GRE

PROJECT ID: 1130-66-82

WITH: N/A

COUNTY: OUTAGAMIE

OCTOBER 2025

ORDER OF SHEETS

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

TOTAL SHEETS = 294



08

N

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

APPLETON - DE PERE

BUCHANAN ST OVERPASS

IH 41

OUTAGAMIE COUNTY

STATE PROJECT NUMBER
1130-66-82

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
1130-66-82	WISC 2026008	1

DESIGN DESIGNATION

			BUCHANAN ST
A.A.D.T.	(2026)	=	1,400
A.A.D.T.	(2046)	=	1,700
D.H.V.		=	155
D.D.		=	60/40
T.		=	6.7%
DESIGN SPEED		=	40 MPH
ESALS		=	200,000

CONVENTIONAL SYMBOLS

PLAN

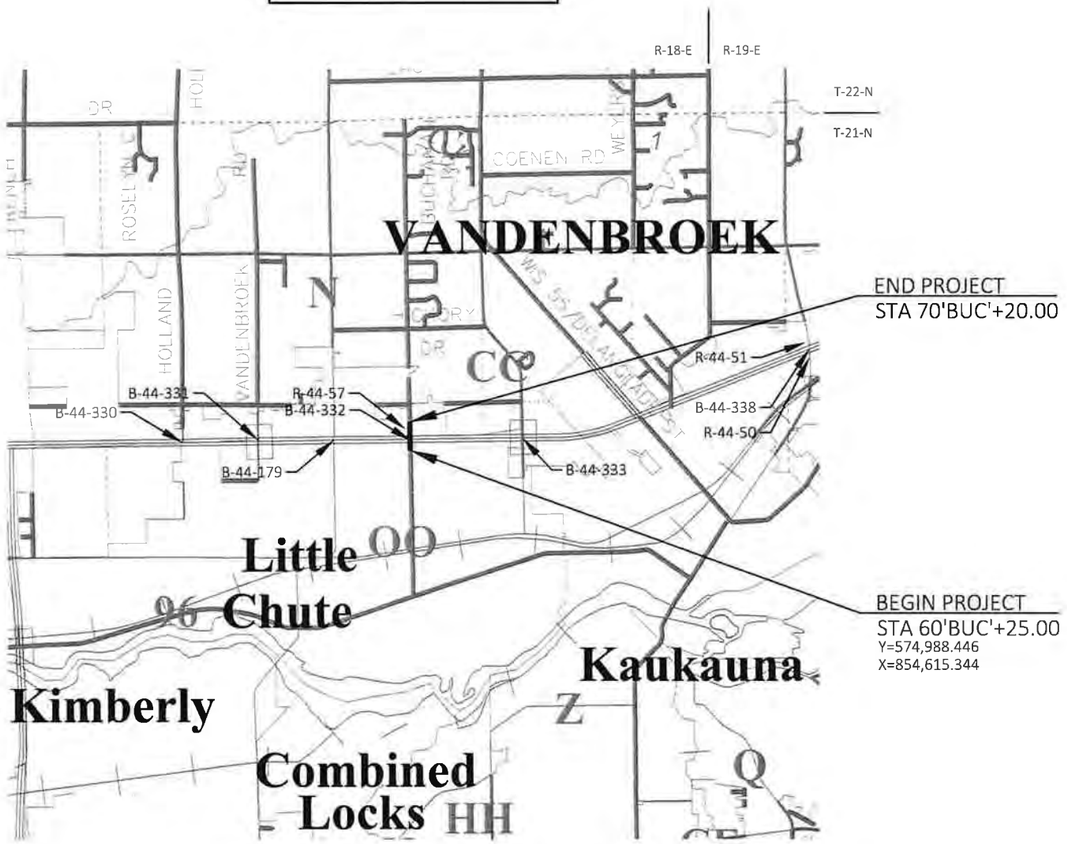
- CORPORATE LIMITS
- PROPERTY LINE
- LOT LINE
- LIMITED HIGHWAY EASEMENT
- EXISTING RIGHT OF WAY
- PROPOSED OR NEW R/W LINE
- SLOPE INTERCEPT
- REFERENCE LINE (300'E&B')
- EXISTING CULVERT
- PROPOSED CULVERT (Box or Pipe)
- COMBUSTIBLE FLUIDS (CAUTION)
- MARSH AREA
- WOODED OR SHRUB AREA

PROFILE

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

UTILITIES

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



LAYOUT

SCALE 0 1.0 MI

TOTAL NET LENGTH OF CENTERLINE = 0.188 MI

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COORDINATE REFERENCE SYSTEM (WISCRS), OUTAGAMIE COUNTY, NAD83 (2011), IN U.S. SURVEY FEET. POSITIONS SHOWN ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES ARE THE SAME AS GROUND DISTANCES.

ELEVATIONS ARE REFERENCED TO NAVD 88 (2012). GPS DERIVED ELEVATIONS ARE BASED ON GEOID 12A

ORIGINAL PLANS PREPARED BY:

JT ENGINEERING

WISCONSIN
ANDREW W. BLOCK
E-41224-6
APPLETON
WI.
PROFESSIONAL ENGINEER

DATE 1/31/2025 (Professional Engineer Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	NE REGION
Designer	JT ENGINEERING, INC.
Project Manager	SCOTT EBEL, P.E.
Regional Examiner	NE REGION
Regional Supervisor	ERIC GWIDT, P.E.

APPROVED FOR THE DEPARTMENT

DATE: 1/31/25 (Signature)

E

FILE NAME : X:\PROJECTS\OUTAGAMIE\220044 11306301 IH 41\DESIGN\C3D\SHEETSPLAN\010101-TI-BUC.DWG PLOT DATE : 1/31/2025 11:59 AM PLOT BY : ANDY BLOCK PLOT NAME :

UTILITY CONTACTS

AT&T WISCONSIN - COMMUNICATION LINE
KYLE WEBER
221 WEST WASHINGTON STREET
APPLETON, WI 54911
PHONE: (920) 221-5969
KW715W@att.com

KAUKAUNA UTILITIES - ELECTRICITY
RICH SORENSON
777 ISLAND STREET
KAUKAUNA, WI 54130
PHONE: (920) 419-2422
rsorenson@ku-wi.org

LITTLE CHUTE MUNICIPAL WATER DEPT - WATER
KENT TAYLOR
108 WEST MAIN STREET
LITTLE CHUTE, WI 54140
PHONE: (920) 423-3865
kent@littlechutewi.org

LEVEL 3 COMMUNICATIONS LLC - COMMUNICATION LINE
RYAN BIRDSALL
710 EAST MIFFLIN STREET
MADISON, WI 53703
PHONE: (608) 658-2899
ryan.birdsall@lumen.com

SPECTRUM - COMMUNICATION LINE
JODY THIEL
3520 EAST DESTINATION DRIVE
APPLETON, WI 54914
PHONE: (920) 831-9258
jody.thiel@charter.com

TDS METROCOM LLC - COMMUNICATION LINE
STEVE BISHOP
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MADISON, WI 53717
PHONE: (608) 477-2621
steve.bishop@tdstelcom.com

LITTLE CHUTE MUNICIPAL WATER DEPT - SEWER
KENT TAYLOR
108 WEST MAIN STREET
LITTLE CHUTE, WI 54140
PHONE: (920) 423-3865
kent@littlechutewi.org

WE ENERGIES - GAS/PETROLEUM
CODY BECKMAN
800 SOUTH LYNNDALE DR
APPLETON, WI 54914
PHONE: (920) 380-3422
cody.beckman@we-energies.com

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 = 4.89 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 2.41 ACRES

STATE AGENCIES

WISCONSIN DEPARTMENT OF NATURAL RESOURCES
JAMES DOPERALSKI
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GREEN BAY, WI 54313
PHONE: (920) 412-0165
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MATTHEW SCHAEVE
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WISCONSIN DEPARTMENT OF TRANSPORTATION - COMMUNICATION LINE
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STE. 300
433 WEST ST. PAUL AVENUE
MILWAUKEE, WI 53203-3007
PHONE: (414) 225-3723
Jeffrey.Madson@dot.wi.gov

WISCONSIN DEPARTMENT OF AGRICULTURE, TRADE & CONSUMER PROTECTION
ZACH ZOPP
2811 AGRICULTURE DRIVE,
P.O. BOX 8911
MADISON, WI 53708-8911
PHONE: (608) 224-4650
Zach.zopp@wisconsin.gov

DESIGN CONSULTANT
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JT ENGINEERING, INC.
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HOBART, WI 54155
PHONE: (920) 468-4771
AndyB@jt-engineering.com

OTHER AGENCIES

U.S. ARMY CORPS OF ENGINEERS
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180 5TH ST. EAST, STE. 700
ST. PAUL, MN 55101-1678
PHONE: (651) 290-5378
Jessica.l.kempke@usace.army.mil

U.S. FISH AND WILDLIFE SERVICE
DARIN SIMPKINS
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NEW FRANKEN, WI 54229
PHONE: (920) 866-1739
Darin_simpkins@fws.gov

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KENNETH WESTLAKE
77 W JACKSON BLVD
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PHONE: (312) 886-2910
Westlake.kenneth@epa.gov

OUTAGAMIE COUNTY
JOE ZELLMER
1313 HOLLAND ROAD
APPLETON, WI 54911
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joseph.zellmer@outagamie.org

BROWN COUNTY
CHRIS HARDY
2198 GLENDALE AVE.
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Chris.hardy@browncountywi.gov

LITTLE CHUTE MUNICIPAL WATER DEPT - COMMUNICATION LINE
KENT TAYLOR
108 WEST MAIN STREET
LITTLE CHUTE, WI 54140
PHONE: (920) 423-3865
kent@littlechutewi.org

TO OBTAIN LOCATION OF PARTICIPANTS' UNDERGROUND FACILITIES
BEFORE YOU DIG IN WISCONSIN

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

GENERAL NOTES

ANY REINFORCEMENT LOCATED IN EXISTING CONCRETE PAVEMENT SHALL BE CONSIDERED INCIDENTAL TO THE REMOVING PAVEMENT ITEM, AND NO ADDITIONAL COMPENSATION WILL BE GRANTED.

WHEN THE QUANTITY OF HMA PAVEMENT OR BASE AGGREGATE IS MEASURED FOR PAYMENT BY THE TON, THE DEPTH OR THICKNESS OF THE LAYER SHOWN ON THE PLAN IS APPROXIMATE AND THE ACTUAL THICKNESS WILL DEPEND ON THE DISTRIBUTION OF THE MATERIAL AS DIRECTED BY THE ENGINEER.

THE QUANTITY OF TOPSOIL IS COMPUTED FROM MEASUREMENTS BETWEEN THE SUBGRADE SHOULDER POINTS AND THE SLOPE INTERCEPTS AS SHOWN ON THE CROSS SECTIONS PLUS 5 FEET FOR ROUNDING.

A SAWED JOINT IS REQUIRED WHERE NEW HMA PAVEMENT MEETS EXISTING HMA PAVEMENT.

FERTILIZER SHALL NOT BE USED WITHIN 20' OF NAVIGABLE WATERWAYS OR WETLANDS.

VERIFY EXISTING PAVEMENT ELEVATIONS AT ALL TIE-INS TO EXISTING PAVEMENT PRIOR TO CONSTRUCTION. NOTIFY THE ENGINEER IF A DISCREPANCY IS FOUND BETWEEN PROPOSED PLAN ELEVATIONS AND EXISTING PAVEMENT ELEVATIONS.

THE EXACT LOCATION OF EXCAVATION BELOW SUBGRADE (EBS) WILL BE DETERMINED BY THE ENGINEER.

ALL PRIVATE EXISTING UTILITIES ARE TO BE ADJUSTED BY THE UTILITIES CONCERNED.

DISTURBED AREAS WITHIN THE RIGHT-OF-WAY, EXCEPT THE AREAS WITHIN THE FINISHED SHOULDER POINTS, SHALL BE TOPSOILED, FERTILIZED, SEEDED AND COVERED WITH EROSION MAT.

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.

TRAFFIC CONTROL DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.

SIGNS IN CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE COVERED AS DIRECTED BY THE ENGINEER AND PAID FOR UNDER THE ITEM TRAFFIC CONTROL COVERING SIGNS.

PROVIDE TEMPORARY POSITIVE DRAINAGE ON THE NEWLY INSTALLED STORM SEWER SYSTEM UNTIL IT IS ABLE TO EFFECTIVELY DRAIN TO ITS INTENDED OR PLANNED OUTFALL.

PLACE TOPSOIL TO A MINIMUM DEPTH OF 4-INCHES.

THE IH 41 ALIGNMENTS (NORTHBOUND AND SOUTHBOUND) SHOWN IN THE PLAN REPRESENT THE FUTURE PROPOSED IH 41 CONFIGURATION, UNLESS CALLED OUT AS THE EXISTING ALIGNMENT OR REFERENCE LINE.

ORDER OF SECTION 2 DETAIL SHEETS

GENERAL NOTES
PROJECT OVERVIEW
EXISTING TYPICAL SECTIONS
FINISHED TYPICAL SECTIONS
CONSTRUCTION DETAILS
CONSTRUCTION DETAILS - PHRAGMITES
CONSTRUCTION DETAILS - WETLANDS
PLAN DETAIL
GUARDRAIL PLAN
EROSION CONTROL - TEMPORARY
EROSION CONTROL - PERMANENT
STORM SEWER
LIGHTING PLAN
PAVEMENT MARKING & PERMANENT SIGNING PLAN
TRAFFIC CONTROL
DETOUR PLAN
ALIGNMENT DETAILS

STANDARD ABBREVIATIONS

AEW	APRON END WALL
AGG	AGGREGATE
AH	AHEAD
ASPH	ASPHALTIC
BK	BACK
BAD	BASE AGGREGATE DENSE
BM	BENCH MARK
C&G	CURB AND GUTTER
C/L OR ℄	CENTER LINE
CONC	CONCRETE
CP	CULVERT PIPE
CPCM	CULVERT PIPE CORRUGATED METAL
CPRC	CULVERT PIPE REINFORCED CONCRETE
CPRCHE	CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL
CSD	CONCRETE SURFACE DRAIN
CY	CUBIC YARD
D	DEGREE OF CURVE
DISCH	DISCHARGE
Δ	DELTA
é	INTERSECTION ANGLE
EB	EASTBOUND
ENB	EXISTING NOISE BARRIER
EOP	EDGE OF PAVEMENT
FE	FIELD ENTRANCE
FL	FLOW LINE
FTMS	FREEWAY TRAFFIC MANAGEMENT SYSTEM
FS	FULL SUPERELEVATION
HMA	HOT MIX ASPHALT
IE	INVERT ELEVATION
INV	INVERT
L	LENGTH OF CURVE
LHF	LEFT HAND FORWARD
LP	LOW POINT
LT	LEFT
MAX	MAXIMUM
MIN	MINIMUM
M/L	MATCHLINE
NB	NORTHBOUND
NC	NORMAL CROWN
PAVT	PAVEMENT
PC	POINT OF CURVE
PCC	POINT OF COMPOUND CURVE
PE	PRIVATE ENTRANCE
PGL	PROFILE GRADE LINE
PI	POINT OF INTERSECTION
PLE	PERMANENT LIMITED EASEMENT
PNB	PROPOSED NOISE BARRIER
PRC	POINT OF REVERSE CURVE
PT	POINT OF TANGENT
R	RADIUS OF CURVE
R/L OR ~	REFERENCE LINE
R/W	RIGHT OF WAY
RC	REVERSE CROWN
RCAEW	APRON ENDWALL FOR CULVERT PIPE REINFORCED CONCRETE
REQ'D	REQUIRED
RD	ROAD
RHF	RIGHT HAND FORWARD
RO	RUN OFF LENGTH
RT	RIGHT
SALV	SALVAGED
SB	SOUTHBOUND
SDD	STANDARD DETAIL DRAWING
SE	SUPERELEVATION
SF	SQUARE FOOT
SSPRC	STORM SEWER PIPE REINFORCED CONCRETE
STA	STATION
SY	SQUARE YARD
T	TANGENT LENGTH
TLE	TEMPORARY LIMITED EASEMENT
TYP	TYPICAL
VCL	VERTICAL CURVE LENGTH
VPC	POINT OF VERTICAL CURVE
VPI	POINT OF VERTICAL INTERSECTION
VPT	POINT OF VERTICAL TANGENT
WB	WESTBOUND

2

N

HOLLAND RD

VANDENBROEK RD

CTH N / FREEDOM RD

BUCHANAN ST

CTH CC / ROSEHILL RD

TOWN OF VANDENBROEK

STH 55 / DELANGLADE ST

CTH JJ/HYLAND AVE

END PROJECT 1130-66-82
STA 70'BUC'+20.00

EVERGREEN DR

R-44-57

BM 164

B-44-0332

950'NB' 960'NB' 970'NB' 980'NB' 990'NB' 1000'NB' 1010'NB' 1020'NB' 1030'NB' 1040'NB' 70'BUC' 1050'NB' 1060'NB' 1070'NB' 1080'NB' 1090'NB' 1100'NB' 1110'NB' 1120'NB' 1130'NB' 1140'NB' 1150'NB' 1160'NB' 1170'NB' 1180'NB' 1190'NB' 1200'NB'

R-44-51

B-44-0338

R-44-50

B-44-0330

B-44-0331

B-44-0179

PATRIOT DR

MOASIS DR

BM 162

BM 163

IH 41

BM 165

B-44-0333

60'BUC'

BEGIN PROJECT 1130-66-82
STA 60'BUC'+25.00
Y=574,988.446
X=854,615.344

VILLAGE OF LITTLE CHUTE

CITY OF KAUKAUNA

STH 441

CTH OO/NORTHLAND AVE

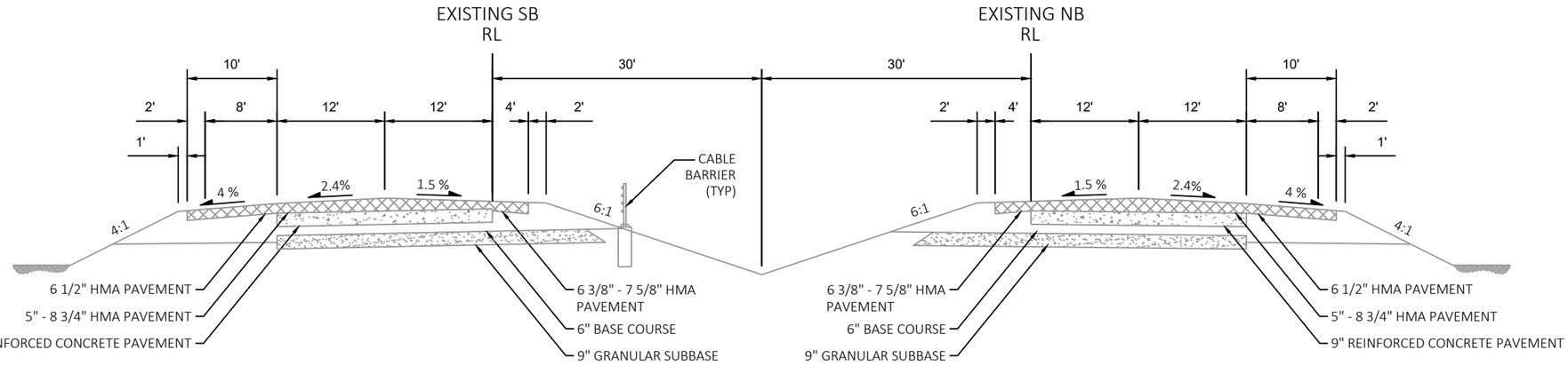
BENCH MARKS

NO.	STATION	ELEV.	DESCRIPTION
162	63+53, 28' LT	721.35	CHISELED SQUARE IN CONCRETE BARRIER WALL
163	63+19, 14' RT	741.76	DISK ON SE WING WALL OF STRUCTURE B-44-38
164	65+22, 14' RT	741.69	NE BOLT ON NE WING WALL OF STRUCTURE B-44-38
165	63+29, 1586' RT	715.46	NW BOLT ON TYPE I SIGN BASE

PROJECT NO: 1130-66-82	HWY: IH 41	COUNTY: OUTAGAMIE	PROJECT OVERVIEW	SHEET 4	E

FILE NAME : C:\USERS\ANDYBLOCK\DC\ACCDOCS\WISDOT\11306301\PROJECT FILES\DSGN\11306670\SHEETS\020219-PO.DWG
LAYOUT NAME - 020201-po
PLOT DATE : 11/6/2024 12:51 PM PLOT BY : ANDY BLOCK PLOT NAME : PLOT SCALE : ############
WISDOT/CADDS SHEET 42

2



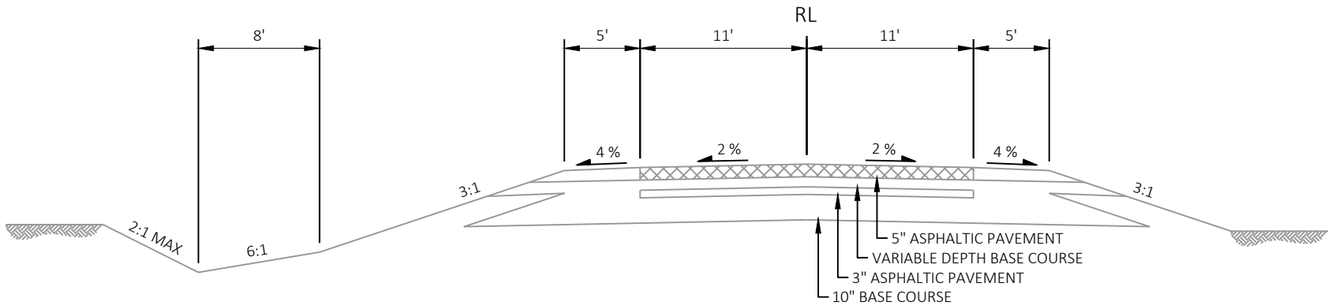
EXISTING TYPICAL SECTION
IH 41 SB
STA. 958+00 SB - STA. 1211+00 SB

EXISTING TYPICAL SECTION
IH 41 NB
STA. 958+00 NB - STA. 1211+00 NB

PROJECT NO: 1130-66-82	HWY: IH 41	COUNTY: OUTAGAMIE	EXISTING TYPICAL SECTIONS - IH 41	SHEET 5	E

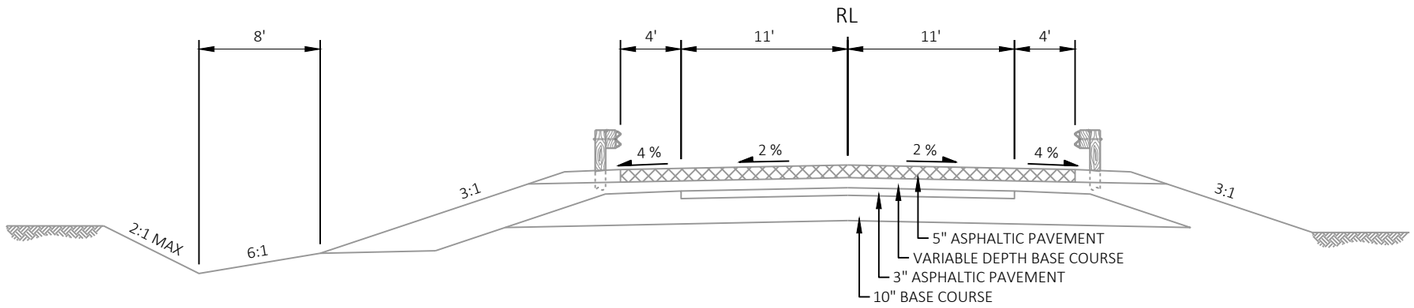
FILE NAME : X:\PROJECTS\OUTAGAMIE\220044 11306301 IH 41\DESIGN\C3D\SHEETSPLAN\020319-TS-BUC.DWG
LAYOUT NAME - IH 41 Existing
PLOT DATE : 11/7/2024 10:34 AM PLOT BY : DINA ASSAD PLOT NAME : PLOT SCALE : 1 IN:10 FT

2



EXISTING TYPICAL SECTION

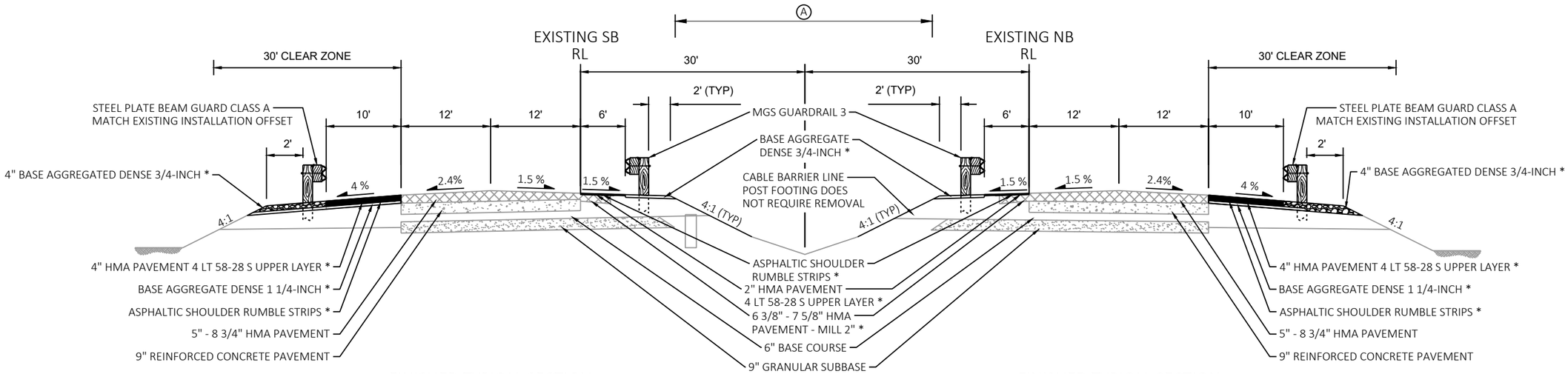
BUCHANAN STREET
STA 60'BUC'+25 - STA 61'BUC'+94, RT AND STA 62'BUC'+44, LT
STA 65'BUC'+93, RT AND 70'BUC'+05, LT - STA 70'BUC'+20



EXISTING TYPICAL SECTION

BUCHANAN STREET
STA 61'BUC'+94 - STA 65'BUC'+93, RT
STA 62'BUC'+44 - STA 70'BUC'+05, LT

2



FINISHED TYPICAL SECTION
IH 41 SB
STA. 958+00 SB - STA. 1211+00 SB

FINISHED TYPICAL SECTION
IH 41 NB
STA. 958+00 NB - STA. 1211+00 NB

*NOTE:
INSIDE SHOULDER MILLING AND RESURFACING REQ'D:
-STA. 1036'NB'+42 - STA. 1046'NB'+42
-STA. 1039'SB'+20 - STA. 1049'SB'+19
-WIDER PAVEMENT WIDTH REQUIRED ADJACENT TO GUARDRAIL FOR FINAL CONDITION

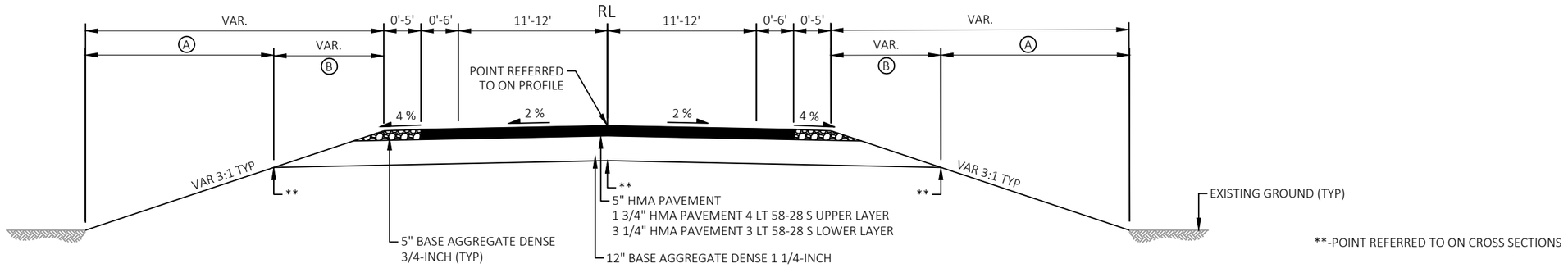
OUTSIDE SHOULDER PAVING REQ'D:
-STA. 1042'NB'+51 - STA. 1043'NB'+06
-STA. 1042'SB'+55 - STA. 1043'SB'+10

**NOTE:
INSIDE SHOULDER REMOVING ASPHALTIC SURFACE MILLING AND HMA PAVEMENT 4 LT 58-28 S TYPICAL WIDTH FOR TEMPORARY BARRIER PLACEMENT ONLY (OUTSIDE OF MGS GUARDRAIL) SHALL BE 4.5' PAVEMENT WIDTH AND 1.5' AGGREGATE SHOULDER.

Ⓐ TOPSOIL, EROSION MAT CLASS I, TYPE A, SEEDING MIXTURE NO. 30 & FERTILIZER TYPE B
STA. 1042+30 TO STA. 1043+33 PLACE A 3" DEPTH OF COMPACTED BASE AGGREGATE DENSE 1 1/4-INCH

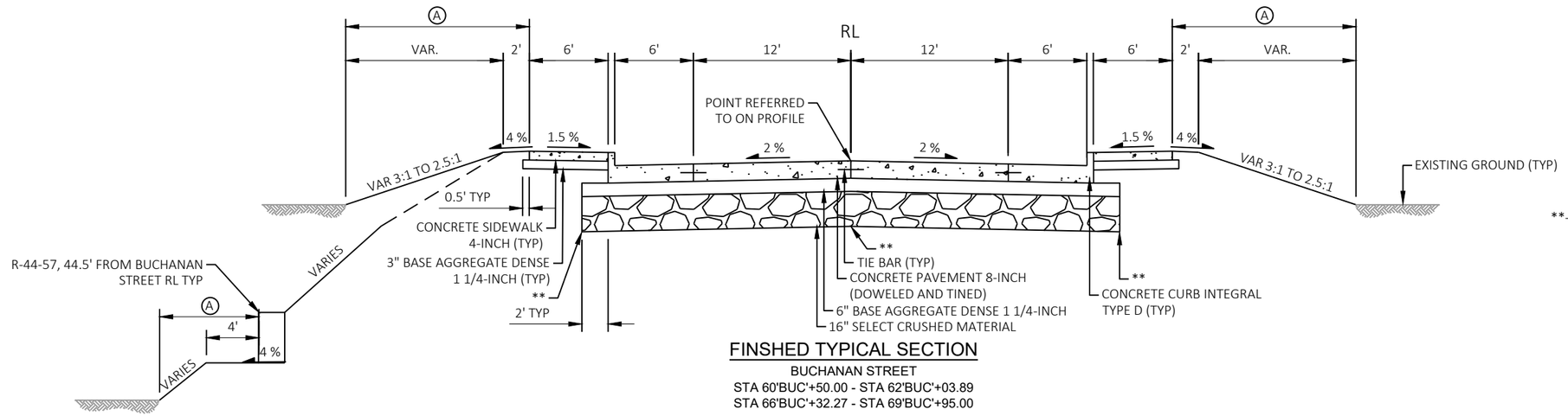
PROJECT NO: 1130-66-82	HWY: IH 41	COUNTY: OUTAGAMIE	FINISHED TYPICAL SECTIONS - IH 41	SHEET 7	E

2



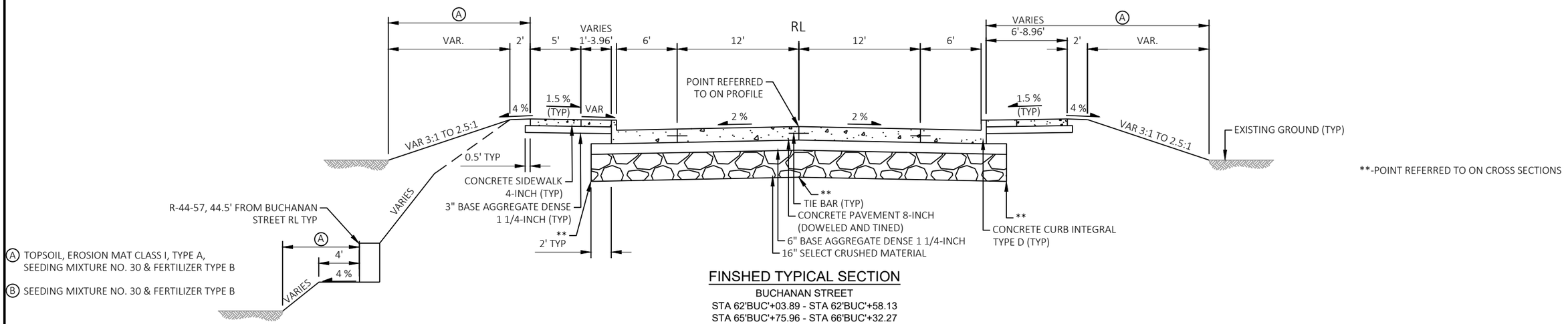
FINISHED TYPICAL SECTION

BUCHANAN STREET
STA 60'BUC'+25.00 - STA 60'BUC'+50.00
STA 69'BUC'+95.00 - STA 70'BUC'+20.00



FINSHED TYPICAL SECTION

BUCHANAN STREET
STA 60'BUC'+50.00 - STA 62'BUC'+03.89
STA 66'BUC'+32.27 - STA 69'BUC'+95.00



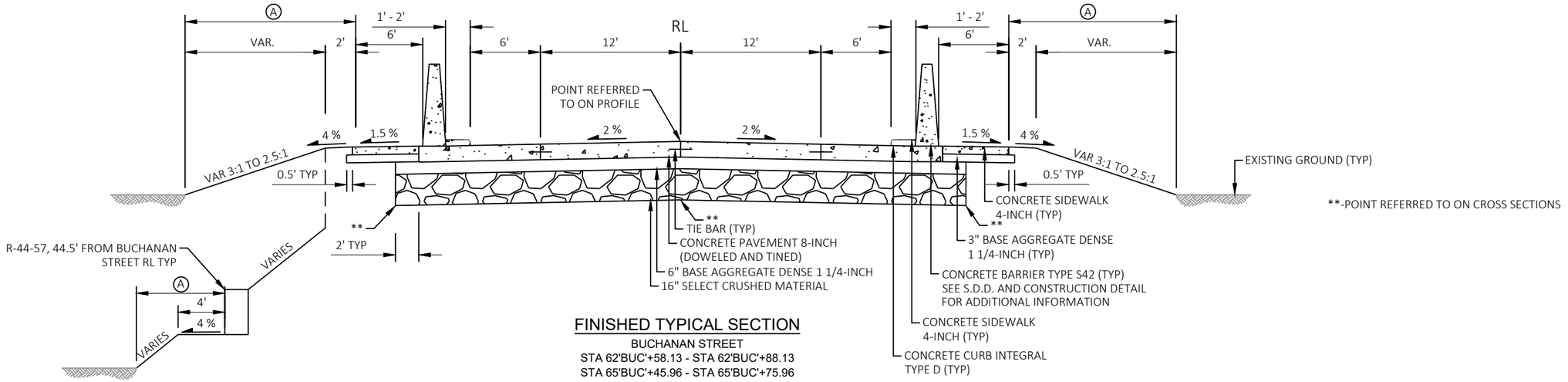
Ⓐ TOPSOIL, EROSION MAT CLASS I, TYPE A, SEEDING MIXTURE NO. 30 & FERTILIZER TYPE B

Ⓑ SEEDING MIXTURE NO. 30 & FERTILIZER TYPE B

FINSHED TYPICAL SECTION

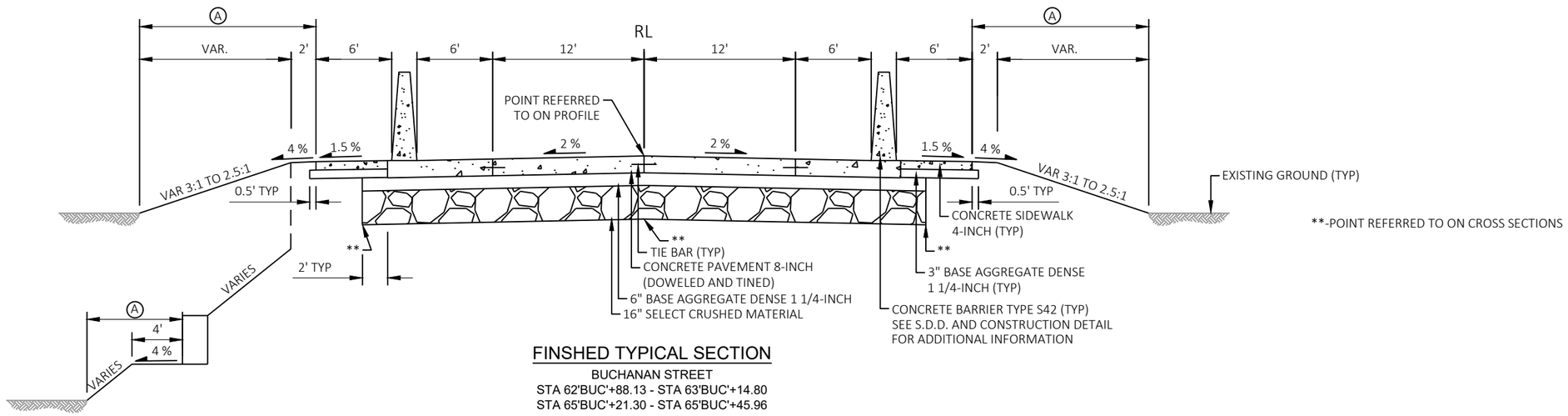
BUCHANAN STREET
STA 62'BUC'+03.89 - STA 62'BUC'+58.13
STA 65'BUC'+75.96 - STA 66'BUC'+32.27

PROJECT NO: 1130-66-82	HWY: IH 41	COUNTY: OUTAGAMIE	FINISHED TYPICAL SECTIONS - BUCHANAN ST	SHEET 8	E



FINISHED TYPICAL SECTION

BUCHANAN STREET
STA 62'BUC'+58.13 - STA 62'BUC'+88.13
STA 65'BUC'+45.96 - STA 65'BUC'+75.96



FINSHED TYPICAL SECTION

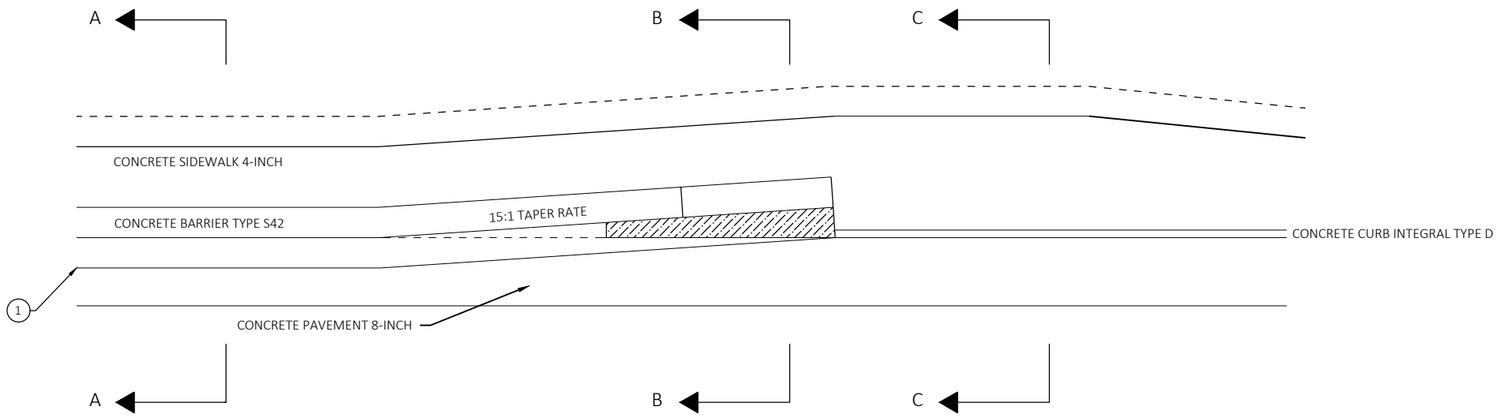
BUCHANAN STREET
STA 62'BUC'+88.13 - STA 63'BUC'+14.80
STA 65'BUC'+21.30 - STA 65'BUC'+45.96

(A) TOPSOIL, EROSION MAT CLASS I, TYPE A, SEEDING MIXTURE NO. 30 & FERTILIZER TYPE B

(B) SEEDING MIXTURE NO. 30 & FERTILIZER TYPE B

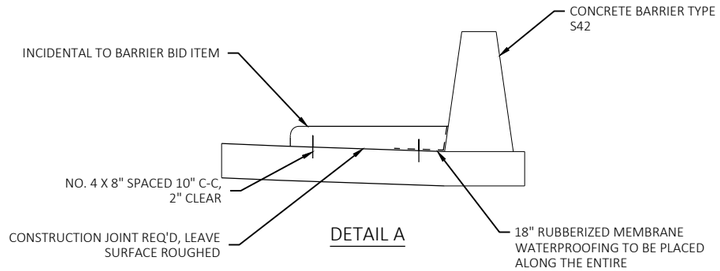
PROJECT NO: 1130-66-82	HWY: IH 41	COUNTY: OUTAGAMIE	FINISHED TYPICAL SECTIONS - BUCHANAN ST	SHEET 9	E

2

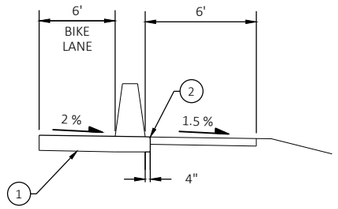


1. IF THE 2' CONCRETE BARRIER PAD FALLS WITHIN THE BIKE LANE, REMOVE THE CONSTRUCTION JOINT SHOWN IN DETAIL "A" OF SDD 14B32-A.

