MAD

SEPTEMBER 2022

PROJECT ID: 5665-00-75

WITH: N/A

COUNTY: DANE

ORDER OF SHEETS

TOTAL SHEETS = 104

07

N

DESIGN DESIGNATION

A.A.D.T.	(2023)	=	864
A.A.D.T.	(2043)	=	864
D.H.V.		=	140
D.D.		=	60/40
T.		=	5.80%
DESIGN SPEED		=	60 MPH
ESALS		=	88,000

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'E'	ELECTRIC	E
EXISTING CULVERT		FIBER OPTIC	FO
PROPOSED CULVERT (Box or Pipe)		GAS	G
COMBUSTIBLE FLUIDS	CAUTION	SANITARY SEWER	SAN
		STORM SEWER	SS
MARSH AREA		TELEPHONE	T
		WATER	W
		UTILITY PEDESTAL	
WOODED OR SHRUB AREA		POWER POLE	
		TELEPHONE POLE	

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

CTH A-USH 151

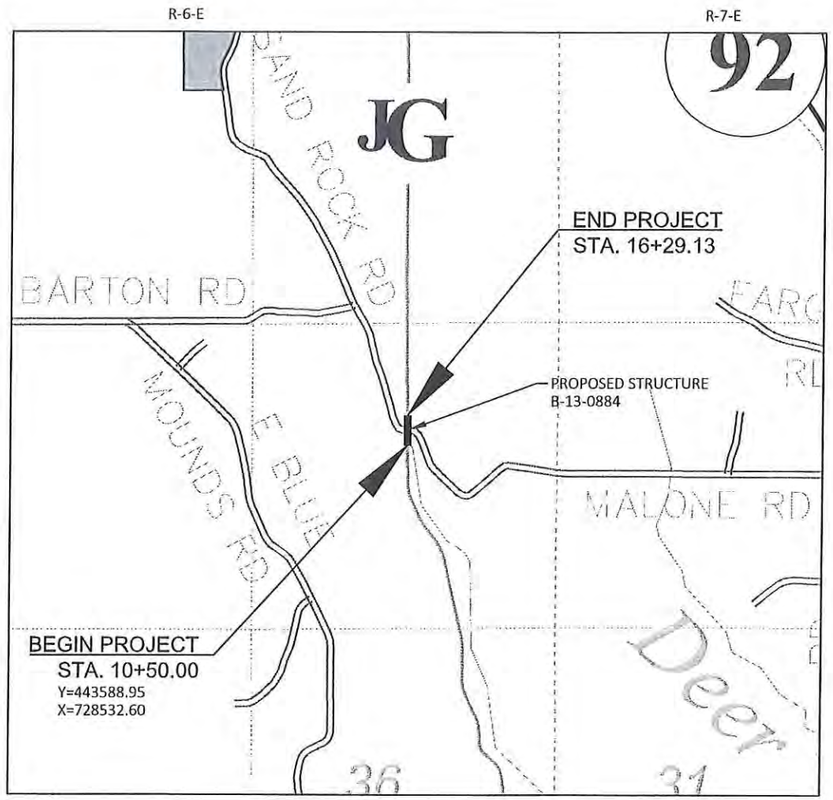
WEST BRANCH SUGAR RIVER BRIDGE, B-13-0884

CTH JG

DANE COUNTY

STATE PROJECT NUMBER
5665-00-75

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
5665-00-75	WISC 2022509	1



LAYOUT

SCALE 0 0.5 MI

TOTAL NET LENGTH OF CENTERLINE = 0.110 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

Elisa Becker 4/13/2022

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 Lorraine Betzel (Signature)

E

FILE NAME : S:\MAD\1100--1199\1124\020\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\010101-TI.DWG PLOT DATE : 4/13/2022 9:24 AM 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

NICHOLAS DACHNIWSKYJ
935 WBR TOWNLINE RD
BELOIT, WI 53511
608-364-6566
608-444-9362 (MOBILE)
nicholasdachniwskyj@alliantenergy.com

** MT HOREB TELEPHONE CO

KEVIN MAYNE
200 E MAIN ST. P.O. BOX 65
MOUNT HOREB, WI 53572
608-437-6770
608-516-6801 (MOBILE)
kevin.mayne@mhtcinc

**DENOTES DIGGERS HOTLINE MEMBER

OTHER CONTACTS

DANE COUNTY

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

DESIGN CONSULTANT

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

DNR LIASON

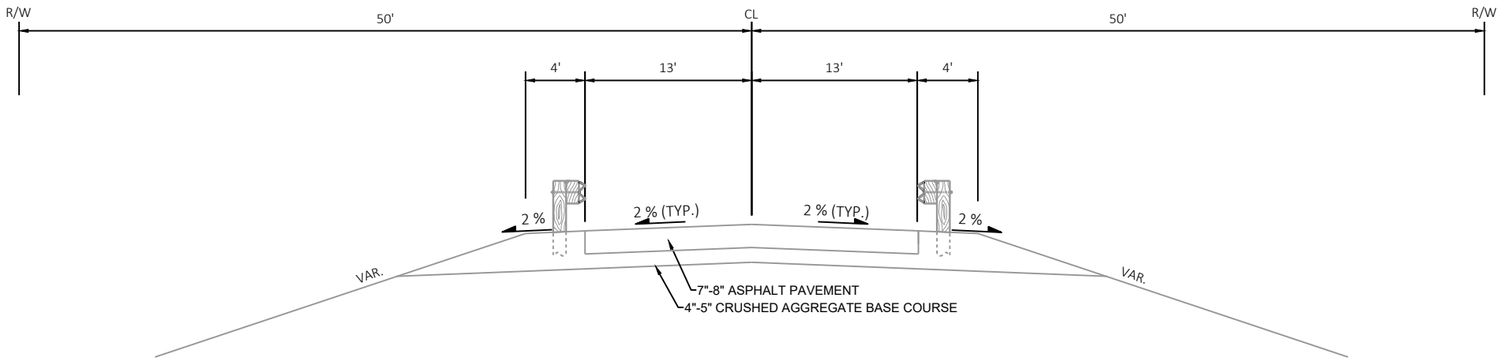
ERIC HEGGELUND
DNR SOUTH CENTRAL REGION
3911 FISH HATCHERY ROAD
FITCHBURG, WI 53711
PH: (608) 275-3301
eric.heggelund@wisconsin.gov

WISDOT CONTACT

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

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

2



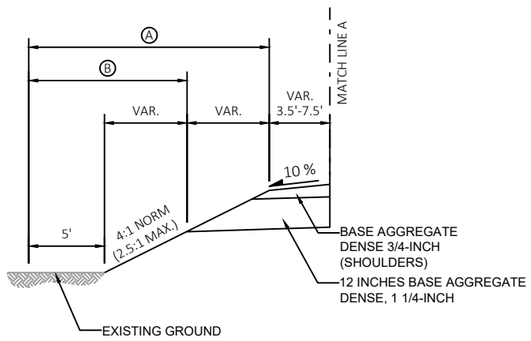
EXISTING TYPICAL SECTION

CTH JG

PROJECT NO: 5665-00-75	HWY: CTH JG	COUNTY: DANE	TYPICAL SECTIONS	SHEET 3	E

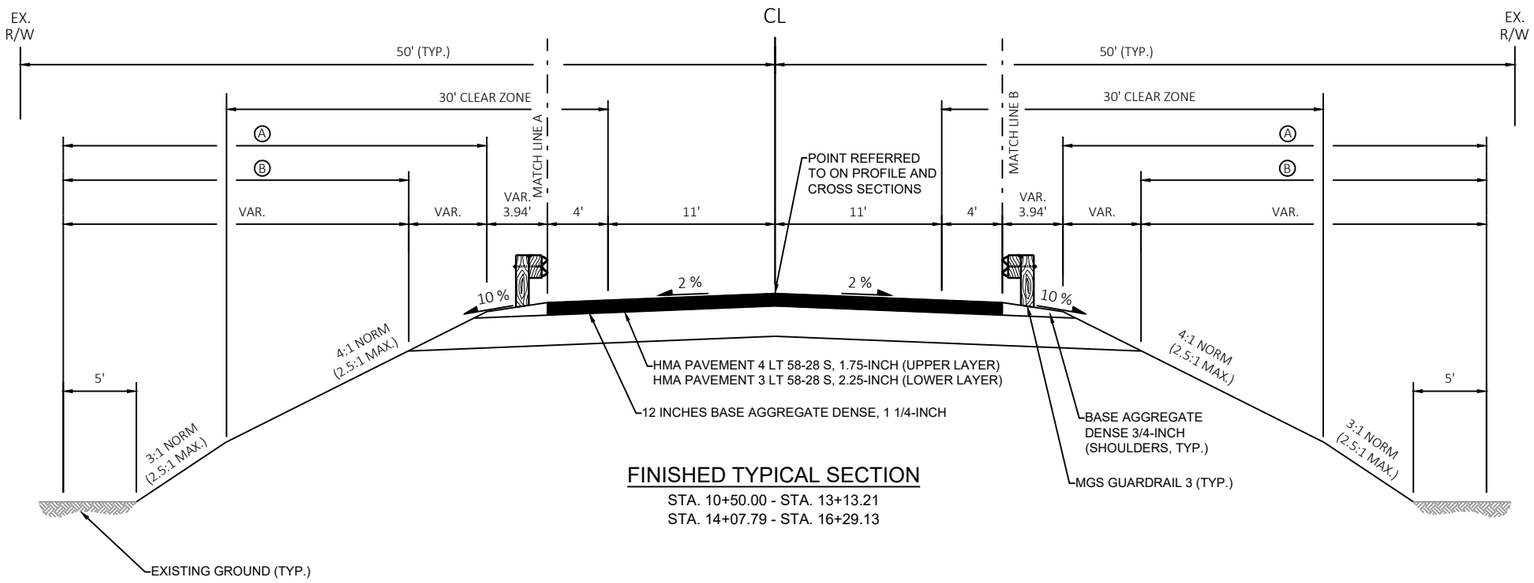
FILE NAME : S:\MAD\1100--1199\1124\020\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\020301-TS.DWG
LAYOUT NAME - 020301-ts

PLOT DATE : 4/22/2022 2:02 PM PLOT BY : STANIOCH, DREW PLOT NAME : PLOT SCALE : 1 IN:10 FT



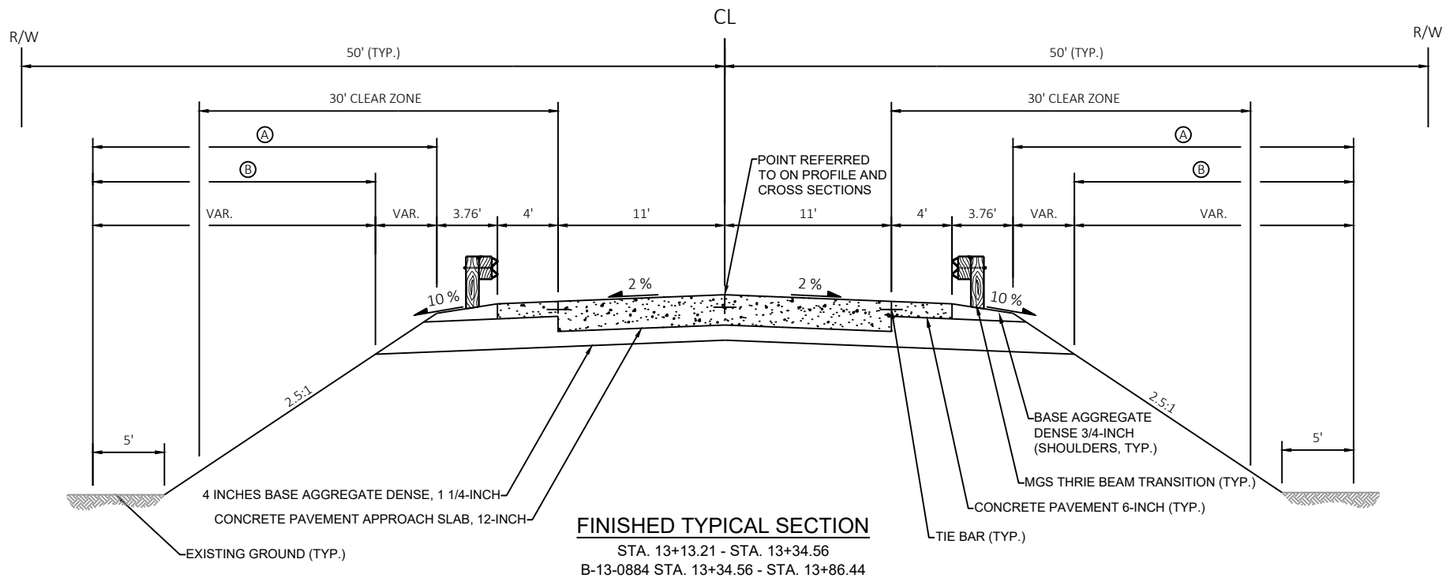
FINISHED TYPICAL SECTION

STA. 10+50.00 - STA. 12+25.86
STA. 15+89.21 - STA. 16+39.74



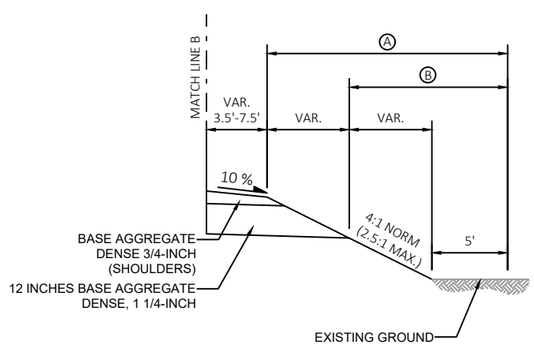
FINISHED TYPICAL SECTION

STA. 10+50.00 - STA. 13+13.21
STA. 14+07.79 - STA. 16+29.13



FINISHED TYPICAL SECTION

STA. 13+13.21 - STA. 13+34.56
B-13-0884 STA. 13+34.56 - STA. 13+86.44
STA. 13+86.44 - STA. 14+07.79



FINISHED TYPICAL SECTION

STA. 10+10.92 - STA. 11+31.83
STA. 15+45.18 - STA. 16+29.13

Ⓐ SEEDING MIXTURE NO. 20 OR
SEEDING MIXTURE NO. 60.
AND FERTILIZER TYPE A.

Ⓑ SALVAGED TOPSOIL; AND
EROSION MAT URBAN CLASS I TYPE B, OR
EROSION MAT CLASS II TYPE C, OR MULCHING.

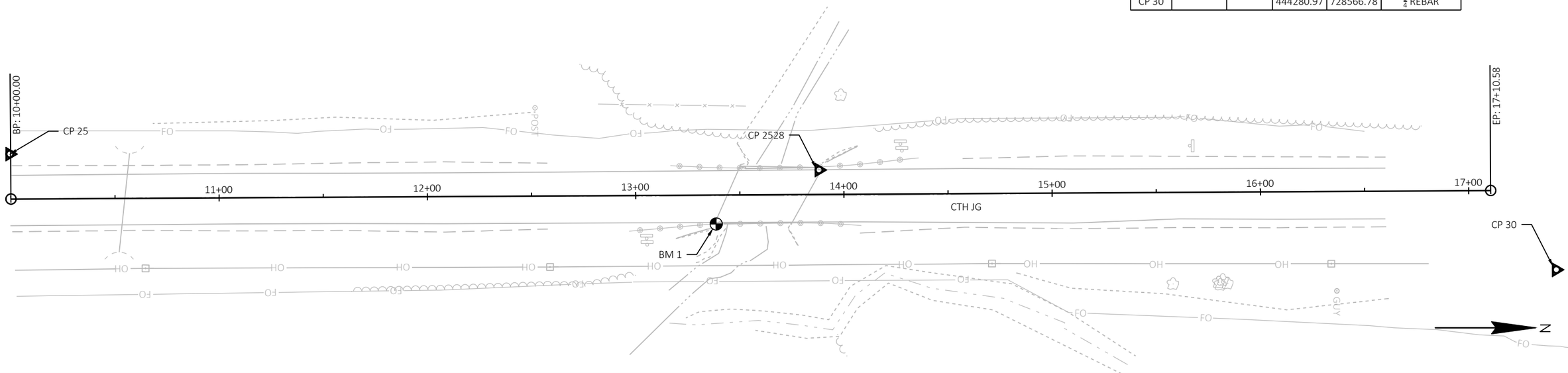
PROJECT NO: 5665-00-75	HWY: CTH JG	COUNTY: DANE	TYPICAL SECTIONS	SHEET 4	E

FILE NAME : S:\MAD\1100--1199\1124\020\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\020301-TS.DWG
LAYOUT NAME - 020302-ts
PLOT DATE : 4/22/2022 2:02 PM
PLOT BY : STANIOCH, DREW
PLOT NAME :
PLOT SCALE : 1 IN:10 FT
WISDOT/CADDS SHEET 42

BENCH MARKS				
NO.	STATION	OFFSET	ELEV.	DESCRIPTION
BM 1	13+38.62	13.87 RT'	982.30	CHISELED X ON TOP OF CURB SE CORNER OF BRIDGE

CONTROL POINTS AND BENCHMARK DETAIL

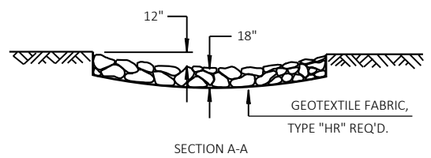
CONTROL POINTS					
NO.	STATION	OFFSET	Y	X	DESCRIPTION
CP 25			443538.44	728511.24	¾ REBAR
CP 2528	13+88.07	11.76 LT'	443926.95	728518.89	¾ REBAR
CP 30			444280.97	728566.78	¾ REBAR

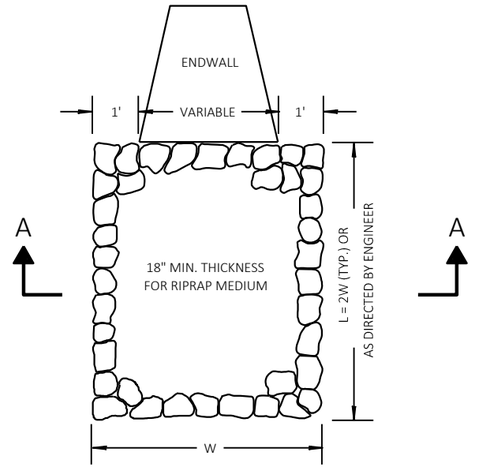


RUNOFF COEFFICIENT TABLE

	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											

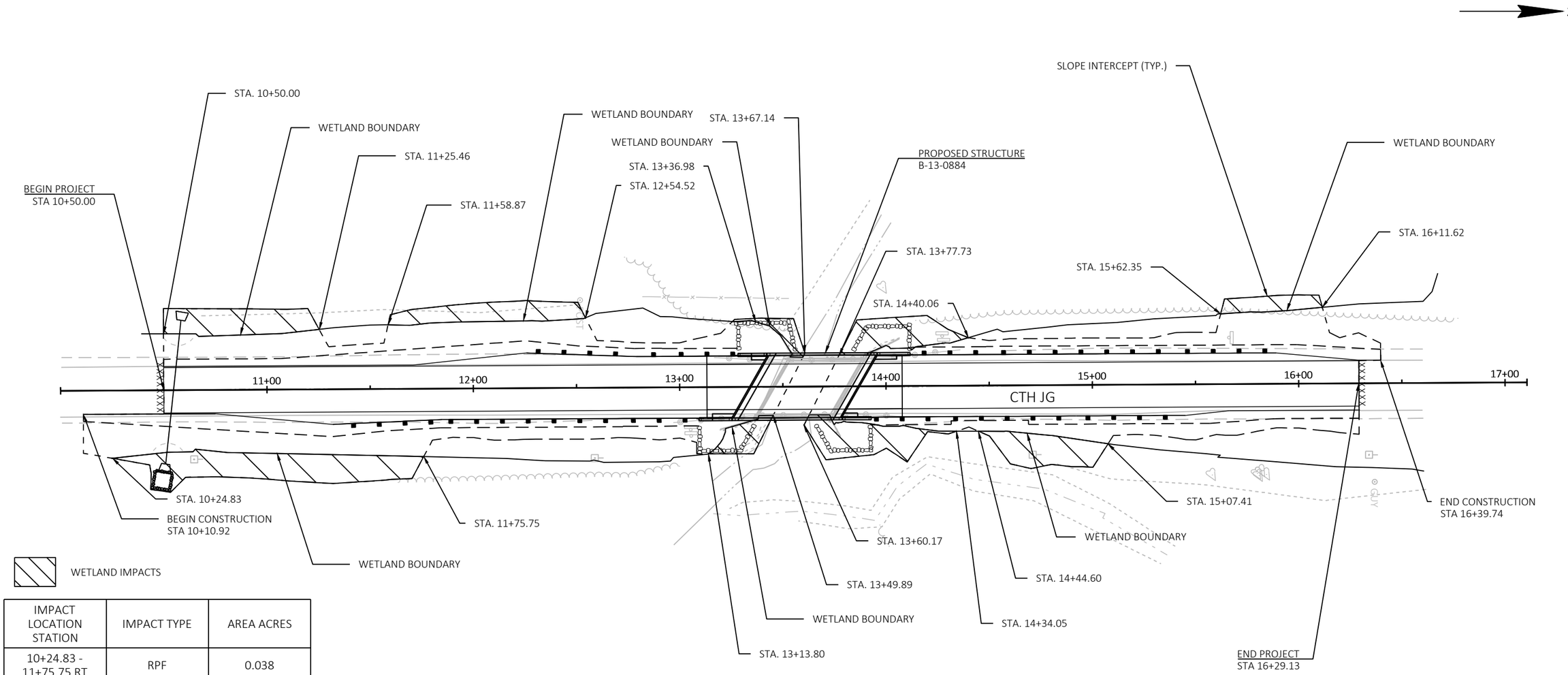
TOTAL PROJECT AREA = 1.408 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 0.871 ACRES





RIPRAP MEDIUM TREATMENT AT CULVERTS

PROJECT NO: 5665-00-75	HWY: CTH JG	COUNTY: DANE	CONSTRUCTION DETAILS	SHEET 5	E



WETLAND IMPACTS

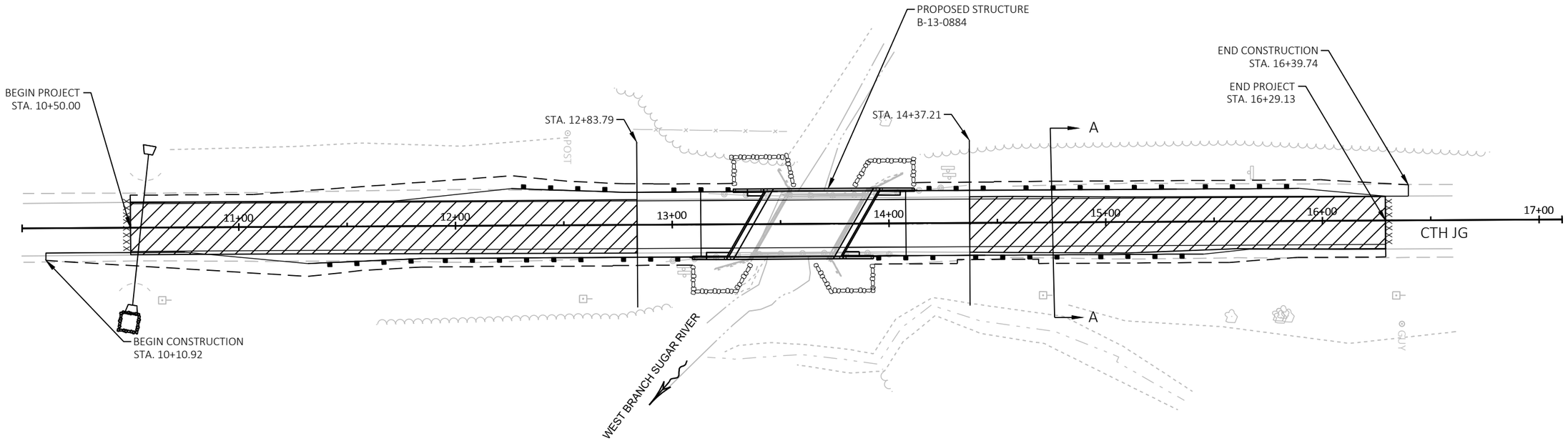
IMPACT LOCATION STATION	IMPACT TYPE	AREA ACRES
10+24.83 - 11+75.75 RT	RPF	0.038
10+50.00 - 11+25.46 LT	RPF	0.020
11+58.87 - 12+54.52 LT	RPF	0.018
13+13.80 - 13+49.89 RT	RPF	0.009
13+36.98 - 13+67.14 LT	RPF	0.007
13+60.17 - 14+34.05 RT	RPE	0.019
13+77.73 - 14+40.06 LT	RPF	0.017
14+44.60 - 15+07.41 RT	RPE	0.017
15+62.35 - 16+11.62 LT	RPF	0.008

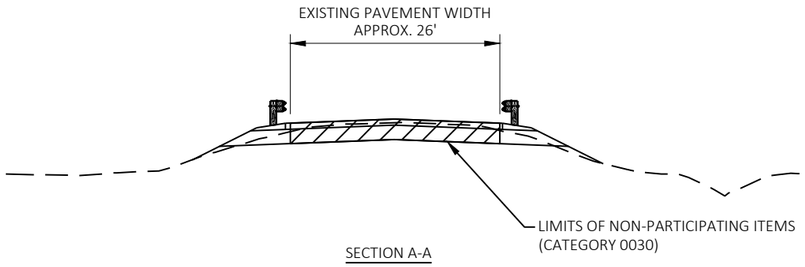
PROJECT NO: 5665-00-75	HWY: CTH JG	COUNTY: DANE	WETLAND DETAIL	SHEET 6	E

FILE NAME : S:\MAD\1100--1199\1124\020\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\021002-CD-WETLAND DETAIL.DWG
LAYOUT NAME - Wetland Detail
PLOT DATE : 4/22/2022 2:03 PM PLOT BY : STANIOCH, DREW PLOT NAME : PLOT SCALE : 1 IN:50 FT
WISDOT/CADDS SHEET 42

2

N





SECTION A-A

NOTE:

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

LIMITS OF NON-PARTICIPATING ITEMS (CATEGORY 0030)

PROJECT NO: 5665-00-75	HWY: CTH JG	COUNTY: DANE	NON-PARTICIPATING ITEMS DETAIL	SHEET 7	E

2

N

STA 10+50.00
-15.00' LT

STA 10+50.00
-11.50' LT

BEGIN PROJECT
STA 10+50.00

BEGIN CONSTRUCTION
STA 10+10.92

STA 11+69.03
-11.50' LT

MGS GUARDRAIL
TERMINAL EAT

STA 12+25.85
-22.94' LT

STA 12+25.86
-17.00' LT
POST #1

STA 12+50.84
-16.06' LT
POST #5

MGS THRIE BEAM
TRANSITION

MGS GUARDRAIL 3

STA 12+78.95
-15.00' LT

STA 12+75.82
-15.12' LT
POST #9

BEGIN CONCRETE PAVEMENT
APPROACH SLAB
STA. 13+13.21

CONC PVT
6-INCH

PROPOSED STRUCTURE
B-13-0884

CONC PVT
6-INCH

MGS THRIE BEAM
TRANSITION

MGS GUARDRAIL 3

STA 15+39.21
-15.00' LT
POST #9

MGS GUARDRAIL
TERMINAL EAT

STA 15+64.21
-15.00' LT
POST #5

STA 15+89.21
-15.00' LT
POST #1

STA 15+99.21
-18.94' LT

STA 16+29.13
-11.19' LT

STA 16+39.74
-16.39' LT

STA 16+39.74
-11.19' LT

MATCH EXISTING XXXXX

2.4%

2.0%
+65

15:1

10:1 TAPER

11+00

12+00

HMA

13+00

14+00

4' SHOULDER

11'

11'

4' SHOULDER

15+00

16+00

2.0%
+15

2.5%

MATCH EXISTING XXXXX

17+00

2.0%
+30

10:1 TAPER

15:1

4.9%

HMA

CTH JG

2.0%
+00

3.0%

10:1 TAPER

15:1

END CONSTRUCTION
STA 16+39.74

MGS THRIE BEAM
TRANSITION

WEST BRANCH
SUGAR RIVER

END PROJECT
STA 16+29.13

STA 10+10.92
11.50' RT

STA 10+10.92
14.88' RT

STA 10+75.00
11.50' RT

STA 11+31.83
17.00' RT
POST #1

STA 11+31.83
22.94' RT

STA 11+56.81
16.06' RT
POST #5

MGS GUARDRAIL
TERMINAL EAT

STA 11+81.79
15.12' RT
POST #9

STA 11+84.92
15.00' RT

MGS GUARDRAIL 3

CONC PVT
6-INCH

MGS THRIE BEAM
TRANSITION

BEGIN CONCRETE PAVEMENT
APPROACH SLAB
STA. 14+07.79

CONC PVT
6-INCH

STA 14+95.18
15.00' RT
POST #9

MGS GUARDRAIL
TERMINAL EAT

STA 15+20.18
15.00' RT
POST #5

MGS GUARDRAIL 3

STA 15+45.18
15.00' RT
POST #1

MGS GUARDRAIL 3 K

STA 15+55.19
18.94' RT

STA 15+68.01
12.90' RT

STA 15+88.40
16.84' RT

STA 16+29.13
12.90' RT

STA 16+29.13
16.84' RT

LEGEND

TRAFFIC FLOW

XXXXXXXX SAWING ASPHALT

HMA HMA PAVEMENT

PROJECT NO: 5665-00-75	HWY: CTH JG	COUNTY: DANE	LAYOUT DETAIL	SHEET 8	E

FILE NAME : S:\MAD\1100--1199\1124\020\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\021201-PD.DWG
LAYOUT NAME - 021201-pd

PLOT DATE : 4/22/2022 2:04 PM PLOT BY : STANIOCH, DREW PLOT NAME : PLOT SCALE : 1 IN:50 FT

N

STA. 10+55 LT/RT
CULVERT PIPE REINFORCED CONCRETE
CLASS III 36-INCH, REQ'D

BEGIN PROJECT
STA. 10+50.00

STA. 10+58, 33.8' LT
I.E. 972.74

MOUNT HOREB
TELEPHONE COMPANY
(COMMUNICATIONS)

END CONSTRUCTION
STA. 16+39.74

BEGIN CONSTRUCTION
STA. 10+10.92

R/W

11+00 12+00 13+00 14+00 15+00 16+00 17+00

CTH JG

R/W

STA. 10+50, 35.8' RT
I.E. 972.09

ALLIANT ENERGY
(ELECTRIC)

WEST BRANCH
SUGAR RIVER

PROPOSED STRUCTURE
B-13-0884

END PROJECT
STA. 16+29.13

APRON ENDWALLS FOR
CULVERT PIPE REINFORCED
CONCRETE 36-INCH

RIPRAP MEDIUM OVER
GEOTEXTILE TYPE HR

MOUNT HOREB
TELEPHONE COMPANY
(COMMUNICATIONS)

LEGEND

- EROSION MAT URBAN CLASS I TYPE B
- EROSION MAT CLASS II TYPE C
- SILT FENCE
- RIPRAP HEAVY
- SLOPE INTERCEPT
- TURBIDITY BARRIERS
- CULVERT PIPE CHECKS

PROJECT NO: 5665-00-75	HWY: CTH JG	COUNTY: DANE	EROSION CONTROL	SHEET 9	E

FILE NAME : S:\MAD\1100--1199\1124\020\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\022001-EC.DWG
LAYOUT NAME - 022001-ec

PLOT DATE : 4/22/2022 4:05 PM PLOT BY : STANIOCH, DREW PLOT NAME : PLOT SCALE : ##########

WISDOT/CADDS SHEET 44

2

N

BP: 10+00.00

EP: 17+10.58

11+00 12+00 13+00 14+00 15+00 16+00 17+00

CTH JG

APPROX. 400 FT

APPROX. 400 FT

MARKING LINE EPOXY 4-INCH (YELLOW)

MARKING LINE EPOXY 4-INCH (EDGELINE) (WHITE)

MARKING LINE EPOXY 4-INCH (YELLOW SKIP, 12.5' SEG. 37.5' GAP)

MARKING LINE EPOXY 4-INCH (EDGELINE) (WHITE)

WEST BRANCH SUGAR RIVER

101 NARROW BRIDGE REMOVE

102 40 MPH REMOVE

103 REMOVE

104 REMOVE

105 NARROW BRIDGE REMOVE

106 REMOVE

107 West Branch Sugar River MOVE

108 REMOVE

109 W5-52R 12"X36"

110 W5-52L 12"X36"

111 W5-52R 12"X36"

112 W5-52L 12"X36"

113 West Branch Sugar River MOVE

114 W1-4L 30"X30" W13-1 18"X18" 40 MPH

PROPOSED SIGN ON WOOD POST

EXISTING SIGN ON WOOD POST

(XXX) DESIGNATES SIGN ITEM NUMBER

PROJECT NO: 5665-00-75	HWY: CTH JG	COUNTY: DANE	PAVEMENT MARKING AND SIGNING	SHEET 10	E

FILE NAME : S:\MAD\1100--1199\1124\020\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\023201-PS.DWG
LAYOUT NAME - 023201-ps
PLOT DATE : 4/22/2022 2:05 PM PLOT BY : STANIOCH, DREW PLOT NAME : PLOT SCALE : ##########
WISDOT/CADDS SHEET 42

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 BY DANE COUNTY ONE WEEK PRIOR TO IMPLEMENTATION OF DETOUR ROUTE. SEE SPECIAL PROVISIONS FOR ADDITIONAL INFORMATION.

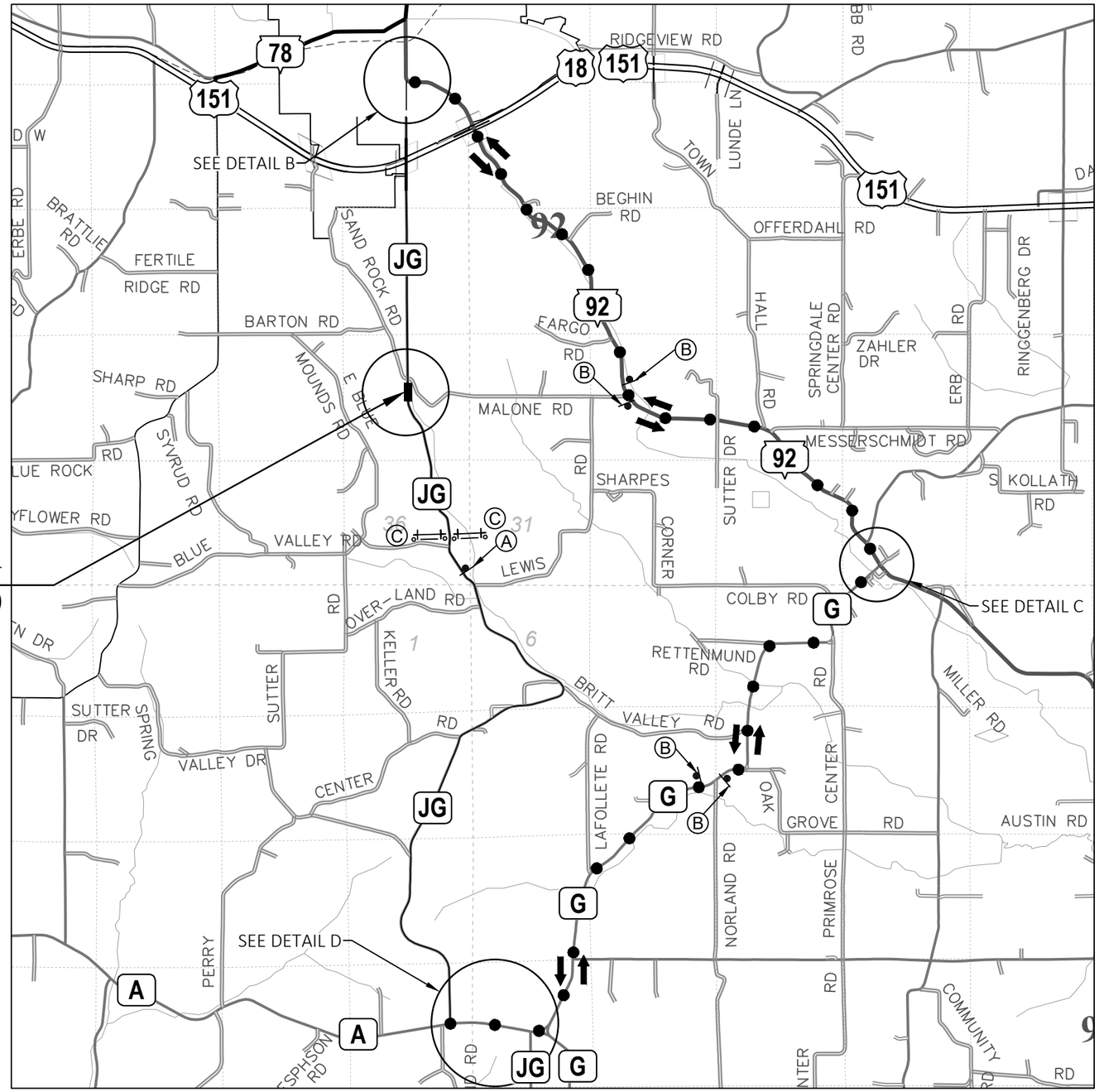
SEE S.D.D. "DETOUR SIGNING FOR MAINLINE CLOSURES", "BARRICADES AND SIGNS FOR MAINLINE CLOSURES". ALL M3 SERIES SIGNS (NORTH, SOUTH EAST, WEST) WHICH ARE PART OF ANY DETOUR ROUTE MARKER SIGNING ASSEMBLY OR ATTACHED TO ANY WARNING SIGN SHALL BE BLACK LETTERING ON A WHITE BACKGROUND.

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)

CTH JG CLOSED AT PROJECT LOCATION (SEE DETAIL A)



SIGNED DETOUR ROUTE

Ⓐ

M4-8
24"X12"
M1-5A
24"X24"

Ⓑ

R11-3C
60"X24"

Ⓒ

PROJECT NO: 5665-00-75	HWY: CTH JG	COUNTY: DANE	DETOUR ROUTE	SHEET 11	E

FILE NAME : S:\MAD\1100--1199\1124\020\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\027001-DT.DWG
LAYOUT NAME - 027001-dt

PLOT DATE : 6/6/2022 9:28 AM PLOT BY : BECKER, ELISA PLOT NAME : PLOT SCALE : ########

WISDOT/CADDS SHEET 42

2

2

N

SAND ROCK ROAD

WEST BRANCH SUGAR RIVER

MALONE ROAD

ROAD CLOSED 1000 FT W20-3C

ROAD CLOSED 500 FT W20-3D

50'

BRIDGE OUT R11-2B 48"X30"

WORK ZONE

BRIDGE OUT R11-2B 48"X30"

BRIDGE OUT R11-2B 48"X30"

ROAD CLOSED 500 FT W20-3D

ROAD CLOSED 1000 FT W20-3C

ROAD CLOSED AHEAD W20-3A

50'

JG

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
- WORK ZONE

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

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

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

DETAIL A

PROJECT NO: 5665-00-75	HWY: CTH JG	COUNTY: DANE	DETOUR ROUTE	SHEET 12	E

FILE NAME : S:\MAD\1100--1199\1124\020\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\027001-DT.DWG
LAYOUT NAME - 027002-dt

PLOT DATE : 4/22/2022 4:03 PM PLOT BY : STANIOCH, DREW PLOT NAME : PLOT SCALE : 1 IN:100 FT

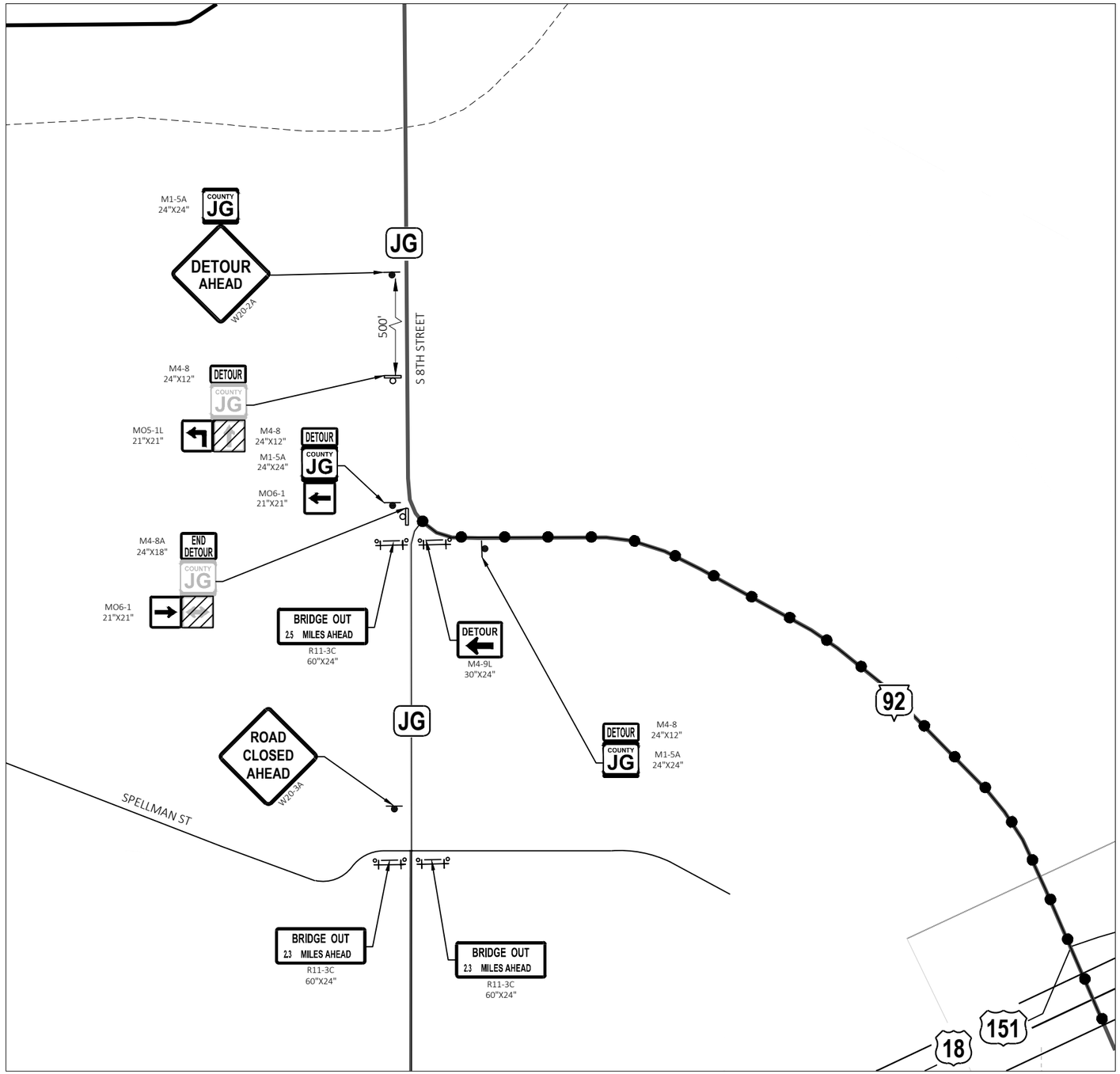
WISDOT/CADDS SHEET 42

2

2

LEGEND

- DETOUR ROUTE
- TRAFFIC CONTROL SIGNS
- TRAFFIC CONTROL BARRICADES TYPE III WITH ATTACHED SIGN (TWO TYPE "A" WARNING LIGHTS)
- COVER EXISTING SIGN (COVERING SIGNS TYPE 2, REQ'D)
- EXISTING SIGNS MOUNTED ON POST(S)



DETAIL B

PROJECT NO: 5665-00-75	HWY: CTH JG	COUNTY: DANE	DETOUR ROUTE	SHEET 13	E

FILE NAME : S:\MAD\1100--1199\1124\020\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\027001-DT.DWG
LAYOUT NAME - 027003-dt

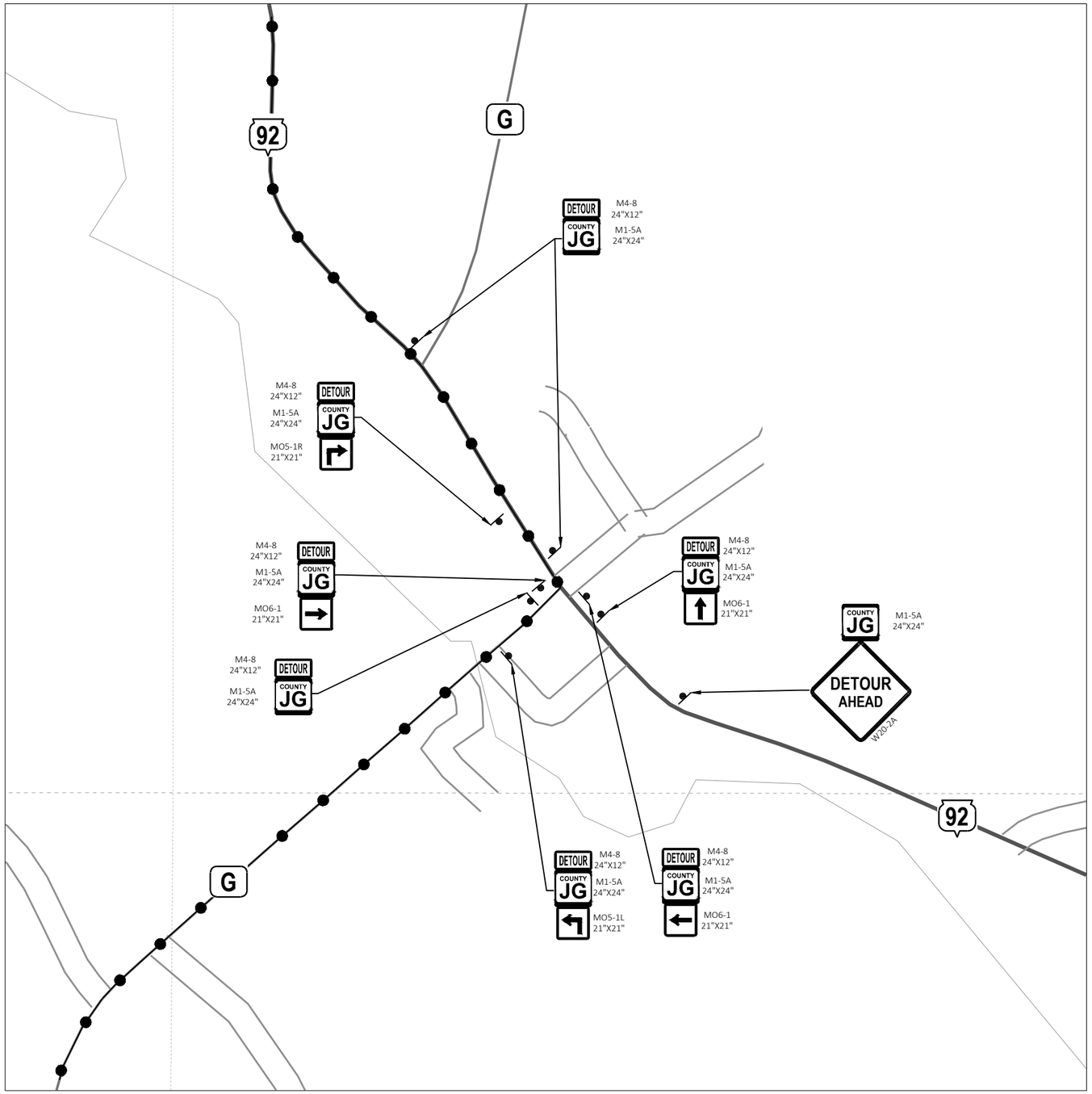
PLOT DATE : 4/22/2022 4:03 PM PLOT BY : STANIOCH, DREW PLOT NAME : PLOT SCALE : ##########

WISDOT/CADDS SHEET 42

2

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: 5665-00-75	HWY: CTH JG	COUNTY: DANE	DETOUR ROUTE	SHEET 14	E

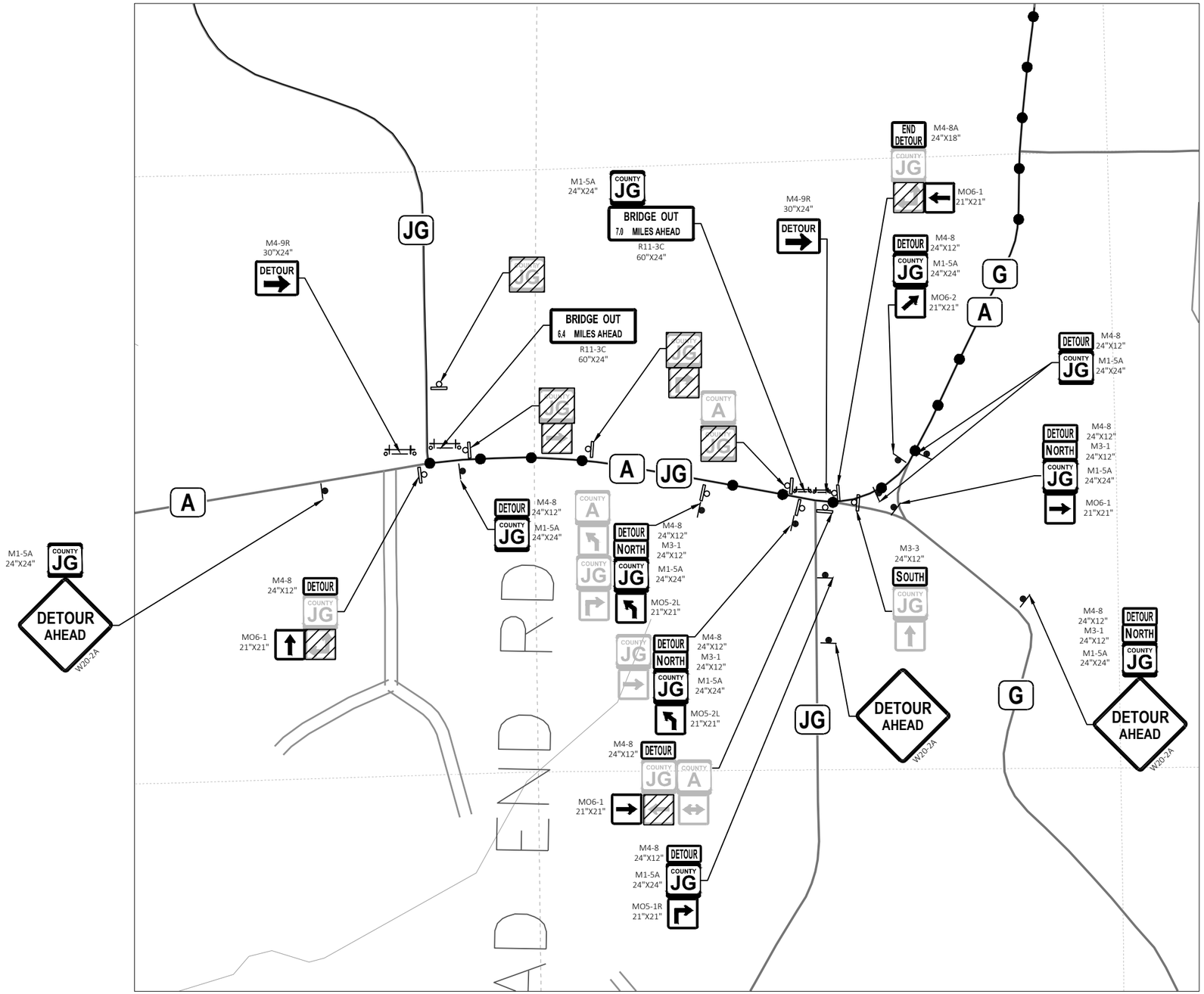
FILE NAME : S:\MAD\1100--1199\1124\020\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\027001-DT.DWG
LAYOUT NAME - 027004-dt

PLOT DATE : 4/22/2022 4:03 PM PLOT BY : STANIOCH, DREW PLOT NAME : PLOT SCALE : ##########

2

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: 5665-00-75	HWY: CTH JG	COUNTY: DANE	DETOUR ROUTE	SHEET 15	E

FILE NAME : S:\MAD\1100--1199\1124\020\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\027001-DT.DWG
LAYOUT NAME - 027005-dt

PLOT DATE : 4/22/2022 4:03 PM PLOT BY : STANIOCH, DREW PLOT NAME : PLOT SCALE : ##########

Estimate Of Quantities

5665-00-75

Line	Item	Item Description	Unit	Total	Qty
0002	203.0100	Removing Small Pipe Culverts	EACH	1.000	1.000
0004	203.0260	Removing Structure Over Waterway Minimal Debris (structure) 01. B-13-69	EACH	1.000	1.000
0006	204.0165	Removing Guardrail	LF	232.000	232.000
0008	205.0100	Excavation Common	CY	948.000	948.000
0010	206.1000	Excavation for Structures Bridges (structure) 01. B-13-884	LS	1.000	1.000
0012	210.1500	Backfill Structure Type A	TON	504.000	504.000
0014	213.0100	Finishing Roadway (project) 01. 5665-00-75	EACH	1.000	1.000
0016	305.0110	Base Aggregate Dense 3/4-Inch	TON	122.000	122.000
0018	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	1,400.000	1,400.000
0020	312.0110	Select Crushed Material	TON	99.000	99.000
0022	415.0060	Concrete Pavement 6-Inch	SY	38.000	38.000
0024	415.0410	Concrete Pavement Approach Slab	SY	104.000	104.000
0026	455.0605	Tack Coat	GAL	77.000	77.000
0028	460.2000	Incentive Density HMA Pavement	DOL	240.000	240.000
0030	460.5223	HMA Pavement 3 LT 58-28 S	TON	194.000	194.000
0032	460.5224	HMA Pavement 4 LT 58-28 S	TON	151.000	151.000
0034	502.0100	Concrete Masonry Bridges	CY	176.000	176.000
0036	502.3200	Protective Surface Treatment	SY	264.000	264.000
0038	503.0128	Prestressed Girder Type I 28-Inch	LF	250.000	250.000
0040	505.0400	Bar Steel Reinforcement HS Structures	LB	5,100.000	5,100.000
0042	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	15,880.000	15,880.000
0044	506.2605	Bearing Pads Elastomeric Non-Laminated	EACH	10.000	10.000
0046	506.4000	Steel Diaphragms (structure) 01. B-13-884	EACH	4.000	4.000
0048	513.4061	Railing Tubular Type M	LF	172.000	172.000
0050	516.0500	Rubberized Membrane Waterproofing	SY	20.000	20.000
0052	522.0136	Culvert Pipe Reinforced Concrete Class III 36-Inch	LF	70.000	70.000
0054	522.1036	Apron Endwalls for Culvert Pipe Reinforced Concrete 36-Inch	EACH	2.000	2.000
0056	550.1100	Piling Steel HP 10-Inch X 42 Lb	LF	520.000	520.000
0058	606.0200	Riprap Medium	CY	3.600	3.600
0060	606.0300	Riprap Heavy	CY	207.000	207.000
0062	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	148.000	148.000
0064	614.2300	MGS Guardrail 3	LF	212.500	212.500
0066	614.2330	MGS Guardrail 3 K	LF	37.500	37.500
0068	614.2500	MGS Thrie Beam Transition	LF	157.600	157.600
0070	614.2610	MGS Guardrail Terminal EAT	EACH	4.000	4.000
0072	618.0100	Maintenance And Repair of Haul Roads (project) 01. 5665-00-75	EACH	1.000	1.000
0074	619.1000	Mobilization	EACH	1.000	1.000
0076	624.0100	Water	MGAL	25.000	25.000
0078	625.0500	Salvaged Topsoil	SY	1,400.000	1,400.000
0080	627.0200	Mulching	SY	1,510.000	1,510.000
0082	628.1504	Silt Fence	LF	1,845.000	1,845.000
0084	628.1520	Silt Fence Maintenance	LF	2,760.000	2,760.000
0086	628.1905	Mobilizations Erosion Control	EACH	3.000	3.000
0088	628.1910	Mobilizations Emergency Erosion Control	EACH	3.000	3.000
0090	628.2008	Erosion Mat Urban Class I Type B	SY	307.000	307.000
0092	628.2027	Erosion Mat Class II Type C	SY	115.000	115.000
0094	628.6005	Turbidity Barriers	SY	163.000	163.000
0096	628.7555	Culvert Pipe Checks	EACH	9.000	9.000
0098	628.7560	Tracking Pads	EACH	2.000	2.000

5665-00-75

Line	Item	Item Description	Unit	Total	Qty
0100	629.0205	Fertilizer Type A	CWT	0.400	0.400
0102	630.0120	Seeding Mixture No. 20	LB	31.000	31.000
0104	630.0160	Seeding Mixture No. 60	LB	10.000	10.000
0106	630.0300	Seeding Borrow Pit	LB	15.000	15.000
0108	630.0500	Seed Water	MGAL	53.000	53.000
0110	633.5200	Markers Culvert End	EACH	2.000	2.000
0112	634.0614	Posts Wood 4x6-Inch X 14-FT	EACH	4.000	4.000
0114	634.0616	Posts Wood 4x6-Inch X 16-FT	EACH	4.000	4.000
0116	634.0618	Posts Wood 4x6-Inch X 18-FT	EACH	1.000	1.000
0118	637.2230	Signs Type II Reflective F	SF	20.500	20.500
0120	638.2102	Moving Signs Type II	EACH	2.000	2.000
0122	638.2602	Removing Signs Type II	EACH	7.000	7.000
0124	638.3000	Removing Small Sign Supports	EACH	11.000	11.000
0126	642.5201	Field Office Type C	EACH	1.000	1.000
0128	643.0420	Traffic Control Barricades Type III	DAY	1,704.000	1,704.000
0130	643.0705	Traffic Control Warning Lights Type A	DAY	2,840.000	2,840.000
0132	643.0900	Traffic Control Signs	DAY	7,100.000	7,100.000
0134	643.0920	Traffic Control Covering Signs Type II	EACH	9.000	9.000
0136	643.5000	Traffic Control	EACH	1.000	1.000
0138	645.0111	Geotextile Type DF Schedule A	SY	58.000	58.000
0140	645.0120	Geotextile Type HR	SY	389.000	389.000
0142	646.1020	Marking Line Epoxy 4-Inch	LF	1,885.000	1,885.000
0144	650.4500	Construction Staking Subgrade	LF	580.000	580.000
0146	650.5000	Construction Staking Base	LF	485.000	485.000
0148	650.6000	Construction Staking Pipe Culverts	EACH	1.000	1.000
0150	650.6500	Construction Staking Structure Layout (structure) 01. B-13-884	LS	1.000	1.000
0152	650.7000	Construction Staking Concrete Pavement	LF	44.000	44.000
0154	650.9910	Construction Staking Supplemental Control (project) 01. 5665-00-75	LS	1.000	1.000
0156	650.9920	Construction Staking Slope Stakes	LF	580.000	580.000
0158	690.0150	Sawing Asphalt	LF	48.000	48.000
0160	715.0502	Incentive Strength Concrete Structures	DOL	1,056.000	1,056.000
0162	715.0720	Incentive Compressive Strength Concrete Pavement	DOL	500.000	500.000
0164	999.2000.S	Installing and Maintaining Bird Deterrent System (station) 01. 13+60	EACH	1.000	1.000
0166	ASP.1T0A	On-the-Job Training Apprentice at $5.00/HR	HRS	1,200.000	1,200.000
0168	ASP.1T0G	On-the-Job Training Graduate at $5.00/HR	HRS	600.000	600.000
0170	SPV.0195	Special 01. Excavation, Hauling, And Disposal Of Creosote Contaminated Soil	TON	188.000	188.000
0172	SPV.0195	Special 02. Select Crushed Material For Travel Corridor	TON	77.000	77.000

3

3

REMOVING SMALL PIPE CULVERTS

CATEGORY	STATION	LOCATION	203.0100 EACH	REMARKS
0010	10+55	LT/RT	1	36-INCH CMCP

REMOVING GUARDRAIL

CATEGORY	STATION - STATION	LOCATION	204.0165 LF
0010	13+17 - 14+36	LT	120
	12+97 - 14+08	RT	112
	TOTAL		232

FINISHING ROADWAY

CATEGORY	PROJECT	213.0100 EACH
0010	5665-00-75	1

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+11 - 12+84	60	280
	12+85 - 13+43	9	110
	13+78 - 14+36	8	100
	14+37 - 16+40	45	190
	TOTALS (0010)	122	680
0030	10+50 - 12+84	---	390
	14+37 - 16+29	---	330
	TOTALS (0030)	0	720
	GRAND TOTALS	122	1,400

CONCRETE PAVEMENT 6-INCH

CATEGORY	STATION - STATION	LOCATION	415.0060 SY
0010	13+13 - 13+43	LT/RT	19
	13+78 - 14+08	LT/RT	19
		TOTAL	38

CONCRETE PAVEMENT APPROACH SLAB

CATEGORY	STATION - STATION	415.0410 SY
0010	13+13 - 13+43	52
	13+78 - 14+08	52
	TOTAL	104

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+75 - 13+13	28	22	11
	14+08 - 16+29	25	19	10
	SUBTOTALS (0010)	53	41	21
0030	10+50 - 12+84	76	59	30
	14+36 - 16+29	65	51	26
	SUBTOTALS (0030)	141	110	56
	GRAND TOTALS	194	151	77

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

CULVERT PIPE

CATEGORY	STATION	LOCATION	522.0136 CULVERT PIPE REINFORCED CONCRETE CLASS III 36-INCH LF	650.6000 CONSTRUCTION STAKING PIPE CULVERTS EACH
0010	10+55	LT/RT	70	1

CULVERT PIPE

CATEGORY	STATION	OFFSET	522.1036 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 36-INCH EACH	633.5200 MARKERS CULVERT END EACH
0010	10+51	35.8' RT	1	1
	10+58	33.8' LT	1	1
		TOTALS	2	2

3

EARTHWORK

CATEGORY	LOCATION	STATION - STATION	205.0100 EXCAVATION COMMON (1) CUT (2) CY	205.0100 EXCAVATION COMMON (1) EBS EXCAVATION (3) 5% OF CUT CY	AVAILABLE STRUCTURE EXCAVATION (4) CY	AVAILABLE MATERIAL (5) CY	EXPANDED EBS BACKFILL (6) FACTOR 1.25 CY	UNEXPANDED FILL CY	EXPANDED FILL (7) FACTOR 1.25 CY	MASS ORDINATE +/- (8) CY	WASTE (9) CY	312.0110 SELECT CRUSHED MATERIAL (10) TON
0010	CTH JG	10+10.92 - 16+39.74	407	20	199	606	25	300	375	232	232	45
		ITEM TOTALS (0010)		427								
0030	CTH JG	10+50.00 - 12+83.79	285	14	0	285	18	0	0	285	285	31
		14+37.21 - 16+29.13	211	11	0	211	13	0	0	211	211	23
		ITEM TOTALS (0030)		521	0	496	31	0	0	496	496	54
		GRAND TOTALS		948	199	1,102	56	300	375	728	728	99

1) EXCAVATION COMMON IS THE SUM OF THE CUT AND EBS EXCAVATION COLUMNS. ITEM NUMBER 205.0100.
2) SALVAGED/UNUSABLE PAVEMENT MATERIAL IS INCLUDED IN CUT.
3) EBS EXCAVATION TO BE BACKFILLED WITH SELECT CRUSHED MATERIAL.
4) AVAILABLE STRUCTURE EXCAVATION IS FOR INFORMATION ONLY AND IS INCLUDED IN BID ITEM "EXCAVATION FOR STRUCTURES B-13-884"
5) AVAILABLE MATERIAL = CUT + AVAILABLE STRUCTURE EXCAVATION
6) EXPANDED EBS BACKFILL: THIS IS TO BE FILLED WITH SELECT CRUSHED MATERIAL. EBS BACKFILL EXPANSION FACTOR = 1.25.
7) EXPANDED FILL = (UNEXPANDED FILL)* EXPANDED FILL FACTOR. EXPANDED FILL FACTOR = 1.25.
8) 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.
9) WASTE = POSITIVE MASS ORDINATE, BORROW = NEGATIVE MASS ORDINATE
10) SELECT CRUSHED MATERIAL IS USED FOR BACKFILL OF EBS.

