MAD AUGUST 2022

PROJECT ID: 5986-00-71

WITH: N/A

COUNTY: DANE

ORDER OF SHEETS

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

TOTAL SHEETS = 90

04

N

DESIGN DESIGNATION

A.A.D.T.	2023	=	725
A.A.D.T.	2043	=	794
D.H.V.		=	135
D.D.		=	60/40
T.		=	4.56%
DESIGN SPEED		=	60 MPH
ESALS		=	44,000

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

USH 14-STH 78

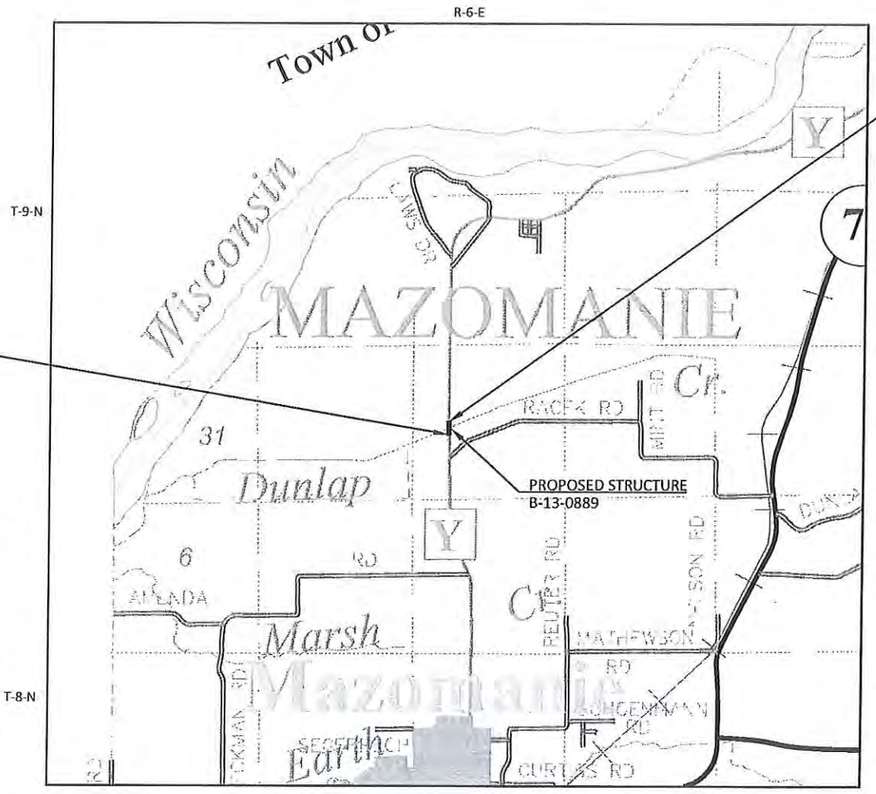
DUNLAP CREEK BRIDGE, B-13-0889

CTH Y

DANE COUNTY

STATE PROJECT NUMBER
5986-00-71

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
5986-00-71	WISC 2022485	1



CONVENTIONAL SYMBOLS

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

LAYOUT

SCALE 0 1 MI

TOTAL NET LENGTH OF CENTERLINE = 0.059 MI

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

ACCEPTED FOR DANE COUNTY

Date 4/19/22 Highway Commissioner

(Signature and Title of Official)

ORIGINAL PLANS PREPARED BY:

STRAND ASSOCIATES

WISCONSIN ELISA C BECKER E-44991 MADISON WI PROFESSIONAL ENGINEER

4/12/2022

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	STRAND ASSOCIATES, INC.
Designer	STRAND ASSOCIATES, INC.
Regional Examiner	LORRAINE BETZEL
Regional Supervisor	KYLE HEMP

APPROVED FOR THE DEPARTMENT

DATE: 4-19-22 (Signature)

E

FILE NAME : S:\MAD\1100--1199\1124\023\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\010101-TI.DWG PLOT DATE : 4/12/2022 1:54 PM PLOT BY : BECKER, ELISA PLOT NAME :

GENERAL NOTES:

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

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

EROSION CONTROL FEATURES AS SHOWN ON THE PLANS ARE AT SUGGESTED LOCATIONS. EXACT LOCATIONS WILL BE DETERMINED BY THE CONTRACTOR'S EROSION CONTROL IMPLEMENTATION PLAN (ECIP) AND APPROVED BY THE ENGINEER IN CONSULTATION WITH THE WISCONSIN DEPARTMENT OF NATURAL RESOURCES. ALL EROSION CONTROL MEASURES SHALL BE MAINTAINED UNTIL SUCH TIME AS THE ENGINEER DETERMINES THE MEASURE IS NO LONGER NECESSARY.

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

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

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

GRADES SHOWN ON THE PLANS MAY BE ADJUSTED BY THE ENGINEER TO FIT EXISTING FIELD CONDITIONS.

EXISTING SIGNS SHALL REMAIN IN PLACE UNLESS MOVED AS PART OF THE PLAN OR THE ENGINEER APPROVES THE REMOVAL.

SIGN LOCATIONS SHALL BE REVIEWED BY THE ENGINEER PRIOR TO INSTALLATION.

ASPHALT BID/MIX SPECIFICATIONS		
	THICKNESS	BID/MIX SPECIFICATIONS
UPPER LAYER	1.75-INCH	4 LT 58-28 S
LOWER LAYER	2.25-INCH	3 LT 58-28 S

UTILITIES

** ALLIANT ENERGY

CHRIS WILHELM
520 COMMERCE AVENUE
BARABOO, WI 53913
608-356-0630
608-963-3168 (MOBILE)
CHRISWILHELM@ALLIANTENERGY.COM

** LUMEN TECHNOLOGIES

STEVE BISHOP
130 4TH STREET
BARABOO, WI 53913
608-355-7501
608-963-8594 (MOBILE)
STEVEN.BISHOP@LUMEN.COM

** MADISON GAS & ELECTRIC

ROGER AHLES
623 RAILROAD STREET
MADISON, WI 53701
608-252-5682
RAHLES@MGE.COM

** DENOTES DIGGERS HOTLINE MEMBER

OTHER CONTACTS

DESIGN CONSULTANT

ELISA BECKER
STRAND ASSOCIATES, INC.
910 WEST WINGRA DR.
MADISON, WI 53715
(608) 251-4843
ELISA.BECKER@STRAND.COM

WISDOT CONTACT

LORRAINE BETZEL
WISDOT SOUTHWEST REGION
2101 WRIGHT STREET
MADISON, WI 53704
(608) 246-3279
lorraine.betzel@dot.wi.gov

DNR LIASON

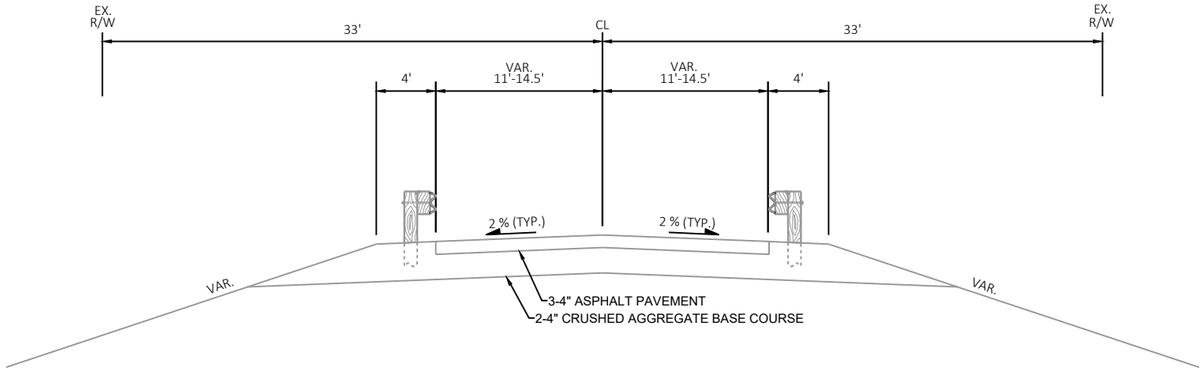
ERIC HEGGELUND
DNR SOUTH CENTRAL REGION
3911 FISH HATCHERY ROAD
FITCHBURG, WI 53711
PH: (608) 275-3301
eric.heggelund@wisconsin.gov

DANE COUNTY

PAMELA DUNPHY
DANE COUNTY
2302 FISH HATCHERY ROAD
MADISON, WI 53713
PH: (608) 266-4036
dunphy@countyofdane.com

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

2

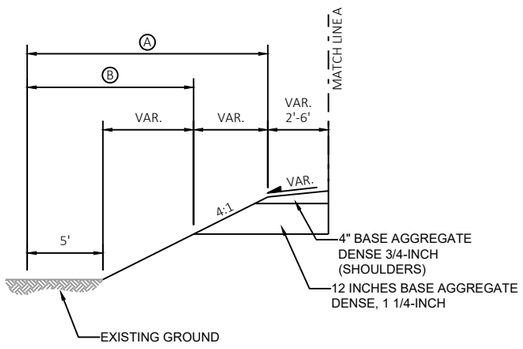


EXISTING TYPICAL SECTION

CTH Y

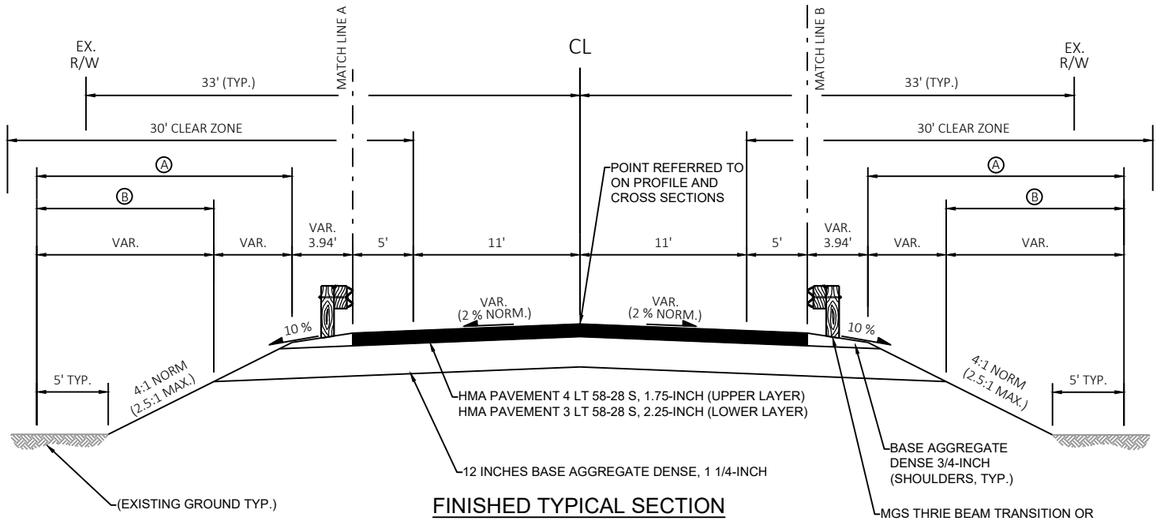
PROJECT NO: 5986-00-71	HWY: CTH Y	COUNTY: DANE	TYPICAL SECTIONS	SHEET 3	E

FILE NAME : S:\MAD\1100--1199\1124\023\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\020301-TS.DWG
LAYOUT NAME - 020301-ts
PLOT DATE : 4/22/2022 7:07 PM
PLOT BY : STANIOCH, DREW
PLOT NAME :
PLOT SCALE : 1 IN:10 FT
WISDOT/CADDS SHEET 42



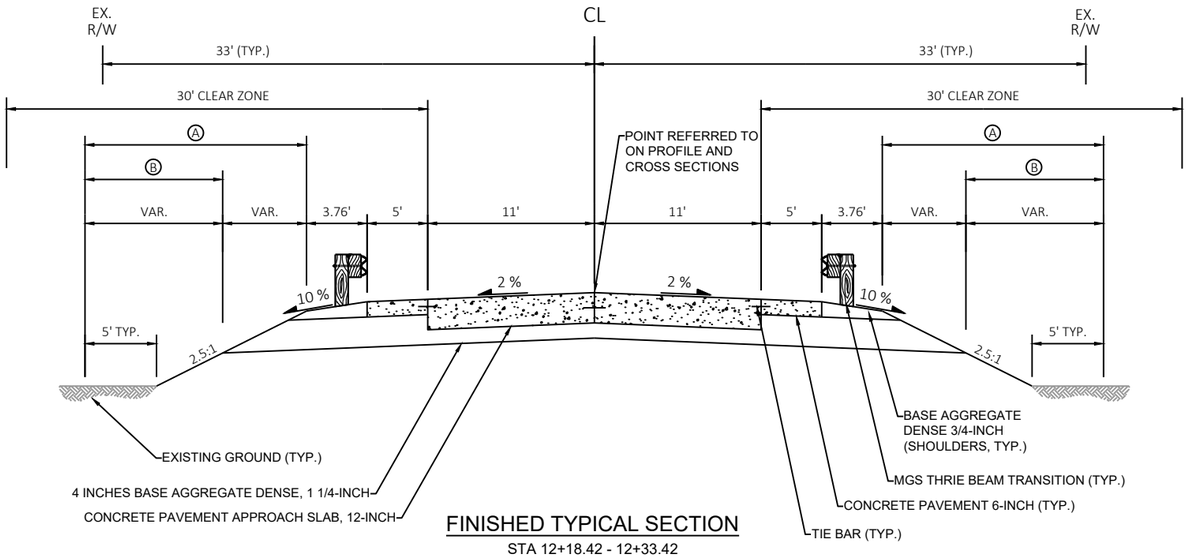
FINISHED TYPICAL SECTION

STA 10+11.65 - 10+90.73
STA 14+02.27- 14+86.35



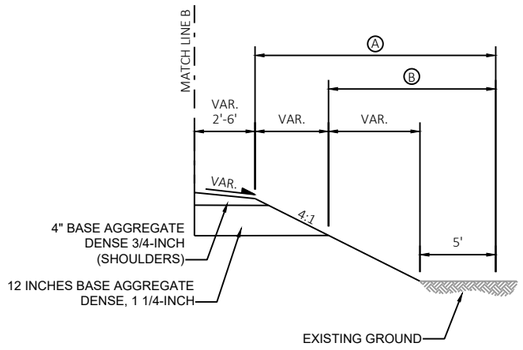
FINISHED TYPICAL SECTION

STA 10+90.73 - 12+18.42
STA 12+79.58 - 14+02.27



FINISHED TYPICAL SECTION

STA 12+18.42 - 12+33.42
B-13-0889
STA 12+64.58 - 12+79.58



FINISHED TYPICAL SECTION

STA 10+11.65 - 10+90.73
STA 14+02.27- 14+86.35

Ⓐ SEEDING MIXTURE NO. 60;

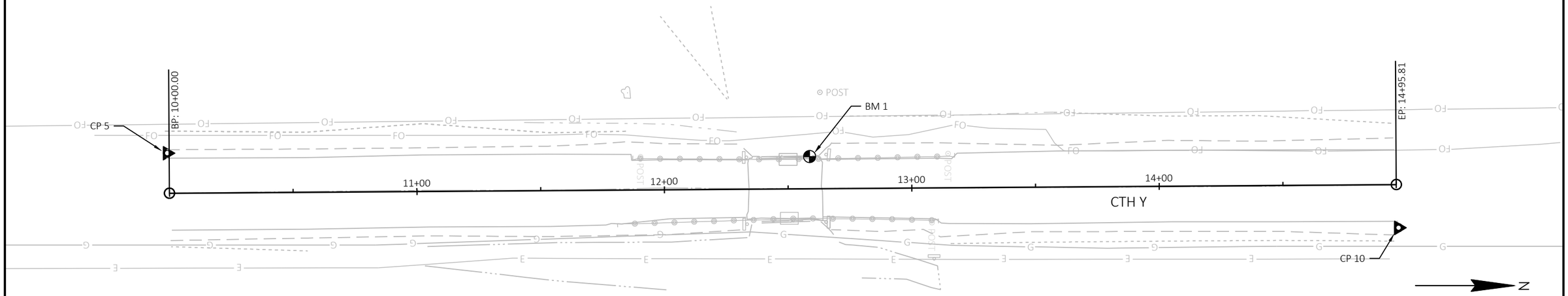
Ⓑ SALVAGED TOPSOIL;
AND EROSION MAT URBAN CLASS I TYPE B
OR MULCHING

PROJECT NO: 5986-00-71	HWY: CTH Y	COUNTY: DANE	TYPICAL SECTIONS	SHEET 4	E

BENCH MARKS				
NO.	STATION	OFFSET	ELEV.	DESCRIPTION
BM 1	12+58.81	13.00 LT'	738.3900	CHISELED X ON TOP OF NW ABUTMENT

CONTROL POINT AND BENCHMARK DETAIL

CONTROL POINTS					
NO.	STATION	OFFSET	Y	X	DESCRIPTION
CP 5	–	–	533060.20	711740.40	¾" REBAR
CP 10	–	–	533557.80	711770.56	¾" REBAR



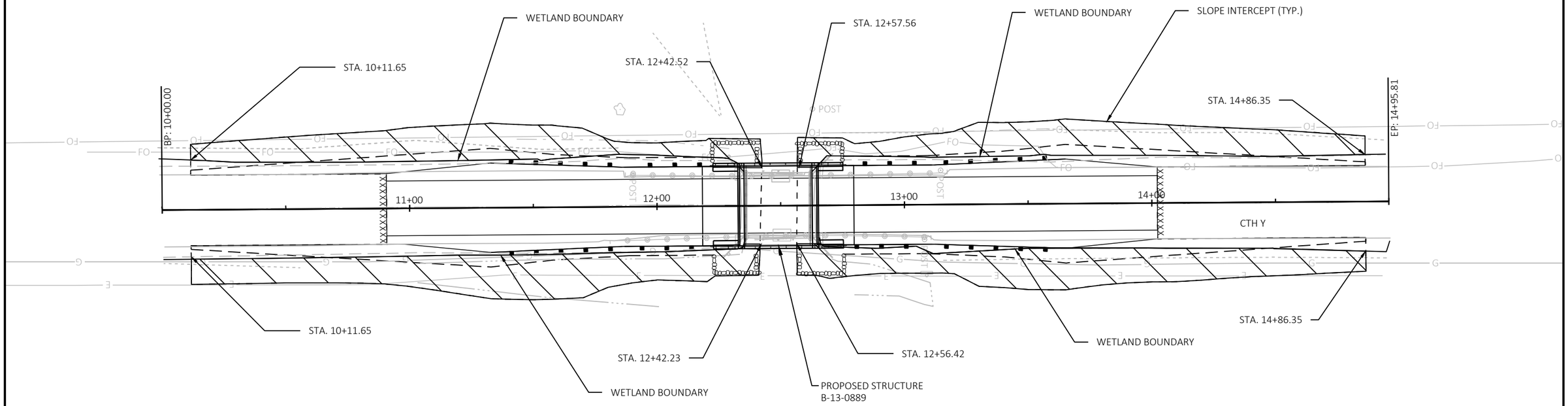
RUNOFF COEFFICIENT TABLE

	HYDROLOGIC SOIL GROUP											
	A			B			C			D		
	SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)		
LAND USE:	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER
ROW CROPS	.08 .22	.16 .30	.22 .38	.12 .26	.20 .34	.27 .44	.15 .30	.24 .37	.33 .50	.19 .34	.28 .41	.38 .56
MEDIAN STRIP- TURF	.19 .24	.20 .26	.24 .30	.19 .25	.22 .28	.26 .33	.20 .26	.23 .30	.30 .37	.20 .27	.25 .32	.30 .40
SIDE SLOPE- TURF			.25 .32			.27 .34			.28 .36			.30 .38
PAVEMENT:												
ASPHALT	.70 - .95											
CONCRETE	.80 - .95											
BRICK	.70 - .80											
DRIVES, WALKS	.75 - .85											
ROOFS	.75 - .95											
GRAVEL ROADS, SHOULDERS	.40 - .60											

TOTAL PROJECT AREA = 0.940 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 0.524 ACRES

2

N



WETLAND IMPACTS

IMPACT LOCATION STATION	IMPACT TYPE	AREA ACRES
10+11.65 - 12+42.52 LT	RPF	0.054
10+11.65 - 12+42.23 RT	M	0.068
12+57.56 - 14+86.35 LT	M	0.056
12+56.42 - 14+86.35 RT	M	0.064

PROJECT NO: 5986-00-71	HWY: CTH Y	COUNTY: DANE	WETLAND DETAIL	SHEET 6	E

FILE NAME : S:\MAD\1100--1199\1124\023\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\021002-CD-WETLAND DELINEATION.DWG
LAYOUT NAME - 021002-cd-Wetland Detail
PLOT DATE : 4/22/2022 7:08 PM PLOT BY : STANIOCH, DREW PLOT NAME : PLOT SCALE : 1 IN:40 FT
WISDOT/CADDS SHEET 42

2

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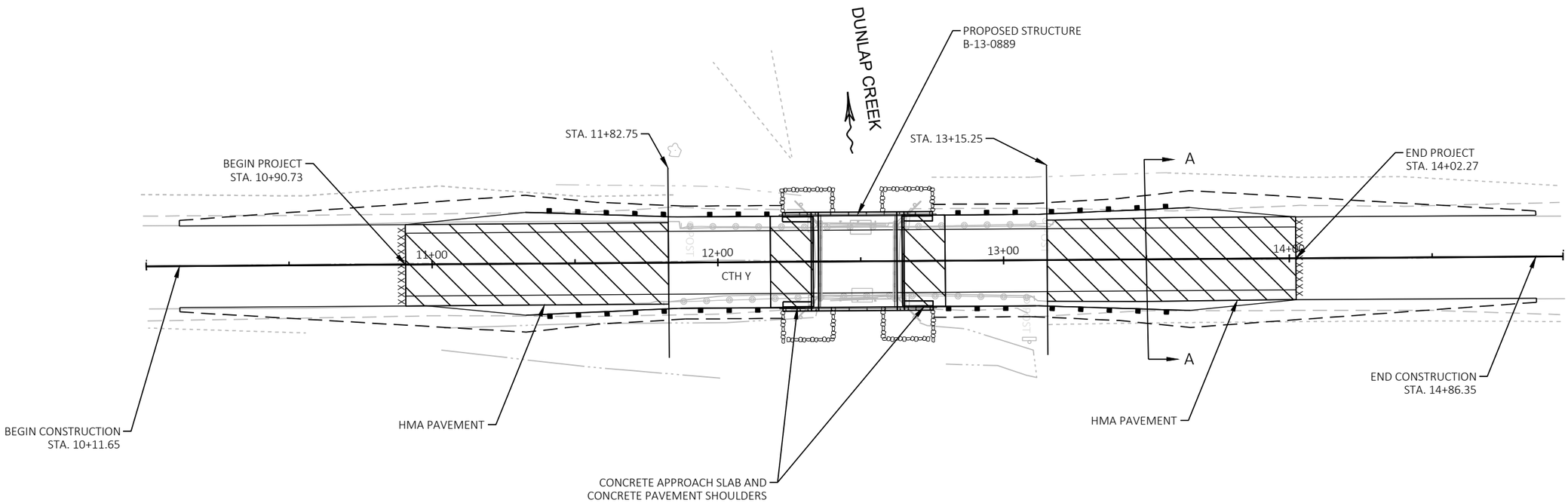
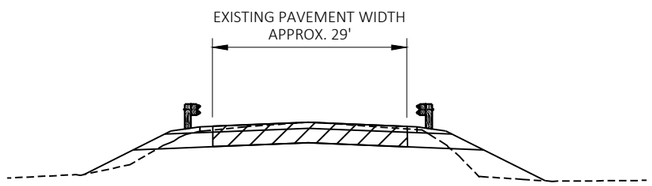




SECTION A-A

NOTE:

NON-PARTICIPATING ITEMS INCLUDE THE HMA PAVEMENT, AGGREGATE, CONCRETE APPROACH SLAB AND CONCRETE PAVEMENT, EXCAVATION AND RELATED ITEMS LOCATED WITHIN THE LIMITS SHOWN.

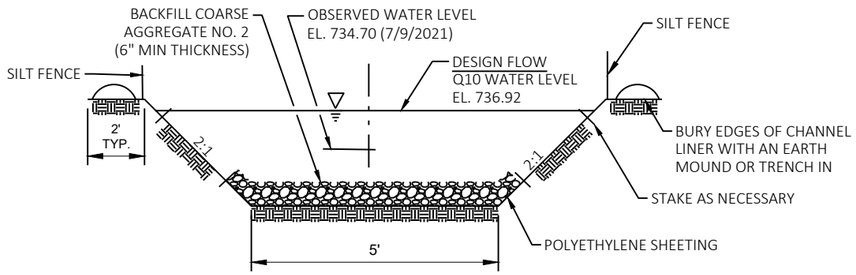
LIMITS OF NON-PARTICIPATING ITEMS (CATEGORY 0030)

PROJECT NO: 5986-00-71	HWY: CTH Y	COUNTY: DANE	NON-PARTICIPATING ITEMS DETAIL	SHEET 7	E

FILE NAME : S:\MAD\1100--1199\1124\023\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\021003-CD.DWG
LAYOUT NAME - 021003-cd
PLOT DATE : 4/22/2022 7:08 PM PLOT BY : STANIOCH, DREW PLOT NAME : PLOT SCALE : ##########
WISDOT/CADDS SHEET 42

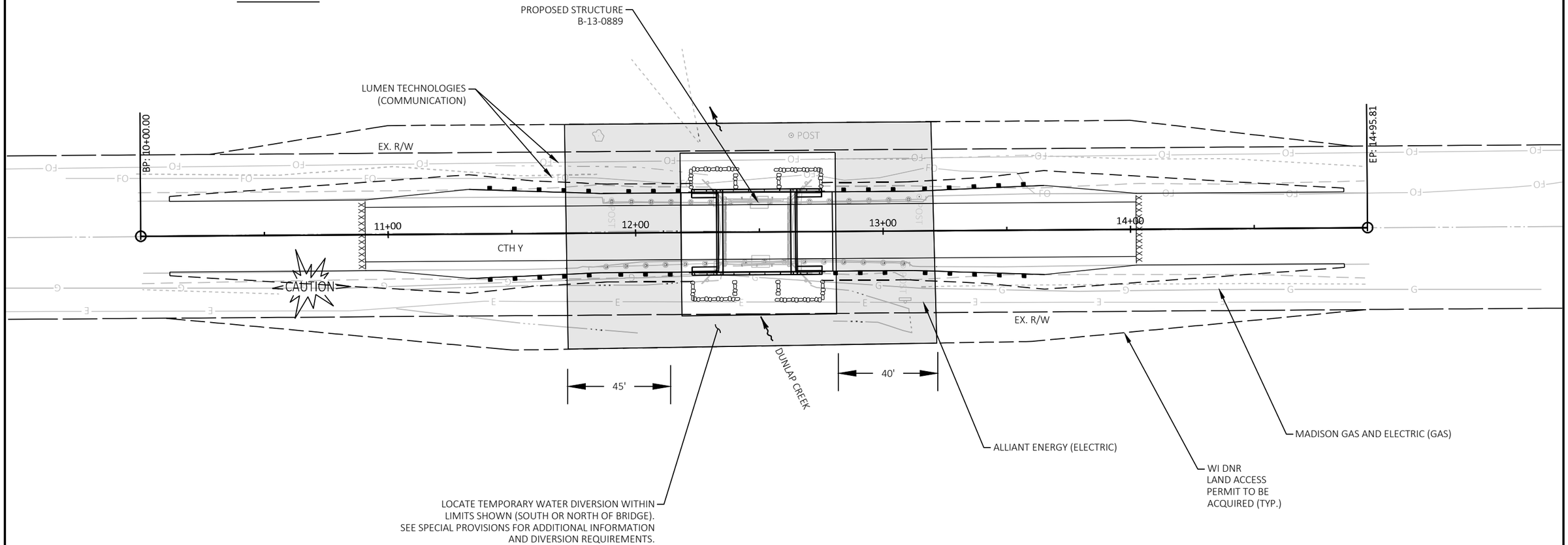
2

N



TYPICAL SECTION OF TEMPORARY WATER DIVERSION

NOTES:
POLYETHYLENE SHEETING AND BACKFILL COARSE AGGREGATE NO. 2 SHALL BE REMOVED AFTER DUNLAP CREEK IS RESTORED TO ORIGINAL CHANNEL. ALL AREAS OUTSIDE OF ROADWAY SHALL BE RESTORED PER GRADING PLAN AND CROSS SECTIONS. BACKFILL AREA UNDER ROADWAY WITH NATIVE MATERIAL.



PROJECT NO: 5986-00-71	HWY: CTH Y	COUNTY: DANE	CONSTRUCTION DETAILS - TEMPORARY WATER DIVERSION	SHEET 8	E

2

2

N

MGS THRIE BEAM TRANSITION

MGS GUARDRAIL TERMINAL EAT

SLOPE INTERCEPT (TYP.)

STA 11+82.77
-16.12' LT
POST #9

STA 11+85.89
-16.00' LT

STA 10+11.65
-16.00' LT

STA 10+90.73
-14.00' LT

STA 11+32.81
-23.94' LT

STA 11+32.81
-18.00' LT
POST #1

STA 12+21.50
-16.00' LT

CONC PVT
6-INCH

STA 11+57.79
-17.06' LT
POST #5

DUNLAP CREEK

CONC PVT
6-INCH

STA 12+76.50
-16.00' LT

MGS THRIE BEAM TRANSITION

STA 13+12.11
-16.00' LT

STA 13+15.23
-16.12' LT
POST #9

STA 13+40.21
-17.06' LT
POST #5

MGS GUARDRAIL TERMINAL EAT

STA 13+65.19
-23.94' LT

STA 13+65.19
-18.00' LT
POST #1

WI DNR LAND ACCESS PERMIT TO BE ACQUIRED

STA 14+02.27
-14.50' LT

STA 14+86.35
-16.00' LT

STA 14+86.35
-14.50' LT

BP: 10+00.00

EP: 14+95.81

R/W

10:1 TAPER

10:1 TAPER

5'

5' SHOULDER

EXIST. 2.0% XXXXX

EXIST. 2.2% XXXXX

11+00

12+00

13+00

14+00

11'

HMA

2.0% +00

2.0% +65

3.2% XXXXX EXIST.

3.0% XXXXX EXIST.

CTH Y

BEGIN CONSTRUCTION
STA. 10+11.65

END CONSTRUCTION
STA. 14+86.35

STA 10+11.65
14.50' RT

STA 10+11.65
16.00' RT

STA 14+86.35
14.50' RT

STA 14+86.35
16.00' RT

BEGIN PROJECT
STA. 10+90.73

END PROJECT
STA. 14+02.27

STA 10+90.73
14.50' RT

STA 10+97.81
14.50' RT

STA 11+32.81
18.00' RT
POST #1

STA 11+32.81
23.94' RT

STA 11+57.79
17.06' RT
POST #5

STA 11+82.77
16.12' RT
POST #9

STA 11+85.89
16.00' RT

MGS THRIE BEAM TRANSITION

BEGIN CONCRETE PAVEMENT APPROACH SLAB
STA. 12+18.42

STA 12+21.50
16.00' RT

CONC PVT
6-INCH

MGS GUARDRAIL TERMINAL EAT

PROPOSED STRUCTURE
B-13-0889

WI DNR LAND
ACCESS PERMIT TO BE
ACQUIRED

STA 12+76.50
16.00' RT

CONC PVT
6-INCH

STA 13+12.11
16.00' RT

STA 13+15.23
16.12' RT
POST #9

STA 13+40.21
17.06' RT
POST #5

STA 13+65.19
18.00' RT
POST #1

STA 13+65.19
23.94' RT

MGS THRIE BEAM TRANSITION

BEGIN CONCRETE PAVEMENT APPROACH SLAB
STA. 12+79.58

MGS GUARDRAIL TERMINAL EAT

STA 14+02.27
14.50' RT

SLOPE INTERCEPT (TYP.)

LEGEND

TRAFFIC FLOW

XXXXXXXX SAWING ASPHALT

HMA HMA PAVEMENT

PROJECT NO: 5986-00-71	HWY: CTH Y	COUNTY: DANE	LAYOUT DETAIL	SHEET 9	E

FILE NAME : S:\MAD\1100--1199\1124\023\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\021201-PD.DWG
LAYOUT NAME - 021201-pd

PLOT DATE : 4/22/2022 7:09 PM PLOT BY : STANIOCH, DREW PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

2

N

LUMEN TECHNOLOGIES
(COMMUNICATIONS)

R/W

TA

FO

POST

11+00

12+00

13+00

14+00

CAUTION

ALLIANT ENERGY
(ELECTRIC)

PROPOSED STRUCTURE
B-13-0889

TEMPORARY WATER DIVERSION B-13-889
REQUIRED, SEE TEMPORARY WATER
DIVERSION DETAIL FOR ADDITIONAL INFO

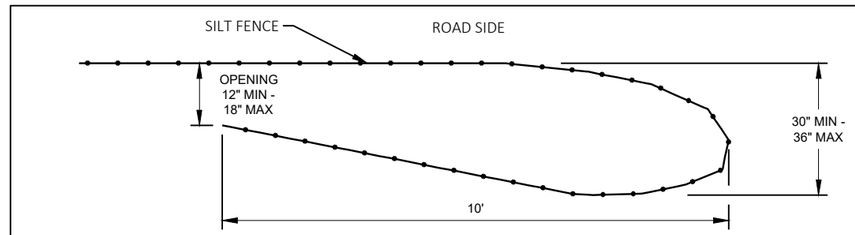
DUNLAP CREEK

MADISON GAS & ELECTRIC
(GAS)

WI DNR
LAND ACCESS
PERMIT TO BE
ACQUIRED (TYP.)

LEGEND

- EROSION MAT URBAN CLASS I TYPE B
- SILT FENCE
- RIPRAP HEAVY
- SLOPE INTERCEPT
- TEMPORARY DITCH CHECK
- TA — TEMPORARY TURTLE TURN-AROUND



TEMPORARY TURTLE TURN-AROUND

NOTE:
SILT FENCE POST FOR THE TURN-AROUND SHOULD BE ON THE OUTSIDE OF THE TURN-AROUND AND TRENCHED IN ACCORDING TO SILT FENCE REQUIREMENTS. TURN AROUND TO BE PAID AS "SILT FENCE"

PROJECT NO: 5986-00-71	HWY: CTH Y	COUNTY: DANE	EROSION CONTROL	SHEET 10	E

FILE NAME : S:\MAD\1100--1199\1124\023\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\022001-EC.DWG
LAYOUT NAME - 022001-ec

PLOT DATE : 4/22/2022 7:10 PM PLOT BY : STANIOCH, DREW PLOT NAME : PLOT SCALE : 1 IN:40 FT

2

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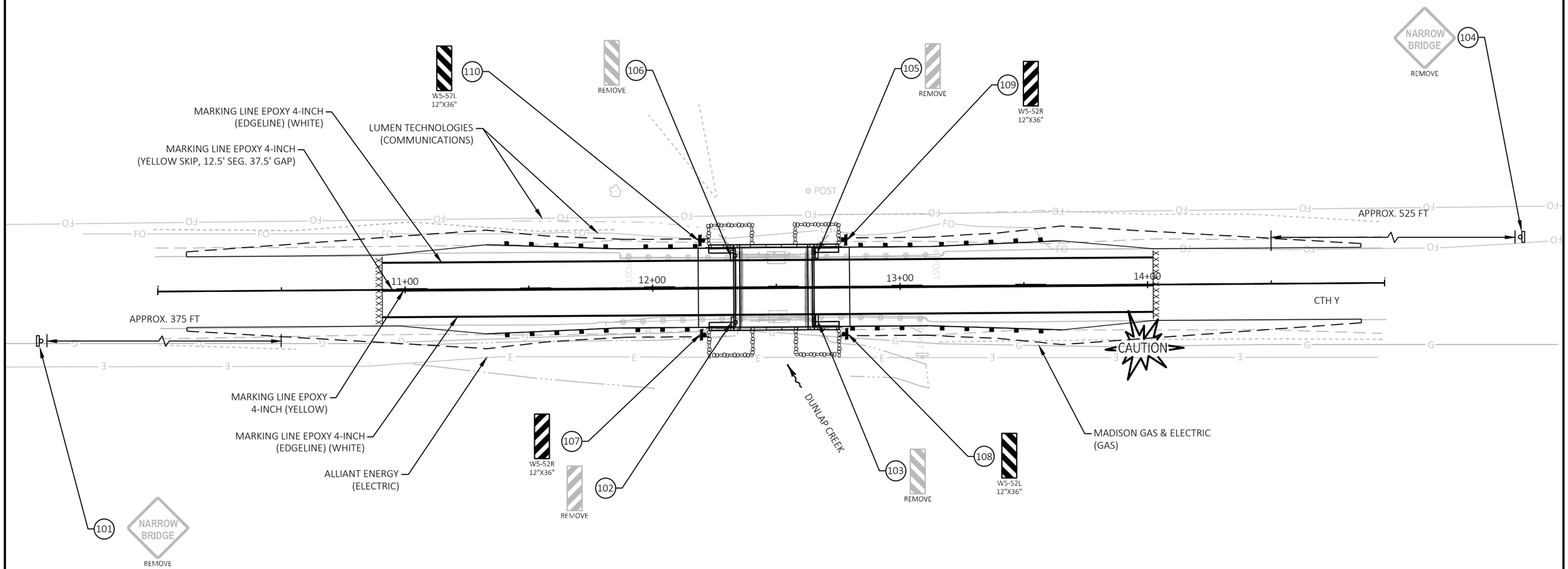


PROPOSED SIGN ON WOOD POST

EXISTING SIGN ON WOOD POST

(XXX) DESIGNATES SIGN ITEM NUMBER

PROJECT NO: 5986-00-71	HWY: CTH Y	COUNTY: DANE	PAVEMENT MARKING AND SIGNING	SHEET 11	E

2

GENERAL NOTES

DETOUR ROUTE MARKER SIGNING TO BE INSTALLED AND MAINTAINED BY CONTRACTOR.

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

REMOVE OR COVER ANY SIGN, TEMPORARY OR EXISTING, WHICH CONFLICTS WITH TRAFFIC CONTROL "IN USE", OR AS APPROVED BY THE ENGINEER.

"WO" AND "W" SIGNS SHALL BE 48"x48" UNLESS OTHERWISE NOTED.

TRAFFIC CONTROL SIGNS PORTABLE CHANGEABLE MESSAGE TO BE INSTALLED ONE WEEK PRIOR TO IMPLEMENTATION OF DETOUR ROUTE (INSTALLED BY COUNTY; SEE SPECIAL PROVISION'S PROVIDED).

SEE S.D.D. "DETOUR SIGNING FOR MAINLINE CLOSURES", "BARRICADES AND SIGNS FOR MAINLINE CLOSURES". ALL M3 SERIES SIGNS (NORTH, SOUTH EAST, WEST) WHICH ARE PART OF ANY DETOUR ROUTE MARKER SIGNING ASSEMBLY OR ATTACHED TO ANY WARNING SIGN SHALL BE BLACK LETTERING ON A WHITE BACKGROUND.

ALL M05 AND M06 ARROW SIGNS SHALL BE THE SAME AS "M" SIGNS EXCEPT THAT THE BACKGROUND IS ORANGE.

LEGEND

- DETOUR ROUTE
- TRAFFIC CONTROL SIGNS
- TRAFFIC CONTROL BARRICADES TYPE III WITH ATTACHED SIGN (TWO TYPE "A" WARNING LIGHTS)
- COVER EXISTING SIGN
- EXISTING SIGNS MOUNTED ON POST(S)

SEE S.D.D "DETOUR SIGNING FOR MAINLINE CLOSURES", "BARRICADES AND SIGNS FOR MAINLINE CLOSURES" FOR ADDITIONAL INFORMATION AND SPACING.

(C) SEE S.D.D "BARRICADES AND SIGNS FOR MAINLINE CLOSURES" DETAIL C

M4-8 24"X12"
M1-5A 24"X24"
DETOUR / COUNTY Y
(1)

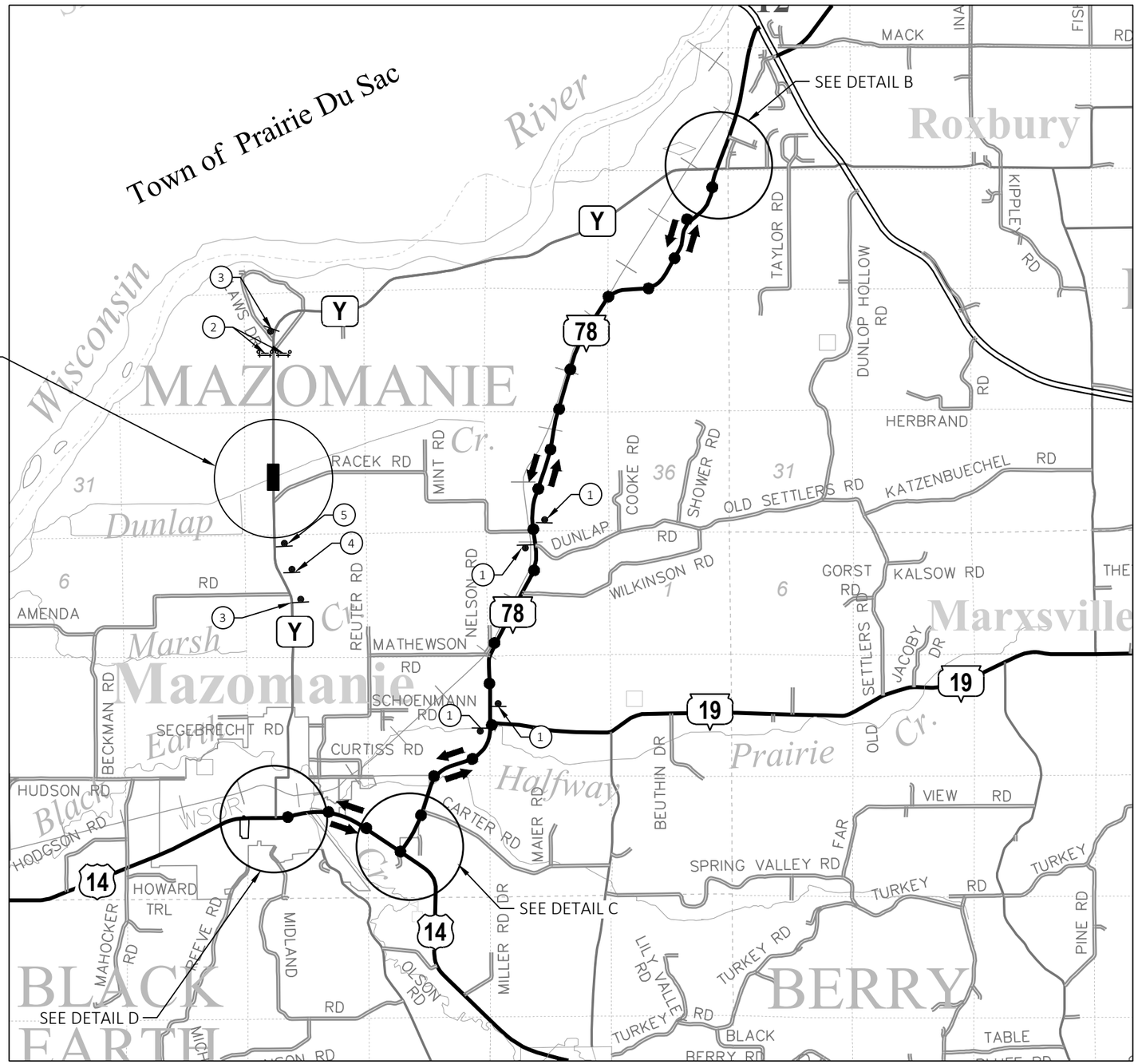
BRIDGE OUT 1.3 MILES AHEAD
R11-3C 60"X24"
(2)

ROAD CLOSED AHEAD
W20-3A
(3)

ROAD CLOSED 1000 FT
W20-3C
(4)

ROAD CLOSED 500 FT
W20-3D
(5)

CTH Y CLOSED AT PROJECT LOCATION (SEE DETAIL A)



SIGNED DETOUR ROUTE

PROJECT NO: 5986-00-71	HWY: CTH Y	COUNTY: DANE	DETOUR ROUTE	SHEET 12	E

FILE NAME : S:\MAD\1100--1199\1124\023\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\027001-DT.DWG
LAYOUT NAME - 027001-dt
PLOT DATE : 4/22/2022 7:10 PM PLOT BY : STANIOCH, DREW PLOT NAME : PLOT SCALE : ##########

2

N

LEGEND

- TYPE III BARRICADE WITH ATTACHED SIGN TYPE 2 (TWO WARNING LIGHTS TYPE A REQ'D)
- TYPE III BARRICADE WITHOUT SIGN (TWO WARNING LIGHTS TYPE A REQ'D)
- TYPE III BARRICADE WITHOUT SIGN (ONE WARNING LIGHT TYPE A REQ'D)
- TRAFFIC CONTROL SIGN ON POST
- WORK ZONE

SEE S.D.D "DETOUR SIGNING FOR MAINLINE CLOSURES", "BARRICADES AND SIGNS FOR MAINLINE CLOSURES" FOR ADDITIONAL INFORMATION AND SPACING.

(C) SEE S.D.D "BARRICADES AND SIGNS FOR MAINLINE CLOSURES" DETAIL C

(D) SEE S.D.D "BARRICADES AND SIGNS FOR MAINLINE CLOSURES" DETAIL D

BRIDGE OUT
R11-2B
48"X30"

50 FT

500 FT

RACEK ROAD

WORK ZONE

DUNLAP CREEK

500 FT

Y

50 FT

ROAD CLOSED 500 FT
W20-5D

ROAD CLOSED AHEAD
W20-3A

ROAD CLOSED 1000 FT
W20-3E

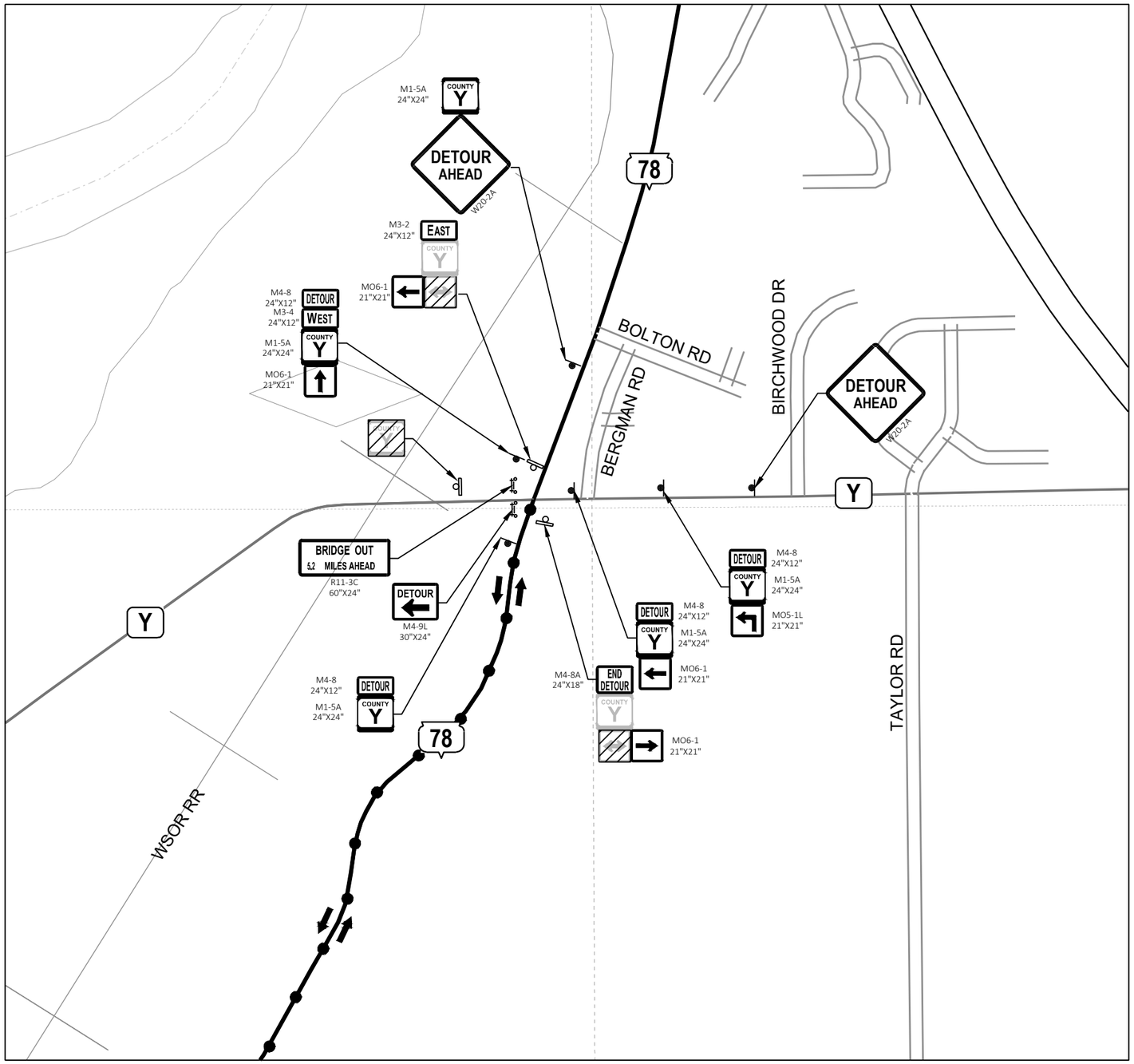
DETAIL A

PROJECT NO: 5986-00-71	HWY: CTH Y	COUNTY: DANE	DETOUR ROUTE	SHEET 13	E

FILE NAME : S:\MAD\1100--1199\1124\023\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\027001-DT.DWG
LAYOUT NAME - 027002-dt
PLOT DATE : 4/22/2022 7:10 PM
PLOT BY : STANIOCH, DREW
PLOT NAME :
PLOT SCALE : 1 IN:150 FT
WISDOT/CADDS SHEET 42

LEGEND

- DETOUR ROUTE
- TRAFFIC CONTROL SIGNS
- TRAFFIC CONTROL BARRICADES TYPE III WITH ATTACHED SIGN (TWO TYPE "A" WARNING LIGHTS)
- COVER EXISTING SIGN
- EXISTING SIGNS MOUNTED ON POST(S)



DETAIL B

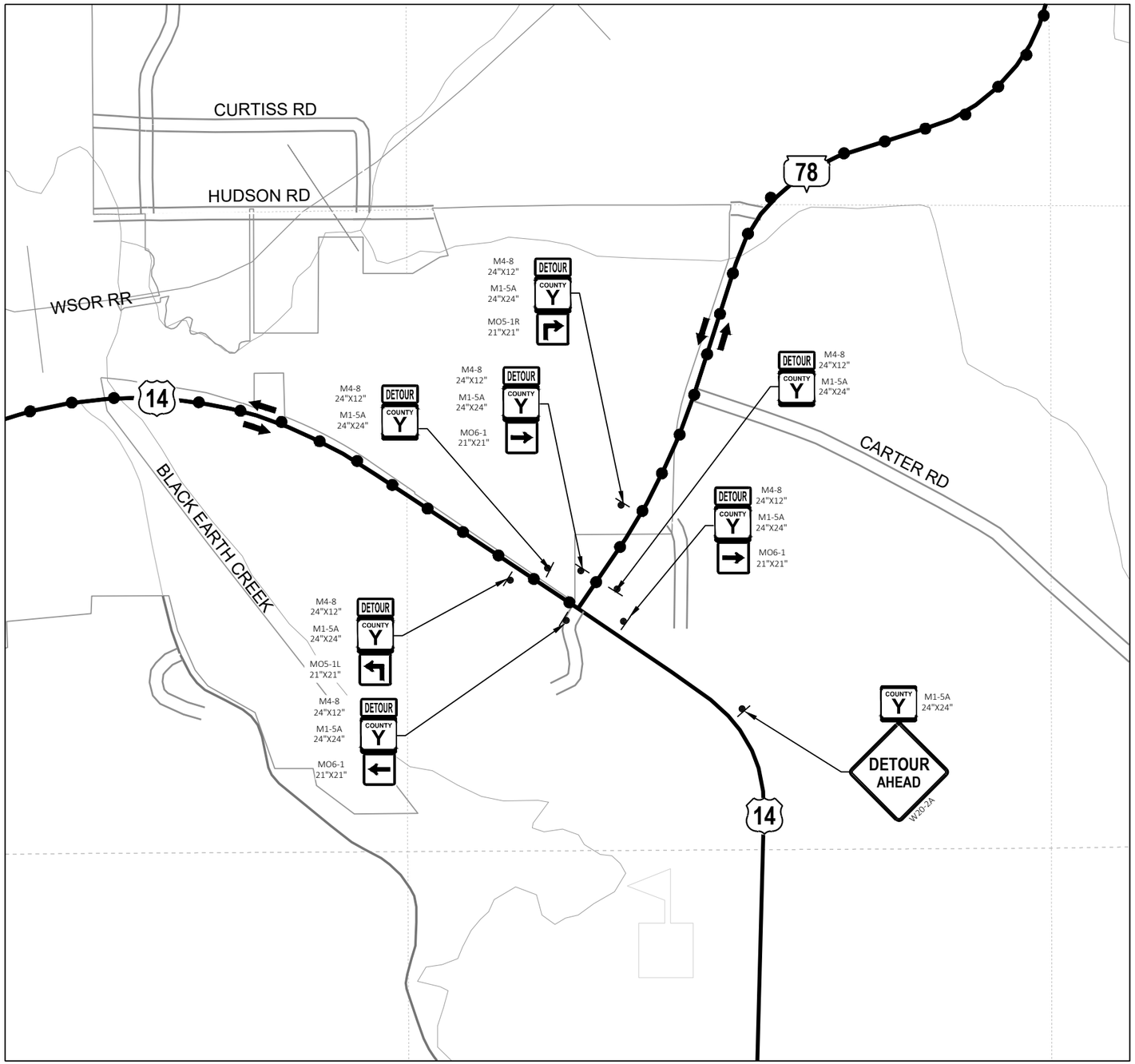
2

PROJECT NO: 5986-00-71	HWY: CTH Y	COUNTY: DANE	DETOUR ROUTE	SHEET 14	E

FILE NAME : S:\MAD\1100--1199\1124\023\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\027001-DT.DWG
LAYOUT NAME - 027003-dt
PLOT DATE : 4/22/2022 7:11 PM PLOT BY : STANIOCH, DREW PLOT NAME : PLOT SCALE : ##########
WISDOT/CADDS SHEET 42