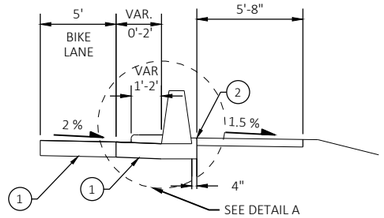
2. 1/2" EXPANSION JOINT FILLER



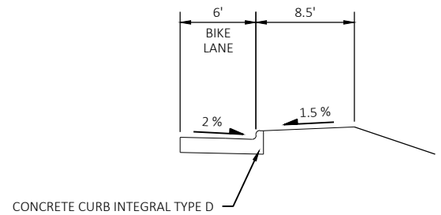
DETAIL A



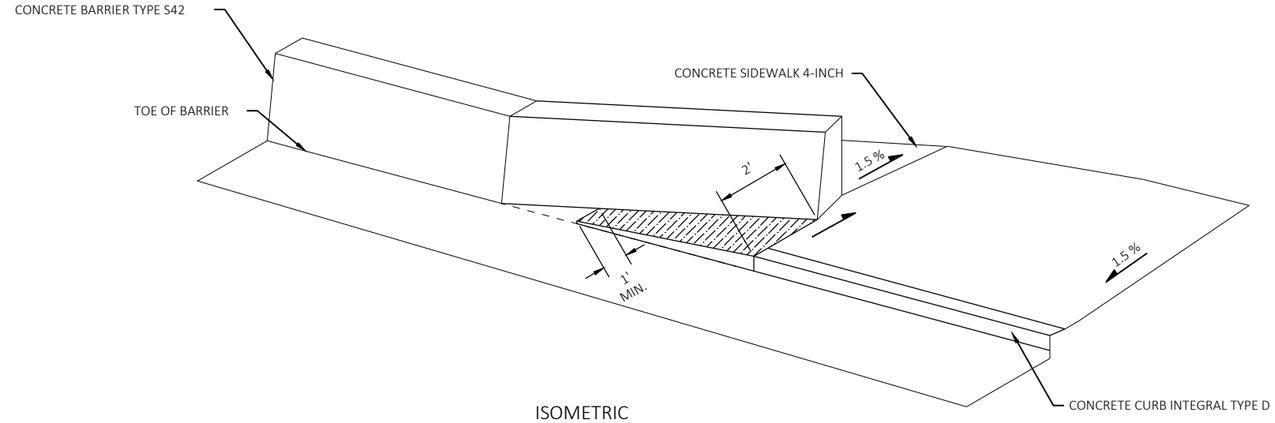
SECTION A-A



SECTION B-B



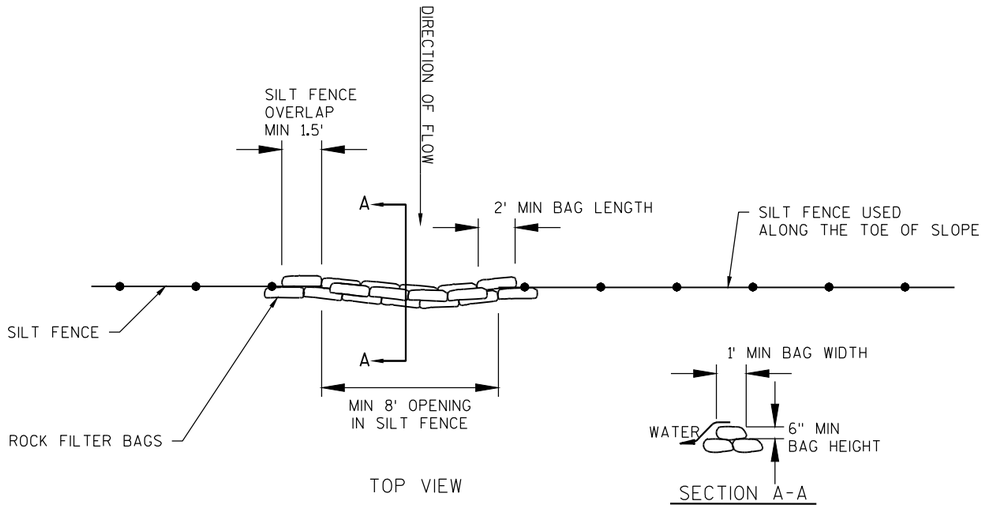
SECTION C-C



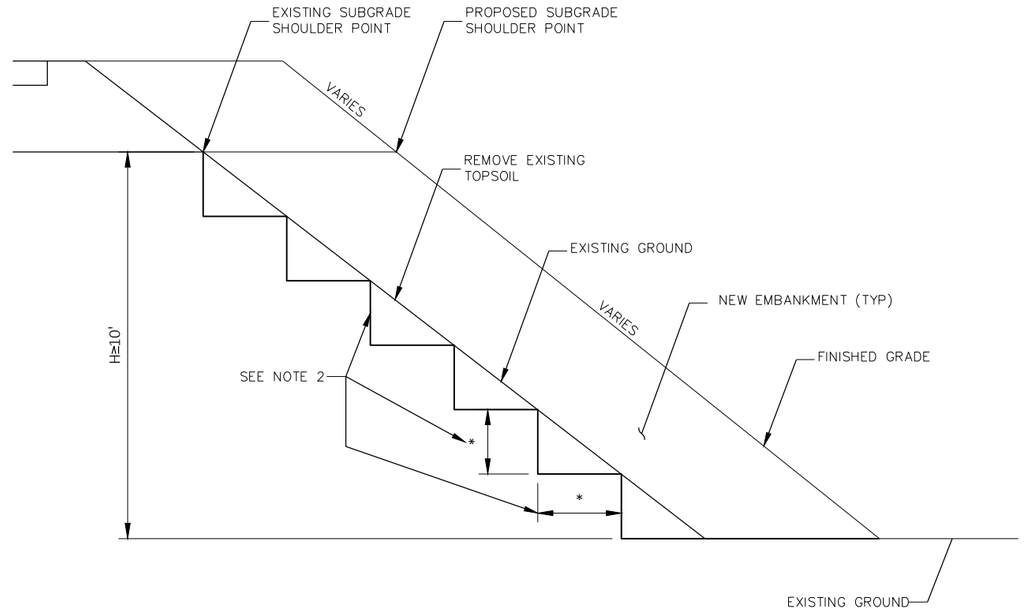
ISOMETRIC

BARRIER OFFSET CURB FACE

PROJECT NO: 1130-66-82	HWY: IH 41	COUNTY: OUTAGAMIE	CONSTRUCTION DETAILS	SHEET 10	E



ROCK BAGS USED FOR SILT FENCE RELIEF



STEPPED EMBANKMENT

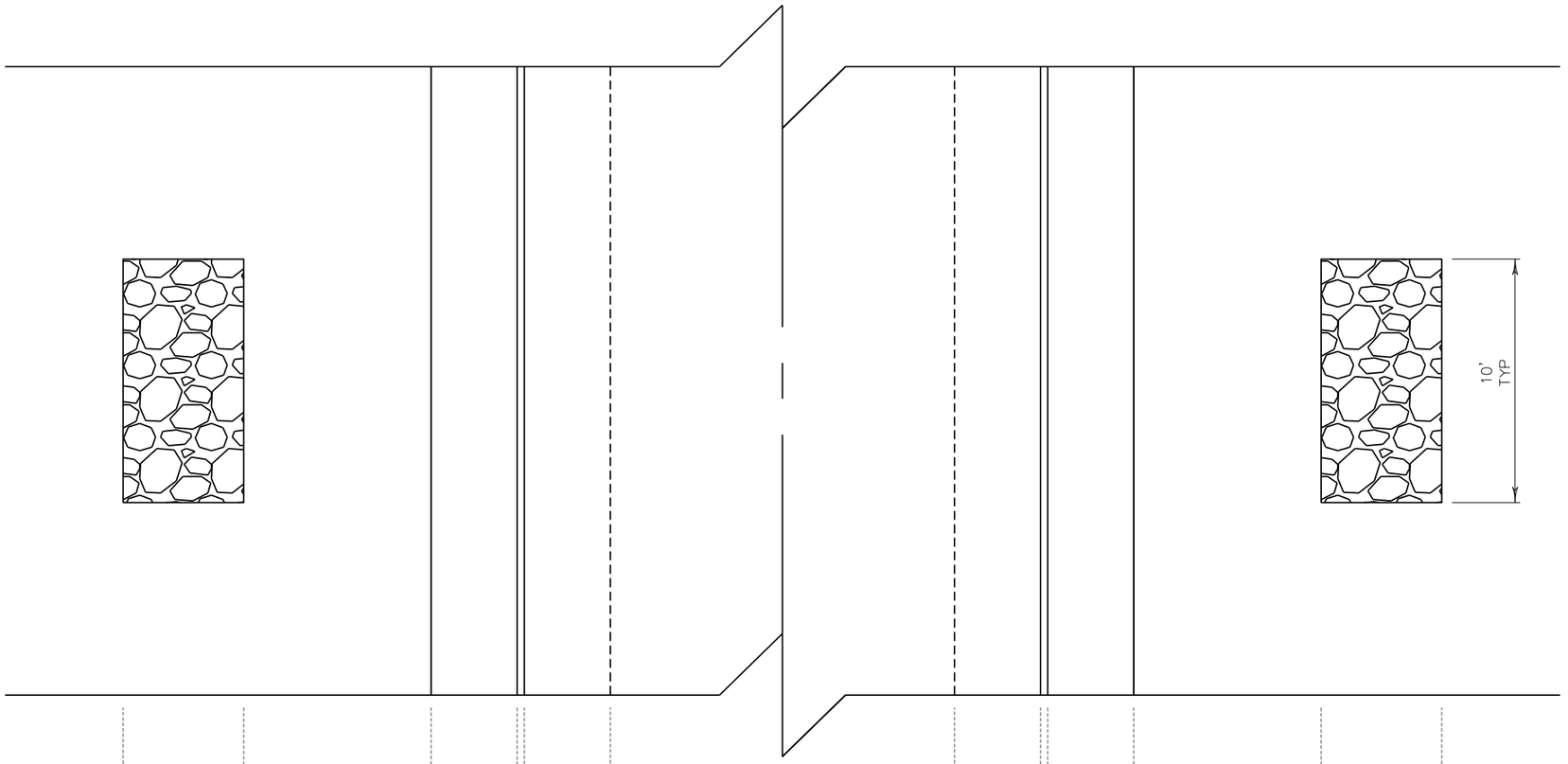
NOTES:

1) EMBANKMENT PLACED IN LAYERS AND COMPACTED PER SPECIFICATIONS

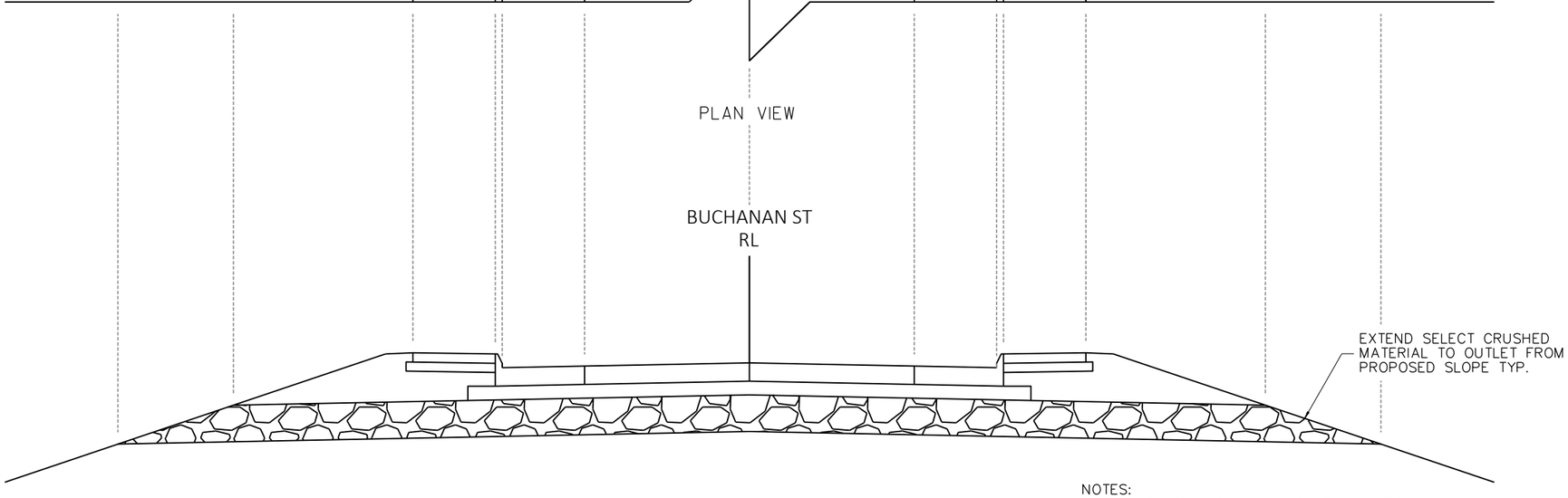
2) BENCH AS REQUIRED TO FACILITATE CONSTRUCTION FILLING OPERATIONS. BENCH IS INCIDENTAL TO FILLING OPERATIONS. SEE SPECIAL PROVISIONS FOR DIMENSIONS.

3) EBS AS REQUIRED IN THE PLANS OR DIRECTED BY THE ENGINEER SHALL BE PAID UNDER THE ITEM "EXCAVATION COMMON".

2



PLAN VIEW



PROFILE VIEW

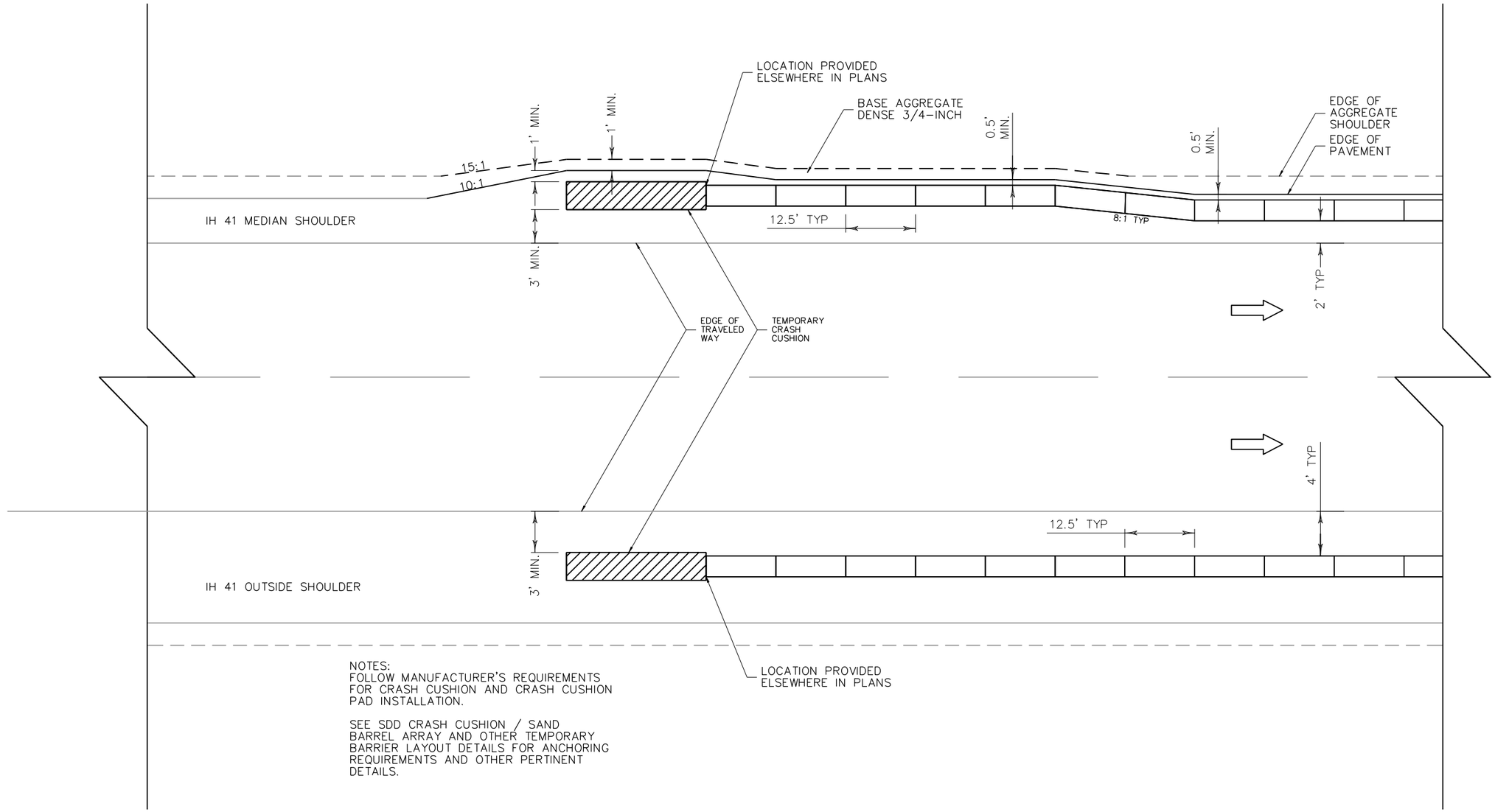
NOTES:
DETAILS OF OTHER MATERIALS, DIMENSIONS AND FINISHING REQUIREMENTS SHOWN ELSEWHERE IN PLAN.

LOCATE DRAIN OUTS NEAR STA 60'BUC'+55 AND STA 69'BUC'+90 OR AS DIRECTED BY THE ENGINEER.

SELECT CRUSHED DRAIN OUT DETAIL

PROJECT NO:	HWY: H	COUNTY: UTAA	CNSTRUCTN TALS	SHEET 12	E

2

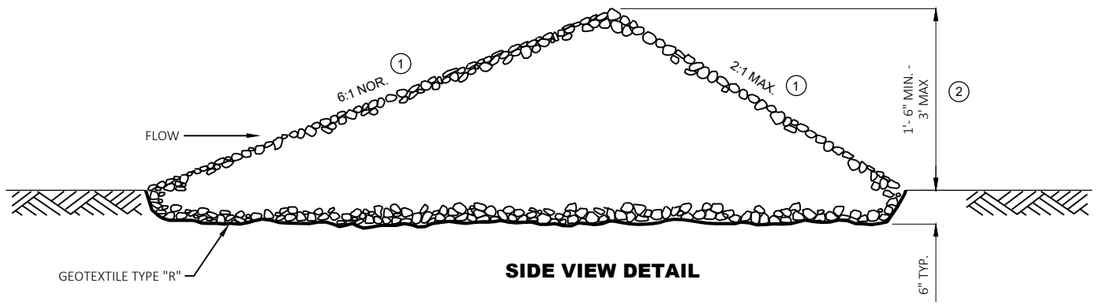


NOTES:
FOLLOW MANUFACTURER'S REQUIREMENTS FOR CRASH CUSHION AND CRASH CUSHION PAD INSTALLATION.

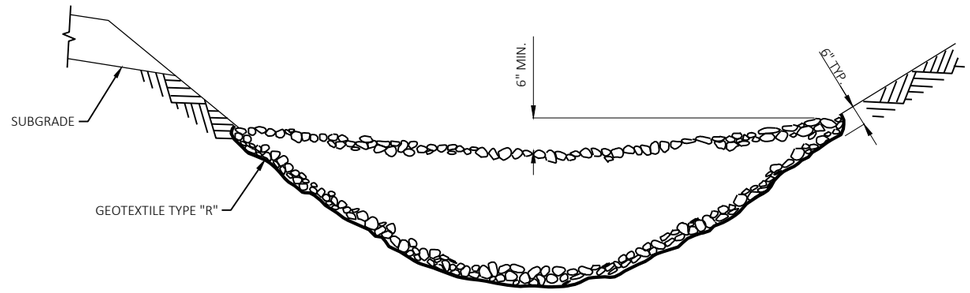
SEE SDD CRASH CUSHION / SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS FOR ANCHORING REQUIREMENTS AND OTHER PERTINENT DETAILS.

TEMPORARY CRASH CUSHION AND PAD DETAIL

2



SIDE VIEW DETAIL

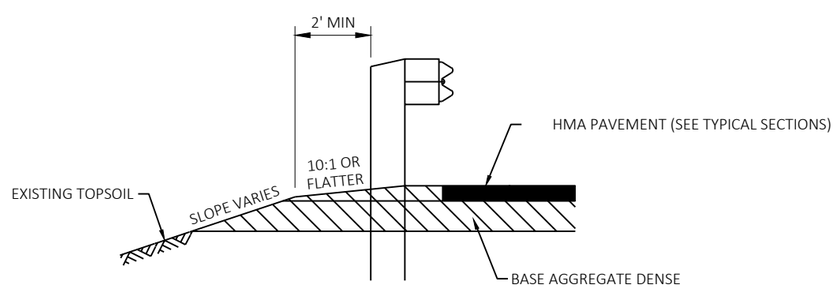


SECTION VIEW

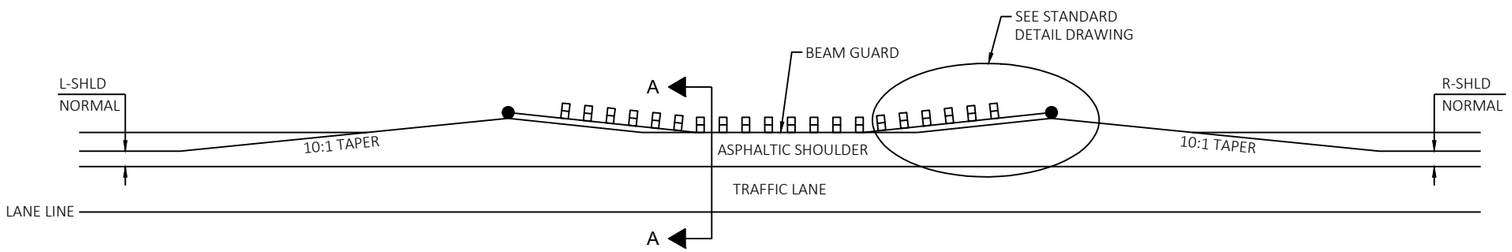
TEMPORARY STONE DITCH CHECKS DETAIL

(1) WHEN PLACED WITHIN THE CLEAR ZONE, SLOPED AT 6:1 OR FLATTER.

(2) MEASURED AT THE CENTER OF THE DITCH CHECK. VARY HEIGHT TO MATCH FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.

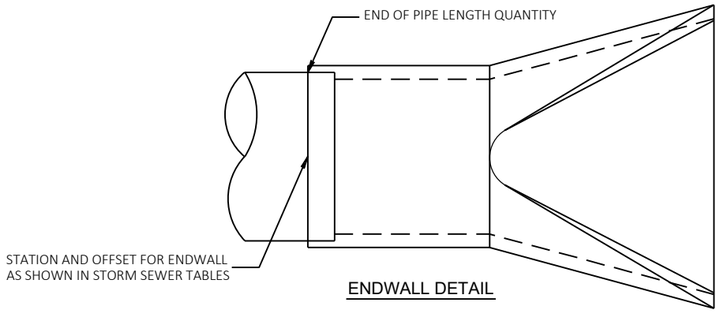


SECTION A-A

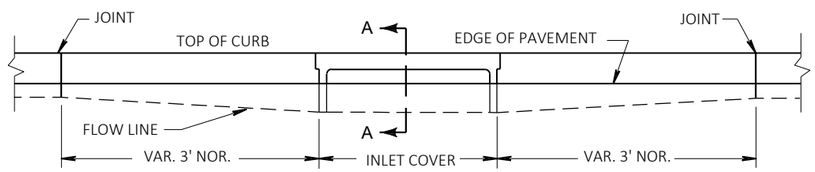


DETAIL FOR ASPHALTIC SHOULDER AT BEAM GUARD

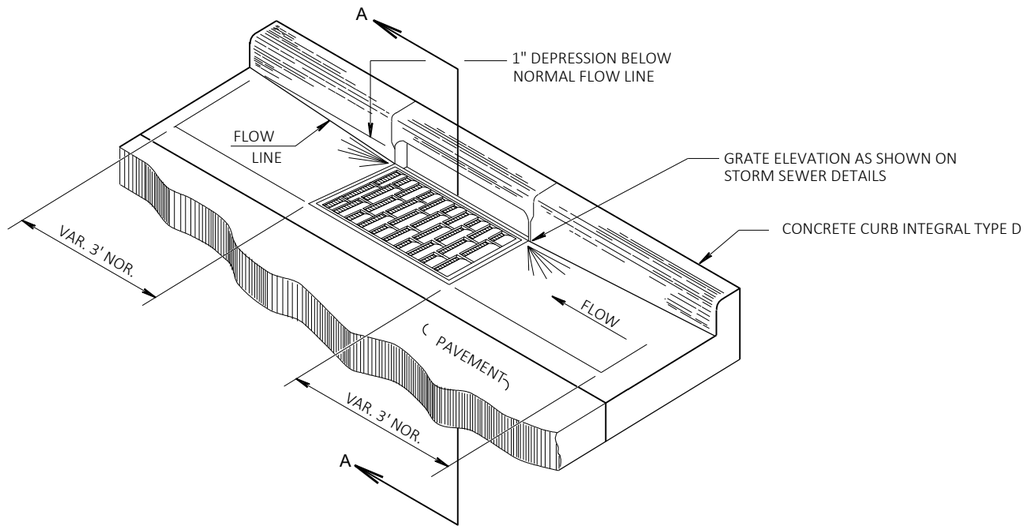
PROJECT NO: 1130-66-82	HWY: IH 41	COUNTY: OUTAGAMIE	CONSTRUCTION DETAILS	SHEET 14	E

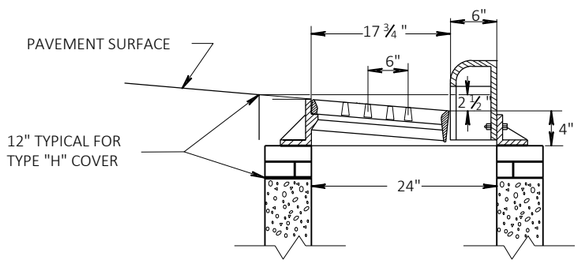


ENDWALL DETAIL



ELEVATION

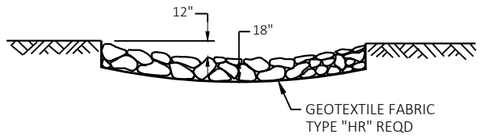




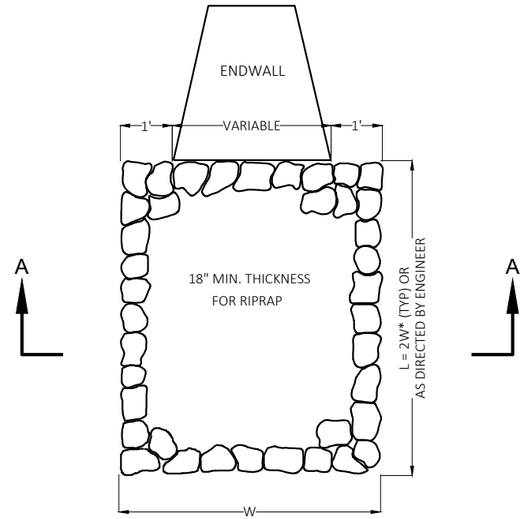
SECTION A-A

DETAIL OF CURB AND GUTTER AT INLETS

(2X3-FT INLET WITH TYPE H COVER SHOWN)

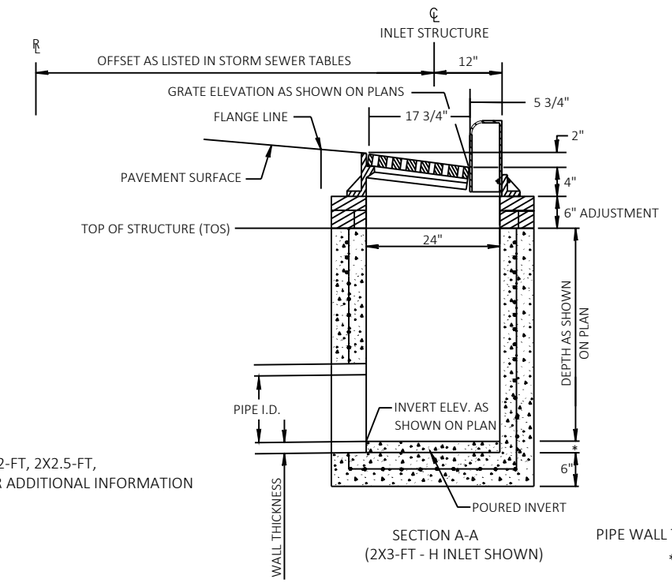


SECTION A-A



* RIPRAP SHOULD BE PLACED FROM OUTLET TO THE BOTTOM OF SLOPE WHEN APPLICABLE. SEE STORM SEWER PLANS FOR APPROXIMATE RIPRAP LIMITS.

RIPRAP TREATMENT AT CULVERTS



SEE S.D.D. "INLETS 2X2-FT, 2X2.5-FT, 2X3-FT, 2.5X3-FT" FOR ADDITIONAL INFORMATION

SECTION A-A
(2X3-FT - H INLET SHOWN)

PIPE WALL THICKNESS
*

DETAIL OF CONCRETE CURB TYPE D AT INLETS

2

2

SIGN

RANDOLPH DR

OST

N

IP

IH 41 SB

'SB' 1037'SB' 1038'SB' 1039'SB' 1040'SB' 1041'SB' 1042'SB'

'NB' 1037'NB' 1038'NB' 1039'NB' 1040'NB' 1041'NB' 1042'NB'

IH 41 NB

POST

IP

SIGN

POST

SIGN

POST

SIGN A/C

POST

LEGEND

PHRAGMITES

FLAG

PROJECT NO: 1130-66-82	HWY: IH 41	COUNTY: OUTAGAMIE	CONSTRUCTION DETAILS - PHRAGMITES	SHEET 16	E

2

2

BUCHANAN ST

N

POST

POST

65'BUC'

IH 41 SB

1043'SB' 1044'SB' 1045'SB' 1046'SB' 1047'SB' 1048'SB'

POST

POST

64'BUC'

1043'NB' 1044'NB' 1045'NB' 1046'NB' 1047'NB' 1048'NB'

IH 41 NB

SIGN

1241.3

1239.28

63'BUC'

62'BUC'

LEGEND

PHRAGMITES

PROJECT NO: 1130-66-82	HWY: IH 41	COUNTY: OUTAGAMIE	CONSTRUCTION DETAILS - PHRAGMITES	SHEET 17	E

FILE NAME : C:\USERS\ABLOCK\DC\ACCDOCS\WISDOT\11306301\PROJECT FILES\DSGN\11306670\SHEETS\11306682\021002-CD BUC.DWG
LAYOUT NAME - 02

PLOT DATE : 9/25/2024 2:18 PM PLOT BY : ANDY BLOCK PLOT NAME : PLOT SCALE : 1 IN:40 FT

2

2

MH

SIGN

IH 41 SB

126L
718.23

1048'SB' 1049'SB' 1050'SB' 1051'SB' 1052'SB' 1053'SB' 1054'S

SIGN

SIGN

1048'NB' 1049'NB' 1050'NB' 1051'NB' 1052'NB' 1053'NB' 1054'N

IH 41 NB

3_088

MH

RIPRAP

SIGN

SIGN

LEGEND

PHRAGMITES

PROJECT NO: 1130-66-82	HWY: IH 41	COUNTY: OUTAGAMIE	CONSTRUCTION DETAILS - PHRAGMITES	SHEET 18	E

FILE NAME : C:\USERS\ABLOCK\DC\ACCDOCS\WISDOT\11306301\PROJECT FILES\DSGN\11306670\SHEETS\11306682\021002-CD BUC.DWG
LAYOUT NAME - 03

PLOT DATE : 9/25/2024 2:21 PM PLOT BY : ANDY BLOCK PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 44

2

2

N

RANDOLPH DR

EXISTING R/W

IH 41 SB

'SB' 1037'SB' 1038'SB' 1039'SB' 1040'SB' 1041'SB' 1042'SB'

'NB' 1037'NB' 1038'NB' 1039'NB' 1040'NB' 1041'NB' 1042'NB'

IH 41 NB

EXISTING R/W

LEGEND

WETLANDS

PERMITTED WETLANDS

PROJECT NO: 1130-66-82	HWY: IH 41	COUNTY: OUTAGAMIE	CONSTRUCTION DETAILS - WETLANDS	SHEET 19	E

2

2

N

PROPOSED R/W

EXISTING R/W

65+00 'BUC'

POST

POST

IH 41 SB

1043'SB' 1044'SB' 1045'SB' 1046'SB' 1047'SB'

POST

POST

54+00 'BUC'

1043'NB' 1044'NB' 1045'NB' 1046'NB' 1047'NB'

IH 41 NB

SIGN

63+00 'BUC'

EXISTING R/W

PROPOSED R/W

BUCHANAN ST.

LEGEND

WETLANDS

PERMITTED WETLANDS

PROJECT NO: 1130-66-82	HWY: IH 41	COUNTY: OUTAGAMIE	CONSTRUCTION DETAILS - WETLANDS	SHEET 20	E

FILE NAME : C:\USERS\ANDYBLOCK\DC\ACCDOCS\WISDOT\11306301\PROJECT FILES\DSGN\11306670\SHEETS\11306682\021003-CD BUC.DWG
LAYOUT NAME - 02

PLOT DATE : 11/8/2024 6:48 AM PLOT BY : ANDY BLOCK PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 44

2

2

N

PROPOSED R/W

EXISTING R/W

MH

IH 41 SB

126L
718.23

1049'SB' 1050'SB' 1051'SB' 1052'SB' 1053'SB'

SIGN

SIGN

1049'NB' 1050'NB' 1051'NB' 1052'NB' 1053'NB'

IH 41 NB

3088

EXISTING R/W

PROPOSED R/W

MH

RIPRAP

SIGN

SIGN

LEGEND

WETLANDS

PERMITTED WETLANDS

PROJECT NO: 1130-66-82	HWY: IH 41	COUNTY: OUTAGAMIE	CONSTRUCTION DETAILS - WETLANDS	SHEET 21	E

FILE NAME : C:\USERS\ANDYBLOCK\DC\ACCDOCS\WISDOT\11306301\PROJECT FILES\DSGN\11306670\SHEETS\11306682\021003-CD BUC.DWG
LAYOUT NAME - 03

PLOT DATE : 11/8/2024 6:51 AM PLOT BY : ANDY BLOCK PLOT NAME : PLOT SCALE : 1 IN:40 FT

2

2

N

POST

WALLS

RAMP

PROPOSED R/W

EXISTING R/W

56+00 'BUC'

57+00 'BUC'

58+00 'BUC'

59+00 'BUC'

60+00 'BUC'

61+00 'BUC'

62+00 'BUC'

BUCHANAN ST

GN

EXISTING R/W

LEGEND

WETLANDS

PERMITTED WETLANDS

PROJECT NO: 1130-66-82	HWY: IH 41	COUNTY: OUTAGAMIE	CONSTRUCTION DETAILS - WETLANDS	SHEET 22	E

FILE NAME : C:\USERS\DINAASSAD\DC\ACCDOCS\WISDOT\11306301\PROJECT FILES\DSGN\11306670\SHEETS\11306682\021004-CD BUC.DWG
LAYOUT NAME - 04

PLOT DATE : 11/14/2024 11:39 AM PLOT BY : DINA ASSAD PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

2

2

FLAG

SIGN

PROPOSED R/W

RANDOLPH DR

EXISTING R/W

66+00 'BUC'

67+00 'BUC'

68+00 'BUC'

69+00 'BUC'

70+00 'BUC'

71+00 'BUC'

BUCHANAN ST

PROPOSED R/W

EXISTING R/W

PROPOSED R/W

LEGEND

WETLANDS

PERMITTED WETLANDS

PROJECT NO: 1130-66-82	HWY: IH 41	COUNTY: OUTAGAMIE	CONSTRUCTION DETAILS - WETLANDS	SHEET 23	E

FILE NAME : C:\USERS\DINAASSAD\DC\ACCDOCS\WISDOT\11306301\PROJECT FILES\DSGN\11306670\SHEETS\11306682\021004-CD BUC.DWG
LAYOUT NAME - 05

PLOT DATE : 11/14/2024 11:41 AM PLOT BY : DINA ASSAD PLOT NAME : PLOT SCALE : 1 IN:40 FT

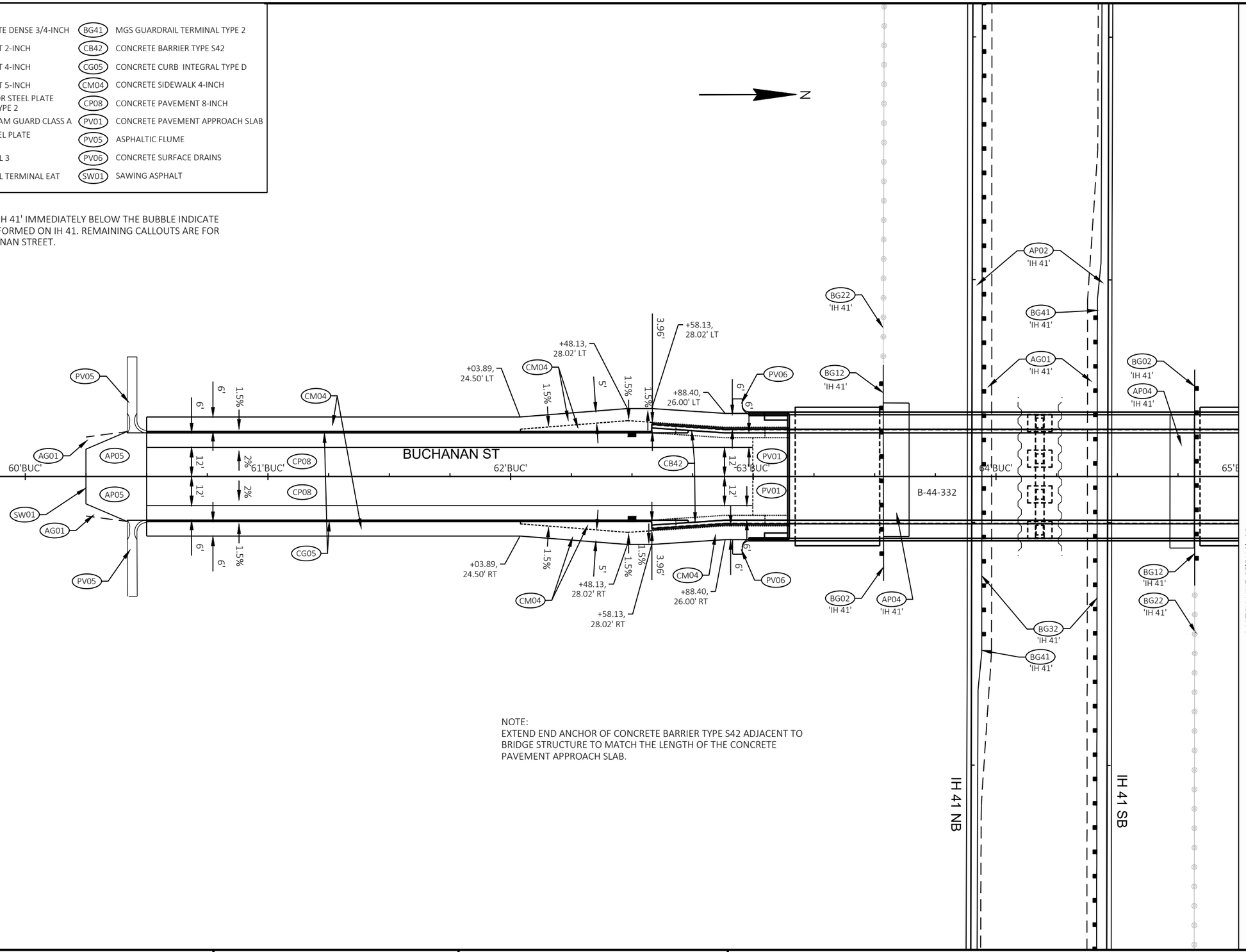
WISDOT/CADDS SHEET 42

2

LEGEND

AG01	BASE AGGREGATE DENSE 3/4-INCH	BG41	MGS GUARDRAIL TERMINAL TYPE 2
AP02	HMA PAVEMENT 2-INCH	CB42	CONCRETE BARRIER TYPE S42
AP04	HMA PAVEMENT 4-INCH	CG05	CONCRETE CURB INTEGRAL TYPE D
AP05	HMA PAVEMENT 5-INCH	CM04	CONCRETE SIDEWALK 4-INCH
BG02	ANCHORAGE FOR STEEL PLATE BEAM GUARD TYPE 2	CP08	CONCRETE PAVEMENT 8-INCH
BG12	STEEL PLATE BEAM GUARD CLASS A	PV01	CONCRETE PAVEMENT APPROACH SLAB
BG22	ADJUSTING STEEL PLATE BEAM GUARD	PV05	ASPHALTIC FLUME
BG32	MGS GUARDRAIL 3	PV06	CONCRETE SURFACE DRAINS
BG40	MGS GUARDRAIL TERMINAL EAT	SW01	SAWING ASPHALT

NOTE:
CALLOUTS WITH 'IH 41' IMMEDIATELY BELOW THE BUBBLE INDICATE WORK TO BE PERFORMED ON IH 41. REMAINING CALLOUTS ARE FOR WORK ON BUCHANAN STREET.



