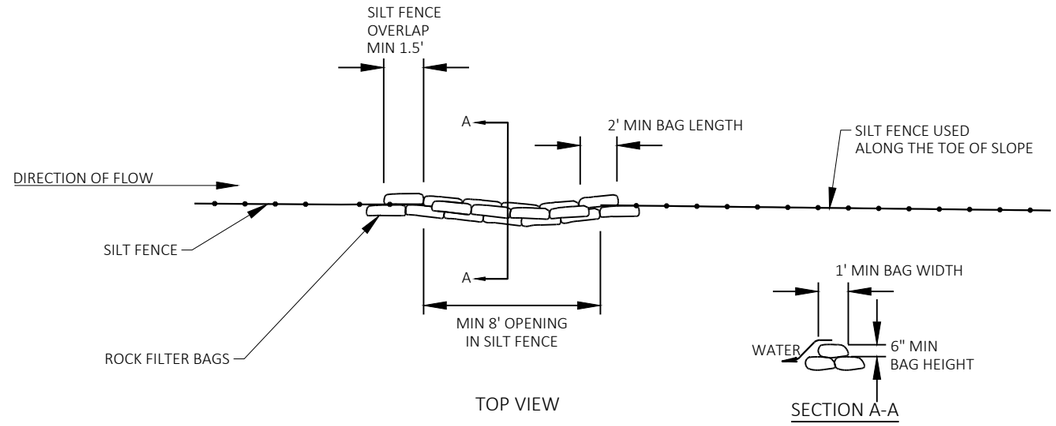
STA 104+60, LT & RT

NOTES
VERIFY PROPOSED GUARDRAIL POST LOCATIONS
PRIOR TO INSTALLING CONCRETE SURFACE DRAIN.

RUNOFF COEFFICIENT TABLE

	HYDROLOGIC SOIL GROUP											
	A			B			C			D		
	SLOPE RANCE (PERCENT)			SLOPE RANCE (PERCENT)			SLOPE RANCE (PERCENT)			SLOPE RANCE (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	0.08	0.16	0.22	0.12	0.20	0.27	0.15	0.24	0.33	0.19	0.28	0.38
	0.22	0.30	0.38	0.26	0.34	0.44	0.30	0.37	0.50	0.34	0.41	0.56
MEDIAN STRIP TURF	0.19	0.20	0.24	0.19	0.22	0.26	0.20	0.23	0.30	0.20	0.25	0.30
	0.24	0.26	0.30	0.25	0.28	0.33	0.26	0.30	0.37	0.27	0.32	0.40
SIDE SLOPE TURF			0.25			0.27			0.28			0.30
			0.32			0.34			0.36			0.38
PAVEMENT:												
ASPHALT	0.70 - 0.95											
CONCRETE	0.80 - 0.95											
BRICK	0.70 -0.80											
DRIVES, WALKS	0.75 - 0.85											
ROOFS	0.75 - 0.95											
GRAVEL ROADS, SHOULDERS	0.40 - 0.60											

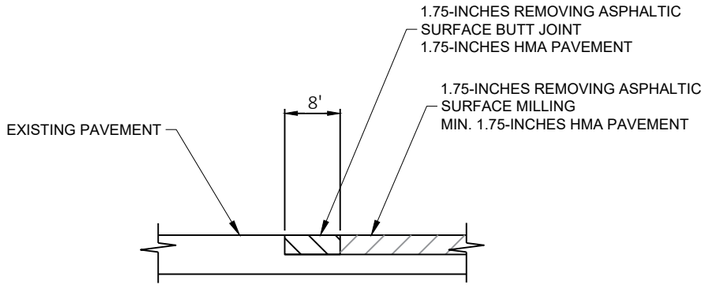
TOTAL PROJECT AREA = 0.60 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 0.38 ACRES



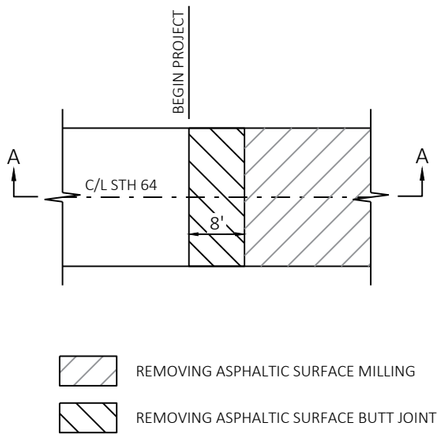
TOP VIEW

SECTION A-A

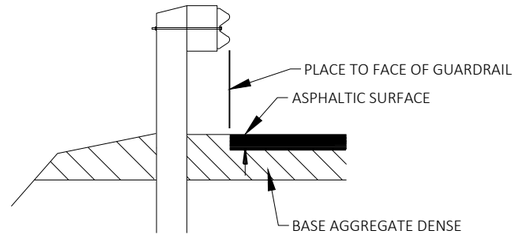
ROCK BAGS USED FOR SILT FENCE RELIEF

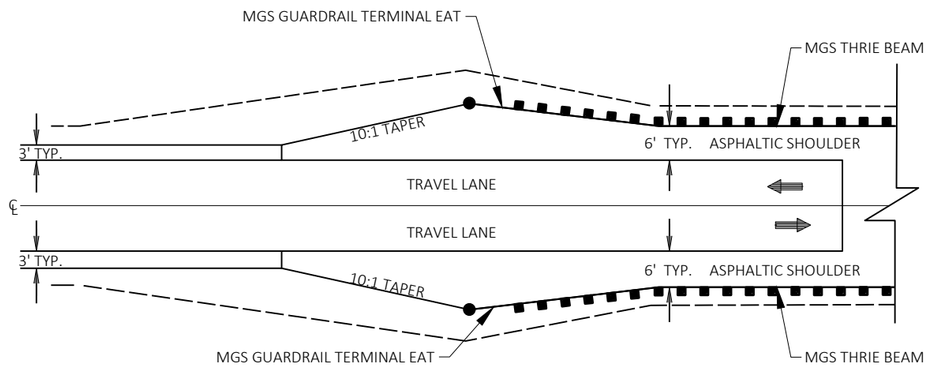


SECTION A-A



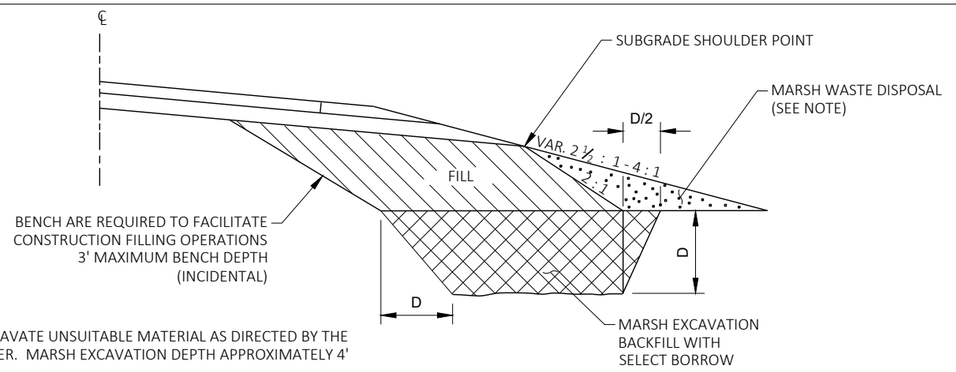
BUTT JOINT DETAIL





PAVED SHOULDER AT GUARDRAIL DETAIL

NOTES
SEE PLAN SHEETS AND SDD "MIDWEST GUARDRAIL SYSTEM (MGS) EAT" FOR ADDITIONAL INFORMATION.



D = EXCAVATE UNSUITABLE MATERIAL AS DIRECTED BY THE ENGINEER. MARSH EXCAVATION DEPTH APPROXIMATELY 4'

MARSH EXCAVATION MAY BE WASTED OUTSIDE OF THE 2:1 SLOPE OF THE EMBANKMENT OR REMOVED. NO ADDITIONAL IMPACTS TO THE WETLANDS BEYOND THE SLOPE INTERCEPT WILL BE ALLOWED WITHOUT PRIOR APPROVAL.

TYPICAL MARSH EXCAVATION FOR RECONSTRUCTION

2

2

N

RIPRAP MEDIUM

CONCRETE SURFACE DRAIN

HAY CREEK

EXISTING ABUTMENTS USED AS COFFERDAM DURING CONSTRUCTION

R/W

50'

STH 64

102 103 104 105 106 107 108

C/L STH 64

1215 FT

1220 FT

SI

HO

BEGIN PROJECT
STA 102+37.38

CONCRETE SURFACE DRAIN

RIPRAP MEDIUM

RIPRAP HEAVY
SEE STRUCTURE PLANS

END PROJECT
STA 107+63.08

LEGEND

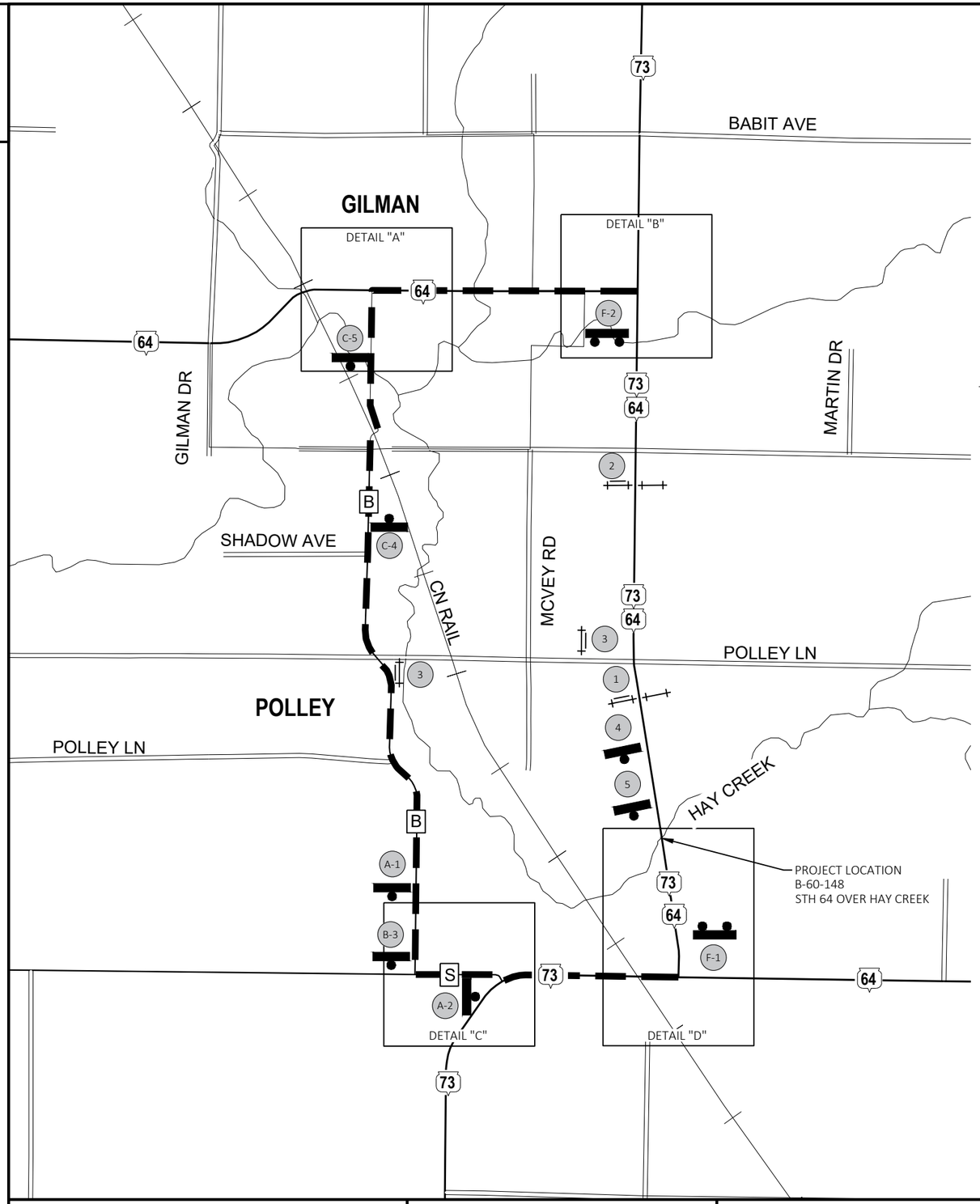
- WETLAND BOUNDARY
- WETLAND IMPACT
- RIPRAP BOUNDARY
- SILT FENCE RELIEF
- TEMPORARY DITCH CHECK
- SILT FENCE
- SALVAGED TOPSOIL, SEEDING MIXTURE NO. 20, & EROSION CONTROL MAT URBAN CLASS I TYPE B

PROJECT NO: 8220-03-73	HWY: STH 64	COUNTY: TAYLOR	EROSION CONTROL PLAN	SHEET 8	E

FILE NAME : Y:\MILWAUKEE\20200S\20229.05\ENG_DOCS\82200303\SHEETSPLAN\022001_EC.DWG
LAYOUT NAME - 022001_ec

PLOT DATE : 10/22/2019 4:00 PM PLOT BY : WEIGAND, BEN PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42



N

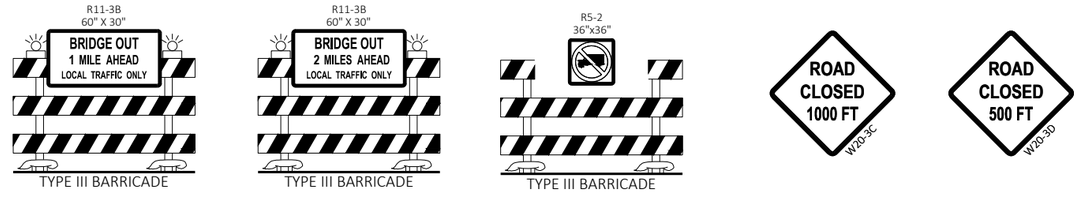
PERMANENT SIGNING:

REPLACE EXISTING SIGNS WITH LARGER SIGNS SHOWN BELOW.

W3-1
48"X48"
A-1
A-2

R1-1
48"X48"
B-3

W1-3R
48"X48"
C-4
C-5



1 2 3 4 5

POSTED DETOUR

NOTES:

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

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.

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

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.

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

SEE STANDARD DETAIL DRAWING, "BARRICADES AND SIGNS FOR MAINLINE CLOSURES" AND "DETOUR SIGNING FOR MAINLINE CLOSURES", FOR SIGN SPACING, BARRICADE LOCATIONS AND OTHER DETAILS.

ALL SIGNS 48" X 48" UNLESS OTHERWISE NOTED.

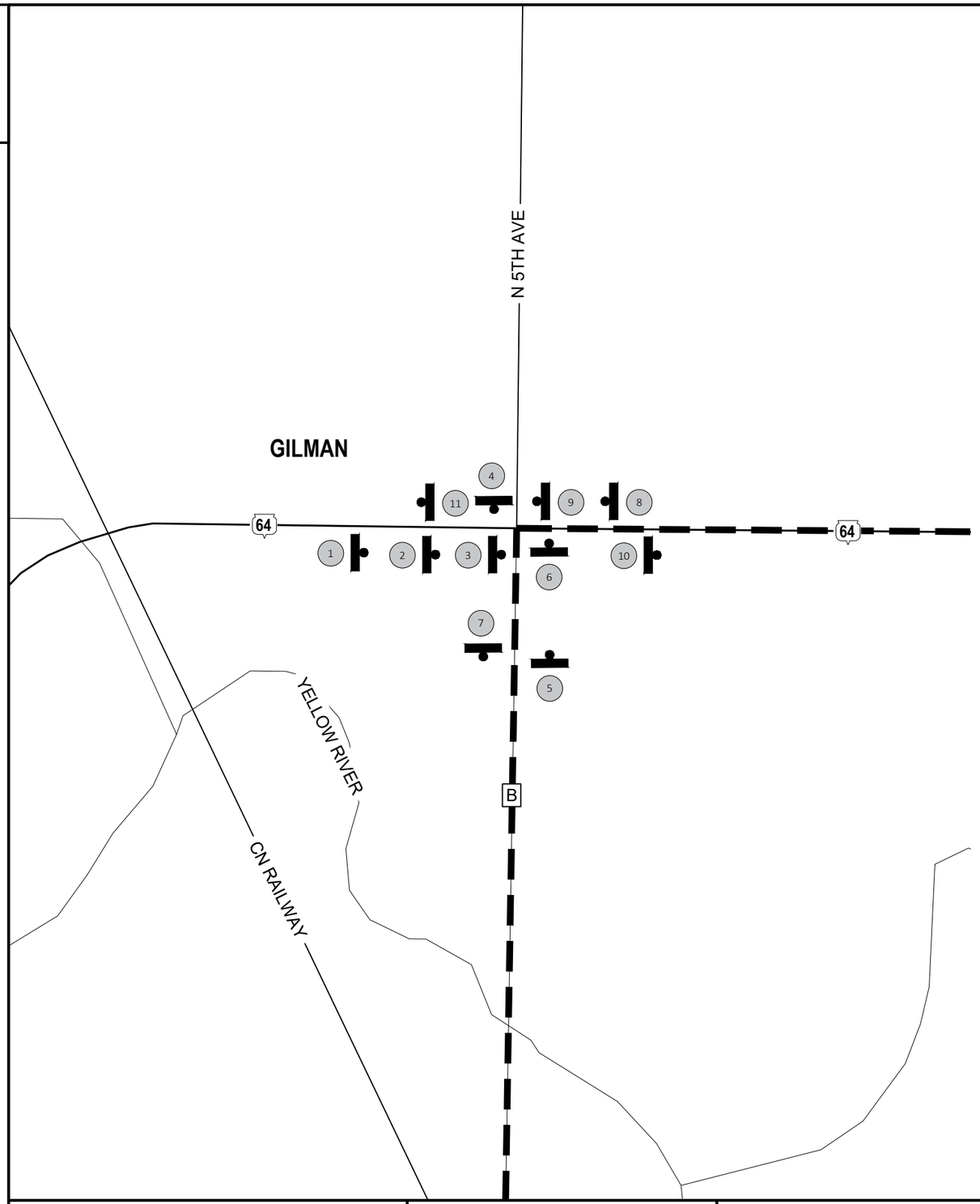
HWY 64/73
BRIDGE WORK
BEGINS XXX-XX

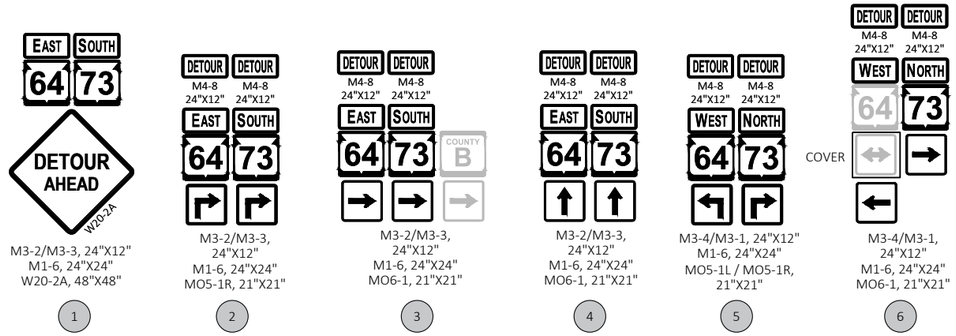
G20-57B
76"x36"

F-1 F-2

2

PROJECT NO: 8220-03-73	HWY: STH 64	COUNTY: TAYLOR	DETOUR PLAN - OVERVIEW	SHEET 9	E





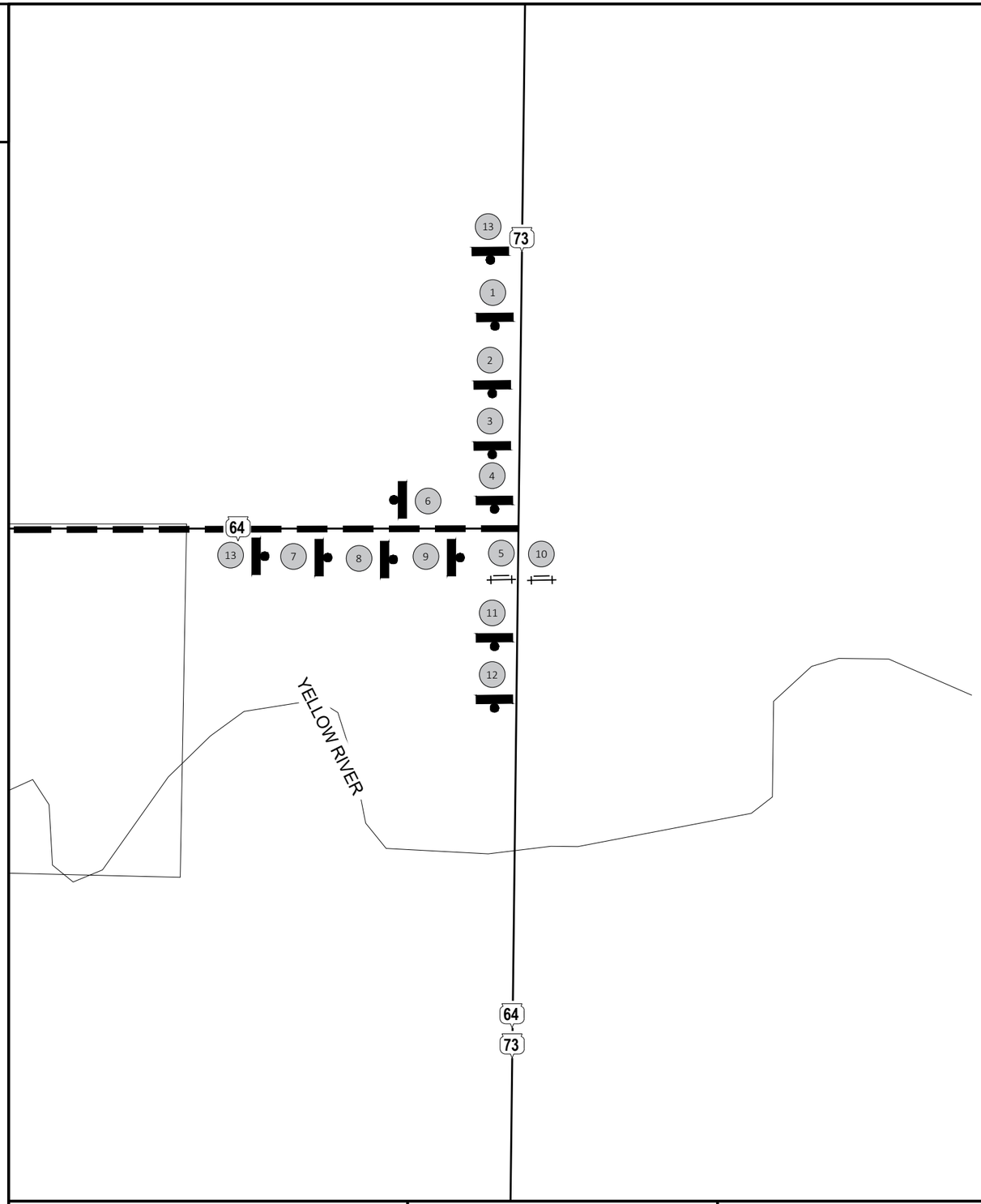
POSTED DETOUR

NOTES:

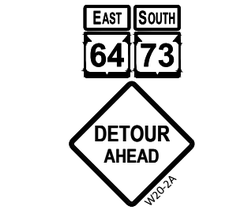
SEE DETOUR PLAN - OVERVIEW FOR ADDITIONAL INFORMATION

PROJECT NO: 8220-03-73	HWY: STH 64	COUNTY: TAYLOR	DETOUR PLAN - DETAIL "A'	SHEET 10	E

FILE NAME : Y:\MILWAUKEE\20200S\20229.05\ENG_DOCS\82200303\SHEETSPLAN\027001_DT.DWG
LAYOUT NAME - 027002_dt
PLOT DATE : 10/11/2019 4:01 PM PLOT BY : WEIGAND, BEN PLOT NAME : PLOT SCALE : Custom
WISDOT/CADDS SHEET 42

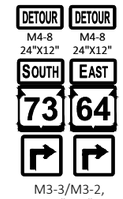


N



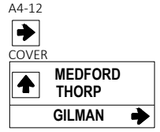
M3-2/M3-3, 24"X12"
M1-6, 24"X24"
W20-2A, 48"X48"

1

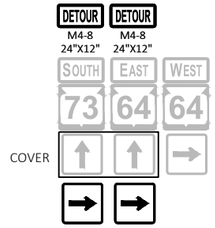


M3-3/M3-2,
24"X12"
M1-6, 24"X24"
MO5-1R, 21"X21"

2



3



MO6-1, 21"X21"

4

TYPE III BARRICADE

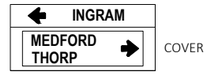
5

M3-2/M3-3,
24"X12"
M1-6, 24"X24"

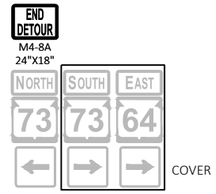
6

M3-1, 24"X12"
M1-6, 24"X24"
MO5-1L, 21"X21"

7

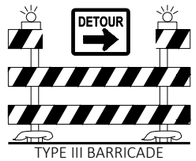


8



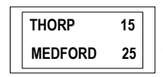
9

M4-9R, 30"X24"

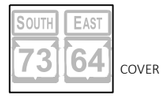


TYPE III BARRICADE

10



11



12

13

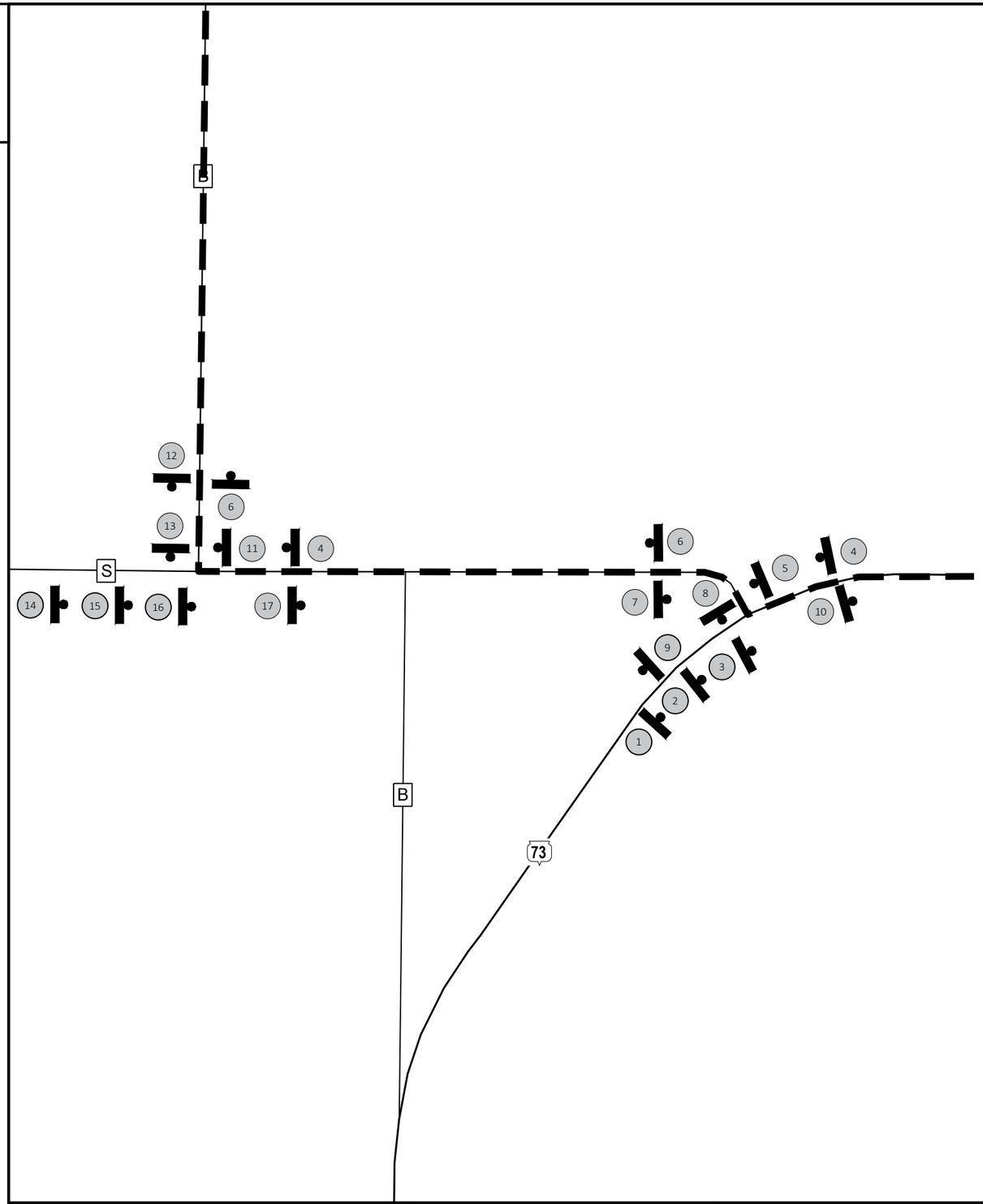
POSTED DETOUR

NOTES:

SEE DETOUR PLAN - OVERVIEW FOR ADDITIONAL INFORMATION

PROJECT NO: 8220-03-73	HWY: STH 64	COUNTY: TAYLOR	DETOUR PLAN - DETAIL "B'	SHEET 11	E

FILE NAME : Y:\MILWAUKEE\20200S\20229.05\ENG_DOCS\82200303\SHEETSPLAN\027001_DT.DWG
LAYOUT NAME - 027003_dt
PLOT DATE : 10/11/2019 4:01 PM PLOT BY : WEIGAND, BEN PLOT NAME : PLOT SCALE : Custom
WISDOT/CADDS SHEET 42

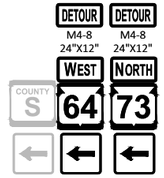


M3-4/M3-1, 24"X12"
M1-6, 24"X24"
W20-2A, 48"X48"

1

M3-4/M3-1,
24"X12"
M1-6, 24"X24"
MO5-1L, 21"X21"

2

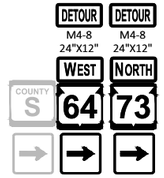


M3-4/M3-1,
24"X12"
M1-6, 24"X24"
MO6-1, 21"X21"

3

M3-4/M3-1,
24"X12"
M1-6, 24"X24"
MO5-1R, 21"X21"

4



M3-4/M3-1,
24"X12"
M1-6, 24"X24"
MO6-1, 21"X21"

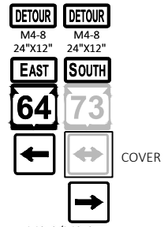
5

M3-4/M3-1,
24"X12"
M1-6, 24"X24"

6

M3-2/M3-3,
24"X12"
M1-6, 24"X24"
MO5-1L/MO5-1R,
21"X21"

7



M3-2/M3-3,
24"X12"
M1-6, 24"X24"
MO6-1, 21"X21"

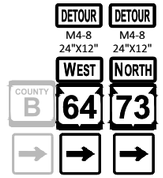
8

M3-3, 24"X12"
M1-6, 24"X24"

9

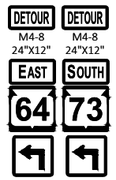
M3-3, 24"X12"
M1-6, 24"X24"

10



M3-4/M3-1,
24"X12"
M1-6, 24"X24"
MO6-1, 21"X21"

11



M3-2/M3-3,
24"X12"
M1-6, 24"X24"
MO5-1L, 21"X21"

12

M3-2/M3-3,
24"X12"
M1-6, 24"X24"
MO6-1, 21"X21"

13

M3-1, 24"X12"
M1-6, 24"X24"
W20-2A, 48"X48"

14

M3-1, 24"X12"
M1-6, 24"X24"
MO5-1L, 21"X21"

15

M3-1, 24"X12"
M1-6, 24"X24"
MO6-1, 21"X21"

16

M3-2/M3-3,
24"X12"
M1-6, 24"X24"

17

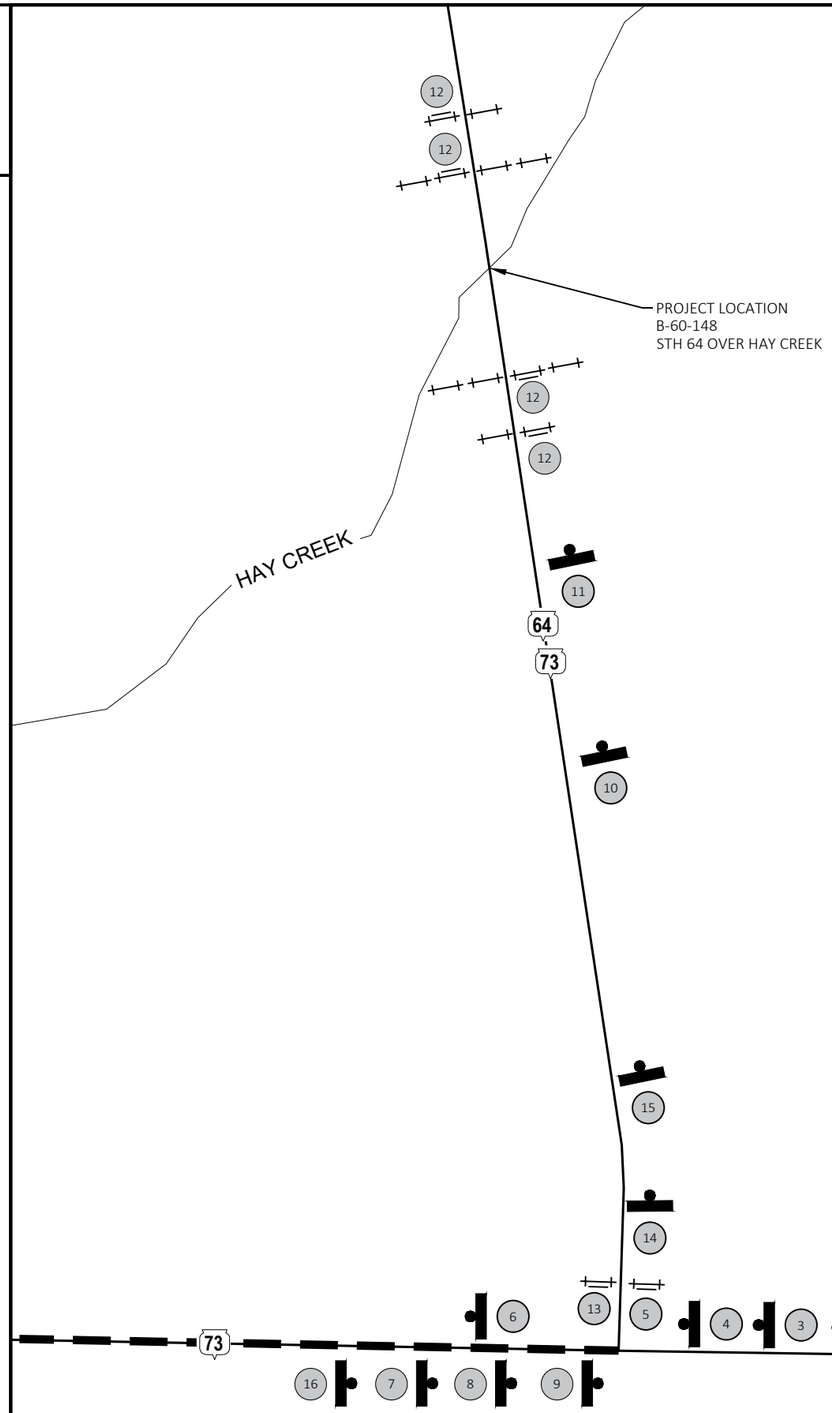
POSTED DETOUR

NOTES:

SEE DETOUR PLAN - OVERVIEW FOR ADDITIONAL INFORMATION

PROJECT NO: 8220-03-73	HWY: STH 64	COUNTY: TAYLOR	DETOUR PLAN - DETAIL "C'	SHEET 12	E

FILE NAME : Y:\MILWAUKEE\20200S\20229.05\ENG_DOCS\82200303\SHEETSPLAN\027001_DT.DWG
LAYOUT NAME - 027004_dt
PLOT DATE : 10/11/2019 4:01 PM
PLOT BY : WEIGAND, BEN
PLOT NAME :
PLOT SCALE : Custom
WISDOT/CADDS SHEET 42



M3-4/M3-1, 24"X12"
M1-6, 24"X24"
W20-2A, 48"X48"

1

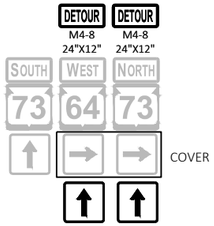
M3-4/M3-1,
24"X12"
M1-6, 24"X24"
MO6-1, 21"X21"

2

COVER

A4-12

3



COVER

MO6-1, 21"X21"

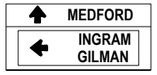
4

TYPE III BARRICADE

5

M3-4/M3-1,
24"X12"
M1-6, 24"X24"

6

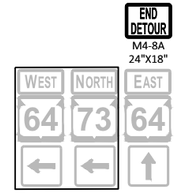


COVER

7

COVER

8



COVER

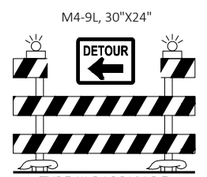
9

10

11

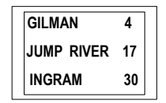
TYPE III BARRICADE

12



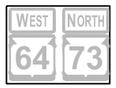
TYPE III BARRICADE

13



COVER

14



COVER

15

16

POSTED DETOUR

NOTES:

SEE DETOUR PLAN - OVERVIEW FOR ADDITIONAL INFORMATION

PROJECT NO: 8220-03-73	HWY: STH 64	COUNTY: TAYLOR	DETOUR PLAN - DETAIL "D'	SHEET 13	E

FILE NAME : Y:\MILWAUKEE\20200S\20229.05\ENG_DOCS\82200303\SHEETSPLAN\027001_DT.DWG
LAYOUT NAME - 027005_dt
PLOT DATE : 10/11/2019 4:01 PM PLOT BY : WEIGAND, BEN PLOT NAME : PLOT SCALE : Custom
WISDOT/CADDS SHEET 42

8220-03-73

Line	Item	Item Description	Unit	Total	Qty
0002	203.0600.S	Removing Old Structure Over Waterway With Minimal Debris (station) 01. 104+90	LS	1.000	1.000
0004	204.0115	Removing Asphaltic Surface Butt Joints	SY	50.000	50.000
0006	204.0120	Removing Asphaltic Surface Milling	SY	807.000	807.000
0008	204.0165	Removing Guardrail	LF	550.000	550.000
0010	205.0100	Excavation Common	CY	323.000	323.000
0012	205.0400	Excavation Marsh	CY	734.000	734.000
0014	206.1000	Excavation for Structures Bridges (structure) 01. B-60-0148	LS	1.000	1.000
0016	208.0100	Borrow	CY	1,268.000	1,268.000
0018	208.1100	Select Borrow	CY	1,101.000	1,101.000
0020	210.1500	Backfill Structure Type A	TON	430.000	430.000
0022	211.0400	Prepare Foundation for Asphaltic Shoulders	STA	9.000	9.000
0024	213.0100	Finishing Roadway (project) 01. 8220-03-73	EACH	1.000	1.000
0026	305.0110	Base Aggregate Dense 3/4-Inch	TON	190.000	190.000
0028	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	505.000	505.000
0030	415.0070	Concrete Pavement 7-Inch	SY	40.000	40.000
0032	415.0410	Concrete Pavement Approach Slab	SY	80.000	80.000
0034	416.1010	Concrete Surface Drains	CY	6.000	6.000
0036	455.0605	Tack Coat	GAL	22.000	22.000
0038	465.0105	Asphaltic Surface	TON	217.000	217.000
0040	501.1000.S	Ice Hot Weather Concreting	LB	1,815.000	1,815.000
0042	502.0100	Concrete Masonry Bridges	CY	242.000	242.000
0044	502.3200	Protective Surface Treatment	SY	170.000	170.000
0046	502.3210	Pigmented Surface Sealer	SY	77.000	77.000
0048	505.0400	Bar Steel Reinforcement HS Structures	LB	5,894.000	5,894.000
0050	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	57,194.000	57,194.000
0052	516.0500	Rubberized Membrane Waterproofing	SY	22.000	22.000
0054	550.1120	Piling Steel HP 12-Inch X 53 Lb	LF	560.000	560.000
0056	606.0200	Riprap Medium	CY	10.000	10.000
0058	606.0300	Riprap Heavy	CY	145.000	145.000
0060	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	182.000	182.000
0062	614.0150	Anchor Assemblies for Steel Plate Beam Guard	EACH	4.000	4.000
0064	614.2500	MGS Thrie Beam Transition	LF	158.000	158.000
0066	614.2610	MGS Guardrail Terminal EAT	EACH	4.000	4.000
0068	618.0100	Maintenance And Repair of Haul Roads (project) 01. 8220-03-73	EACH	1.000	1.000
0070	619.1000	Mobilization	EACH	1.000	1.000
0072	624.0100	Water	MGAL	15.000	15.000
0074	625.0500	Salvaged Topsoil	SY	1,610.000	1,610.000

8220-03-73

Line	Item	Item Description	Unit	Total	Qty
0076	628.1104	Erosion Bales	EACH	60.000	60.000
0078	628.1504	Silt Fence	LF	965.000	965.000
0080	628.1520	Silt Fence Maintenance	LF	965.000	965.000
0082	628.1905	Mobilizations Erosion Control	EACH	5.000	5.000
0084	628.1910	Mobilizations Emergency Erosion Control	EACH	4.000	4.000
0086	628.2008	Erosion Mat Urban Class I Type B	SY	1,610.000	1,610.000
0088	628.7504	Temporary Ditch Checks	LF	40.000	40.000
0090	628.7570	Rock Bags	EACH	150.000	150.000
0092	630.0120	Seeding Mixture No. 20	LB	44.000	44.000
0094	630.0200	Seeding Temporary	LB	5.000	5.000
0096	634.0616	Posts Wood 4x6-Inch X 16-FT	EACH	5.000	5.000
0098	637.2210	Signs Type II Reflective H	SF	13.250	13.250
0100	637.2230	Signs Type II Reflective F	SF	64.000	64.000
0102	638.2602	Removing Signs Type II	EACH	5.000	5.000
0104	638.3000	Removing Small Sign Supports	EACH	5.000	5.000
0106	642.5001	Field Office Type B	EACH	1.000	1.000
0108	643.0420	Traffic Control Barricades Type III	DAY	2,800.000	2,800.000
0110	643.0705	Traffic Control Warning Lights Type A	DAY	4,400.000	4,400.000
0112	643.0900	Traffic Control Signs	DAY	31,214.000	31,214.000
0114	643.0920	Traffic Control Covering Signs Type II	EACH	17.000	17.000
0116	643.5000	Traffic Control	EACH	1.000	1.000
0118	645.0111	Geotextile Type DF Schedule A	SY	110.000	110.000
0120	645.0120	Geotextile Type HR	SY	250.000	250.000
0122	646.1020	Marking Line Epoxy 4-Inch	LF	979.000	979.000
0124	650.4500	Construction Staking Subgrade	LF	485.000	485.000
0126	650.5000	Construction Staking Base	LF	485.000	485.000
0128	650.6500	Construction Staking Structure Layout (structure) 01. B-60-0148	LS	1.000	1.000
0130	650.7000	Construction Staking Concrete Pavement	LF	30.000	30.000
0132	650.9910	Construction Staking Supplemental Control (project) 01. 8220-03-73	LS	1.000	1.000
0134	650.9920	Construction Staking Slope Stakes	LF	970.000	970.000
0136	690.0150	Sawing Asphalt	LF	818.000	818.000
0138	715.0415	Incentive Strength Concrete Pavement	DOL	500.000	500.000
0140	715.0502	Incentive Strength Concrete Structures	DOL	1,272.000	1,272.000
0142	ASP.1T0A	On-the-Job Training Apprentice at $5.00/HR	HRS	300.000	300.000
0144	ASP.1T0G	On-the-Job Training Graduate at $5.00/HR	HRS	600.000	600.000

Division	From/To Station	Location	205.0100 Common Excavation (1)		Salvaged/ Unusable Pavement Material (4)	Available Material (5)	205.0400 Marsh Excavation (6)	Reduced Marsh in Fill (7)	Reduced EBS in Fill (8)	Expanded Marsh Backfill (9)	Expanded EBS Backfill (10)	Unexpanded Fill	Expanded Fill (11)	Mass Ordinate +/- (12)	Waste	208.0100 Borrow	Comment:
			Cut (2)	EBS Excavation (3)				Factor 0.60	Factor 0.80	Factor 1.50	Factor 1.30		Factor 1.25				
Division 1																	
Ali-STH 64	102+40/107+60		323	0	120	203	734	440	0	1,101	0	1,177	1,471	-1,268	0	1,268	
Division 1 Subtotal			323	0	120	203	734	440	0	1,101	0	1,177	1,471	-1,268	0	1,268	
Grand Total			323	0	120	203	734	440	0	1,101	0	1,177	1,471	-1,268	0	1,268	
Total Common Exc			323														

Notes:

(1) Common Excavation is the sum of the Cut and EBS Excavation columns. Item number 205.0100

(2) Salvaged/Unsuable Pavement Material is included in Cut.

(3) EBS Excavation to be backfilled with Select Borrow material.

(4) Salvaged/Unusable Pavement Material

(5) Available Material = Cut - Salvaged/Unusuable Pavement Material

(6) Marsh Excavation - to be backfilled with Select Borrow Material. Material may be reused on site or removed. No wetland impacts beyond those shown on the plans will be allowed.

(7) Reduced Marsh in Fill - Excavated Marsh material is usuable in Fills outside the 2:1 slope. Marsh in Fill Reduction factor = 0.6

(8) Reduced EBS in Fill - Excavated EBS material is usuable in Fills outside the 2:1 slope. EBS in Fill Reduction factor = 0.8

(9) Expanded Marsh Backfill - This is to be filled with Select Borrow material. Marsh Backfill Factor = 1.5. Item number 208.1100

(10) Expanded EBS Backfill - This is to be filled with Select Borrow material. EBS Backfill Factor = 1.3. Item number 208.1100

(11) Expanded Fill Factor = 1.25

Depending on selections: **Expanded Fill = (Unexpanded Fill - Expanded Rock - Reduced Marsh - Reduced EBS) * Fill Factor**

Or Expanded Fill = (Unexpanded Fill - Expanded Rock - Reduced EBS) * Fill Factor

Or Expanded Fill = (Unexpanded Fill - Expanded Rock - Reduced Marsh) * Fill Factor

Or Expanded Fill = (Unexpanded Fill - Expanded Rock) * Fill Factor

(12) The Mass Ordinate + or - Qty calculated for the Division. Plus quantity indicates an excess of material within the Division. Minus indicates a shortage of material within the Division.