LEGEND

- DETOUR ROUTE
- TRAFFIC CONTROL SIGNS
- TRAFFIC CONTROL BARRICADES TYPE III WITH ATTACHED SIGN (TWO TYPE "A" WARNING LIGHTS)
- COVER EXISTING SIGN
- EXISTING SIGNS MOUNTED ON POST(S)



DETAIL C

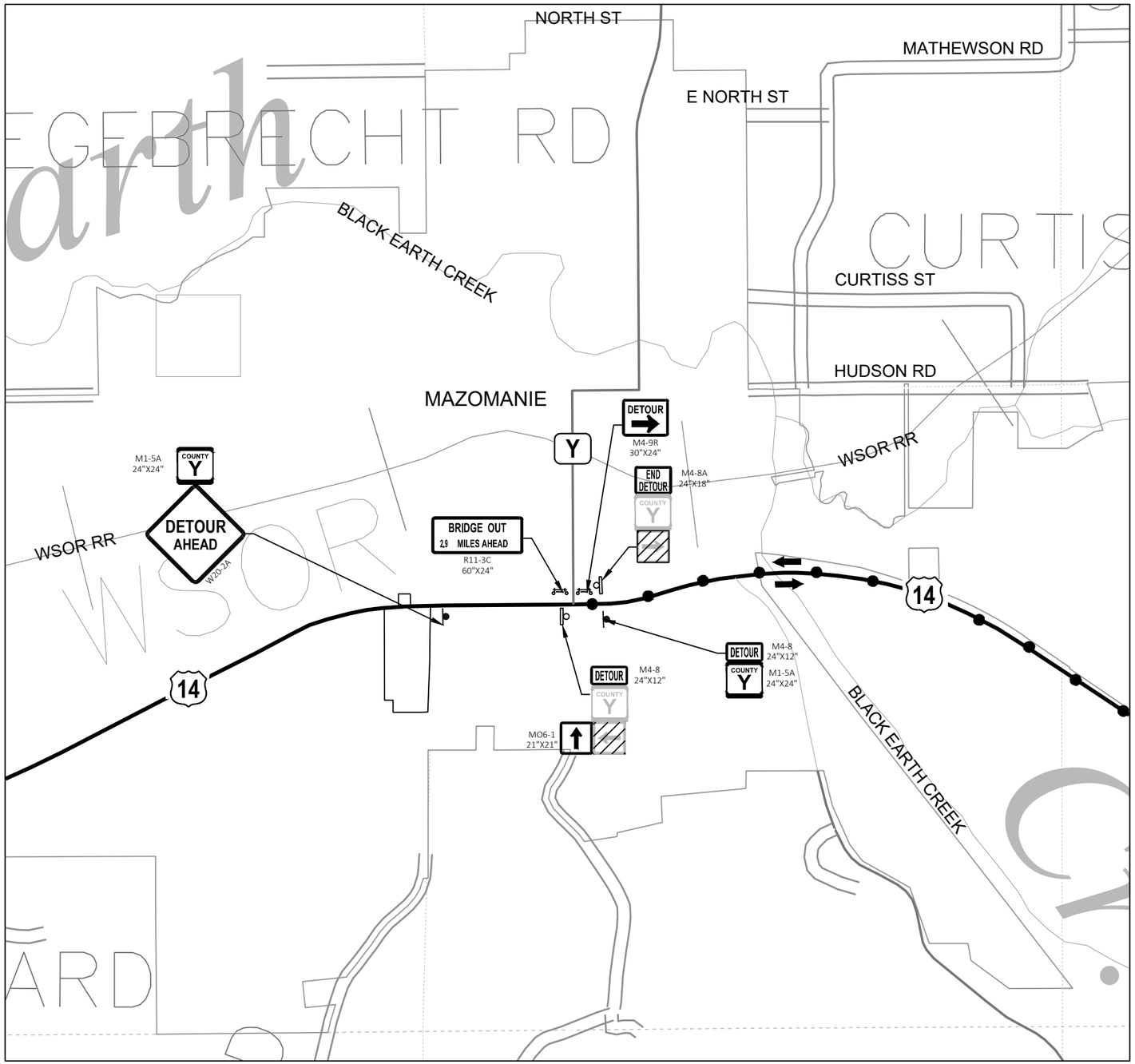
PROJECT NO: 5986-00-71	HWY: CTH Y	COUNTY: DANE	DETOUR ROUTE	SHEET 15	E

FILE NAME : S:\MAD\1100--1199\1124\023\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\027001-DT.DWG
LAYOUT NAME - 027004-dt

PLOT DATE : 4/22/2022 7:11 PM PLOT BY : STANIOCH, DREW PLOT NAME : PLOT SCALE : ##########

LEGEND

- DETOUR ROUTE
- TRAFFIC CONTROL SIGNS
- TRAFFIC CONTROL BARRICADES TYPE III WITH ATTACHED SIGN (TWO TYPE "A" WARNING LIGHTS)
- COVER EXISTING SIGN
- EXISTING SIGNS MOUNTED ON POST(S)



DETAIL D

PROJECT NO: 5986-00-71	HWY: CTH Y	COUNTY: DANE	DETOUR ROUTE	SHEET 16	E

FILE NAME : S:\MAD\1100--1199\1124\023\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\027001-DT.DWG
LAYOUT NAME - 027005-dt

PLOT DATE : 4/22/2022 7:11 PM PLOT BY : STANIOCH, DREW PLOT NAME : PLOT SCALE : ##########

WISDOT/CADDS SHEET 42

Estimate Of Quantities

5986-00-71

Line	Item	Item Description	Unit	Total	Qty
0002	203.0250	Removing Structure Over Waterway Remove Debris (structure) 01. B-13-589	EACH	1.000	1.000
0004	204.0165	Removing Guardrail	LF	260.000	260.000
0006	205.0100	Excavation Common	CY	575.000	575.000
0008	206.1000	Excavation for Structures Bridges (structure) 01. B-13-889	LS	1.000	1.000
0010	210.1500	Backfill Structure Type A	TON	258.000	258.000
0012	213.0100	Finishing Roadway (project) 01. 5986-00-71	EACH	1.000	1.000
0014	305.0110	Base Aggregate Dense 3/4-Inch	TON	50.000	50.000
0016	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	1,040.000	1,040.000
0018	312.0110	Select Crushed Material	TON	61.000	61.000
0020	415.0060	Concrete Pavement 6-Inch	SY	32.000	32.000
0022	415.0410	Concrete Pavement Approach Slab	SY	74.000	74.000
0024	455.0605	Tack Coat	GAL	46.000	46.000
0026	460.2000	Incentive Density HMA Pavement	DOL	150.000	150.000
0028	460.5223	HMA Pavement 3 LT 58-28 S	TON	115.000	115.000
0030	460.5224	HMA Pavement 4 LT 58-28 S	TON	90.000	90.000
0032	502.0100	Concrete Masonry Bridges	CY	129.000	129.000
0034	502.3200	Protective Surface Treatment	SY	168.000	168.000
0036	505.0400	Bar Steel Reinforcement HS Structures	LB	3,980.000	3,980.000
0038	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	14,710.000	14,710.000
0040	513.4061	Railing Tubular Type M	LF	110.000	110.000
0042	516.0500	Rubberized Membrane Waterproofing	SY	20.000	20.000
0044	550.1100	Piling Steel HP 10-Inch X 42 Lb	LF	700.000	700.000
0046	606.0300	Riprap Heavy	CY	88.000	88.000
0048	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	150.000	150.000
0050	614.2500	MGS Thrie Beam Transition	LF	157.600	157.600
0052	614.2610	MGS Guardrail Terminal EAT	EACH	4.000	4.000
0054	618.0100	Maintenance And Repair of Haul Roads (project) 01. 5986-00-71	EACH	1.000	1.000
0056	619.1000	Mobilization	EACH	1.000	1.000
0058	624.0100	Water	MGAL	19.000	19.000
0060	625.0500	Salvaged Topsoil	SY	1,380.000	1,380.000
0062	627.0200	Mulching	SY	1,350.000	1,350.000
0064	628.1504	Silt Fence	LF	1,414.000	1,414.000
0066	628.1520	Silt Fence Maintenance	LF	2,136.000	2,136.000
0068	628.1905	Mobilizations Erosion Control	EACH	3.000	3.000
0070	628.1910	Mobilizations Emergency Erosion Control	EACH	3.000	3.000
0072	628.2008	Erosion Mat Urban Class I Type B	SY	249.000	249.000
0074	628.7504	Temporary Ditch Checks	LF	15.000	15.000
0076	628.7560	Tracking Pads	EACH	2.000	2.000
0078	629.0205	Fertilizer Type A	CWT	0.100	0.100
0080	630.0160	Seeding Mixture No. 60	LB	20.000	20.000
0082	630.0300	Seeding Borrow Pit	LB	6.000	6.000
0084	630.0500	Seed Water	MGAL	36.000	36.000
0086	634.0614	Posts Wood 4x6-Inch X 14-FT	EACH	4.000	4.000
0088	637.2230	Signs Type II Reflective F	SF	12.000	12.000
0090	638.2602	Removing Signs Type II	EACH	6.000	6.000
0092	638.3000	Removing Small Sign Supports	EACH	6.000	6.000
0094	642.5201	Field Office Type C	EACH	1.000	1.000
0096	643.0420	Traffic Control Barricades Type III	DAY	1,400.000	1,400.000
0098	643.0705	Traffic Control Warning Lights Type A	DAY	2,240.000	2,240.000

Estimate Of Quantities

5986-00-71

Line	Item	Item Description	Unit	Total	Qty
0100	643.0900	Traffic Control Signs	DAY	5,040.000	5,040.000
0102	643.0920	Traffic Control Covering Signs Type II	EACH	5.000	5.000
0104	643.5000	Traffic Control	EACH	1.000	1.000
0106	645.0111	Geotextile Type DF Schedule A	SY	54.000	54.000
0108	645.0120	Geotextile Type HR	SY	204.000	204.000
0110	646.1020	Marking Line Epoxy 4-Inch	LF	1,013.000	1,013.000
0112	650.4500	Construction Staking Subgrade	LF	440.000	440.000
0114	650.5000	Construction Staking Base	LF	245.000	245.000
0116	650.6500	Construction Staking Structure Layout (structure) 01. B-13-889	LS	1.000	1.000
0118	650.7000	Construction Staking Concrete Pavement	LF	30.000	30.000
0120	650.9910	Construction Staking Supplemental Control (project) 01. 5986-00-71	LS	1.000	1.000
0122	650.9920	Construction Staking Slope Stakes	LF	440.000	440.000
0124	690.0150	Sawing Asphalt	LF	58.000	58.000
0126	715.0502	Incentive Strength Concrete Structures	DOL	774.000	774.000
0128	715.0720	Incentive Compressive Strength Concrete Pavement	DOL	500.000	500.000
0130	999.2000.S	Installing and Maintaining Bird Deterrent System (station) 01. 12+49	EACH	1.000	1.000
0132	ASP.1T0A	On-the-Job Training Apprentice at $5.00/HR	HRS	1,200.000	1,200.000
0134	ASP.1T0G	On-the-Job Training Graduate at $5.00/HR	HRS	600.000	600.000
0136	SPV.0060	Special 01. Temporary Water Diversion B-13-889	EACH	1.000	1.000
0138	SPV.0195	Special 01. Excavation, Hauling, and Disposal of Creosote Contaminated Soil	TON	76.000	76.000

3

REMOVING GUARDRAIL

CATEGORY	STATION - STATION	LOCATION	204.0165 LF
0010	11+81 - 13+11	RT	130
	11+87 - 13+17	LT	130
	TOTAL		260

BASE AGGREGATE SUMMARY

CATEGORY	STATION - STATION	305.0110 BASE AGGREGATE DENSE 3/4-INCH TON	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH TON
0010	10+12 - 11+83	20	210
	11+83 - 12+33	5	130
	12+65 - 13+15	5	130
	13+15 - 14+86	20	200
	TOTALS (0010)	50	670
0030	10+91 - 11+83	---	190
	13+15 - 14+02	---	180
	TOTALS (0030)	0	370
	GRAND TOTALS	50	1,040

CONCRETE PAVEMENT APPROACH SLAB

CATEGORY	STATION - STATION	LOCATION	415.0410 SY
0030	12+18 - 12+33	LT/RT	37
	12+65 - 12+80	LT/RT	37
		TOTAL	74

FINISHING ROADWAY

CATEGORY	PROJECT	213.0100 EACH
0010	5986-00-71	1

CONCRETE PAVEMENT 6-INCH

CATEGORY	STATION - STATION	LOCATION	415.0060 SY
0030	12+18 - 12+33	LT/RT	16
	12+65 - 12+80	LT/RT	16
		TOTAL	32

EARTHWORK

CATEGORY	LOCATION	STATION - STATION	205.0100 EXCAVATION COMMON (1) CUT CY	205.0100 EXCAVATION COMMON (1) EBS EXCAVATION (2) 5% OF CUT CY	AVAILABLE STRUCTURE EXCAVATION (3) CY	AVAILABLE MATERIAL (4) CY	EXPANDED EBS BACKFILL (5) FACTOR 1.25 CY	UNEXPANDED FILL CY	EXPANDED FILL (6) FACTOR 1.25 CY	MASS ORDINATE +/- (7) CY	WASTE (8) CY	312.0110 SELECT CRUSHED MATERIAL (9) TON
0010	CTH Y	10+11.65 - 14+86.35	307	15	179	485	19	337	421	64	64	34
		ITEM TOTALS (0010)		322	179	485	19	337	421	64	64	34
0030	CTH Y	10+90.73 - 11+82.75	126	6	0	126	8	0	0	126	126	14
		13+15.25 - 14+02.27	115	6	0	115	7	0	0	115	115	13
		ITEM TOTALS (0030)		253	0	241	15	0	0	241	241	27
		GRAND TOTALS		575	179	726	34	337	421	305	305	61

1) EXCAVATION COMMON IS THE SUM OF THE CUT AND EBS EXCAVATION COLUMNS. ITEM NUMBER 205.0100.
2) EBS EXCAVATION TO BE BACKFILLED WITH SELECT CRUSHED MATERIAL.
3) AVAILABLE STRUCTURE EXCAVATION IS FOR INFORMATION ONLY AND IS INCLUDED IN BID ITEM "EXCAVATION FOR STRUCTURES B-13-889"
4) AVAILABLE MATERIAL = CUT + AVAILABLE STRUCTURE EXCAVATION
5) EXPANDED EBS BACKFILL: THIS IS TO BE FILLED WITH SELECT CRUSHED MATERIAL. EBS BACKFILL EXPANSION FACTOR = 1.25.
6) EXPANDED FILL = (UNEXPANDED FILL)* EXPANDED FILL FACTOR. EXPANDED FILL FACTOR = 1.25.
7) MASS ORDINATE: MASS ORDINATE = CUT + AVAILABLE STRUCTURE EXCAVATION - EXPANDED FILL
   PLUS MASS ORDINATE QUANTITY INDICATES AN EXCESS OF MATERIAL WITHIN THE DIVISION. MINUS MASS ORDINATE QUANTITY INDICATES A SHORTAGE OF MATERIAL WITHIN THE DIVISION.
8) WASTE = POSITIVE MASS ORDINATE, BORROW = NEGATIVE MASS ORDINATE
9) SELECT CRUSHED MATERIAL IS USED FOR BACKFILL OF EBS.

3

ASPHALTIC ITEMS

CATEGORY	STATION - STATION	460.5223 HMA PAVEMENT 3 LT 58-28 S TON	460.5224 HMA PAVEMENT 4 LT 58-28 S TON	455.0605 TACK COAT GAL
0010	10+91 - 12+18	22	17	9
	12+80 - 14+02	21	17	8
	SUBTOTALS (0010)	43	34	17
0030	10+91 - 11+83	37	29	15
	13+15 - 14+02	35	27	14
	SUBTOTALS (0030)	72	56	29
	GRAND TOTALS	115	90	46

NOTE: HMA PAVEMENT WEIGHT CALCULATIONS BASED ON 112 LB/SY/IN.

GUARDRAIL SUMMARY

CATEGORY	STATION - STATION	LOCATION	614.2610 MGS GUARDRAIL TERMINAL EAT EACH	614.2500 MGS THRIE BEAM TRANSITION LF
0010	11+33 - 12+23	LT/RT	2	78.8
	12+75 - 13+65	LT/RT	2	78.8
	TOTALS		4	157.6

3

MAINTENANCE AND REPAIR OF HAUL ROADS

CATEGORY	PROJECT	618.0100 EACH
0030	5986-00-71	1

MOBILIZATION

CATEGORY	PROJECT	619.1000 EACH
0010	5986-00-71	1

WATER

CATEGORY	STATION - STATION	624.0100 MGAL	REMARKS
0010	10+12 - 14+86	2	DUST CONTROL
		10	COMPACTION
	SUBTOTAL (0010)	12	
0030	10+91 - 14+02	1	DUST CONTROL
		6	COMPACTION
	SUBTOTAL (0030)	7	
	GRAND TOTAL	19	

MOBILIZATIONS EROSION CONTROL

CATEGORY	PROJECT	628.1905 MOBILIZATIONS EROSION CONTROL EACH	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EACH
0010	5986-00-71	3	3

3

EROSION CONTROL

CATEGORY	STATION - STATION	LOCATION	628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINTENANCE LF	628.2008 EROSION MAT URBAN CLASS I TYPE B SY	628.7504 TEMPORARY DITCH CHECKS LF
0010	10+05 - 12+22	LT/RT	475	715	100	12
	12+56 - 14+94	LT/RT	495	745	99	---
		WASTE SITE	164	246	---	---
		UNDISTRIBUTED	280	430	50	3
	TOTALS		1,414	2,136	249	15

TRACKING PADS

CATEGORY	LOCATION	628.7560 EACH
0010	UNDISTRIBUTED	2

FIELD OFFICE TYPE C

CATEGORY	PROJECT	642.5201 EACH
0010	5986-00-71	1

FINISHING ITEMS

CATEGORY	STATION - STATION	LOCATION	625.0500 SALVAGED TOPSOIL SY	627.0200 MULCHING SY	629.0205 FERTILIZER TYPE A CWT	630.0160 SEEDING MIXTURE NO. 60 LB	630.0300 SEEDING BORROW PIT LB	630.0500 SEED WATER MGAL
0010	10+12 - 12+33	LT/RT	560	460	---	8	---	13
	12+65 - 14+86	LT/RT	540	440	---	8	---	12
		WASTE SITE	---	180	0.1	---	5	4
		UNDISTRIBUTED	280	270	---	4	1	7
		TOTALS	1,380	1,350	0.1	20	6	36

TRAFFIC CONTROL COVERING SIGNS TYPE II

CATEGORY	TRAFFIC CONTROL OPERATION	NO. OF CYCLES	NO. OF SIGNS	643.0920 EACH
0010	DETOUR AND CLOSURE	1	5	5

SIGNING SUMMARY

CATEGORY	SIGN NO.	APPROX. STA.	LOC.	SIGN CODE	SIGN MESSAGE	SIGN SIZE (W x H) IN	637.2230 SIGNS TYPE II REFLECTIVE F SF	634.0614 POSTS WOOD 4x6-INCH x 14-FT EACH	638.2602 REMOVING SIGNS TYPE II EACH	638.3000 REMOVING SMALL SIGN SUPPORTS EACH	REMARKS
0010	101	---	RT	W5-2	NARROW BRIDGE	--- x ---	---	---	1	1	REMOVE
	102	12+33	RT	W5-52R	CLEARANCE STRIPER DOWN LEFT	--- x ---	---	---	1	1	REMOVE
	103	12+65	RT	W5-52L	CLEARANCE STRIPER DOWN RIGHT	--- x ---	---	---	1	1	REMOVE
	104	---	LT	W5-2	NARROW BRIDGE	--- x ---	---	---	1	1	REMOVE
	105	12+65	LT	W5-52R	CLEARANCE STRIPER DOWN LEFT	--- x ---	---	---	1	1	REMOVE
	106	12+33	LT	W5-52L	CLEARANCE STRIPER DOWN RIGHT	--- x ---	---	---	1	1	REMOVE
	107	12+21	RT	W5-52R	CLEARANCE STRIPER DOWN LEFT	12 x 36	3.00	1	---	---	
	108	12+77	RT	W5-52L	CLEARANCE STRIPER DOWN RIGHT	12 x 36	3.00	1	---	---	
	109	12+77	LT	W5-52R	CLEARANCE STRIPER DOWN LEFT	12 x 36	3.00	1	---	---	
	110	12+21	LT	W5-52L	CLEARANCE STRIPER DOWN RIGHT	12 x 36	3.00	1	---	---	
					TOTALS		12.00	4	6	6	

TRAFFIC CONTROL

CATEGORY	TRAFFIC CONTROL OPERATIONS	DURATION (DAYS)	643.0900 SIGNS EACH	643.0900 SIGNS DAY	643.0420 BARRICADES TYPE III EACH	643.0420 BARRICADES TYPE III DAY	643.0705 WARNING LIGHTS TYPE A EACH	643.0705 WARNING LIGHTS TYPE A DAY
0010	DETOUR AND CLOSURE	70	72	5,040	20	1,400	32	2,240

3

3

TRAFFIC CONTROL

CATEGORY	PROJECT	643.5000 EACH
0010	5986-00-71	1

MARKING LINE ITEMS

CATEGORY	STATION - STATION	646.1020 MARKING LINE EPOXY 4-INCH (12.5' SEG., 37.5' GAP) (WHITE) LF	(YELLOW) LF	(YELLOW) LF
0010	10+91 - 14+02	625	78	310
	TOTAL		1,013	

CONSTRUCTION STAKING

CATEGORY	STATION - STATION	LOCATION	650.4500 SUBGRADE LF	650.5000 BASE LF	650.7000 CONCRETE PAVEMENT LF	650.9920 SLOPE STAKES LF
0010	10+12 - 12+33	LT/RT	220	125	15	220
	12+65 - 14+86	LT/RT	220	120	15	220
	TOTALS		440	245	30	440

SAWING

CATEGORY	LOCATION	690.0150 ASPHALT LF
0010	10+91	29
	14+02	29
	TOTAL	58

INSTALLING AND MAINTAINING BIRD DETERRENT SYSTEM

CATEGORY	STATION	999.2000.S EACH
0010	12+49	1

TEMPORARY WATER DIVERSION

CATEGORY	STRUCTURE	SPV.0060.01 EACH
0010	B-13-889	1

EXCAVATION, HAULING, AND DISPOSAL OF CREOSOTE CONTAMINATED SOIL

CATEGORY	STATION - STATION	LOCATION	SPV.0195.01 TON
0010	12+25 - 12+35	LT/RT	38
	12+62 - 12+72	LT/RT	38
		TOTAL	76

SCHEDULE OF LANDS & INTERESTS REQUIRED

OWNERS NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY AND ARE SUBJECT TO CHANGE PRIOR TO THE TRANSFER OF LAND INTEREST TO THE COUNTY

PARCEL NUMBER	OWNERS	INTEREST REQUIRED	R/W NEW	S.F REQUIRED EXISTING	S.F REQUIRED TOTAL	TLE S.F.
1	STATE OF WISCONSIN DEPARTMENT OF NATURAL RESOURCES	TLE	---	---	---	8715

TLE - BRIDGE CONSTRUCTION & SLOPE GRADING 4233 S.F.

WI DNR

WI DNR TEMP ACCESS PERMIT TO BE ACQUIRED

DUNLAP CREEK

NW-SW

TOWN

LUMEN TECHNOLOGIES (COMMUNICATION)

PROPOSED STRUCTURE B-13-0889

EXISTING STRUCTURE B-13-0589 TO BE REMOVED

N 0°24'20" W 300.00'

REMOVING GUARDRAIL

POSITIONS SHOWN ON THIS PLAT ARE WISCONSIN COORDINATE REFERENCE SYSTEM COORDINATES (WISCRS), DANE COUNTY, NAD83 (2011), IN U.S. SURVEY FEET. VALUES SHOWN ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

EXISTING HIGHWAY RIGHT-OF-WAY ON CTH Y BASED ON THE EXISTING ROAD CENTERLINE

R/W COURSE TABLE		
COURSE	BEARING	DISTANCE
TLE1 - TLE4	N 0° 24' 51" W	462.00'
TLE5 - TLE8	S 0° 24' 51" E	485.00'

STATION & OFFSET TABLE		
POINT	STATION	OFFSET
TLE1	10+28.00	-32.86'
TLE2	11+00.00	-44.00'
TLE3	14+00.00	-44.00'
TLE4	14+90.00	-32.93'
TLE5	14+95.00	33.07'
TLE6	13+60.00	45.00'
TLE7	11+50.00	47.00'
TLE8	10+10.00	33.15'

FOUND 1.25" REBAR
Y = 530879.572
X = 710448.439

S 89°24'37" W 34.47'

R/W

TLE1

N 9°12'12" W 72.86'

TLE2

TLE3

N 6°36'34" E 90.68'

TLE4

COMPUTED 1/4 LINE LOCATION

SW-NW

WI DNR

BEGIN CONSTRUCTION
STA. 10+11.65

BEGIN RELOCATION ORDER
STA 10+00.00
2181.59 FEET NORTH AND 1308.16 FEET EAST OF THE SOUTHWEST COR. SEC. 33,T9N, R6E

S 89°48'07" E 1332.67'

1.91' R/L TO 16TH LINE

1/16TH LINE

33'

11+00

N0°24'20"W

12+00

13+00

14+00

CTH Y

0.43' R/L TO 1/16TH LINE

N 89°24'37" E 33.35' R/W TO 1/16TH LINE

PI 14+95.81

END RELOCATION ORDER
STA 14+95.81
2677.38 FEET NORTH AND 1304.65 FEET EAST OF THE SOUTHWEST COR. SEC. 33,T9N, R6E

N 89°24'37" E 32.66'

PI 10+00.00

N 0°35'23" W 2196.33'

S 89°24'37" W 31.18'

N 0°35'23" W 18.21'

TLE8

R/W

REMOVING GUARDRAIL

CAUTION

TLE5

N 0°35'23" W 4.79'

END CONSTRUCTION
STA. 14+86.35

WI DNR

S 5°14'45" W 140.68'

TLE7

S 0°57'05" E 210.01'

TLE6

S 5°27'15" E 135.53'

END PROJECT
STA 14+02.27
MATCH EXISTING SAW CUT REQ'D
Y:533463.43
X:711753.75

SE-NW

PI STA. 14+95.81
Y = 533556.96
X = 711753.09

FOUND 1" REBAR
Y = 530870.356
X = 713113.764

BEGIN PROJECT
STA 10+90.73
MATCH EXISTING SAW CUT REQ'D
Y:533151.89
X:711755.96

PI STA. 10+00.00
Y = 533061.16
X = 711756.60

SLOPE INTERCEPT (TYP.)

ALLIANT ENERGY (ELECTRIC)

NE-SW

OF

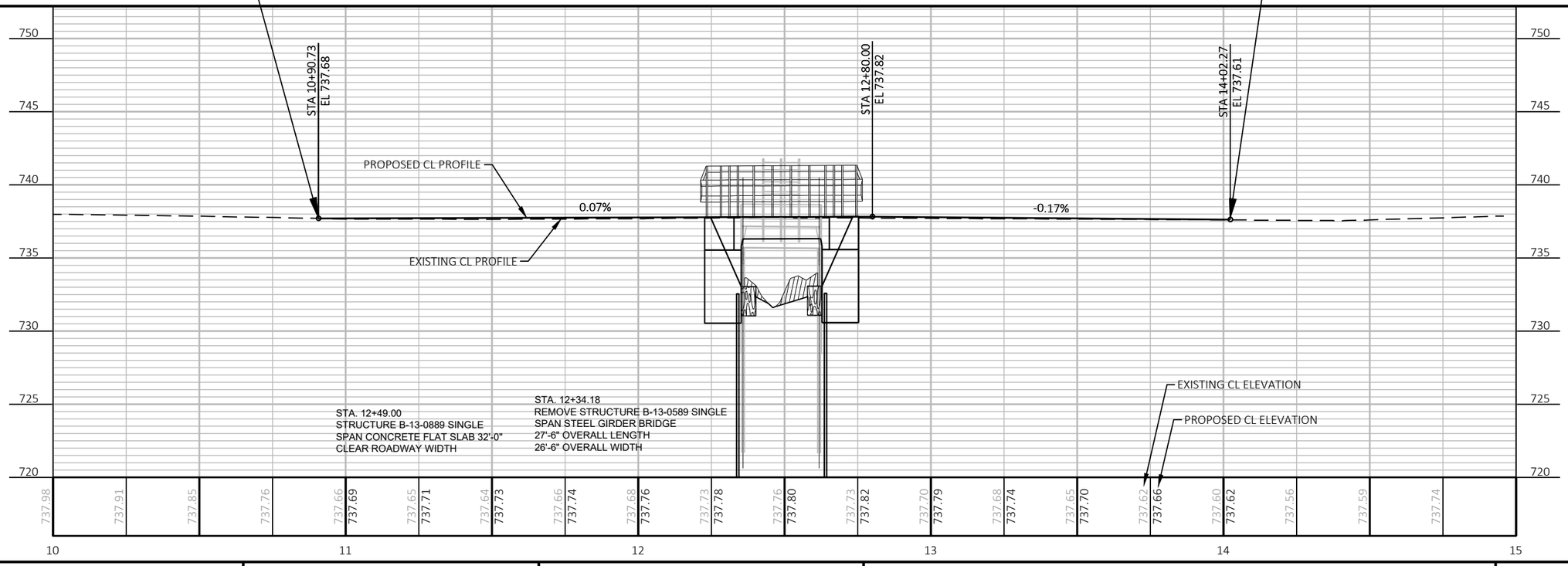
WI DNR

TLE - BRIDGE CONSTRUCTION & SLOPE GRADING 4482 S.F.

MADISON GAS AND ELECTRIC (GAS)

WI DNR TEMP ACCESS PERMIT TO BE ACQUIRED

MAZOMANIE



PROJECT NO: 5986-00-71	HWY: CTH Y	COUNTY: DANE	PLAN AND PROFILE: CTH Y	SHEET 23	E

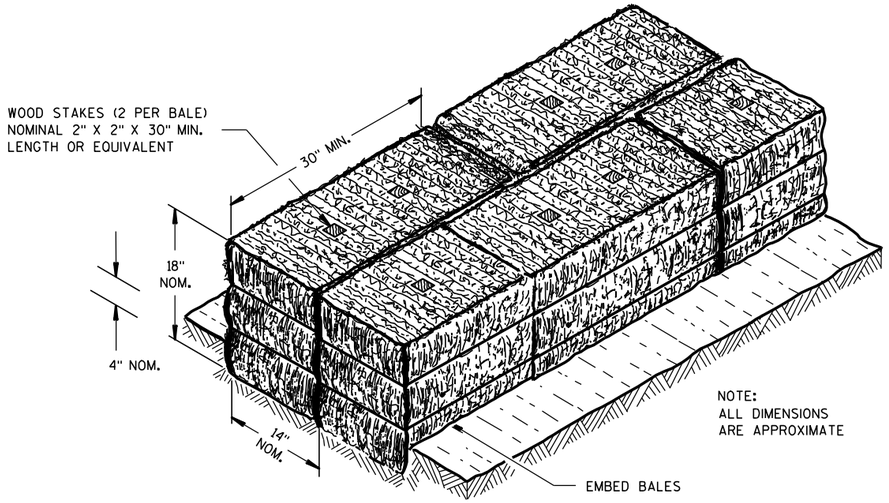
FILE NAME : S:\MAD\1100--1199\1124\023\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\050101-PP.DWG
LAYOUT NAME - 050101-pp

PLOT DATE : 4/22/2022 7:11 PM PLOT BY : STANIOCH, DREW PLOT NAME : PLOT SCALE : 1 IN:40 FT

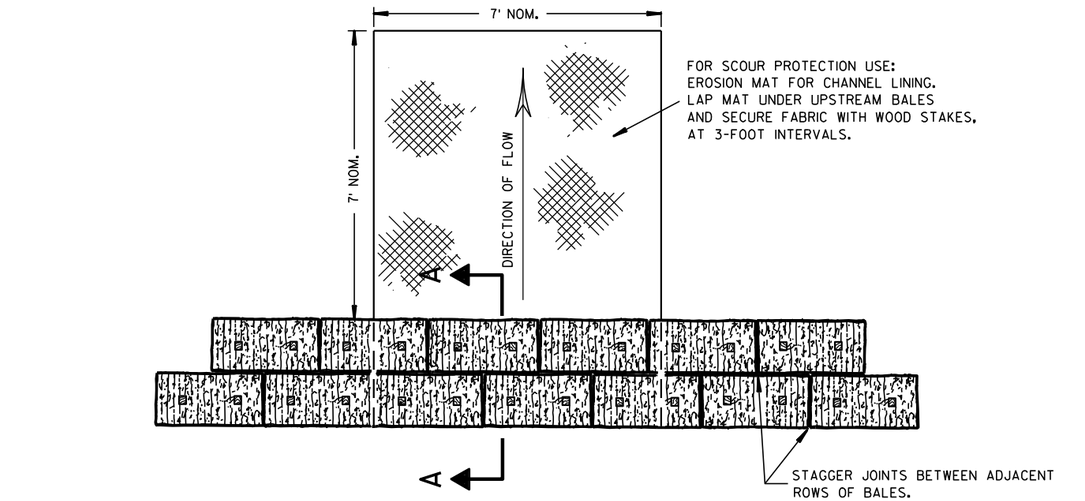
WISDOT/CADDS SHEET 44

Standard Detail Drawing List

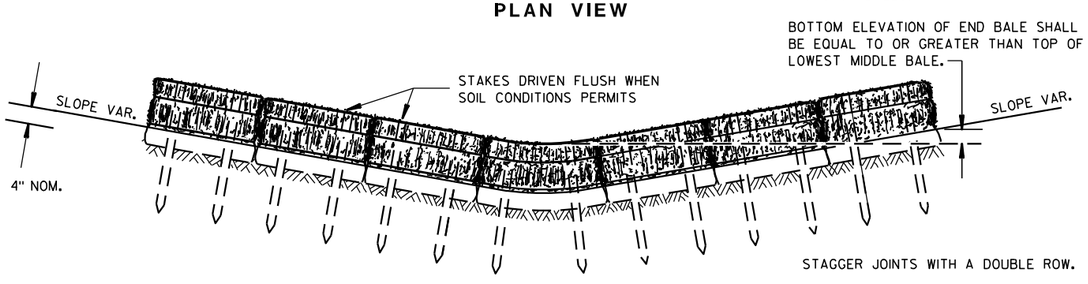
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E14-01	TRACKING PAD
12A03-10	NAME PLATE (STRUCTURES)
13A03-06	CONCRETE PAVEMENT SHOULDERS
13B02-09A	CONCRETE PAVEMENT APPROACH SLAB
13C01-19	CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES
13C11-12A	RURAL DOWELED CONCRETE PAVEMENT
13C11-12B	RURAL DOWELED CONCRETE PAVEMENT
13C19-03	HMA LONGITUDINAL JOINTS
14B29-01	SAFETY EDGE
14B42-07A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07D	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B44-04A	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-04B	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-04C	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B45-05A	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05B	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05C	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05H	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
15C02-08A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-08B	BARRICADES AND SIGNS FOR VARIOUS CLOSURES
15C02-08C	DETOUR SIGNING FOR MAINLINE CLOSURES
15C03-05	BARRICADES AND SIGNS FOR SIDEROAD CLOSURES
15C06-09	SIGNING & MARKING FOR TWO LANE BRIDGES
15C08-20A	LONGITUDINAL MARKING (MAINLINE)
15C11-09B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS



SECTION A-A



PLAN VIEW



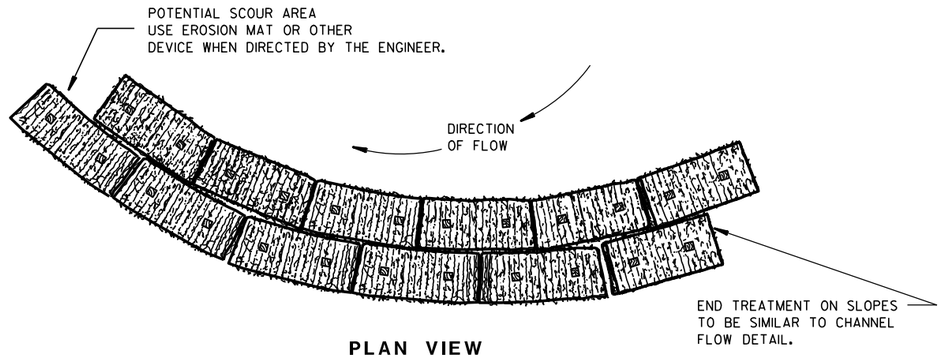
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES (1)

GENERAL NOTES

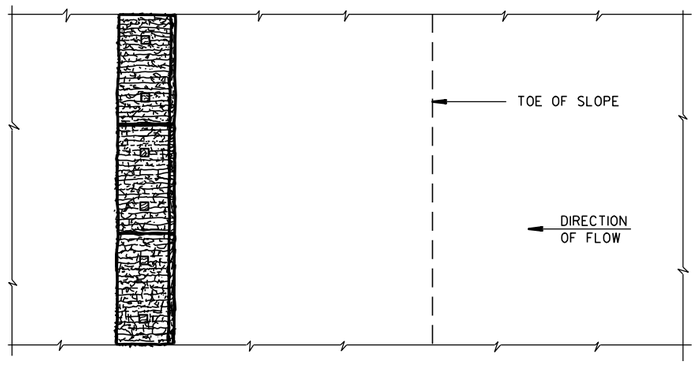
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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

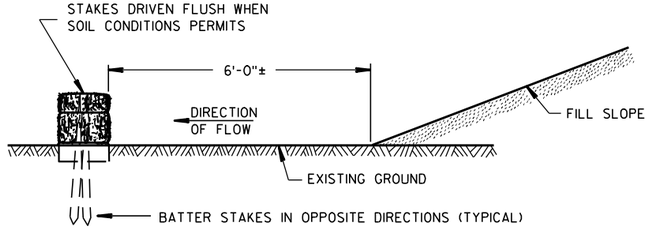


PLAN VIEW

WHEN ALTERING THE DIRECTION OF FLOW



PLAN VIEW



FRONT ELEVATION

WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

EROSION BALES FOR SHEET FLOW

TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

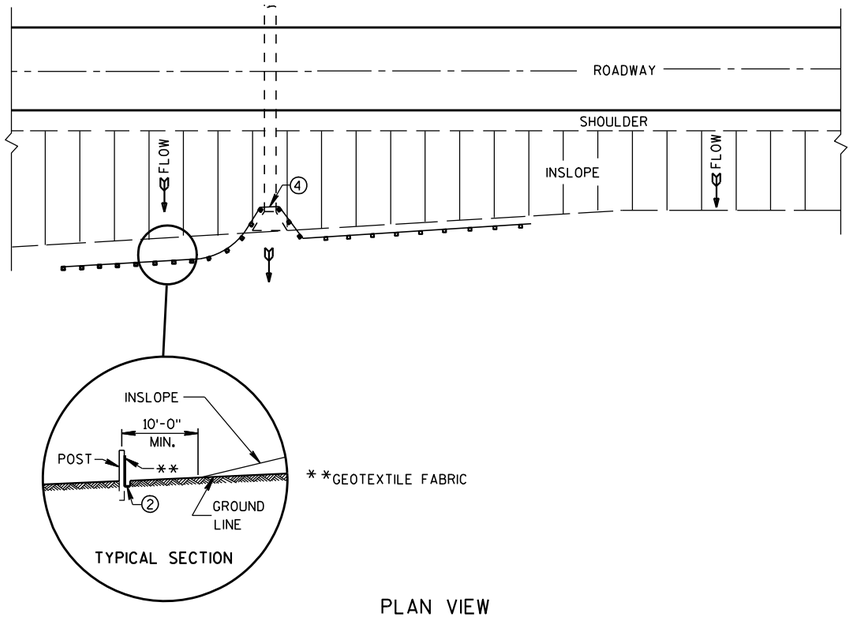
APPROVED

6/04/02 — DATE

/S/ Beth Cannestra — CHIEF ROADWAY DEVELOPMENT ENGINEER

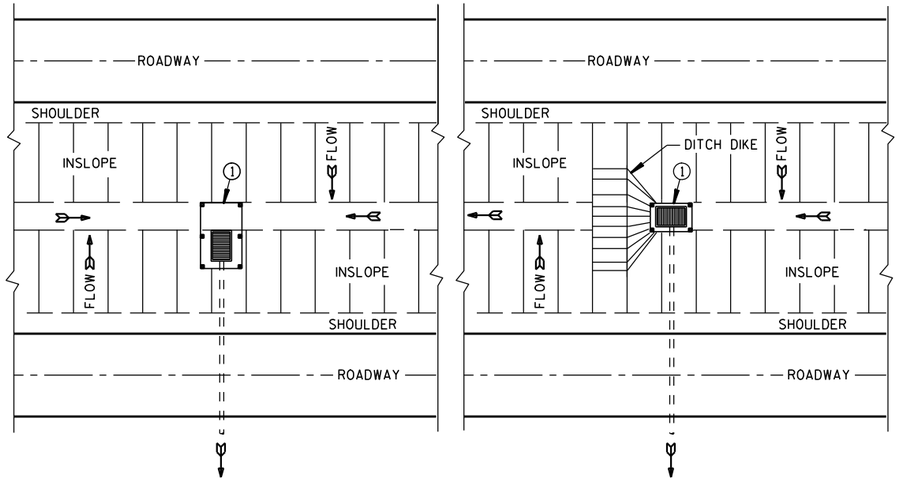
FHWA

6
S.D.D. 8 E 8-3



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

GENERAL NOTES

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

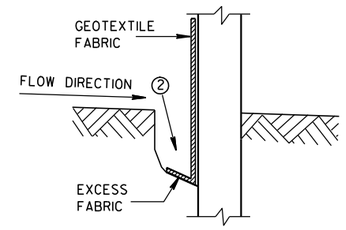
(1) HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.

(2) FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.

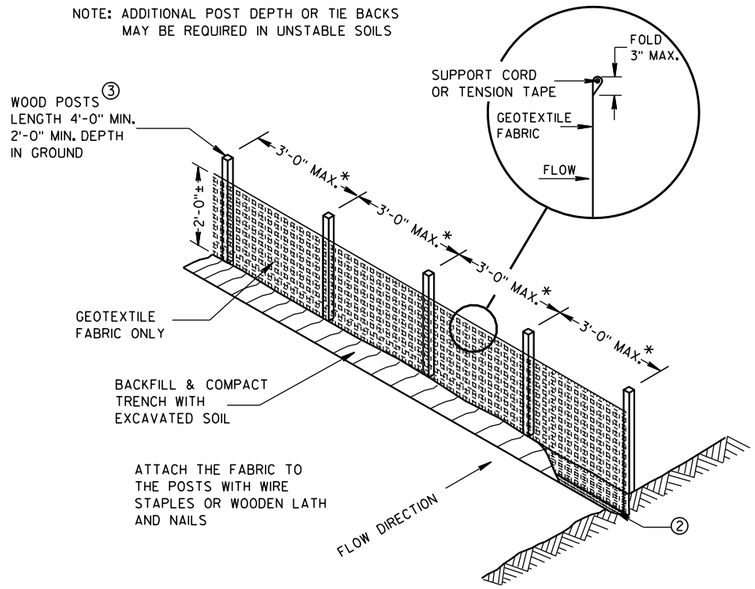
(3) WOOD POSTS SHALL BE A MINIMUM SIZE OF 1⅛" X 1⅛" OF OAK OR HICKORY.

(4) SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.

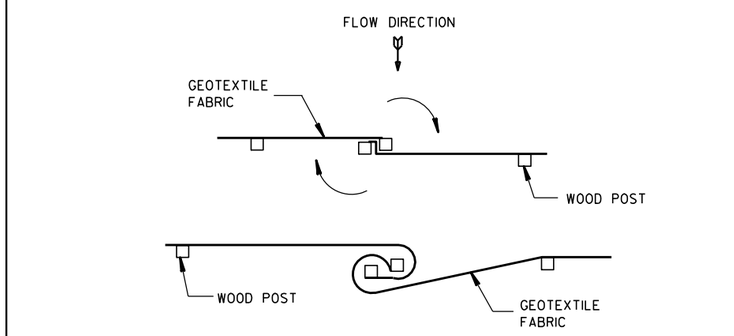
(5) CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.



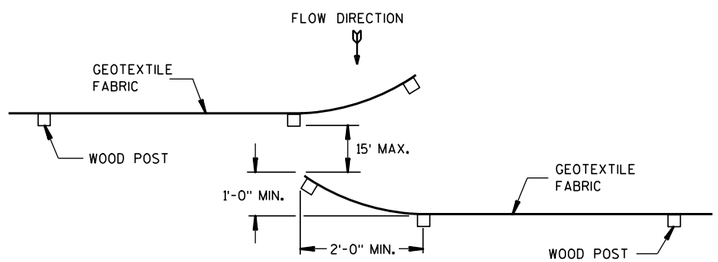
TRENCH DETAIL



SILT FENCE

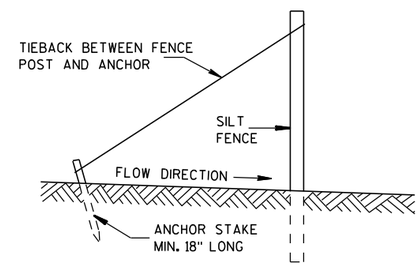


TWIST METHOD



HOOK METHOD

JOINING TWO LENGTHS OF SILT FENCE (5)



SILT FENCE TIE BACK

(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

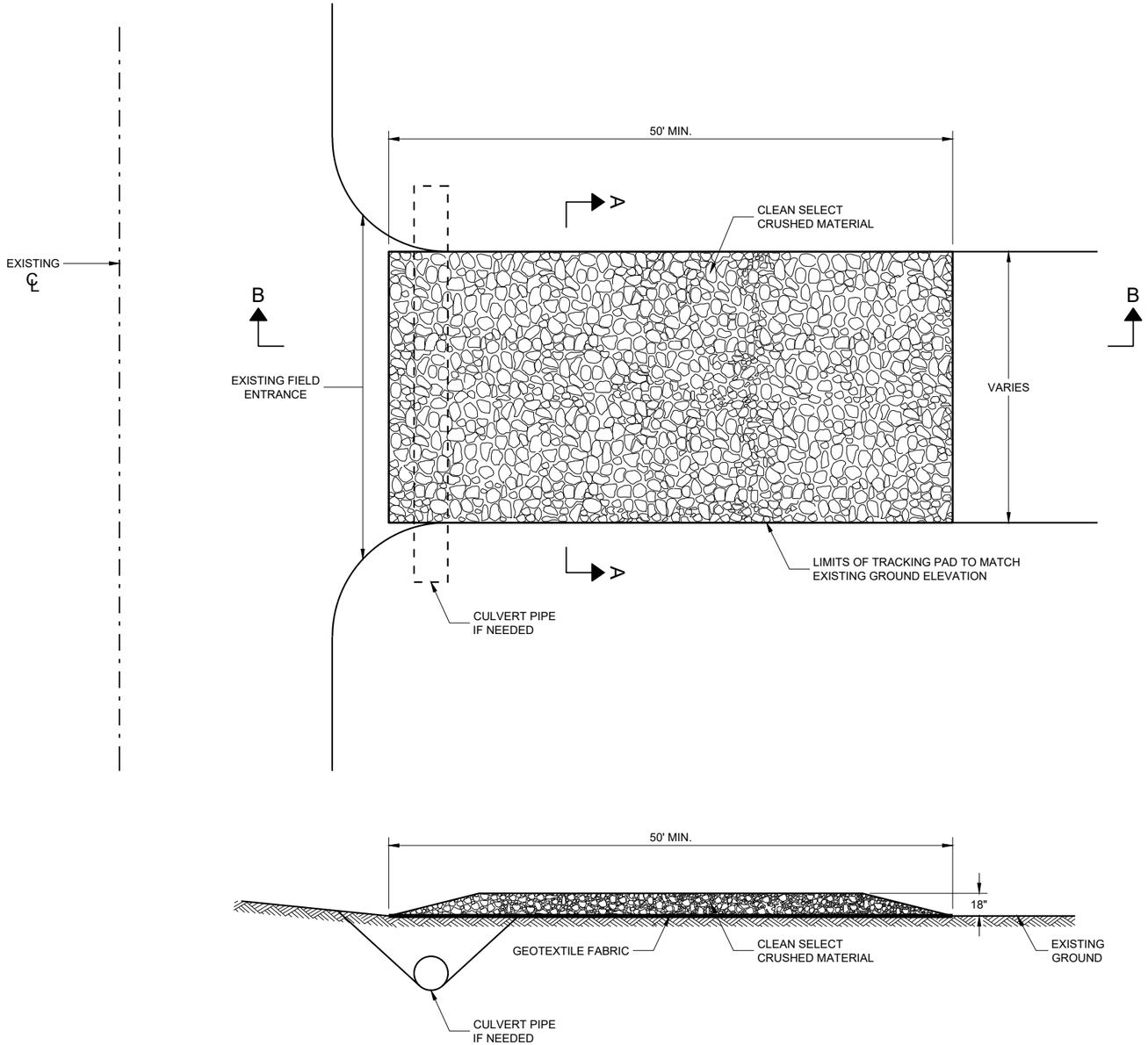
APPROVED
4-29-05 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

6

S.D.D. 8 E 9-6

6

S.D.D. 8 E 9-6



SECTION B - B

GENERAL NOTES

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

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

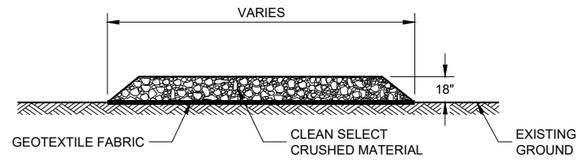
TRACKING PAD TO BE REMOVED AFTER CONSTRUCTION IS COMPLETED.

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

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

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

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



SECTION A - A

6

SDD 08E14 - 01

TRACKING PAD

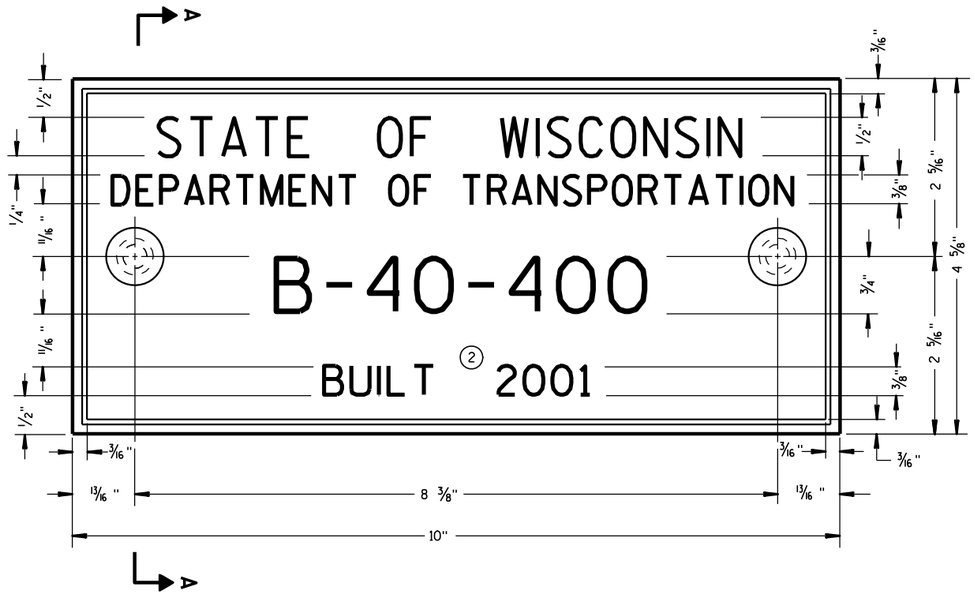
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA

6

SDD 08E14 - 01



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

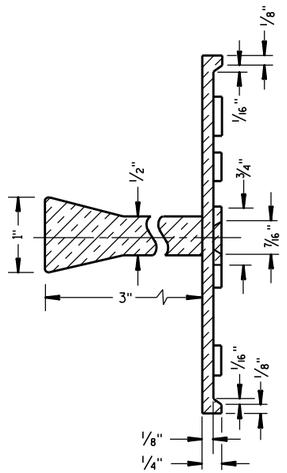
GENERAL NOTES

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.