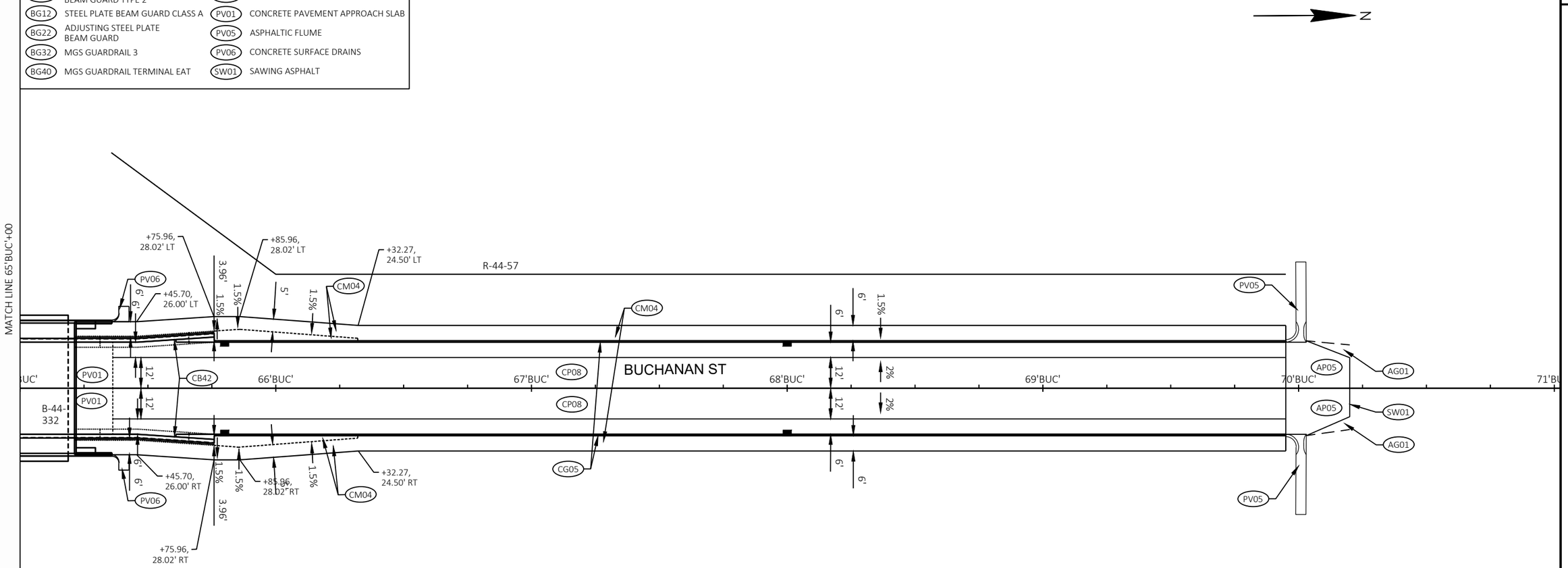
NOTE:
EXTEND END ANCHOR OF CONCRETE BARRIER TYPE S42 ADJACENT TO BRIDGE STRUCTURE TO MATCH THE LENGTH OF THE CONCRETE PAVEMENT APPROACH SLAB.

PROJECT NO: 1130-66-82	HWY: IH 41	COUNTY: OUTAGAMIE	PLAN DETAIL - BUCHANAN ST	SHEET 24	E

2

LEGEND

AG01	BASE AGGREGATE DENSE 3/4-INCH	BG41	MGS GUARDRAIL TERMINAL TYPE 2
AP02	HMA PAVEMENT 2-INCH	CB42	CONCRETE BARRIER TYPE S42
AP04	HMA PAVEMENT 4-INCH	CG05	CONCRETE CURB INTEGRAL TYPE D
AP05	HMA PAVEMENT 5-INCH	CM04	CONCRETE SIDEWALK 4-INCH
BG02	ANCHORAGE FOR STEEL PLATE BEAM GUARD TYPE 2	CP08	CONCRETE PAVEMENT 8-INCH
BG12	STEEL PLATE BEAM GUARD CLASS A	PV01	CONCRETE PAVEMENT APPROACH SLAB
BG22	ADJUSTING STEEL PLATE BEAM GUARD	PV05	ASPHALTIC FLUME
BG32	MGS GUARDRAIL 3	PV06	CONCRETE SURFACE DRAINS
BG40	MGS GUARDRAIL TERMINAL EAT	SW01	SAWING ASPHALT



NOTE:
EXTEND END ANCHOR OF CONCRETE BARRIER TYPE S42 ADJACENT TO BRIDGE STRUCTURE TO MATCH THE LENGTH OF THE CONCRETE PAVEMENT APPROACH SLAB.

PROJECT NO: 1130-66-82	HWY: IH 41	COUNTY: OUTAGAMIE	PLAN DETAIL - BUCHANAN ST	SHEET 25	E

2

2

MATCH LINE 1043+30

N

TDS METROCOM COMMUNICATION LINE

KAUKAUNA UTILITIES ELECTRICITY AND SPECTRUM COMMUNICATION LINE

STA. 1042'NB'+42.59, LT ANCHORAGES FOR STEEL PLATE BEAM GUARD TYPE 2

89' STEEL PLATE BEAM GUARD CLASS A

WISDOT COMMUNICATION LINE

REMOVE EXISTING CABLE BARRIER AND TERMINALS

IH 41 SB

STA. 1041'SB'+93.02, RT END PAVED SHOULDER TAPER

388.5' MGS GUARDRAIL 3

1038+00 1039+00 1040+00 1041+00 1042+00 1043+00

STA. 1041'SB'+46.45, RT END AGGREGATE SHOULDER TAPER

STA. 1042'SB'+08.02, RT MGS GUARDRAIL TERMINAL TYPE 2

STA. 1039'NB'+11.99, 5.6', LT MGS GUARDRAIL TERMINAL EAT FACE OF RAIL AT POST #1

REMOVING GUARDRAIL

TDS METROCOM COMMUNICATION LINE

1038 1039 1040 1041 1042 1043

388.5' MGS GUARDRAIL 3

STA. 1037'NB'+98.17, LT BEGIN AGGREGATE SHOULDER TAPER

STA. 1038'NB'+77.35, LT BEGIN PAVED SHOULDER TAPER

IH 41 NB

STA. 1043'NB'+18.46, RT ANCHORAGES FOR STEEL PLATE BEAM GUARD TYPE 2

LITTLE CHUTE MUNICIPAL WATER DEPT WATER

ADJUST EXISTING STEEL PLATE BEAM GUARD

89' STEEL PLATE BEAM GUARD CLASS A

LITTLE CHUTE MUNICIPAL WATER DEPT SEWER

KAUKAUNA UTILITIES ELECTRICITY AND SPECTRUM COMMUNICATION LINE

63+00

BUCHANAN ST

62+00

PROJECT NO: 1130-66-82	HWY: IH 41	COUNTY: OUTAGAMIE	GUARDRAIL PLAN	SHEET 26	E

FILE NAME : C:\USERS\BRYNLEESTURDIVANT\DC\ACCDOCS\WISDOT\11306301\PROJECT FILES\DSGN\11306670\SHEETS\021220-GR-BUC.DWG
LAYOUT NAME - 01

PLOT DATE : 8/6/2025 10:05 AM PLOT BY : BRYNLEE STURDIVANT PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

2

2

N

E-3D E-3D E-3D E-3D E-3D E-3D

FO FO FO

2

LEGEND

- SILT FENCE
- SLOPE INTERCEPT
- INLET PROTECTION
- A B C D INLET PROTECTION TYPE
- TEMPORARY DITCH CHECK
- SURFACE WATER FLOW
- CULVERT PIPE CHECK
- ROCK BAGS FOR SILT FENCE RELIEF

N

RANDOLPH DR

EXISTING R/W

IP

WETLAND BOUNDARY

IH-41 SB

POST

SLOPE INTERCEPT

1040

IH-41 NB

POST

EXISTING R/W

IP

WETLAND BOUNDARY

POST

POST

SIGN

A/C

POST

FLAG

65

64

63

62

BUCHANAN ST

A B C D

MATCH LINE 1043'BUC'+75

2

PROJECT NO: 1130-66-82	HWY: IH 41	COUNTY: OUTAGAMIE	EROSION CONTROL - TEMPORARY	SHEET 28	E

FILE NAME : C:\USERS\ANDYBLOCK\DC\ACCDOCS\WISDOT\11306301\PROJECT FILES\DSGN\11306670\SHEETS\022001-EC-BUC-MED-TEMP.DWG
LAYOUT NAME - 01

PLOT DATE : 1/22/2025 12:22 PM PLOT BY : ANDY BLOCK PLOT NAME : PLOT SCALE : 1 IN:40 FT

2

2

N

PROPOSED R/W

EXISTING R/W

POST

POST

WETLAND BOUNDARY

IH-41 SB

MATCH LINE 1043'BUC+75

SLOPE INTERCEPT

1045

IH-41 NB

SIGN

EXISTING R/W

PROPOSED R/W

WETLAND BOUNDARY

LEGEND

- SILT FENCE
- SLOPE INTERCEPT
- INLET PROTECTION
- A B C D INLET PROTECTION TYPE
- TEMPORARY DITCH CHECK
- SURFACE WATER FLOW
- CULVERT PIPE CHECK
- ROCK BAGS FOR SILT FENCE RELIEF

PROJECT NO: 1130-66-82	HWY: IH 41	COUNTY: OUTAGAMIE	EROSION CONTROL - TEMPORARY	SHEET 29	E

2

LEGEND

- SILT FENCE
- SLOPE INTERCEPT
- INLET PROTECTION
- A B C D INLET PROTECTION TYPE
- TEMPORARY DITCH CHECK
- SURFACE WATER FLOW
- CULVERT PIPE CHECK
- ROCK BAGS FOR SILT FENCE RELIEF

RAMP

WETLAND BOUNDARY

SLOPE INTERCEPT

TEMPORARY STONE DITCH CHECK LOCATION. REMOVE PRIOR TO FINAL RESTORATION.

PROPOSED R/W

EXISTING R/W

IH-41 NB

1042'NB'

1042'SB'

N

60'BUC'

61'BUC'

62'BUC'

63'BUC'

64'BUC'

65'B

MATCH LINE 65'BUC'+00

BUCHANAN ST

A C

EBBEN RD

TEMPORARY STONE DITCH CHECK LOCATION. REMOVE PRIOR TO FINAL RESTORATION.

EXISTING R/W

PROPOSED R/W

SLOPE INTERCEPT

IH-41 SB

1044'NB'

1044'SB'

WETLAND BOUNDARY

POST

2

PROJECT NO: 1130-66-82	HWY: IH 41	COUNTY: OUTAGAMIE	EROSION CONTROL - TEMPORARY	SHEET 30	E

2

2

N

WETLAND BOUNDARY

EXISTING R/W

WETLAND BOUNDARY

RANDOLPH DR

SLOPE INTERCEPT

TEMPORARY STONE DITCH CHECK LOCATION. REMOVE PRIOR TO FINAL RESTORATION.

IP

MATCH LINE 65'BUC'+00

BUCHANAN ST

66'BUC'

67'BUC'

68'BUC'

69'BUC'

70'BUC'

PROPOSED R/W

EXISTING R/W

PROPOSED R/W

SLOPE INTERCEPT

WETLAND BOUNDARY

WETLAND BOUNDARY

TEMPORARY STONE DITCH CHECK LOCATION. REMOVE PRIOR TO FINAL RESTORATION.

PROJECT NO: 1130-66-82	HWY: IH 41	COUNTY: OUTAGAMIE	EROSION CONTROL - TEMPORARY	SHEET 31	E

FILE NAME : C:\USERS\ANDYBLOCK\DC\ACCDOCS\WISDOT\11306301\PROJECT FILES\DSGN\11306670\SHEETS\022001-EC-BUC-TEMP.DWG
LAYOUT NAME - 02

PLOT DATE : 1/22/2025 12:41 PM PLOT BY : ANDY BLOCK PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

2

2

LEGEND

EROSION MAT CLASS I, TYPE A

RIP RAP

SLOPE INTERCEPT

SURFACE WATER FLOW

N

RANDOLPH DR

EXISTING R/W

WETLAND BOUNDARY

IH-41 SB

SLOPE INTERCEPT

1040

IH-41 NB

POST

EXISTING R/W

WETLAND BOUNDARY

POST

POST

SIGN

A/C

POST

FLAG

65

64

63

62

BUCHANAN ST

MATCH LINE 1043'BUC'+75

PROJECT NO: 1130-66-82	HWY: IH 41	COUNTY: OUTAGAMIE	EROSION CONTROL - PERMANENT	SHEET 32	E

FILE NAME : C:\USERS\ANDYBLOCK\DC\ACCDOCS\WISDOT\11306301\PROJECT FILES\DSGN\11306670\SHEETS\022001-EC-BUC-MED-PERM.DWG
LAYOUT NAME - 01

PLOT DATE : 1/22/2025 12:17 PM PLOT BY : ANDY BLOCK PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

2

2

N

PROPOSED R/W

EXISTING R/W

POST

POST

WETLAND BOUNDARY

IH-41 SB

MATCH LINE 1043'BUC+75

SLOPE INTERCEPT

1045

IH-41 NB

SIGN

EXISTING R/W

PROPOSED R/W

WETLAND BOUNDARY

LEGEND

EROSION MAT CLASS I, TYPE A

RIP RAP

SLOPE INTERCEPT

SURFACE WATER FLOW

PROJECT NO: 1130-66-82	HWY: IH 41	COUNTY: OUTAGAMIE	EROSION CONTROL - PERMANENT	SHEET 33	E

FILE NAME : C:\USERS\ANDYBLOCK\DC\ACCDOCS\WISDOT\11306301\PROJECT FILES\DSGN\11306670\SHEETS\022001-EC-BUC-MED-PERM.DWG
LAYOUT NAME - 02

PLOT DATE : 1/22/2025 12:19 PM PLOT BY : ANDY BLOCK PLOT NAME : PLOT SCALE : 1 IN:40 FT

2

LEGEND

EROSION MAT CLASS I, TYPE A

RIP RAP

SLOPE INTERCEPT

SURFACE WATER FLOW

N

RAMP

WETLAND BOUNDARY

SLOPE INTERCEPT

PROPOSED R/W

EXISTING R/W

IH-41 NB

1042'NB'

1042'SB'

60'BUC'

61'BUC'

62'BUC'

63'BUC'

64'BUC'

65'B

BUCHANAN ST

MATCH LINE 65'BUC'+00

IH-41 SB

EBBEN RD

EXISTING R/W

PROPOSED R/W

1044'NB'

1044'SB'

SLOPE INTERCEPT

WETLAND BOUNDARY

2

PROJECT NO: 1130-66-82	HWY: IH 41	COUNTY: OUTAGAMIE	EROSION CONTROL - PERMANENT	SHEET 34	E

FILE NAME : C:\USERS\ANDYBLOCK\DC\ACCDOCS\WISDOT\11306301\PROJECT FILES\DSGN\11306670\SHEETS\022001-EC-BUC-PERM.DWG
LAYOUT NAME - 01

PLOT DATE : 1/22/2025 12:29 PM PLOT BY : ANDY BLOCK PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

2

2

WETLANDS BOUNDARY

EXISTING R/W

WETLAND BOUNDARY

RANDOLPH DR

SLOPE INTERCEPT

N

MATCH LINE 65'BUC'+00

66'BUC'

67'BUC'

68'BUC'

69'BUC'

70'BUC'

BUCHANAN ST

PROPOSED R/W

SLOPE INTERCEPT

EXISTING R/W

PROPOSED R/W

WETLAND BOUNDARY

WETLANDS BOUNDARY

LEGEND

EROSION MAT CLASS I, TYPE A

RIP RAP

SLOPE INTERCEPT

SURFACE WATER FLOW

PROJECT NO: 1130-66-82	HWY: IH 41	COUNTY: OUTAGAMIE	EROSION CONTROL - PERMANENT	SHEET 35	E

FILE NAME : C:\USERS\ANDYBLOCK\DC\ACCDOCS\WISDOT\11306301\PROJECT FILES\DSGN\11306670\SHEETS\022001-EC-BUC-PERM.DWG
LAYOUT NAME - 02

PLOT DATE : 1/22/2025 12:30 PM PLOT BY : ANDY BLOCK PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

2

2

N

GRADE EXISTING CULVERT PIPE TO DRAIN (OUTLET TO REMAIN)

4010 STA 65+07 'BUC', 91.7' LT
APRON ENDWALLS FOR CPRC 18-INCH

IH 41 NB

IH 41 SB

9311 STA 65+80 'BUC', 17.5' LT
INLETS 2x3-H

9301 STA 68+00 'BUC', 17.5' LT
INLETS 2x3-H

REMOVING SMALL PIPE CULVERTS REQ'D

4001 STA 63+30 'BUC', 102.3' LT
APRON ENDWALLS FOR CPRC 18-INCH

9320 STA 62+50 'BUC', 36.6' LT
APRON ENDWALLS FOR CPRC 12-INCH

9321 STA 62+50 'BUC', 17.5' LT
INLETS 2x3-H

RANDOLPH DRIVE

58'BUC' 60'BUC' 62'BUC' 64'BUC' 66'BUC' 68'BUC' 70'BUC' 72'BUC'

BUCHANAN ST

9322 STA 62+50 'BUC', 17.5' RT
INLETS 2x3-H

9323 STA 62+50 'BUC', 36.6' RT
APRON ENDWALLS FOR CPRC 12-INCH

4003 STA 63+30 'BUC', 105.3' RT
APRON ENDWALLS FOR CPRC 18-INCH

9302 STA 68+00 'BUC', 17.5' RT
INLETS 2x3-H

9312 STA 65+80 'BUC', 17.5' RT
INLETS 2x3-H

9303 STA 68+00 'BUC', 36.1' RT
APRON ENDWALLS FOR CPRC 12-INCH

9313 STA 65+80 'BUC', 36.8' RT
APRON ENDWALLS FOR CPRC 12-INCH

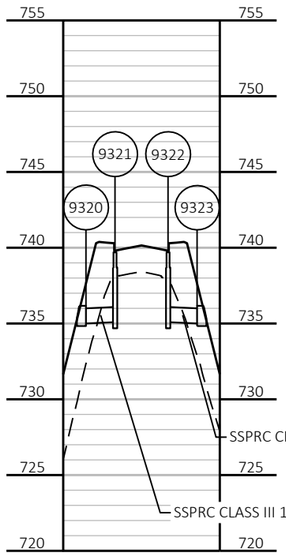
REMOVING SMALL PIPE CULVERTS REQ'D

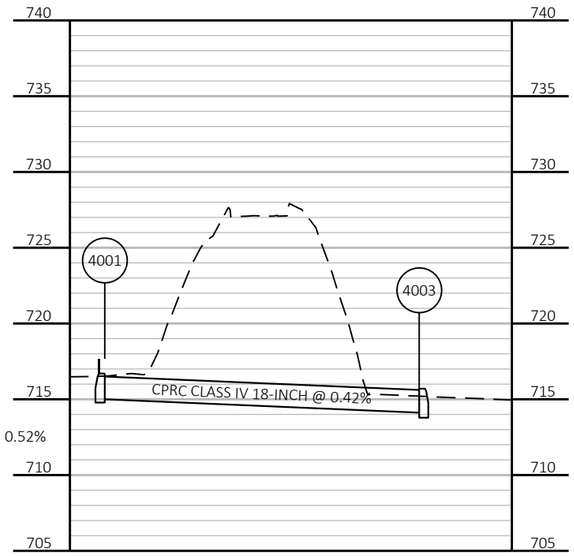
4012 STA 65+08 'BUC', 101.6' RT
APRON ENDWALLS FOR CPRC 18-INCH

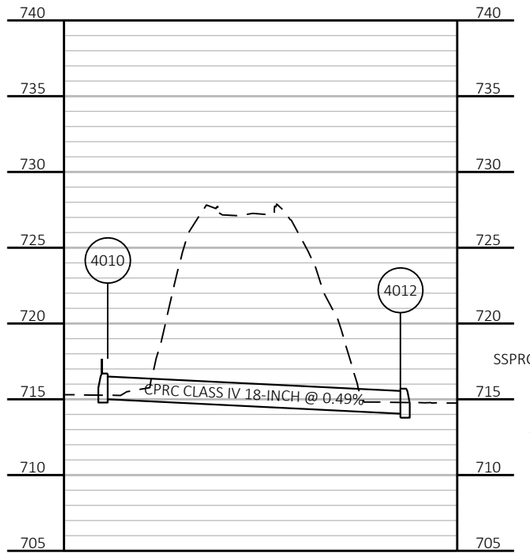
PROJECT NO: 1130-66-82	HWY: IH 41	COUNTY: OUTAGAMIE	STORM SEWER	SHEET 36	E

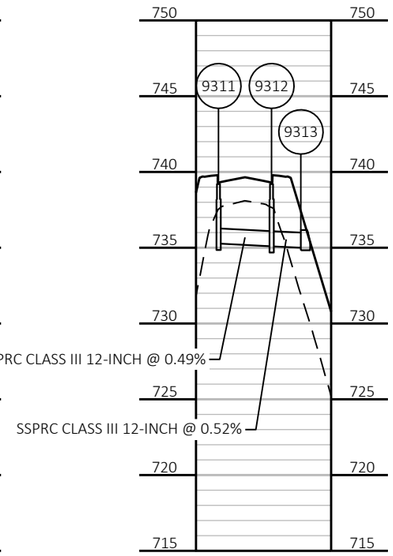
FILE NAME : C:\USERS\ALEXZ\DC\ACCDOCS\WISDOT\11306301\PROJECT FILES\DSGN\11306670\SHEETS\022501-SS-BUC.DWG
LAYOUT NAME - 022501-ss-buc
PLOT DATE : 1/22/2025 11:37 AM PLOT BY : ZWART, ALEX PLOT NAME : PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 42

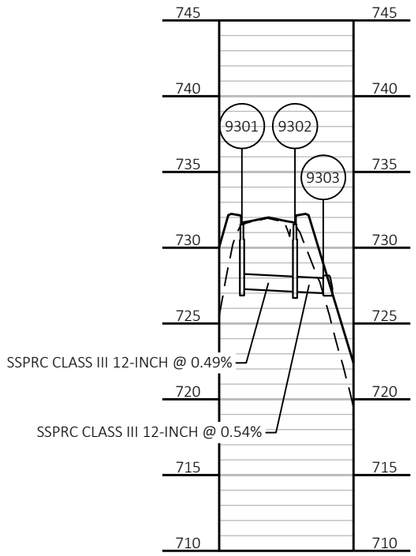
STRUCTURE NO.	STATION		OFFSET	C-C (ft)	DOWNSTREAM STRUCTURE	INLET TYPE	COVER	MH TYPE	COVER	RIM/ GRATE ELEVATION	T.O.S. ELEVATION	DEPTH (FT)	DISCHARGE PIPE SIZE (IN)	DISCHARGE PIPE INVERT ELEVATIONS	DISCHARGE PIPE DISCHARGE ELEVATION	DISCHARGE PIPE LENGTH (FT)	DISCHARGE PIPE SLOPE (%)	REMARKS
4001	63+30.4	BUC	102.3 ' LT	207.6	4003	-	-	-	-	-	-	-	18	715.00	714.13	208	0.42%	APRON ENDWALLS FOR CPRC 18-INCH
4003	63+29.9	BUC	105.3 ' RT	-	-	-	-	-	-	-	-	-	-	714.13	-	-	-	APRON ENDWALLS FOR CPRC 18-INCH
4010	65+06.8	BUC	91.7 ' LT	193.2	4012	-	-	-	-	-	-	-	18	715.00	714.05	193	0.49%	APRON ENDWALLS FOR CPRC 18-INCH
4012	65+07.8	BUC	101.6 ' RT	-	-	-	-	-	-	-	-	-	-	714.05	-	-	-	APRON ENDWALLS FOR CPRC 18-INCH
9301	68+00.0	BUC	17.5 ' LT	35.0	9302	2X3-FT	H	-	-	731.55	730.72	3.45	12	727.27	727.10	35	0.49%	
9302	68+00.0	BUC	17.5 ' RT	18.6	9303	2X3-FT	H	-	-	731.55	730.72	3.62	12	727.10	727.00	19	0.54%	
9303	68+00.0	BUC	36.1 ' RT	-	-	-	-	-	-	-	-	-	-	727.00	-	-	-	APRON ENDWALLS FOR CPRC 12-INCH
9311	65+80.0	BUC	17.5 ' LT	35.0	9312	2X3-FT	H	-	-	739.20	738.37	3.10	12	735.27	735.10	35	0.49%	
9312	65+80.0	BUC	17.5 ' RT	19.3	9313	2X3-FT	H	-	-	739.20	738.37	3.27	12	735.10	735.00	19	0.52%	
9313	65+80.0	BUC	36.8 ' RT	-	-	-	-	-	-	-	-	-	-	735.00	-	-	-	APRON ENDWALLS FOR CPRC 12-INCH
9320	62+50.0	BUC	36.6 ' LT	-	-	-	-	-	-	-	-	-	-	735.00	-	-	-	APRON ENDWALLS FOR CPRC 12-INCH
9321	62+50.0	BUC	17.5 ' LT	19.1	9320	2X3-FT	H	-	-	739.71	738.88	3.78	12	735.10	735.00	19	0.52%	
9322	62+50.0	BUC	17.5 ' RT	19.1	9323	2X3-FT	H	-	-	739.71	738.88	3.78	12	735.10	735.00	19	0.52%	
9323	62+50.0	BUC	36.6 ' RT	-	-	-	-	-	-	-	-	-	-	735.00	-	-	-	APRON ENDWALLS FOR CPRC 12-INCH











2

STREET LIGHTING PLANS PREPARED BY

KL Engineering
[A] Better Experience

WISCONSIN
JACOB A.
JOYAL
46965-6
OREGON,
WI
PROFESSIONAL ENGINEER

01/10/2025
(DATE)

(SIGNATURE)

GENERAL STREET LIGHTING NOTES:

1) WISCONSIN DOT NORTHEAST REGION ELECTRICAL UNIT SHALL APPROVE THE FINAL LOCATION FOR ALL CONCRETE BASES IN THE FIELD PRIOR TO INSTALLATION. CONTACT THEM 3 DAYS IN ADVANCE AT (920) 492-5654 OR (920) 492-5628.

2) PITCH ALL CONDUIT TOWARDS PULLBOXES. A 2" DRAIN DUCT TO DITCH OR STORM SEWER REQUIRED FOR ALL PULLBOXES IN LOW POINTS. REFER TO THE MISCELLANEOUS QUANTITIES FOR LOCATIONS OF DRAIN DUCT.

3) THE LOCATION OF EXISTING AND PROPOSED UTILITIES AS SHOWN ON THE PLANS ARE APPROXIMATE. IN ADDITION, THERE MAY BE OTHER UTILITIES WITHIN THE PROJECT AREA WHICH ARE NOT SHOWN. THE CONTRACTOR SHALL VERIFY THE LOCATIONS OF ALL UTILITIES PRIOR TO CONSTRUCTION.

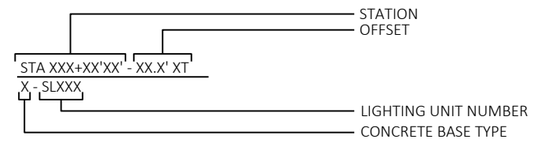
4) REFER TO STAKING DATA FOR EXACT LOCATIONS, WITH ALL LOCATIONS APPROVED BY THE ENGINEER PRIOR TO INSTALL. GENERAL GUIDLINES FOR OFFSETS ARE AS FOLLOWS:
- BEHIND SIDEWALK: 1.83' FROM BACK OF SIDEWALK TO CENTER OF BASE

5) CONDUIT RIGID METALLIC MAY BE REQUIRED ACROSS STRUCTURE JOINTS AT CERTAIN LOCATIONS. FIVE FEET (MINIMUM) ON EITHER SIDE OF THE JOINT REQUIRED. APPLY ASPHALTIC SEALANT TO ANY EXPOSED METALLIC CONDUIT. EXPANSION FITTING BONDING JUMPER TO ASPHALTIC SEALANT TO BE CONSIDERED INCIDENTAL TO THE CONDUIT. REFER TO LOCATIONS SHOWN IN THE PLANS FOR RIGID METALLIC CONDUIT LOCATIONS.

LIGHTING PLAN LEGEND

- PROPOSED PULL BOX NON-CONDUCTIVE (24"X42")
- PROPOSED LIGHTING CONDUIT (2" SCHEDULE 40 PVC)
- PROPOSED CONCRETE BASE
- B-XX-XXXX — SEE STRUCTURE PLANS FOR ELECTRICAL DETAILS

*STRUCTURE NUMBERS WITHOUT A BOX INDICATE NO ELECTRICAL INFRASTRUCTURE INCLUDED



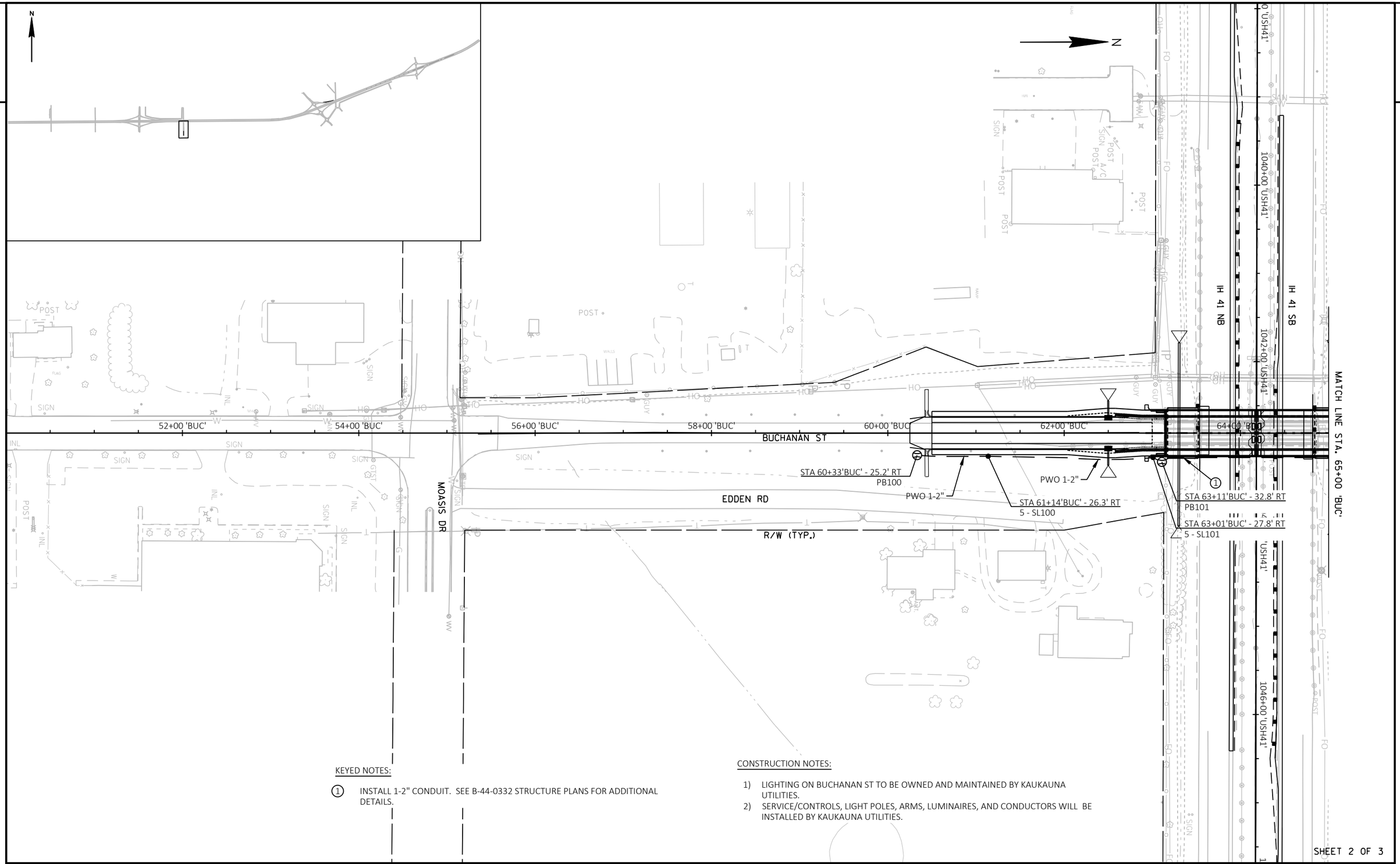
ABBREVIATIONS

STR - STRUCTURE MOUNT (REFER TO STRUCTURE PLANS)
PWO - PULLWIRE ONLY REQ'D

2

SHEET 1 OF 3

PROJECT NO: 1130-66-82	HWY: IH 41	COUNTY: OUTAGAMIE	TITLE SHEET	SHEET 38	E



KEYED NOTES:

(1) INSTALL 1-2" CONDUIT. SEE B-44-0332 STRUCTURE PLANS FOR ADDITIONAL DETAILS.

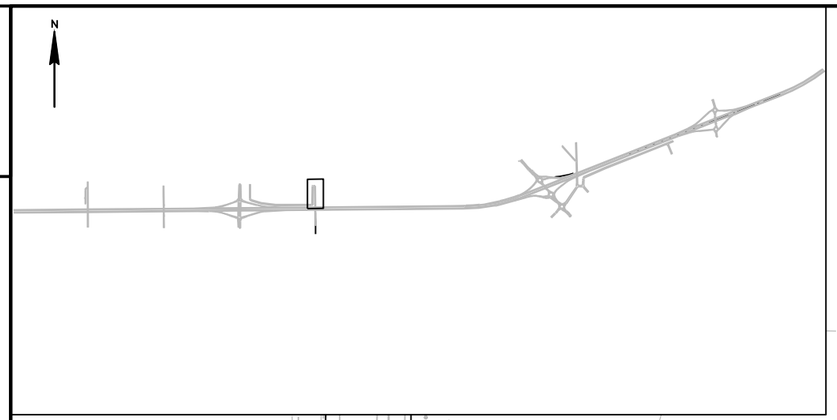
CONSTRUCTION NOTES:

1) LIGHTING ON BUCHANAN ST TO BE OWNED AND MAINTAINED BY KAUKAUNA UTILITIES.
2) SERVICE/CONTROLS, LIGHT POLES, ARMS, LUMINAIRES, AND CONDUCTORS WILL BE INSTALLED BY KAUKAUNA UTILITIES.

SHEET 2 OF 3

PROJECT NO: 1130-66-82	HWY: BUCHANAN ST	COUNTY: OUTAGAMIE	LIGHTING PLANS	SHEET 39	E

FILE NAME : C:\USERS\IADAMS\DC\ACCDOCS\WISDOT\11306301\PROJECT FILES\DSGN\11306301\DSGN\LIGHTING\SHEETS\SHEETSPLAN\1130-66-82_BUCHANAN ST\023601-LP (1130-66-82).DWG PLOT DATE : 1/22/2025 12:27 PM PLOT BY : ISAIAH ADAMS PLOT NAME : PLOT SCALE : 1 IN:100 FT
LAYOUT NAME - 01
WISDOT/CADDS SHEET 42



N

RANDOLPH DR

BUCHANAN ST

EVERGREEN RD

MATCH LINE STA. 65+00 'BUC'

65+00 'BUC'

68+00 'BUC'

70+00 'BUC'

72+00 'BUC'

74+00 'BUC'

76+00 'BUC'

PWO 1-2"

PWO 1-2"

STA 65+32'BUC' - 27.8' RT
5 - SL102

STA 65+24'BUC' - 32.8' RT
PB102

STA 67+65'BUC' - 26.4' RT
5 - SL103

STA 69+91'BUC' - 26.3' RT
5 - SL104

STA 70+13'BUC' - 22.8' RT
PB103

R/W (TYP.)

KEYED NOTES:

(1) INSTALL 1-2" CONDUIT. SEE B-44-0332 STRUCTURE PLANS FOR ADDITIONAL DETAILS.

CONSTRUCTION NOTES:

1) LIGHTING ON BUCHANAN ST TO BE OWNED AND MAINTAINED BY KAUKAUNA UTILITIES.
2) SERVICE/CONTROLS, LIGHT POLES, ARMS, LUMINAIRES, AND CONDUCTORS WILL BE INSTALLED BY KAUKAUNA UTILITIES.

SHEET 3 OF 3

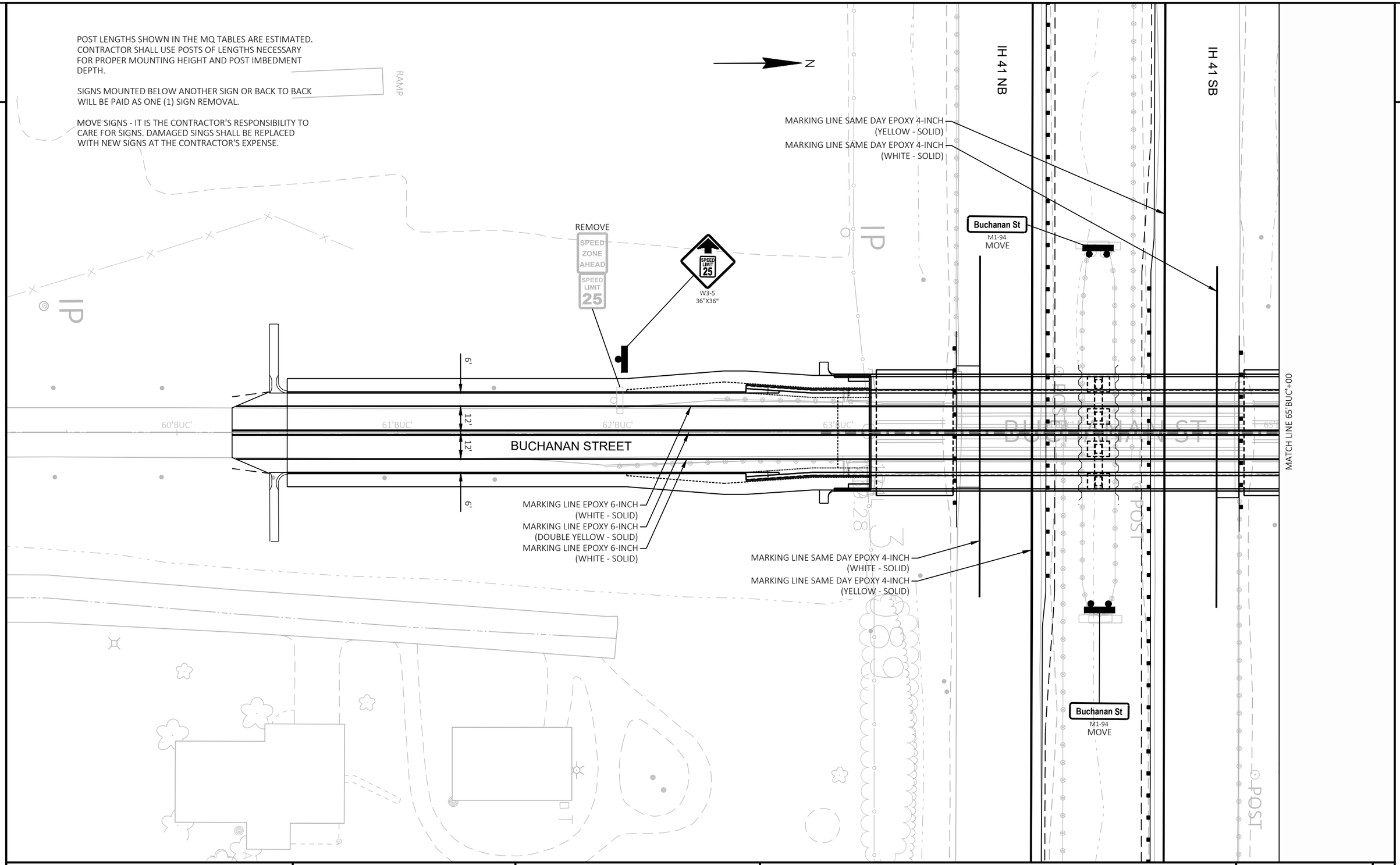
PROJECT NO: 1130-66-82	HWY: BUCHANAN ST	COUNTY: OUTAGAMIE	LIGHTING PLANS	SHEET 40	E

FILE NAME : C:\USERS\IADAMS\DC\ACCDOCS\WISDOT\11306301\PROJECT FILES\DSGN\11306301\DSGN\LIGHTING\SHEETS\SHEETSPLAN\1130-66-82_BUCHANAN ST\023601-LP (1130-66-82).DWG
LAYOUT NAME - 02
PLOT DATE : 1/22/2025 12:28 PM
PLOT BY : ISAIAH ADAMS
PLOT NAME :
PLOT SCALE : 1 IN:100 FT

POST LENGTHS SHOWN IN THE MQ TABLES ARE ESTIMATED. CONTRACTOR SHALL USE POSTS OF LENGTHS NECESSARY FOR PROPER MOUNTING HEIGHT AND POST IMBEDMENT DEPTH.

SIGNS MOUNTED BELOW ANOTHER SIGN OR BACK TO BACK WILL BE PAID AS ONE (1) SIGN REMOVAL.

MOVE SIGNS - IT IS THE CONTRACTOR'S RESPONSIBILITY TO CARE FOR SIGNS. DAMAGED SINGS SHALL BE REPLACED WITH NEW SIGNS AT THE CONTRACTOR'S EXPENSE.