ALL ITEMS ON THIS PAGE ARE CATEGORY 0010

REMOVALS

LOCATION	WIDTH	204.0115 REMOVING ASPHALTIC SURFACE BUTT JOINTS (SY)	204.0120 REMOVING ASPHALTIC SURFACE MILLING (SY)	211.0400 PREPARE FOUNDATION FOR ASPHALTIC SHOULDERS (STA)
102+37 to 103+50	-	-	-	2.26
103+50 to 103+58	28	25	-	0.16
103+58 to 104+50	28	-	287	1.84
104+50 to 104+65	-	-	-	-
BRIDGE				
105+36 to 105+50	-	-	-	-
105+50 to 107+17	28	-	520	3.34
107+17 to 107+25	28	25	-	0.16
107+25 to 107+63	-	-	-	0.76
TOTALS		**50**	**807**	**9**

BASE AGGREGATE DENSE

LOCATION	305.0110 BASE AGGREGATE DENSE 3/4-INCH (TON)	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH (TON)	624.0100 WATER (MGAL)
102+37 to 103+50	47	76	2.5
103+50 to 104+65	54	153	4.2
104+65 to 104+80	-	20	0.4
BRIDGE			
105+21 to 105+36	-	20	0.4
105+36 to 107+25	80	217	6.0
107+25 to 107+63	9	19	0.6
TOTALS	**190**	**505**	**15**

CONCRETE SURFACE DRAIN

LOCATION	416.1010 CONCRETE SURFACE DRAIN (SY)	606.0200 RIPRAP MEDIUM (CY)	645.0120 GEOTEXTILE TYPE HR * (SY)
PROJECT	6	10	32
TOTALS	**6**	**10**	**32**

* ADDITIONAL QUANTIIES IN STRUCTURAL PLAN

PAVEMENT

LOCATION	415.0070 CONCRETE PAVEMENT 7-INCH (SY)	415.0410 CONCRETE PAVEMENT APPROACH SLAB (SY)	455.0605 TACK COAT (GAL)	465.0105 ASPHALTIC SURFACE (TON)
102+37 to 103+40	-	-	1	3
103+40 to 104+65	-	-	9	43
104+65 to 104+80	20	40	-	-
BRIDGE				
105+21 to 105+36	20	40	-	-
105+36 to 107+25	-	-	12	57
107+25 to 107+63	-	-	1	3.0
TOTALS	**40**	**80**	**22**	**217**

MGS GUARDRAIL

LOCATION				204.0165 REMOVING GUARDRAIL (LF)	614.2500 MGS THRIE BEAM TRANSITION (LF)	614.2610 MGS GUARDRAIL TERMINAL EAT (EACH)
103+72	to	104+22	LT	80	-	1
103+72	to	104+22	RT	30	-	1
104+22	to	BRIDGE	LT	78	39.5	-
104+22	to	BRIDGE	RT	78	39.5	-
BRIDGE	to	105+79	LT	78	39.5	-
BRIDGE	to	105+79	RT	78	39.5	-
105+79	to	106+29	LT	95	-	1
105+79	to	106+29	RT	33	-	1
				550	**158**	**4**

ALL ITEMS ON THIS PAGE ARE CATEGORY 0010

3

RESTORATION

LOCATION	625.0500 SALVAGED TOPSOIL (SY)	628.2008 EROSION MAT URBAN CLASS I TYPE B (SY)	630.0120 SEEDING MIXTURE NO. 20 (LB)
PROJECT	1610	1610	44
TOTALS	**1610**	**1610**	**44**

EROSION CONTROL

LOCATION	628.1104 EROSION BALES (EA)	628.1504 SILT FENCE (LF)	628.1520 SILT FENCE MAINTENANCE (LF)	628.1905 MOBILIZATIONS EROSION CONTROL (EACH)	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL (EACH)	628.7504 TEMPORARY DITCH CHECKS (LF)	628.7570 ROCK BAGS (EA)	630.0200 SEEDING TEMPORARY (LB)	COMMENTS
PROJECT	60	965	965	5	4	40	150	5	
TOTALS	**60**	**965**	**965**	**5**	**4**	**40**	**150**	**5**	

3

PERMANENT SIGNING

SIGN NO.	SIGN CODE	SIGN TYPE	SIGN MESSAGE	TYPE II SIGN SIZE W [IN.]	TYPE II SIGN SIZE H [IN.]	634.0616 POSTS WOOD 4x6-INCH x 16-FT (EA)	637.2210 SIGNS TYPE II REFLECTIVE H (SF)	637.2230 SIGNS TYPE II REFLECTIVE F (SF)	638.2602 REMOVING SIGNS TYPE II (EA)	638.3000 REMOVING SMALL SIGN SUPPORTS (EA)
A-1	W3-1	II	-	48	48	1	-	16	1	1
A-2	W3-1	II	-	48	48	1	-	16	1	1
B-3	R1-1	II	-	48	48	1	13.25	-	1	1
C-4	W1-3R	II	-	48	48	1	-	16	1	1
C-5	W1-3R	II	-	48	48	1	-	16	1	1
TOTALS						**5**	**13.25**	**64**	**5**	**5**

ALL ITEMS ON THIS PAGE ARE CATEGORY 0010

3

TRAFFIC CONTROL

STAGE	DURATION CALANDAR DAYS	#	643.0420 TC BARRICADES TYPE III (DAY)	#	643.0705 TC WARNING LIGHTS TYPE A (DAY)	#	643.0900 TC SIGNS (DAY)	643.0920 TC COVERING SIGNS TYPE II CYCLES	(EACH)
PRIOR TO CONSTRUCTION	7		-		-	*2*	14		-
DETOUR	100	*24*	2400	*36*	3600	*300*	30000	1	15
UNDISTRIBUTED	100	*4*	400	*8*	800	*12*	1200	1	2
TOTALS			**2,800**		**4,400**		**31,214**		**17**

PAVEMENT MARKING

LOCATION	x	646.1020 MARKING LINE EPOXY 4-INCH *YELLOW* (LF)	x	*WHITE* (LF)
103+40 to 107+75	*0.25*	109	*2*	870
TOTALS			**979**	

CONSTRUCTION STAKING

LOCATION	650.4500 SUBGRADE (LF)	650.5000 BASE (LF)	650.6500 STRUCTURE LAYOUT	650.7000 CONCRETE PAVEMENT (LF)	650.9910 SUPPLEMENTAL CONTROL (8220-03-73) (LS)	650.9920 SLOPE STAKES (LF)
102+37 to 103+40	103	103	-	-	-	206
103+40 to 104+65	125	125	-	-	-	250
104+65 to 104+80	15	15	-	15	-	30
BRIDGE	-	-	1	-	-	-
105+21 to 105+36	15	15	-	15	-	30
105+36 to 107+25	189	189	-	-	-	378
107+25 to 107+63	38	38	-	-	-	76
PROJECT	-	-	-	-	1	-
TOTALS	**485**	**485**	**1**	**30**	**1**	**970**

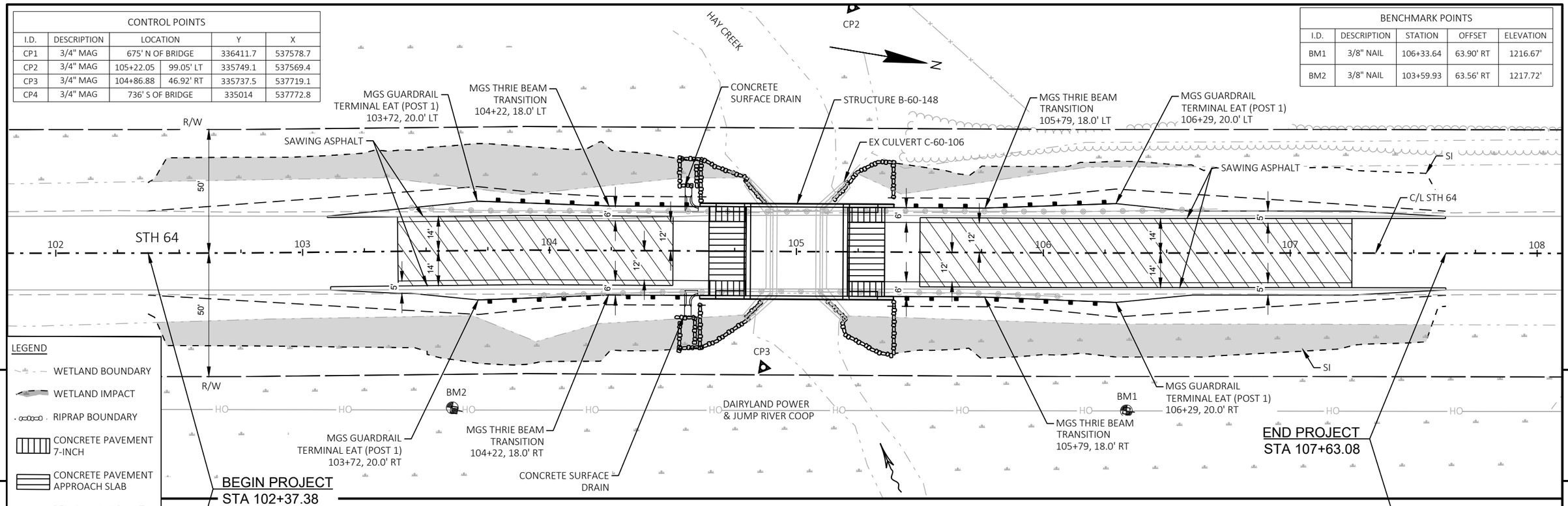
SAWING

LOCATION		690.015 SAWING ASPHALT (LF)
103+10 to 104+50	LT	140
103+10 to 104+50	RT	140
103+40		28
104+50		28
105+50		28
107+27		28
105+50 to 107+63	LT	213
105+50 to 107+63	RT	213
TOTALS		**818**

ALL ITEMS ON THIS PAGE ARE CATEGORY 0010

CONTROL POINTS					
I.D.	DESCRIPTION	LOCATION		Y	X
CP1	3/4" MAG	675' N OF BRIDGE		336411.7	537578.7
CP2	3/4" MAG	105+22.05	99.05' LT	335749.1	537569.4
CP3	3/4" MAG	104+86.88	46.92' RT	335737.5	537719.1
CP4	3/4" MAG	736' S OF BRIDGE		335014	537772.8

BENCHMARK POINTS				
I.D.	DESCRIPTION	STATION	OFFSET	ELEVATION
BM1	3/8" NAIL	106+33.64	63.90' RT	1216.67'
BM2	3/8" NAIL	103+59.93	63.56' RT	1217.72'



PROJECT NO: 8220-03-73	HWY: STH 64	COUNTY: TAYLOR	PLAN AND PROFILE	SHEET 20	E

FILE NAME : Y:\MILWAUKEE\20200S\20229.05\ENG_DOCS\82200303\SHEETSPLAN\050101-PP.DWG
LAYOUT NAME - 050101 - pp
PLOT DATE : 1/8/2020 2:19 PM
PLOT BY : WEIGAND, BEN
PLOT NAME :
PLOT SCALE : 1 IN:40 FT

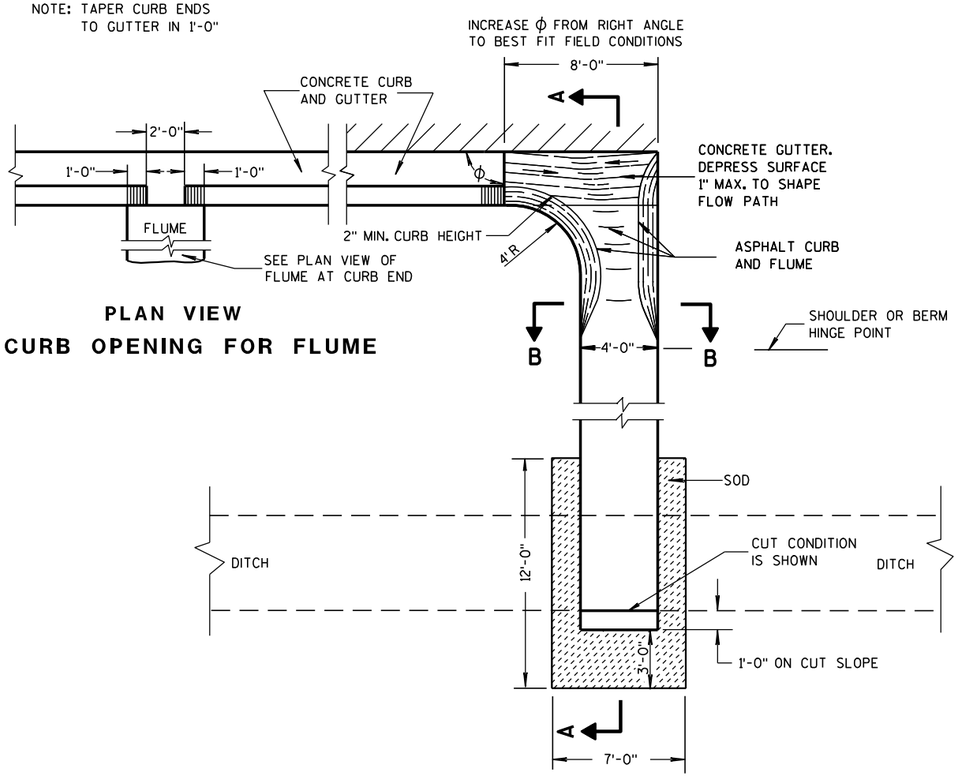
WISDOT/CADDS SHEET 44

Standard Detail Drawing List

08D04-05	CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
12A03-10	NAME PLATE (STRUCTURES)
13B02-09A	CONCRETE PAVEMENT APPROACH SLAB
13C01-19	CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES
13C19-01	HMA LONGITUDINAL JOINTS
14B42-06A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-06B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-06C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-06D	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)
15C02-07A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-07B	BARRICADES AND SIGNS FOR VARIOUS CLOSURES
15C02-07C	DETOUR SIGNING FOR MAINLINE CLOSURES
15C08-19A	LONGITUDINAL MARKING (MAINLINE)
15C11-07B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS
15D38-02A	TEMPORARY TRAFFIC CONTROL SIGN MOUNTING
15D38-02B	ATTACHMENT OF SIGNS TO POSTS

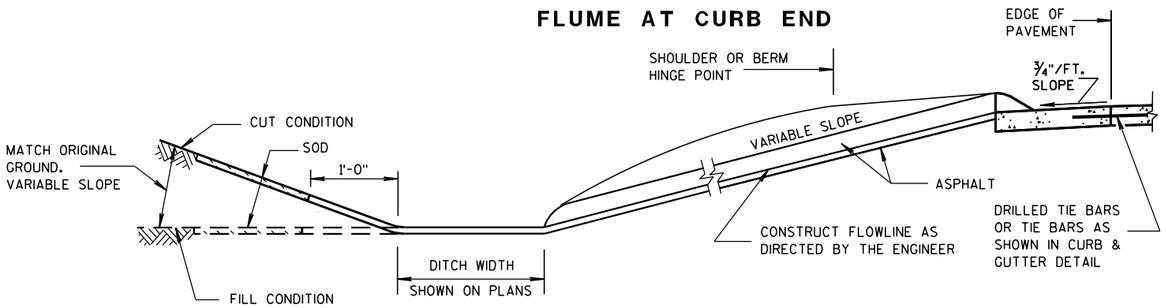
6

ASPHALTIC FLUME

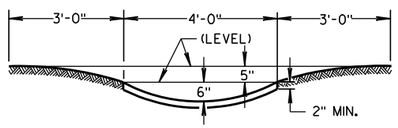


PLAN VIEW
CURB OPENING FOR FLUME

PLAN VIEW
FLUME AT CURB END



SECTION A-A



SECTION B-B

GENERAL NOTES

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

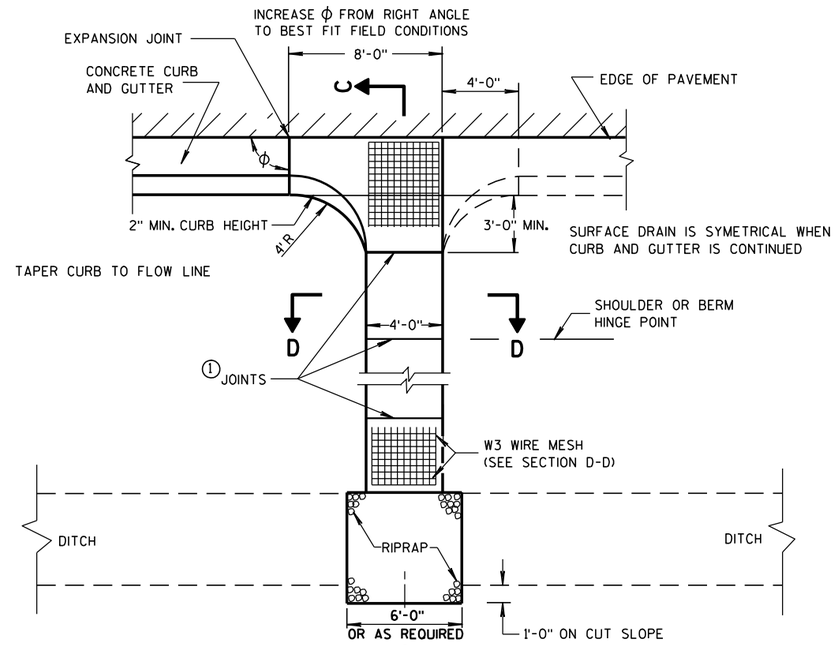
WELDED STEEL WIRE FABRIC SHALL BE IN ACCORDANCE WITH AASHTO SPECIFICATION M55.

① JOINTS SHALL BE $\frac{1}{8}$ TO $\frac{1}{4}$ INCH WIDE BY $1\frac{1}{2}$ INCHES DEEP AND SPACED AT UNIFORM INTERVALS OF APPROXIMATELY 4 FEET.

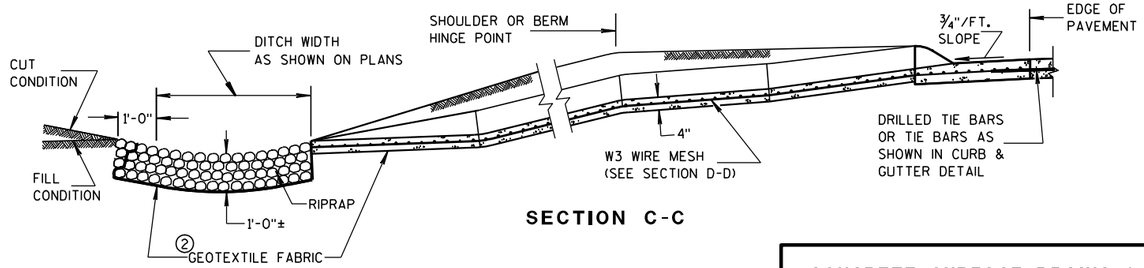
② GEOTEXTILE FABRIC TYPE "R" SHALL UNDERLAY THE FULL LENGTH AND WIDTH OF THE CONCRETE SURFACE DRAIN AND RIPRAP.

③ CONCRETE SURFACE DRAIN WITHOUT CURB AND GUTTER MAY BE USED ON BACKSLOPES WHEN SPECIFIED

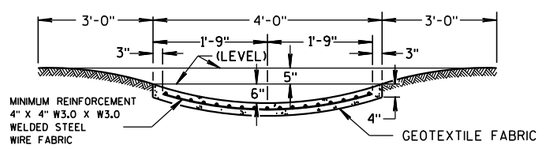
③ CONCRETE SURFACE DRAIN



PLAN VIEW



SECTION C-C



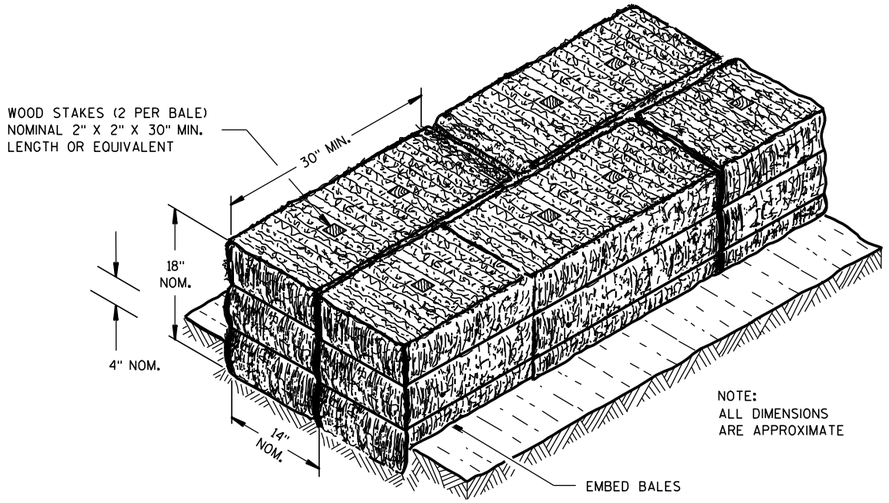
SECTION D-D

CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES

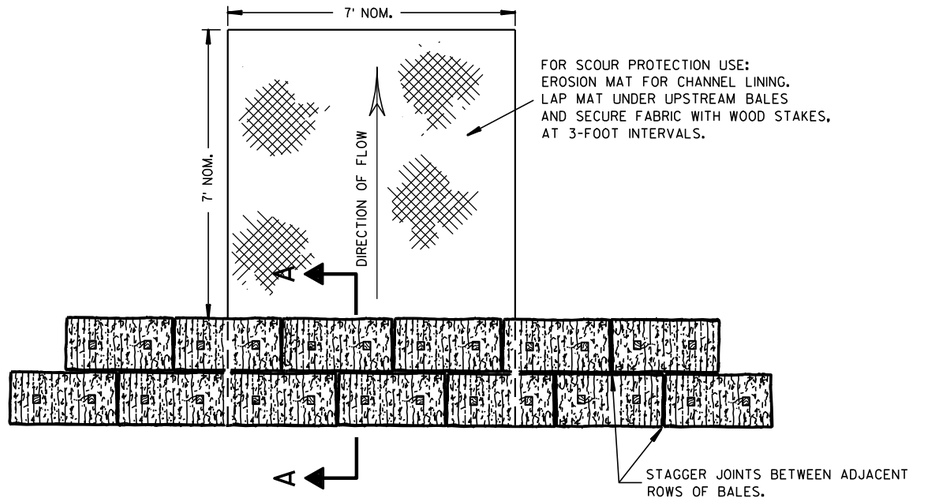
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
9-4-08 DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER
MENT
FHWA

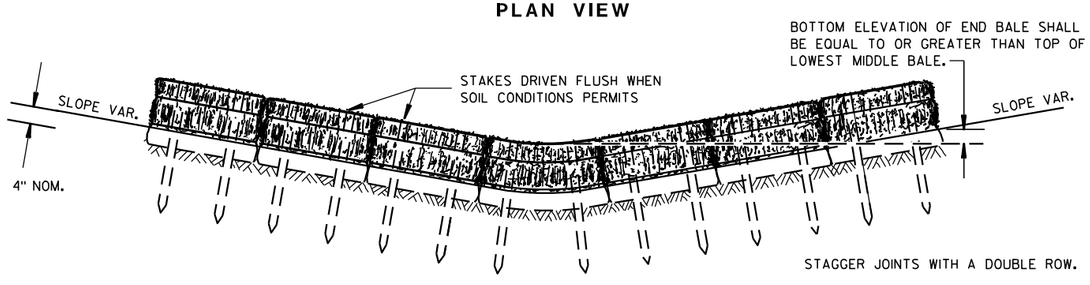
6
S.D.D. 8 D 4-5



SECTION A-A



PLAN VIEW



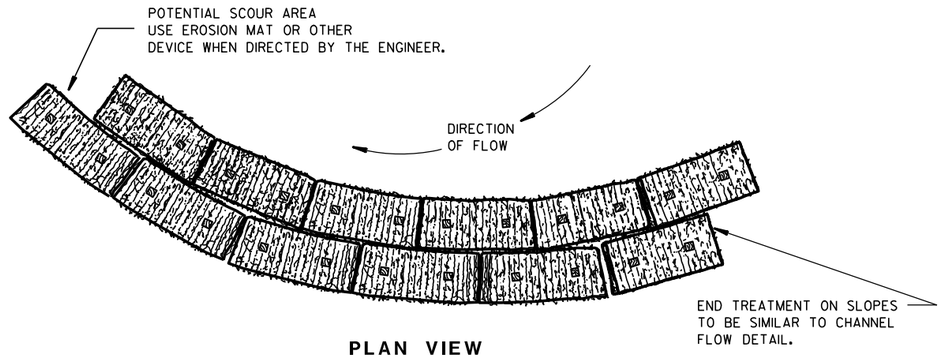
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES (1)

GENERAL NOTES

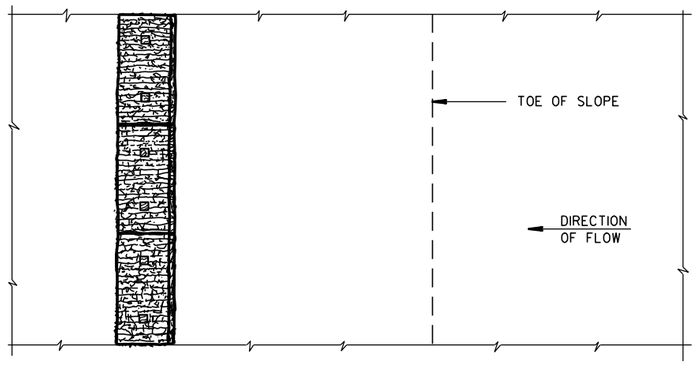
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

(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.

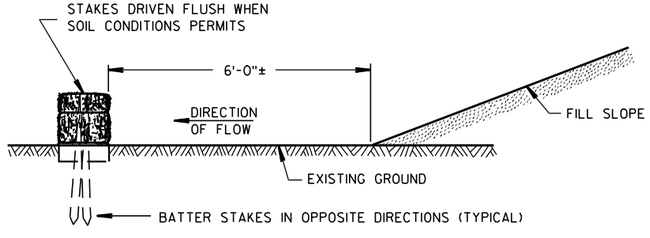


PLAN VIEW

WHEN ALTERING THE DIRECTION OF FLOW



PLAN VIEW



FRONT ELEVATION

WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

EROSION BALES FOR SHEET FLOW

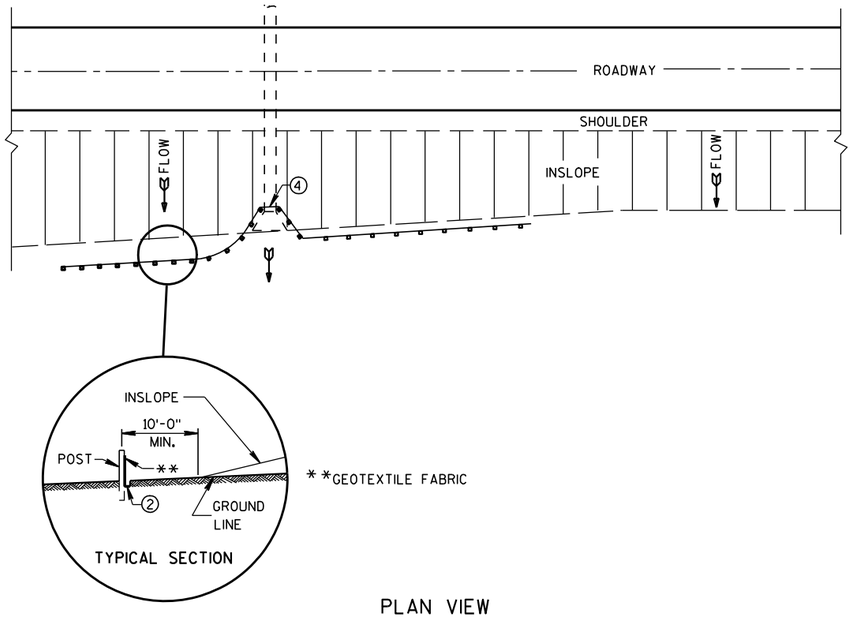
TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

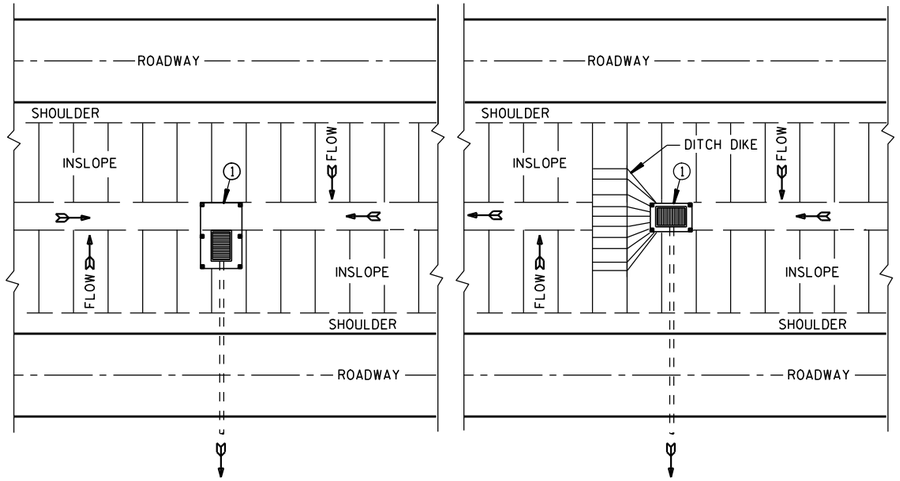
6/04/02 DATE — /S/ Beth Cannestra — CHIEF ROADWAY DEVELOPMENT ENGINEER

FHWA



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



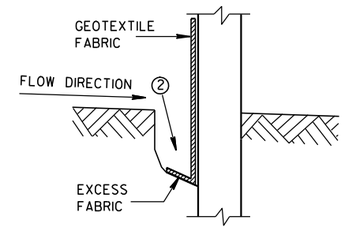
PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

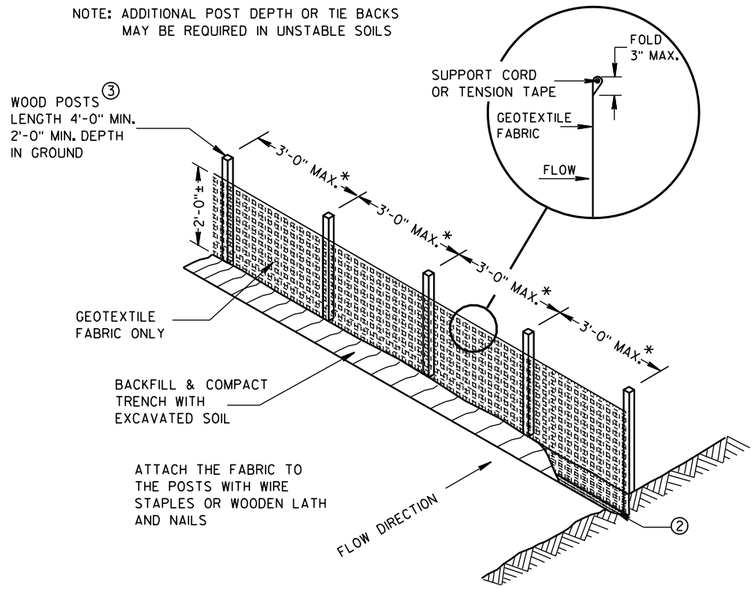
GENERAL NOTES

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.

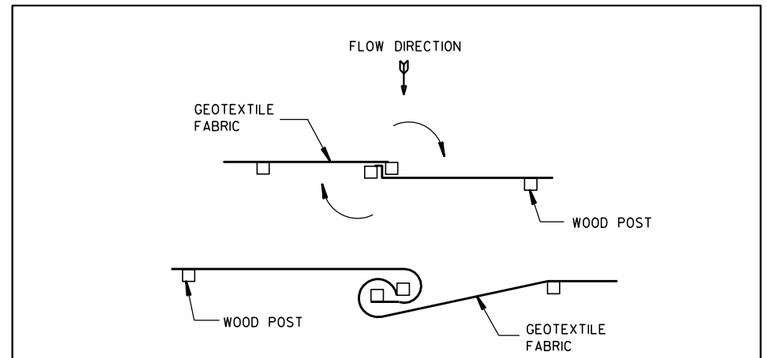


TRENCH DETAIL

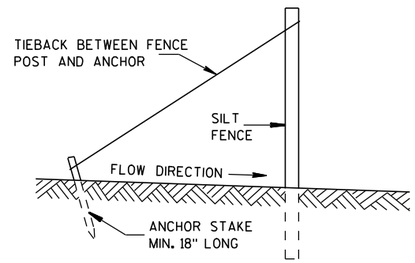


*NOTE: 8'-0" POST SPACING ALLOWED IF A WOVEN GEOTEXTILE FABRIC IS USED.

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

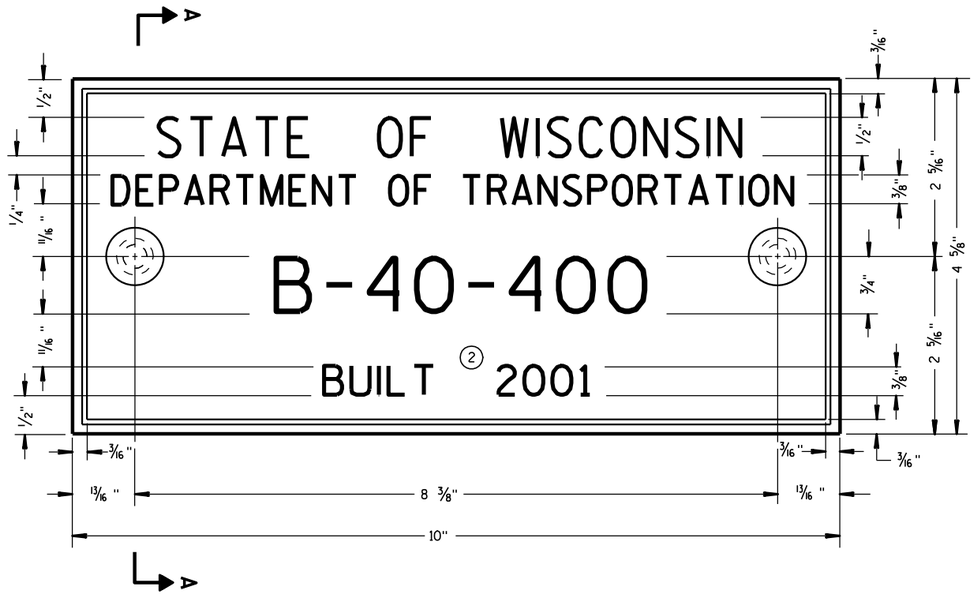
APPROVED
4-29-05 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

6

S.D.D. 8 E 9-6

6

S.D.D. 8 E 9-6



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

FOR MULTI-UNIT STRUCTURES
LINE 3 ABOVE SHALL READ

B = BRIDGE
C = CULVERT
R = RETAINING WALL

COUNTY NO.

BRIDGE NO.

UNIT NO. FOR MULTIPLE UNIT BRIDGE

B-40-400-1A

NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES

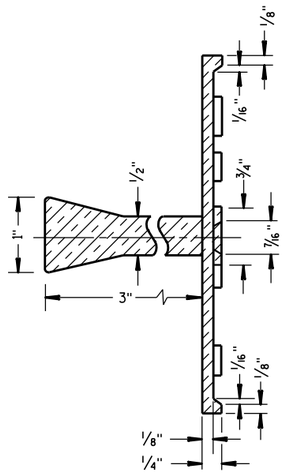
GENERAL NOTES

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

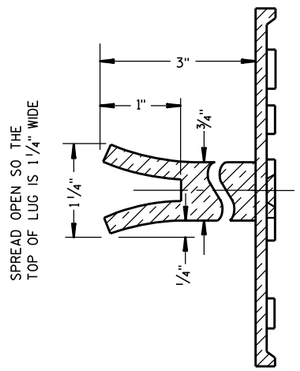
THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

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

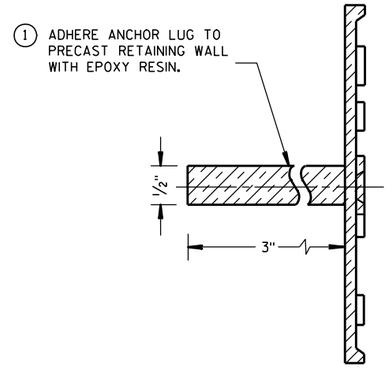
(2) REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.



SECTION A-A



ALTERNATE LUG



ALTERNATE LUG
(FOR ATTACHMENT TO PRECAST STRUCTURES)

NAME PLATE (STRUCTURES)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

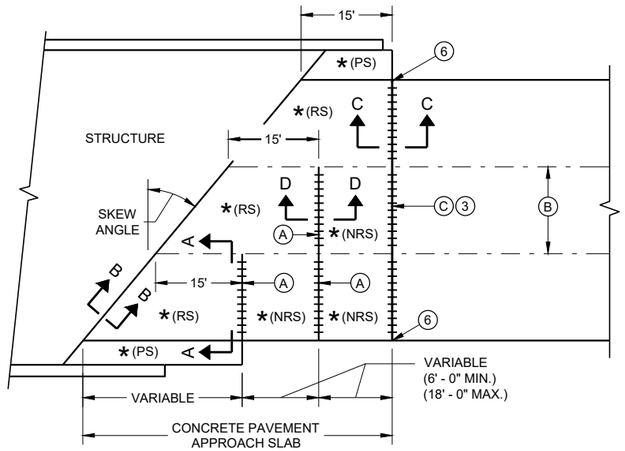
3/26/10 DATE

/S/ Scot Beck-- CHIEF STRUCTURAL DEVELOP ENGINEER

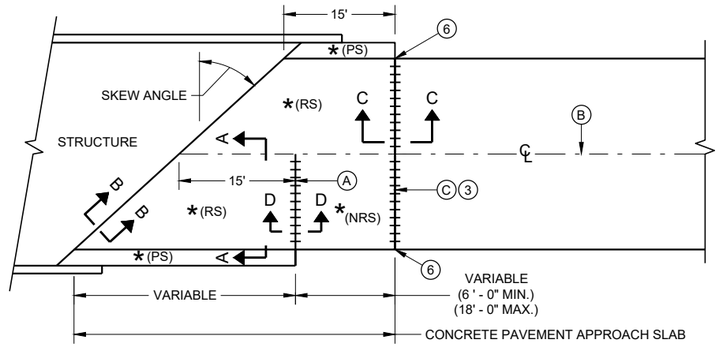
FHWA

6

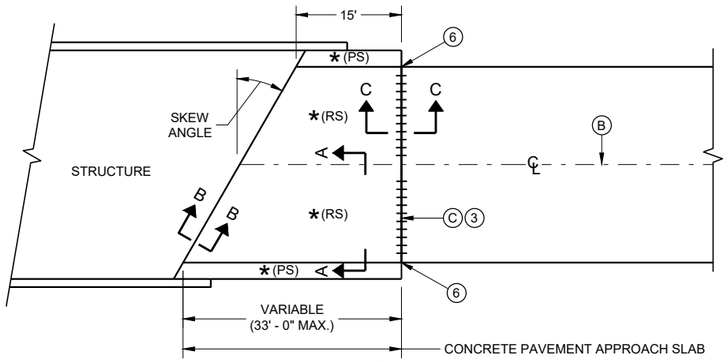
S.D.D. 12 A 3-10



SKEWED APPROACH
(PAVEMENT MORE THAN TWO LANES)



SKEWS > 20°
(PAVEMENT WIDTH ≤ 30')



SKEWS ≤ 20°
(PAVEMENT WIDTH ≤ 30')

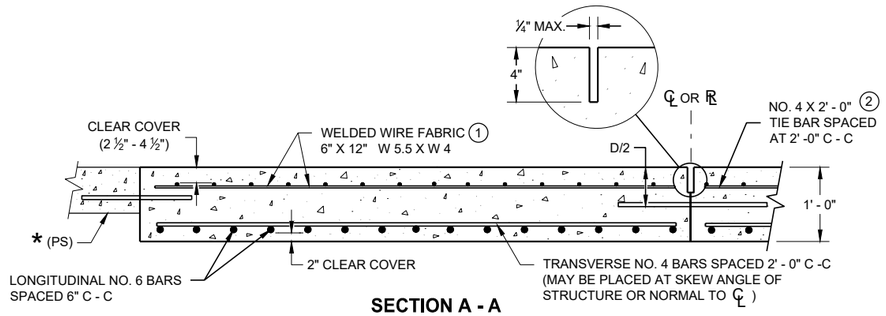
APPROACH SLAB AND ADJACENT PAVEMENT

* (RS) = REINFORCED CONCRETE SLAB

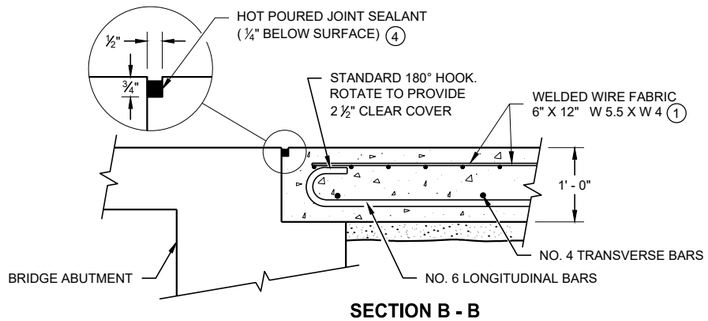
* (PS) = PAVED CONCRETE SHOULDER OR CONCRETE DRAINAGE SLAB

* (NRS) - NON - REINFORCED CONCRETE SLAB

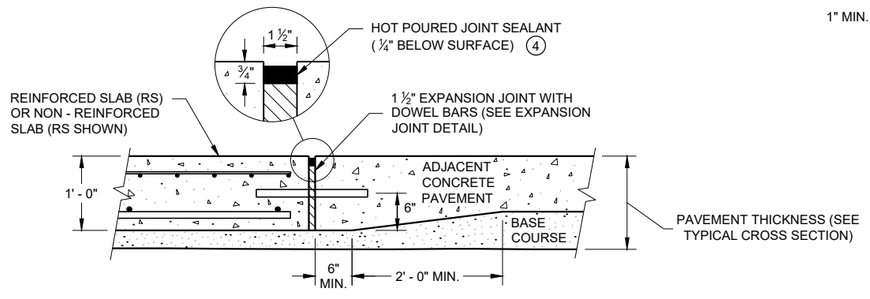
*** STANDARD DOWEL BAR DIAMETER (SEE SDD 13C11 AND SDD 13C13)



SECTION A - A
REINFORCEMENT POSITIONING DETAIL



SECTION B - B
BEND DETAIL
BOTTOM REINFORCEMENT



SECTION C - C
TRANSITION DETAIL
APPROACH SLAB TO ADJACENT PAVEMENT

GENERAL NOTES

THE CONTRACTOR MAY SPLICE NO. 6 BARS IN THE APPROACH SLAB FOR SKEWED STRUCTURES ONLY. STAGGER SPLICES WITH A MAXIMUM OF ONE SPLICE PER BAR. THE LENGTH OF LAP IS 20 INCHES.

TACK WELD DOWEL BARS TO THE BASKETS ON ALTERNATE ENDS.

(1) THE CONTRACTOR MAY USE NO. 4 BARS SPACED AT 2' - 0 " C - C IN BOTH THE LONGITUDINAL AND TRANSVERSE DIRECTIONS FOR TOP REINFORCEMENT AS AN ALTERNATIVE TO THE WELDED WIRE FABRIC.

(2) THE CONTRACTOR MAY OMIT THE BARS BETWEEN REINFORCED SLABS WHERE SLAB REINFORCEMENT BARS EXTEND ACROSS THE CENTERLINE OR REFERENCE LINE.

(3) DO NOT CONSTRUCT AN EXPANSION JOINT OR INSTALL DOWEL BARS WHEN ABUTTING AN HMA PAVEMENT.

(4) USE A JOINT SEALANT MEETING THE REQUIREMENTS OF ASTM D6690.

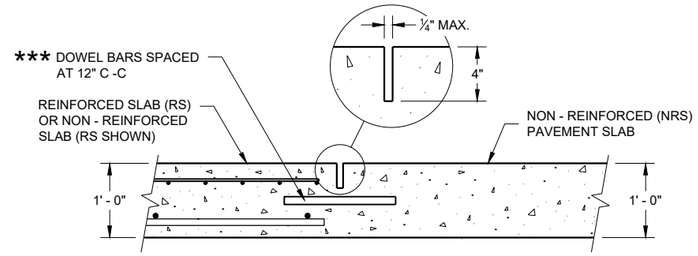
(5) PLACE EXPANSION CAP ON THE END OF THE DOWEL THAT IS NOT TACK WELDED TO THE BASKET. DO NOT FORCE DOWEL BAR PAST THE DOWEL STOP.

(6) EXTEND EXPANSION JOINT THROUGH ANY ADJACENT TIED CONCRETE.

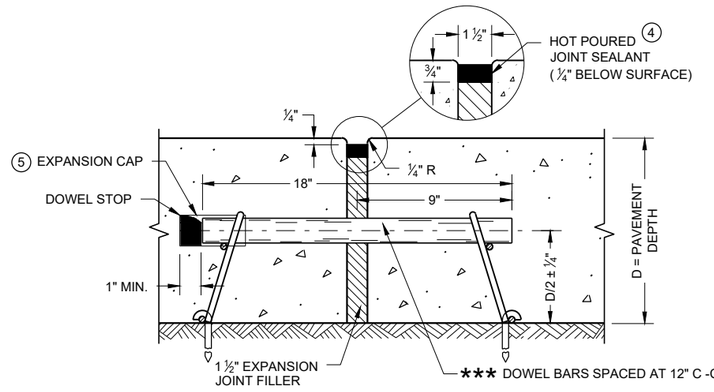
(A) STANDARD CONTRACTION JOINT NORMAL TO ℄ OR ℞.

(B) STANDARD LONGITUDINAL JOINT WITH TIE BARS.

(C) 1 ½" EXPANSION JOINT WITH DOWEL BARS NORMAL TO ℄ OR ℞



SECTION D - D
CONTRACTION JOINT



EXPANSION JOINT DETAIL

CONCRETE PAVEMENT APPROACH SLAB

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

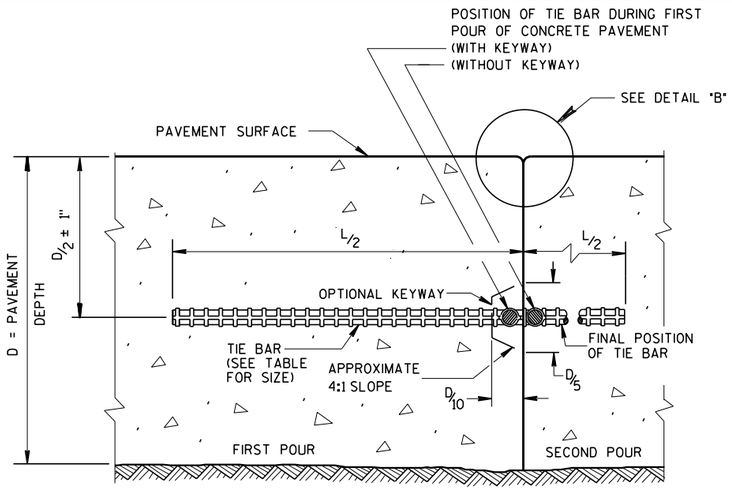
APPROVED
November 2018
DATE

/S/ Peter Kemp P.E.
PAVEMENT SUPERVISO

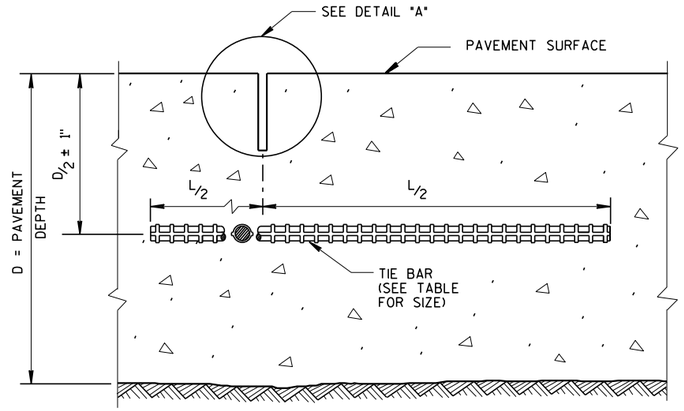
FHWA

6

SDD 13B02 - 09a



CONSTRUCTION JOINT



SAWED JOINT

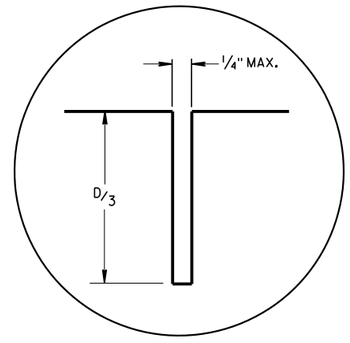
GENERAL NOTES

CREATE A LONGITUDINAL JOINT FOR PAVEMENT WIDTHS GREATER THAN 15 FEET.

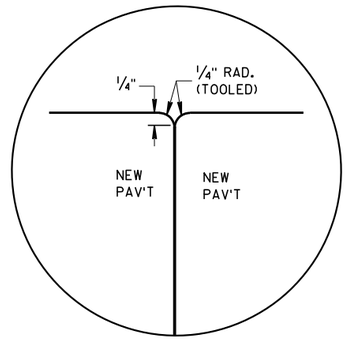
CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

(1) ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.

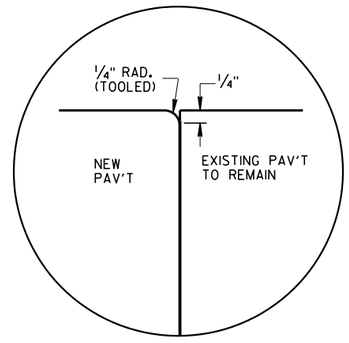
(2) PAVEMENT THAT WAS IN PLACE PRIOR TO THE CONTRACT.



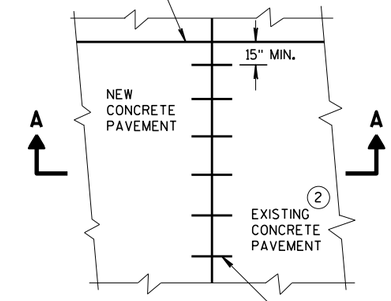
DETAIL "A"



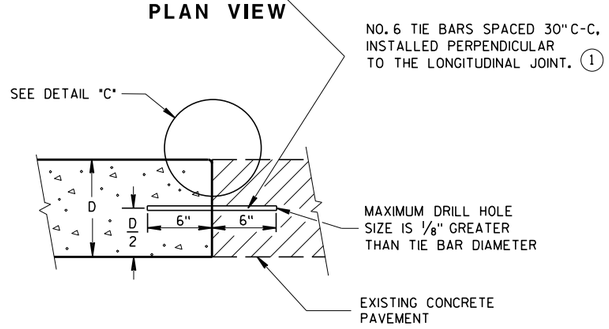
DETAIL "B"



DETAIL "C"



PLAN VIEW



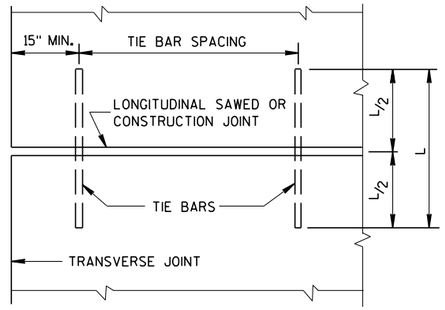
SECTION A-A
LONGITUDINAL CONSTRUCTION JOINT TIE BARS ANCHORED INTO EXISTING PAVEMENT

TIE BAR TABLE

PAVEMENT DEPTH (D)	TIE BAR SIZE	TIE BAR LENGTH (L)	MAX. TIE BAR SPACING
< 10 1/2"	NO. 4	30"	36"
≥ 10 1/2"	NO. 5	36"	36"
	NO. 4 *	30"	24" **

* SUBSTITUTE BENT BARS AT LONGITUDINAL JOINTS WHEN EQUIPMENT LIMITATIONS DURING CONSTRUCTION WARRANT (e.g. AUXILIARY LANES OR TURN LANES)

** CONFORM TO 15" MINUMUM SPACING FROM TRANSVERSE JOINTS; SPACING BETWEEN TIE BARS WILL BE 30" AT TRANSVERSE JOINTS.



PLAN VIEW
SHOWING LOCATION OF TIE BARS

CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES

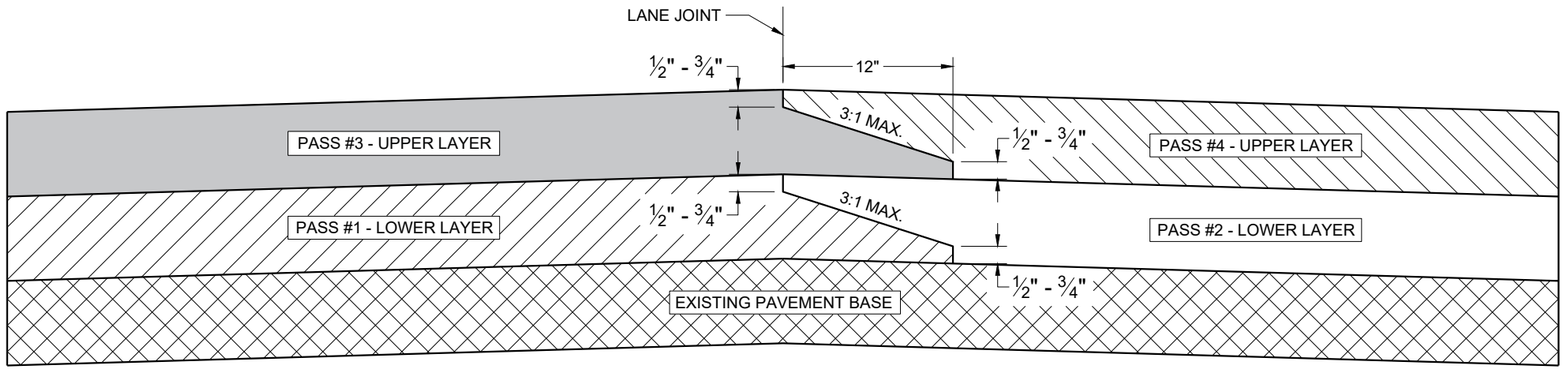
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
March 2018 — DATE
/S/ Peter Kerr — PAVEMENT SUPE
FHWA

6
S.D.D. 13 C 1-19

GENERAL NOTES

CONFORM TO STANDARD SPECIFICATION 450.3.2.8



TYPICAL PAVEMENT CROSS SECTION
OF NOTCHED WEDGE LONGITUDINAL JOINTS

6

6

SDD 13C19 - 01

SDD 13C19 - 01

HMA LONGITUDINAL JOINTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2019
DATE

/S/ Steven Hefel
HMA PAVEMENT ENGIN

FHWA

(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.