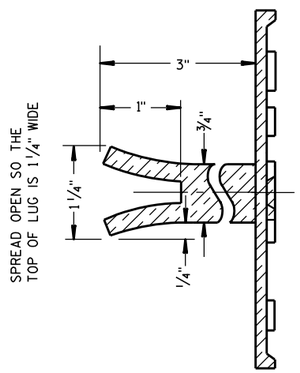
THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

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

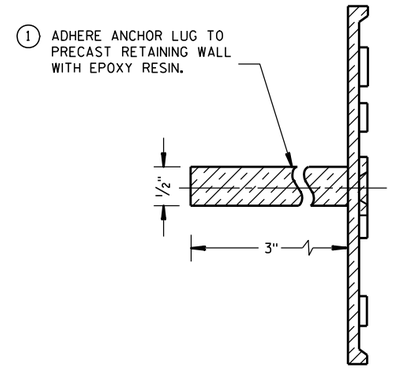
(2) REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.



SECTION A-A



ALTERNATE LUG



ALTERNATE LUG
(FOR ATTACHMENT TO PRECAST STRUCTURES)

NAME PLATE (STRUCTURES)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

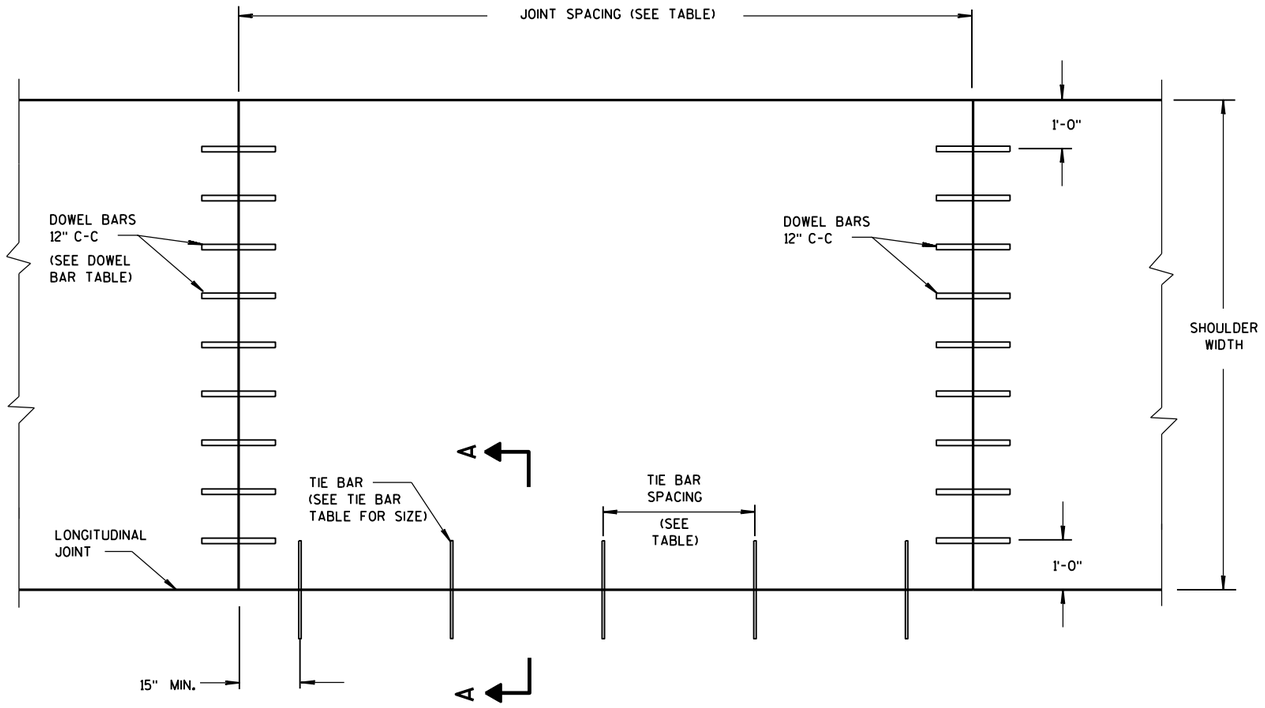
3/26/10 DATE

/S/ Scot Beck-- CHIEF STRUCTURAL DEVELOP ENGINEER

FHWA

6

S.D.D. 12 A 3-10



PLAN VIEW

CONCRETE PAVEMENT SHOULDER

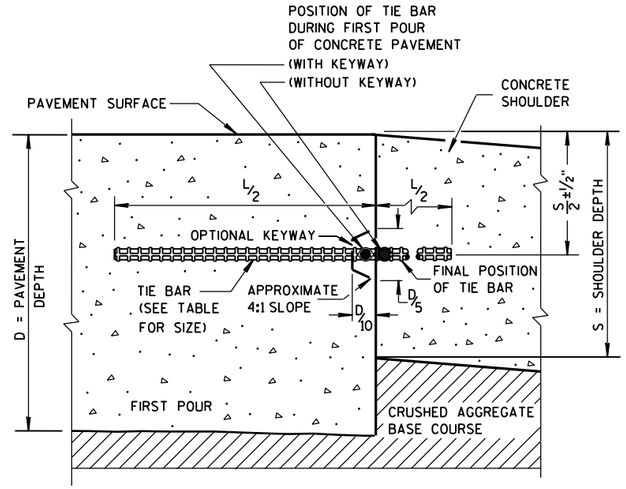
GENERAL NOTES

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.

TRANSVERSE JOINT DETAILS ARE SHOWN ELSEWHERE IN THE PLAN.

FINISH THE SHOULDER PAVEMENT CONFORMING TO SUBSECTION 415.3.8 OF THE STANDARD SPECIFICATIONS.

TIE BARS SHALL CONFORM TO SUBSECTION 505.2.4 OF THE STANDARD SPECIFICATIONS.



SECTION A-A

LONGITUDINAL CONSTRUCTION JOINT

TIE BAR TABLE

PAVEMENT DEPTH (D)	TIE BAR SIZE	TIE BAR LENGTH (L)	MAX. TIE BAR SPACING
< 10 ½"	NO. 4	30"	36"
≥ 10 ½"	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.

PAVEMENT DEPTH, DOWEL BAR SIZE AND JOINT SPACING TABLE

PAVEMENT DEPTH (D)	DOWEL BAR DIAMETER***	CONTRACTION JOINT SPACING
5 ½", 6", 6 ½"	NONE	12'
7", 7 ½"	1"	14'
8", 8 ½"	1 ¼"	15'
9", 9 ½"	1 ¼"	15'
10" & ABOVE	1 ½"	15'

*** FOR DOWELED CONCRETE SHOULDERS WITH TRAPEZOIDAL CROSS SECTIONS, CHOSE THE APPROPRIATE DOWEL BAR DIAMETER BASED ON THE SMALLER PAVEMENT DEPTH (LIKELY THE OUTSIDE EDGE OF THE SHOULDER). IF USING BASKETS, USE BASKETS FOR THE AVERAGE THICKNESS OF THE CROSS SECTION.

CONCRETE PAVEMENT SHOULDERS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2015 — DATE
/S/ Peter Kemp, P.E. — PAVEMENT SUPERV
FHWA

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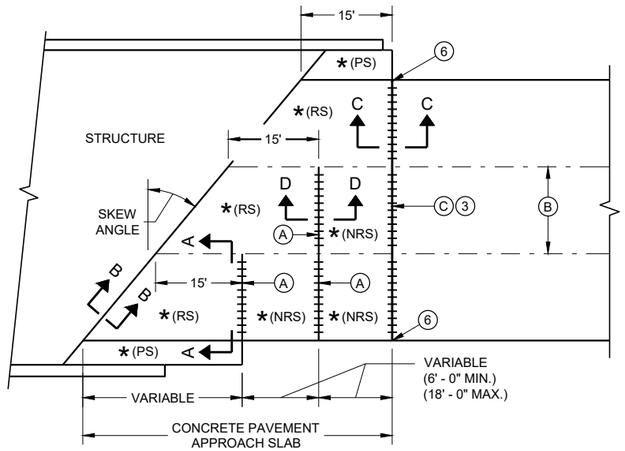
S.D.D. 13 A 3-6

6

S.D.D. 13 A 3-6



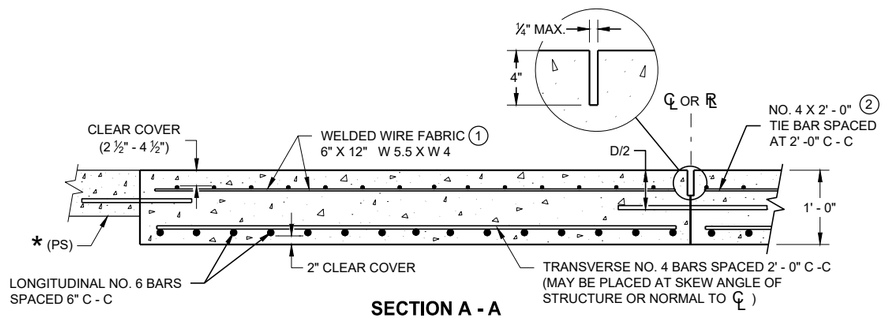
SKEWED APPROACH
(PAVEMENT MORE THAN TWO LANES)

* (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

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 CONFORMING TO STANDARD SPECIFICATION 415.2.6.

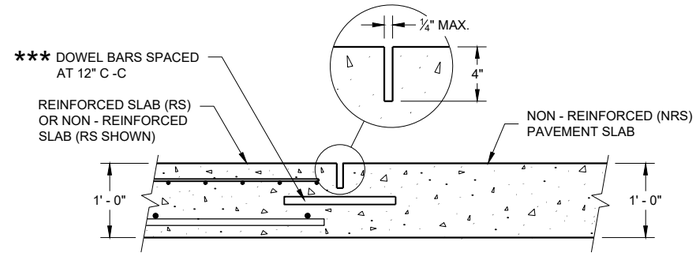
(5) PLACE EXPANSION CAP ON THE END OF THE DOWEL THAT IS NOT TACK WELDED TO THE BASKET. DO NOT FORCE DOWEL BAR PAST THE DOWEL STOP.

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

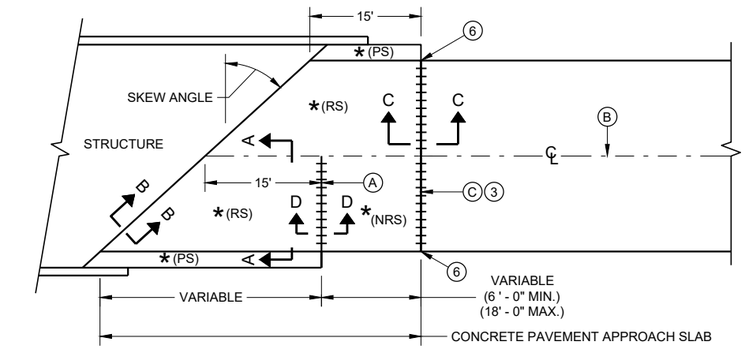
(A) STANDARD CONTRACTION JOINT NORMAL TO ℄ OR ℞.

(B) STANDARD LONGITUDINAL JOINT WITH TIE BARS.

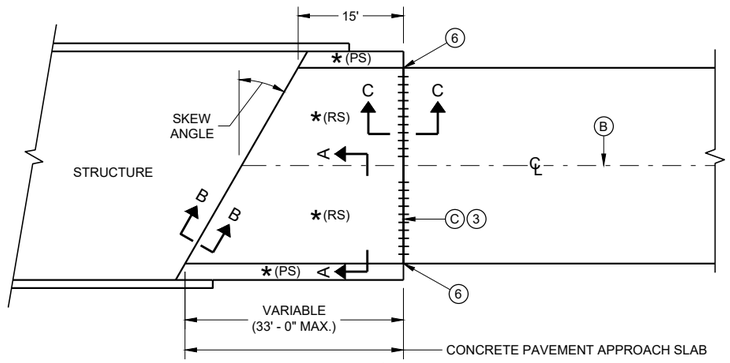
(C) 1 ½" EXPANSION JOINT WITH DOWEL BARS NORMAL TO ℄ OR ℞ .



SECTION D - D
CONTRACTION JOINT

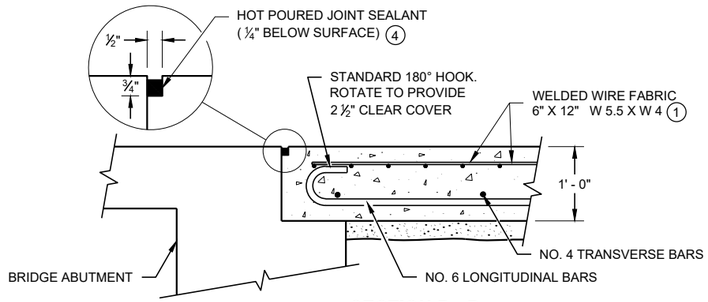


SKEWS > 20°
(PAVEMENT WIDTH ≤ 30')

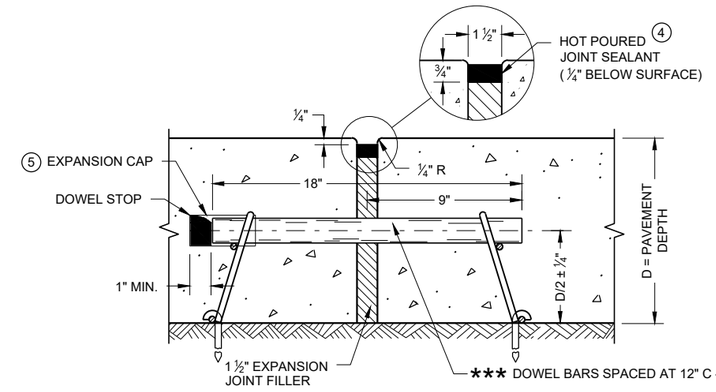


SKEWS ≤ 20°
(PAVEMENT WIDTH ≤ 30')

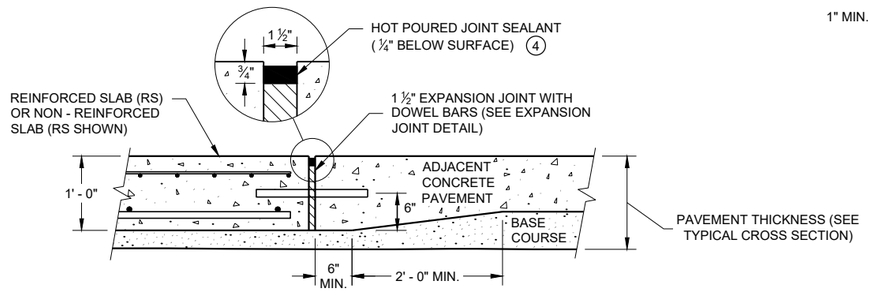
APPROACH SLAB AND ADJACENT PAVEMENT



SECTION B - B
BEND DETAIL
BOTTOM REINFORCEMENT



EXPANSION JOINT DETAIL



SECTION C - C
TRANSITION DETAIL
APPROACH SLAB TO ADJACENT PAVEMENT

CONCRETE PAVEMENT APPROACH SLAB

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2018
DATE

/S/ Peter Kemp, P.E.
PAVEMENT SUPERVIS

FHWA

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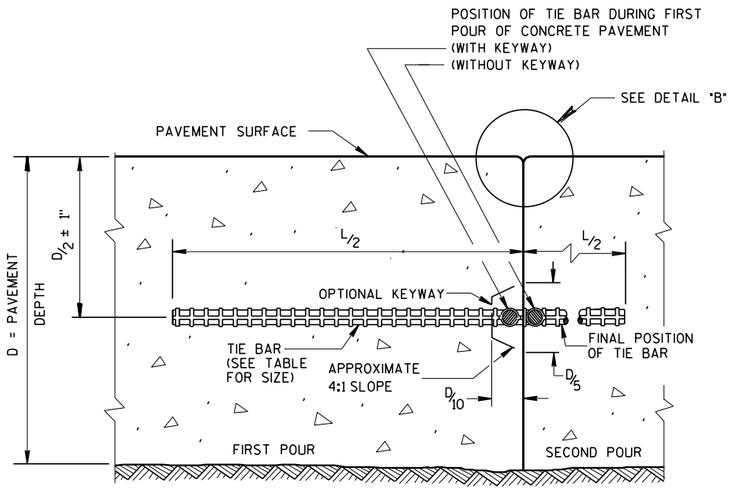
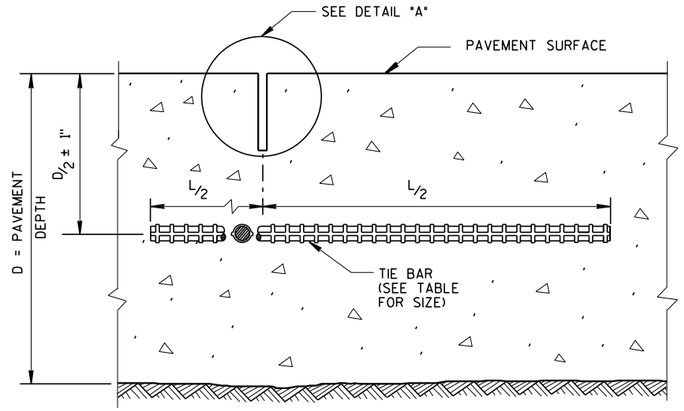
SDD 13B02 - 09a



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.

PLAN VIEW

SECTION A-A

LONGITUDINAL CONSTRUCTION JOINT TIE BARS ANCHORED INTO EXISTING PAVEMENT

DETAIL "A"

DETAIL "B"

DETAIL "C"

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 Kemp, P.E. — PAVEMENT SUPE
FHWA

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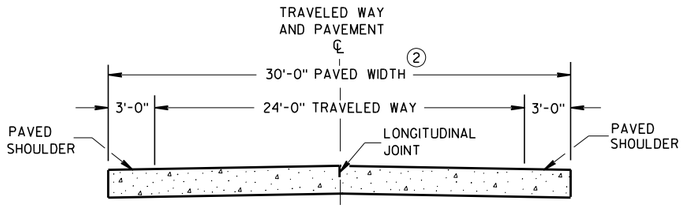
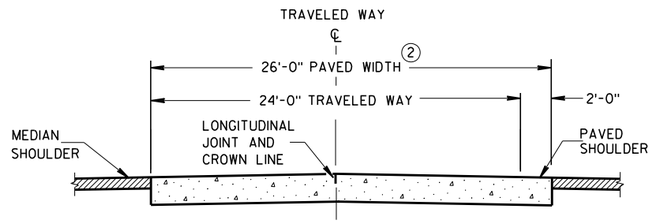
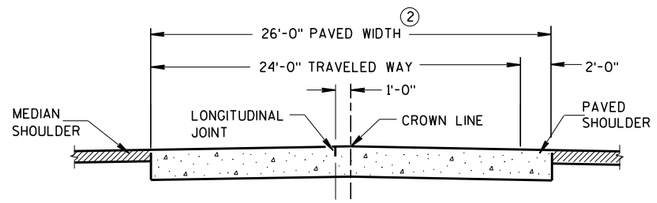
S.D.D. 13 C 1-19



SECTION A-A
TWO-LANE TWO-WAY HIGHWAY ①



SECTION B-B



ALTERNATIVE SECTION B-B
①
DIVIDED HIGHWAY

GENERAL NOTES

CONTRACTION JOINTS

CONSTRUCT TRANSVERSE CONTRACTION JOINTS NORMAL TO THE CENTERLINE. SHOW THE LOCATION OF CONTRACTION JOINTS THROUGH INTERSECTIONS ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

INSTALL DOWEL BARS PARALLEL TO THE PAVEMENT CENTERLINE AND PAVEMENT SURFACE.

FOR PAVEMENT SLABS OF VARYING WIDTHS, LOCATE THE OUTER MOST DOWEL BAR SO THAT THE CENTER OF THE BAR IS A MINIMUM OF 6 INCHES AND A MAXIMUM OF 18 INCHES FROM THE FREE EDGE OF PAVEMENT.

CONSTRUCTION JOINTS

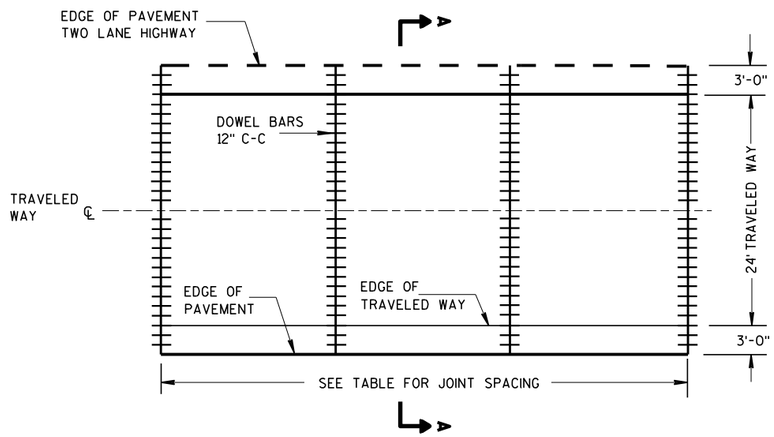
LOCATE CONSTRUCTION JOINTS A MINIMUM OF 6 FEET FROM THE NEAREST CONTRACTION JOINT AND ALIGN PARALLEL TO CONTRACTION JOINTS.

① REFER TO TYPICAL CROSS SECTIONS FOR ADDITIONAL DETAILS.

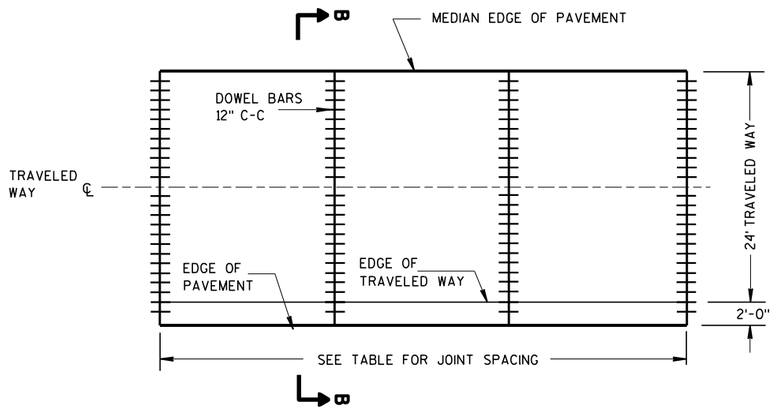
② MEASURE THE ENTIRE PAVED WIDTH INCLUDING THE PORTION(S) LABELED PAVED SHOULDER AS CONCRETE PAVEMENT.

PAVEMENT DEPTH, DOWEL BAR SIZE AND JOINT SPACING TABLE

PAVEMENT DEPTH (D)	DOWEL BAR DIAMETER	CONTRACTION JOINT SPACING
5 ½", 6", 6 ½"	NONE	12'
7", 7 ½"	1"	14'
8", 8 ½"	1 ¼"	15'
9", 9 ½"	1 ¼"	15'
10" & ABOVE	1 ½"	15'



CONTRACTION JOINT LAYOUT
FOR TWO-LANE TWO-WAY HIGHWAY



CONTRACTION JOINT LAYOUT
FOR DIVIDED HIGHWAY

RURAL DOWELED CONCRETE PAVEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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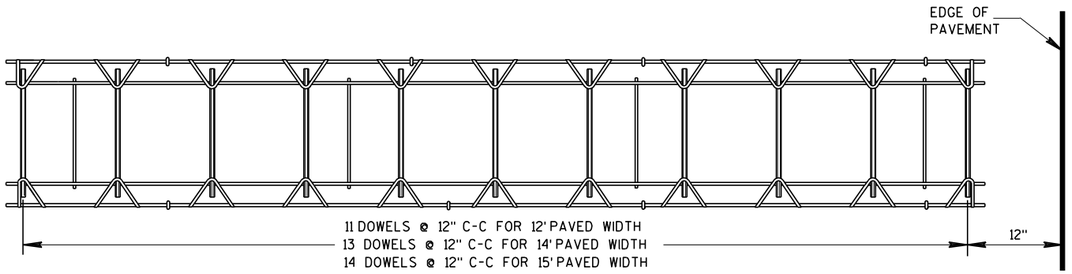
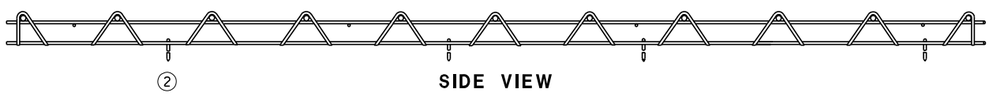
S.D.D. 13 C 11-12a



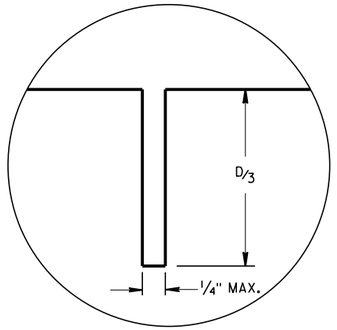
PLAN VIEW



SIDE VIEW

(NORMAL TO CENTERLINE)

CONTRACTION JOINT DOWEL ASSEMBLY ①



JOINT DETAIL

GENERAL NOTES

① OBTAIN THE ENGINEER'S APPROVAL FOR THE USE OF ALTERNATIVE DESIGNS OF THE DOWEL ASSEMBLY. USE MECHANICAL DOWEL BAR INSERTERS OR DOWEL ASSEMBLIES WHEN CONSTRUCTING CONTRACTION JOINTS.

② SECURE BASKETS WITH ANCHORS TO HOLD DOWEL BARS IN THE CORRECT POSITION AND ALIGNMENT. TYPE, LOCATION, NUMBER AND LENGTH OF ANCHORS ARE DEPENDENT UPON FIELD CONDITIONS.

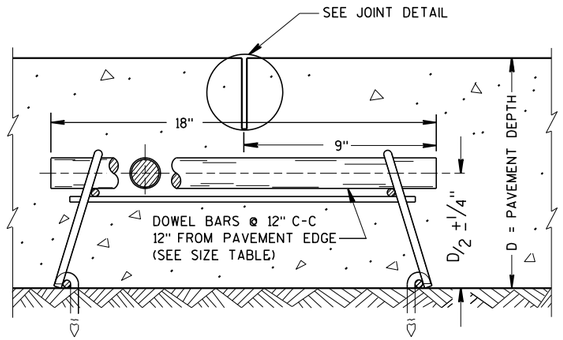
③ FORM OR SAW CONSTRUCTION JOINTS. PROVIDE A 1/4-INCH RADIUS AT FORMED JOINTS.

④ PROVIDE A SMOOTH VERTICAL FACE FOR THE ENTIRE DEPTH OF THE PAVEMENT WHEN FORMING CONSTRUCTION JOINTS.

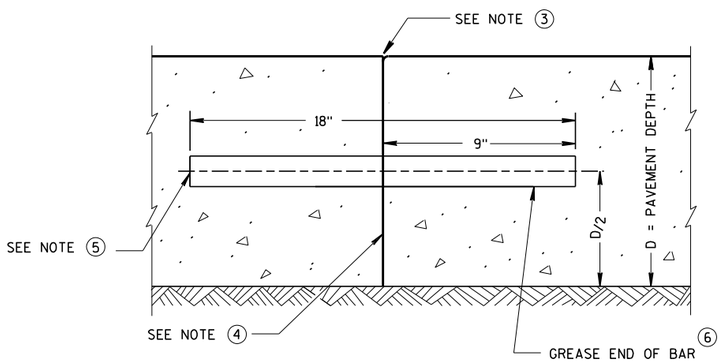
⑤ INSTALL DOWEL BARS AT CONSTRUCTION JOINTS BY FORMING OR DRILLING. INSTALL FORMED DOWEL BARS 12 INCHES C-C AND 12 INCHES FROM PAVEMENT EDGE. REMOVE EXCESS CONCRETE FROM THE FREE END OF THE DOWEL BAR IF DOWEL BARS ARE FORMED THROUGH A HEADER BOARD. INSTALL DRILLED DOWEL BARS ACCORDING TO *DRILLED DOWEL BAR CONSTRUCTION JOINT* DETAIL.

⑥ APPLY A THIN UNIFORM COATING OF SURFACE TREATMENT TO THE FREE END OF DOWEL BARS TO PREVENT BONDING.

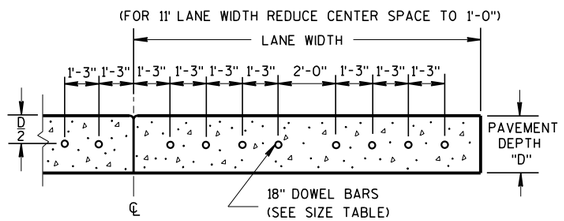
⑦ ANCHOR DOWEL BARS INTO DRILLED HOLES WITH AN EPOXY. MAXIMUM DRILLED HOLE SIZE IS 1/8-INCH GREATER THAN DOWEL BAR DIAMETER, 9 INCHES IN LENGTH.



DOWELED CONTRACTION JOINT



TRANSVERSE CONSTRUCTION JOINT



DRILLED DOWEL BAR CONSTRUCTION JOINT ⑦

RURAL DOWELED CONCRETE PAVEMENT	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED March 2018 DATE FHWA	/S/ Peter Kemp P.E. PAVEMENT SUP

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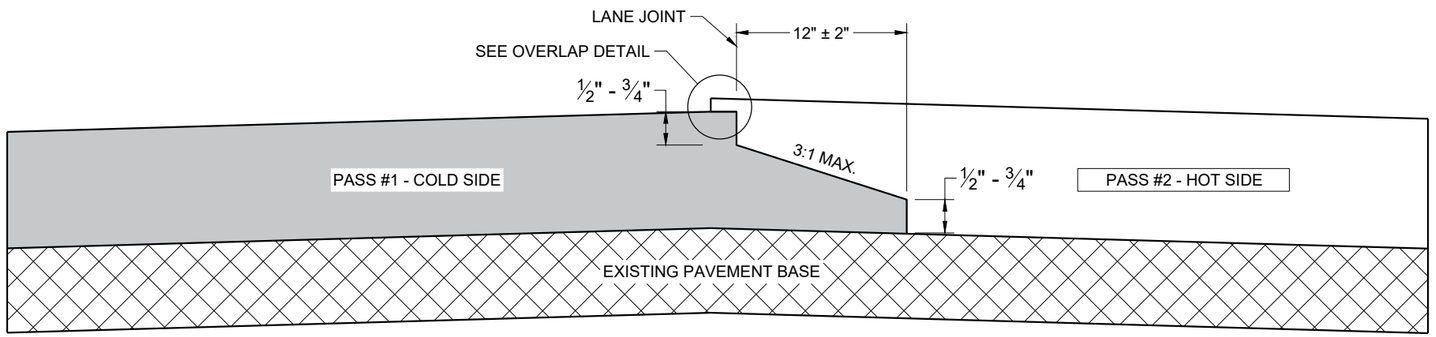
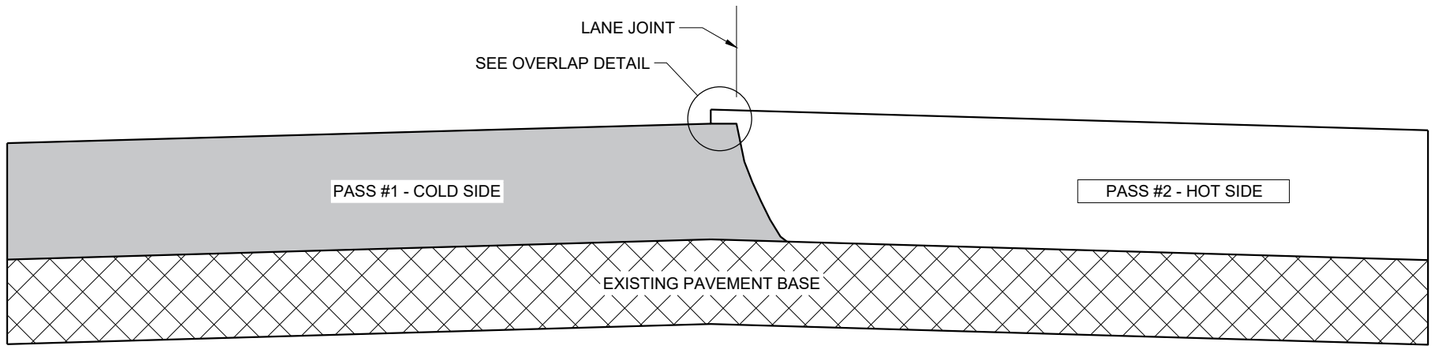
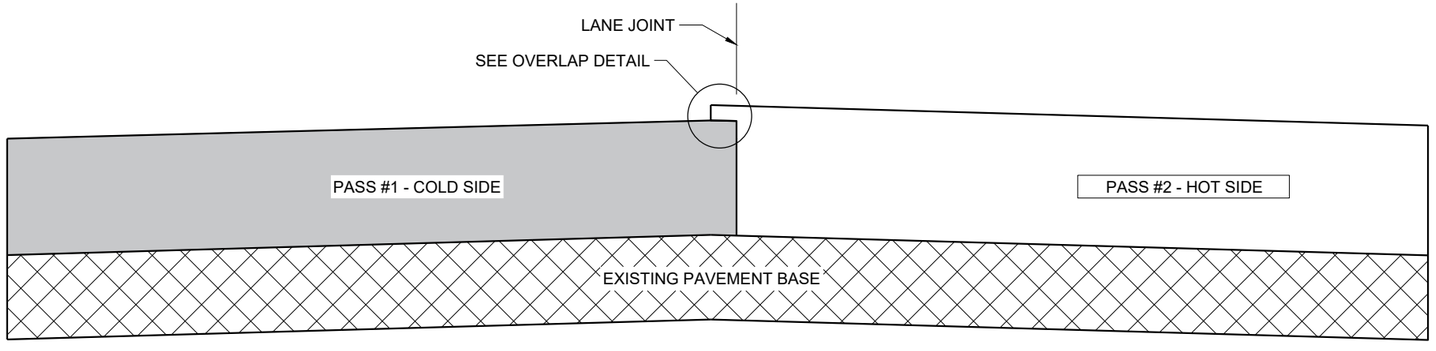
S.D.D. 13 C 11-12b



TYPICAL PAVEMENT CROSS SECTION
NOTCHED WEDGE JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT (MILLED)

GENERAL NOTES

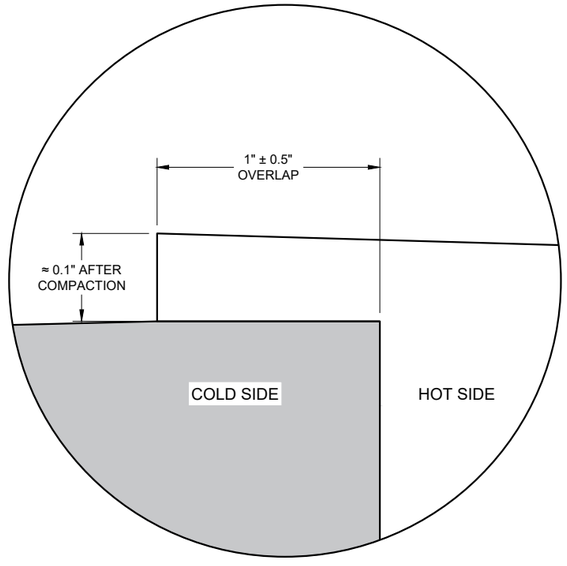
IN ADDITION TO THE DETAILS PROVIDED IN THIS DRAWING, CONFORM TO STANDARD SPECIFICATION 450.3.2.8 FOR WHEN A NOTCHED WEDGE JOINT IS REQUIRED AND FOR GENERAL JOINT CONSTRUCTION REQUIREMENTS.

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

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

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

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



OVERLAP DETAIL (TYPICAL)

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SDD 13C19 - 03

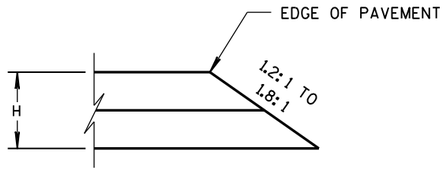
HMA LONGITUDINAL JOINTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2020
DATE

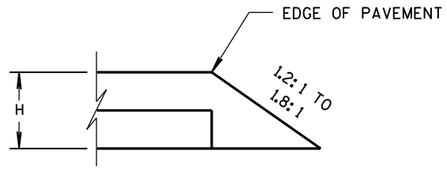
/S/ Steven Hefel
HMA PAVEMENT ENGIN

FHWA



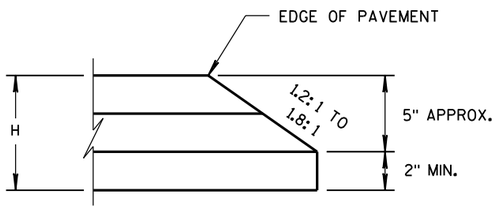
CONSTRUCTED WITH FINAL TWO LAYERS

FOR H 5" OR LESS



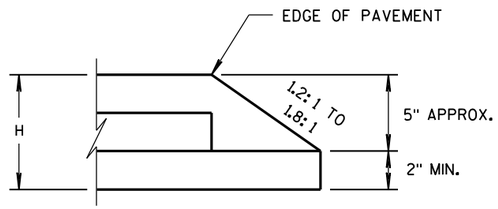
CONSTRUCTED WITH FINAL LAYER

FOR H 5" OR LESS



CONSTRUCTED WITH FINAL TWO LAYERS

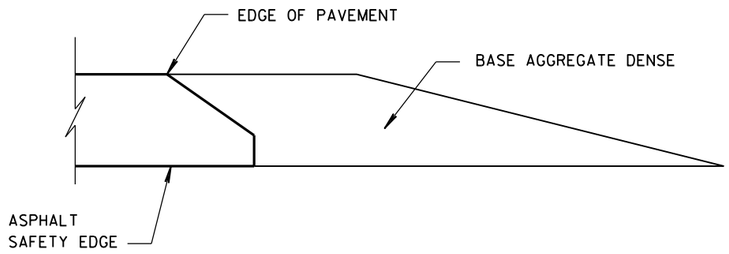
FOR H GREATER THAN 5"



CONSTRUCTED WITH FINAL LAYER

FOR H GREATER THAN 5"

HMA PAVEMENT AND HMA OVERLAYS



FINISHED SHOULDER AGGREGATE PLACEMENT

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S.D.D. 14 B 29-1

SAFETY EDGE SM

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

11/30/2012
DATE

/S/ Jerry H. Zoda
ROADWAY STANDARDS DEVELOPMENT ENGINEER

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.

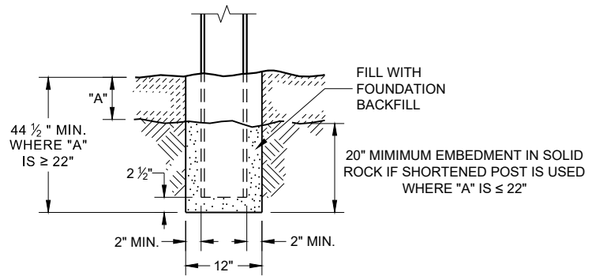
(3) IF ROCK IS ENCOUNTERED DURING EXCAVATION, PROVIDE A HOLE 12 INCHES IN DIAMETER EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2 1/2" INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS THE TO LENGTH AMD INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT. BACKFILL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

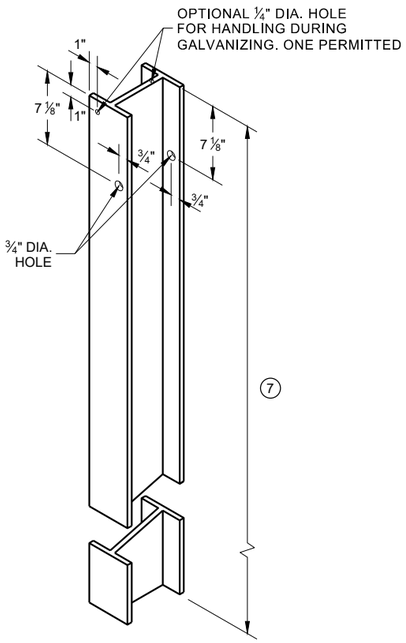
(5) FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS ±1". FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27 ¾" TO 32".

(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.

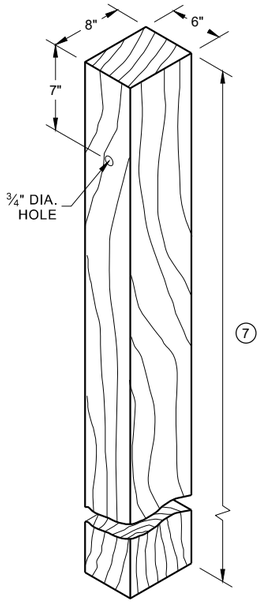
(7) TOTAL POST LENGTH FOR TYPE K IS 7' - 0".
TOTAL POST LENGTH FOR OTHER MGS TYPES IS 6' - 0".



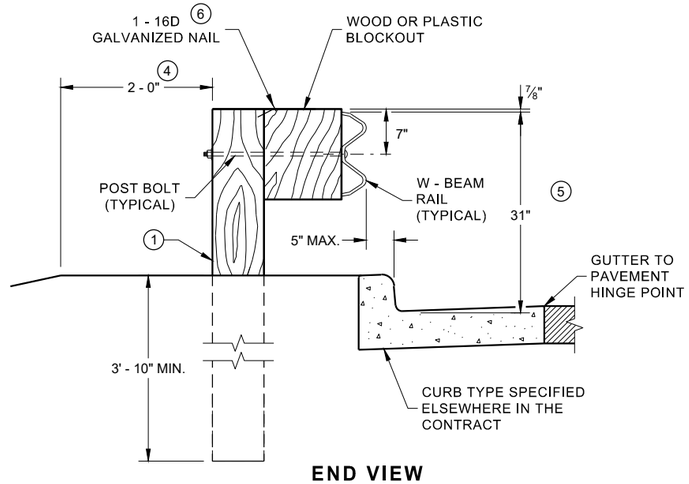
END VIEW
SETTING STEEL OR WOOD POST IN ROCK (3)



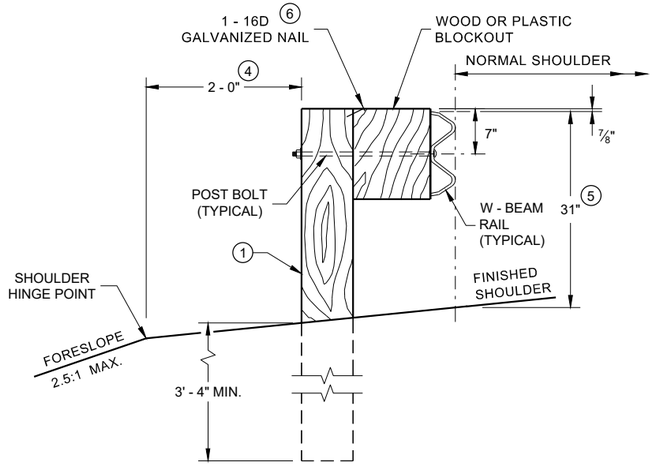
STEEL POST & HOLE PUNCHING DETAIL (W 6 X 9) (1)



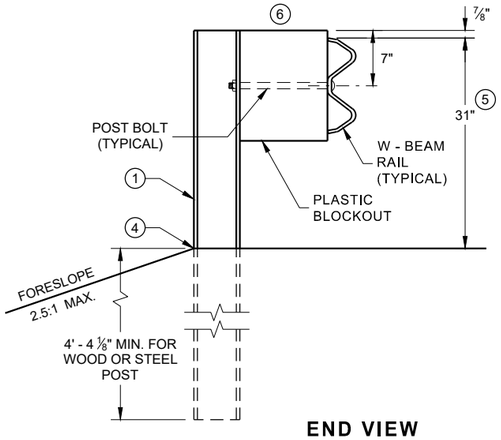
WOOD POST (6" X 8") NOMINAL (1)



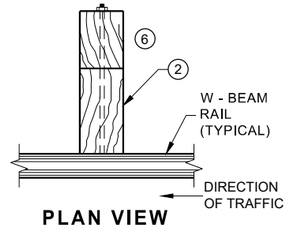
END VIEW
LOCATED ALONG A CURBED ROADWAY



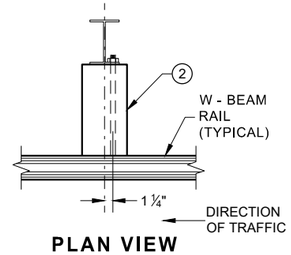
END VIEW
LOCATED ALONG A ROADWAY SHOULDER STANDARD INSTALLATION



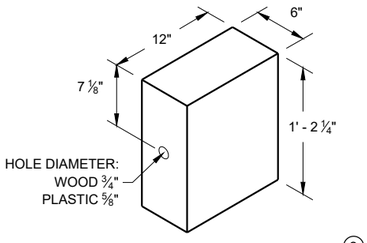
END VIEW
MGS LONGER POST AT HALFPOST SPACING W BEAM (K)



PLAN VIEW
WOOD POST, BLOCKOUT & BEAM



PLAN VIEW
STEEL POST, PLASTIC BLOCKOUT & BEAM

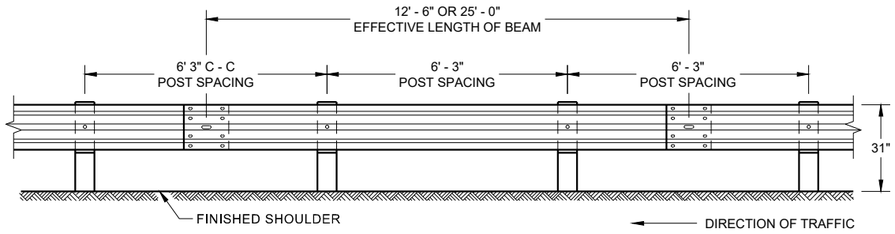


WOOD OR PLASTIC BLOCKOUT (2)

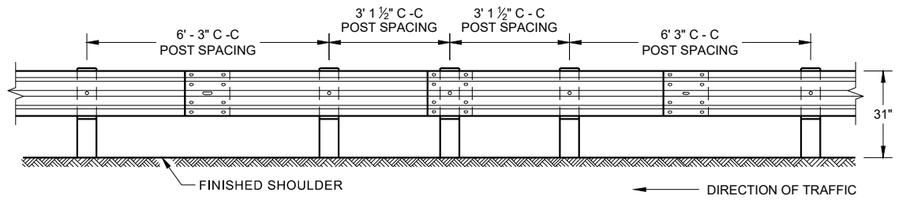
MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

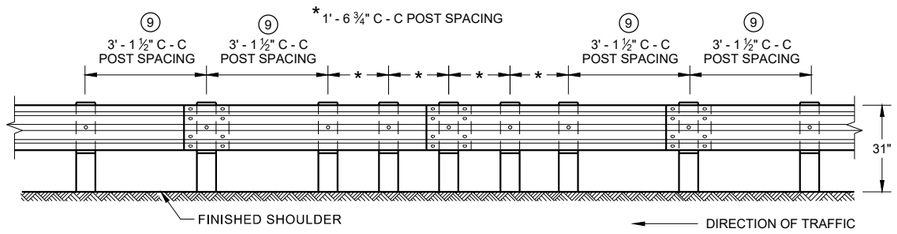
6
SDD 14B42 - 07a



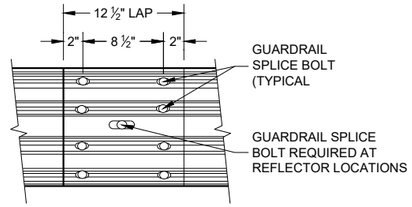
FRONT VIEW
POST SPACING STANDARD INSTALLATION



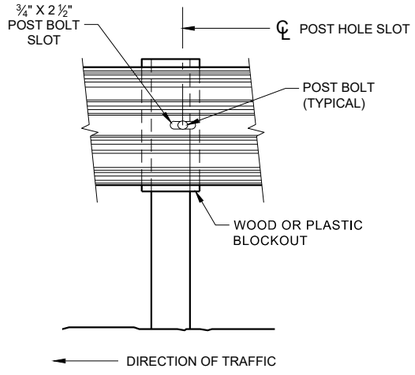
FRONT VIEW
HALF POST SPACING (HS) AND
HALF POST SPACING WITH LONGER POSTS (K)



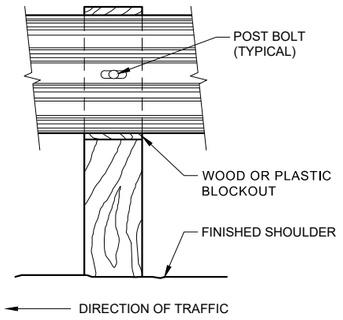
FRONT VIEW
QUARTER POST SPACING (QS)



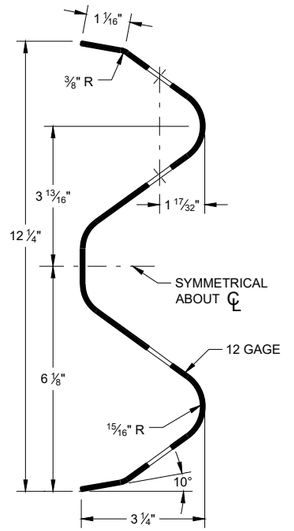
FRONT VIEW
MID-SPAN BEAM SPLICE



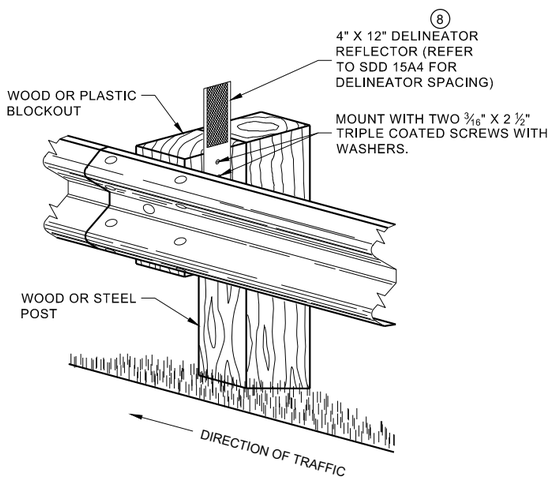
FRONT VIEW AT STEEL POST



FRONT VIEW AT WOOD POST



SECTION THRU W-BEAM RAIL



ONE SIDED REFLECTOR DETAIL
AND TYPICAL INSTALLATION

GENERAL NOTES

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

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

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

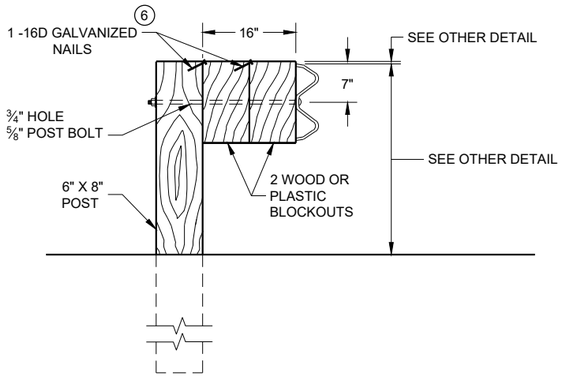
GUARD RAIL SPLICE BOLTS ARE A ⅝" DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES ⅝" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

SDD 14B42 - 07b
SDD 14B42 - 07b

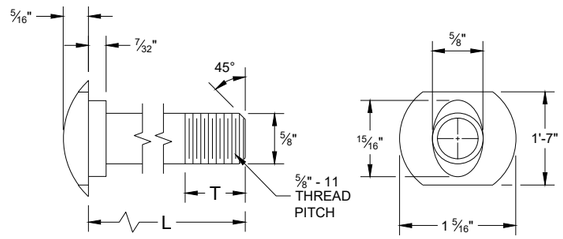


DETAIL FOR 16" BLOCKOUT DEPTH

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

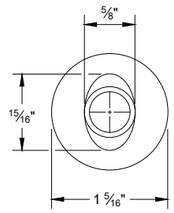
NOTE:

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.