3

GUARDRAIL SUMMARY

CATEGORY	STATION - STATION	LOCATION	614.2300 3 LF	614.2330 MGS GUARDRAIL 3 K LF	614.2610 TERMINAL EAT EACH	614.2500 MGS THRIE BEAM TRANSITION LF
0010	11+32 - 13+12	RT	87.5	---	1	39.4
	12+25 - 13+31	LT	12.5	---	1	39.4
	13+90 - 15+45	RT	25.0	37.5	1	39.4
	14+09 - 15+89	LT	87.5	---	1	39.4
	TOTALS		212.5	37.5	4	157.6

MAINTENANCE AND REPAIR OF HAUL ROADS

CATEGORY	PROJECT	618.0100 EACH
0030	5665-00-75	1

MOBILIZATION

CATEGORY	PROJECT	619.1000 EACH
0010	5665-00-75	1

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	628.2027 EROSION MAT CLASS II TYPE C SY	628.6005 TURBIDITY BARRIERS SY	628.7555 CULVERT PIPE CHECKS EACH
0010	10+00 - 13+64	LT/RT	640	960	32	---	74	7
	13+62 - 16+55	LT/RT	555	830	215	95	56	---
		WASTE SITE	280	420	---	---	---	---
		UNDISTRIBUTED	370	550	60	20	33	2
	TOTALS		1,845	2,760	307	115	163	9

TRACKING PADS

CATEGORY	LOCATION	628.7560 EACH
0010	UNDISTRIBUTED	2

MOBILIZATIONS EROSION CONTROL

CATEGORY	PROJECT	628.1905 MOBILIZATIONS EROSION CONTROL EACH	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EACH
0010	5665-00-75	3	3

FINISHING ITEMS

CATEGORY	STATION - STATION	LOCATION	625.0500 SALVAGED TOPSOIL SY	627.0200 MULCHING SY	629.0205 FERTILIZER TYPE A CWT	630.0120 SEEDING MIXTURE NO. 20 LB	630.0160 SEEDING MIXTURE NO. 60 LB	630.0300 SEEDING BORROW PIT LB	630.0500 SEED WATER MGAL
0010	10+50 - 13+34	LT/RT	775	740	---	16	5	---	21
	13+93 - 16+40	LT/RT	345	30	---	9	3	---	11
		WASTE SITE	---	440	0.3	---	---	12	10
		UNDISTRIBUTED	280	300	0.1	6	2	3	11
		TOTALS	1,400	1,510	0.4	31	10	15	53

RIPRAP

CATEGORY	STATION	OFFSET	606.0200 RIPRAP MEDIUM CY	645.0120 GEOTEXTILE TYPE HR SY
0010	10+51	27.8' RT	3.6	13

WATER

CATEGORY	STATION - STATION	624.0100 MGAL	REMARKS
0010	10+50 - 16+29	2	DUST CONTROL
		10	COMPACTION
	TOTAL (0010)	12	
0030	10+50 - 16+29	2	DUST CONTROL
		11	COMPACTION
	TOTAL (0030)	13	
	GRAND TOTAL	25	

3

FIELD OFFICE TYPE C

CATEGORY	PROJECT	642.5201 EACH
0010	5665-00-75	1

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	71	100	7,100	24	1,704	40	2,840
		TOTALS		7,100		1,704		2,840

TRAFFIC CONTROL COVERING SIGNS TYPE II

CATEGORY	TRAFFIC CONTROL OPERATION	NO. OF CYCLES	NO. OF SIGNS	643.0920 EACH
0010	DETOUR AND CLOSURE	1	9	9
			TOTAL	9

3

TRAFFIC CONTROL

CATEGORY	PROJECT	643.5000 EACH
0010	5665-00-75	1

MARKING LINE ITEMS

CATEGORY	STATION - STATION	646.1020 MARKING LINE EPOXY 4-INCH (12.5' SEG., 37.5' GAP) (WHITE) LF	(YELLOW) LF	646.1020 MARKING LINE EPOXY 4-INCH (YELLOW) LF
0010	10+50 - 16+29	1,160	145	580
	TOTAL		1,885	

SAWING

CATEGORY	LOCATION	690.0150 ASPHALT LF
0010	10+50	24
	16+29	24
	TOTAL	48

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+11 - 13+35	LT/RT	325	265	22	325
	13+86 - 16+40	LT/RT	255	220	22	255
	TOTALS		580	485	44	580

INSTALLING AND MAINTAINING BIRD DETERRENT SYSTEM

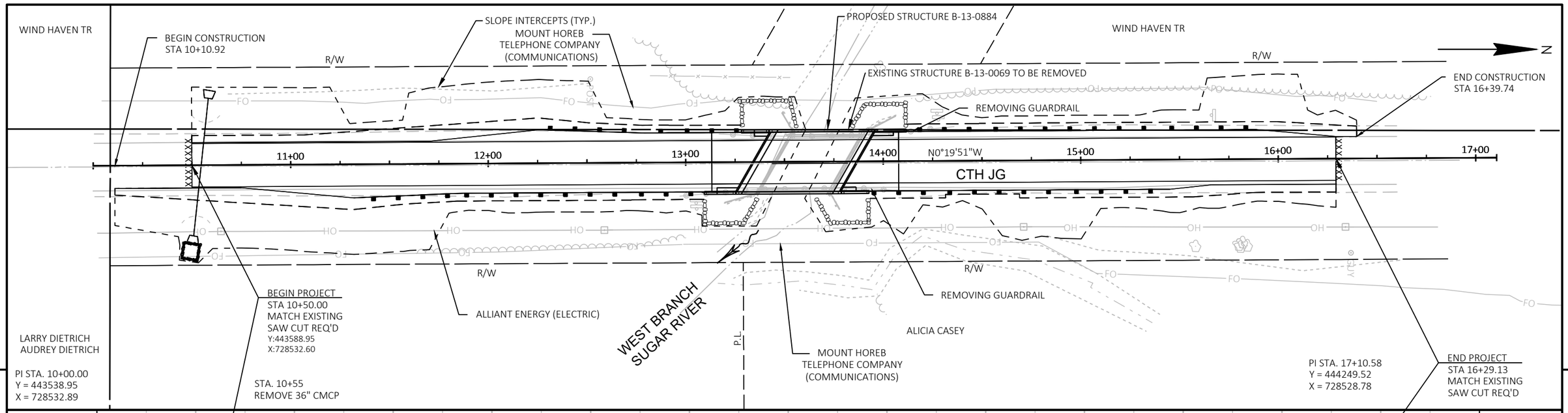
CATEGORY	STATION	999.2000.S EACH
0010	13+60	1

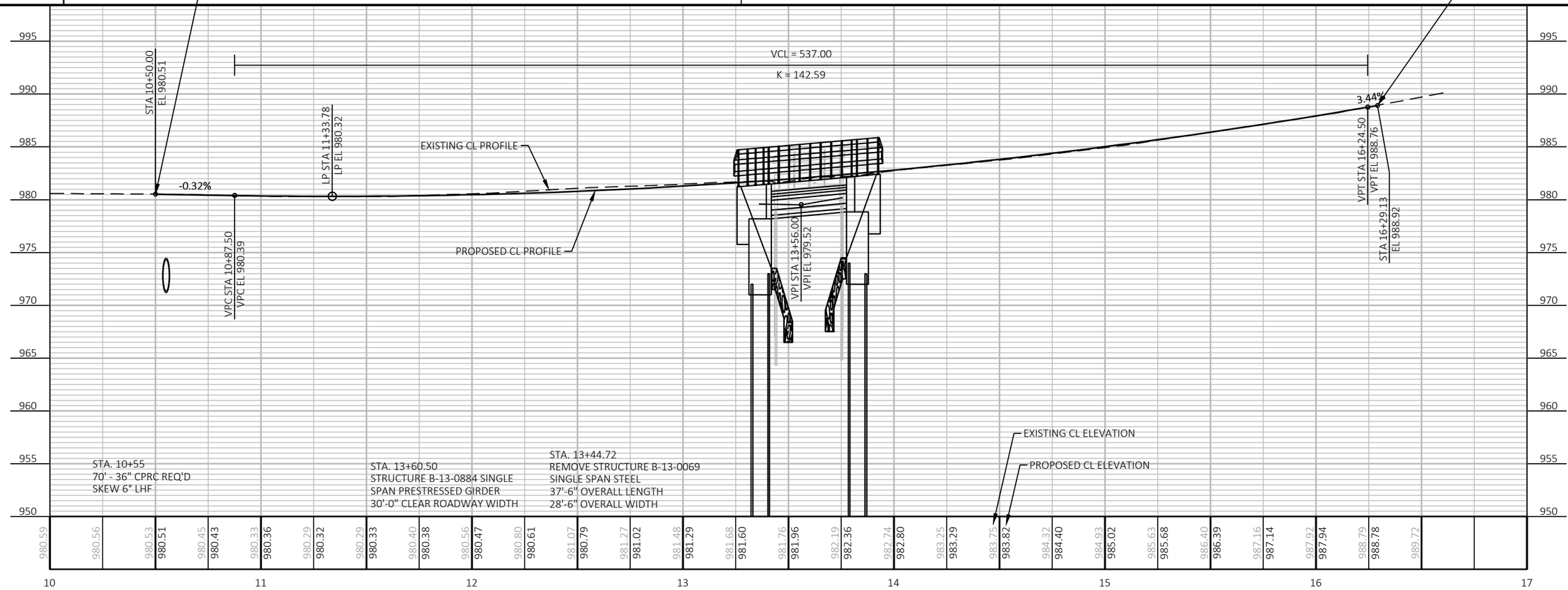
EXCAVATION, HAULING, AND DISPOSAL OF CREOSOTE CONTAMINATED SOIL

CATEGORY	STATION - STATION	LOCATION	SPV.0195.01 TON
0010	13+20 - 13+55	LT/RT	94
	13+70 - 14+07	LT/RT	94
		TOTAL	188

SIGNING SUMMARY

							637.2230	634.0614	634.0616	634.0618	638.2102	638.2602	638.3000	
						SIGN SIZE	SIGNS TYPE II	POSTS WOOD 4x6-INCH			MOVING SIGNS	REMOVING SIGNS	REMOVING SMALL SIGN	
CATEGORY	SIGN NO.	APPROX. STA.	LOC.	SIGN CODE	SIGN MESSAGE	(W x H) IN	REFLECTIVE F SF	x 14-FT EACH	x 16-FT EACH	x 18-FT EACH	TYPE II EACH	TYPE II EACH	SUPPORTS EACH	REMARKS
0010	101	---	RT	W5-2	NARROW BRIDGE	--- x ---	---	---	---	---	---	1	1	REMOVE
	102	15+65	LT	W1-4L	LEFT REVERSE CURVE	--- x ---	---	---	---	---	---	1	1	REMOVE, 40 MPH SIGN BELOW
	103	13+29	RT	W5-52R	CLEARANCE STRIPER DOWN LEFT	--- x ---	---	---	---	---	---	1	1	REMOVE
	104	13+75	RT	W5-52L	CLEARANCE STRIPER DOWN RIGHT	--- x ---	---	---	---	---	---	1	1	REMOVE
	105	---	RT	W5-2	NARROW BRIDGE	--- x ---	---	---	---	---	---	1	1	REMOVE
	106	13+96	LT	W5-52R	CLEARANCE STRIPER DOWN LEFT	--- x ---	---	---	---	---	---	1	1	REMOVE
	107	14+33	LT	I3-1	WEST BRANCH SUGAR RIVER	--- x ---	---	---	2	---	1	---	2	MOVE SIGN TO 14+35 LT
	108	13+31	LT	W5-52L	CLEARANCE STRIPER DOWN RIGHT	--- x ---	---	---	---	---	---	1	1	REMOVE
	109	13+12	RT	W5-52R	CLEARANCE STRIPER DOWN LEFT	12 x 36	3.00	1	---	---	---	---	---	
	110	13+96	RT	W5-52L	CLEARANCE STRIPER DOWN RIGHT	12 x 36	3.00	1	---	---	---	---	---	
	111	14+15	LT	W5-52R	CLEARANCE STRIPER DOWN LEFT	12 x 36	3.00	1	---	---	---	---	---	
	112	13+31	LT	W5-52L	CLEARANCE STRIPER DOWN RIGHT	12 x 36	3.00	1	---	---	---	---	---	
	113	12+98	RT	I3-1	WEST BRANCH SUGAR RIVER	--- x ---	---	---	2	---	1	---	2	MOVE SIGN TO 13+00 RT
	114	15+00	LT	W1-4L	LEFT REVERSE CURVE	30 x 30	6.25	---	---	1	---	---	---	
				W13-1	ADVISORY SPEED PLATE (YELLOW BACK)	18 x 18	2.25	---	---	---	---	---	---	40 MPH; MOUNT BELOW W1-4L
					TOTALS		20.50	4	4	1	2	7	11	





PROJECT NO: 5665-00-75	HWY: CTH JG	COUNTY: DANE	PLAN AND PROFILE	SHEET 23	E

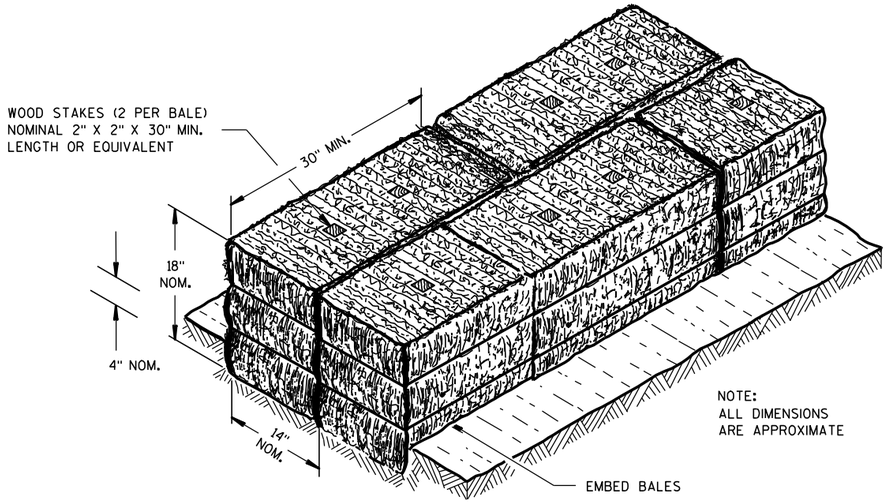
FILE NAME : S:\MAD\1100--1199\1124\020\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\050101-PP.DWG
LAYOUT NAME - 050101-pp

PLOT DATE : 4/22/2022 2:06 PM PLOT BY : STANIOCH, DREW PLOT NAME : PLOT SCALE : 1 IN:50 FT

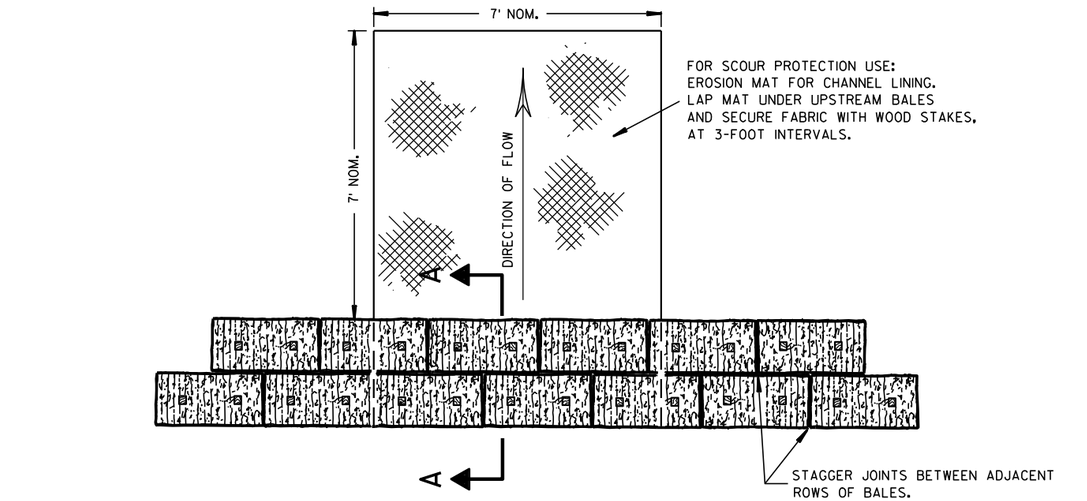
WISDOT/CADDS SHEET 44

Standard Detail Drawing List

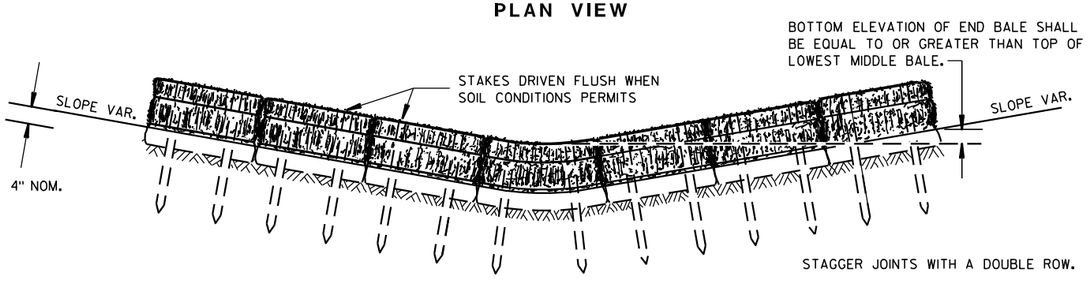
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E11-02	TURBIDITY BARRIER
08E14-01	TRACKING PAD
08E15-01	CULVERT PIPE CHECK
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
12A03-10	NAME PLATE (STRUCTURES)
13A03-06	CONCRETE PAVEMENT SHOULDERS
13B02-09A	CONCRETE PAVEMENT 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)
15A03-02A	FLEXIBLE MARKER POST FOR CULVERT END
15A03-02B	FLEXIBLE MARKER POST FOR CULVERT END
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



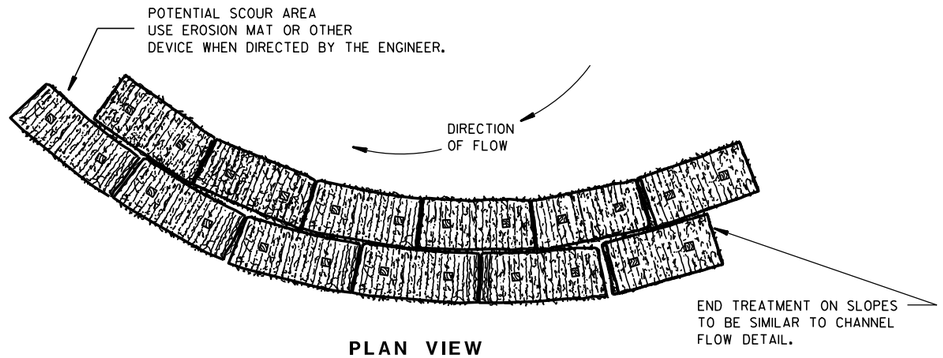
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES (1)

GENERAL NOTES

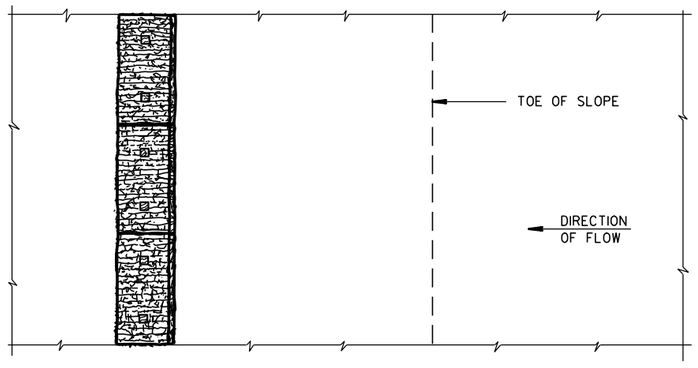
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

(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.

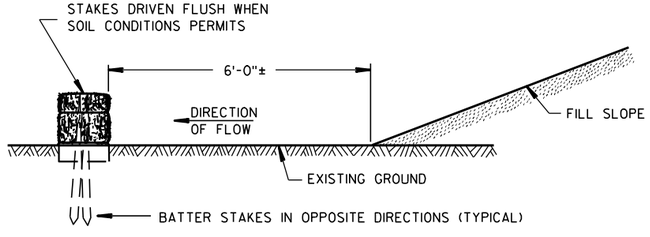


PLAN VIEW

WHEN ALTERING THE DIRECTION OF FLOW



PLAN VIEW



FRONT ELEVATION

WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

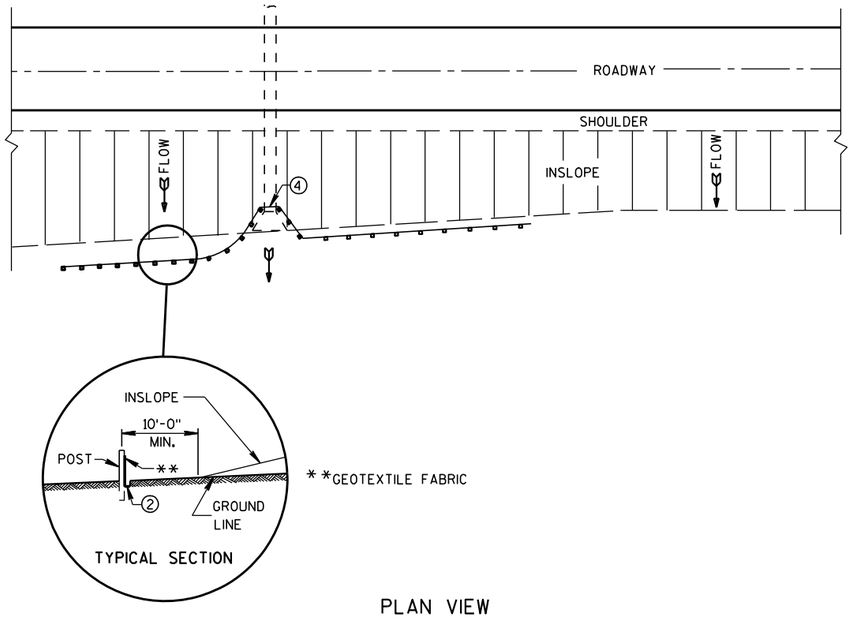
EROSION BALES FOR SHEET FLOW

TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

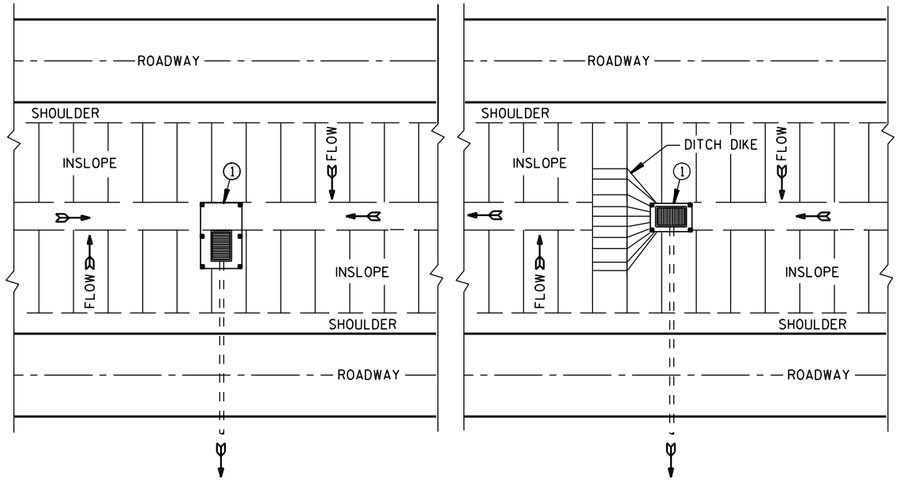
APPROVED
6/04/02 — DATE
/S/ Beth Cannestra — CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

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



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



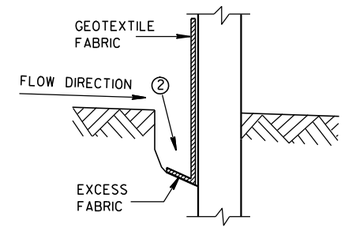
PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

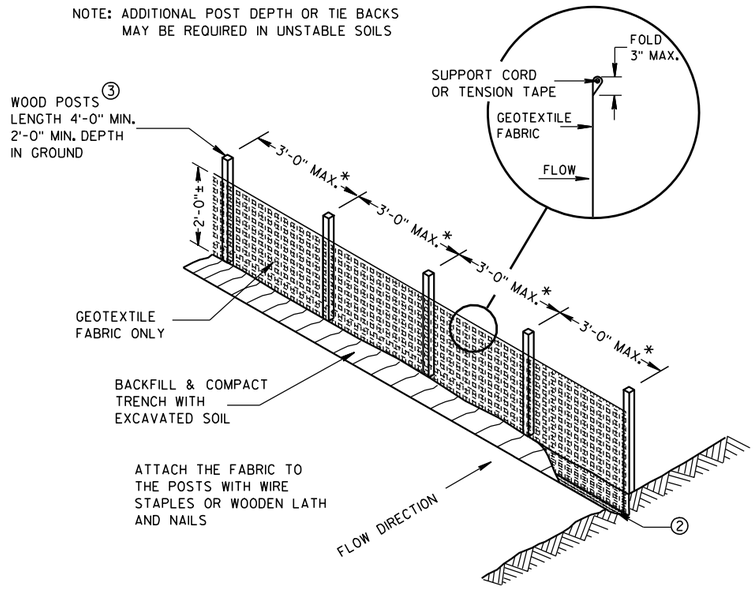
GENERAL NOTES

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

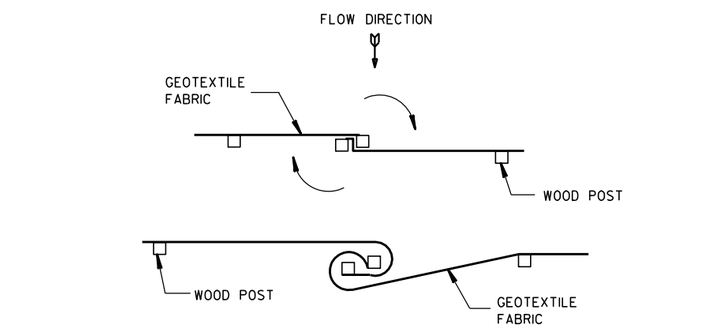
1. HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
2. FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
3. WOOD POSTS SHALL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



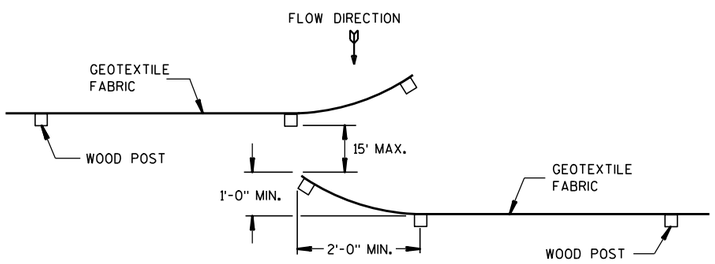
TRENCH DETAIL



SILT FENCE

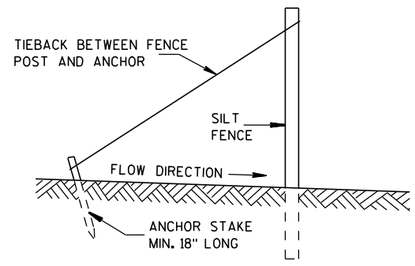


TWIST METHOD



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

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S.D.D. 8 E 9-6

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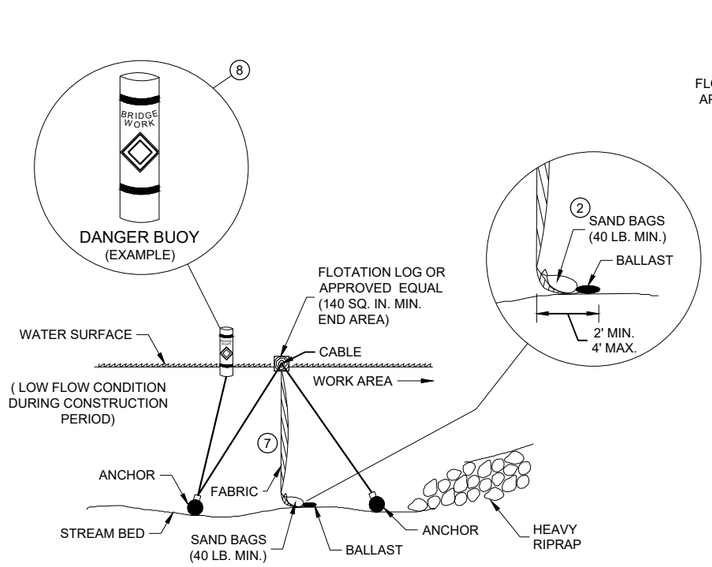
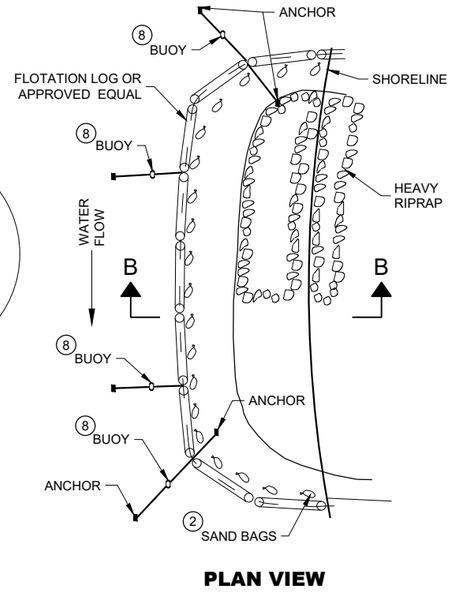
S.D.D. 8 E 9-6

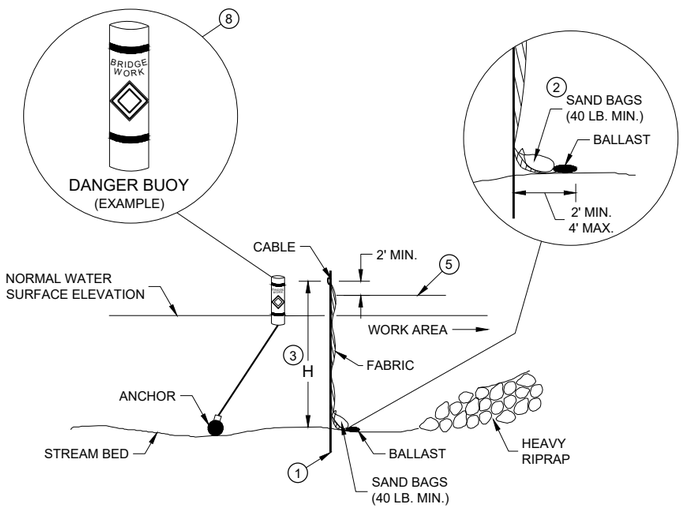


SECTION B - B

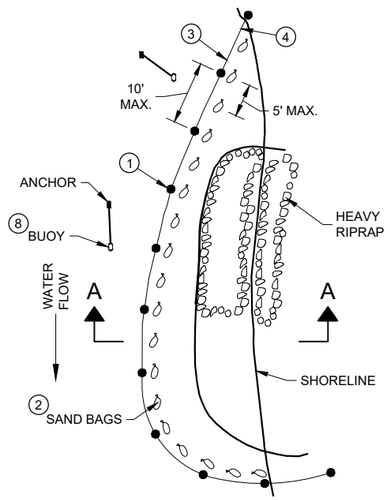


PLAN VIEW

TURBIDITY BARRIER - FLOAT ALTERNATIVE
CAUTION - SEE NOTE 6



SECTION A - A



PLAN VIEW

TURBIDITY BARRIER - STANDARD POST INSTALLATION

TURBIDITY BARRIER PLACEMENT DETAILS

GENERAL NOTES

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

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

(1) DRIVEN STEEL POSTS, PIPES, OR CHANNELS. LENGTH SHALL BE SUFFICIENT TO SECURELY SUPPORT BARRIER AT HIGH WATER ELEVATIONS.

(2) SAND BAGS TO BE USED AS ADDITIONAL BALLAST WHEN ORDERED BY THE ENGINEER TO MEET ADVERSE FIELD CONDITIONS. SPACE AS APPROPRIATE FOR SITE CONDITIONS.

(3) WHEN BARRIER HEIGHT "H" EXCEEDS 8 FEET, POST SPACING MAY NEED TO BE DECREASED.

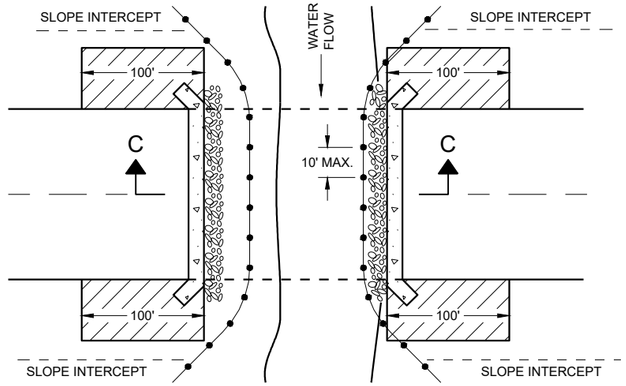
(4) IN WATERWAYS SUBJECT TO FLUCTUATING WATER ELEVATIONS, PROVISIONS SHOULD BE MADE TO ALLOW THE WATER TO EQUALIZE ON EACH SIDE OF THE BARRIER. THIS MAY BE ACCOMPLISHED BY LEAVING A PORTION OF THE BARRIER OPEN ON THE UPSTREAM END.

(5) ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION PERIOD. MINIMUM BARRIER HEIGHT SHALL BE 2' GREATER THAN EITHER THE Q2 ELEVATION OR THE ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION, WHICHEVER IS GREATER.

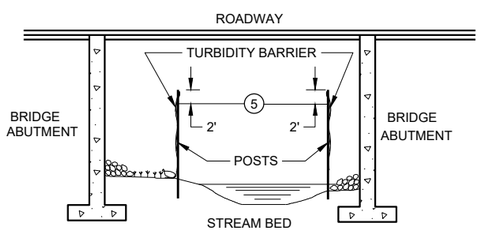
(6) FLOAT ALTERNATIVE WILL ONLY BE ALLOWED WITH WRITTEN APPROVAL OF THE ENGINEER, AND IS MEANT FOR LOCATIONS WHERE BEDROCK PREVENTS THE INSTALLATION OF POSTS.

(7) ALLOW SUFFICIENT SLACK VERTICALLY AND HORIZONTALLY SO THAT SEDIMENT BUILD UP WILL NOT SEPARATE OR LOWER THE TURBIDITY BARRIER.

(8) USE AS DIRECTED BY COAST GUARD OR DNR PERMIT WHEN WORKING IN NAVIGABLE WATERWAYS.



PLAN VIEW



SECTION C - C

TURBIDITY BARRIER DETAIL SHOWING TYPICAL PLACEMENT AT STRUCTURES

TURBIDITY BARRIER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA

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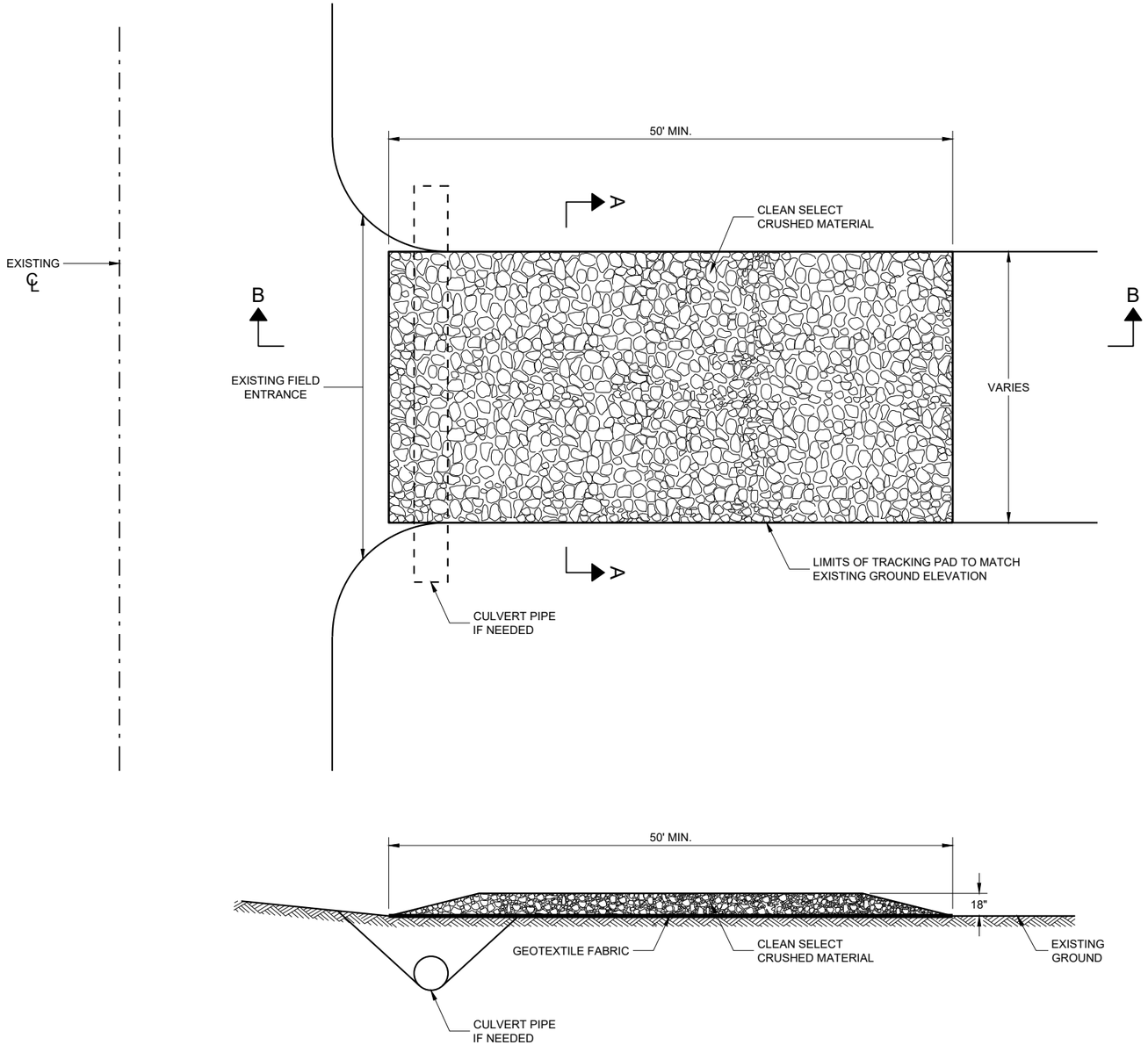
SDD 08E11 - 02



SECTION B - B

GENERAL NOTES

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

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

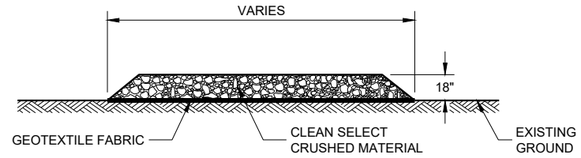
TRACKING PAD TO BE REMOVED AFTER CONSTRUCTION IS COMPLETED.

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

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

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

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



SECTION A - A

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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

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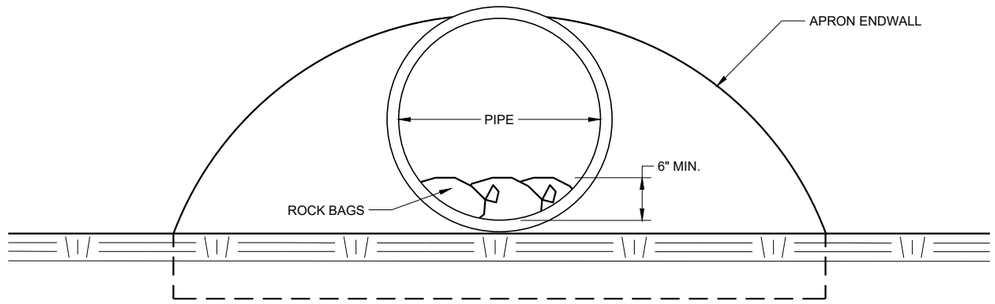
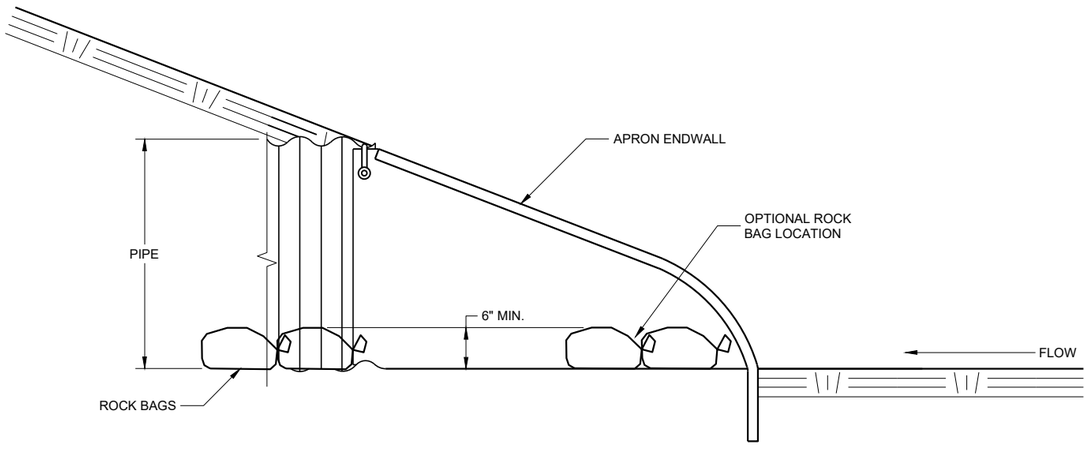
SDD 08E14 - 01



END VIEW



SIDE VIEW

CULVERT PIPE CHECK

(INSTALL ON INLET END ONLY)

CULVERT PIPE CHECK	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED May 2019 DATE	/S/ Daniel Schave EROSION CONTROL ENGI
FHWA	

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SDD 08E15 - 01

6

SDD 08E15 - 01

METAL APRON ENDWALLS

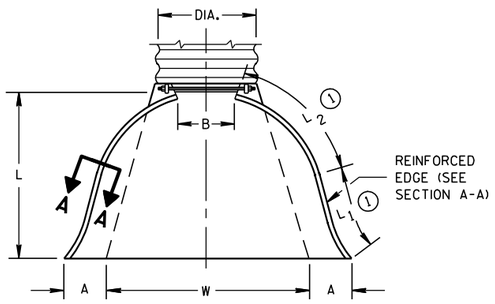
PIPE DIA. (IN.)	MIN. THICK. (Inches) STEEL	MIN. THICK. (Inches) ALUM.	DIMENSIONS (Inches) A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")	APPROX. SLOPE	BODY
12	.064	.060	6	6	6	21	12	17 1/2	24	2 1/2 to 1	1 Pc.
15	.064	.060	7	8	6	26	14	21 3/4	30	2 1/2 to 1	1 Pc.
18	.064	.060	8	10	6	31	15	28 1/4	36	2 1/2 to 1	1 Pc.
21	.064	.060	9	12	6	36	18	29 5/8	42	2 1/2 to 1	1 Pc.
24	.064	.075	10	13	6	41	18	37 1/4	48	2 1/2 to 1	1 Pc.
30	.079	.075	12	16	8	51	18	52 1/4	60	2 1/2 to 1	1 Pc.
36	.079	.105	14	19	9	60	24	59 3/4	72	2 1/2 to 1	2 Pc.
42	.109	.105	16	22	11	69	24	75 5/8	84	2 1/2 to 1	2 Pc.
48	.109	.105	18	27	12	78	24	81	90	2 1/4 to 1	3 Pc.
54	.109	.105	18	30	12	84	30	85 1/2	102	2 1/4 to 1	3 Pc.
60	.109×	.105×	18	33	12	87	—	—	114	2 to 1	3 Pc.
66	.109×	.105×	18	36	12	87	—	—	120	2 to 1	3 Pc.
72	.109×	.105×	18	39	12	87	—	—	126	2 to 1	3 Pc.
78	.109×	.105×	18	42	12	87	—	—	132	1 1/2 to 1	3 Pc.
84	.109×	.105×	18	45	12	87	—	—	138	1 1/2 to 1	3 Pc.
90	.109×	.105×	18	37	12	87	—	—	144	1 1/2 to 1	3 Pc.
96	.109×	.105×	18	35	12	87	—	—	150	1 1/2 to 1	3 Pc.

× EXCEPT CENTER PANEL SEE GENERAL NOTES

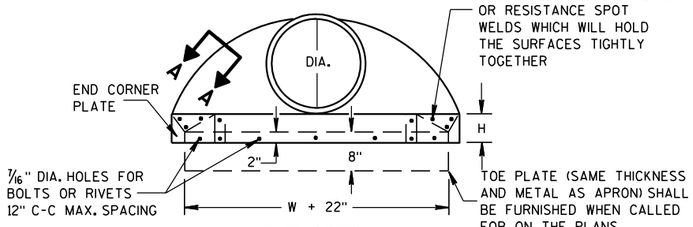
REINFORCED CONCRETE APRON ENDWALLS

PIPE DIA. (IN.)	DIMENSIONS (Inches) T	A	B	C	D	E	G	APPROX. SLOPE
12	2	4	24	48 7/8	72 1/8	24	2	3 to 1
15	2 1/4	6	27	46	73	30	2 1/4	3 to 1
18	2 1/2	9	27	46	73	36	2 1/2	3 to 1
21	2 3/4	9	36	37 1/2	73 1/2	42	2 3/4	3 to 1
24	3	9 1/2	43 1/2	30	73 1/2	48	3	3 to 1
27	3 1/4	10 1/2	49 1/2	24	73 1/2	54	3 1/4	3 to 1
30	3 1/2	12	54	19 3/4	73 1/2	60	3 1/2	3 to 1
36	4	15	63	34 3/4	97 3/4	72	4	3 to 1
42	4 1/2	21	63	35	98	78	4 1/2	3 to 1
48	5	24	72	26	98	84	5	3 to 1
54	5 1/2	27	65	* 33 1/4 - ** 35	* 98 1/4 - ** 100	90	5 1/2	2 2/5 to 1
60	6	* 30 - ** 35	60	39	99	96	5	2 to 1
66	6 1/2	* 24 - ** 30	* 72 - ** 78	* 21 - ** 27	99	102	5 1/2	2 to 1
72	7	* 24 - ** 36	78	21	99	108	6	2 to 1
78	7 1/2	* 24 - ** 36	78	21	99	114	6 1/2	2 to 1
84	8	36	90 1/2	21	111 1/2	120	6 1/2	1 1/2 to 1
90	8 1/2	41	87 1/2	24	111 1/2	132	6 1/2	1 1/2 to 1

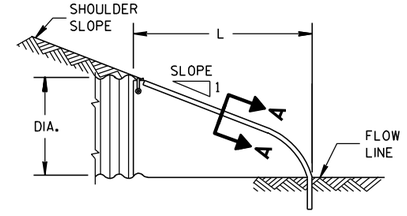
*MINIMUM
**MAXIMUM



PLAN VIEW

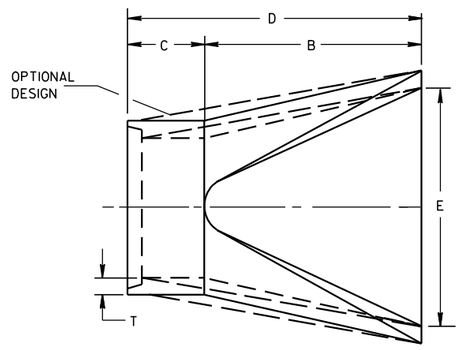


END VIEW

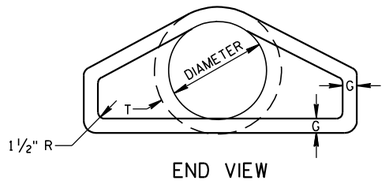


SIDE ELEVATION

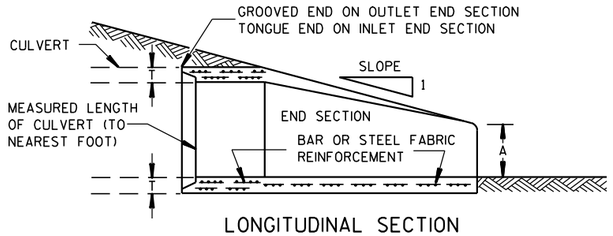
METAL ENDWALLS



PLAN

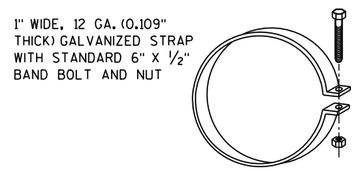


END VIEW



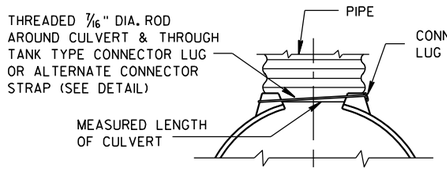
LONGITUDINAL SECTION

CONCRETE ENDWALLS

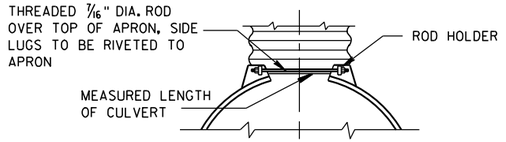


ALTERNATE FOR TYPE 1 CONNECTION

END SECTION CONNECTOR STRAP

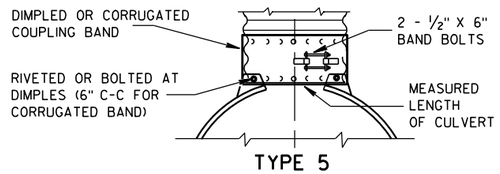


TYPE 1
FOR 12" THRU 24" CORR. PIPE



TYPE 2
FOR 30" THRU 96" CORR. PIPE

TYPE 3
FOR 42" THRU 96" CORR. PIPE



TYPE 5
ALTERNATE FOR:
ALL SIZES CORRUGATED CIRCULAR PIPE

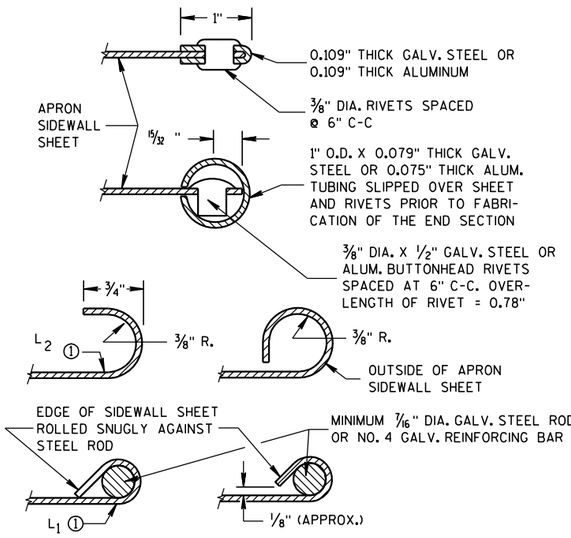
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL. AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

FOR CIRCUMFERENTIALLY CORRUGATED PIPE USE ENDWALL CONNECTION DETAILS 1, 2, 3 OR 5 AS APPLICABLE.

FOR HELICALLY CORRUGATED PIPE USE ENDWALL CONNECTION DETAILS 1, 2 OR 5.

FOR HELICALLY CORRUGATED PIPES WITH TWO CIRCUMFERENTIAL CORRUGATIONS AT EACH END USE ENDWALL CONNECTION DETAILS 1, 2 OR 3.

CONNECTION DETAILS



SECTION A-A

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.

CONCRETE CULVERT ENDWALLS MAY NOT BE USED WITH GALVANIZED STEEL OR ALUMINUM CULVERT PIPE OR VISE VERSA. GALVANIZED STEEL OR ALUMINUM ENDWALLS SHALL NORMALLY BE INSTALLED ON CULVERT PIPE OF THE SAME METAL.

ALL THREE PIECE STEEL APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.109" SIDES AND 0.138" CENTER PANELS. ALL THREE PIECE ALUMINUM APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.105" SIDES AND 0.134" CENTER PANELS. THE WIDTH OF CENTER PANELS SHALL BE GREATER THAN 20 PERCENT OF THE PIPE PERIMETER.

LAP SEAMS SHALL BE TIGHTLY JOINED BY GALVANIZED RIVETS OR BOLTS FOR STEEL UNITS AND ALUMINUM RIVETS AND BOLTS FOR ALUMINUM UNITS. FOR THE 60" THROUGH 96" DIAMETER APRON ENDWALL SIZES, THE REINFORCED EDGES AND CENTER PANEL SEAMS SHALL BE FURTHER REINFORCED WITH GALVANIZED STEEL OR ALUMINUM STIFFENER ANGLES. THE ANGLES SHALL BE ATTACHED BY GALVANIZED NUTS AND BOLTS FOR STEEL UNITS AND ALUMINUM NUTS AND BOLTS FOR ALUMINUM UNITS.

WHERE TWO OR MORE PIPES WITH APRON ENDWALLS ARE LAID ADJACENT TO EACH OTHER, THEY SHALL BE SEPARATED BY A DISTANCE SUFFICIENT TO PROVIDE A MINIMUM CLEARANCE OF 6 INCHES BETWEEN APRON ENDWALLS.

① FOR PIPE SIZES UP TO 60" DIAMETER, A 180° ROLLED EDGE MAY BE USED INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.

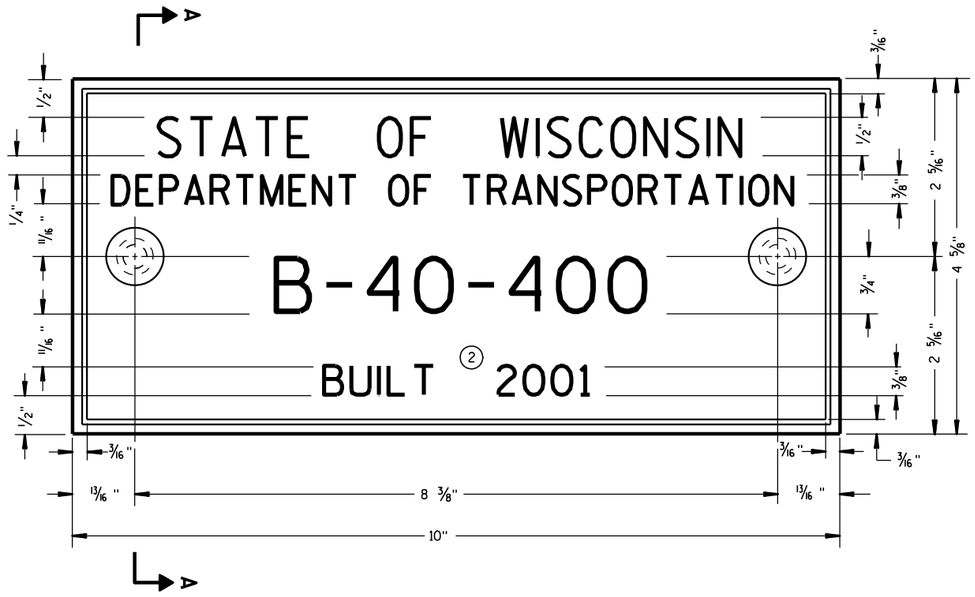
APRON ENDWALLS FOR CULVERT PIPE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
11/30/94 DATE
/S/ Rory L. Rhinesmith
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

6

S.D.D. 8 F 1-11



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

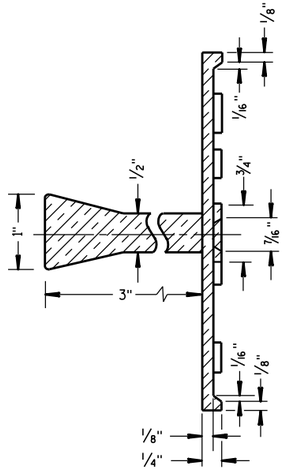
GENERAL NOTES

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.

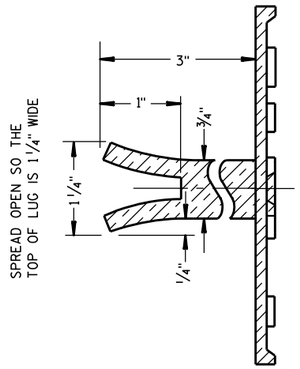
THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

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

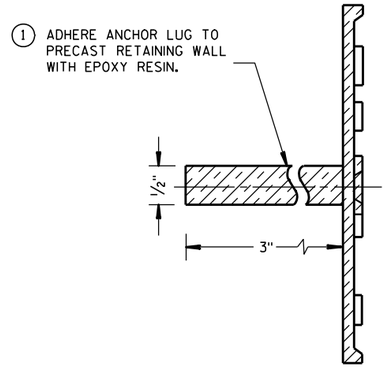
(2) REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.