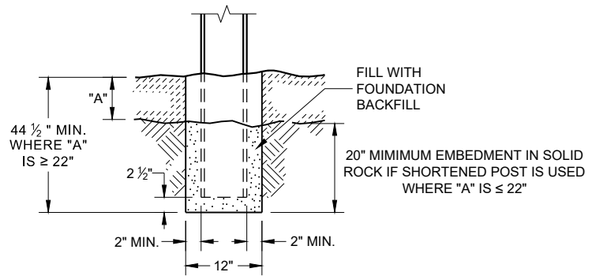
(3) IF ROCK IS ENCOUNTERED DURING EXCAVATION, PROVIDE A HOLE 12 INCHES IN DIAMETER EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2 1/2" INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS THE TO LENGTH AMD INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT. BACKFILL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

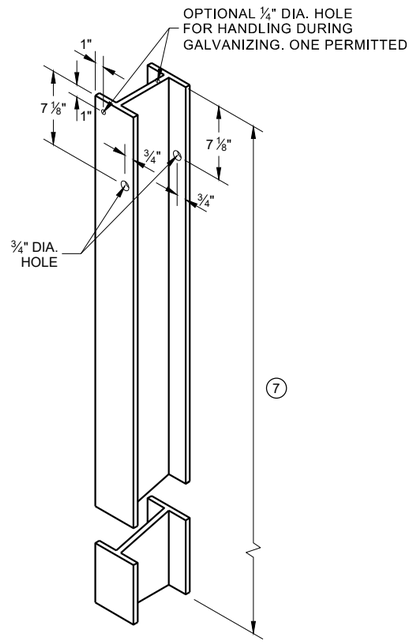
(5) FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS +1". FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27 ¾" TO 32".

(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.

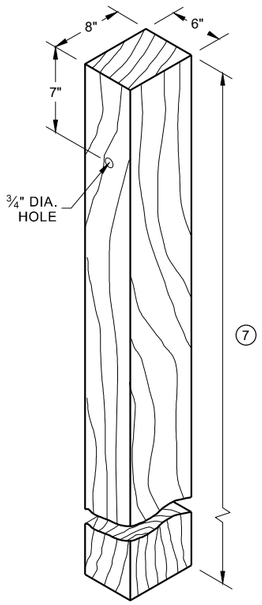
(7) TOTAL POST LENGTH FOR TYPE K IS 7' - 0".
TOTAL POST LENGTH FOR OTHER MGS TYPES IS 6' - 0".



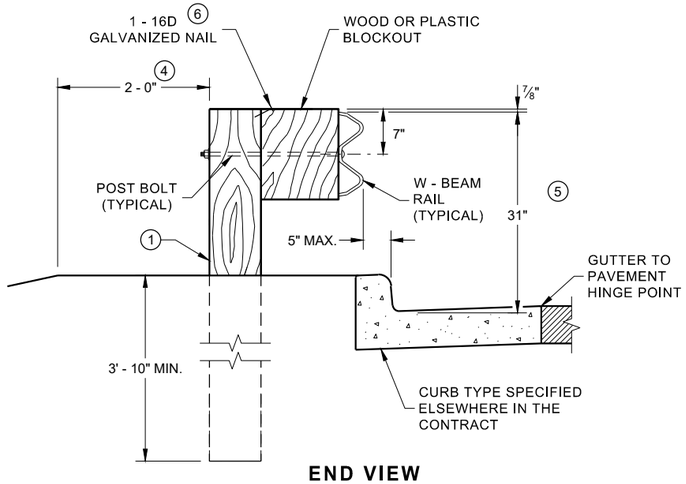
END VIEW
SETTING STEEL OR WOOD POST IN ROCK (3)



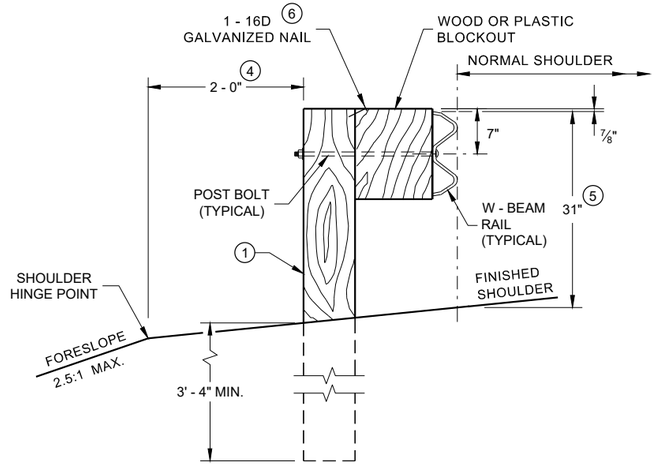
STEEL POST & HOLE PUNCHING DETAIL (W 6 X 9) (1)



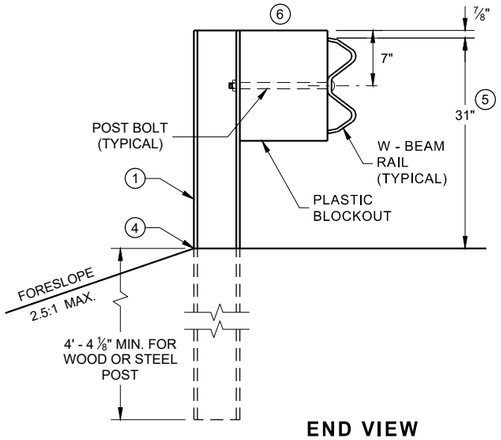
WOOD POST (6" X 8") NOMINAL (1)



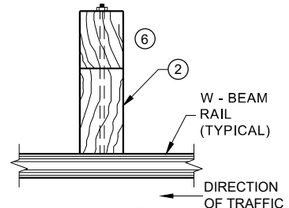
END VIEW
LOCATED ALONG A CURBED ROADWAY



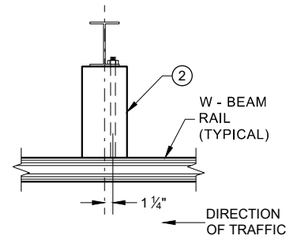
END VIEW
LOCATED ALONG A ROADWAY SHOULDER STANDARD INSTALLATION



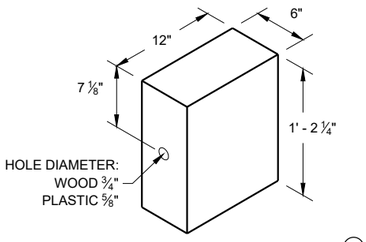
END VIEW
MGS LONGER POST AT HALFPOST SPACING W BEAM (K)



PLAN VIEW
WOOD POST, BLOCKOUT & BEAM



PLAN VIEW
STEEL POST, PLASTIC BLOCKOUT & BEAM

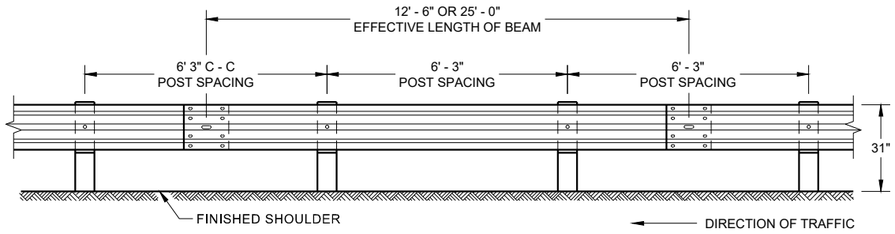


WOOD OR PLASTIC BLOCKOUT (2)

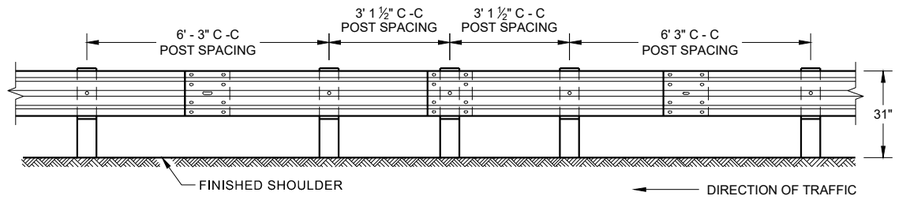
MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

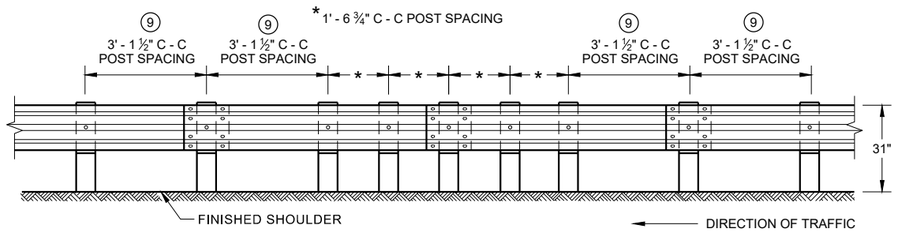
6
SDD 14B42 - 06a



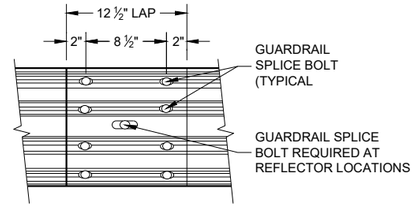
FRONT VIEW
POST SPACING STANDARD INSTALLATION



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

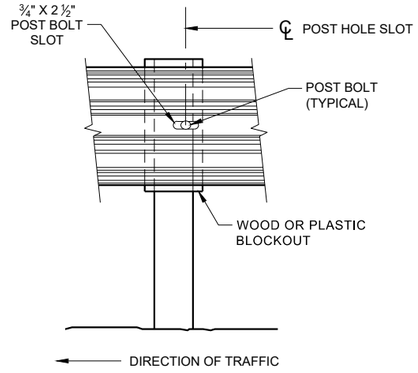
GENERAL NOTES

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

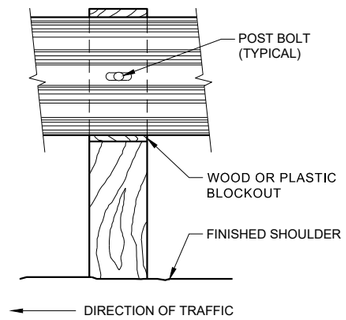
⑨ 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.

POST BOLTS ARE A ¾" 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.

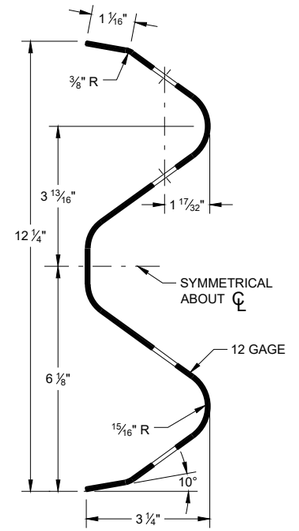
GUARD RAIL SPLICE BOLTS ARE A ⅝" DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES ⅝" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.



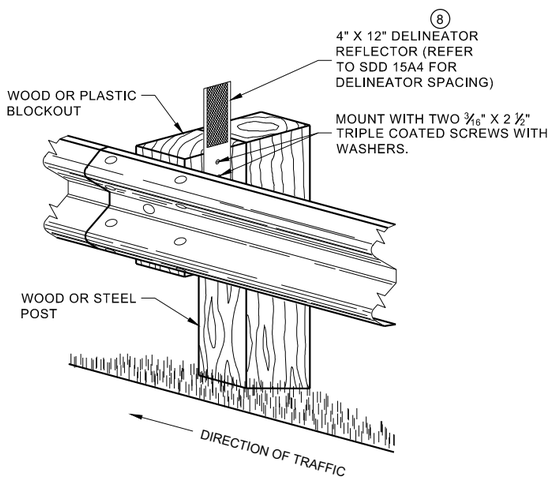
FRONT VIEW AT STEEL POST



FRONT VIEW AT WOOD POST



SECTION THRU W-BEAM RAIL



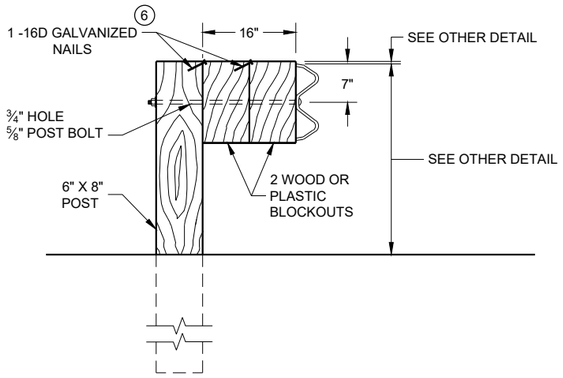
ONE SIDED REFLECTOR DETAIL
AND TYPICAL INSTALLATION

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

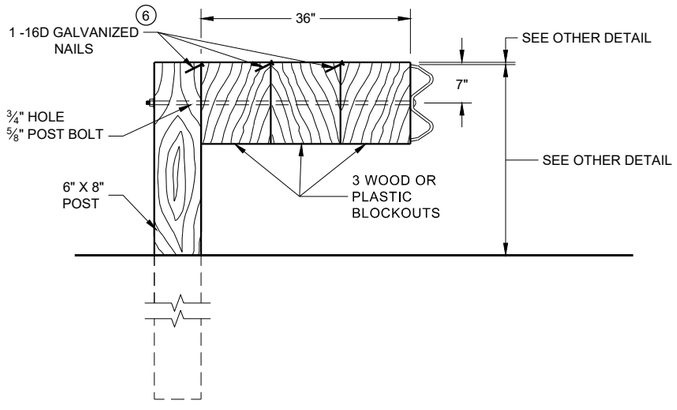
6

SDD 14B42 - 06b



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.



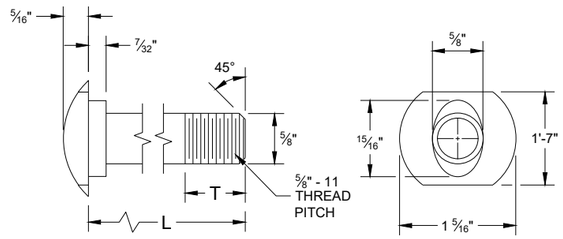
DETAIL FOR 36" BLOCKOUT DEPTH

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.

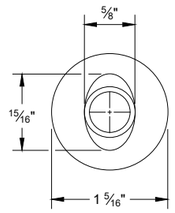
NOTE:

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.

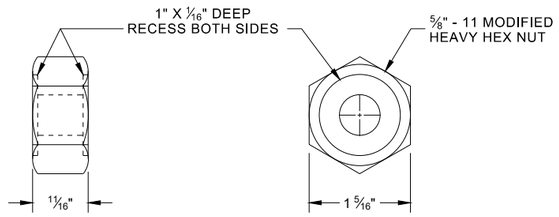


POST BOLT TABLE

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

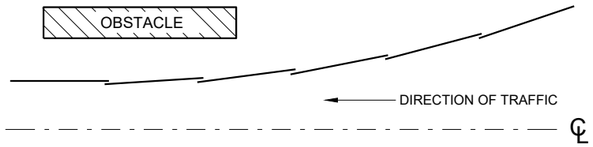


ALTERNATE BOLT HEAD

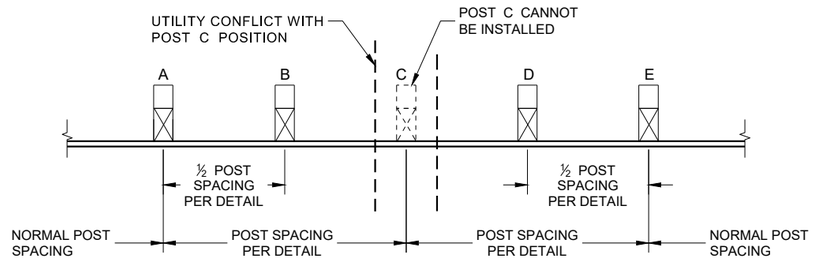


POST BOLT, SPLICE BOLT AND RECESS NUT

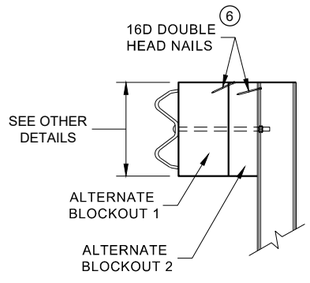
(6) WHEN USING STEEL POST AD WOOD BLOCKOUTS, INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.



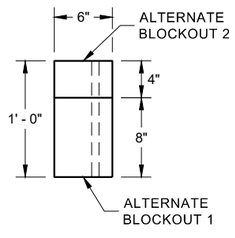
PLAN VIEW
BEAM LAPPING DETAIL



POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION



SIDE VIEW



PLAN VIEW

ALTERNATE WOOD BLOCKOUT DETAIL

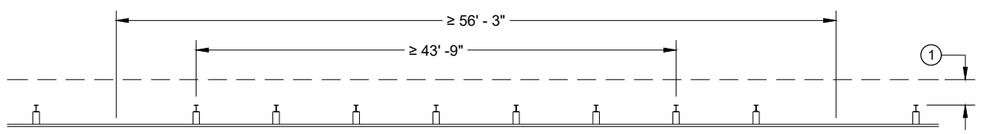
6

SDD 14B42 - 06c

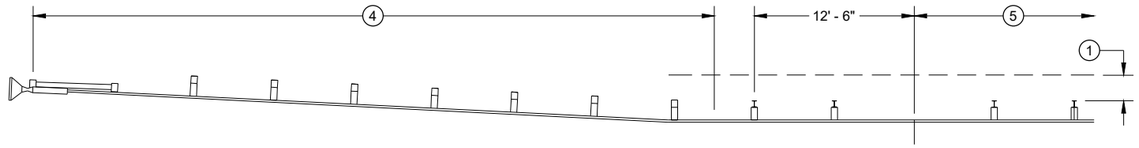
6

SDD 14B42 - 06c

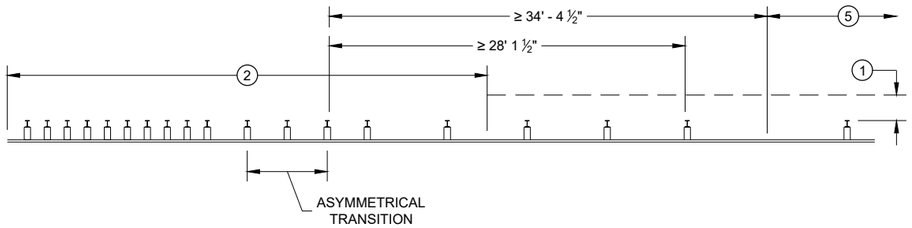
MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL



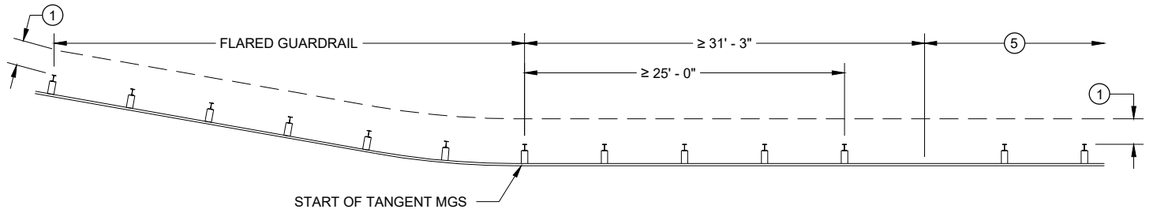
MISSING POST IN NORMAL BEAM GUARD RUN



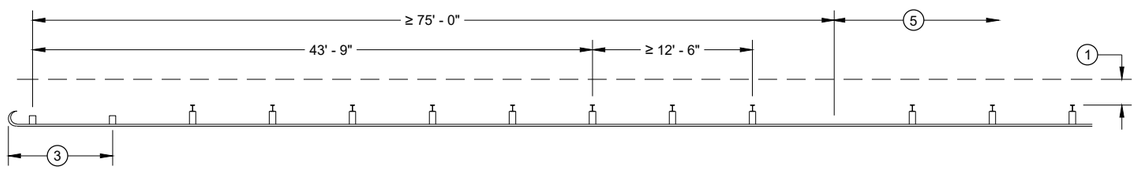
MISSING POST IN NORMAL BEAM GUARD RUN NEAR EAT



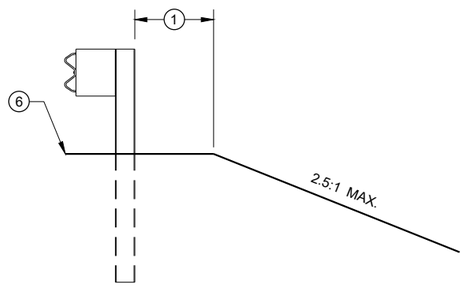
MISSING POST NEAR APPROACH THRIE BEAM TRANSITION



MISSING POST IN NORMAL BEAM GUARD RUN NEAR FLARED BEAM GUARD



MISSING POST IN NORMAL BEAM GUARD RUN NEAR TYPE 2 TERMINAL



CROSS SECTION VIEW

(1) MINIMUM OF 2 FEET OF GRADING BEHIND POST.

(2) SEE SDD 14B45 FOR MORE DETAILS.

(3) SEE SDD 14B47 FOR MORE DETAILS.

(4) SEE SDD 14B44 FOR MORE DETAILS.

(5) SEE MISSING POST IN NORMAL BEAM GUARD RUN FOR DISTANCE TO NEXT MISSING POST AND AREA FOR WELL DRAINED, COMPACTED SOILS.

(6) SEE PLAN FOR SHOULDER DESIGN.

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

7/2018
DATE

/S/ Rodney Taylor
ROADWAY STANDARDS DEVE
UNIT SUPERVISOR

FHWA

6

SDD 14B42 - 06d

6

SDD 14B42 - 06d

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.

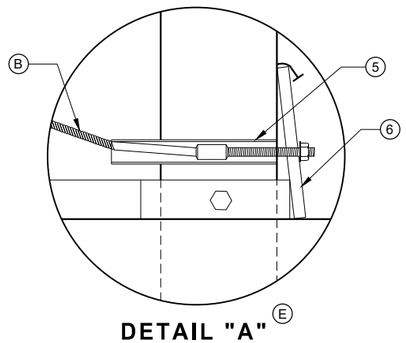
SEE SDD 14B42 FOR MORE INFORMATION.

* DO NOT ATTACH BLOCKOUTS TO POST 1 AND 2.

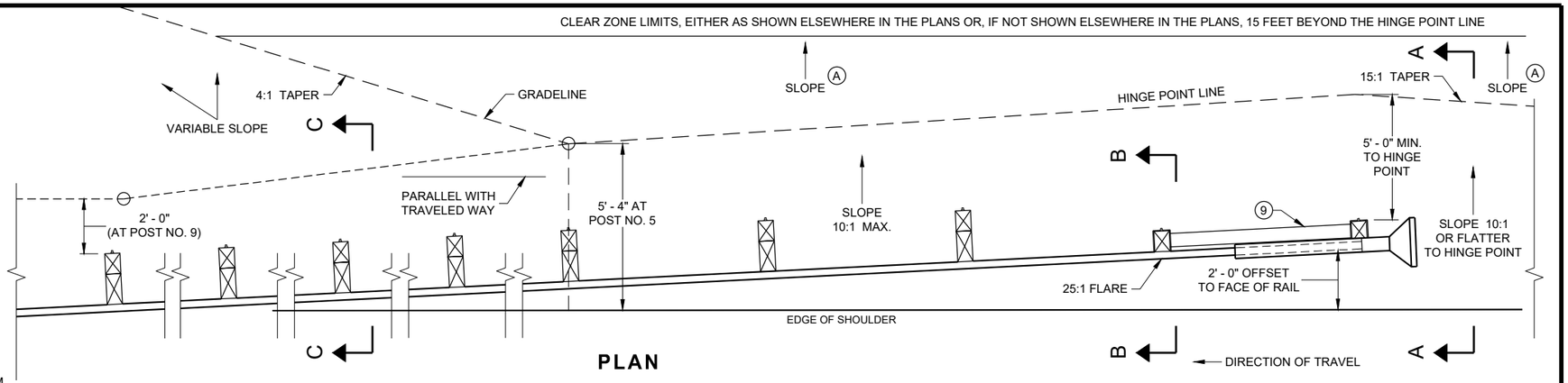
DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

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

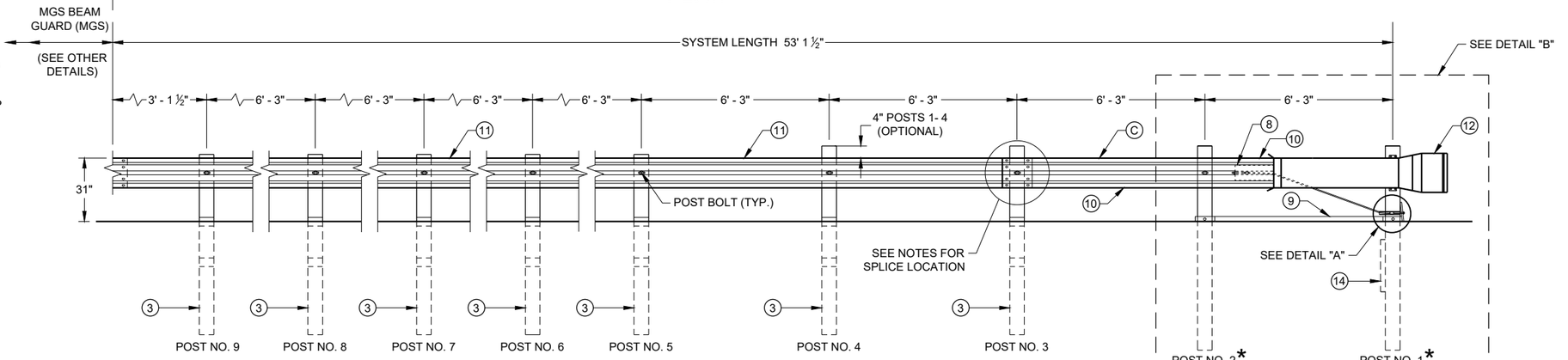
THE CENTER OF THE UPPER 3 ½" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE UP TO A MAXIMUM OF 2" ABOVE GROUND LINE. WOOD BLOCKS ON POSTS NUMBERED 3 THROUGH 9 MAY BE ADJUSTED UP TO 3" ABOVE THE TOP OF POST.



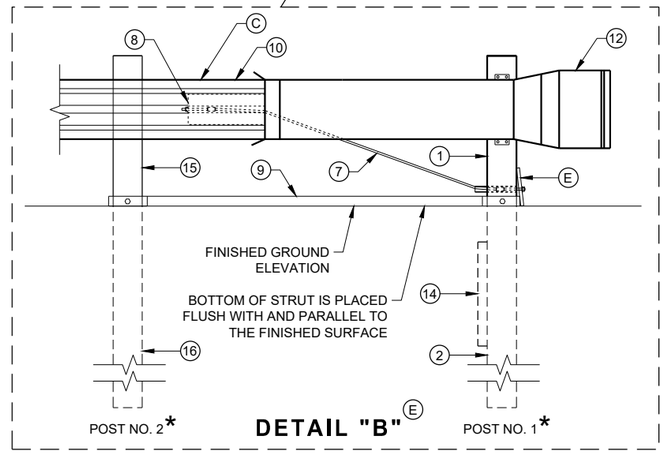
DETAIL "A" (E)



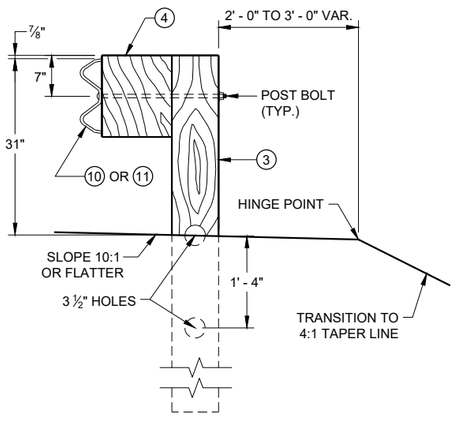
PLAN



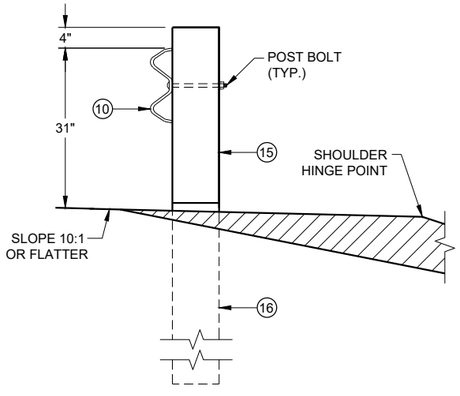
ELEVATION



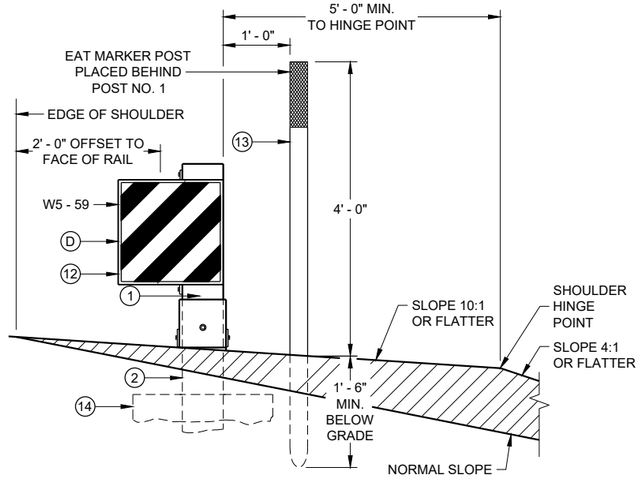
DETAIL "B" (E)



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



SECTION B - B
TYPICAL AT POST NO. 2*



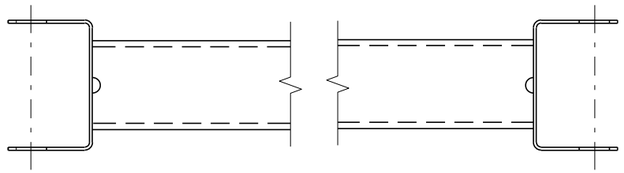
SECTION A - A
TYPICAL AT POST NO. 1*

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

SDD 14B44 - 04a

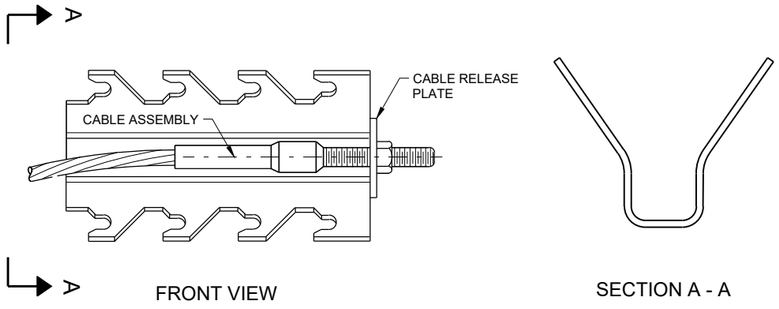
SDD 14B44 - 04a



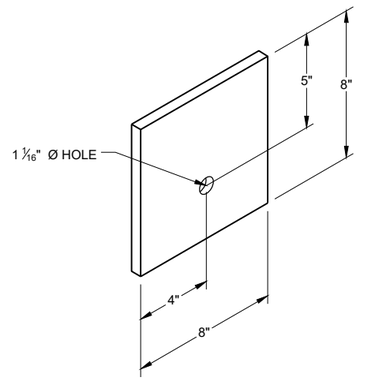
GENERIC GROUND STRUT ⑨ Ⓔ

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 ⑨ Ⓔ



BEARING PLATE ⑥ Ⓔ

6

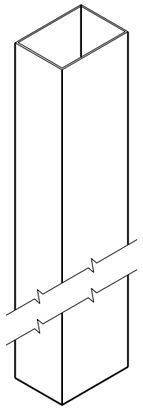
6

SDD 14B44 - 04b

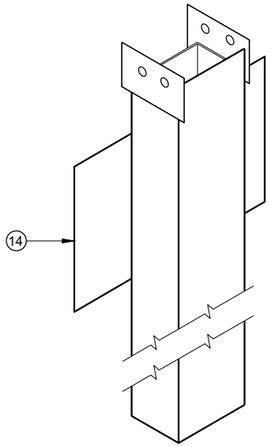
SDD 14B44 - 04b

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

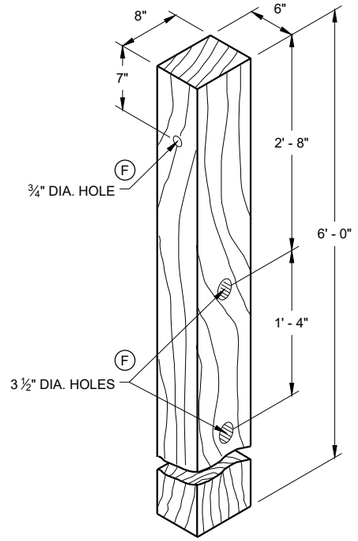
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



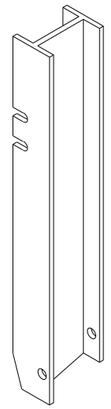
UPPER POST NO. 1 (1) (E)



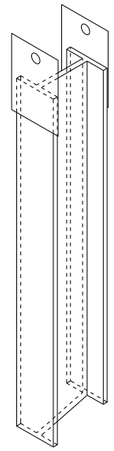
LOWER POST NO. 1 (2) (E)



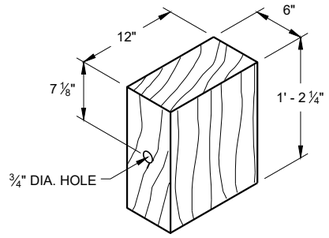
WOOD CRT POST (3) (E)
POSTS NUMBER 3-9



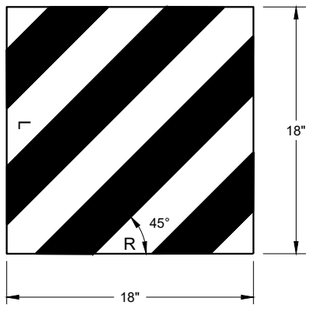
UPPER POST NO. 2 (15) (E)



LOWER POST NO. 2 (16) (E)

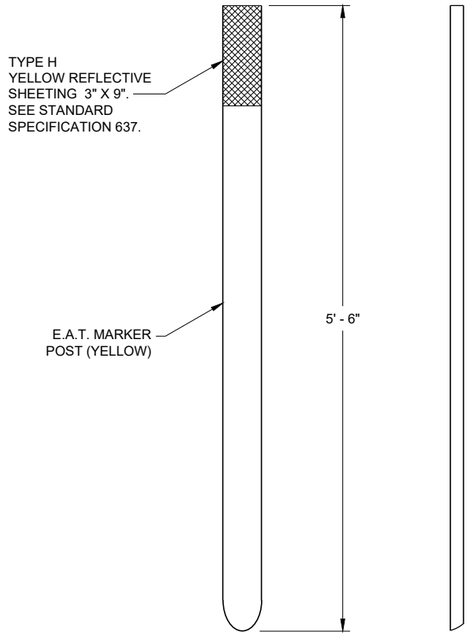


WOOD BLOCKOUT (4)
REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2



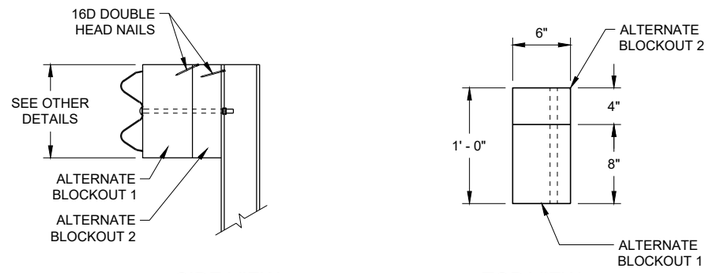
W5 - 59

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)

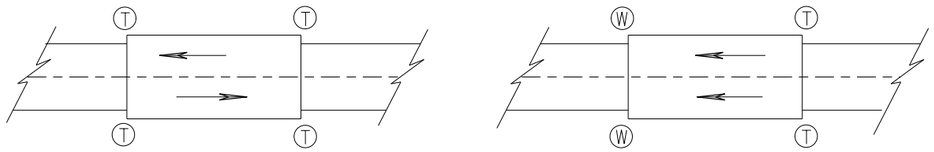
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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.

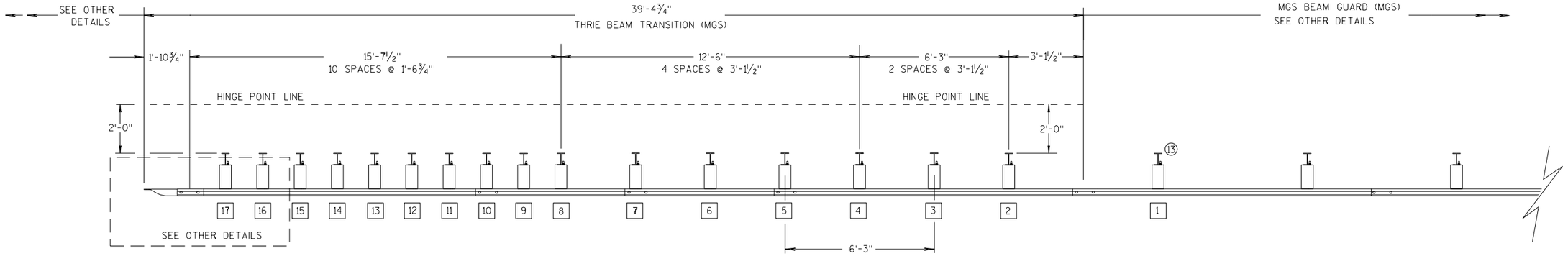
SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

POST 2 THROUGH 17 USES STEEL POST ONLY

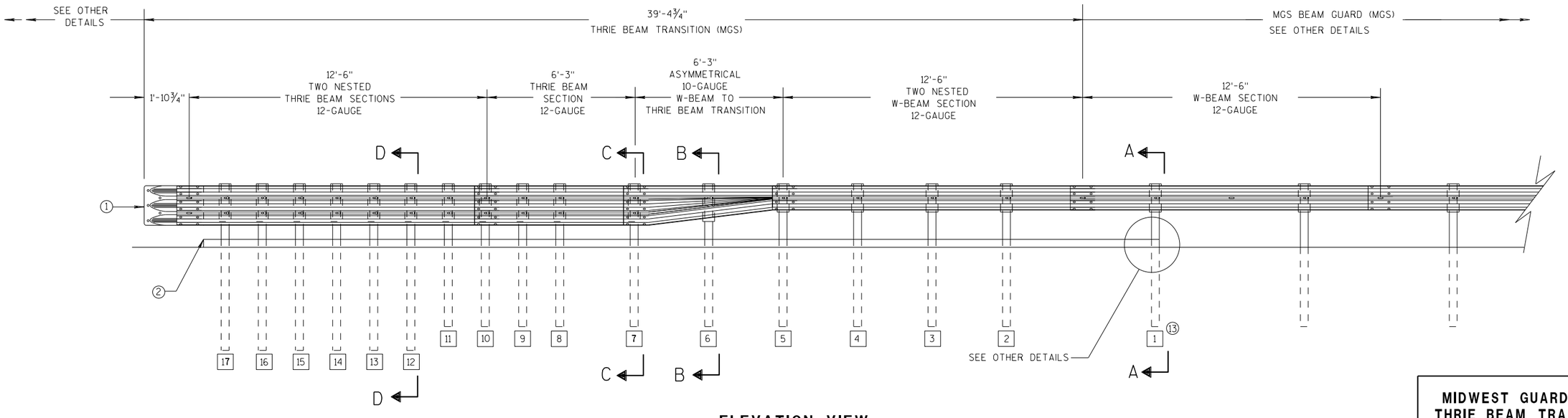
(1) BRIDGE RAILING TYPE "W" DOES NOT REQUIRE A TERMINAL CONNECTOR.

(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

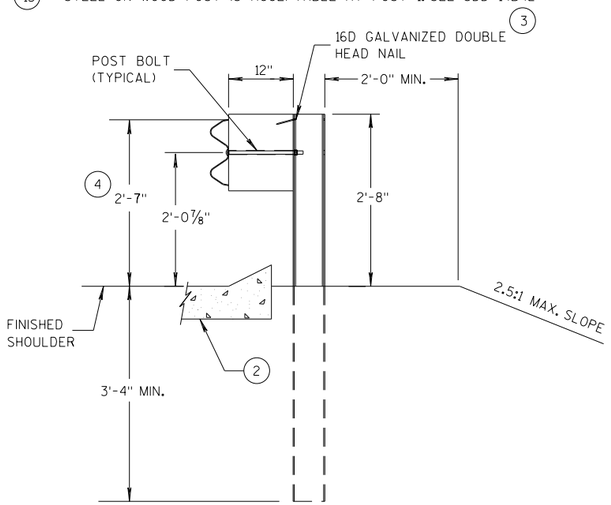
GENERAL NOTES

(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.

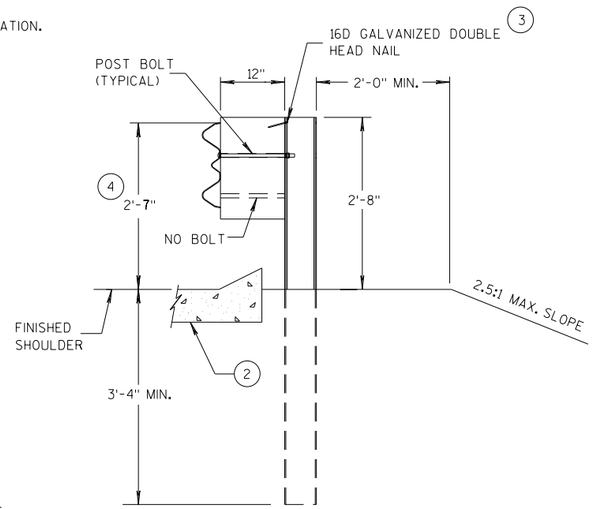
(4) TOLERANCE FOR TOP OF W-BEAM RAIL IS ± 1".