PROJECT NO: 1130-66-82	HWY: IH 41	COUNTY: OUTAGAMIE	PAVEMENT MARKING & PERMANENT SIGNING PLAN	SHEET 41	E

2

N

RANDOLPH DRIVE

IP

MATCH LINE 65'BUC'+00

66'BUC'

67'BUC'

68'BUC'

69'BUC'

70'BUC'

6'

12'

12'

BUCHANAN STREET

6'

MARKING LINE EPOXY 6-INCH
(WHITE - SOLID)

MARKING LINE EPOXY 6-INCH
(DOUBLE YELLOW - SOLID)

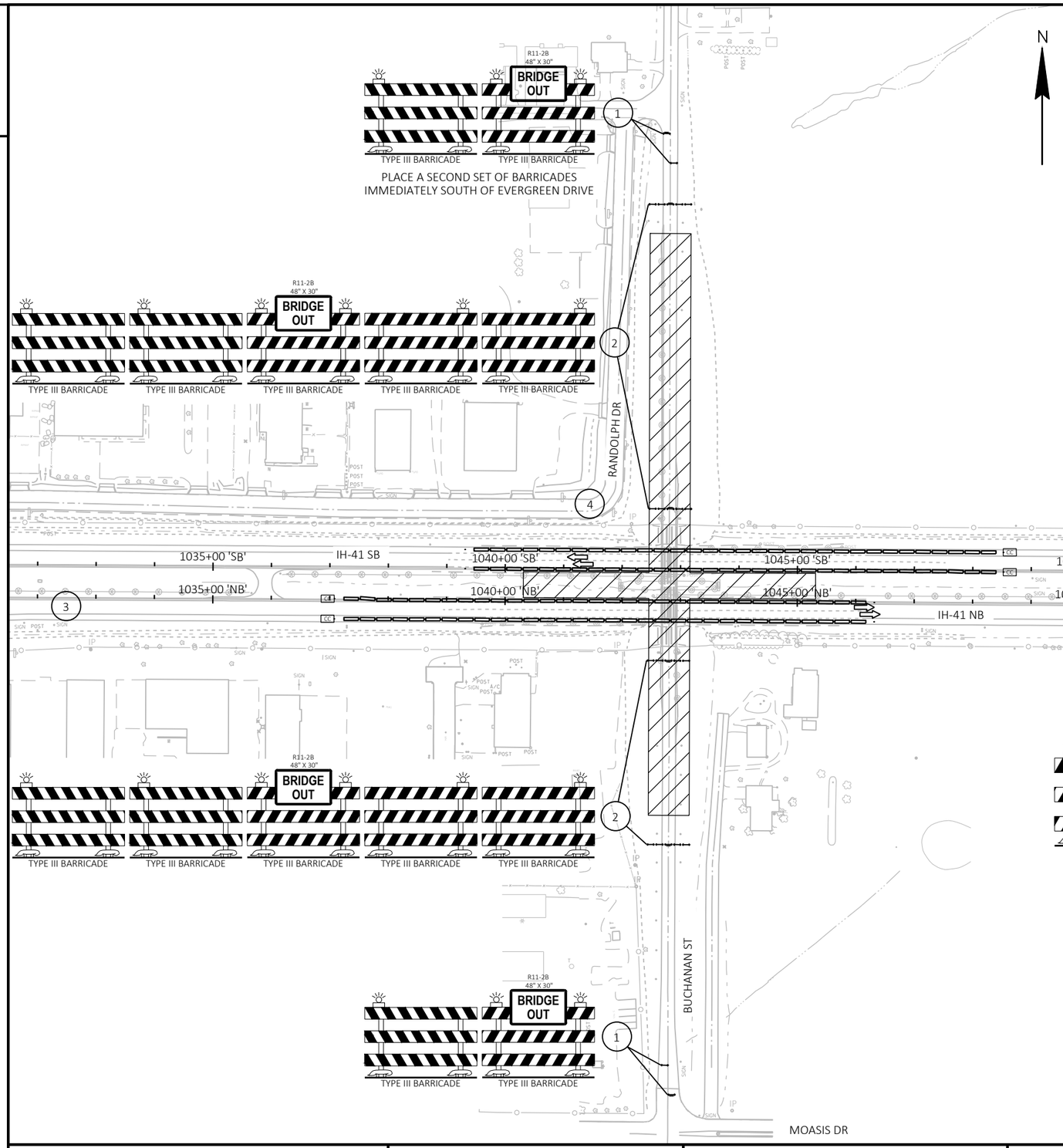
MARKING LINE EPOXY 6-INCH
(WHITE - SOLID)

PROJECT NO: 1130-66-82	HWY: IH 41	COUNTY: OUTAGAMIE	PAVEMENT MARKING & PERMANENT SIGNING PLAN	SHEET 42	E

FILE NAME : C:\USERS\ANDYBLOCK\DC\ACCDOCS\WISDOT\11306301\PROJECT FILES\DSGN\11306670\SHEETS\024501-PM-BUC.DWG
LAYOUT NAME - 02

PLOT DATE : 1/22/2025 12:46 PM PLOT BY : ANDY BLOCK PLOT NAME : PLOT SCALE : 1 IN:40 FT

2



TRAFFIC CONTROL GENERAL NOTES:

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

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

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

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

IMMEDIATELY REESTABLISH ALL BARRICADES AND/OR DRUMS THAT MUST BE MOVED FOR A WORK OPERATION UPON COMPLETION OF THE OPERATION OR, FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKDAY.

OVERVIEW SHEET APPLIES TO IH 41 FOR ALL STAGES (STAGE 1 AFTER TEMPORARY BARRIER WALL IS INSTALLED) DURING PEAK TRAFFIC HOURS, AND BUCHANAN STREET FOR STAGES 2-5. A GENERAL WORK ZONE IS SHOWN ON THIS SHEET - SEE INDIVIDUAL STAGING SHEETS AND SPECIAL PROVISIONS FOR A DETAILED DESCRIPTION OF THE WORK ZONE.

1. INSTALL ADVANCED WARNING SIGNS AND BARRICADES ON BUCHANAN STREET PRIOR TO THE CLOSURE OF BUCHANAN STREET ON THE NORTH AND SOUTH SIDE OF IH 41 IN ACCORDANCE WITH STANDARD DETAIL DRAWING " BARRICADES AND SINGS FOR MAINLINE CLOSURES, DETAIL C". NOT ALL REQUIRED SIGNS AND BARRICADES ARE SHOWN ON THIS SHEET.

2. INSTALL ADVANCED WARNING SIGNS AND BARRICADES ON BUCHANAN STREET PRIOR TO THE CLOSURE OF BUCHANAN STREET ON THE NORTH AND SOUTH SIDE OF IH 41 IN ACCORDANCE WITH STANDARD DETAIL DRAWING "BARRICADES AND SIGNS FOR MAINLINE CLOSURES, DETAIL D".

3. INSTALL ADVANCED WARNING SIGNS ON I-41 NB & SB USING STANDARD DETAIL DRAWING "TRAFFIC CONTROL, SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH". FOLLOWING TEMPORARY BARRIER WALL PLACEMENT, INSTALL ADVANCED WARNING SINGS ON IH 41 NB AND SB USING STANDARD DETAIL DRAWING " TRAFFIC CONTROL, SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH". A TRAFFIC QUEUE WARNING SYSTEM AND DIGITAL SPEED SIGNAGE WILL BE INSTALLED FOR THE IH 41 CORRIDOR BY OTHERS UNDER PROJECT ID 1130-63-72.

4. INSTALL ADVANCED WARNING SIGNS ON RANDOLPH DRIVE IN ACCORDANCE WITH STANDARD DETAIL DRAWING "TRAFFIC CONTROL, ADVANCED WARNING SIGNS 40 MPH OR LESS TWO WAY UNDIVIDED ROAD OPEN TO TRAFFIC". UTILIZE SINGLE LANE CLOSURES OR SHOULDER CLOSURES ON RANDOLPH DRIVE TO ACCOMMODATE CONSTRUCTION OPERATIONS USING STANDARD DETAIL DRAWINGS "TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION" AND "TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY".



PLACE BARRICADE AND SIGN IN THE FOLLOWING LOCATIONS:

FOR SB BUCHANAN STREET
-AT HICKORY STREET (X=3/4)
-AT CTH JJ (X=1 1/4)

FOR NB BUCHANAN STREET
-AT ELM STREET (X=1/4)
-AT CTH OO (X=3/4)

LEGEND:

- WORK ZONE
- TRAFFIC FLOW ARROW
- CONCRETE BARRIER TEMPORARY PRECAST
- CRASH CUSHIONS TEMPORARY
- TRAFFIC CONTROL BARRICADE TYPE III W/ SIGN
- TRAFFIC CONTROL BARRICADE TYPE III

PROJECT NO: 1130-66-82	HWY: IH 41	COUNTY: OUTAGAMIE	TRAFFIC CONTROL - BUCHANAN ST	SHEET 43	E

TRAFFIC CONTROL GENERAL NOTES:

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

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

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

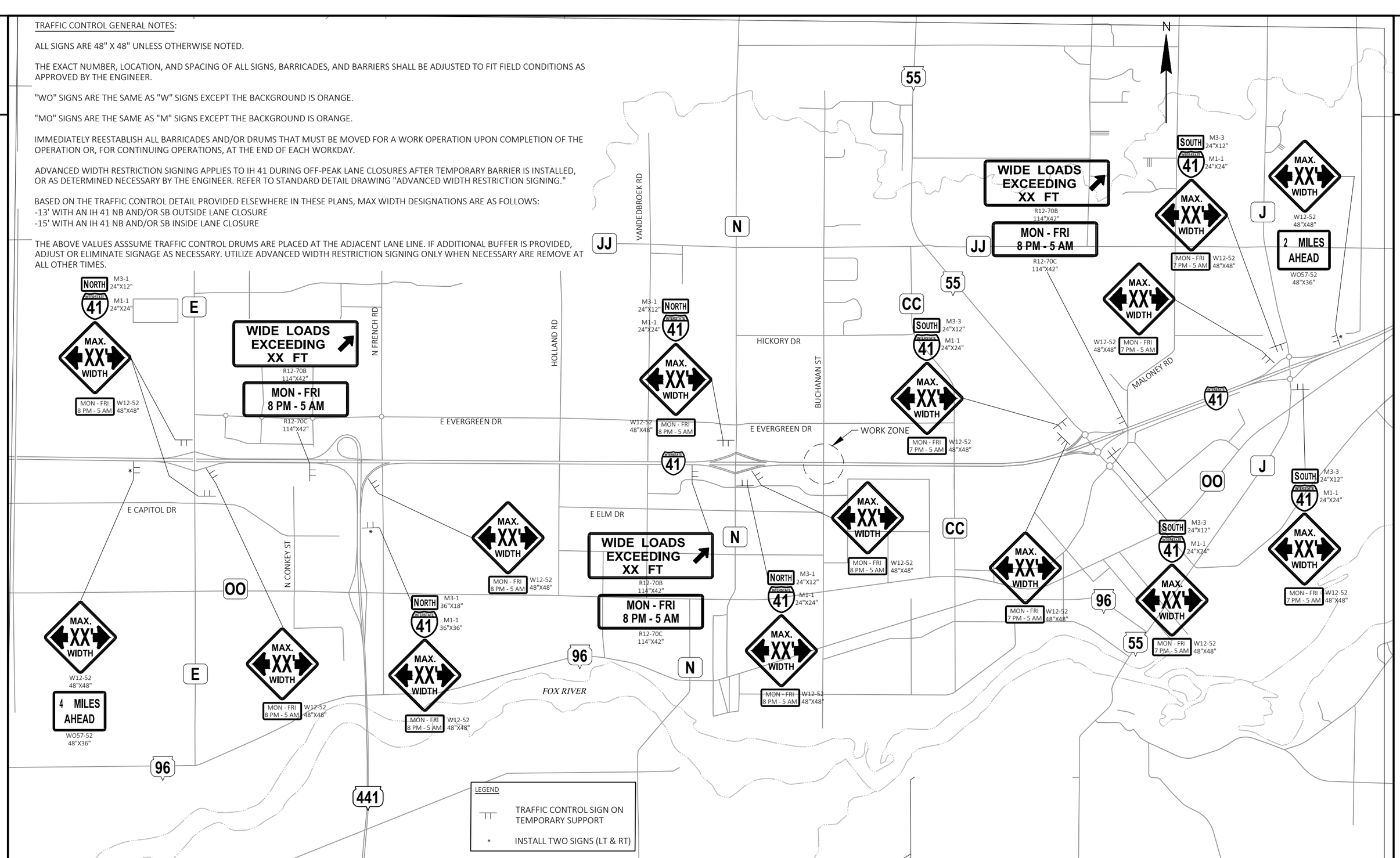
"MO" SIGNS ARE THE SAME AS "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

IMMEDIATELY REESTABLISH ALL BARRICADES AND/OR DRUMS THAT MUST BE MOVED FOR A WORK OPERATION UPON COMPLETION OF THE OPERATION OR, FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKDAY.

ADVANCED WIDTH RESTRICTION SIGNING APPLIES TO IH 41 DURING OFF-PEAK LANE CLOSURES AFTER TEMPORARY BARRIER IS INSTALLED, OR AS DETERMINED NECESSARY BY THE ENGINEER. REFER TO STANDARD DETAIL DRAWING "ADVANCED WIDTH RESTRICTION SIGNING."

BASED ON THE TRAFFIC CONTROL DETAIL PROVIDED ELSEWHERE IN THESE PLANS, MAX WIDTH DESIGNATIONS ARE AS FOLLOWS:
-13' WITH AN IH 41 NB AND/OR SB OUTSIDE LANE CLOSURE
-15' WITH AN IH 41 NB AND/OR SB INSIDE LANE CLOSURE

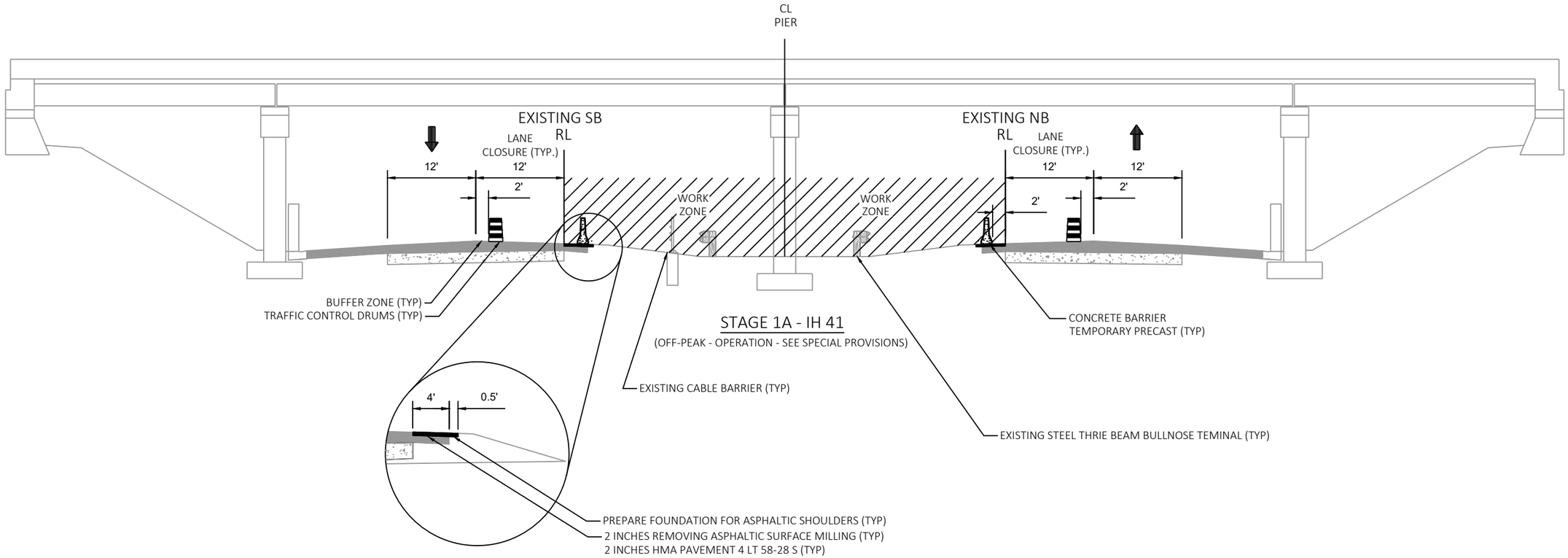
THE ABOVE VALUES ASSSUME TRAFFIC CONTROL DRUMS ARE PLACED AT THE ADJACENT LANE LINE. IF ADDITIONAL BUFFER IS PROVIDED, ADJUST OR ELIMINATE SIGNAGE AS NECESSARY. UTILIZE ADVANCED WIDTH RESTRICTION SIGNING ONLY WHEN NECESSARY ARE REMOVE AT ALL OTHER TIMES.

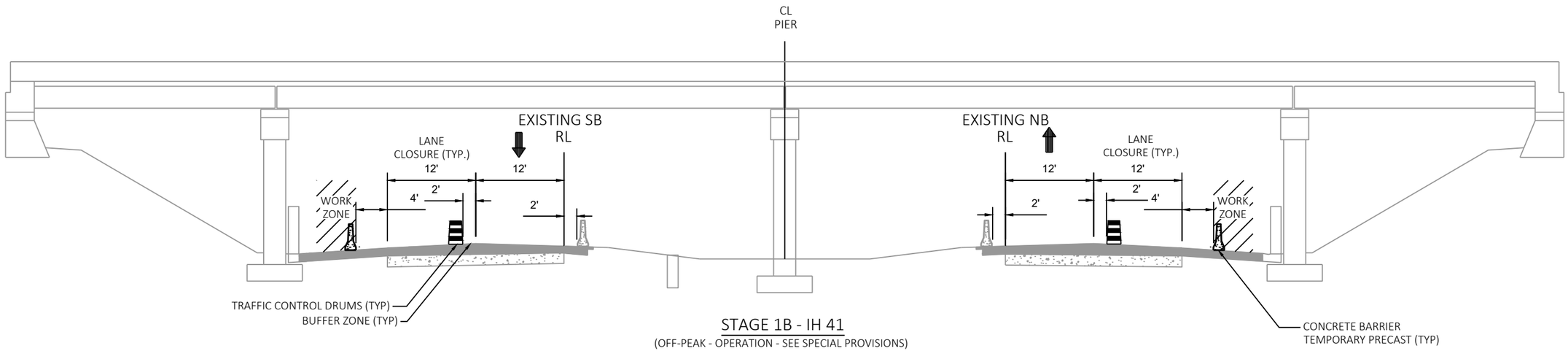


PROJECT NO: 1130-66-82	HWY: IH 41	COUNTY: OUTAGAMIE	TRAFFIC CONTROL - ADVANCED WIDTH RESTRICTION SIGNING	SHEET 44 E

FILE NAME : C:\USERS\DINAASSAD\DC\ACCDOCS\WISDOT\11306301\PROJECT FILES\DSGN\11306670\SHEETS\11306682\025101-TC.DWG
LAYOUT NAME - 01
PLOT DATE : 11/11/2024 11:58 PM PLOT BY : DINA ASSAD PLOT NAME : PLOT SCALE : 1 IN:0.5 MI

2

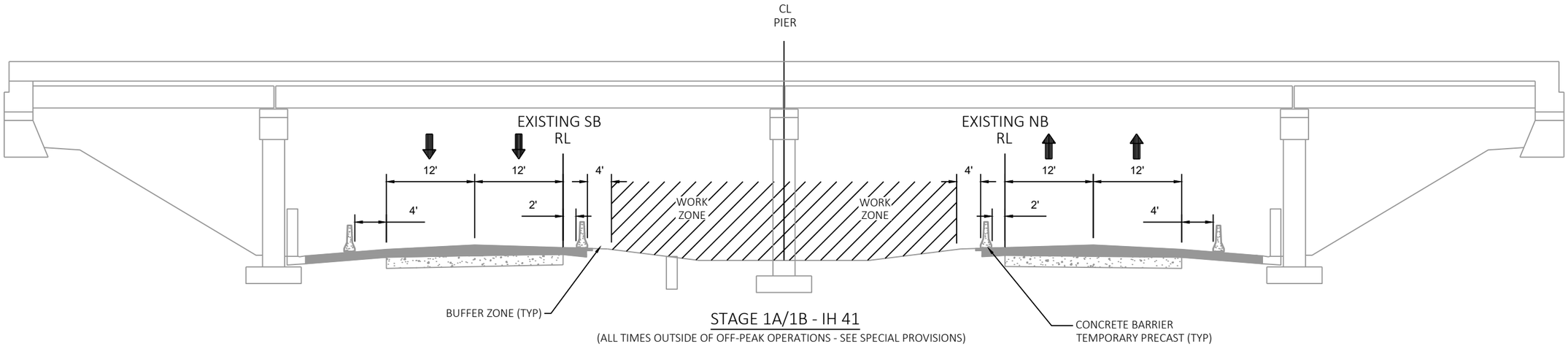




PROJECT NO: 1130-66-82	HWY: IH 41	COUNTY: OUTAGAMIE	TRAFFIC CONTROL TYPICAL SECTIONS - IH 41	SHEET 45	E

FILE NAME : C:\USERS\DINAASSAD\DC\ACCDOCS\WISDOT\11306301\PROJECT FILES\DSGN\11306670\SHEETS\11306682\025102-TC.DWG
LAYOUT NAME - 025101-tc
PLOT DATE : 11/8/2024 11:02 AM PLOT BY : DINA ASSAD PLOT NAME : PLOT SCALE : 1 IN:10 FT
WISDOT/CADDS SHEET 42

2

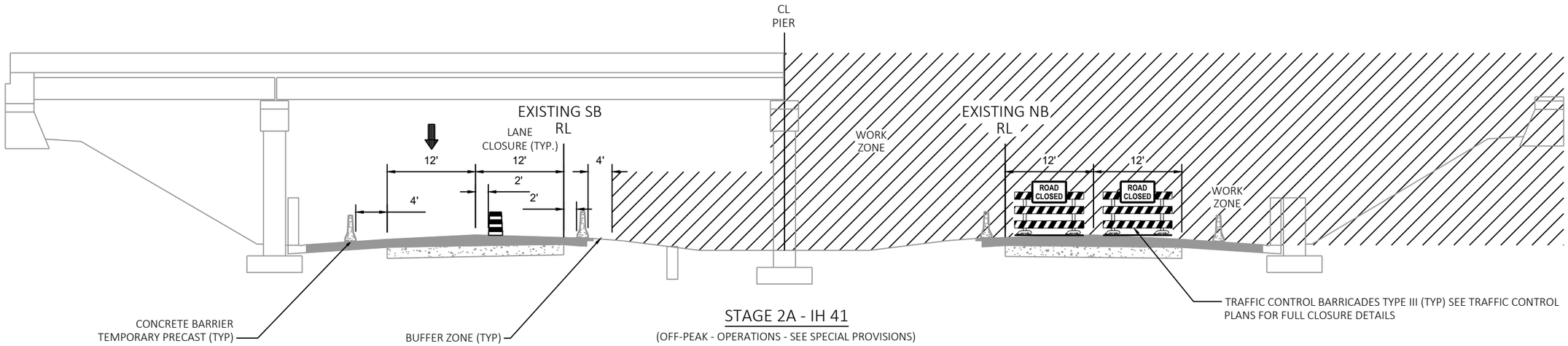


STAGE 1A/1B - IH 41

(ALL TIMES OUTSIDE OF OFF-PEAK OPERATIONS - SEE SPECIAL PROVISIONS)

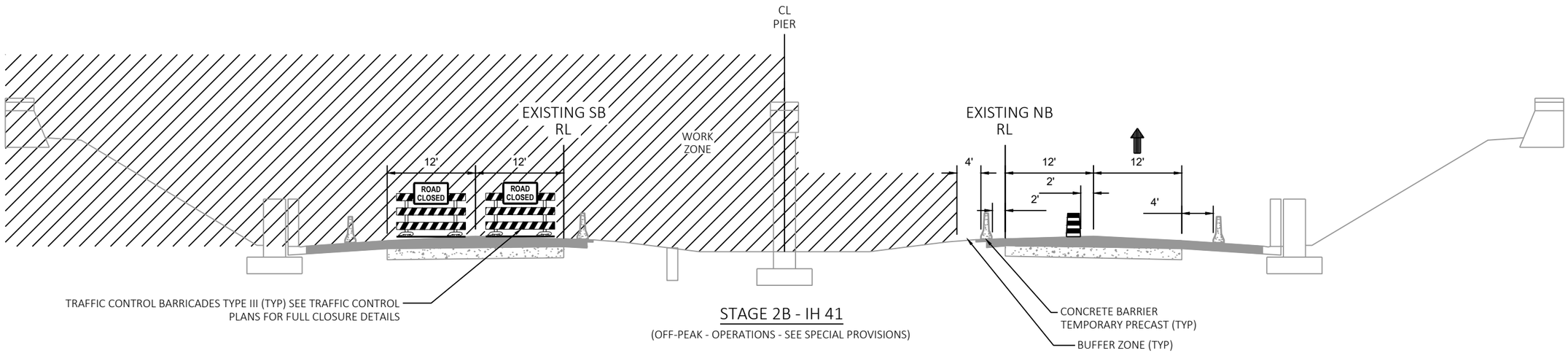
PROJECT NO: 1130-66-82	HWY: IH 41	COUNTY: OUTAGAMIE	TRAFFIC CONTROL TYPICAL SECTIONS - IH 41	SHEET 46	E

2



STAGE 2A - IH 41

(OFF-PEAK - OPERATIONS - SEE SPECIAL PROVISIONS)

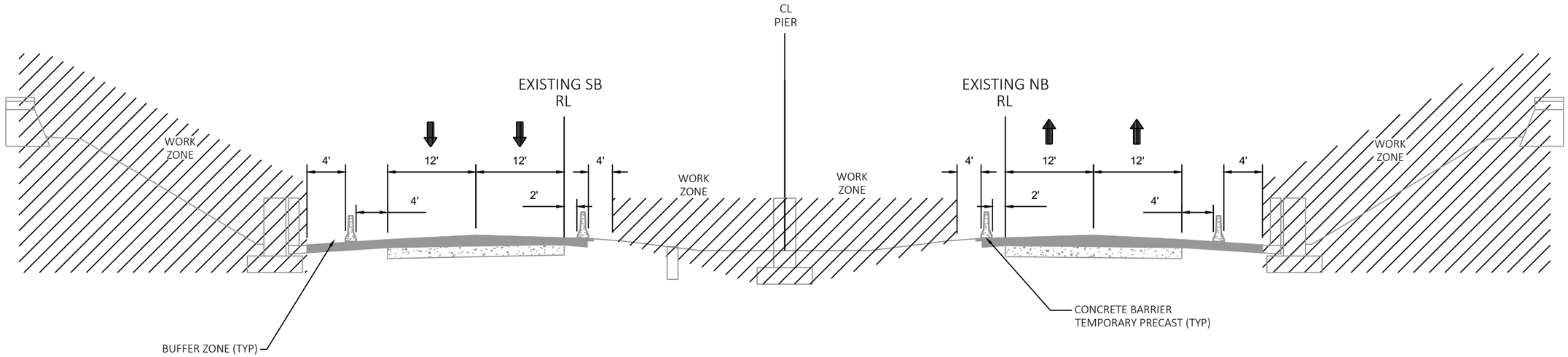


STAGE 2B - IH 41

(OFF-PEAK - OPERATIONS - SEE SPECIAL PROVISIONS)

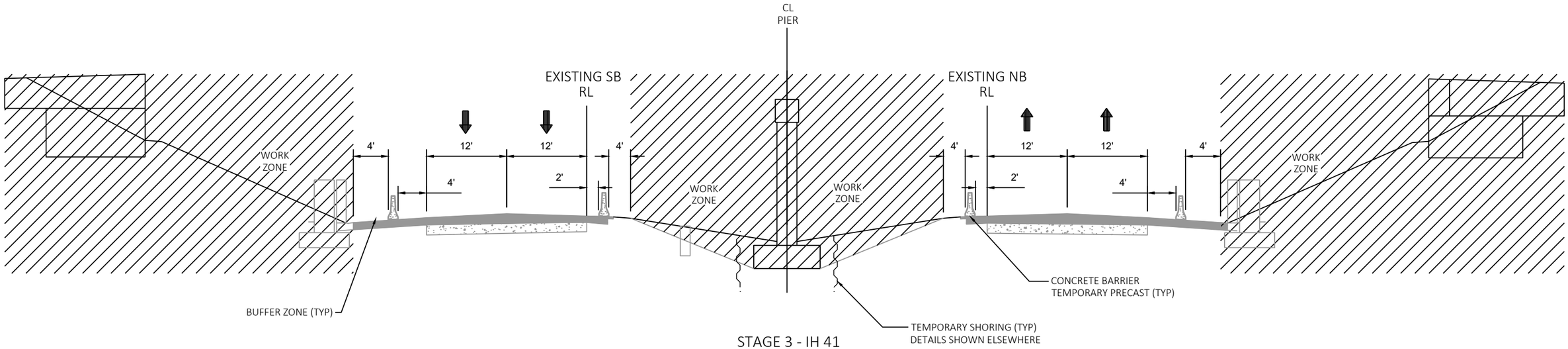
PROJECT NO: 1130-66-82	HWY: IH 41	COUNTY: OUTAGAMIE	TRAFFIC CONTROL TYPICAL SECTIONS - IH 41	SHEET 47	E

2



STAGE 2A/2B - IH 41

(ALL TIMES OUTSIDE OF OFF-PEAK OPERATION - SEE SPECIAL PROVISIONS)



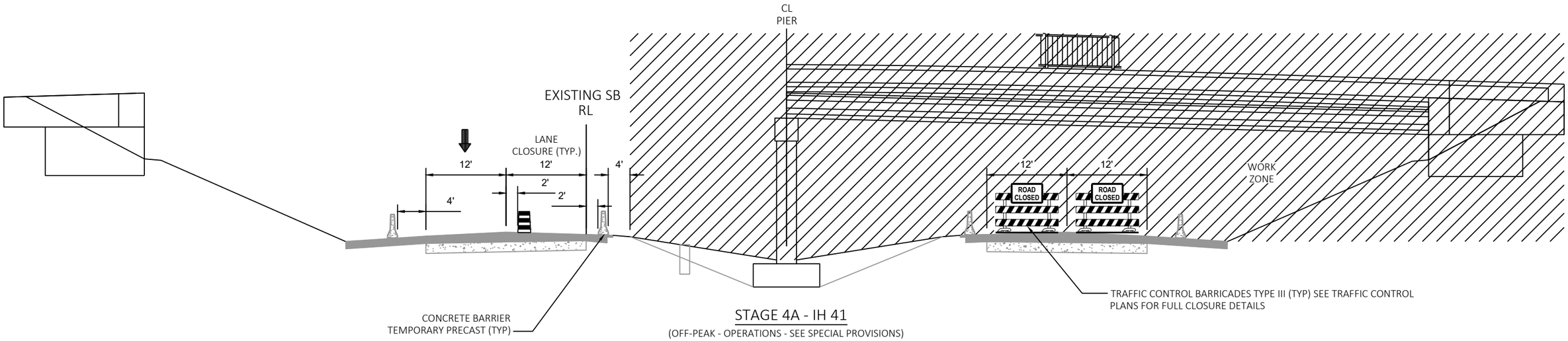
STAGE 3 - IH 41

(TYPICAL ALL TIMES. LANE CLOSURES FOR MATERIAL AND/OR EQUIPMENT DELIVERY SHALL FOLLOW DETAILS PROVIDED FOR STAGE 1)

PROJECT NO: 1130-66-82	HWY: IH 41	COUNTY: OUTAGAMIE	TRAFFIC CONTROL TYPICAL SECTIONS - IH 41	SHEET 48	E

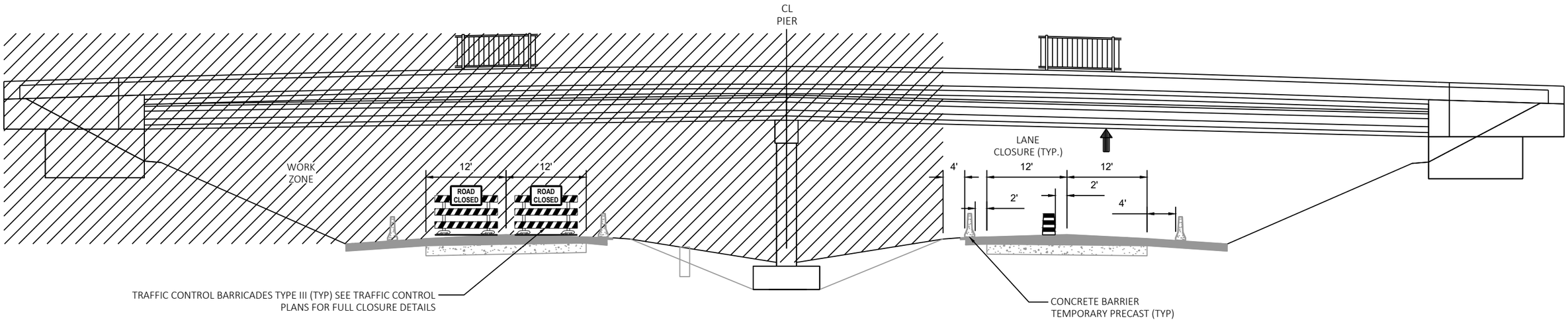
FILE NAME : C:\USERS\DINAASSAD\DC\ACCDOCS\WISDOT\11306301\PROJECT FILES\DSGN\11306670\SHEETS\11306682\025102-TC.DWG
LAYOUT NAME - 025104-tc
PLOT DATE : 11/8/2024 11:02 AM PLOT BY : DINA ASSAD PLOT NAME : PLOT SCALE : 1 IN:10 FT
WISDOT/CADDS SHEET 42

2



STAGE 4A - IH 41

(OFF-PEAK - OPERATIONS - SEE SPECIAL PROVISIONS)



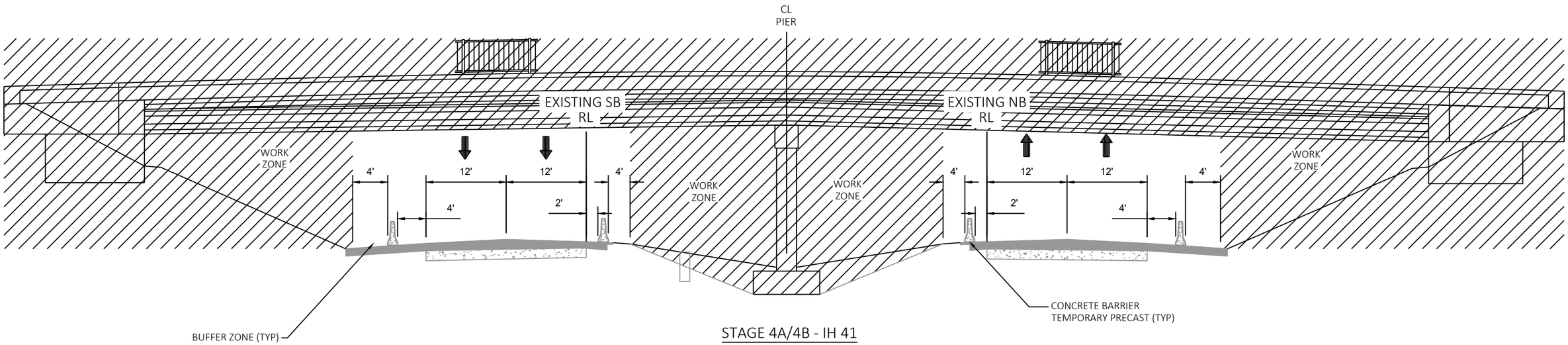
STAGE 4B - IH 41

(OFF-PEAK - OPERATIONS - SEE SPECIAL PROVISIONS)

PROJECT NO: 1130-66-82	HWY: IH 41	COUNTY: OUTAGAMIE	TRAFFIC CONTROL TYPICAL SECTIONS - IH 41	SHEET 49	E

FILE NAME : C:\USERS\DINAASSAD\DC\ACCDOCS\WISDOT\11306301\PROJECT FILES\DSGN\11306670\SHEETS\11306682\025102-TC.DWG
LAYOUT NAME - 025105-tc
PLOT DATE : 11/8/2024 11:03 AM PLOT BY : DINA ASSAD PLOT NAME : PLOT SCALE : 1 IN:10 FT
WISDOT/CADDS SHEET 42

2



STAGE 4A/4B - IH 41

(ALL TIMES OUTSIDE OF OFF-PEAK OPERATIONS - SEE SPECIAL PROVISIONS)

PROJECT NO: 1130-66-82	HWY: IH 41	COUNTY: OUTAGAMIE	TRAFFIC CONTROL TYPICAL SECTIONS - IH 41	SHEET 50	E

FILE NAME : C:\USERS\DINAASSAD\DC\ACCDOCS\WISDOT\11306301\PROJECT FILES\DSGN\11306670\SHEETS\11306682\025102-TC.DWG
LAYOUT NAME - 025106-tc
PLOT DATE : 11/8/2024 11:03 AM PLOT BY : DINA ASSAD PLOT NAME : PLOT SCALE : 1 IN:10 FT
WISDOT/CADDS SHEET 42

2

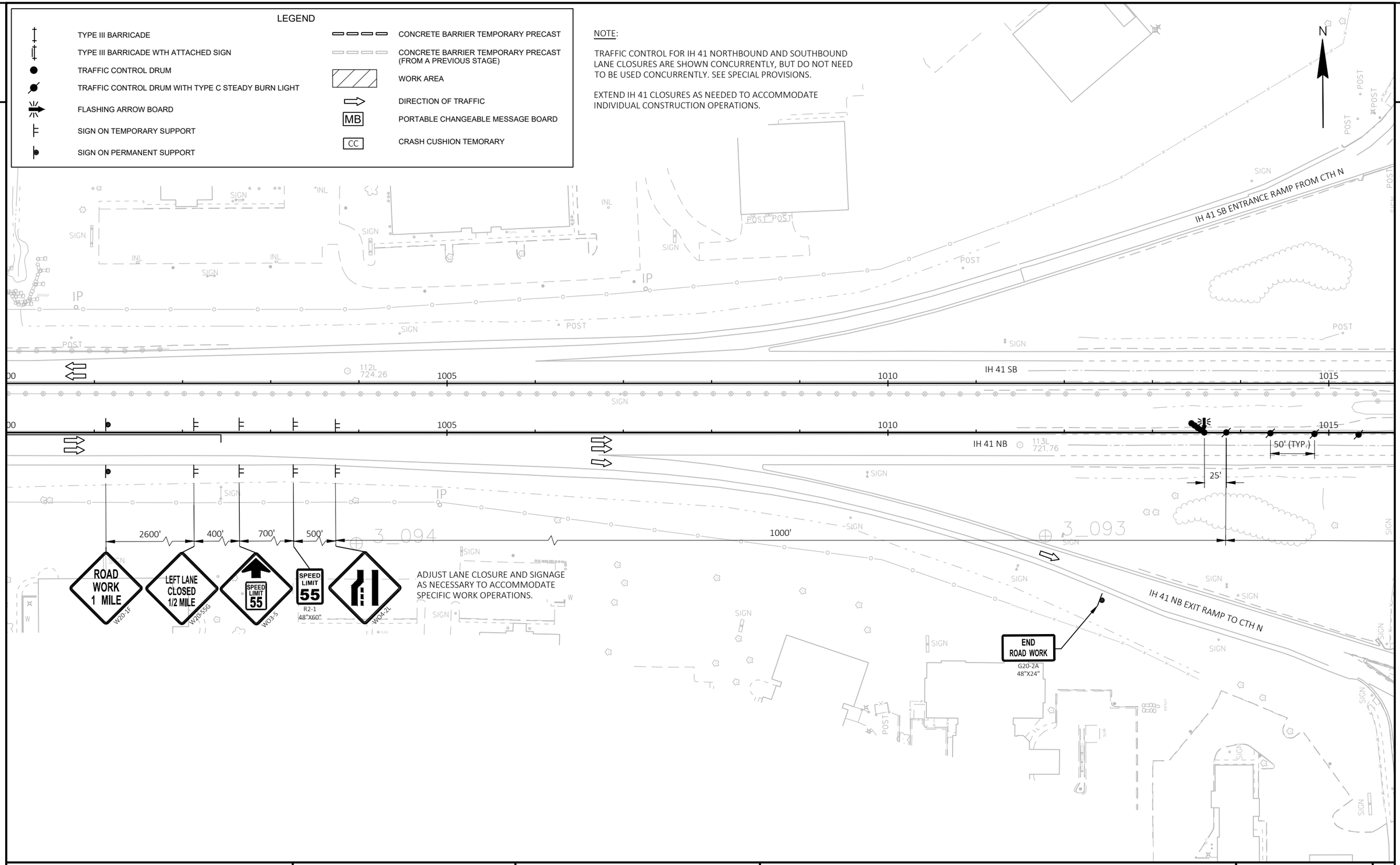
LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT
- CONCRETE BARRIER TEMPORARY PRECAST
- CONCRETE BARRIER TEMPORARY PRECAST (FROM A PREVIOUS STAGE)
- WORK AREA
- DIRECTION OF TRAFFIC
- MB — PORTABLE CHANGEABLE MESSAGE BOARD
- CC — CRASH CUSHION TEMORARY

NOTE:

TRAFFIC CONTROL FOR IH 41 NORTHBOUND AND SOUTHBOUND LANE CLOSURES ARE SHOWN CONCURRENTLY, BUT DO NOT NEED TO BE USED CONCURRENTLY. SEE SPECIAL PROVISIONS.

EXTEND IH 41 CLOSURES AS NEEDED TO ACCOMMODATE INDIVIDUAL CONSTRUCTION OPERATIONS.



PROJECT NO: 1130-66-82	HWY: IH 41	COUNTY: OUTAGAMIE	TRAFFIC CONTROL - STAGE 1A OFF PEAK LANE CLOSURES	SHEET 51	E

FILE NAME : C:\USERS\BRYNLEESTURDIVANT\DC\ACCDOCS\WISDOT\11306301\PROJECT FILES\DSGN\11306670\SHEETS\11306682\026001-S1A.DWG
LAYOUT NAME - 01
PLOT DATE : 8/6/2025 9:22 AM
PLOT BY : BRYNLEE STURDIVANT
PLOT NAME :
PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 42

2

2

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT
- CONCRETE BARRIER TEMPORARY PRECAST
- CONCRETE BARRIER TEMPORARY PRECAST (FROM A PREVIOUS STAGE)
- WORK AREA
- DIRECTION OF TRAFFIC
- MB — PORTABLE CHANGEABLE MESSAGE BOARD
- CC — CRASH CUSHION TEMORARY

NOTE:

TRAFFIC CONTROL FOR IH 41 NORTHBOUND AND SOUTHBOUND LANE CLOSURES ARE SHOWN CONCURRENTLY, BUT DO NOT NEED TO BE USED CONCURRENTLY. SEE SPECIAL PROVISIONS.

EXTEND IH 41 CLOSURES AS NEEDED TO ACCOMMODATE INDIVIDUAL CONSTRUCTION OPERATIONS.

N

IH 41 SB EXIT RAMP TO CTH N

SPEED LIMIT 70
R2-1
48"X60"

CTH N

IH 41 SB

1020 1025 1030

50' (TYP.)

100' (TYP.)

IH 41 NB

PLACE 800' IN ADVANCE OF GORE

W04-1R

660' TAPER

IH 41 NB ENTRANCE RAMP FROM CTH N

50' (TYP.)

25' (TYP.)

TRAFFIC CONTROL FLAGS INCIDENTAL TO TRAFFIC CONTROL SIGNS BID ITEM.