SECTION A-A



ALTERNATE LUG



ALTERNATE LUG
(FOR ATTACHMENT TO PRECAST STRUCTURES)

NAME PLATE (STRUCTURES)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

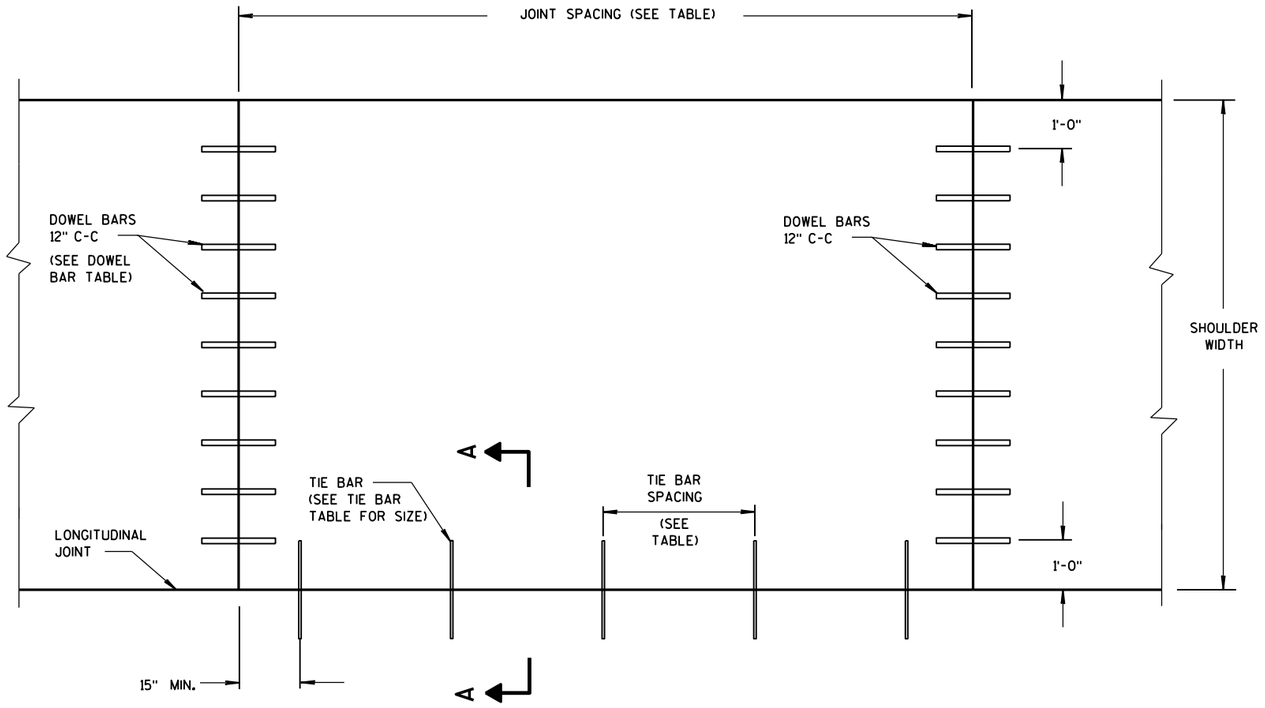
3/26/10 DATE

/S/ Scot Beck CHIEF STRUCTURAL DEVELOPMENT ENGINEER

FHWA

6

S.D.D. 12 A 3-10



PLAN VIEW

CONCRETE PAVEMENT SHOULDER

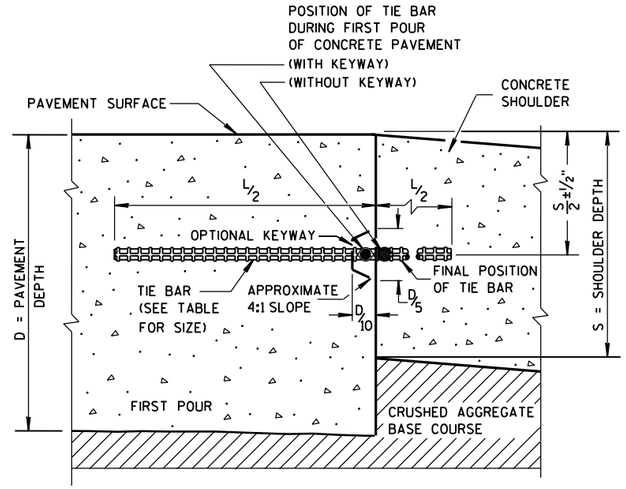
GENERAL NOTES

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 SUPER
FHWA

6

S.D.D. 13 A 3-6

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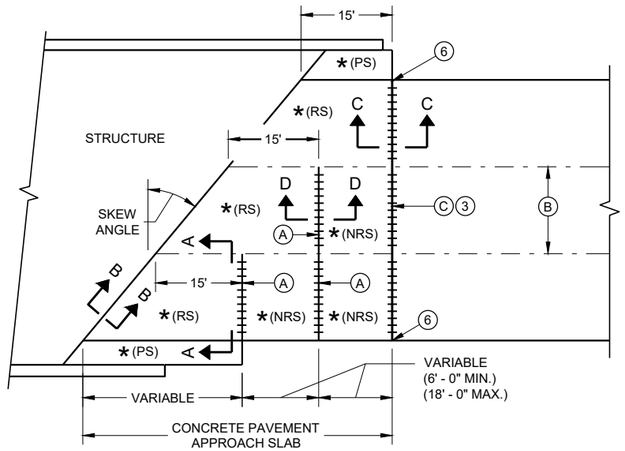
S.D.D. 13 A 3-6



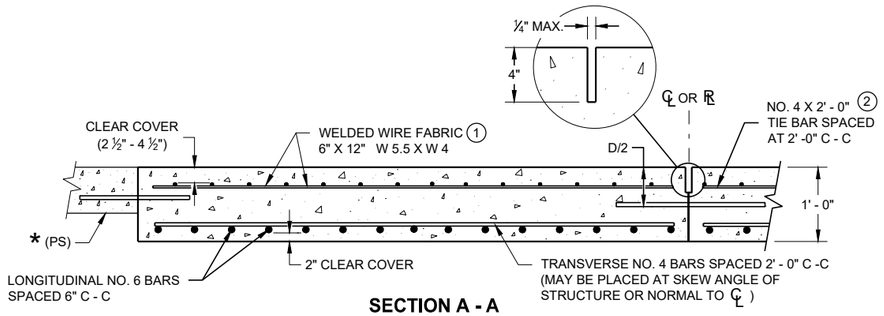
SKEWED APPROACH
(PAVEMENT MORE THAN TWO LANES)

* (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.

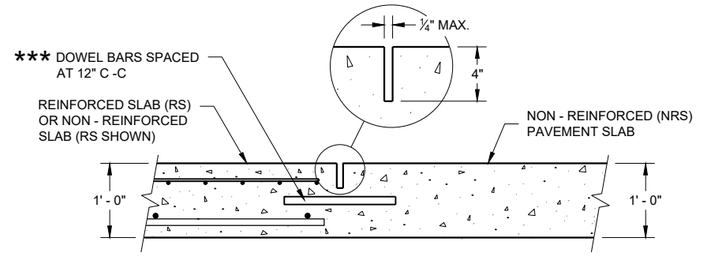
(5) PLACE EXPANSION CAP ON THE END OF THE DOWEL THAT IS NOT TACK WELDED TO THE BASKET. DO NOT FORCE DOWEL BAR PAST THE DOWEL STOP.

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

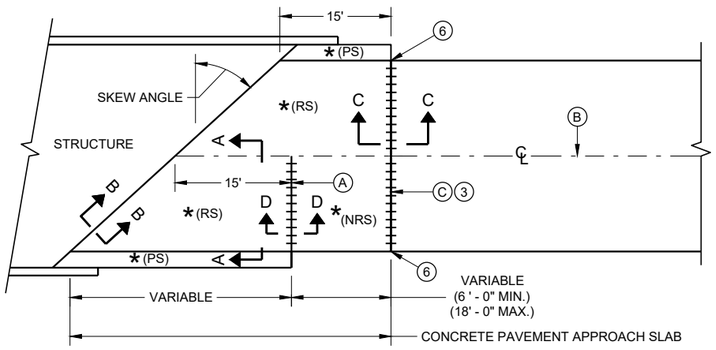
(A) STANDARD CONTRACTION JOINT NORMAL TO ℄ OR ℞.

(B) STANDARD LONGITUDINAL JOINT WITH TIE BARS.

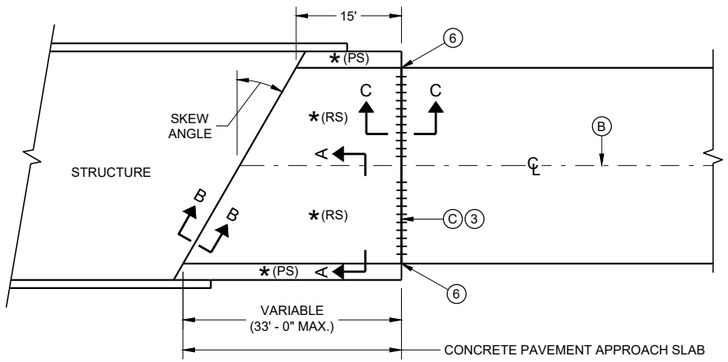
(C) 1 ½" EXPANSION JOINT WITH DOWEL BARS NORMAL TO ℄ OR ℞ .



SECTION D - D
CONTRACTION JOINT

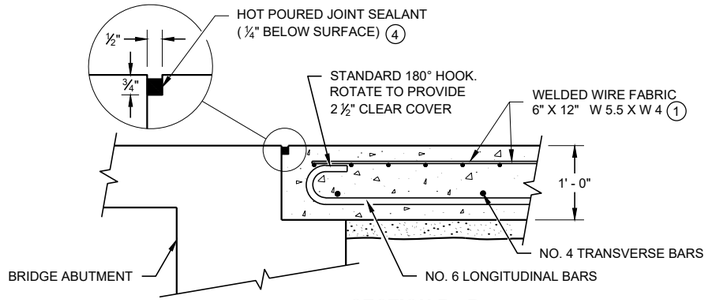


SKEWS > 20°
(PAVEMENT WIDTH ≤ 30')

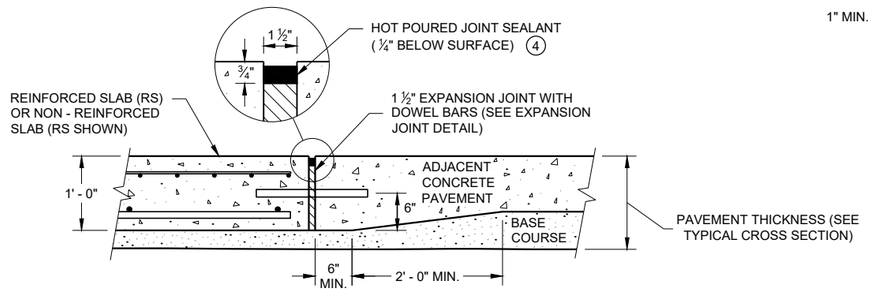


SKEWS ≤ 20°
(PAVEMENT WIDTH ≤ 30')

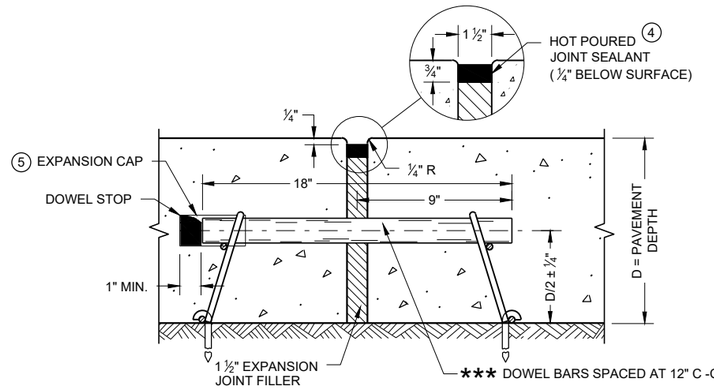
APPROACH SLAB AND ADJACENT PAVEMENT



SECTION B - B
BEND DETAIL
BOTTOM REINFORCEMENT



SECTION C - C
TRANSITION DETAIL
APPROACH SLAB TO ADJACENT PAVEMENT



EXPANSION JOINT DETAIL

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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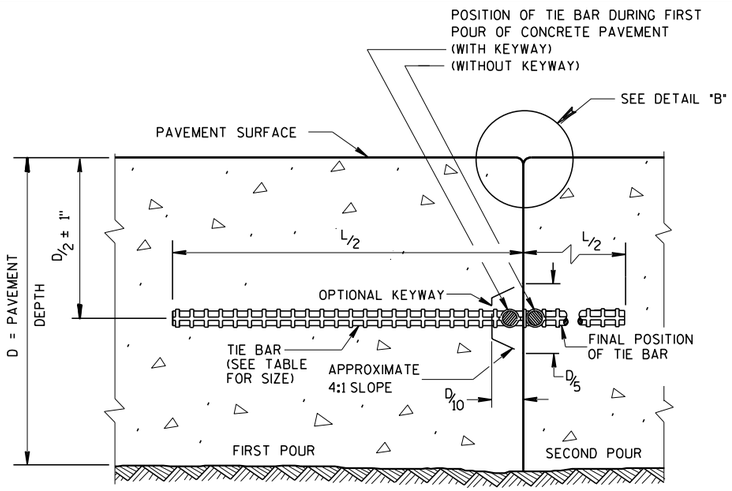
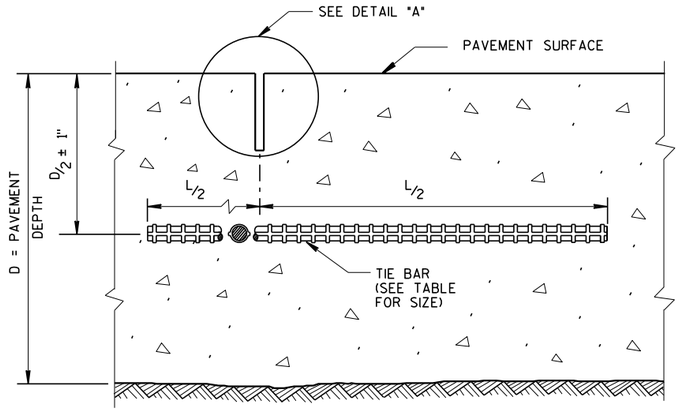
SDD 13B02 - 09a



CONSTRUCTION JOINT



SAWED JOINT

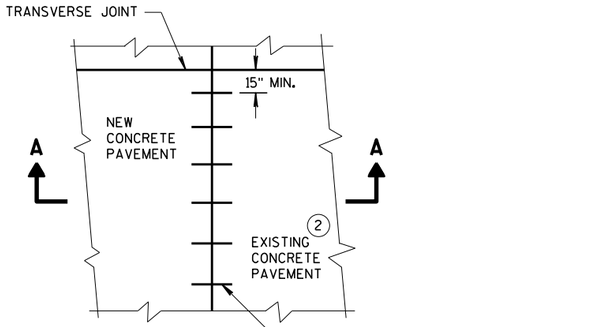
GENERAL NOTES

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

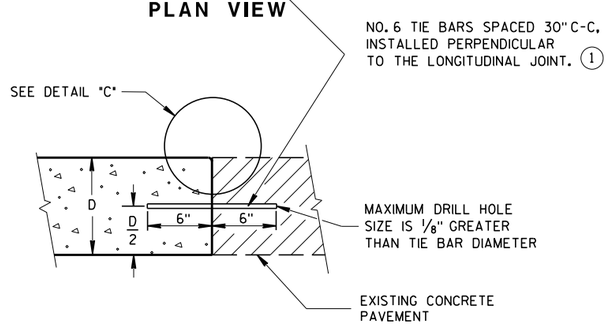
CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

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

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

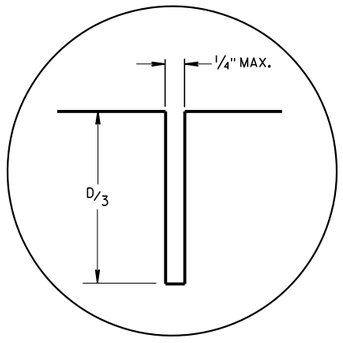


PLAN VIEW

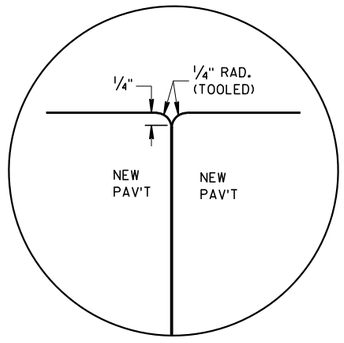


SECTION A-A

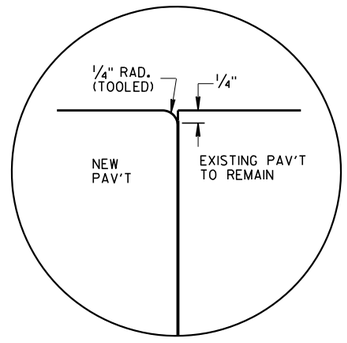
LONGITUDINAL CONSTRUCTION JOINT TIE BARS ANCHORED INTO EXISTING PAVEMENT



DETAIL "A"



DETAIL "B"



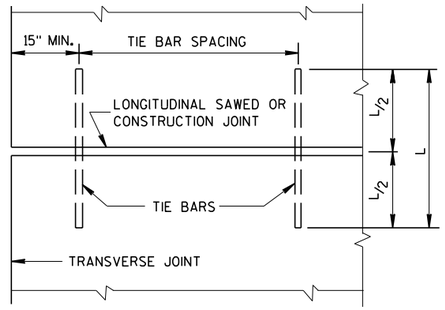
DETAIL "C"

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.



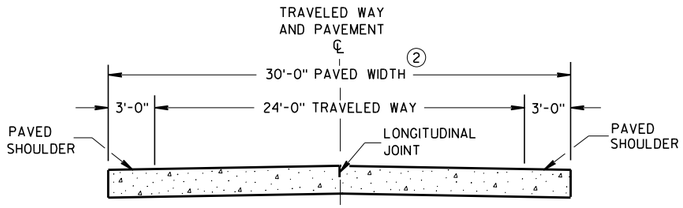
PLAN VIEW
SHOWING LOCATION OF TIE BARS

CONCRETE PAVEMENT
LONGITUDINAL JOINTS AND TIES

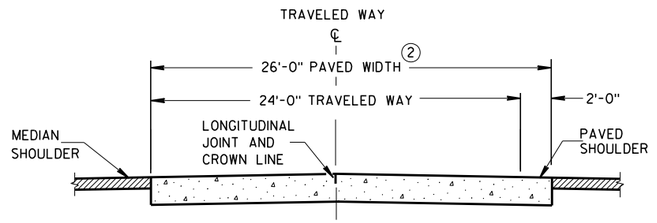
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
March 2018 — DATE
/S/ Peter Kemp, P.E. — PAVEMENT SUPE
FHWA

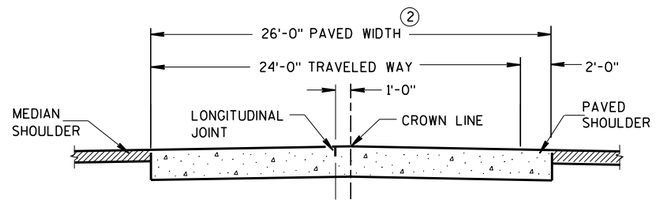
6
S.D.D. 13 C 1-19



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

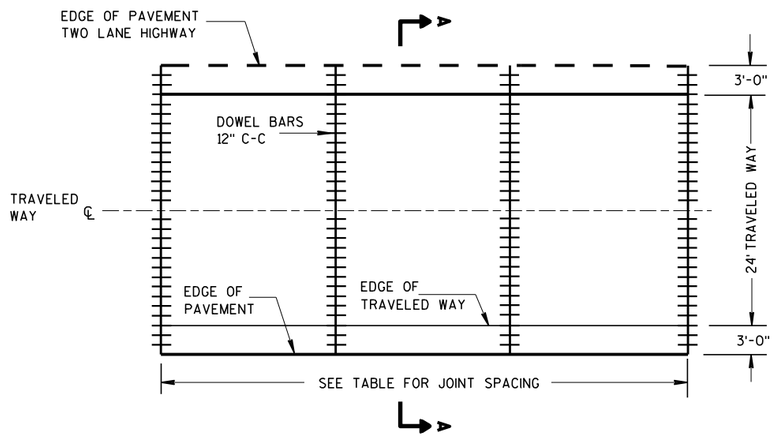
LOCATE CONSTRUCTION JOINTS A MINIMUM OF 6 FEET FROM THE NEAREST CONTRACTION JOINT AND ALIGN PARALLEL TO CONTRACTION JOINTS.

① REFER TO TYPICAL CROSS SECTIONS FOR ADDITIONAL DETAILS.

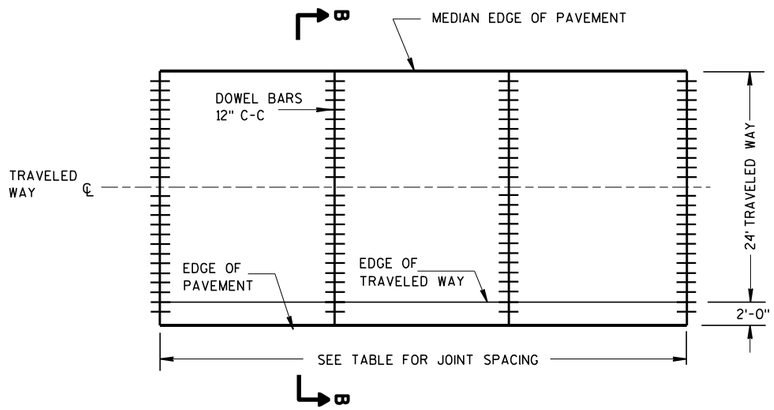
② MEASURE THE ENTIRE PAVED WIDTH INCLUDING THE PORTION(S) LABELED PAVED SHOULDER AS CONCRETE PAVEMENT.

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



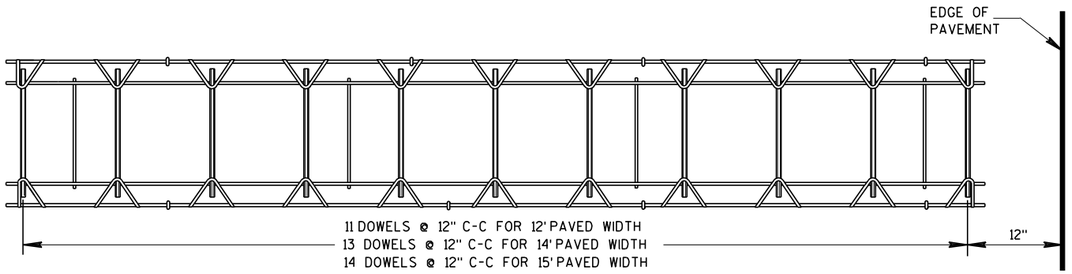
CONTRACTION JOINT LAYOUT
FOR DIVIDED HIGHWAY

RURAL DOWELED CONCRETE PAVEMENT

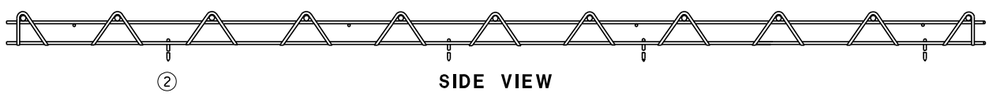
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

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



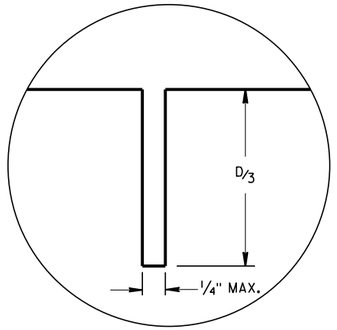
PLAN VIEW



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.

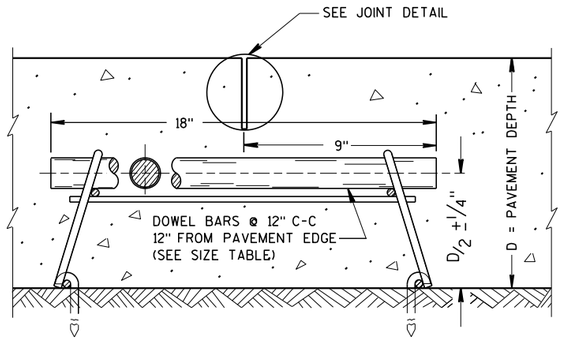
③ FORM OR SAW CONSTRUCTION JOINTS. PROVIDE A 1/4-INCH RADIUS AT FORMED JOINTS.

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

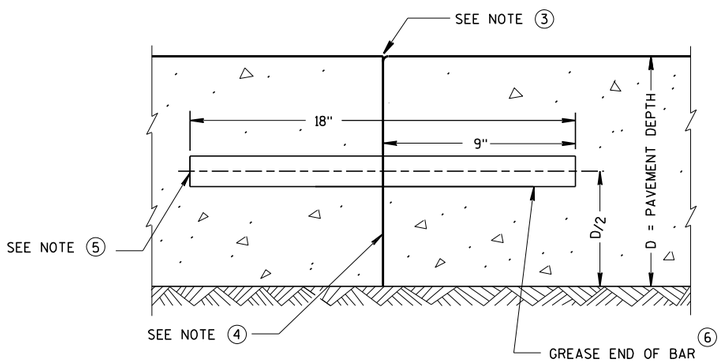
⑤ INSTALL DOWEL BARS AT CONSTRUCTION JOINTS BY FORMING OR DRILLING. INSTALL FORMED DOWEL BARS 12 INCHES C-C AND 12 INCHES FROM PAVEMENT EDGE. REMOVE EXCESS CONCRETE FROM THE FREE END OF THE DOWEL BAR IF DOWEL BARS ARE FORMED THROUGH A HEADER BOARD. INSTALL DRILLED DOWEL BARS ACCORDING TO *DRILLED DOWEL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

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

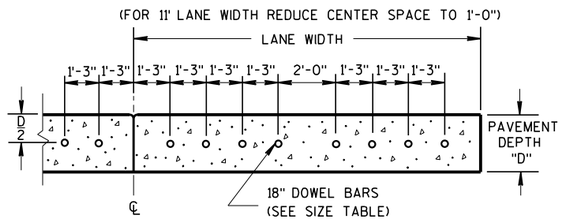
⑦ ANCHOR DOWEL BARS INTO DRILLED HOLES WITH AN EPOXY. MAXIMUM DRILLED HOLE SIZE IS 1/8-INCH GREATER THAN DOWEL BAR DIAMETER, 9 INCHES IN LENGTH.



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
/S/ Peter Kemp P.E. — PAVEMENT SUP
FHWA

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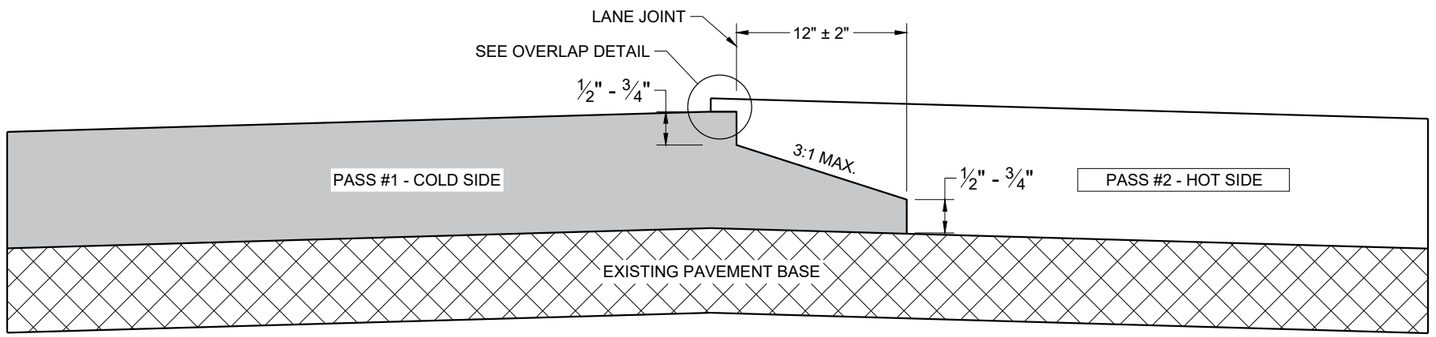
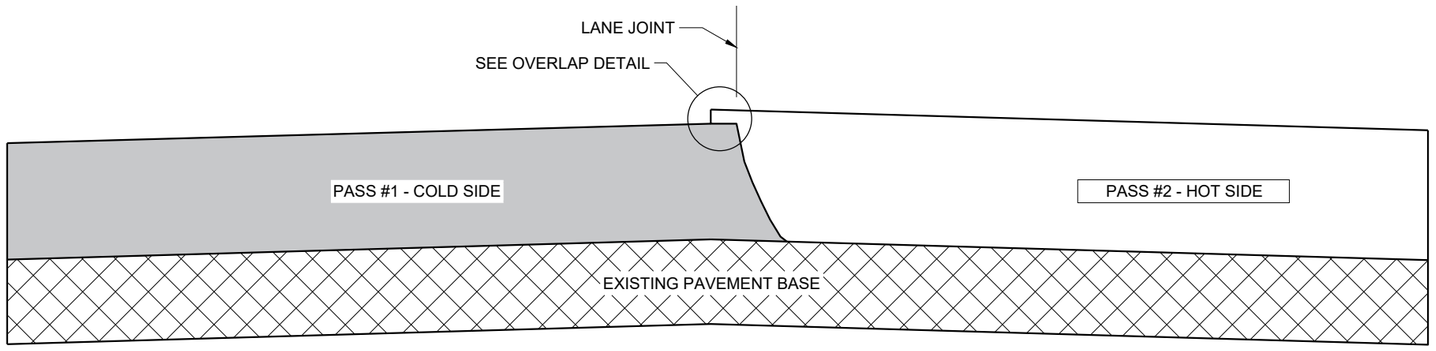
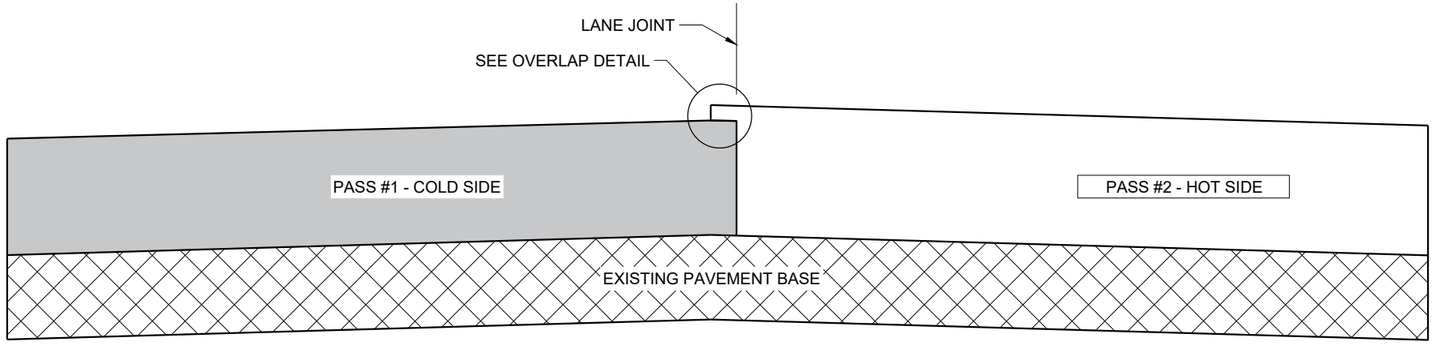
S.D.D. 13 C 11-12b



TYPICAL PAVEMENT CROSS SECTION
NOTCHED WEDGE JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT (MILLED)

GENERAL NOTES

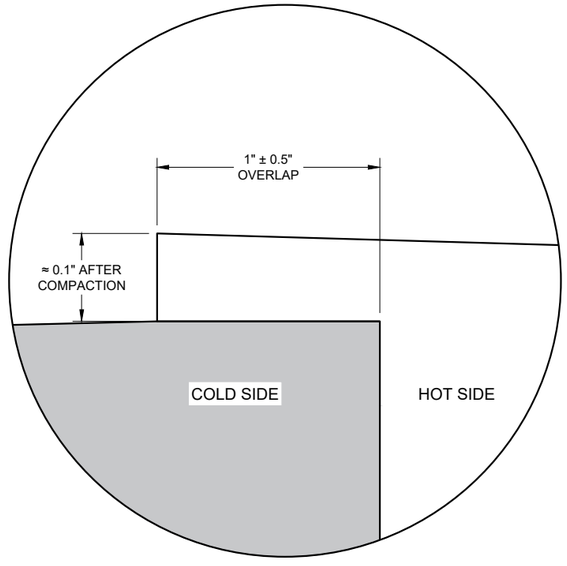
IN ADDITION TO THE DETAILS PROVIDED IN THIS DRAWING, CONFORM TO STANDARD SPECIFICATION 450.3.2.8 FOR WHEN A NOTCHED WEDGE JOINT IS REQUIRED AND FOR GENERAL JOINT CONSTRUCTION REQUIREMENTS.

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)

6

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SDD 13C19 - 03

SDD 13C19 - 03

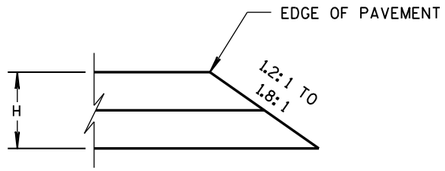
HMA LONGITUDINAL JOINTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2020
DATE

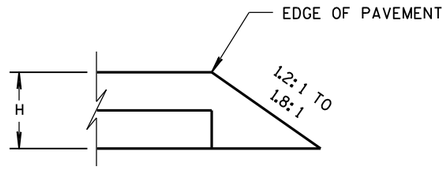
/S/ Steven Hefel
HMA PAVEMENT ENGIN

FHWA



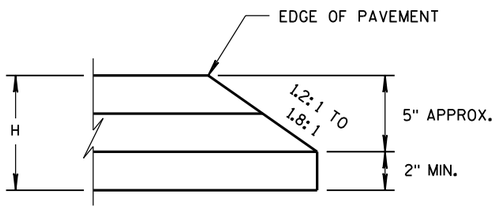
CONSTRUCTED WITH FINAL TWO LAYERS

FOR H 5" OR LESS



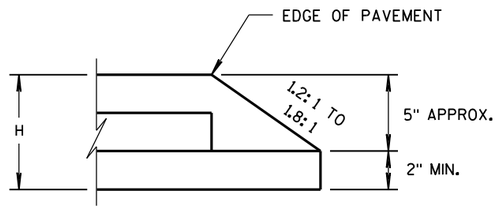
CONSTRUCTED WITH FINAL LAYER

FOR H 5" OR LESS



CONSTRUCTED WITH FINAL TWO LAYERS

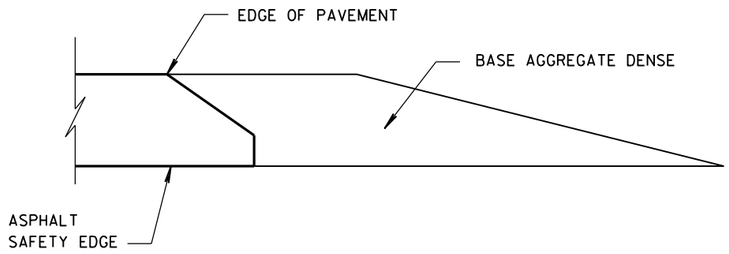
FOR H GREATER THAN 5"



CONSTRUCTED WITH FINAL LAYER

FOR H GREATER THAN 5"

HMA PAVEMENT AND HMA OVERLAYS



FINISHED SHOULDER AGGREGATE PLACEMENT

6

6

S.D.D. 14 B 29-1

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.

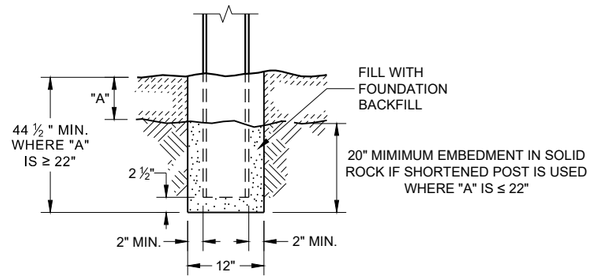
(3) IF ROCK IS ENCOUNTERED DURING EXCAVATION, PROVIDE A HOLE 12 INCHES IN DIAMETER EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2 1/2" INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS THE TO LENGTH AMD INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT. BACKFILL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

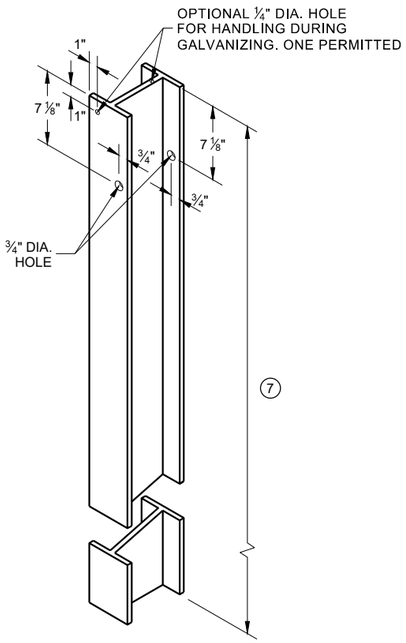
(5) FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS ±1". FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27 ¾" TO 32".

(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.

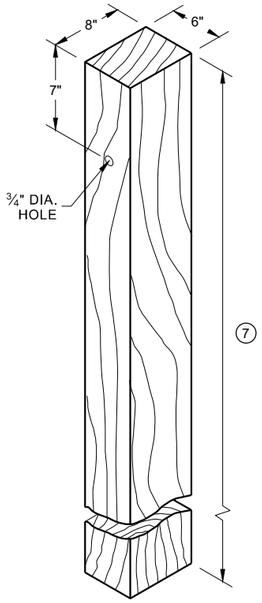
(7) TOTAL POST LENGTH FOR TYPE K IS 7' - 0".
TOTAL POST LENGTH FOR OTHER MGS TYPES IS 6' - 0".



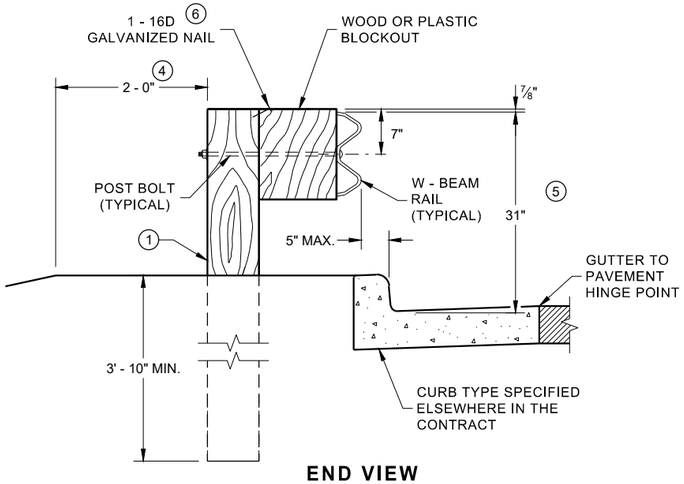
END VIEW
SETTING STEEL OR WOOD POST IN ROCK (3)



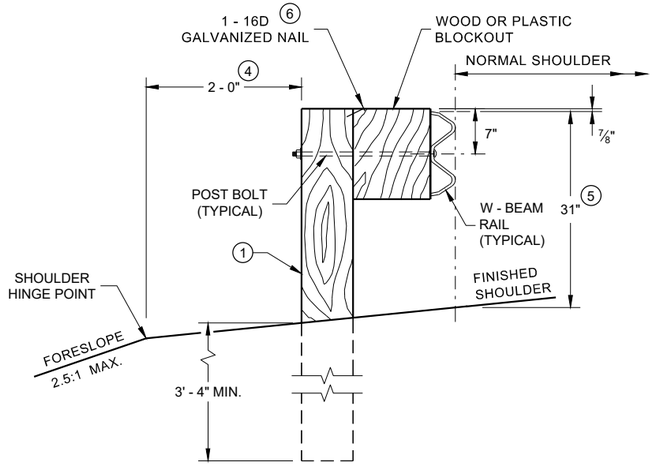
STEEL POST & HOLE PUNCHING DETAIL (W 6 X 9) (1)



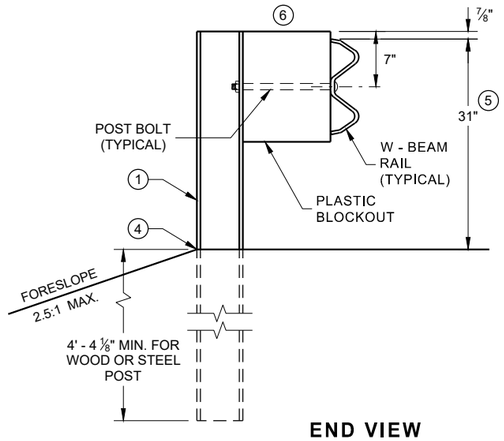
WOOD POST (6" X 8") NOMINAL (1)



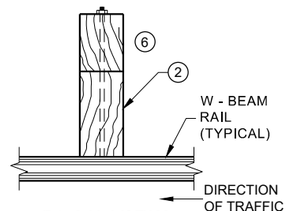
END VIEW
LOCATED ALONG A CURBED ROADWAY



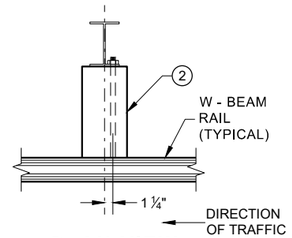
END VIEW
LOCATED ALONG A ROADWAY SHOULDER STANDARD INSTALLATION



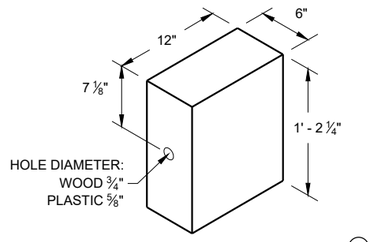
END VIEW
MGS LONGER POST AT HALFPOST SPACING W BEAM (K)



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

SDD 14B42 - 07a

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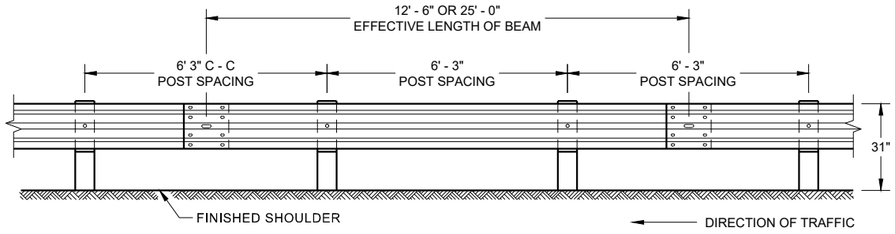
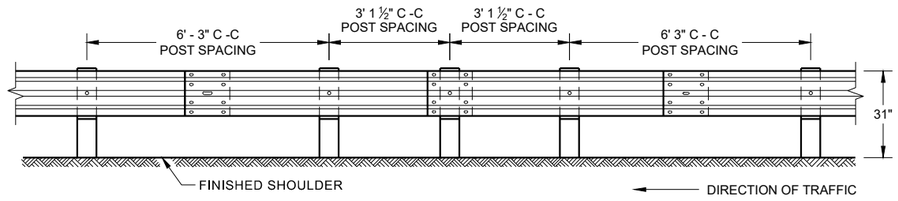
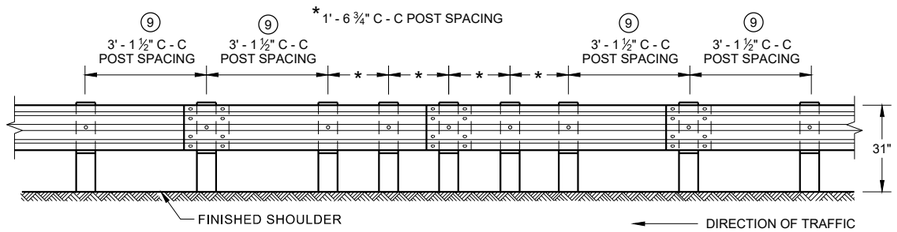
SDD 14B42 - 07a



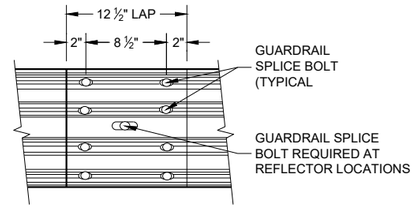
FRONT VIEW
POST SPACING STANDARD INSTALLATION



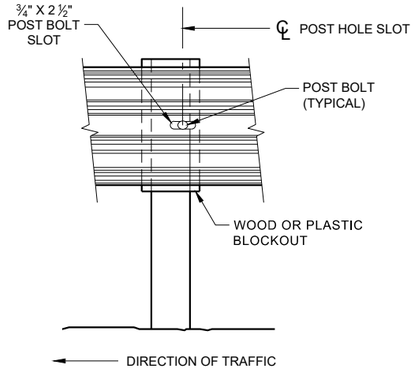
FRONT VIEW
HALF POST SPACING (HS) AND
HALF POST SPACING WITH LONGER POSTS (K)



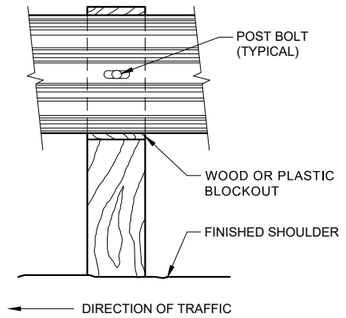
FRONT VIEW
QUARTER POST SPACING (QS)



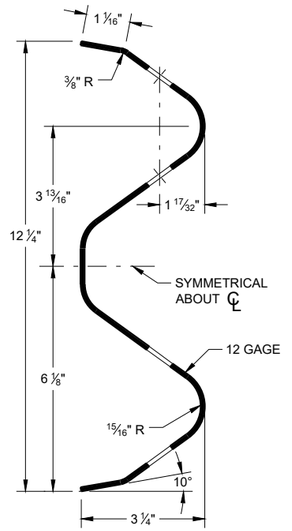
FRONT VIEW
MID-SPAN BEAM SPLICE



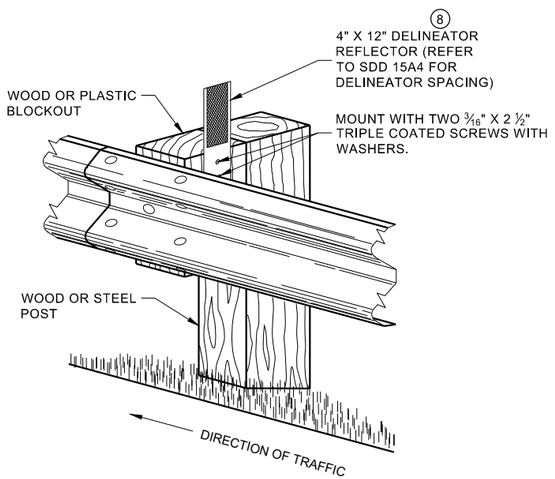
FRONT VIEW AT STEEL POST



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.

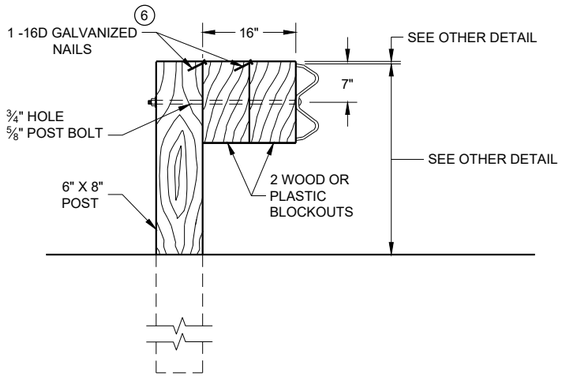
GUARD RAIL SPLICE BOLTS ARE A ⅝" DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES ⅝" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

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

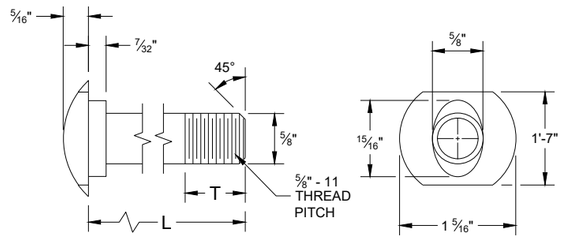


DETAIL FOR 16" BLOCKOUT DEPTH

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.

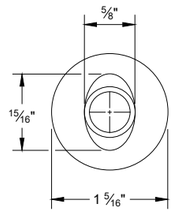
NOTE:

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.

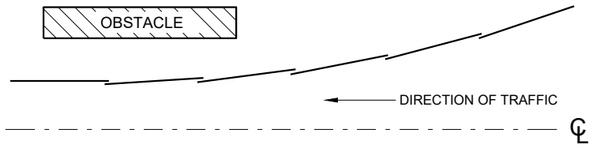


POST BOLT TABLE

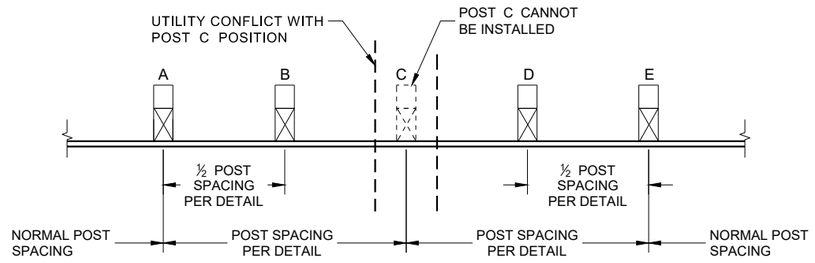
L	T (MIN.)
1 ¼"	1 ⅛"
2"	1 ¾"
10"	4"
14"	4 1/16"
18"	4"
21"	4 1/16"
25"	4"



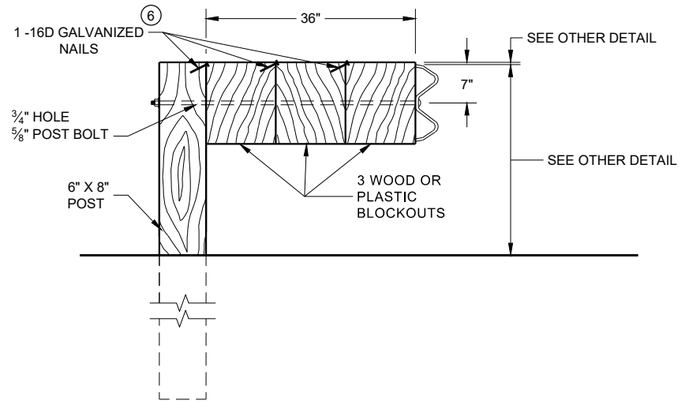
ALTERNATE BOLT HEAD



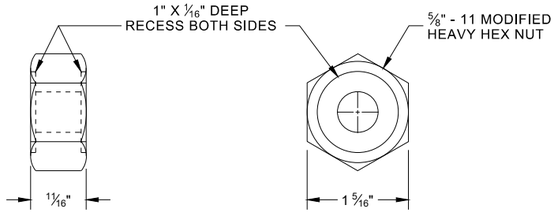
PLAN VIEW
BEAM LAPPING DETAIL



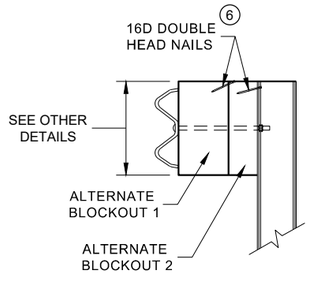
POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION



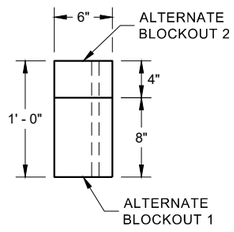
DETAIL FOR 36" BLOCKOUT DEPTH



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.

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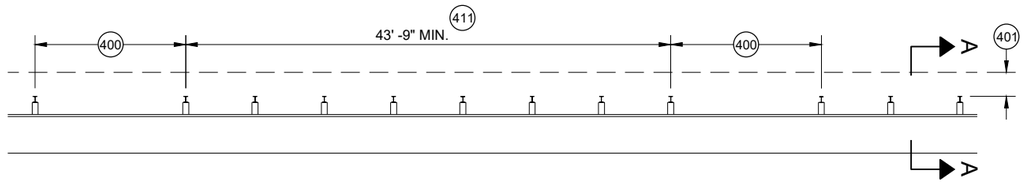
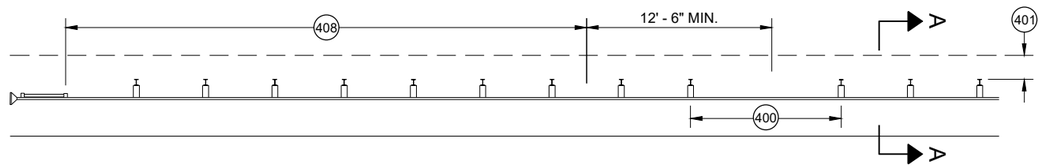
MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

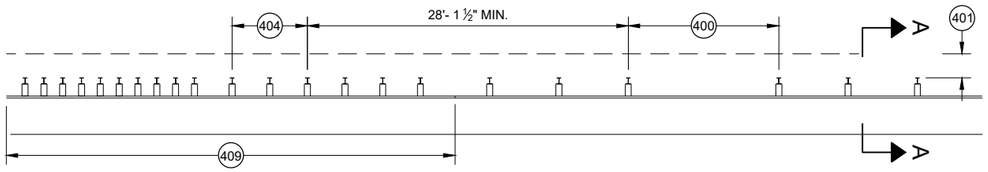
SDD 14B42 - 07c



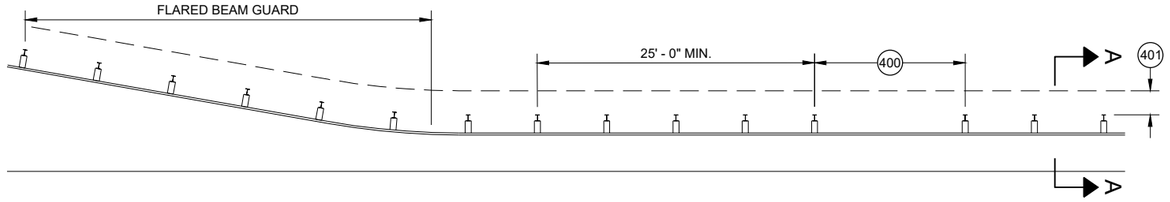
MISSING POST IN MGS GUARDRAIL



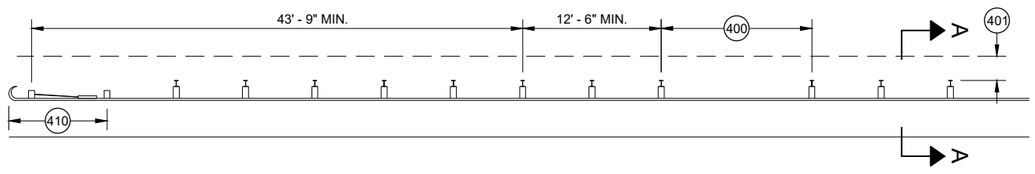
MISSING POST IN MGS GUARDRAIL NEAR EAT



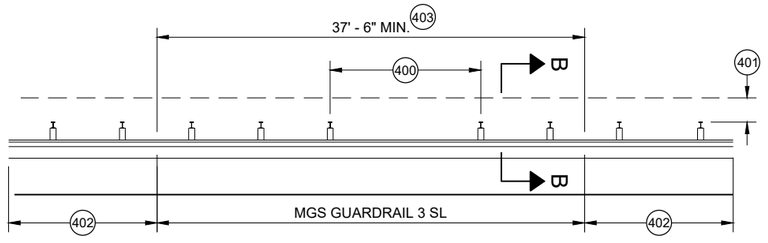
MISSING POST IN MGS GUARDRAIL NEAR AN APPROACH TRANSITION



MISSING POST IN MGS GUARDRAIL NEAR FLARED BEAM GUARD

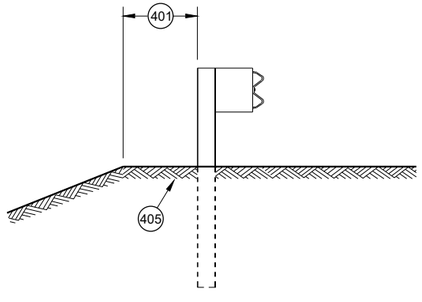


MISSING POST IN MGS GUARDRAIL NEAR A TYPE 2 END TERMINAL

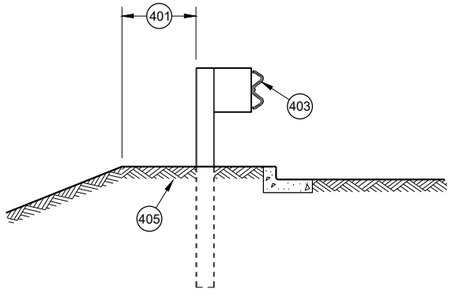


MISSING POST IN SHORT SPAN MGS GUARDRAIL NEAR CURB (SL) 407

(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

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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.

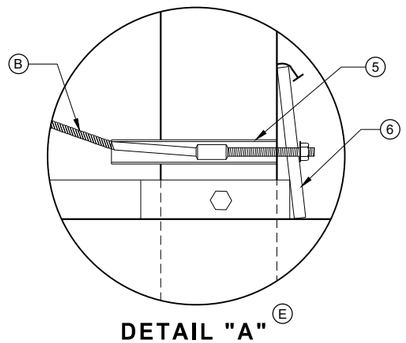
SEE SDD 14B42 FOR MORE INFORMATION.

* DO NOT ATTACH BLOCKOUTS TO POST 1 AND 2.

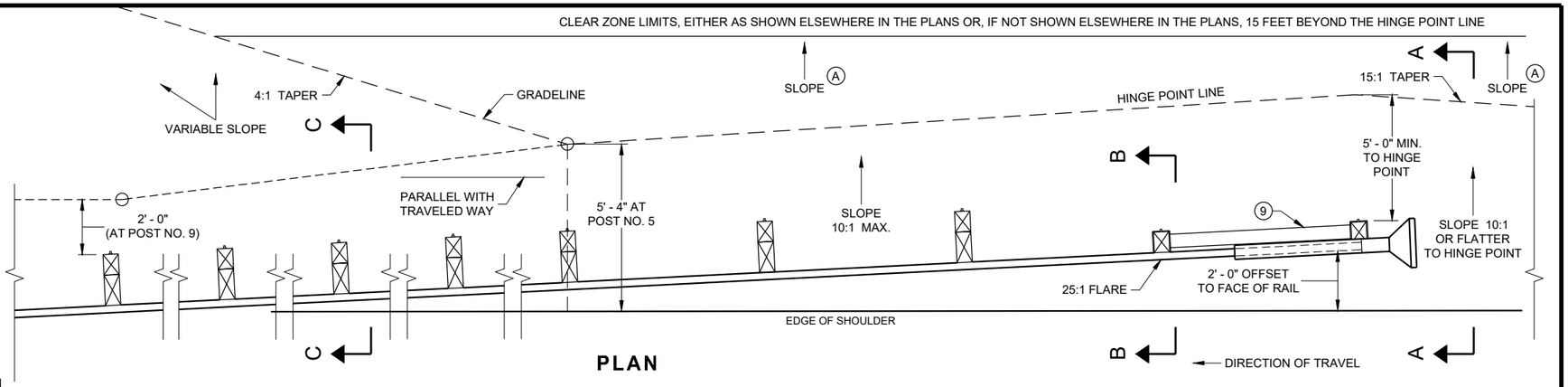
DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

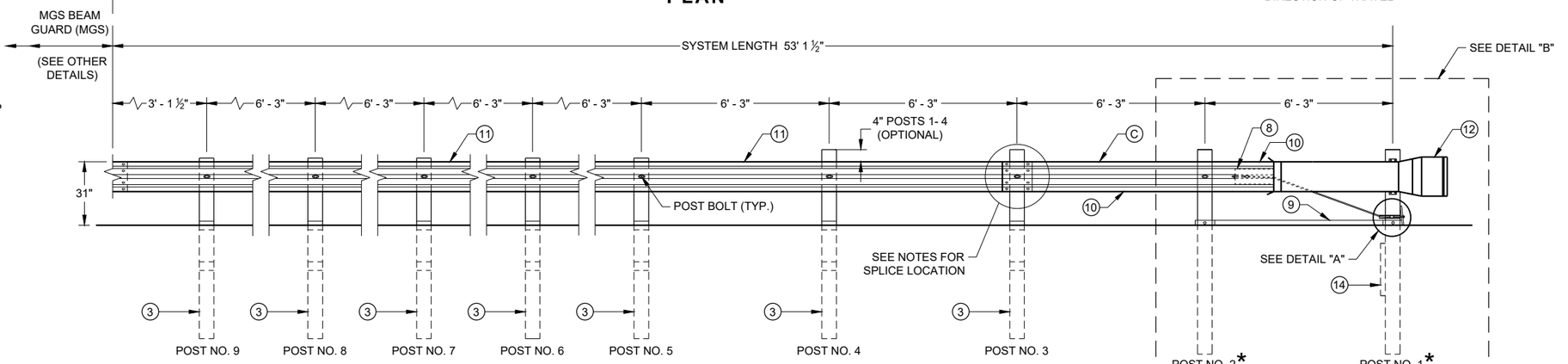
SEE MANUFACTURER'S DRAWING FOR SPLICE LOCATION, HARDWARE DIMENSIONS AND INSTALLATION INSTRUCTIONS.

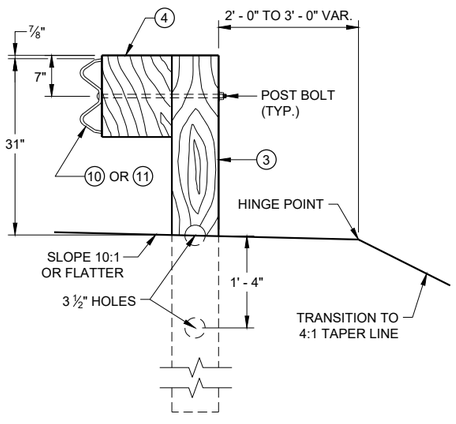
THE CENTER OF THE UPPER 3 ½" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE UP TO A MAXIMUM OF 2" ABOVE GROUND LINE. WOOD BLOCKS ON POSTS NUMBERED 3 THROUGH 9 MAY BE ADJUSTED UP TO 3" ABOVE THE TOP OF POST.