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



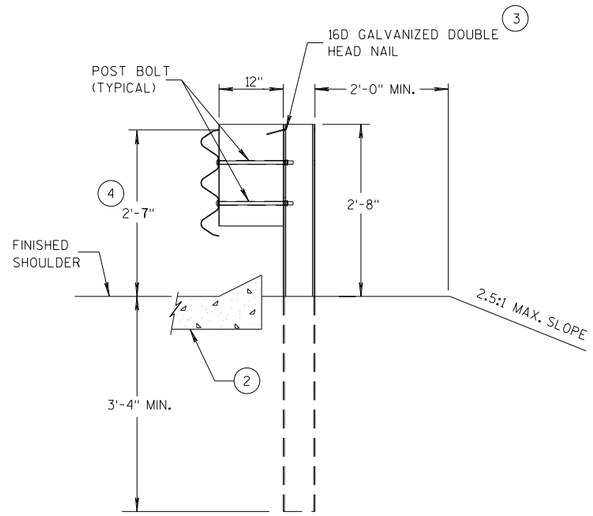
SECTION A-A (13)

POSTS 1-5



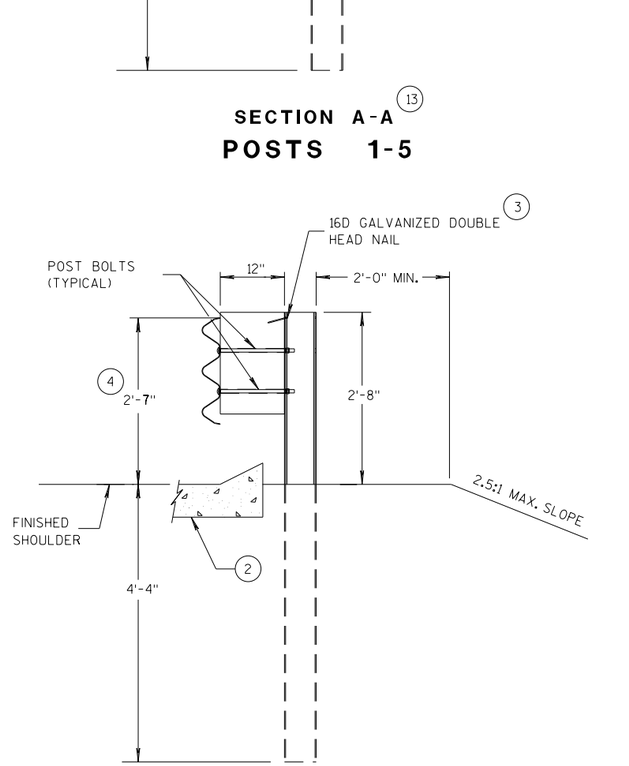
SECTION B-B

POST 6



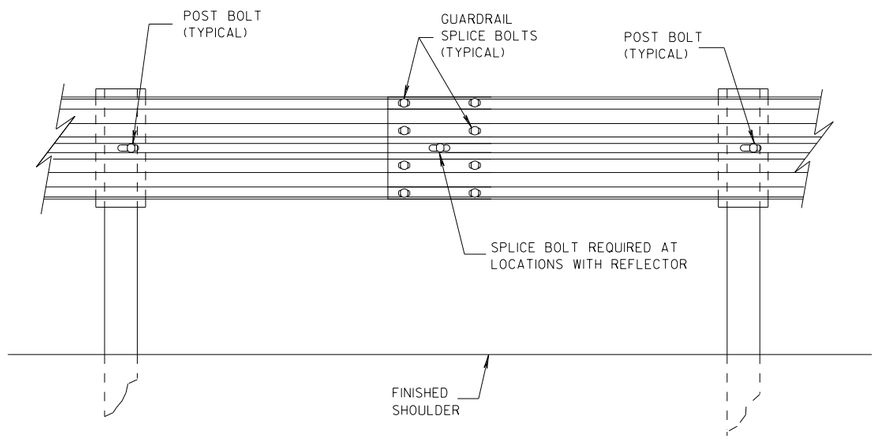
SECTION C-C

POSTS 7-11



SECTION D-D

POSTS 12-17



SPLICE DETAIL

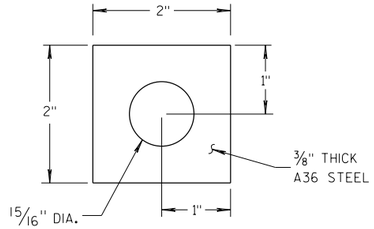
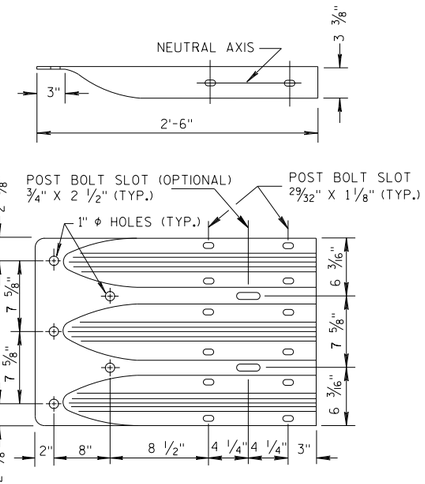
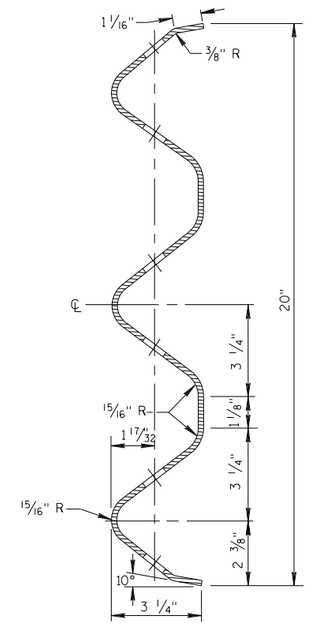


PLATE WASHER DETAIL



THRIE BEAM TERMINAL CONNECTOR



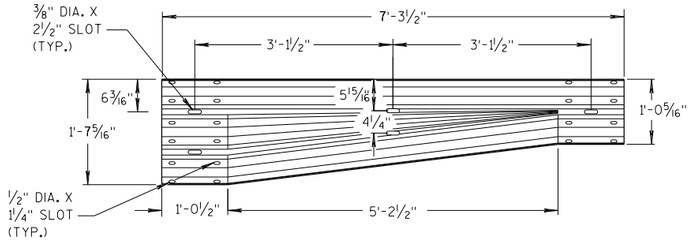
SECTION THRU THRIE BEAM RAIL ELEMENT

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

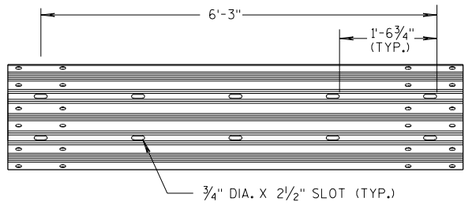
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOF

6

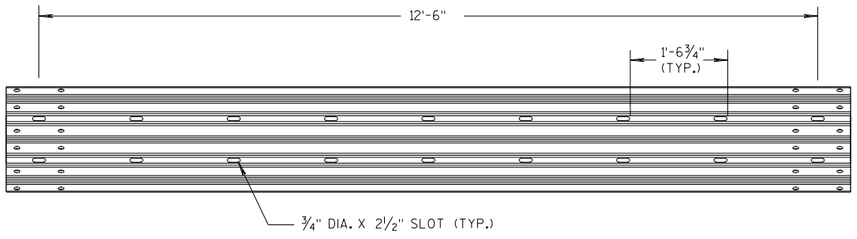
S.D.D. 14 B 45-5b



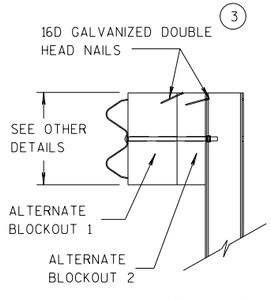
W-BEAM TO THRIE BEAM TRANSITION SECTION



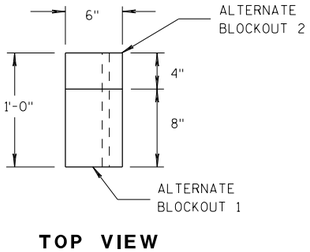
6'-3" THRIE BEAM SECTION



12'-6" THRIE BEAM SECTION

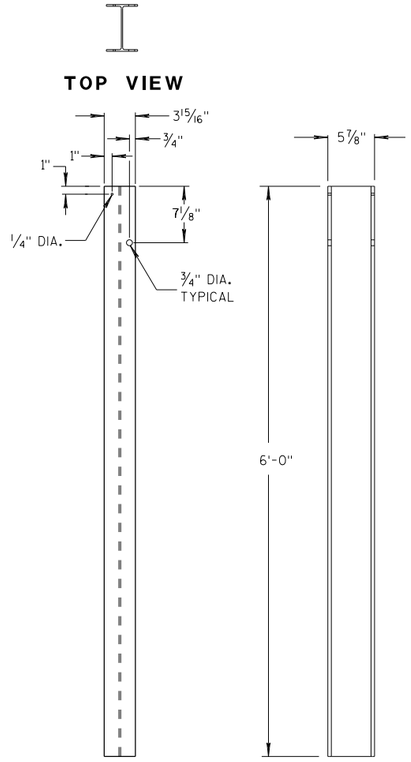


SIDE VIEW



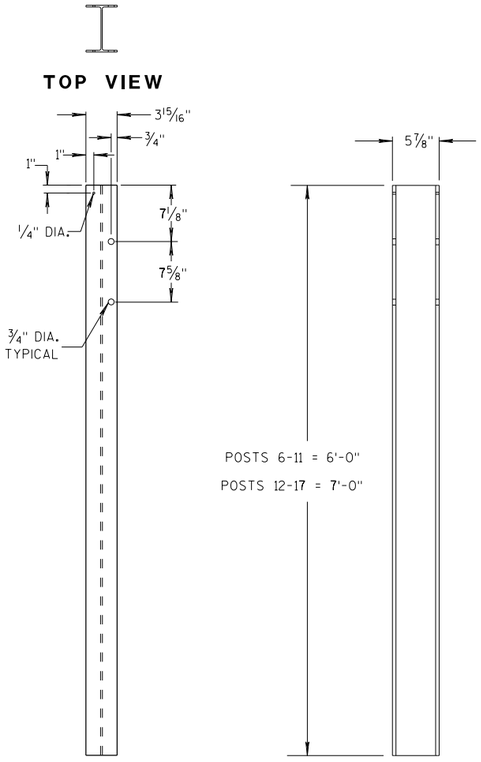
TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL



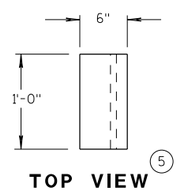
FRONT VIEW SIDE VIEW

STEEL POSTS 1-5 (13)

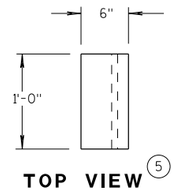


FRONT VIEW SIDE VIEW

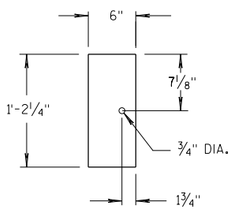
STEEL POSTS 6-17



TOP VIEW (5)

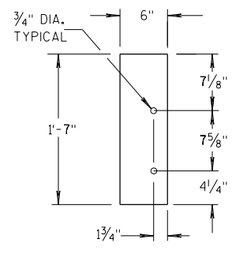


TOP VIEW (5)



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.

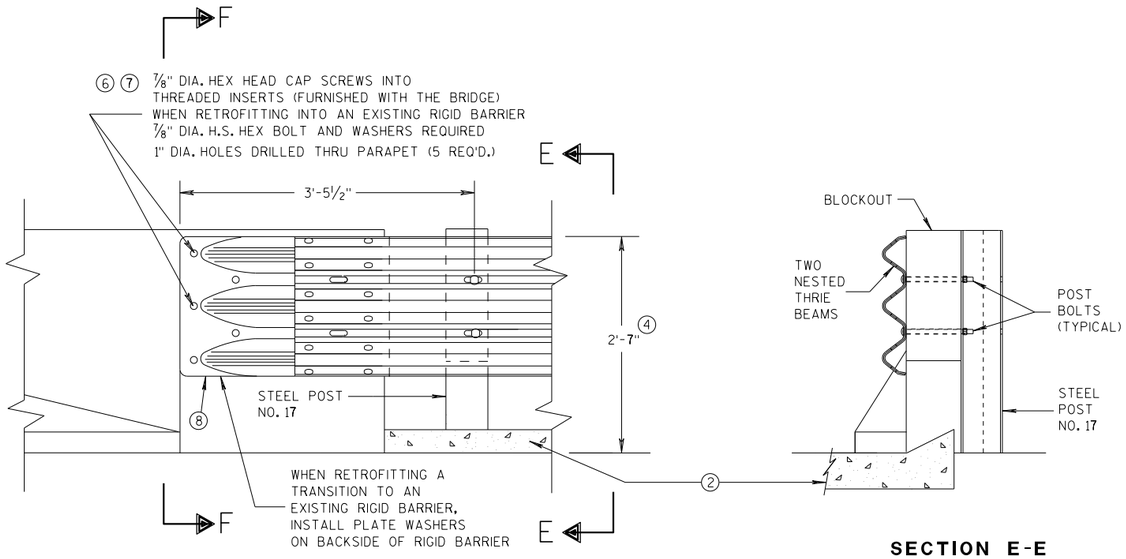
(13) STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD 14B42.

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.

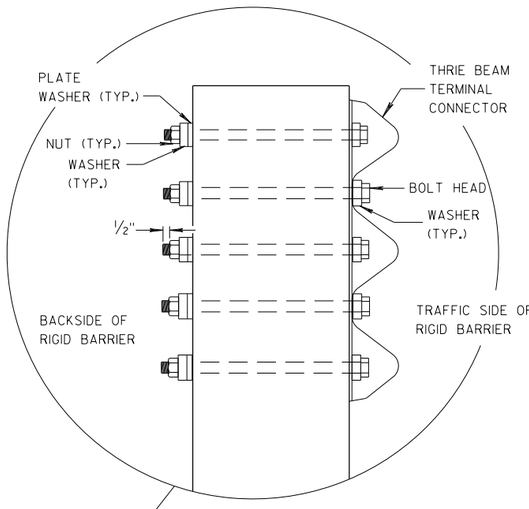
② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

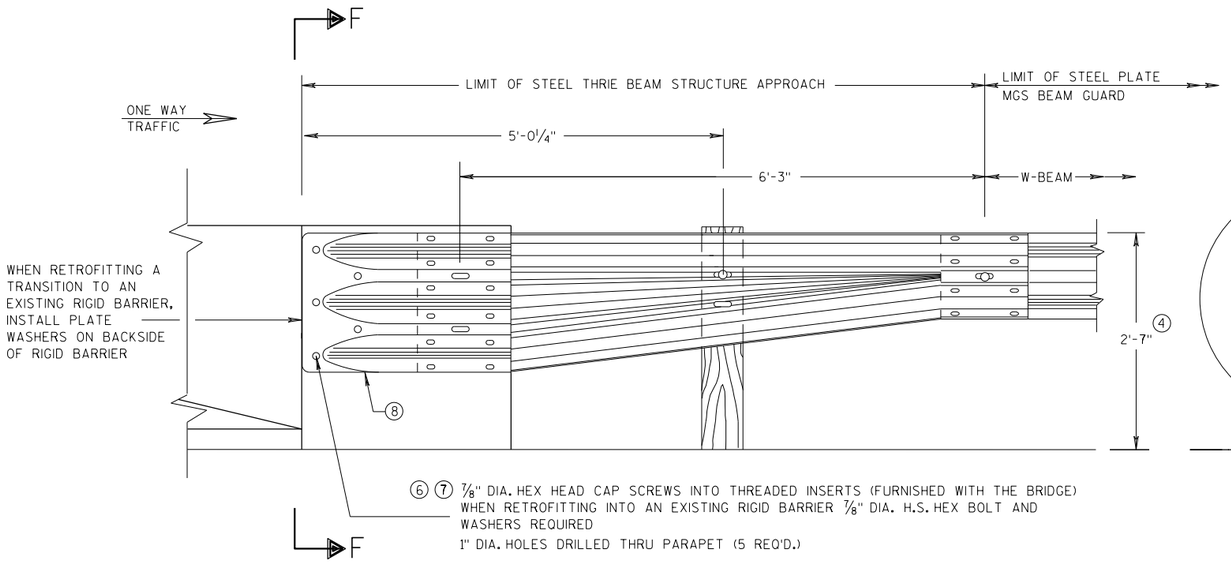
④ TOLERANCE FOR TOP OF BEAM IS ± 1".

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

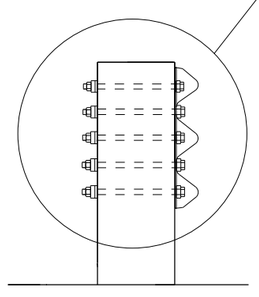
⑦ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/8" 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".

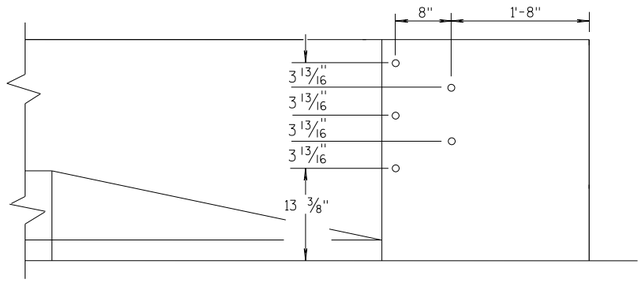




FRONT VIEW



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

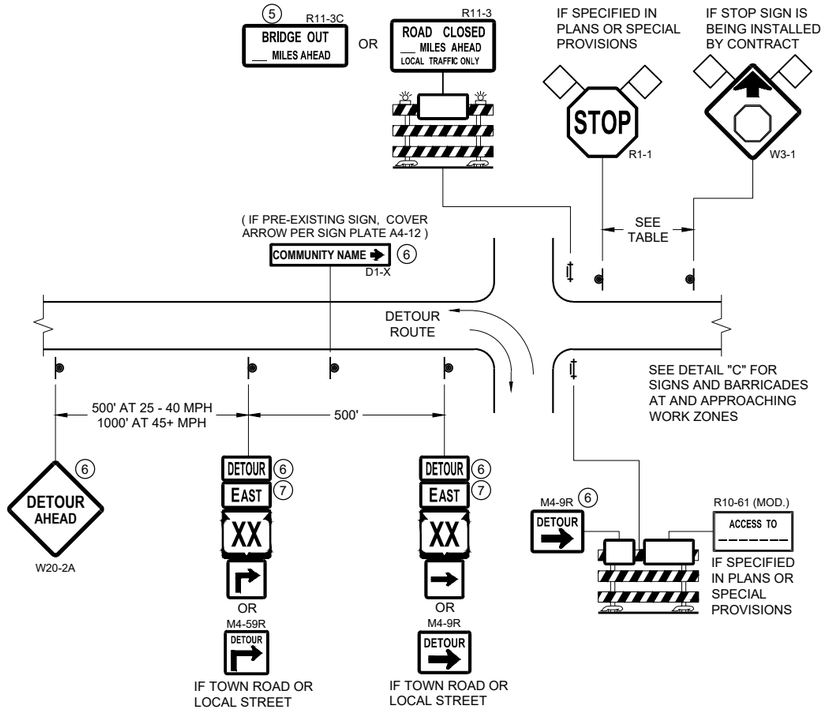
APPROVED
07/2018 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS D[UNIT SUPERVI[— NT
FHWA

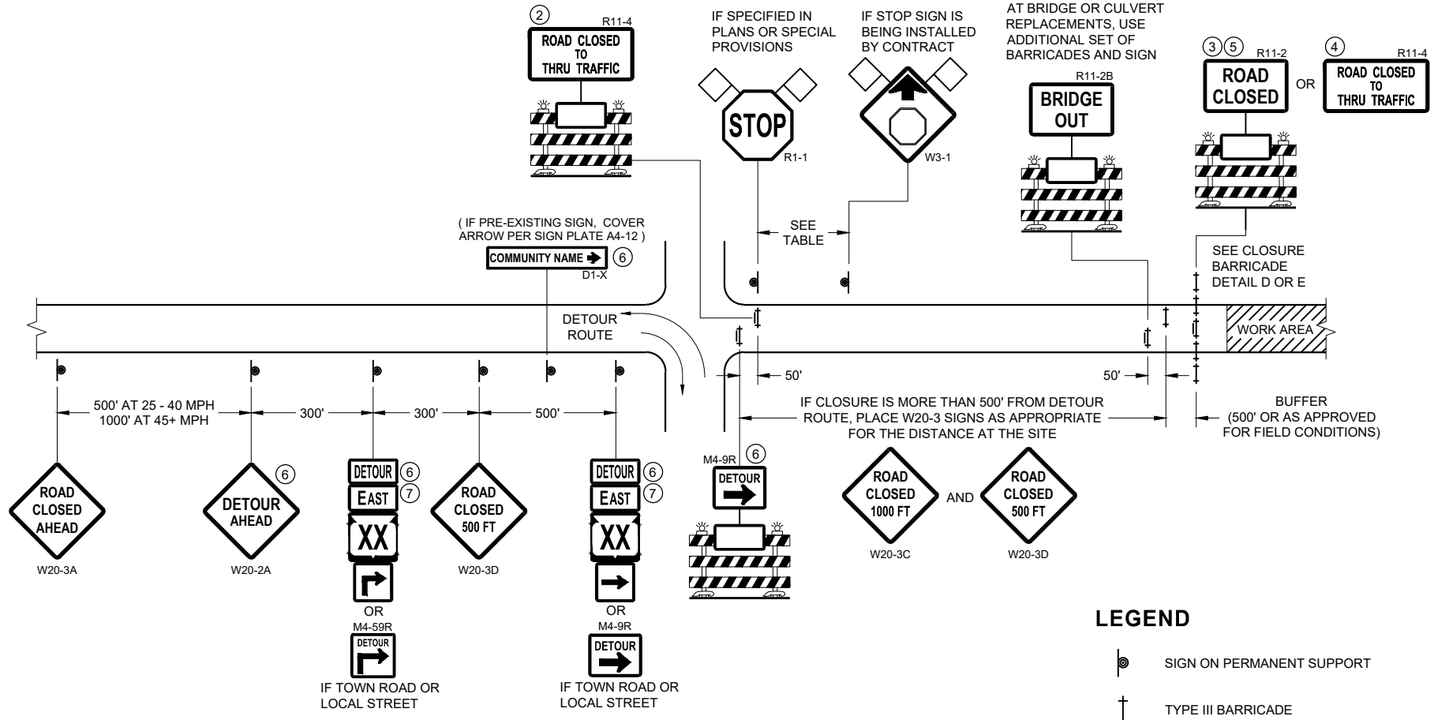
6

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

6

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



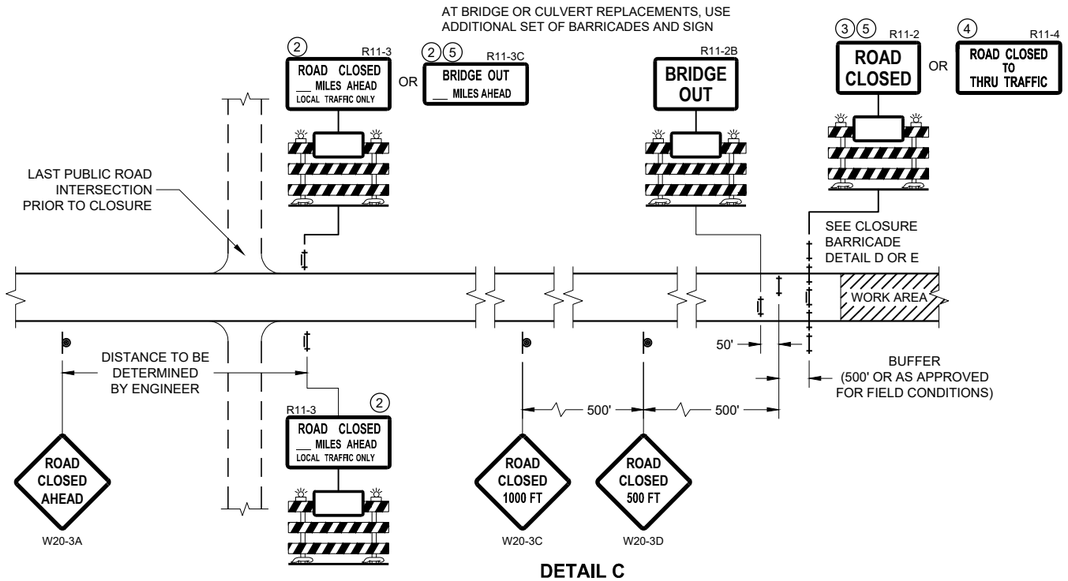


DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR

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)



DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR

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

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

LEGEND

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

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

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

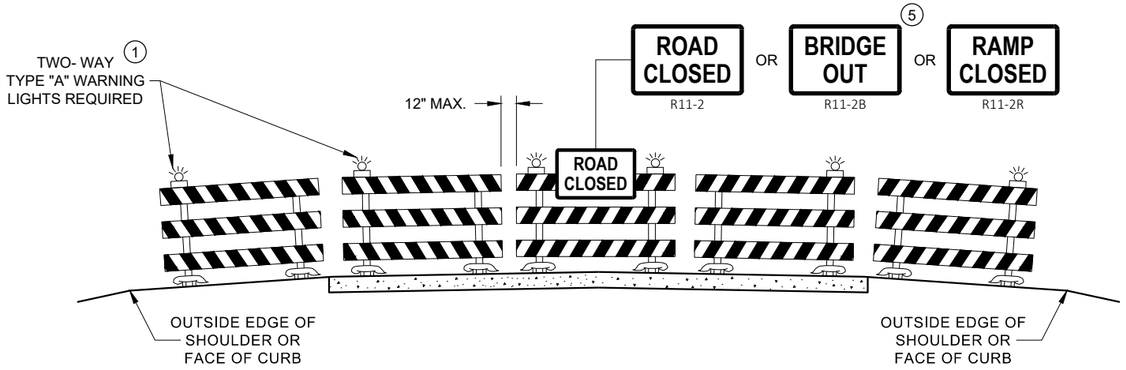
APPROVED
November 2018
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

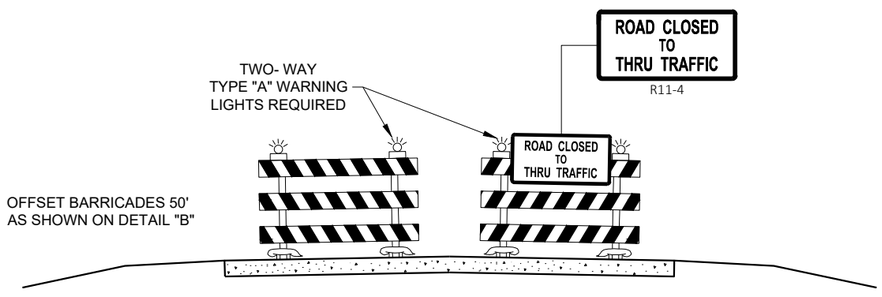
6

SDD 15C02 - 07a

SDD 15C02 - 07a



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
November 2018
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEER
FHWA

6

SDD 15C02 - 07b

6

SDD 15C02 - 07b

THIS DRAWING PROVIDES GENERAL GUIDANCE ON TYPICAL DETOUR SIGN LAYOUT AND SPACING. SEE PROJECT DETOUR SIGNING SHEETS FOR SPECIFIC DETAILS FOR EACH PROJECT.

LEGEND

- SIGN ON PERMANENT SUPPORT
- WORK AREA
- DETOUR — M4 - 8
- EAST — M3 - X
- XX — M1 - 4 OR XX — M1 - 6 OR COUNTY X — M1 - 5A
- M05 - 1 OR M06 - 1 OR M06 - 1

GENERAL NOTES

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

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. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. MODIFY EXISTING SIGNS WHERE POSSIBLE.

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

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.

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

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

SIGN SIZES SHALL BE AS FOLLOWS:

- 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" (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS)
- M05-1 AND M06-1 SHALL BE 21" X 21" (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS)
- M4-9 AND M4-59 SHALL BE 30" X 24"
- M4-8a SHALL BE 24" X 18"
- G20-51 SHALL BE 60" X 24"
- W20-2A SHALL BE 48" X 48"
- D1-X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.

* OPTIONAL SIGNS. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS.

** FOR A TOWN ROAD OR LOCAL STREET DETOURED ONTO A STATE TRUNK HIGHWAY, PLACE A ROAD NAME PLAQUE ABOVE THE M4-9 SIGN AS SPECIFIED IN THE CONTRACT.

M3-X 24" X 12"
M1-X 24" X 24"
DETOUR AHEAD
W20-2A
USE ON STATE TRUNK, U.S. OR INTERSTATE HIGHWAYS, OR AS SPECIFIED IN THE CONTRACT

500' AT 25-40 MPH
1000' AT 45+ MPH

500'

DETOUR EAST XX *

D1-X COMMUNITY NAME *
(IF PRE-EXISTING SIGN, COVER ARROW PER SIGN PLATE A4-12)

M4-8a END DETOUR WEST XX *

DETOUR EAST XX / WEST XX

DETOUR ROUTE

WORK AREA

DETOUR EAST XX

WEST XX OR M4-9L DETOUR ** IF TOWN ROAD OR LOCAL STREET

500'

DETOUR NEXT X MILES * G20-51

DETOUR WEST XX * OR M4-59L DETOUR ** IF TOWN ROAD OR LOCAL STREET

MATCH POINT

* M4-59L DETOUR ** OR DETOUR EAST XX * IF TOWN ROAD OR LOCAL STREET

D1-X COMMUNITY NAME * (IF PRE-EXISTING SIGN, COVER ARROW PER SIGN PLATE A4-12)

500'

M4-9L DETOUR ** OR DETOUR EAST XX IF TOWN ROAD OR LOCAL STREET

DETOUR WEST XX

DETOUR WEST XX OR M4-9R DETOUR ** IF TOWN ROAD OR LOCAL STREET

DETOUR WEST XX * OR M4-59R * DETOUR ** IF TOWN ROAD OR LOCAL STREET

500'

DETOUR ROUTE

500' AT 25 - 40 MPH
1000' AT 45+ MPH

500'

M3-X 24" X 12"
M1-X 24" X 24"
DETOUR AHEAD
W20-2A
USE ON STATE TRUNK, U.S. OR INTERSTATE HIGHWAYS, OR AS SPECIFIED IN THE CONTRACT

DETOUR EAST XX *

D1-X COMMUNITY NAME *
(IF PRE-EXISTING SIGN, COVER ARROW PER SIGN PLATE A4-12)

DETOUR EAST XX

500'

DETOUR EAST XX

D1-X COMMUNITY NAME *
(IF PRE-EXISTING SIGN, COVER ARROW PER SIGN PLATE A4-12)

DETOUR EAST XX *

PLACE SIGNS BEYOND INTERSECTIONS WITH STATE OR COUNTY TRUNK HIGHWAYS OR AT 4 MILE MAXIMUM SPACING (4 BLOCKS IF URBAN AREA)

500' AT 25 - 40 MPH
1000' AT 45+ MPH

DETOUR EAST XX *

M3-X 24" X 12"
M1-X 24" X 24"
DETOUR AHEAD
W20-2A
USE ON STATE TRUNK, U.S. OR INTERSTATE HIGHWAYS, OR AS SPECIFIED IN THE CONTRACT

SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS AND DETAIL A OR B ON SDD SHEET 15C02 - SHEET "a"

DETAIL F
DETOUR SIGNING

DETOUR SIGNING FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2018
DATE

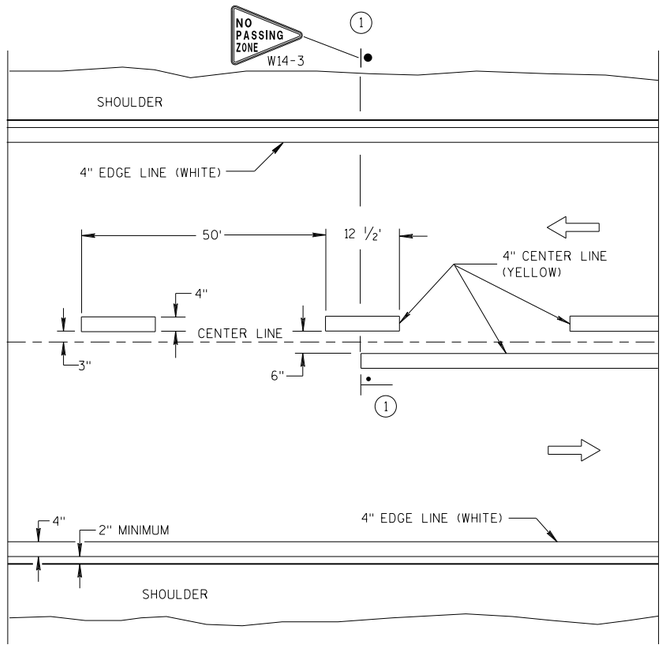
/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

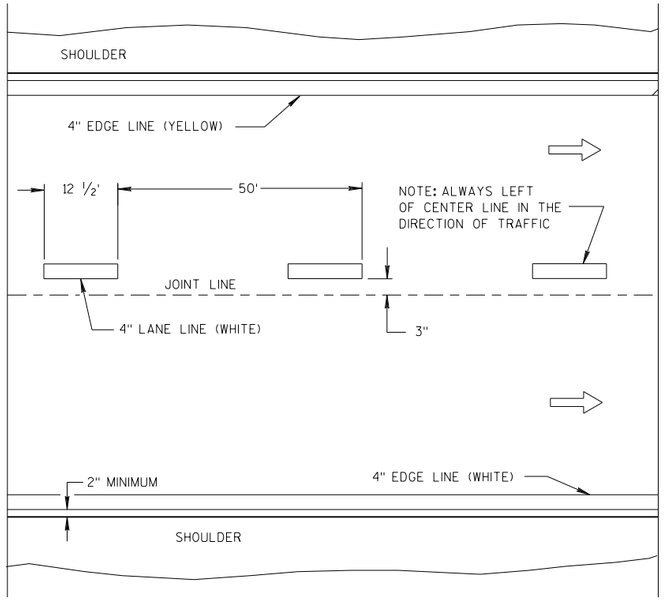
SDD 15C02 - 07c

6

SDD 15C02 - 07c



TWO WAY TRAFFIC



ONE WAY TRAFFIC

PERMANENT 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.

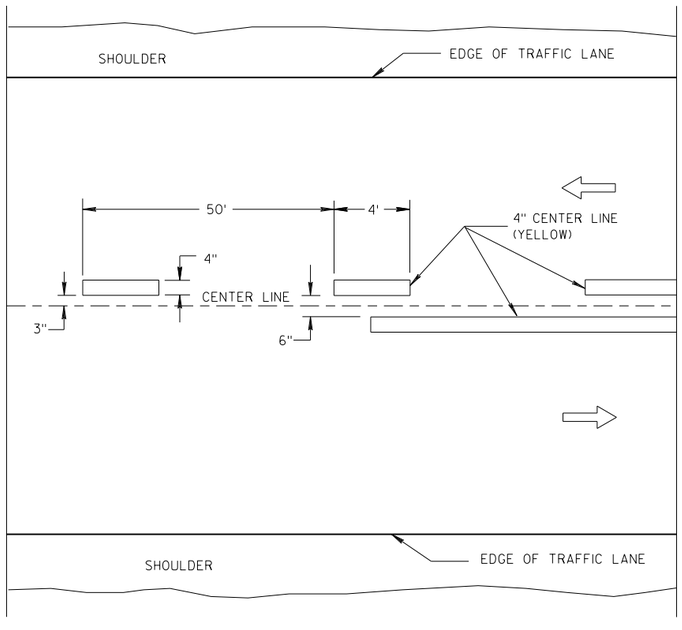
NOTE

ARROW SYMBOL (⇨) SHOWS DIRECTION OF TRAVEL

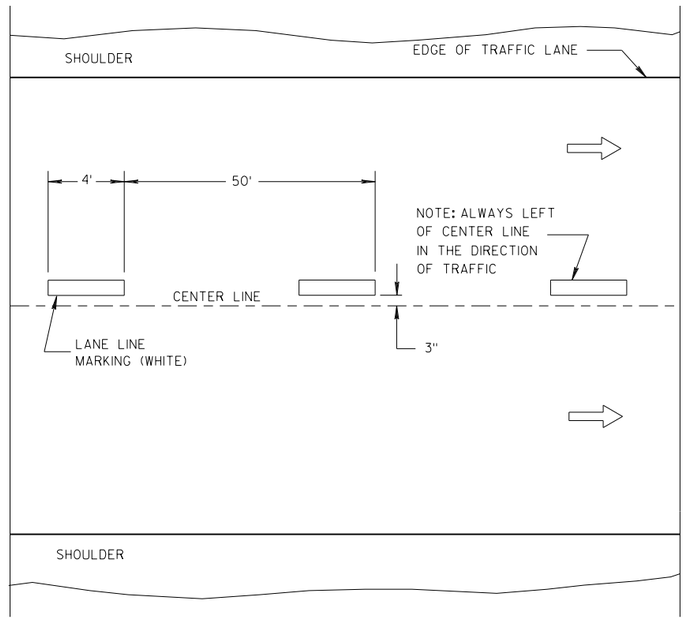
LEGEND

"T" MARKING

POST MOUNTED SIGN



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY PAVEMENT MARKING

LONGITUDINAL MARKING (MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

7/2018 DATE

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

FHWA

6

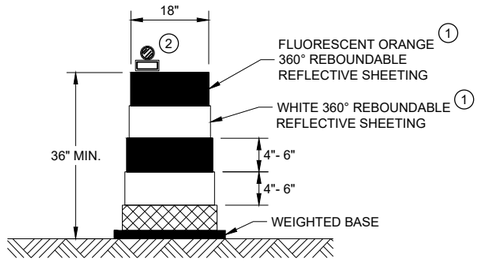
S.D.D. 15 C 8-19a

6

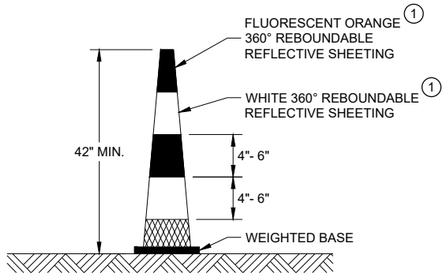
S.D.D. 15 C 8-19a

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.

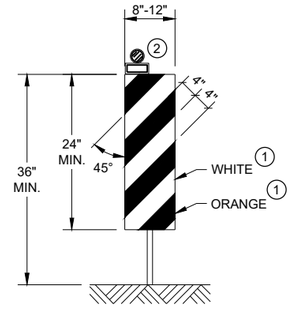


DRUM



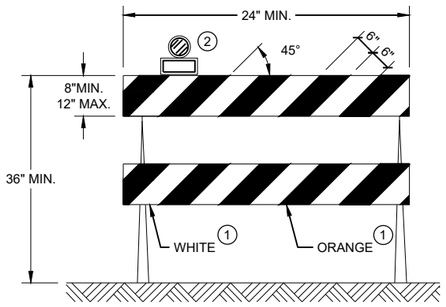
42" CONE

DO NOT USE IN TAPERS
½ SPACING OF DRUMS



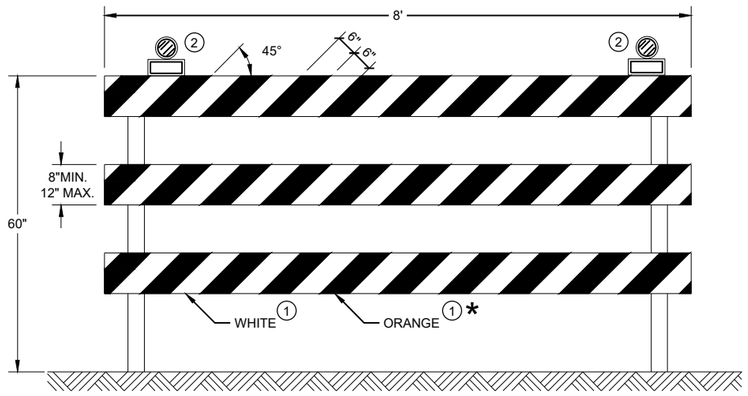
VERTICAL PANEL

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
June 2017
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

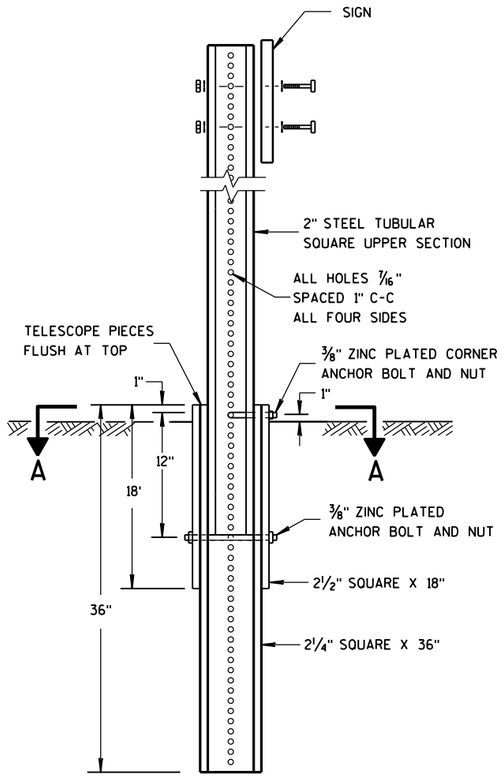
FHWA

6

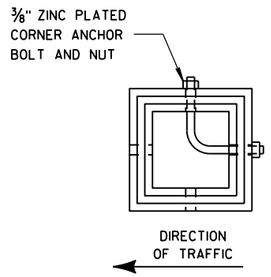
SDD 15C11 - 07b

6

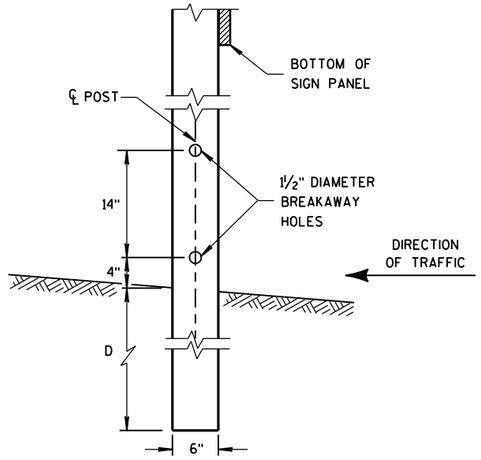
SDD 15C11 - 07b



DETAIL OF TUBULAR STEEL SIGN POST



SECTION A-A



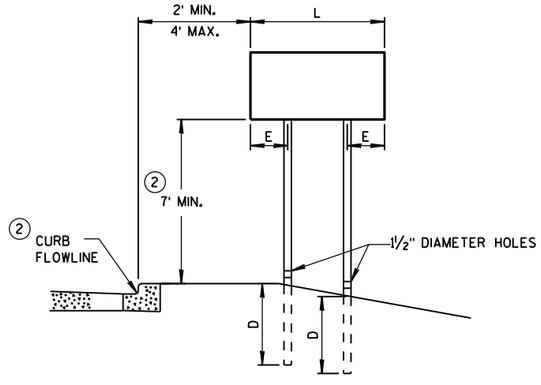
4"x6" WOOD POST MODIFICATION

GENERAL NOTES

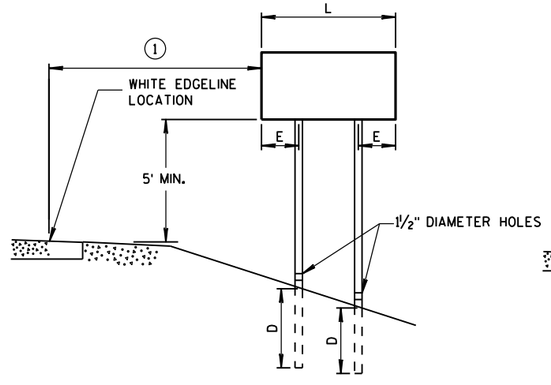
(1) 6 FEET FROM THE EDGE OF PAVEMENT (EDGE LINE LOCATION) UNLESS OTHERWISE DIRECTED BY THE PROJECT ENGINEER. LATERAL OFFSET SHOULD BE ADJUSTED TO AVOID THE DITCH FLOWLINE.

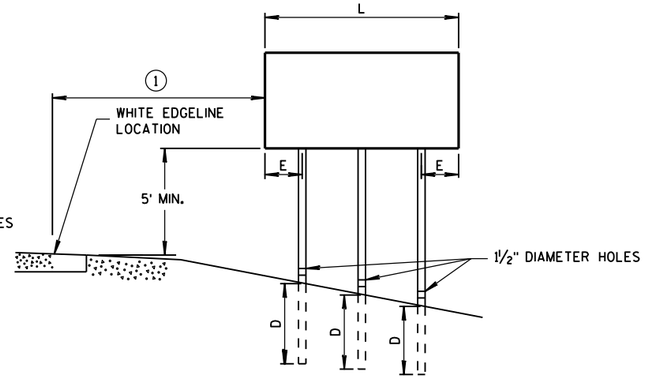
(2) THE EXISTENCE OF CURB AND GUTTER DOES NOT IN ITSELF MANDATE THE VERTICAL CLEARANCE ILLUSTRATED. THAT HEIGHT IS TYPICALLY MEASURED WHERE THERE IS SIDEWALK ADJACENT TO THE ROADWAY OR PARKING IS PERMITTED. IN THE ABSENCE OF SIDEWALK, VERTICAL CLEARANCE IS MEASURED FROM THE TOP OF THE CURB. IF NO SIDEWALK AND NO PARKING, VERTICAL CLEARANCE MAY BE REDUCED TO 5 FOOT MINIMUM. OFFSET OF SIGNS IS MEASURED FROM THE CURB FLOWLINE.

(3) FOR SIGNS REQUIRING 4 POSTS, SPACE INTERMEDIATE POSTS EVENLY.



URBAN AREA





RURAL AREA

POST MOUNTING DETAIL FOR TEMPORARY TRAFFIC CONTROL FIXED MESSAGE SIGNS

TUBULAR STEEL POSTS

AREA OF SIGN INSTALLATION (SQ. FT.)	NUMBER OF REQUIRED TUBULAR STEEL 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).

SIGNS LARGER THAN 27 SQ. FT. SHALL NOT BE MOUNTED ON TUBULAR STEEL POSTS.

WOOD POST EMBEDMENT DEPTH

AREA OF SIGN INSTALLATION (SQ. FT.)	D (MIN)
20 OR LESS	4'
GREATER THAN 20	5'

4" X 6" WOOD POST

POST SPACING REQUIREMENTS		NUMBER OF WOOD POSTS REQUIRED
L	E	
48" OR LESS AND LESS THAN 20 SQ. FT.	-	1
LESS THAN 60"	12"	2
60" TO 120"	L/5	2
GREATER THAN 120" LESS THAN 168"	12"	3
168" AND GREATER	12"	4

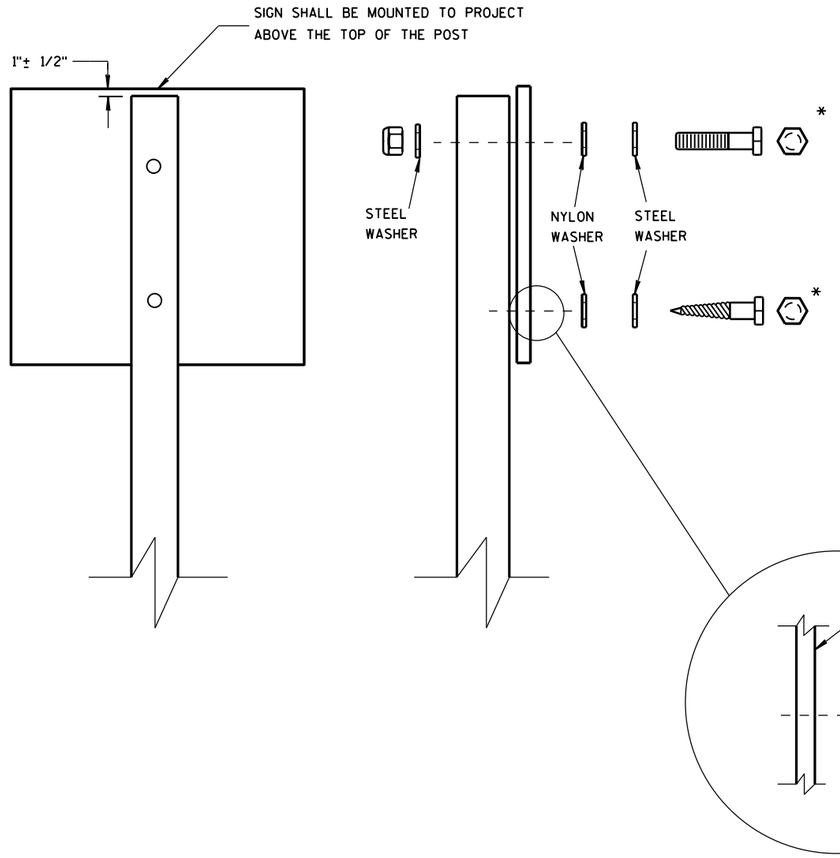
SEE NOTE (3)

TEMPORARY TRAFFIC CONTROL SIGN MOUNTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

S.D.D. 15 D 38-2a
S.D.D. 15 D 38-2a



WASHER PLACEMENT WHEN SIGN HAS OTHER THAN TYPE H OR TYPE F FACE

NUTS, BOLTS AND LAGS USED FOR MOUNTING SIGNS SHALL HAVE HEXAGONAL HEADS AND SHALL BE EITHER:

A. HOT DIP GALVANIZED IN ACCORDANCE WITH ASTM DESIGNATION: A 153, CLASS D, OR SC 3

B. ELECTRO-GALVANIZED IN ACCORDANCE WITH ASTM DESIGNATION: B 633, TYPE III, SC 3

THREADS ON BOLTS AND NUTS SHALL BE MANUFACTURED WITH SUFFICIENT ALLOWANCE FOR THE CADMIUM PLATE OR GALVANIZED COATING TO PERMIT THE NUTS TO RUN FREELY ON THE BOLTS.

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

LAG SCREWS - 3/8" X 3"

MACHINE BOLTS - 5/16" X 6-1/2" OR 7" LENGTH W/ NUTS

SQUARE STEEL POSTS (2" x 2")

MACHINE BOLTS - 3/8" X 3-1/4" LENGTH W/ NUTS

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

WASHERS (ALL POSTS) -

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

1-1/4" O.D. X 3/8" I.D. X .080 NYLON FOR ALL TYPE H SIGNS

* 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. FOR A SINGLE POST INSTALLATION, ALL SIGNS GREATER THAN 9 SQ. FT. REQUIRE THE USE OF 3 FASTENERS.

6

6

S.D.D. 15 D 38-2b

S.D.D. 15 D 38-2b

ATTACHMENT OF SIGNS TO POSTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

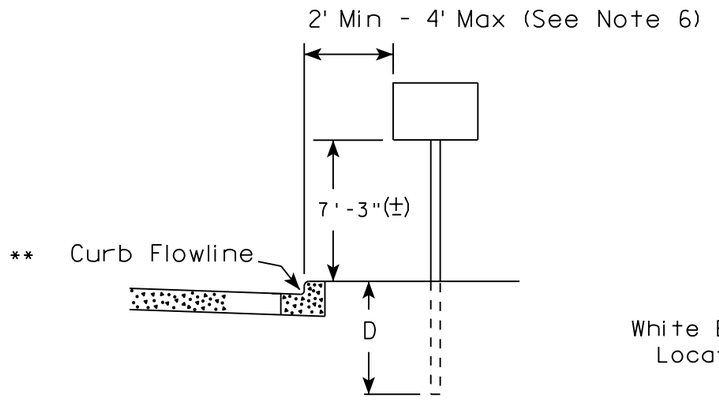
APPROVED

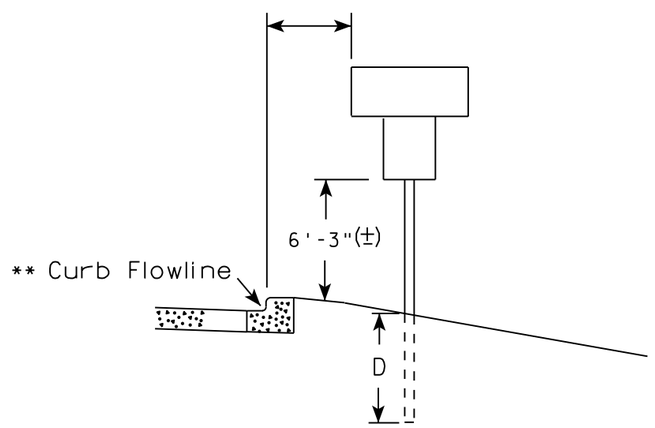
June 2017
DATE

/S/ Andrew Heldtke
WORK ZONE ENG

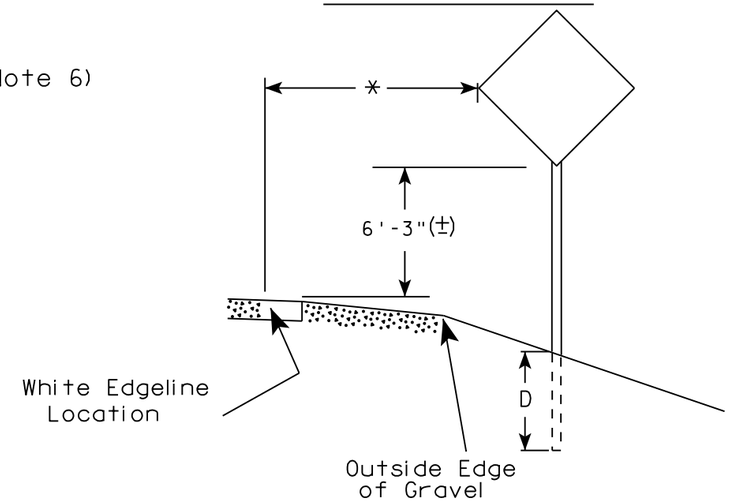
FHWA

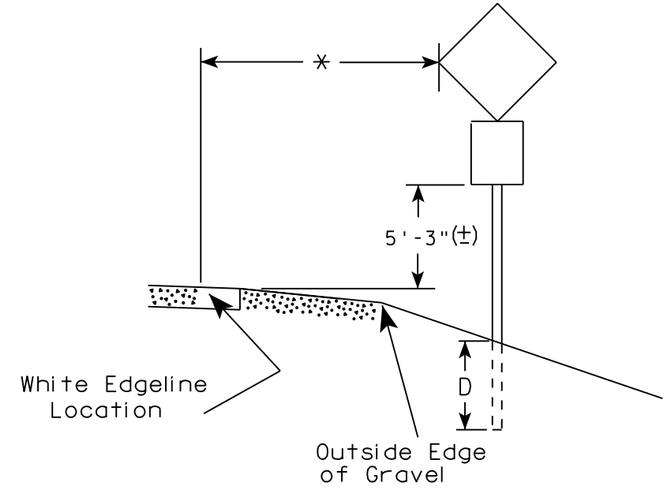
URBAN AREA





RURAL AREA (See Note 2)





GENERAL NOTES

1. Signs wider than 4 feet or 20 sq.ft or larger, shall be mounted on multiple posts. Refer to plate A4-4.
2. If signs are mounted on barrier wall, see A4-10 sign plate.
3. For expressways and freeways, mounting height is 7'- 3" (±) or 6'-3" (±) depending upon existence of a sub-sign.
4. J-Assemblies are considered to be one sign for mounting height.
5. Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±).
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. The (±) tolerance for mounting height is 3 inches.
8. Folding signs shall be mounted at a height of 5'-3" (±) or as directd by the Engineer.
9. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Enhanced Reference Markers, Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4'-3" (±).