R1-2
48"X42"

R11-2L
48"X30"
LANE CLOSED

TYPE III BARRICADE

(PLACE 1000' IN ADVANCE OF GORE)

ROAD WORK AHEAD
W20-1A

W03-2

PLACE 500' IN ADVANCE OF YIELD SIGN, R1-2. TRAFFIC CONTROL FLAGS INCIDENTAL TO TRAFFIC CONTROL SIGNS BID ITEM.

PROJECT NO: 1130-66-82	HWY: IH 41	COUNTY: OUTAGAMIE	TRAFFIC CONTROL - STAGE 1A OFF PEAK LANE CLOSURES	SHEET 52	E

2

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT
- CONCRETE BARRIER TEMPORARY PRECAST
- CONCRETE BARRIER TEMPORARY PRECAST (FROM A PREVIOUS STAGE)
- WORK AREA
- DIRECTION OF TRAFFIC
- MB — PORTABLE CHANGEABLE MESSAGE BOARD
- CC — CRASH CUSHION TEMORARY

NOTE:

TRAFFIC CONTROL FOR IH 41 NORTHBOUND AND SOUTHBOUND LANE CLOSURES ARE SHOWN CONCURRENTLY, BUT DO NOT NEED TO BE USED CONCURRENTLY. SEE SPECIAL PROVISIONS.

EXTEND IH 41 CLOSURES AS NEEDED TO ACCOMMODATE INDIVIDUAL CONSTRUCTION OPERATIONS.

N

R11-2L
48" X 30"
LANE CLOSED
TYPE III BARRICADE

END ROAD WORK
G20-2A
48"X24"

SEE CONSTRUCTION DETAIL FOR BARRIER WALL LAYOUT NEAR TEMPORARY CRASH CUSHION

RANDOLPH DRIVE

100' (TYP.)

IH 41 SB

1035 1040 1045

STA 1039+30.99

STA 1037+07.47

100' (TYP.)

IH 41 NB

STA 1046+31.25

SPEED LIMIT 55
R2-1
48"X60"

SPEED LIMIT 70

COVER EXISTING SIGN

R11-2L
48" X 30"
LANE CLOSED
TYPE III BARRICADE

SEE TRAFFIC CONTROL - BUCHANAN ST FOR TRAFFIC CONTROL DETAILS ALONG BUCHANAN STREET.

BUCHANAN STREET

PROJECT NO: 1130-66-82	HWY: IH 41	COUNTY: OUTAGAMIE	TRAFFIC CONTROL - STAGE 1A OFF PEAK LANE CLOSURES	SHEET 53	E

FILE NAME : C:\USERS\BRYNLEESTURDIVANT\DC\ACCDOCS\WISDOT\11306301\PROJECT FILES\DSGN\11306670\SHEETS\11306682\026001-S1A.DWG
LAYOUT NAME - 03

PLOT DATE : 8/6/2025 9:27 AM PLOT BY : BRYNLEE STURDIVANT PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 42

2

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT
- CONCRETE BARRIER TEMPORARY PRECAST
- CONCRETE BARRIER TEMPORARY PRECAST (FROM A PREVIOUS STAGE)
- WORK AREA
- DIRECTION OF TRAFFIC
- MB — PORTABLE CHANGEABLE MESSAGE BOARD
- CC — CRASH CUSHION TEMORARY

NOTE:

TRAFFIC CONTROL FOR IH 41 NORTHBOUND AND SOUTHBOUND LANE CLOSURES ARE SHOWN CONCURRENTLY, BUT DO NOT NEED TO BE USED CONCURRENTLY. SEE SPECIAL PROVISIONS.

EXTEND IH 41 CLOSURES AS NEEDED TO ACCOMMODATE INDIVIDUAL CONSTRUCTION OPERATIONS.

N

2

R11-2L
48" X 30"
LANE CLOSED
TYPE III BARRICADE

SEE CONSTRUCTION DETAIL FOR BARRIER WALL LAYOUT NEAR TEMPORARY CRASH CUSHION

100' (TYP.)

50' (TYP.)

IH 41 SB

IH 41 NB

1050 1055 1060

126L 718.23

127L 717.09

STA 1048+52.09

END ROAD WORK
G20-2A
48"X24"

SPEED LIMIT 70
R2-1
48"X60"

WATER TOWER

SIGN POST A/C INL W

PROJECT NO: 1130-66-82	HWY: IH 41	COUNTY: OUTAGAMIE	TRAFFIC CONTROL - STAGE 1A OFF PEAK LANE CLOSURES	SHEET 54	E

FILE NAME : C:\USERS\BRYNLEESTURDIVANT\DC\ACCDOCS\WISDOT\11306301\PROJECT FILES\DSGN\11306670\SHEETS\11306682\026001-S1A.DWG
LAYOUT NAME - 04

PLOT DATE : 8/6/2025 9:30 AM PLOT BY : BRYNLEE STURDIVANT PLOT NAME : PLOT SCALE : 1 IN:100 FT

2

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT
- CONCRETE BARRIER TEMPORARY PRECAST
- CONCRETE BARRIER TEMPORARY PRECAST (FROM A PREVIOUS STAGE)
- WORK AREA
- DIRECTION OF TRAFFIC
- MB — PORTABLE CHANGEABLE MESSAGE BOARD
- CC — CRASH CUSHION TEMORARY

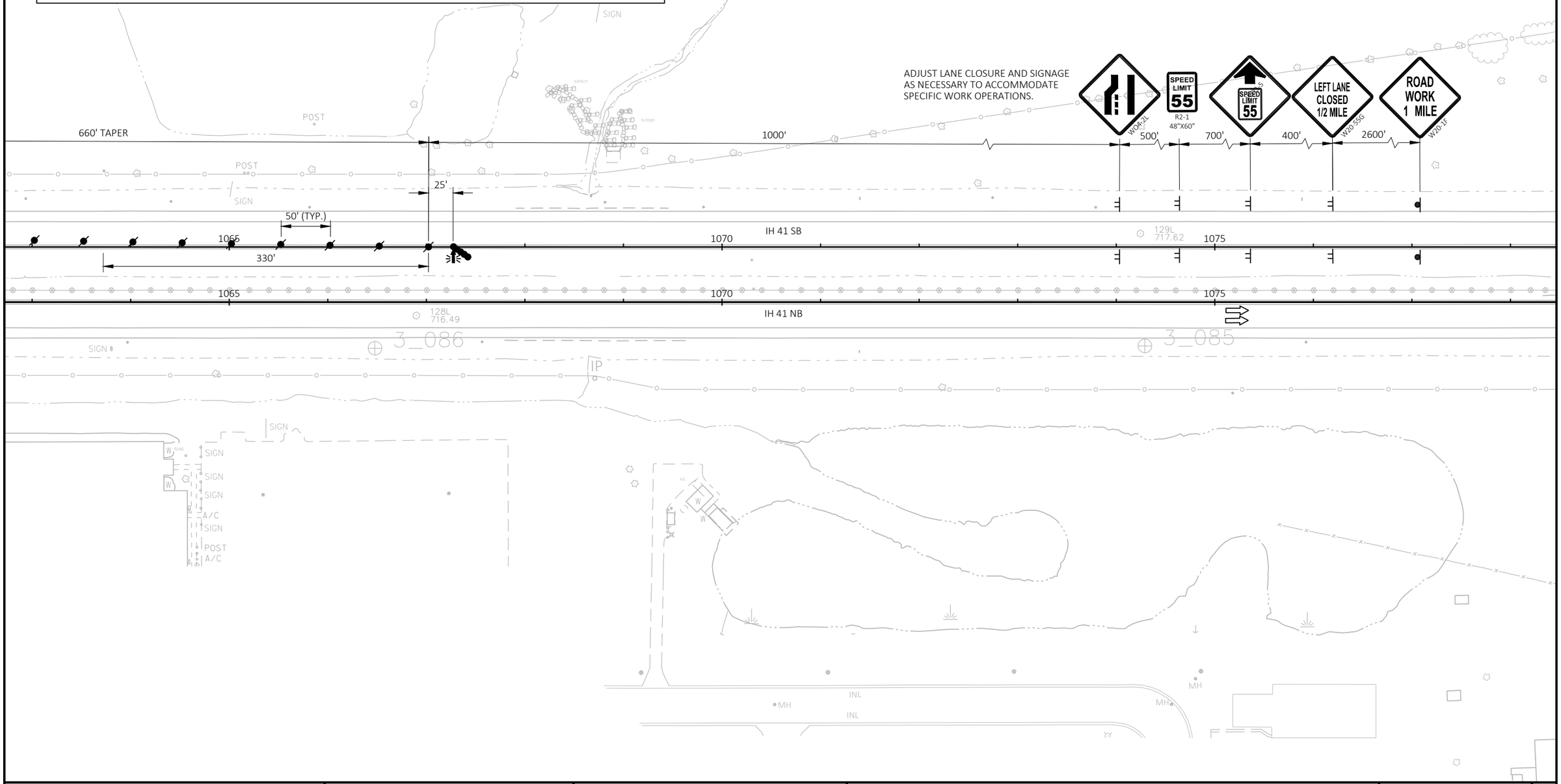
NOTE:

TRAFFIC CONTROL FOR IH 41 NORTHBOUND AND SOUTHBOUND LANE CLOSURES ARE SHOWN CONCURRENTLY, BUT DO NOT NEED TO BE USED CONCURRENTLY. SEE SPECIAL PROVISIONS.

EXTEND IH 41 CLOSURES AS NEEDED TO ACCOMMODATE INDIVIDUAL CONSTRUCTION OPERATIONS.

N

ADJUST LANE CLOSURE AND SIGNAGE AS NECESSARY TO ACCOMMODATE SPECIFIC WORK OPERATIONS.



PROJECT NO: 1130-66-82	HWY: IH 41	COUNTY: OUTAGAMIE	TRAFFIC CONTROL - STAGE 1A OFF PEAK LANE CLOSURES	SHEET 55	E

FILE NAME : C:\USERS\BRYNLEESTURDIVANT\DC\ACCDOCS\WISDOT\11306301\PROJECT FILES\DSGN\11306670\SHEETS\11306682\026001-S1A.DWG
LAYOUT NAME - 05

PLOT DATE : 8/6/2025 9:32 AM PLOT BY : BRYNLEE STURDIVANT PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 42

2

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT
- CONCRETE BARRIER TEMPORARY PRECAST
- CONCRETE BARRIER TEMPORARY PRECAST (FROM A PREVIOUS STAGE)
- WORK AREA
- DIRECTION OF TRAFFIC
- MB — PORTABLE CHANGEABLE MESSAGE BOARD
- CC — CRASH CUSHION TEMORARY

NOTE:

TRAFFIC CONTROL FOR IH 41 NORTHBOUND AND SOUTHBOUND LANE CLOSURES ARE SHOWN CONCURRENTLY, BUT DO NOT NEED TO BE USED CONCURRENTLY. SEE SPECIAL PROVISIONS.

EXTEND IH 41 CLOSURES AS NEEDED TO ACCOMMODATE INDIVIDUAL CONSTRUCTION OPERATIONS.

CLOSE CTH N NB ENTRANCE RAMP FOR TEMPORARY BARRIER WALL INSTALLATION, IH 41 OUTSIDE SHOULDER MILLING/PAVING, AND AS DIRECTED BY THE ENGINEER.

N

2

IH 41 SB ENTRANCE RAMP FROM CTH N

IH 41 SB

112L 724.26

1005

1010

1015

IH 41 NB

113L 721.76

2600'

400'

700'

500'

1000'

ROAD WORK 1 MILE W20-1F

RIGHT LANE CLOSED 1/2 MILE W20-5G

SPEED LIMIT 55 W3-5

SPEED LIMIT 55 R2-1 48"X60"

W04-2R

IH 41 NB EXIT RAMP TO CTH N

PROJECT NO: 1130-66-82	HWY: IH 41	COUNTY: OUTAGAMIE	TRAFFIC CONTROL - STAGE 1B OFF PEAK LANE CLOSURES	SHEET 56	E

FILE NAME : C:\USERS\BRYNLEESTURDIVANT\DC\ACCDOCS\WISDOT\11306301\PROJECT FILES\DSGN\11306670\SHEETS\11306682\026001-S1B.DWG
LAYOUT NAME - 01

PLOT DATE : 8/6/2025 10:17 AM PLOT BY : BRYNLEE STURDIVANT PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 42

2

2

LEGEND

TYPE III BARRICADE	CONCRETE BARRIER TEMPORARY PRECAST
TYPE III BARRICADE WTH ATTACHED SIGN	CONCRETE BARRIER TEMPORARY PRECAST (FROM A PREVIOUS STAGE)
TRAFFIC CONTROL DRUM	WORK AREA
TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT	DIRECTION OF TRAFFIC
FLASHING ARROW BOARD	PORTABLE CHANGEABLE MESSAGE BOARD (MB)
SIGN ON TEMPORARY SUPPORT	CRASH CUSHION TEMORARY (CC)
SIGN ON PERMANENT SUPPORT	

NOTE:

TRAFFIC CONTROL FOR IH 41 NORTHBOUND AND SOUTHBOUND LANE CLOSURES ARE SHOWN CONCURRENTLY, BUT DO NOT NEED TO BE USED CONCURRENTLY. SEE SPECIAL PROVISIONS.

EXTEND IH 41 CLOSURES AS NEEDED TO ACCOMMODATE INDIVIDUAL CONSTRUCTION OPERATIONS.

CLOSE CTH N NB ENTRANCE RAMP FOR TEMPORARY BARRIER WALL INSTALLATION, IH 41 OUTSIDE SHOULDER MILLING/PAVING, AND AS DIRECTED BY THE ENGINEER.

N

IH 41 SB EXIT RAMP TO CTH N

SPEED LIMIT 70
R2-1
48"X60"

W20-4R

IH 41 SB

1020 1025 1030

100' (TYP.)

IH 41 NB

25'

50' (TYP.)

50' (TYP.)

25' (TYP.)

600'

660' TAPER

1125'

IH 41 NB ENTRANCE RAMP FROM CTH N

ROAD WORK AHEAD
W20-1A

PROJECT NO: 1130-66-82	HWY: IH 41	COUNTY: OUTAGAMIE	TRAFFIC CONTROL - STAGE 1B OFF PEAK LANE CLOSURES	SHEET 57	E

FILE NAME : C:\USERS\BRYNLEESTURDIVANT\DC\ACCDOCS\WISDOT\11306301\PROJECT FILES\DSGN\11306670\SHEETS\11306682\026001-S1B.DWG
LAYOUT NAME - 02

PLOT DATE : 8/6/2025 10:19 AM PLOT BY : BRYNLEE STURDIVANT PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 42

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT
- CONCRETE BARRIER TEMPORARY PRECAST
- CONCRETE BARRIER TEMPORARY PRECAST (FROM A PREVIOUS STAGE)
- WORK AREA
- DIRECTION OF TRAFFIC
- MB — PORTABLE CHANGEABLE MESSAGE BOARD
- CC — CRASH CUSHION TEMORARY

NOTE:

TRAFFIC CONTROL FOR IH 41 NORTHBOUND AND SOUTHBOUND LANE CLOSURES ARE SHOWN CONCURRENTLY, BUT DO NOT NEED TO BE USED CONCURRENTLY. SEE SPECIAL PROVISIONS.

REFER TO STANDARD DETAIL DRAWING "TRAFFIC CONTROL INGRESS/EGRESS WITHOUT BARRIER" FOR ACCESSING THE WORK AREA.

EXTEND IH 41 CLOSURES AS NEEDED TO ACCOMMODATE INDIVIDUAL CONSTRUCTION OPERATIONS.

CLOSE CTH N NB ENTRANCE RAMP FOR TEMPORARY BARRIER WALL INSTALLATION, IH 41 OUTSIDE SHOULDER MILLING/PAVING, AND AS DIRECTED BY THE ENGINEER.

N

R11-2L
48" X 30"
LANE CLOSED
TYPE III BARRICADE

END ROAD WORK
G20-2A
48"X24"

RANDOLPH DR

STA 1039+31
100' (TYP.)

IH 41 SB
1035
1040
1045

STA 1037+07
100' (TYP.)

IH 41 NB
STA 1046+31

600'
300'
1125'

SPEED LIMIT 70
COVER EXISTING SIGN

SPEED LIMIT 55
R2-1
48"X60"

R11-2L
48" X 30"
LANE CLOSED
TYPE III BARRICADE

BUCHANAN ST

PROJECT NO: 1130-66-82	HWY: IH 41	COUNTY: OUTAGAMIE	TRAFFIC CONTROL - STAGE 1B OFF PEAK LANE CLOSURES	SHEET 58	E

FILE NAME : C:\USERS\BRYNLEESTURDIVANT\DC\ACCDOCS\WISDOT\11306301\PROJECT FILES\DSGN\11306670\SHEETS\11306682\026001-S1B.DWG
LAYOUT NAME - 03
PLOT DATE : 8/6/2025 10:22 AM
PLOT BY : BRYNLEE STURDIVANT
PLOT NAME :
PLOT SCALE : 1 IN:100 FT

2

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT
- CONCRETE BARRIER TEMPORARY PRECAST
- CONCRETE BARRIER TEMPORARY PRECAST (FROM A PREVIOUS STAGE)
- WORK AREA
- DIRECTION OF TRAFFIC
- MB — PORTABLE CHANGEABLE MESSAGE BOARD
- CC — CRASH CUSHION TEMORARY

NOTE:

TRAFFIC CONTROL FOR IH 41 NORTHBOUND AND SOUTHBOUND LANE CLOSURES ARE SHOWN CONCURRENTLY, BUT DO NOT NEED TO BE USED CONCURRENTLY. SEE SPECIAL PROVISIONS.

EXTEND IH 41 CLOSURES AS NEEDED TO ACCOMMODATE INDIVIDUAL CONSTRUCTION OPERATIONS.

CLOSE CTH N NB ENTRANCE RAMP FOR TEMPORARY BARRIER WALL INSTALLATION, IH 41 OUTSIDE SHOULDER MILLING/PAVING, AND AS DIRECTED BY THE ENGINEER.

N

2

R11-2L
48" X 30"
LANE CLOSED
TYPE III BARRICADE

800' BUFFER

STA 1048+52

100' (TYP.)

50' (TYP.)

1050 1055 1060

IH 41 SB

IH 41 NB

END ROAD WORK
G20-2A
48"X24"

SPEED LIMIT 70
R2-1
48"X60"

SIGN POST A/C INL W WATER TOWER

PROJECT NO: 1130-66-82	HWY: IH 41	COUNTY: OUTAGAMIE	TRAFFIC CONTROL - STAGE 1B OFF PEAK LANE CLOSURES	SHEET 59	E

FILE NAME : C:\USERS\BRYNLEESTURDIVANT\DC\ACCDOCS\WISDOT\11306301\PROJECT FILES\DSGN\11306670\SHEETS\11306682\026001-S1B.DWG
LAYOUT NAME - 04

PLOT DATE : 8/6/2025 10:24 AM PLOT BY : BRYNLEE STURDIVANT PLOT NAME : PLOT SCALE : 1 IN:100 FT

2

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT
- CONCRETE BARRIER TEMPORARY PRECAST
- CONCRETE BARRIER TEMPORARY PRECAST (FROM A PREVIOUS STAGE)
- WORK AREA
- DIRECTION OF TRAFFIC
- MB — PORTABLE CHANGEABLE MESSAGE BOARD
- CC — CRASH CUSHION TEMORARY

NOTE:

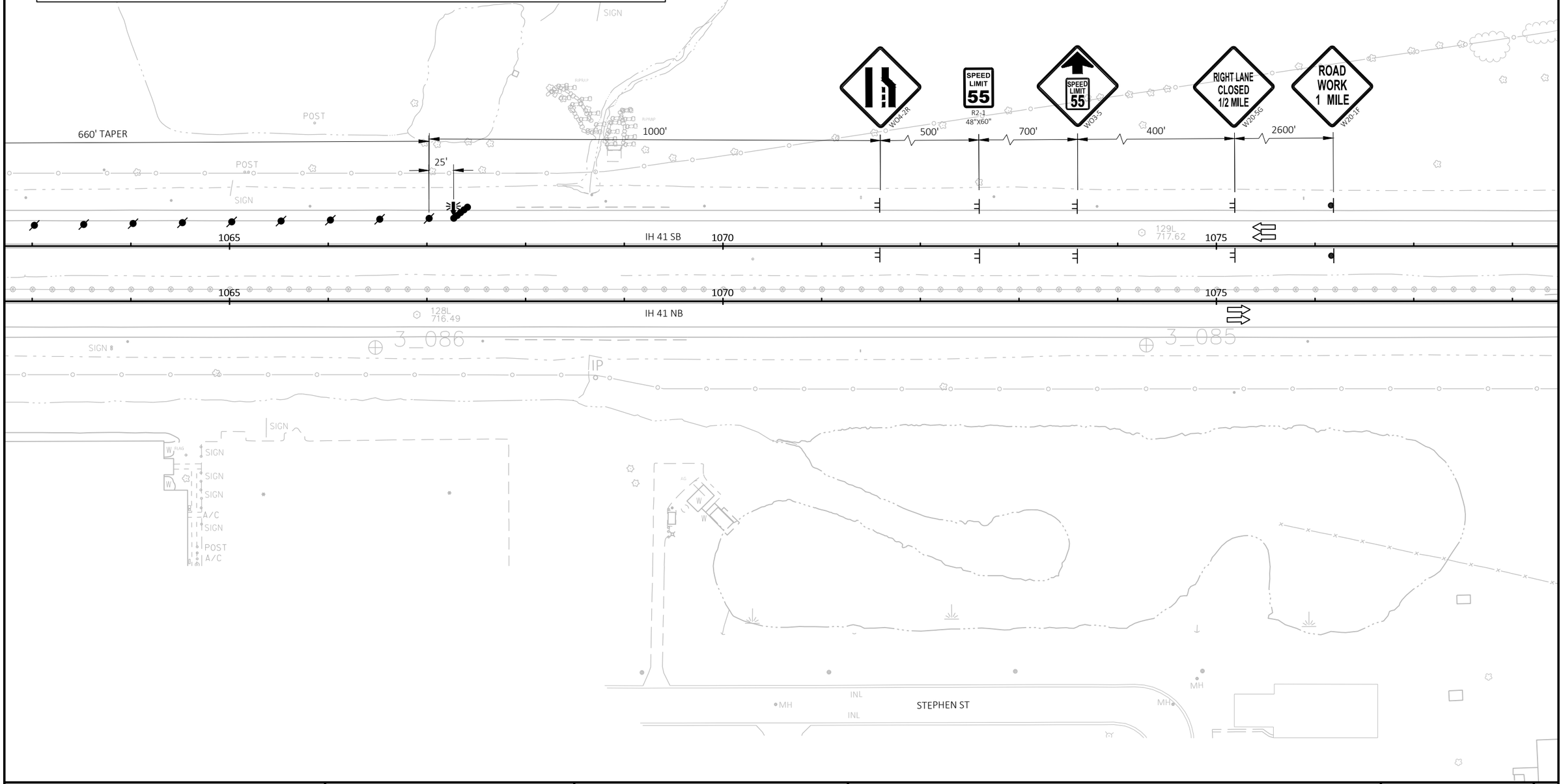
TRAFFIC CONTROL FOR IH 41 NORTHBOUND AND SOUTHBOUND LANE CLOSURES ARE SHOWN CONCURRENTLY, BUT DO NOT NEED TO BE USED CONCURRENTLY. SEE SPECIAL PROVISIONS.

EXTEND IH 41 CLOSURES AS NEEDED TO ACCOMMODATE INDIVIDUAL CONSTRUCTION OPERATIONS.

CLOSE CTH N NB ENTRANCE RAMP FOR TEMPORARY BARRIER WALL INSTALLATION, IH 41 OUTSIDE SHOULDER MILLING/PAVING, AND AS DIRECTED BY THE ENGINEER.

N

2



PROJECT NO: 1130-66-82	HWY: IH 41	COUNTY: OUTAGAMIE	TRAFFIC CONTROL - STAGE 1B OFF PEAK LANE CLOSURES	SHEET 60	E

FILE NAME : C:\USERS\BRYNLEESTURDIVANT\DC\ACCDOCS\WISDOT\11306301\PROJECT FILES\DSGN\11306670\SHEETS\11306682\026001-S1B.DWG
LAYOUT NAME - 05

PLOT DATE : 8/6/2025 10:27 AM PLOT BY : BRYNLEE STURDIVANT PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 42

2

2

LEGEND

- TYPE II / III BARRICADE
- TYPE II / III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT
- CONCRETE BARRIER TEMPORARY PRECAST
- CONCRETE BARRIER TEMPORARY PRECAST (FROM A PREVIOUS STAGE)
- WORK AREA
- DIRECTION OF TRAFFIC
- MB — PORTABLE CHANGEABLE MESSAGE BOARD
- CC — CRASH CUSHION TEMORARY

N

CTH E/N BALLARD RD
ENTRANCE RAMP TO IH 41 SB

2600'
1600'
1000'
500'
25'

IH 41 SB
IH 41 NB
IH 41
IH 41

SIGN

ROAD CLOSED AHEAD W20-3A

DETOUR AHEAD W20-2A

LEFT LANE CLOSED 1/2 MILE W20-5G

W04-2L

POST
POOL
A/C

IH 41 NB EXIT RAMP TO
CTH E/N BALLARD RD

MATCH LINE CH LINE 0+00'NB'

PROJECT NO: 1130-66-82	HWY: IH 41	COUNTY: OUTAGAMIE	TRAFFIC CONTROL - STAGE 2 & 4 OFF PEAK LANE CLOSURES	SHEET 61	E

FILE NAME : C:\USERS\GRACEM\DC\ACCDOCS\WISDOT\11306301\PROJECT FILES\DSGN\11306670\SHEETS\11306682\026001-S2.DWG
LAYOUT NAME - 01

PLOT DATE : 1/3/2025 1:05 PM PLOT BY : GRACE MAYES PLOT NAME : PLOT SCALE : 1 IN:100 FT

2

2

LEGEND

- TYPE II / III BARRICADE
- TYPE II / III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT
- CONCRETE BARRIER TEMPORARY PRECAST
- CONCRETE BARRIER TEMPORARY PRECAST (FROM A PREVIOUS STAGE)
- WORK AREA
- DIRECTION OF TRAFFIC
- MB — PORTABLE CHANGEABLE MESSAGE BOARD
- CC — CRASH CUSHION TEMORARY

N

CTH E/ N BALLARD RD

IH 41 SB EXIT RAMP TO CTH E/ N BALLARD RD

MATCH LINE 0+00'NB'

840' TAPER

POST

SIGN

IH 41 SB

1680'

50' (TYP.)

IH 41 NB

R11-2L
48" X 30"

LANE CLOSED

TYPE III BARRICADE

W9A-1R

(PLACE 800' IN FRONT OF GORE)

CTH E/N BALLARD RD
ENTRANCE RAMP TO IH 41 NB

ROAD WORK AHEAD
W20-1A

LEFT LANE CLOSED AHEAD
W20-5A

MATCH LINE 0+00'NB'

PROJECT NO: 1130-66-82	HWY: IH 41	COUNTY: OUTAGAMIE	TRAFFIC CONTROL - STAGE 2 & 4 OFF PEAK LANE CLOSURES	SHEET 62	E

FILE NAME : C:\USERS\GRACEM\DC\ACCDOCS\WISDOT\11306301\PROJECT FILES\DSGN\11306670\SHEETS\11306682\026001-S2.DWG
LAYOUT NAME - 02

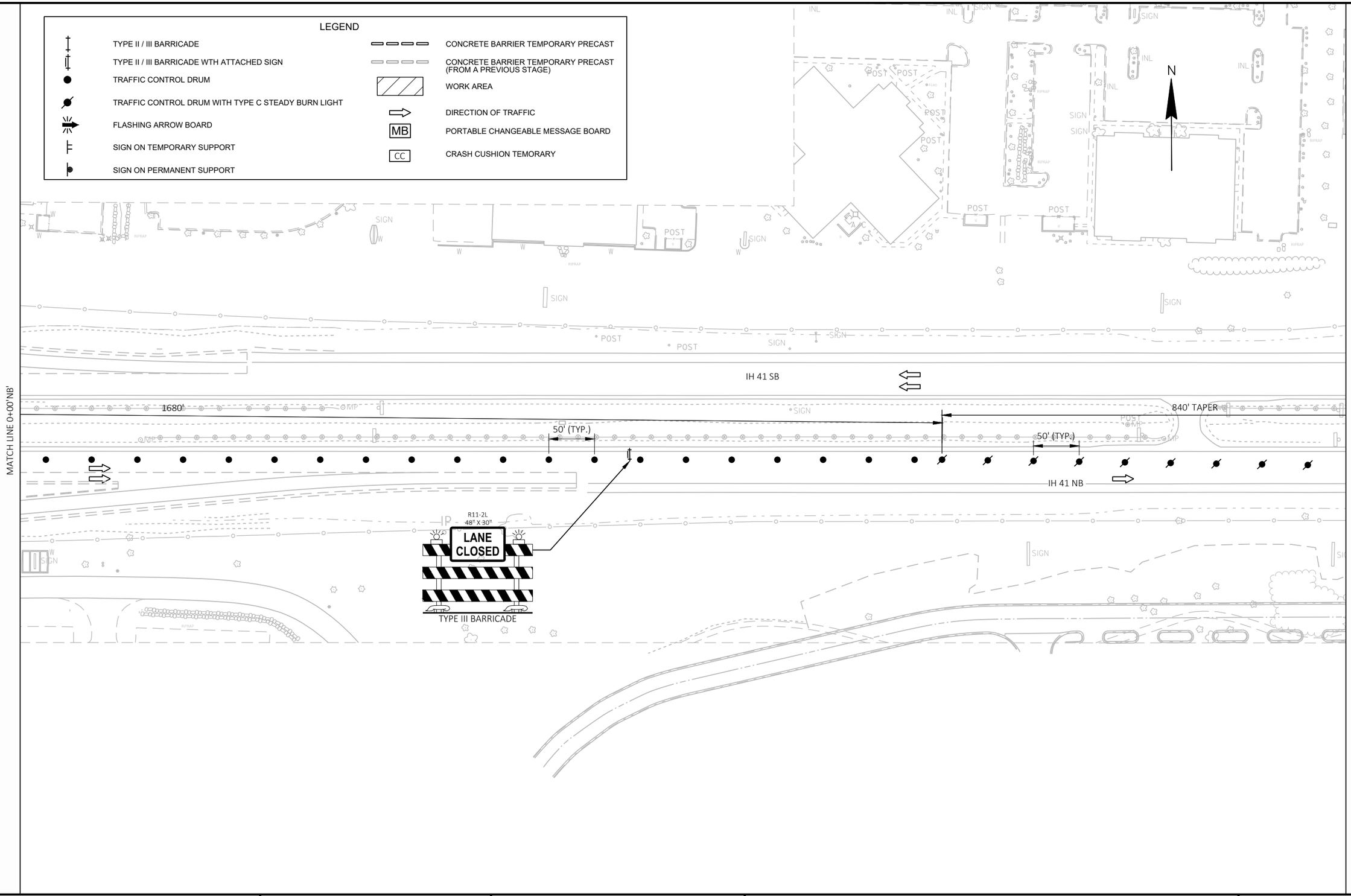
PLOT DATE : 1/3/2025 1:07 PM PLOT BY : GRACE MAYES PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 42

2

LEGEND

- TYPE II / III BARRICADE
- TYPE II / III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT
- CONCRETE BARRIER TEMPORARY PRECAST
- CONCRETE BARRIER TEMPORARY PRECAST (FROM A PREVIOUS STAGE)
- WORK AREA
- DIRECTION OF TRAFFIC
- MB — PORTABLE CHANGEABLE MESSAGE BOARD
- CC — CRASH CUSHION TEMORARY



2

PROJECT NO: 1130-66-82	HWY: IH 41	COUNTY: OUTAGAMIE	TRAFFIC CONTROL - STAGE 2 & 4 OFF PEAK LANE CLOSURES	SHEET 63	E

FILE NAME : C:\USERS\GRACEM\DC\ACCDOCS\WISDOT\11306301\PROJECT FILES\DSGN\11306670\SHEETS\11306682\026001-S2.DWG
LAYOUT NAME - 03

PLOT DATE : 1/3/2025 1:08 PM PLOT BY : GRACE MAYES PLOT NAME : PLOT SCALE : 1 IN:100 FT

2

LEGEND

- TYPE II / III BARRICADE
- TYPE II / III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT
- CONCRETE BARRIER TEMPORARY PRECAST
- CONCRETE BARRIER TEMPORARY PRECAST (FROM A PREVIOUS STAGE)
- WORK AREA
- DIRECTION OF TRAFFIC
- MB — PORTABLE CHANGEABLE MESSAGE BOARD
- CC — CRASH CUSHION TEMORARY

N

STH 441 NB ENTRANCE RAMP TO IH 41 SB

R11-2
48" X 30"
ROAD CLOSED
TYPE III BARRICADE

IH 41 SB

MATCH LINE 0+00'NB'

840' TAPER

50' (TYP.)

500'

25' (TYP.)

IH 41 NB

CLOSED ROAD
SEE SDD "BARRICADES AND SIGNS FOR MAINLINE CLOSURES"

IH 41 NB EXIT RAMP TO SB STH 441

WO1-6
48" X 24"
TYPE III BARRICADE

MB
FRAME 1: HWY TO CLOSE
FRAME 2: DATE 11PM TO 430AM
PLACE PCMS 7 DAYS PRIOR TO CLOSURE

WO1-2R

R11-2L
48" X 30"
LANE CLOSED
TYPE III BARRICADE

R11-2L
48" X 30"
LANE CLOSED
TYPE III BARRICADE

RIPRAP
DOCK
INL
SIGN
POST

PROJECT NO: 1130-66-82	HWY: IH 41	COUNTY: OUTAGAMIE	TRAFFIC CONTROL - STAGE 2 & 4 OFF PEAK LANE CLOSURES	SHEET 64	E

FILE NAME : C:\USERS\GRACEM\DC\ACCDOCS\WISDOT\11306301\PROJECT FILES\DSGN\11306670\SHEETS\11306682\026001-S2.DWG
LAYOUT NAME - 04
PLOT DATE : 1/3/2025 1:10 PM
PLOT BY : GRACE MAYES
PLOT NAME :
PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 42

2

2

FRAME 1 | FRAME 2

HWY TO CLOSE | DATE 11PM TO 430AM

PLACE PCMS 7 DAYS PRIOR TO CLOSURE

MB

WO1-6 48" X 24"

TYPE III BARRICADE

IH 41 SB EXIT RAMP TO STH 55

25' (TYP.)

50' (TYP.)

500'

50' (TYP.)

MALONEY RD

IH 41 SB

1130

1135

1140

SIGN

POST

SUBSTATION

FOOTBRIDGE

RIPRAP

IH 41 NB

R11-2 48" X 30"

ROAD CLOSED

TYPE III BARRICADE

IH 41 NB ENTRANCE RAMP FROM STH 55

CLOSED ROAD SEE SDD "BARRICADES AND SIGNS FOR MAINLINE CLOSURES"

WO1-2R

R11-2L 48" X 30"

LANE CLOSED

TYPE III BARRICADE

TOWER RD

WATER TOWER

PROSPECT LN

MATCH LINE 1144+50'NB'

LEGEND

- TYPE II / III BARRICADE
- TYPE II / III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT
- CONCRETE BARRIER TEMPORARY PRECAST
- CONCRETE BARRIER TEMPORARY PRECAST (FROM A PREVIOUS STAGE)
- WORK AREA
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- CC CRASH CUSHION TEMORARY

PROJECT NO: 1130-66-82	HWY: IH 41	COUNTY: OUTAGAMIE	TRAFFIC CONTROL - STAGE 2 & 4 OFF PEAK LANE CLOSURES	SHEET 65	E

FILE NAME : C:\USERS\GRACEM\DC\ACCDOCS\WISDOT\11306301\PROJECT FILES\DSGN\11306670\SHEETS\11306682\026001-S2.DWG
LAYOUT NAME - 08

PLOT DATE : 1/3/2025 1:11 PM PLOT BY : GRACE MAYES PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 42

2

LEGEND

TYPE II / III BARRICADE	CONCRETE BARRIER TEMPORARY PRECAST
TYPE II / III BARRICADE WTH ATTACHED SIGN	CONCRETE BARRIER TEMPORARY PRECAST (FROM A PREVIOUS STAGE)
TRAFFIC CONTROL DRUM	WORK AREA
TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT	DIRECTION OF TRAFFIC
FLASHING ARROW BOARD	PORTABLE CHANGEABLE MESSAGE BOARD (MB)
SIGN ON TEMPORARY SUPPORT	CRASH CUSHION TEMORARY (CC)
SIGN ON PERMANENT SUPPORT	

N

MATCH LINE 1144+50'NB'

MATCH LINE 1159+00'NB'

1180'

840' TAPER

50' (TYP.)

50' (TYP.)

IH 41 SB

IH 41 NB

1145

1150

1155

R11-2L
48" X 30"
LANE CLOSED

TYPE III BARRICADE

TOWER RD

SIGN

A/C

POST

INL

ANT

FLAG

PROJECT NO: 1130-66-82	HWY: IH 41	COUNTY: OUTAGAMIE	TRAFFIC CONTROL - STAGE 2 & 4 OFF PEAK LANE CLOSURES	SHEET 66 E

FILE NAME : C:\USERS\GRACEM\DC\ACCDOCS\WISDOT\11306301\PROJECT FILES\DSGN\11306670\SHEETS\11306682\026001-S2.DWG
LAYOUT NAME - 09

PLOT DATE : 1/3/2025 1:12 PM PLOT BY : GRACE MAYES PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 42

2

2

LEGEND

- TYPE II / III BARRICADE
- TYPE II / III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT
- CONCRETE BARRIER TEMPORARY PRECAST
- CONCRETE BARRIER TEMPORARY PRECAST (FROM A PREVIOUS STAGE)
- WORK AREA
- DIRECTION OF TRAFFIC
- MB — PORTABLE CHANGEABLE MESSAGE BOARD
- CC — CRASH CUSHION TEMORARY

N

MATCH LINE 1159+00'NB'

W04-2L

LEFT LANE CLOSED 1/2 MILE
W20-5G

DETOUR AHEAD
W20-2A

ROAD CLOSED AHEAD
W20-3A

1000'
1600'
2100'
500'
25'

IH 41 SB
IH 41 NB

1160
1165
1170

SIGN
POST
FOUNTAIN
RIPRAP
FLAG
697.2

PROJECT NO: 1130-66-82	HWY: IH 41	COUNTY: OUTAGAMIE	TRAFFIC CONTROL - STAGE 2 & 4 OFF PEAK LANE CLOSURES	SHEET 67	E

FILE NAME : C:\USERS\GRACEM\DC\ACCDOCS\WISDOT\11306301\PROJECT FILES\DSGN\11306670\SHEETS\11306682\026001-S2.DWG
LAYOUT NAME - 10

PLOT DATE : 1/3/2025 1:14 PM PLOT BY : GRACE MAYES PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 42

2

LEGEND

- TYPE II / III BARRICADE
- TYPE II / III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT
- CONCRETE BARRIER TEMPORARY PRECAST
- CONCRETE BARRIER TEMPORARY PRECAST (FROM A PREVIOUS STAGE)
- WORK AREA
- DIRECTION OF TRAFFIC
- MB — PORTABLE CHANGEABLE MESSAGE BOARD
- CC — CRASH CUSHION TEMORARY

PLACE 2500' BEFORE EXIT RAMP TO NORTHLAND AVENUE

M3-1 36"X18" NORTH
M1-1 36"X36" INTERSTATE 41

ROAD WORK AHEAD W20-1A

RAMP CLOSED AHEAD W20-53A

STH 441 SB EXIT RAMP TO NORTHLAND AVE

1500'

STH 441 SB

NORTHLAND AVE ENTRANCE RAMP TO STH 441 NB

RAMP CLOSED 1000 FT W20-53C

50' (TYP.)

RAMP CLOSED 500 FT W20-53D

STH 441 NB

25' (TYP.)

MATCH LINE 401+00'SW

M3-1 36"X18" NORTH
M1-1 36"X36" INTERSTATE 41

ROAD WORK AHEAD W20-1A

RAMP CLOSED AHEAD W20-53A

NOTE: CLOSURE OF STH 441 ENTRANCE RAMP TO IH 41 NB ONLY REQUIRED WHEN 41 NB FULL CLOSURE IS IN PLACE

PROJECT NO: 1130-66-82	HWY: IH 41	COUNTY: OUTAGAMIE	TRAFFIC CONTROL - STAGE 2 & 4 OFF PEAK LANE CLOSURES	SHEET 68	E

FILE NAME : C:\USERS\GRACEM\DC\ACCDOCS\WISDOT\11306301\PROJECT FILES\DSGN\11306670\SHEETS\11306682\026001-S2.DWG
LAYOUT NAME - 11

PLOT DATE : 1/3/2025 1:15 PM PLOT BY : GRACE MAYES PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 42

2

2

LEGEND

TYPE II / III BARRICADE	CONCRETE BARRIER TEMPORARY PRECAST
TYPE II / III BARRICADE WTH ATTACHED SIGN	CONCRETE BARRIER TEMPORARY PRECAST (FROM A PREVIOUS STAGE)
TRAFFIC CONTROL DRUM	WORK AREA
TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT	DIRECTION OF TRAFFIC
FLASHING ARROW BOARD	MB — PORTABLE CHANGEABLE MESSAGE BOARD
SIGN ON TEMPORARY SUPPORT	CC — CRASH CUSHION TEMORARY
SIGN ON PERMANENT SUPPORT	

N

MATCH LINE 401+00'SW'

STH 441 SB

HWY 441

IH 41 NB EXIT RAMP TO SB STH 441

STH 441 NB

600'

25' (TYP.)

25' (TYP.)

150'

300' TAPER

R3-1
36"X36"

25' (TYP.)

200'

STH 441 NB ENTRANCE RAMP TO IH 41 NB

MB

R11-2R
48" X 30"

RAMP CLOSED

TYPE III BARRICADE

FRAME 1: RAMP TO CLOSE

FRAME 2: DATE XXPM TO XXAM

PLACE PCMS 7 DAYS PRIOR TO CLOSURE

NOTE: CLOSURE OF STH 441 ENTRANCE RAMP TO IH 51 NB ONLY REQUIRED WHEN IH 51 NB FULL CLOSURE IS IN PLACE.