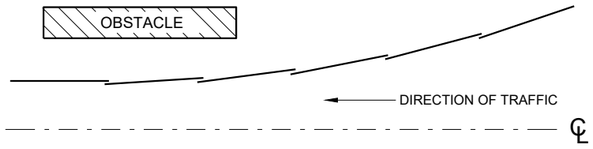


POST BOLT TABLE

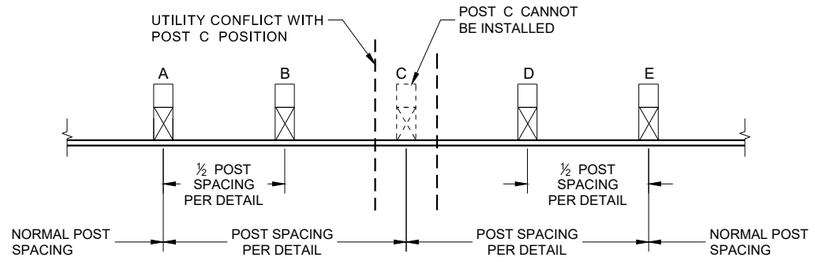
L	T (MIN.)
1 ¼"	1 ⅛"
2"	1 ¾"
10"	4"
14"	4 1⁄16"
18"	4"
21"	4 1⁄16"
25"	4"



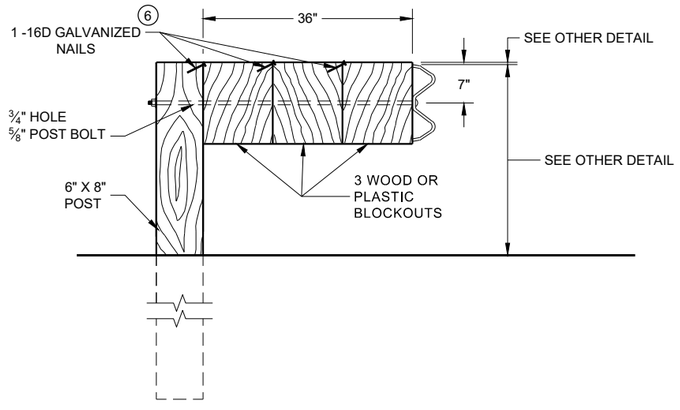
ALTERNATE BOLT HEAD



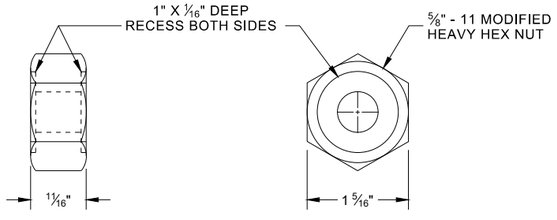
PLAN VIEW
BEAM LAPPING DETAIL



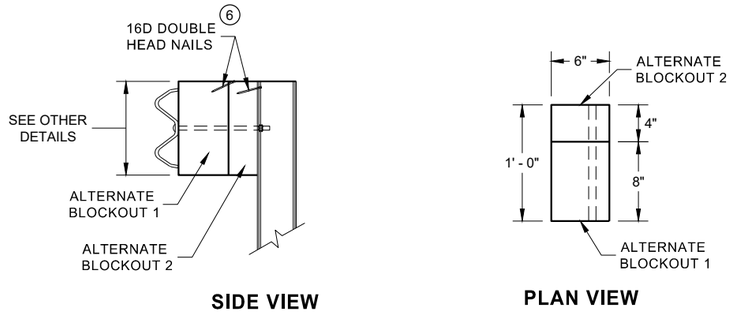
POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION



DETAIL FOR 36" BLOCKOUT DEPTH



POST BOLT, SPLICE BOLT AND RECESS NUT



SIDE VIEW

PLAN VIEW

ALTERNATE WOOD BLOCKOUT DETAIL

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.

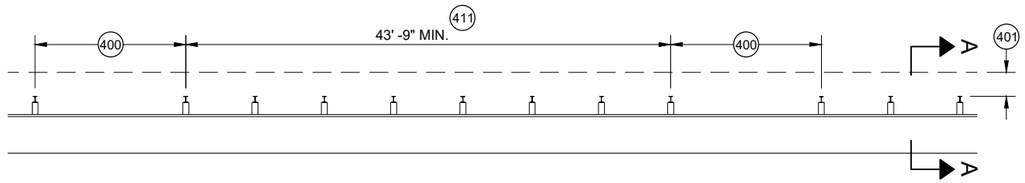
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.

(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.

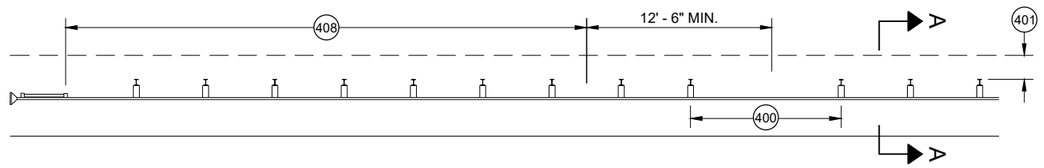
MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

6

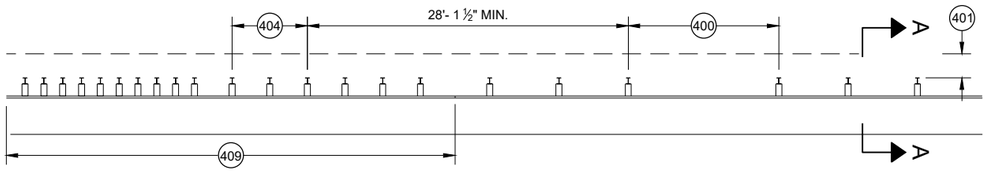
SDD 14B42 - 07c



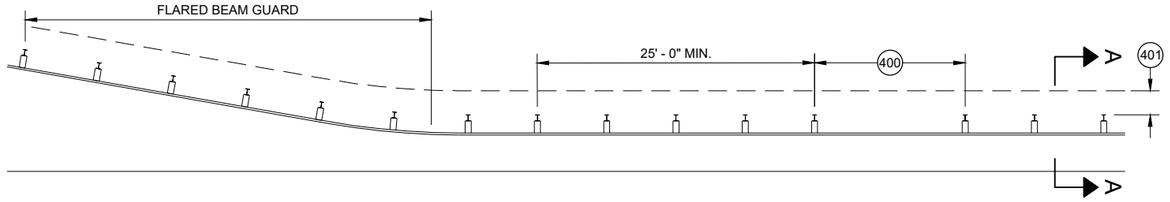
MISSING POST IN MGS GUARDRAIL



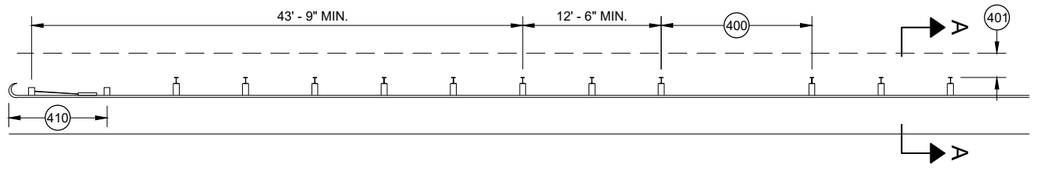
MISSING POST IN MGS GUARDRAIL NEAR EAT



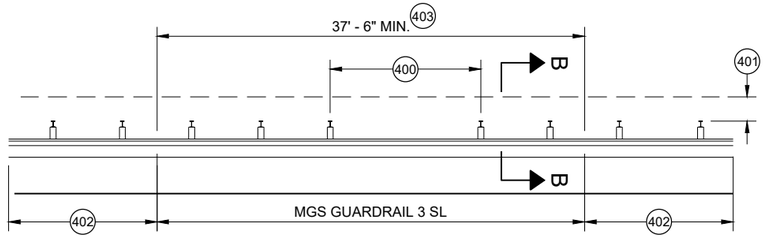
MISSING POST IN MGS GUARDRAIL NEAR AN APPROACH TRANSITION



MISSING POST IN MGS GUARDRAIL NEAR FLARED BEAM GUARD

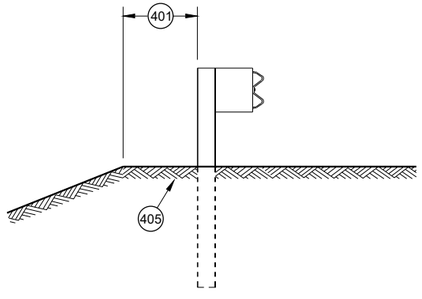


MISSING POST IN MGS GUARDRAIL NEAR A TYPE 2 END TERMINAL

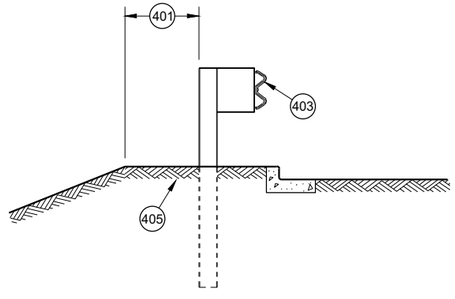


MISSING POST IN SHORT SPAN MGS GUARDRAIL NEAR CURB (SL) 407

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



SECTION A - A 406



SECTION B - B 406

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA

6

SDD 14B42 - 07d

GENERAL NOTES

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

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

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

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

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

DIMENSIONS MAY VARY, MANUFACTURER'S INFORMATION.

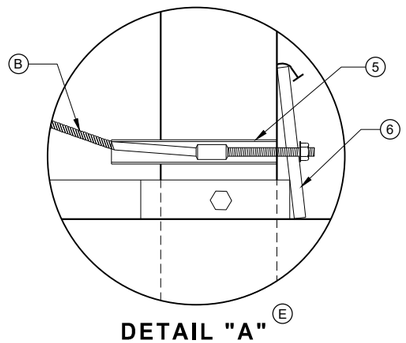
SEE SDD 14B42 FOR MORE INFORMATION.

* DO NOT ATTACH BLOCKOUTS TO POST 1 AND 2.

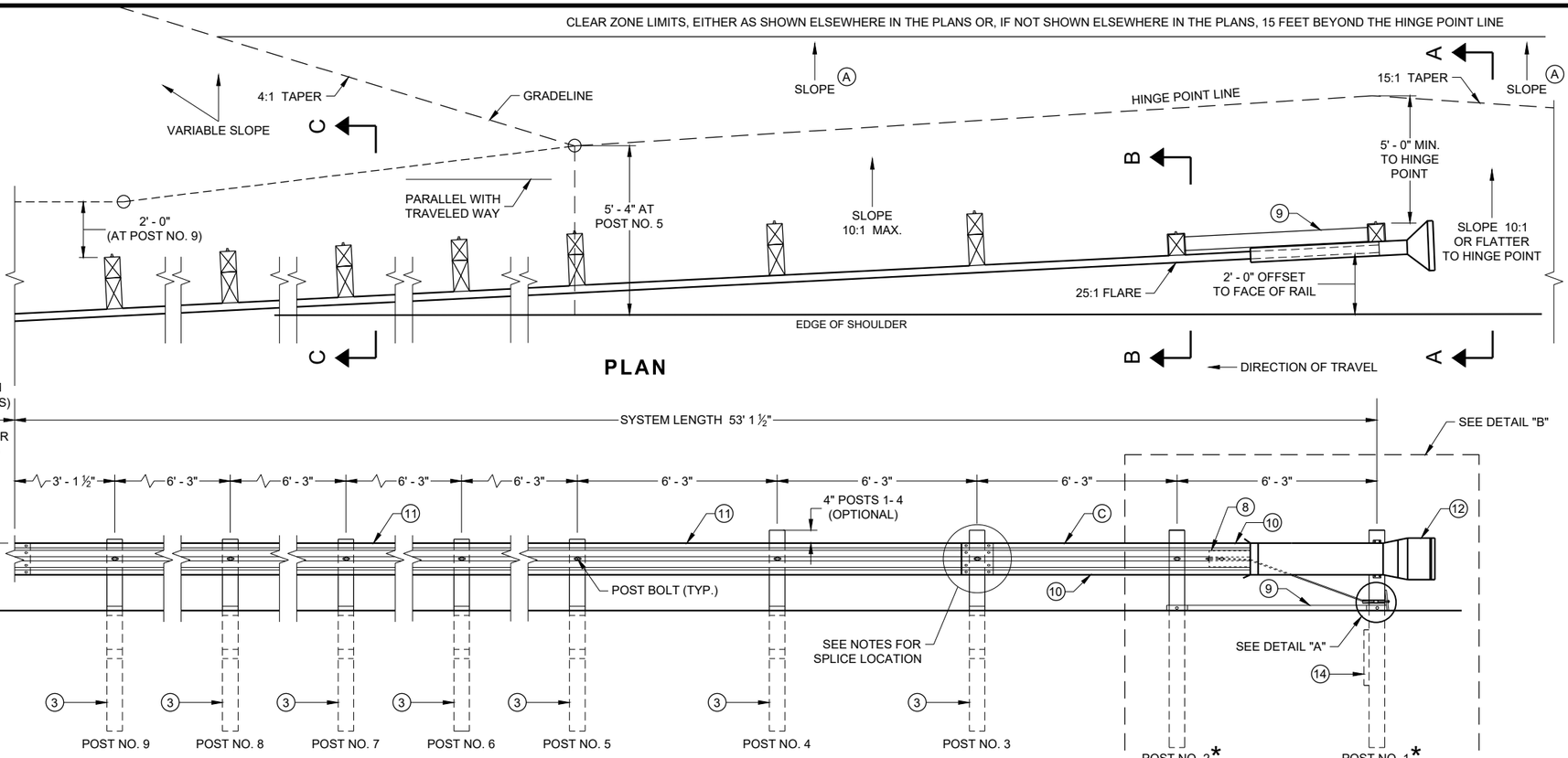
DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

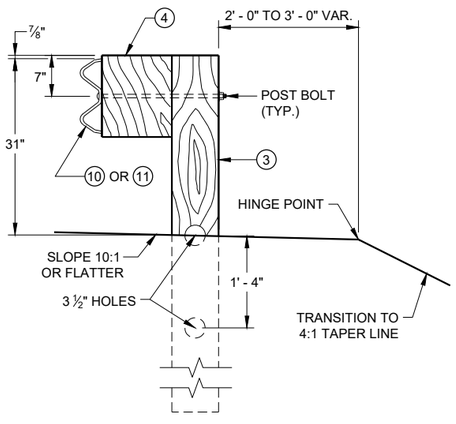
SEE MANUFACTURER'S DRAWING FOR SPLICE LOCATION, HARDWARE DIMENSIONS AND INSTALLATION INSTRUCTIONS.

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

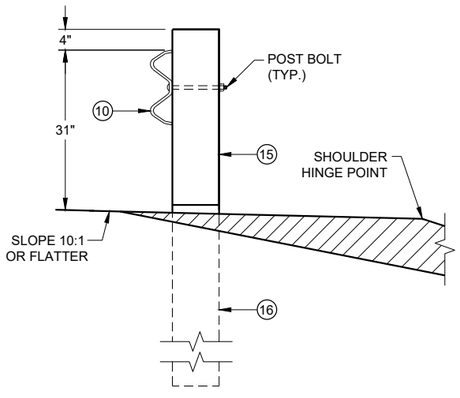


DETAIL "A" (E)

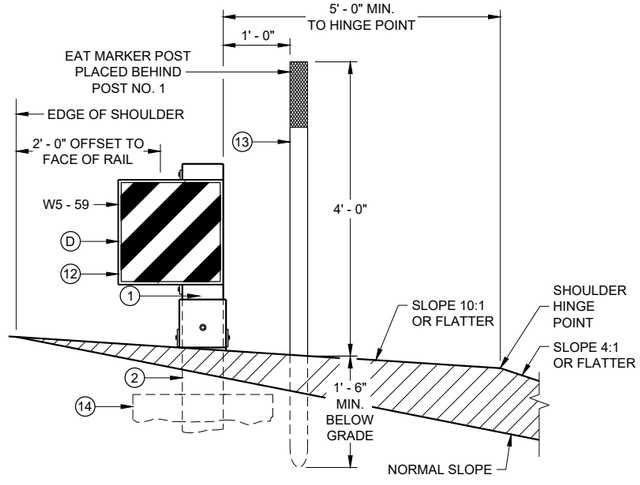




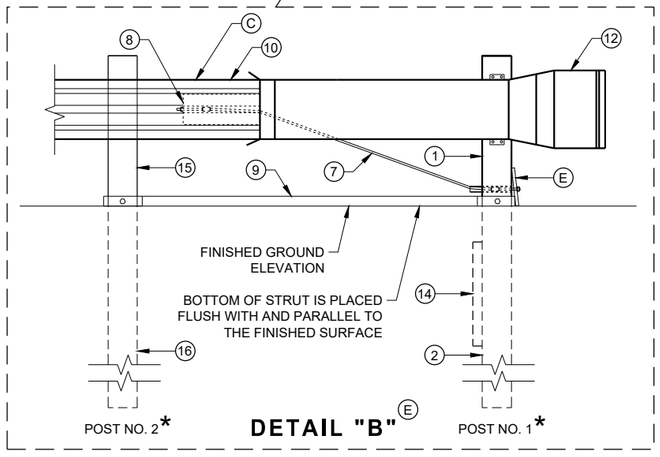
SECTION C - C
TYPICAL AT POST NOS. 3 - 9



SECTION B - B
TYPICAL AT POST NO. 2*



SECTION A - A
TYPICAL AT POST NO. 1*



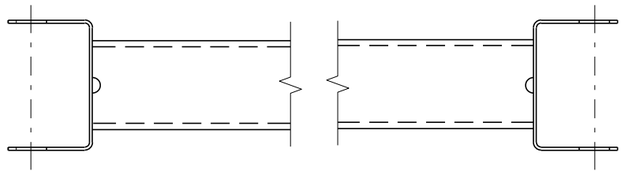
DETAIL "B" (E)

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

SDD 14B44 - 04a

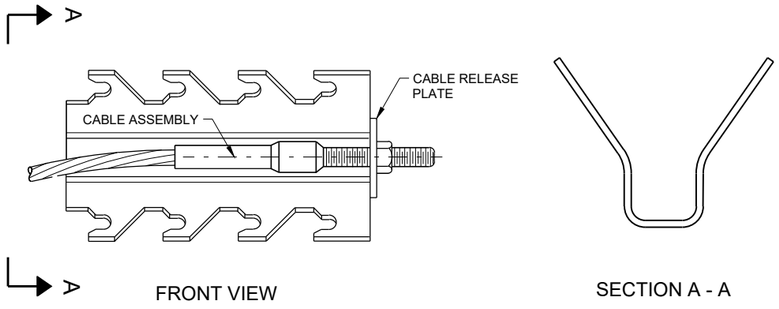
SDD 14B44 - 04a



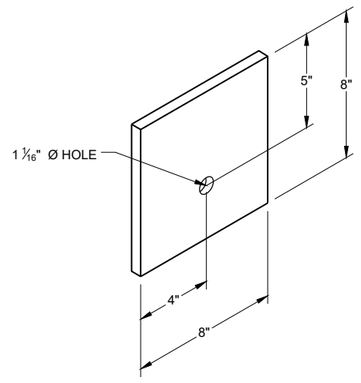
GENERIC GROUND STRUT ⑨ Ⓔ

BILL OF MATERIALS

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



GENERIC ANCHOR CABLE BOX ⑨ Ⓔ



BEARING PLATE ⑥ Ⓔ

6

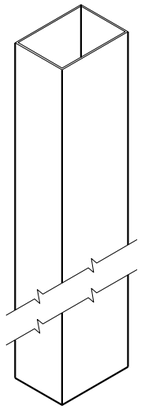
6

SDD 14B44 - 04b

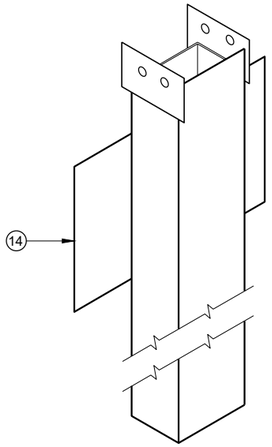
SDD 14B44 - 04b

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

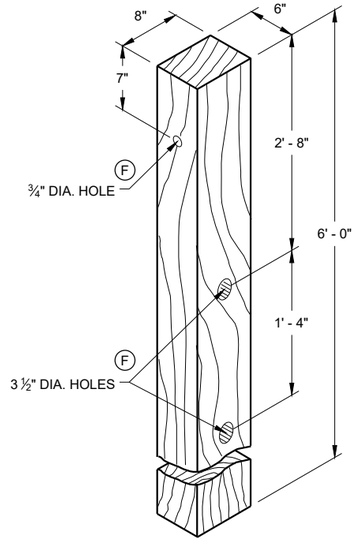
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



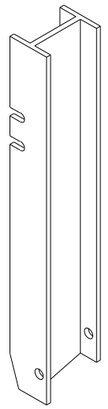
UPPER POST NO. 1 (1) (E)



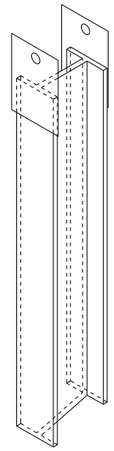
LOWER POST NO. 1 (2) (E)



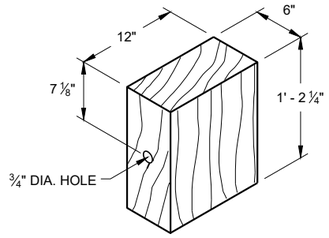
WOOD CRT POST (3) (E)
POSTS NUMBER 3-9



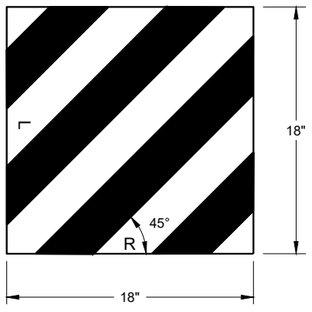
UPPER POST NO. 2 (15) (E)



LOWER POST NO. 2 (16) (E)

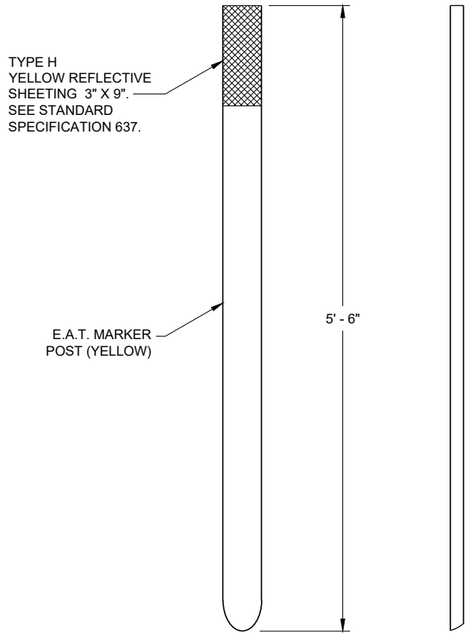


WOOD BLOCKOUT (4)
REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2



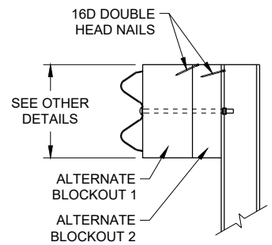
W5 - 59

REFLECTIVE SHEETING DETAIL (E)

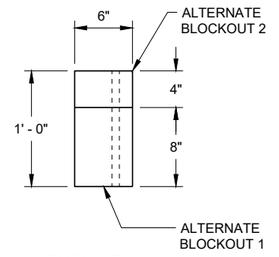


FRONT VIEW SIDE VIEW

E.A.T. MARKER POST (13)



SIDE VIEW



TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL

MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)

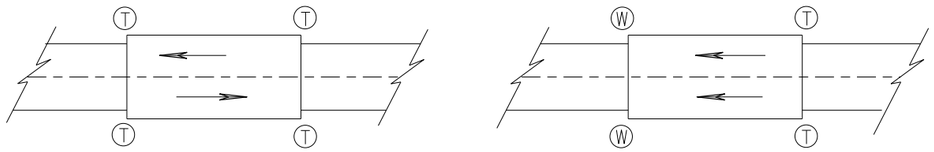
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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.

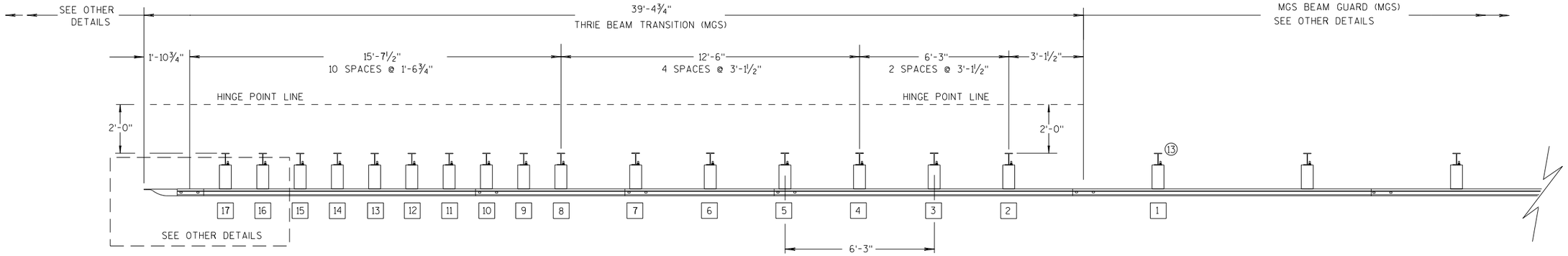
SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

POST 2 THROUGH 17 USES STEEL POST ONLY

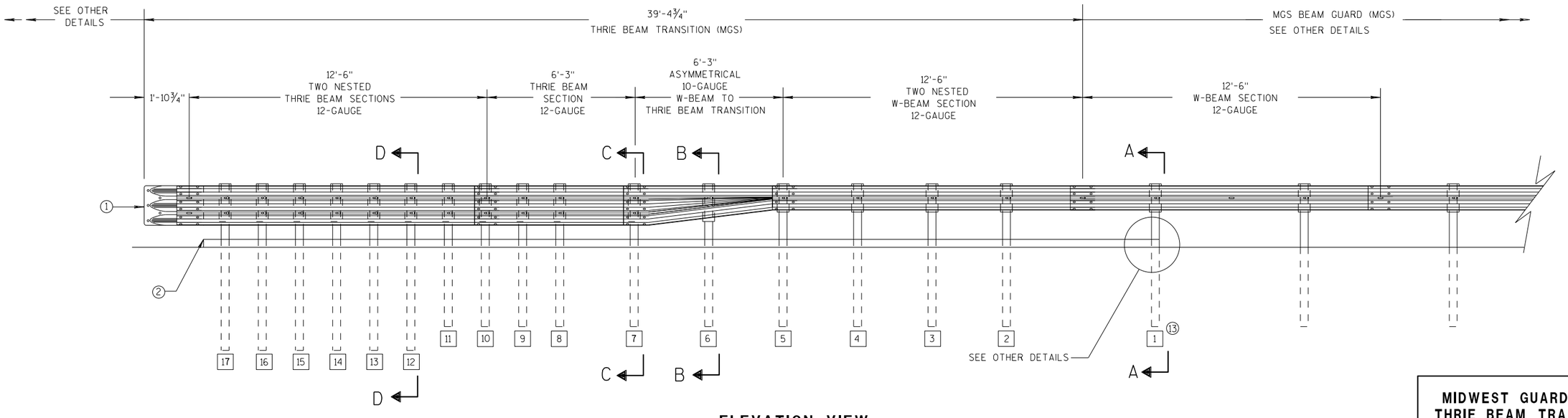
(1) BRIDGE RAILING TYPE "W" DOES NOT REQUIRE A TERMINAL CONNECTOR.

(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

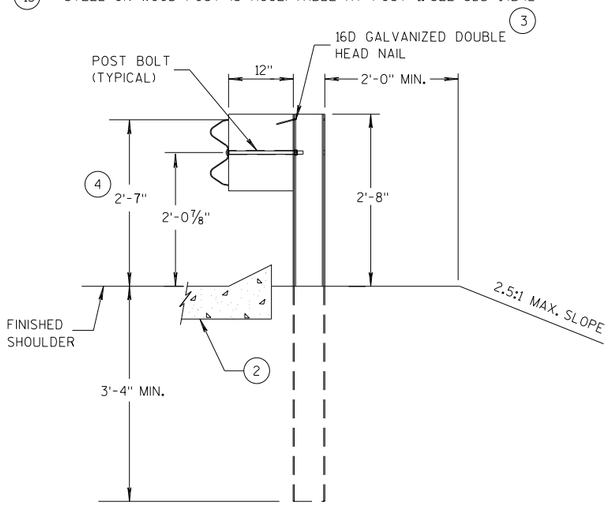
GENERAL NOTES

(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.

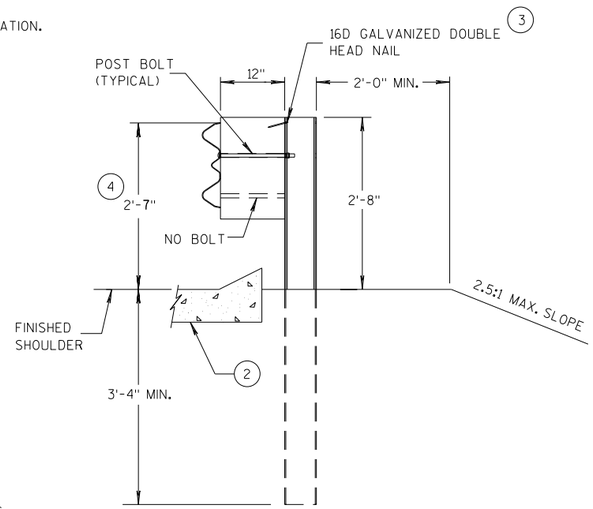
(4) TOLERANCE FOR TOP OF W-BEAM RAIL IS ± 1".

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



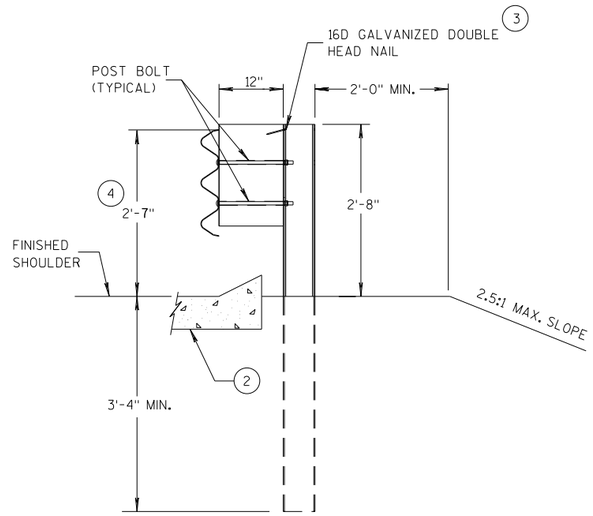
SECTION A-A (13)

POSTS 1-5



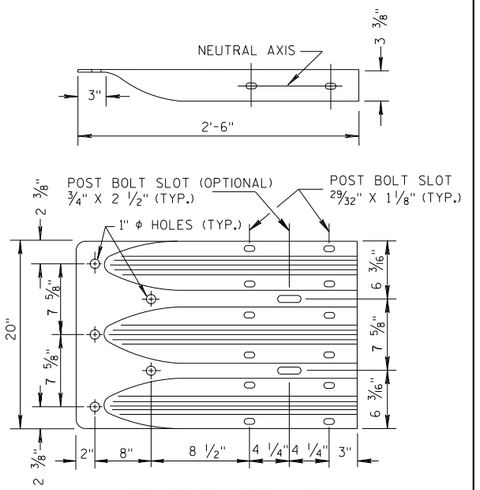
SECTION B-B

POST 6

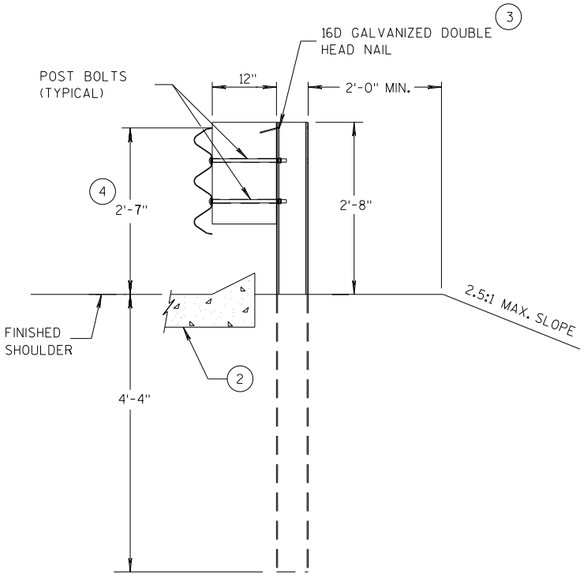


SECTION C-C

POSTS 7-11

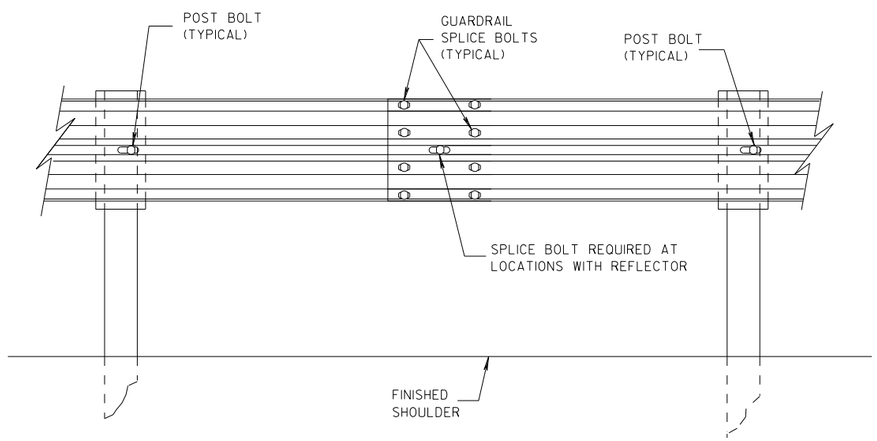


THRIE BEAM TERMINAL CONNECTOR



SECTION D-D

POSTS 12-17



SPLICE DETAIL

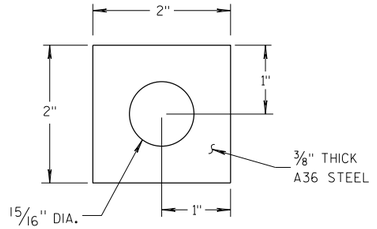
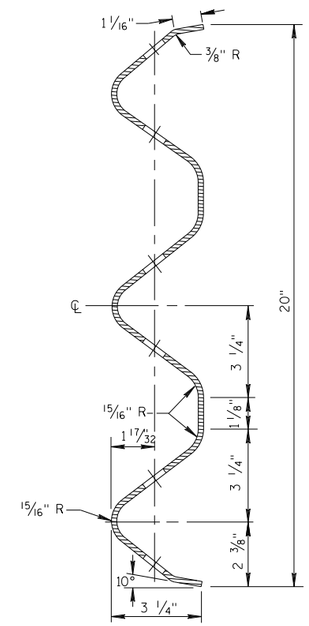


PLATE WASHER DETAIL



SECTION THRU THRIE BEAM RAIL ELEMENT

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

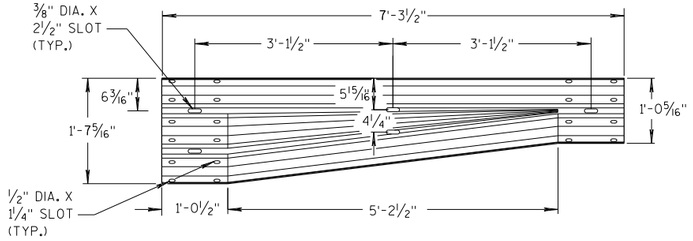
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR 44

6

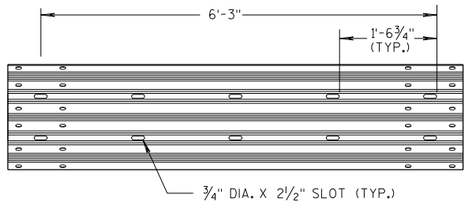
S.D.D. 14 B 45-5b

6

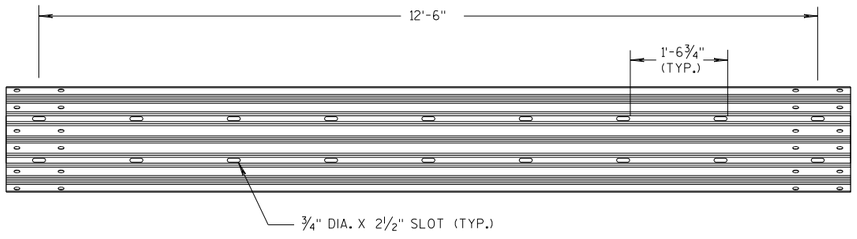
S.D.D. 14 B 45-5b



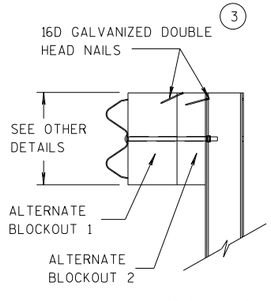
W-BEAM TO THRIE BEAM TRANSITION SECTION



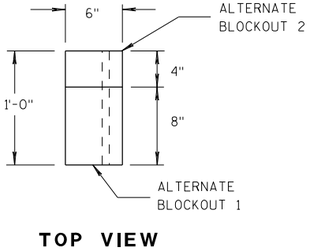
6'-3" THRIE BEAM SECTION



12'-6" THRIE BEAM SECTION

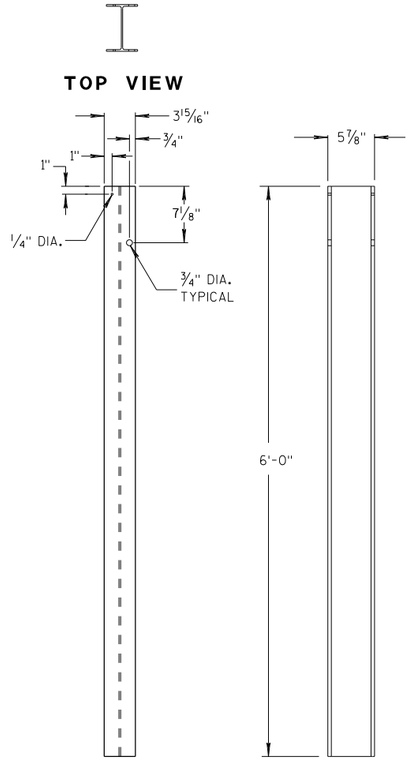


SIDE VIEW



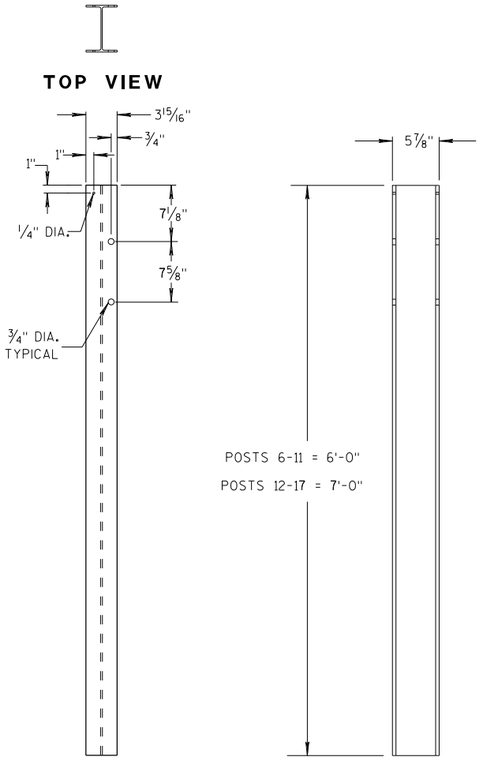
TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL



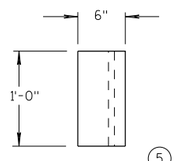
FRONT VIEW SIDE VIEW

STEEL POSTS 1-5 (13)

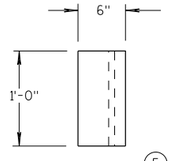


FRONT VIEW SIDE VIEW

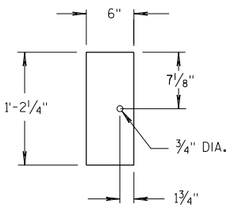
STEEL POSTS 6-17



TOP VIEW (5)

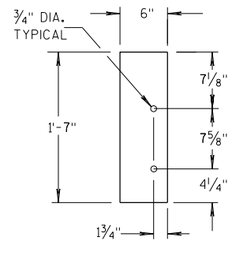


TOP VIEW (5)



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)

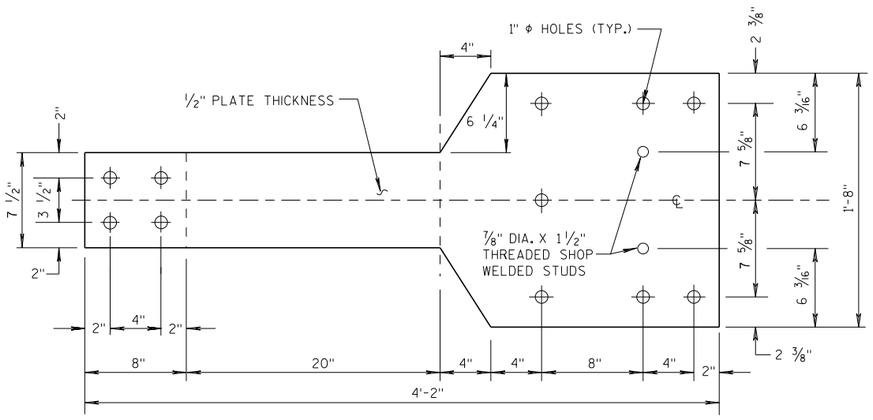
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

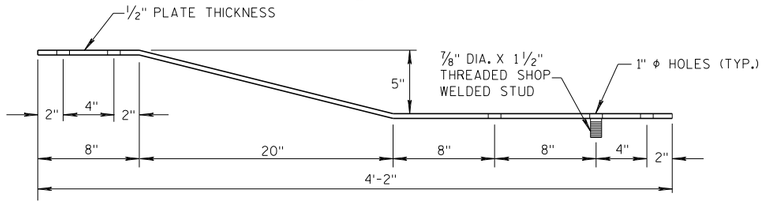
S.D.D. 14 B 45-5c

GENERAL NOTES

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

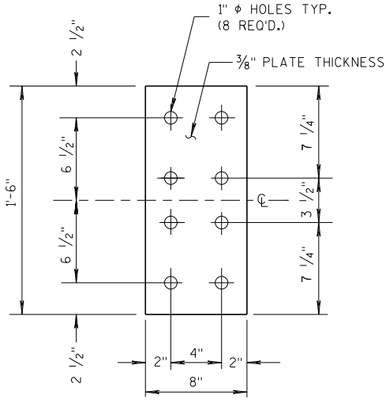


FRONT VIEW



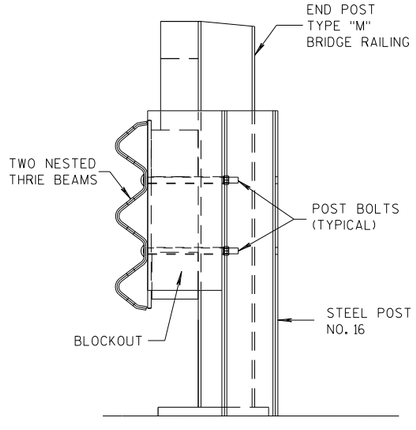
PLAN VIEW

BACK-UP PLATE DETAIL, TYPE "M"

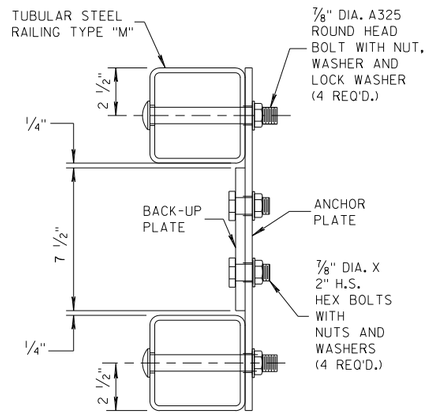


FRONT VIEW

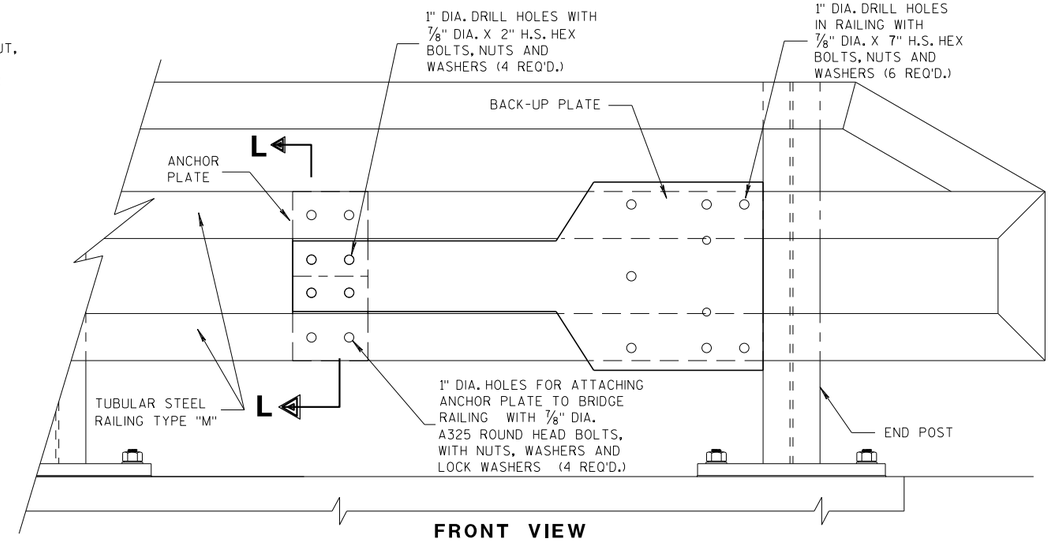
ANCHOR PLATE DETAIL, TYPE "M"



SECTION M-M

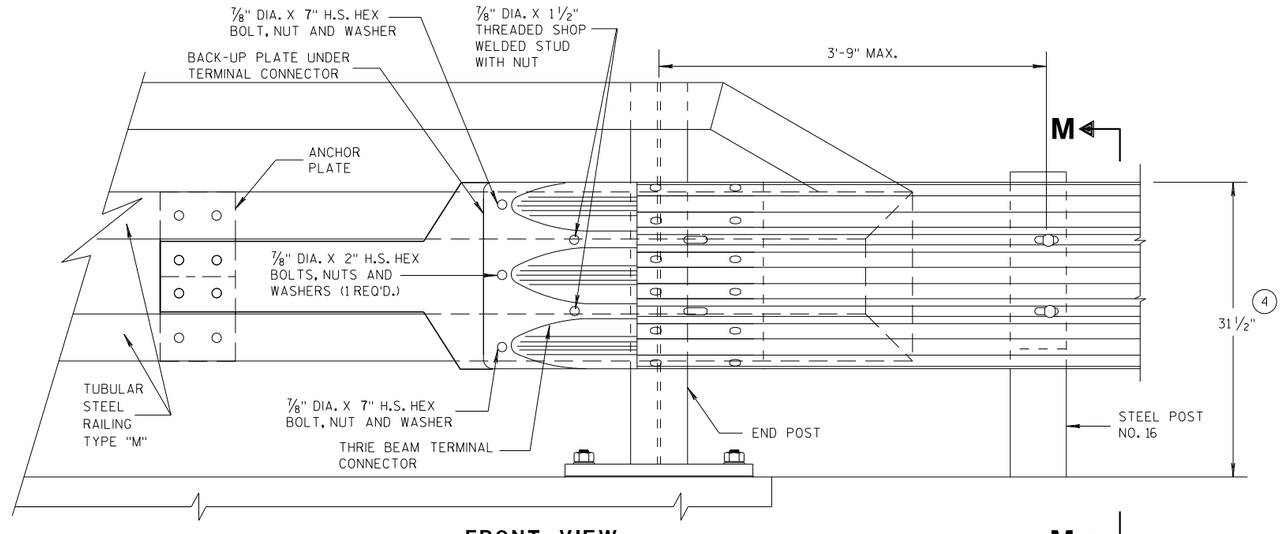


SECTION L-L

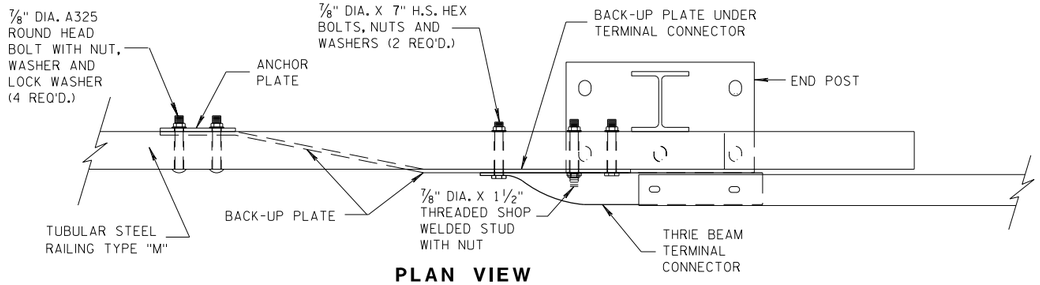


FRONT VIEW

ANCHOR AND BACK-UP PLATE MOUNTING TO BRIDGE RAILING, TYPE "M"



FRONT VIEW



PLAN VIEW

THRIE BEAM CONNECTION TO TUBULAR RAILING, TYPE "M"

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

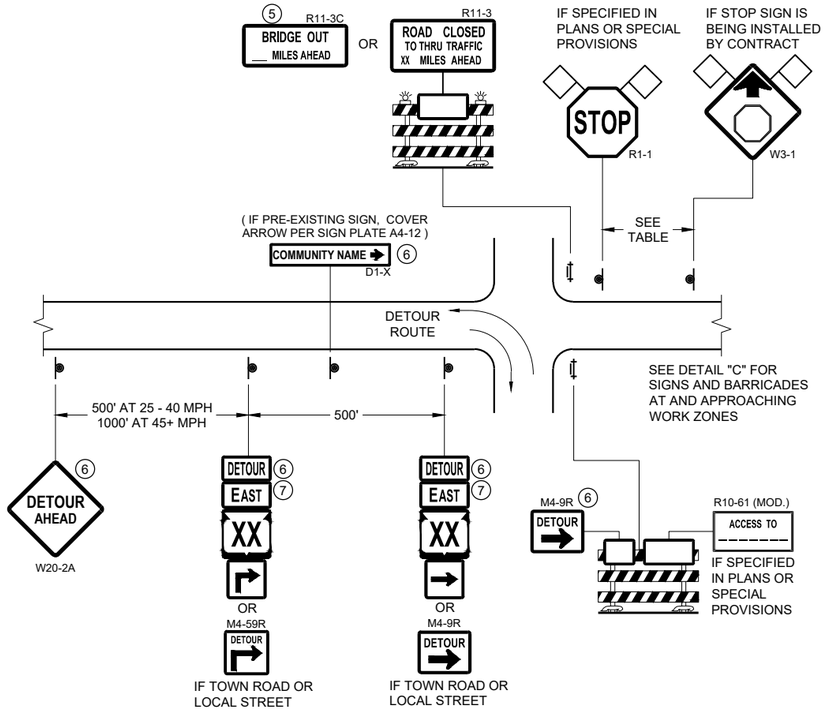
APPROVED
07/2018 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS UNIT SUPERVISOR
FHWA

6

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

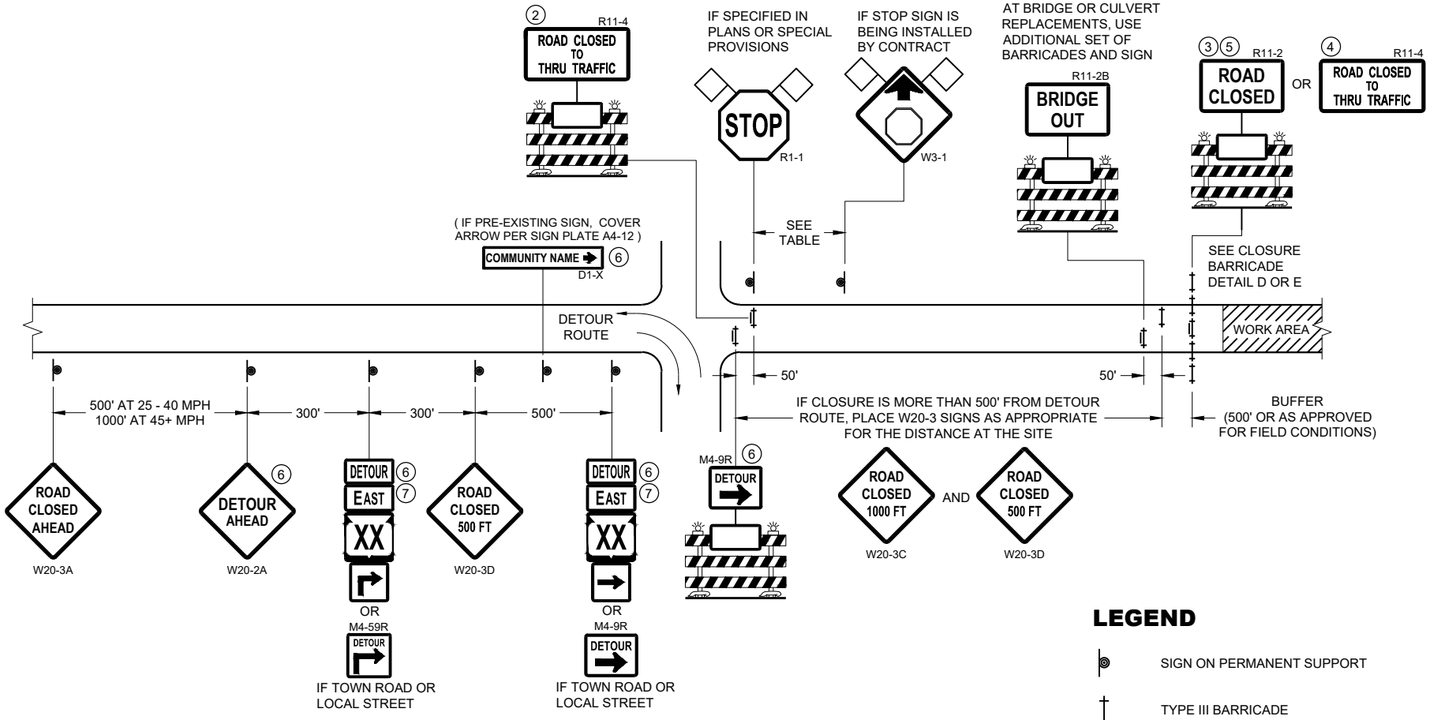
6

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



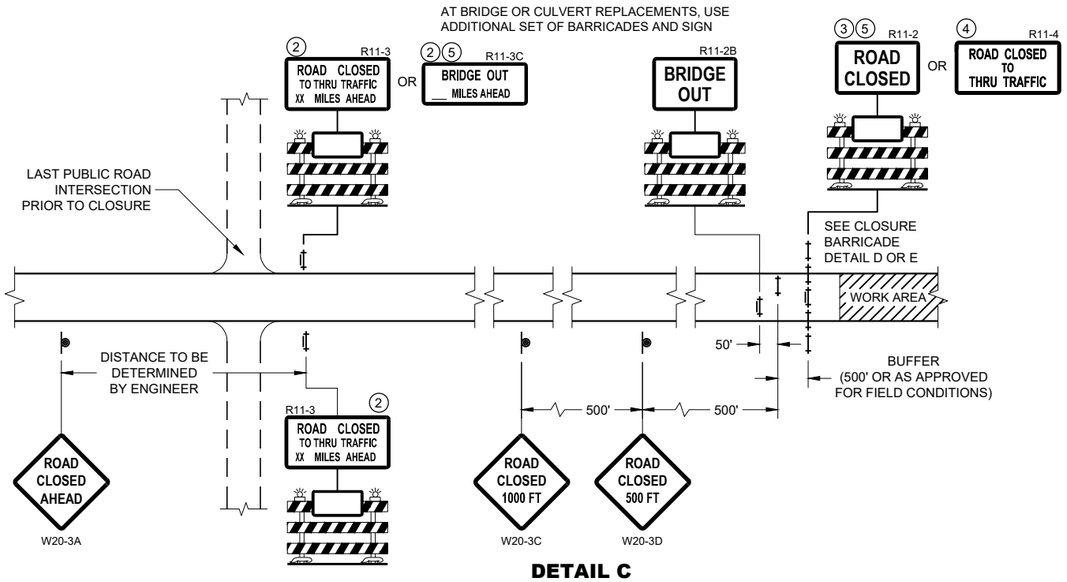
DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR

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



DETAIL B
MAINLINE CLOSURE WITH POSTED DETOUR

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



DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR

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

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

LEGEND

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

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

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

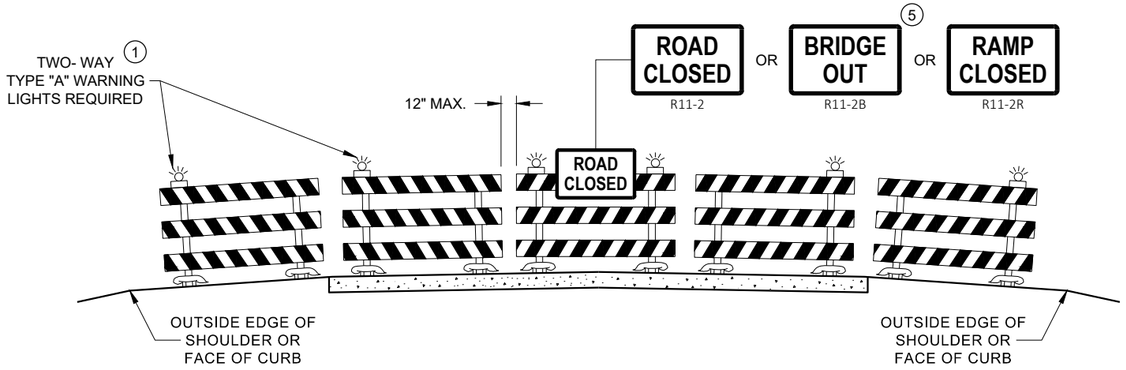
APPROVED
February 2020
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

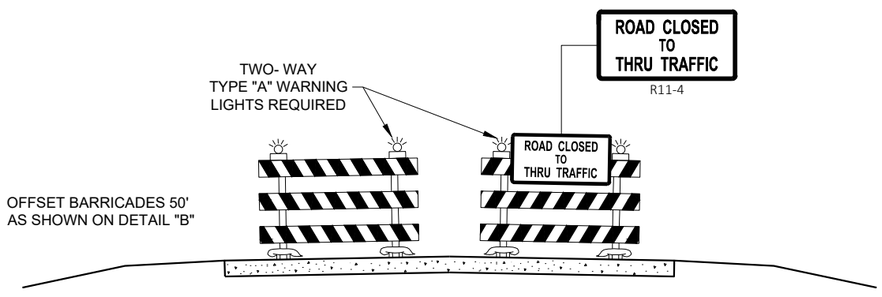
6

SDD 15C02 - 08a

SDD 15C02 - 08a



DETAIL D
ROAD CLOSURE BARRICADE DETAIL
APPROACH VIEW



DETAIL E
LANE CLOSURE BARRICADE DETAIL
APPROACH VIEW

SEE SDD 15C2 - SHEET "a" FOR LEGEND

GENERAL NOTES

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

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

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

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

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

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

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

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

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

ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:
- R11 - 2 SHALL BE 48" X 30"
- R11 - 3 SHALL, R11 - 4 AND R10 - 61 SHALL BE 60 " X 30"
- M4 - 9 SHALL BE 30" X 24"
- M3 - X SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M4 - 8 SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M1 - 4, M1 - 5A AND M1 - 6 SHALL BE 24" X 24" (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS)
- MO5 - 1 AND MO6 - 1 SHALL BE 21" X 21" (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS)
- D1 - X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.
- R1 - 1 SHALL BE 36" X 36"

(1) TWO WARNING LIGHTS SHALL BE PROVIDED ON THE CENTER BARRICADE AND A MINIMUM OF ONE WARNING LIGHT SHALL BE PROVIDED ON EACH OF THE OTHER BARRICADES WITHIN THE ROADWAY LIMITS. SPACING OF THE WARNING LIGHTS SHALL BE UNIFORM TO THE EDGE OF ROADWAY AS SHOWN (APPROX. 8 FOOT LIGHT SPACING.