POST EMBEDMENT DEPTH

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

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

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

TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

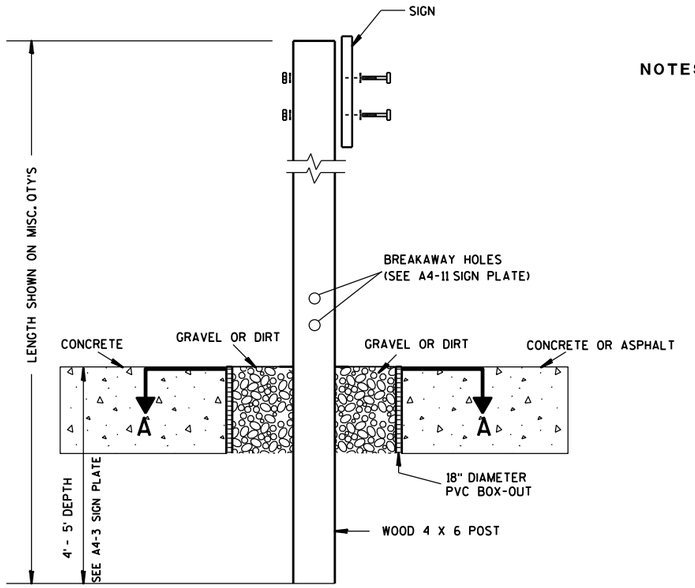
APPROVED Matthew R Rauch for State Traffic Engineer

DATE 8/21/17 PLATE NO. A4-3.21

7

7

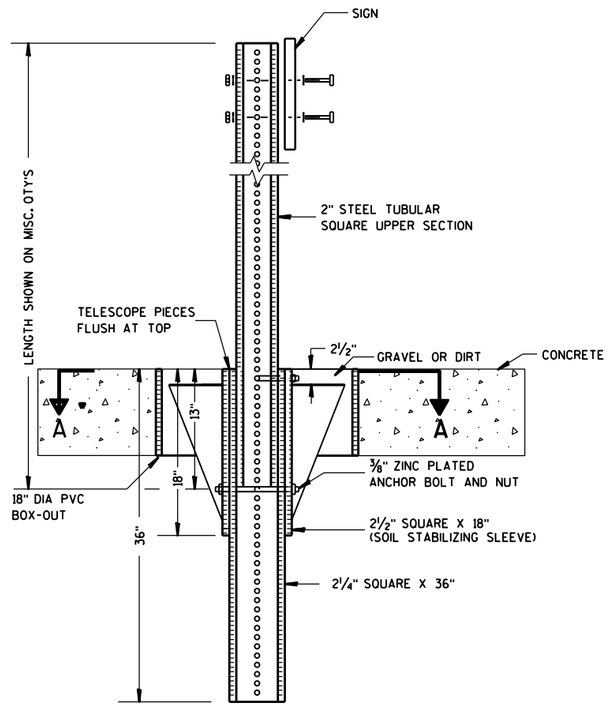
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 47	E



ELEVATION VIEW

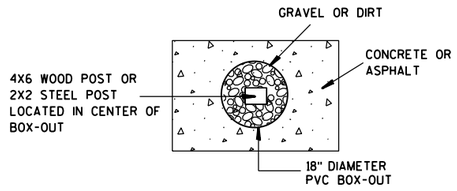
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

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

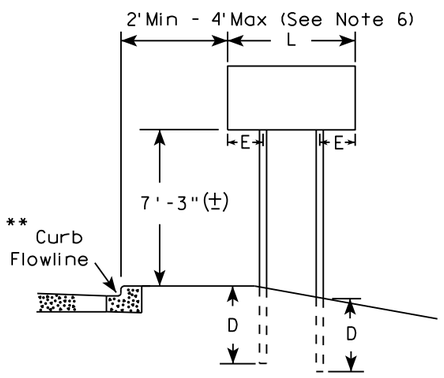
APPROVED Matthew R Rauch
for State Traffic Engineer

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

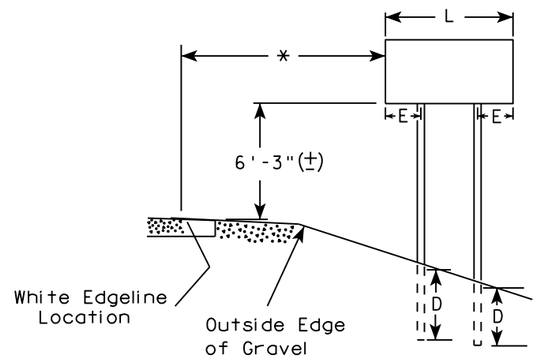
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

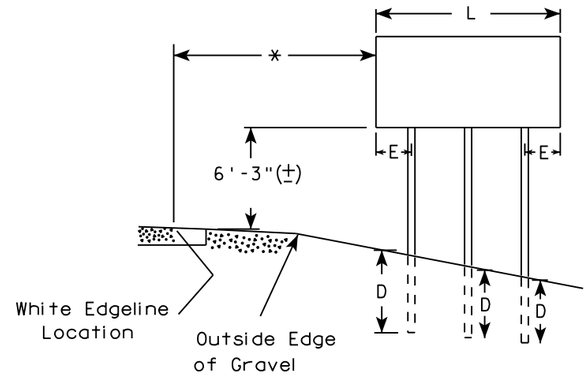
FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A43B.DGN PLOT DATE : 27-JAN-2014 09:48 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 13.659812:1.000000 WISDOT/CADDS SHEET 42

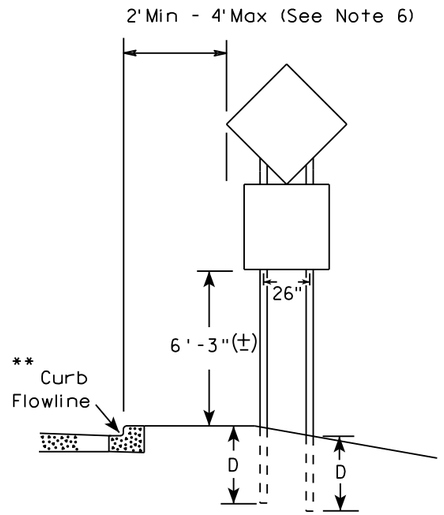
URBAN AREA



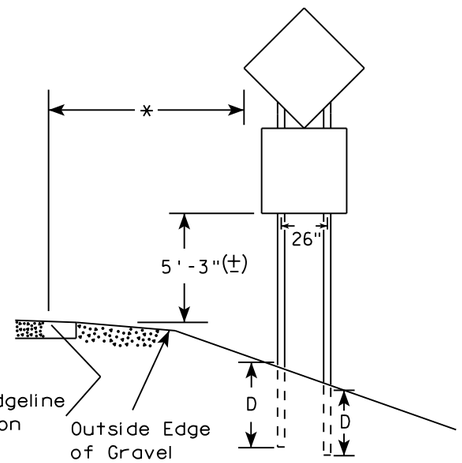
RURAL AREA (See Note 3)







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'

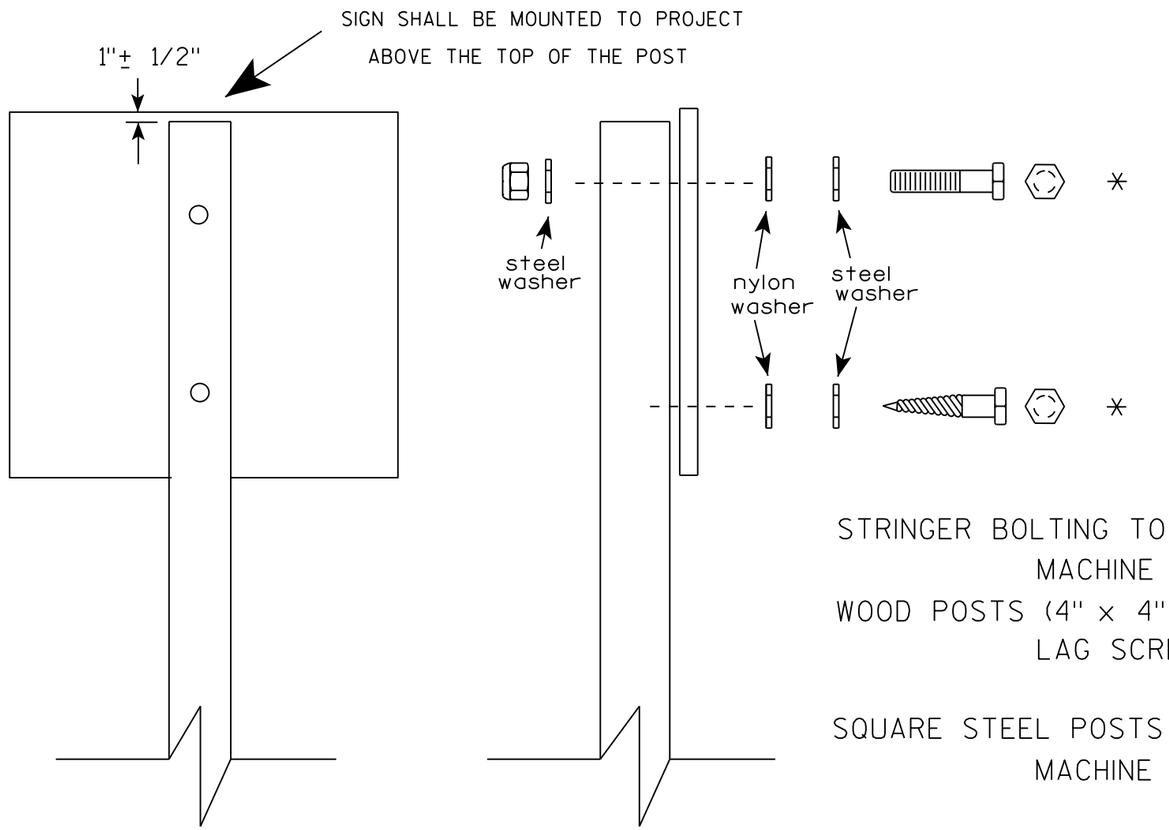
TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

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: 49	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 4" or 4" x 6")

LAG SCREWS - 3/8" X 3" (NO STRINGERS ON BACK OF SIGN)
3/8" X 4" (STRINGERS ON BACK OF SIGN)

SQUARE STEEL POSTS (2" x 2")

MACHINE BOLTS - 3/8" X 3-1/4" Length w/ nuts (NO STRINGER ON BACK OF SIGN)
3/8" X 5" Length w/ nuts (STRINGERS ON BACK OF SIGN)

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

WASHERS (ALL POSTS) -

1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON

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

ATTACHMENT OF SIGNS TO POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

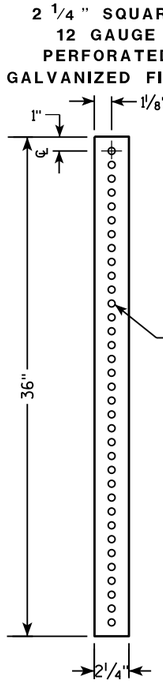
DATE 8/11/16 PLATE NO. A4-8.8

PROJECT NO: SHEET NO: E

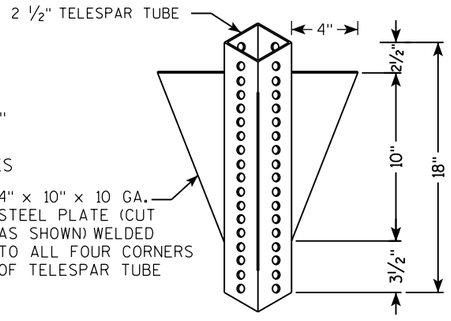
FILE NAME : C:\CAEfiles\Projects\tr_stdplate\A48.DGN PLOT DATE : 11-AUG-2016 11:35 PLOT BY : $$ plotuser $$

TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM

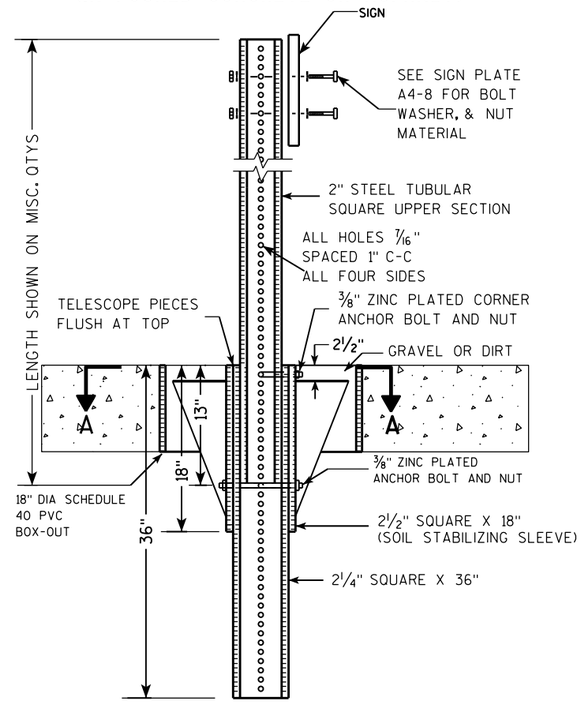
2 1/4 " SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH



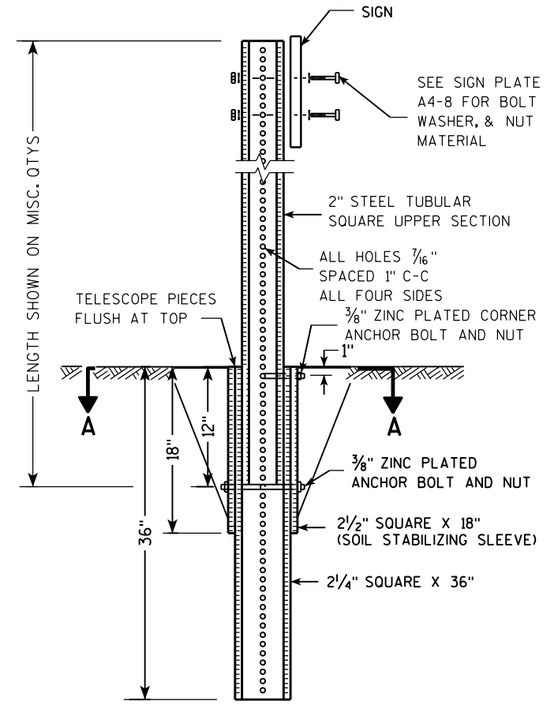
2 1/2 " SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH

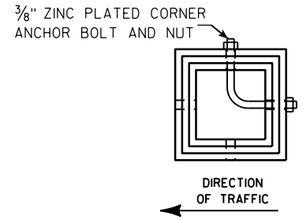


DETAIL OF TUBULAR STEEL SIGN POST
(IN POURED CONCRETE OR ASPHALT)



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

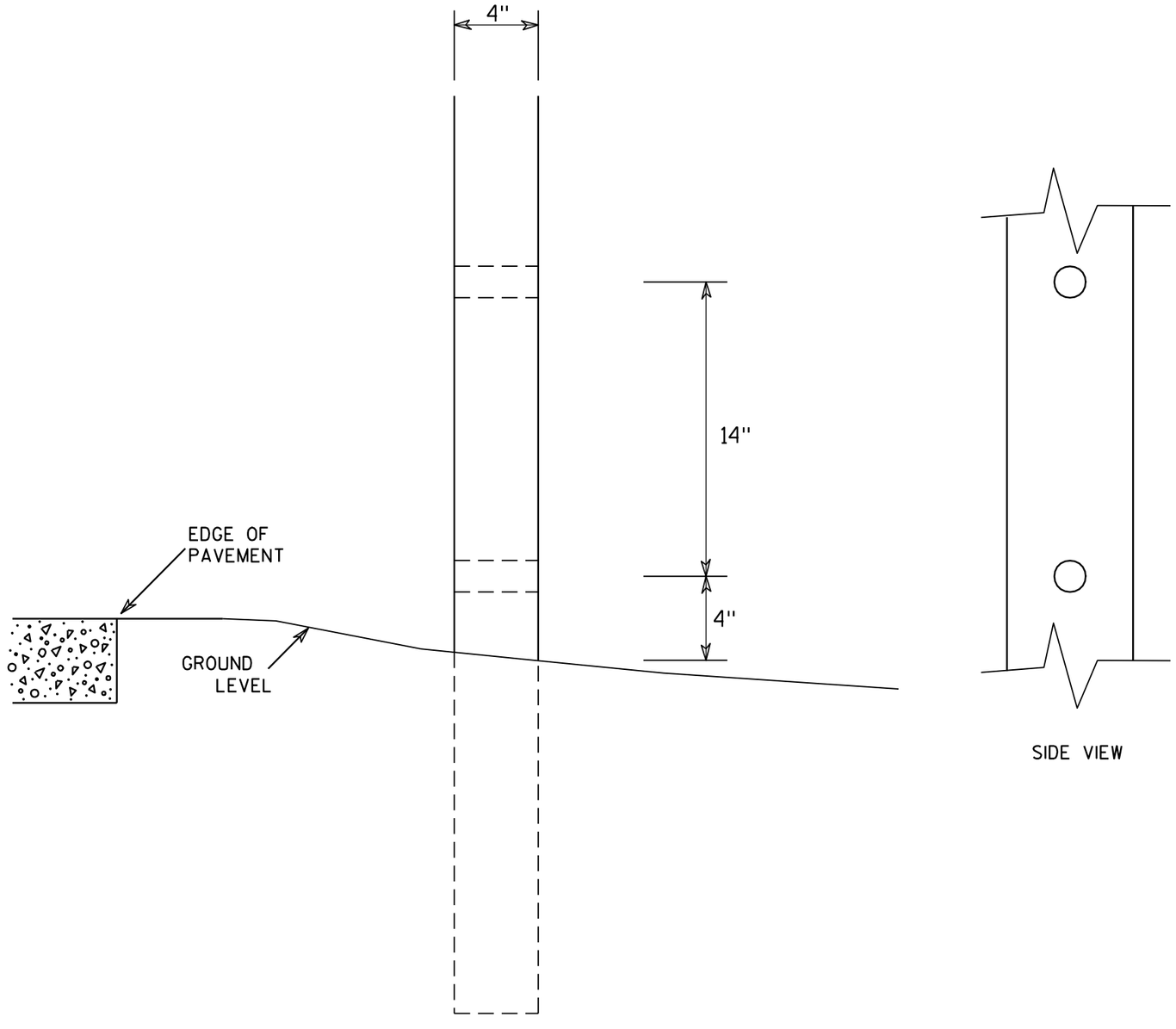
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/05/15 PLATE A4-9.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A49.DGN PLOT DATE : 05-FEB-2015 17:09 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 13.659812:1.000000
WISDOT/CADDS SHEET 42



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

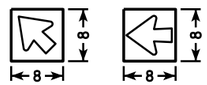
WISCONSIN DEPT OF TRANSPORTATION

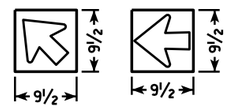
APPROVED Chester J Spang
for State Traffic Engineer

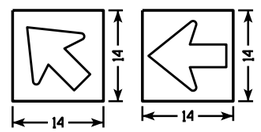
DATE 3/27/97 PLATE NO. A4-11.2

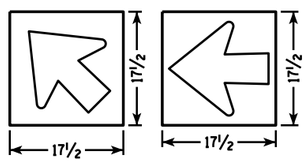
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 52	E

SIGN LAYOUT WITH VARIOUS SIZED MESSAGES







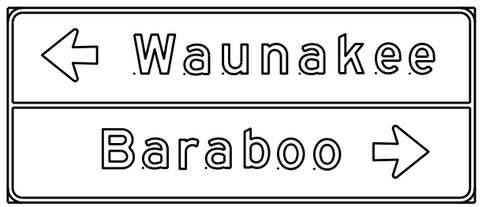


GENERAL NOTES

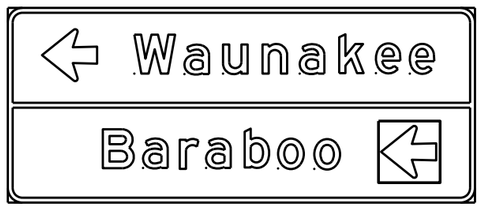
1. Materials shall conform to Standard Specification Section 637.
   Base - Sheet Aluminum 0.040" Thickness
   Sheeting - Orange Type F Reflective
   Arrow - Black Non-Reflective
2. Arrow signs shall be fastened to permanent sign by either aluminum rivets or aluminum self-tapping sheet metal screws. There shall be a minmum of 2 fasteners used per arrow sign.
3. There shall be a spacer consisting of a 0.08" nylon washer between the back of the arrow sign and the face of the permanent sign.
4. Arrows are per standard plate A1-2
5. Use separate arrow sign for each destination
6. Tilt arrow is always at 45 degrees
7. Arrow is centered on arrow sign

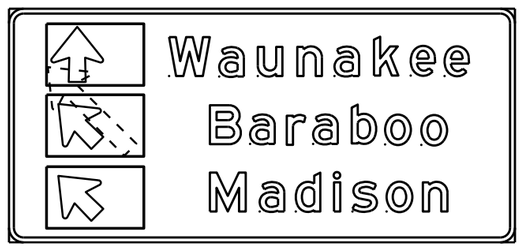
Lower Case Copy Size	Standard Width (Single Arrow)	2 Line Tilt Arrow Cover Width	3 Line Tilt Arrow Cover Width	Height
3¾" Series C	8	9 ½	14 ½	8
4½" Series D & E	9 ½	10	15	9 ½
6" Series D & E	14	16	20 ½	14
8" Series E	17 ½	20 ½	25	17 ½

BEFORE



AFTER





DESTINATION DIRECTIONAL ARROW FOR DETOUR SIGNS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 10/08/14

A4-12.2

PROJECT NO:

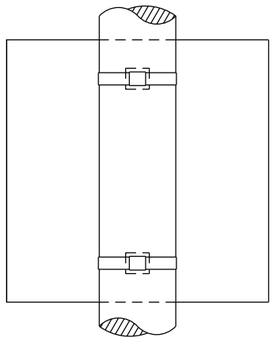
SHEET NO: E

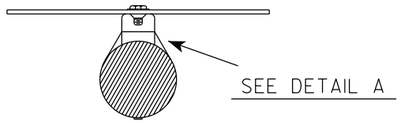
FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A412.DGN PLOT DATE : 08-OCT-2014 11:50 PLOT BY : mscsja

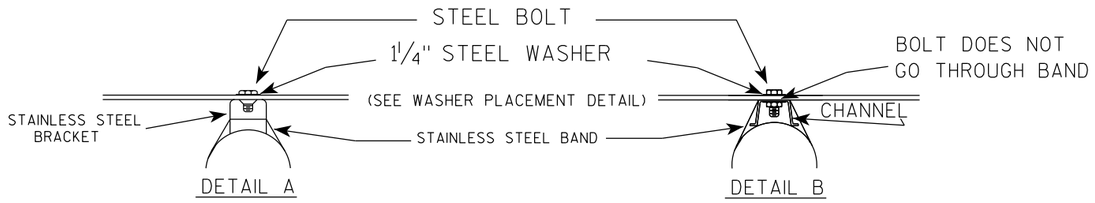
WISDOT/CADDS SHEET 42

BANDING

SINGLE SIGN



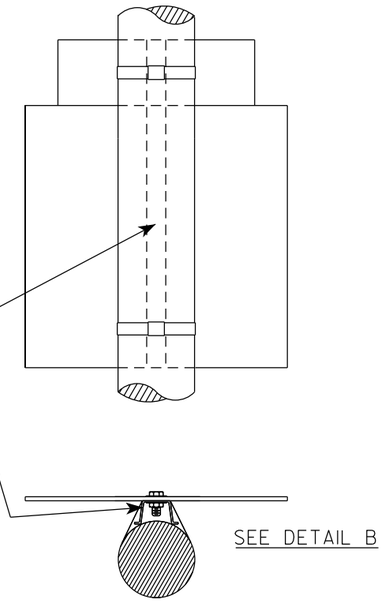




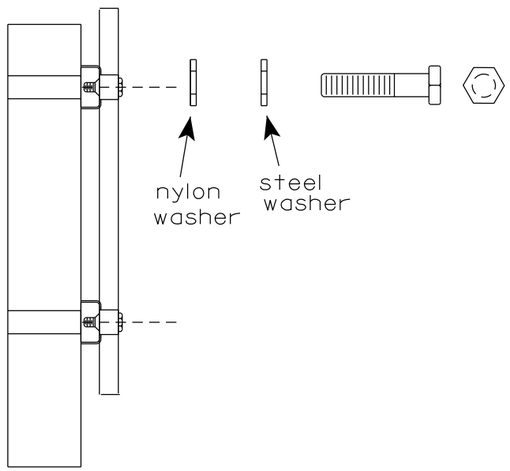
GENERAL NOTES

1. Any sign over 3 feet in width shall use the V-Block banding method. See A5-10 standard plate.
2. Signs 3 feet or greater in height shall have three bracket bands installed. Signs less than 3 feet in height shall have two bracket bands installed.
3. Banding and assembly bracket shall be stainless steel. All bands shall be ¾" in width and 0.025" thickness.
4. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
   a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D
   b. Electro-galvanized in accordance with ASTM designation: B 633, Type III, SC 3

"J" ASSEMBLY



WASHER PLACEMENT



WASHERS (ALL POSTS) -
1-1/4" O.D. X ⅜" I.D. X 1/16" STEEL
1-1/4" O.D. X ⅜" I.D. X .080 NYLON
FOR ALL TYPE H SIGNS

STANDARD SIGN
SIGN BANDING DETAILS

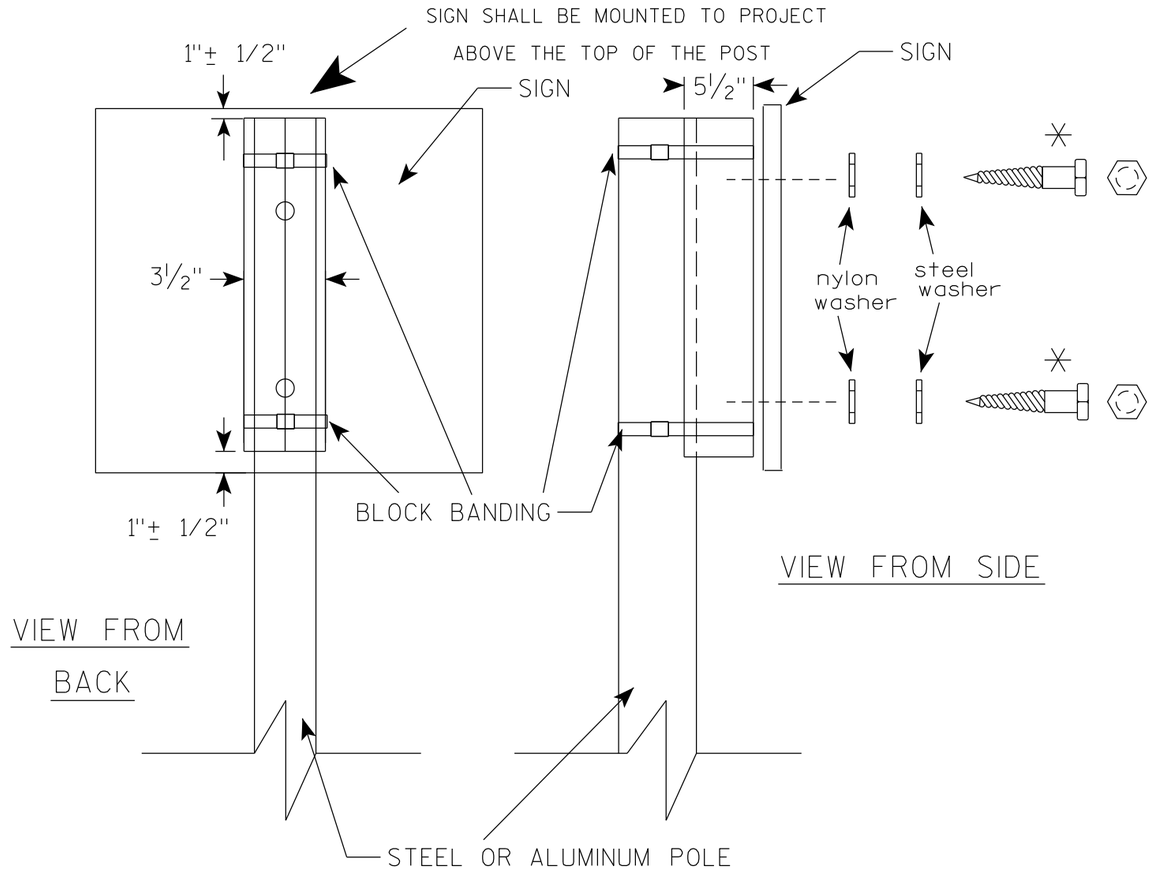
WISCONSIN DEPT OF TRANSPORTATION

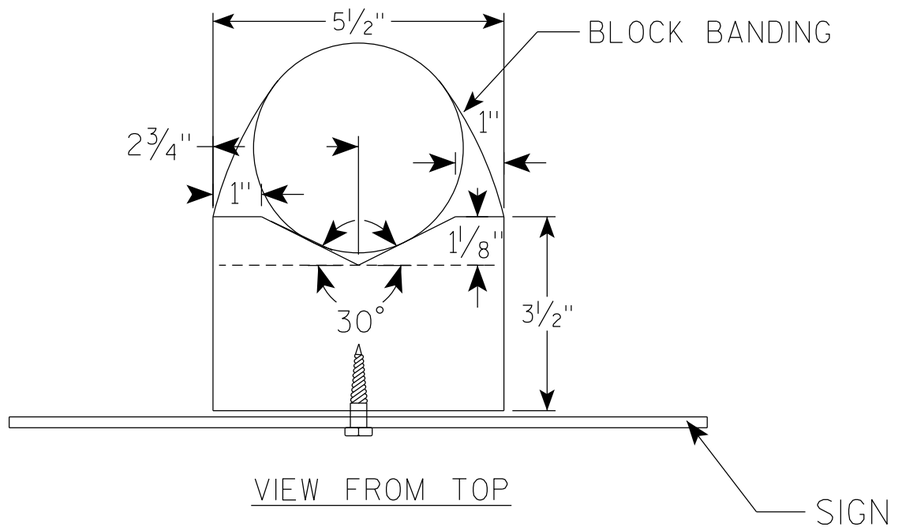
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 6/10/19 PLATE NO. A5-9.4

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 54	E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\A59.dgn PLOT DATE : 10-JUN 2019 4:10 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : $$.....plotscale.....$$





GENERAL NOTES

1. WOOD 4"X6" POST MATERIAL SHALL CONFORM TO 507.2.2 OF THE WisDOT STANDARD SPECIFICATIONS
2. BLOCK BANDING AND CLIPS SHALL BE STAINLESS STEEL, ¾" WIDTH AND 0.025" THICKNESS
3. SIGNS 3' OR GREATER IN HEIGHT SHALL UTILIZE 3 BLOCK BANDS. SIGNS UNDER 3' IN HEIGHT SHALL UTILIZE 2 BLOCK BANDS
4. ACTUAL NUMBER OF FASTENERS PER SIGN VARIES WITH THE SIGN AREA, BUT NORNALLY THERE ARE TWO. FOR SIGNS GREATER THAN 9 S.F. 3 FASTENERS SHALL BE USED.
5. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
   a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D
   b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3
6. ALL BOLTS SHALL HAVE HEXAGONAL HEADS.
7. STEEL WASHERS SHALL BE 1¼" O.D. X ⅜" I.D. X 1/16"
8. NYLON WASHERS SHALL BE 1¼" O.D. X ⅜" I.D. X .080 FOR TYPE H OR TYPE F FACE SIGN

✳ LAG BOLTS SHALL BE ⅜" X 2½"

BLOCK BANDING DETAIL (V-BLOCK OPTION)

WISCONSIN DEPT OF TRANSPORTATION

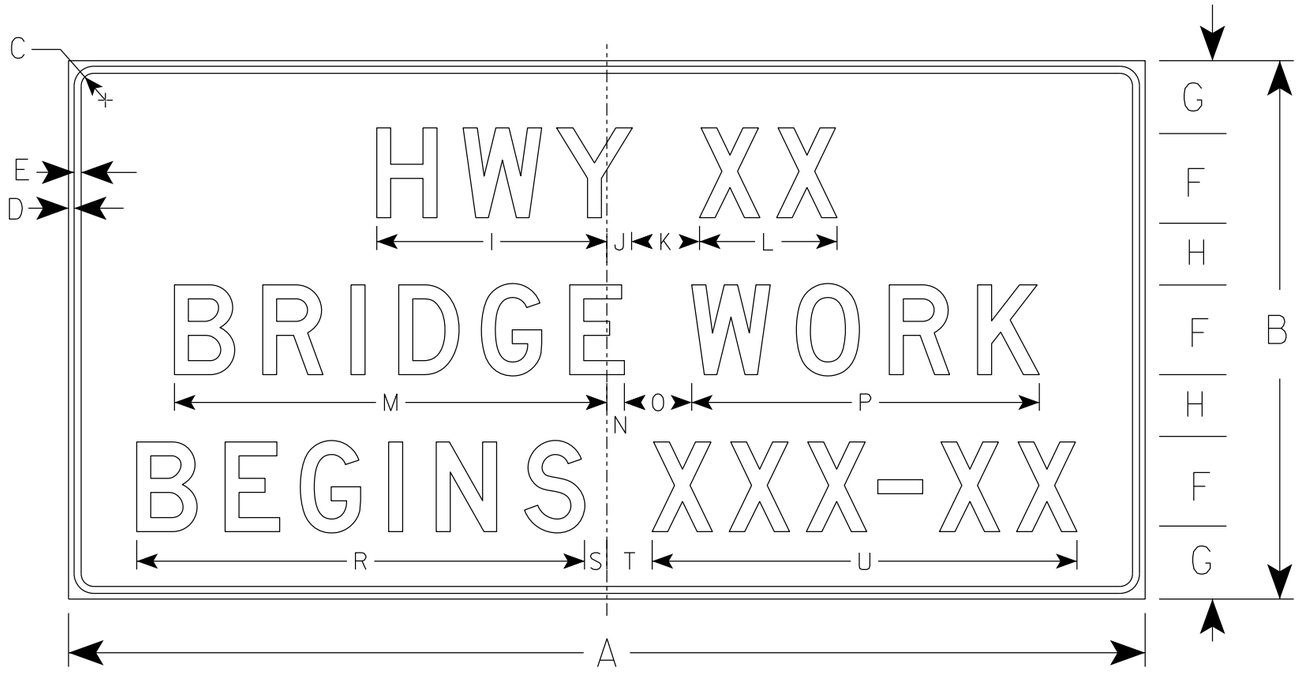
APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 6/10/19 PLATE NO. A5-10.2

PROJECT NO:				SHEET NO: 55	E

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Message Series - D
4. Substitute appropriate numeral and adjust spacing to achieve proper balance.



G20-57B

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2																											
3	72	36	1 1/8	1/2	5/8	6	5	4	15 5/8	1 5/8	5	9 1/4	29 1/8	7/8	5	23 1/4		29 7/8	1 3/4	3 1/4	28 1/2						18.0
4	96	48	2 1/4	3/4	1	8	6 1/2	5 1/2	20 5/8	2 1/4	6	12 1/4	38 1/2	1 1/2	6	31		39 1/4	2	4	37 7/8						32.0
5																											

STANDARD SIGN

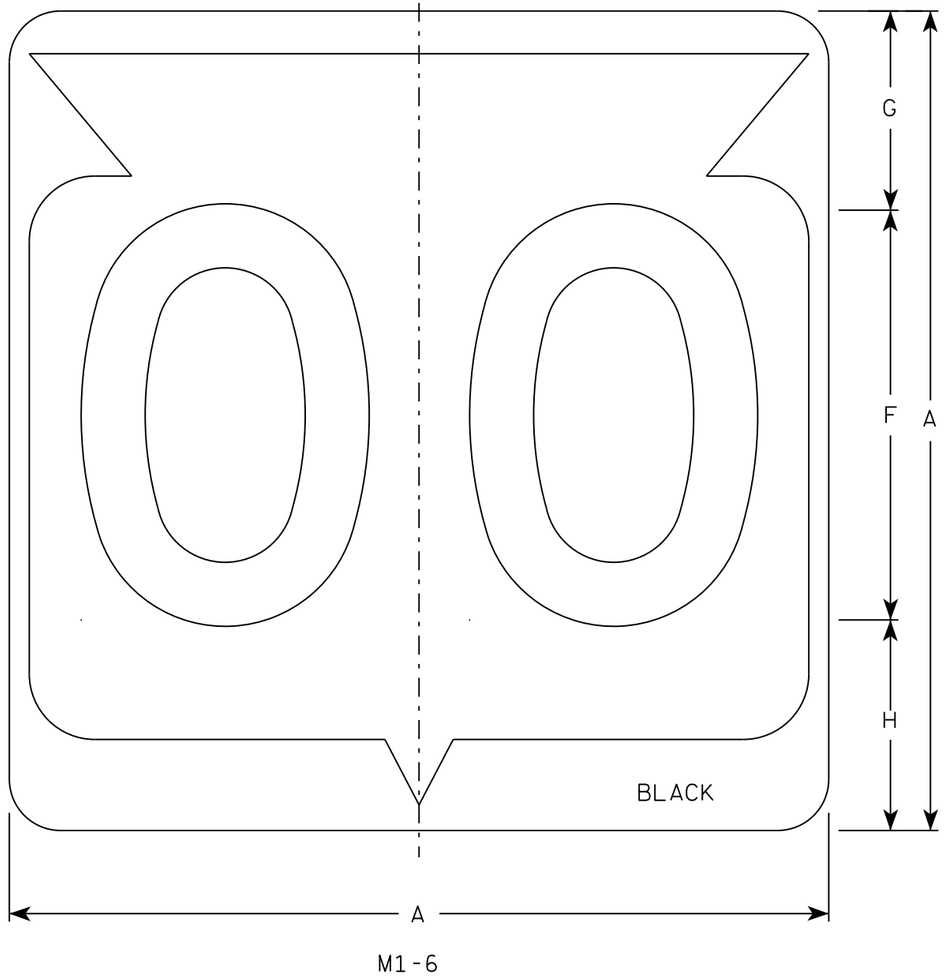
G20-57B

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 1/22/19 PLATE NO. G20-57B.1

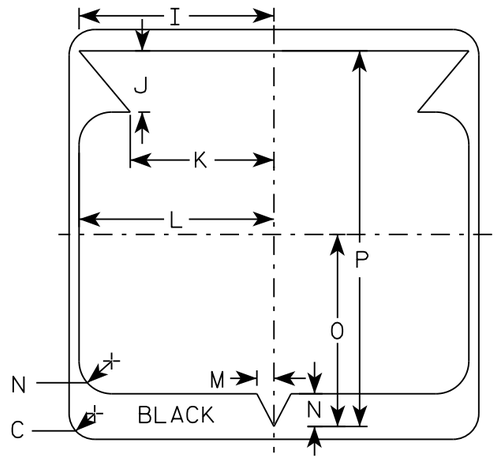
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 56	E



M1-6

NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - Black
3. Message Series - D except 3 number signs 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.



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24		1 1/2			12	5 1/2	6 1/2	10 1/4	2 1/2	8 7/8	11 1/2	1	1 7/8	11 1/4	21 7/8											4.0
3	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0
4	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0
5	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0

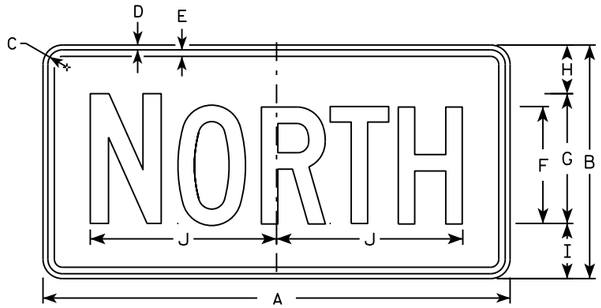
STATE ROUTE MARKER M1-6 FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

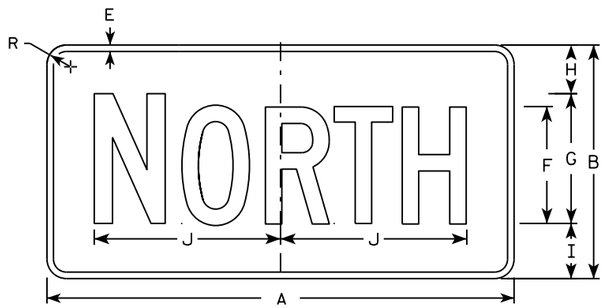
APPROVED Matthew R Rauch for State Traffic Engineer

DATE 3/16/18 PLATE NO. M1-6.10

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



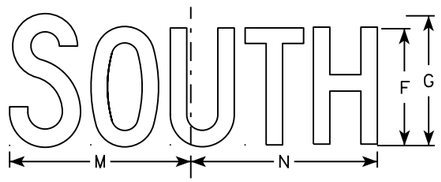
M3-1
MM3-1
MP3-1



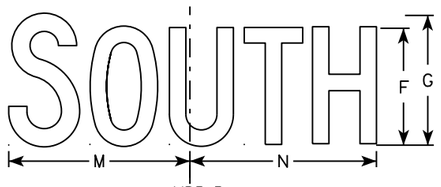
MB3-1
MK3-1
MN3-1

M3-2
MM3-2
MP3-2

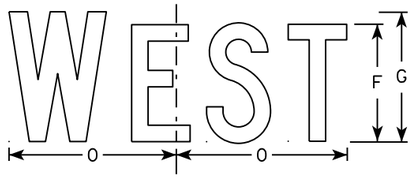
MB3-2
MK3-2
MN3-2



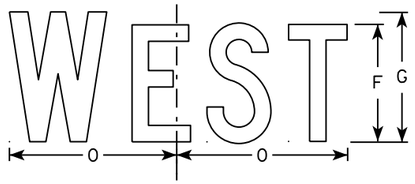
M3-3
MM3-3
MP3-3



MB3-3
MK3-3
MN3-3



M3-4
MM3-4
MP3-4



MB3-4
MK3-4
MN3-4

NOTES

1. All Signs Type II - Type H
2. Color:
   Background - See note 5
   Message - See note 5
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. M3-1 thru M3-4 Background - White
   Message - Black
   MB3-1 thru MB3-4 Background - Blue
   Message - White
   MK3-1 thru MK3-4 Background - Green
   Message - White
   MM3-1 thru MM3-4 Background - White
   Message - Green
   MN3-1 thru MN3-4 Background - Brown
   Message - White
   MP3-1 thru MP3-4 Background - White
   Message - Blue
6. Note the first letter of each direction is larger than the remainder of the message.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24	12	1 1/8	3/8	3/8	6	7	2 1/4	2 3/4	10 1/4	7 7/8	8 3/8	10 1/4	9 3/4	8 3/4			1 1/2									2.00
3	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5
4	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5
5	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5

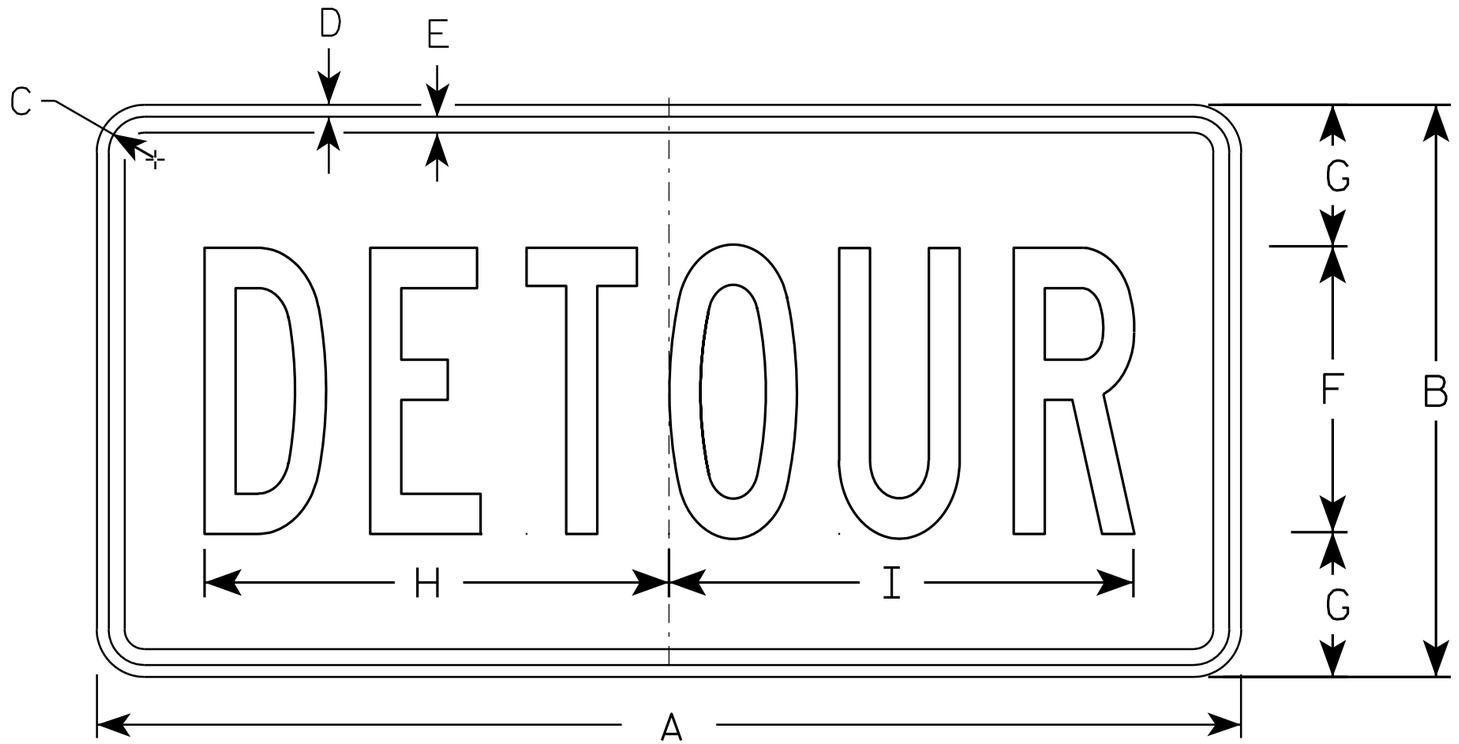
STANDARD SIGNS
M3-1 thur M3-4
SERIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew P Rauch for State Traffic Engineer

DATE 10/15/15 PLATE NO M3-1.14

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



M4-8

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 - B
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																											
2	24	12	1 1/8	3/8	3/8	6	3	10	10 1/4																		2.0
3	36	18	1 1/8	3/8	1/2	9	4 1/2	14 5/8	14 1/2																		4.5
4																											
5																											

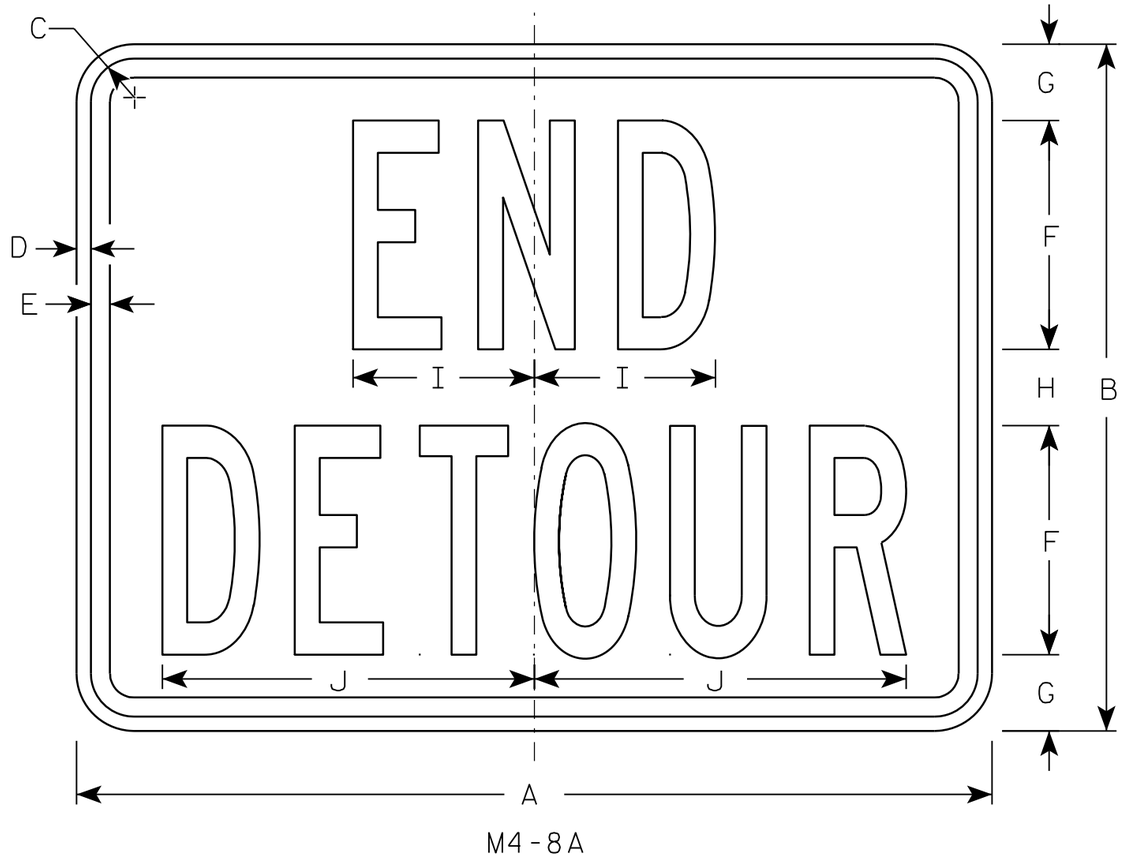
STANDARD SIGN
M4-8

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/10/10 PLATE NO. M4-8.2

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 59	E



M4-8A

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 - B
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																											
2	24	18	1 1/8	3/8	1/2	6	2	2	4 3/4	9 3/4																	3.0
3	30	24	1 1/8	3/8	1/2	8	2 1/2	3	6 3/4	13																	5.0
4																											
5																											

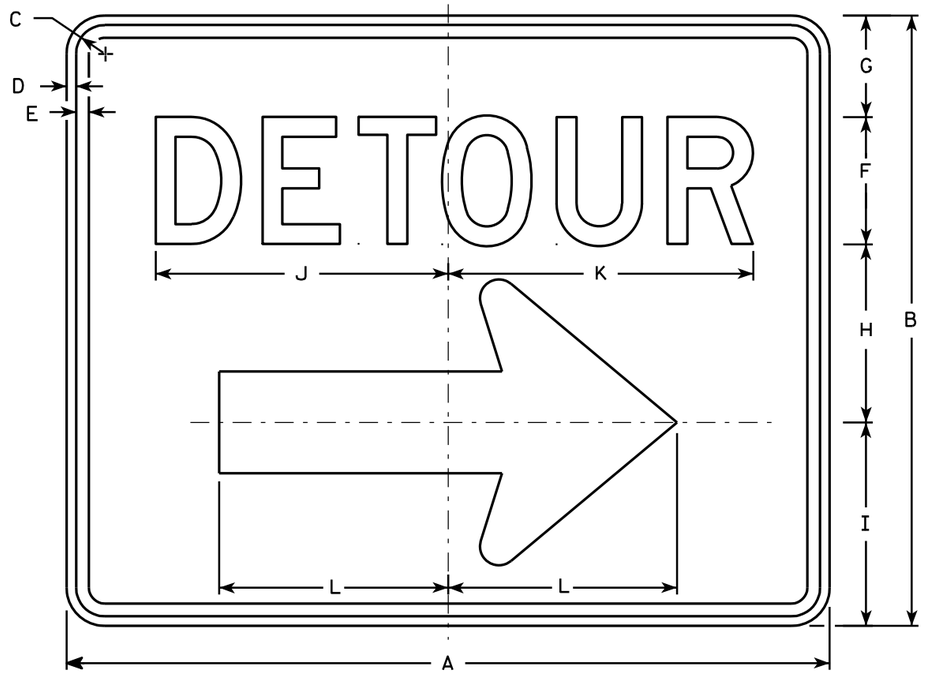
STANDARD SIGN
M4-8A

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/9/11 PLATE NO. M4-8A.2

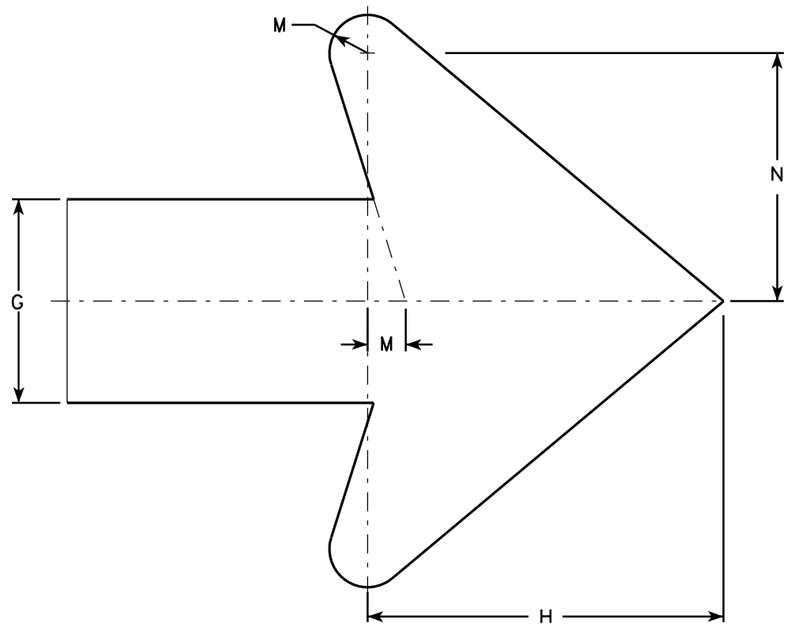
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 60	E



M4-9R

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 - 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.
5. M4-9L is the same as M4-9R except the arrow is reversed.