PROJECT NO: 1130-66-82	HWY: IH 41	COUNTY: OUTAGAMIE	TRAFFIC CONTROL - STAGE 2 & 4 OFF PEAK LANE CLOSURES	SHEET 69	E

FILE NAME : C:\USERS\GRACEM\DC\ACCDOCS\WISDOT\11306301\PROJECT FILES\DSGN\11306670\SHEETS\11306682\026001-S2.DWG
LAYOUT NAME - 12
PLOT DATE : 1/3/2025 1:16 PM
PLOT BY : GRACE MAYES
PLOT NAME :
PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 42

NOTE: CLOSURE OF CTH N/FREEDOM RD ENTRANCE RAMP TO IH 41 NB ONLY REQUIRED WHEN IH 41 NB FULL CLOSURE IS IN PLACE. SEE STAGE 1A DETAILS FOR ADVANCED SIGNING REQUIREMENTS FOR AN IH 41 NB INSIDE LANE CLOSURE WHEN AN IH 41 SB FULL CLOSURE IS IN PLACE.

IH 41 NB EXIT RAMP TO CTH N

IH 41 SB ENTRANCE RAMP FROM CTH N

IH 41 NB

IH 41 SB

PATRIOT DR

MOASIS RD

M3-1 24"X12" NORTH
M1-1 24"X24" INTERSTATE 41
RAMP CLOSED AHEAD W20-53A

(PLACE APPROX. 200' PRIOR TO INTERSECTION)

(PLACE APPROX. 500' PRIOR TO ENTRANCE RAMP)

CTH N

CTH N / N FREEDOM RD

25' (TYP.)

R3-2 36"X36"

R11-2R 48" X 30" RAMP CLOSED

TYPE III BARRICADE

MB

FRAME 1: RAMP TO CLOSE

FRAME 2: DATE XXPM TO XXAM

PLACE PCMS 7 DAYS PRIOR TO CLOSURE

60+00 'N'

65+00 'N'

70+00 'N'

1015

1020

IH 41

IH 41 NB ENTRANCE RAMP TO CTH N

IH 41 SB EXIT RAMP TO CTH N

N

LEGEND

- TYPE II / III BARRICADE
- TYPE II / III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT
- CONCRETE BARRIER TEMPORARY PRECAST
- CONCRETE BARRIER TEMPORARY PRECAST (FROM A PREVIOUS STAGE)
- WORK AREA
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- CC CRASH CUSHION TEMORARY

PROJECT NO: 1130-66-82	HWY: IH 41	COUNTY: OUTAGAMIE	TRAFFIC CONTROL - STAGE 2 & 4 OFF PEAK LANE CLOSURES	SHEET 70 E

FILE NAME : C:\USERS\GRACEM\DC\ACCDOCS\WISDOT\11306301\PROJECT FILES\DSGN\11306670\SHEETS\11306682\026001-S2.DWG
LAYOUT NAME - 13

PLOT DATE : 1/3/2025 1:18 PM PLOT BY : GRACE MAYES PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 42

2

2

LEGEND

- TYPE II / III BARRICADE
- TYPE II / III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT
- CONCRETE BARRIER TEMPORARY PRECAST
- CONCRETE BARRIER TEMPORARY PRECAST (FROM A PREVIOUS STAGE)
- WORK AREA
- DIRECTION OF TRAFFIC
- MB — PORTABLE CHANGEABLE MESSAGE BOARD
- CC — CRASH CUSHION TEMORARY

N

IH 41 NB

IH 41 SB

1120

1120

1125

IH 41 SB ENTRANCE RAMP TO STH 55

IH 41 SB EXIT RAMP TO STH 55

USH 41

STH 55

STH 55 / DELANGLADE ST

ARBOR WAY

FRAME 1: RAMP TO CLOSE

FRAME 2: DATE XXPM TO XXAM

MB

PLACE PCMS 7 DAYS PRIOR TO CLOSURE

200'

R11-2R 48" X 30" RAMP CLOSED — TYPE III BARRICADE

R11-2R 48" X 30" RAMP CLOSED — TYPE III BARRICADE

R11-2R 48" X 30" RAMP CLOSED — TYPE III BARRICADE

R3-1 24"X24"

25' (TYP.)

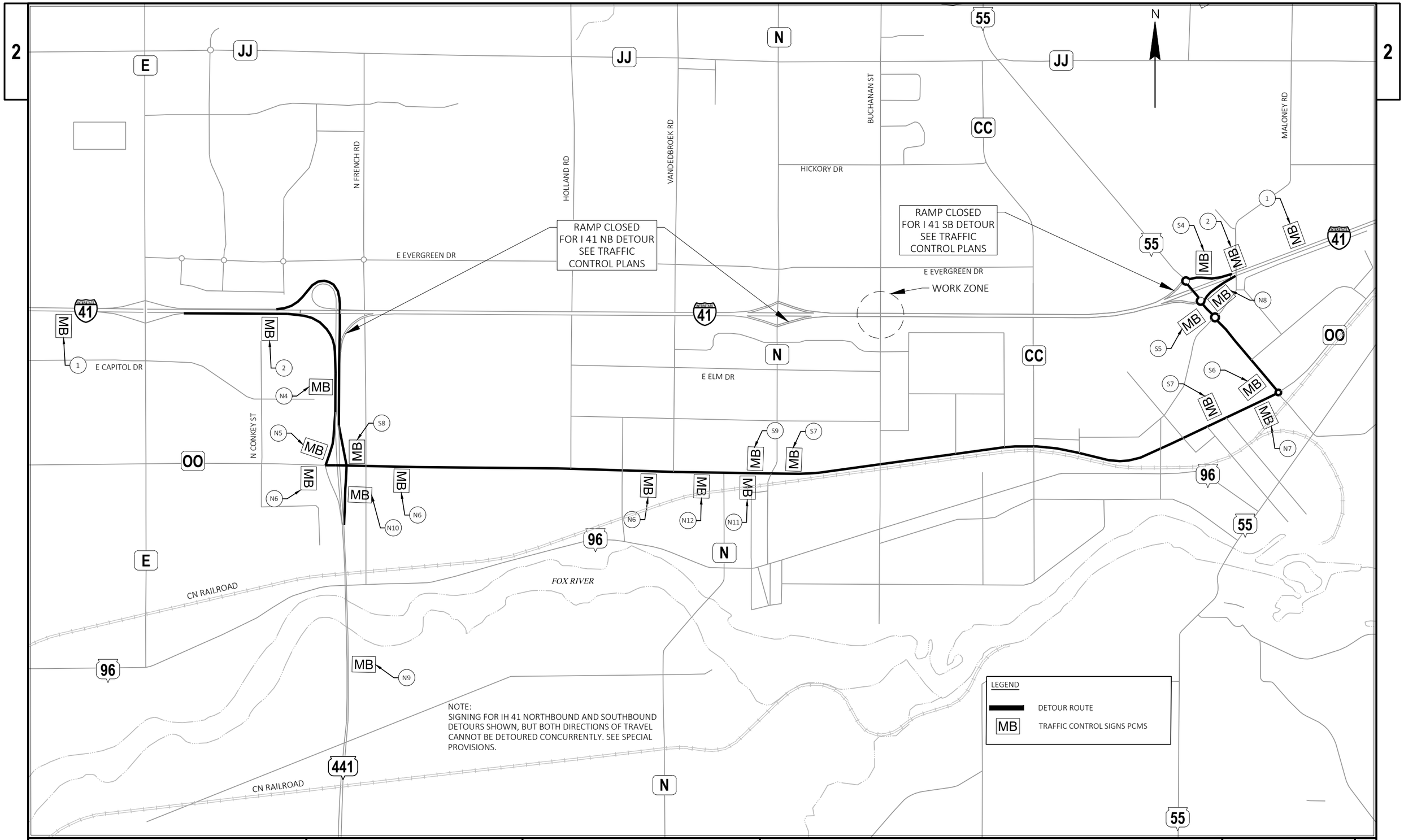
SOUTH M3-3 24"X12"
INTERSTATE 41 M1-1 24"X24"
RAMP CLOSED AHEAD W20-3A
(PLACE 200' PRIOR TO INTERSECTION)

SOUTH M3-3 24"X12"
INTERSTATE 41 M1-1 24"X24"
RAMP CLOSED AHEAD W20-3A
(PLACE ALONG STH 55 NB BETWEEN MALONEY RD AND IH 41 NB RAMPS)

NOTE: CLOSURE OF STH 55 ENTRANCE RAMP TO IH 41 SB ONLY REQUIRED WHEN IH 41 SB FULL CLOSURE IS IN PLACE.

PROJECT NO: 1130-66-82	HWY: IH 41	COUNTY: OUTAGAMIE	TRAFFIC CONTROL - STAGE 2 & 4 OFF PEAK LANE CLOSURES	SHEET 71	E

FILE NAME : C:\USERS\GRACEM\DC\ACCDOCS\WISDOT\11306301\PROJECT FILES\DSGN\11306670\SHEETS\11306682\026001-S2.DWG
LAYOUT NAME - 14
PLOT DATE : 1/3/2025 1:19 PM
PLOT BY : GRACE MAYES
PLOT NAME :
PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 42



PROJECT NO: 1130-66-82	HWY: IH 41	COUNTY: OUTAGAMIE	DETOUR PLAN	SHEET 72	E

FILE NAME : C:\USERS\ANDYBLOCK\DC\ACCDOCS\WISDOT\11306301\PROJECT FILES\DSGN\11306670\SHEETS\11306682\027002_DT.DWG
LAYOUT NAME - 01
PLOT DATE : 1/16/2025 7:33 AM
PLOT BY : ANDY BLOCK
PLOT NAME :
PLOT SCALE : Custom
WISDOT/CADDS SHEET 42

PCMS

HWY 41
CLOSED
AHEAD

FOLLOW
DETOUR

INSTALL 1-MILE
UPSTREAM OF CLOSURE

1

PCMS

ALL
TRAFFIC

EXIT
RIGHT

2

PCMS

HWY 41 NB
TRAFFIC

USE
NEXT
EXIT

N4

PCMS

HWY 41 NB
TRAFFIC

FOLLOW
HWY 00
LEFT

N5

PCMS

HWY 41 NB
TRAFFIC

CONTINUE
TO
HWY 55

N6

PCMS

HWY 41 NB
TRAFFIC

FOLLOW
HWY 55
LEFT

N7

PCMS

HWY 41 NB
TRAFFIC

FOLLOW
RAMP
RIGHT

N8

PCMS

HWY 41 NB
CLOSED
AHEAD

USE
NEXT
EXIT

N9

PCMS

HWY 41 NB
TRAFFIC

FOLLOW
HWY 00
RIGHT

N10

PCMS

HWY 41 NB
TRAFFIC

USE
RIGHT
LANE

N11

PCMS

HWY 41 NB
TRAFFIC

USE
LEFT
LANE

N12

PCMS

HWY 41 SB
TRAFFIC

FOLLOW
HWY 55
LEFT

S4

PCMS

HWY 41 SB
TRAFFIC

CONTINUE
TO
HWY 00

S5

PCMS

HWY 41 SB
TRAFFIC

FOLLOW
HWY 00
RIGHT

S6

PCMS

HWY 41 SB
TRAFFIC

CONTINUE
TO
HWY 441

S7

PCMS

HWY 41 SB
TRAFFIC

FOLLOW
HWY 441
RIGHT

S8

PCMS

HWY 41 SB
TRAFFIC

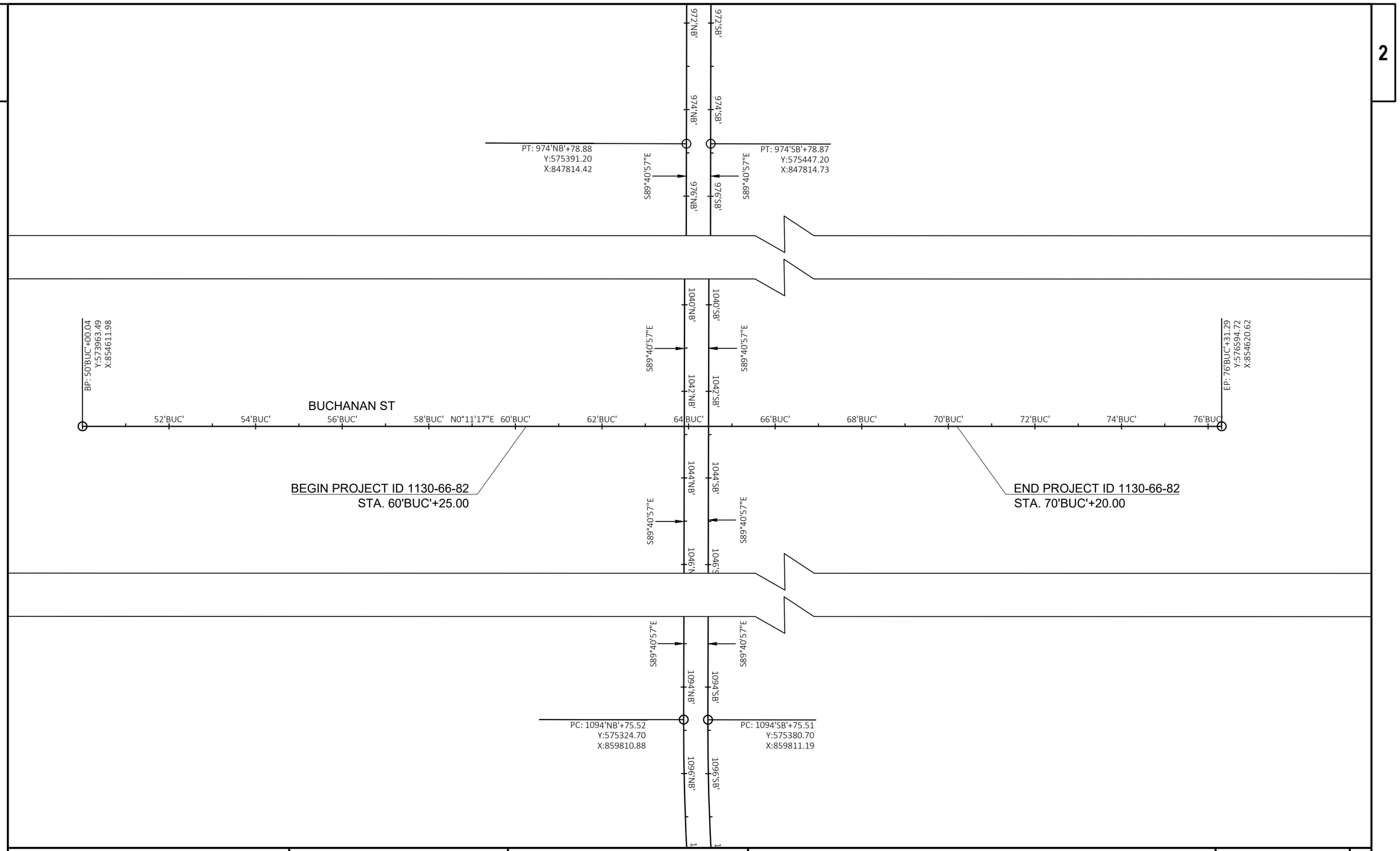
USE
RIGHT
LANE

S9

PROJECT NO: 1130-66-82	HWY: IH 41	COUNTY: OUTAGAMIE	DETOUR PLAN	SHEET 73	E

FILE NAME : C:\USERS\ANDYBLOCK\DC\ACCDOCS\WISDOT\11306301\PROJECT FILES\DSGN\11306670\SHEETS\11306682\027002_DT.DWG
LAYOUT NAME - 02
PLOT DATE : 11/21/2024 10:41 AM
PLOT BY : ANDY BLOCK
PLOT NAME :
PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 42

2



PROJECT NO: 1130-66-82	HWY: IH 41	COUNTY: OUTAGAMIE	ALIGNMENT DETAILS	SHEET 74	E

Estimate Of Quantities

1130-66-82

Line	Item	Item Description	Unit	Total	Qty
0002	201.0105	Clearing	STA	2.000	2.000
0004	201.0205	Grubbing	STA	2.000	2.000
0006	203.0100	Removing Small Pipe Culverts	EACH	2.000	2.000
0008	203.0220	Removing Structure (structure) 01. B-44-338	EACH	1.000	1.000
0010	204.0110	Removing Asphaltic Surface	SY	105.000	105.000
0012	204.0120	Removing Asphaltic Surface Milling	SY	890.000	890.000
0014	204.0150	Removing Curb & Gutter	LF	48.000	48.000
0016	204.0157	Removing Concrete Barrier	LF	110.000	110.000
0018	204.0165	Removing Guardrail	LF	1,150.000	1,150.000
0020	204.0167	Removing Cable Barrier	LF	695.000	695.000
0022	204.0180	Removing Delineators and Markers	EACH	10.000	10.000
0024	204.0190	Removing Surface Drains	EACH	4.000	4.000
0026	205.0100	Excavation Common	CY	2,098.000	2,098.000
0028	206.1001	Excavation for Structures Bridges (structure) 01. B-44-332	EACH	1.000	1.000
0030	208.0100	Borrow	CY	10,246.000	10,246.000
0032	209.1500	Backfill Granular Grade 1	TON	200.000	200.000
0034	210.1500	Backfill Structure Type A	TON	839.000	839.000
0036	211.0101	Prepare Foundation for Asphaltic Paving (project) 01. 1130-66-82	EACH	1.000	1.000
0038	211.0400	Prepare Foundation for Asphaltic Shoulders	STA	22.000	22.000
0040	213.0100	Finishing Roadway (project) 01. 1130-66-82	EACH	1.000	1.000
0042	305.0110	Base Aggregate Dense 3/4-Inch	TON	270.000	270.000
0044	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	1,671.000	1,671.000
0046	312.0110	Select Crushed Material	TON	2,785.000	2,785.000
0048	415.0080	Concrete Pavement 8-Inch	SY	2,815.000	2,815.000
0050	415.0410	Concrete Pavement Approach Slab	SY	108.000	108.000
0052	415.4100	Concrete Pavement Joint Filling	SY	3,040.000	3,040.000
0054	455.0605	Tack Coat	GAL	84.000	84.000
0056	460.2000	Incentive Density HMA Pavement	DOL	150.000	150.000
0058	460.5223	HMA Pavement 3 LT 58-28 S	TON	40.000	40.000
0060	460.5224	HMA Pavement 4 LT 58-28 S	TON	190.000	190.000
0062	465.0315	Asphaltic Flumes	SY	60.000	60.000
0064	465.0510	Asphaltic Rumble Strips, Shoulder Divided Roadway	LF	2,110.000	2,110.000
0066	501.1000.S	Ice Hot Weather Concreting	LB	4,324.000	4,324.000
0068	502.0100	Concrete Masonry Bridges	CY	197.000	197.000
0070	502.3200	Protective Surface Treatment	SY	1,119.000	1,119.000
0072	502.3210	Pigmented Surface Sealer	SY	561.000	561.000
0074	503.0155	Prestressed Girder Type I 54W-Inch	LF	1,024.000	1,024.000
0076	505.0400	Bar Steel Reinforcement HS Structures	LB	10,070.000	10,070.000
0078	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	122,300.000	122,300.000
0080	506.2605	Bearing Pads Elastomeric Non-Laminated	EACH	20.000	20.000
0082	506.4000	Steel Diaphragms (structure) 01. B-44-332	EACH	16.000	16.000
0084	511.1200	Temporary Shoring (structure) 01. B-44-332	SF	480.000	480.000
0086	513.4091	Railing Tubular Screening	LF	947.000	947.000
0088	516.0500	Rubberized Membrane Waterproofing	SY	38.000	38.000
0090	517.1010.S	Concrete Staining (structure) 01. B-44-332	SF	7,886.000	7,886.000
0092	517.1010.S	Concrete Staining (structure) 02. B-44-330	SF	7,349.000	7,349.000
0094	517.1010.S	Concrete Staining (structure) 03. B-44-331	SF	4,686.000	4,686.000
0096	517.1010.S	Concrete Staining (structure) 04. B-44-179	SF	9,615.000	9,615.000
0098	517.1010.S	Concrete Staining (structure) 05. B-44-333	SF	4,279.000	4,279.000

1130-66-82

Line	Item	Item Description	Unit	Total	Qty
0100	517.1010.S	Concrete Staining (structure) 06. B-44-338	SF	5,113.000	5,113.000
0102	517.1010.S	Concrete Staining (structure) 07. R-44-57	SF	4,958.000	4,958.000
0104	517.1010.S	Concrete Staining (structure) 08. R-44-50	SF	1,372.000	1,372.000
0106	517.1010.S	Concrete Staining (structure) 09. R-44-51	SF	1,798.000	1,798.000
0108	522.0418	Culvert Pipe Reinforced Concrete Class IV 18-Inch	LF	401.000	401.000
0110	522.1012	Apron Endwalls for Culvert Pipe Reinforced Concrete 12-Inch	EACH	4.000	4.000
0112	522.1018	Apron Endwalls for Culvert Pipe Reinforced Concrete 18-Inch	EACH	4.000	4.000
0114	550.0010	Pre-Boring Unconsolidated Materials	LF	86.000	86.000
0116	550.1120	Piling Steel HP 12-Inch X 53 Lb	LF	2,705.000	2,705.000
0118	601.0150	Concrete Curb Integral Type D	LF	1,254.000	1,254.000
0120	602.0405	Concrete Sidewalk 4-Inch	SF	9,250.000	9,250.000
0122	602.3010	Concrete Surface Drains	CY	10.000	10.000
0124	603.1142	Concrete Barrier Type S42	LF	224.000	224.000
0126	603.8000	Concrete Barrier Temporary Precast Delivered	LF	3,700.000	3,700.000
0128	603.8125	Concrete Barrier Temporary Precast Installed	LF	4,300.000	4,300.000
0130	603.8500	Anchoring Concrete Barrier Temporary Precast	LF	600.000	600.000
0132	604.0600	Slope Paving Select Crushed Material	SY	458.000	458.000
0134	606.0200	Riprap Medium	CY	233.000	233.000
0136	608.0312	Storm Sewer Pipe Reinforced Concrete Class III 12-Inch	LF	146.000	146.000
0138	611.0624	Inlet Covers Type H	EACH	6.000	6.000
0140	611.3230	Inlets 2x3-FT	EACH	6.000	6.000
0142	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	727.000	727.000
0144	614.0115	Anchorages for Steel Plate Beam Guard Type 2	EACH	2.000	2.000
0146	614.0305	Steel Plate Beam Guard Class A	LF	178.000	178.000
0148	614.0400	Adjusting Steel Plate Beam Guard	LF	530.000	530.000
0150	614.0905	Crash Cushions Temporary	EACH	4.000	4.000
0152	614.2300	MGS Guardrail 3	LF	777.000	777.000
0154	614.2610	MGS Guardrail Terminal EAT	EACH	2.000	2.000
0156	614.2620	MGS Guardrail Terminal Type 2	EACH	2.000	2.000
0158	616.0405	Fence Chain Link Salvaged 5-FT	LF	325.000	325.000
0160	616.0700.S	Fence Safety	LF	325.000	325.000
0162	618.0100	Maintenance and Repair of Haul Roads (project) 01. 1130-66-82	EACH	1.000	1.000
0164	619.1000	Mobilization	EACH	1.000	1.000
0166	624.0100	Water	MGAL	95.000	95.000
0168	625.0100	Topsoil	SY	3,170.000	3,170.000
0170	625.0500	Salvaged Topsoil	SY	9,740.000	9,740.000
0172	628.1504	Silt Fence	LF	1,745.000	1,745.000
0174	628.1520	Silt Fence Maintenance	LF	3,490.000	3,490.000
0176	628.1905	Mobilizations Erosion Control	EACH	8.000	8.000
0178	628.1910	Mobilizations Emergency Erosion Control	EACH	5.000	5.000
0180	628.2002	Erosion Mat Class I Type A	SY	12,910.000	12,910.000
0182	628.7005	Inlet Protection Type A	EACH	6.000	6.000
0184	628.7015	Inlet Protection Type C	EACH	6.000	6.000
0186	628.7504	Temporary Ditch Checks	LF	145.000	145.000
0188	628.7515.S	Stone Ditch Checks	CY	25.000	25.000
0190	628.7555	Culvert Pipe Checks	EACH	15.000	15.000
0192	628.7560	Tracking Pads	EACH	2.000	2.000
0194	628.7570	Rock Bags	EACH	140.000	140.000
0196	629.0210	Fertilizer Type B	CWT	8.000	8.000

1130-66-82

Line	Item	Item Description	Unit	Total	Qty
0198	630.0130	Seeding Mixture No. 30	LB	590.000	590.000
0200	630.0300	Seeding Borrow Pit	LB	40.000	40.000
0202	630.0500	Seed Water	MGAL	290.000	290.000
0204	633.5200	Markers Culvert End	EACH	8.000	8.000
0206	634.0616	Posts Wood 4x6-Inch X 16-FT	EACH	1.000	1.000
0208	637.2230	Signs Type II Reflective F	SF	9.000	9.000
0210	638.2102	Moving Signs Type II	EACH	2.000	2.000
0212	638.2602	Removing Signs Type II	EACH	1.000	1.000
0214	638.3000	Removing Small Sign Supports	EACH	1.000	1.000
0216	638.4000	Moving Small Sign Supports	EACH	4.000	4.000
0218	643.0300	Traffic Control Drums	DAY	15,700.000	15,700.000
0220	643.0420	Traffic Control Barricades Type III	DAY	2,564.000	2,564.000
0222	643.0705	Traffic Control Warning Lights Type A	DAY	4,300.000	4,300.000
0224	643.0715	Traffic Control Warning Lights Type C	DAY	3,241.000	3,241.000
0226	643.0800	Traffic Control Arrow Boards	DAY	404.000	404.000
0228	643.0810.S	Connected Arrow Board	DAY	142.000	142.000
0230	643.0900	Traffic Control Signs	DAY	4,958.000	4,958.000
0232	643.0920	Traffic Control Covering Signs Type II	EACH	144.000	144.000
0234	643.1050	Traffic Control Signs PCMS	DAY	279.000	279.000
0236	643.1220.S	Connected Work Zone Start and End Location Markers	DAY	252.000	252.000
0238	643.5000	Traffic Control	EACH	1.000	1.000
0240	645.0111	Geotextile Type DF Schedule A	SY	104.000	104.000
0242	645.0120	Geotextile Type HR	SY	691.000	691.000
0244	645.0130	Geotextile Type R	SY	100.000	100.000
0246	646.2020	Marking Line Epoxy 6-Inch	LF	3,980.000	3,980.000
0248	646.4520	Marking Line Same Day Epoxy 4-Inch	LF	2,300.000	2,300.000
0250	652.0125	Conduit Rigid Metallic 2-Inch	LF	24.000	24.000
0252	652.0225	Conduit Rigid Nonmetallic Schedule 40 2-Inch	LF	1,464.000	1,464.000
0254	653.0164	Pull Boxes Non-Conductive 24x42-Inch	EACH	4.000	4.000
0256	653.0222	Junction Boxes 18x12x6-Inch	EACH	1.000	1.000
0258	654.0105	Concrete Bases Type 5	EACH	5.000	5.000
0260	690.0150	Sawing Asphalt	LF	200.000	200.000
0262	715.0502	Incentive Strength Concrete Structures	DOL	4,650.000	4,650.000
0264	715.0603	Incentive Strength Concrete Barrier	DOL	112.000	112.000
0266	715.0720	Incentive Compressive Strength Concrete Pavement	DOL	877.000	877.000
0268	ASP.1T0A	On-the-Job Training Apprentice at $5.00/HR	HRS	2,400.000	2,400.000
0270	ASP.1T0G	On-the-Job Training Graduate at $5.00/HR	HRS	2,100.000	2,100.000
0272	SPV.0035	Special 01. HPC Masonry Structures	CY	576.000	576.000
0274	SPV.0060	Special 01. Existing Footing Opening	EACH	8.000	8.000
0276	SPV.0060	Special 02. Emergency Response to Traffic Involving Crash Cushion Temporary	EACH	5.000	5.000
0278	SPV.0060	Special 03. Emergency Response to Traffic Involving Concrete Barrier Temporary	EACH	5.000	5.000
0280	SPV.0060	Special 04. Construction Staking Survey Project 1130-66-82	EACH	1.000	1.000
0282	SPV.0060	Special 05. Decorative Silhouette	EACH	10.000	10.000
0284	SPV.0075	Special 01. Street Sweeping	HRS	30.000	30.000
0286	SPV.0090	Special 01. Removing Existing Bridge Chain Link Fencing	LF	493.000	493.000
0288	SPV.0090	Special 02. Fence Chain Link Polymer-Coated 6-Ft. B-44-179 Special	LF	493.000	493.000
0290	SPV.0165	Special 01. Longitudinal Grooving Bridge Deck	SF	7,434.000	7,434.000
0292	SPV.0165	Special 02. Wall Concrete Panel Mechanically Stabilized Earth R-44-57	SF	4,483.000	4,483.000
0294	SPV.0165	Special 03. Tinted Sealer Reseal	SF	9,542.000	9,542.000

CLEARING AND GRUBBING

STATION	TO	STATION	LOCATION	201.0105 STA	201.0205 STA
63+00	-	64+00	BUCHANAN ST	1	1
65+00	-	66+00	BUCHANAN ST	1	1
		TOTALS		**2**	**2**

REMOVING ASPHALT

STATION	TO	STATION	LOCATION	204.0110 REMOVING ASPHALTIC SURFACE SY	204.0120 REMOVING ASPHALTIC SURFACE MILLING SY
1036+42	-	1046+42	IH 41 NB, LT	---	445
1039+20	-	1049+19	IH 41 SB, RT	---	445
1042+51	-	1043+06	IH 41 NB, RT	53	---
1042+55	-	1043+10	IH 41 SB, LT	52	---
		TOTALS		**105**	**890**

REMOVING GUARDRAIL

STATION	TO	STATION	LOCATION	204.0165 LF
62+43	-	63+16	BUCHANAN, LT	73
61+94	-	63+16	BUCHANAN, RT	122
65+20	-	70+05	BUCHANAN, LT	485
65+20	-	65+93	BUCHANAN, RT	73
1042+35	-	1042+56	IH 41 NB, RT	21
1041+96	-	1043+65	IH 41 NB, LT	355
1043+05	-	1043+08	IH 41 SB, LT	21
		TOTAL		**1,150**

PREPARE FOUNDATION

STATION	TO	STATION	LOCATION	211.0101 FOR ASPHALTIC PAVING EACH	211.0400 FOR ASPHALTIC SHOULDERS STA
60+50	-	69+95	BUCHANAN ST	---	---
60+25	-	60+50	BUCHANAN ST	---	
69+95	-	70+20	BUCHANAN ST		---
1036+42	-	1046+42	IH 41 NB, LT	1	11
1039+20	-	1049+19	IH 41 SB, RT		11
		TOTALS		**1**	**22**

REMOVING CURB & GUTTER

STATION	TO	STATION	LOCATION	204.0150 LF
63+02	-	63+14	BUCHANAN, LT	12
63+02	-	63+14	BUCHANAN, RT	12
65+22	-	65+34	BUCHANAN, LT	12
65+22	-	65+34	BUCHANAN, RT	12
			TOTAL	**48**

REMOVING DELINEATORS AND MARKERS

STATION	TO	STATION	LOCATION	204.0170 LF
60+25	-	70+20	BUCHANAN, LT & RT	10
			TOTAL	**10**

AGGREGATE MATERIALS

CATEGORY	STATION	TO	STATION	LOCATION	305.0110 BASE AGGREGATE DENSE 3/4-INCH TON	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH TON	312.0110 SELECT CRUSHED MATERIAL TON	624.0100 WATER MGAL	REMARKS
1000	60+25	-	60+50	BUCHANAN ST	5	80	---	2	
1000	60+50	-	62+04	BUCHANAN ST	---	240	560	17	
1000	62+04	-	62+58	BUCHANAN ST	---	90	205	6	
1000	62+58	-	62+88	BUCHANAN ST	---	70	135	4	
1000	62+88	-	63+15	BUCHANAN ST	---	65	120	4	
1000	65+21	-	65+45	BUCHANAN ST	---	65	110	4	
1000	65+45	-	65+76	BUCHANAN ST	---	70	140	4	
1000	65+76	-	66+30	BUCHANAN ST	---	90	215	6	
1000	66+30	-	69+95	BUCHANAN ST	---	560	1,300	38	
1000	69+95	-	70+20	BUCHANAN ST	5	80	---	2	
1000	1042+30	-	1043+33	IH 41	---	80	---	2	MEDIAN
1000	1034+00	-	1045+00	IH 41 NB, LT & RT	130	---	---	3	AGGREGATE SHOULDER RESTORATION
1000	1041+00	-	1051+00	IH 41 SB, LT & RT	130	---	---	3	AGGREGATE SHOULDER RESTORATION
1600			UNDISTRIBUTED		---	1	---	---	
1610	60+50		62+58	BUCHANAN ST	---	60	---	---	BELOW SIDEWALK
1610	65+76		69+95	BUCHANAN ST	---	120	---	---	BELOW SIDEWALK
			CATEGORY 1000 SUBTOTAL		270	1,490	2,785	95	
			CATEGORY 1600 SUBTOTAL		0	1	0	0	
			CATEGORY 1610 SUBTOTAL		0	180	0	0	
			TOTALS		**270**	**1,671**	**2,785**	**95**	

REMOVING BARRIER

STATION	TO	STATION	LOCATION	204.0157 REMOVING CONCRETE BARRIER LF	204.0167 REMOVING CABLE BARRIER LF
1036+15	-	1043+05	IH 41 SB, RT	---	695
1042+51	-	1043+06	IH 41 NB, RT	55	---
1042+55	-	1043+10	IH 41 SB, LT	55	---
		TOTAL		**110**	**695**

REMOVING SURFACE DRAINS

STATION	LOCATION	204.019 EACH
63+03	BUCHANAN, LT	1
63+03	BUCHANAN, RT	1
65+33	BUCHANAN, LT	1
65+33	BUCHANAN, RT	1
	TOTAL	**4**

ALL ITEMS ARE CATEGORY 1000 UNLESS NOTED OTHERWISE

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DIVISION	FROM/TO STATION	LOCATION	205.0100 COMMON EXCAVATION (1) CUT (2)	205.0100 COMMON EXCAVATION (1) EBS EXCAVATION	SALVAGED/UNUSABLE PAVEMENT MATERIAL (4)	AVAILABLE MATERIAL (5)	UNEXPANDED FILL	EXPANDED FILL (13) FACTOR 1.25	MASS ORDINATE +/- (14)	208.0100 BORROW	COMMENT
DIVISION 1											
BUCHANAN STREET SOUTH OF IH-41	60+25.00/63+08.80	BUCHANAN ST	613	0	0	613	3,512	4,390	-3,777		
BUCHANAN STREET NORTH OF IH-41	65+27.30/70+20.00	BUCHANAN ST	1,485	0	0	1,485	6,274	7,843	-6,358		
IH-41-MED-BG	1038+77.35/1046+80.99	IH 41 MEDIAN	0	0	0	0	89	111	-111		
DIVISION 1 SUBTOTAL			2,098	0	0	2,098	9,875	12,344	-10,246	10,246	
GRAND TOTAL			2,098	0	0	2,098	9,875	12,344	-10,246	10,246	
TOTAL COMMON EXC			2,098								

NOTES:
(1) COMMON EXCAVATION IS THE SUM OF THE CUT AND EBS EXCAVATION COLUMNS. ITEM NUMBER 205.0100
(2) SALVAGED/UNSUABLE PAVEMENT MATERIAL IS INCLUDED IN CUT.
(4) SALVAGED/UNUSABLE PAVEMENT MATERIAL
(5) AVAILABLE MATERIAL = CUT - SALVAGED/UNUSUABLE PAVEMENT MATERIAL
(13) EXPANDED FILL FACTOR = 1.25
DEPENDING ON SELECTIONS: **EXPANDED FILL = (UNEXPANDED FILL) * FILL FACTOR**
(14) THE MASS ORDINATE + OR - QTY CALCULATED FOR THE DIVISION. PLUS QUANTITY INDICATES AN EXCESS OF MATERIAL WITHIN THE DIVISION. MINUS INDICATES A SHORTAGE OF MATERIAL WITHIN THE DIVISION.