(2) THESE SIGNS AND BARRICADES ARE NOT REQUIRED IF ROAD CLOSURE BEGINS AT AN INTERSECTION.

(3) FOR ROAD CLOSURE WITHOUT LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL "D".

(4) FOR ROAD CLOSURE WITH LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL "E".

(5) FOR BRIDGE OR CULVERT REPLACEMENTS, SUBSTITUTE "BRIDGE OUT" INSTEAD OF "ROAD CLOSED" ON R11 - 2 AND R11 - 3 SIGNS.

(6) INSTALL DETOUR AND COMMUNITY GUIDE SIGNS AND ARROWS ONLY IF SPECIFIED IN THE CONTRACT. IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. MODIFY EXISTING SIGNS WHERE POSSIBLE. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. IF DETOUR SIGNS ARE BEING INSTALLED BY OTHERS, PLACE THE CONTRACTED TRAFFIC CONTROL SIGNS TO ALLOW FOR PLACEMENT OF ALL WARNING, DETOUR AND GUIDE SIGNS AS SHOWN.

(7) "EAST" CARDINAL DIRECTION MARKERS AND RIGHT TURN ARROWS ARE SHOWN. USE OTHER CARDINAL DIRECTIONS AND ARROWS AS APPROPRIATE.

BARRICADES AND SIGNS FOR VARIOUS CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6

SDD 15C02 - 08b

6

SDD 15C02 - 08b

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 / EAST — M4 - 8, M3 - X
- XX — M1 - 4
- XX — M1 - 6
- COUNTY / X — M1 - 5A
- M05 - 1
- M06 - 1
- 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.

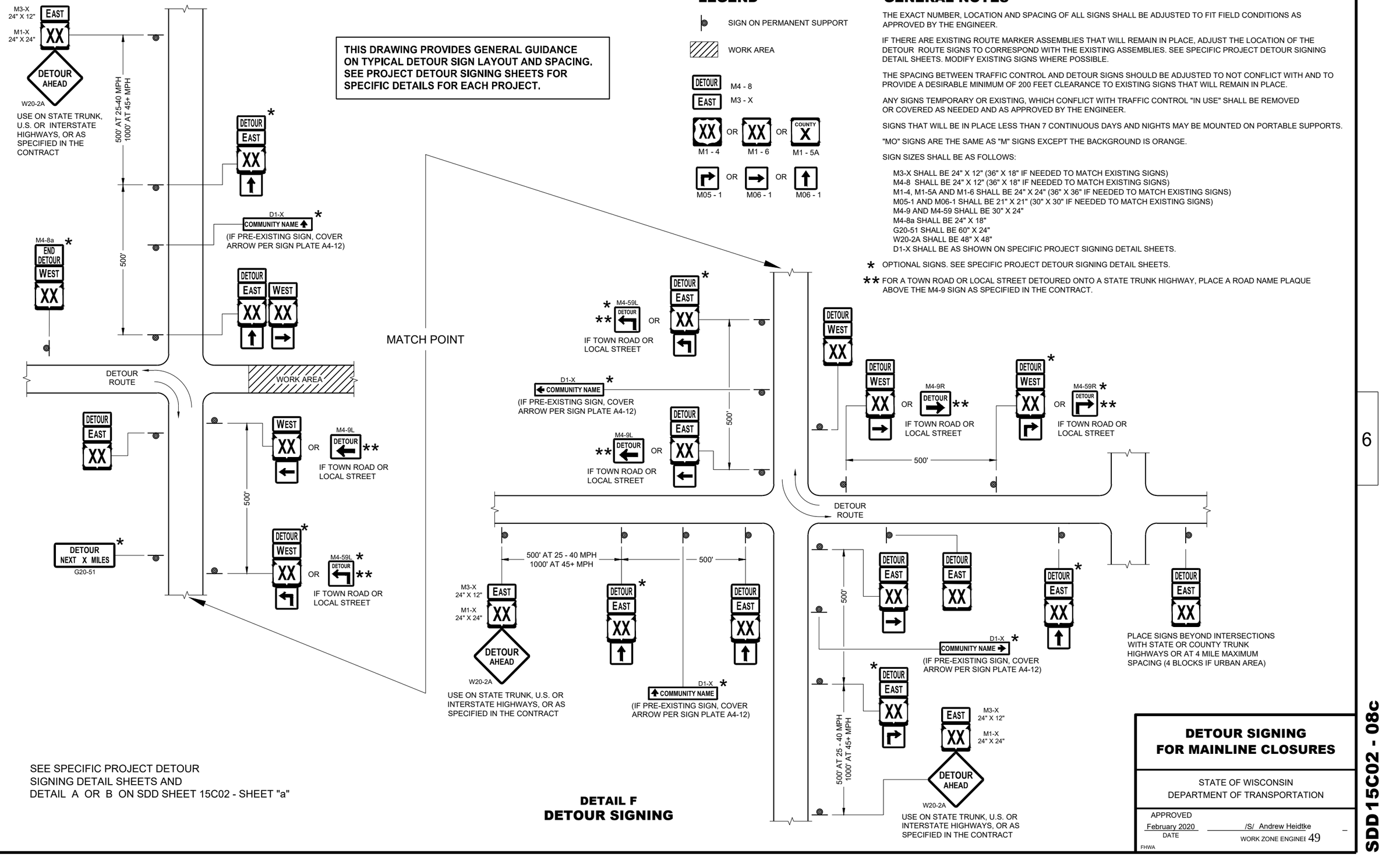
"MO" SIGNS ARE THE SAME AS "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

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" (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS)
- M05-1 AND M06-1 SHALL BE 21" X 21" (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS)
- 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.



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
February 2020
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

SDD 15C02 - 08c

SDD 15C02 - 08c

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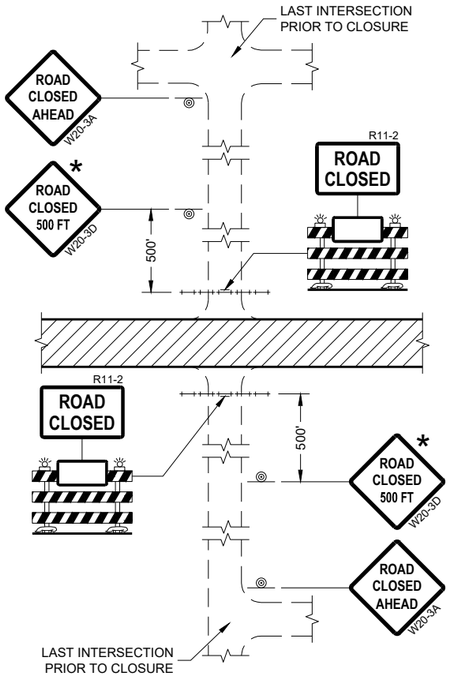
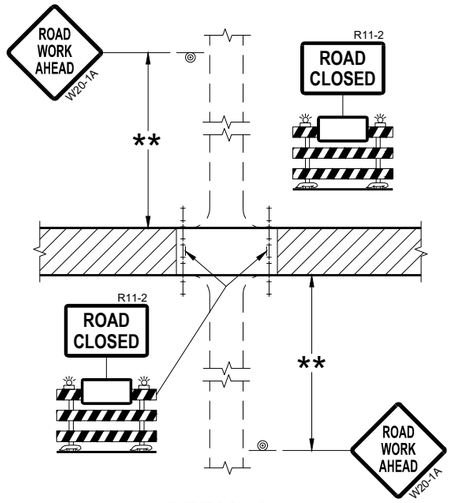


DETAIL 1
(NO ACCESS TO PROJECT)



DETAIL 2
(PUBLIC CROSS-TRAFFIC MAINTAINED.
NO ACCESS TO PROJECT)

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 (500 FEET DESIRABLE) TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

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

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

SIGNS THAT WILL BE IN PLACE LESS THAN SEVEN 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.

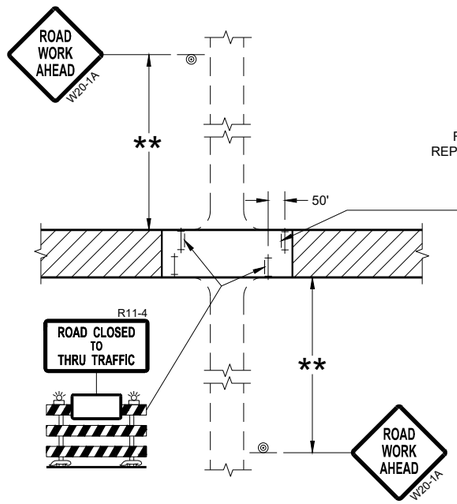
TYPE "A" LOW-INTENSITY FLASHING WARNING LIGHTS SHALL BE VISIBLE ON BOTH SIDES OF THE BARRICADE.

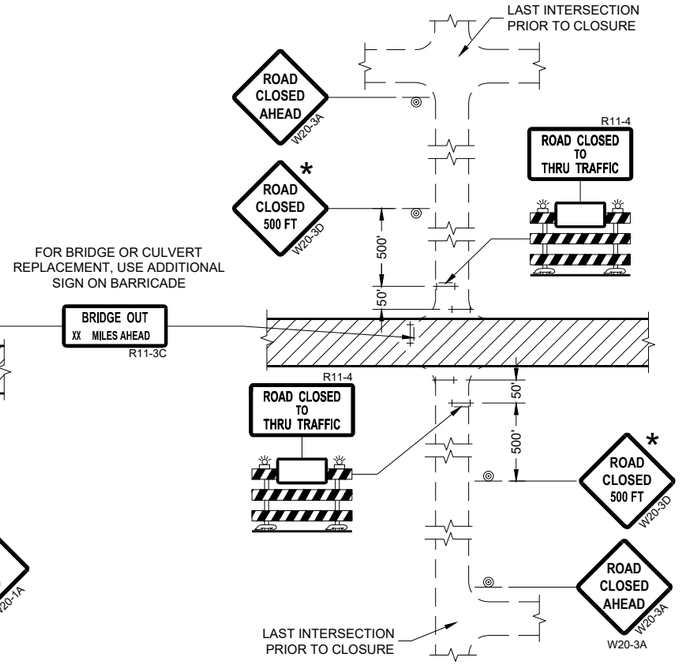
THE R11-2, R11-3, AND R11-4 SIGNS PLACED ON BARRICADES SHALL COVER NO MORE THAN THE TOP RAIL. THE SIGNS SHALL NOT COVER ANY PORTION OF THE MIDDLE OR BOTTOM RAILS.

ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:
R11-2 SHALL BE 48" X 30".
R11-4 AND R11-3 SHALL BE 60" X 30".

* OMIT THE "ROAD CLOSED 500 FT." SIGN IF THE LAST INTERSECTION IS 500 FEET OR LESS FROM THE WORK ZONE.

** 500' MAX. OR AT LAST INTERSECTION, WHICHEVER IS CLOSEST.





DETAIL 3
(PUBLIC CROSS-TRAFFIC MAINTAINED.
CONTRACTOR, LOCAL BUSINESS AND
RESIDENT ACCESS TO PROJECT)

DETAIL 4
(CONTRACTOR, LOCAL BUSINESS AND
RESIDENT ACCESS TO PROJECT)

LEGEND

- SIGN ON PERMANENT SUPPORT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)
- WORK AREA

BARRICADES AND SIGNS FOR SIDEROAD CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
July 2018
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

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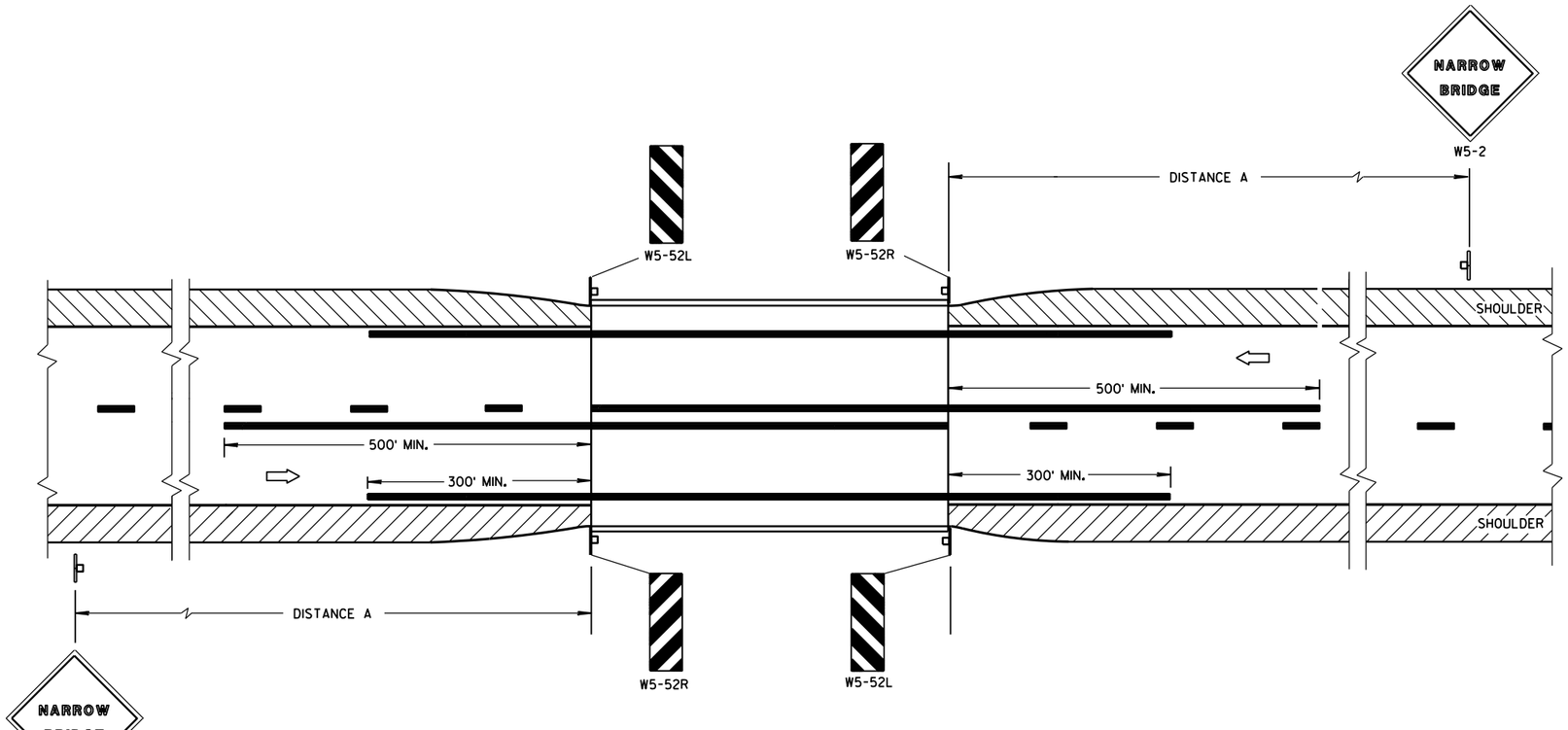
SDD 15C03 - 05

SDD 15C03 - 05



SITUATION 1

WARRANTING CRITERIA:

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

DISTANCE TABLE

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

GENERAL NOTES

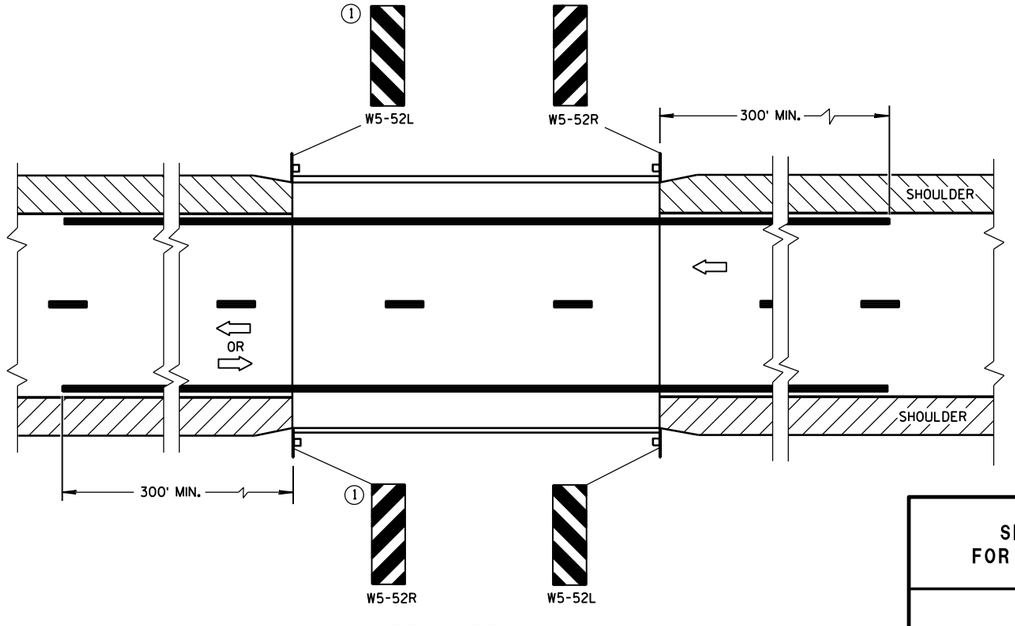
DETAILS OF TRAFFIC CONTROL DEVICES AND INSTALLATION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

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

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

(1) OMIT ON ONE-WAY TRAVELLED WAYS.

⇨ DIRECTION OF TRAFFIC



SITUATION 2

WARRANTING CRITERIA:

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

SIGNING & MARKING FOR TWO LANE BRIDGES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2017 — DATE
/S/ Matthew R. Rauch — STATE SIGNING AND MAR[illegible]EER
FHWA

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S.D.D. 15 C 6-9

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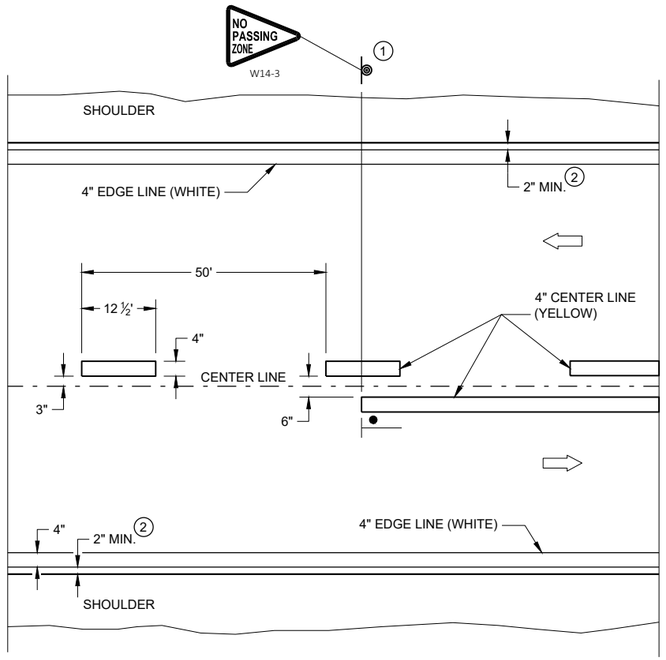
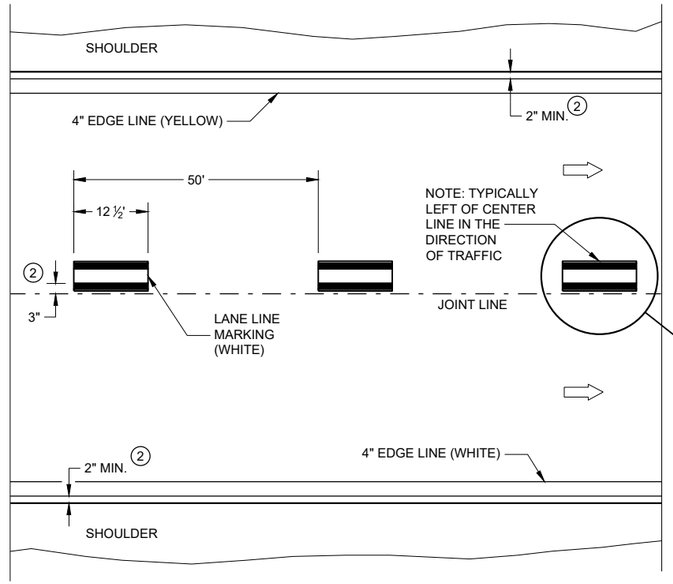
S.D.D. 15 C 6-9

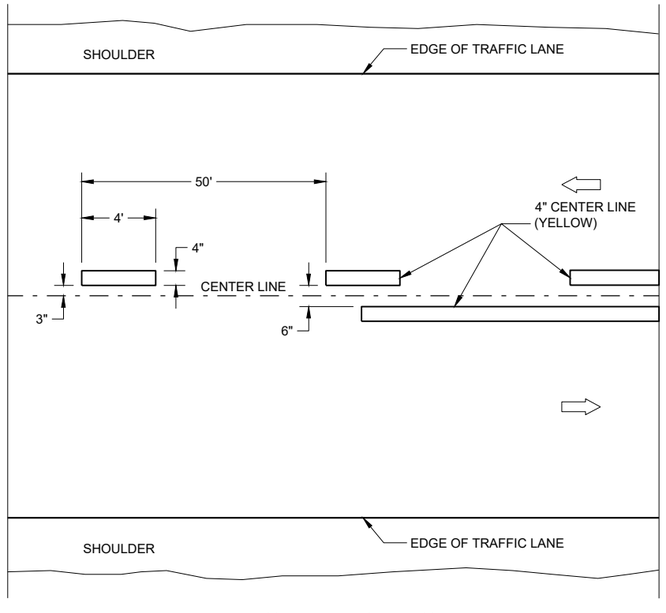


TWO WAY TRAFFIC

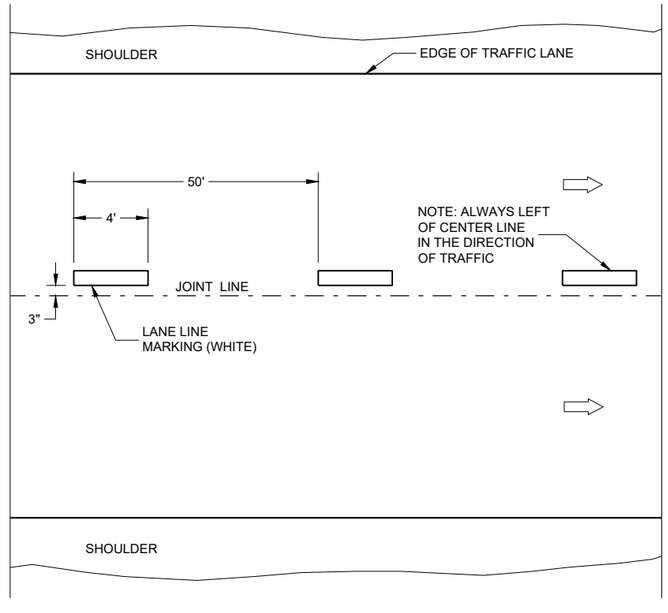


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY PAVEMENT MARKING

GENERAL NOTES

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

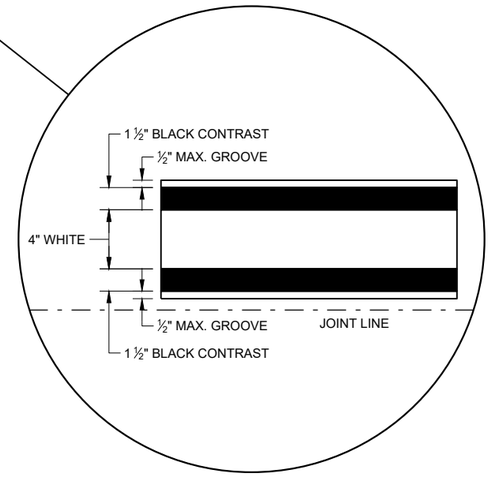
1. LOCATE THE NO PASSING ZONE W14-3 SIGN WITHIN 50 FEET OF THE "T" MARKING
2. MEASURE FROM EDGE OF MARKING TO JOINT LINE. THIS DOES NOT INCLUDE SPACE NEEDED FOR GROOVING OPERATIONS.

LEGEND

"T" MARKING

SIGN ON PERMANENT SUPPORT

DIRECTION OF TRAFFIC



LONGITUDINAL MARKING (MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA

SDD 15C08 - 20a

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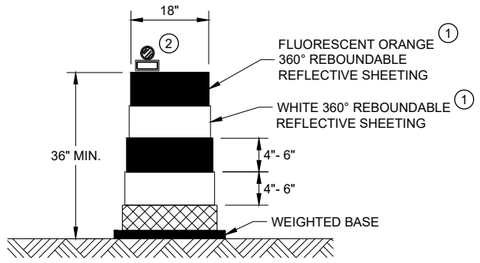
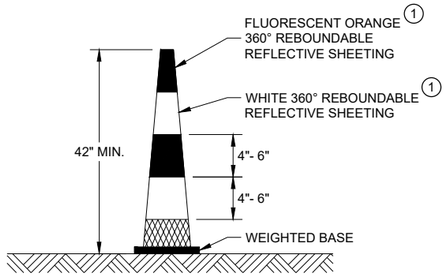
GENERAL NOTES

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

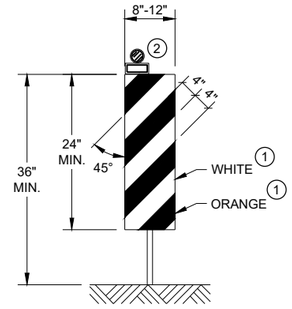


DRUM



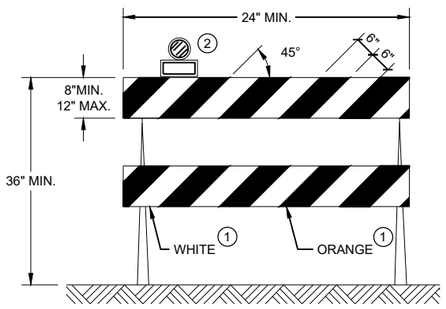
42" CONE

DO NOT USE IN TAPERS
½ SPACING OF DRUMS



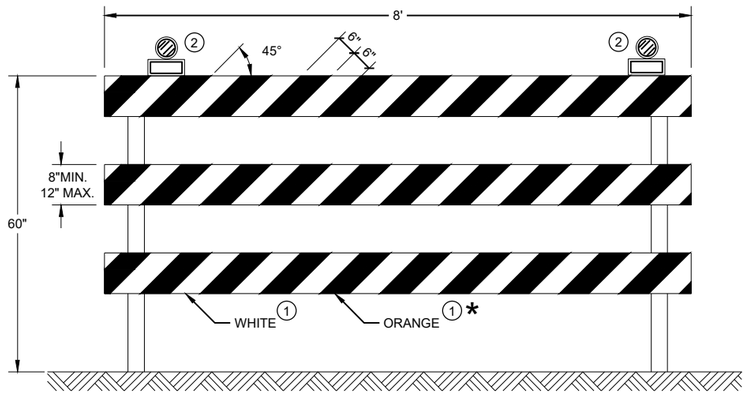
VERTICAL PANEL

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



TYPE II BARRICADE

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



TYPE III BARRICADE

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

* IF USED FOR A PERMANENT APPLICATION USE RED SHEETING.

CHANNELIZING DEVICES
DRUMS, CONES, BARRICADES
AND VERTICAL PANELS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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SDD15C11 - 09b

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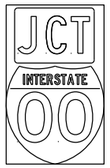
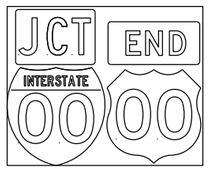
SDD15C11 - 09b

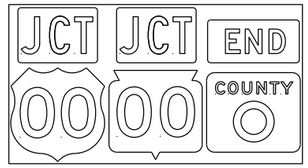
TYPICAL ASSEMBLIES



J1-1



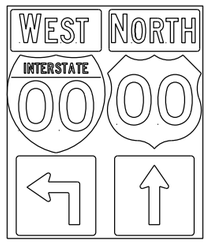
J1-2



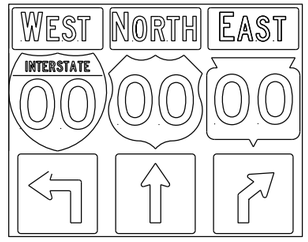
J1-3

JR1-1

J2-1

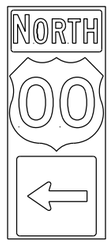


J2-2

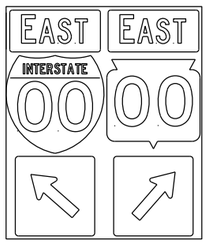


J2-3

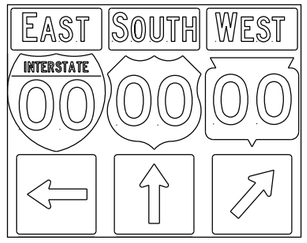
JV
(Typical Vertical J-Assembly
See Note 10 and 11)



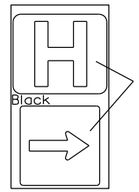
J3-1



J3-2

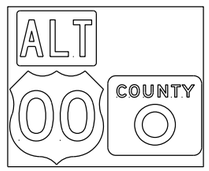


J3-3

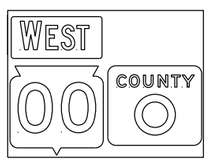


Blue Background
JH-1

J4-1

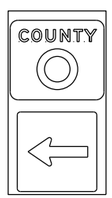


J4-2



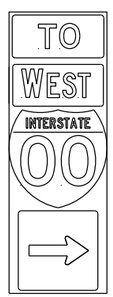
J4-2

J12-1

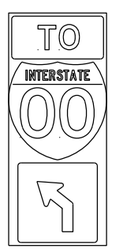


J13-1

J32-1



J33-1



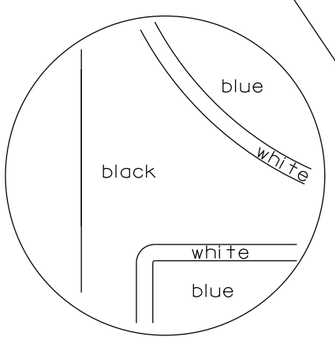
J22-1

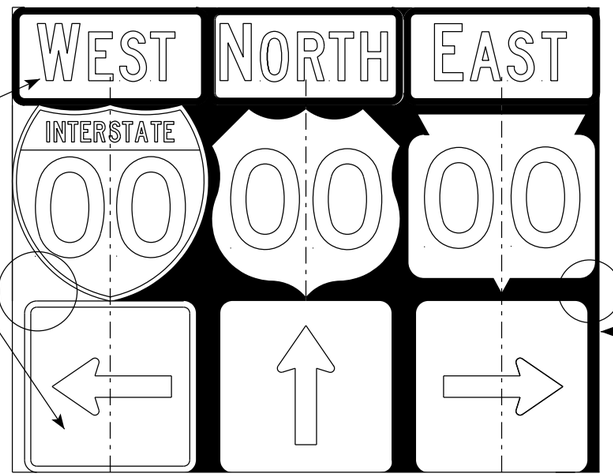
J23-1

JR13-1

JR23-1

JR99-1





NOTES

1. Signs are Type II - Type H Reflective
2. Color:
   Background - Black Non-reflective
   Message - see Note 5
3. Message Series - See Note 5
4. Corners shall be square or rounded if base material is plywood. If base material is metal the corners shall be rounded.
5. The colors and message spacing on each marker shall be according to the applicable route marker panel specifications.
6. Certain marker heads require the component pieces to be the same color. As an example, all the components used with an M1-1 Interstate marker shall be blue.
7. Single panel j-assemblies shall only be used with route marker shields that are same size. If the route marker shields are different size use multiple piece component.
8. Route assemblies that have 24 inch route shields and have dimensions greater than 48 inches (both vertical and horizontal) shall have one horizontal splice between the arrows and route shields. Vertical splices shall not be used on route assemblies with a horizontal dimension of 144 inches or less. The contractor shall not use more than one vertical joint per sign and the joint shall be between route shields.
9. Route assemblies that have 36 inch shields and have dimensions greater than 48 inchs (both vertical and horizontal) shall have two horizontal splices. One horizontal splice shall be between the cardinal direction and route shields and the other horizontal splice shall be between the arrows and route shields. Vertical splices shall not be used on route assemblies with a horizontal dimension of 144 or less. The contractor shall not use more than one vertical joint per sign and the joint shall be between route shields.
10. All Vertical J Assemblies are given a Sign Code of JV
11. For JV Assemblies that have a mixture of Interstate and non Interstate shields, arrows and cardinals shall be white on blue.

ROUTE MARKERS & COMPONENTS
IN TYPICAL ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/18/21 PLATE NO. A2-1S.9

PROJECT NO:

SHEET NO: 54 E

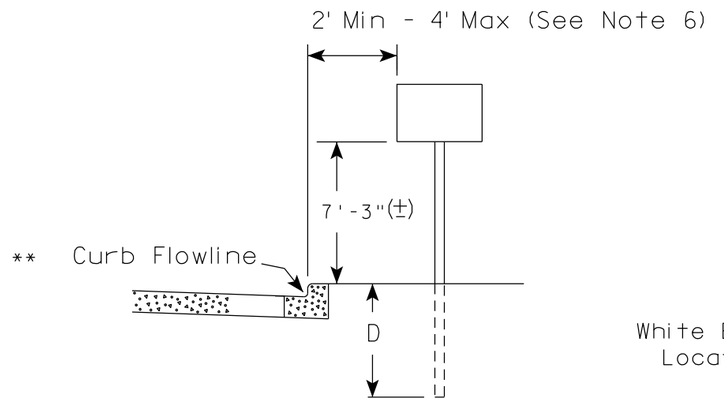
FILE NAME : C:\CAEfiles\Projects\tr_stdplate_A21S.dgn PLOT DATE : 18-MAR 2021 1:37 PLOT BY : mscj9h PLOT NAME :

WISDOT/CADDS SHEET 42

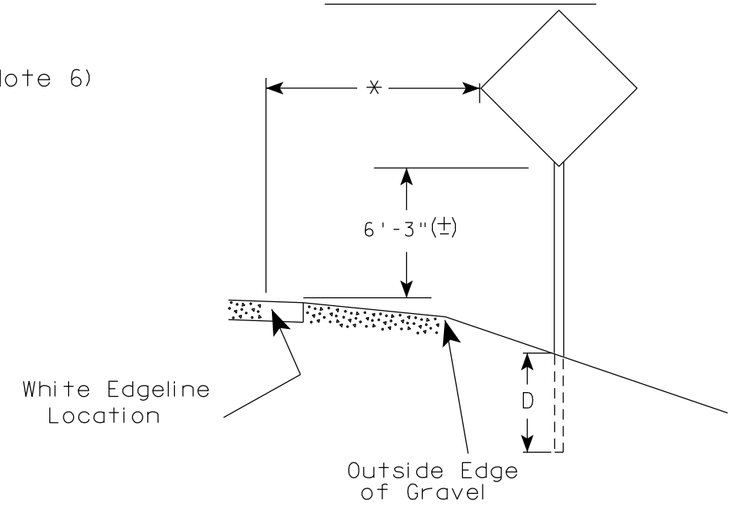
7

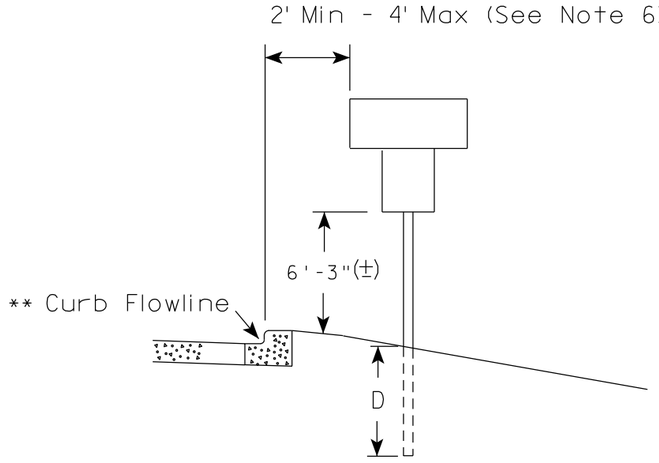
7

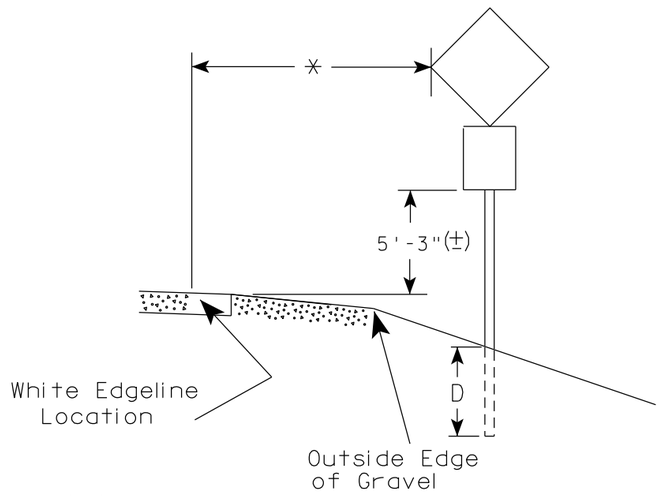
URBAN AREA



RURAL AREA (See Note 2)







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

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

POST EMBEDMENT DEPTH

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

GENERAL NOTES

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

TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

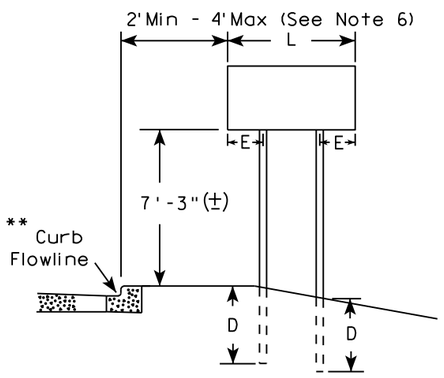
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

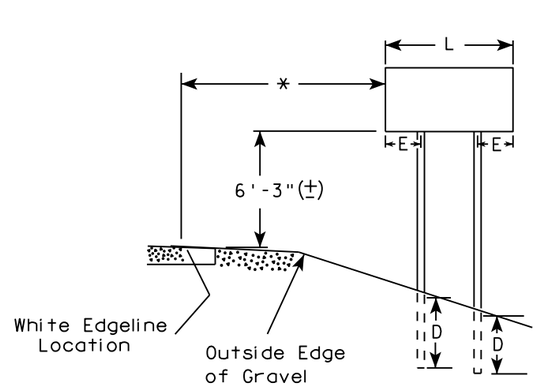
DATE 5/13/2020 PLATE NO. A4-3.22

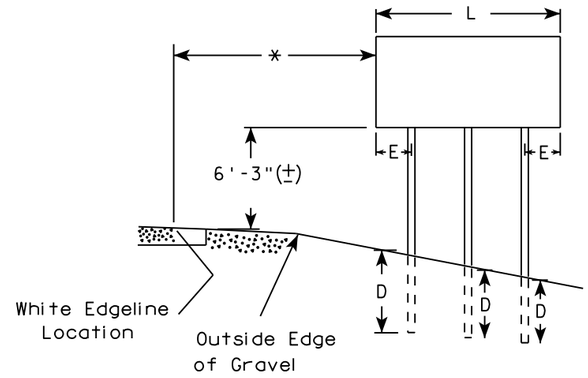
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 55	E

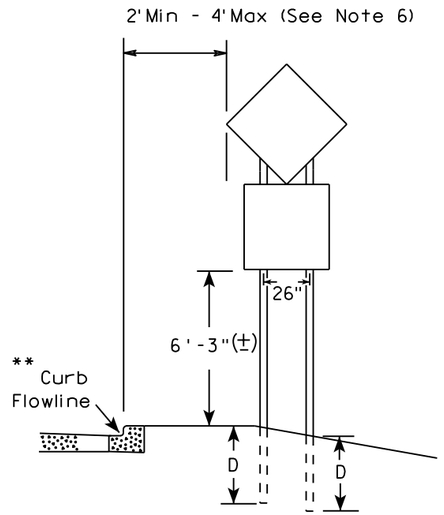
URBAN AREA



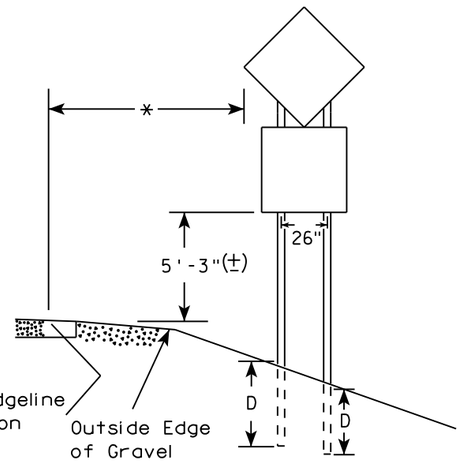
RURAL AREA (See Note 3)







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'

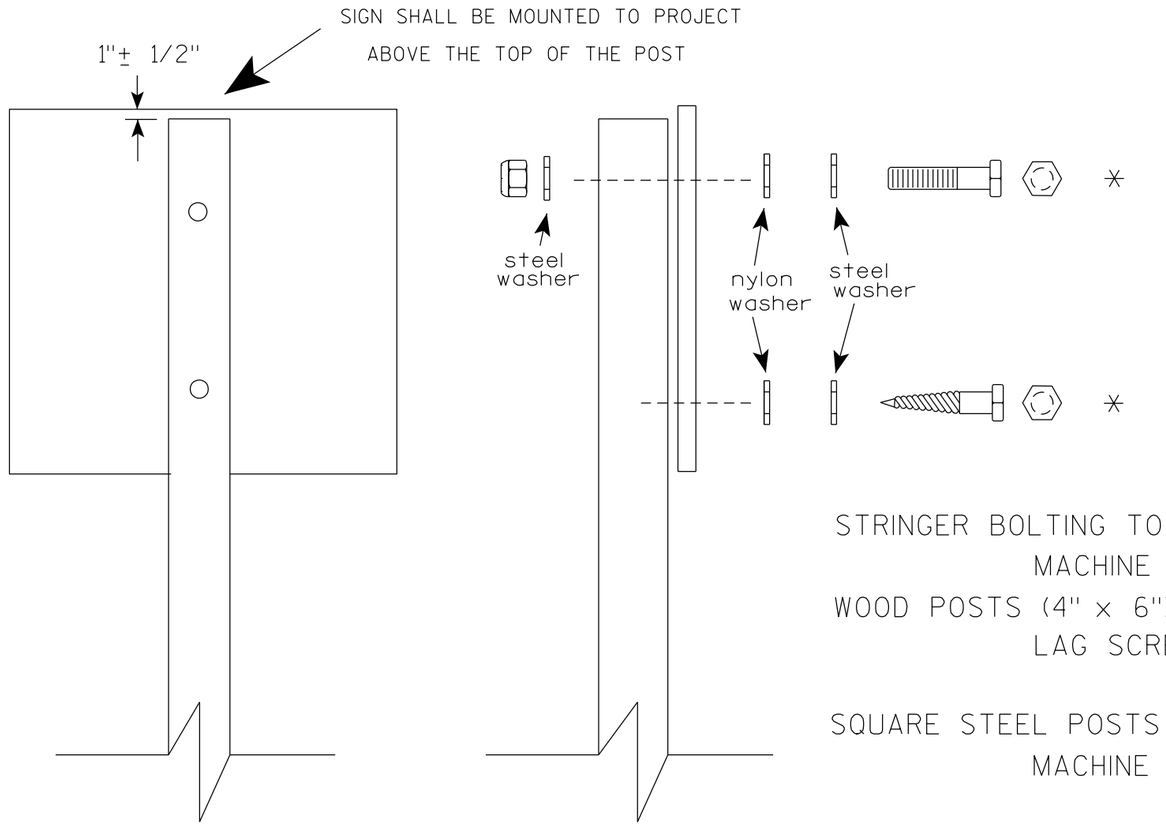
TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

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: 56	E



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

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

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

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

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

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

WOOD POSTS (4" x 6")

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

SQUARE STEEL POSTS (2" x 2")

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

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

WASHERS (ALL POSTS) -

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

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

ATTACHMENT OF SIGNS TO POSTS

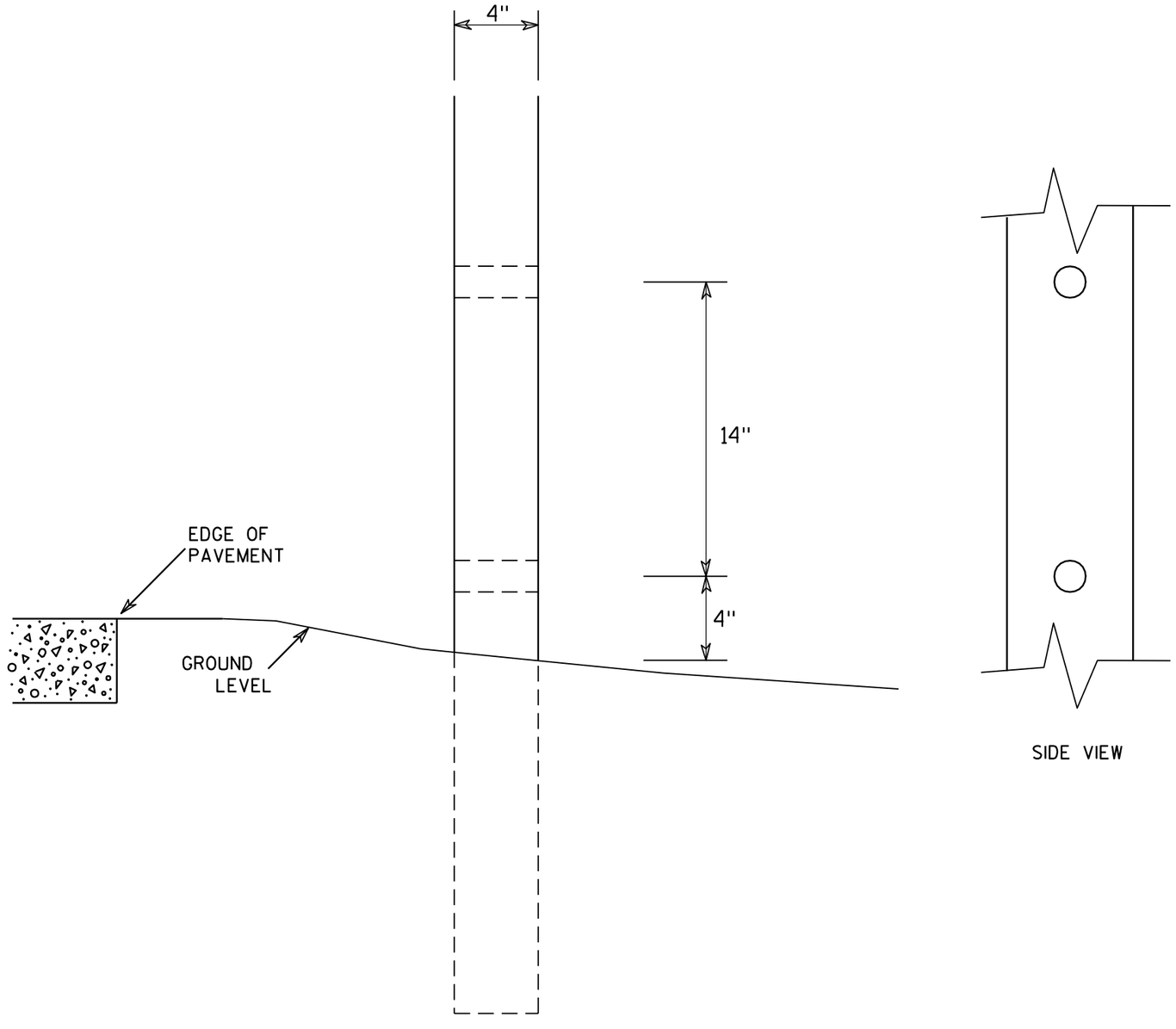
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO:

SHEET NO: 57 E



SIDE VIEW

GENERAL NOTES

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

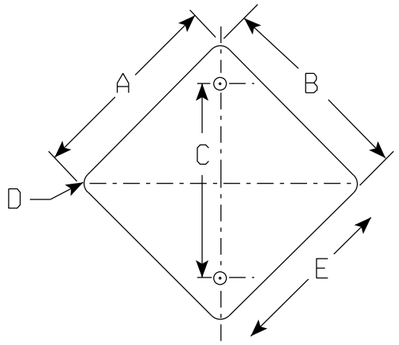
4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

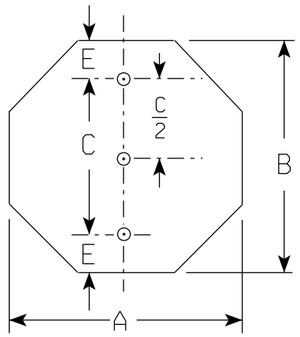
APPROVED Chester J Spang
for State Traffic Engineer

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

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 58	E



1



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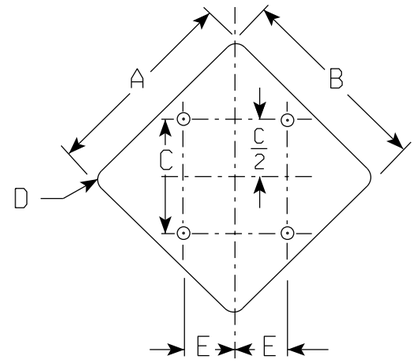

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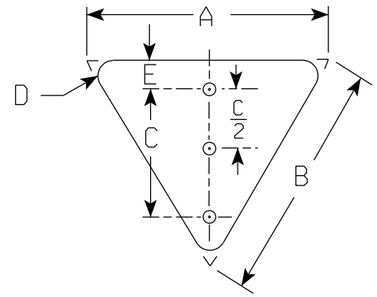

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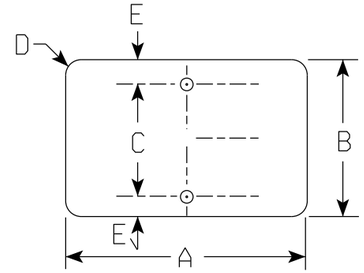


5

TYPE 1						
A	B	C	D	E	Area Sq. Ft.	Mounting Holes
18	18	18	1 1/2	14	2.25	2
24	24	24	1 1/2	20	4.0	2
30	30	30	1 7/8	22	6.25	2
36	36	36	2 1/4	26	9.0	2

TYPE 2					
A	B	C	E	Area Sq. Ft.	Mounting Holes
24	24	20	2	3.31	2
30	30	24	3	5.18	2
36	36	28	4	7.46	2
48	48	36	6	13.25	3

TYPE 3						
A	B	C	D	E	Area Sq. Ft.	Mounting Holes
48	48	26	3	13	16.0	4

TYPE 4						
A	B	C	D	E	Area Sq. Ft.	Mounting Holes
18	18	14	1	2	1.95	2
36	36	24	2	2	3.9	2
48	48	32	3	3	7.0	2

TYPE 5						
A	B	C	D	E	Area Sq. Ft.	Mounting Holes
8	8	6	1 1/2	1	0.44	2
12	12	9	1 1/2	1 1/2	1.00	2
18	18	14	1 1/2	2	2.25	2
21	15	11	1 1/2	2	2.19	2
21	21	17	1 1/2	2	3.06	2
24	12	8	1 1/2	2	2.0	2
24	18	14	1 1/2	2	3.0	2
24	24	20	1 1/2	2	4.0	2
30	12	8	1 1/2	2	2.5	2
30	15	11	1 1/2	2	3.13	2
30	18	14	1 1/2	2	3.75	2
30	21	17	1 1/2	2	4.37	2
30	24	20	1 1/2	2	5.0	2

TYPE 5 CONT'D.						
A	B	C	D	E	Area Sq. Ft.	Mounting Holes
30	30	22	1 7/8	4	6.25	2
36	12	8	1 1/2	2	3.0	2
36	18	14	1 1/2	2	4.5	2
36	24	20	1 1/2	2	6.0	2
36	36	26	2 1/4	5	9.0	2
40	18	14	1 1/2	2	5.00	2
42	21	17	1 7/8	2	6.125	2
42	30	22	1 7/8	4	8.75	2
48	24	20	1 7/8	2	8.0	2

NOTES

1. All sign blanks shall have 7/16" Diameter mounting hole.

ALUMINUM THICKNESS

SIGN WIDTH	NOMINAL THICKNESS
30 inches and under	0.080 inch
Greater than 30-36 inches	0.100 inch
Over 36 inches	0.125 inch

STOP SIGN THICKNESS

SIGN WIDTH	NOMINAL THICKNESS
30 inches	0.100 inch
36-48 inches	0.125 inch

STANDARD LAYOUT OF ALUMINUM SIGN BLANKS

SHEET 1 OF 3

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

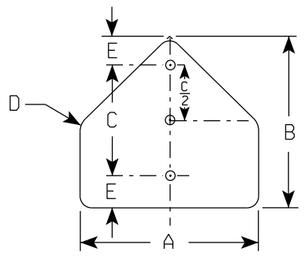
DATE 8/23/18 PLATE NO. A5-3.24

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

FILE NAME : $$....designfile....$$ PLOT DATE : $$...plottingdate...$$ PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42

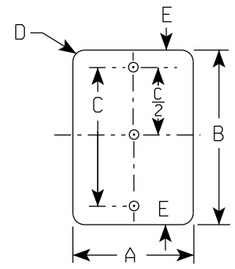
7

7



6

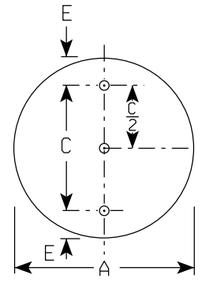
TYPE 6						
A	B	C	D	E	Area Sq. Ft	Mounting Holes
30	30	24	$1\frac{3}{8}$	3	4.68	2
36	36	26	$1\frac{5}{8}$	5	6.75	2
48	48	32	$1\frac{7}{8}$	8	12.0	3



7

TYPE 7 ✳						
A	B	C	D	E	Area Sq. Ft.	Mounting Holes
12	18	15	$1\frac{1}{2}$	$1\frac{1}{2}$	1.5	2
12	24	20	$1\frac{1}{2}$	2	2.0	2
12	36	24	$1\frac{1}{2}$	6	3.0	2
12	48	32	$1\frac{1}{2}$	8	4.0	3
15	21	18	$1\frac{1}{2}$	$1\frac{1}{2}$	2.19	2
18	24	20	$1\frac{1}{2}$	2	3.0	2
18	36	24	$1\frac{1}{2}$	6	4.5	2
18	54	36	$2\frac{1}{2}$	9	6.75	3
21	60	40	$1\frac{1}{2}$	10	8.75	3
21	72	52	$1\frac{1}{2}$	10	10.5	3
24	30	22	$1\frac{1}{2}$	4	5.0	2
24	36	24	$1\frac{1}{2}$	6	6.0	2
24	39	27	$1\frac{1}{2}$	6	6.5	3
24	45	33	$1\frac{7}{8}$	6	7.5	3
24	48	32	$1\frac{7}{8}$	8	8.0	3
24	57	37	$1\frac{7}{8}$	10	9.5	3
36	48	32	$1\frac{7}{8}$	8	12.0	3
30	36	24	$1\frac{7}{8}$	6	7.5	2
36	54	36	$2\frac{1}{4}$	9	12.75	3
36	57	37	$1\frac{7}{8}$	10	14.25	3
48	39	27	$1\frac{7}{8}$	10	13.0	3
48	45	32	$1\frac{7}{8}$	10	14.0	3
48	57	37	3	10	19.0	3

✳ FOR SIGNS OVER 57" IN HEIGHT, PROVIDE 3 MOUNTING HOLES AT 10" FROM THE TOP AND BOTTOM OF SIGN AND IN THE CENTER OF SIGN.