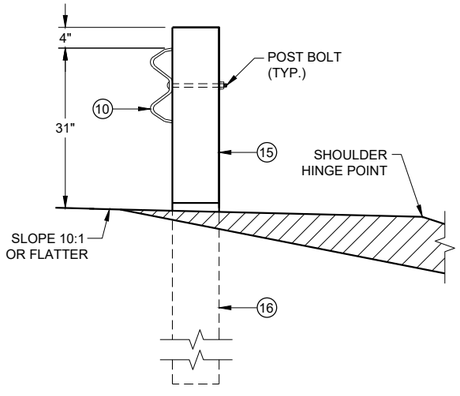
DETAIL "A" (E)



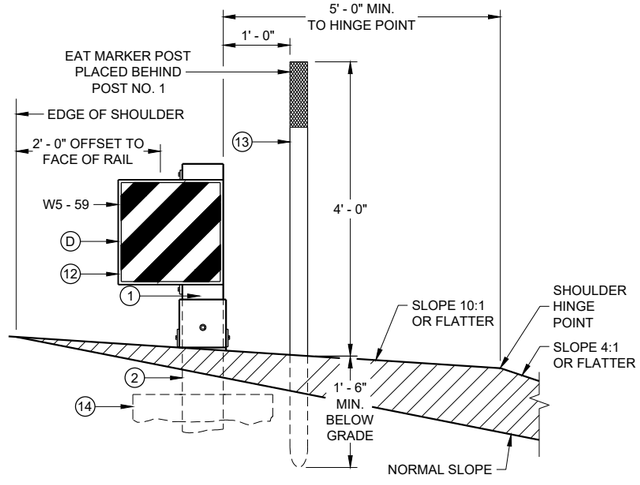




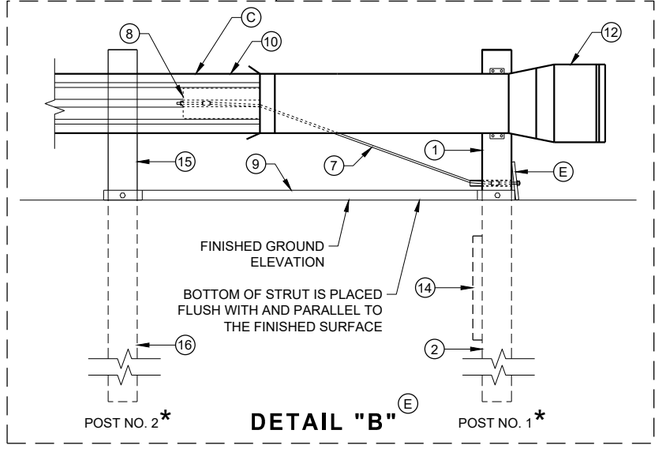
SECTION C - C
TYPICAL AT POST NOS. 3 - 9



SECTION B - B
TYPICAL AT POST NO. 2*



SECTION A - A
TYPICAL AT POST NO. 1*

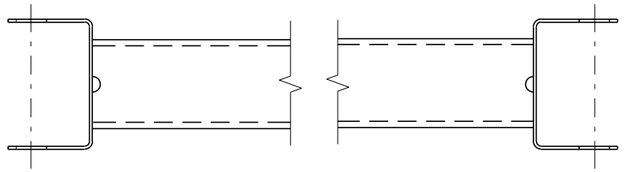


MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

SDD 14B44 - 04a

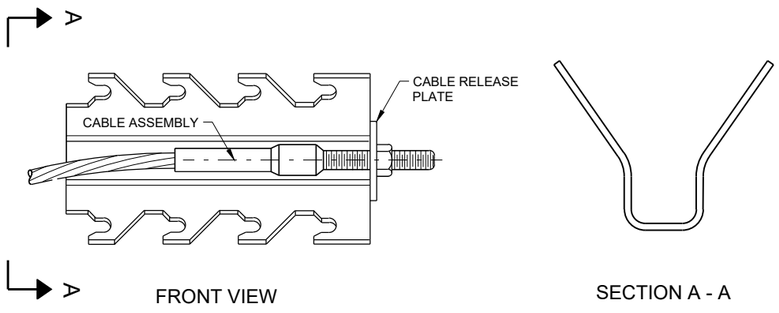
SDD 14B44 - 04a



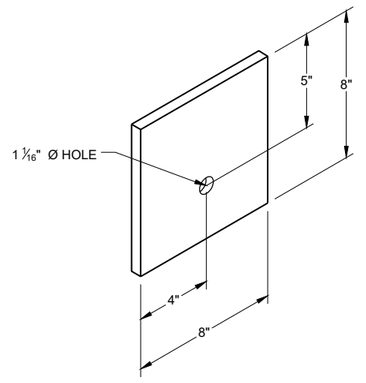
GENERIC GROUND STRUT ⑨ Ⓔ

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

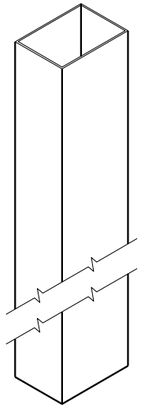
6

SDD 14B44 - 04b

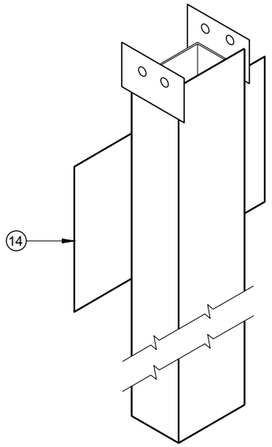
SDD 14B44 - 04b

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

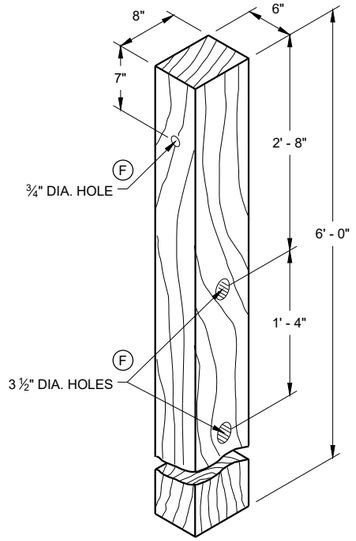
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



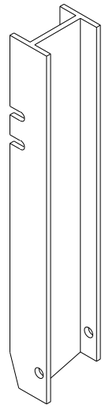
UPPER POST NO. 1 (1) (E)



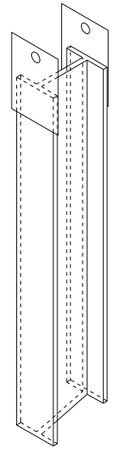
LOWER POST NO. 1 (2) (E)



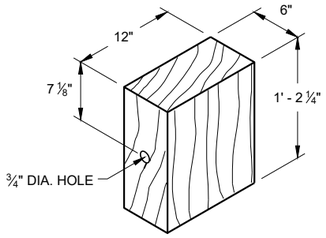
WOOD CRT POST (3) (E)
POSTS NUMBER 3-9



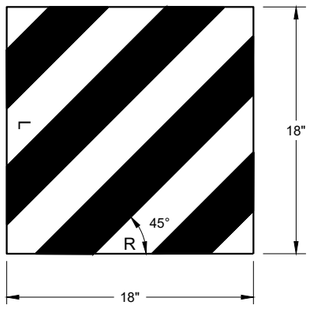
UPPER POST NO. 2 (15) (E)



LOWER POST NO. 2 (16) (E)

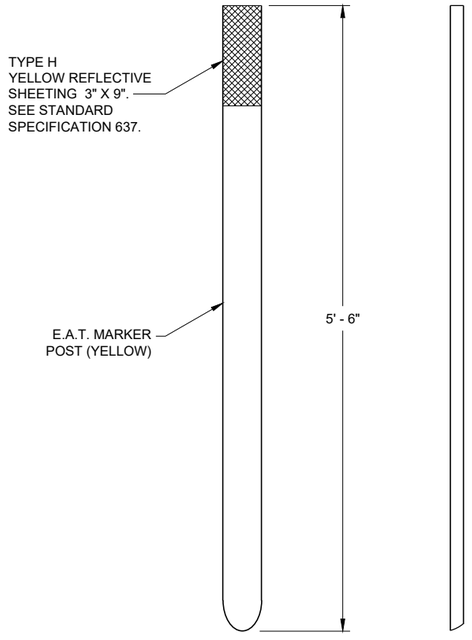


WOOD BLOCKOUT (4)
REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2



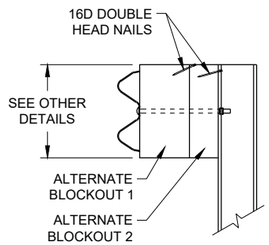
W5 - 59

REFLECTIVE SHEETING DETAIL (E)

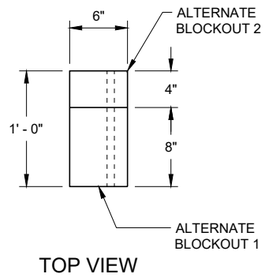


FRONT VIEW SIDE VIEW

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

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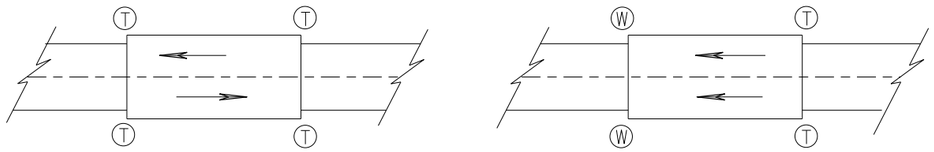
SDD 14B44 - 04c



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.

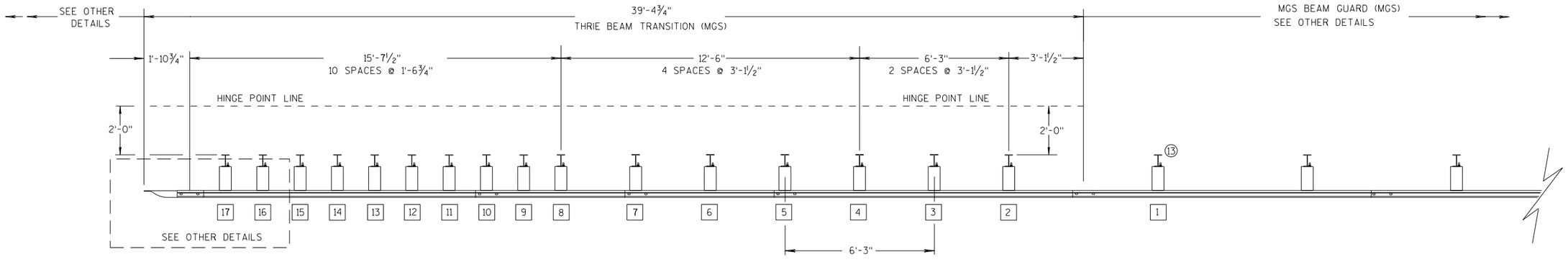
SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

POST 2 THROUGH 17 USES STEEL POST ONLY

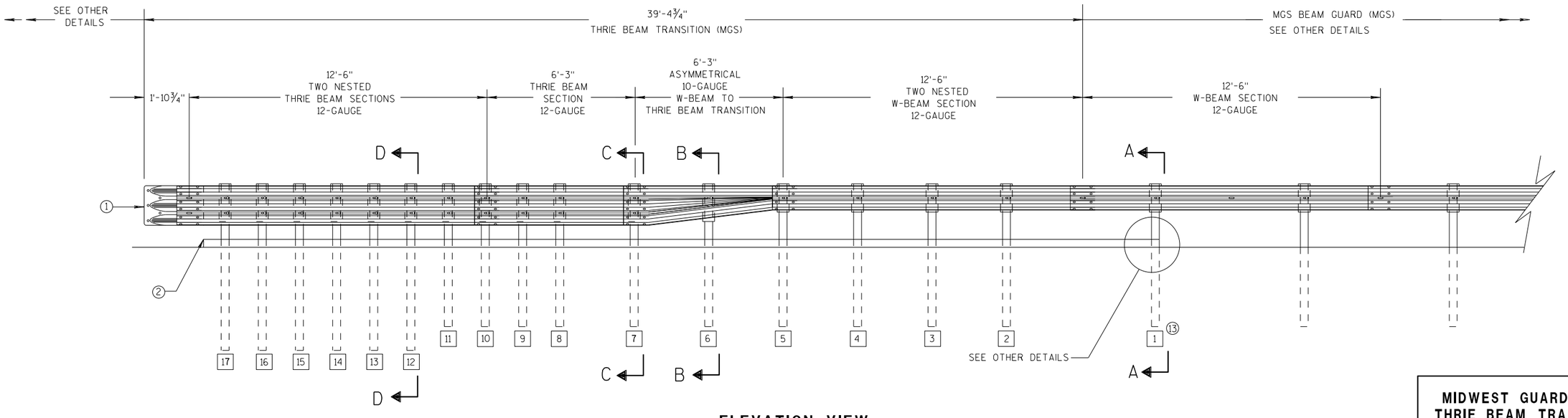
(1) BRIDGE RAILING TYPE "W" DOES NOT REQUIRE A TERMINAL CONNECTOR.

(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

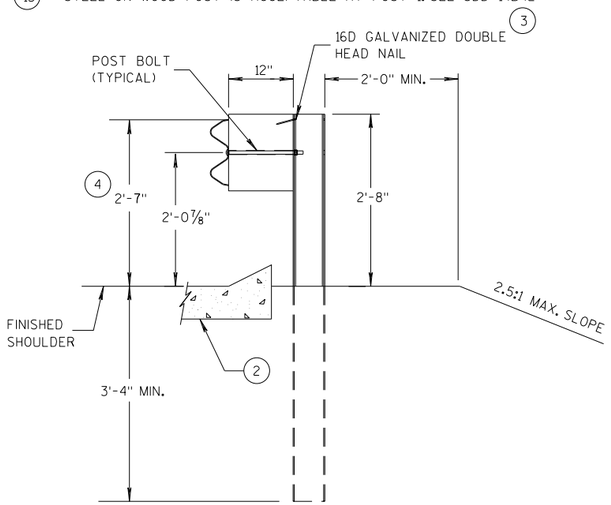
GENERAL NOTES

(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.

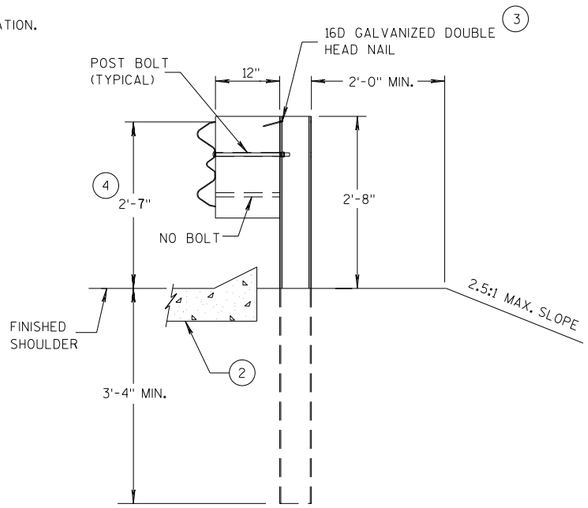
(4) TOLERANCE FOR TOP OF W-BEAM RAIL IS ± 1".

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



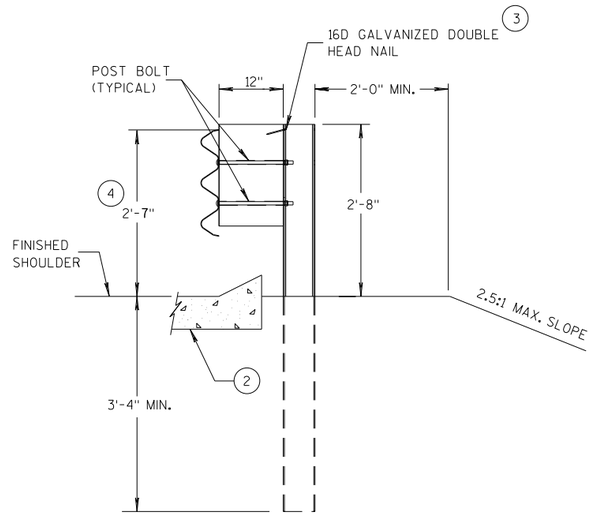
SECTION A-A (13)

POSTS 1-5



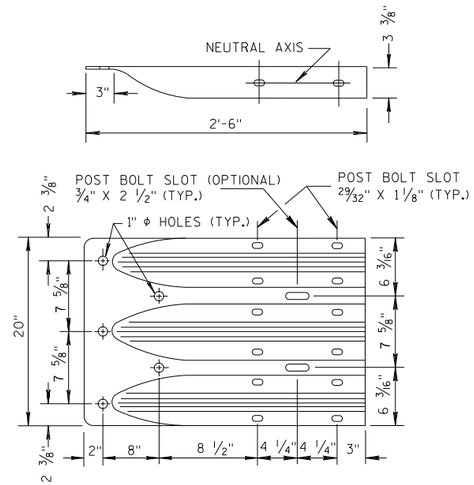
SECTION B-B

POST 6

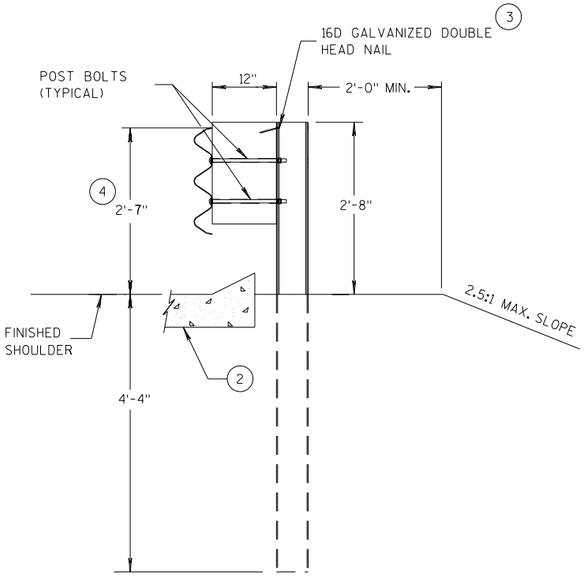


SECTION C-C

POSTS 7-11

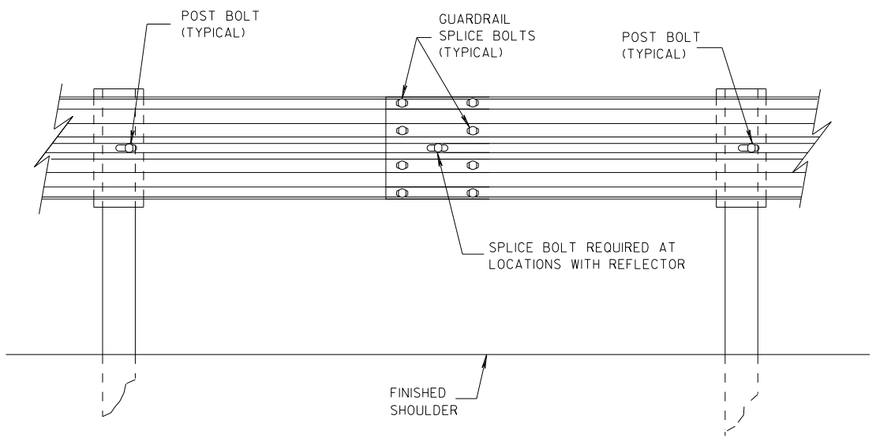


THRIE BEAM TERMINAL CONNECTOR



SECTION D-D

POSTS 12-17



SPLICE DETAIL

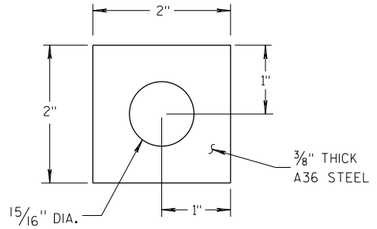
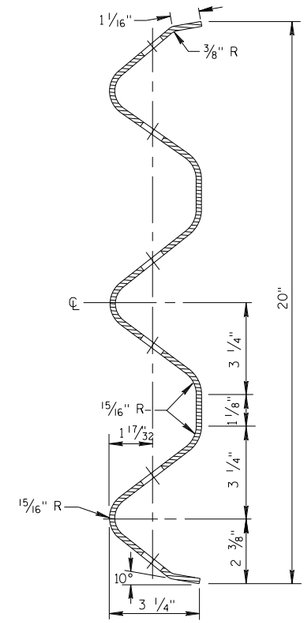


PLATE WASHER DETAIL



SECTION THRU THRIE BEAM RAIL ELEMENT

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

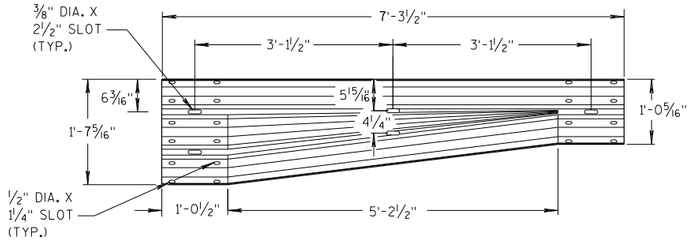
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR 47

6

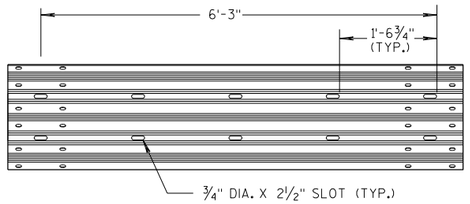
S.D.D. 14 B 45-5b

6

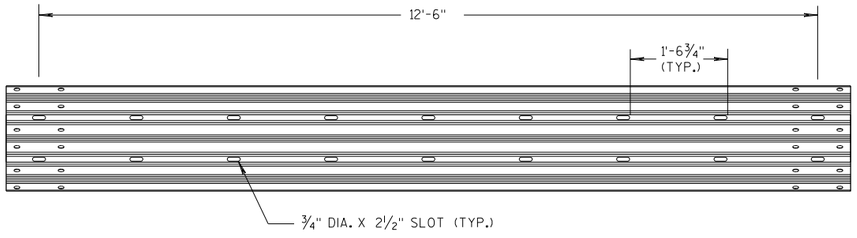
S.D.D. 14 B 45-5b



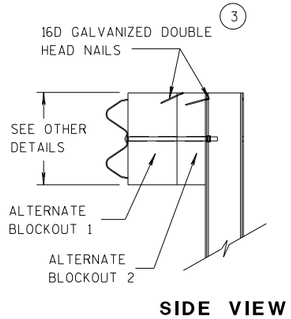
W-BEAM TO THRIE BEAM TRANSITION SECTION



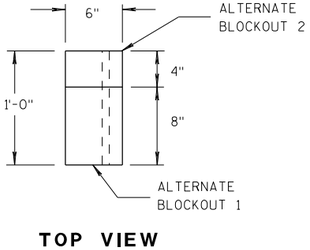
6'-3" THRIE BEAM SECTION



12'-6" THRIE BEAM SECTION

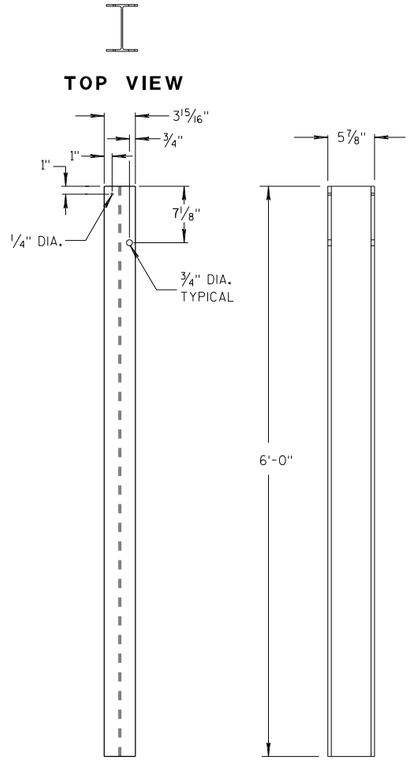


SIDE VIEW



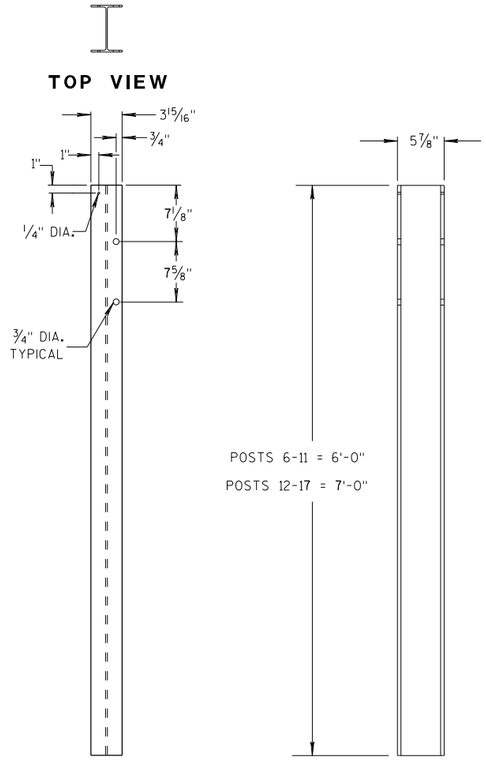
TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL



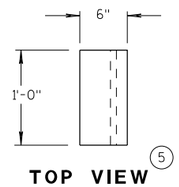
FRONT VIEW SIDE VIEW

STEEL POSTS 1-5 (13)

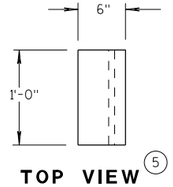


FRONT VIEW SIDE VIEW

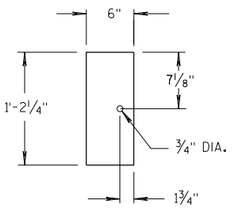
STEEL POSTS 6-17



TOP VIEW (5)

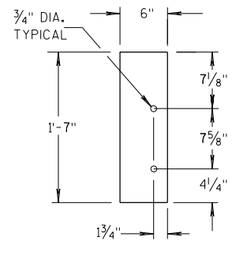


TOP VIEW (5)



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)

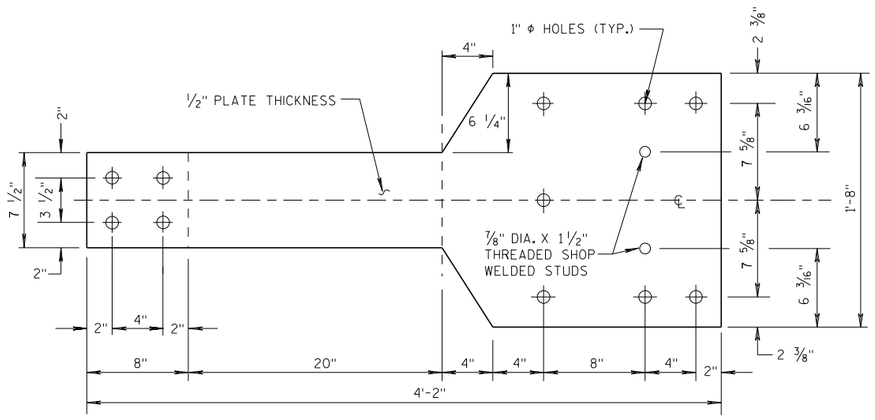
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

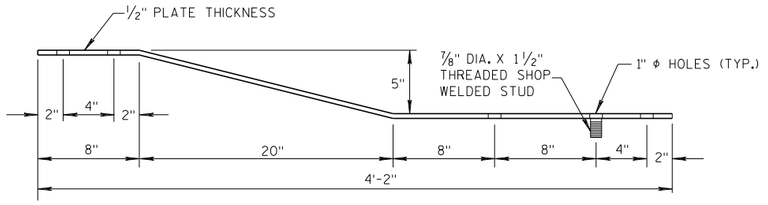
S.D.D. 14 B 45-5c

GENERAL NOTES

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

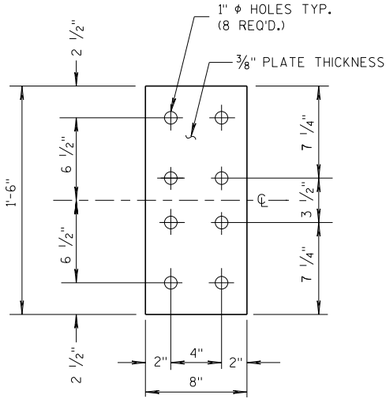


FRONT VIEW



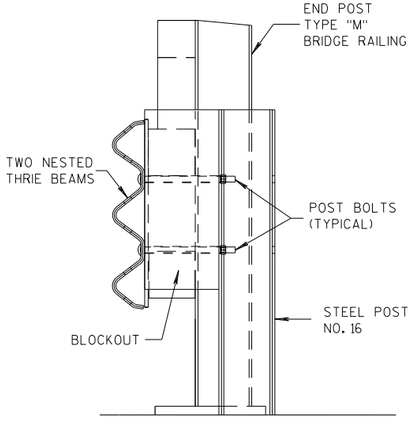
PLAN VIEW

BACK-UP PLATE DETAIL, TYPE "M"

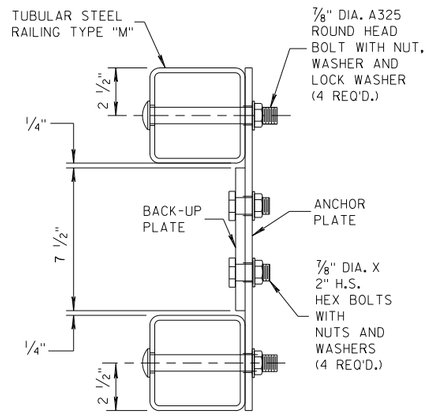


FRONT VIEW

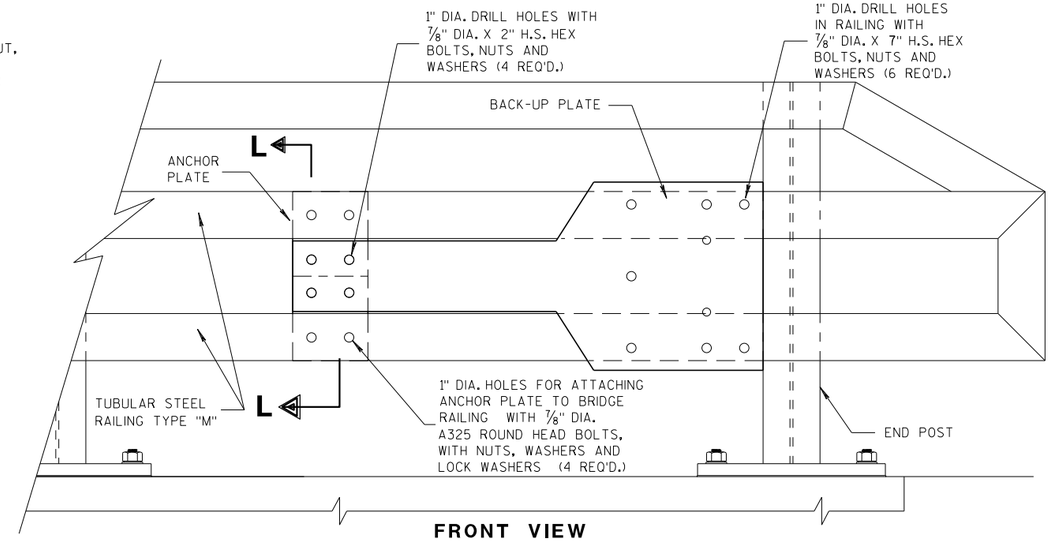
ANCHOR PLATE DETAIL, TYPE "M"



SECTION M-M

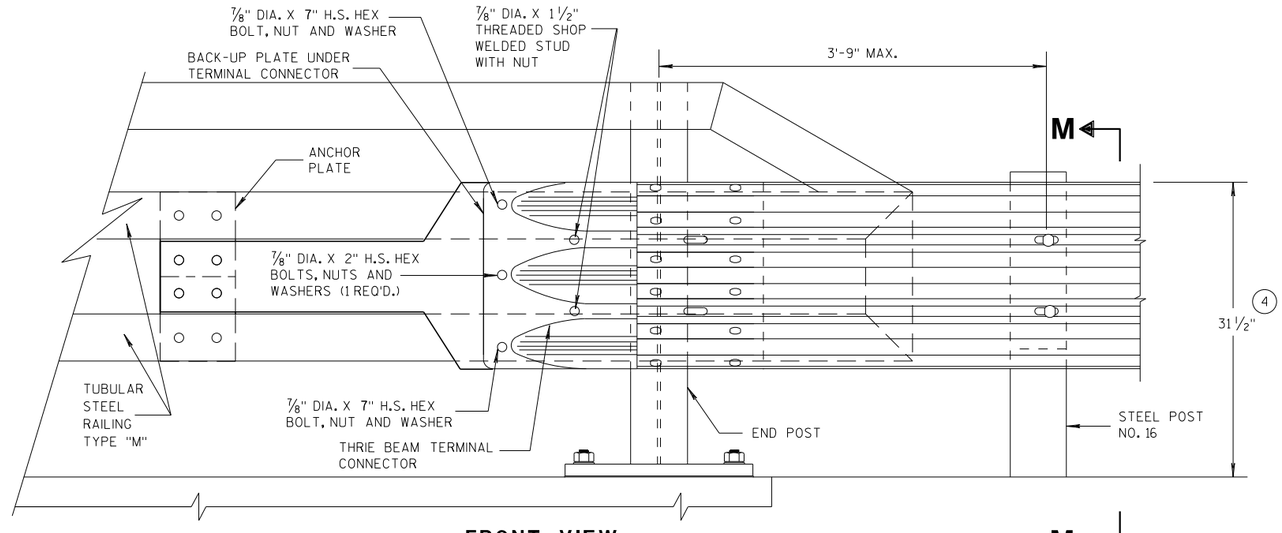


SECTION L-L

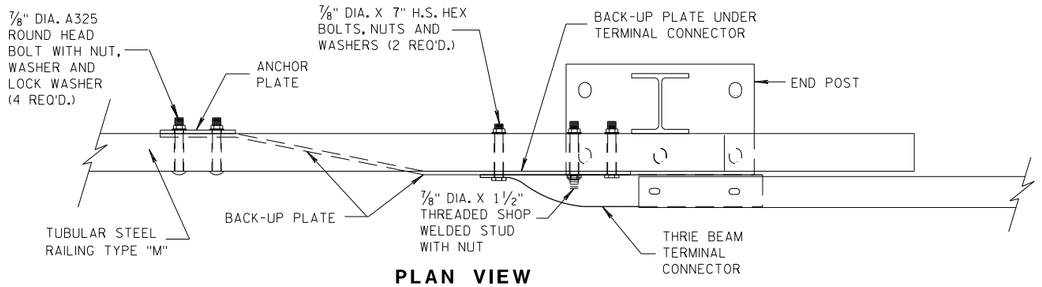


FRONT VIEW

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 DEVELOPMENT UNIT SUPERVISOR
FHWA

6

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

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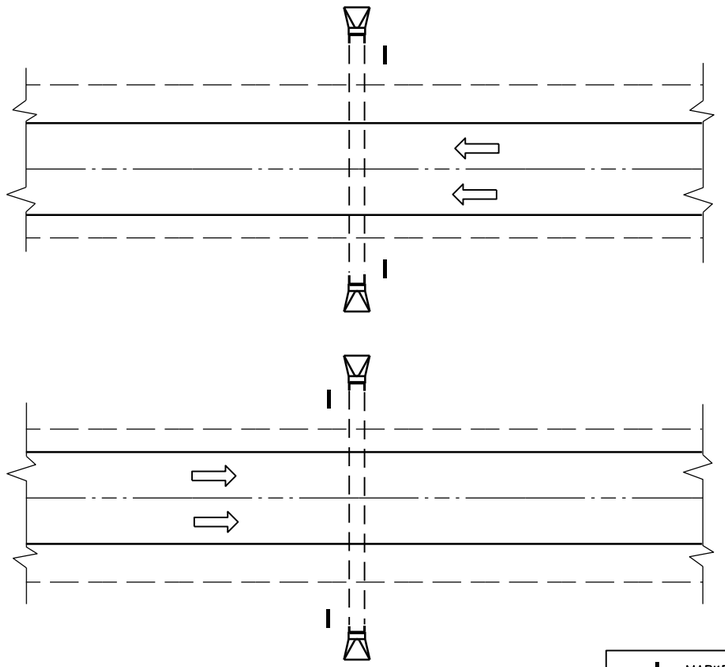
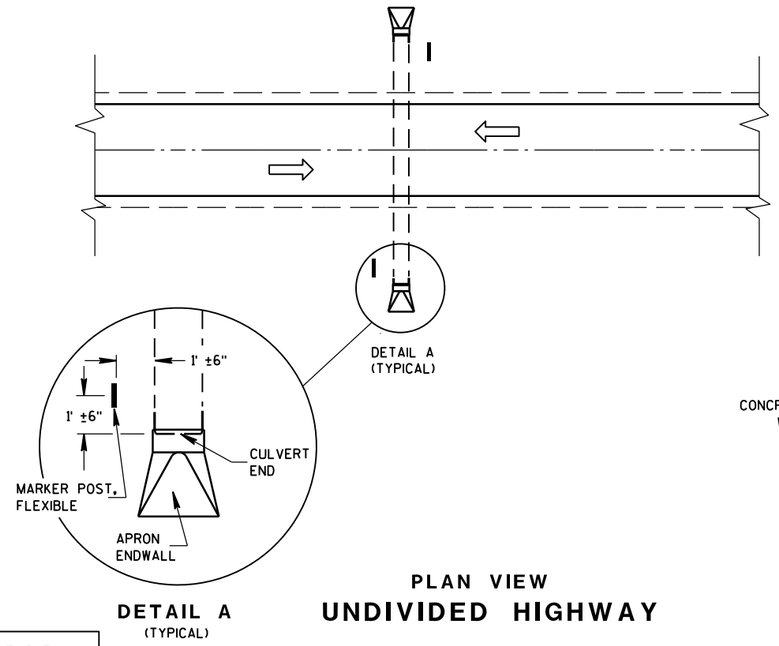
S.D.D. 14 B 45-5h



PLAN VIEW

DIVIDED HIGHWAY



DETAIL A
(TYPICAL)

PLAN VIEW

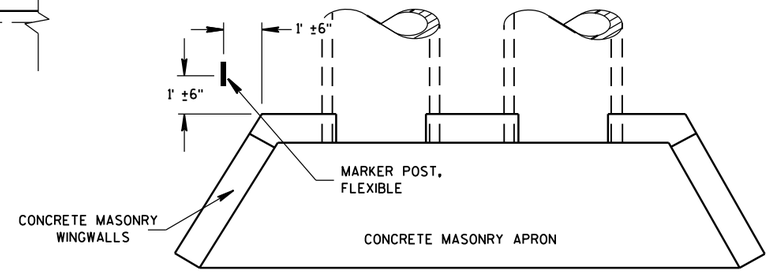
UNDIVIDED HIGHWAY

MARKER POST, FLEXIBLE

DIRECTION OF TRAFFIC FLOW

GENERAL NOTES

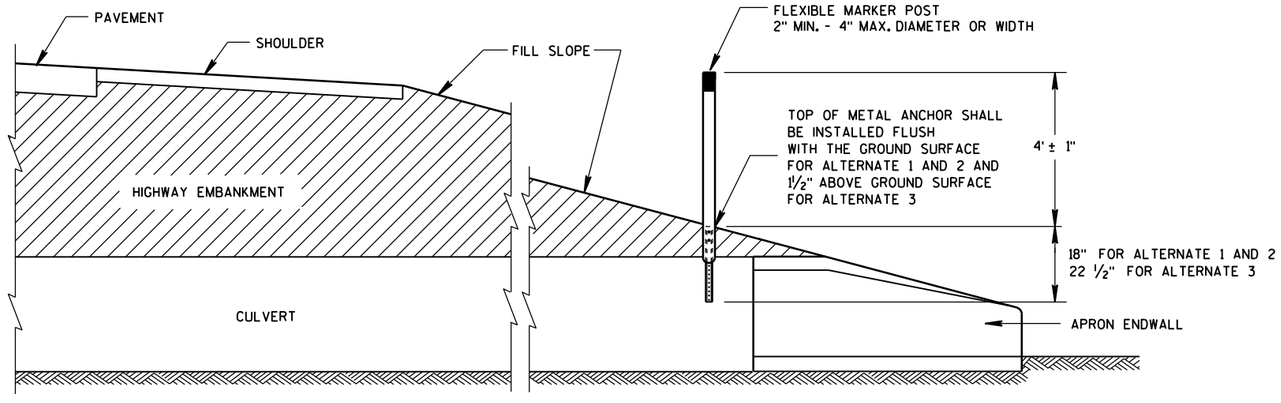
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.



PLAN VIEW

CONCRETE MASONRY ENDWALLS FOR CULVERT PIPE AND PIPE ARCH

FLEXIBLE MARKER POST LOCATION



CROSS SECTION

FLEXIBLE MARKER POST

FLEXIBLE MARKER POST FOR CULVERT END

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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S.D.D. 15 A 3-2a

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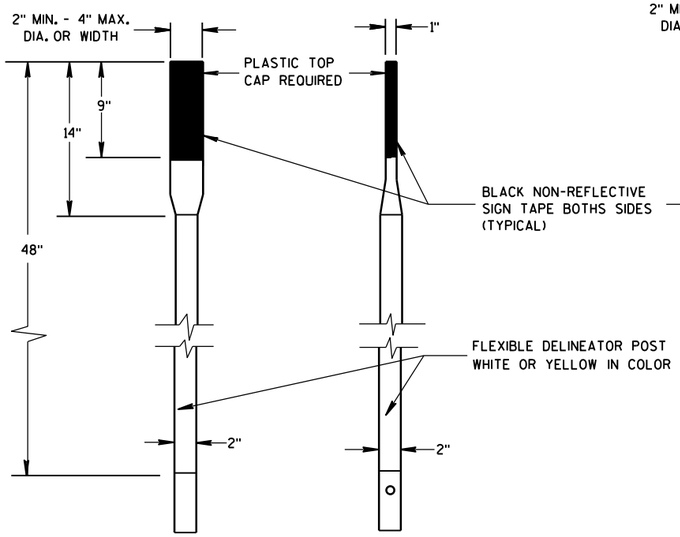
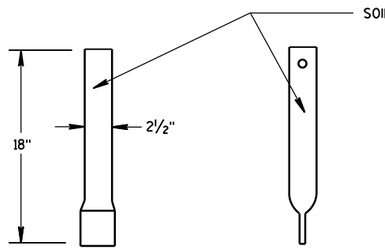
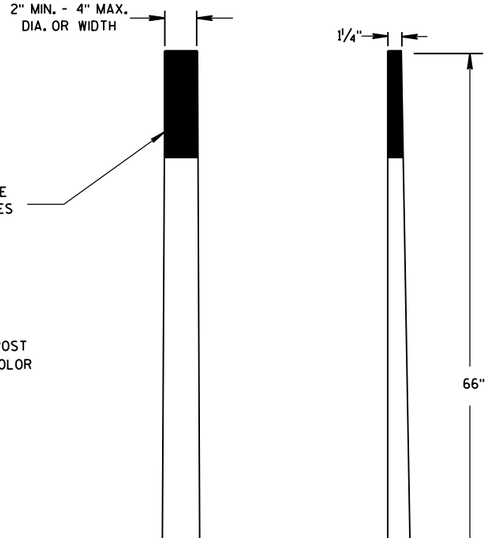
S.D.D. 15 A 3-2a





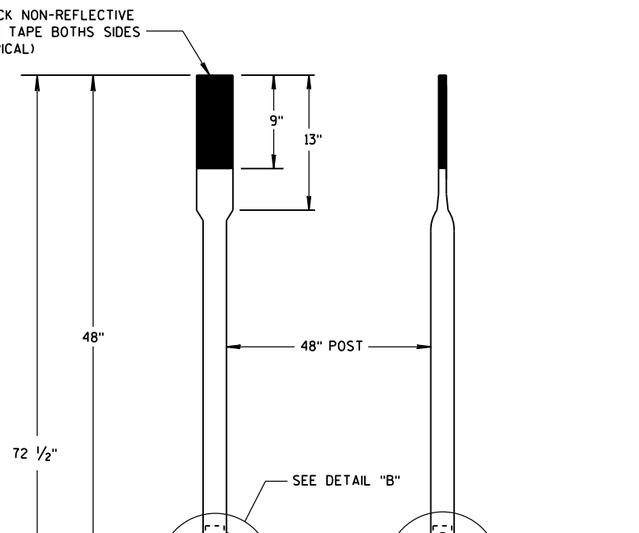
FRONT VIEW SIDE VIEW

ALTERNATE 1



FRONT VIEW SIDE VIEW

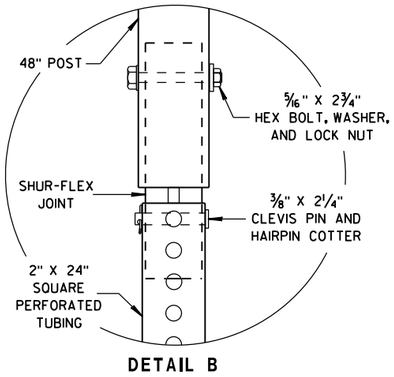
ALTERNATE 2



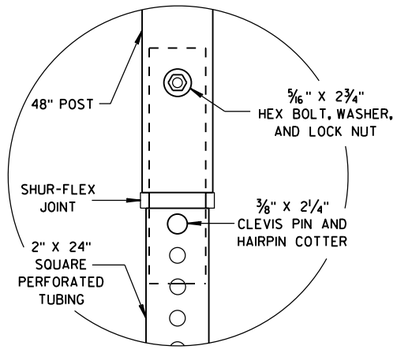
FRONT VIEW SIDE VIEW

ALTERNATE 3

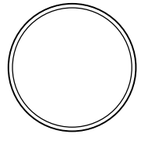
FLEXIBLE MARKER POSTS



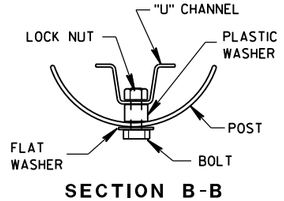
DETAIL B



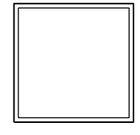
DETAIL C



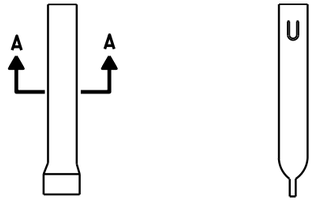
SECTION A-A



SECTION B-B

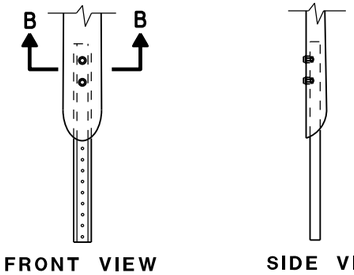


SECTION C-C



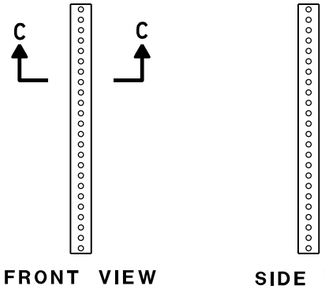
FRONT VIEW SIDE VIEW

ALTERNATE 1



FRONT VIEW SIDE VIEW

ALTERNATE 2



FRONT VIEW SIDE VIEW

ALTERNATE 3

FLEXIBLE MARKER POST ANCHORS

FLEXIBLE MARKER POST FOR CULVERT END	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 10/1/2012 DATE	/S/ Travis Feltes STATE TRAFFIC ENGINEER
FHWA	

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S.D.D. 15 A 3-2b

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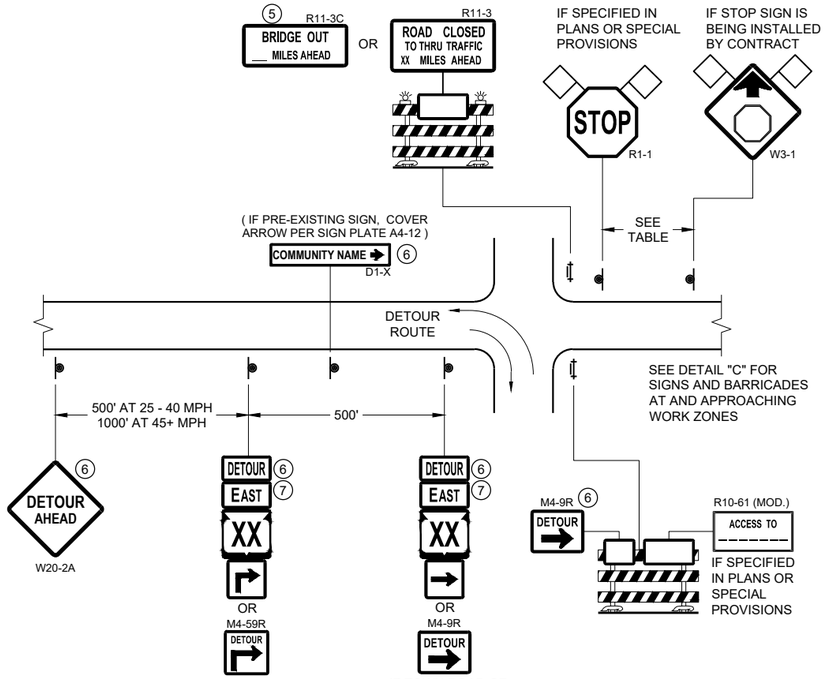
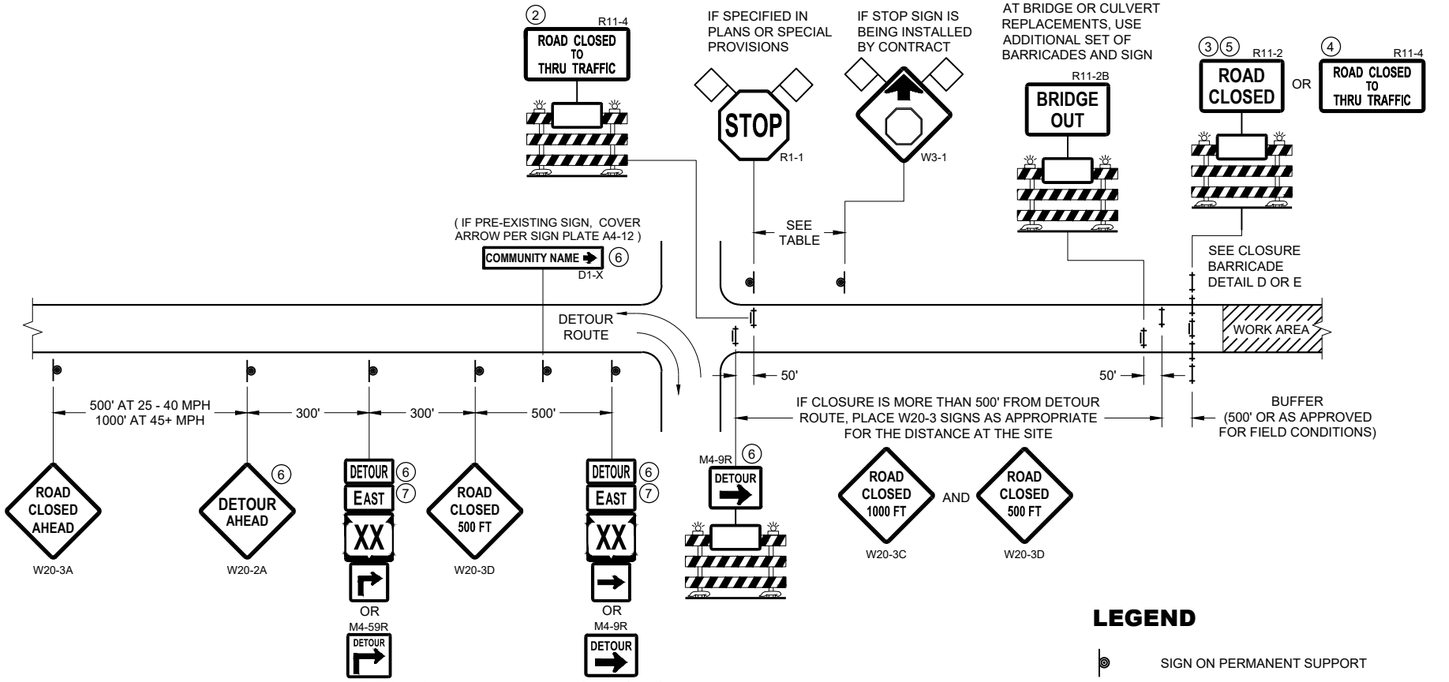
S.D.D. 15 A 3-2b



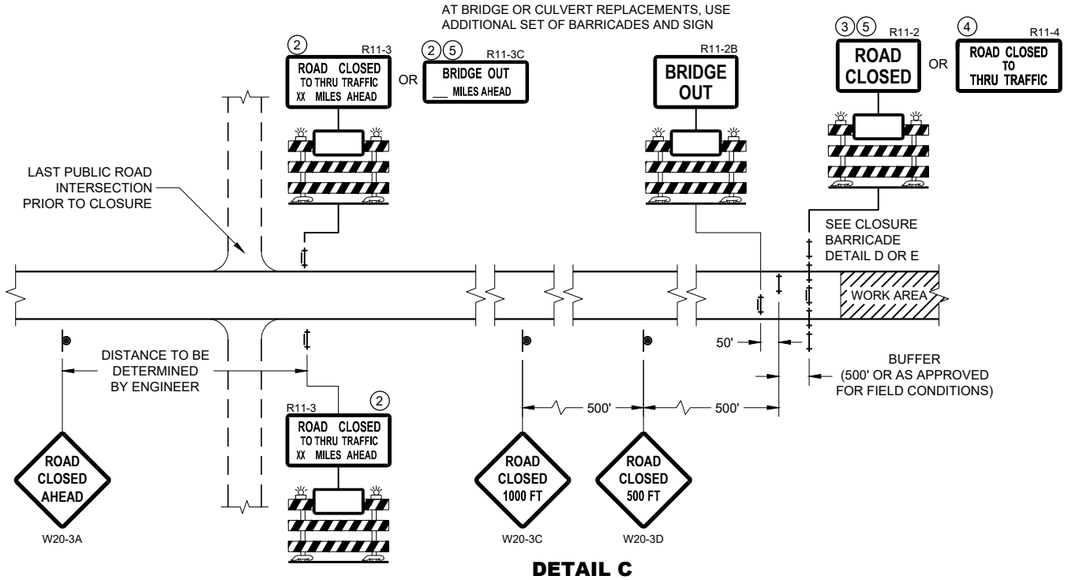


DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR

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

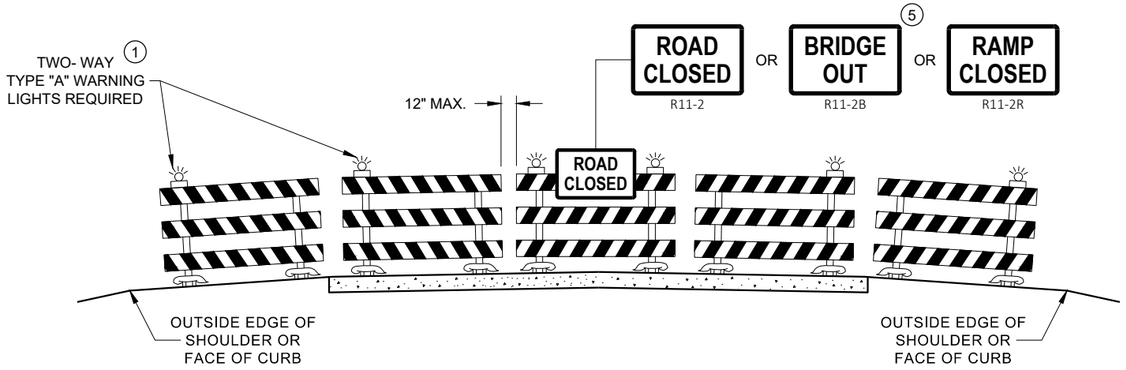
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

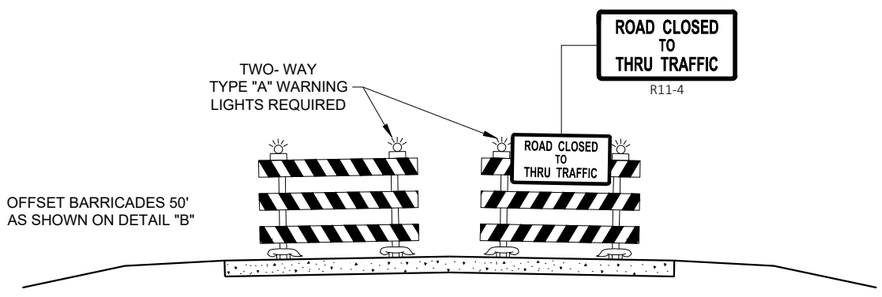
FHWA

6

SDD 15C02 - 08a



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 ENGINEER
FHWA

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SDD 15C02 - 08b

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

GENERAL NOTES

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

IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. MODIFY EXISTING SIGNS WHERE POSSIBLE.

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

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

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

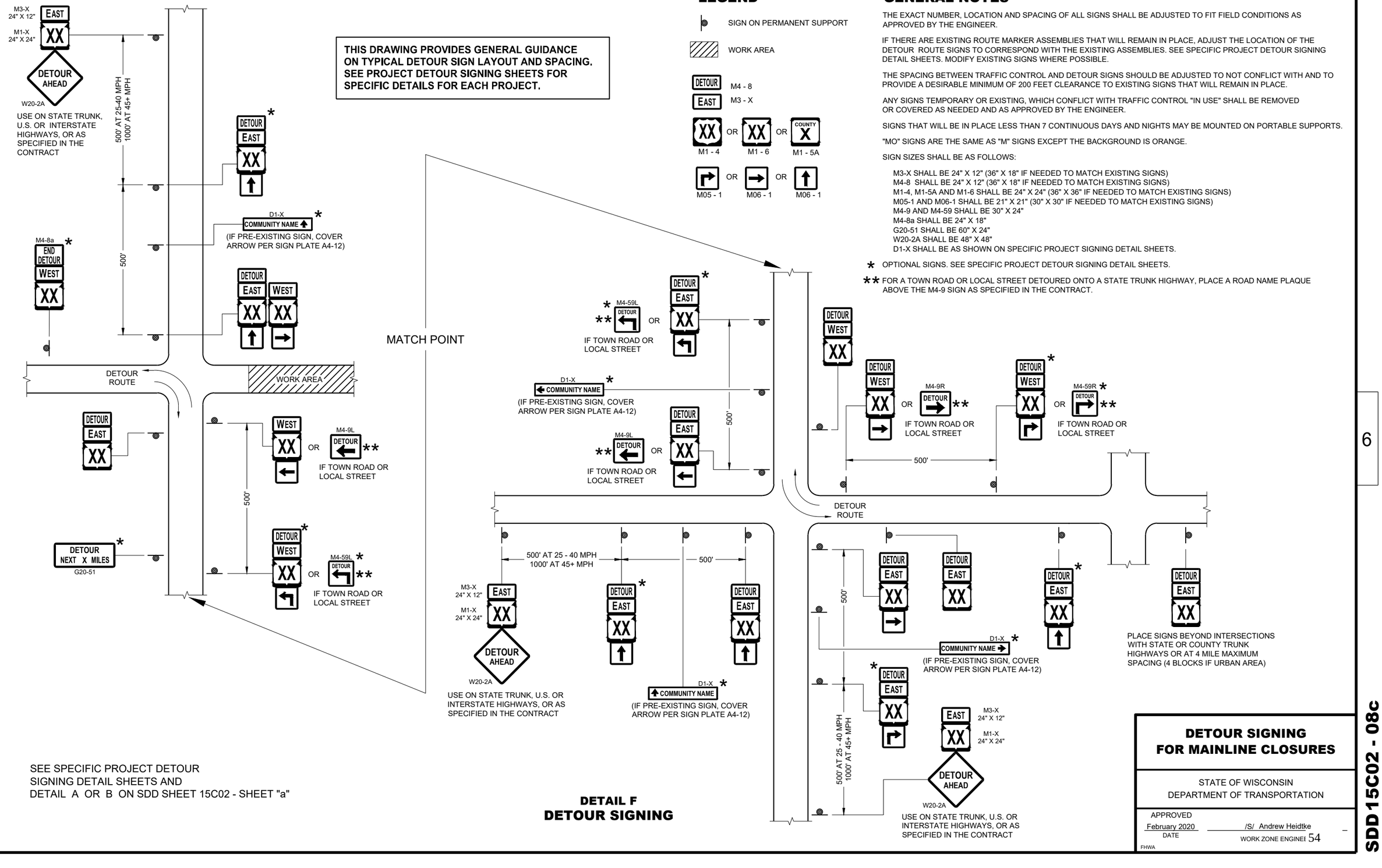
"MO" SIGNS ARE THE SAME AS "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

SIGN SIZES SHALL BE AS FOLLOWS:

- M3-X SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M4-8 SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M1-4, M1-5A AND M1-6 SHALL BE 24" X 24" (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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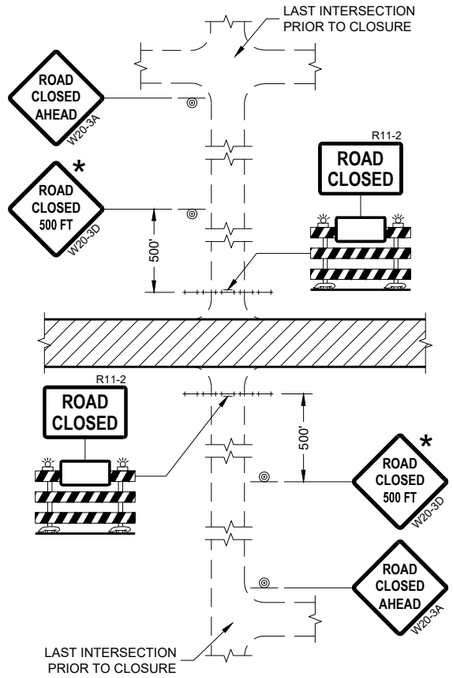
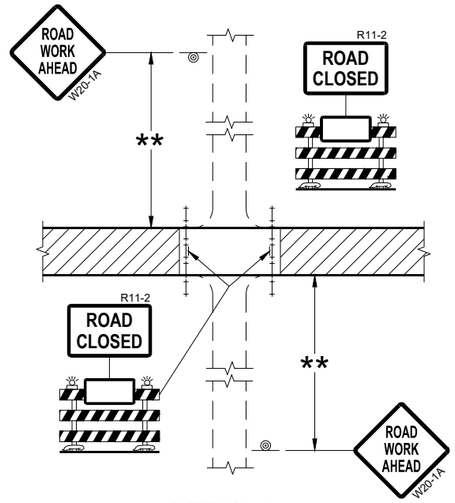
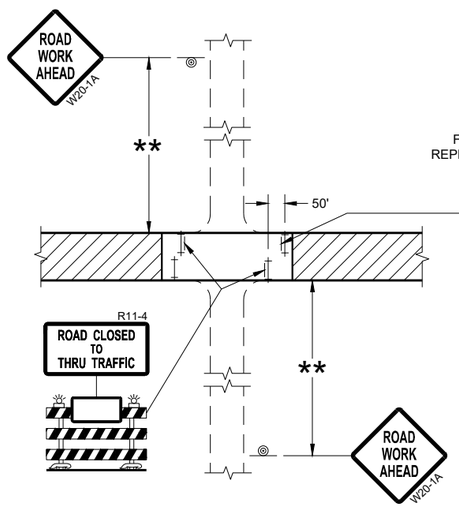


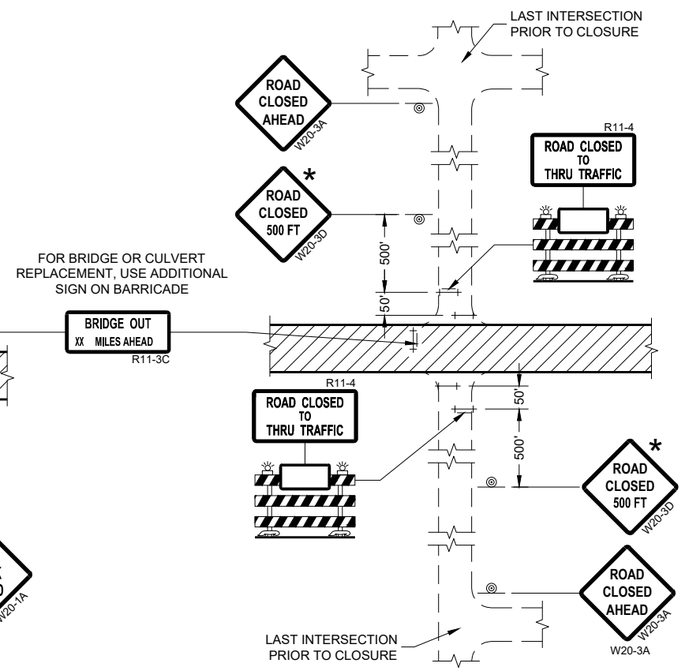
DETAIL 1
(NO ACCESS TO PROJECT)



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



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



DETAIL 4
(CONTRACTOR, LOCAL BUSINESS AND
RESIDENT 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.