CONCRETE ITEMS

STATION	TO	STATION	LOCATION	415.0080 CONCRETE PAVEMENT 8-INCH SY	415.0410 CONCRETE PAVEMENT APPROACH SLABS SY	415.4100 CONCRETE PAVEMENT JOINT FILLING SY	601.0155 CONCRETE CURB INTEGRAL TYPE D LF	603.1142 CONCRETE BARRIER TYPE S42 LF
60+50	-	63+15	BUCHANAN ST	990	54	1,090	416	114
65+21	-	69+95	BUCHANAN ST	1,825	54	1,950	838	110
		TOTALS		**2,815**	**108**	**3,040**	**1,254**	**224**

CONCRETE SIDEWALK 4-INCH

CATEGORY	STATION	TO	STATION	LOCATION	602.0405 SF
1610	60+50	-	62+58	BUCHANAN ST	2,725
1000	62+58	-	63+15	BUCHANAN ST	642
1000	65+21	-	65+76	BUCHANAN ST	620
1610	65+76	-	69+95	BUCHANAN ST	5,263
			CATEGORY 1000 SUBTOTAL		1,262
			CATEGORY 1610 SUBTOTAL		7,988
			TOTALS		**9,250**

ASPHALT PAVEMENT AND RUMBLE STRIPS

STATION	TO	STATION	LOCATION	455.0605 TACK COAT GAL	460.5223 HMA PAVEMENT 3 LT 58-28 S TON	460.5224 HMA PAVEMENT 4 LT 58-28 TON	465.0400 ASPHALTIC SHOULDER RUMBLE STRIPS, DIVIDED ROADWAY LF
60+25	-	60+50	BUCHANAN ST	7	20	10	---
69+95	-	70+20	BUCHANAN ST	7	20	10	---
1036+42	-	1046+42	IH 41 NB, LT	35	---	70	1,000
1039+20	-	1049+19	IH 41 SB, RT	35	---	70	1,000
1042+51	-	1043+06	IH 41 NB, RT	---	---	15	55
1042+55	-	1043+10	IH 41 SB, LT	---	---	15	55
		TOTALS		**84**	**40**	**190**	**2,110**

FLUMES AND SURFACE DRAINS

STATION	LOCATION	465.0315 ASPHALTIC FLUMES SY	602.3010 CONCRETE SURFACE DRAINS CY
60+42	BUCHANAN, LT	15	---
60+42	BUCHANAN, RT	15	---
62+91	BUCHANAN, LT	---	2.5
62+91	BUCHANAN, RT	---	2.5
65+42	BUCHANAN, LT	---	2.5
65+42	BUCHANAN, RT	---	2.5
70+03	BUCHANAN, LT	15	---
70+03	BUCHANAN, RT	15	---
	TOTALS	**60**	**10**

TEMPORARY CONCRETE BARRIER

STATION	TO	STATION	LOCATION	603.8000 CONCRETE BARRIER TEMPORARY PRECAST DELIVERED LF	603.8125 CONCRETE BARRIER TEMPORARY PRECAST INSTALLED LF	603.8500 ANCHORING CONCRETE BARRIER TEMPORARY PRECAST LF	614.0905 CRASH CUSHIONS TEMPORARY EACH	SPV.0060.02 EMERGENCY RESPONSE TO TRAFFIC INVOLVING CRASH CUSHIONS TEMPORARY EACH	SPV.0060.03 EMERGENCY RESPONSE TO TRAFFIC INVOLVING CONCRETE BARRIER TEMPORARY EACH	BACK WIDTH LF	OBJECT MARKING PATTERN	CRASH TEST LEVEL	TRAFFIC DIRECTION	TRAFFIC LOCATION	CRASH CUSHION SHIELDS
1037+07	-	1046+31	IH 41 NB, LT	925	1,025	150	1	---	---	2	OM-3L	TL-3	UNIDIRECTIONAL	R	TEMPORARY BARRIER WALL
1037+07	-	1046+31	IH 41 NB, RT	925	1,125	150	1	---	---	2	OM-3R	TL-3	UNIDIRECTIONAL	L	TEMPORARY BARRIER WALL
1039+31	-	1048+52	IH 41 SB, RT	925	1,025	150	1	---	---	2	OM-3L	TL-3	UNIDIRECTIONAL	R	TEMPORARY BARRIER WALL
1039+31	-	1048+52	IH 41 SB, LT	925	1,125	150	1	---	---	2	OM-3R	TL-3	UNIDIRECTIONAL	L	TEMPORARY BARRIER WALL
UNDISTRIBUTED			IH 41	---	---	---	---	5	5	---	---	---	---	---	---
		TOTALS		**3,700**	**4,300**	**600**	**4**	**5**	**5**						

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REMOVING SMALL PIPE CULVERTS

CATEGORY	STATION	-	STATION	LOCATION	203.0100 EACH	APPROX. SIZE AND LENGTH
1000	63+35			LT/RT	1	15" X 140'
	65+00			LT/RT	1	18" X 135'
	TOTALS				2	

APRON ENDWALLS AND RIP RAP SUMMARY

CATEGORY	STRUCT. NO.	STATION	OFFSET	522.1012 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 12-INCH EACH	522.1018 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 18-INCH EACH	633.5200 MARKERS CULVERT END EACH	606.0200* RIPRAP MEDIUM CY	645.0120* GEOTEXTILE TYPE HR SY
1000	4001	63+30.4 BUC	102.3 ' LT	-	1	1	-	-
	4003	63+29.9 BUC	105.3 ' RT	-	1	1	-	-
	4010	65+06.8 BUC	91.7 ' LT	-	1	1	-	-
	4012	65+07.8 BUC	101.6 ' RT	-	1	1	-	-
	9303	68+00.0 BUC	36.1 ' RT	1	-	1	8	31
	9313	65+80.0 BUC	35.3 ' RT	1	-	1	10	41
	9320	62+50.0 BUC	37.9 ' LT	1	-	1	8	31
	9323	62+50.0 BUC	37.7 ' RT	1	-	1	7	28
			TOTALS	4	4	8	33	131

*-ADDITIONAL QUANTITIES SHOWN ELSEWHERE

PIPE SUMMARY

CATEGORY	FROM STRUCTURE	TO STRUCTURE	608.0312 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 12-INCH LF	522.0418 CULVERT PIPE REINFORCED CONCRETE CLASS IV 18-INCH LF
1000	4001	4003	-	208
	4010	4012	-	193
	9301	9302	35	-
	9302	9303	19	-
	9311	9312	35	-
	9312	9313	19	-
	9321	9320	19	-
	9322	9323	19	-
		TOTALS	146	401

INLETS SUMMARY

CATEGORY	STRUCTURE NUMBER	STATION	OFFSET	611.3230 INLETS 2X3-FT EACH	611.0624 INLET COVERS TYPE H EACH
1000	9301	68+00.0 BUC	17.5 ' LT	1	1
	9302	68+00.0 BUC	17.5 ' RT	1	1
	9311	65+80.0 BUC	17.5 ' LT	1	1
	9312	65+80.0 BUC	17.5 ' RT	1	1
	9321	62+50.0 BUC	17.5 ' LT	1	1
	9322	62+50.0 BUC	17.5 ' RT	1	1
			TOTALS	6	6

GUARDRAIL

STATION	TO	STATION	LOCATION	614.0115 ANCHORAGES FOR STEEL PLATE BEAM GUARD TYPE 2 EACH	614.0305 STEEL PLATE BEAM GUARD CLASS A LF	614.0400 ADJUSTING STEEL PLATE BEAM GUARD LF	614.2300 MGS GUARDRAIL 3 LF	614.2610 MGS GUARDRAIL TERMINAL EAT EACH	614.262 MGS GUARDRAIL TERMINAL TYPE 2 EACH
1039+92	-	1043+24	IH 41 NB, RT	1	89	280	---	---	---
1039+65	-	1043+53	IH 41 NB, LT	---	---	---	388.5	1	1
1042+08	-	1045+96	IH 41 SB, RT	---	---	---	388.5	1	1
1042+37	-	1045+11	IH 41 SB, LT	1	89	250	---	---	---
		TOTALS		**2**	**178**	**530**	**777**	**2**	**2**

FENCING

STATION	LOCATION	616.0405 FENCH CHAIN LINK SALVAGED 5-FT LF	616.0700.S SAFETY FENCE LF	REMARKS
63+07	BUCHANAN ST, LT	70	---	R/W FENCE
63+16	BUCHANAN ST, RT	80	---	R/W FENCE
65+20	BUCHANAN ST, LT	80	---	R/W FENCE
65+22	BUCHANAN ST, RT	95	---	R/W FENCE
UNDISTRIBUTED		---	325	SAFETY FENCE REQUIRED PIROR TO REINSTALLATION OF SALVAGED FENCING TO FINAL CONDITION
		325	**325**	

RESTORATION

STATION	TO	STATION	LOCATION	625.0100 TOPSOIL SY	625.2002 SALVAGED TOPSOIL SY	628.2002 EROSION MAT CLASS I TYPE A SY	629.0210 FERTILIZER TYPE B CWT	630.0130 SEEDING MIXTURE NO. 30 LB	630.0300 SEEDING BORROW PIT LB	630.0500 SEED WATER MGAL
60+25	-	63+50	BUCHANAN, LT	465	1,390	1,855	1.2	85	---	**40**
60+25	-	63+50	BUCHANAN, RT	475	1,425	1,900	1.2	90	---	**45**
64+85	-	70+20	BUCHANAN, LT	610	1,825	2,435	1.6	110	---	**55**
64+85	-	70+20	BUCHANAN, RT	975	2,925	3,900	2.5	175	---	**90**
1036+15	-	1049+19	IH 41 NB, LT	355	1,290	1,645	1.1	75	---	**35**
		UNDISTRIBUTED		290	885	1,175	0.4	55	40	**25**
		TOTALS		**3,170**	**9,740**	**12,910**	**8.0**	**590**	**40**	**290**

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EROSION CONTROL

STATION	TO	STATION	LOCATION	628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINTENANCE LF	628.7005 INLET PROTECTION TYPE A EACH	628.7015 INLET PROTECTION TYPE C EACH	628.7504 TEMPORARY DITCH CHECKS LF	628.7555 CULVERT PIPE CHECKS EACH	628.7560 TRACKING PADS EACH	628.7570 ROCK BAGS EACH	606.0200* RIPRAP MEDIUM CY	645.0120* GEOTEXTILE TYPE HR SY	645.0130 GEOTEXTILE TYPE R SY	628.7515.S STONE DITCH CHECKS CY	REMARKS
60+18	-	63+50	BUCHANAN, LT	405	810	1	1	15	3	1	20	34	95	20	5	ITEMS 645.0130 & 628.7515.S FOR 1 TEMPORARY STONE DITCH CHECKS
60+18	-	63+50	BUCHANAN, RT	470	940	1	1	35	---	---	40	48	135	20	5	ITEMS 645.0130 & 628.7515.S FOR 1 TEMPORARY STONE DITCH CHECKS
64+83	-	70+20	BUCHANAN, LT	100	200	2	2	15	7	1	20	41	125	20	5	ITEMS 645.0130 & 628.7515.S FOR 1 TEMPORARY STONE DITCH CHECKS
64+83	-	70+20	BUCHANAN, RT	610	1,220	2	2	35	---	---	40	59	155	20	5	ITEMS 645.0130 & 628.7515.S FOR 1 TEMPORARY STONE DITCH CHECKS
1036+35	-	1049+19	IH 41 NB, LT	---	---	---	---	30	3	---	---	---	---	---	---	
		UNDISTRIBUTED		160	320	---	---	15	2	---	20	18	50	20	5	ITEMS 645.0130 & 628.7515.S FOR 1 TEMPORARY STONE DITCH CHECKS
		TOTALS		**1,745**	**3,490**	**6**	**6**	**145**	**15**	**2**	**140**	**200**	**560**	**100**	**25**	

*-ADDITIONAL QUANTITIES SHOWN ELSEWHERE

EROSION CONTROL MOBILIZATIONS

LOCATION	628.1905 MOBILIZATIONS EROSION CONTROL EACH	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EACH
PROJECT	8	5
TOTAL	**8**	**5**

TRAFFIC CONTROL COVERING SIGNS TYPE II

STAGE	LOCATION	643.0920 EACH	REMARKS
1	IH 41 SB	6	1 SIGN AT 6 CYCLES
	IH 41 NB	6	1 SIGN AT 6 CYCLES
	STAGE 1 SUBTOTAL	12	
3	IH 41 SB	30	1 SIGN AT 30 CYCLES
	IH 41 NB	30	1 SIGN AT 30 CYCLES
	STAGE 3 SUBTOTAL	60	
4	IH 41 SB	6	1 SIGN AT 6 CYCLES
	IH 41 NB	6	1 SIGN AT 6 CYCLES
	STAGE 4 SUBTOTAL	12	
5	IH 41 SB	20	1 SIGN AT 20 CYCLES
	IH 41 NB	20	1 SIGN AT 20 CYCLES
	STAGE 5 SUBTOTAL	40	
STAINING	IH 41 SB	10	1 SIGN AT 10 CYCLES
	IH 41 NB	10	1 SIGN AT 10 CYCLES
	STAINING SUBTOTAL	20	
	TOTALS	**144**	

PERMANENT SIGNING

LOCATION	SIGN CODE	W X H	637.2230 SIGNS TYPE II REFLECTIVE TYPE F SF	634.0616 POSTS WOOD 4X6X16 EACH	638.2102 MOVING SIGNS TYPE II EACH	638.4000 MOVING SMALL SIGN SUPPORTS EACH	638.2602 REMOVING SIGNS TYPE II EACH	638.3000 REMOVING SMALL SIGN SUPPORTS EACH
BUCHANAN ST, LT	W3-5	36"X36"	9	1	---	---	1	1
IH 41 MEDIAN	M1-94	---	---	---	1	2	---	---
IH 41 MEDIAN	M1-94	---	---	---	1	2	---	---
	TOTALS		**9**	**1**	**2**	**4**	**1**	**1**

TRAFFIC CONTROL PCMS SIGNS (FOR DETOUR SIGNING)

LOCATION	STAGE	NUMBER IN SERVICE	DAYS	*643.1050 DAY
IH 41 NB	2 & 4	2	4	8
IH 41 SB	2 & 4	3	4	12
STH 441 NB	2 & 4	2	4	8
STH 441 SB	2 & 4	2	4	8
STH 55 NB	2 & 4	1	4	4
STH 55 SB	2 & 4	2	4	8
CTH OO	2 & 4	7	8	56
			TOTALS	104

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

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TRAFFIC CONTROL

STAGE	LOCATION	APPROXIMATE SERVICE DAYS	643.0300 DRUMS NO. IN SERVICE	643.0300 DRUMS DAYS	643.0420 BARRICADES TYPE III NO. IN SERVICE	643.0420 BARRICADES TYPE III DAYS	643.0705 WARNING LIGHTS TYPE A NO. IN SERVICE	643.0705 WARNING LIGHTS TYPE A DAYS	643.0715 WARNING LIGHTS TYPE C NO. IN SERVICE	643.0715 WARNING LIGHTS TYPE C DAYS	643.0800 ARROW BOARDS NO. IN SERVICE	643.0800 ARROW BOARDS DAYS	643.0900 SIGNS NO. IN SERVICE	643.0900 SIGNS DAYS	*643.1050 PCMS SIGNS NO. IN SERVICE	*643.1050 PCMS SIGNS DAYS
1																
	BUCHANAN ST	15	10	150	--	--	--	--	--	--	--	--	--	--	2	14
	IH 41 NB INSIDE LANE CLOSURE	2	65	130	2	4	4	8	30	60	--	--	17	34	1	7
	IH 41 NB OUTSIDE LANE CLOSURE	2	65	130	4	8	6	12	30	60	--	--	26	52	1	7
	IH 41 SB INSIDE LANE CLOSURE	2	65	130	2	4	4	8	15	30	--	--	12	24	1	7
	IH 41 SB OUTSIDE LANE CLOSURE	2	65	130	2	4	4	8	15	30	--	--	12	24	--	--
	IH 41 NB & SB SHOULDER CLOSURES	15	60	900	--	--	--	--	--	--	4	60	16	240	--	--
	STAGE 1 SUBTOTALS			1,570		20		36		180		60		374		35
2																
	BUCHANAN ST	7	--	--	18	126	30	210	--	--	--	--	14	98	--	--
	IH 41 NB FULL CLOSURE	2	185	370	22	44	32	64	81	162	--	--	54	108	3	42
	IH 41 SB FULL CLOSURE	2	160	320	12	24	19	38	33	66	--	--	28	56	2	28
	IH 41 NB INSIDE LANE CLOSURE	2	65	130	2	4	4	8	15	30	--	--	12	24	--	--
	IH 41 SB INSIDE LANE CLOSURE	2	65	130	2	4	4	8	15	30	--	--	12	24	--	--
	IH 41 NB & SB SHOULDER CLOSURES	7	60	420	--	--	--	--	--	--	4	28	16	112	--	--
	STAGE 2 SUBTOTALS			1,370		202		328		288		28		422		70
3																
	BUCHANAN ST	57	--	--	18	1,026	30	1,710	--	--	--	--	14	798	--	--
	IH 41 NB OUTSIDE LANE CLOSURE	10	105	1,050	2	20	4	40	40	400	--	--	20	200	--	--
	IH 41 SB OUTSIDE LANE CLOSURE	10	65	650	2	20	4	40	30	300	--	--	26	260	--	--
	IH 41 NB INSIDE LANE CLOSURE	10	65	650	2	20	4	40	15	150	--	--	12	120	--	--
	IH 41 SB INSIDE LANE CLOSURE	10	65	650	2	20	4	40	15	150	--	--	12	120	--	--
	IH 41 NB & SB SHOULDER CLOSURES	57	60	3,420	--	--	--	--	--	--	4	228	16	912	--	--
	STAGE 3 SUBTOTALS			6,420		1,106		1,870		1,000		228		2,410		--
4																
	BUCHANAN ST	7	--	--	18	126	30	210	--	--	--	--	14	98	--	--
	IH 41 NB FULL CLOSURE	2	185	370	22	44	32	64	81	162	--	--	54	108	2	28
	IH 41 SB FULL CLOSURE	2	160	320	12	24	19	38	33	66	--	--	28	56	3	42
	IH 41 NB INSIDE LANE CLOSURE	2	65	130	2	4	4	8	30	60	--	--	26	52	--	--
	IH 41 NB OUTSIDE LANE CLOSURE	1	105	105	2	2	4	4	40	40	--	--	20	20	--	--
	IH 41 SB INSIDE LANE CLOSURE	2	65	130	2	4	4	8	15	30	--	--	12	24	--	--
	IH 41 SB OUTSIDE LANE CLOSURE	1	65	65	2	2	4	4	15	15	--	--	12	12	--	--
	IH 41 NB & SB SHOULDER CLOSURES	7	60	420	--	--	--	--	--	--	4	28	16	112	--	--
	STAGE 4 SUBTOTALS			1,540		206		336		373		28		482		70
5																
	BUCHANAN ST	55	--	--	18	990	30	1,650	--	--	--	--	14	770	--	--
	IH 41 NB INSIDE LANE CLOSURE	10	65	650	2	20	4	40	30	300	--	--	26	260	--	--
	IH 41 NB OUTSIDE LANE CLOSURE	10	105	1,050	2	20	4	40	40	400	--	--	20	200	--	--
	IH 41 SB INSIDE LANE CLOSURE	10	65	650	2	20	4	40	15	150	--	--	12	120	--	--
	IH 41 SB OUTSIDE LANE CLOSURE	10	65	650	2	20	4	40	15	150	--	--	12	120	--	--
	IH 41 NB & SB SHOULDER CLOSURES	15	60	900	--	--	--	--	--	--	4	60	16	240	--	--
	STAGE 5 SUBTOTALS			3,900		990		1,650		1,000		60		770	--	--
	STRUCTURE STAINING	20	45	900	2	40	4	80	20	400	--	--	25	500	--	--
	STAINING SUBTOTALS			900		40		80		400		--		500	--	--
	TOTALS		**15,700**		**2,564**		**4,300**		**3,241**		**404**		**4,958**		**175**	

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

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CONNECTED TRAFFIC CONTROL ITEMS

STAGE	LOCATION	APPROXIMATE SERVICE DAYS	643.0810.S CONNECTED ARROW BOARD NO. IN SERVICE	643.0810.S CONNECTED ARROW BOARD DAYS	643.1220.S CONNECTED WORK ZONE START AND END LOCATION MARKERS NO. IN SERVICE	643.1220.S CONNECTED WORK ZONE START AND END LOCATION MARKERS DAYS
1						
	IH 41 NB	4	1	4	2	8
	IH 41 SB	4	1	4	2	8
	STAGE 1 SUBTOTALS			8		16
2						
	IH 41 NB (FULL CLOSURE)	2	4	8	2	4
	IH 41 SB (FULL CLOSURE)	2	2	4	2	4
	IH 41 NB (SINGLE LANE CLOSURE)	2	1	2	2	4
	IH 41 SB (SINGLE LANE CLOSURE)	2	1	2	2	4
	STAGE 2 SUBTOTALS			16		16
3						
	IH 41 NB	20	1	20	2	40
	IH 41 SB	20	1	20	2	40
	STAGE 3 SUBTOTALS			40		80
4						
	IH 41 NB (FULL CLOSURE)	2	4	8	2	4
	IH 41 SB (FULL CLOSURE)	2	2	4	2	4
	IH 41 NB (SINGLE LANE CLOSURE)	3	1	3	2	6
	IH 41 SB (SINGLE LANE CLOSURE)	3	1	3	2	6
	STAGE 4 SUBTOTALS			18		20
5						
	IH 41 NB	20	1	20	2	40
	IH 41 SB	20	1	20	2	40
	STAGE 5 SUBTOTALS			40		80
	IH 41 NB - STRUCTURE STAINING	10	1	10	2	20
	IH 41 SB - STRUCTURE STAINING	10	1	10	2	20
	STAINING SUBTOTALS			20		40
	TOTALS		**142**		**252**	

CONSTRUCTION STAKING SURVEY PROJECT 1130-66-82

LOCATION	SPV. 0060.04 EACH
IH 41 AND BUCHANAN ST	1
TOTALS	**1**

PAVEMENT MARKING

STATION	TO	STATION	LOCATION	646.2020 MARKING LINE EPOXY 6-INCH (WHITE) LF	646.2020 MARKING LINE EPOXY 6-INCH (YELLOW) LF	646.4520 MARKING LINE SAME DAY EPOXY 4-INCH (WHITE) LF	646.4520 MARKING LINE SAME DAY EPOXY 4-INCH (YELLOW) LF
60+25	-	70+20	BUCHANAN RD	1,990	1,990	---	---
1074+30	-	1085+05	IH 41 NB, LT	---	---	---	1,050
1079+05	-	1089+80	IH 41 SB, RT	---	---	---	1,050
1081+78	-	1082+29	IH 41 NB, RT	---	---	100	---
1081+82	-	1082+32	IH 41 SB, LT	---	---	100	---
		SUBTOTALS		1,990	1,990	200	2,100
		TOTALS		**3,980**		**2,300**	

SAWING ASPHALT

STATION	TO	STATION	LOCATION	690.0150 LF
	60+25		BUCHANAN ST	25
	70+20		BUCHANAN ST	25
1042+51	-	1043+11	IH 41 NB, RT	75
1042+51	-	1043+11	IH 41 SB, LT	75
			TOTALS	**200**

STREET SWEEPING

LOCATION	SPV.0075.01 HRS
IH 41 AND BUCHANAN ST	30
TOTALS	**30**

ALL ITEMS ARE CATEGORY 1000 UNLESS NOTED OTHERWISE

3

3

LIGHTING CONDUIT AND WIRE

FROM	-	TO	652.0225 CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH LF	REMARKS
ALL ITEMS ARE CATEGORY 1100				
PB 100	-	SL 100	85	PULL WIRE ONLY
SL 100	-	SL 101	190	PULL WIRE ONLY
SL 101	-	PB 101	10	PULL WIRE ONLY
PB 101	-	PB 102	215	CONDUIT INCLUDED IN B-44-0332 / PULL WIRE ONLY
PB 102	-	SL 102	10	PULL WIRE ONLY
SL 102	-	SL 103	235	PULL WIRE ONLY
SL 103	-	SL 104	230	PULL WIRE ONLY
SL 104	-	PB 103	25	PULL WIRE ONLY
PROJECT TOTAL			**1,000**	

STREET LIGHTS

LIGHT NUMBER		STATION	OFFSET	R/L	654.0105 CONCRETE BASES TYPE 5 EACH
ALL ITEMS ARE CATEGORY 1100					
SL	100	61+14'BUC'	26.3'	RT	1
SL	101	63+01'BUC'	27.8'	RT	1
SL	102	65+32'BUC'	27.8'	RT	1
SL	103	67+65'BUC'	26.4'	RT	1
SL	104	69+91'BUC'	26.3'	RT	1
PROJECT TOTAL					**5**

LIGHTING PULLBOXES

PULLBOX NUMBER		STATION	OFFSET	R/L	653.0164 PULL BOXES NON-CONDUCTIVE 24X42-INCH EACH
ALL ITEMS ARE CATEGORY 1100					
PB	100	60+33'BUC'	25.2'	RT	1
PB	101	63+11'BUC'	32.8'	RT	1
PB	102	65+24'BUC'	32.8'	RT	1
PB	103	70+13'BUC'	22.8'	RT	1
PROJECT TOTAL					**4**

TRANSPORTATION PROJECT PLAT NO: 1130-63-21 - 4.27

THAT PART OF THE NORTHEAST 1/4 OF THE NORTHWEST 1/4, AND THAT PART OF LOT 1 AND LOT 2 OF CERTIFIED SURVEY MAP 1798 AND THAT PART OF LOT 1 OF CERTIFIED SURVEY MAP 25, BEING IN AND INCLUDING PART OF THE SOUTHEAST 1/4 OF THE NORTHWEST 1/4, AND THAT PART OF LOT 2 CERTIFIED SURVEY MAP 8245, BEING IN PART OF THE NORTHWEST 1/4 OF THE NORTHEAST 1/4, AND THAT PART OF LOT 5, LOT 6, AND LOT 7 OF EBBEN'S INDUSTRIAL PARK PLAT, AND THAT PART OF LOT 1 OF CERTIFIED SURVEY MAP 6284, BEING IN PART OF THE SOUTHWEST 1/4 OF THE NORTHEAST 1/4, SECTION 15, TOWNSHIP 21 NORTH, RANGE 18 EAST, VILLAGE OF LITTLE CHUTE, OUTAGAMIE COUNTY, WISCONSIN.

RELOCATION ORDER IH-41 APPLETON-DE PERE STH 96 - CTH F OUTAGAMIE & BROWN COUNTIES

TO PROPERLY ESTABLISH, LAY OUT, WIDEN, ENLARGE, EXTEND, CONSTRUCT, RECONSTRUCT, IMPROVE, OR MAINTAIN A PORTION OF THE HIGHWAY DESIGNATED ABOVE, THE STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DEEMS IT NECESSARY TO RELOCATE OR CHANGE SAID HIGHWAY AND ACQUIRE CERTAIN LANDS AND INTERESTS OR RIGHTS IN LANDS FOR THE ABOVE PROJECT.

TO EFFECT THIS CHANGE, PURSUANT TO AUTHORITY GRANTED UNDER SECTION 84.02 (3), 84.09, AND 84.30, WISCONSIN STATUTES, THE DEPARTMENT OF TRANSPORTATION HEREBY ORDERS THAT:
1. THAT PORTION OF SAID HIGHWAY AS SHOWN ON THIS PLAT IS LAID OUT AND ESTABLISHED TO THE LINES AND WIDTHS AS SO SHOWN FOR THE ABOVE PROJECT.
2. THE LANDS OR INTERESTS OR RIGHTS IN LANDS AS SHOWN ON THIS PLAT ARE REQUIRED BY THE DEPARTMENT FOR THE ABOVE PROJECT AND SHALL BE ACQUIRED IN THE NAME OF THE STATE OF WISCONSIN, PURSUANT TO THE PROVISIONS OF SECTION 84.09 (1) OR (2), WISCONSIN STATUTES.

SCHEDULE OF LANDS & INTERESTS REQUIRED

PARCEL NUMBER	OWNER (S)	INTEREST(S) REQUIRED	FEE R/W S.F., REQUIRED			TLE S.F.
			NEW	EXISTING	TOTAL	
268	BC VALLEY PROPERTIES LLC	TLE	0	0	0	3474
269	K&A DEVELOPMENT LLC	TLE	0	0	0	58
270	MATERNOWSKI MANAGEMENT INC	FEE	135	0	135	0
271	ROGER SABEL PROPERTIES LLC	FEE	1338	0	1338	0
272	MARY K STACHOWICZ	FEE	538	0	538	0
273	VALLEY VIEW UNLOADERS, LLC	FEE	1473	0	1473	0
274	VILLAGE OF LITTLE CHUTE	FEE	6090	0	6090	0
275	DARBOY DEVELOPMNT LLC	FEE	4557	0	4557	0
277	VSMC LEASING LLC	FEE	19834	0	19834	0

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

ALL AREAS SHOWN IN SQUARE FEET UNLESS OTHERWISE NOTED. THE PURPOSE FOR ALL TLE'S IS GRADING UNLESS OTHERWISE NOTED.

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

ALL NEW RIGHT-OF-WAY MONUMENTS WILL BE TYPE 2 (TYPICALLY 1" X 24" IRON PIPES), UNLESS OTHERWISE NOTED, AND WILL BE PLACED PRIOR TO THE COMPLETION OF THE PROJECT.

FOUND IRON PINS ARE 1" IRON PIPE WITH PLASTIC CAP, UNLESS OTHERWISE NOTED.

EXISTING ACCESS CONTROL FOR IH-41 ESTABLISHED FROM PREVIOUS PROJECTS T03-2(28) AND 1123-01-22.

EXISTING ACCESS CONTROL FOR BUCHANAN RD ESTABLISHED FROM PREVIOUS PROJECTS T03-2(28) AND 1123-01-22.

EXISTING RIGHT-OF-WAY FOR IH-41 ESTABLISHED FROM PREVIOUS PROJECTS T03-2(28), 1130-42-00, CSM 3581, CSM 7230, AND 1123-01-22.

EXISTING RIGHT-OF-WAY FOR BUCHANAN ST ESTABLISHED FROM PREVIOUS PROJECTS T03-2(28), 1130-42-00, CSM 8245, AND 1123-01-22.

EXISTING RIGHT-OF-WAY FOR EBBEN RD ESTABLISHED FROM PREVIOUS PROJECTS T03-2(28), 1130-42-00, AND 1123-01-22.

EXISTING RIGHT-OF-WAY FOR RANDOLPH DR ESTABLISHED FROM PREVIOUS PROJECTS 1130-42-00, CSM 3581, AND CSM 7230.

EXISTING RIGHT-OF-WAY FOR KELBE DR FROM PREVIOUS PROJECTS CSM 27 AND CSM 25.

FOR THE CURRENT ACCESS/DRIVEWAY INFORMATION, CONTACT THE PLANNING UNIT OF THE WISCONSIN DEPARTMENT OF TRANSPORTATION OFFICE IN GREEN BAY.

USH 41 IN OUTAGAMIE/BROWN COUNTIES WAS DESIGNATED AS A FREEWAY UNDER SECTION 84.295 OF WISCONSIN STATUTES BY THE HIGHWAY COMMISSION ON 6/8/1972.

UTILITY AGREEMENT WISCONSIN STATUTES

UTILITY NUMBER	UTILITY OWNER(S)	STATUTES NUMBER
625	VILLAGE OF LITTLE CHUTE MUNICIPAL WATER DEPARTMENT - WATER	84.295(4m)
626	VILLAGE OF LITTLE CHUTE - SANITARY SEWER	84.295(4m)

UTILITY INTERESTS REQUIRED

UTILITY NUMBER	UTILITY OWNER(S)	INTERESTS REQUIRED
523	KAUKAUNA UTILITIES - ELECTRICITY	RELEASE OF RIGHTS
525	VILLAGE OF LITTLE CHUTE-WATER	RELEASE OF RIGHTS
526	VILLAGE OF LITTLE CHUTE-SANITARY	RELEASE OF RIGHTS
529	TDS METROCOM LLC	RELEASE OF RIGHTS

523 KAUKAUNA UTILITIES - ELECTRICTY
NO RECORDED EASEMENT - PARCEL 271

526 VILLAGE OF LITTLE CHUTE - SANITARY
DOC 1179713 - PARCELS 274 & 276
DOC 1179714 - PARCEL 277

525 VILLAGE OF LITTLE CHUTE - WATER
NO RECORDED EASEMENT - PARCEL 268
DOC 1179713 - PARCELS 274 & 276
DOC 1179714 - PARCEL 277

529 TDS METROCOM LLC -
(COMMUNICATION LINE)
NO RECORDED EASEMENT - PARCELS 268 & 273

COURSE TABLE

COURSE	BEARING	DISTANCE
2700-2701	N71° 51' 20"E	52.67'
2701-2702	S59° 49' 29"E	28.86'
2702-2703	S00° 11' 17"W	20.00'
2703-2704	S07° 28' 17"E	126.13'
2704-2705	S14° 30' 26"E	44.32'
2705-2706	S02° 13' 55"W	92.19'
2706-2707	S07° 01' 50"E	65.52'
2707-2708	S03° 04' 56"E	105.17'
2708-2709	S00° 11' 17"W	34.21'
2709-2710	S89° 40' 57"E	1181.05'
2712-2713	N89° 40' 57"W	215.97'
2713-2714	S53° 04' 58"W	62.80'
2714-2715	N89° 40' 57"W	30.00'
2715-2716	N33° 22' 21"W	36.06'
2716-2717	N89° 40' 57"W	868.46'
2717-2718	S00° 19' 03"W	104.75'
2718-2719	S90° 00' 00"W	110.00'
2719-2720	S00° 11' 17"W	114.68'
2720-2721	N89° 48' 43"W	81.67'
2721-2722	N03° 55' 59"W	218.83'
2722-2723	N89° 40' 57"W	671.37'
2723-2610	S88° 24' 50"W	550.53'
2608-2724	S89° 40' 57"E	1254.08'
2724-2725	N00° 11' 17"E	178.10'
2725-2726	N03° 03' 02"E	300.37'
2726-2700	N71° 51' 20"E	52.67'

R/W STATION & OFFSET TABLE

POINT	STATION	OFFSET
2608	1029+69.05	105.00' LT
2609	1029+69.31	0.00' RT
2610	1029+69.63	133.29' RT
2700	1042+87.01	599.81' LT
2701	1043+36.98	616.49' LT
2702	1043+62.01	602.12' LT
2703	1043+62.05	582.12' LT
2704	1043+79.15	457.16' LT
2705	1043+90.49	414.31' LT
2706	1043+87.41	322.18' LT
2707	1043+95.79	257.19' LT
2708	1044+02.62	152.21' LT
2709	1044+02.10	118.00' LT
2710	1055+83.15	118.00' LT
2711	1055+83.23	0.00' RT
2712	1055+83.30	105.00' RT
2713	1053+67.33	105.00' RT
2714	1053+17.33	143.00' RT
2715	1052+87.33	143.00' RT
2716	1052+67.33	113.00' RT
2717	1043+98.86	113.00' RT
2718	1043+98.86	217.75' RT
2719	1042+88.86	218.35' RT
2720	1042+89.12	333.05' RT
2721	1042+07.45	333.23' RT
2722	1041+91.23	115.00' RT
2723	1035+19.86	115.00' RT
2724	1042+23.13	105.00' LT
2725	1042+22.73	283.09' LT
2726	1042+37.05	583.13' LT
2727	1042+88.37	0.00' RT

TLE STATION & OFFSET TABLE

POINT	STATION	OFFSET
T2730	1041+41.44	161.38' LT
T2731	1041+60.41	161.39' LT
T2732	1041+44.97	235.44' LT
T2733	1041+56.81	335.99' LT
T2734	1041+71.17	536.27' LT

Document #: 2293702
Date: 06-05-2023 Time: 12:20 PM
Pages: 1 Fee: $25.00
County: OUTAGAMIE COUNTY State: WI

SARAH R VAN CAMP, REGISTER OF DEEDS
This document has been electronically recorded
Return to:
WisDOT - NE Region - Green Bay - PO#39500-000002

RESERVED FOR REGISTER OF DEEDS
PROJECT NUMBER: 1130-63-21 - 4.27
AMENDMENT NO:

FOR ADDITIONAL INFORMATION REFER TO THE TITLE SHEET, RECORDED IN THE OFFICE OF THE REGISTER OF DEEDS IN OUTAGAMIE COUNTY AS SHEET 2 OF 2 OF DOCUMENT #2288266.

JJ ENGINEERING, INC
Consultant Services

I, JAMES R. CAPPEART, PROFESSIONAL LAND SURVEYOR, HEREBY CERTIFY THAT IN FULL COMPLIANCE WITH THE PROVISIONS OF SECTION 84.095 OF THE WISCONSIN STATUTES AND UNDER THE DIRECTION OF DEPARTMENT OF TRANSPORTATION, I HAVE SURVEYED AND MAPPED THIS TRANSPORTATION PROJECT PLAT 1130-63-21 - 4.27 AND SUCH PLAT CORRECTLY REPRESENTS ALL EXTERIOR BOUNDARIES OF THE SURVEYED LAND.

SIGNATURE: _____ DATE: 6/5/2023
PRINT NAME: JAMES R. CAPPEART
REGISTRATION NUMBER: S-3044

WISCONSIN James R. Cappeart S-3044 Green Bay Wis. LAND SURVEYOR

THIS PLAT AND RELOCATION ORDER ARE APPROVED FOR THE WISCONSIN DEPARTMENT OF TRANSPORTATION

SIGNATURE: _____ DATE: 06/05/2023
PRINT NAME: ALAN ROMMEL

FILE NAME : C:\USERS\RYANMA\DC\ACCDOCS\WISDOT\11306301\PROJECT FILES\DSGN\BASESHARED\RW\DWG\PLAT SHEETS\040127-RP.DWG
APPRAISAL PLAT DATE : 6/5/2023
PLOT DATE : 6/5/2023 9:20 AM PLOT BY : RYAN MALUEG PLOT NAME : PLOT SCALE : 1IN:100 FT
1130-56-70 1130-63-21 - 4.27

REMOVING OLD STRUCTURE B-44-38 REQ'D
REMOVE EXISTING CABLE GUARD
WE ENERGIES GAS/PETROLEUM
CAUTION
LITTLE CHUTE MUNICIPAL WATER DEPT WATER
LITTLE CHUTE MUNICIPAL WATER DEPT SEWER
TDS METROCOM LLC COMMUNICATION LINE
AT&T WISCONSIN COMMUNICATION LINE
N
STA. 64'BUC'+18.05
STRUCTURE B-44-332 REQ'D
KAUKAUNA UTILITIES ELECTRICITY AND SPECTRUM COMMUNICATION LINE
SLOPE INTERCEPT (TYP)
GRADE TO DRAIN
PROPOSED R/W
IH-41 NB
IH-41 SB
1042'NB'
1042'SB'
GRADE TO DRAIN
TLE
EXISTING R/W
SLOPE INTERCEPT (TYP)
R-44-57
RANDOLPH DRIVE
R/L 'BUC'
58'BUC' 59'BUC' 60'BUC' 61'BUC' 62'BUC' 63'BUC' 64'BUC' 65'BUC' 66'BUC' 67'BUC' 68'BUC' 69'BUC' 70'BUC' 71'BUC' 72'BUC' 73'BUC'
BUCHANAN ST
AT&T WISCONSIN COMMUNICATION LINE
EXISTING R/W
SLOPE INTERCEPT (TYP)
KAUKAUNA UTILITIES ELECTRICITY
TDS METROCOM LLC COMMUNICATION LINE
1044'NB'
1044'SB'
PROPOSED R/W
EXISTING R/W
PROPOSED R/W
SLOPE INTERCEPT (TYP)
GRADE TO DRAIN
LEVEL 3 COMMUNICATIONS LLC COMMUNICATION LINE
LITTLE CHUTE MUNICIPAL WATER DEPT COMMUNICATION LINE
KAUKAUNA UTILITIES ELECTRICITY
WETLAND BOUNDARY (TYP)
WISDOT COMMUNICATION LINE
STA. 63'BUC'+90.05 = STA. 1042'NB'+81.11
STA. 64'BUC'+46.05 = STA. 1042'SB'+80.98
GRADE TO DRAIN
BEGIN PROJECT
STA 60'BUC'+25.00
MATCH EXISTING SAW CUT REQ'D
Y=574,988.446
X=854,615.344
END PROJECT
STA 70'BUC'+20.00
MATCH EXISTING SAW CUT REQ'D

5

5

750 745 740 735 730 725 720 715 712

STA 60+25.00 'BUC' EL 732.57
FINISHED PROFILE AT R/L 'BUC'
VPC STA 62+42.50 'BUC' VPC EL 739.91
VPI STA 64+10.00 'BUC' VPI EL 745.56
VPT STA 65+77.50 'BUC' VPT EL 739.74
MIN. VERT. CLEAR. FINAL IH-41 = 17'-0½"
MIN. VERT. CLEAR. FINAL IH-41 = 16'-11"
3.38%
-3.48%
STA 70+20.00 'BUC' EL 724.35
EXISTING PROFILE AT R/L 'BUC'
B-44-332
VCL = 335.00
K = 48.88
MIN. VERT. CLEAR. EX. IH-41 = 17'-1"
MIN. VERT. CLEAR. EX. IH-41 = 16'-11½"
FINISHED SURFACE IH-41'NB' (BY OTHERS)
FINISHED SURFACE IH-41'SB' (BY OTHERS)
STA. 63'BUC'+30.16 1-18" CPRC REQ'D SKEW 0.16° LHF
STA. 65'BUC'+07.29 1-18" CPRC REQ'D SKEW 0.30° RHF
EXISTING PROFILE ELEVATION
FINISHED PROFILE ELEVATION

STA. 64'BUC'+18.02
REMOVE STRUCTURE B-44-38
FOUR SPAN PRESTRESSED CONCRETE GIRDER
WITH REINFORCED CONCRETE DECK
209' OVERALL LENGTH
29' OVERALL WIDTH

STA. 64'BUC'+18.05
STRUCTURE B-44-332 REQ'D
TWO SPAN CONCRETE GIRDER WITH
REINFORCED CONCRETE DECK
36' CLEAR ROADWAY
SKEW 0° RHF

724.22 724.98 726.73 728.21 729.87 731.70 733.42 733.41 734.98 735.10 736.31 736.79 737.43 738.48 738.43 740.16 739.17 741.51 718.95 742.36 718.55 742.69 719.10 742.51 723.80 741.82 738.66 740.62 737.62 738.96 736.38 737.22 735.08 735.48 733.61 733.74 731.93 732.00 730.21 730.26 728.52 728.52 726.73 726.78 724.99 725.05 723.44 721.92 720.50 719.15 717.97 717.57

57'BUC'+75 58'BUC'+00 59'BUC'+00 60'BUC'+00 61'BUC'+00 62'BUC'+00 63'BUC'+00 64'BUC'+00 65'BUC'+00 66'BUC'+00 67'BUC'+00 68'BUC'+00 69'BUC'+00 70'BUC'+00 71'BUC'+00 72'BUC'+00 72'BUC'+75

PROJECT NO: 1130-66-82	HWY: IH 41	COUNTY: OUTAGAMIE	PLAN AND PROFILE: BUCHANAN ST	SHEET 89	E

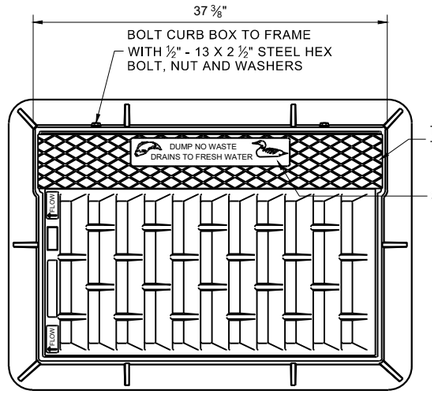
Standard Detail Drawing List

08A05-21A	INLET COVERS TYPE A, H, A-S, H-S & Z
08C07-03	INLETS 2X2-FT, 2X2.5-FT, 2X3-FT, 2.5X3-FT & 2X3.5-FT
08D01-23A	CONCRETE CURB & GUTTER
08D01-23B	CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS
08D04-07	CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E10-02	INLET PROTECTION TYPE A, B, C AND D
08E14-01	TRACKING PAD
08E15-01	CULVERT PIPE CHECK
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
08F04-08	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
09B02-10	CONDUIT
09B16-03	PULL BOX NON-CONDUCTIVE
09C02-09	CONCRETE BASES, TYPES 1, 2, 5, & 6
12A03-10	NAME PLATE (STRUCTURES)
13A05-06A	SHOULDER RUMBLE STRIPS, DIVIDED ROADWAY
13A05-06B	SHOULDER RUMBLE STRIPS, DIVIDED ROADWAY
13B02-09A	CONCRETE PAVEMENT APPROACH SLAB
13C01-19	CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES
13C11-14A	RURAL DOWELED CONCRETE PAVEMENT
13C11-14B	RURAL DOWELED CONCRETE PAVEMENT
13C18-08A	CONCRETE PAVEMENT JOINTING
13C18-08B	CONCRETE PAVEMENT STEEL REINFORCEMENT
13C18-08C	CONCRETE PAVEMENT JOINT TYPES
13C18-08D	CONCRETE PAVEMENT JOINTING AT UTILITY FIXTURES
13C18-08F	CONCRETE PAVEMENT INTERSECTION BOXOUT FOR INTEGRAL CURB AND GUTTER
13C19-03	HMA LONGITUDINAL JOINTS
14B07-16A	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-16B	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-16C	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-16D	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-16E	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-16F	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-16G	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-16H	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-16I	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-16J	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-16K	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-16L	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-16M	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-16N	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B08-02A	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-02B	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-02C	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-02D	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-02E	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B15-11A	STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATION & ELEMENTS
14B15-11B	STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATION & ELEMENTS
14B15-11C	STEEL PLATE BEAM GUARD, CLASS "A", INSTALLATION & ELEMENTS
14B16-04A	ANCHORAGE FOR STEEL PLATE BEAM GUARD TYPE 2
14B16-04B	ANCHORAGE FOR STEEL PLATE BEAM GUARD TYPE 2
14B32-11A	CONCRETE BARRIER SINGLE SLOPE (CBSS)
14B32-11B	CONCRETE BARRIER SINGLE SLOPE (CBSS)
14B32-11C	CONCRETE BARRIER SINGLE SLOPE (CBSS)
14B32-11D	CONCRETE BARRIER SINGLE SLOPE (CBSS)
14B32-11E	CONCRETE BARRIER SINGLE SLOPE (CBSS)
14B32-11F	CONCRETE BARRIER SINGLE SLOPE (CBSS)
14B32-11G	CONCRETE BARRIER SINGLE SLOPE (CBSS)
14B32-11H	CONCRETE BARRIER SINGLE SLOPE (CBSS)
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)

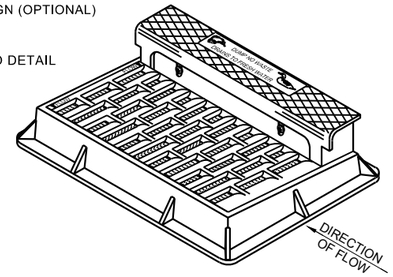
6

Standard Detail Drawing List

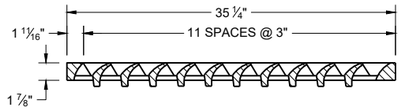
14B47-06A	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
14B47-06B	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
14B47-06C	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
14B47-06D	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
14B47-06E	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
14B47-06F	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
14B47-06G	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
15A03-02A	FLEXIBLE MARKER POST FOR CULVERT END
15A03-02B	FLEXIBLE MARKER POST FOR CULVERT END
15B03-15A	FENCE CHAIN LINK
15B03-15B	FENCE CHAIN LINK
15C02-09A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-09B	BARRICADES AND SIGNS FOR VARIOUS CLOSURES
15C02-09D	ON RAMP LANE CLOSURE
15C02-09E	OFF RAMP LANE CLOSURE
15C02-09F	ADVANCED WIDTH RESTRICTION SIGNING
15C02-09G	TRAFFIC CONTROL FOR ENTRANCE RAMP CLOSURE
15C05-05	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 M.P.H. OR LESS
15C08-23A	PERMANENT LONGITUDINAL PAVEMENT MARKINGS
15C11-10B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS
15C12-09A	TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION
15C19-09C	MOVING PAVEMENT MARKING OPERATION MULTI-LANE DIVIDED ROADWAY
15D12-14A	TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE
15D12-14B	TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE
15D14-08	TRAFFIC CONTROL, TWO LANE CLOSURE ON FREEWAY OR EXPRESSWAY
15D15-07B	TRAFFIC CONTROL, ENTRANCE RAMP WITHIN LANE CLOSURE
15D15-07C	TRAFFIC CONTROL, TAPERED ENTRANCE RAMP WITHIN LANE CLOSURE
15D15-07D	TRAFFIC CONTROL, TAPERED ENTRANCE RAMP WITHIN LANE CLOSURE
15D21-07A	TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE
15D21-07B	TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE
15D27-03	TRAFFIC CONTROL, SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH
15D28-04	TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY
15D42-04	TRAFFIC CONTROL, TWO LANE FULL FREEWAY CLOSURE
15D47-03A	TRAFFIC CONTROL, INGRESS/EGRESS WITH BARRIER
15D47-03B	TRAFFIC CONTROL, INGRESS/EGRESS WITHOUT BARRIER
15D49-04	TRAFFIC CONTROL, SYSTEM RAMP CLOSURE

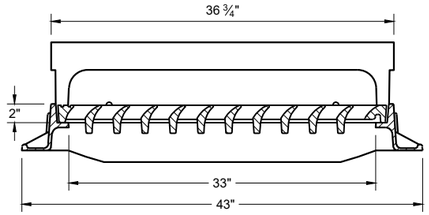


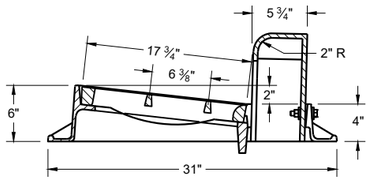
NOTE: EITHER CASTING IS ACCEPTABLE

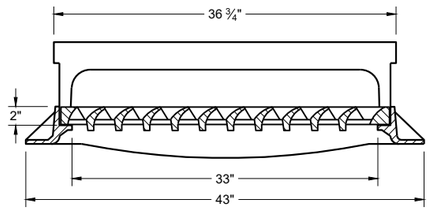


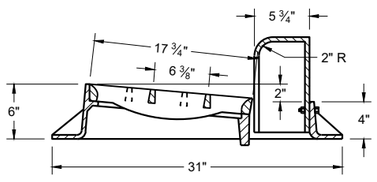
NOTE: CURB BOX HEIGHT ADJUSTABLE 6" - 9"







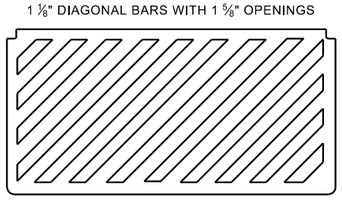




TYPE "H"

NOTE: EITHER CASTING IS ACCEPTABLE

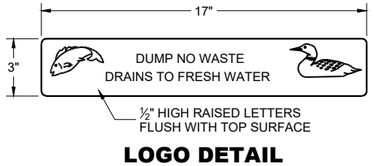
1 1/8" DIAGONAL BARS WITH 1 5/8" OPENINGS



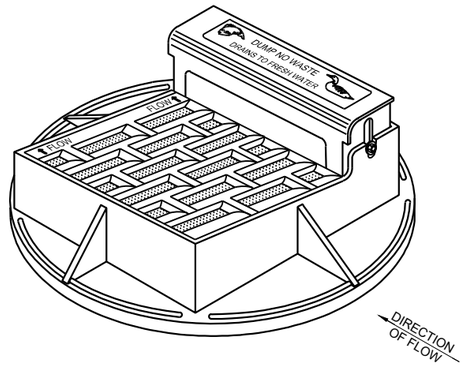
SPECIAL GRATE FOR TYPE "H" COVER

(MEASURES 35" X 17 3/4" X 2")

(NOTED AS TYPE H-S ON DRAINAGE TABLE)

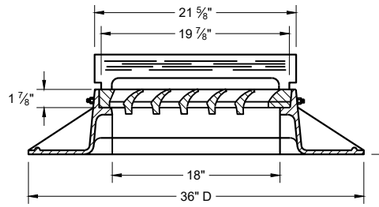


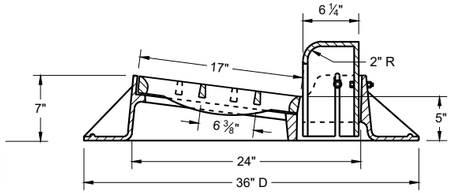
LOGO DETAIL



NOTE: CURB BOX HEIGHT ADJUSTABLE 6" - 9"

NOTE: EITHER CASTING IS ACCEPTABLE





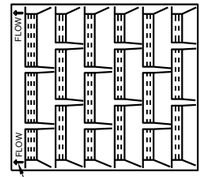
TYPE "A"

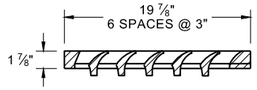
GENERAL NOTES

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.