8

TYPE 8					
A	B	C	E	Area Sq.Ft.	Mounting Holes
30	—	24	3	4.91	2
36	—	26	5	7.07	2
48	—	32	8	12.5	3

NOTES

1. All sign blanks shall have $\frac{7}{16}$" Diameter mounting holes.

STANDARD LAYOUT OF ALUMINUM SIGN BLANKS

SHEET 2 OF 3

WISCONSIN DEPT OF TRANSPORTATION

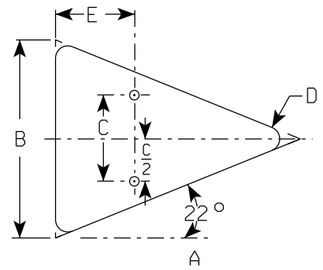
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 8/23/18 PLATE NO. A5-3.24

7

7

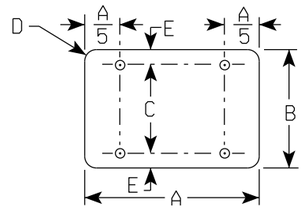
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 60	E



10

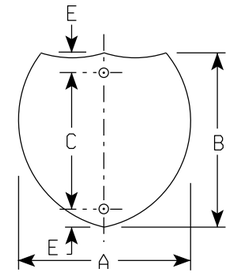
TYPE 10 (NOTE 1)						
A	B	C	D	E	Area Sq. Ft.	Mounting Holes
48	36	14	2 1/4	16	6.0	2

TYPE 11						
A	B	C	D	E	Area Sq. Ft.	Mounting Holes
66	12	8	3	2	5.5	4
66	18	14	3	2	8.25	4
66	24	20	3	2	11.0	4
66	30	22	3	4	13.75	4
66	36	28	3	4	16.5	4
66	42	34	3	4	19.25	4
66	48	40	3	4	22.0	4
72	12	8	3	2	6.0	4
72	18	14	3	2	9.0	4
72	24	20	3	2	12.0	4
72	30	22	3	4	15.0	4
72	36	28	3	4	18.0	4
72	42	34	3	4	21.0	4
72	48	40	3	4	24.0	4



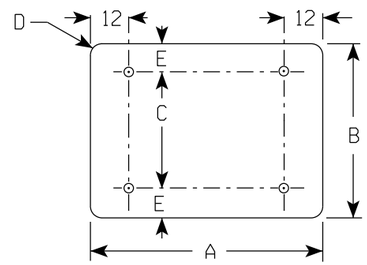
11

TYPE 12 (NOTE 2)					
A	B	C	E	Area Sq. Ft.	Mounting Holes
24	24	18	3	3.13	2
30	24	18	3	3.91	2
36	36	28	4	7.03	2
45	36	28	4	8.79	2



12

TYPE 13						
A	B	C	D	E	Area Sq. Ft.	Mounting Holes
48	60	40	3	10	20.0	4
54	12	8	1 1/2	2	4.5	4
54	15	11	1 1/2	2	5.63	4
54	18	14	1 1/2	2	6.75	4
54	21	17	1 1/2	2	7.88	4
54	24	20	1 7/8	2	9.0	4
54	36	28	1 7/8	4	13.5	4
54	48	40	1 7/8	4	18.0	4
60	12	8	1 1/2	2	5.0	4
60	18	14	1 1/2	2	7.5	4
60	24	20	1 7/8	2	10.0	4
60	30	22	1 7/8	4	12.5	4
60	36	28	1 7/8	4	15.0	4
60	42	34	1 7/8	4	17.5	4
60	48	40	3	4	20.0	4



13

NOTES

1. Dimension A on type #10 is measured to the theoretical intersections of the edges.
2. Shape of type #12 shall conform to FHWA standard for Interstate route markers.
3. All signs over 60" in width shall have 3" radius on the outside corners of the aluminum blank.
4. For signs over 60" in width see sign plate A4-18 for hole placement.

7

7

STANDARD LAYOUT OF ALUMINUM SIGN BLANKS

SHEET 3 OF 3

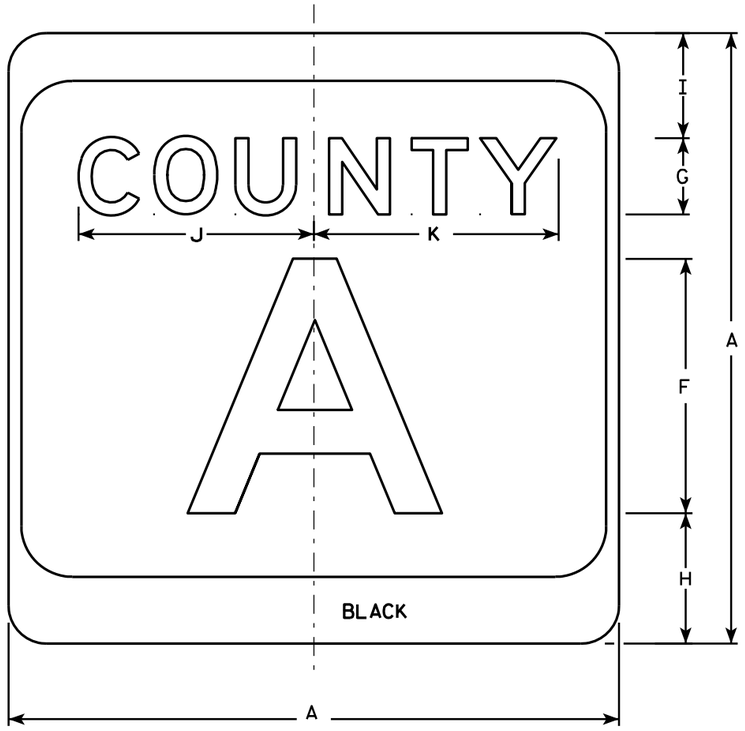
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch

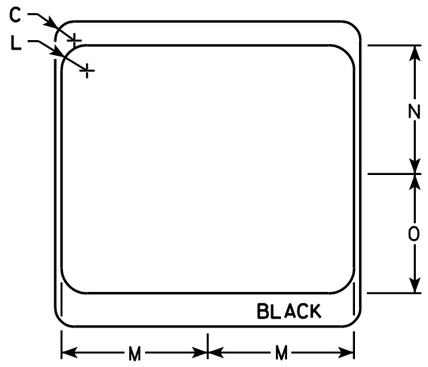
for State Traffic Engineer

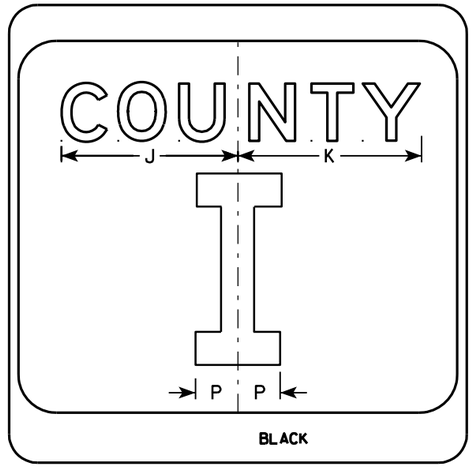
DATE 8/23/18 PLATE NO. A5.3.24

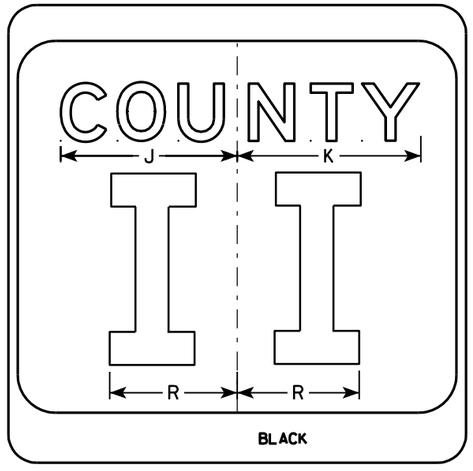
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 61	E



M1-5A







NOTES

1. Sign is Type II - see Note 7 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White & Black - See Note 7
   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. Message Series E for 1 letter.
   Message Series D for 2 letters unless message is too big then Series C.
   Message Series C for 3 letters unless message is too big then Series B.
6. Substitute appropriate letters & optically center to achieve proper balance.
7. Permanent Signs
   Background - Type H Reflective
   Detour or temporary Signs
   Background - Reflective

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			10	3	5 1/8	4 1/8	9 1/4	9 5/8	2	11 1/2	10 1/8	9 3/8	2 1/4		6 5/8									4.0
3	36		2 1/4			16	4	7 5/8	5 5/8	12 1/4	12 7/8	3	17 1/8	15 1/4	14	3 3/8		10									9.0
4	36		2 1/4			16	4	7 5/8	5 5/8	12 1/4	12 7/8	3	17 1/8	15 1/4	14	3 3/8		10									9.0
5	36		2 1/4			16	4	7 5/8	5 5/8	12 1/4	12 7/8	3	17 1/8	15 1/4	14	3 3/8		10									9.0

CTH MARKER
M1-5A FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

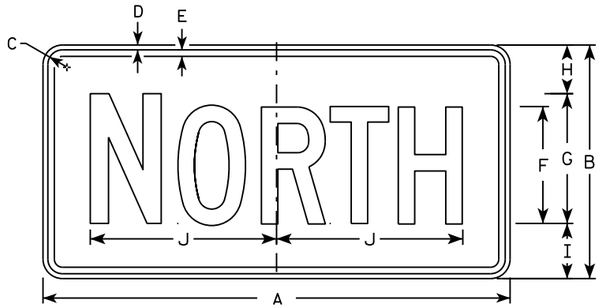
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 9/27/11 PLATE NO. M1-5A.8

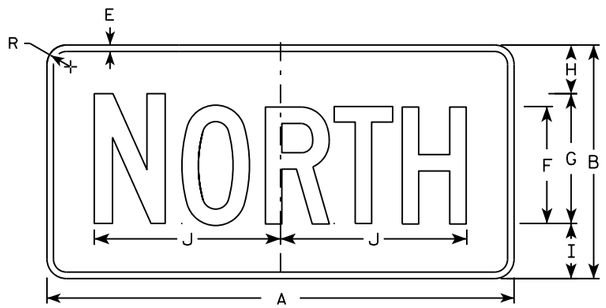
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 62 | E

7

FILE NAME : C:\Users\PROJECTS\tr_stdplate\M15A.DGN PLOT DATE : 29-SEP-2011 11:25 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 5.959043:1.000000
WISDOT/CADDS SHEET 42



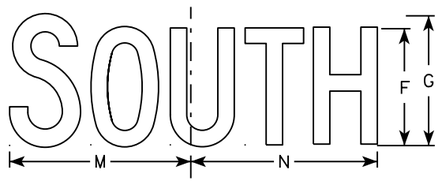
M3-1
MM3-1
MP3-1



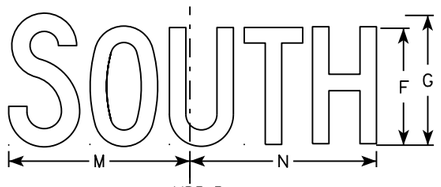
MB3-1
MK3-1
MN3-1

M3-2
MM3-2
MP3-2

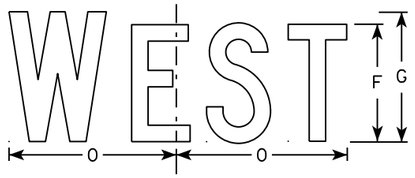
MB3-2
MK3-2
MN3-2



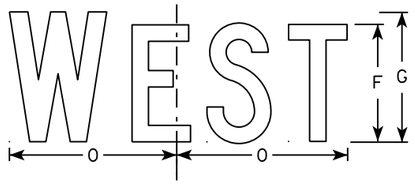
M3-3
MM3-3
MP3-3



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

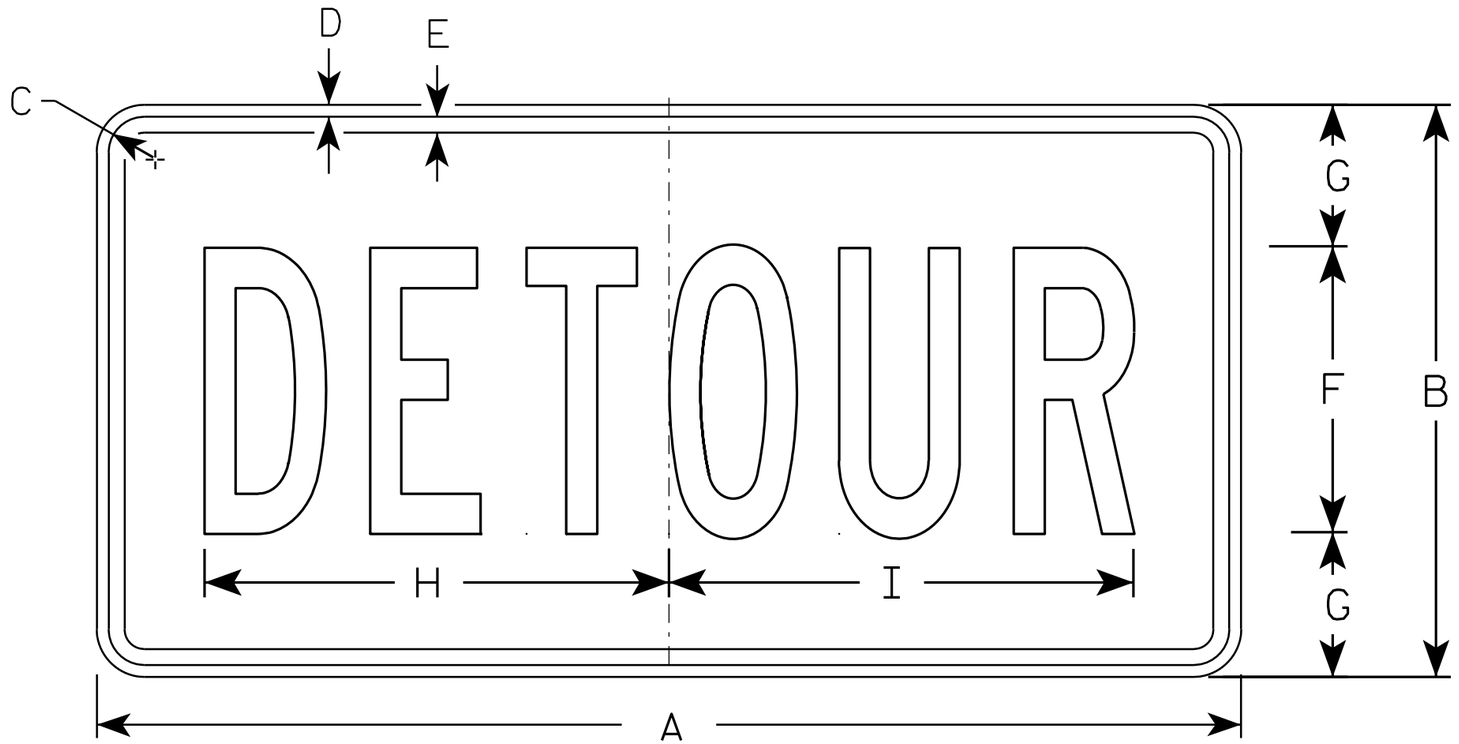
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew P Rauch for State Traffic Engineer

DATE 10/15/15 PLATE NO M3-1.14

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

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\M31.DGN PLOT DATE : 01-DEC-2015 17:54 PLOT BY : $$ plotuser $$ PLOT NAME : PLOT SCALE : 11.675051:1.000000



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																											

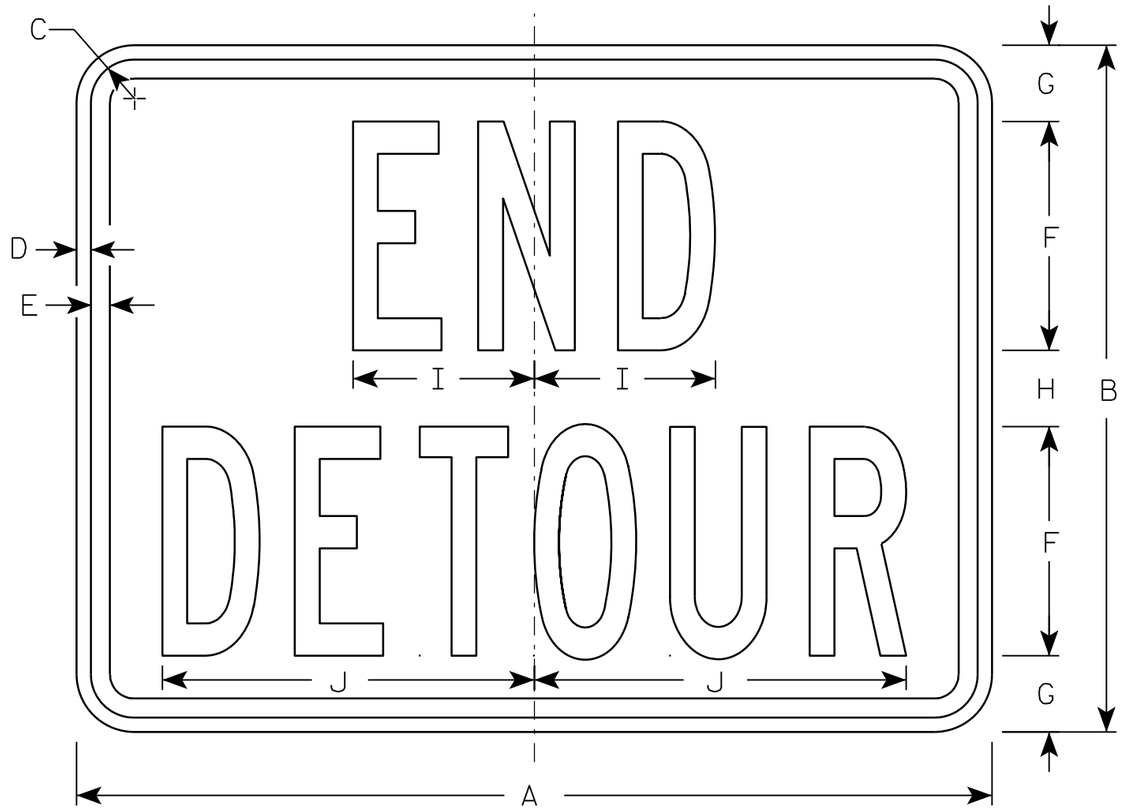
STANDARD SIGN
M4-8

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: 64	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																											

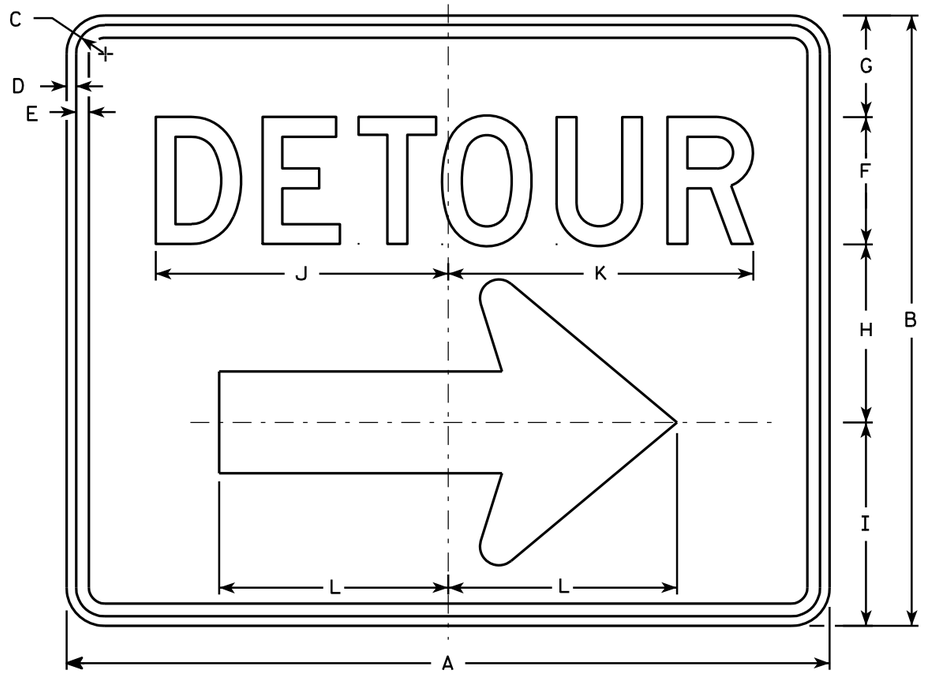
STANDARD SIGN
M4-8A

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

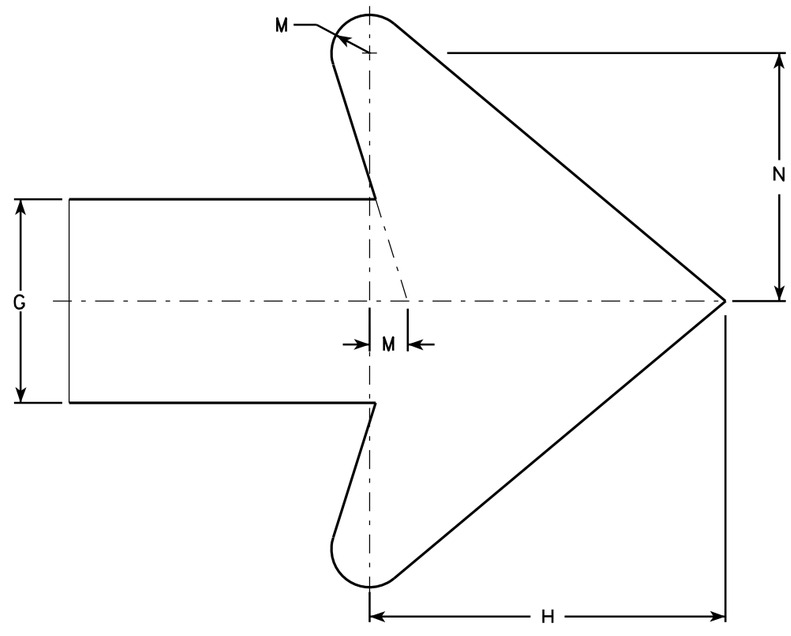
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 65	E



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

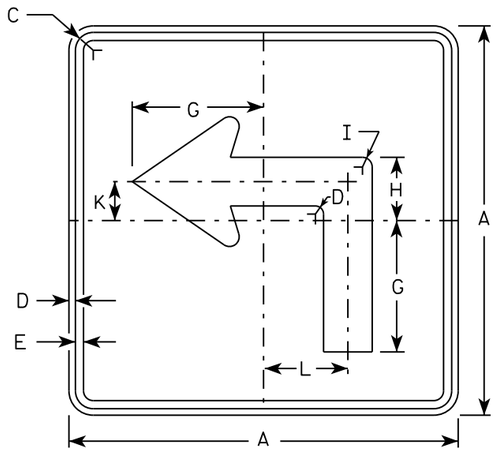
STANDARD SIGN
M4-9 R & L

WISCONSIN DEPT OF TRANSPORTATION

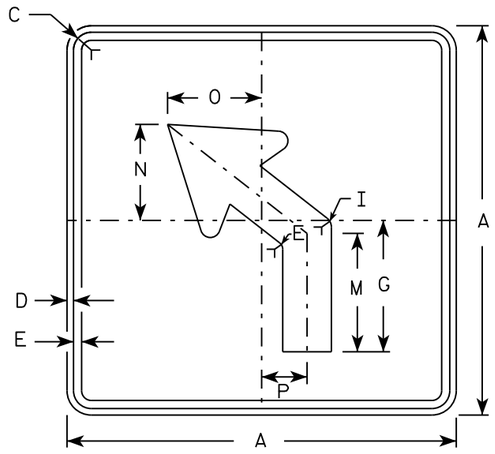
APPROVED Matthew R Rauch
for State Traffic Engineer

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

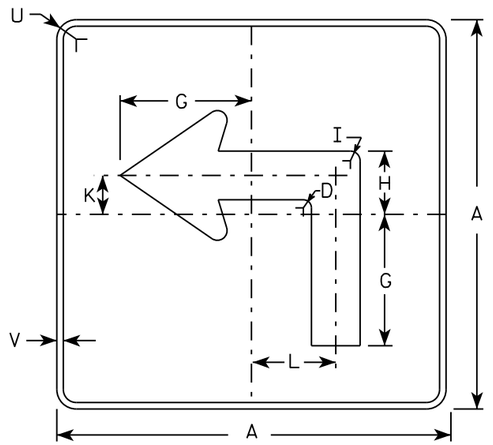
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 66	E



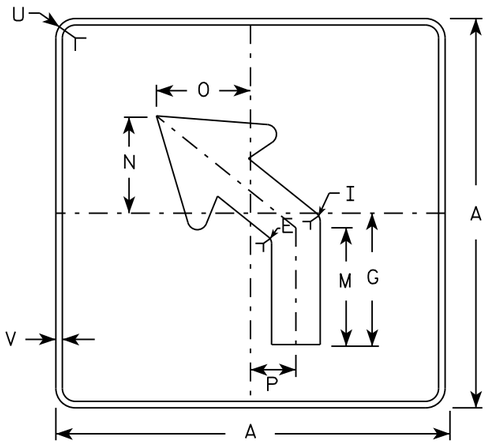
M5-1L
MM5-1L
MO5-1L
MP5-1L



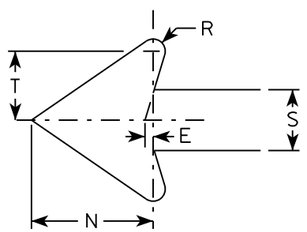
M5-2L
MM5-2L
MO5-2L
MP5-2L



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

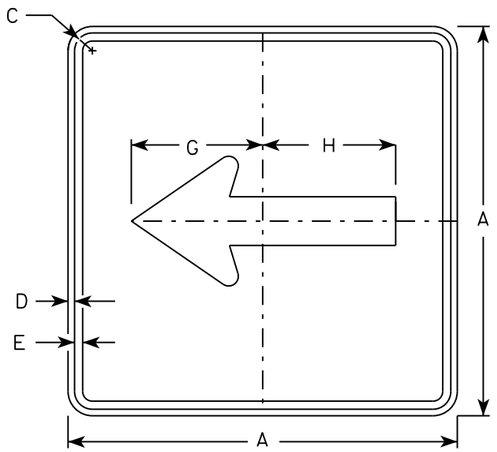
STANDARD SIGN
M5-1 & M5-2

WISCONSIN DEPT OF TRANSPORTATION

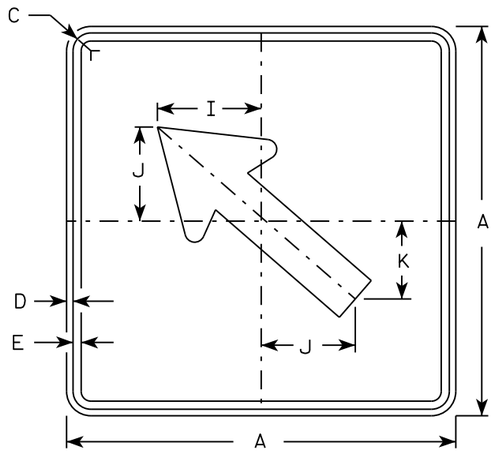
APPROVED Matthew R Rauch
for State Traffic Engineer

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

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



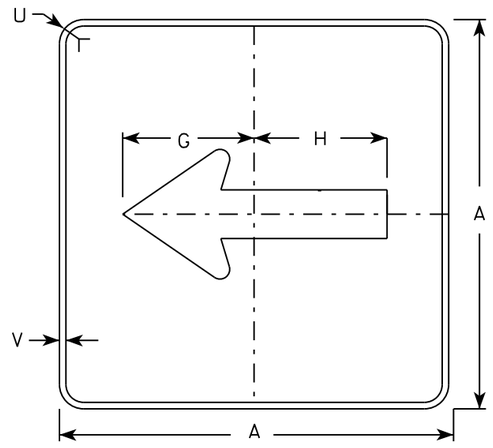
M6-1
MM6-1
MO6-1
MP6-1



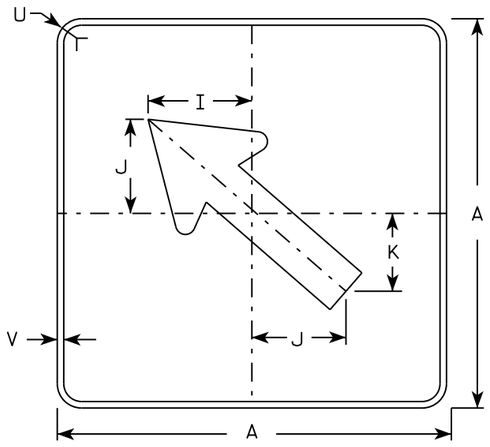
M6-2
MM6-2
MO6-2
MP6-2

NOTES

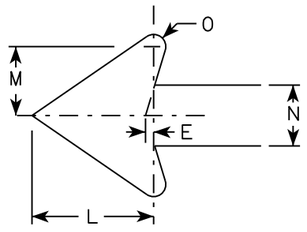
1. Signs are Type II - Type H except as Shown
2. Color:
   Background - See note 4
   Message - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. M6-1 and M6-2 Background - 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

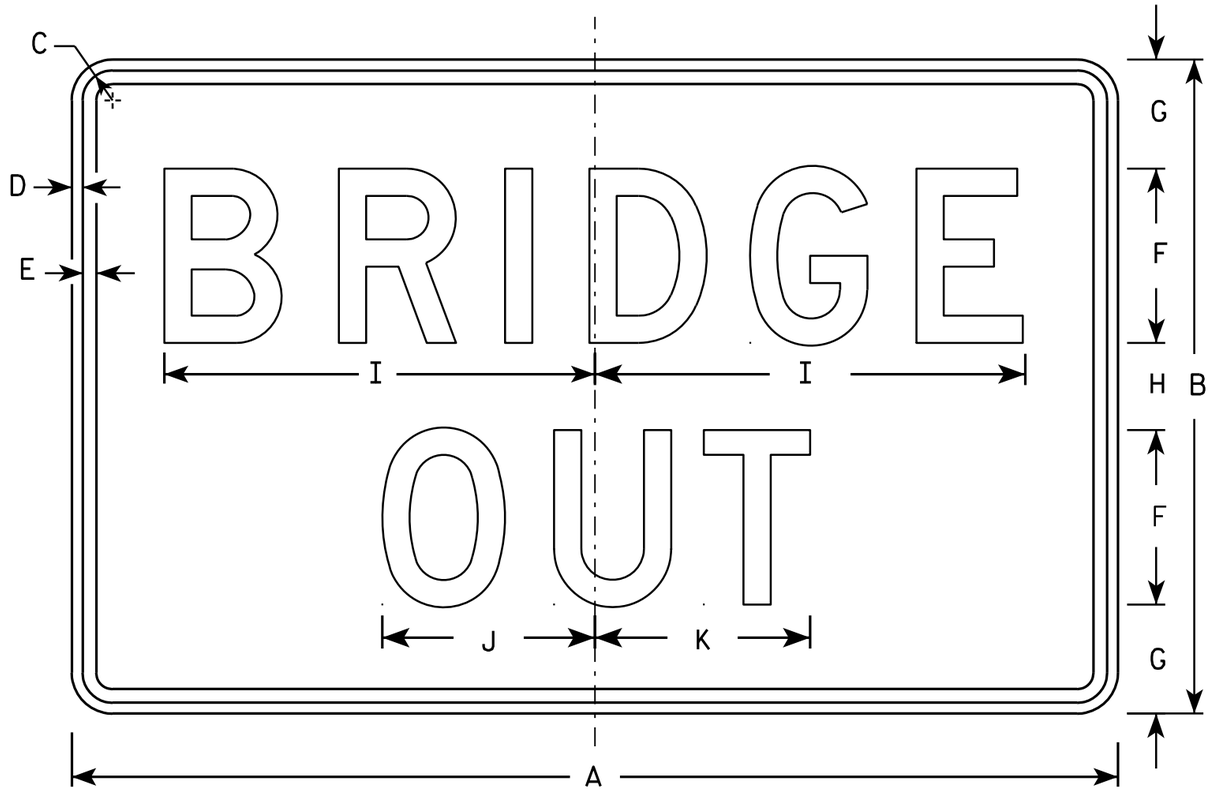
STANDARD SIGN
M6-1 & M6-2
SERIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 10/15/15 PLATE 68 M6-1.15

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	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

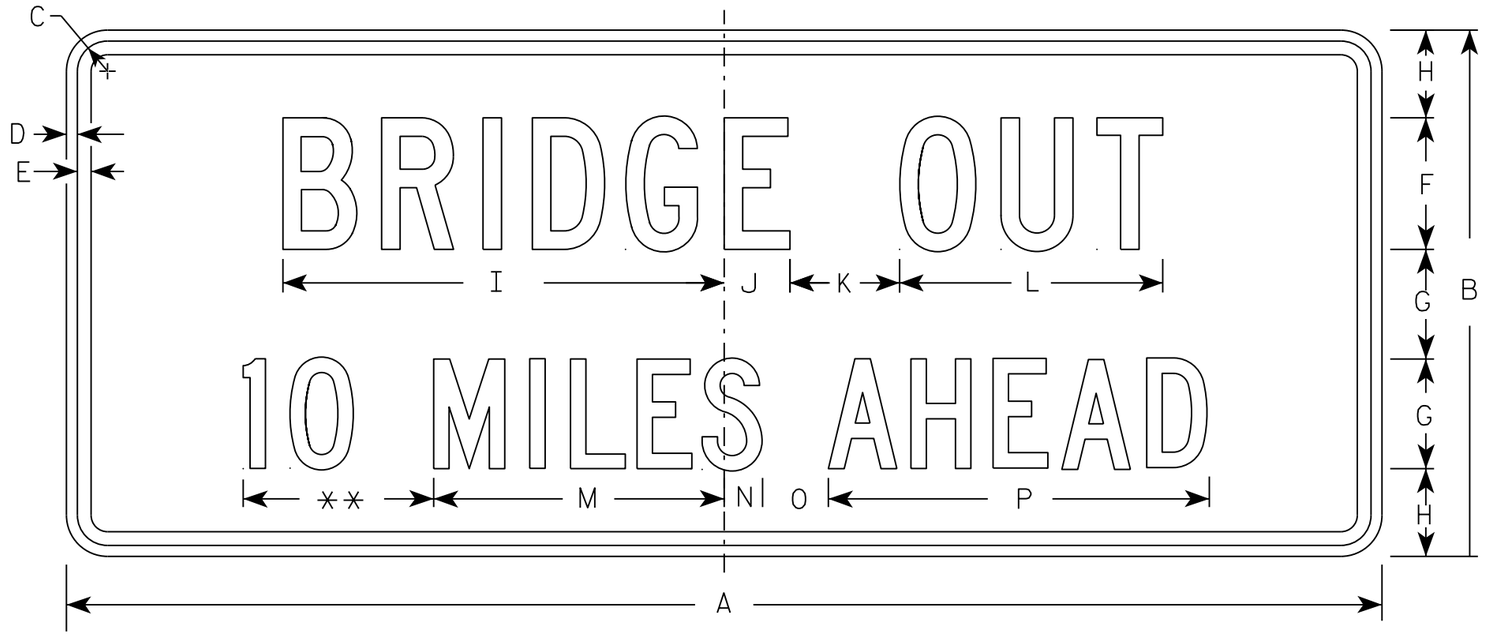
DATE 4/1/11 PLATE NO. R11-2B.2

PROJECT NO:

SHEET NO: 69 E

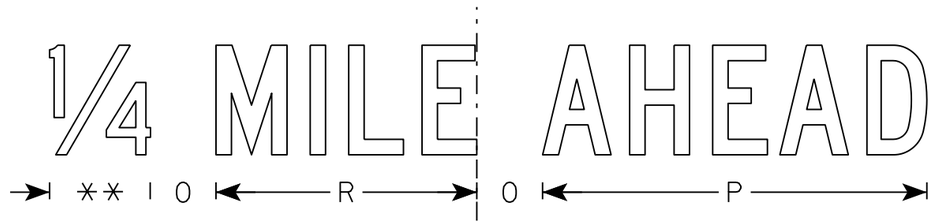
NOTES

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.



R11-3C

** See Note 5



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	15	1 3/8	1/2	5/8	4	3	2 1/2	13 1/4	2 1/4	3	8	8	1 1/2	2	10 3/4		7 1/8									3.75
2S	60	24	1 3/8	1/2	5/8	6	5	4	20 1/8	3	5	12	13 1/4	1 3/4	3	17 3/8		11 7/8									10.0
2M	60	24	1 3/8	1/2	5/8	6	5	4	20 1/8	3	5	12	13 1/4	1 3/4	3	17 3/8		11 7/8									10.0
3																											
4																											
5																											

STANDARD SIGN
R11-3C

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 7/28/16 PLATE NO. R11-3C.3

PROJECT NO:

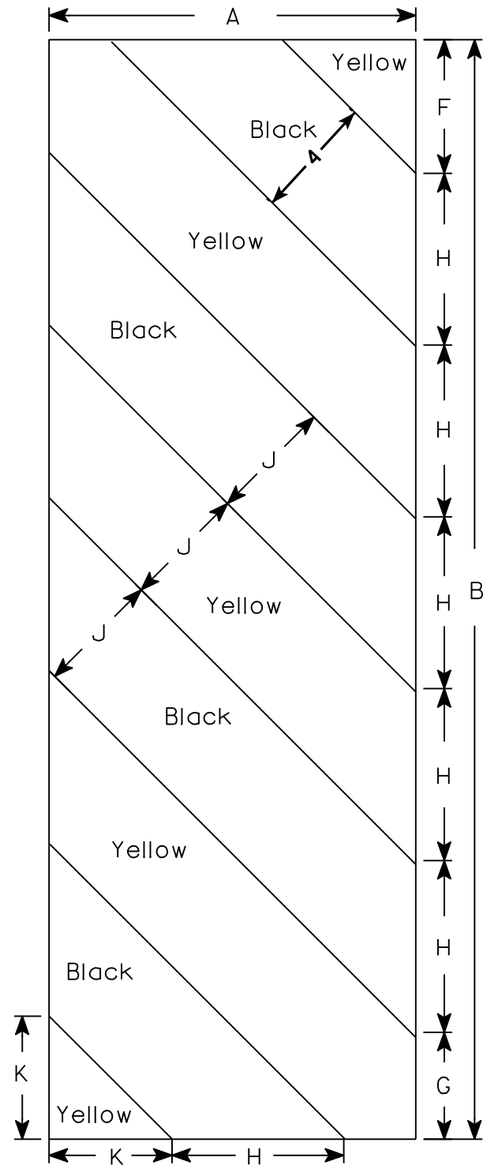
SHEET NO: 70 E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\R113C.DGN PLOT DATE : 15-MAR-2017 15:33 PLOT BY : $$...plotuser...$$

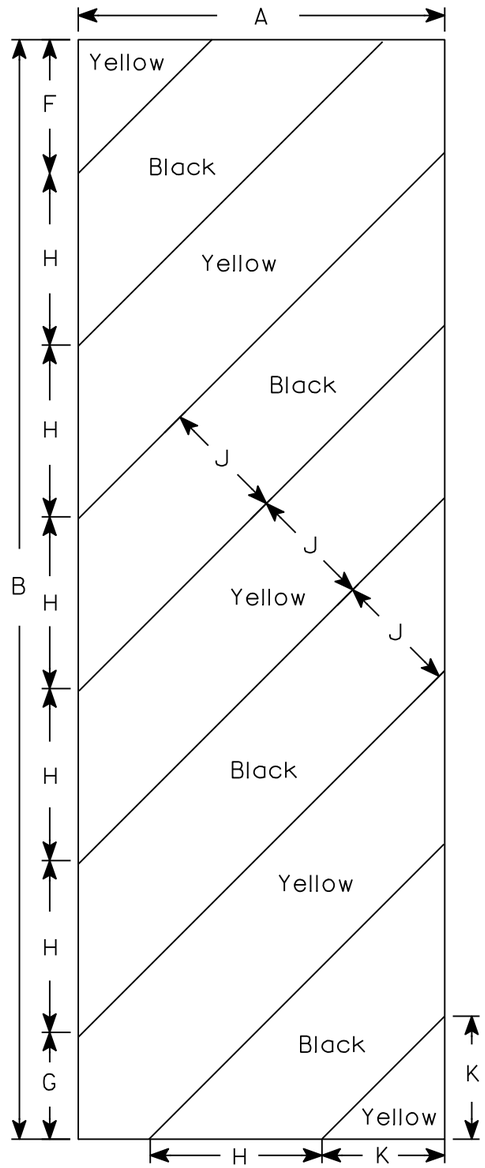
WISDOT/CADDS SHEET 42

7

7



W5-52L



W5-52R

NOTES

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

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

STANDARD SIGN

W5-52L & W5-52R

WISCONSIN DEPT OF TRANSPORTATION

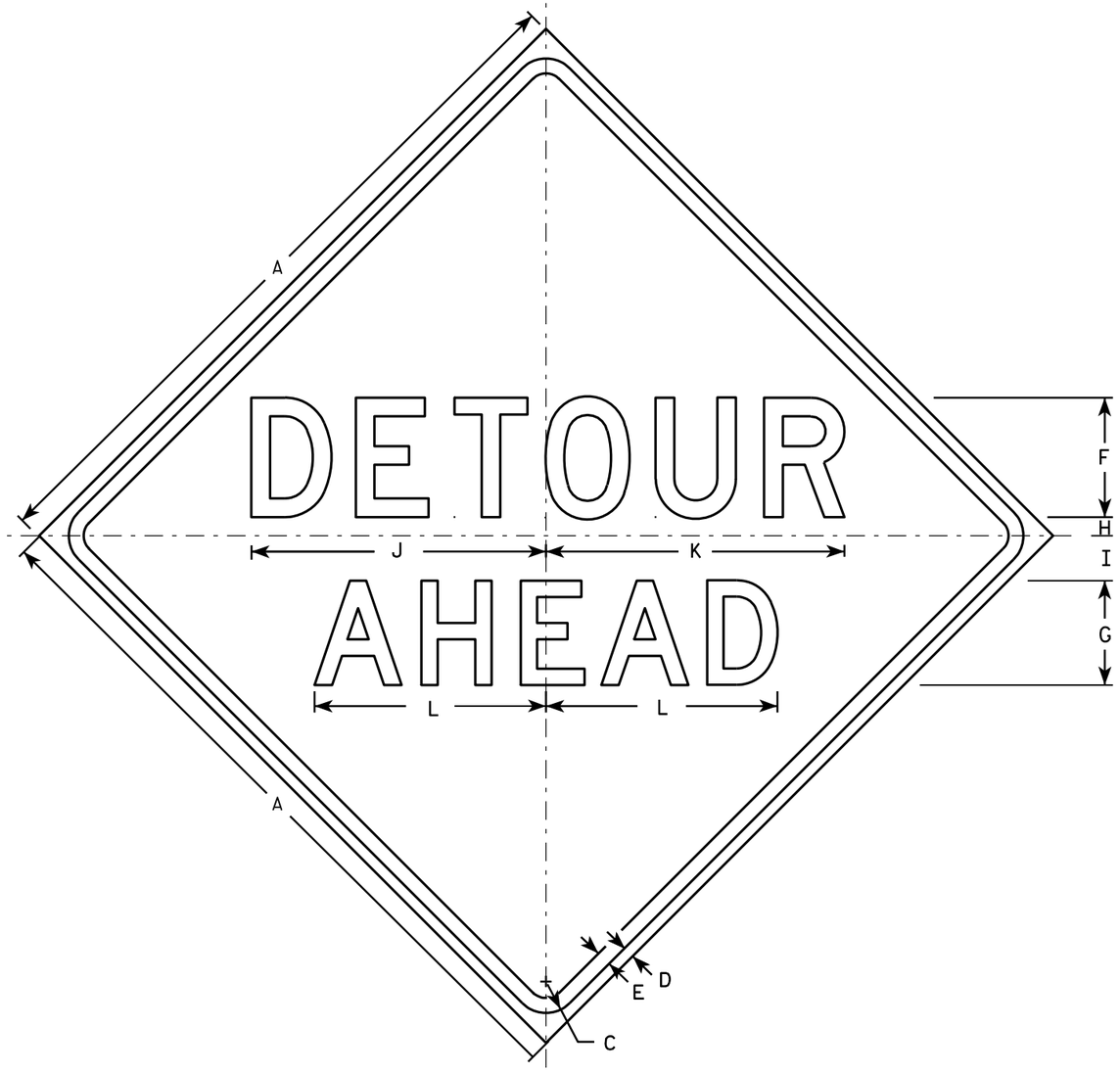
APPROVED Matthew R Rauch
for State Traffic Engineer

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

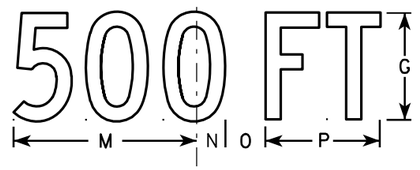
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 71 | E

7

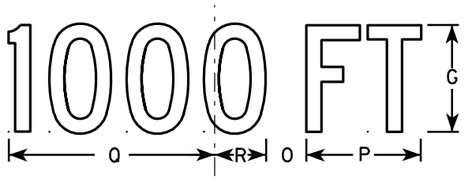
FILE NAME : C:\CAEFiles\Projects\tr_stdplate\W552.DGN PLOT DATE : 29-MAY-2012 13:03 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 4.961899:1.000000



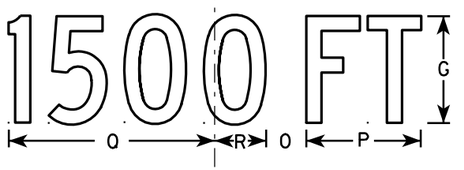
W20-2A



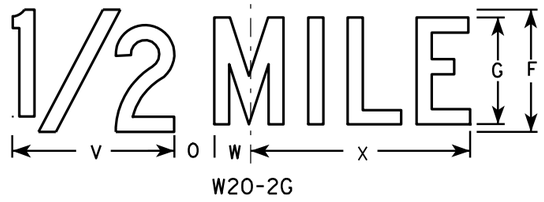
W20-2D



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	Q	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