LEGEND

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

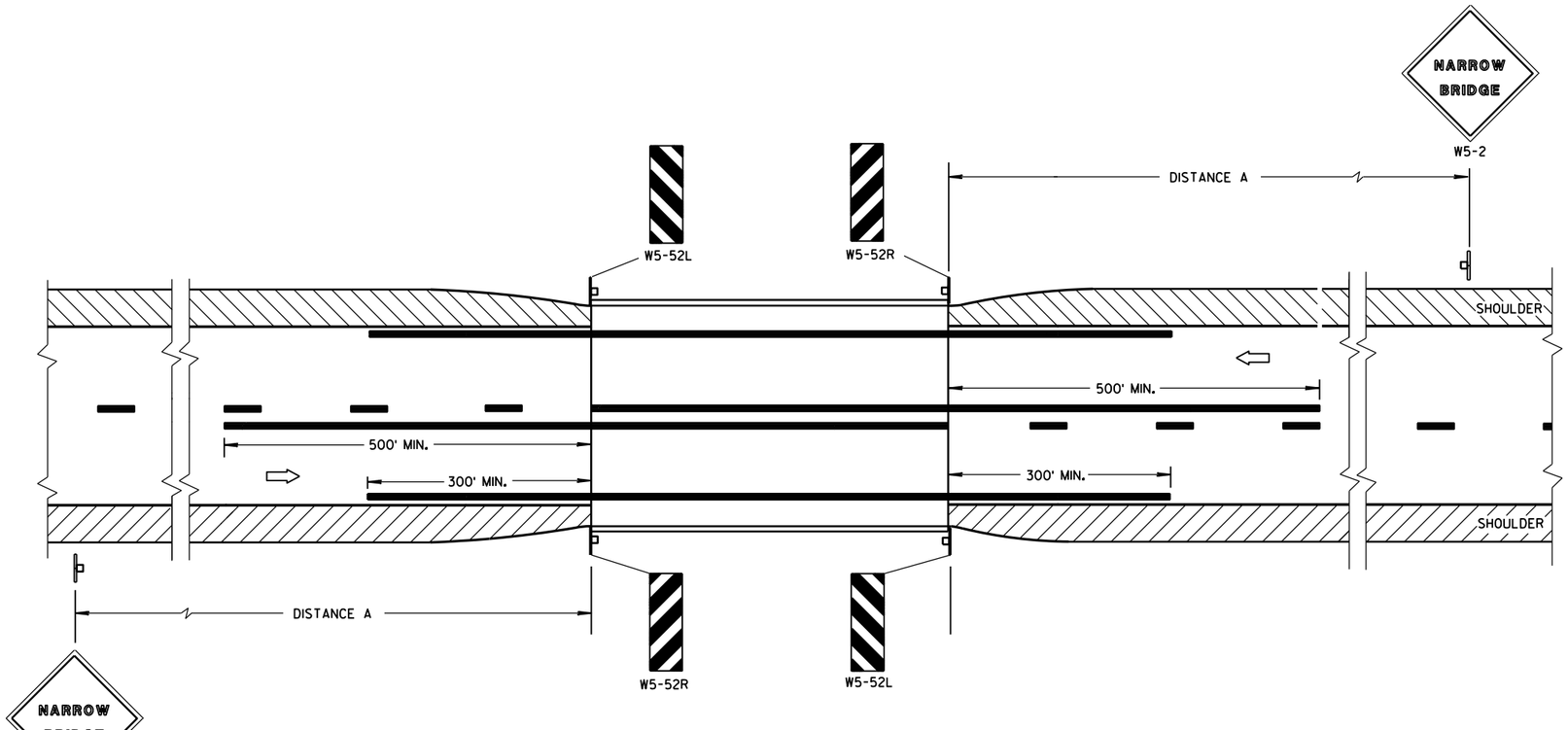
BARRICADES AND SIGNS FOR SIDEROAD CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA

6
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

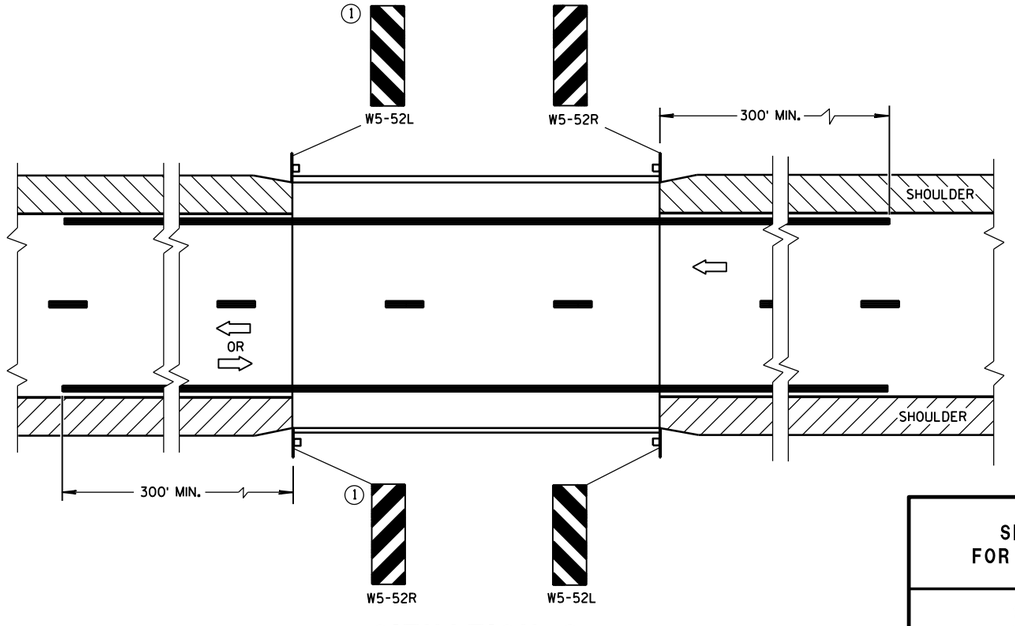
DETAILS OF TRAFFIC CONTROL DEVICES AND INSTALLATION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

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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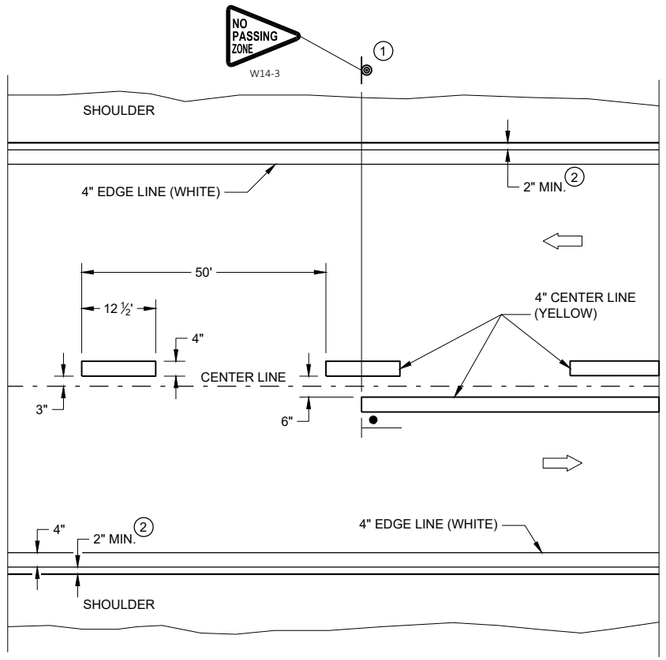
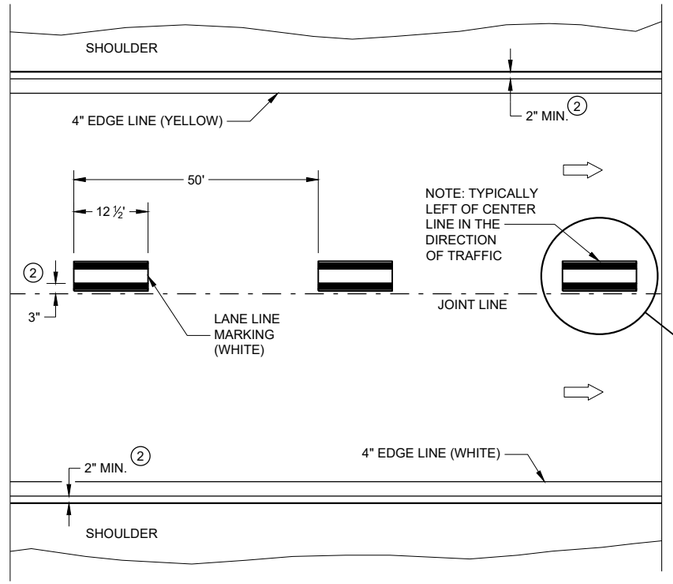
S.D.D. 15 C 6-9

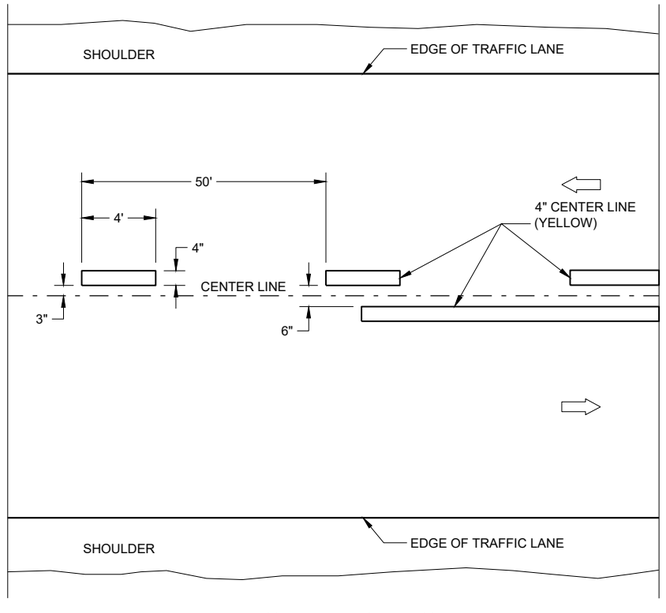


TWO WAY TRAFFIC

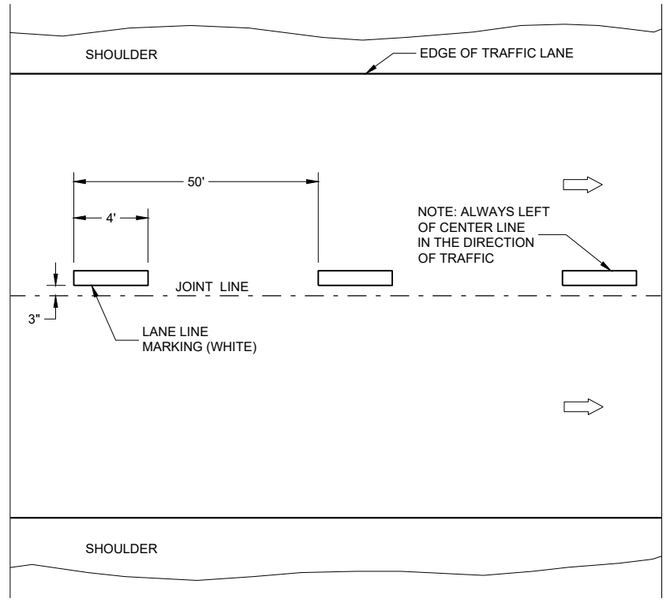


ONE WAY TRAFFIC

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.

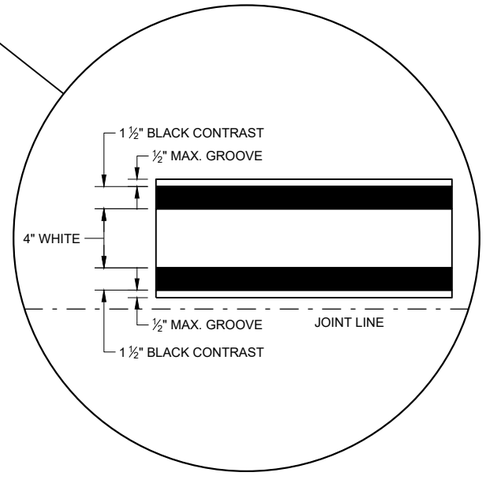
1. LOCATE THE NO PASSING ZONE W14-3 SIGN WITHIN 50 FEET OF THE "T" MARKING
2. MEASURE FROM EDGE OF MARKING TO JOINT LINE. THIS DOES NOT INCLUDE SPACE NEEDED FOR GROOVING OPERATIONS.

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

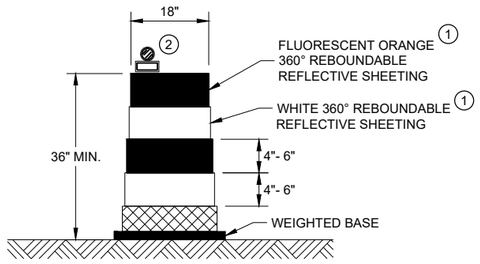
FHWA

SDD 15C08 - 20a

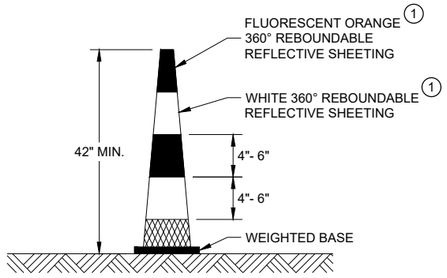
SDD 15C08 - 20a

GENERAL NOTES

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

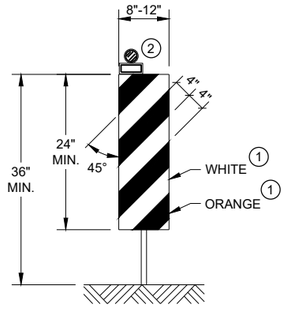


DRUM



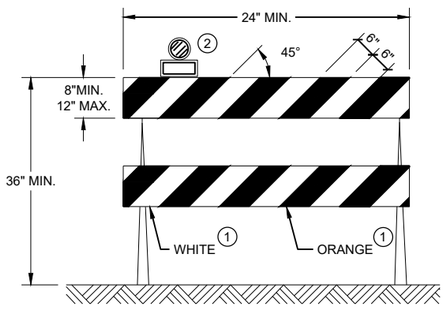
42" CONE

DO NOT USE IN TAPERS
½ SPACING OF DRUMS



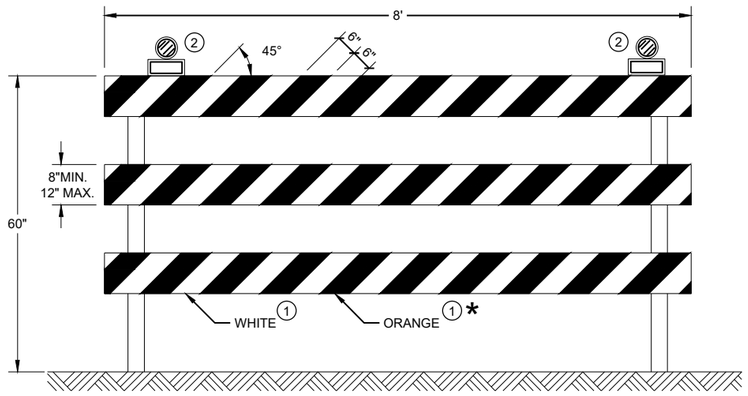
VERTICAL PANEL

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



TYPE II BARRICADE

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



TYPE III BARRICADE

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

* IF USED FOR A PERMANENT APPLICATION USE RED SHEETING.

CHANNELIZING DEVICES
DRUMS, CONES, BARRICADES
AND VERTICAL PANELS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2021
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

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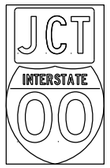
SDD 15C11 - 09b

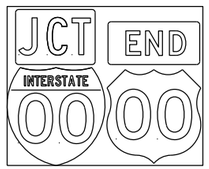
6

SDD 15C11 - 09b

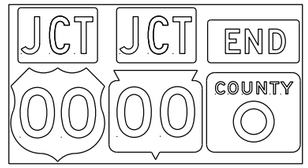
TYPICAL ASSEMBLIES



J1-1



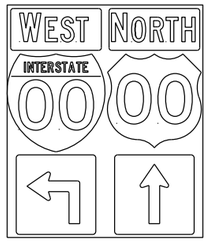
J1-2



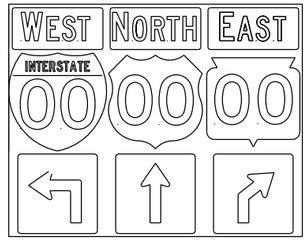
J1-3

JR1-1

J2-1

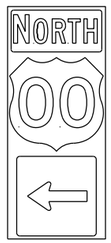


J2-2

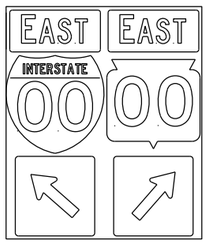


J2-3

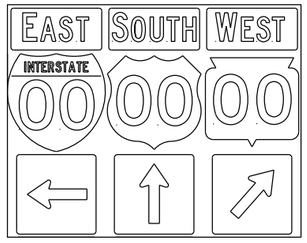
JV
(Typical Vertical J-Assembly
See Note 10 and 11)



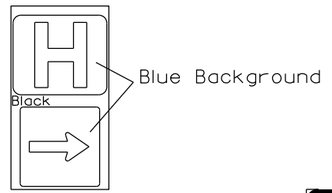
J3-1



J3-2

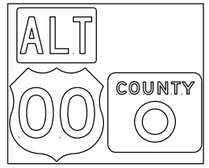


J3-3

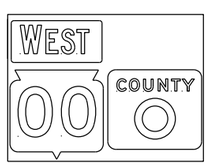


JH-1

J4-1

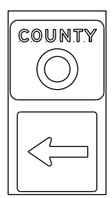


J4-2



J4-2

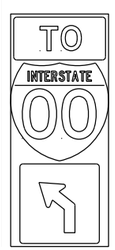
J12-1



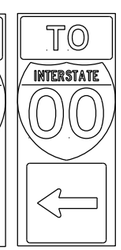
J13-1

J32-1

J33-1



J22-1

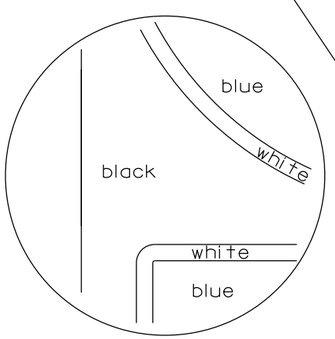


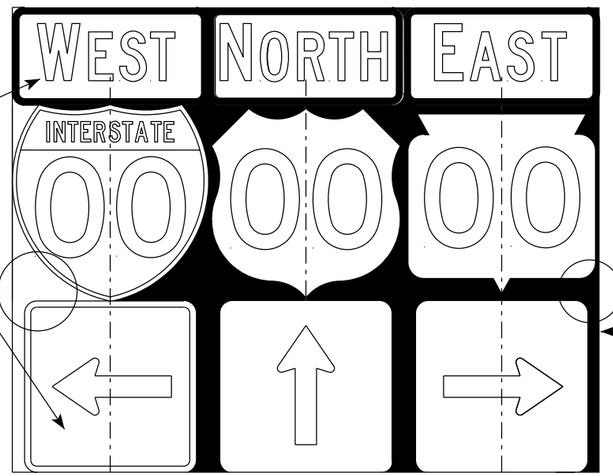
J23-1

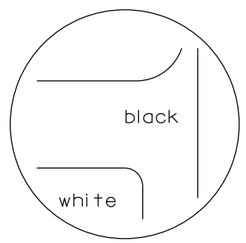
JR13-1

JR23-1

JR99-1







black background

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: 59 **E**

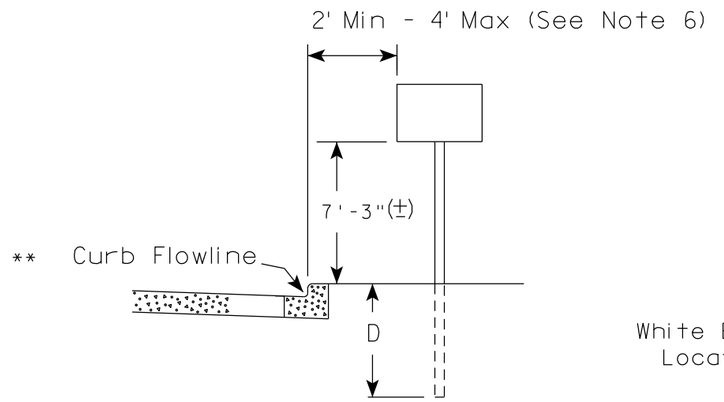
FILE NAME : C:\CAEfiles\Projects\tr_stdplate_A21S.dgn PLOT DATE : 18-MAR 2021 1:37 PLOT BY : mscj9h PLOT NAME :

WISDOT/CADDS SHEET 42

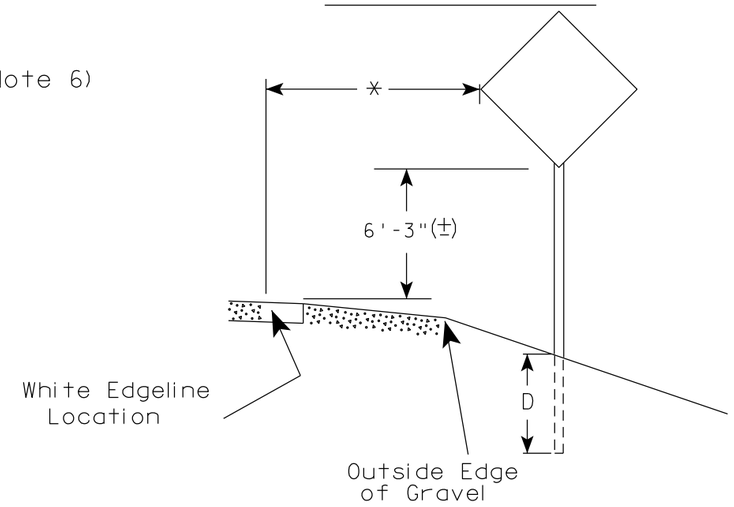
7

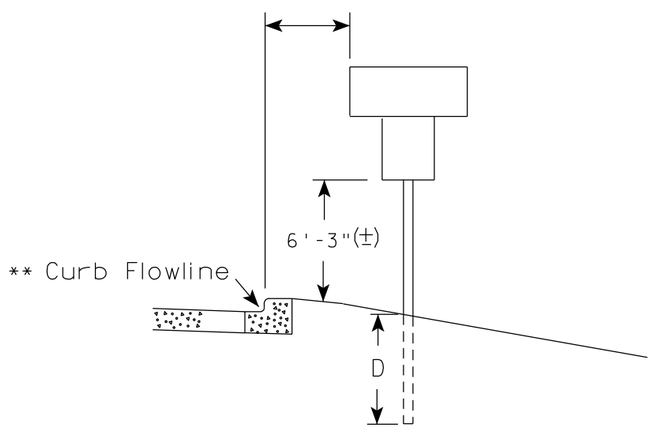
7

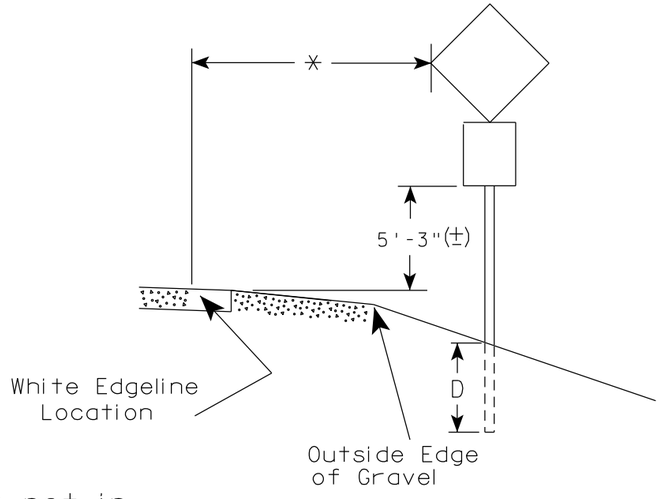
URBAN AREA



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

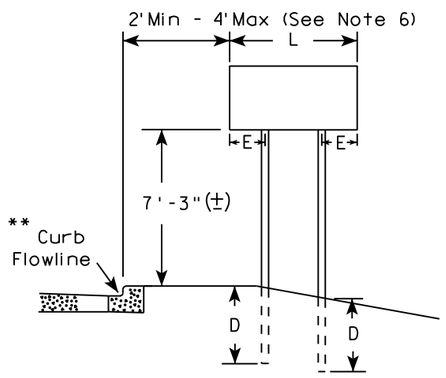
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

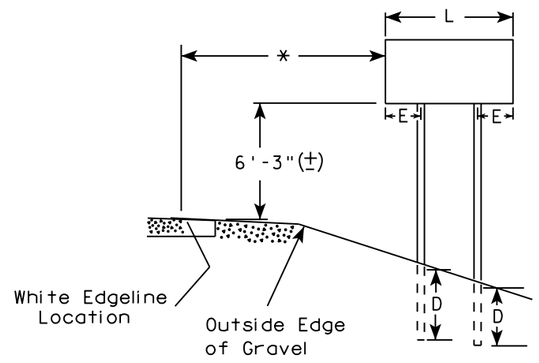
DATE 5/13/2020 PLATE NO. A4-3.22

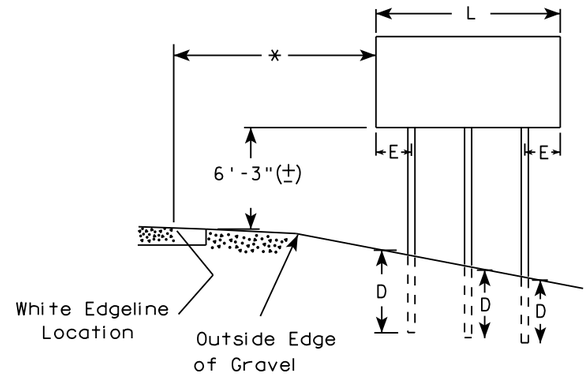
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 60	E

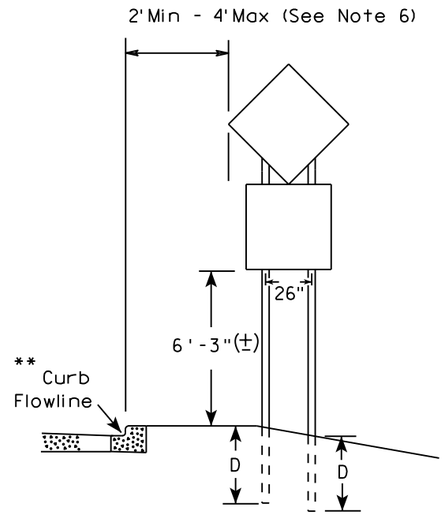
URBAN AREA



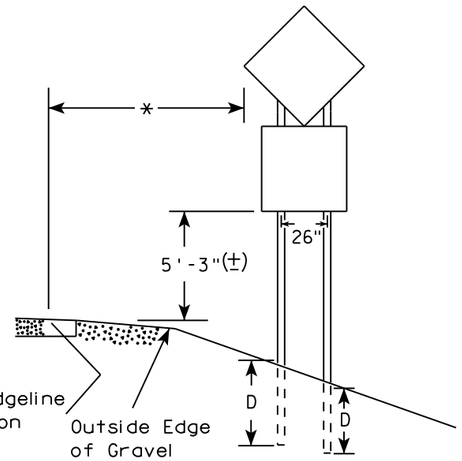
RURAL AREA (See Note 3)







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

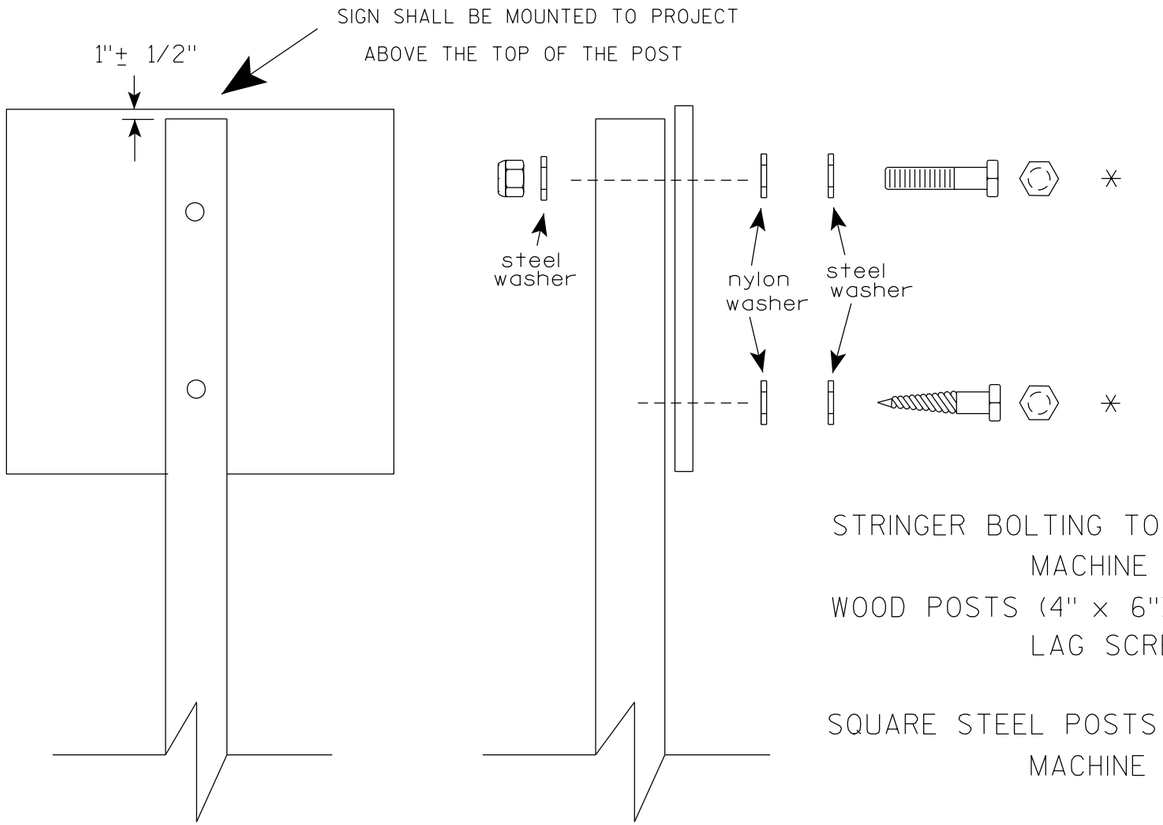
APPROVED Matthew R Rauch
For State Traffic Engineer

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

7

7

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

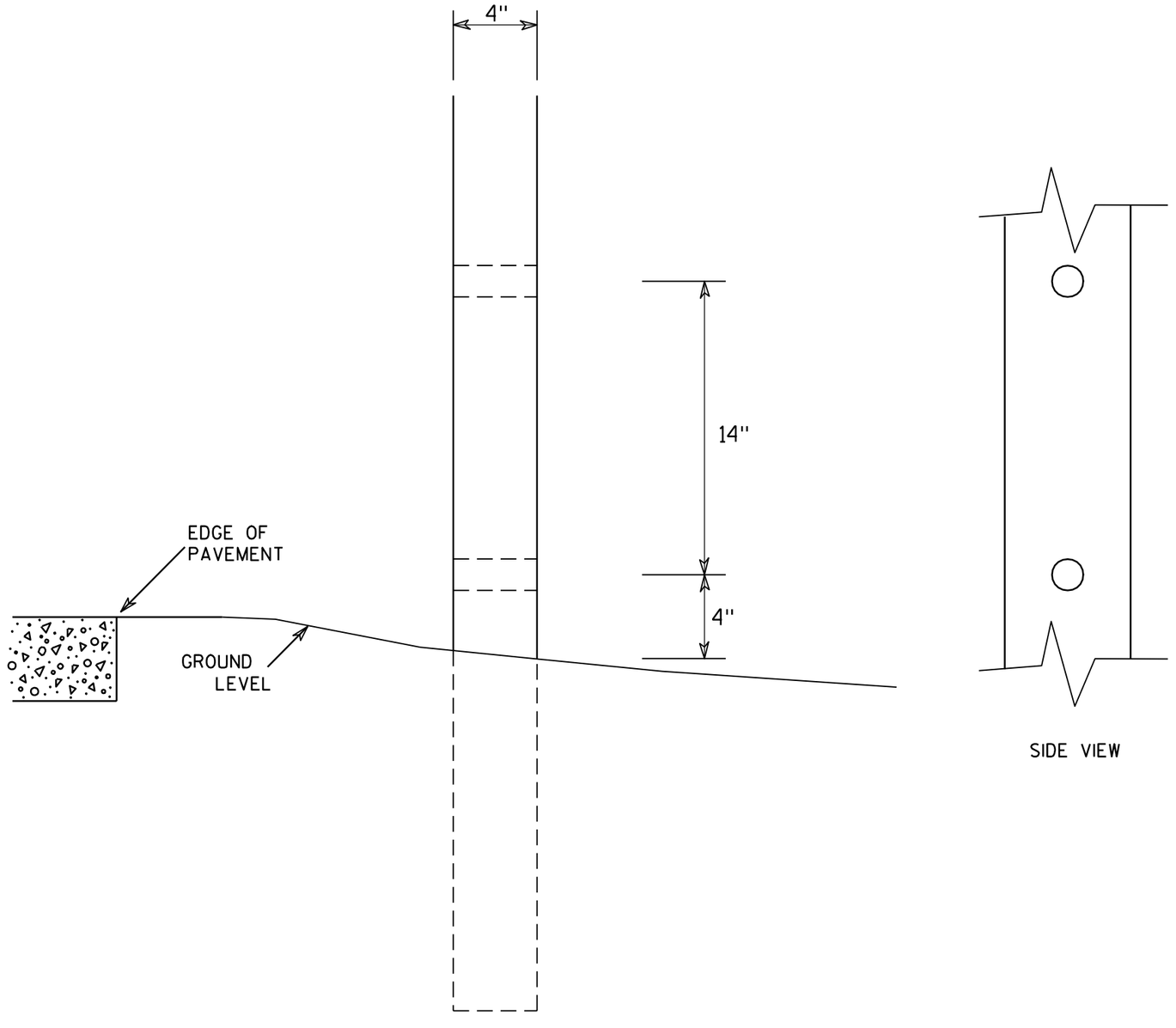
* Two different fastening systems are shown for illustration purposes. On any individual sign, either one or the other system shall be used. Actual number of fasteners per sign varies with the sign area, but normally there are two. For a single post installation, all signs greater than 9 sq. ft. require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



SIDE VIEW

GENERAL NOTES

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

7

7

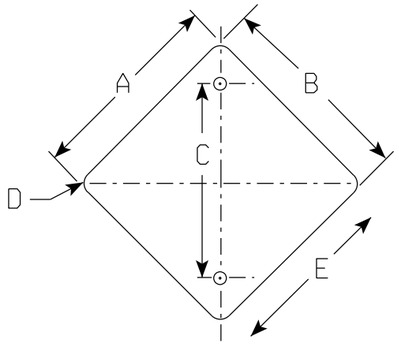
4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Chester J Spang
for State Traffic Engineer

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

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



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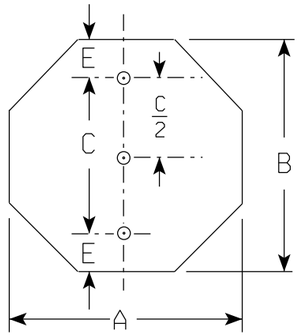

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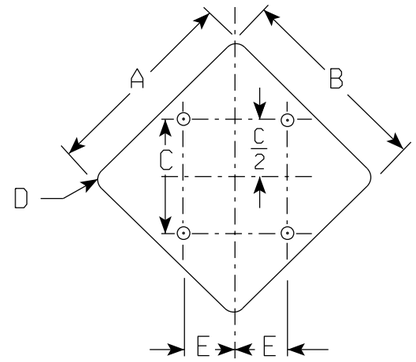

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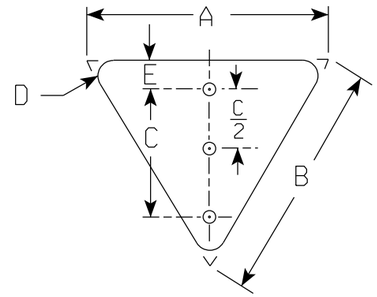

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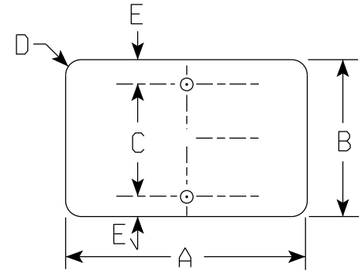


5

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

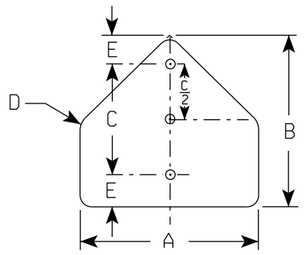
SHEET 1 OF 3

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

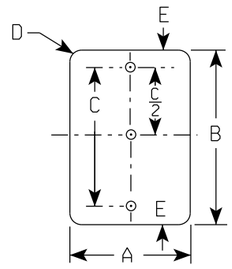
DATE 8/23/18 PLATE NO. A5-3.24

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



6

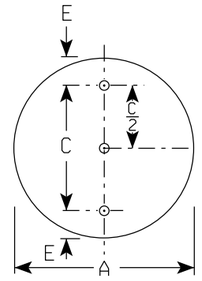
TYPE 6						
A	B	C	D	E	Area Sq. Ft	Mounting Holes
30	30	24	1 3/8	3	4.68	2
36	36	26	1 5/8	5	6.75	2
48	48	32	1 7/8	8	12.0	3



7

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

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

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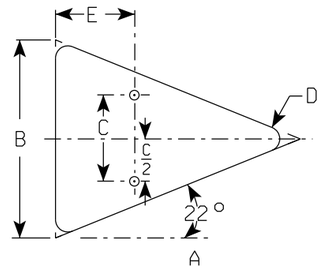
7

7



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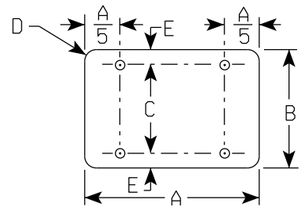

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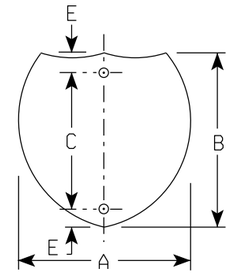

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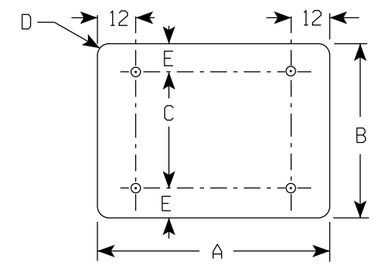


13

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

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

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

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.

STANDARD LAYOUT OF ALUMINUM SIGN BLANKS

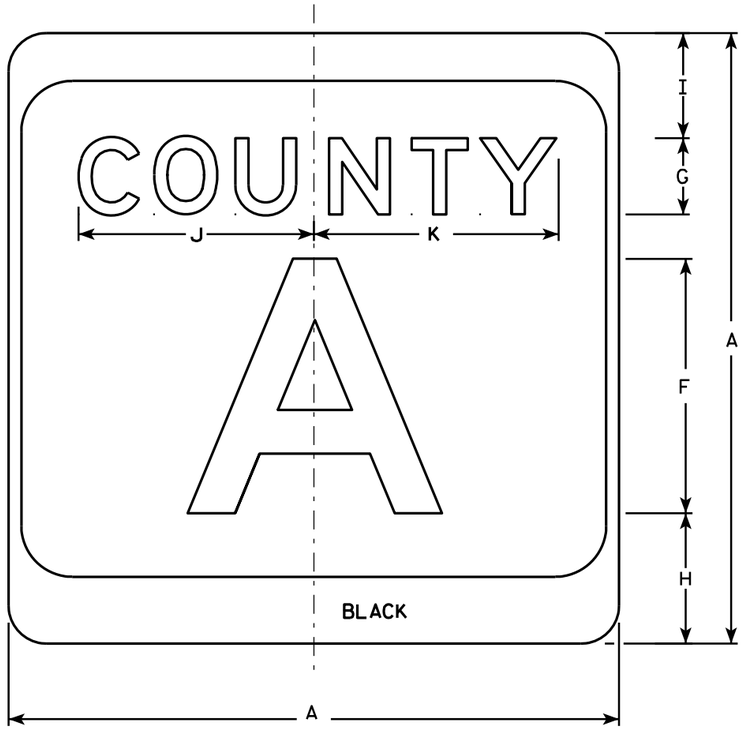
SHEET 3 OF 3

WISCONSIN DEPT OF TRANSPORTATION

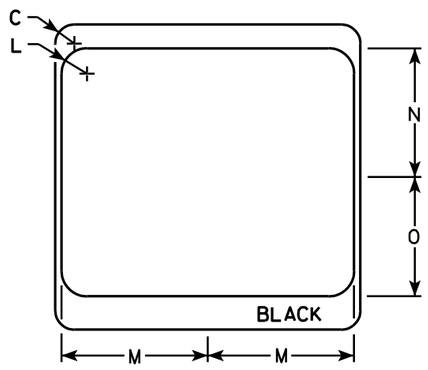
APPROVED Matthew R Rauch
for State Traffic Engineer

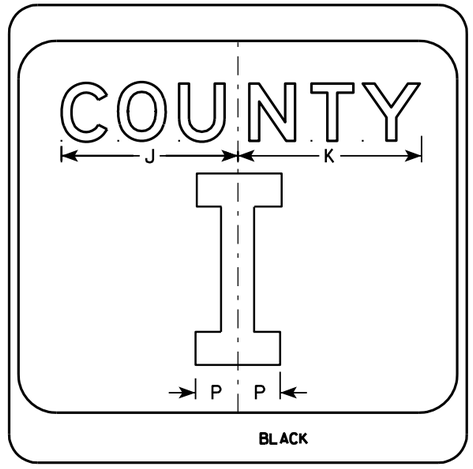
DATE 8/23/18 PLATE NO. A5.3.24

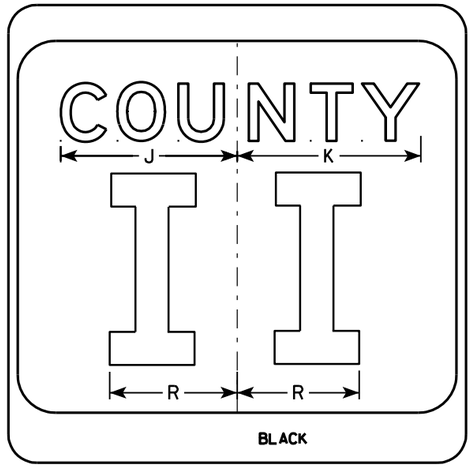
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 66	E



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

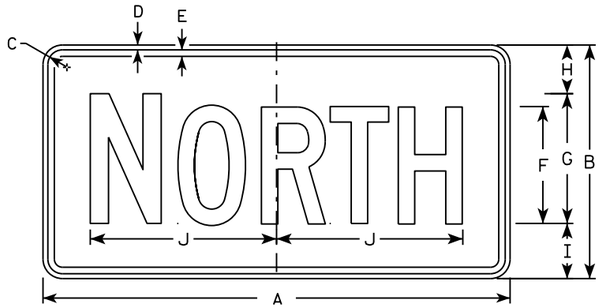
CTH MARKER
M1-5A FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

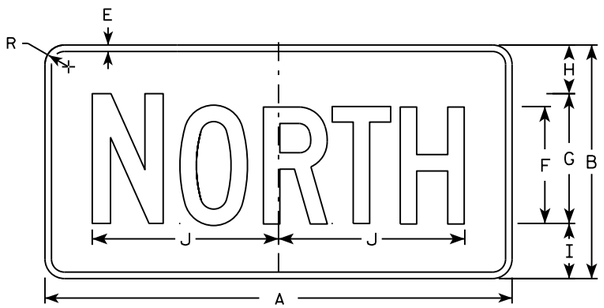
APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 67 | E



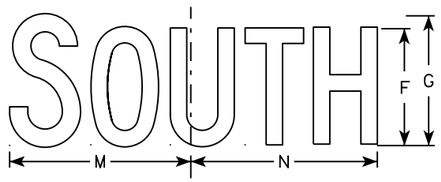
M3-1
MM3-1
MP3-1



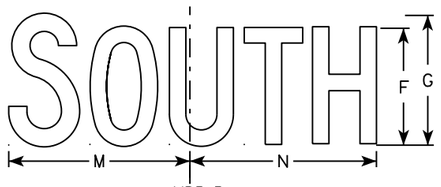
MB3-1
MK3-1
MN3-1

M3-2
MM3-2
MP3-2

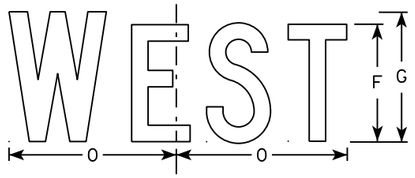
MB3-2
MK3-2
MN3-2



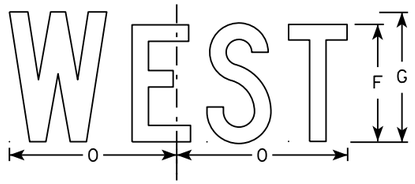
M3-3
MM3-3
MP3-3



MB3-3
MK3-3
MN3-3



M3-4
MM3-4
MP3-4



MB3-4
MK3-4
MN3-4

NOTES

1. All Signs Type II - Type H
2. Color:
   Background - See note 5
   Message - See note 5
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. M3-1 thru M3-4 Background - White
   Message - Black
   MB3-1 thru MB3-4 Background - Blue
   Message - White
   MK3-1 thru MK3-4 Background - Green
   Message - White
   MM3-1 thru MM3-4 Background - White
   Message - Green
   MN3-1 thru MN3-4 Background - Brown
   Message - White
   MP3-1 thru MP3-4 Background - White
   Message - Blue
6. Note the first letter of each direction is larger than the remainder of the message.

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

STANDARD SIGNS
M3-1 thur M3-4
SERIES

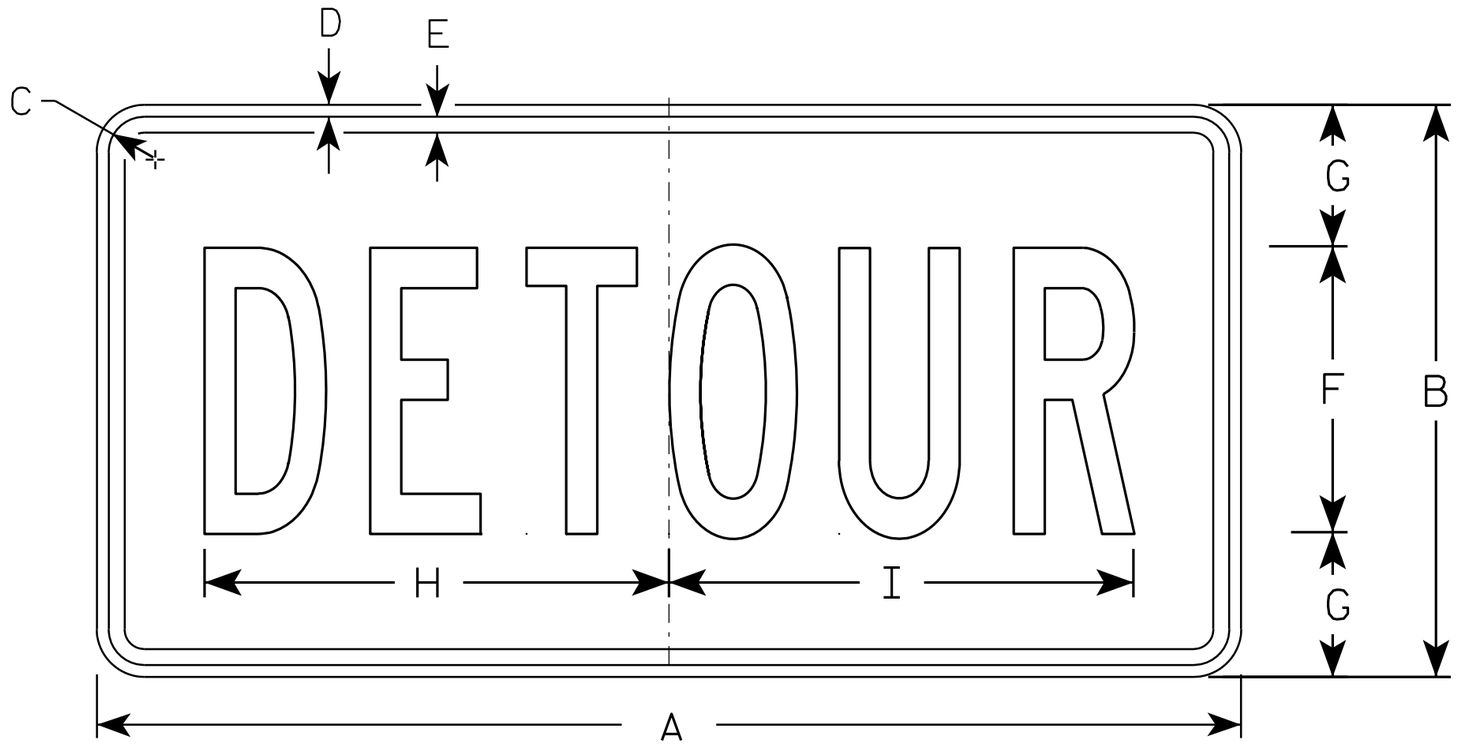
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew P Rauch for State Traffic Engineer

DATE 10/15/15 PLATE NO M3-1.14

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

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																											

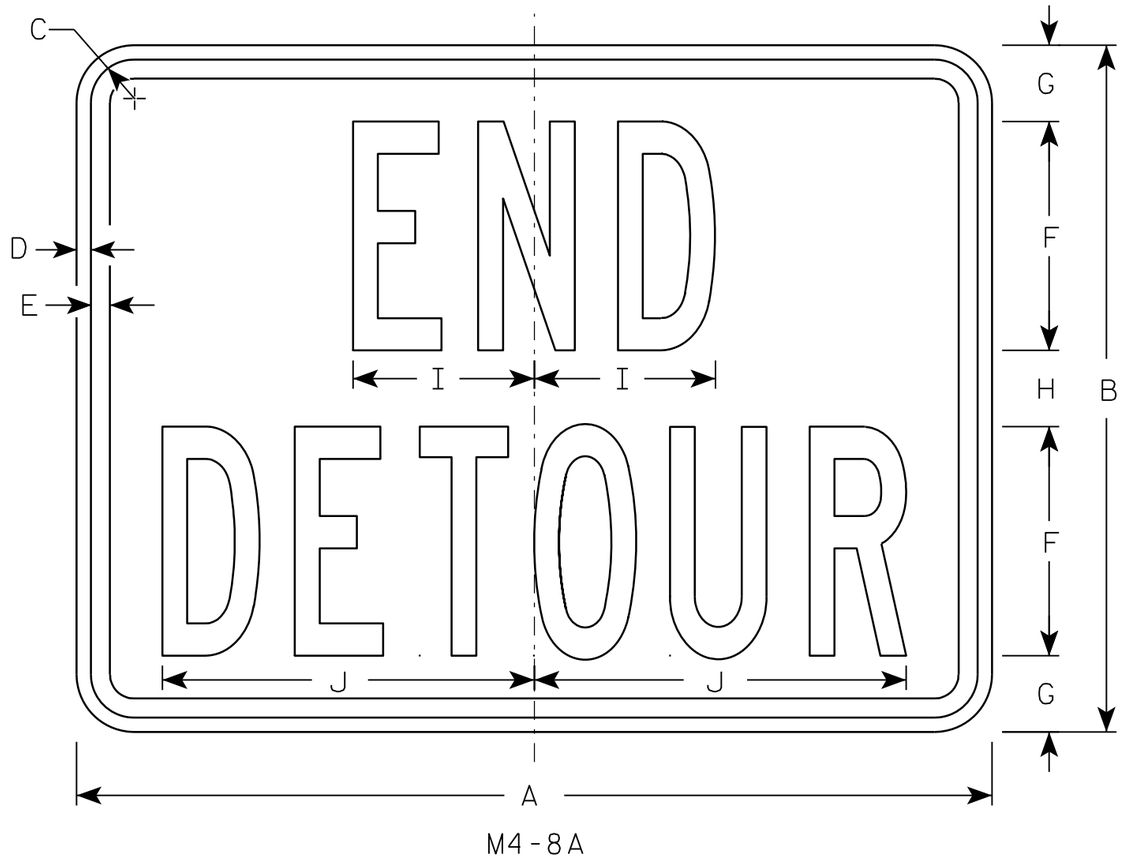
STANDARD SIGN
M4-8

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: 69	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																											

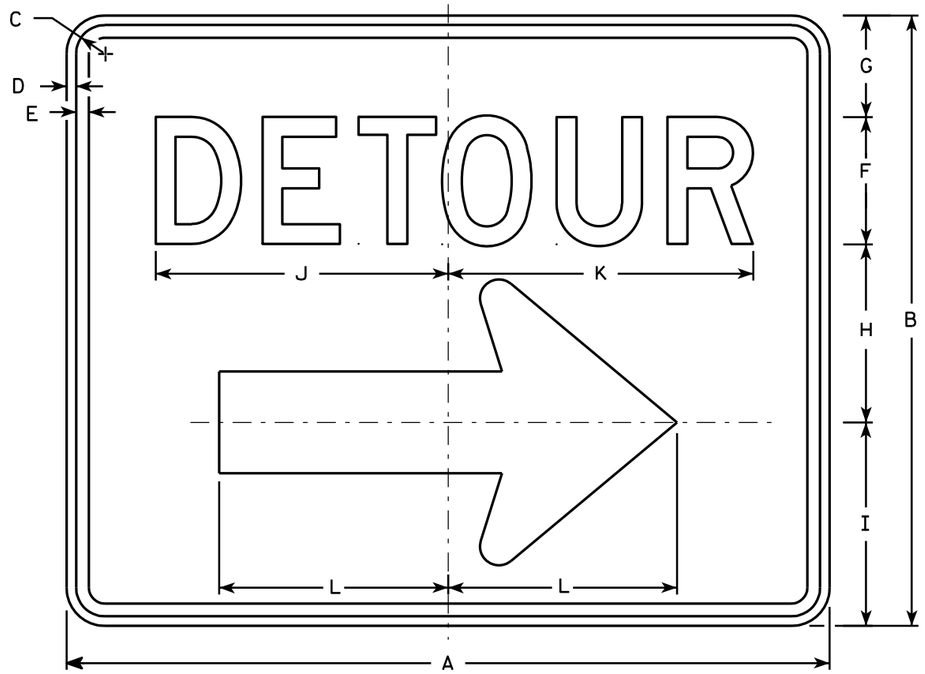
STANDARD SIGN
M4-8A

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

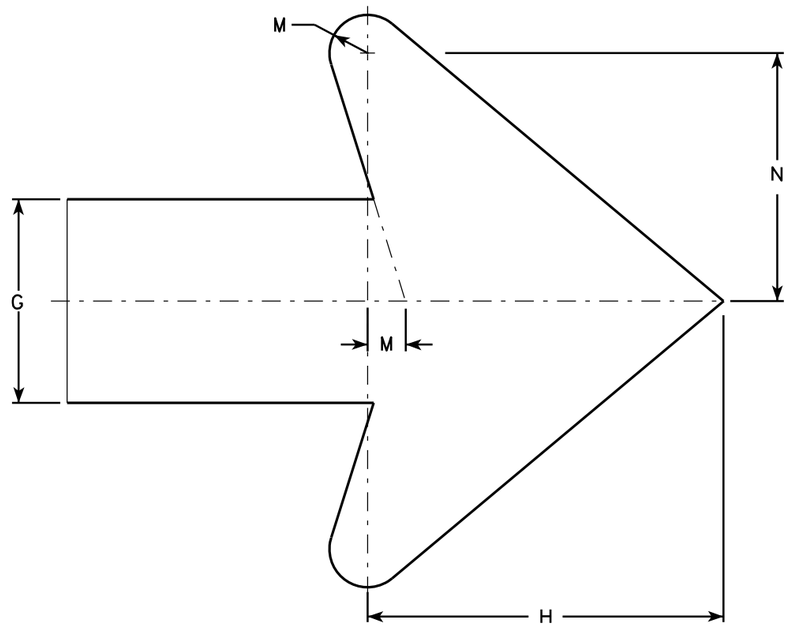
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 70	E



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

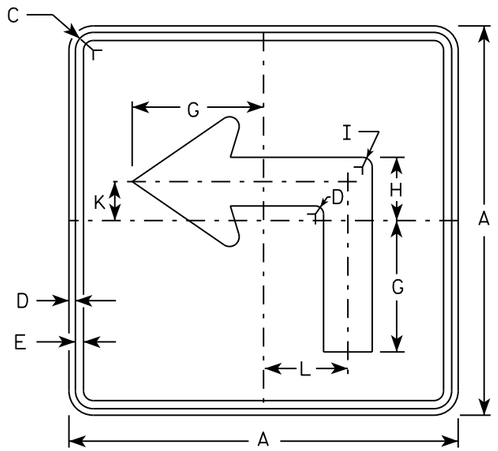
STANDARD SIGN
M4-9 R & L

WISCONSIN DEPT OF TRANSPORTATION

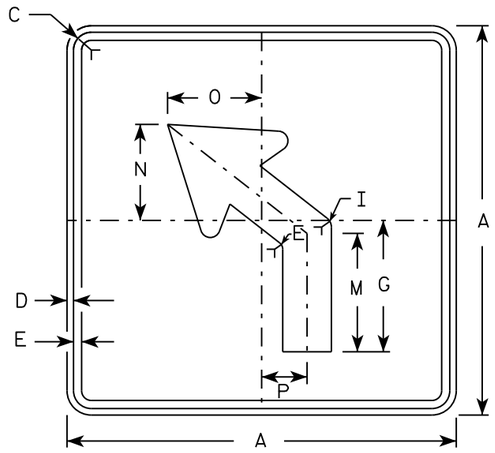
APPROVED Matthew R Rauch
for State Traffic Engineer

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

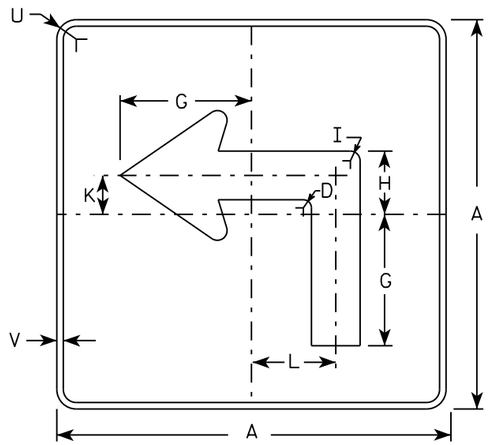
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 71 | E



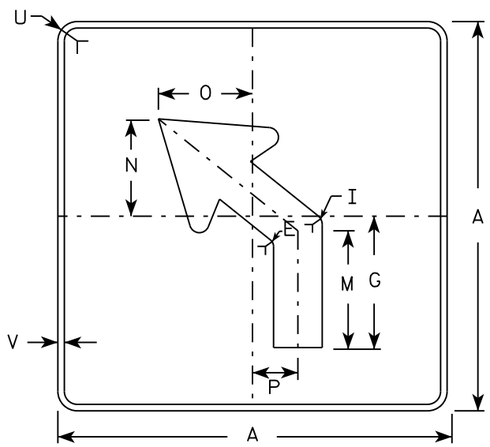
M5-1L
MM5-1L
MO5-1L
MP5-1L



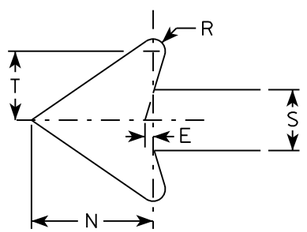
M5-2L
MM5-2L
MO5-2L
MP5-2L



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

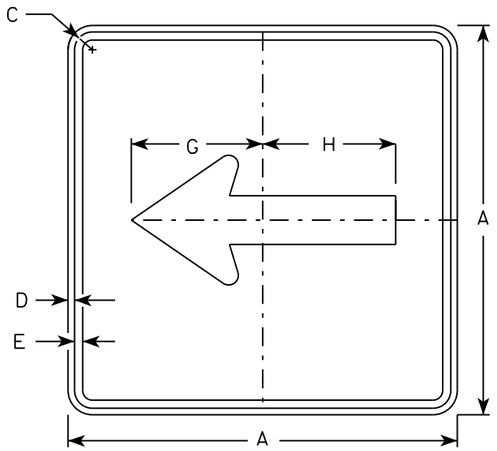
STANDARD SIGN
M5-1 & M5-2

WISCONSIN DEPT OF TRANSPORTATION

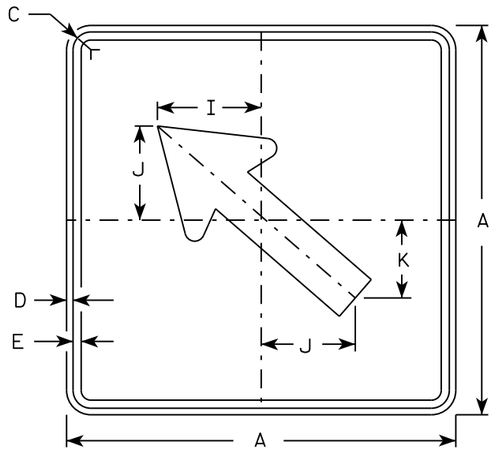
APPROVED Matthew R Rauch
for State Traffic Engineer