Arrow Detail

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	30	24	1 1/8	3/8	1/2	5	4	7	8	11 1/2	12	9	3/4	4 7/8													5.00
3	30	24	1 1/8	3/8	1/2	5	4	7	8	11 1/2	12	9	3/4	4 7/8													5.00
4	48	36	1 3/8	1/2	5/8	8	6	10 1/2	11 5/8	20 5/8	20 1/2	13 1/4	1 1/8	6 7/8													12.0
5	48	36	1 3/8	1/2	5/8	8	6	10 1/2	11 5/8	20 5/8	20 1/2	13 1/4	1 1/8	6 7/8													12.0

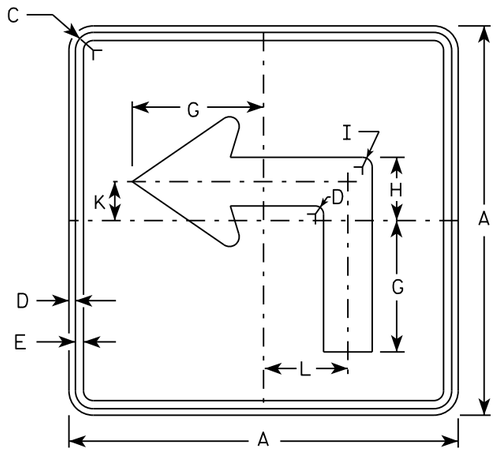
STANDARD SIGN
M4-9 R & L

WISCONSIN DEPT OF TRANSPORTATION

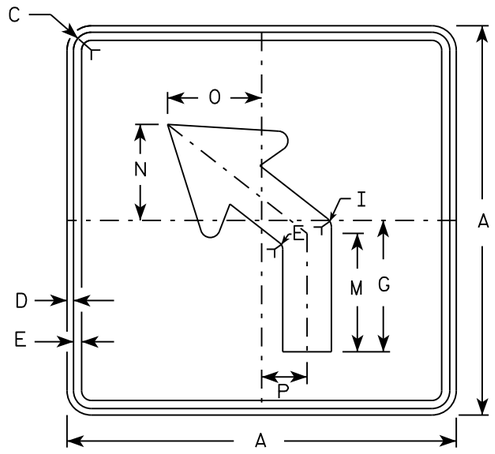
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/9/11 PLATE NO. M4-9R.4

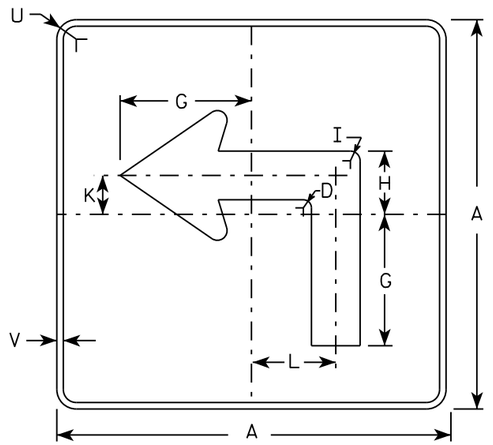
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 61 | E



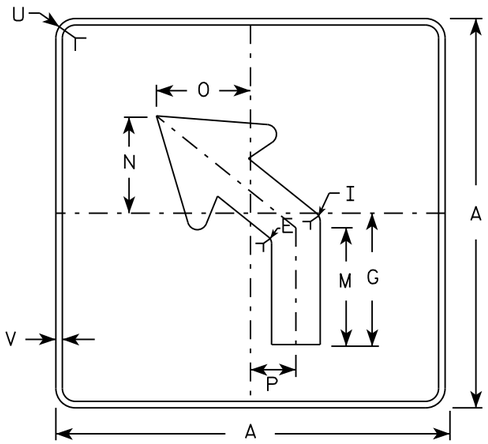
M5-1L
MM5-1L
MO5-1L
MP5-1L



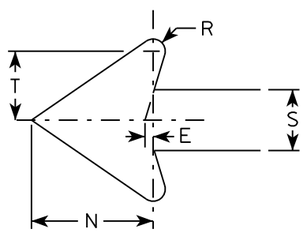
M5-2L
MM5-2L
MO5-2L
MP5-2L



MB5-1L
MK5-1L
MN5-1L
MR5-1L



MB5-2L
MK5-2L
MN5-2L
MR5-2L



NOTES

1. Signs are Type II - Type H reflective except as shown
2. Color:
   Background - See note 4
   Message - See note 4
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. M5-1 and M5-2 Background - White
   Message - Black
   MB5-1 and MB5-2 Background - Blue
   Message - White
   MK5-1 and MK5-2 Background - Green
   Message - White
   MM5-1 and MM5-2 Background - White
   Message - Green
   MN5-1 and MN5-2 Background - Brown
   Message - White
   MO5-1 and MO5-2 Background - Orange - Type F Reflective
   Message - Black
   MP5-1 and MP5-2 Background - White - Type H Reflective
   Message - Blue
   MR5-1 and MR5-2 Background - Brown
   Message - Yellow
5. M5-1R same as M5-1L except arrow points right.
6. M5-2R same as M5-2L except arrow tilts right.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	21		1 1/8	3/8	3/8		7	3 3/8	5/8		2 1/8	4 1/2	6 3/8	5 1/4	5	2 1/2		1/2	2 5/8	3	1 1/2	1/2					3.06
3	30		1 3/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 7/8	1/2					6.25
4	30		1 3/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 7/8	1/2					6.25
5	30		1 3/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 7/8	1/2					6.25

STANDARD SIGN
M5-1 & M5-2

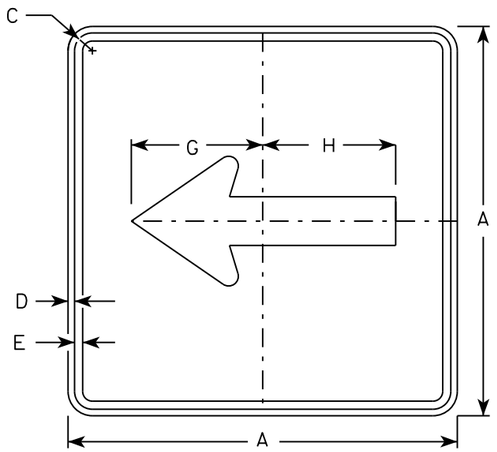
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

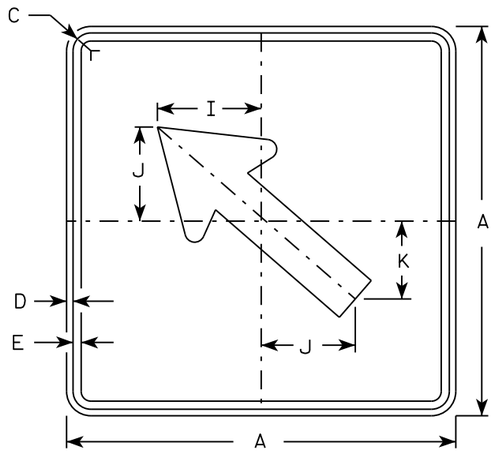
DATE 10/15/15 PLATE NO. M5-1.13

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

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\M51.DGN PLOT DATE : 01-DEC-2015 18:07 PLOT BY : $$ plotuser $$ PLOT NAME : PLOT SCALE : 11.675051:1.000000



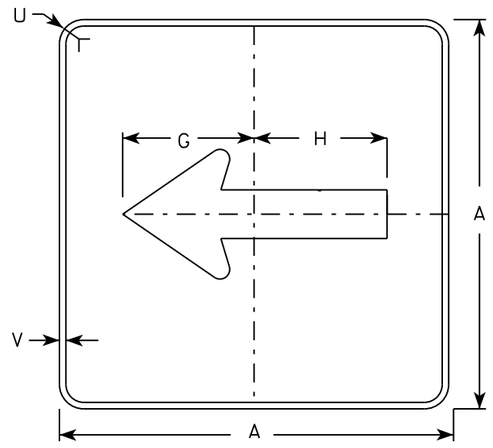
M6-1
MM6-1
MO6-1
MP6-1



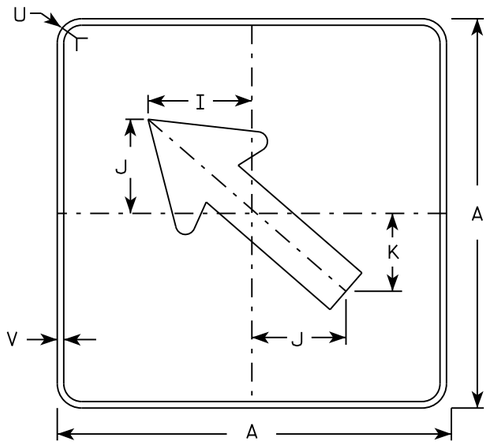
M6-2
MM6-2
MO6-2
MP6-2

NOTES

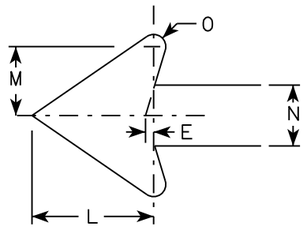
1. Signs are Type II - Type H except as Shown
2. Color:
   Background - See note 4
   Message - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. M6-1 and M6-2 Background - White
   Message - Black
   MB6-1 and MB6-2 Background - Blue
   Message - White
   MK6-1 and MK6-2 Background - Green
   Message - White
   MM6-1 and MM6-2 Background - White
   Message - Green
   MN6-1 and MN6-2 Background - Brown
   Message - White
   MO6-1 and MO6-2 Background - Orange - Type F Reflective
   Message - Black
   MP6-1 and MP6-2 Background - White
   Message - Blue
   MR6-1 and MR6-2 Background - Brown
   Message - Yellow



MB6-1
MK6-1
MN6-1
MR6-1



MB6-2
MK6-2
MN6-2
MR6-2



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	21		1 1/8	3/8	3/8		7 1/2	7 1/8	5 5/8	5	4 1/4	5 1/4	3	2 5/8	1/2						1 1/2	1/2						3.06
3	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2						6.25
4	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2						6.25
5	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2						6.25

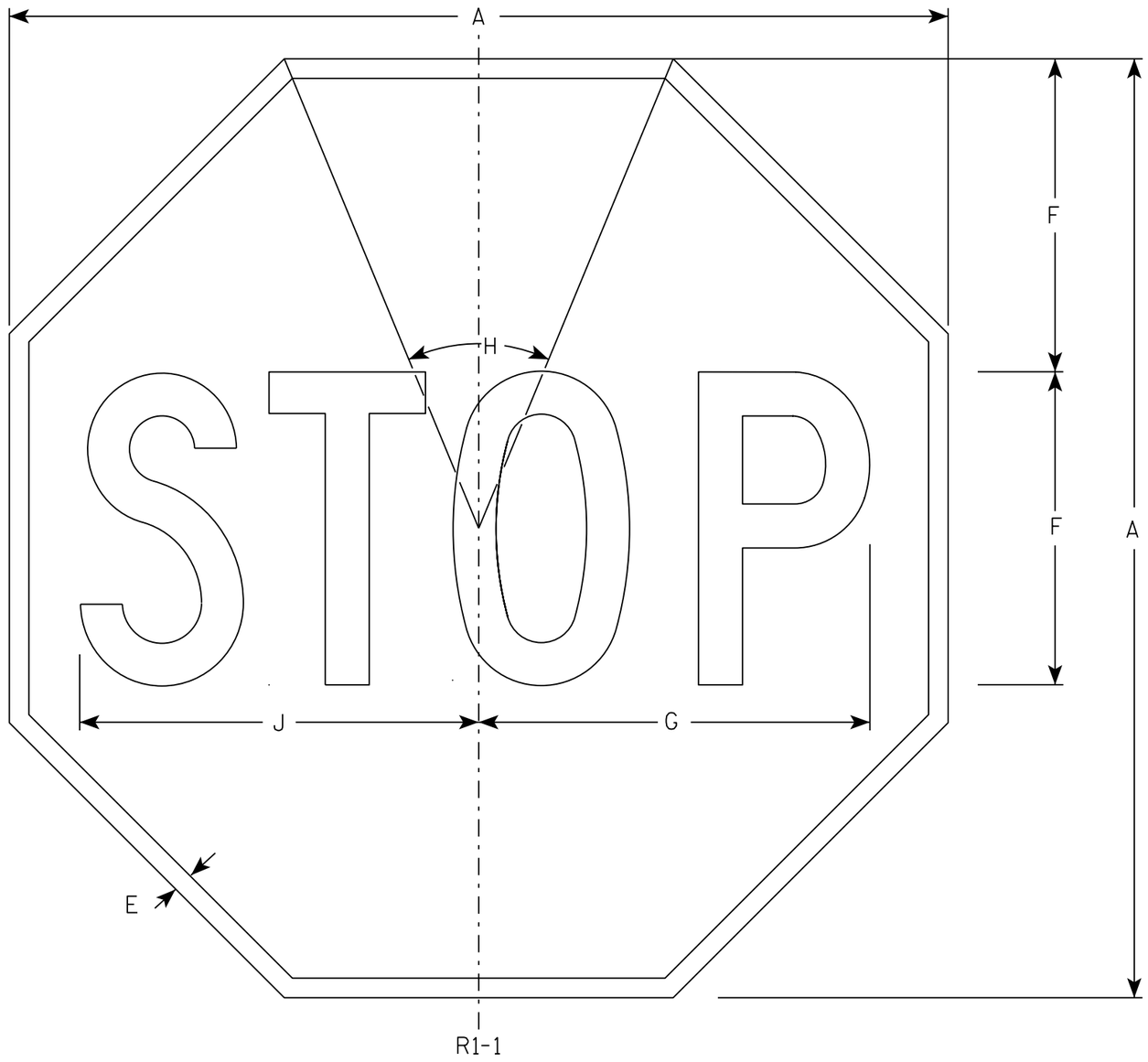
STANDARD SIGN
M6-1 & M6-2
SERIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 10/15/15 PLATE 63 M6-1.15

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E



NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30				5/8	10	12 1/2	45°		12 3/4																	5.18
2S	30				5/8	10	12 1/2	45°		12 3/4																	5.18
2M	36				3/4	12	15	45°		15 3/8																	7.46
3	36				3/4	12	15	45°		15 3/8																	7.46
4	48				1	16	20	45°		20 1/2																	13.25
5	48				1	16	20	45°		20 1/2																	13.25
6	18				3/8	6	7 3/4	45°		7 3/4																	1.86
7	12				1/4	4	5	45°		5 1/8																	0.78

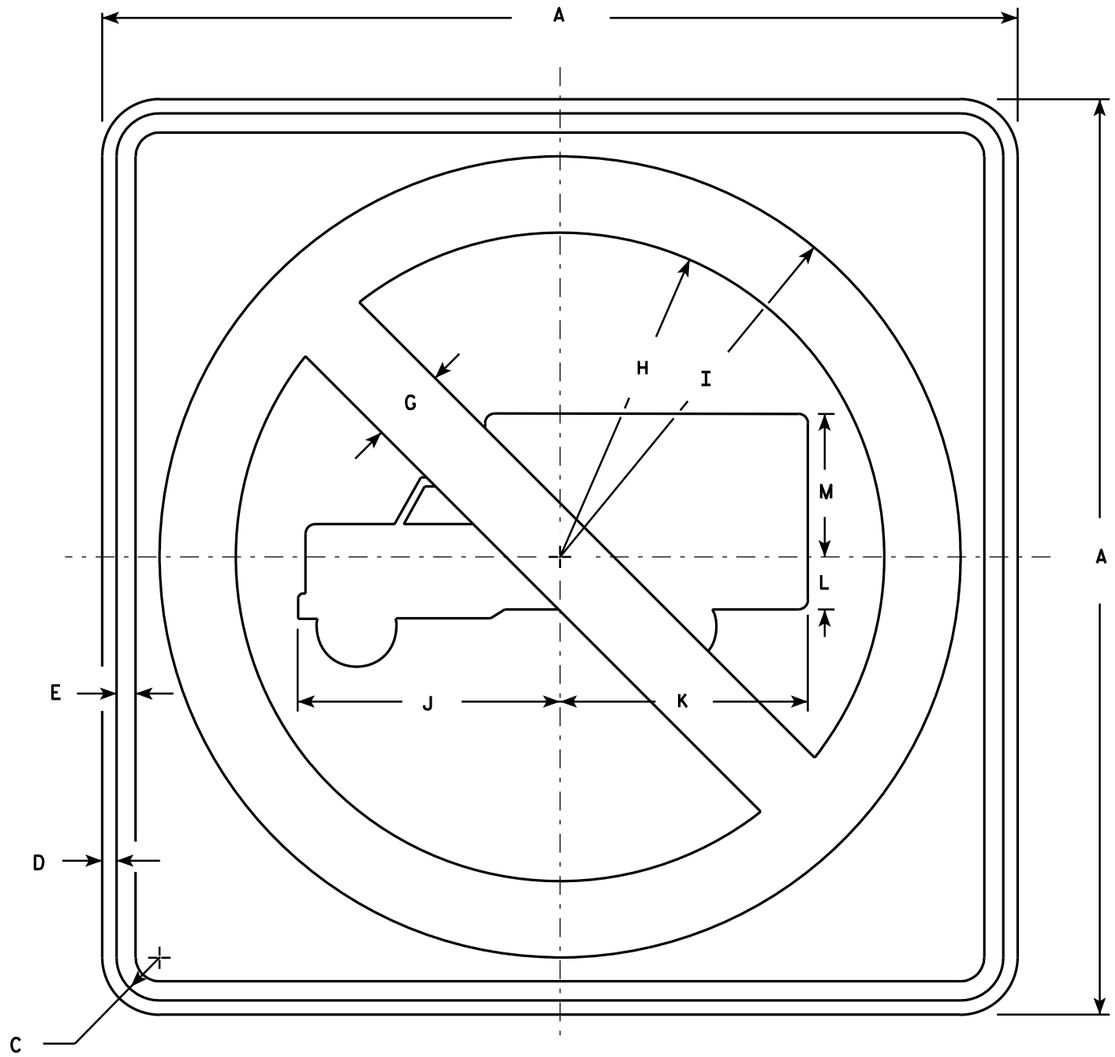
STANDARD SIGN
R1-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/12/15 PLATE NO. R1-1.13

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



R5-2

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 - See Note 4
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. Circle & Diagonal - Reflective red.
   Truck Symbol & Border - Non-reflective black.

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	24		1 1/8	3/8	1/2		2	8 1/2	10 1/2	6 7/8	6 1/2	1 3/8	3 3/4														4.0
2M	24		1 1/8	3/8	1/2		2	8 1/2	10 1/2	6 7/8	6 1/2	1 3/8	3 3/4														4.0
3	30		1 3/8	1/2	5/8		2 1/2	10 5/8	13 1/8	8 1/2	8 1/8	1 5/8	4 3/4														6.25
4	36		1 5/8	5/8	3/4		3	12 3/4	15 3/4	10 1/4	9 3/4	2	5 3/4														9.0
5	48		2 1/4	3/4	1		4	17	21	13 5/8	13	2 5/8	7 5/8														16.0

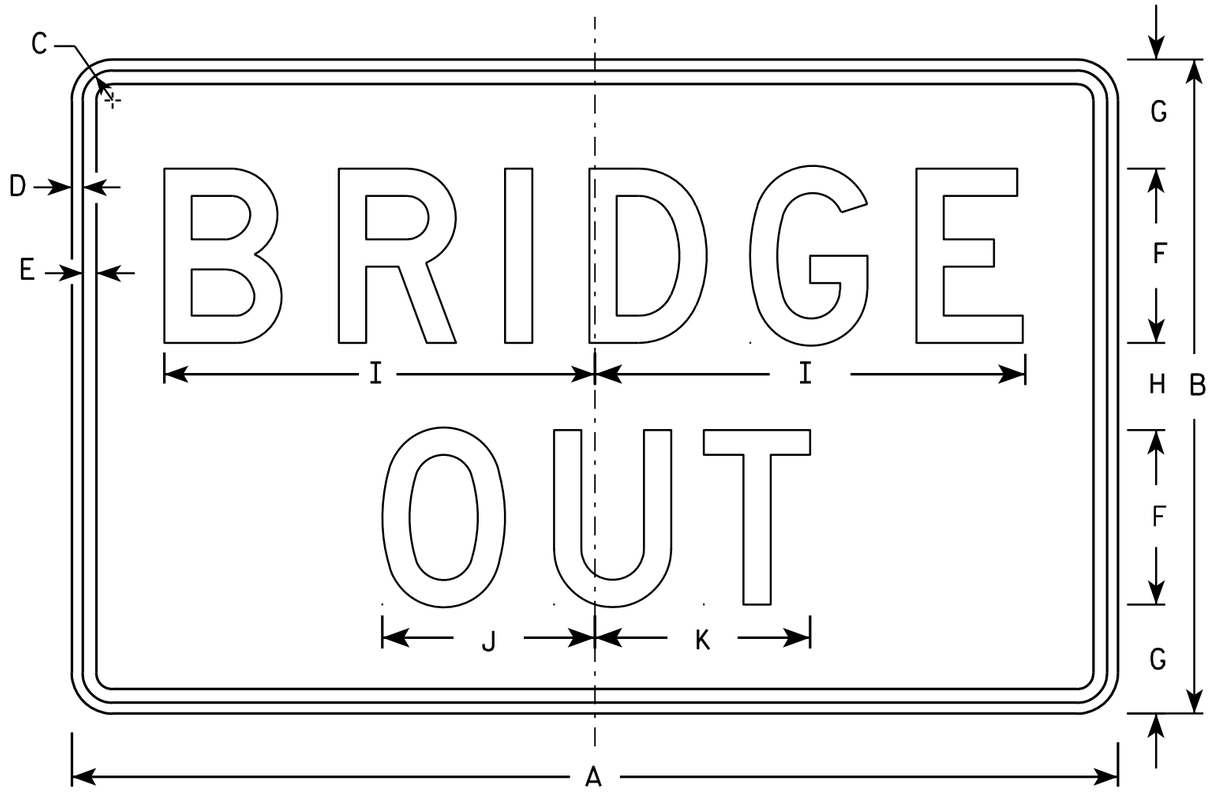
STANDARD SIGN
R5-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/29/2011 PLATE NO. R5-2.6

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 65	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

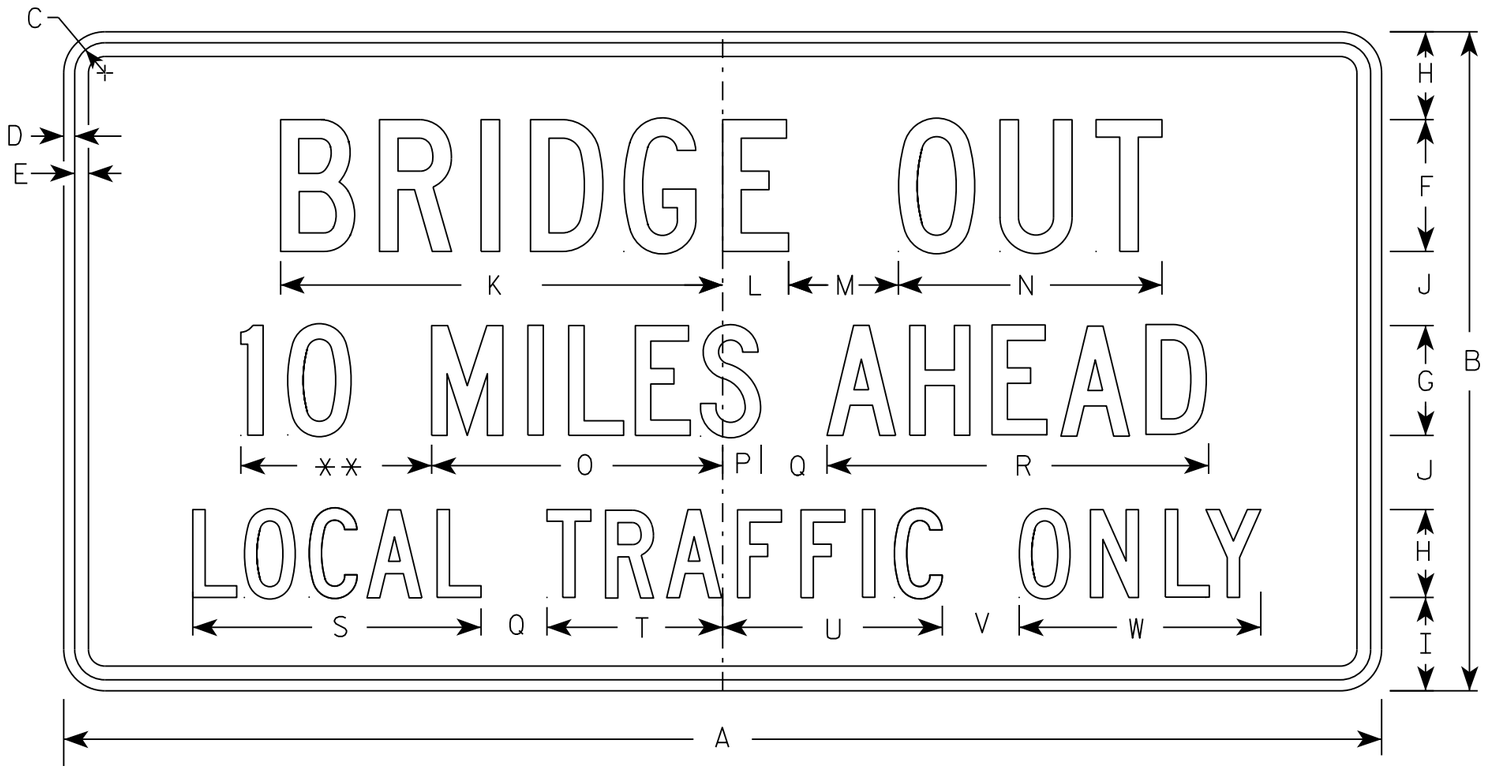
PROJECT NO:

SHEET NO: 66 E

7

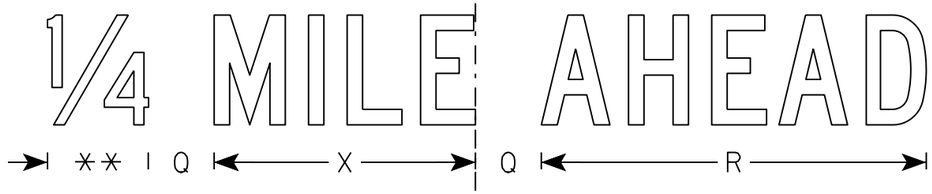
FILE NAME : C:\Users\PROJECTS\tr_stdplate\R112B.DGN PLOT DATE : 01-APR-2011 14:23 PLOT BY : mscj9h

WISDOT/CADDS SHEET 42



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																											

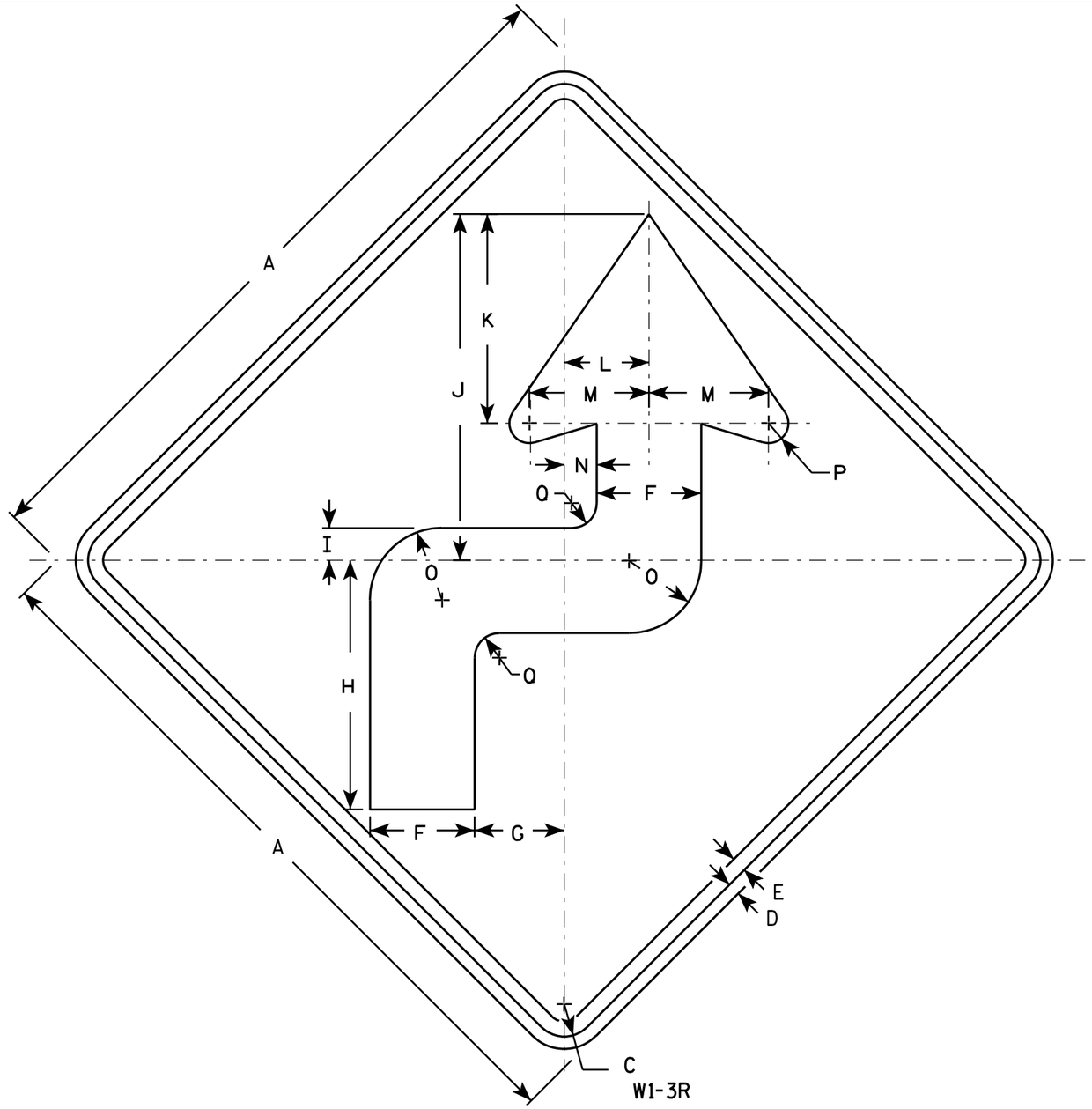
STANDARD SIGN
R11-3B

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: 67 | E



NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Yellow
   Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. W1-3L is the same as W1-3R except the arrow is reversed along the vertical centerline.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24		1 1/8	3/8	1/2	3 1/2	3	8 3/8	1 1/8	11 5/8	7	2 3/4	4	1 1/8	2 1/2	5/8	7/8										4.0
2S	36		1 5/8	5/8	3/4	5 1/4	4 1/2	12 1/2	1 5/8	17 3/8	10 1/2	4 1/4	6	1 5/8	3 5/8	1	1 1/4										9.0
2M	36		1 5/8	5/8	3/4	5 1/4	4 1/2	12 1/2	1 5/8	17 3/8	10 1/2	4 1/4	6	1 5/8	3 5/8	1	1 1/4										9.0
3	36		1 5/8	5/8	3/4	5 1/4	4 1/2	12 1/2	1 5/8	17 3/8	10 1/2	4 1/4	6	1 5/8	3 5/8	1	1 1/4										9.0
4	36		1 5/8	5/8	3/4	5 1/4	6	12 1/2	1 5/8	17 3/8	10 1/2	4 1/4	6	1 5/8	3 5/8	1	1 1/4										9.0
5	48		2 1/4	3/4	1	7	6	16 5/8	2 1/4	23 1/4	14	5 5/8	8	2 1/8	4 7/8	1 1/4	1 5/8										16.0

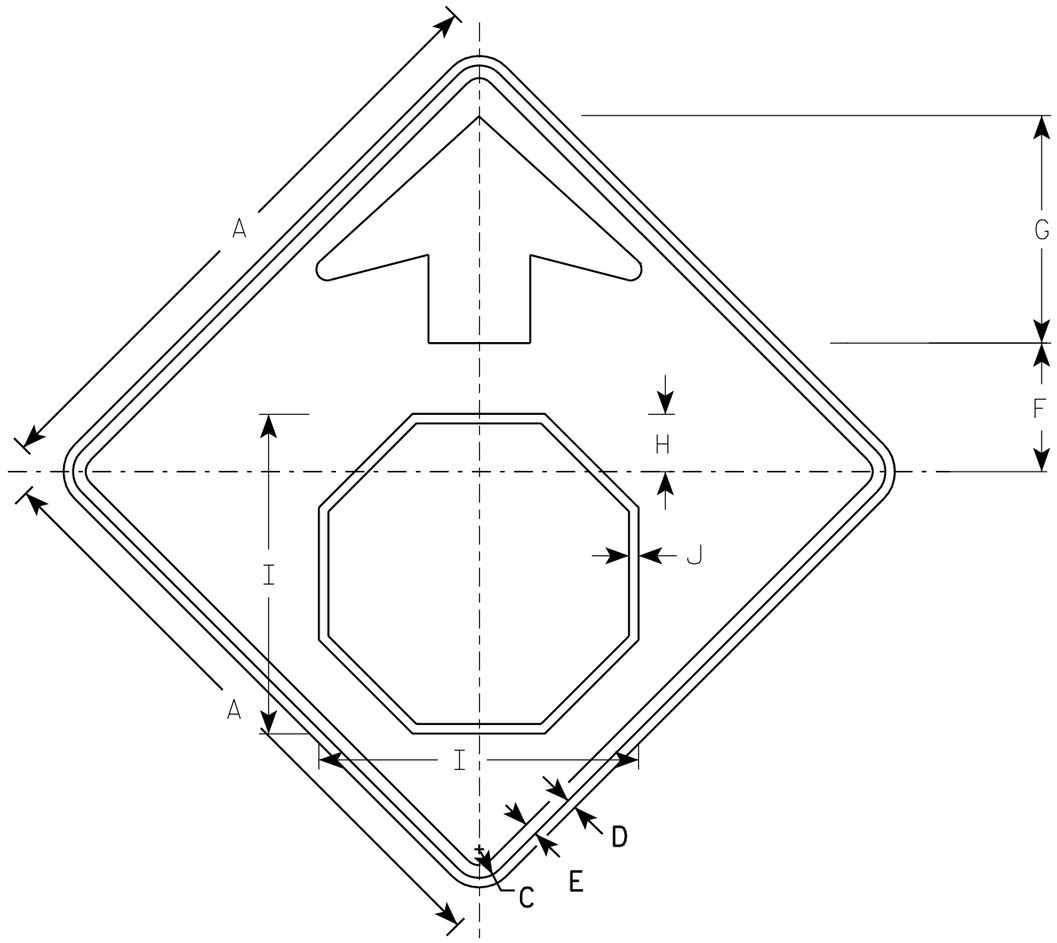
STANDARD SIGN
W1-3

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/17/12 PLATE NO. W1-3.8

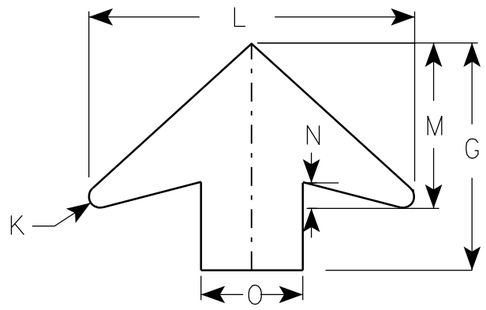
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 68 | E



W3-1

NOTES

1. All Signs Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - YELLOW
   Arrow & Border - BLACK
   Stop Symbol - WHITE BORDER ON RED BACKGROUND



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30		1 3/8	1/2	5/8	6 1/4	11 1/4	2 7/8	15 3/4	1/2	1/2	16	8	1 1/4	5												6.25
2S	36		1 5/8	5/8	3/4	7 1/2	13 1/2	3 1/2	19	5/8	5/8	19 1/4	9 3/4	1 5/8	6												9.0
2M	36		1 5/8	5/8	3/4	7 1/2	13 1/2	3 1/2	19	5/8	5/8	19 1/4	9 3/4	1 5/8	6												9.0
3	36		1 5/8	5/8	3/4	7 1/2	13 1/2	3 1/2	19	5/8	5/8	19 1/4	9 3/4	1 5/8	6												9.0
4	48		2 1/4	3/4	1	10	17 7/8	4 1/2	25 1/8	3/4	7/8	25 5/8	13	2	8												16.0
5	48		2 1/4	3/4	1	10	17 7/8	4 1/2	25 1/8	3/4	7/8	25 5/8	13	2	8												16.0

STANDARD SIGN
W3-1

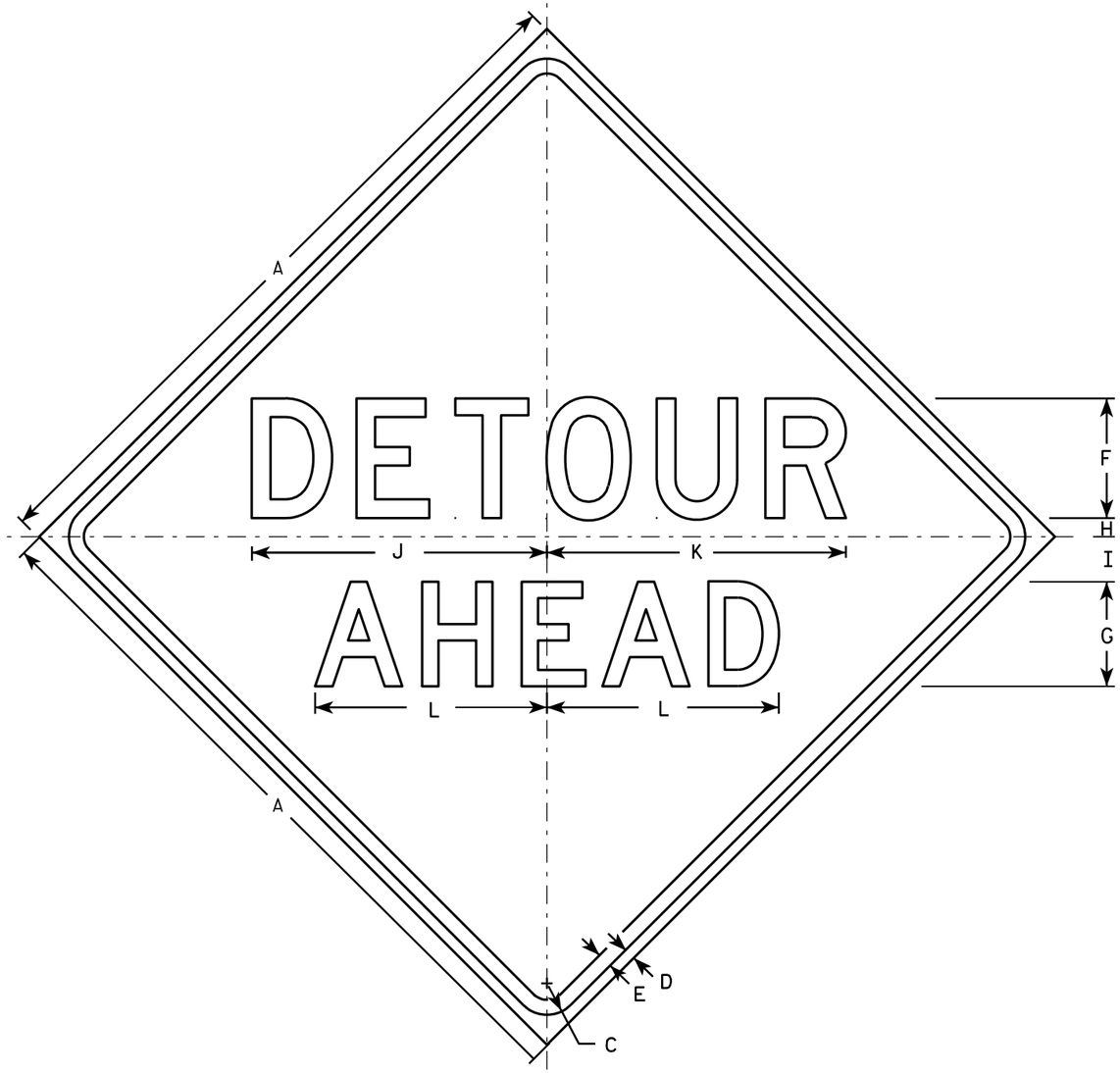
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

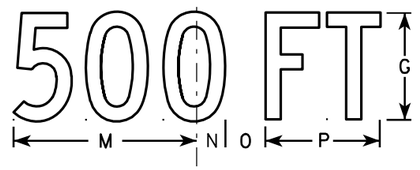
DATE 6/7/10 PLATE NO. W3-1.12

PROJECT NO:

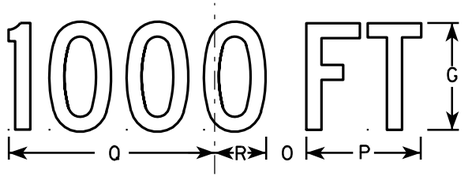
SHEET NO: 69 E



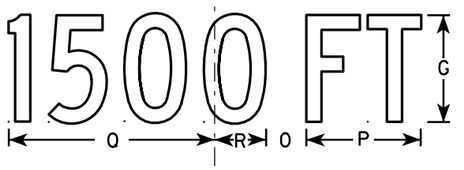
W20-2A



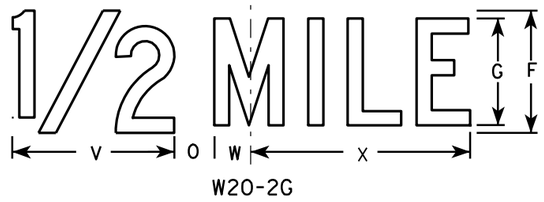
W20-2D



W20-2C



W20-2B



W20-2G

W20-2F

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. Line 1 is Series D.
   Line 2 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	O	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	6	5	1	2 1/4	14 3/4	15	11 5/8	9	1 3/8	1 7/8	5 5/8	10 1/8	2 1/2	1 1/8	4 1/2	3 1/2	8	1 3/4	10 3/4			9.0
2S	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
2M	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
3	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
4	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
5	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0

STANDARD SIGN
W20-2A,B,C,D,F & G

WISCONSIN DEPT OF TRANSPORTATION

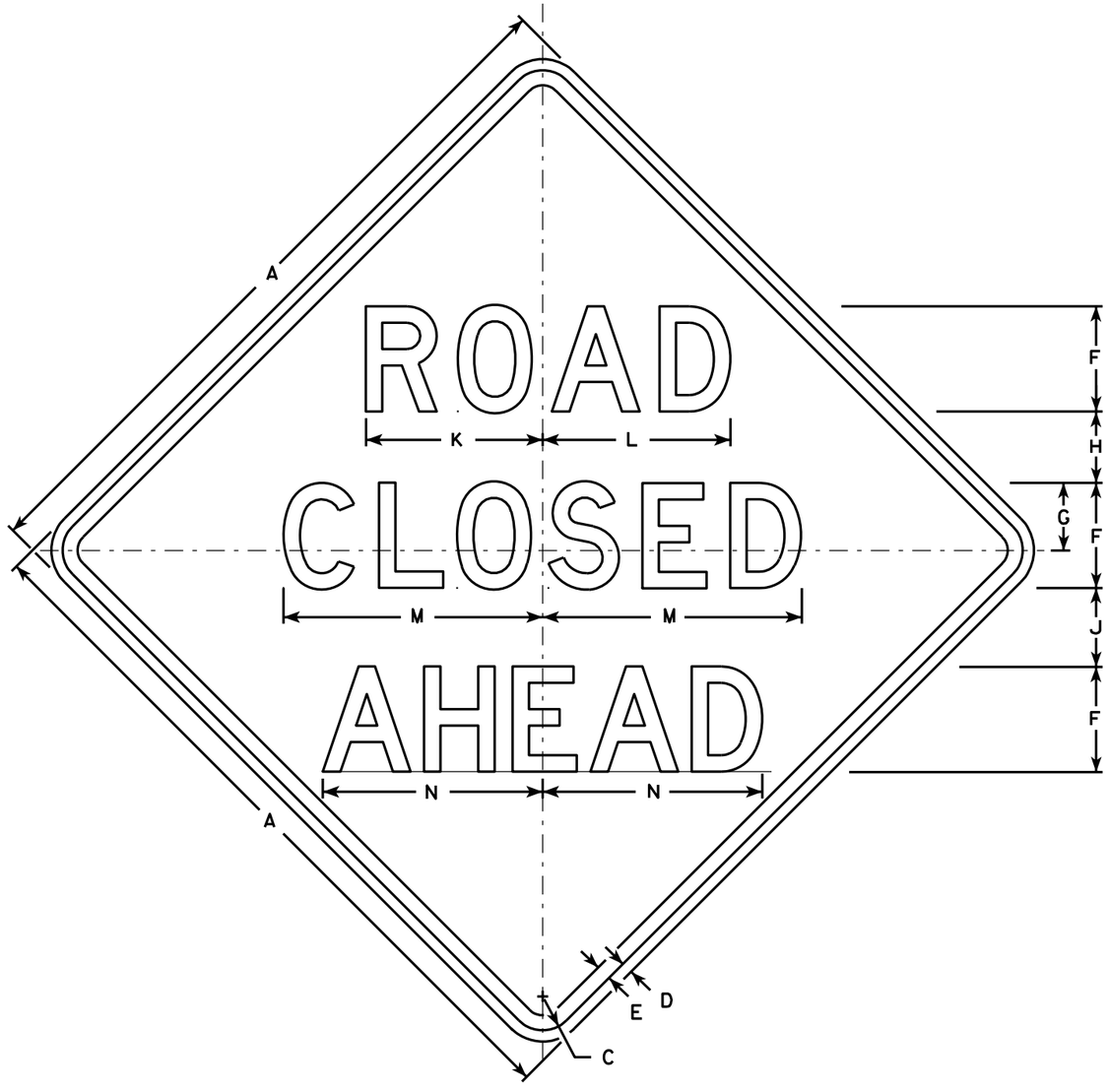
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/18/11 PLATE NO. W20-2.6