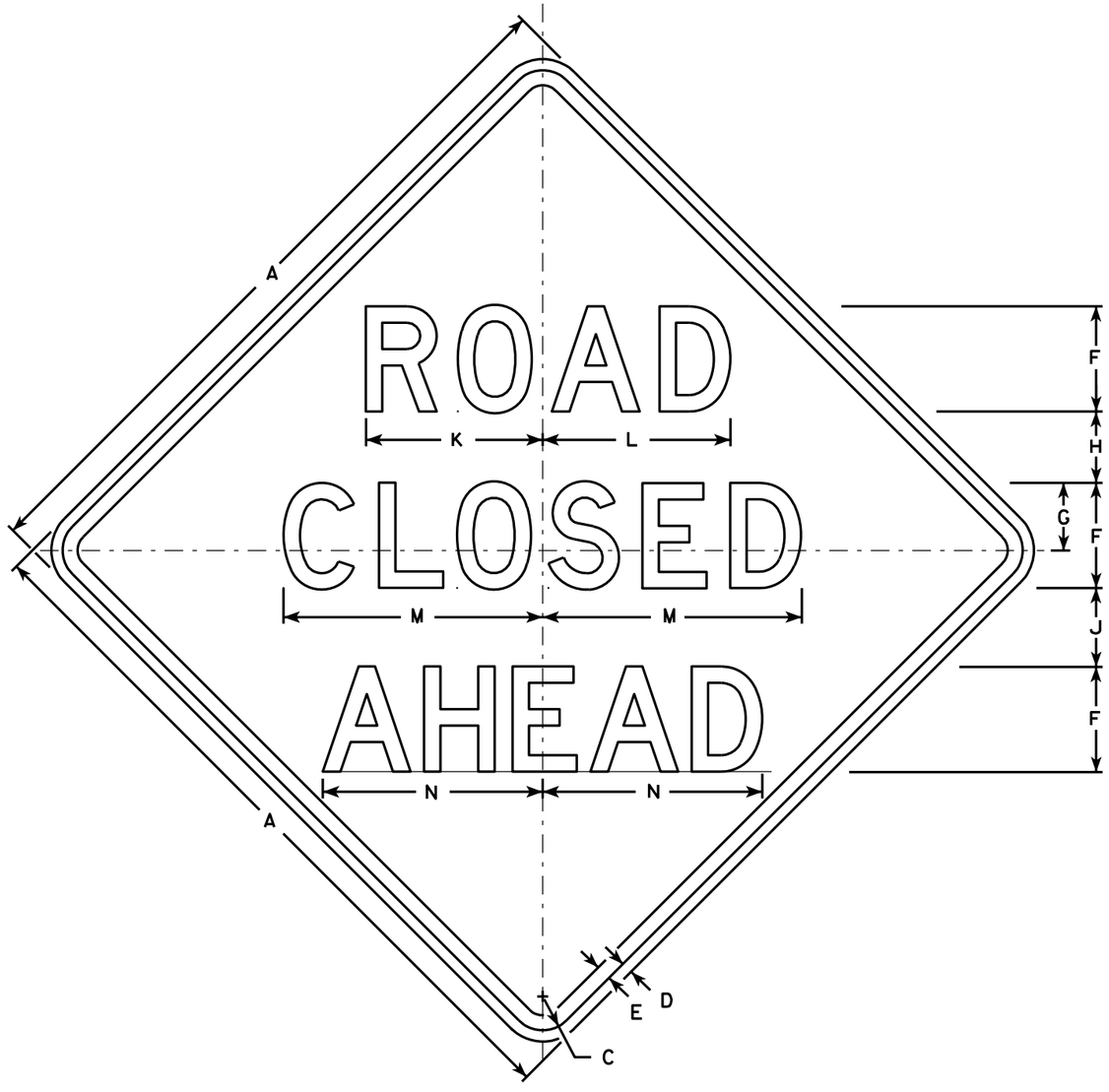
STANDARD SIGN
W20-2A,B,C,D,F & G

WISCONSIN DEPT OF TRANSPORTATION

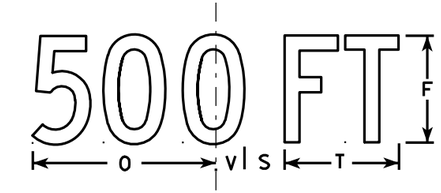
APPROVED Matthew R Rauch
for State Traffic Engineer

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

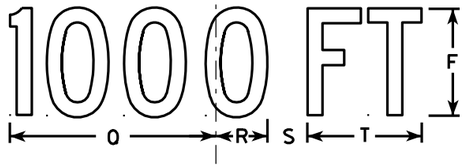
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 72	E



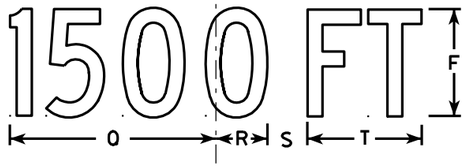
W20-3A



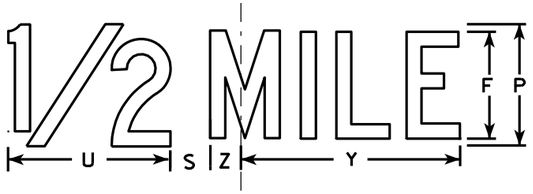
W20-3D



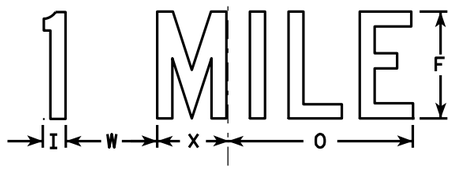
W20-3C



W20-3B



W20-3G



W20-3F

NOTES

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

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

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

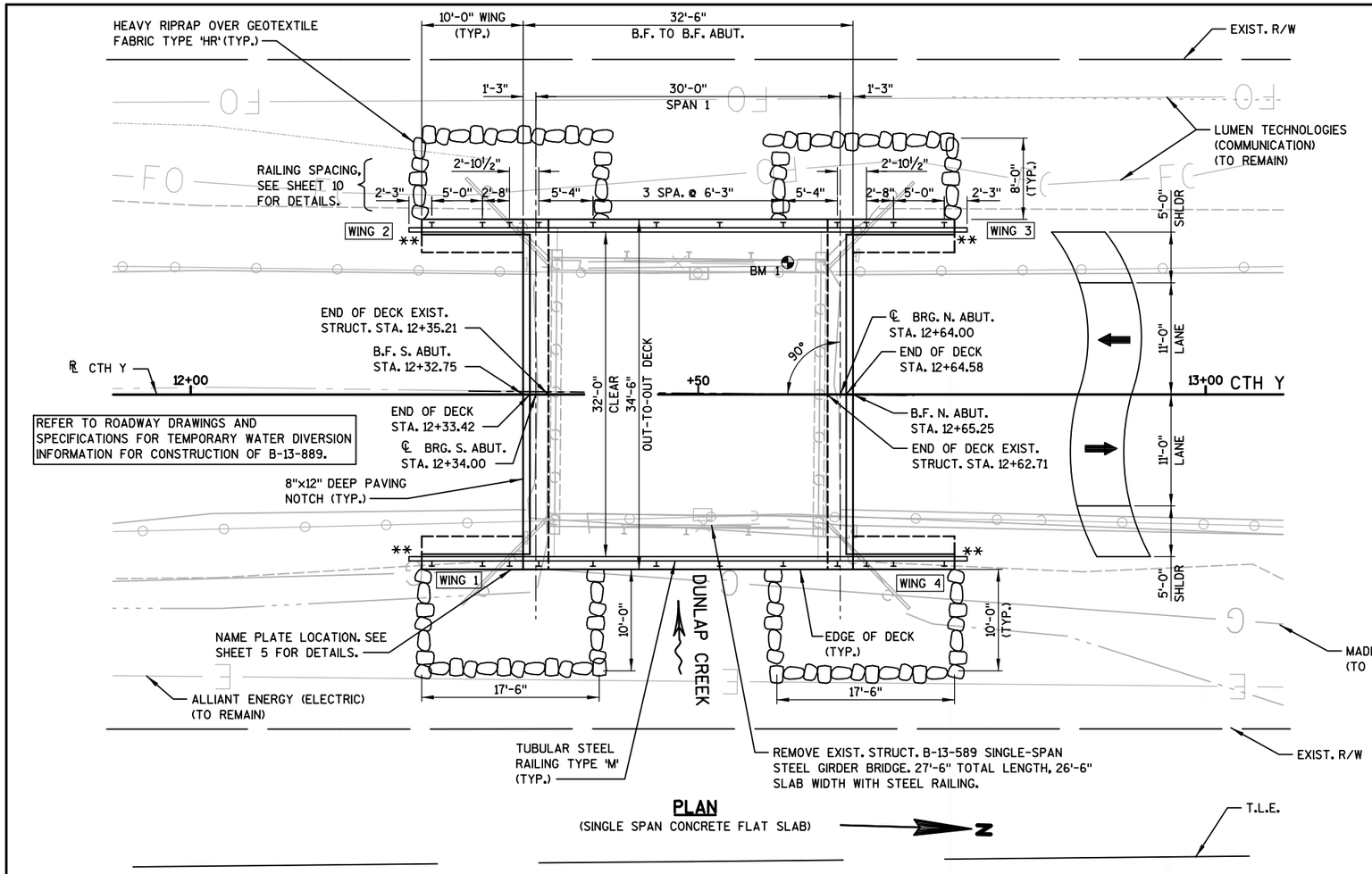
WISCONSIN DEPT OF TRANSPORTATION

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

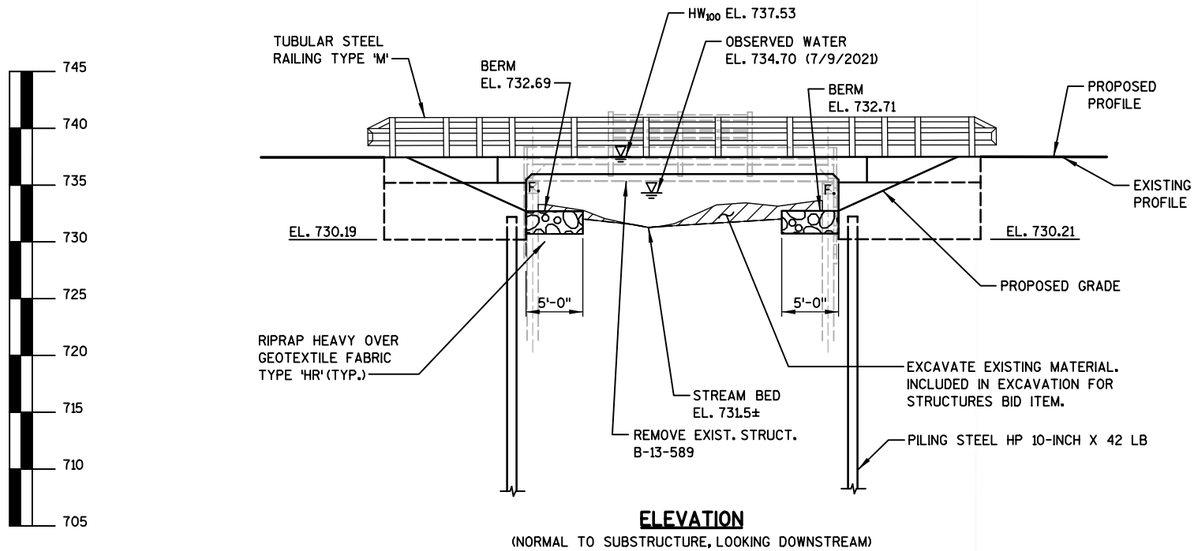
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 73 | E

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



PLAN
(SINGLE SPAN CONCRETE FLAT SLAB)



ELEVATION
(NORMAL TO SUBSTRUCTURE, LOOKING DOWNSTREAM)

HYDRAULIC DATA

100 YEAR FREQUENCY

Q_{100}	720 C.F.S.
VEL.	6.77 F.P.S.
HW_{100}	EL. 737.53
WATERWAY AREA	106.28 SQ. FT.
DRAINAGE AREA	11.34 SQ. MI.
SCOUR CRITICAL CODE	5

2 YEAR FREQUENCY

Q_2	268 C.F.S.
VEL.	2.63 F.P.S
HW_2	EL. 735.85

ROADWAY OVERTOPPING FREQUENCY

FREQUENCY	100 YEARS
Q_{100}	720 C.F.S.
HW_{100}	EL. 737.54

LIST OF DRAWINGS

1. GENERAL PLAN
2. CROSS SECTION, QUANTITIES, NOTES & DETAILS
3. SUBSURFACE EXPLORATION
4. SOUTH ABUTMENT
5. SOUTH ABUTMENT DETAILS
6. NORTH ABUTMENT
7. NORTH ABUTMENT DETAILS
8. SUPERSTRUCTURE PLAN AND SECTION
9. SUPERSTRUCTURE CROSS SECTION AND DETAILS
10. TUBULAR STEEL RAILING TYPE 'M'

DESIGN DATA

STRUCTURE DESIGNED FOR A FUTURE WEARING SURFACE OF 20 PSF

LIVE LOAD:

DESIGN LOADING	HL-93
INVENTORY RATING FACTOR	RF = 1.15
OPERATING RATING FACTOR	RF = 1.49
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV)	250 KIPS

MATERIAL PROPERTIES:

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

TRAFFIC DATA

A.D.T. (2023): 725
A.D.T. (2043): 794
DESIGN SPEED: 60 MPH

FOUNDATION DATA

ABUTMENTS TO BE SUPPORTED ON PILING STEEL HP 10-INCH X 42 LB DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 130 TONS* PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA.

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

ESTIMATED PILE LENGTHS:

SOUTH ABUTMENT	70 FEET EACH
NORTH ABUTMENT	70 FEET EACH

LEGEND

** PROVIDE FOR THRIE BEAM TRANSITION ATTACHMENT.

BENCHMARKS

NO.	STATION AND OFFSET	DESCRIPTION	ELEV.
BM 1	STA. 12+58.81 ℄ CTH Y 13.00' LT	CHISELED 'X' AT TOP OF ABUTMENT WALL AT NW CORNER OF BRIDGE	738.39

NOTE: SEE ROADWAY PLANS FOR ADDITIONAL BENCHMARK AND CONTROL POINT INFORMATION.

STRUCTURE DESIGN CONTACTS

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

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

WISCONSIN
EVAN J. CONSTANT
E-48226
MADISON
WI
PROFESSIONAL ENGINEER
4-26-22

NO.	DATE	REVISION	BY

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
ACCEPTED _____ SDR 05/04/22
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-13-889

CTH Y OVER DUNLAP CREEK

COUNTY DANE | TOWN ~~CITY/VILLAGE~~ MAZOMANIE

DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

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

GENERAL PLAN

SHEET 1 OF 10
74

STATE PROJECT NUMBER
5986-00-71

8

8

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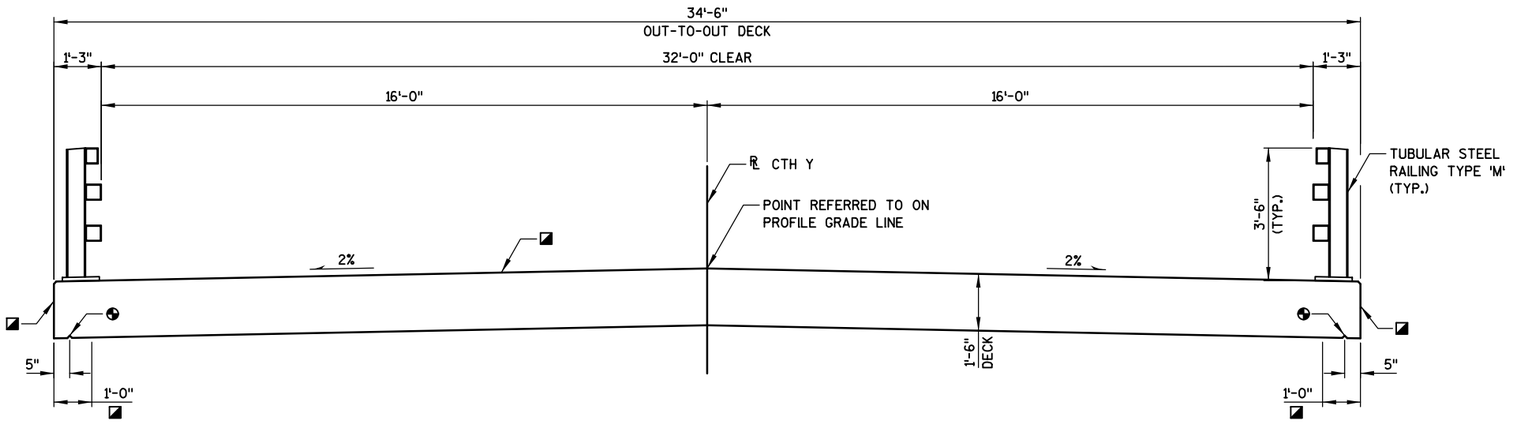
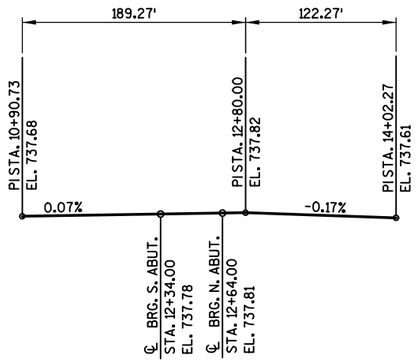
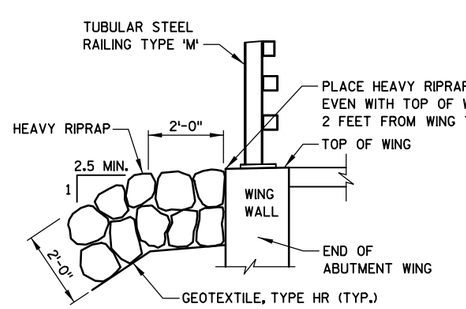


CROSS SECTION THRU SUPERSTRUCTURE

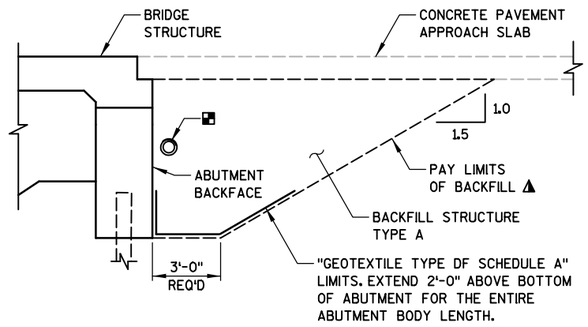
(LOOKING NORTH)



PROFILE GRADE LINE - CTH Y



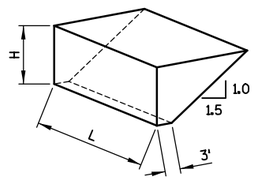
TYPICAL FILL SECTION AT WING TIPS



TYPICAL SECTION THRU ABUTMENT

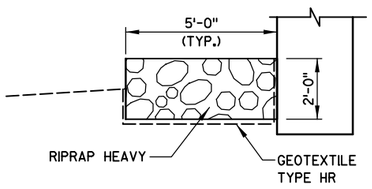
TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	SOUTH ABUT.	NORTH ABUT.	SUPERS.	TOTAL
203.0250	REMOVING STRUCTURE OVER WATERWAY REMOVE DEBRIS B-13-589	EACH	---	---	---	1
206.1000	EXCAVATION FOR STRUCTURES BRIDGES B-13-889	LS	---	---	---	1
210.1500	BACKFILL STRUCTURE TYPE A	TON	129	129	---	258
502.0100	CONCRETE MASONRY BRIDGES	CY	31.2	31.2	65.9	129
502.3200	PROTECTIVE SURFACE TREATMENT	SY	16	16	136	168
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	1,990	1,990	---	3,980
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	1,380	1,380	11,950	14,710
513.4061	RAILING TUBULAR TYPE M	LF	---	---	110	110
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	10	10	---	20
550.1100	PILING STEEL HP 10-INCH X 42 LB	LF	350	350	---	700
606.0300	RIPRAP HEAVY	CY	44	44	---	88
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	75	75	---	150
645.0111	GEOTEXTILE TYPE DF SCHEDULE A	SY	27	27	---	54
645.0120	GEOTEXTILE TYPE HR	SY	102	102	---	204
	NON-BID ITEMS					
	NAME PLATE	EACH				1
	FILLER	SIZE				1/2" & 3/4"



ABUTMENT BACKFILL DIAGRAM FOR WINGS PARALLEL TO ROADWAY

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



RIPRAP HEAVY DETAIL

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

ALL STATIONS AND ELEVATIONS ARE IN FEET.

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

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

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

THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES BRIDGES B-13-889" SHALL BE THE EXISTING GROUND LINE.

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

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

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

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

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

THE EXISTING STRUCTURE B-13-589, A SINGLE SPAN STEEL GIRDER BRIDGE, IS TO BE REMOVED.

BEVEL EXPOSED EDGES OF CONCRETE ¾" UNLESS OTHERWISE NOTED.

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

LEGEND

- ⊕ ¾" V-GROOVE REQ'D. EXTEND TO 6" FROM F.F. OF ABUTMENT DIAPHRAGMS.
- ◪ PROTECTIVE SURFACE TREATMENT SHALL BE APPLIED TO THE TOP OF DECK, EDGE OF DECK, THE FIRST 1'-0" OF THE BOTTOM OF DECK ADJACENT TO THE EDGE OF DECK, TOP AND EXTERIOR EXPOSED FACE OF WINGS, HORIZONTAL AND VERTICAL FACES OF PAVING NOTCH, AND THE END 1'-0" OF THE FRONT FACE OF 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. SEE DETAIL ON "SOUTH ABUTMENT" SHEET.

STATE PROJECT NUMBER

5986-00-71

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-13-889

DRAWN BY DTH | PLANS CK'D. BMO

CROSS SECTION, QUANTITIES, NOTES & DETAILS

SHEET 2
75

8

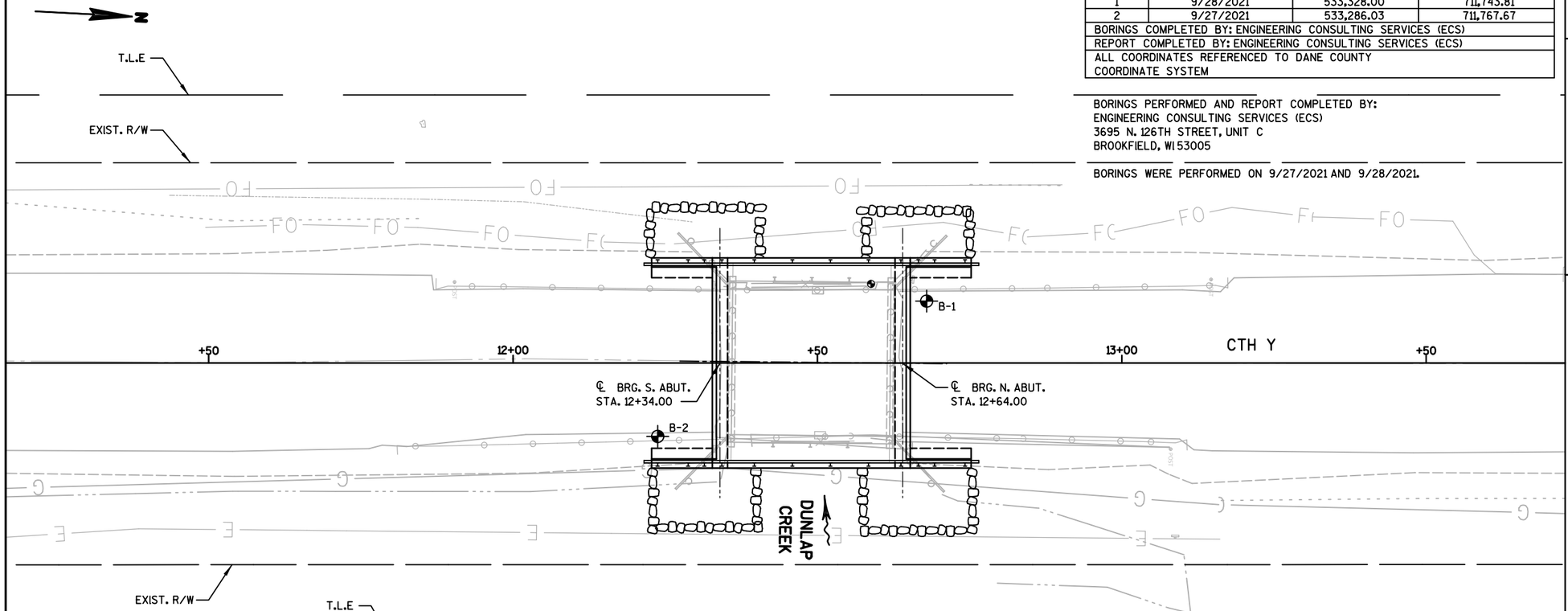
8

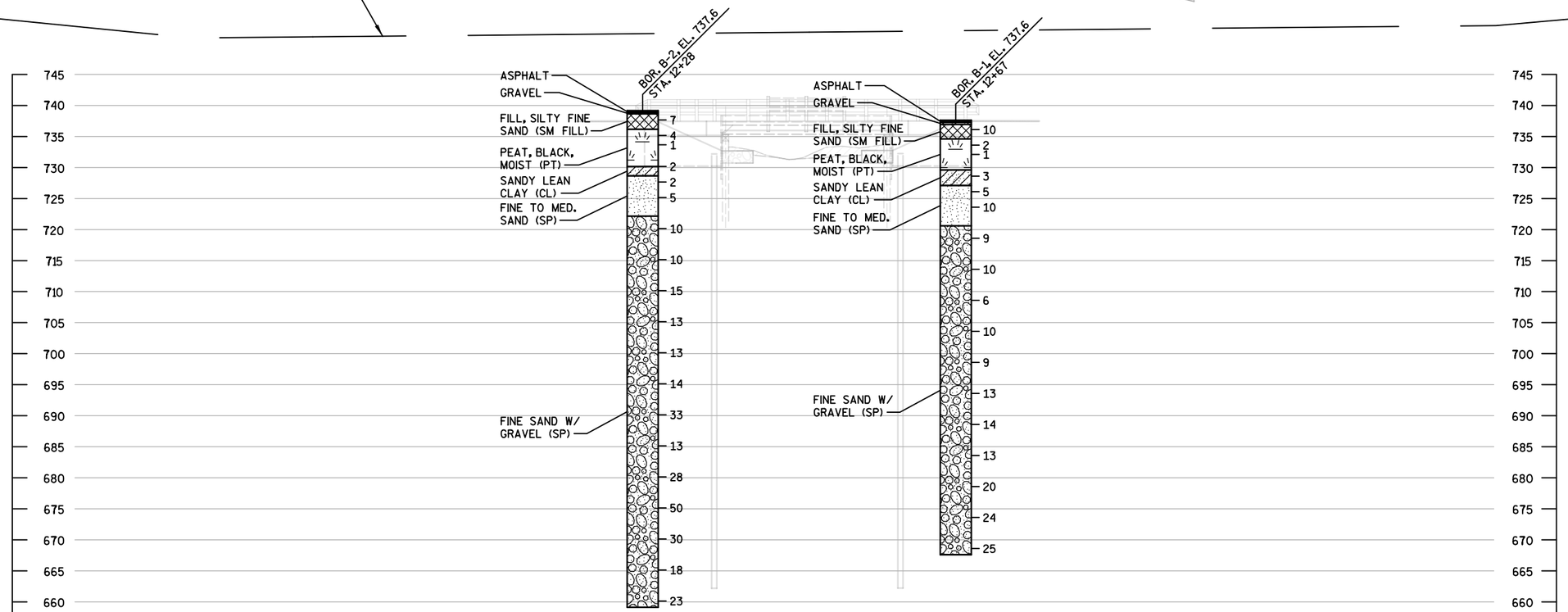
FILE NAME : S:\MAD\1100--1199\1124\023\Drawings\CAD\Micros\PLAN\080102_cs.dgn

BORING	DATE COMPLETED	NORTHING (Y)	EASTING (X)
1	9/28/2021	533,328.00	711,743.81
2	9/27/2021	533,286.03	711,767.67
BORINGS COMPLETED BY: ENGINEERING CONSULTING SERVICES (ECS)			
REPORT COMPLETED BY: ENGINEERING CONSULTING SERVICES (ECS)			
ALL COORDINATES REFERENCED TO DANE COUNTY COORDINATE SYSTEM			

BORINGS PERFORMED AND REPORT COMPLETED BY:
ENGINEERING CONSULTING SERVICES (ECS)
3695 N. 126TH STREET, UNIT C
BROOKFIELD, WI 53005

BORINGS WERE PERFORMED ON 9/27/2021 AND 9/28/2021.





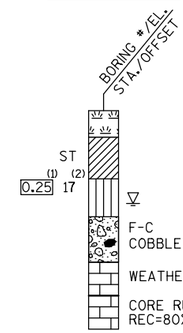
STATE PROJECT NUMBER

5986-00-71

MATERIAL SYMBOLS

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

LEGEND OF BORING



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

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

GROUND WATER ELEVATION

- AT TIME OF DRILLING
- END OF DRILLING
- AFTER DRILLING

ABBREVIATIONS

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

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

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

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-13-889

DRAWN BY DTH | PLANS CK'D. BMO

SUBSURFACE EXPLORATION

SHEET 3
76

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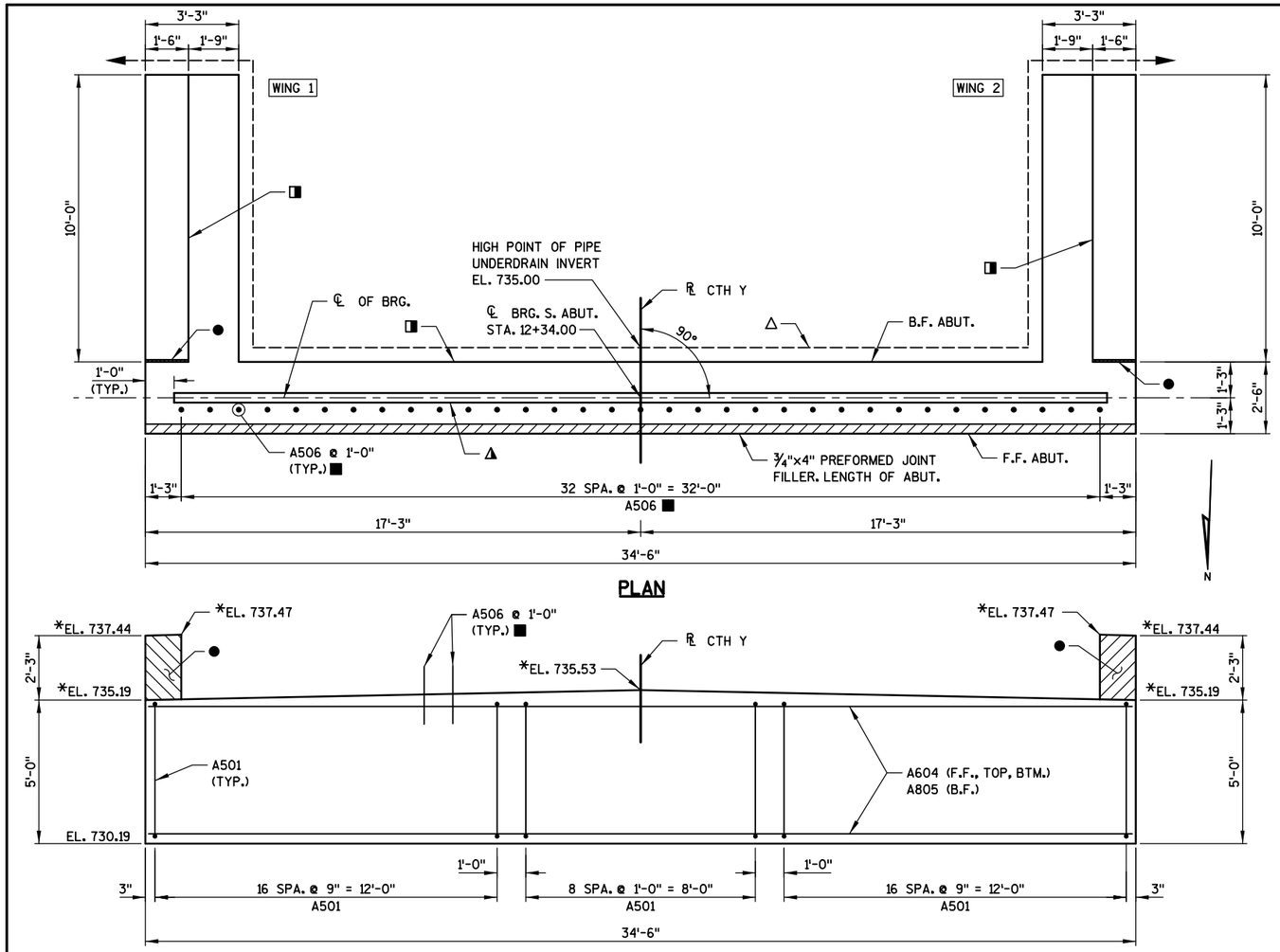
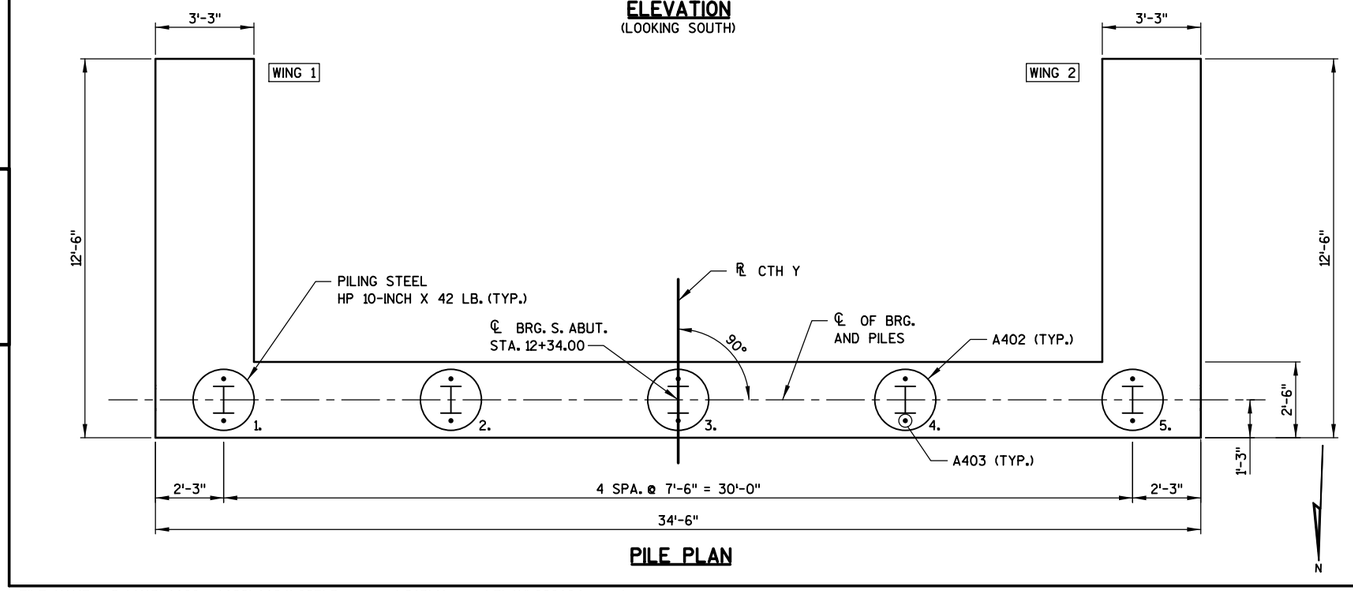
FILE NAME : S:\MAD\1100--1199\1124\023\Drawings\CAD\Micros\PLAN\080103_sx.dgn

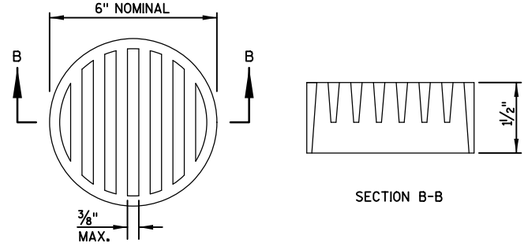


PLAN

ELEVATION
(LOOKING SOUTH)



PILE PLAN



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

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

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

RODENT SHIELD DETAIL

STATE PROJECT NUMBER

5986-00-71

NOTES

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

ADJUST A501 BARS INTERFERING WITH PILES.

SEE SHEET 6 FOR PILE SPLICE DETAILS.

SEE SHEET 5 FOR REINFORCING DETAILS.

SOUTH ABUTMENT TO BE SUPPORTED ON PILING STEEL 10-INCH X 42 LB WITH A REQUIRED DRIVING RESISTANCE OF 130 TONS PER PILE. ESTIMATED 70 FEET LONG EACH.

SEE SHEET 2 FOR TYPICAL FILL SECTION AT WING TIPS.

LEGEND

- ● ½" FILLER, EXTEND FROM ABUT. SEAT TO TOP OF CONCRETE WING. FILLER INCLUDED IN WING LENGTH.
- ◨ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE.
- * ELEVATION GIVEN AT B.F. ABUTMENT.
- △ PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. HIGH POINT EL. 735.00 AT ℄. ATTACH RODENT SHIELD AT ENDS OF PIPE. SEE DETAIL THIS SHEET.
- ■ THESE BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE.
- ◭ KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2"x6".

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-13-889

DRAWN BY DTH | PLANS CK'D. BMO

SOUTH ABUTMENT

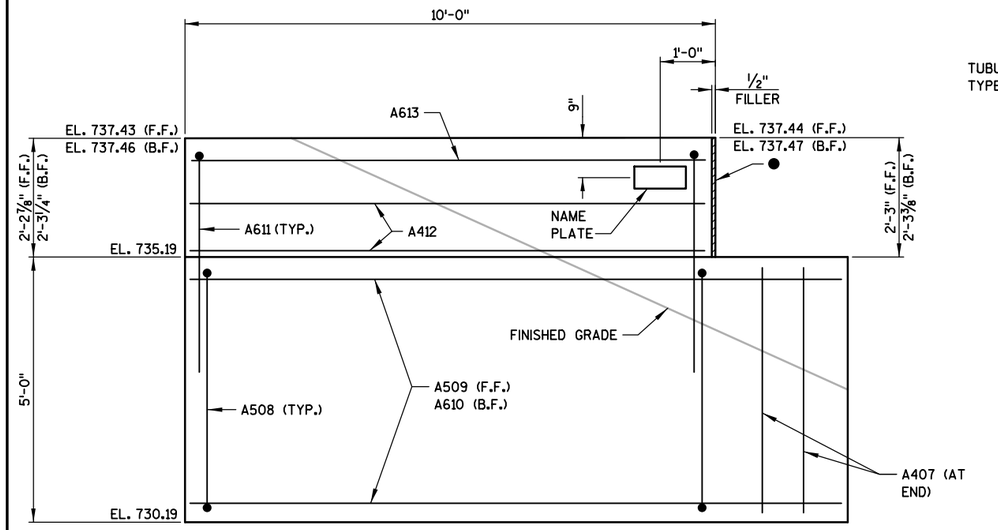
SHEET 4
77

8

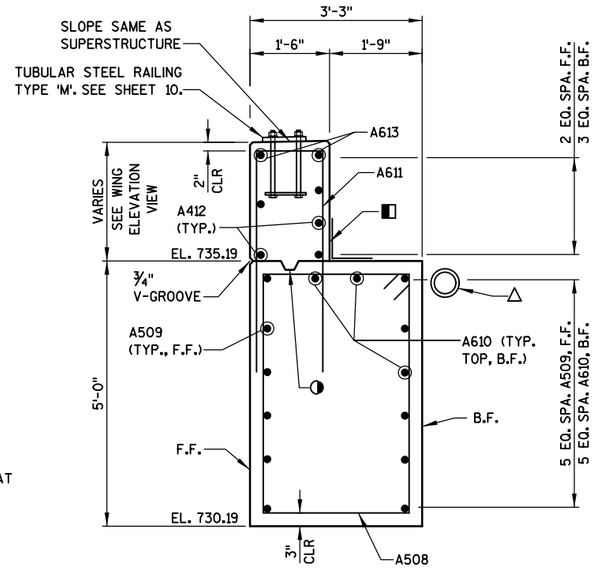
8

FILE NAME : S:\MAD\1100--1199\1124\023\Drawings\CAD\Micros\PLAN\080104_sa.dgn

STATE PROJECT NUMBER
5986-00-71



WING 1 ELEVATION
(FRONT FACE)
(WING 2 SIMILAR)

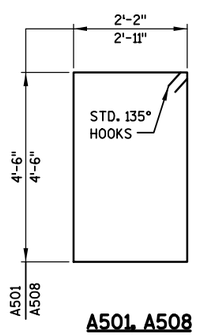


TYPICAL SECTION THRU WING

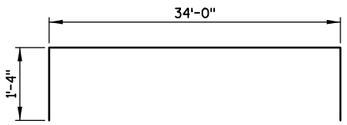
SOUTH ABUTMENT BILL OF BARS

UNCOATED: 1,990 LBS
COATED: 1,380 LBS

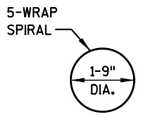
BAR MARK	NO. REQ'D	LENGTH	BENT	COAT	LOCATION
A501	43	14'-0"	X		LOWER BODY - VERT.
A402	5	28'-0"	X		LOWER BODY - PILES - SPIRAL
A403	10	2'-3"			LOWER BODY - PILES - VERT.
A604	11	34'-2"			LOWER BODY - TOP, BOT., & F.F. - HORIZ.
A805	7	36'-3"	X		LOWER BODY - B.F. - HORIZ.
A506	33	2'-0"		X	LOWER BODY - TOP - VERT.
A407	4	4'-7"			LOWER BODY - VERT. - ENDS
A508	22	15'-6"	X	X	LOWER WING - VERT. - WINGS 1 & 2
A509	12	12'-2"		X	LOWER WING - F.F. - HORIZ. - WINGS 1 & 2
A610	16	12'-2"		X	LOWER WING - B.F., TOP - HORIZ. - WINGS 1 & 2
A611	28	9'-2"	X	X	UPPER WING - VERT. - WINGS 1 & 2
A412	10	9'-7"		X	UPPER WING - F.F., B.F. - HORIZ. - WINGS 1 & 2
A613	4	9'-7"		X	UPPER WING - TOP - HORIZ. - WINGS 1 & 2



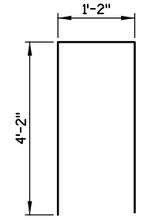
A501, A508



A805



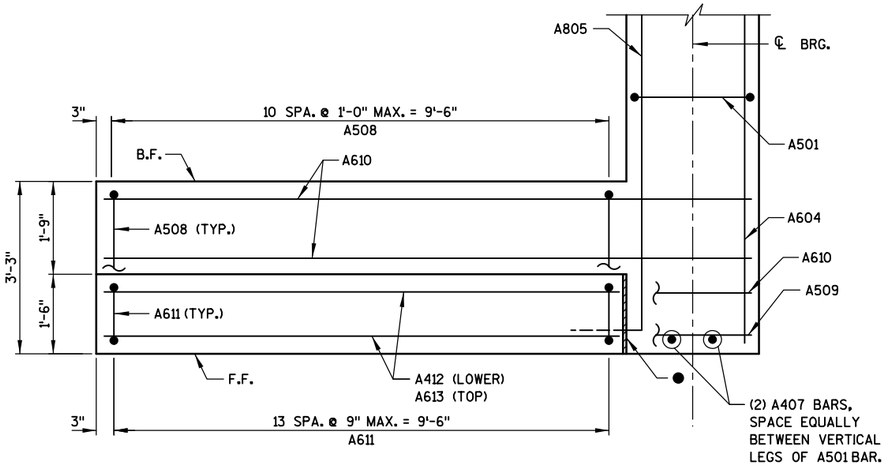
A402



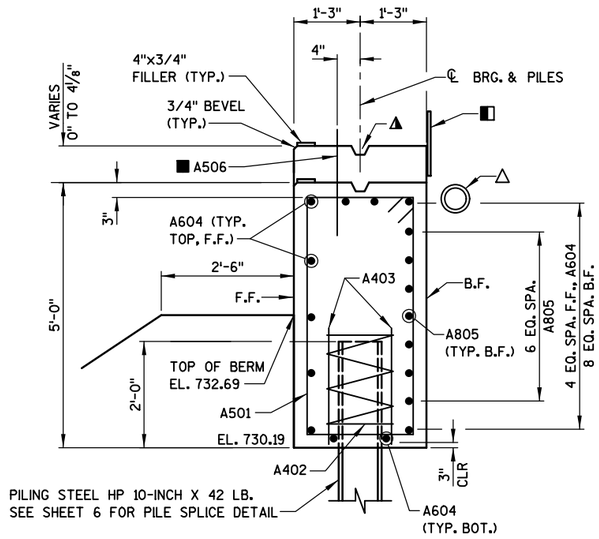
A611

LEGEND

- ◑ OPTIONAL CONSTRUCTION JOINT FORMED BY BEVELED 2"x6" KEYWAY WITH MEMBRANE ON BACKFACE.
- ● 1/2" FILLER TO EXTEND FROM ABUT. SEAT TO TOP OF CONCRETE PARAPET. FILLER INCLUDED IN WING LENGTH. SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW TOP OF WING AT INSIDE FACE.
- ◨ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE.
- ▲ KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2"x6".
- △ PIPE UNDERDRAIN WRAPPED (6-INCH), SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. HIGH POINT EL. 735.00 AT ℄. ATTACH RODENT SHIELD AT END OF PIPE UNDERDRAIN PER DETAIL ON SHEET 4.
- ■ THESE BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE



WING 1 PLAN
(WING 2 SIMILAR)



TYPICAL ABUTMENT SECTION

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-13-889

DRAWN BY DTH | PLANS CK'D. BMO

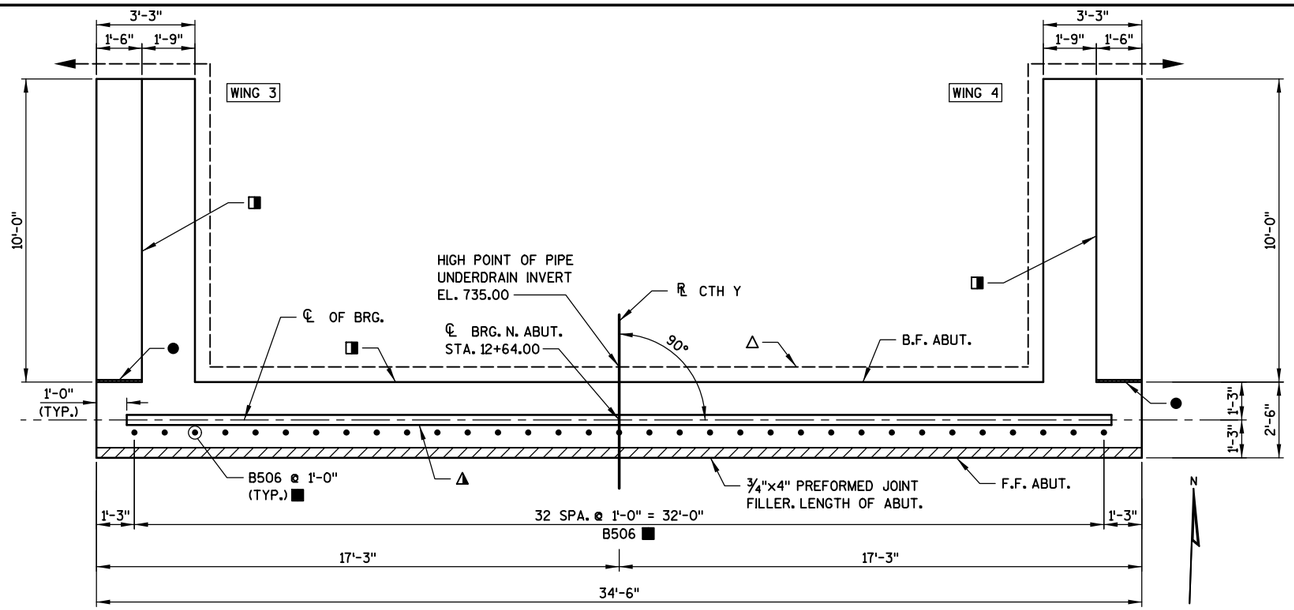
SOUTH ABUTMENT DETAILS

SHEET 5
78

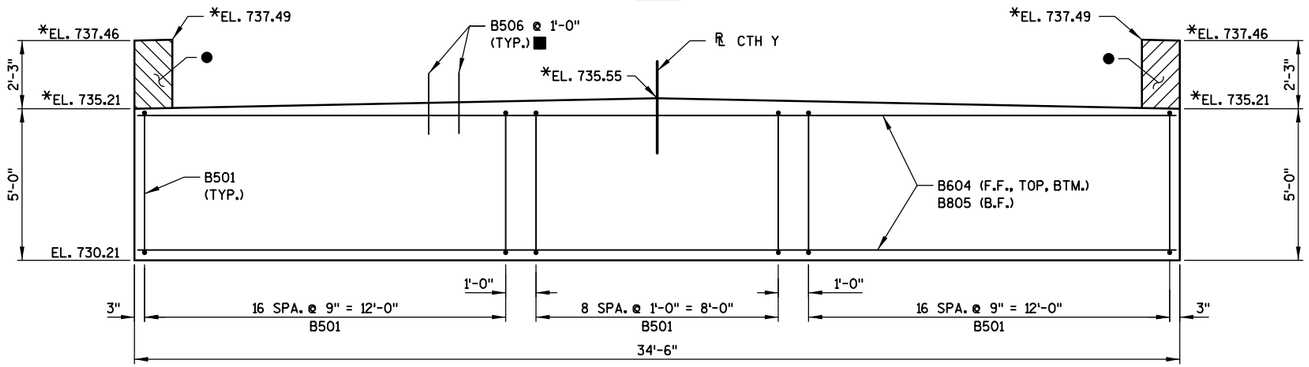
8

8

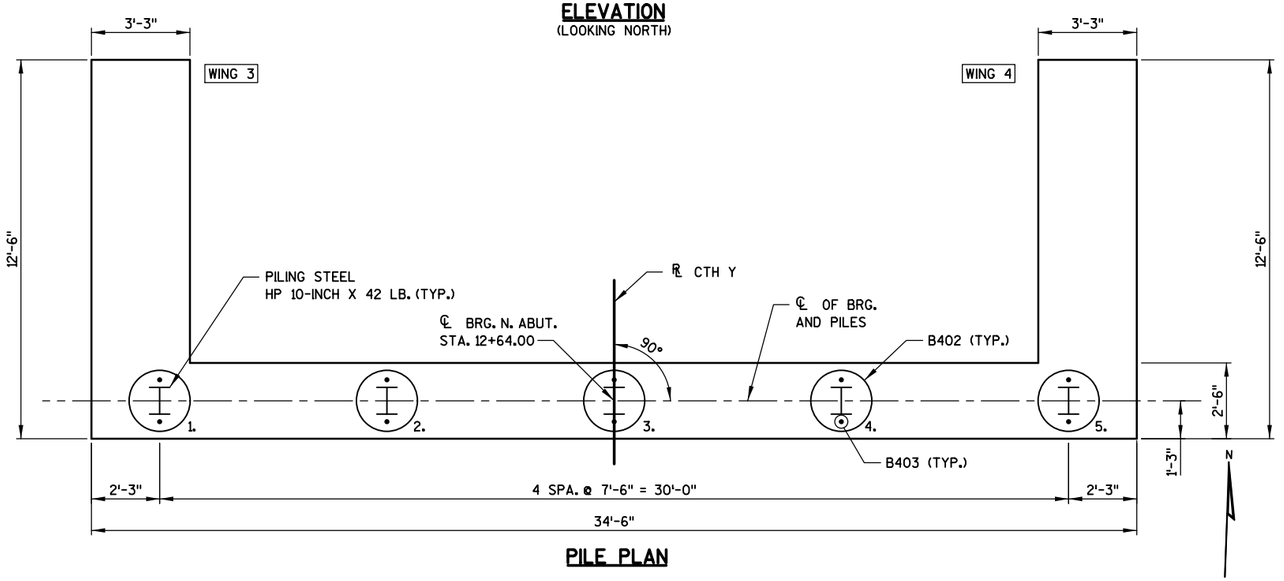
FILE NAME : S:\MAD\1100--1199\1124\023\Drawings\CAD\Micros\PLAN\080105_sa.dgn



PLAN



ELEVATION
(LOOKING NORTH)



PILE PLAN

STATE PROJECT NUMBER

5986-00-71

NOTES

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

ADJUST B501 BARS INTERFERING WITH PILES.

SEE THIS SHEET FOR PILE SPLICE DETAILS.

SEE SHEET 7 FOR REINFORCING DETAILS.

NORTH ABUTMENT TO BE SUPPORTED ON PILING STEEL 10-INCH X 42 LB WITH A REQUIRED DRIVING RESISTANCE OF 130 TONS PER PILE. ESTIMATED 70 FEET LONG EACH.

SEE SHEET 2 FOR TYPICAL FILL SECTION AT WING TIPS.

LEGEND

- ● ½" FILLER, EXTEND FROM ABUT. SEAT TO TOP OF CONCRETE WING. FILLER INCLUDED IN WING LENGTH.
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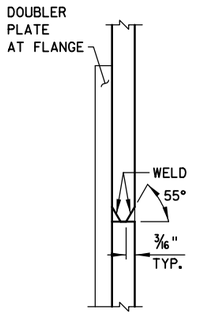
- ◭ KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2"x6".