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

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



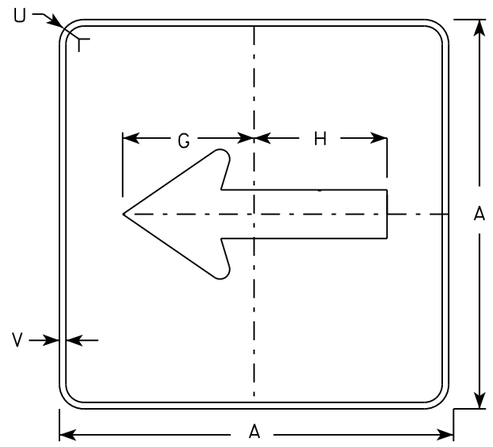
M6-1
MM6-1
MO6-1
MP6-1



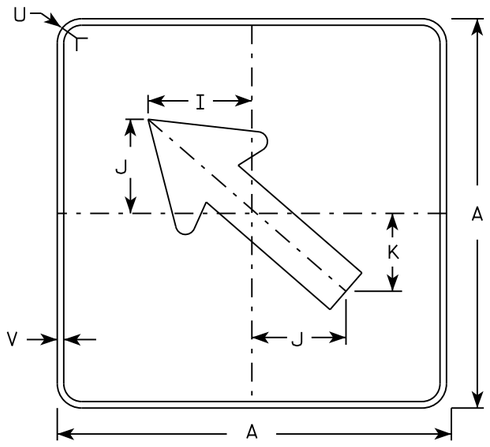
M6-2
MM6-2
MO6-2
MP6-2

NOTES

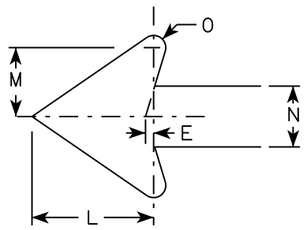
1. Signs are Type II - Type H except as Shown
2. Color:
   Background - See note 4
   Message - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. M6-1 and M6-2 Background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

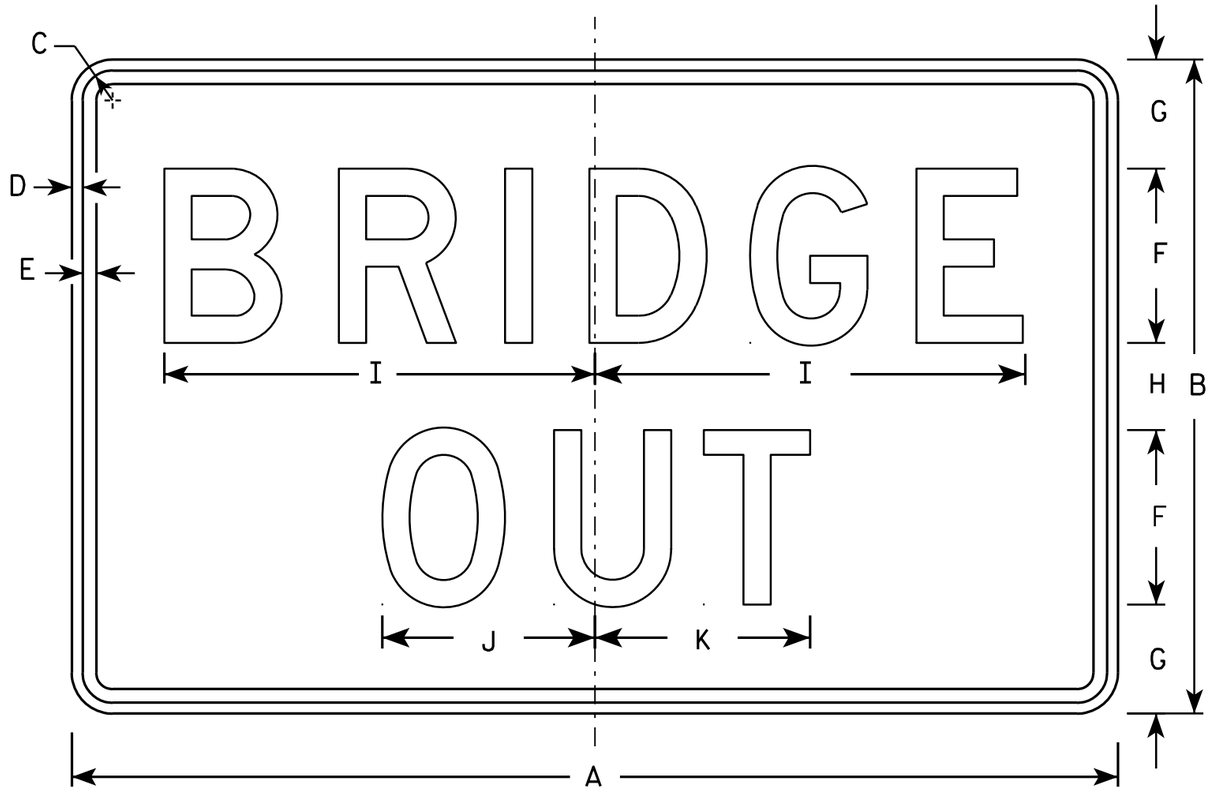
STANDARD SIGN
M6-1 & M6-2
SERIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 10/15/15 PLATE 73 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

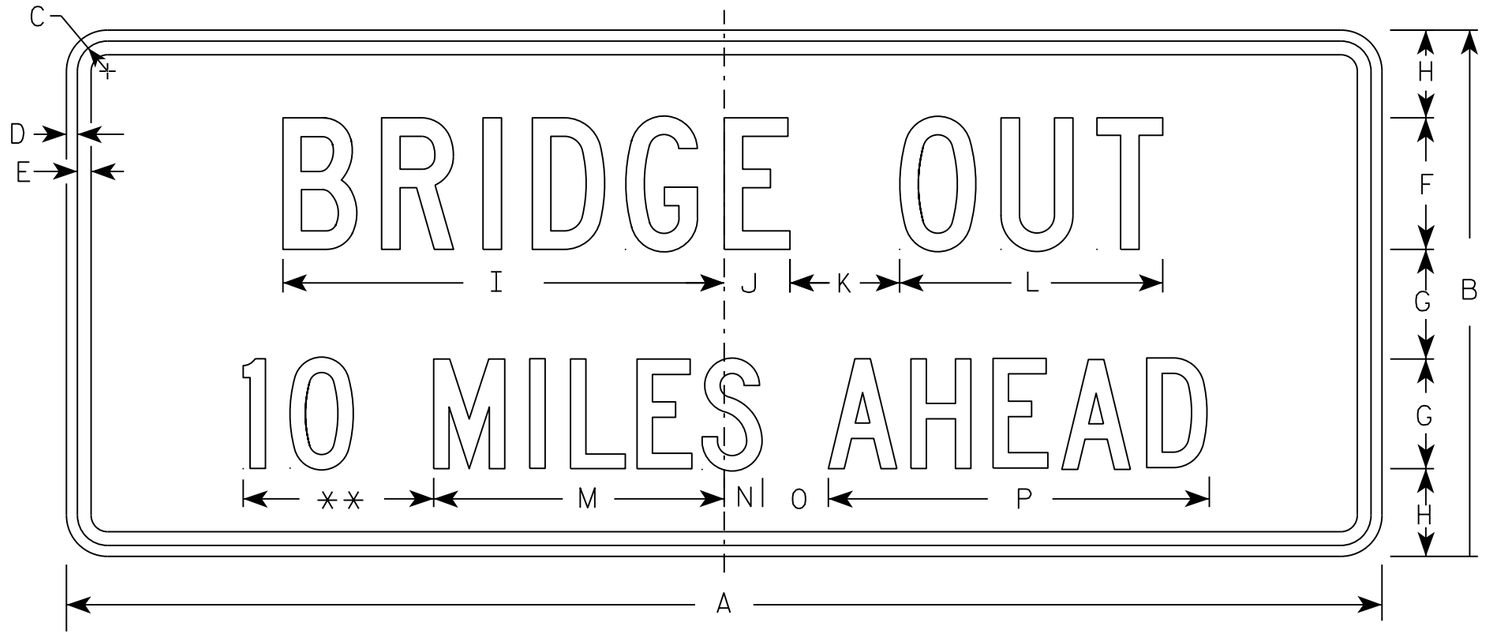
PROJECT NO:

SHEET NO: 74 E

7

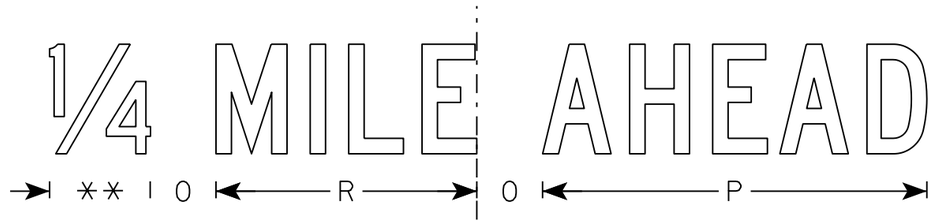
NOTES

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

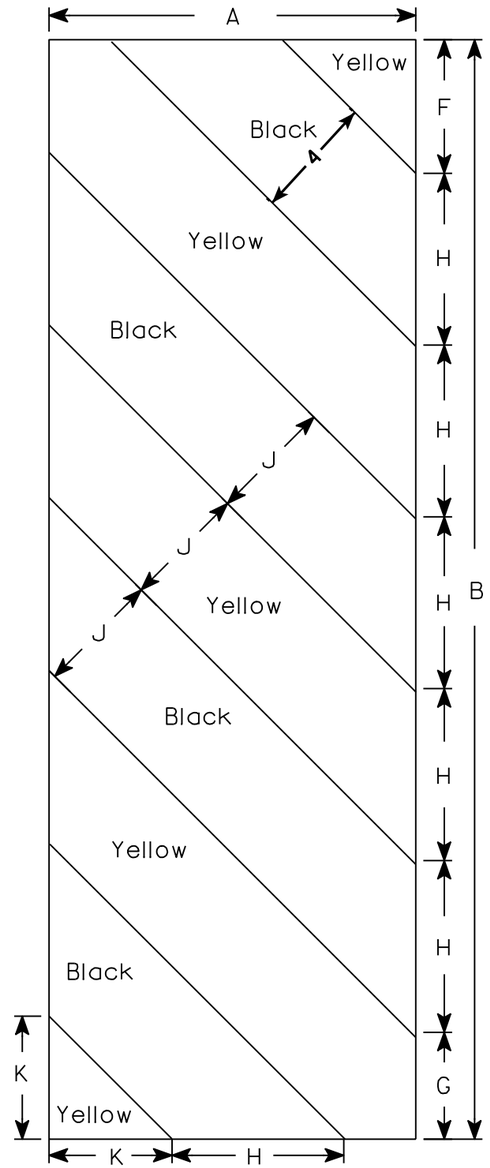
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

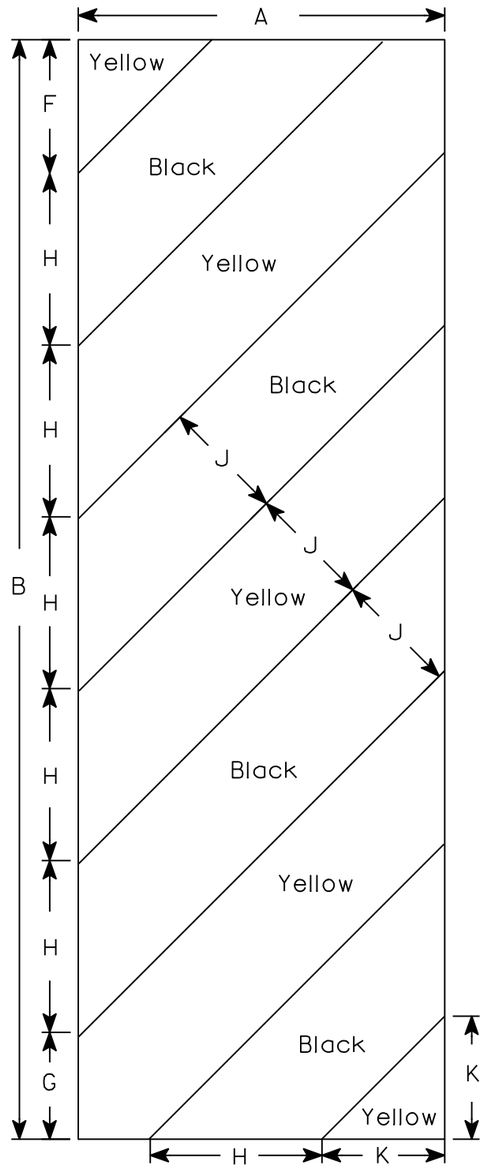
DATE 7/28/16 PLATE NO. R11-3C.3

PROJECT NO:

SHEET NO: 75 E



W5-52L



W5-52R

NOTES

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

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

STANDARD SIGN

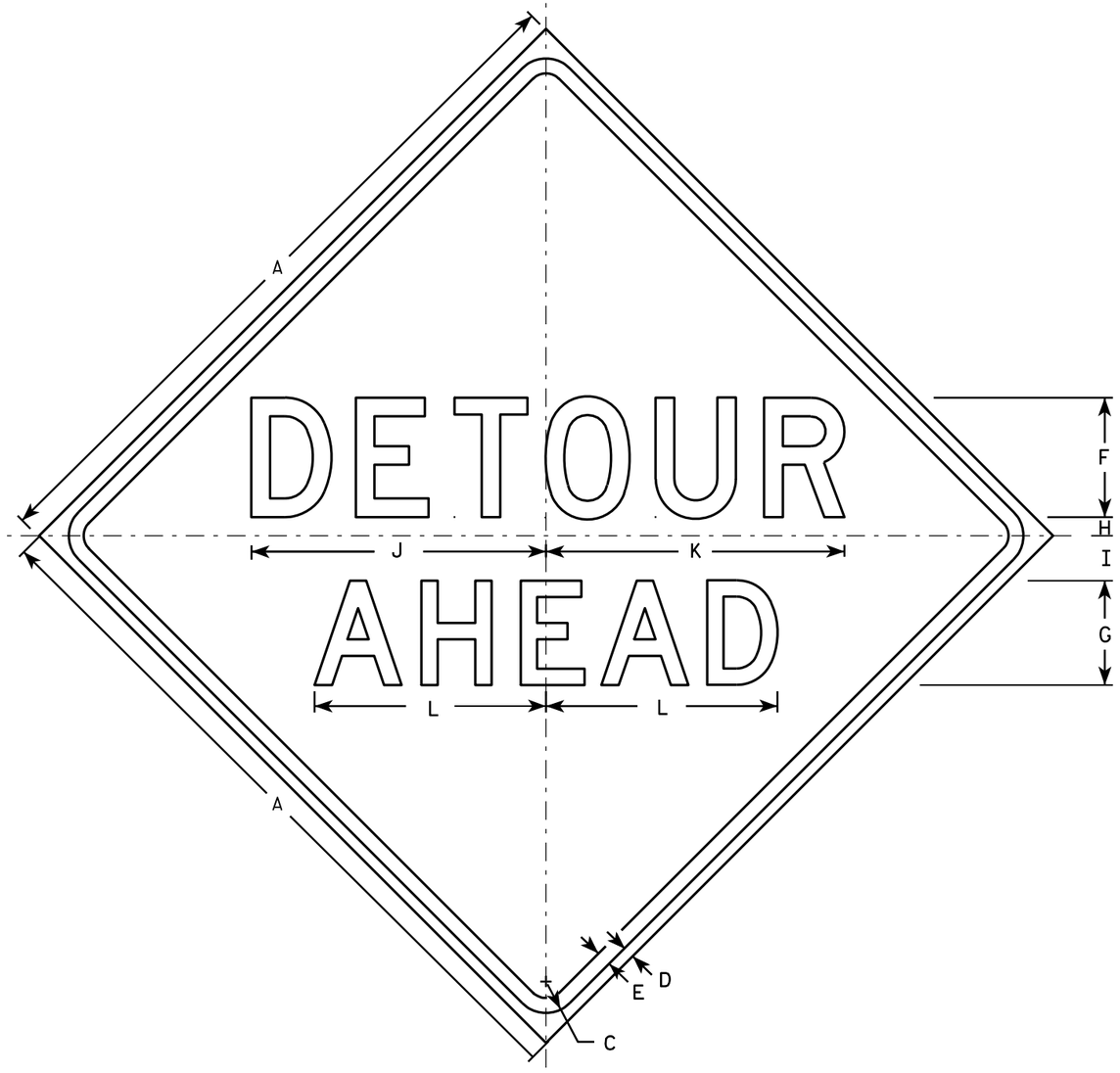
W5-52L & W5-52R

WISCONSIN DEPT OF TRANSPORTATION

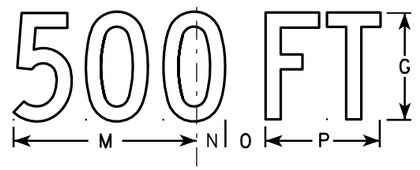
APPROVED Matthew R Rauch
for State Traffic Engineer

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

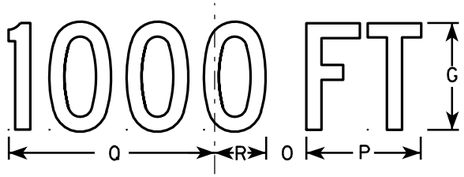
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 76 | E



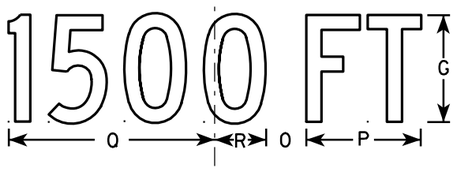
W20-2A



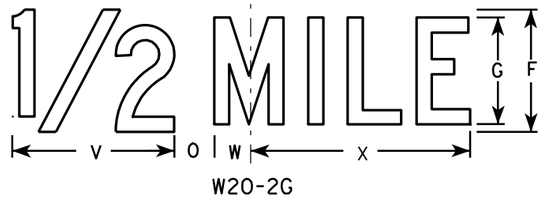
W20-2D



W20-2C



W20-2B



W20-2G

W20-2F

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	O	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	6	5	1	2 1/4	14 3/4	15	11 5/8	9	1 3/8	1 7/8	5 5/8	10 1/8	2 1/2	1 1/8	4 1/2	3 1/2	8	1 3/4	10 3/4			9.0
2S	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
2M	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
3	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
4	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
5	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0

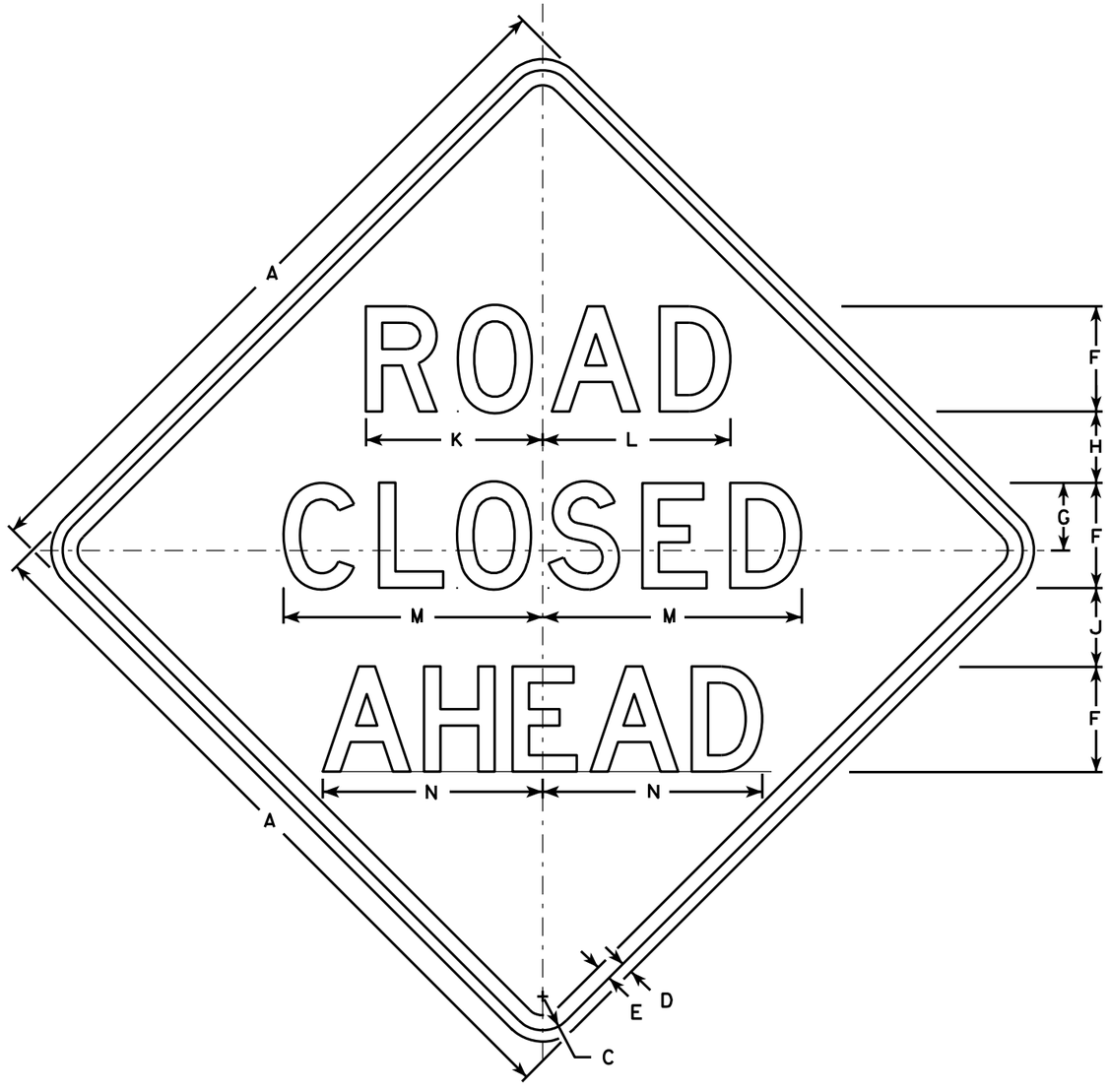
STANDARD SIGN
W20-2A,B,C,D,F & G

WISCONSIN DEPT OF TRANSPORTATION

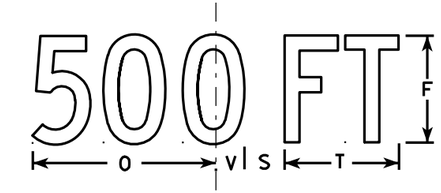
APPROVED Matthew R Rauch
for State Traffic Engineer

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

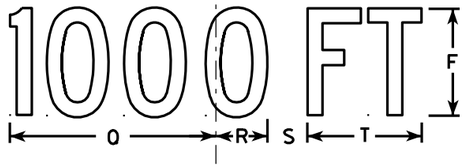
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 77	E



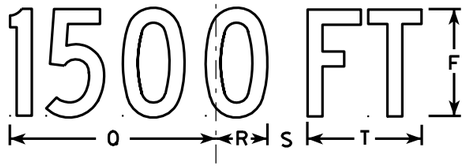
W20-3A



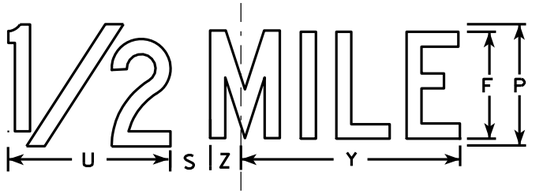
W20-3D



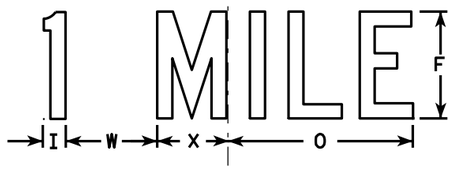
W20-3C



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

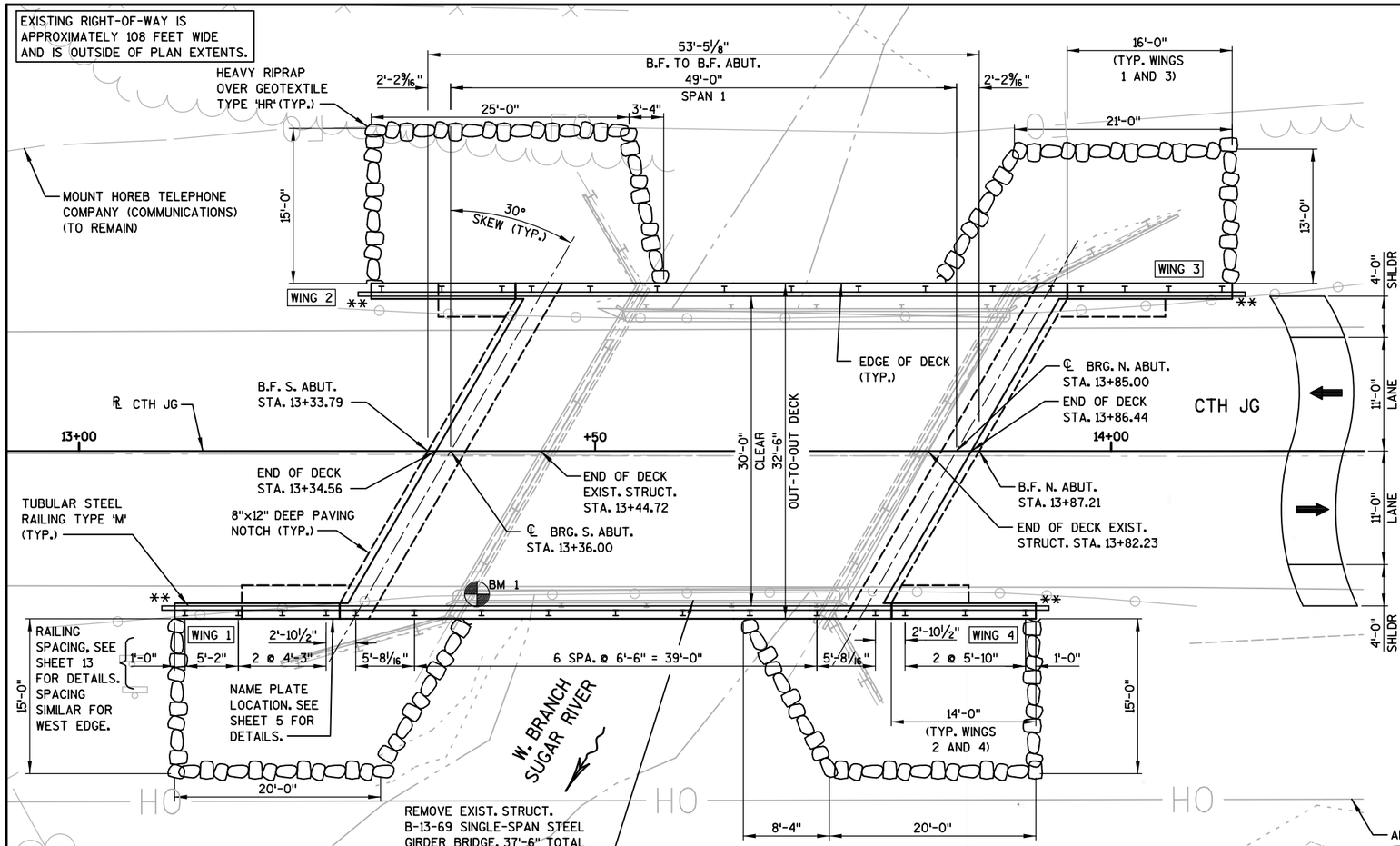
STANDARD SIGN
W20-3A, B, C, D, F & G

WISCONSIN DEPT OF TRANSPORTATION

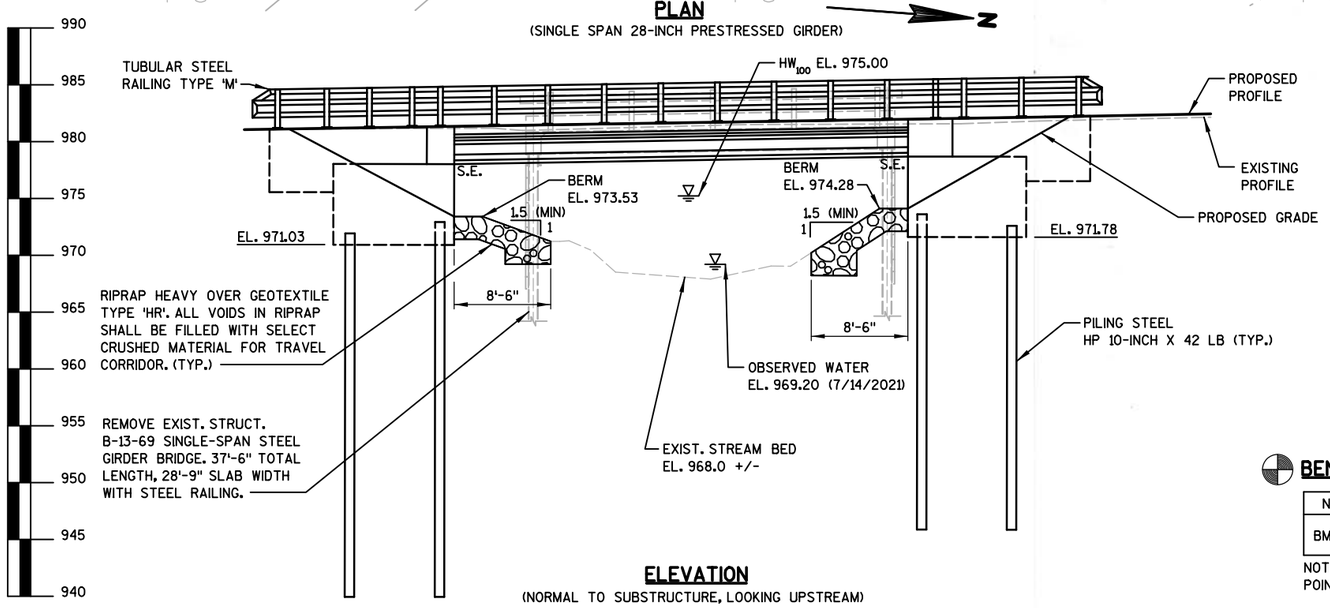
APPROVED Matthew R Rauch
for State Traffic Engineer
DATE 3/18/11 PLATE NO. W20-3.7

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 78 | E

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 28-INCH PRESTRESSED GIRDER)



ELEVATION
(NORMAL TO SUBSTRUCTURE, LOOKING UPSTREAM)

HYDRAULIC DATA

100 YEAR FREQUENCY

Q_{100}	570 C.F.S.
VEL.	3.62 F.P.S.
HW_{100}	EL. 975.00
WATERWAY AREA	158 SQ. FT.
DRAINAGE AREA	3.81 SQ. MI.
ROADWAY OVERTOPPING	N/A
SCOUR CRITICAL CODE	5

2 YEAR FREQUENCY

Q_2	109 C.F.S.
VEL.	2.29 F.P.S
HW_2	EL. 971.65

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. 28" PRESTRESSED GIRDER DETAILS
9. STEEL DIAPHRAGMS
10. SUPERSTRUCTURE PLAN
11. SUPERSTRUCTURE SECTION
12. SUPERSTRUCTURE DETAILS
13. TUBULAR STEEL RAILING TYPE 'M'

BENCHMARKS

NO.	STATION AND OFFSET	DESCRIPTION	ELEV.
BM 1	STA. 13+38.55 ℄ CTH JG 13.87' RT	CHISELED 'X' AT TOP OF CURB AT SE CORNER OF EXISTING BRIDGE.	982.30

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

STATE PROJECT NUMBER

5665-00-75

DESIGN DATA

STRUCTURE DESIGNED FOR A FUTURE WEARING SURFACE OF 20 PSF

LIVE LOAD:

DESIGN LOADING	HL-93
INVENTORY RATING FACTOR	RF = 1.21
OPERATING RATING FACTOR	RF = 1.62
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
28-INCH PRESTRESSED GIRDER CONCRETE MASONRY	f'c = 8,000 PSI

PRESTRESSING STRANDS = 0.6-INCH WITH ULTIMATE TENSILE STRENGTH OF 270,000 PSI.

TRAFFIC DATA

A.D.T. (2023): 864
A.D.T. (2043): 864
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 180 TONS* PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA.

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

ESTIMATED PILE LENGTHS:

SOUTH ABUTMENT	35 FEET EACH
NORTH ABUTMENT	30 FEET EACH

LEGEND

** PROVIDE FOR THRIE BEAM TRANSITION ATTACHMENT.

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
4-20-22

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 05/10/22
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-13-884

CTH JG OVER WEST BRANCH SUGAR RIVER

COUNTY: DANE	TOWN/~~CITY/VILLAGE~~: BLUE MOUNDS
DESIGN SPEC.: AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS	
DESIGNED BY: EJC	DESIGN CK'D.: KRB
DRAWN BY: DTH	PLANS CK'D.: KRB

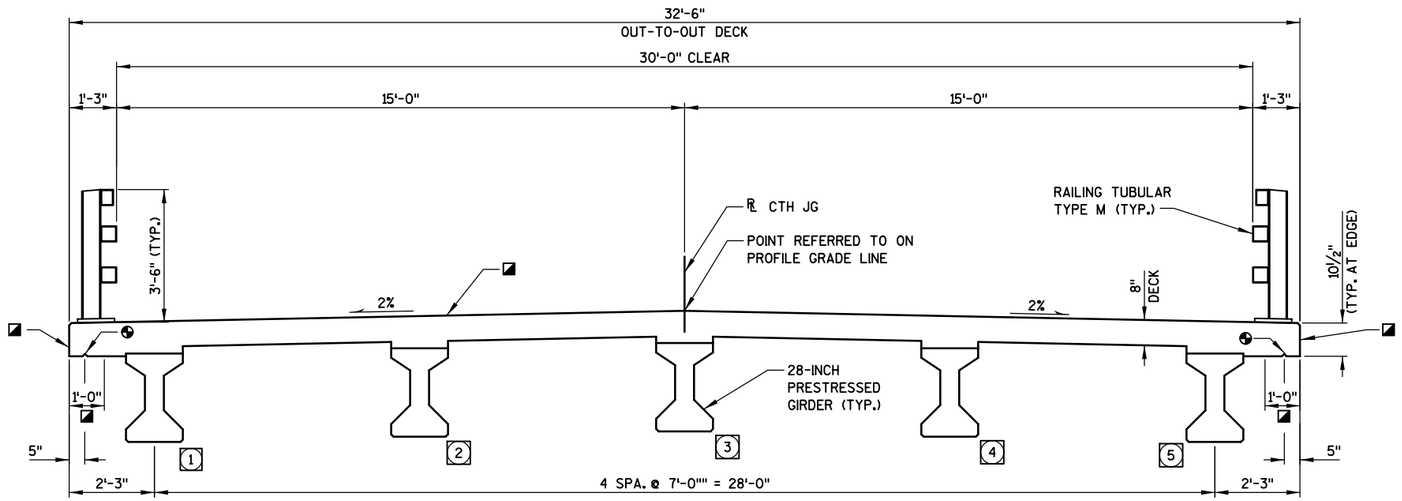
GENERAL PLAN

SHEET 1 OF 13
79

8

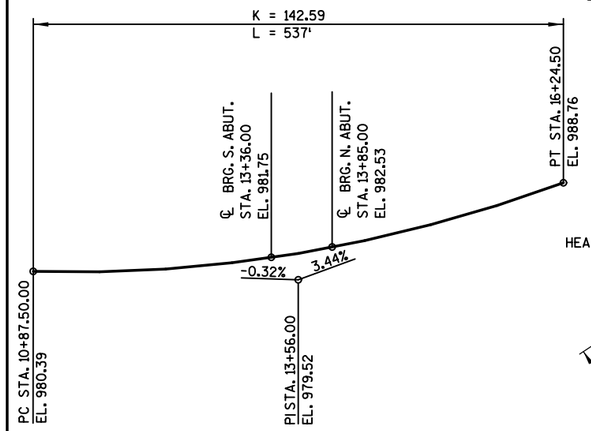
8

FILE NAME : S:\MAD\1100--1199\1124\020\Drawings\CAD\Micros\PLAN\080101_gp.dgn

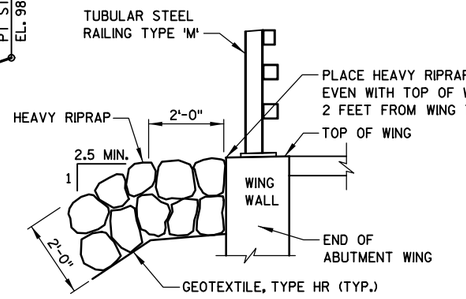


CROSS SECTION THRU SUPERSTRUCTURE

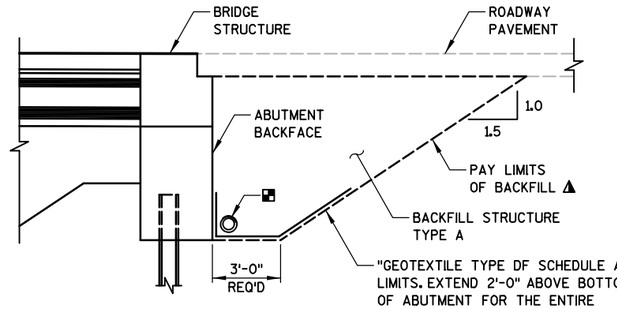
(LOOKING NORTH)



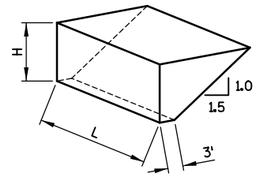
PROFILE GRADE LINE - CTH JG



TYPICAL FILL SECTION AT WING TIPS

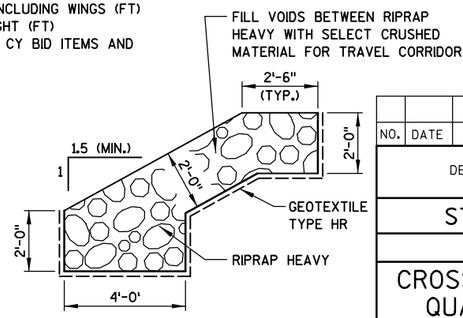


TYPICAL SECTION THRU ABUTMENT



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

TOTAL ESTIMATED QUANTITIES

BID NUMBER	BID ITEM	UNIT	S. ABUT.	N. ABUT.	SUPER.	TOTAL
203.0260	REMOVING STRUCTURE OVER WATERWAY MINIMAL DEBRIS B-13-69	EACH	---	---	---	1
206.1000	EXCAVATION FOR STRUCTURES BRIDGE B-13-884	LS	---	---	---	1
210.1500	BACKFILL STRUCTURE TYPE A	TON	252	252	---	504
502.0100	CONCRETE MASONRY BRIDGES	CY	53.4	53.9	68.5	176
502.3200	PROTECTIVE SURFACE TREATMENT	SY	22	22	220	264
503.0128	PRESTRESSED GIRDER TYPE I 28-INCH	LF	---	---	250	250
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	2,520	2,580	---	5,100
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	2,030	2,070	11,780	15,880
506.2605	BEARING PADS ELASTOMERIC NON-LAMINATED	EACH	5	5	---	10
506.4000	STEEL DIAPHRAGMS B-13-884	EACH	---	---	4	4
513.4061	RAILING TUBULAR TYPE M	LF	---	---	172	172
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	10	10	---	20
550.1100	PILING STEEL HP 10-INCH X 42 LB	LF	280	240	---	520
606.0300	RIPRAP HEAVY	CY	107	100	---	207
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	74	74	---	148
645.0111	GEOTEXTILE TYPE DF SCHEDULE A	SY	29	29	---	58
645.0120	GEOTEXTILE TYPE HR	SY	194	182	---	376
SPV.0195.02	SELECT CRUSHED MATERIAL FOR TRAVEL CORRIDOR	TON	40	37	---	77
	NON-BID ITEMS					
	NAME PLATE	EACH				1
	FILLER	SIZE				1/2" & 3/4"

STATE PROJECT NUMBER

5665-00-75

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-13-884" SHALL BE THE EXISTING GROUND LINE.

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

ALL VOIDS IN RIPRAP HEAVY SHALL BE FILLED USING SELECT CRUSHED MATERIAL. WORK SHALL BE PAID FOR AS "SELECT CRUSHED MATERIAL FOR TRAVEL CORRIDOR".

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

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

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

THE EXISTING STRUCTURE B-13-069, A SINGLE SPAN STEEL GIRDER BRIDGE, IS TO BE REMOVED.

BEVEL EXPOSED EDGES OF CONCRETE ¾" UNLESS OTHERWISE NOTED.

FILLER SHALL CONFORM TO THE REQUIREMENTS OF AASHTO DESIGNATION M153 TYPES I, II, III OR AASHTO DESIGNATION M213.

THE HAUNCH CONCRETE QUANTITY IS BASED ON THE AVERAGE HAUNCH SHOWN ON THE PRESTRESSED GIRDERS DETAIL SHEET.

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, OUTSIDE 1'-0" OF THE UNDERSIDE OF THE DECK, TOP AND EXTERIOR EXPOSED FACE OF WINGS, VERTICAL AND HORIZONTAL SURFACES OF PAVING NOTCH, AND THE END 1'-0" OF THE FRONT FACE OF ABUTMENTS.
- ▲ 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.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-13-884

DRAWN BY DTH | PLANS CK'D. KRB

CROSS SECTION, QUANTITIES, NOTES & DETAILS

SHEET 2
80

8

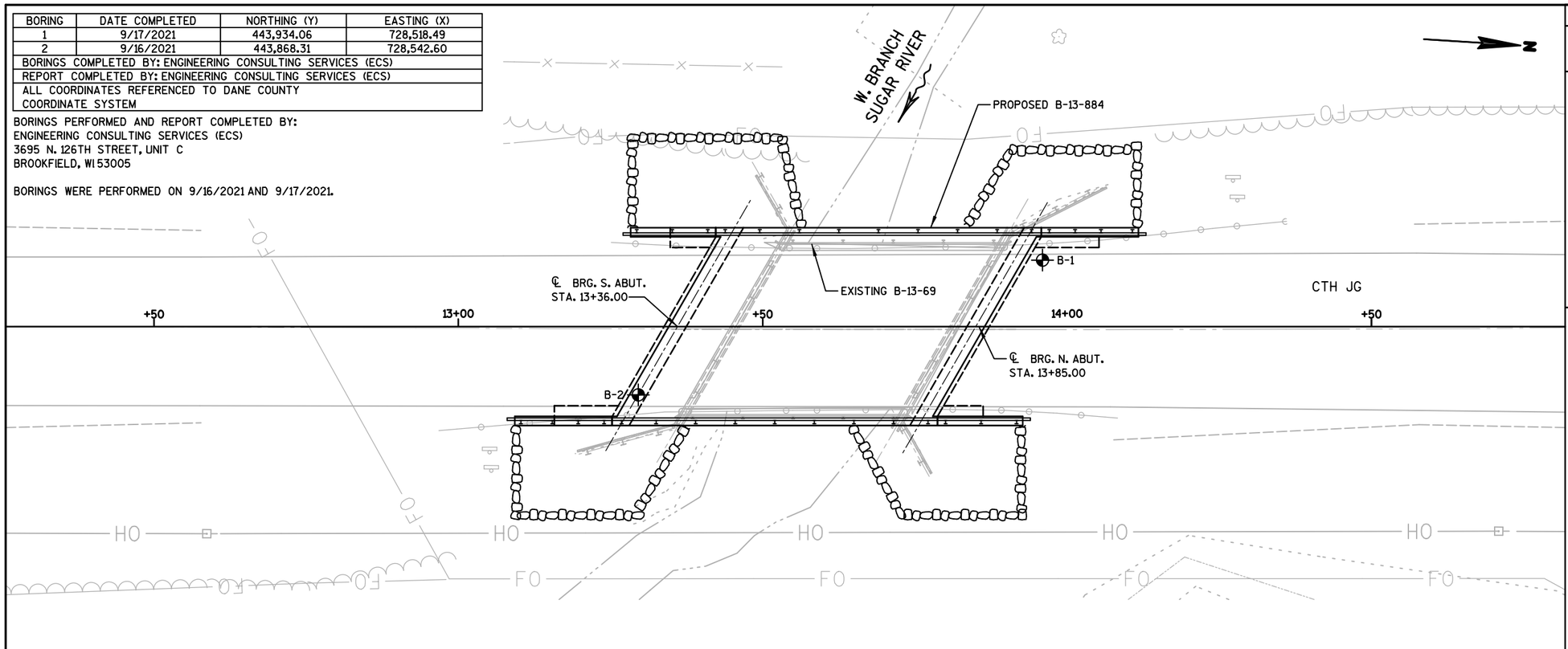
8

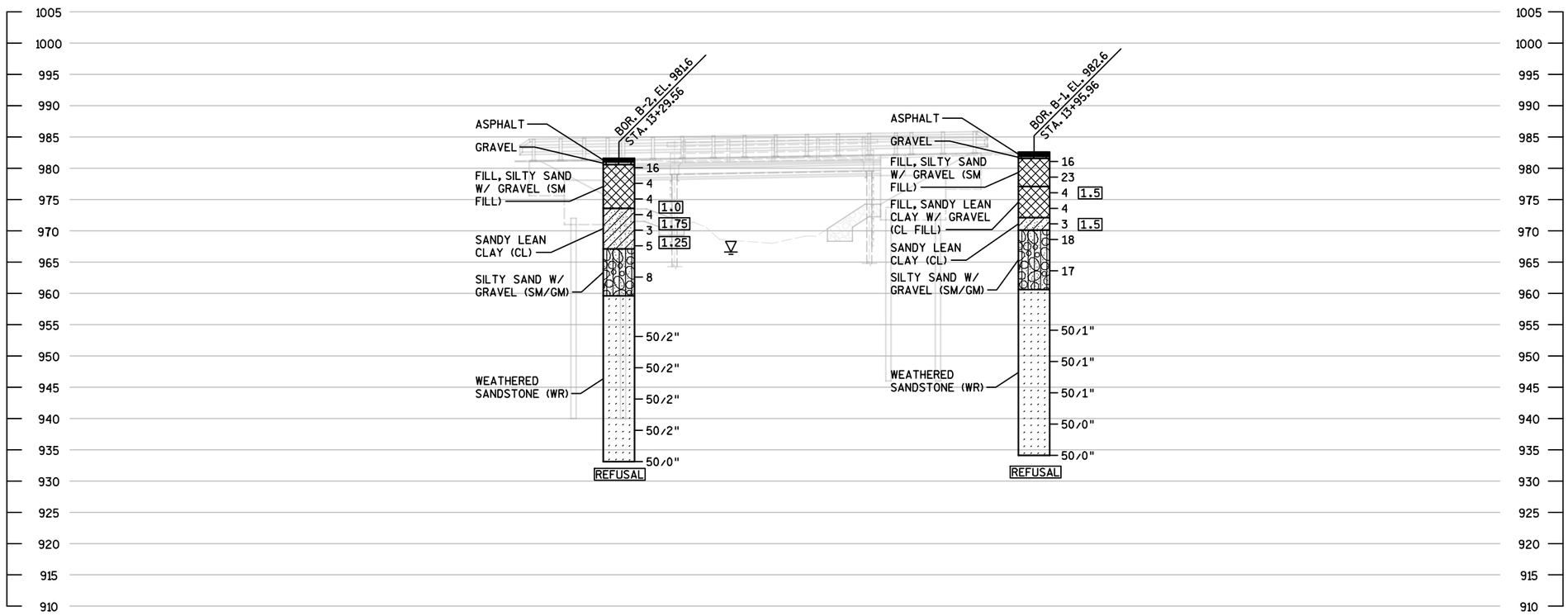
FILE NAME : S:\MAD\1100--1199\1124\020\Drawings\CAD\Micros\PLAN\080102_cs.dgn

BORING	DATE COMPLETED	NORTHING (Y)	EASTING (X)
1	9/17/2021	443,934.06	728,518.49
2	9/16/2021	443,868.31	728,542.60
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 9/16/2021 AND 9/17/2021.





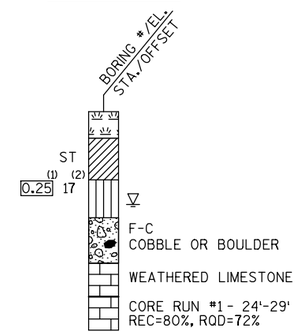
STATE PROJECT NUMBER

5665-00-75

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-13-884

DRAWN BY DTH | PLANS CK'D. KRB

SUBSURFACE EXPLORATION

SHEET 3
81

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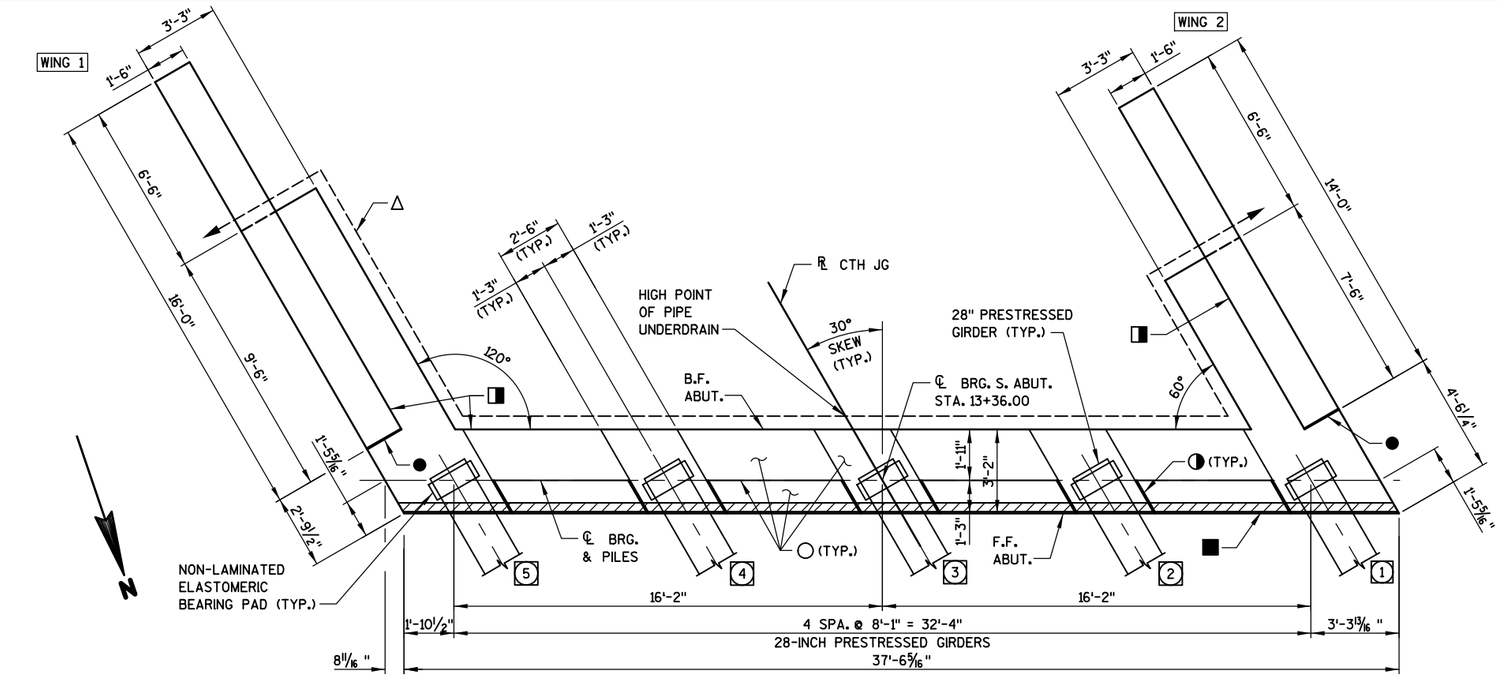
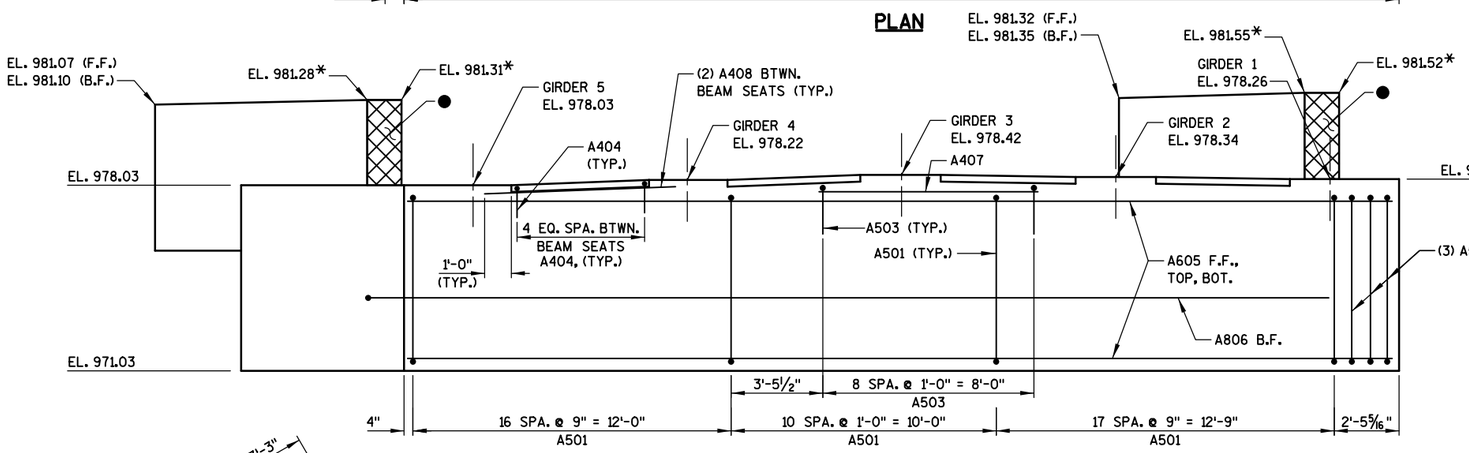
FILE NAME : S:\MAD\1100--1199\1124\020\Drawings\CAD\Micros\PLAN\080103_sx.dgn

STATE PROJECT NUMBER

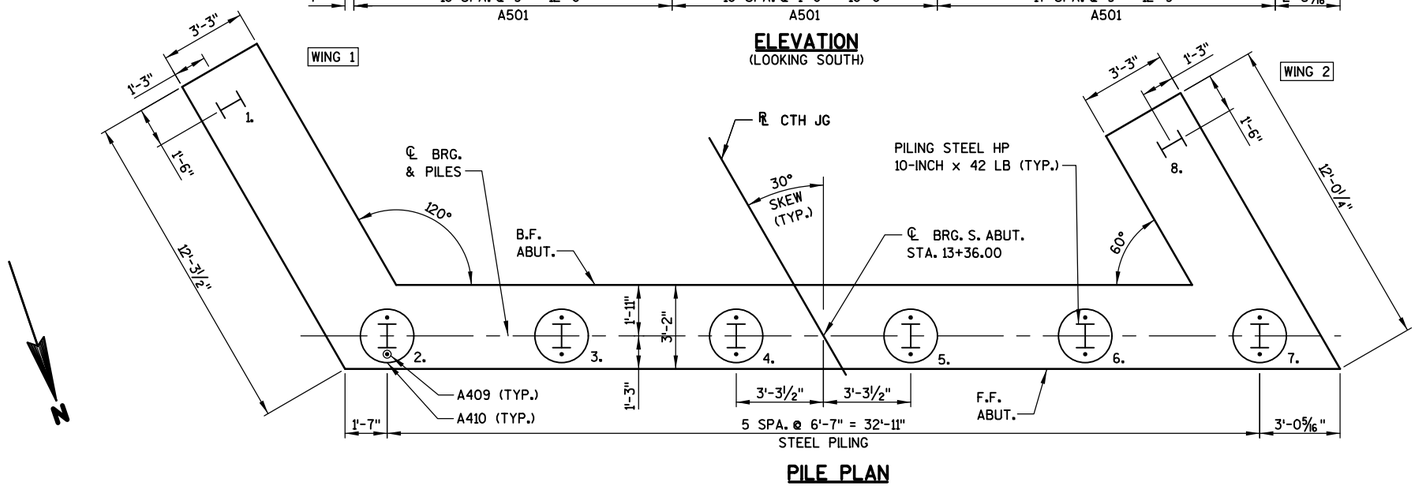
5665-00-75



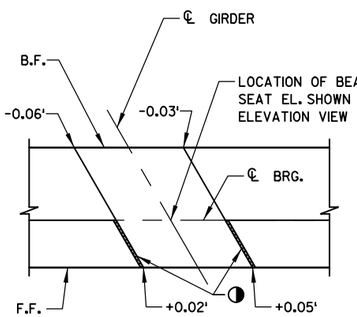
PLAN



ELEVATION
(LOOKING SOUTH)



PILE PLAN



SLOPING BEAM SEAT DETAIL

NOTES

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 FINISHED ROADWAY SURFACE AT INSIDE FACE.

ADJUST A501 BARS INTERFERING WITH PILES.

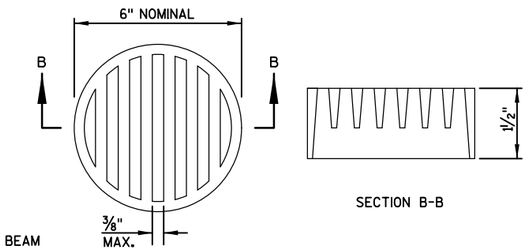
SEE SHEET 6 FOR PILE SPLICE DETAILS.

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 180 TONS PER PILE. ESTIMATED 35 FEET LONG EACH.

LEGEND

- ● 1/2" FILLER. EXTEND FROM ABUT. SEAT TO TOP OF WING. FILLER INCLUDED IN WING LENGTH.
- ◨ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE.
- (#) INDICATES GIRDER NUMBER.
- * ELEVATION GIVEN AT B.F. ABUTMENT.
- △ PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE. SEE DETAIL THIS SHEET.
- ○ STEEL TROWEL TOP SURFACE OF ABUTMENT. PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE ABUTMENT TOP BEFORE PLACING BEARING PADS AND SUPERSTRUCTURE. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03".
- ■ 4"x1/2" PREFORMED JOINT FILLER, LENGTH OF ABUTMENT.
- ◑ 3/4" CORK FILLER ON VERTICAL BEAM SEAT FACES THAT RUN PARALLEL WITH GIRDERS.