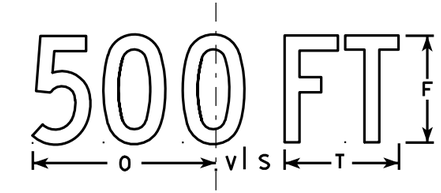
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 70 | E

7

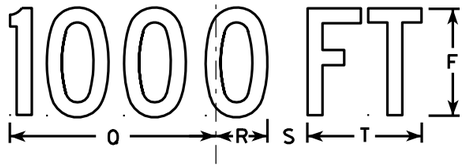
FILE NAME : C:\Users\PROJECTS\tr_stdplate\W202.DGN PLOT DATE : 18-MAR-2011 10:00 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 9.931739:1.000000
WISDOT/CADDS SHEET 42



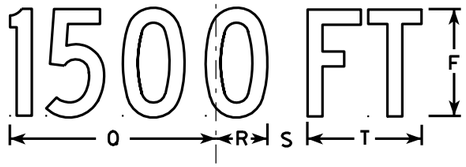
W20-3A



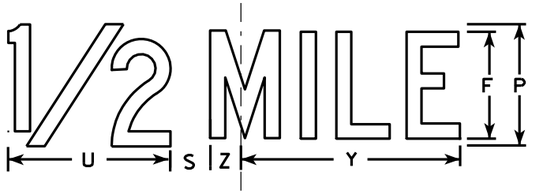
W20-3D



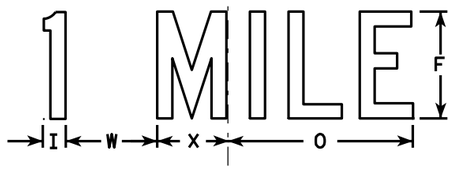
W20-3C



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

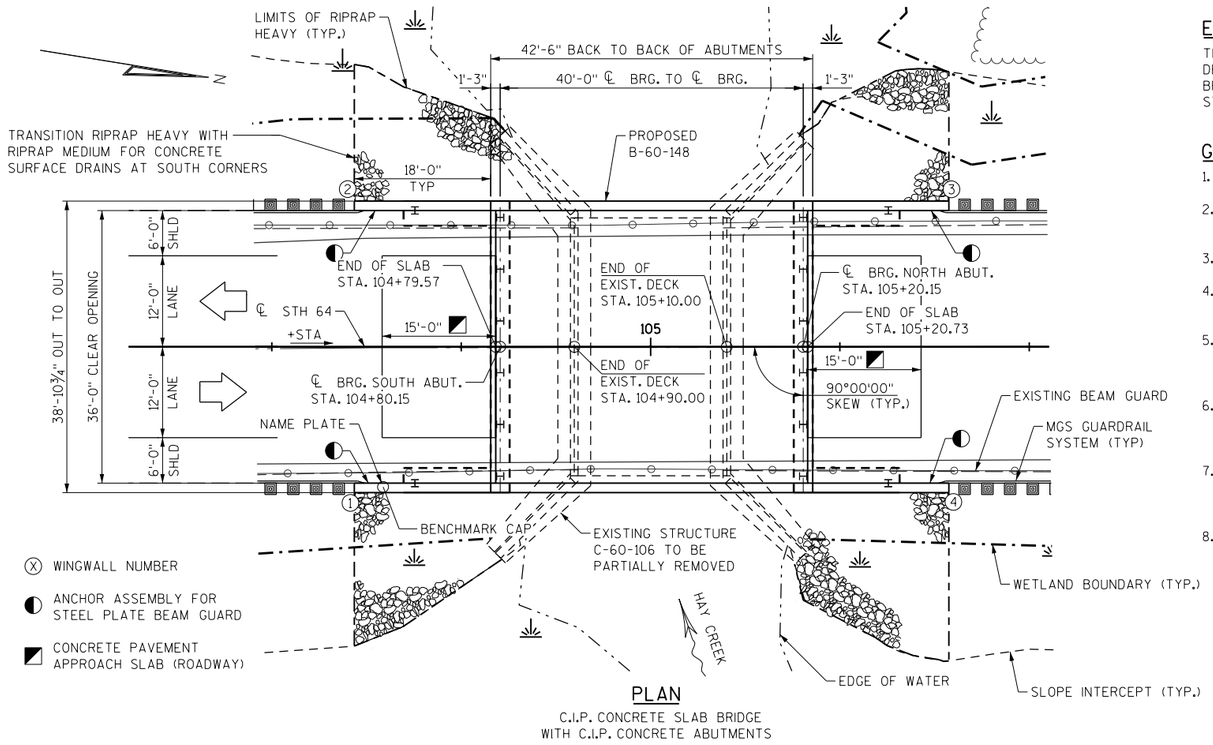
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 71 | E

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

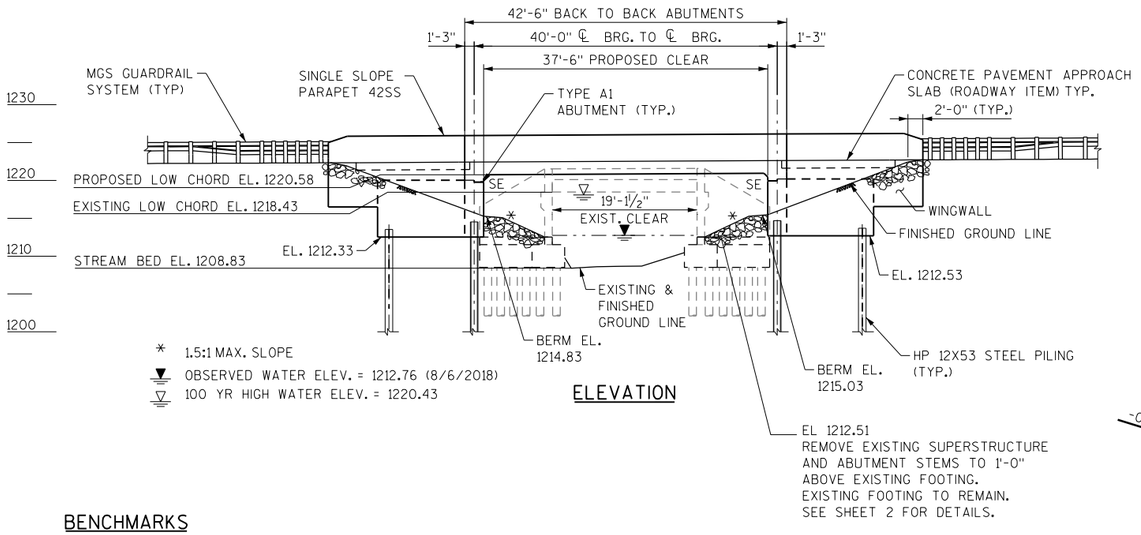
STATE PROJECT NUMBER

8220-03-73



PLAN

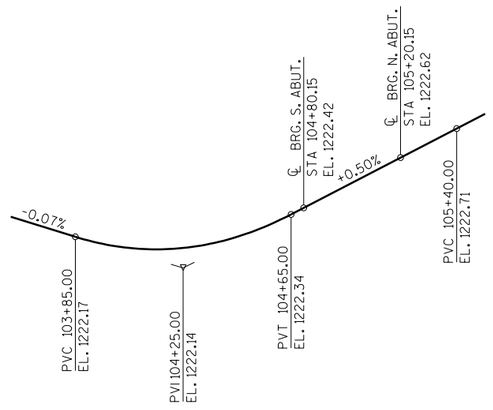
C.I.P. CONCRETE SLAB BRIDGE
WITH C.I.P. CONCRETE ABUTMENTS



ELEVATION

BENCHMARKS

NO.	DESCRIPTION	ELEV	STA	OFFSET
BM1	SET SPIKE IN POWER POLE	1216.67	106+34	64' RT
BM2	SET SPIKE IN POWER POLE	1217.72	103+60	64' RT



PROFILE GRADE STH 64

EXISTING STRUCTURE:

THE EXISTING BRIDGE (C-60-106) IS A SINGLE SPAN STEEL GIRDER AND CONCRETE DECK BRIDGE FOUNDED ON FULL RETAINING CONCRETE ABUTMENTS. THE EXISTING BRIDGE IS 20'-0" LONG WITH A CLEAR NORMAL OPENING OF 19'-1½". THE STRUCTURE IS SUPPORTED ON WOOD PILING.

GENERAL NOTES:

1. DRAWINGS SHALL NOT BE SCALED.
2. BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS OTHERWISE SHOWN OR NOTED.
3. THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.
4. SLAB FALSEWORK SHALL BE SUPPORTED ON PILES OR THE SUBSTRUCTURE UNLESS AN ALTERNATE METHOD IS APPROVED BY THE ENGINEER.
5. THE SLOPE OF THE FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH HEAVY RIPRAP AND GEOTEXTILE FABRIC TYPE 'HR' TO THE EXTENT SHOWN ON SHEET 1 AND IN THE ABUTMENT DETAILS.
6. AT THE BACKFACE OF ABUTMENT ALL VOLUME WHICH CANNOT BE PLACED BEFORE ABUTMENT CONSTRUCTION AND IS NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH BACKFILL STRUCTURE.
7. PROTECTIVE SURFACE TREATMENT TO BE APPLIED TO THE ENTIRE TOP OF DECK. PIGMENTED SURFACE SEALER TO BE APPLIED TO THE FRONT FACE AND TOP OF THE PARAPETS.
8. EXISTING STRUCTURE DIMENSIONS ARE BASED ON THE ORIGINAL STRUCTURE PLANS.

DESIGN DATA

LIVE LOAD:
DESIGN LOADING: HL-93
INVENTORY RATING FACTOR: RF = 1.14
OPERATING RATING FACTOR: RF = 1.47
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV) = 250 KIPS
DESIGN ACCOUNTS FOR FUTURE WEARING SURFACE = 20 PSF

MATERIAL PROPERTIES:
CONCRETE MASONRY:
SUPERSTRUCTURE ..... f'c = 4,000 psi
ALL OTHER ..... f'c = 3,500 psi
BAR STEEL REINFORCEMENT, GRADE 60 ..... fy = 60,000 psi

FOUNDATION DATA:
ABUTMENTS TO BE SUPPORTED ON HP 12 X 53 STEEL PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 180 TONS/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.

EST. PILE LENGTHS:
WEST ABUTMENT ..... 35 FEET
EAST ABUTMENT ..... 35 FEET

TRAFFIC DATA

STH 64
AADT (2021) = 1500
AADT (2041) = 1700
DESIGN SPEED = 60 MPH

HYDRAULIC DATA:

100 YEAR FLOW ..... 2014 CFS
100 YEAR VELOCITY ..... 6.92 FPS
Q100 HIGH WATER ELEV 1220.43
WATERWAY AREA ..... 291 SF
DRAINAGE AREA ..... 12.63 SQ MI
SCOUR CRITICAL CODE 5
REGULATORY FLOOD STAGE ..... NOT MAPPED
2 YEAR FLOW ..... 463 CFS
2 YEAR VELOCITY ..... 2.38 FPS
Q2 HIGH WATER ELEV 1216.83

STRUCTURES DESIGN CONTACTS

BRIDGE OFFICE:
WILLIAM DREHER, PE
(608) 266-8489

CONSULTANT:
WILLIAM J. ZIPPEL, PE, SE
ALFRED BENESCH & CO
1300 W CANAL ST, SUITE 150
MILWAUKEE, WI 53233
(414) 308-1321

WISCONSIN
WILLIAM J. ZIPPEL
38868-006
MILWAUKEE, WI
PROFESSIONAL ENGINEER
10/23/2019

LIST OF DRAWINGS:

1. GENERAL PLAN AND ELEVATION
2. TYPICAL SECTION AND QUANTITIES
3. SUBSURFACE EXPLORATION
4. ABUTMENTS
5. ABUTMENT DETAILS
6. SUPERSTRUCTURE
7. SINGLE SLOPE PARAPET 42SS

NO.	DATE	REVISION	BY

benesch
Alfred Benesch & Company
1300 West Canal Street, Suite 150
Milwaukee, Wisconsin 53233
414-308-1310 Job No. 20229.05

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher SDR 11/13/19
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-60-148

STH 64 OVER HAY CREEK

COUNTY	TOWN/~~CITY/VILLAGE~~
TAYLOR	FORD

DESIGN SPEC. AASHTO LRFD DESIGN SPEC.

DESIGNED BY	JAP	DESIGN CK'D.	WJZ	DRAWN BY	BGS	PLANS CK'D.	WJZ

GENERAL PLAN & ELEVATION

SHEET 1 OF 7

72

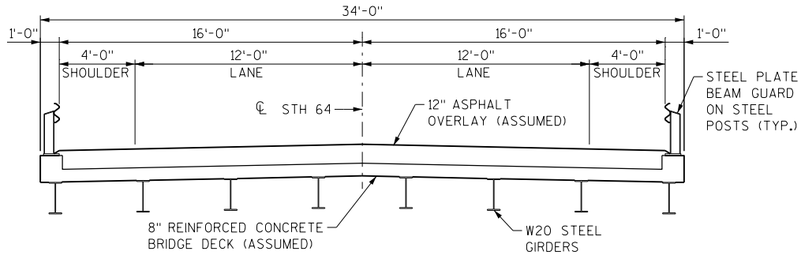
FILE= B60148.10-GPE.DGN
SCALE = 1:20

8

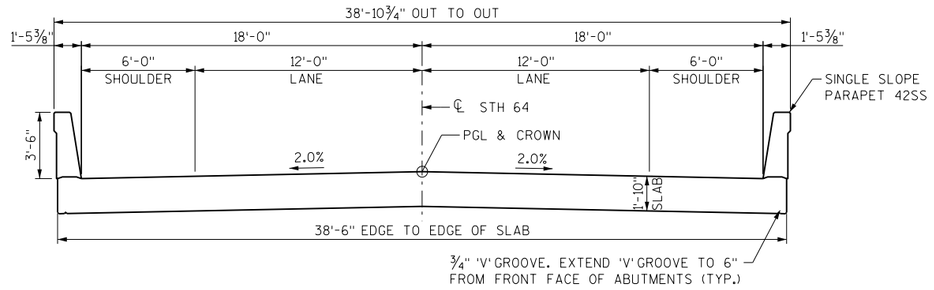
8

STATE PROJECT NUMBER

8220-03-73



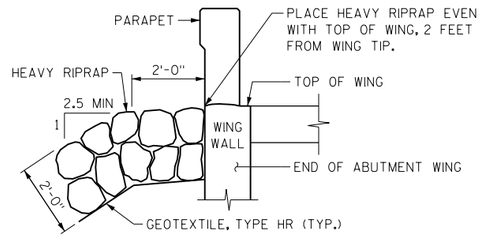
EXISTING SECTION



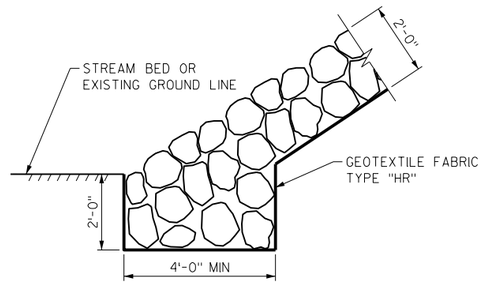
FINISHED SECTION

TOTAL ESTIMATE OF QUANTITIES

BID NO.	BID ITEMS	UNIT	W ABUT	E ABUT	SUPER	TOTAL
203.0600.S	REMOVING OLD STRUCTURE OVER WATERWAY WITH MINIMAL DEBRIS STATION 104+90	LS				1
206.1000	EXCAVATION FOR STRUCTURES BRIDGES B-60-148	LS				1
210.1500	BACKFILL STRUCTURE TYPE A	TON	215	215		430
501.1000.S	ICE HOT WEATHER CONCRETING	LB	390	390	1035	1815
502.0100	CONCRETE MASONRY, BRIDGES	CY	52	52	138	242
502.3200	PROTECTIVE SURFACE TREATMENT	SY			170	170
502.3210	PIGMENTED SURFACE SEALER	SY			77	77
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	2947	2947		5894
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	3426	3452	50256	57194
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	11	11		22
550.1120	PILING STEEL HP 12-INCH X 53 LB	LF	280	280		560
606.0300	RIPRAP HEAVY	CY	68	77		145
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	91	91		182
614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	EA	2	2		4
645.0111	GEOTEXTILE TYPE DF SCHEDULE A	SY	55	55		110
645.0120	GEOTEXTILE TYPE HR	SY	103	115		218
	NON-BID ITEMS					
	NAME PLATE					
	JOINT FILLER -½", ¾"					
	NON-BITUMINOUS JOINT SEALER					



TYPICAL FILL SECTION AT WING TIPS



HEAVY RIPRAP TOE DETAIL

(USE WHERE NOT BEHIND EXISTING ABUTMENTS OR WINGS)

EXISTING ABUTMENT REMOVAL LIMITS

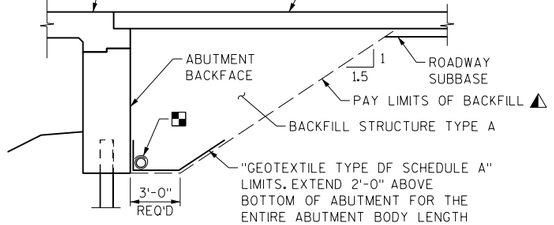
(SECTION THRU EXISTING ABUTMENT)

RODENT SHIELD DETAIL

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

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

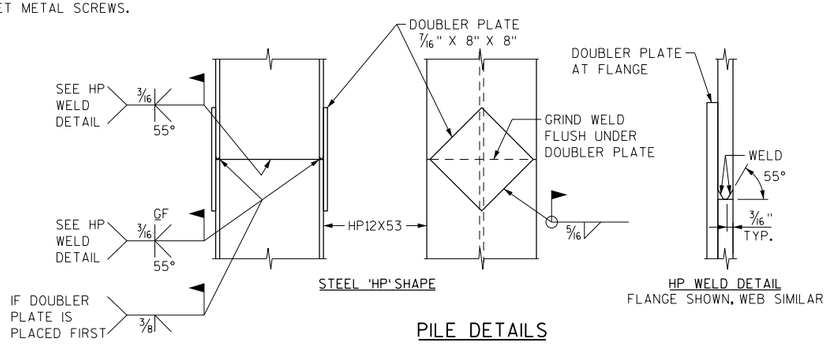
THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALLY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE EXPOSED END OF THE PIPE UNDERDRAIN. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X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



TYPICAL SECTION THRU ABUTMENT

⚠ 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.



PILE DETAILS

CONCRETE SLAB NOTES

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

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

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

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

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

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-60-148

DRAWN BY BGS | PLANS CK'D. WJZ

TYPICAL SECTION AND QUANTITIES

SHEET 2 OF 7

73

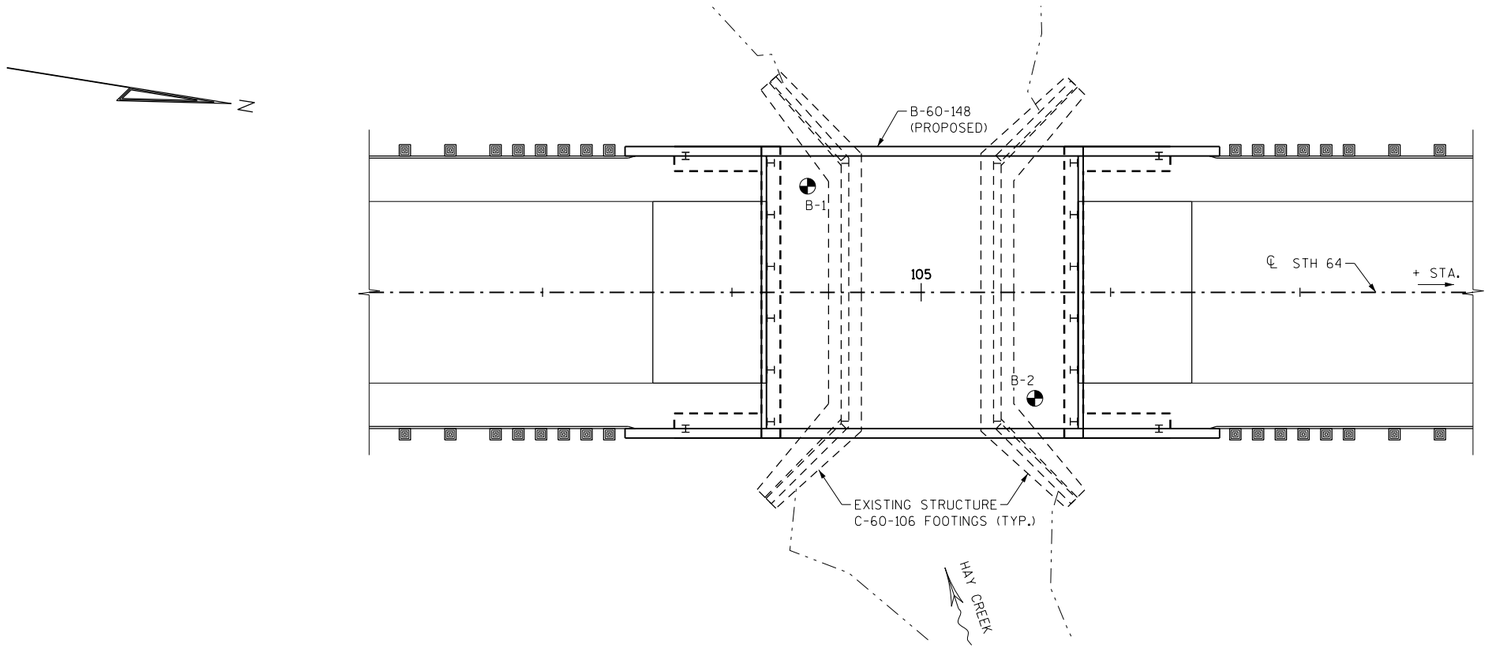
8

8

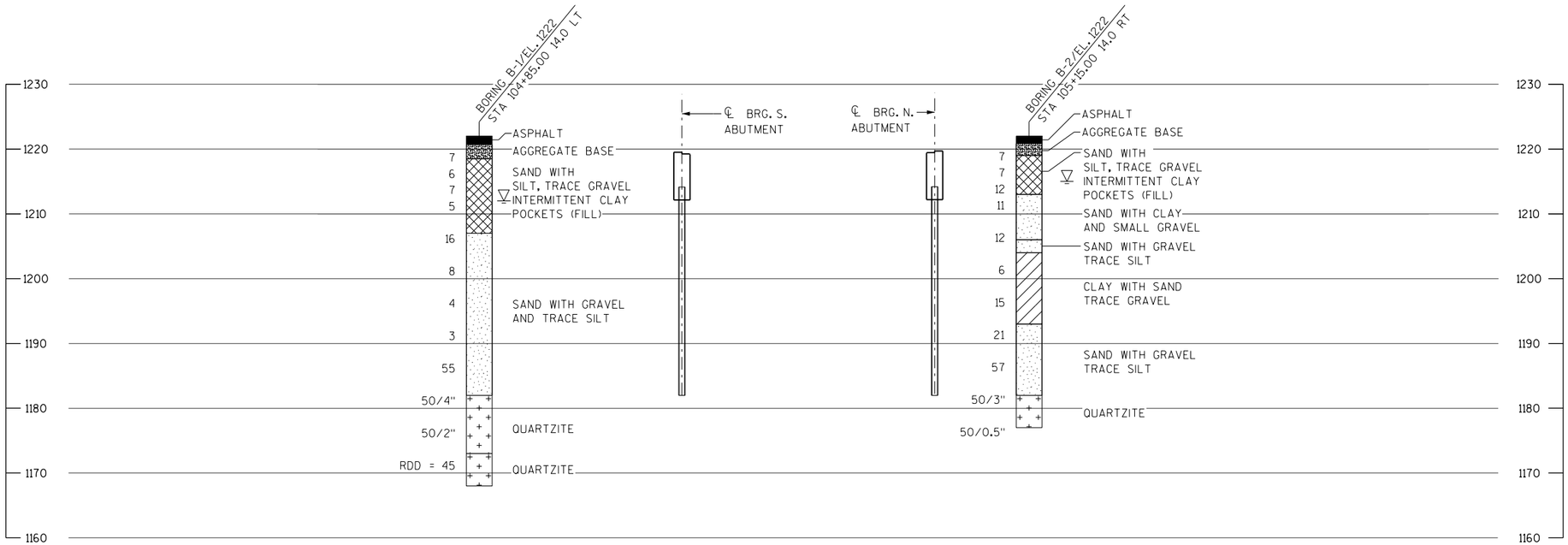
FILE= B60148_20-TYP.DGN
SCALE = 1:8

STATE PROJECT NUMBER

8220-03-73



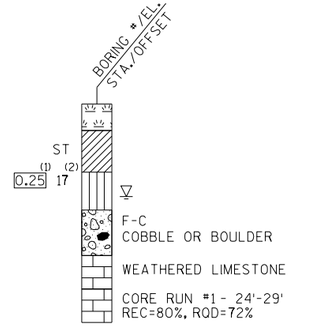
BORING #	DATE COMPLETED	NORTHING (Y)	EASTING (X)
B-1	12/21/2018	335725.99	537659.24
B-2	12/20/2018	335760.05	537682.14
BORINGS COMPLETED BY: PSI, INC			
REPORT COMPLETED BY: PSI, INC - 1/30/2019			
ALL COORDINATES REFERENCED TO WCCS NAD 83(91) TAYLOR COUNTY			



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-60-148

DRAWN BY JAP | PLANS CK'D. WJZ

SUBSURFACE EXPLORATION

SHEET 3 OF 7

74

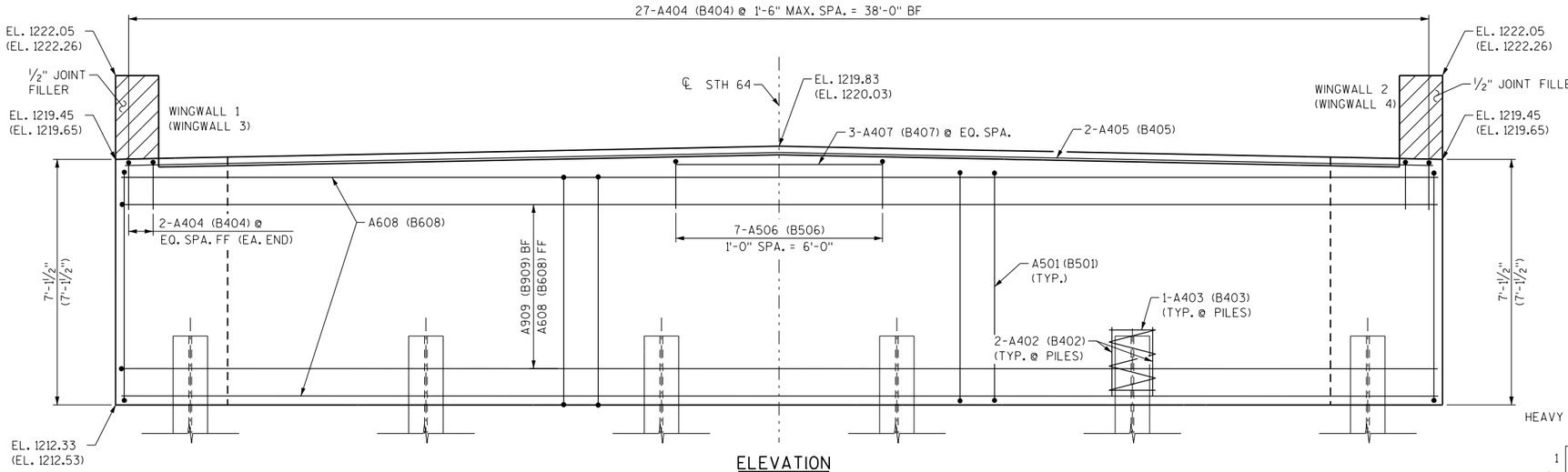
8

8

FILE= B60148_30-SUBS.DGN
SCALE = 1:20

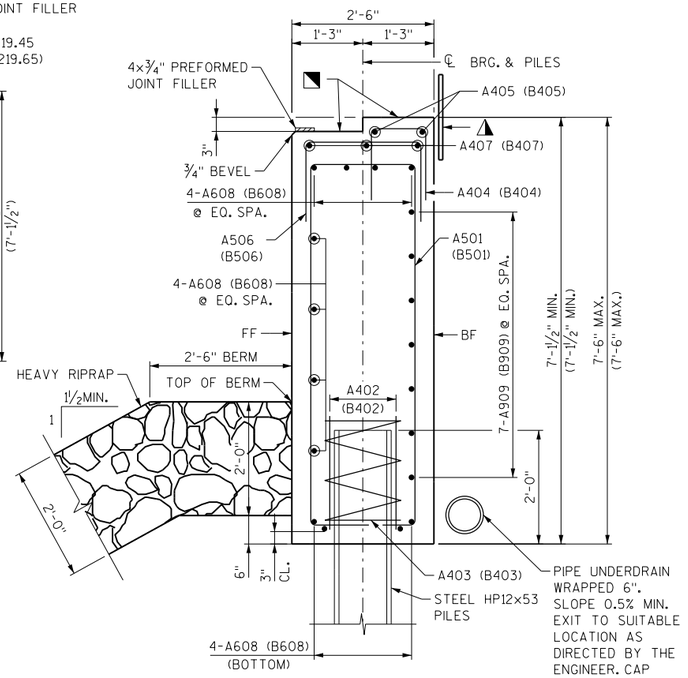
STATE PROJECT NUMBER

8220-03-73

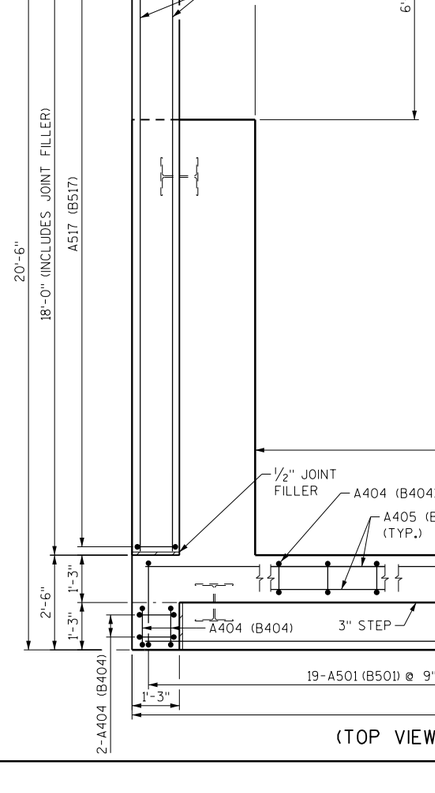


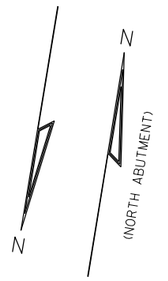
ELEVATION
LOOKING SOUTH
(LOOKING NORTH)

ABUTMENTS TO BE SUPPORTED ON HP12X53 STEEL PILING DRIVEN TO THE REQUIRED DRIVING RESISTANCE OF 180 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED PILE LENGTH = 35 FEET. PLACE REINFORCING MAT AROUND PILING FOR ABUTMENT.

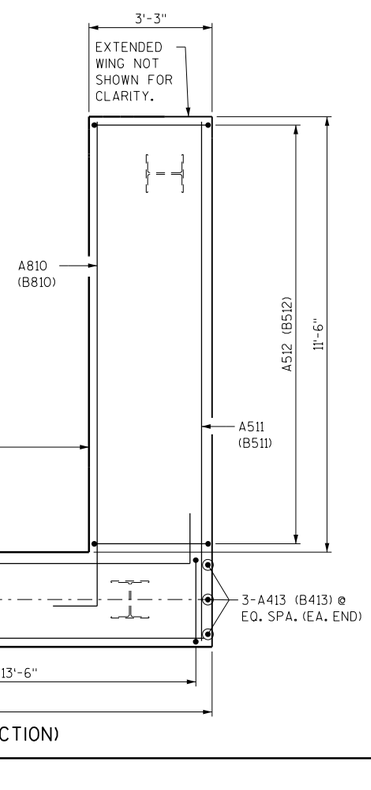


TYPICAL SECTION
THROUGH ABUTMENT BODY





NOTE:
SOUTH ABUTMENT IS SHOWN, NORTH ABUTMENT SIMILAR.
NORTH ABUTMENT INFORMATION SHOWN IN PARENTHESES ( ).
BAR NUMBERS FOR NORTH ABUTMENT ARE THE SAME AS
SOUTH ABUTMENT, BUT "A" CALLOUT IS REPLACED WITH "B".



(TOP VIEW) PLAN (MIDHEIGHT SECTION)

NOTES:

EXCAVATE TO BOTTOM OF ABUTMENTS BEFORE DRIVING PILES.

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

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

⚠ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZ. AND VERT. JOINTS ON BACK FACE OF ABUTMENTS AND WINGS.

◥ 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".

FF DENOTES FRONT FACE.

BF DENOTES BACK FACE.

EF DENOTES EACH FACE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-60-148

DRAWN BY BGS | PLANS CK'D. JAP

ABUTMENTS

SHEET 4 OF 7

75

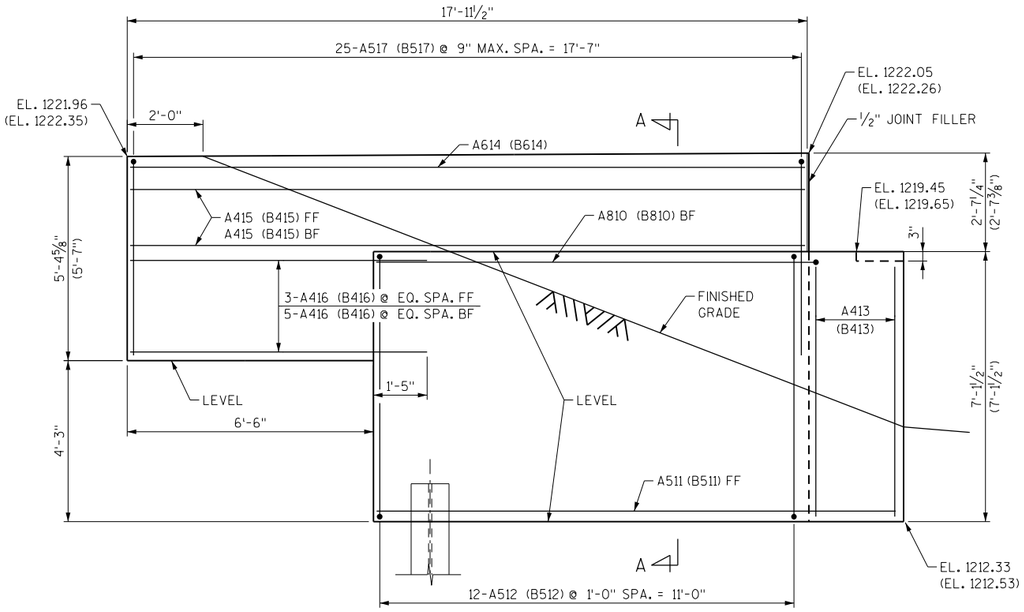
FILE= B60148_40-ABUT.DGN
SCALE = 1:4

8

8

STATE PROJECT NUMBER

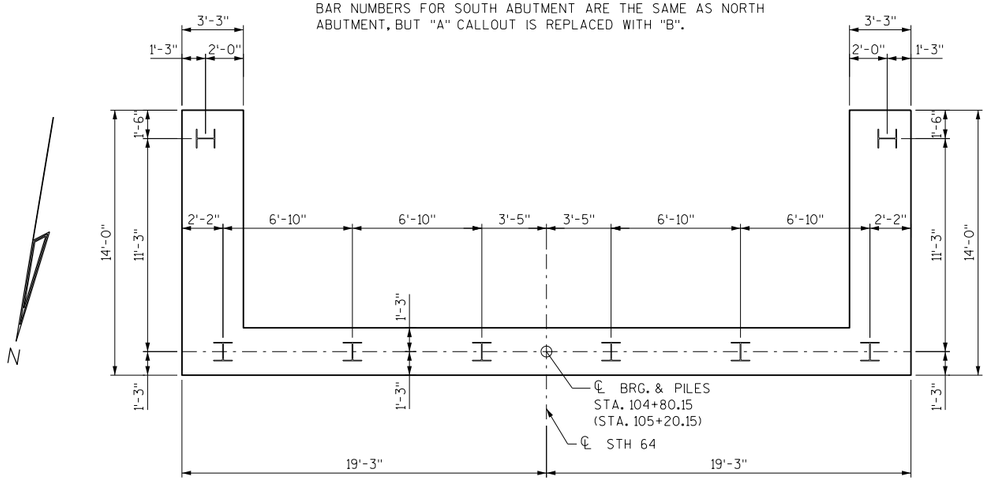
8220-03-73



WINGWALL 1 ELEVATION

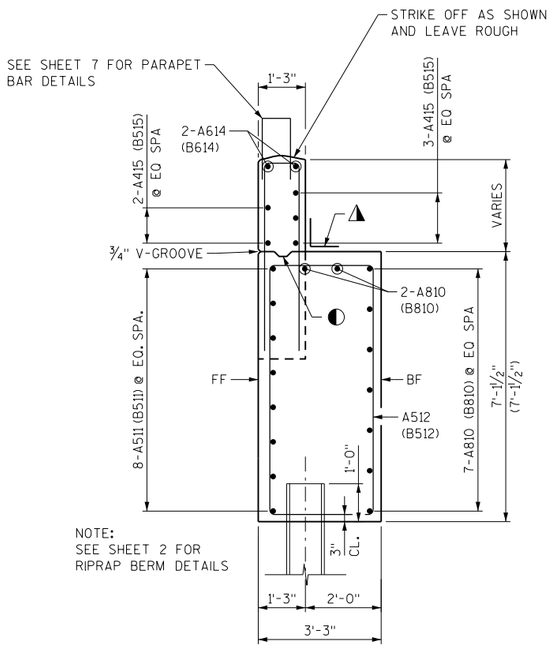
LOOKING WEST

NOTE:
WINGWALL 1 IS SHOWN. WINGWALLS 2, 3, AND 4 ARE SIMILAR.
INFORMATION SHOWN IS FOR WINGWALLS 1 AND 2. WINGWALLS 3 AND 4
INFORMATION SHOWN IN PARENTHESES ( ).
BAR NUMBERS FOR SOUTH ABUTMENT ARE THE SAME AS NORTH
ABUTMENT, BUT "A" CALLOUT IS REPLACED WITH "B".



PILE PLAN

SOUTH ABUTMENT SHOWN
NORTH ABUTMENT IS SIMILAR



SECTION A-A

NOTES:

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

◭ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZ. AND VERT. JOINTS ON BACK FACE OF ABUTMENTS AND WINGS.

◐ OPTIONAL CONSTRUCTION JOINT FORMED BY BEVELED 2"×6" KEYWAY WITH MEMBRANE ON BACK FACE. ¾" V-GROOVE IS ONLY NEEDED IF THE OPTIONAL CONSTRUCTION JOINT IS USED.

FF DENOTES FRONT FACE.

BF DENOTES BACK FACE.

EF DENOTES EACH FACE.

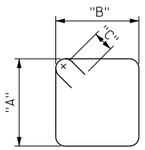
BILL OF BARS - SOUTH ABUTMENT

BAR NO.	COATED BAR	NO. REQ'D	LENGTH	BENT BAR	BUNDLED	CUT BARS	2250# COATED 2947# UNCOATED LOCATION
A501		48	18'-5"	X			ABUT BODY STIRRUPS
A402		12	2'-3"				ABUT PILES - 2 PER PILE
A403		6	28'-0"	X			ABUT PILES - 1 PER PILE
A404		35	4'-7"	X			ABUT BODY TOP - TRANSVERSE
A405		2	38'-2"				ABUT BODY TOP - LONGITUDINAL
A506		7	5'-3"	X			ABUT BODY TOP - MIDDLE 6 FT - TRANSVERSE
A407		3	6'-0"				ABUT BODY TOP - MIDDLE 6 FT - LONGITUDINAL
A608		12	38'-2"				ABUT BODY LONGITUDINAL
A909		7	40'-10"	X			ABUT BODY LONGITUDINAL - BF
A810	X	18	13'-9"	X			WINGWALL FOOTING - LONG. BARS - BF & TOP
A511	X	16	13'-8"				WINGWALL FOOTING - LONG. BARS - FF
A512	X	24	19'-11"	X			WINGWALL FOOTING - STIRRUPS
A413		6	6'-6"				ABUTMENT END - VERTICAL
A614	X	4	17'-7"				WINGWALL - LONGITUDINAL TOP
A415	X	10	17'-7"				WINGWALL - LONGITUDINAL FF & BF
A416	X	16	7'-9"				WINGWALL - LONGITUDINAL FF & BF
A517	X	50	10'-8"	X			WINGWALL - U BARS

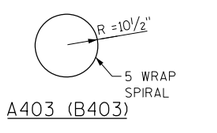
BILL OF BARS - NORTH ABUTMENT

BAR NO.	COATED BAR	NO. REQ'D	LENGTH	BENT BAR	BUNDLED	CUT BARS	2276# COATED 2947# UNCOATED LOCATION
B501		48	18'-5"	X			ABUT BODY STIRRUPS
B402		12	2'-3"				ABUT PILES - 2 PER PILE
B403		6	28'-0"	X			ABUT PILES - 1 PER PILE
B404		35	4'-7"	X			ABUT BODY TOP - TRANSVERSE
B405		2	38'-2"				ABUT BODY TOP - LONGITUDINAL
B506		7	5'-3"	X			ABUT BODY TOP - MIDDLE 6 FT - TRANSVERSE
B407		3	6'-0"				ABUT BODY TOP - MIDDLE 6 FT - LONGITUDINAL
B608		12	38'-2"				ABUT BODY LONGITUDINAL
B909		7	40'-10"	X			ABUT BODY LONGITUDINAL - BF
B810	X	18	13'-9"	X			WINGWALL FOOTING - LONG. BARS - BF & TOP
B511	X	16	13'-8"				WINGWALL FOOTING - LONG. BARS - FF
B512	X	24	19'-11"	X			WINGWALL FOOTING - STIRRUPS
B413		6	6'-6"				ABUTMENT END - VERTICAL
B614	X	4	17'-7"				WINGWALL - LONGITUDINAL TOP
B415	X	10	17'-7"				WINGWALL - LONGITUDINAL FF & BF
B416	X	16	7'-9"				WINGWALL - LONGITUDINAL FF & BF
B517	X	50	11'-2"	X			WINGWALL - U BARS

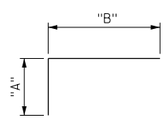
THE FIRST DIGIT OR FIRST TWO DIGITS OF A BAR MARK INDICATES THE BAR SIZE. ALL DIMENSIONS IN THE BAR BENDS ARE OUT TO OUT.



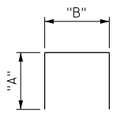
BAR NO.	DIM "A"	DIM "B"	DIM "C"
A501	6'-8½"	2'-2"	4"
B501			
A512	6'-8½"	2'-11"	4"
B512			



A403 (B403)



BAR NO.	DIM "A"	DIM "B"
A810	1'-4"	12'-7"
B810		



BAR NO.	DIM "A"	DIM "B"
A404	1'-11"	11"
B404		
A506	1'-8"	2'-2"
B506		
A909	1'-7"	38'-2"
B909		
A517	5'-0"	11"
B517	5'-3"	11"

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-60-148

DRAWN BY BGS | PLANS CK'D. JAP

ABUTMENT DETAILS

SHEET 5 OF 7

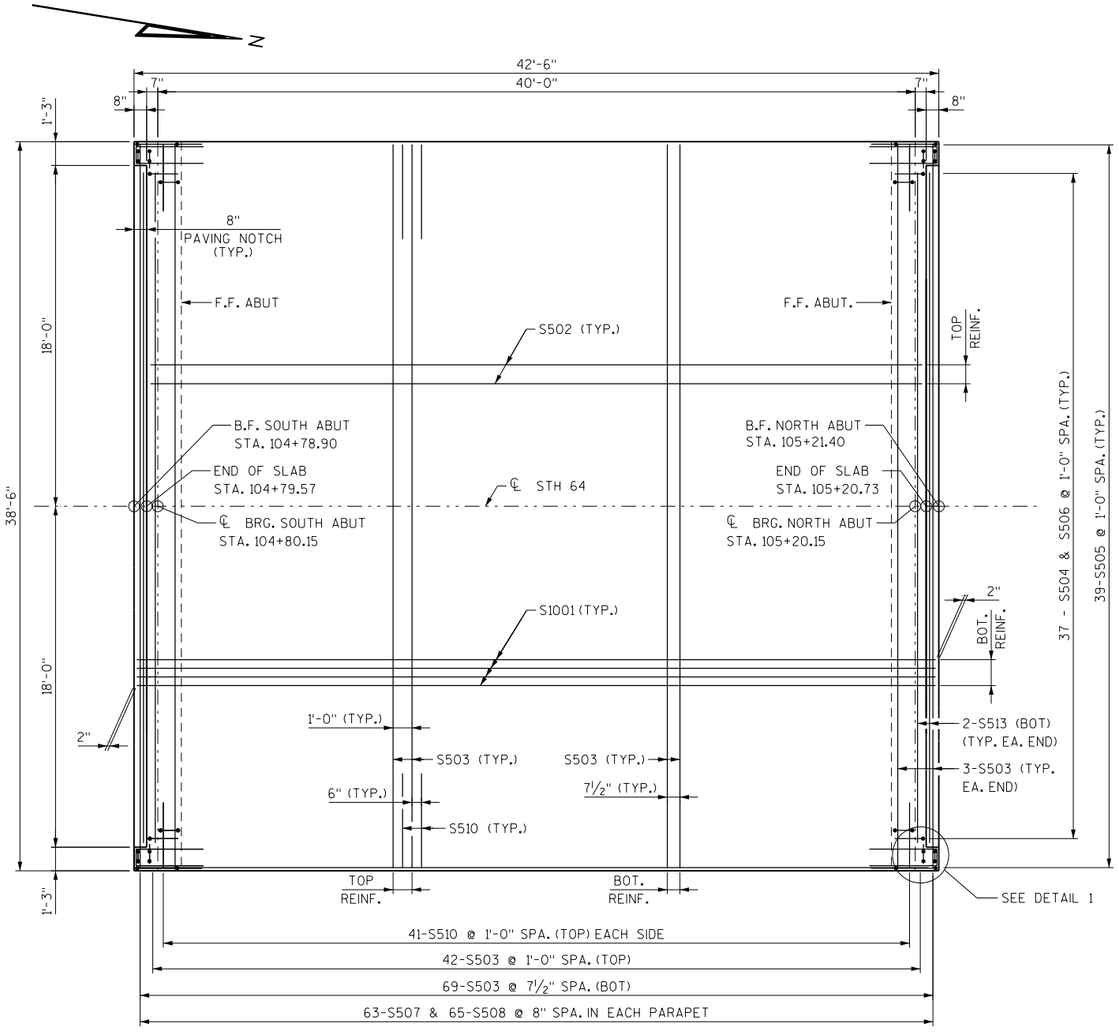
76

FILE= B60148_50-ABUTDET.DGN
SCALE = 1:4

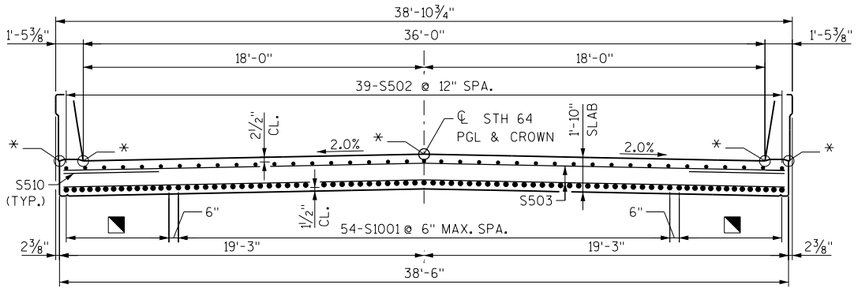
8

8

STATE PROJECT NUMBER
8220-03-73



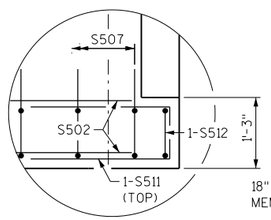
PLAN



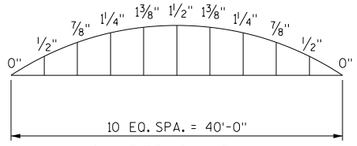
* DENOTES TOP OF SLAB ELEVATION LOCATIONS

◥ 14 - S1001 @ 5" SPA

TRANSVERSE SECTION THROUGH SLAB
(LOOKING NORTH)

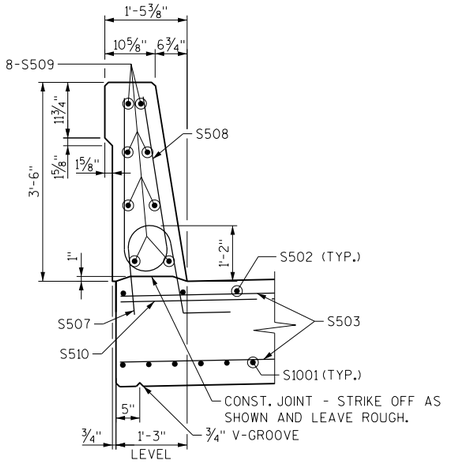


DETAIL 1
(TYP. ALL 4 CORNERS)

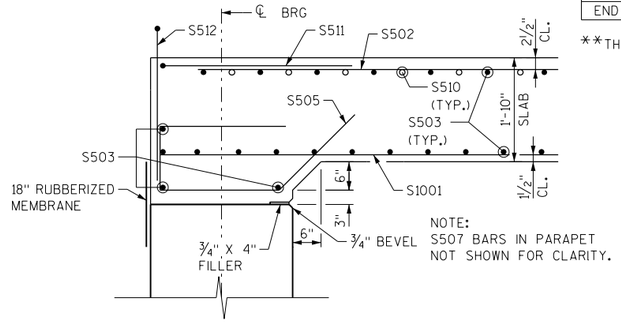


CAMBER DIAGRAM

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

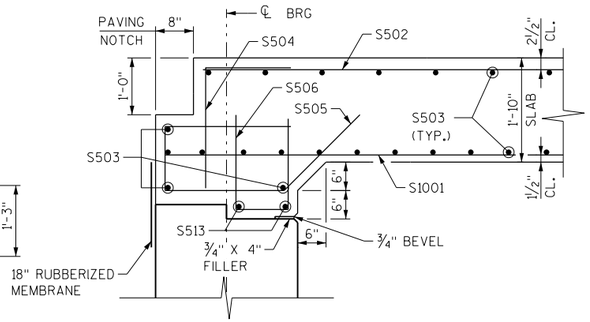


PARAPET DETAIL



NOTE:
S507 BARS IN PARAPET NOT SHOWN FOR CLARITY.