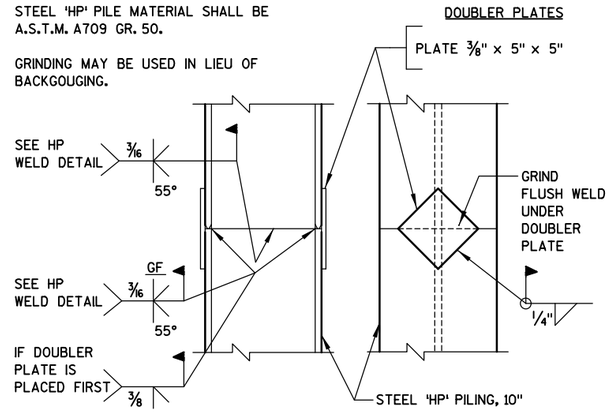


HP WELD DETAIL
FLANGE SHOWN, WEB SIMILAR

PILE SPLICE NOTES

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

GRINDING MAY BE USED IN LIEU OF BACKGOUGING.



PILE SPLICE DETAILS

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-13-889

DRAWN BY DTH | PLANS CK'D. BMO

NORTH ABUTMENT

SHEET 6
79

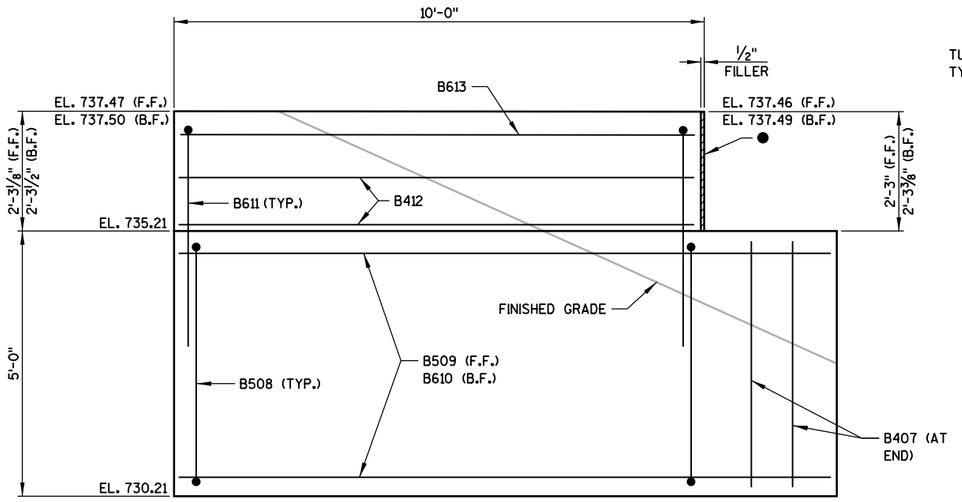
8

8

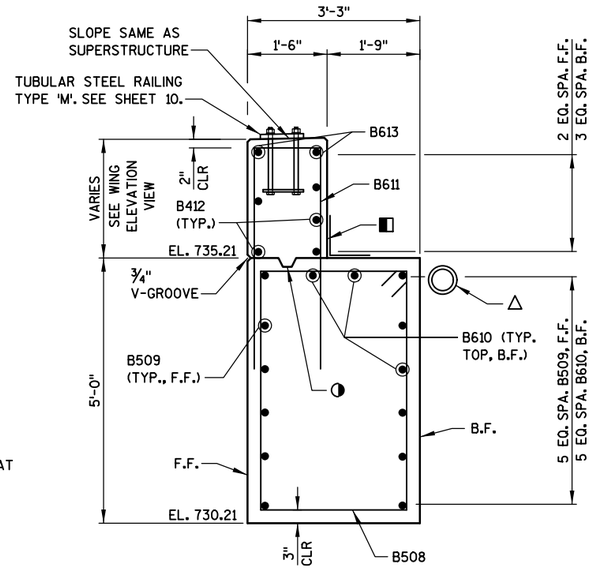
FILE NAME : S:\MAD\1100--1199\1124\023\Drawings\CAD\Micros\PLAN\080106_na.dgn

STATE PROJECT NUMBER

5986-00-71



WING 3 ELEVATION
(FRONT FACE)
(WING 4 SIMILAR)



TYPICAL SECTION THRU WING

NORTH ABUTMENT BILL OF BARS

UNCOATED: 1,990 LBS
COATED: 1,380 LBS

BAR MARK	NO. REQ'D	LENGTH	BENT	COAT	LOCATION
B501	43	14'-0"	X		LOWER BODY - VERT.
B402	5	28'-0"	X		LOWER BODY - PILES - SPIRAL
B403	10	2'-3"			LOWER BODY - PILES - VERT.
B604	11	34'-2"			LOWER BODY - TOP, BOT., & F.F. - HORIZ.
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B407	4	4'-7"			LOWER BODY - VERT. - ENDS
B508	22	15'-6"	X	X	LOWER WING - VERT. - WINGS 3 & 4
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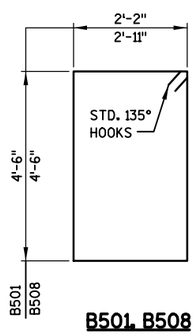
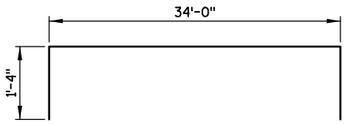
B610	16	12'-2"		X	LOWER WING - B.F., TOP - HORIZ. - WINGS 3 & 4
B611	28	9'-2"	X	X	UPPER WING - VERT. - WINGS 3 & 4
B412	10	9'-7"		X	UPPER WING - F.F., B.F. - HORIZ. - WINGS 3 & 4
B613	4	9'-7"		X	UPPER WING - TOP - HORIZ. - WINGS 3 & 4



B501, B508



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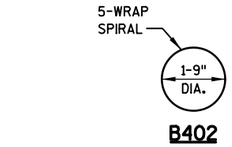
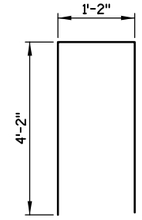


B402



B611

LEGEND

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

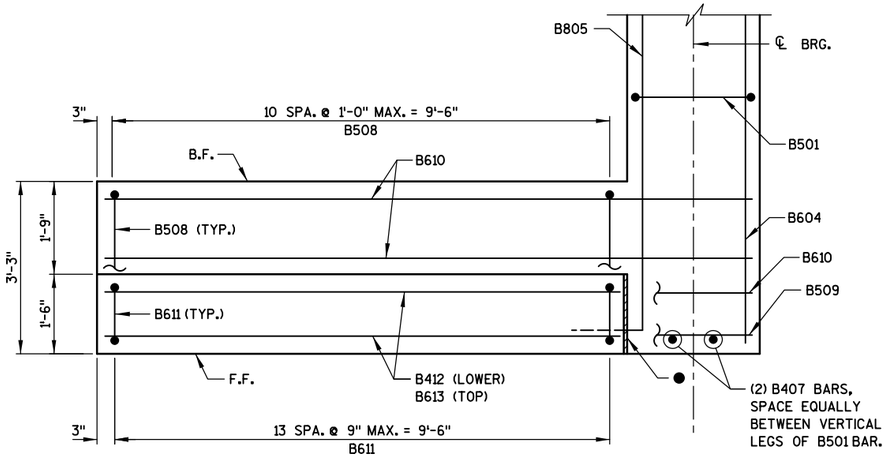
● 1/2" FILLER TO EXTEND FROM ABUT. SEAT TO TOP OF CONCRETE PARAPET. FILLER INCLUDED IN WING LENGTH. SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW TOP OF WING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

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

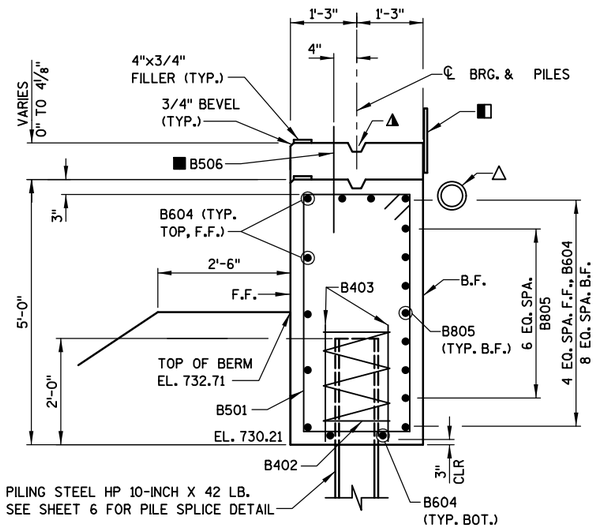
▲ KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2"x6".

△ PIPE UNDERDRAIN WRAPPED (6-INCH), SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. HIGH POINT EL. 735.00 AT ℄. ATTACH RODENT SHIELD AT END OF PIPE UNDERDRAIN PER DETAIL ON SHEET 4.

■ THESE BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE



WING 3 PLAN
(WING 4 SIMILAR)



TYPICAL ABUTMENT SECTION

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-13-889

DRAWN BY DTH | PLANS CK'D. BMO

NORTH ABUTMENT DETAILS

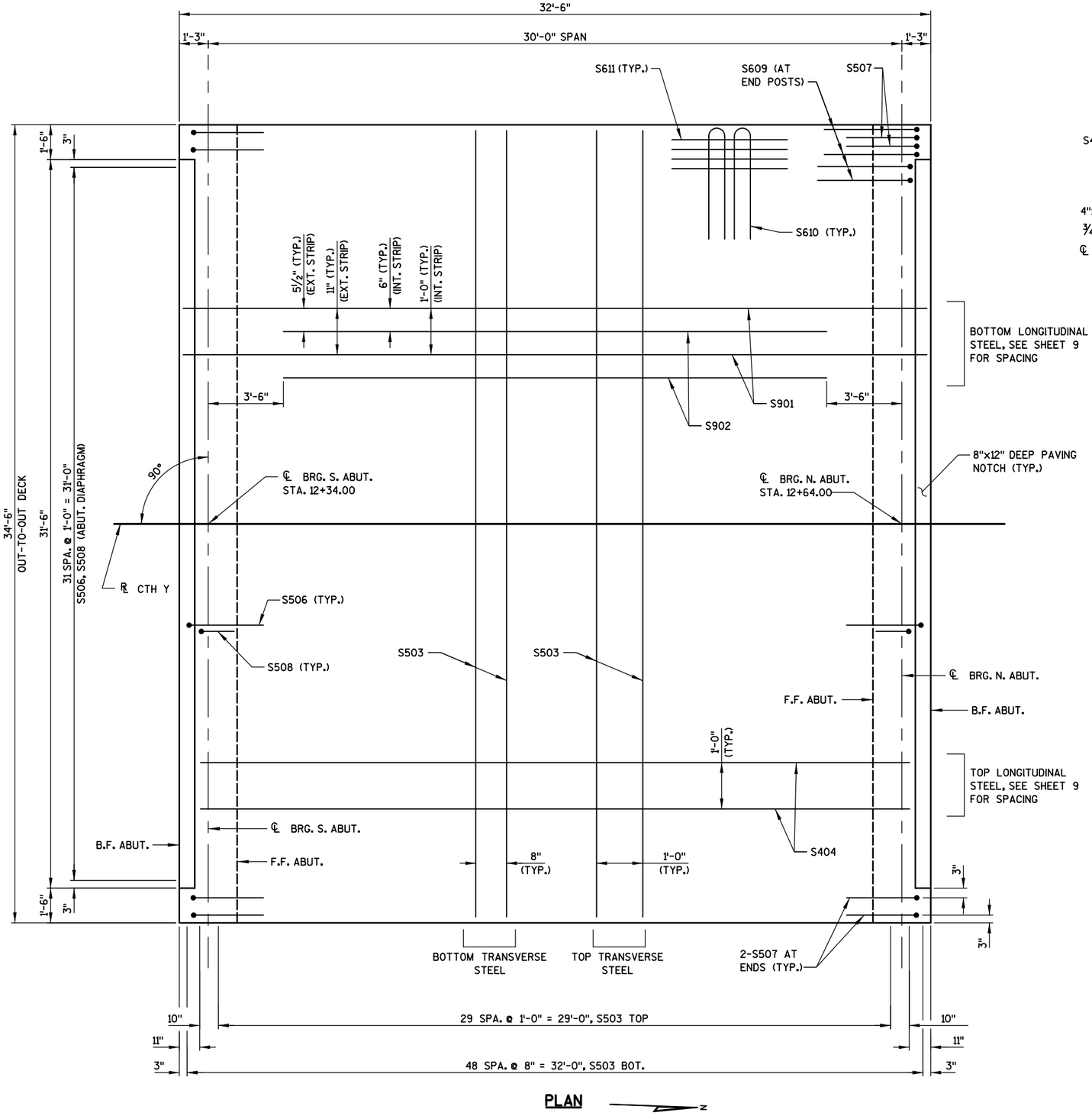
SHEET 7
80

8

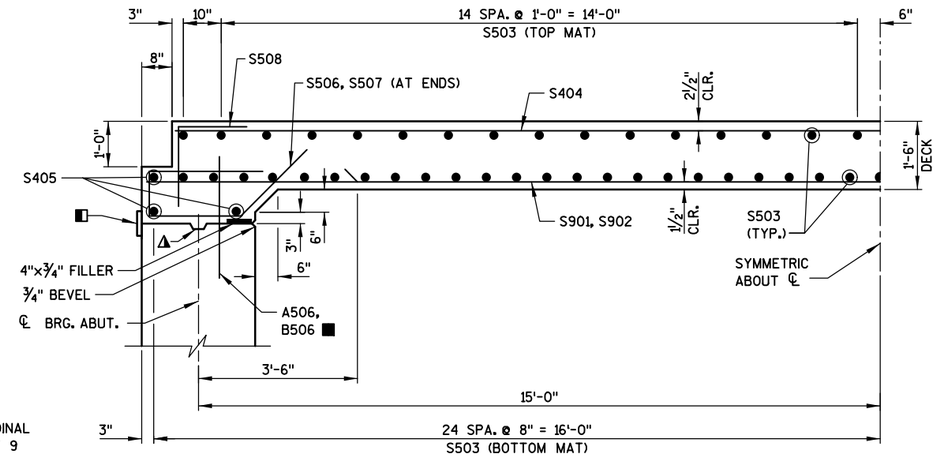
8

FILE NAME : S:\MAD\1100--1199\1124\023\Drawings\CAD\Micros\PLAN\080107_na.dgn

STATE PROJECT NUMBER
5986-00-71



PLAN



HALF LONGITUDINAL SECTION

LEGEND

- ◧ 18" RUBBERIZED MEMBRANE WATERPROOFING.
- ■ BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE.
- ⚠ KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2"x6".

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-13-889

DRAWN BY DTH | PLANS CK'D. BMO

SUPERSTRUCTURE PLAN AND SECTION

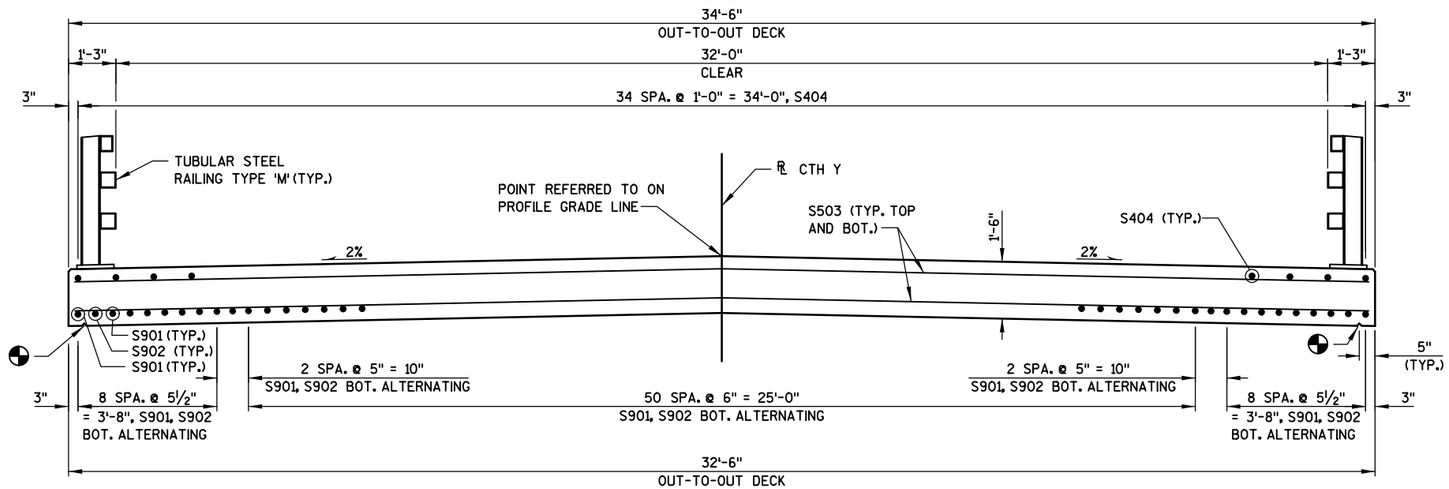
SHEET 8
81

8

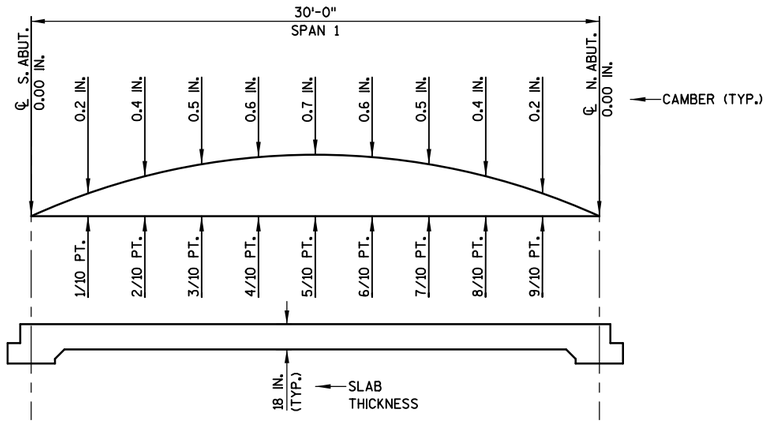
8

FILE NAME : S:\MAD\1100--1199\1124\023\Drawings\CAD\Micros\PLAN\080108_ss.dgn

STATE PROJECT NUMBER
5986-00-71



CROSS SECTION THRU SUPERSTRUCTURE
(LOOKING NORTH)



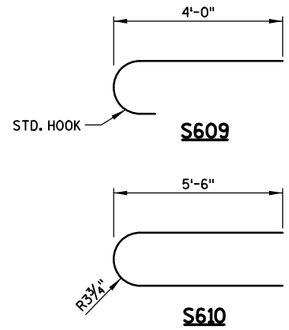
CAMBER AND SLAB THICKNESS DIAGRAM

CAMBER SHOWN IS BASED ON 3 TIMES DEAD LOAD DEFLECTION.

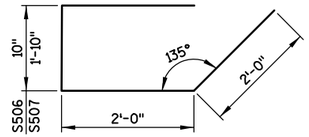
CAMBER SPANS AS SHOWN TO PROVIDE FOR DEAD LOAD DEFLECTION AND FUTURE CREEP. CAMBER DOES NOT INCLUDE ALLOWANCE FOR FORM SETTLEMENT.

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

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

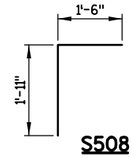


S609



S506, S507

S610



S508

SUPERSTRUCTURE BILL OF BARS

COATED: 11,950

BAR MARK	NO. REQ'D	LENGTH	BENT	COAT	LOCATION
S901	36	32'-2"		X	SLAB - LONGIT. - BOT.
S902	35	23'-0"		X	SLAB - LONGIT. - BOT.
S503	81	34'-2"		X	SLAB - TRANS. - TOP AND BOT.
S404	35	30'-10"		X	SLAB - LONGIT. - TOP
S405	6	34'-2"		X	ABUT. DIAPHRAGM - HORIZ.
S506	64	6'-7"	X	X	ABUT. DIAPHRAGM - VERT.
S507	8	7'-7"	X	X	ABUT. DIAPHRAGM - VERT. - ENDS
S508	64	3'-4"	X	X	ABUT. DIAPHRAGM - VERT.
S609	16	4'-8"	X	X	SLAB - TUBULAR RAILING - DECK - END POST
S610	24	11'-4"	X	X	SLAB - TUBULAR RAILING - DECK
S611	32	6'-0"		X	SLAB - TUBULAR RAILING - DECK

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 CONTINOUS BAR CHAIRS AT APPROXIMATELY 4'-0" CENTERS.

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

LEGEND

◐ ¾" V-GROOVE REQ'D. EXTEND TO 6" FROM F.F. OF ABUT. DIAPHRAGMS.

SURVEY TOP OF SLAB ELEVATIONS

	℄ S. ABUT	5/10 PT.	℄ N. ABUT.
WEST EDGE OF SLAB			
CROWN ON R/L			
EAST EDGE OF SLAB			

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

TOP OF DECK ELEVATIONS

	CL BRG. S. ABUT.	1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10	CL BRG. N. ABUT.
STATION	12+34.00	12+37.00	12+40.00	12+43.00	12+46.00	12+49.00	12+52.00	12+55.00	12+58.00	12+61.00	12+64.00
WEST EDGE OF SLAB, 17.25'LT	737.44	737.44	737.44	737.45	737.45	737.45	737.45	737.45	737.46	737.46	737.46
CROWN AT RL	737.78	737.79	737.79	737.79	737.79	737.80	737.80	737.80	737.80	737.80	737.81
EAST EDGE OF SLAB, 17.25'RT	737.44	737.44	737.44	737.45	737.45	737.45	737.45	737.45	737.46	737.46	737.46

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-13-889

DRAWN BY DTH | PLANS CK'D. BMO

SUPERSTRUCTURE CROSS SECTION AND DETAILS

SHEET 9
82

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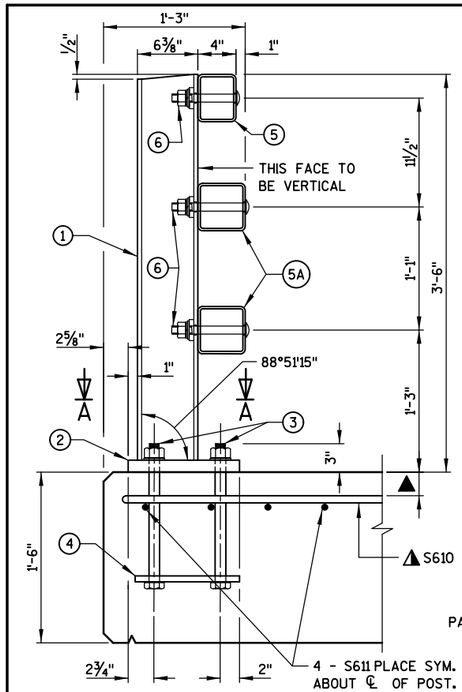
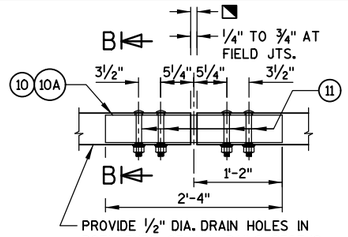
FILE NAME : S:\MAD\1100--1199\1124\023\Drawings\CAD\Micros\PLAN\080109_sc.dgn

STATE PROJECT NUMBER

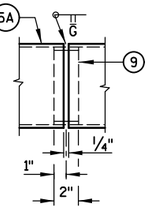
5986-00-71



SECTION THRU RAILING ON DECK

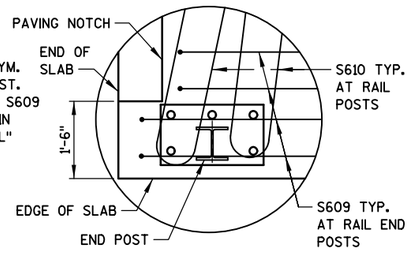


FIELD ERECTION JOINT DETAIL



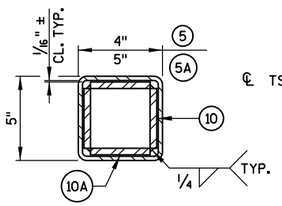
SHOP RAIL SPLICE DETAIL

LOCATION MUST BE SHOWN ON SHOP DRAWINGS

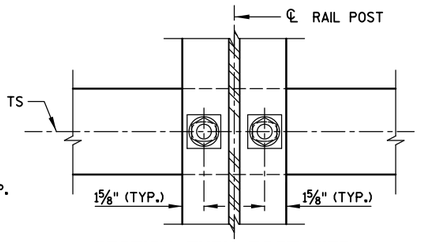


END POST DETAIL

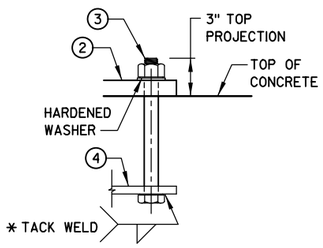
REINFORCEMENT AT CORNERS



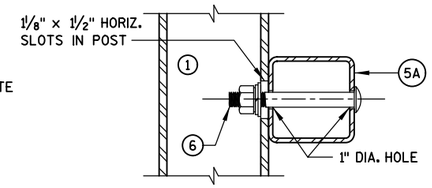
SECTION B-B



SECTION THRU POST WEB



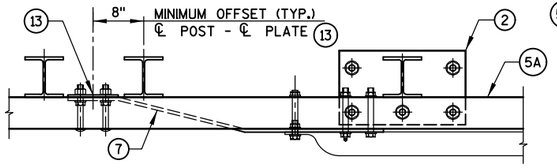
ANCHOR BOLTS



SECTION THRU RAIL

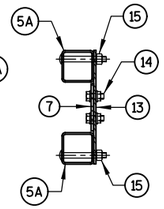
NOTE: CONNECTIONS AT LOWER RAILS SHOWN. CONNECTIONS AT TOP RAIL SIMILAR.

TYPICAL RAIL TO POST CONNECTIONS

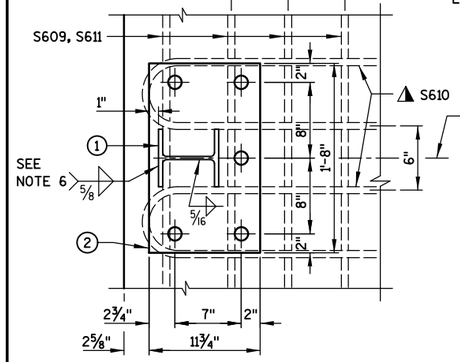


TOP VIEW AT END POST

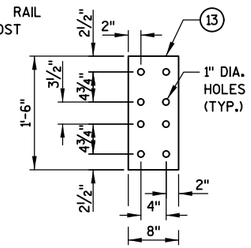
THRIE BEAM RAIL ATTACHMENT



SECTION C-C

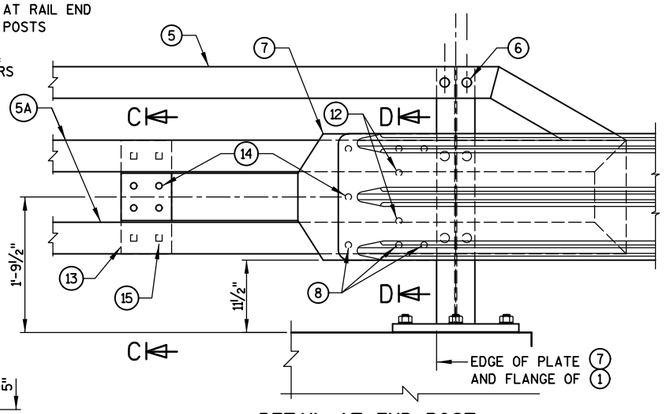


SECTION A-A



ANCHOR PLATE

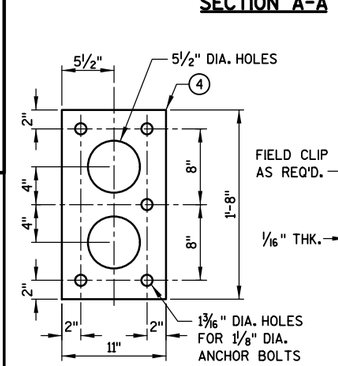
AT BEAM GUARD ATTACHMENT



DETAIL AT END POST

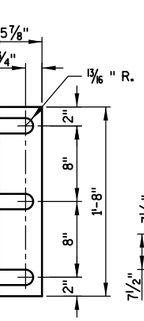
THRIE BEAM RAIL ATTACHMENT

SECTION D-D

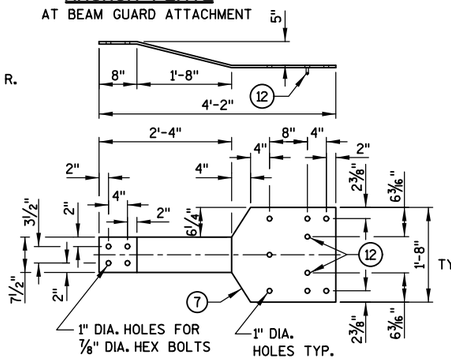


ANCHOR PLATE

AT RAIL TO DECK CONNECTION

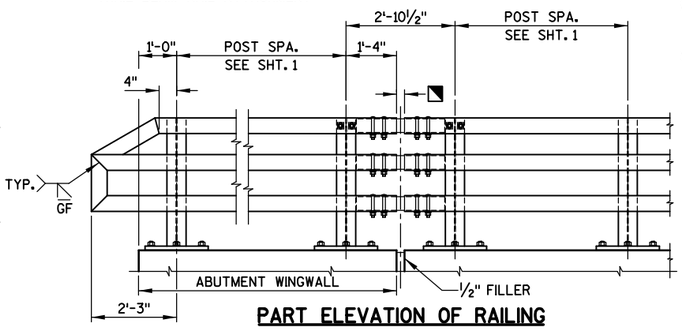


POST SHIM DETAIL



BACK-UP PLATE DETAIL

AT BEAM GUARD ATTACHMENT



PART ELEVATION OF RAILING

LEGEND

1. W6 X 25 WITH 1 1/8" x 1 1/2" HORIZ. SLOTS ON EACH SIDE OF POST FOR BOLT NO.6. CUT BOTTOM OF POST TO MATCH CROSS SLOPE OF ROADWAY. PLACE POST VERTICAL. PLACE POSTS NORMAL TO GRADE LINE.
2. PLATE 1 1/4" x 11 3/4" x 1'-8" WITH 1 7/16" DIA. OVERSIZE HOLES FOR ANCHOR BOLTS NO. 3. WELD TO NO. 1 AS SHOWN.
3. ASTM A449 - 1 1/8" DIA. ANCHOR BOLTS WITH NUT AND HARDENED WASHER (ALL GALVANIZED). 5 REQ'D PER POST. THREAD 3" AND PLACE NORMAL TO PLATE NO. 2. CHAMFER TOP OF BOLTS BEFORE THREADING. USE 1'-9" LONG IN ABUTMENT WINGS. AT POSTS ON CONCRETE SLAB SUPERSTRUCTURE, USE 1'-3" LONG. (AN EQUIVALENT THREADED ROD WITH NUTS AND HARDENED WASHERS MAY BE SUBSTITUTED FOR ANCHOR BOLTS IN WINGS IF REQ'D FOR CONSTRUCTABILITY.)
4. 5/8" x 11" x 1'-8" ANCHOR PLATE (GALVANIZED) WITH 13/16" DIA. HOLES FOR ANCHOR BOLTS NO. 3.
5. TS 5 x 4 x 0.25 STRUCTURAL TUBING. ATTACH TO NO. 1 WITH NO. 6.
5A. TS 5 x 5 x 0.25 STRUCTURAL TUBING. ATTACH TO NO. 1 WITH NO. 6.
6. 7/8" DIA. A325 SLOTTED ROUND HEAD BOLT WITH NUT, 3/16" x 1 5/8" x 1 5/8" MIN. WASHER, AND LOCK WASHER (2 REQ'D. AT EACH RAIL TO POST LOCATION.)
7. 1/2" THK. BACK-UP PLATE WITH 2 - 7/8" x 1 1/2" THREADED SHOP WELDED STUDS (NO. 12). BOLT TO RAIL AS SHOWN IN DETAIL. REQUIRED AT THRIE BEAM GUARD RAIL ATTACHMENTS ONLY. PLACE SYMMETRICALLY ABOUT TUBES NO. 5A.
8. 1" DIA. HOLES IN PLATE NO. 7 & TUBES NO. 5A FOR 7/8" DIA. A325 BOLTS WITH HEX NUTS AND WASHERS. 6 HOLES IN TUBES AND PLATE NO. 7.
9. SPLICE SLEEVE FABRICATED FROM 1/4" PLATE. PROVIDE "SLIDING FIT".
10. 3/8" x 3 5/8" x 2'-4" PLATE. 2 PER RAIL. USED IN NO. 5 & 5A.
10A. 3/8" x 2 5/8" x 2'-4" PLATE USED IN NO. 5, 3/8" x 3 5/8" x 2'-4" PLATE USED IN NO. 5A. 2 PER RAIL.
11. 7/8" DIA. A325 ROUND HEAD BOLT WITH NUT, WASHER, AND LOCK WASHER. USE 15/16 " x 1 1/4" LONGIT. SLOTTED HOLES IN PLATE NO. 10A. AT FIELD JOINTS. PROVIDE 15/16 " DIA. ROUND HOLES IN TUBES NO. 5 AND NO. 5A.
12. 7/8" DIA. x 1 1/2" LONG THREADED SHOP WELDED STUDS (2 REQ'D).
13. 3/8" x 8" x 1'-6" PLATE. BOLT TO RAIL AS SHOWN IN DETAIL. REQ'D AT THRIE BEAM GUARD RAIL ATTACHMENTS ONLY. PLACE SYM. ABOUT TUBES NO. 5A.
14. 7/8" DIA. x 2" LONG A325 HEX BOLT WITH NUT AND WASHER (5 REQ'D.).
15. 1" DIA. HOLES IN TUBES NO. 5A FOR 7/8" DIA. A325 ROUND HEAD BOLT WITH NUT, WASHER AND LOCK WASHER (4 REQ'D.). 4 HOLES IN TUBES.

GENERAL NOTES

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

LEGEND

▲ PLACE REINFORCING BELOW TOP MAT OF SLAB REINFORCEMENT.

⚠ TIE TO TOP MAT OF STEEL.

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

◥ 1/4" TO 3/4"

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-13-889

DRAWN BY DTH | PLANS CK'D. BMO

TUBULAR STEEL RAILING TYPE 'M'

SHEET 10
83

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FILE NAME : S:\MAD\1100--1199\1124\023\Drawings\CAD\Micros\PLAN\080110_tr.dgn

CTH Y		AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)			CUMULATIVE VOL (CY)		
STATION	DISTANCE	CUT	FILL	EBS (5% OF CUT)	CUT	FILL	EBS	CUT 1.00	EXPANDED FILL 1.25	MASS ORDINATE NOTE 1
10+12	---	6.4	13.0	0.3	0	0	0	0	0	0
10+50	38	6.6	18.7	0.3	9	23	0	9	28	-19
10+91	41	45.0	25.3	2.3	39	33	2	48	70	-22
11+00	9	43.3	29.3	2.2	15	9	1	63	81	-18
11+33	33	42.3	37.6	2.1	52	41	3	115	132	-17
11+50	17	42.1	42.7	2.1	27	26	1	142	164	-22
11+58	8	42.5	38.4	2.1	12	12	1	154	179	-25
11+83	25	46.6	26.0	2.3	41	30	2	196	216	-21
12+00	17	44.8	21.8	2.2	29	15	1	225	235	-10
12+33	33	44.8	0.0	2.2	55	14	3	280	252	28
12+65	---	41.0	0.0	2.1	0	0	0	280	252	28
13+00	35	41.0	11.7	2.1	54	8	3	334	262	72
13+15	15	40.1	17.2	2.0	23	8	1	357	272	85
13+40	25	40.3	25.5	2.0	37	20	2	394	297	97
13+50	10	40.9	25.9	2.0	15	9	1	409	308	101
13+65	15	41.1	24.3	2.1	23	14	1	432	326	106
14+00	35	44.7	21.4	2.2	55	29	3	487	363	124
14+02	2	45.1	21.0	2.3	4	2	0	491	365	126
14+50	48	7.5	13.4	0.4	46	30	2	537	403	134
14+86	36	7.6	8.4	0.4	10	15	1	547	421	126
			COLUMN TOTALS		547	337	27			

NOTES:

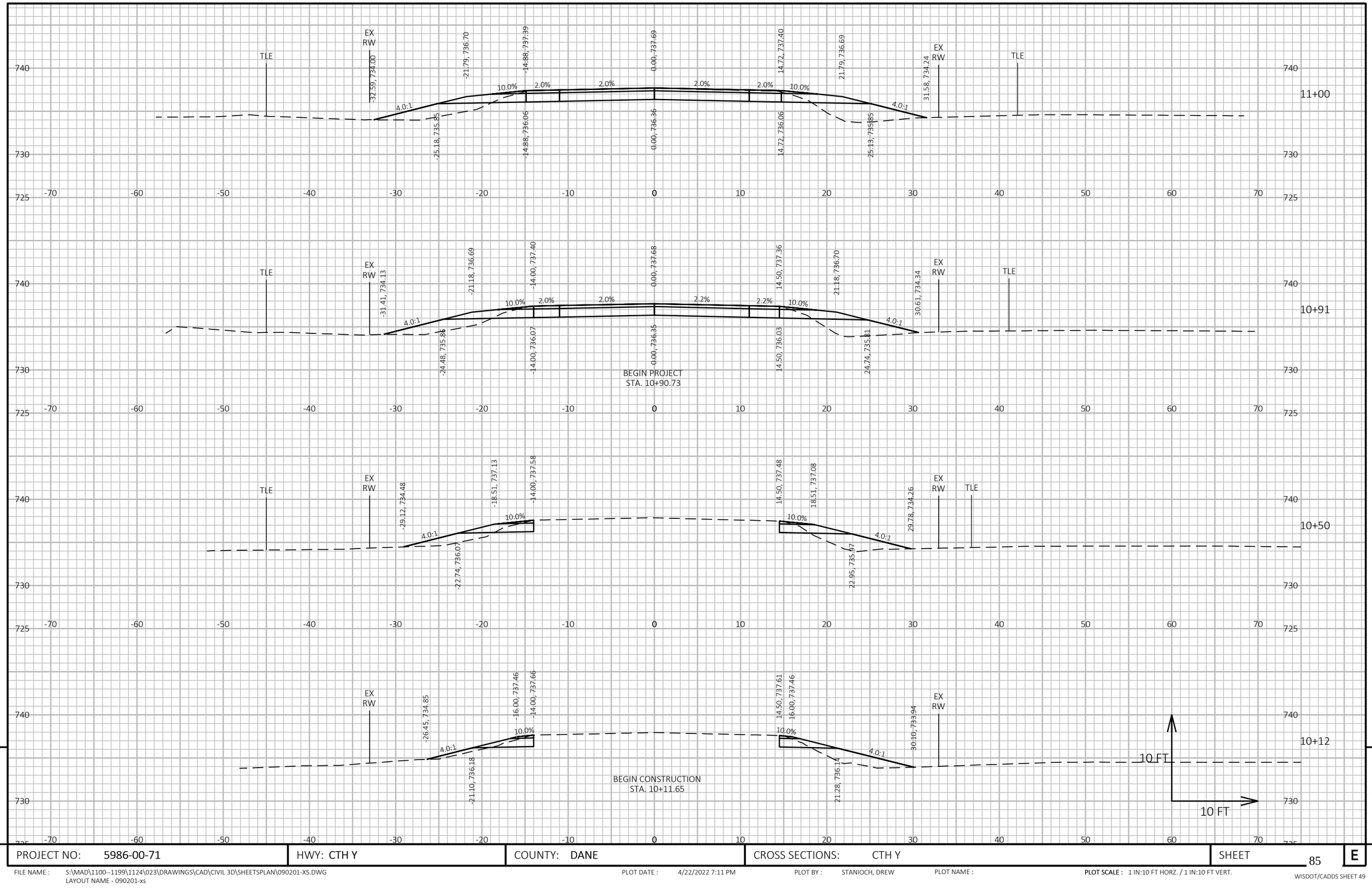
1) MASS ORDINATE: MASS ORDINATE = (CUT) - (FILL * FILL FACTOR)

9

9

PROJECT NO: 5986-00-71 | HWY: CTH Y | COUNTY: DANE | EARTHWORK | SHEET: 84 E

FILE NAME : _____ PLOT DATE : _____ PLOT BY : _____ PLOT NAME : PLOT SCALE : 1" = 1" WISDOT/CADDS SHEET 42



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PROJECT NO: 5986-00-71	HWY: CTH Y	COUNTY: DANE	CROSS SECTIONS: CTH Y	SHEET 85	E

FILE NAME : S:\MAD\1100--1199\1124\023\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 090201-xs

PLOT DATE : 4/22/2022 7:11 PM PLOT BY : STANIOCH, DREW PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

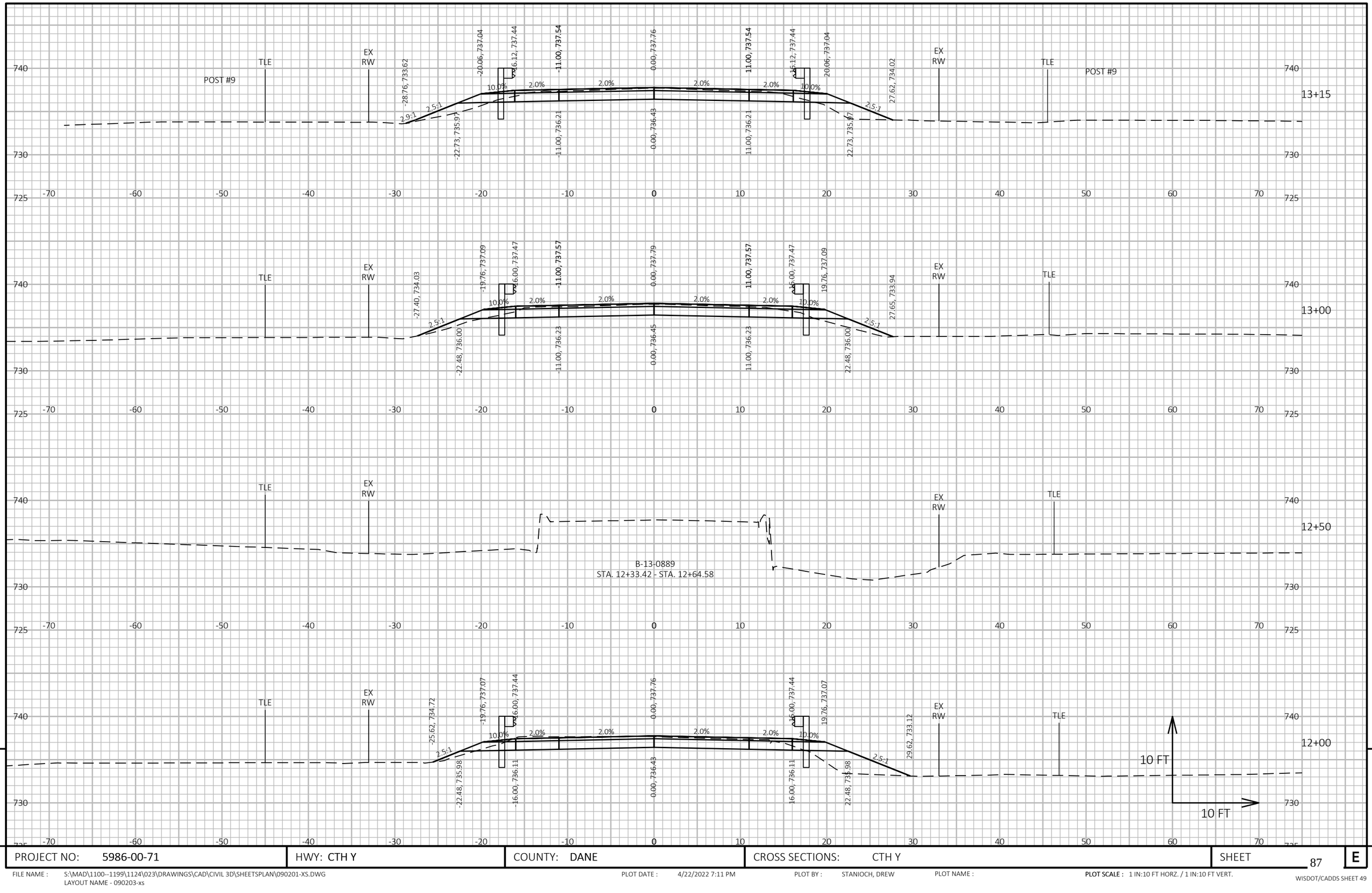
WISDOT/CADDS SHEET 49

PROJECT NO: 5986-00-71	HWY: CTH Y	COUNTY: DANE	CROSS SECTIONS: CTH Y	SHEET 86 E

FILE NAME : S:\MAD\1100--1199\1124\023\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 090202-xs

PLOT DATE : 4/22/2022 7:11 PM PLOT BY : STANIOCH, DREW PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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9

PROJECT NO: 5986-00-71	HWY: CTH Y	COUNTY: DANE	CROSS SECTIONS: CTH Y	SHEET 87	E

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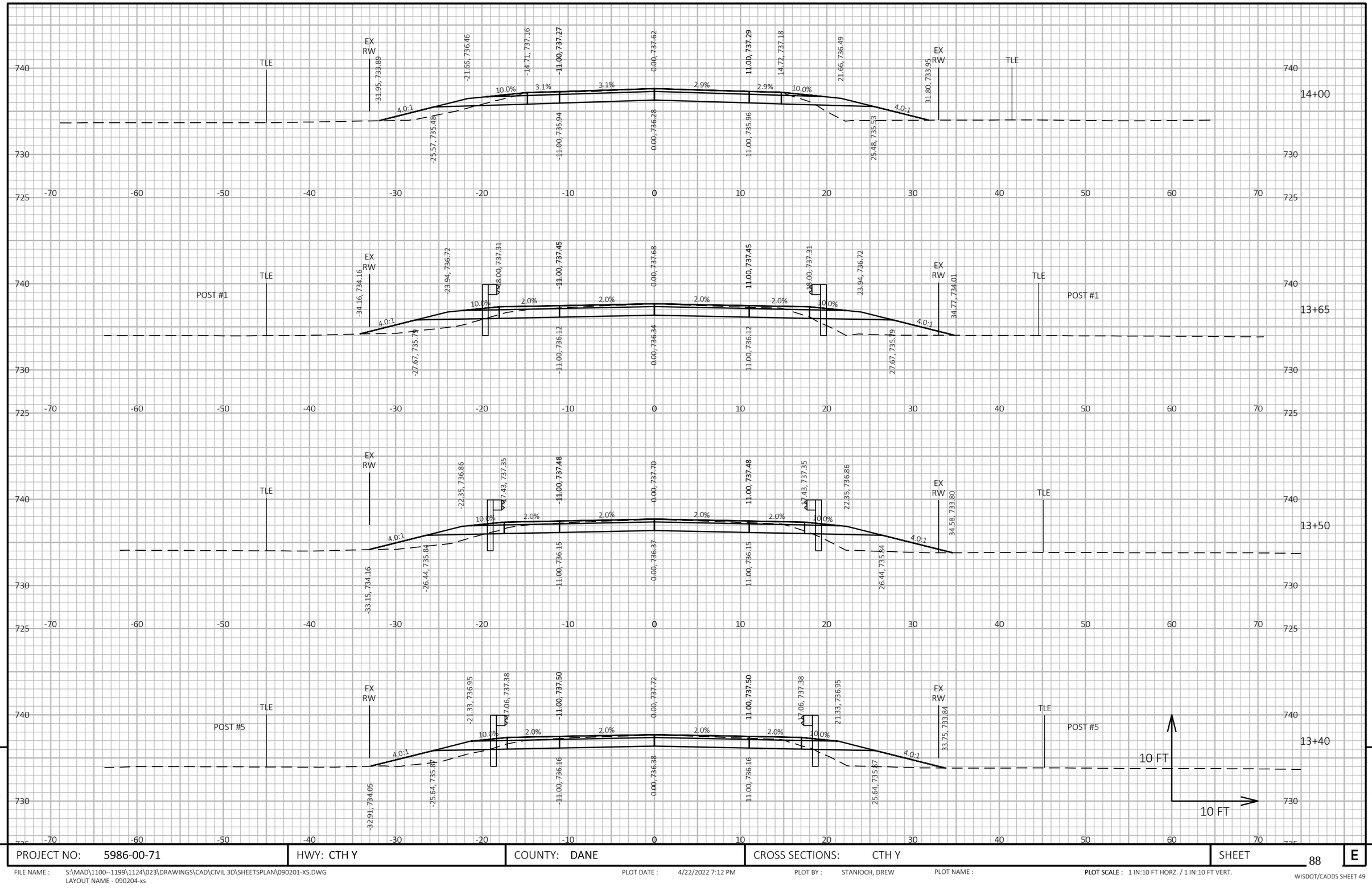
PLOT DATE : 4/22/2022 7:11 PM
PLOT BY : STANIOCH, DREW
PLOT NAME :
PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.
WISDOT/CADDS SHEET 49



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PROJECT NO: 5986-00-71	HWY: CTH Y	COUNTY: DANE	CROSS SECTIONS: CTH Y	SHEET 88	E

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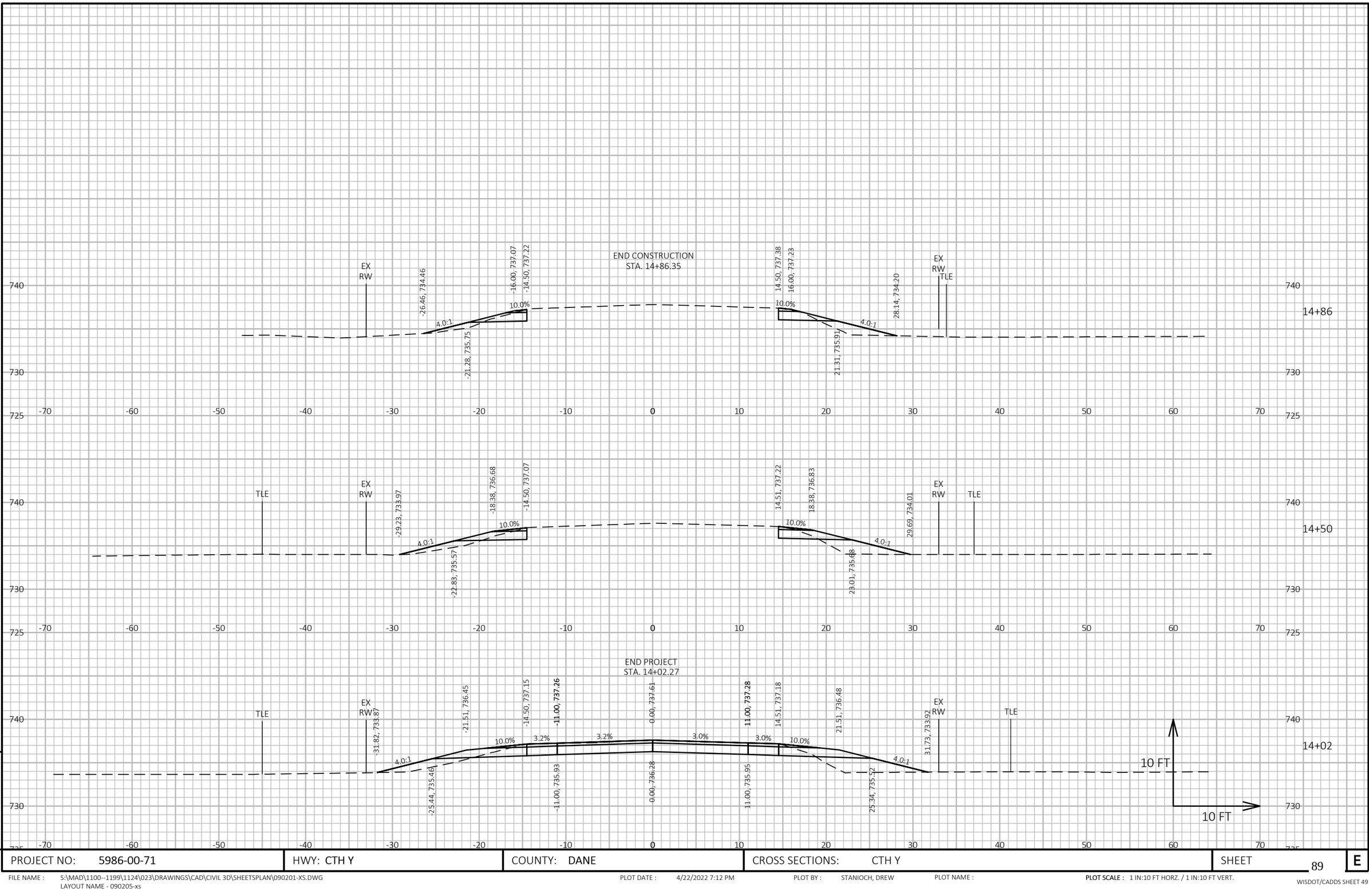
LAYOUT NAME - 090204-xs

PLOT DATE : 4/22/2022 7:12 PM PLOT BY : STANIOCH, DREW PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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PROJECT NO: 5986-00-71	HWY: CTH Y	COUNTY: DANE	CROSS SECTIONS: CTH Y	SHEET 89	E

FILE NAME : S:\MAD\1100--1199\1124\023\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 090205-xs

PLOT DATE : 4/22/2022 7:12 PM

PLOT BY : STANIOCH, DREW

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

Wisconsin Department of Transportation

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