NOTES:

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

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

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

RODENT SHIELD DETAIL

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-13-884

DRAWN BY DTH | PLANS CK'D. KRB

SOUTH ABUTMENT

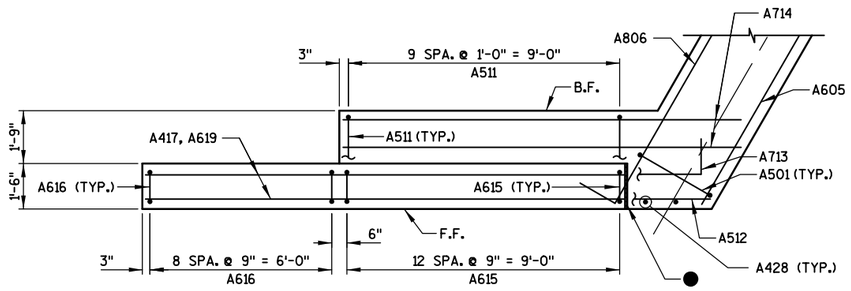
SHEET 4
82

8

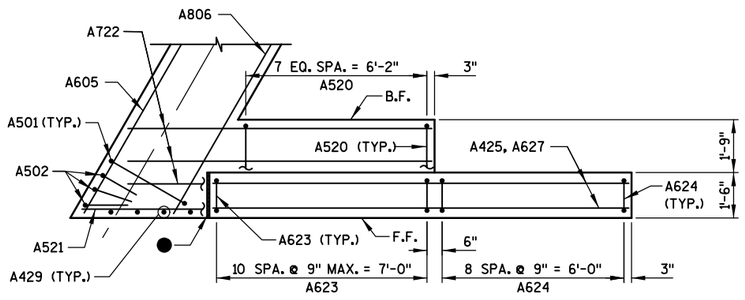
8

FILE NAME : S:\MAD\1100--1199\1124\020\Drawings\CAD\Micros\PLAN\080104_sa.dgn

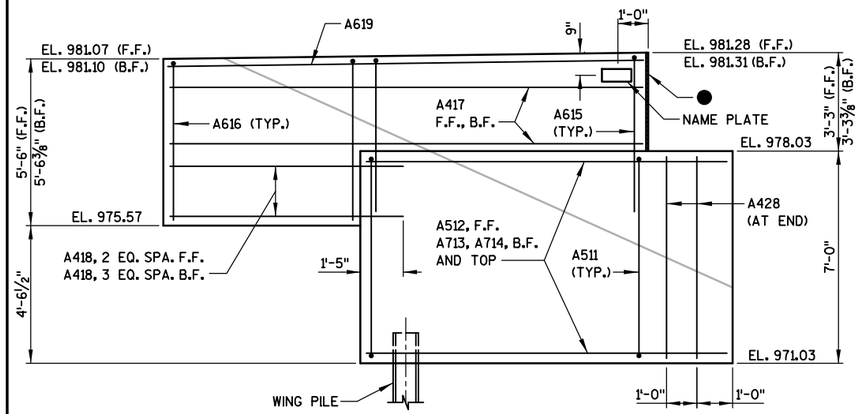
STATE PROJECT NUMBER
5665-00-75



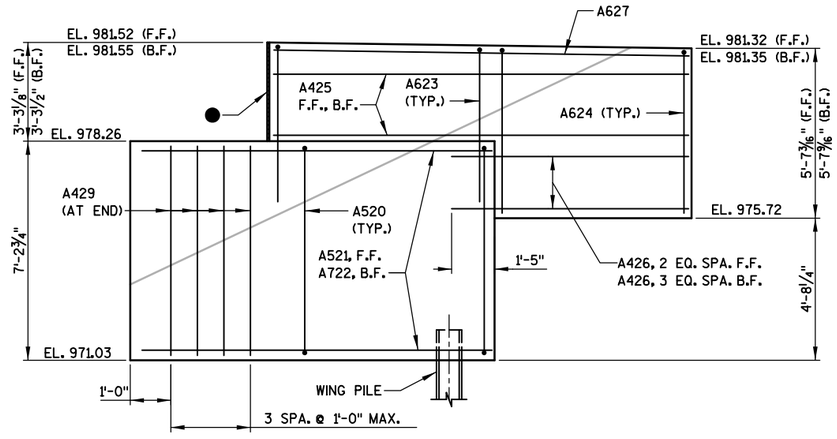
WING 1 PLAN



WING 2 PLAN



WING 1 ELEVATION
(LOOKING AT FRONT FACE)

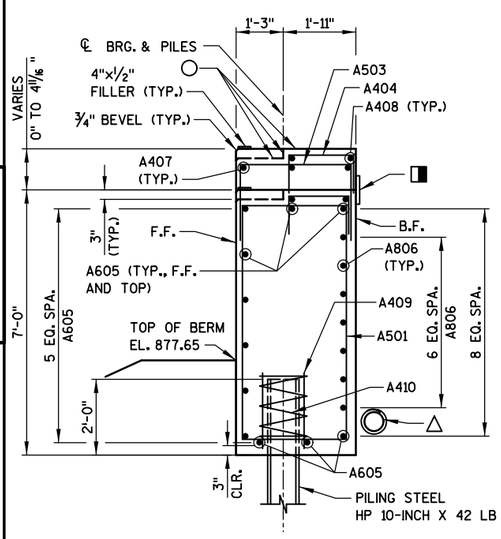


WING 2 ELEVATION
(LOOKING AT FRONT FACE)

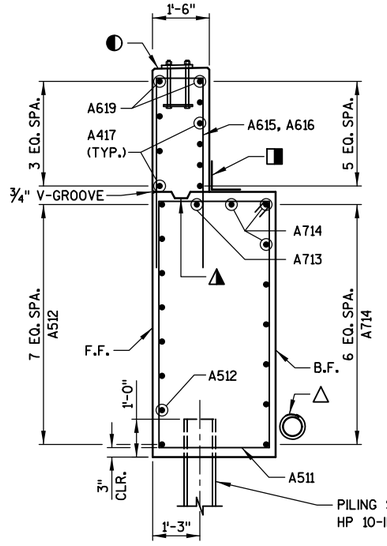
SOUTH ABUTMENT BILL OF BARS

UNCOATED: 2,520 LBS
COATED: 2,030 LBS

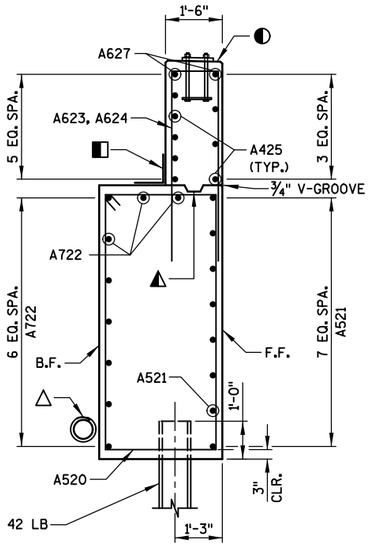
BAR MARK	NO. REQ'D	LENGTH	BENT	COAT	LOCATION
A501	44	18'-10"	X		BODY - STIRRUPS
A502	3	7'-8"	X		BODY - STIRRUPS - CORNER
A503	9	6'-7"	X		BODY - TOP - VERT.
A404	20	4'-5"	X		BODY - TOP - VERT.
A605	11	37'-1"			BODY - F.F., TOP, BTM. - HORIZ.
A806	7	38'-3"	X		BODY - B.F. - HORIZ.
A407	3	8'-3"			BODY - TOP - HORIZ.
A408	8	7'-3"			BODY - TOP - HORIZ.
A409	12	2'-3"			BODY - PILES - VERT.
A410	6	28'-0"	X		BODY - PILES - SPIRAL
A511	10	19'-8"	X	X	WING 1 - LOWER - STIRRUPS
A512	8	12'-1"		X	WING 1 - LOWER - F.F. - HORIZ.
A713	1	12'-10"	X	X	WING 1 - LOWER - TOP - HORIZ.
A714	8	13'-1"		X	WING 1 - LOWER - B.F. & TOP - HORIZ.
A615	13	11'-0"	X	X	WING 1 - UPPER - VERT.
A616	9	11'-2"	X	X	WING 1 - UPPER - VERT.
A417	8	15'-7"		X	WING 1 - UPPER - F.F., B.F. - HORIZ.
A418	7	7'-9"		X	WING 1 - UPPER - F.F., B.F. - HORIZ. - BOT.
A619	2	15'-7"		X	WING 1 - UPPER - TOP - HORIZ.
A520	8	20'-0"	X	X	WING 2 - LOWER - STIRRUPS
A521	8	11'-6"		X	WING 2 - LOWER - F.F. - HORIZ.
A722	9	9'-10"		X	WING 2 - LOWER - B.F. & TOP - HORIZ.
A623	11	11'-0"	X	X	WING 2 - UPPER - VERT.
A624	9	11'-4"	X	X	WING 2 - UPPER - VERT.
A425	8	13'-7"		X	WING 2 - UPPER - F.F., B.F. - HORIZ.
A426	7	7'-9"		X	WING 2 - UPPER - F.F., B.F. - HORIZ. - BOT.
A627	2	13'-7"		X	WING 2 - UPPER - TOP - HORIZ.
A428	2	6'-7"		X	BODY - VERT. EAST END
A429	4	6'-9"		X	BODY - VERT. WEST END



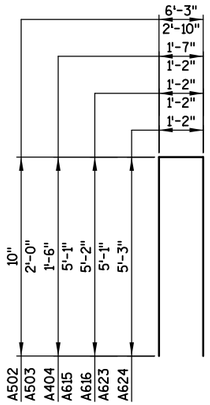
TYPICAL BODY SECTION



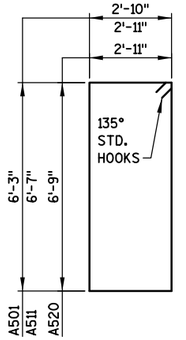
WING 1 SECTION



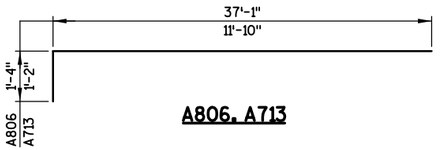
WING 2 SECTION



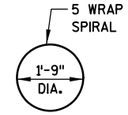
A502, A503, A404, A615, A616, A623, A624



A501, A511, A520



A806, A713



A410

LEGEND

- ◨ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE.
- △ PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN AS DETAILED ON SHEET 4.
- ◭ OPTIONAL KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2"x6".
- ○ STEEL TROWEL TOP SURFACE OF ABUTMENT. PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE ABUTMENT TOP BEFORE PLACING BEARING PADS AND SUPERSTRUCTURE. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03".
- ◐ SLOPE TO MATCH SUPERSTRUCTURE. SEE SHEET 13 FOR TUBULAR STEEL RAILING TYP 'M' DETAILS.
- ● ½" FILLER, INCLUDED IN WING LENGTH.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-13-884

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SOUTH ABUTMENT DETAILS

SHEET 5
83

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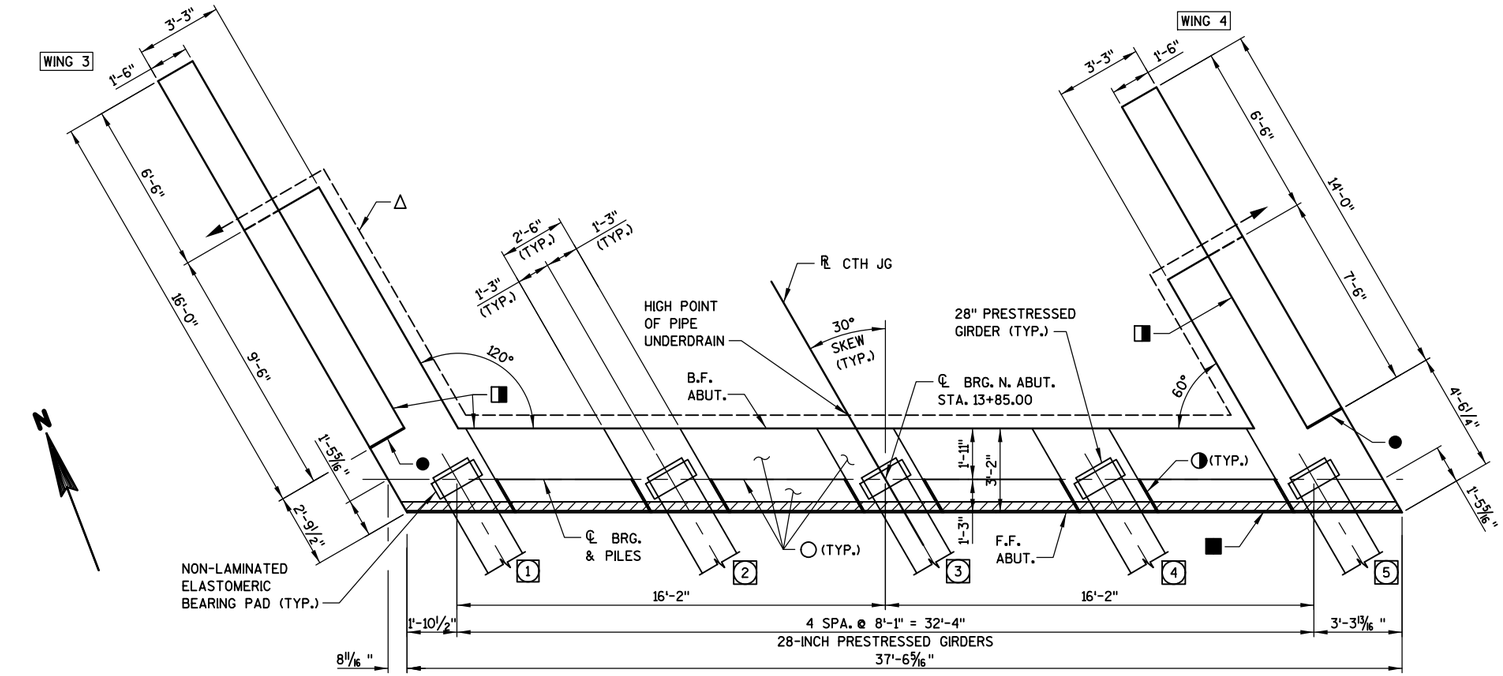
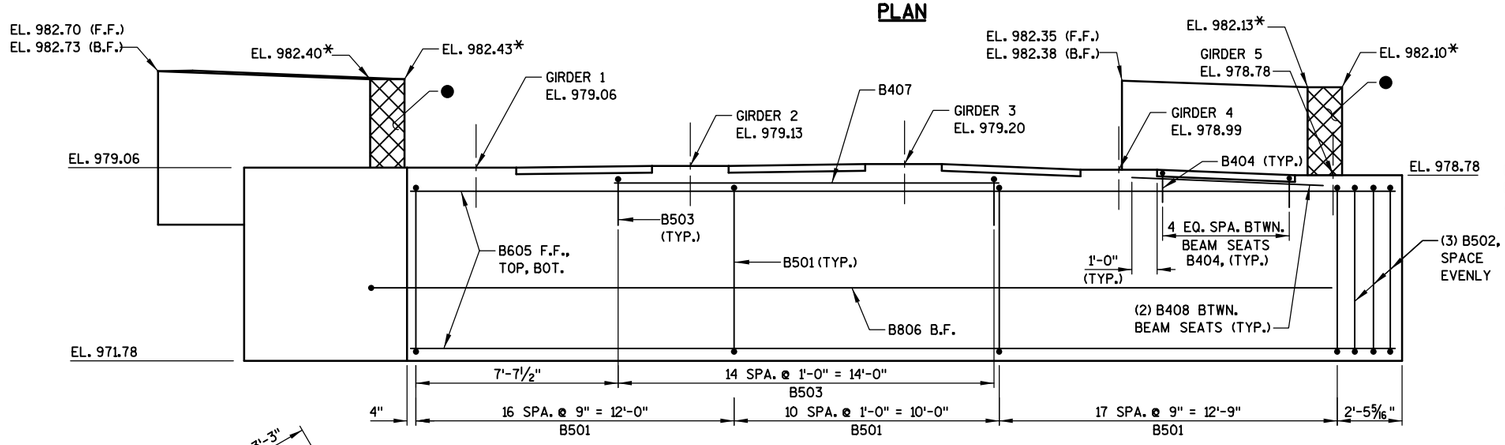
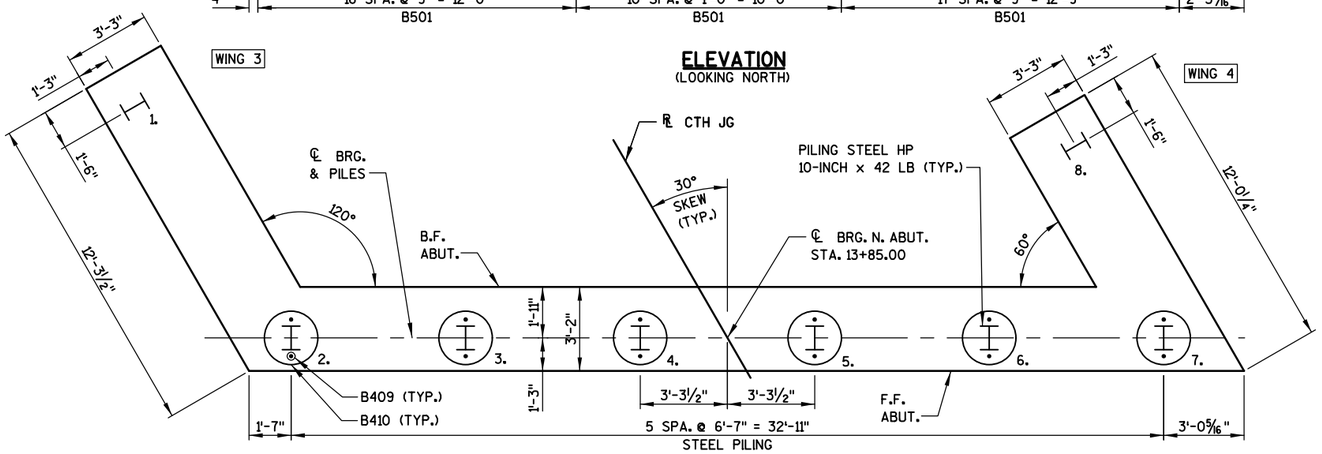


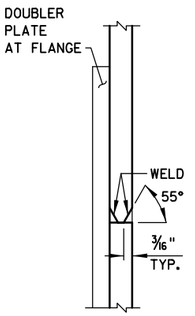
PLAN



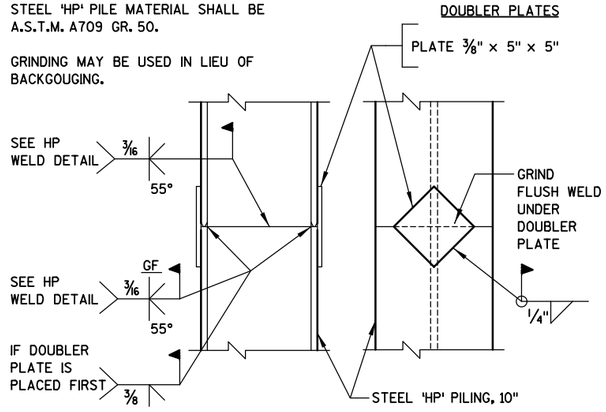
ELEVATION
(LOOKING NORTH)



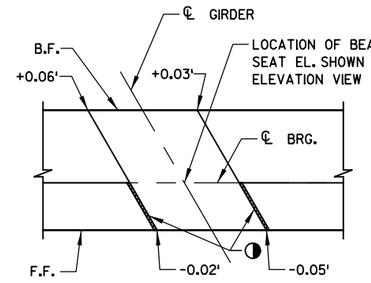
PILE PLAN



HP WELD DETAIL
FLANGE SHOWN, WEB SIMILAR



PILE SPLICE DETAILS



SLOPING BEAM SEAT DETAIL

NOTES

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 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 180 TONS PER PILE. ESTIMATED 30 FEET LONG EACH.

LEGEND

- ● 1/2" FILLER. EXTEND FROM ABUT. SEAT TO TOP OF WING. FILLER INCLUDED IN WING LENGTH.
- ◨ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE.
- (#) INDICATES GIRDER NUMBER.
- * ELEVATION GIVEN AT B.F. ABUTMENT.
- △ PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE. SEE DETAIL SHEET 4.
- ○ STEEL TROWEL TOP SURFACE OF ABUTMENT. PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE ABUTMENT TOP BEFORE PLACING BEARING PADS AND SUPERSTRUCTURE. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03".
- ■ 4"x1/2" PREFORMED JOINT FILLER, LENGTH OF ABUTMENT.
- ◑ 3/4" CORK FILLER ON VERTICAL BEAM SEAT FACES THAT RUN PARALLEL WITH GIRDERS.

PILE SPLICE NOTES

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

GRINDING MAY BE USED IN LIEU OF BACKGOUGING.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-13-884

DRAWN BY DTH | PLANS CK'D. KRB

NORTH ABUTMENT

SHEET 6
84

STATE PROJECT NUMBER
5665-00-75

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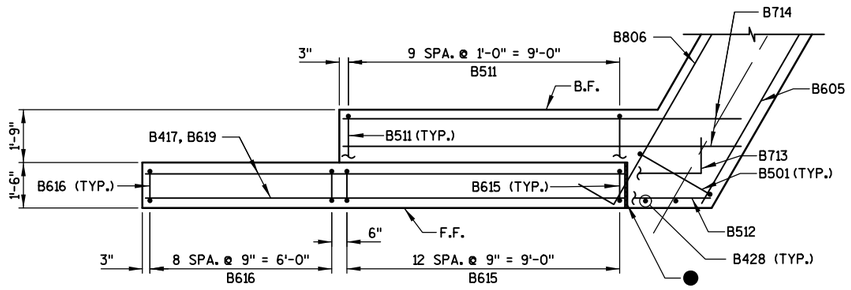
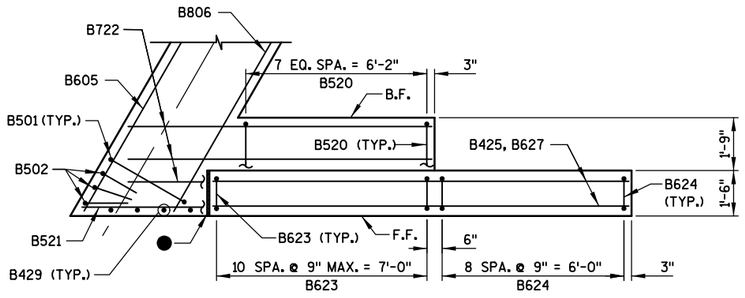
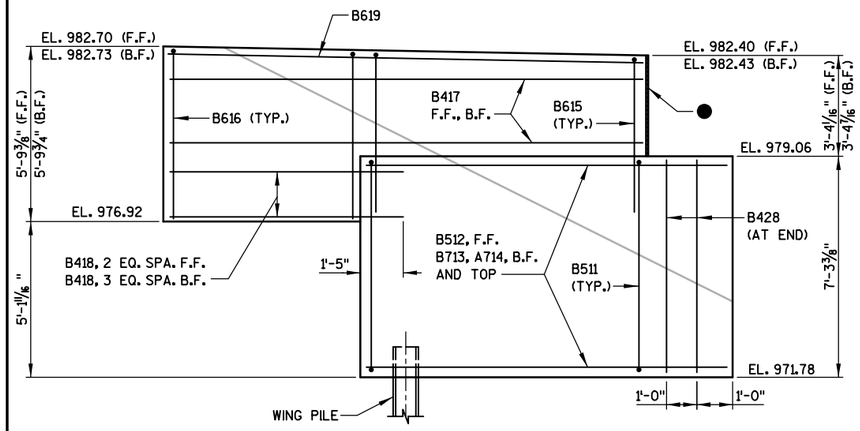


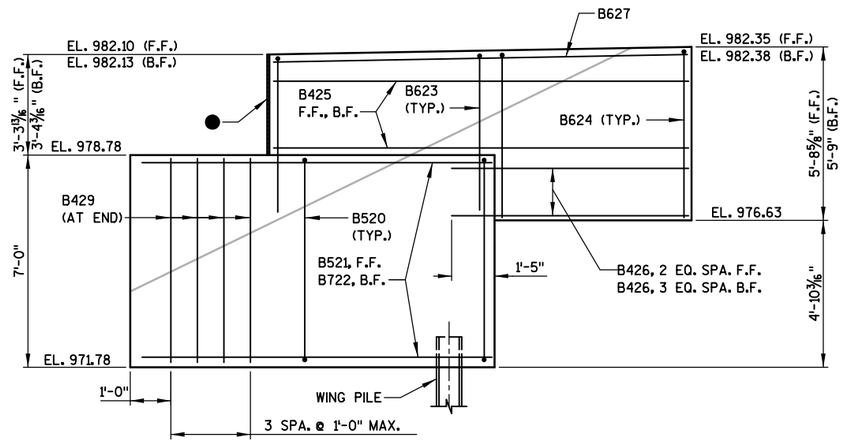
WING 3 PLAN



WING 4 PLAN



WING 3 ELEVATION
(LOOKING AT FRONT FACE)



WING 4 ELEVATION
(LOOKING AT FRONT FACE)

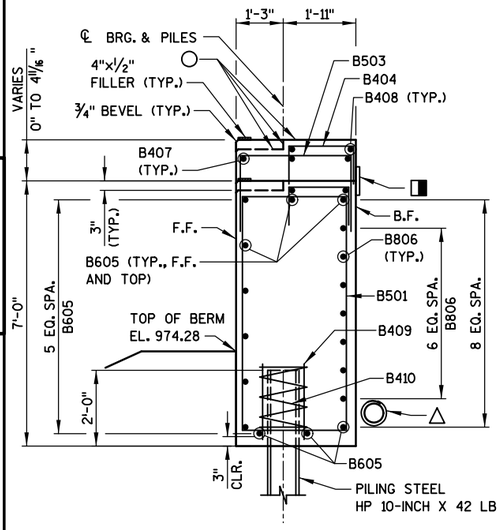
STATE PROJECT NUMBER

5665-00-75

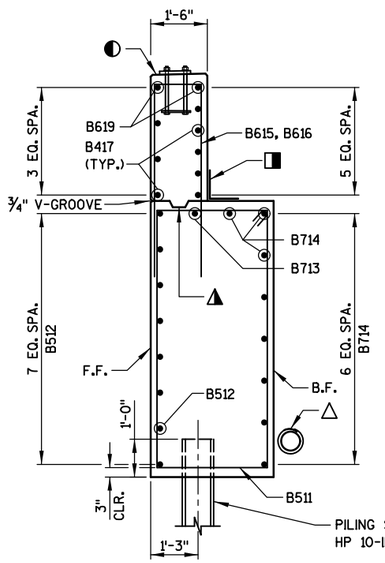
NORTH ABUTMENT BILL OF BARS

UNCOATED: 2,580 LBS
COATED: 2,070 LBS

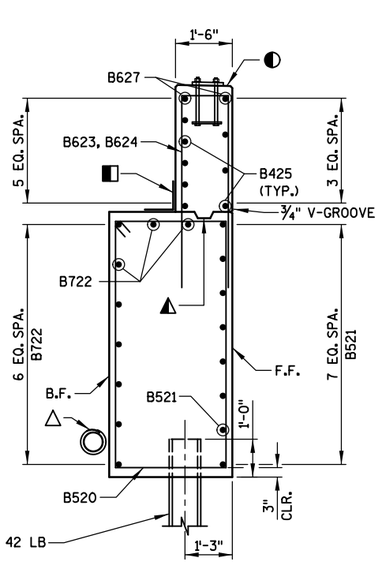
BAR MARK	NO. REQ'D	LENGTH	BENT	COAT	LOCATION
B501	44	18'-10"	X		BODY - STIRRUPS
B502	3	7'-8"	X		BODY - STIRRUPS - CORNER
B503	15	6'-7"	X		BODY - TOP - VERT.
B404	20	4'-5"	X		BODY - TOP - VERT.
B605	11	37'-1"			BODY - F.F., TOP, BTM. - HORIZ.
B806	7	38'-3"	X		BODY - B.F. - HORIZ.
B407	3	14'-3"			BODY - TOP - HORIZ.
B408	8	7'-3"			BODY - TOP - HORIZ.
B409	12	2'-3"			BODY - PILES - VERT.
B410	6	28'-0"	X		BODY - PILES - SPIRAL
B511	10	20'-2"	X	X	WING 3 - LOWER - STIRRUPS
B512	8	12'-1"		X	WING 3 - LOWER - F.F. - HORIZ.
B713	1	12'-10"	X	X	WING 3 - LOWER - TOP - HORIZ.
B714	8	13'-1"		X	WING 3 - LOWER - B.F. & TOP - HORIZ.
B615	13	11'-6"	X	X	WING 3 - UPPER - VERT.
B616	9	11'-8"	X	X	WING 3 - UPPER - VERT.
B417	8	15'-7"		X	WING 3 - UPPER - F.F., B.F. - HORIZ.
B418	7	7'-9"		X	WING 3 - UPPER - F.F., B.F. - HORIZ. - BOT.
B619	2	15'-7"		X	WING 3 - UPPER - TOP - HORIZ.
B520	8	19'-8"	X	X	WING 4 - LOWER - STIRRUPS
B521	8	11'-6"		X	WING 4 - LOWER - F.F. - HORIZ.
B722	9	9'-10"		X	WING 4 - LOWER - B.F. & TOP - HORIZ.
B623	11	11'-6"	X	X	WING 4 - UPPER - VERT.
B624	9	11'-8"	X	X	WING 4 - UPPER - VERT.
B425	8	13'-7"		X	WING 4 - UPPER - F.F., B.F. - HORIZ.
B426	7	7'-9"		X	WING 4 - UPPER - F.F., B.F. - HORIZ. - BOT.
B627	2	13'-7"		X	WING 4 - UPPER - TOP - HORIZ.
B428	2	6'-11"		X	BODY - VERT. WEST END
B429	4	6'-7"		X	BODY - VERT. EAST END



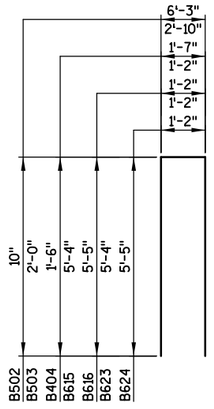
TYPICAL BODY SECTION



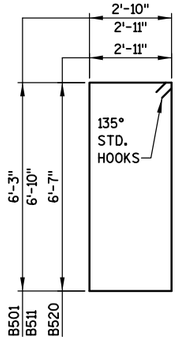
WING 3 SECTION



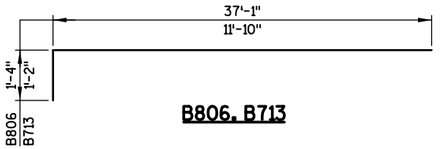
WING 4 SECTION



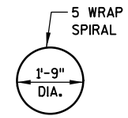
B502, B503, B404, B615, B616, B623, B624



B501, B511, B520



B806, B713



B410

LEGEND

- ◨ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE.
- △ PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN AS DETAILED ON SHEET 4.
- ◭ OPTIONAL KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2"x6".
- ○ STEEL TROWEL TOP SURFACE OF ABUTMENT. PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE ABUTMENT TOP BEFORE PLACING BEARING PADS AND SUPERSTRUCTURE. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03".
- ◐ SLOPE TO MATCH SUPERSTRUCTURE. SEE SHEET 13 FOR TUBULAR STEEL RAILING TYP 'M' DETAILS.
- ● ½" FILLER, INCLUDED IN WING LENGTH.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-13-884

DRAWN BY DTH | PLANS CK'D. KRB

NORTH ABUTMENT DETAILS

SHEET 7
85

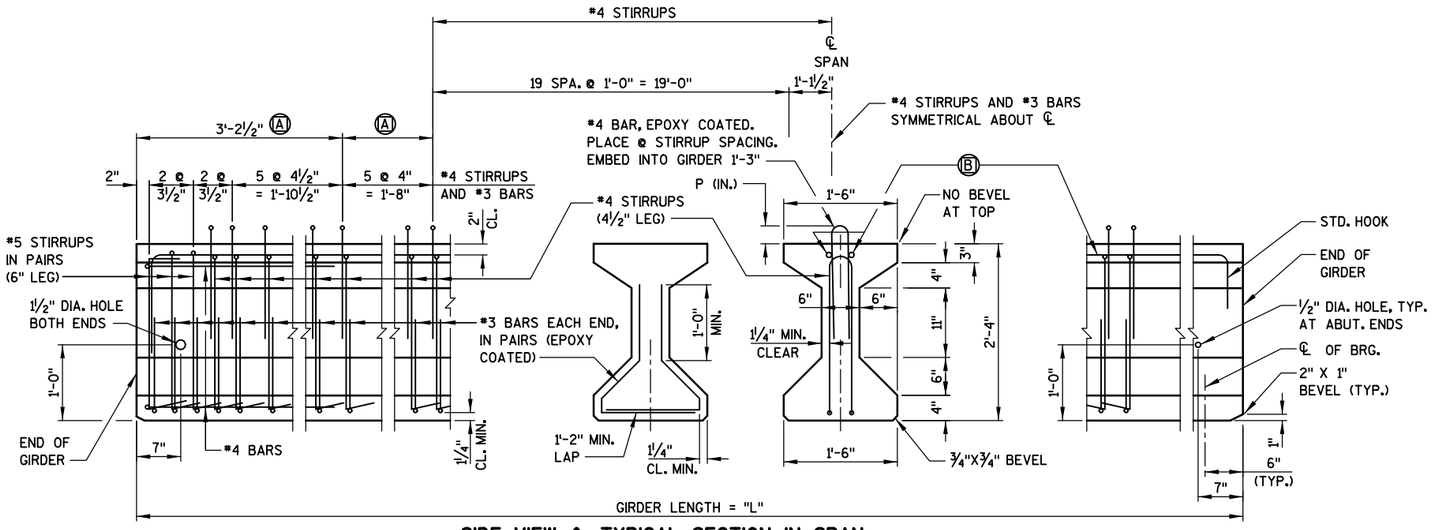
8

8

FILE NAME : S:\MAD\1100--1199\1124\020\Drawings\CAD\Micros\PLAN\080107_na.dgn

STATE PROJECT NUMBER

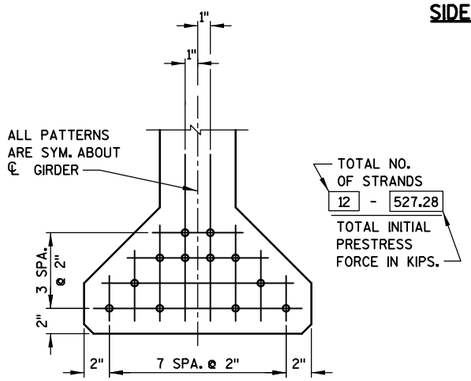
5665-00-75



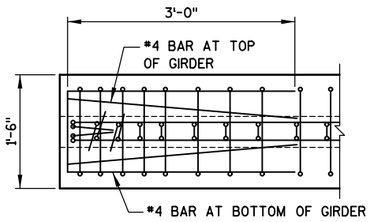
SIDE VIEW & TYPICAL SECTION IN SPAN

Ⓐ DETAIL TYP. AT EACH END

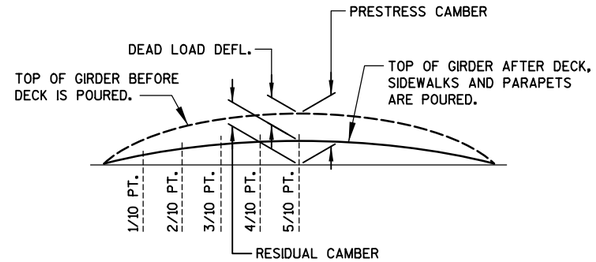
Ⓑ 2-*6 BARS, FULL LENGTH, STD. HOOK AT ENDS



STRAND ARRANGEMENT AT ℄ SPAN



TOP VIEW OF GIRDER ENDS



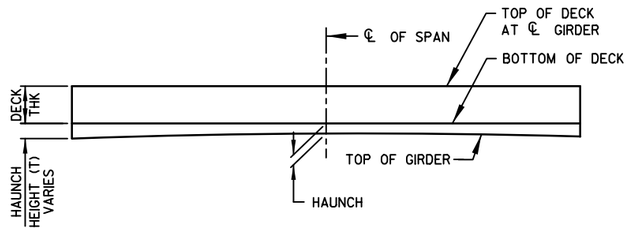
CAMBER AND DEFLECTION DIAGRAM

* THE THEORETICAL INITIAL CAMBER VALUE AT THE TIME OF STRAND RELEASE AT MIDSPAN MULTIPLIED BY A FACTOR OF 1.4 TO ACCOUNT FOR CAMBER GROWTH FROM THE TIME OF STRAND RELEASE TO JOBSITE PLACEMENT.

SPAN	CAMBER (IN.) *
1	1.4

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

THESE VALUES ARE FOR INFORMATIONAL PURPOSES ONLY.



ELEVATION

GENERAL NOTES

TOP OF GIRDER TO BE ROUGH FLOATED AND BROOMED TRANSVERSELY, EXCEPT THE OUTSIDE 2" OF GIRDER, WHICH SHALL RECEIVE A SMOOTH FINISH. AN APPROVED CONCRETE SEALER SHALL BE APPLIED TO ALL SMOOTH SURFACES INCLUDING THE OUTSIDE 2" OF THE TOP FLANGE.

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

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

ALL GIRDERS SHALL BE CAST FULL LENGTH AS SHOWN.

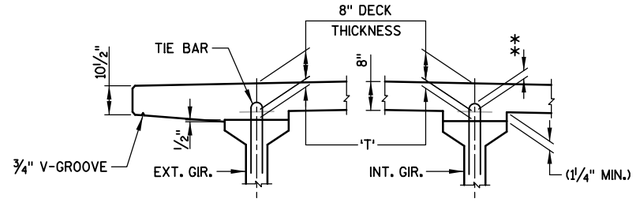
SPACING SHOWN FOR *4 STIRRUPS IS FOR GRADE 60 REINFORCEMENT.

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

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

BEND EACH END OF *4 STIRRUPS 4½" AND *5 STIRRUPS 6".

FOR DIAPHRAGM INSERT & CONNECTON DETAILS SEE "STEEL DIAPHRAGM" SHEET.



DECK HAUNCH DETAIL

IF 1¼" MINIMUM HAUNCH HEIGHT AT EDGE OF GIRDER CANNOT BE MAINTAINED, THE GRADE LINE MAY BE REVISED BY THE ENGINEER AT THE OPTION OF THE CONTRACTOR, THE PLAN DECK THICKNESS SHALL BE HELD. NOTIFY THE ENGINEER IF THE GRADE LINE IS RAISED FROM THE PLAN PROFILE BY MORE THAN ½" OR,

** IF 3" MINIMUM DECK EMBEDMENT OF TIE BAR CANNOT BE OBTAINED.

TO DETERMINE 'T', ELEV. OF TOP OF GIR'S. AT ℄ OF SUBSTRUCTURE UNITS & AT 1/10 POINTS OF EACH SPAN SHALL BE TAKEN. THEN FOLLOW THIS PROCESS:

TOP OF DECK ELEV. AT FINAL GRADE
- TOP OF GIRDER ELEVATION
+ DEAD LOAD DEFLECTION
- DECK THICKNESS
= HAUNCH HEIGHT 'T'

NOTE: AN AVERAGE HAUNCH ('T') OF 2⅞" WAS USED IN THE QUANTITY "CONCRETE MASONRY BRIDGES".

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

GIRDER DATA

SPAN	GIRDER	GIRDER LENGTH "L"	DEAD LOAD DEFL. (IN.) 1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10	CONC. STRGTH. f'c (P.S.I.)	"P" (IN.) 1ST 1/3 OF GIRDER	"P" (IN.) MID 1/3 OF GIRDER	"P" (IN.) END 1/3 OF GIRDER	DIA. OF STRAND (IN.)	DRAPED PATTERN TOTAL NO. OF STRANDS	f'ci (P.S.I.)	(IN.) "A"	"B" MIN.	"B" MAX.	"C"	UNDRAPED PATTERN TOTAL NO. OF STRANDS	f'ci (P.S.I.) *
1	1,5	50'-0"	0.1	0.3	0.4	0.5	0.5	0.5	0.4	0.3	0.1	8000	7.25	7.00	7.25	0.60							12	6800
1	2-4	50'-0"	0.2	0.3	0.4	0.5	0.6	0.5	0.4	0.3	0.2	8000	7.25	7.00	7.25	0.60							12	6800

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-13-884

DRAWN BY DTH | PLANS CK'D. KRB

28" PRESTRESSED GIRDER DETAILS

SHEET 8
86

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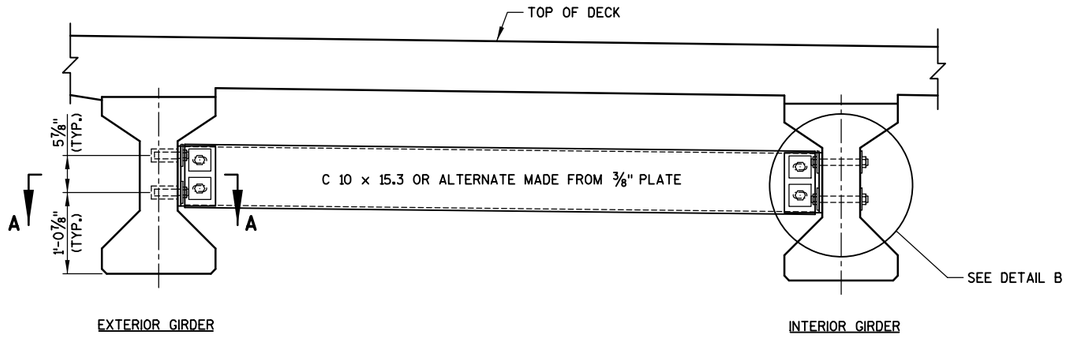
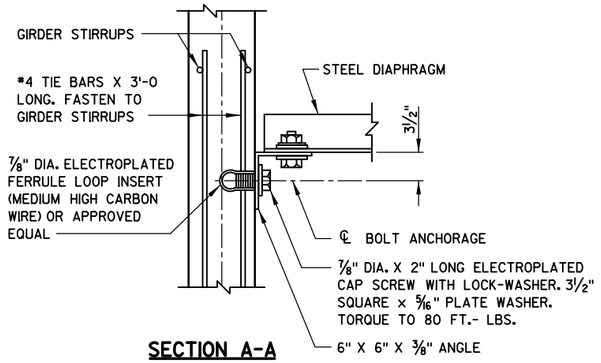
FILE NAME : S:\MAD\1100--1199\1124\020\Drawings\CAD\Micros\PLAN\080108_pg.dgn

STATE PROJECT NUMBER

5665-00-75



PART TRANSVERSE SECTION AT DIAPHRAGM



SECTION A-A

(FOR EXTERIOR ATTACHMENT)

NOTES

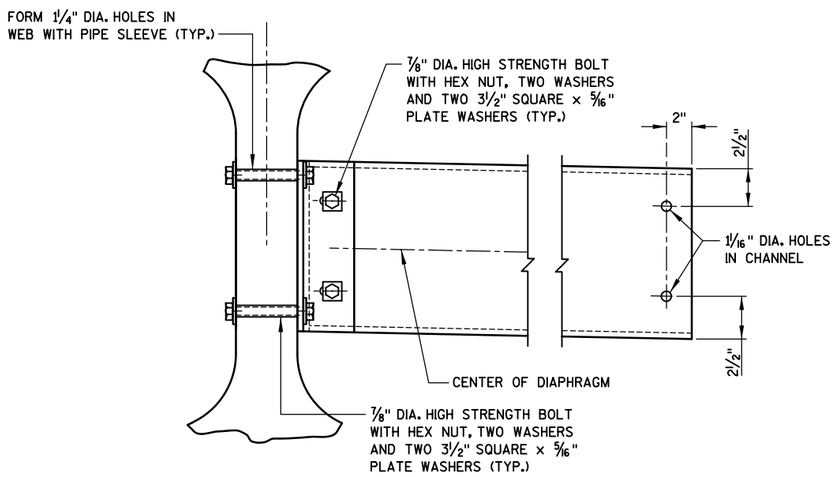
ALL DIAPHRAGM MATERIAL NOT EMBEDDED IN THE CONCRETE GIRDER SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "STEEL DIAPHRAGMS B-13-884", EACH.

EACH DIAPHRAGM BETWEEN GIRDERS SHALL CONSTITUTE ONE UNIT.

ALL DIAPHRAGM STRUCTURAL STEEL SHALL BE ASTM A709 GRADE 36.

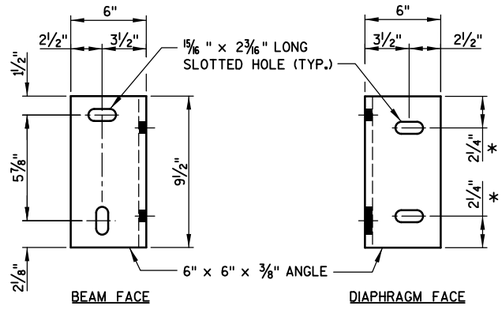
ALL DIAPHRAGM MATERIAL INCLUDING BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED AFTER FABRICATION.

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



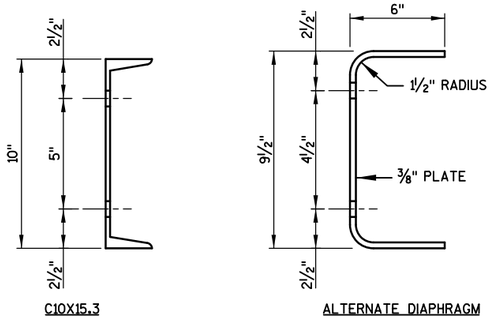
DETAIL B

(FOR STAGGERED DIAPHRAGMS)

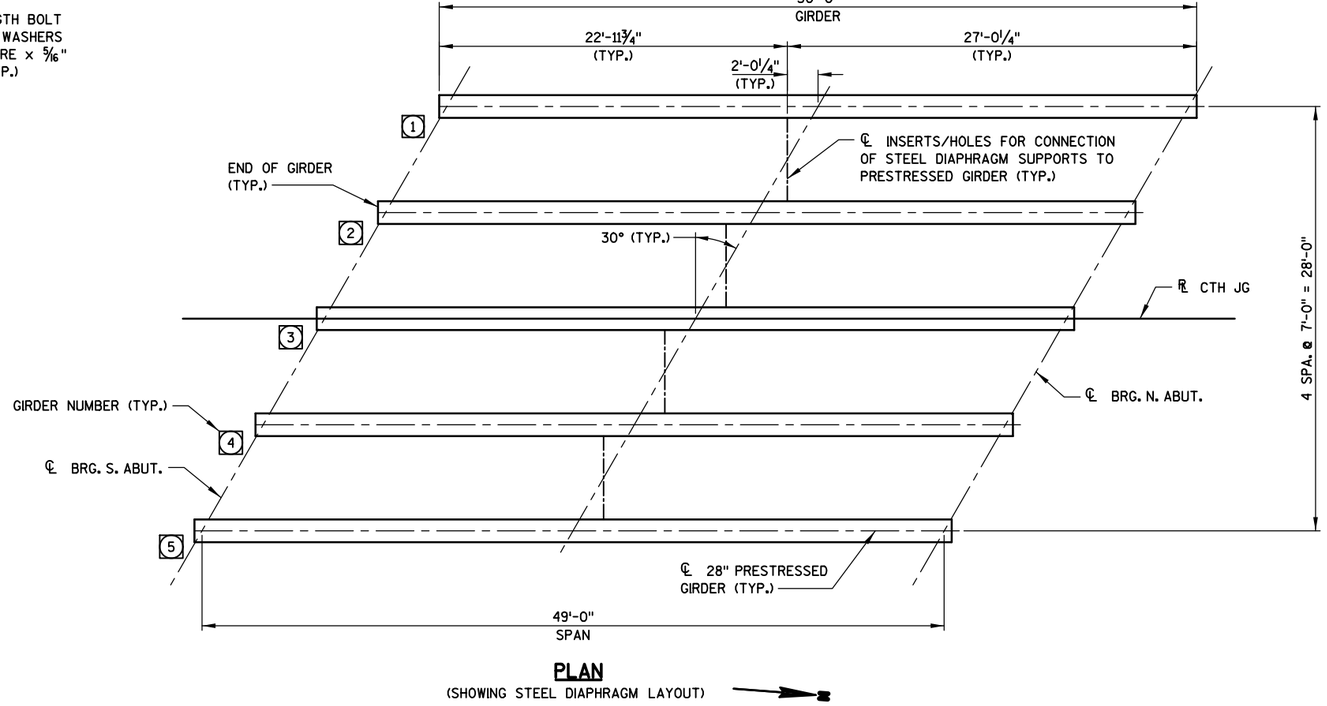


DIAPHRAGM SUPPORT

* 2½" FOR ALTERNATE PLATE DIAPHRAGM



SECTION THRU DIAPHRAGM



PLAN

(SHOWING STEEL DIAPHRAGM LAYOUT)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-13-884

DRAWN BY DTH | PLANS CK'D. KRB

STEEL DIAPHRAGMS

SHEET 9
87

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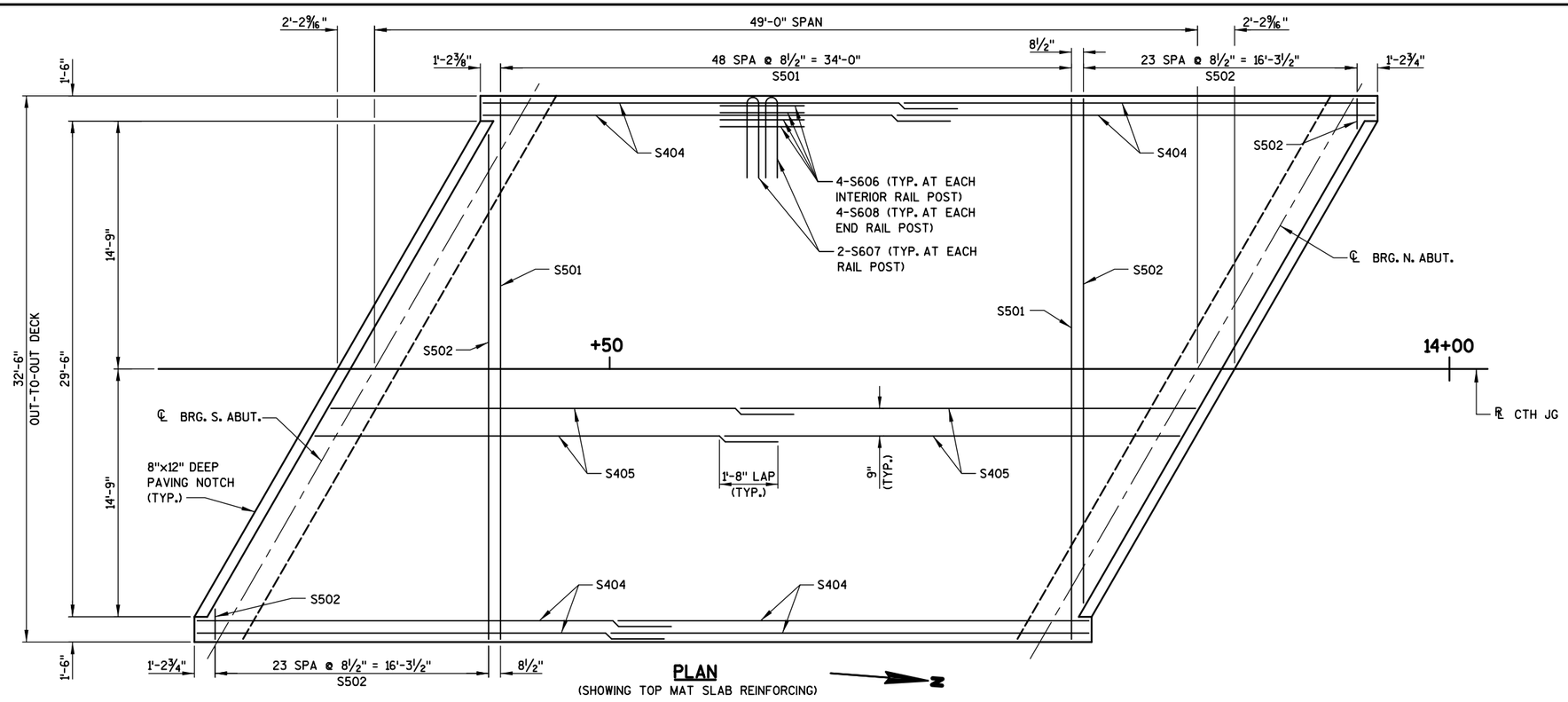
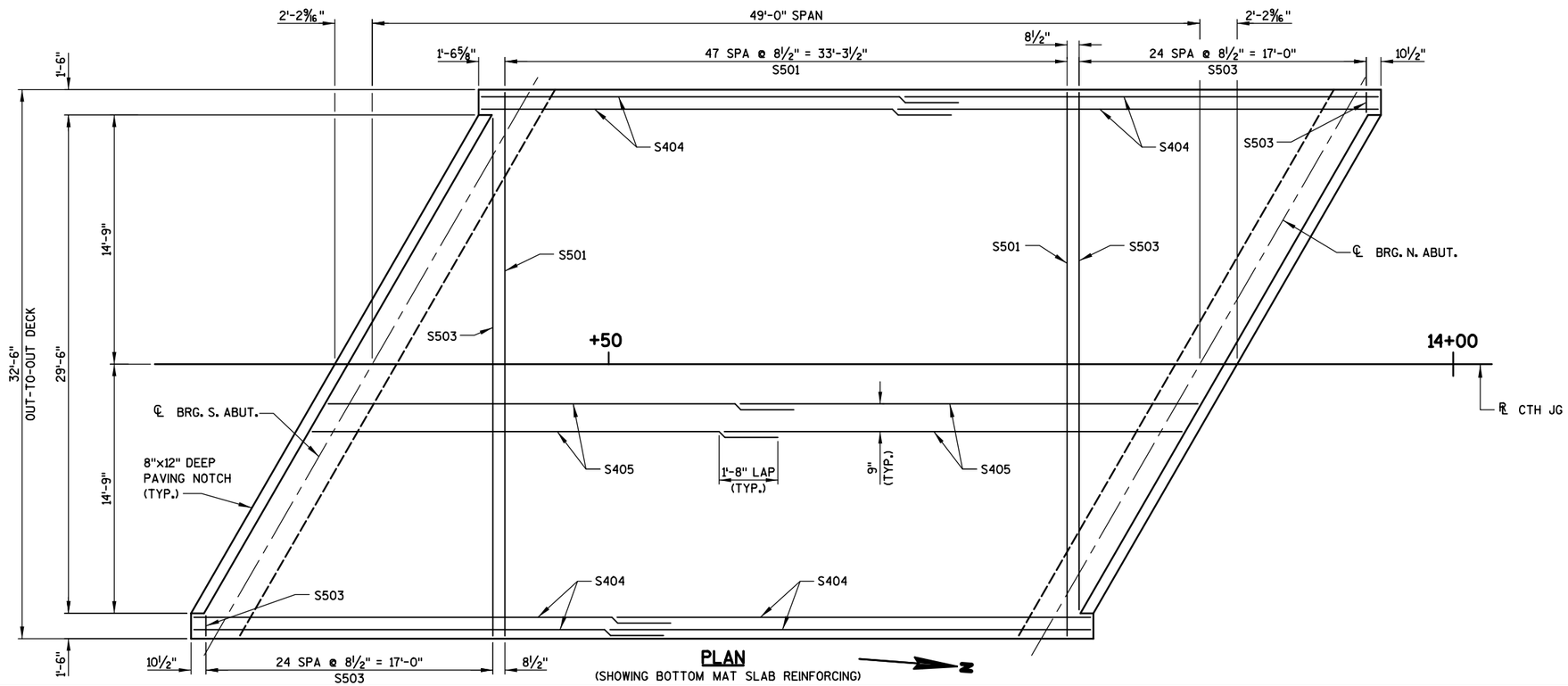
FILE NAME : S:\MAD\1100--1199\1124\020\Drawings\CAD\Micros\PLAN\080109_sd.dgn



PLAN
(SHOWING TOP MAT SLAB REINFORCING)



PLAN
(SHOWING BOTTOM MAT SLAB REINFORCING)

STATE PROJECT NUMBER

5665-00-75

NOTES

SEE SHEETS 11 THROUGH 13 FOR REINFORCING DETAILS.

SEE SHEET 1 FOR RAIL POST SPACING.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-13-884

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SUPERSTRUCTURE PLAN

SHEET 10
88

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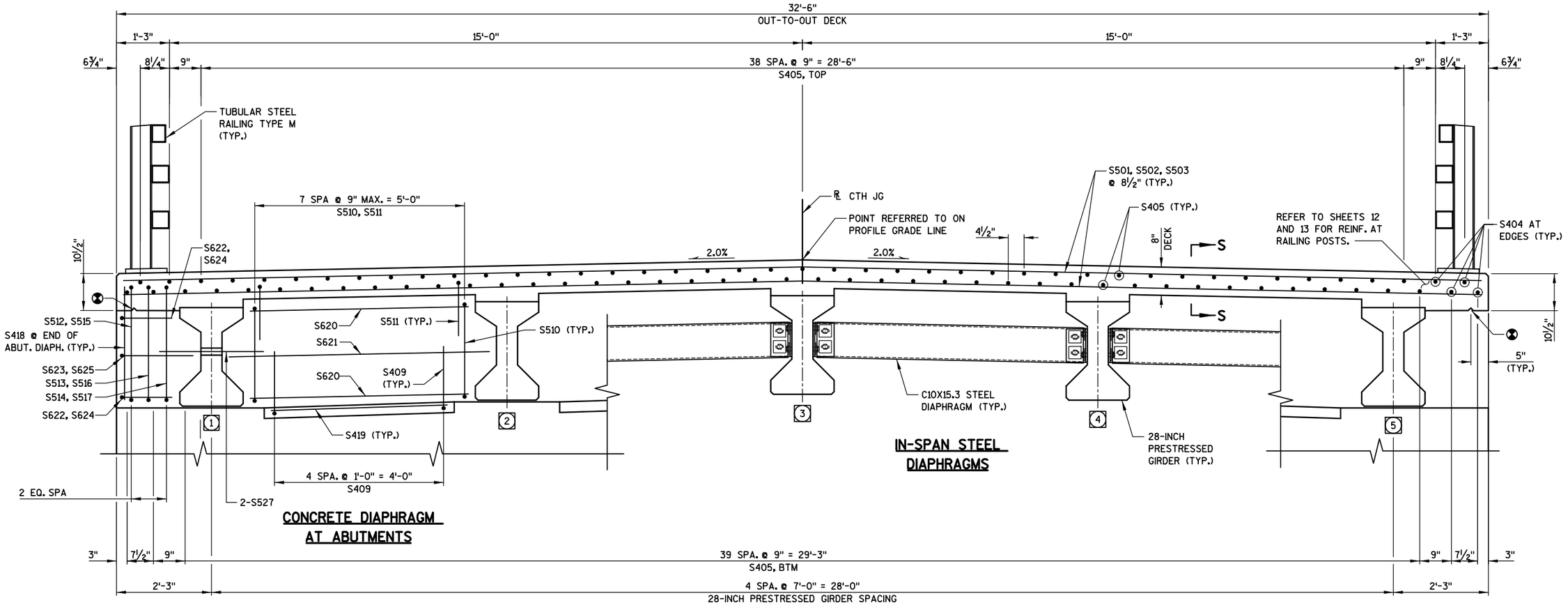
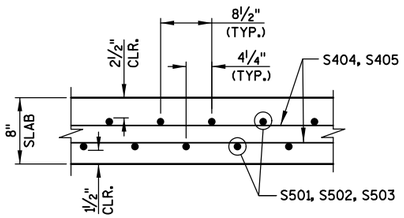
STATE PROJECT NUMBER
5665-00-75



IN-SPAN STEEL DIAPHRAGMS

CONCRETE DIAPHRAGM AT ABUTMENTS

CROSS SECTION THRU DECK
(LOOKING EAST)



SECTION S-S

NOTES

SEE SHEETS 12 AND 13 FOR REINFORCING DETAILS.

LEGEND

(#) INDICATES GIRDER NUMBER.