LONGITUDINAL SECTION THROUGH SLAB (EXTERIOR)



LONGITUDINAL SECTION THROUGH SLAB (INTERIOR)

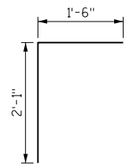
BILL OF BARS

BAR NO.	COATED BAR	NO. REQ'D	LENGTH	BENT BAR	BUNDLED	▲ BAR SERIES	50256 * COATED 0 * UNCOATED LOCATION
S1001	X	82	42'-2"				SLAB LONG. BOTTOM
S502	X	39	40'-10"				SLAB LONG. TOP
S503	X	117	38'-2"				SLAB TRANS. TOP & BOT.
S504	X	74	3'-6"	X			SLAB AT PAVING NOTCH
S505	X	78	7'-2"	X			SLAB AT ABUTMENTS
S506	X	74	3'-4"	X			SLAB AT ABUTMENTS U-BAR
S507	X	126	4'-5"	X			PARAPET VERTICAL (DOWEL)
S508	X	130	6'-8"	X			PARAPET VERTICAL
S509	X	16	42'-2"				PARAPET LONG.
S510	X	82	5'-0"				SLAB TRANS. TOP @ EDGES
S511	X	4	7'-6"	X			SLAB TOP CORNER U-BAR
S512	X	4	5'-10"	X			PARAPET VERT. @ CORNERS (DOWEL)
S513	X	4	35'-8"				SLAB TRANS. @ ABUTMENTS

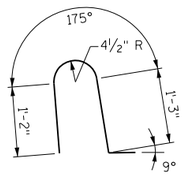
TOP OF SLAB ELEVATIONS

LOCATION	EAST EDGE OF DECK**	EAST GUTTER	CROWN	WEST GUTTER	WEST EDGE OF DECK**
END OF SLAB	-	1222.05	1222.41	1222.05	-
℄ BRG S ABUT	1222.03	1222.06	1222.42	1222.06	1222.03
0.1	1222.05	1222.08	1222.44	1222.08	1222.05
0.2	1222.07	1222.10	1222.46	1222.10	1222.07
0.3	1222.09	1222.12	1222.48	1222.12	1222.09
0.4	1222.11	1222.14	1222.50	1222.14	1222.11
0.5	1222.13	1222.16	1222.52	1222.16	1222.13
0.6	1222.15	1222.18	1222.54	1222.18	1222.15
0.7	1222.17	1222.20	1222.56	1222.20	1222.17
0.8	1222.19	1222.22	1222.58	1222.22	1222.19
0.9	1222.21	1222.24	1222.60	1222.24	1222.21
℄ BRG N ABUT	1222.23	1222.26	1222.62	1222.26	1222.23
END OF SLAB	-	1222.26	1222.62	1222.26	-

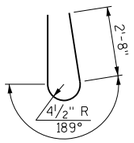
**THEORETICAL POINT AT CONTINUED 2% CROSS-SLOPE



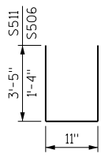
S504



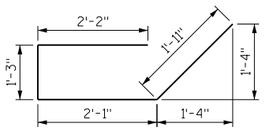
S507



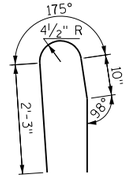
S508



S506, S511



S505



S512

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-60-148

DRAWN BY BGS | PLANS CK'D. WJZ

SUPERSTRUCTURE

SHEET 6 OF 7

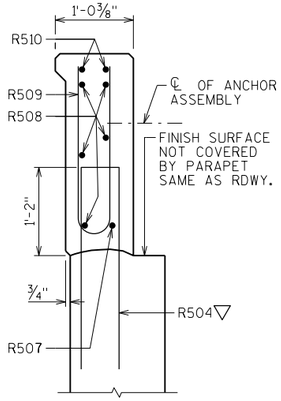
77

FILE= B60148.60-SUPER.DGN
SCALE = 1:8

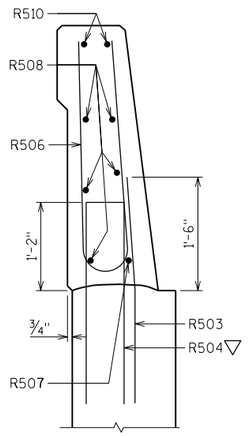
8

8

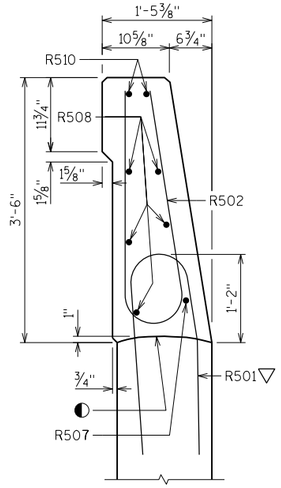
STATE PROJECT NUMBER
8220-03-73



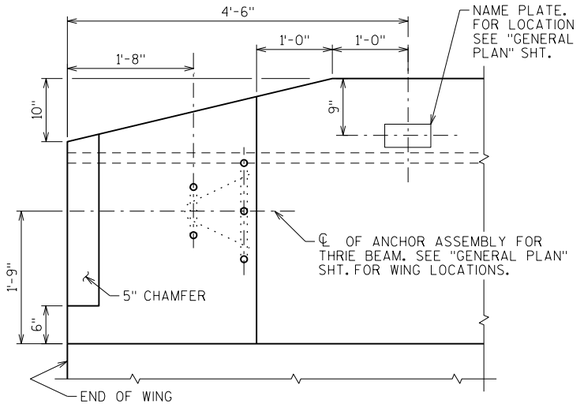
SECTION A-A



SECTION B-B

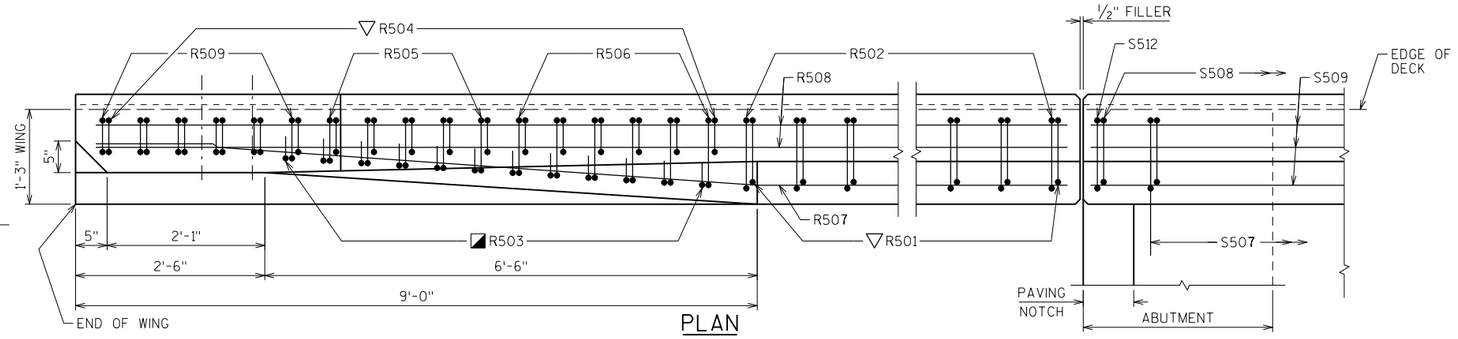


SECTION C-C



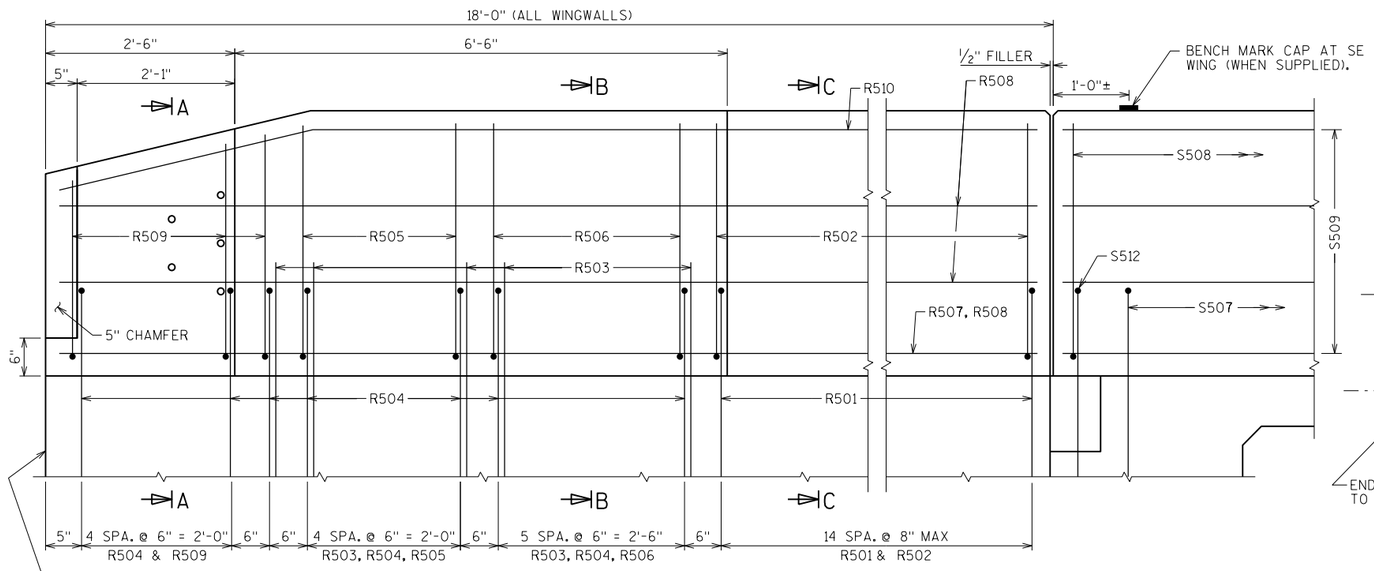
PARAPET END TREATMENT DETAIL

LOOKING AT INSIDE FACE OF PARAPET



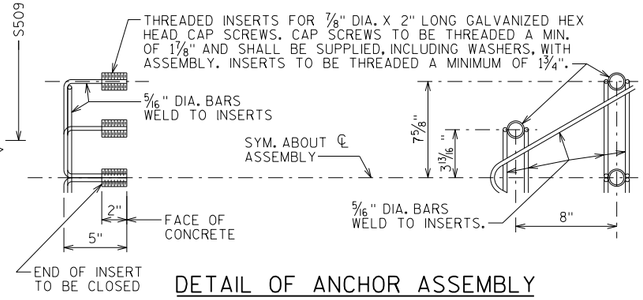
PLAN

SE CORNER SHOWN, OTHERS SIMILAR



INSIDE ELEVATION

SE CORNER SHOWN, OTHERS SIMILAR



DETAIL OF ANCHOR ASSEMBLY

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

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

BILL OF BARS

FOR ABUTMENT PARAPETS

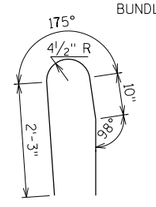
BAR MARK	COAT	S ABUT.	N ABUT.	LENGTH	BENT	2352 # COATED BAR SERIES	LOCATION
R501	X	30	30	5'-10	X		PARAPET VERT.
R502	X	30	30	6'-8"	X		PARAPET VERT.
R503	X	24	24	3'-0"	X		PARAPET VERT.
R504	X	34	34	5'-7"	X		PARAPET VERT.
R505	X	10	10	6'-5"	X		PARAPET VERT.
R506	X	12	12	6'-6"	X		PARAPET VERT.
R507	X	2	2	17'-8"	X		PARAPET HORIZ.
R508	X	10	10	17'-8"			PARAPET HORIZ.
R509	X	12	12	5'-5"	X	◭	PARAPET VERT.
R510	X	4	4	17'-8"	X		PARAPET HORIZ.

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

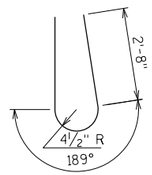
BAR SERIES TABLE

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

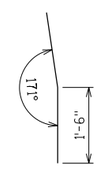
BUNDLE AND TAG EACH SERIES SEPARATELY.



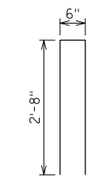
R501



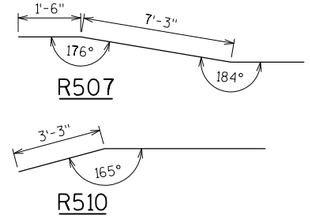
R502



R503

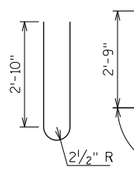


R504

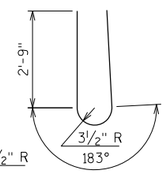


R507

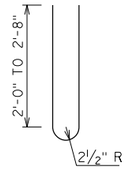
R510



R505



R506



R509

◐ CONST. JOINT - STRIKE OFF AS SHOWN

◪ 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.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-60-148

DRAWN BY BGS | PLANS CK'D. WJZ

SINGLE SLOPE PARAPET 42SS

SHEET 7 OF 7

78

8

8

FILE= B60148_70-42SS.DGN
SCALE = 1:2

Division 1 - Ali-STH 64

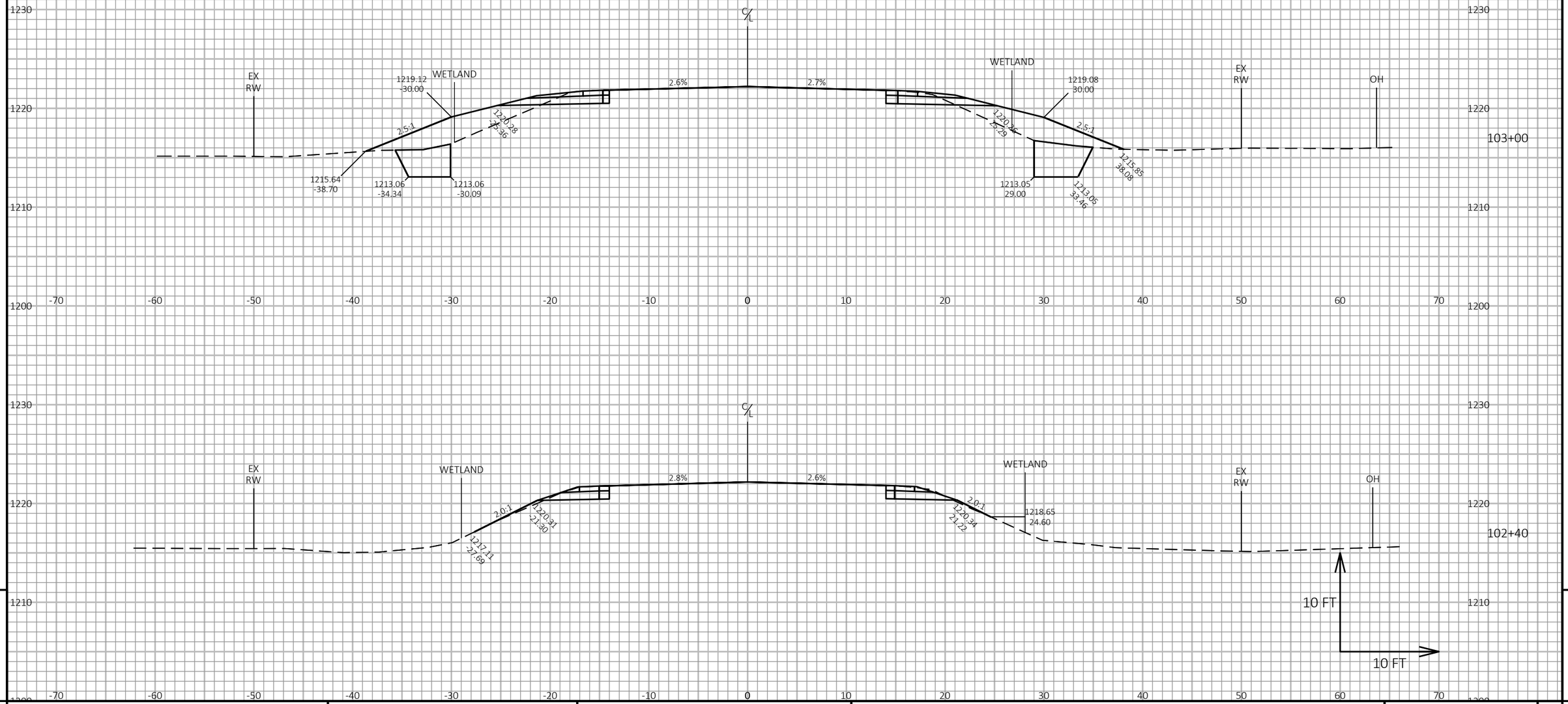
STATION	Real Station	Distance	AREA (SF)				Incremental Vol (CY) (Unadjusted)				Cumulative Vol (CY)				
			Cut	Salvaged/ Unusable Pavement Material	Fill	Marsh Exc	Cut	Salvaged/ Unusable Pavement Material	Fill	Marsh Exc	Cut 1.00	Expanded Fill 1.25	Expanded Marsh Backfill 1.50	Reduced Marsh in Fill 0.60	Mass Ordinate
102+40	10240.00	0.00	13.33	0.00	1.21	0.00	0	0	0	0	0	0	0	0	0
103+00	10300.00	60.00	13.92	0.00	53.04	31.83	30	0	60	35	30	75	53	21	-45
103+50	10350.00	50.00	15.42	0.00	75.33	51.30	27	0	119	77	57	224	168	67	-166
103+70.88	10370.88	20.88	5.37	0.00	122.07	62.86	8	0	76	44	65	319	235	94	-254
103+95.88	10395.88	25.00	24.19	0.00	88.22	36.92	14	0	97	46	79	441	304	122	-362
104+20.88	10420.88	25.00	5.78	0.00	112.95	39.81	14	0	93	36	93	557	357	143	-464
104+24	10424.00	3.12	5.47	0.00	105.90	40.04	1	0	13	5	94	573	364	146	-480
104+60	10460.00	36.00	33.97	28.00	65.35	54.83	26	19	114	63	120	716	459	184	-615
105+40	10540.00	80.00	33.97	28.00	83.40	67.19	101	83	220	181	221	991	730	292	-872
105+76.3	10576.30	36.30	3.39	0.00	76.56	45.24	25	19	108	76	246	1,126	844	337	-1,001
105+79.42	10579.42	3.12	3.44	0.00	73.24	44.04	0	0	9	5	246	1,137	851	341	-1,011
106+04.42	10604.42	25.00	14.01	0.00	50.37	42.39	0	0	0	0	246	1,137	851	341	-1,011
106+29.42	10629.42	25.00	3.86	0.00	67.41	50.11	8	0	55	43	254	1,205	916	366	-1,071
106+75	10675.00	45.58	20.67	0.00	52.74	36.19	21	0	101	73	275	1,332	1,025	410	-1,177
107+25	10725.00	50.00	12.69	0.00	39.87	10.91	31	0	86	44	306	1,439	1,090	436	-1,253
107+60	10760.00	35.00	13.91	0.00	0.04	0.00	17	0	26	7	323	1,471	1,101	440	-1,268
							323	120	1,177	734					

9

9

PROJECT NO: 8220-03-73	HWY: STH 64	COUNTY: TAYLOR	EARTH QUANTITIES	SHEET 79	E

FILE NAME : _____ PLOT DATE : _____ PLOT BY : _____ PLOT NAME : _____ ORG DATE : _____ ORIGINATOR : DIST _ PLOT SCALE : 1:1

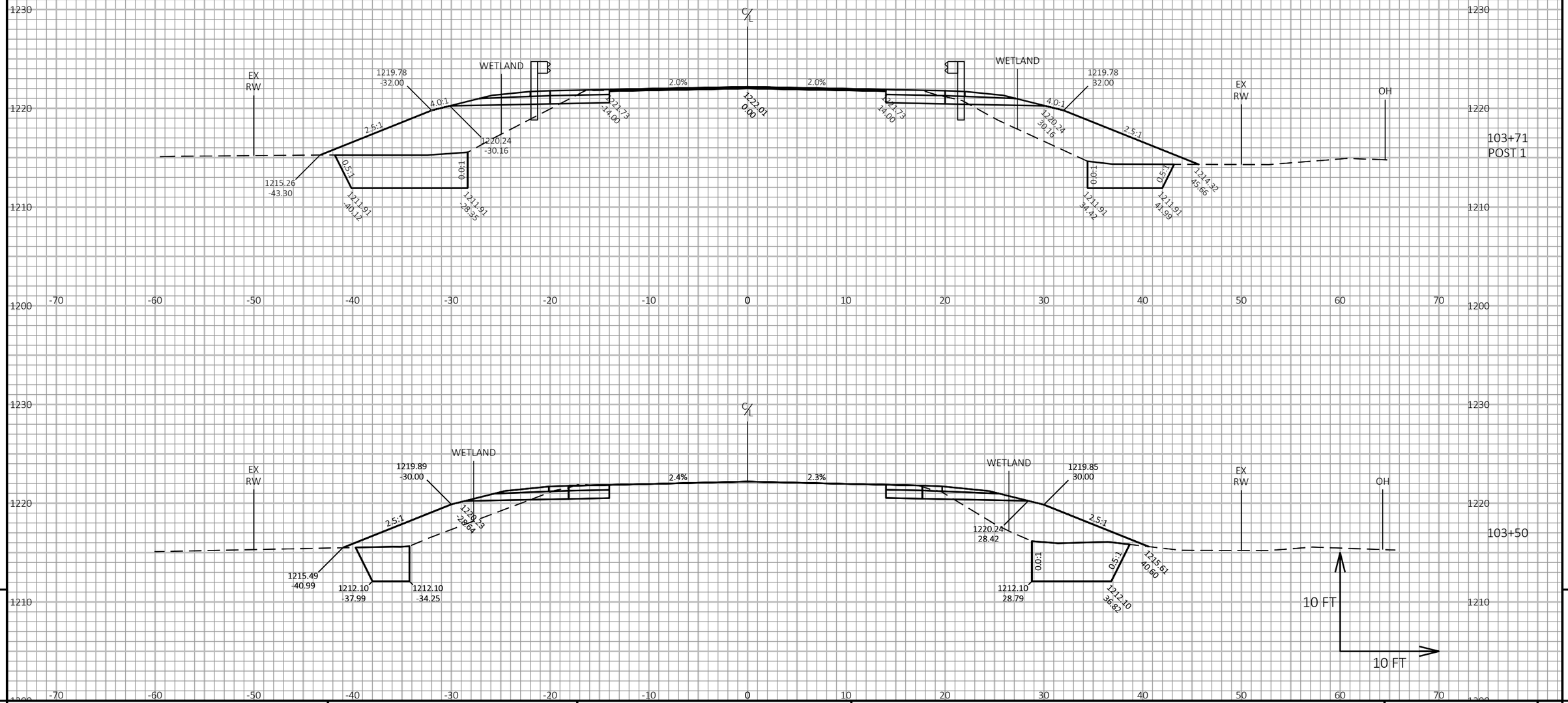


PROJECT NO: 8220-03-73	HWY: STH 64	COUNTY: TAYLOR	CROSS SECTIONS: STH 64	SHEET 80	E

FILE NAME : Y:\MILWAUKEE\20200S\20229.05\ENG_DOCS\82200303\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 01

PLOT DATE : 1/8/2020 2:20 PM PLOT BY : WEIGAND, BEN PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:20 FT VERT.

WISDOT/CADDS SHEET 49



9

9

PROJECT NO: 8220-03-73	HWY: STH 64	COUNTY: TAYLOR	CROSS SECTIONS: STH 64	SHEET 81	E

FILE NAME : Y:\MILWAUKEE\20200S\20229.05\ENG_DOCS\82200303\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 02

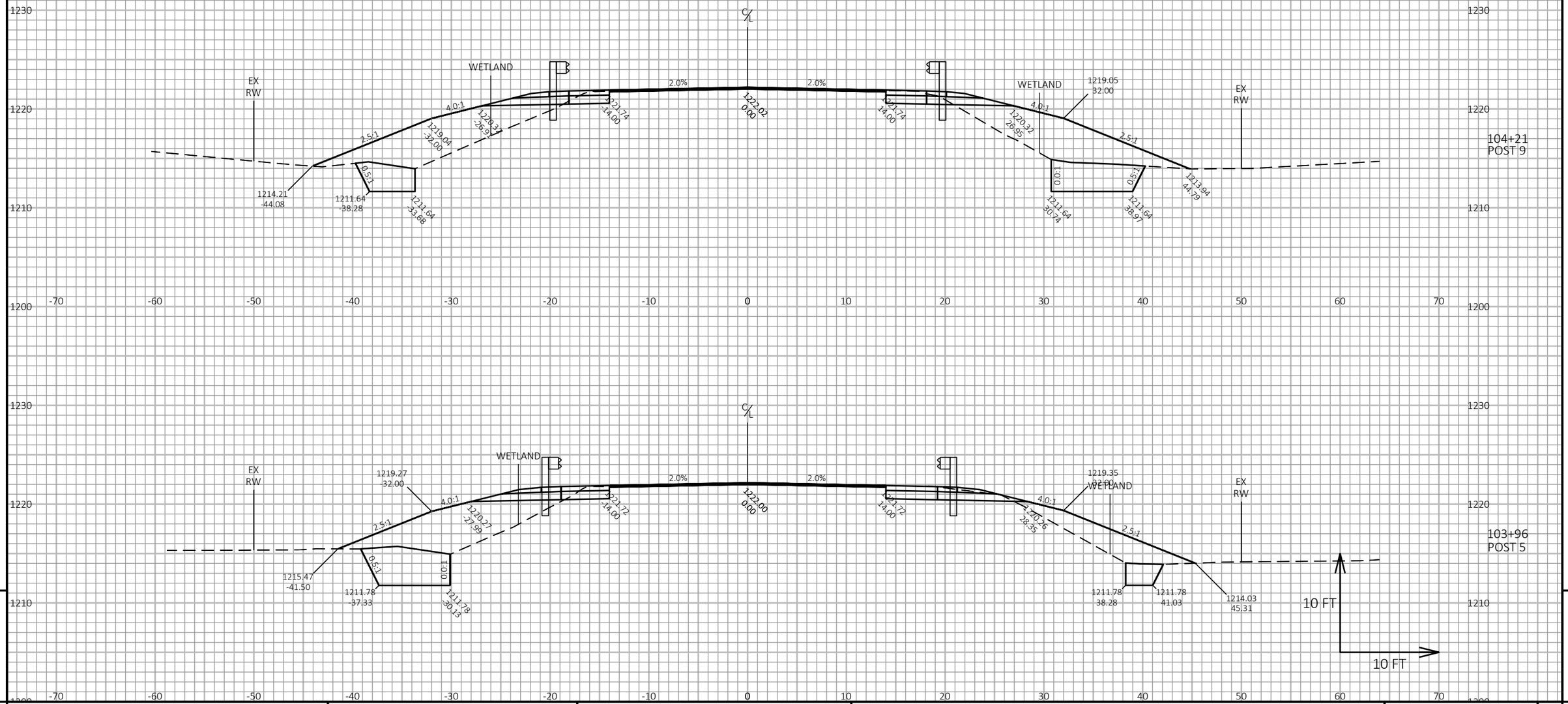
PLOT DATE : 1/8/2020 2:20 PM

PLOT BY : WEIGAND, BEN

PLOT NAME :

PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:20 FT VERT.

WISDOT/CADDS SHEET 49



9

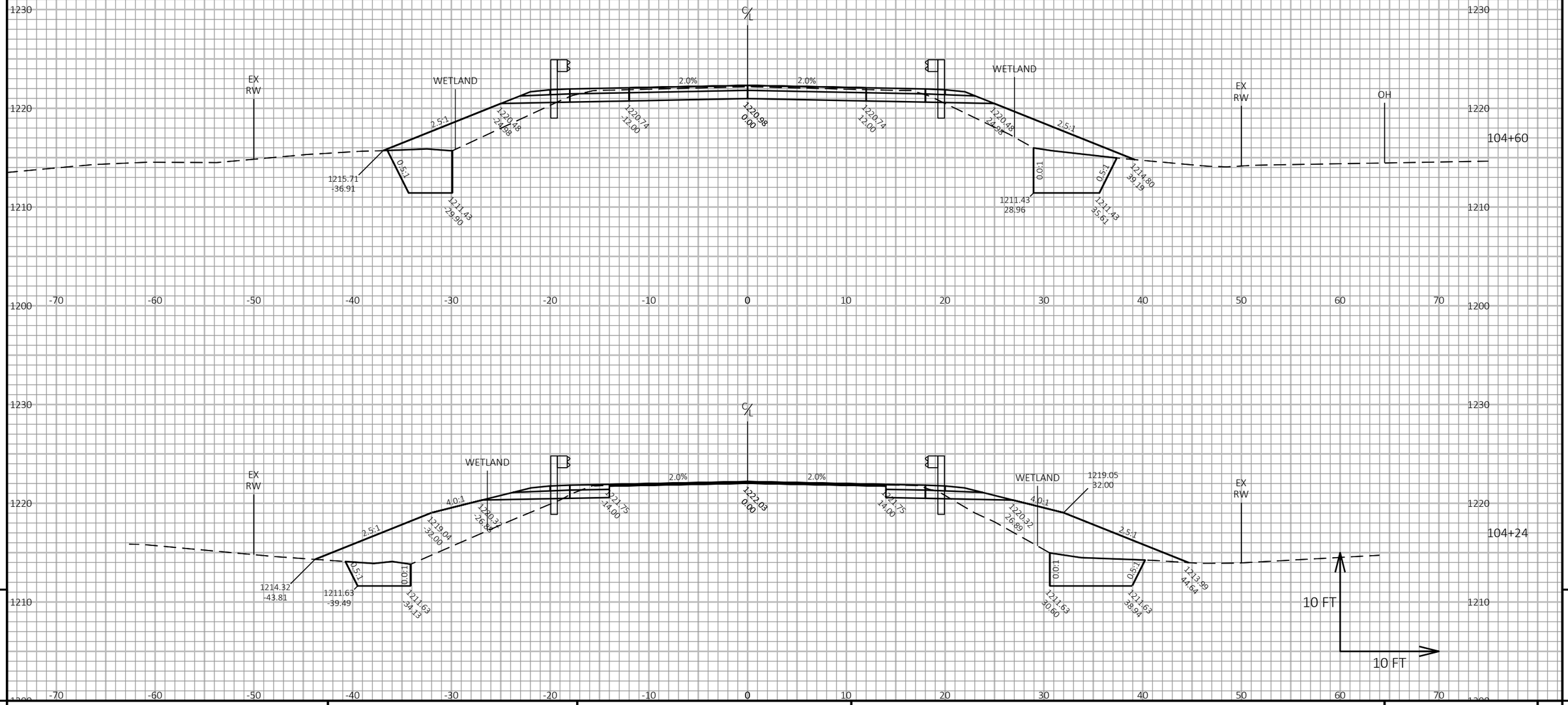
9

PROJECT NO: 8220-03-73	HWY: STH 64	COUNTY: TAYLOR	CROSS SECTIONS: STH 64	SHEET 82	E

FILE NAME : Y:\MILWAUKEE\20200S\20229.05\ENG_DOCS\82200303\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 03

PLOT DATE : 1/8/2020 2:20 PM PLOT BY : WEIGAND, BEN PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:20 FT VERT.

WISDOT/CADDS SHEET 49



9

9

PROJECT NO: 8220-03-73	HWY: STH 64	COUNTY: TAYLOR	CROSS SECTIONS: STH 64	SHEET 83	E

FILE NAME : Y:\MILWAUKEE\20200S\20229.05\ENG_DOCS\82200303\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 04

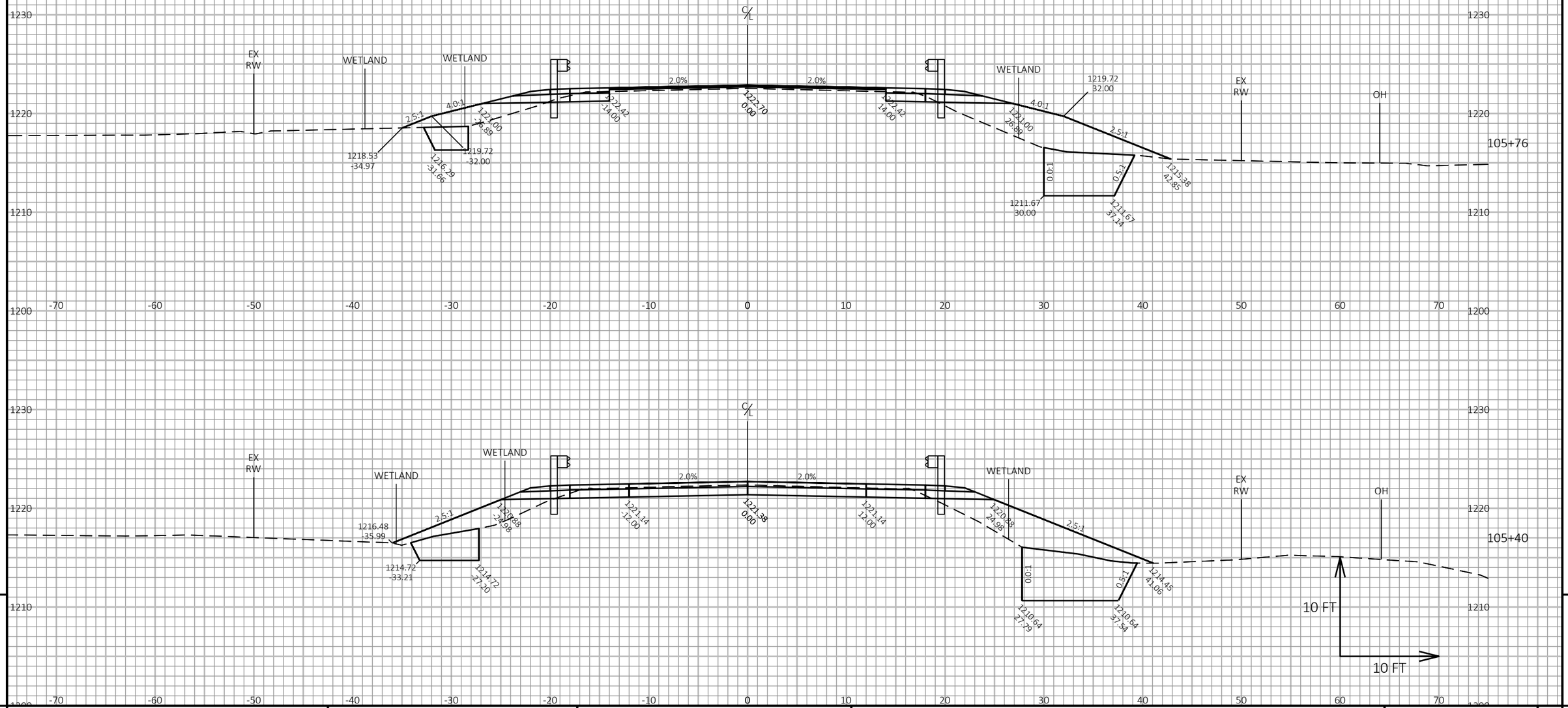
PLOT DATE : 1/8/2020 2:20 PM

PLOT BY : WEIGAND, BEN

PLOT NAME :

PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:20 FT VERT.

WISDOT/CADDS SHEET 49



9

9

PROJECT NO: 8220-03-73	HWY: STH 64	COUNTY: TAYLOR	CROSS SECTIONS: STH 64	SHEET 84	E

FILE NAME : Y:\MILWAUKEE\20200S\20229.05\ENG_DOCS\82200303\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 05

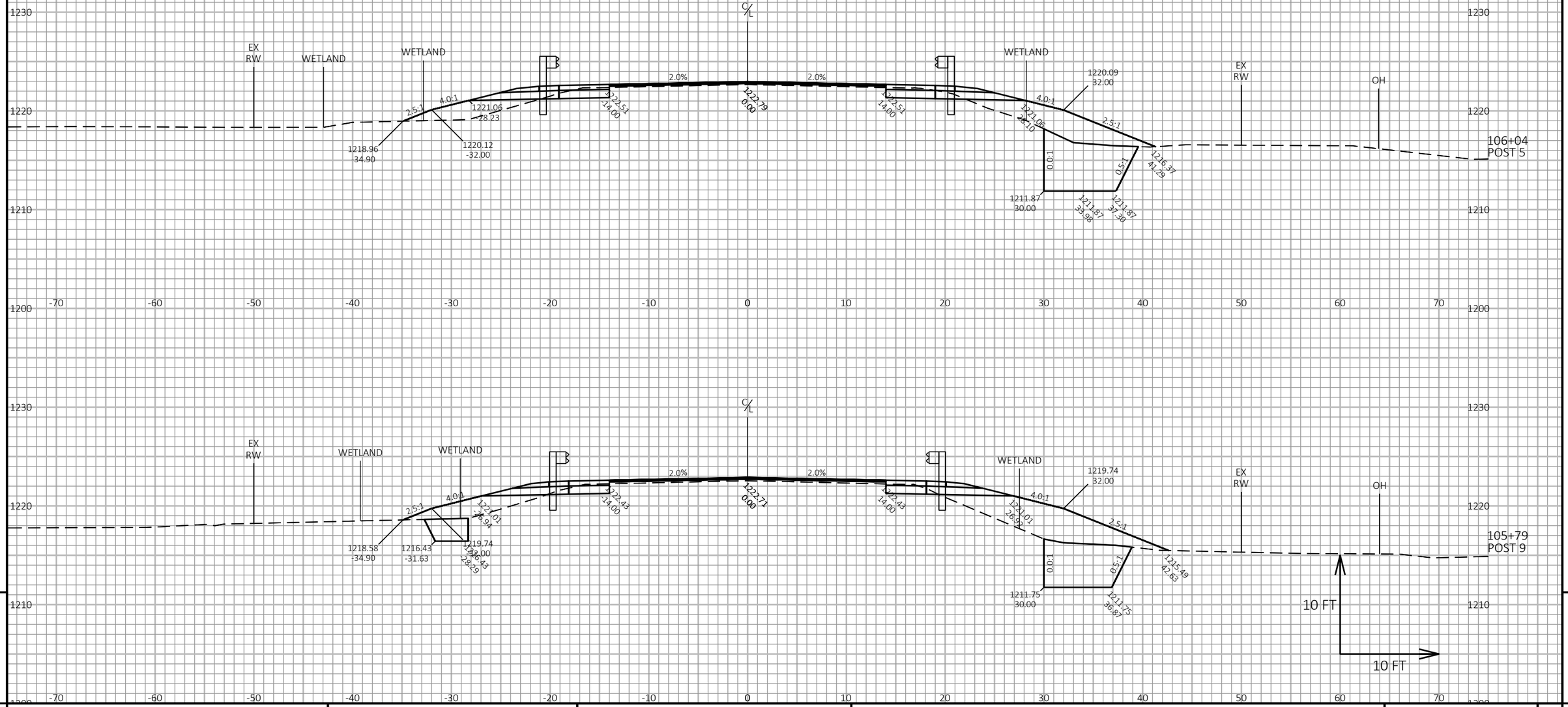
PLOT DATE : 1/8/2020 2:20 PM

PLOT BY : WEIGAND, BEN

PLOT NAME :

PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:20 FT VERT.

WISDOT/CADDS SHEET 49



9

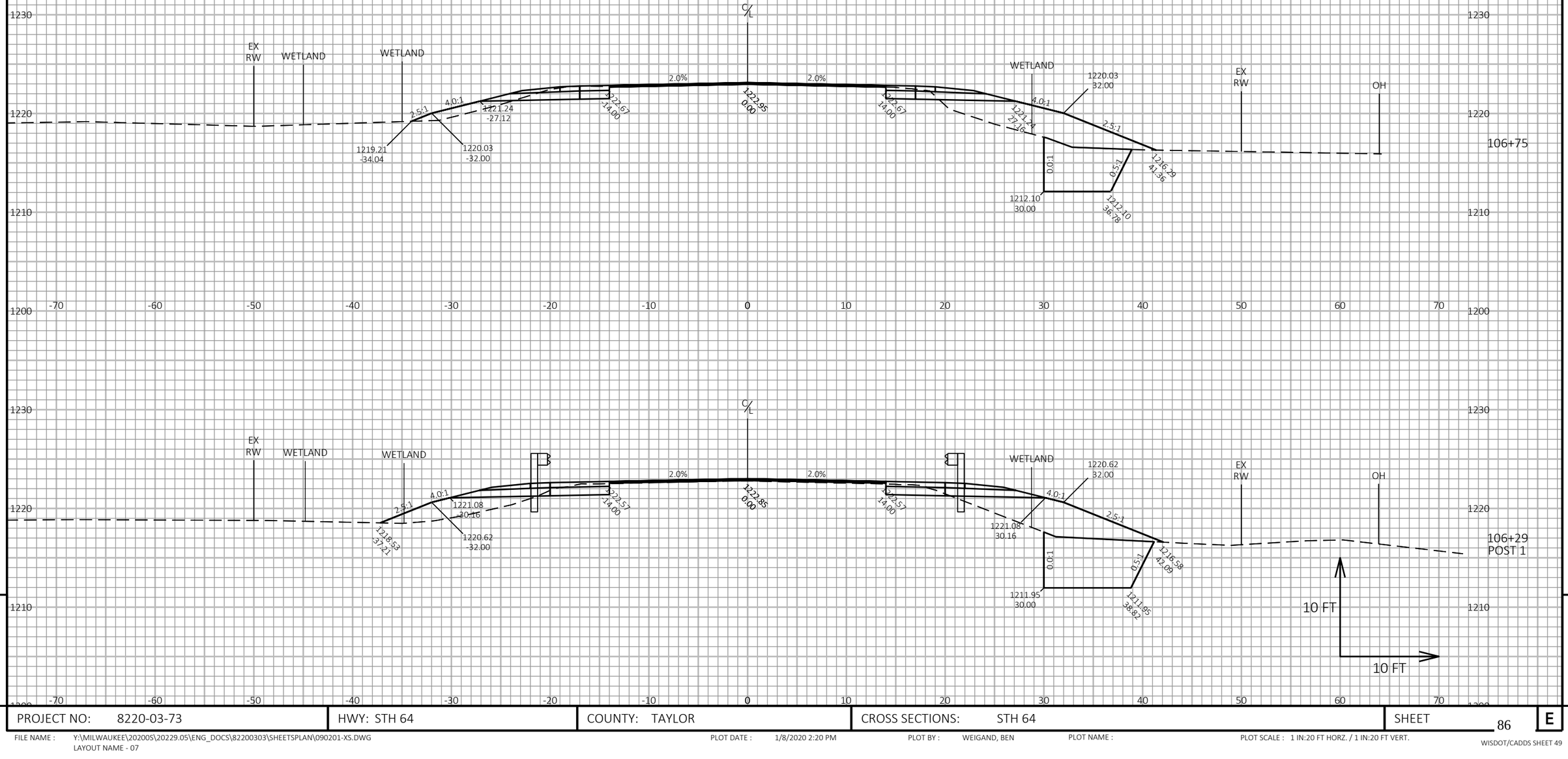
9

PROJECT NO: 8220-03-73	HWY: STH 64	COUNTY: TAYLOR	CROSS SECTIONS: STH 64	SHEET 85	E

FILE NAME : Y:\MILWAUKEE\20200S\20229.05\ENG_DOCS\82200303\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 06

PLOT DATE : 1/8/2020 2:20 PM PLOT BY : WEIGAND, BEN PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:20 FT VERT.

WISDOT/CADDS SHEET 49



9

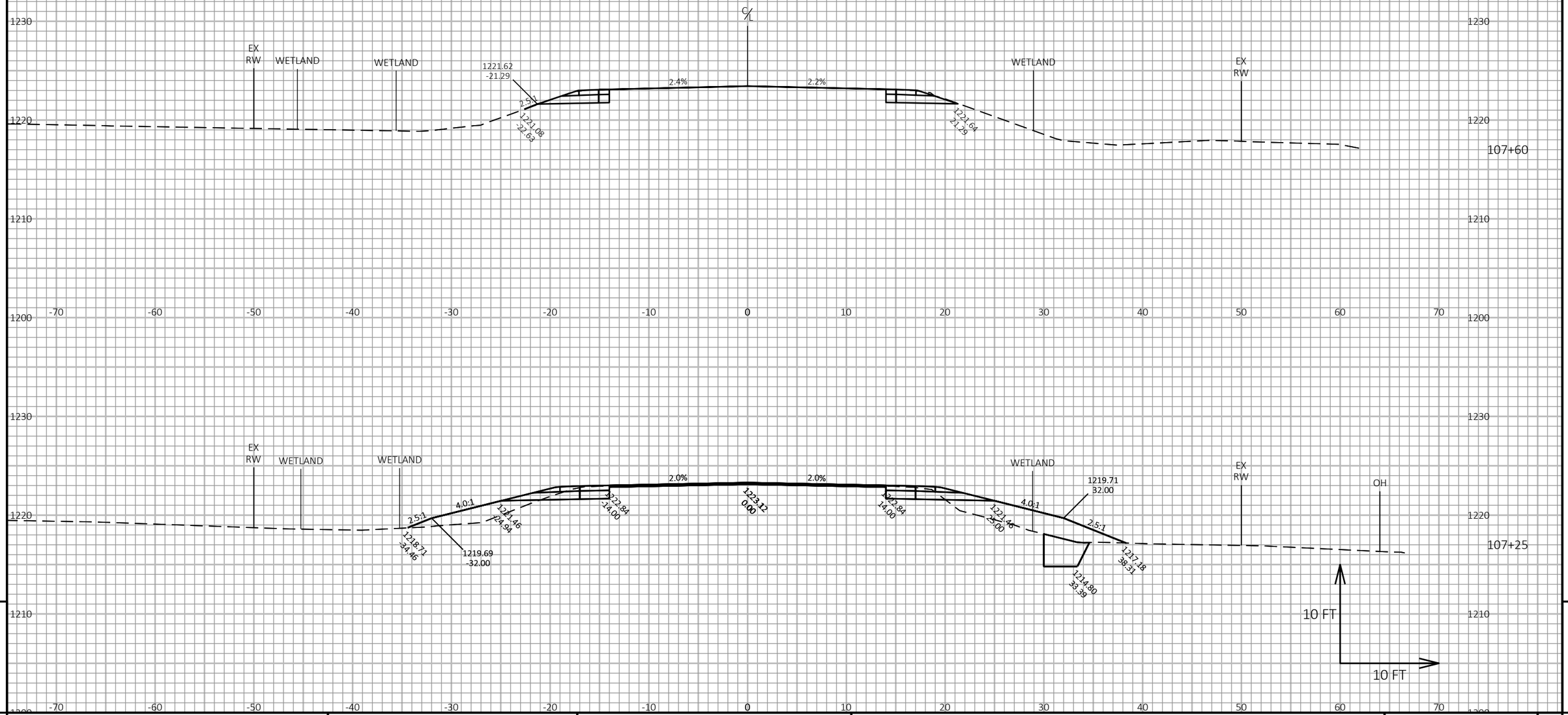
9

PROJECT NO: 8220-03-73	HWY: STH 64	COUNTY: TAYLOR	CROSS SECTIONS: STH 64	SHEET 86	E

FILE NAME : Y:\MILWAUKEE\20200S\20229.05\ENG_DOCS\82200303\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 07

PLOT DATE : 1/8/2020 2:20 PM PLOT BY : WEIGAND, BEN PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:20 FT VERT.

WISDOT/CADDS SHEET 49



9

9

PROJECT NO: 8220-03-73	HWY: STH 64	COUNTY: TAYLOR	CROSS SECTIONS: STH 64	SHEET 87	E

FILE NAME : Y:\MILWAUKEE\20200S\20229.05\ENG_DOCS\82200303\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 08

PLOT DATE : 1/8/2020 2:20 PM PLOT BY : WEIGAND, BEN PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:20 FT VERT.

WISDOT/CADDS SHEET 49

Wisconsin Department of Transportation

Dedicated people creating transportation solutions
through innovation and exceptional service.

http://www.dot.wisconsin.gov