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

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-13-884

DRAWN BY DTH | PLANS CK'D. KRB

SUPERSTRUCTURE SECTION

SHEET 11
89

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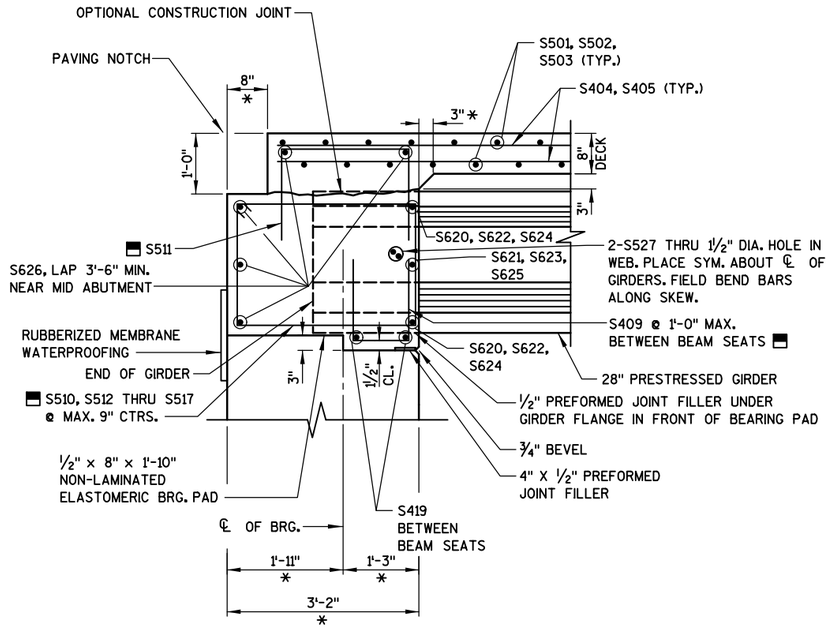
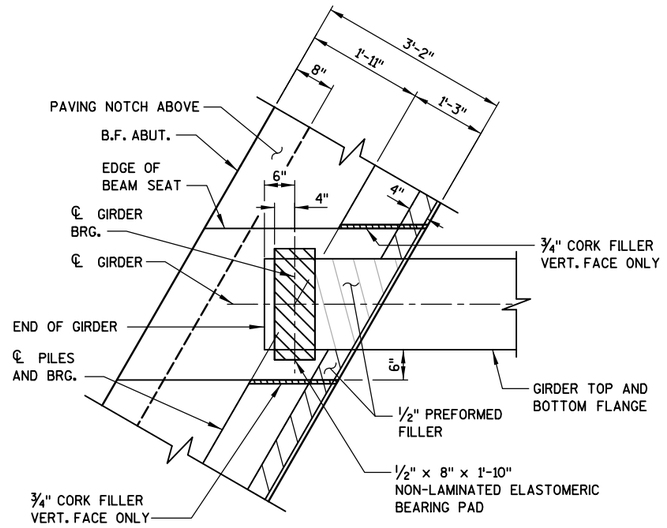
STATE PROJECT NUMBER

5665-00-75



SUPERSTRUCTURE DETAILS AT ABUTMENT



BEARING PAD DETAIL

SUPERSTRUCTURE BILL OF BARS

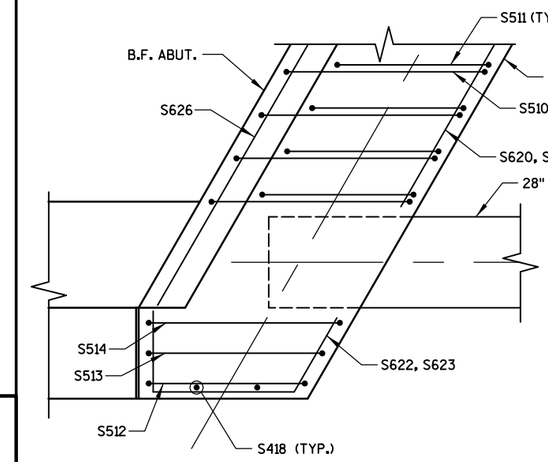
COATED: 11,780 LBS

BAR MARK	NO. REQ'D	LENGTH	BENT	COAT	LOCATION
S501	97	32'-2"		X	SLAB - TRANSVERSE - TOP & BOTTOM
⚠ S502	48	15'-11"		X	SLAB - TRANSVERSE - TOP
⚠ S503	50	15'-11"		X	SLAB - TRANSVERSE - TOP
S404	16	27'-5"		X	SLAB - LONG. - TOP & BOT. - EDGES
S405	158	26'-8"		X	SLAB - LONG. - TOP & BOT.
S606	56	6'-0"		X	SLAB - TUBULAR RAILING - TOP - LONGIT.
S607	36	11'-4"	X	X	SLAB - TUBULAR RAILING - TOP - TRANS.
S608	16	4'-8"	X	X	SLAB - TUBULAR RAILING - TOP - LONGIT. - END POST
S409	40	3'-10"	X	X	ABUT. DIAPHRAGM - VERT. - LOWER
S510	64	11'-2"	X	X	ABUT. DIAPHRAGM - VERT. - MID
S511	64	6'-3"	X	X	ABUT. DIAPHRAGM - VERT. - UPPER
S512	2	11'-6"	X	X	ABUT. DIAPHRAGM - VERT. - UPPER - ENDS - WINGS 1& 3
S513	2	12'-0"	X	X	ABUT. DIAPHRAGM - VERT. - UPPER - ENDS - WINGS 1& 3
S514	2	12'-8"	X	X	ABUT. DIAPHRAGM - VERT. - UPPER - ENDS - WINGS 1& 3
S515	2	14'-4"	X	X	ABUT. DIAPHRAGM - VERT. - UPPER - ENDS - WINGS 2 & 4
S516	2	13'-10"	X	X	ABUT. DIAPHRAGM - VERT. - UPPER - ENDS - WINGS 2 & 4
S517	2	13'-2"	X	X	ABUT. DIAPHRAGM - VERT. - UPPER - ENDS - WINGS 2 & 4
S418	10	2'-10"		X	ABUT. DIAPHRAGM - VERT. - ENDS
S419	16	4'-8"		X	ABUT. DIAPHRAGM - HORIZ. - BTWN BEAM SEATS
S620	16	6'-0"		X	ABUT. DIAPHRAGM - HORIZ. - F.F.
S621	8	7'-1"		X	ABUT. DIAPHRAGM - HORIZ. - MID - F.F.
S622	4	4'-8"	X	X	ABUT. DIAPHRAGM - HORIZ. - F.F. - ENDS - WINGS 1 & 3
S623	2	5'-3"	X	X	ABUT. DIAPHRAGM - HORIZ. - MID - F.F. - ENDS - WINGS 1 & 3
S624	4	6'-2"	X	X	ABUT. DIAPHRAGM - HORIZ. - F.F. - ENDS - WINGS 2 & 4
S625	2	6'-9"	X	X	ABUT. DIAPHRAGM - HORIZ. - MID - F.F. - ENDS - WINGS 2 & 4
S626	20	20'-4"		X	ABUT. DIAPHRAGM - HORIZ. - TOP & B.F.
S527	20	6'-0"		X	ABUT. DIAPHRAGM - HORIZ. - THRU GIRDERS

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

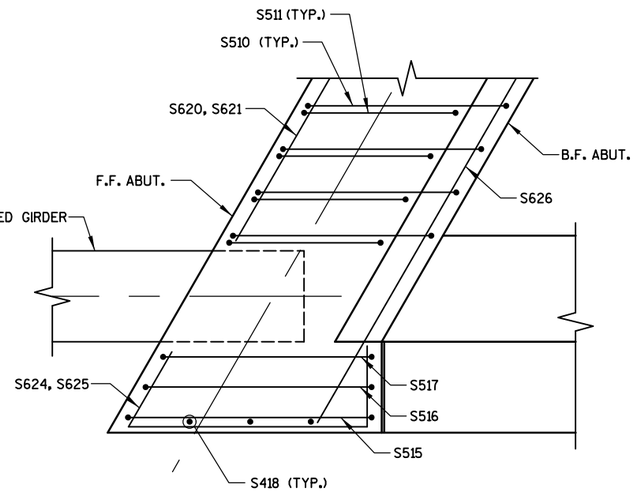
BAR SERIES TABLE

BAR MARK	NO. REQ'D	LENGTH
S502	2 SERIES OF 24	1'-10" TO 30'-0"
S503	2 SERIES OF 25	1'-2" TO 30'-8"



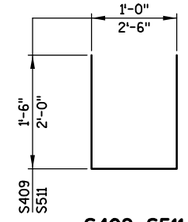
ENLARGED WING 1 PLAN

(WING 3 SIMLAR)

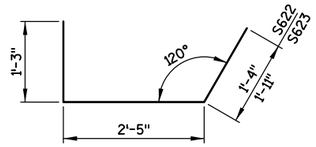


ENLARGED WING 4 PLAN

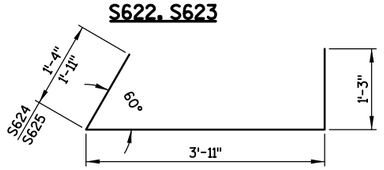
(WING 2 SIMLAR)



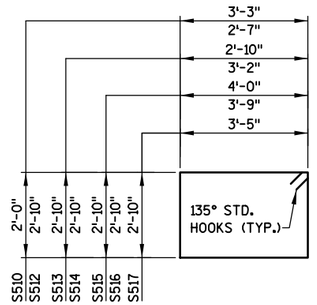
S409, S511



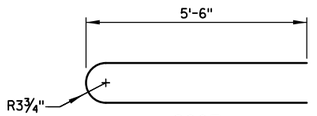
S622, S623



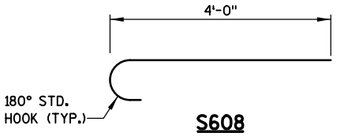
S624, S625



S510, S512, S513, S514, S515, S516, S517



S607



S608

TOP OF DECK ELEVATIONS

	SPAN 1										
	CL BRG. S. ABUT.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	CL BRG. N. ABUT.
W. DECK EDGE	981.56	981.64	981.71	981.79	981.87	981.95	982.03	982.11	982.20	982.29	982.38
℄ GIRDER 1	981.59	981.66	981.74	981.81	981.89	981.97	982.05	982.14	982.22	982.31	982.40
℄ GIRDER 2	981.67	981.74	981.82	981.89	981.97	982.05	982.13	982.21	982.29	982.38	982.46
℄ GIRDER 3 AND REF. LINE	981.75	981.82	981.90	981.97	982.04	982.12	982.20	982.28	982.36	982.45	982.53
℄ GIRDER 4	981.56	981.62	981.70	981.77	981.84	981.92	982.00	982.07	982.16	982.24	982.32
℄ GIRDER 5	981.36	981.43	981.50	981.57	981.64	981.72	981.79	981.87	981.95	982.03	982.11
E. DECK EDGE	981.30	981.36	981.43	981.50	981.58	981.65	981.73	981.80	981.88	981.96	982.05

LEGEND

* DIMENSION IS TAKEN NORMAL TO ℄ SUBSTRUCTURE.

▬ BARS PLACED PARALLEL TO GIRDERS, SPACING PERPENDICULAR TO ℄ GIRDERS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-13-884

DRAWN BY DTH | PLANS CK'D. KRB

SUPERSTRUCTURE DETAILS

SHEET 12
90

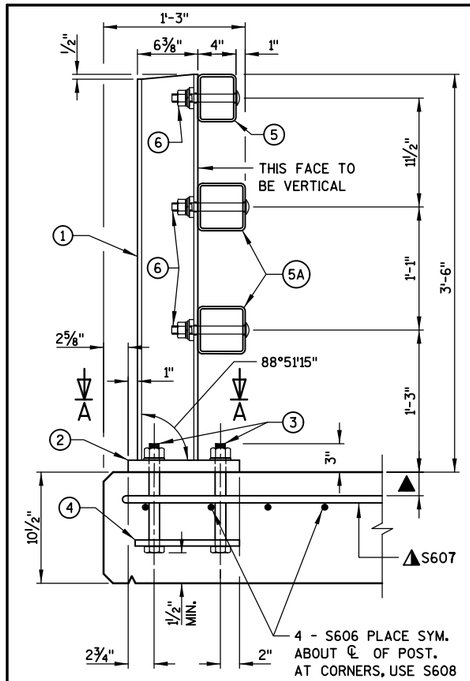
8

8

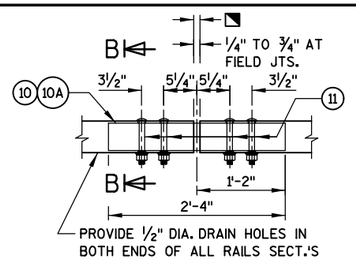
FILE NAME : S:\MAD\1100--1199\1124\020\Drawings\CAD\Micros\PLAN\080112_ss.dgn

STATE PROJECT NUMBER

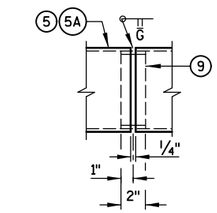
5665-00-75



SECTION THRU RAILING ON DECK

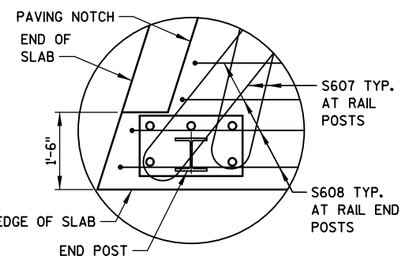


FIELD ERECTION JOINT DETAIL



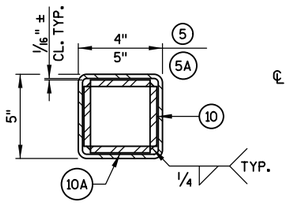
SHOP RAIL SPLICE DETAIL

LOCATION MUST BE SHOWN ON SHOP DRAWINGS

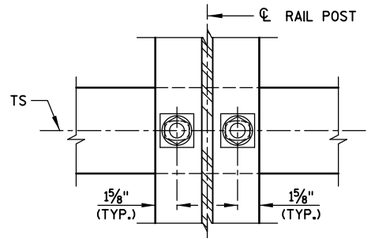


END POST DETAIL

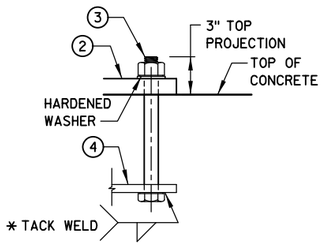
REINFORCEMENT AT CORNERS



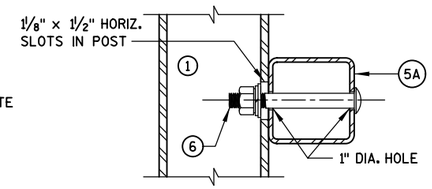
SECTION B-B



SECTION THRU POST WEB



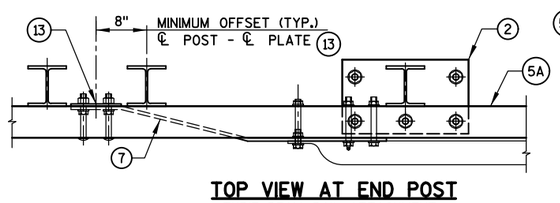
ANCHOR BOLTS



SECTION THRU RAIL

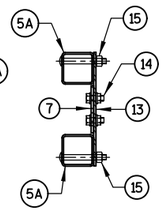
NOTE: CONNECTIONS AT LOWER RAILS SHOWN. CONNECTIONS AT TOP RAIL SIMILAR.

TYPICAL RAIL TO POST CONNECTIONS

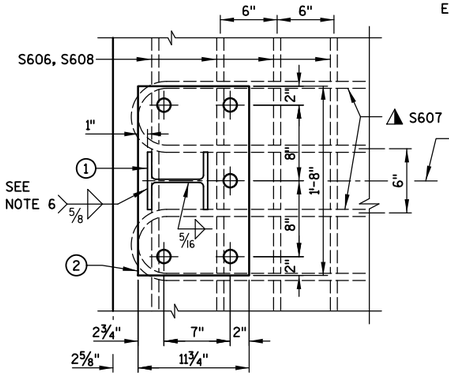


TOP VIEW AT END POST

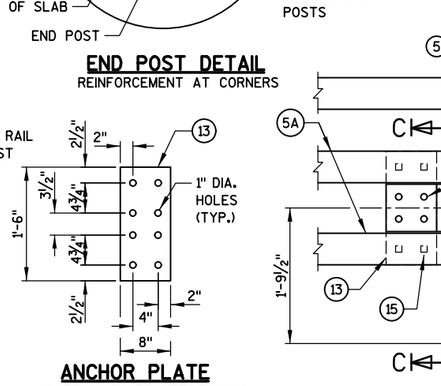
THRIE BEAM RAIL ATTACHMENT



SECTION C-C

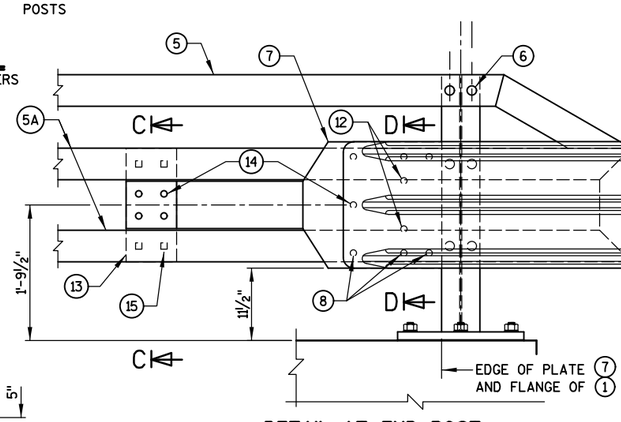


SECTION A-A



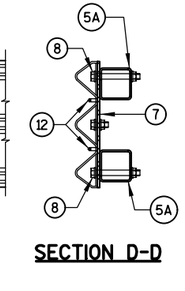
ANCHOR PLATE

AT BEAM GUARD ATTACHMENT

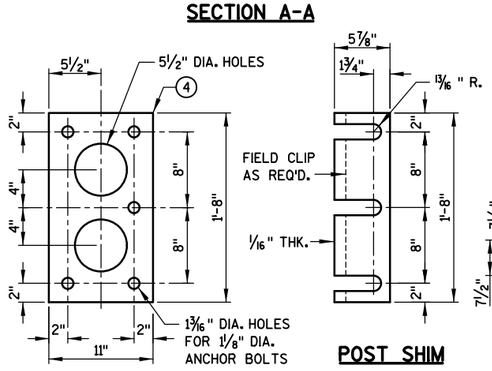


DETAIL AT END POST

THRIE BEAM RAIL ATTACHMENT



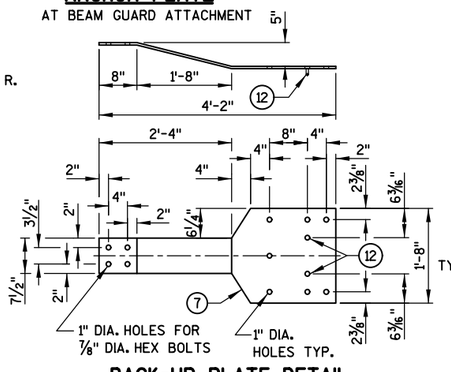
SECTION D-D



ANCHOR PLATE

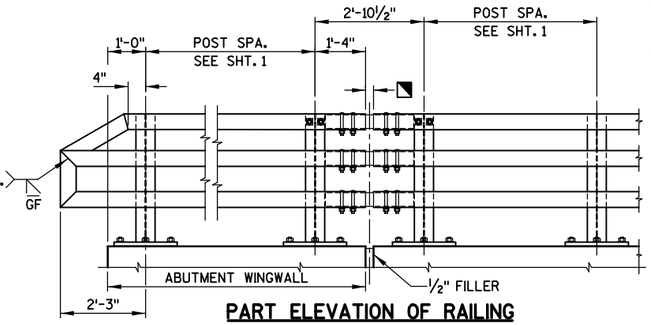
AT RAIL TO DECK CONNECTION

POST SHIM DETAIL



BACK-UP PLATE DETAIL

AT BEAM GUARD ATTACHMENT



PART ELEVATION OF RAILING

LEGEND

1. W6 X 25 WITH 1⅛" x 1½" 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 1¼" x 11¾" x 1'-8" WITH 1⁷⁄₁₆" DIA. OVERSIZE HOLES FOR ANCHOR BOLTS NO. 3. WELD TO NO. 1 AS SHOWN.
3. ASTM A449 - ⅞" 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. USE 10¾" LONG. AT ALL OTHER LOCATIONS. (AN EQUIVALENT THREADED ROD WITH NUTS AND HARDENED WASHERS MAY BE SUBSTITUTED FOR ANCHOR BOLTS IN WINGS IF REQ'D FOR CONSTRUCTABILITY.)
4. ⅝" 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. ⅞" DIA. A325 SLOTTED ROUND HEAD BOLT WITH NUT, 3⁄16" x 1⅝" x 1⅝" MIN. WASHER, AND LOCK WASHER (2 REQ'D. AT EACH RAIL TO POST LOCATION.)
7. ½" THK. BACK-UP PLATE WITH 2 - ⅞" x 1½" 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 ⅞" DIA. A325 BOLTS WITH HEX NUTS AND WASHERS. 6 HOLES IN TUBES AND PLATE NO. 7.
9. SPLICE SLEEVE FABRICATED FROM ¼" PLATE. PROVIDE "SLIDING FIT".
10. ⅜" x 3⅝" x 2'-4" PLATE. 2 PER RAIL. USED IN NO. 5 & 5A.
10A. ⅜" x 2⅝" x 2'-4" PLATE USED IN NO. 5, ⅜" x 3⅝" x 2'-4" PLATE USED IN NO. 5A. 2 PER RAIL.
11. ⅞" DIA. A325 ROUND HEAD BOLT WITH NUT, WASHER, AND LOCK WASHER. USE 15⁄16 " x 1¼" LONGIT. SLOTTED HOLES IN PLATE NO. 10A. AT FIELD JOINTS. PROVIDE 15⁄16 " DIA. ROUND HOLES IN TUBES NO. 5 AND NO. 5A.
12. ⅞" DIA. x 1½" LONG THREADED SHOP WELDED STUDS (2 REQ'D).
13. ⅜" 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. ⅞" DIA. x 2" LONG A325 HEX BOLT WITH NUT AND WASHER (5 REQ'D.).
15. 1" DIA. HOLES IN TUBES NO. 5A FOR ⅞" 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 ⅛ 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.

◹ ¼" TO ¾"

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-13-884

DRAWN BY DTH | PLANS CK'D. KRB

TUBULAR STEEL RAILING TYPE 'M'

SHEET 13
91

8

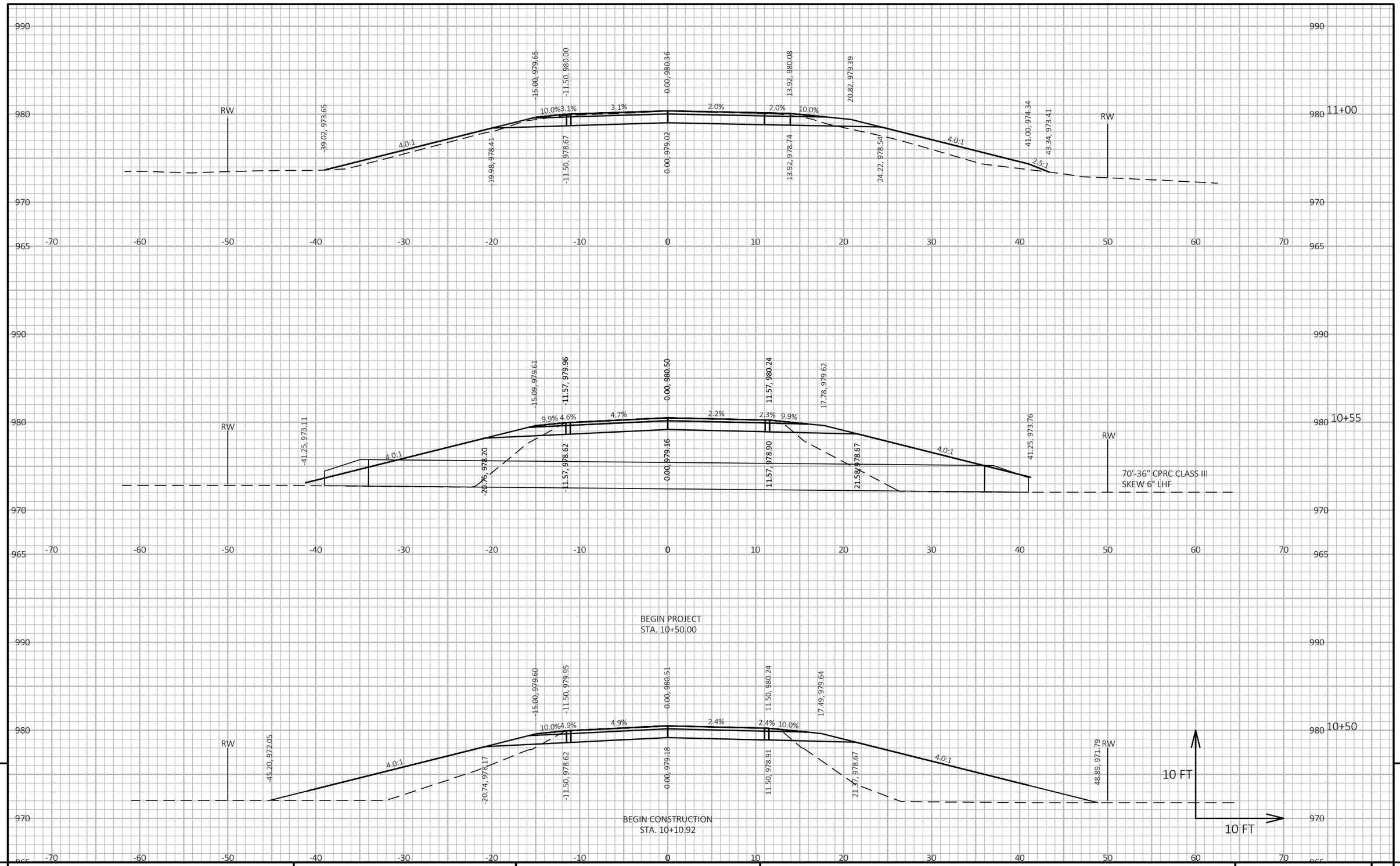
8

FILE NAME : S:\MAD\1100--1199\1124\020\Drawings\CAD\Micros\PLAN\080113_tr.dgn

CTH JG		AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)			CUMULATIVE VOL (CY)		
STATION	DISTANCE	CUT NOTE 1	FILL NOTE 2	EBS (5% OF CUT)	CUT NOTE 1	FILL NOTE 2	EBS	CUT 1.00 NOTE 1	EXPANDED FILL 1.25	MASS ORDINATE NOTE 4
10+11		4.6	19.6	0.2	0	0	0	0	0	0
10+50	39	35.5	64.2	1.8	29	61	1	29	76	-47
11+00	50	40.5	29.2	2.0	70	86	4	99	184	-85
11+32	32	41.8	30.8	2.1	48	35	2	148	228	-80
11+50	18	43.0	20.0	2.2	29	17	1	176	249	-73
11+57	7	43.5	15.1	2.2	11	4	1	187	255	-68
11+82	25	48.4	3.5	2.4	43	9	2	230	266	-36
12+00	18	52.3	6.5	2.6	34	3	2	264	270	-6
12+26	26	55.1	18.4	2.8	51	12	3	315	285	30
12+50	24	56.6	9.9	2.8	50	13	2	365	301	65
12+51	1	56.6	9.5	2.8	2	0	0	367	301	66
12+76	25	56.6	0.1	2.8	52	4	3	419	306	113
13+00	24	55.9	0.3	2.8	50	0	3	470	307	163
13+34	34	22.7	4.5	1.1	49	3	2	519	310	208
13+87	---	19.8	5.0	1.0	0	0	0	519	310	208
14+00	13	42.5	19.2	2.1	15	6	1	534	318	216
14+50	50	39.0	0.5	1.9	75	18	4	609	340	269
14+95	45	38.1	8.2	1.9	64	7	3	674	350	324
15+00	5	37.9	9.3	1.9	7	2	0	680	352	329
15+20	20	39.4	0.7	2.0	29	4	1	709	356	353
15+39	19	43.0	1.1	2.2	29	1	1	738	357	381
15+50	11	44.9	1.1	2.2	18	0	1	756	358	398
15+64	14	46.1	4.6	2.3	24	1	1	780	359	420
15+89	25	46.0	7.2	2.3	43	5	2	822	366	456
16+00	11	45.4	7.0	2.3	18	3	1	841	370	471
16+29	29	48.7	0.0	2.4	51	4	3	891	375	517
16+40	11	7.6	0.0	0.4	11	0	1	902	375	528
			COLUMN TOTALS		903	300	45			

NOTES:

1) CUT: CUT INCLUDES SALVAGED PAVEMENT MATERIAL.
2) FILL: FILL DOES NOT INCLUDE SALVAGED/UNUSABLE PAVEMENT MATERIAL
3) AVAILABLE STRUCTURE EXCAVATION IS FOR INFORMATION ONLY AND IS INCLUDED IN BID ITEM "EXCAVATION FOR STRUCTURES B-13-884"
4) MASS ORDINATE: MASS ORDINATE = (CUT+AVAILABLE STRUCTURE EXCAVATION) - (FILL * FILL FACTOR)



9

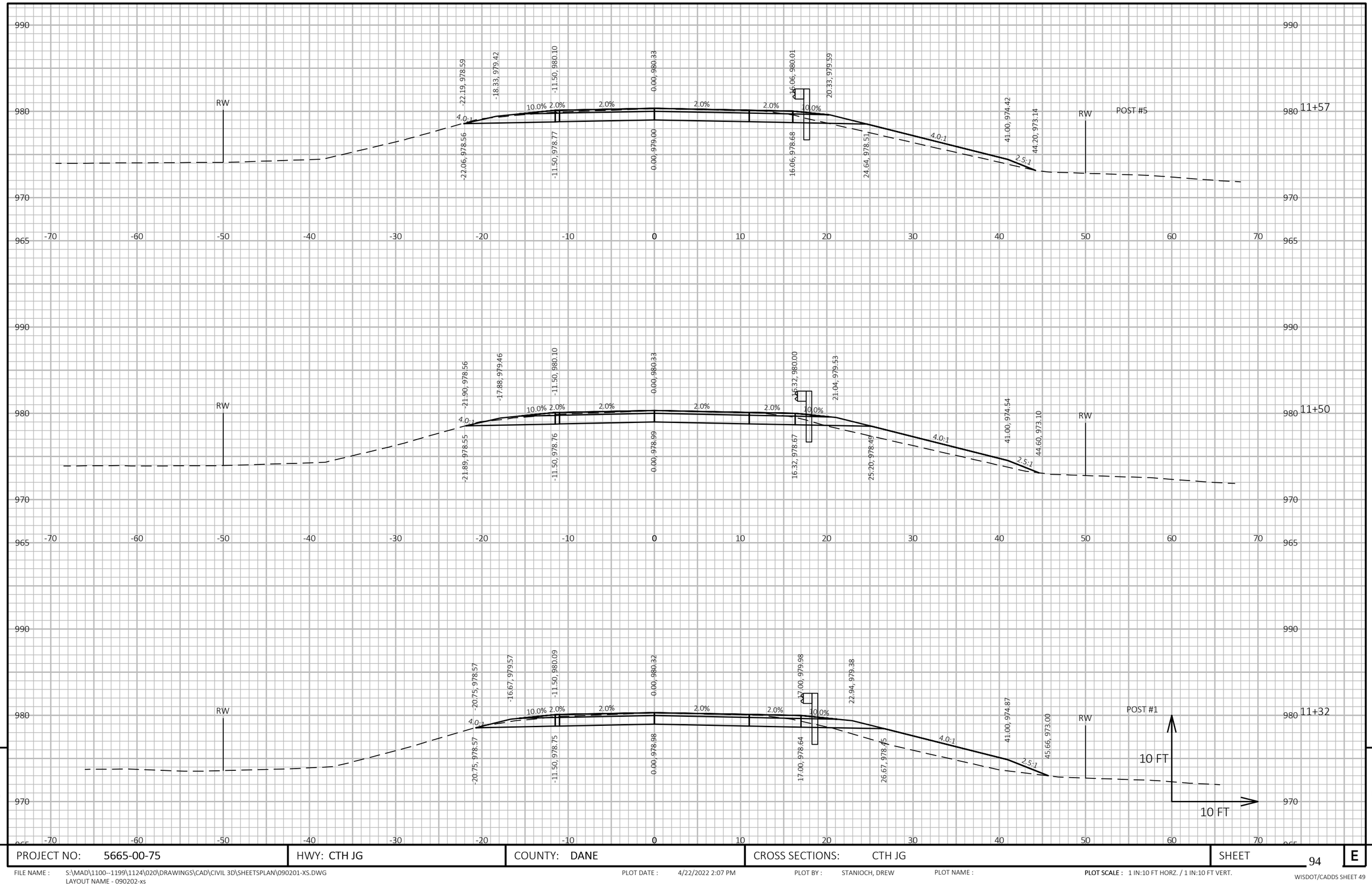
9

PROJECT NO: 5665-00-75	HWY: CTH JG	COUNTY: DANE	CROSS SECTIONS: CTH JG	SHEET 93	E

FILE NAME : S:\MAD\1100--1199\1124\020\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 090201-xs

PLOT DATE : 4/22/2022 2:07 PM PLOT BY : STANIOCH, DREW PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

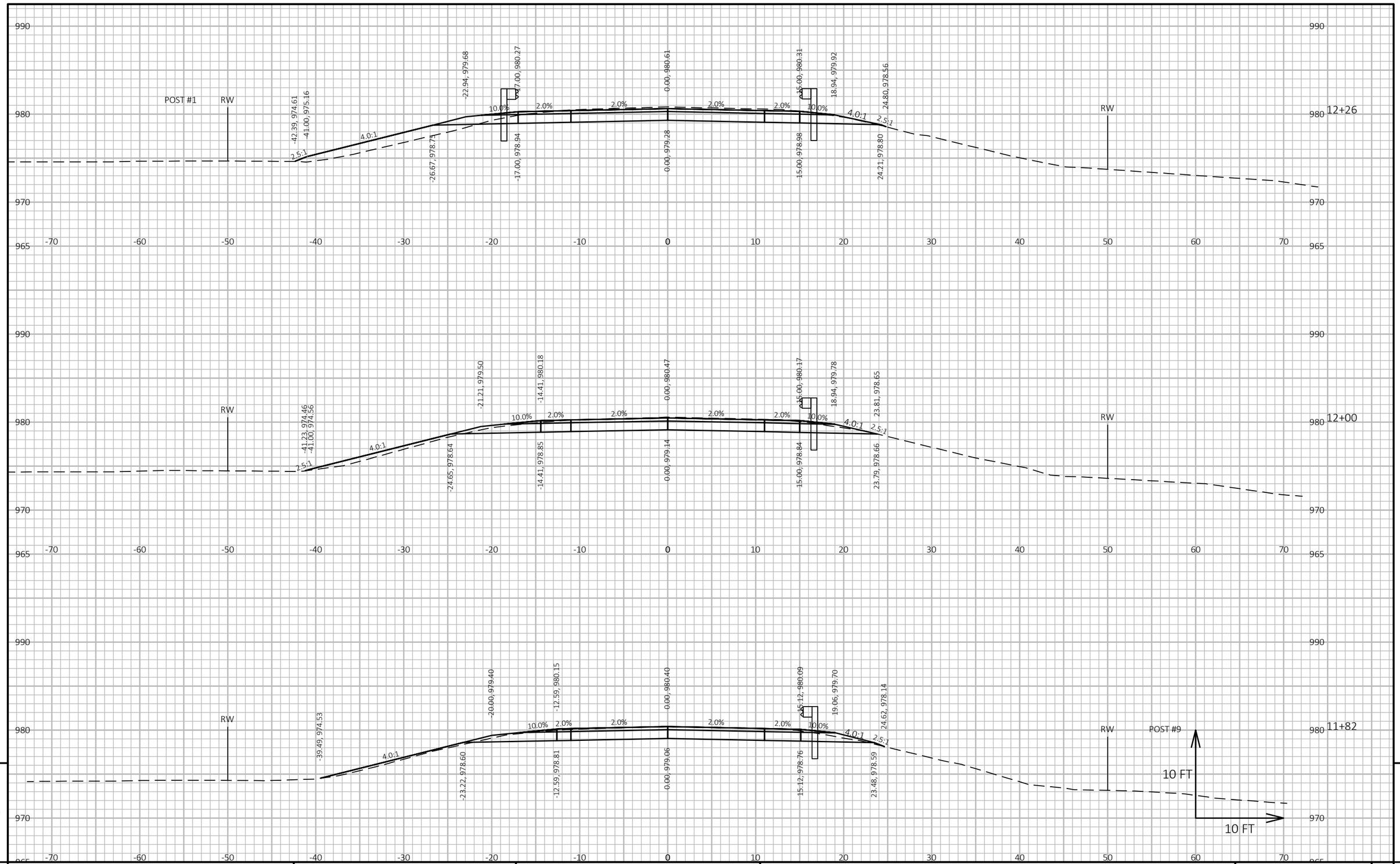


PROJECT NO: 5665-00-75	HWY: CTH JG	COUNTY: DANE	CROSS SECTIONS: CTH JG	SHEET 94	E

FILE NAME : S:\MAD\1100--1199\1124\020\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 090202-xs

PLOT DATE : 4/22/2022 2:07 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: 5665-00-75	HWY: CTH JG	COUNTY: DANE	CROSS SECTIONS: CTH JG	SHEET 95 E

FILE NAME : S:\MAD\1100--1199\1124\020\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 090203-xs

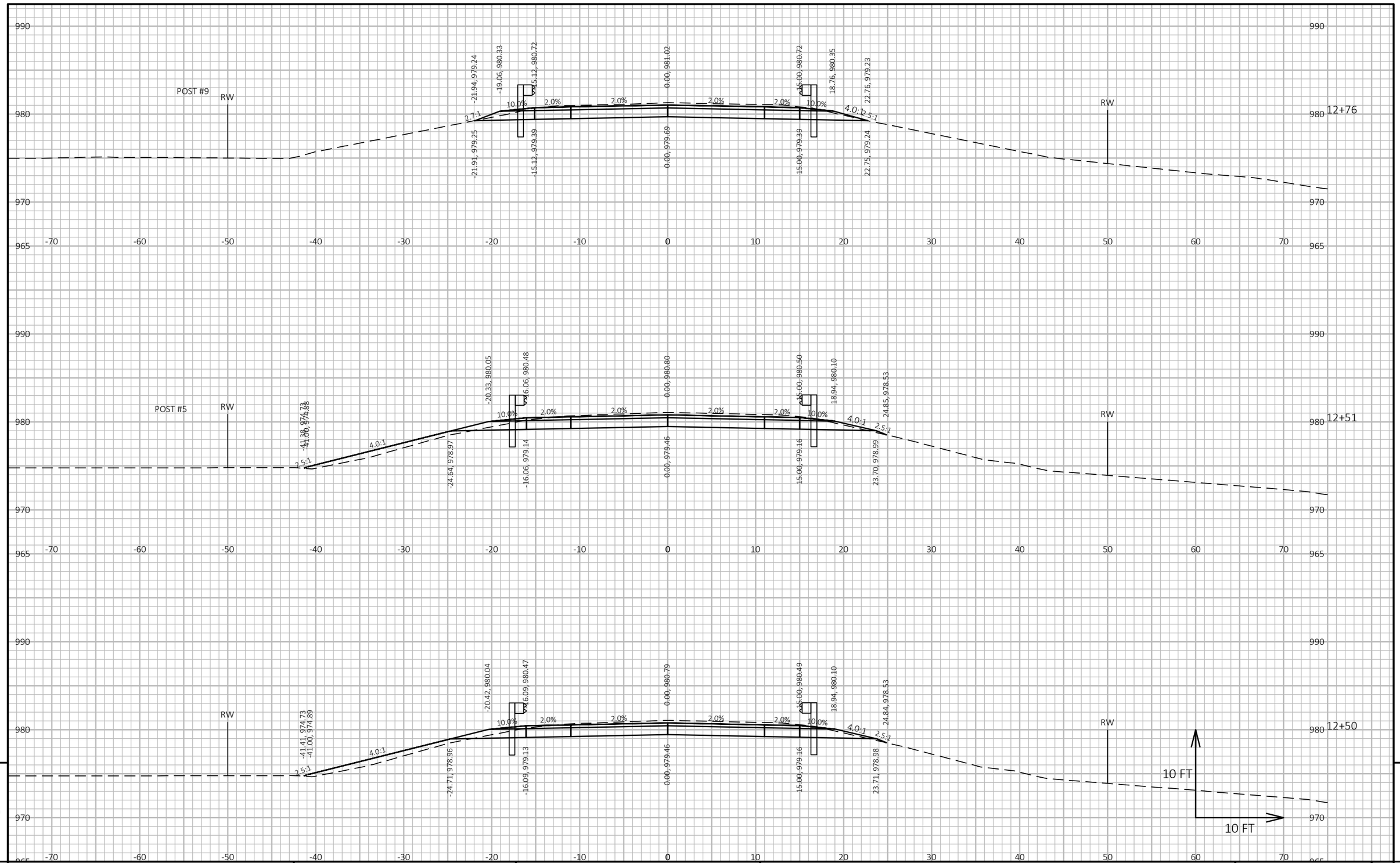
PLOT DATE : 4/22/2022 2:07 PM

PLOT BY : STANIOCH, DREW

PLOT NAME :

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

WISDOT/CADDS SHEET 49



9

9

PROJECT NO: 5665-00-75	HWY: CTH JG	COUNTY: DANE	CROSS SECTIONS: CTH JG	SHEET 96	E

FILE NAME : S:\MAD\1100--1199\1124\020\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 090204-xs

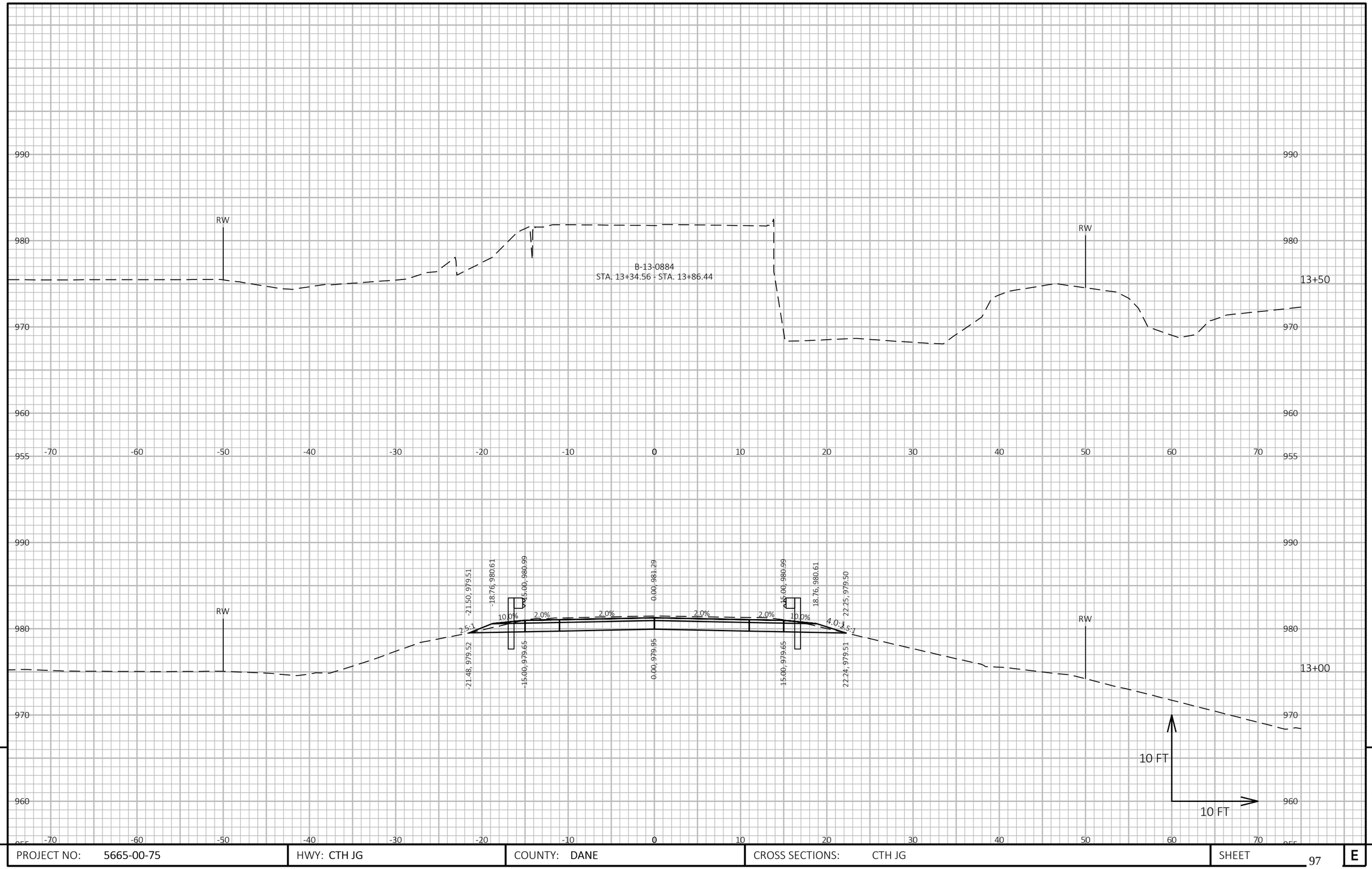
PLOT DATE : 4/22/2022 2:07 PM

PLOT BY : STANIOCH, DREW

PLOT NAME :

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

WISDOT/CADDS SHEET 49

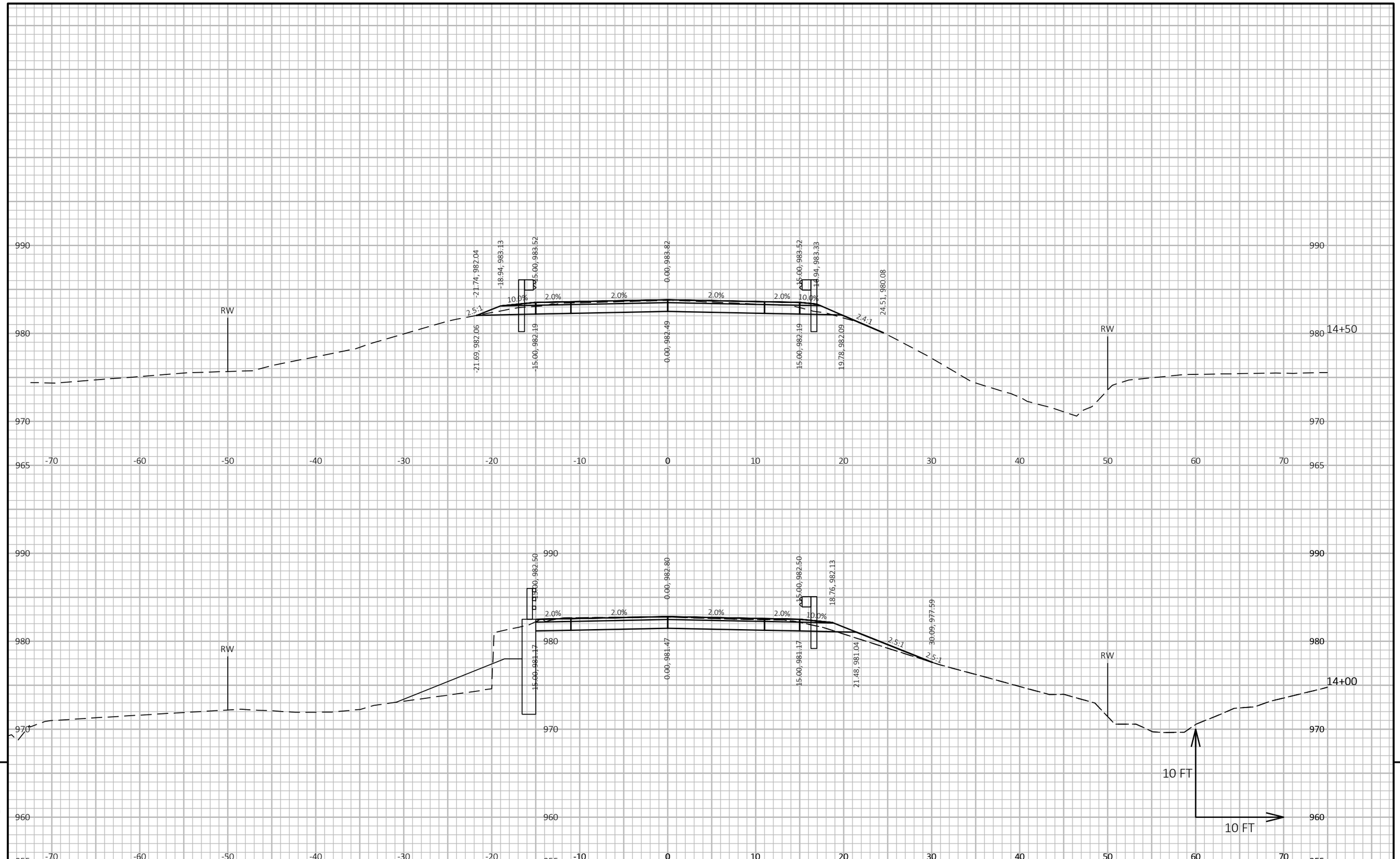


PROJECT NO: 5665-00-75	HWY: CTH JG	COUNTY: DANE	CROSS SECTIONS: CTH JG	SHEET 97	E

FILE NAME : S:\MAD\1100--1199\1124\020\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 090205-xs

PLOT DATE : 4/22/2022 2:07 PM PLOT BY : STANIOCH, DREW PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

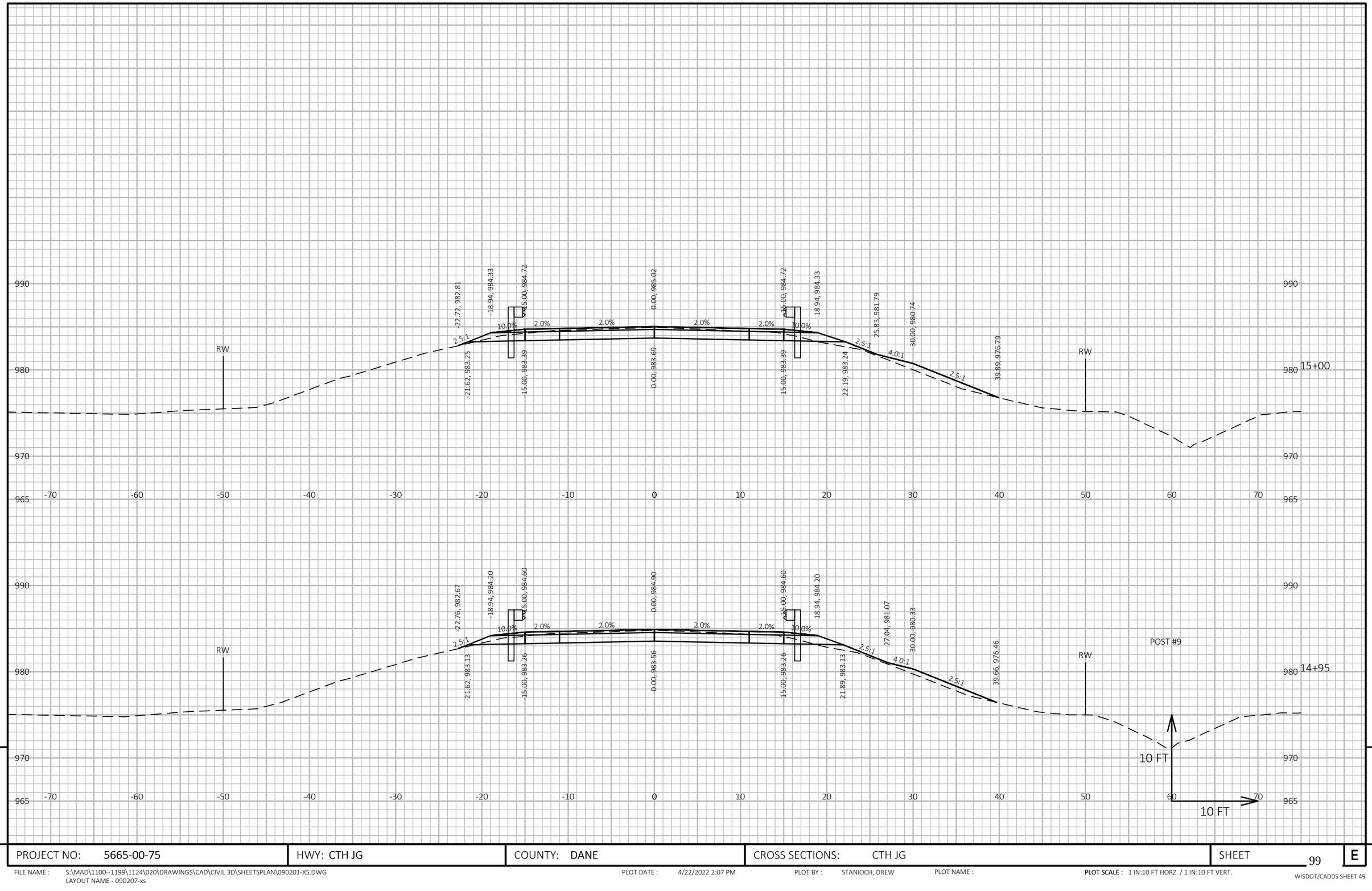


PROJECT NO: 5665-00-75	HWY: CTH JG	COUNTY: DANE	CROSS SECTIONS: CTH JG	SHEET 98 E

FILE NAME : S:\MAD\1100--1199\1124\020\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 090206-xs

PLOT DATE : 4/22/2022 2:07 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: 5665-00-75	HWY: CTH JG	COUNTY: DANE	CROSS SECTIONS: CTH JG	SHEET 99	E

FILE NAME : S:\MAD\1100--1199\1124\020\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 090207-xs

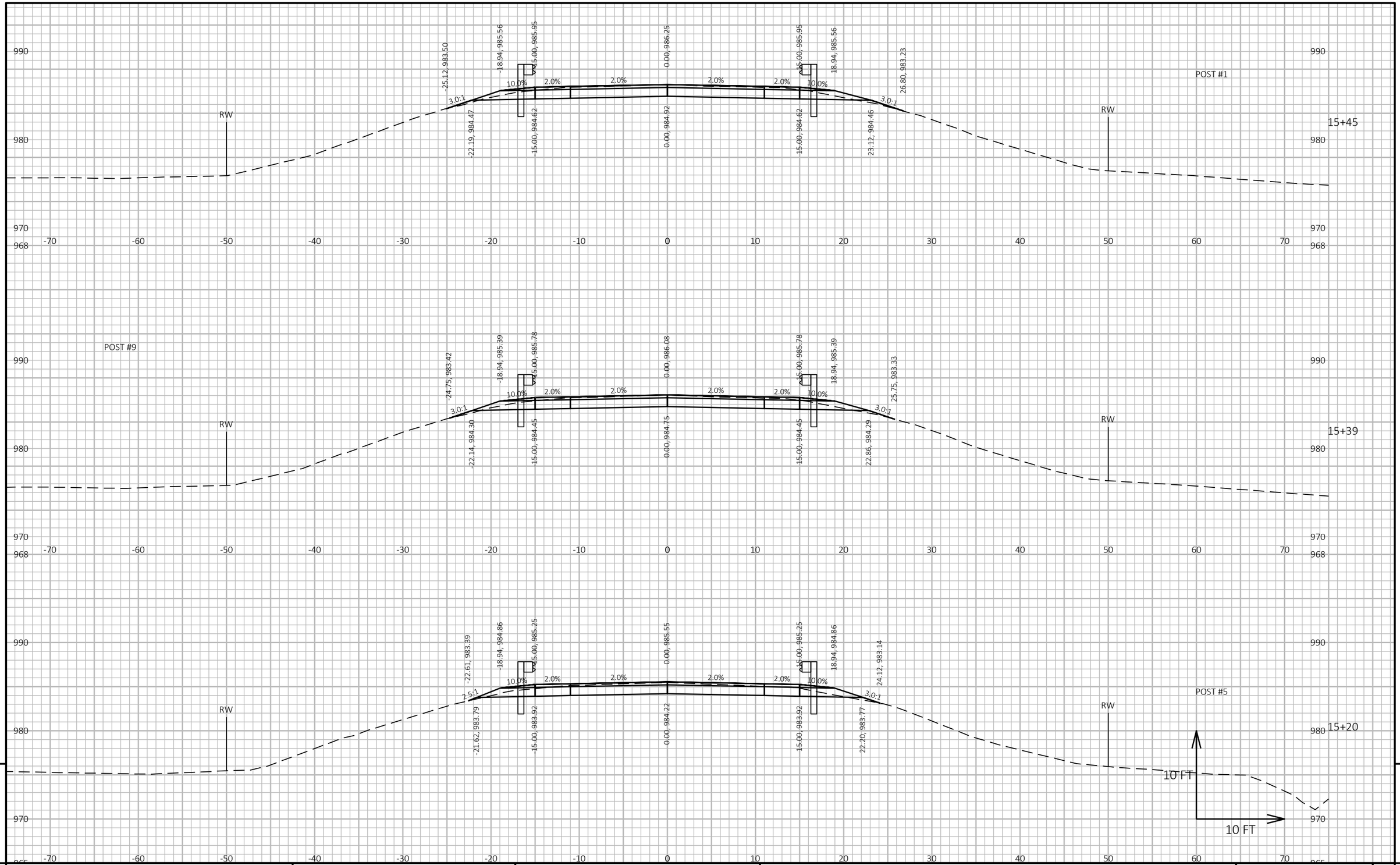
PLOT DATE : 4/22/2022 2:07 PM

PLOT BY : STANIOCH, DREW

PLOT NAME :

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

WISDOT/CADDS SHEET 49



9

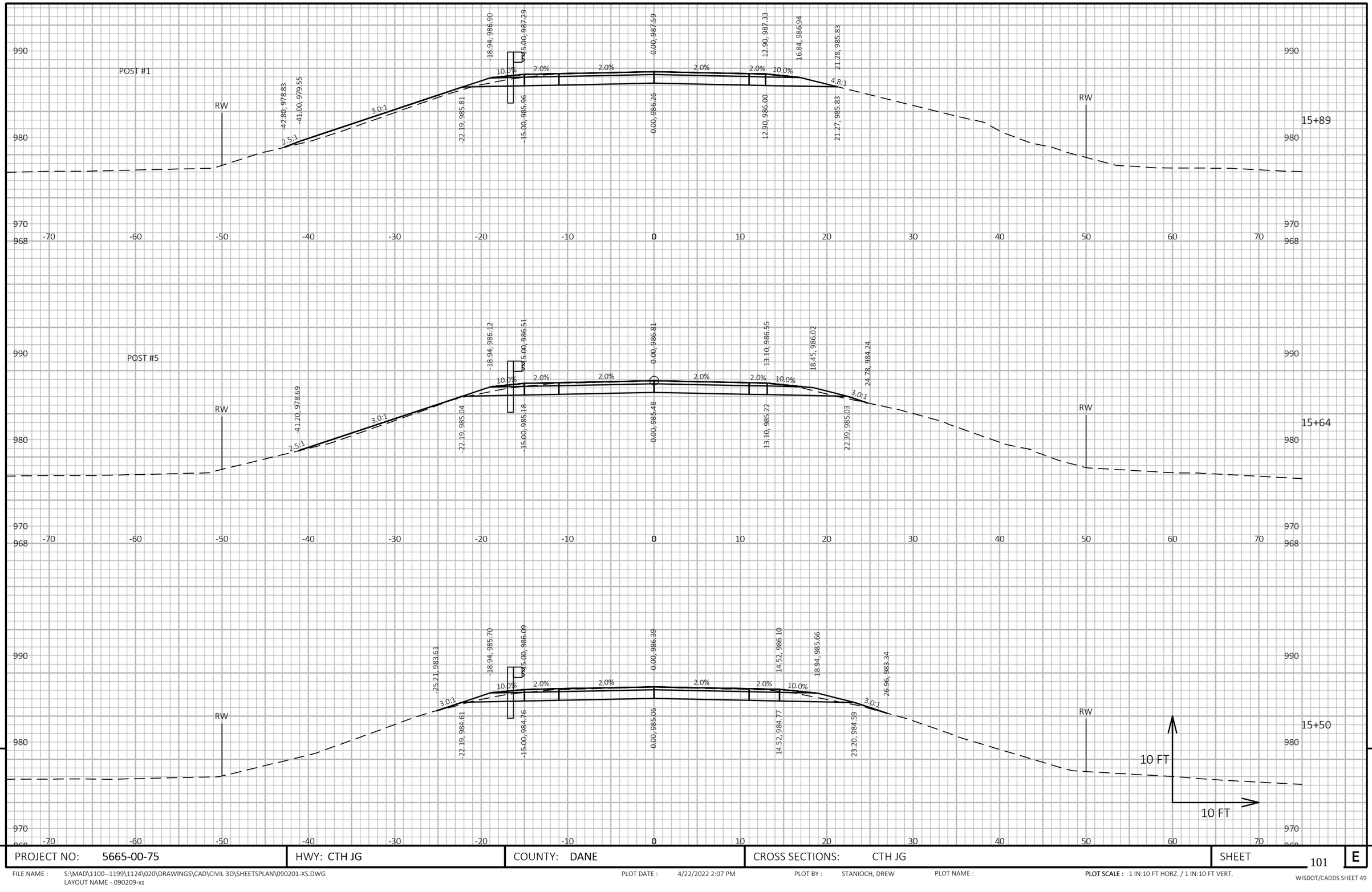
9

PROJECT NO: 5665-00-75	HWY: CTH JG	COUNTY: DANE	CROSS SECTIONS: CTH JG	SHEET 100	E

FILE NAME : S:\MAD\1100--1199\1124\020\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 090208-xs

PLOT DATE : 4/22/2022 2:07 PM PLOT BY : STANIOCH, DREW PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



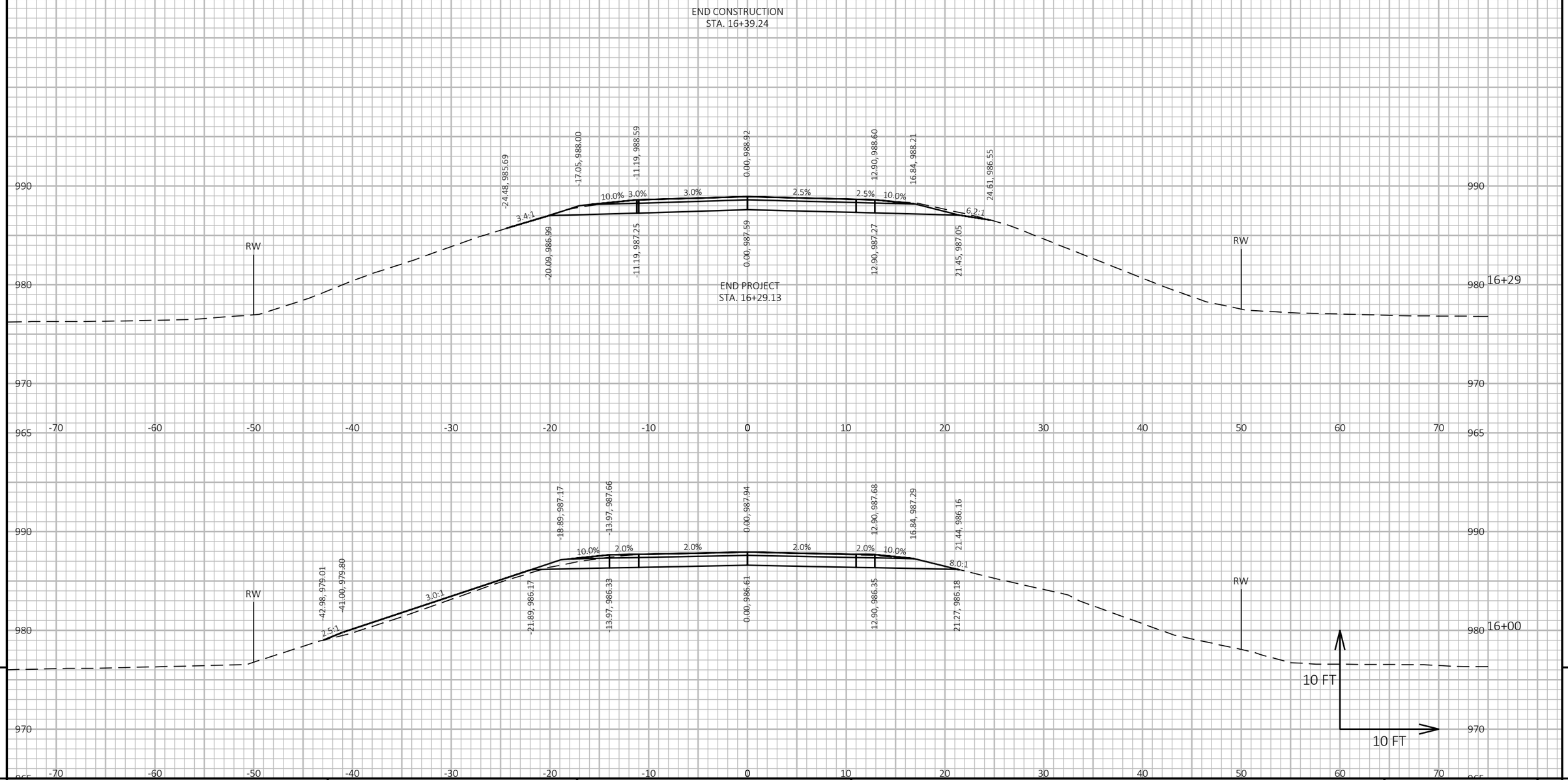
PROJECT NO: 5665-00-75	HWY: CTH JG	COUNTY: DANE	CROSS SECTIONS: CTH JG	SHEET 101 E

FILE NAME : S:\MAD\1100--1199\1124\020\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 090209-xs

PLOT DATE : 4/22/2022 2:07 PM PLOT BY : STANIOCH, DREW PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

END CONSTRUCTION
STA. 16+39.24



PROJECT NO: 5665-00-75	HWY: CTH JG	COUNTY: DANE	CROSS SECTIONS: CTH JG	SHEET 102 E

FILE NAME : S:\MAD\1100--1199\1124\020\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 090210-xs

PLOT DATE : 4/22/2022 2:07 PM PLOT BY : STANIOCH, DREW PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

Notes

Wisconsin Department of Transportation

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