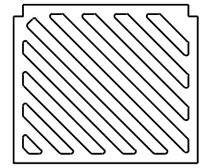
DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR CATCH BASIN, MANHOLE AND INLET COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ROUND FRAMES AND COVERS SHALL HAVE CONTINUOUSLY MACHINED BEARING SURFACES TO PREVENT ROCKING AND RATTLING.





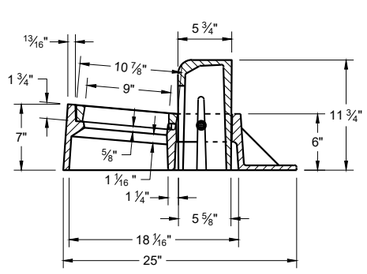
1" DIAGONAL BARS WITH 1 1/2" OPENINGS



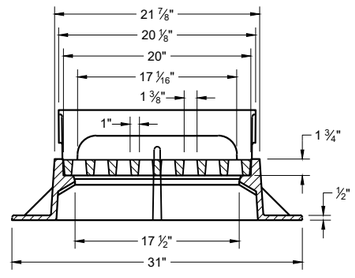
SPECIAL GRATE FOR TYPE "A" COVER

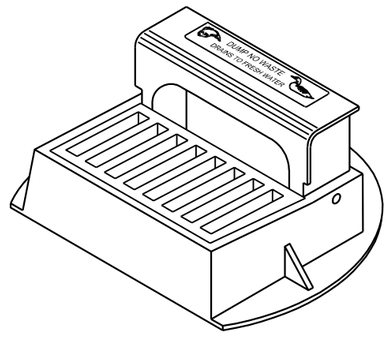
(MEASURES 19 3/4" X 17" X 1 7/8")

(NOTED AS TYPE A-S ON DRAINAGE TABLE)



TYPE "Z"





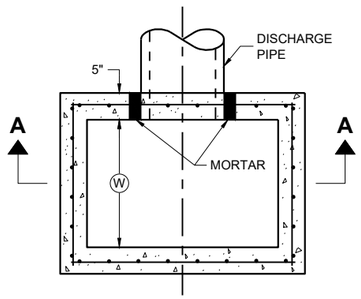
INLET COVERS
TYPES A, H, A-S, H-S AND Z

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

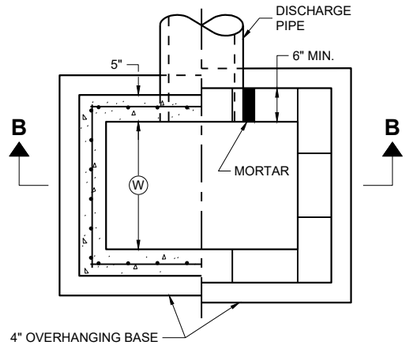
APPROVED
December 2023
DATE

/S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR

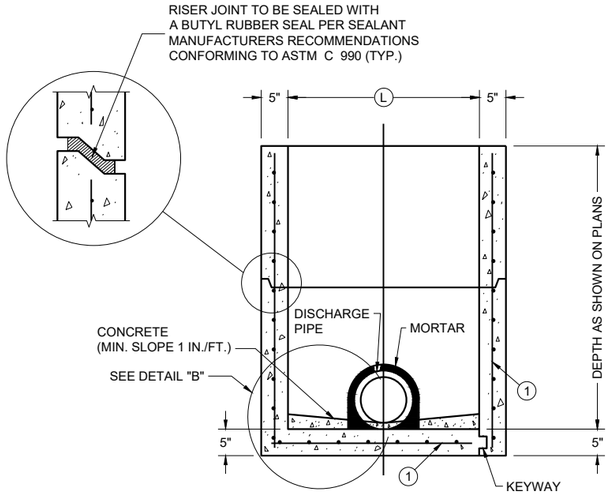
FHWA



PLAN VIEW



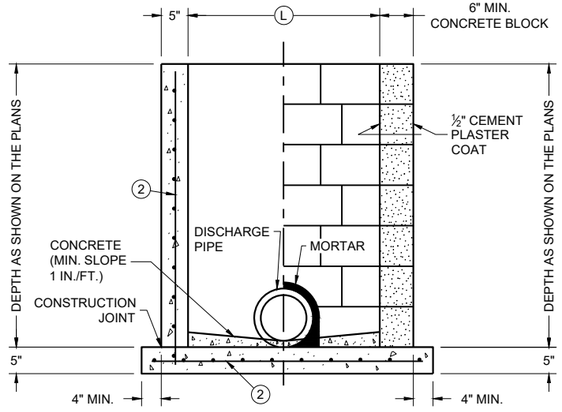
PLAN VIEW



PRECAST REINFORCED CONCRETE WITH MONOLITHIC BASE

PRECAST REINFORCED CONCRETE WITH INTEGRAL BASE

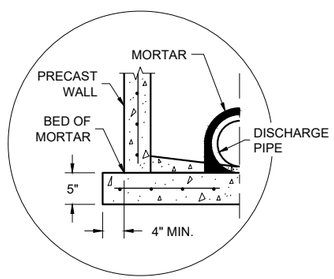
SECTION A - A



CAST IN PLACE REINFORCED CONCRETE

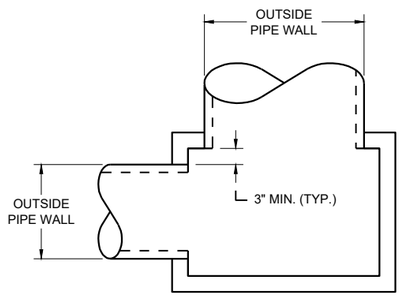
CONCRETE BLOCK WITH CAST IN PLACE OR PRECAST REINFORCED CONCRETE BASE (1)

SECTION B - B



SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

DETAIL "B"



DETAIL "A"

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP N0T SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

UNLESS OTHERWISE AUTHORIZED IN WRITING BY THE ENGINEER, THE CONTRACTOR SHALL NOT ORDER AND DELIVER PRECAST INLET UNITS REQUIRED FOR THE PROJECT UNTIL A LIST OF SIZES IS FURNISHED BY THE ENGINEER.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR UNDERGROUND DRAINAGE STRUCTURES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ALL PRECAST INLET UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF ASTM C 913.

ALL DRAINAGE STRUCTURES ARE DESIGNATED ON THE PLANS AS "MANHOLES 3X3-L", "CATCH BASINS 4-B", "INLETS 2X3-H", ETC. THE FIRST NUMBERS DESIGNATES THE SIZE OF THE STRUCTURE, AND THE FOLLOWING LETTER DESIGNATES THE TYPE OF COVER TO BE USED TO COMPRISE THE COMPLETE UNIT.

BASES SHALL BE PLACED ON A BED OF MATERIAL AT LEAST 6 INCHES IN DEPTH, WHICH MEETS THE REQUIREMENTS OF FOUNDATION BACKFILL. THIS BEDDING SHALL BE COMPACTED AND PROVIDE UNIFORM SUPPORT FOR THE ENTIRE AREA OF THE BASE.

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

PRECAST REINFORCED RISERS SHALL HAVE A TONGUE AND GROOVE JOINT WITH TONGUE UP OR DOWN.

4" OVERHANGING BASES ARE REQUIRED FOR CAST-IN-PLACE REINFORCED CONCRETE AND CONCRETE BLOCK INSTALLATIONS. 4" OVERHANG IS REQUIRED WHEN SEPARATE PRECAST BASE IS PROVIDED. OVERHANG IS NOT REQUIRED ON PRECAST STRUCTURES WITH AN INTEGRAL OR MONOLITHIC BASE.

MAXIMUM INSIDE PIPE DIAMETER DETERMINED BY 3" CLEARANCE ON EACH SIDE OF THE OUTSIDE WALL OF THE PIPE. SEE DETAIL "A". ASSUMES PIPE ENTERS PERPENDICULAR TO THE STRUCTURE.

(1) FOR PRECAST INLETS AND REINFORCED CONCRETE BASES PROVIDE REINFORCING STEEL IN ACCORDANCE TO ASTM C 913
(2) CONTRACTOR TO PROVIDE DRAWING(S) STAMPED BY A PROFESSIONAL ENGINEER FOR STEEL REINFORCING DESIGN FOR CAST-IN-PLACE STRUCTURES.

CATCH BASIN COVER MATRIX

INLET SIZE	WIDTH (W) (FT.)	LENGTH (L) (FT.)	INLET COVER TYPE									
			ALL A'S	ALL B'S	BW	F	ALL H'S	S	T	V	WM	V V-B
2 X 2-FT	2	2	X	X				X				
2 X 2.5-FT	2	2.5			X			X	X	X	X	
2 X 3-FT	2	3					X					
2.5 X 3-FT	2.5	3				X						
2 X 3.5-FT	2	3.5										X

PIPE MATRIX

CATCH BASIN SIZE	MAXIMUM INSIDE PIPE DIAMETER FOR TWO PIPES	
	WIDTH (IN)	LENGTH (IN)
2 X 2-FT	12	12
2 X 2.5-FT	12	18
2 X 3-FT	12	24
2.5 X 3-FT	18	24
2 X 3.5-FT	12	30

INLETS 2 X 2-FT, 2 X 2.5-FT, 2 X 3-FT, 2.5 X 3-FT AND 2X3.5-FT

INLETS 2 X 2-FT, 2 X 2.5-FT, 2 X 3-FT, 2.5 X 3-FT AND 2 X 3.5-FT

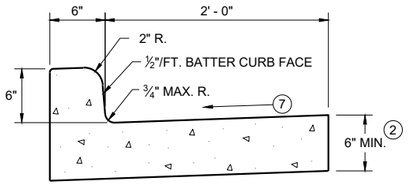
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
December 2023
DATE

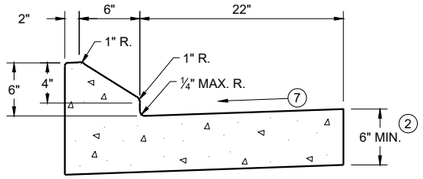
/S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR

FHWA

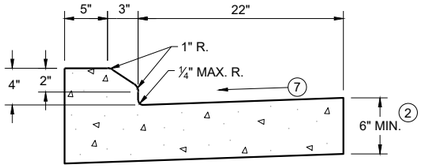
6
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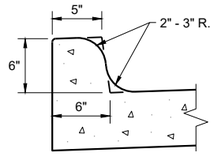
TYPES A (1) & D



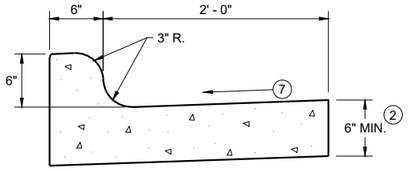
6" SLOPED CURB TYPES G (1) & J



4" SLOPED CURB TYPES G (1) & J

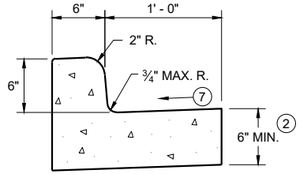


TYPES K (1) & L
(OPTIONAL CURB SHAPE)



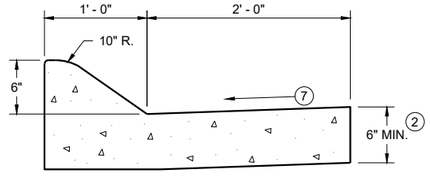
TYPES K (1) & L

CONCRETE CURB AND GUTTER 30"

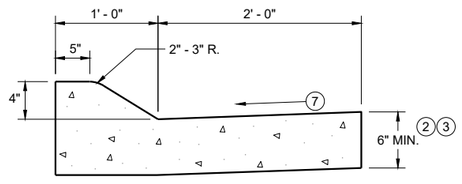


TYPES A (1) & D

CONCRETE CURB AND GUTTER 18"

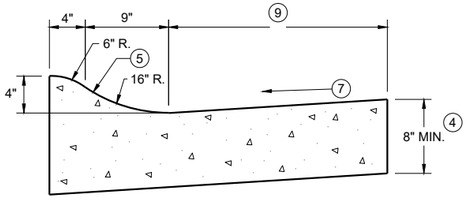


6" SLOPED CURB TYPES A (1) & D



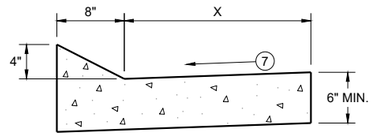
4" SLOPED CURB TYPES A (1) & D

CONCRETE CURB AND GUTTER 36"



4" SLOPED CURB TYPES R (1) & T

TBT & TBTT	X
30"	22"
36"	28"

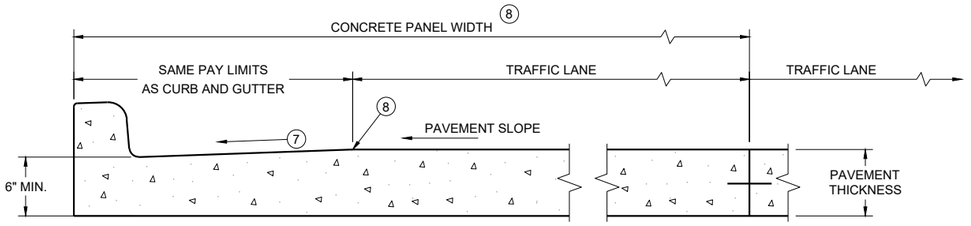


TYPES TBT & TBTT (1)

CONCRETE CURB AND GUTTER

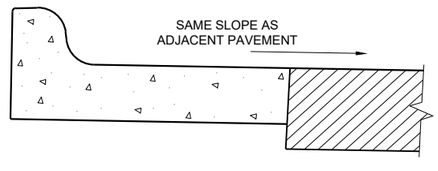
PAVEMENT THICKNESS AND MAXIMUM CONCRETE PANEL WIDTH TABLE

PAVEMENT THICKNESS	MAXIMUM PANEL WIDTH
LESS THAN 10"	12'
10" & ABOVE	15'



PARTIAL SECTION OF PAVEMENT * WITH INTEGRAL CURB AND GUTTER

* BIKE LANE IS NOT SHOWN



REVERSE SLOPE GUTTER (6)
(TYPICAL FOR ALL CURB & GUTTER TYPES)

GENERAL NOTES

DETAILS OF CONSTRUCTION AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

INTEGRAL CURB AND GUTTER SHALL CONFORM TO THE DETAILS SHOWN FOR CONCRETE CURB AND GUTTER INCLUDING THE TRANSVERSE GUTTER SLOPE.

UNLESS OTHERWISE SHOWN ON THE TYPICAL CROSS SECTIONS, THE BASE AGGREGATE AND COMMON EXCAVATION LIMITS ARE 2' - 0" BEHIND THE BACK OF CURBS.

(1) TIE BARS ARE REQUIRED FOR CURB AND GUTTERS TYPES A, G, K, R, AND TBTT.

(2) THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.

(3) USE 8" MINIMUM GUTTER THICKNESS WHEN USED WITH AN ADJACENT CONCRETE TRUCK APRON PLACED BEHIND BACK OF CURB.

(4) THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 8" MINIMUM GUTTER THICKNESS IS MAINTAINED.

(5) UNLESS OTHERWISE NOTED, FOR STAKING PURPOSES THE FACE OF CURB IS 6" FROM THE BACK OF CURB.

(6) WHEN REVERSE SLOPE GUTTER IS REQUIRED, THE LOCATION(S) WILL BE SHOWN ELSEWHERE IN THE PLAN.

(7) USE 4% GUTTER CROSS SLOPE UNLESS OTHERWISE NOTED IN THE PLANS.

(8) INCLUDE LONGITUDINAL JOINT AND TIE BARS ALONG LANE EDGE WHEN CONCRETE PANEL WIDTH EXCEEDS THE MAXIMUM WIDTH PER TABLE BELOW. LONGITUDINAL JOINT(S) ARE NOT ALLOWED WITHIN TRAFFIC LANES AND BIKE LANES. LONGITUDINAL JOINT MAY BE SAWED.

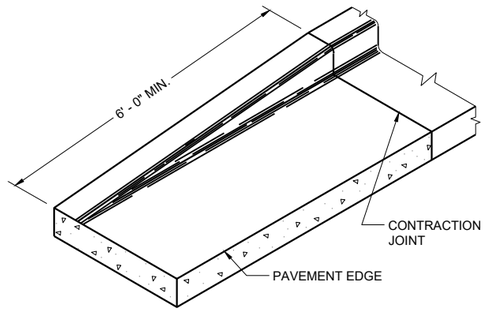
(9) CONCRETE CURB AND GUTTER 4-INCH SLOPED 30-INCH TYPE "R" AND "T" = 17 INCHES
CONCRETE CURB AND GUTTER 4-INCH SLOPED 36-INCH TYPE "R" AND "T" = 23 INCHES

CONCRETE CURB AND GUTTER

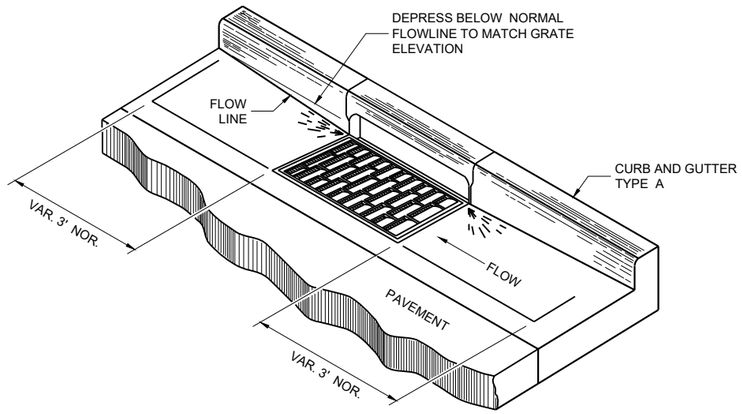
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

SDD 08D01-23a

6



END SECTION CURB AND GUTTER



DETAIL OF CURB AND GUTTER AT INLETS

(TYPICAL H INLET COVER SHOWN)

GENERAL NOTES

DETAILS OF CONSTRUCTION AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

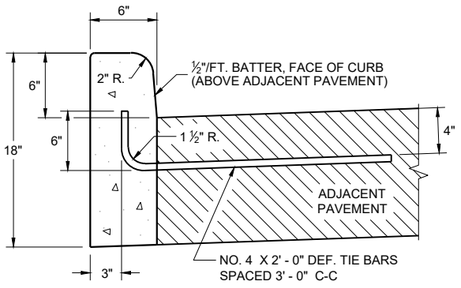
UNLESS OTHERWISE SHOWN ON THE TYPICAL CROSS SECTIONS, THE BASE AGGREGATE AND COMMON EXCAVATION LIMITS ARE 2' - 0" BEHIND THE BACK OF CURBS.

(1) TIE BARS ARE REQUIRED FOR CURB AND GUTTERS TYPES A, G, K, R, AND TBTT.

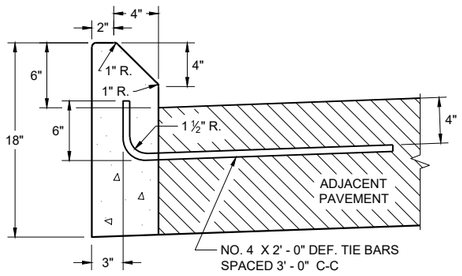
(2) THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.

(10) REFER TO SDD 08D18 AND 08D19 FOR ADDITIONAL DRIVEWAY ENTRANCE CURB DETAILS.

(11) PLACE 1" THICK EXPANSION JOINT MATERIAL BETWEEN VERTICAL FACE CURB TYPES EXTENDING FROM THE TOP OF CURB TO 1 INCH BELOW THE ADJOINING CONCRETE SURFACE. RIGID CONCRETE STRUCTURES INCLUDE RAISED CONCRETE MEDIANS, CONCRETE SAFETY ISLANDS, SPLITTER ISLANDS, OR LOCATIONS IDENTIFIED ON THE PLANS.

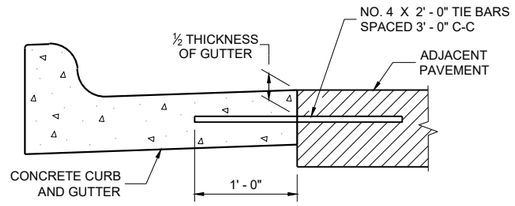


TYPES A (1) & D

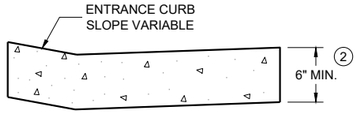


TYPES G (1) & J

CONCRETE CURB

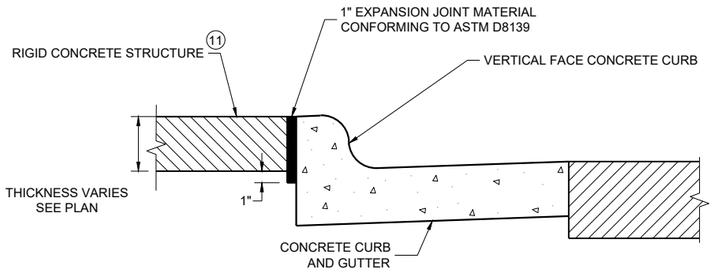


TYPICAL TIE BAR LOCATION (1)

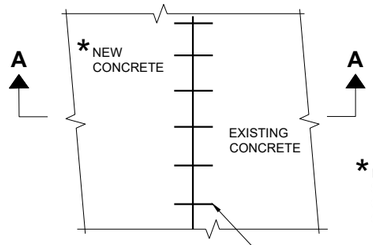


DRIVEWAY ENTRANCE CURB (10)

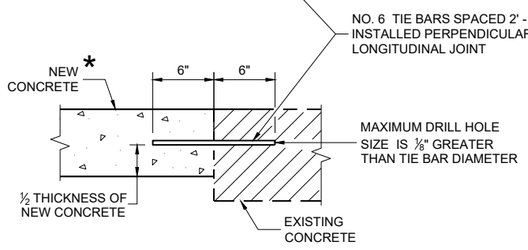
(WHEN DIRECTED BY THE ENGINEER)



EXPANSION JOINT DETAIL FOR VERTICAL CURB ABUTTING A RIGID STRUCTURE (11)



PLAN VIEW



SECTION A - A

TIE BARS DRILLED INTO EXISTING PAVEMENT

CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

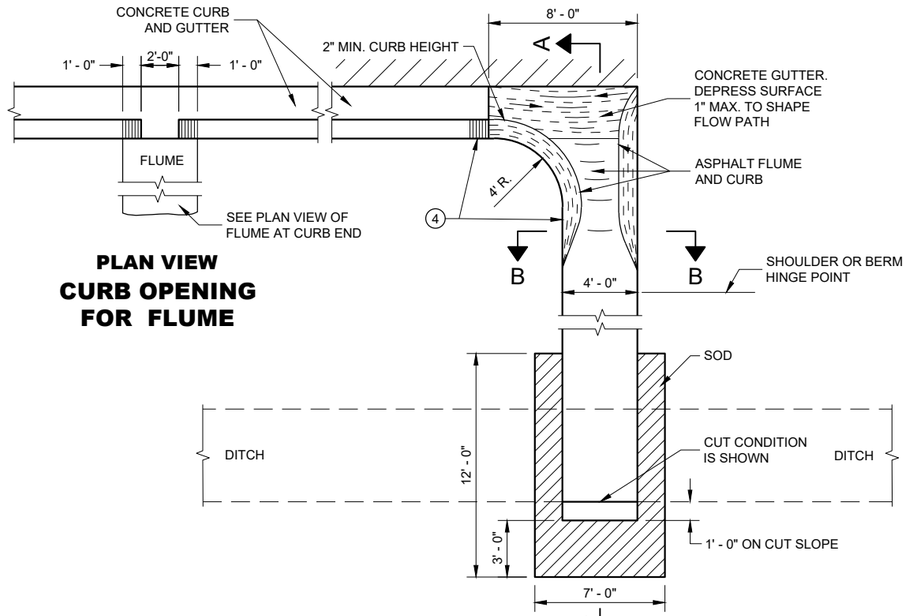
APPROVED
May 2023 — DATE
/S/ Rodnery Taylor — ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR

FHWA

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SDD 08D01-23b

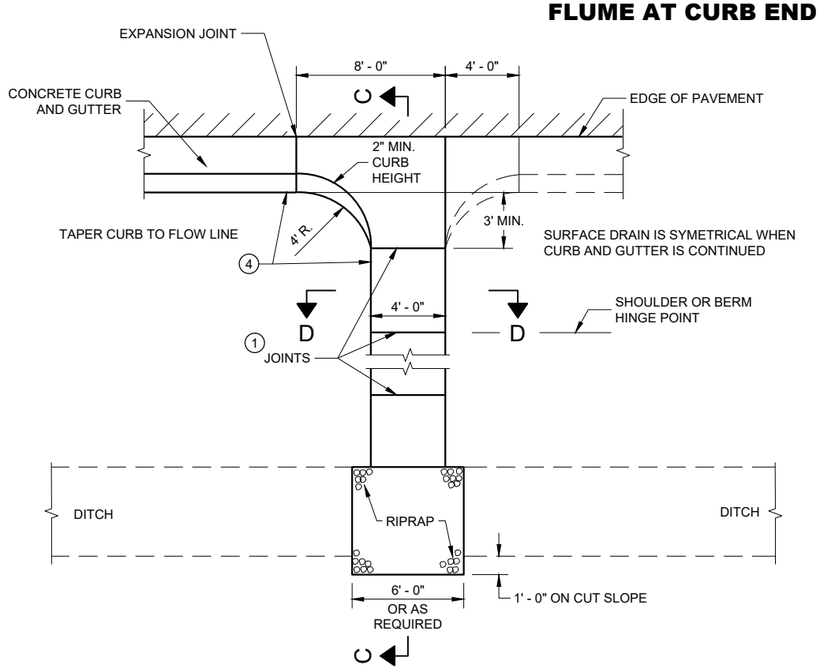
NOTE: TAPER CURB ENDS TO GUTTER IN 1' - 0"

ASPHALTIC FLUME



PLAN VIEW
CURB OPENING FOR FLUME

PLAN VIEW
FLUME AT CURB END



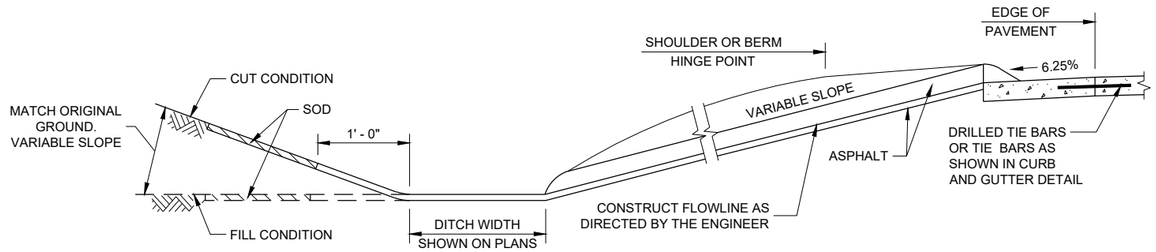
PLAN VIEW
CONCRETE SURFACE DRAIN

GENERAL NOTES

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

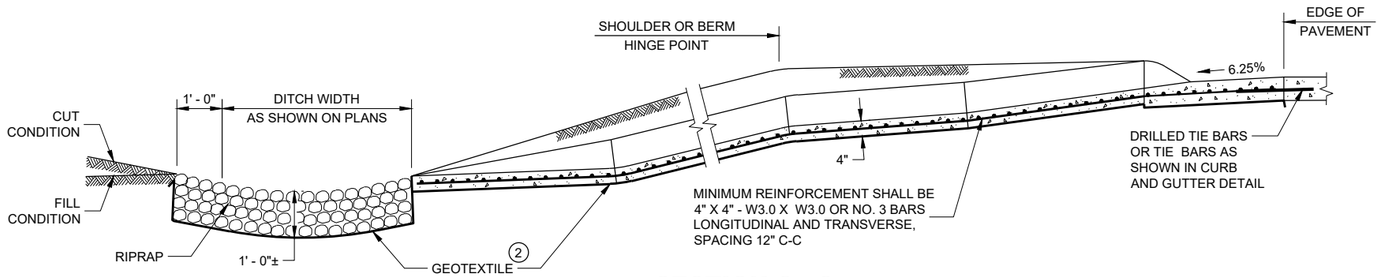
4" X 4" - W3.0 X W3.0 CONCRETE REINFORCEMENT SHALL BE IN ACCORDANCE WITH AASHTO SPECIFICATION M55.

1. JOINTS SHALL BE ⅛" TO ¼" WIDE BY 1½" DEEP AND SPACED AT UNIFORM INTERVALS OF APPROXIMATELY 4 FEET.
2. GEOTEXTILE TYPE "R" SHALL UNDERLAY THE FULL LENGTH AND WIDTH OF THE CONCRETE SURFACE DRAIN AND RIPRAP.
3. CONCRETE SURFACE DRAIN WITHOUT CURB AND GUTTER MAY BE USED ON BACKSLOPES WHEN SPECIFIED.
4. ANGLE OF FLUME IN RELATION TO BACK OF CURB TO BE CONSTRUCTED PER THE PLAN DETAILS OR AS DIRECTED BY THE ENGINEER. ANGLE OF FLUME MAY BE OTHER THAN 90 DEGREES AS SHOWN.

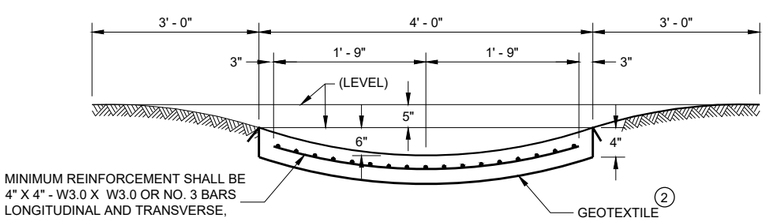


SECTION A - A

SECTION B - B



SECTION C - C



SECTION D - D

CONCRETE SURFACE DRAINS AND ASPHALTIC FLUMES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023
DATE

/S/ Rodney Taylor
ROADWAY STANDARDS DEVE ENGINEER

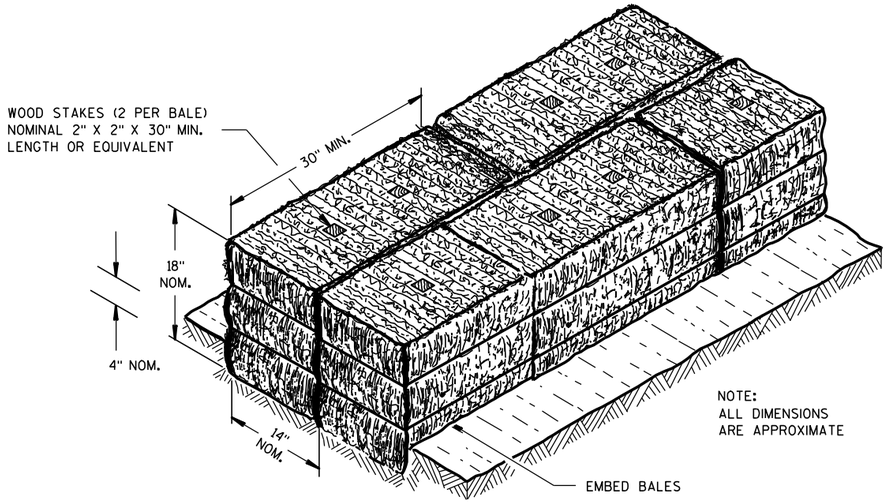
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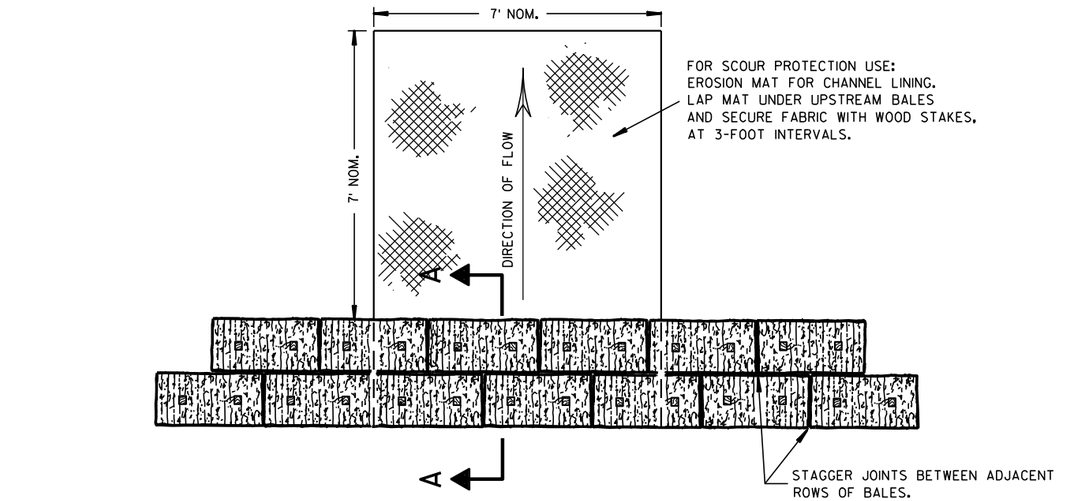
SDD 08D04 - 07

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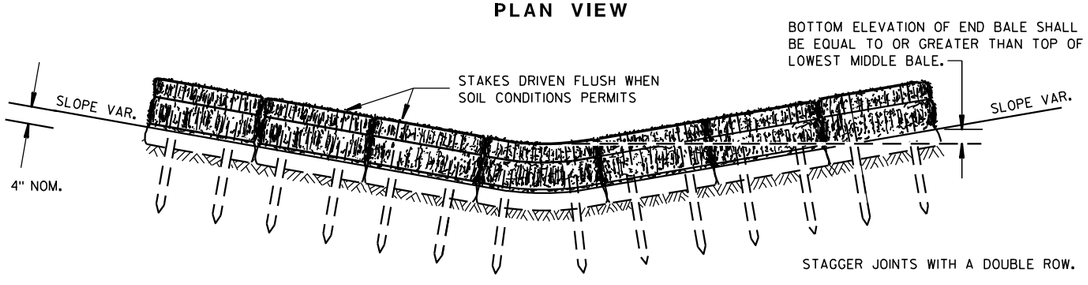
SDD 08D04 - 07



SECTION A-A



PLAN VIEW



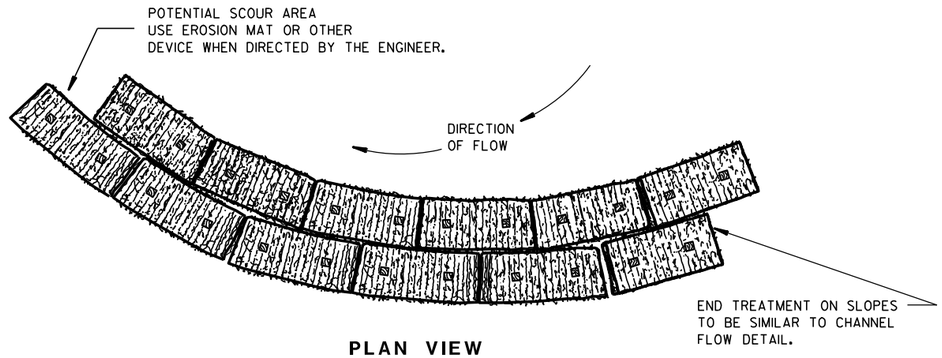
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES ①

GENERAL NOTES

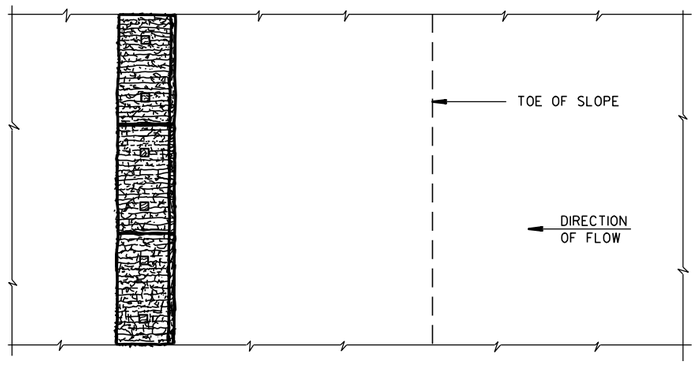
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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.

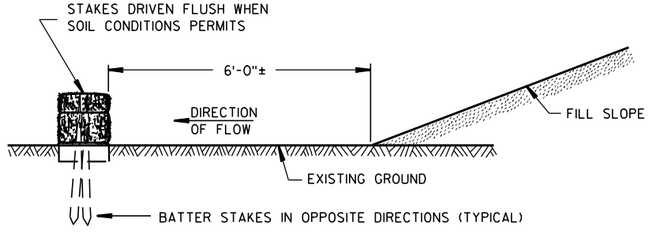


PLAN VIEW

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

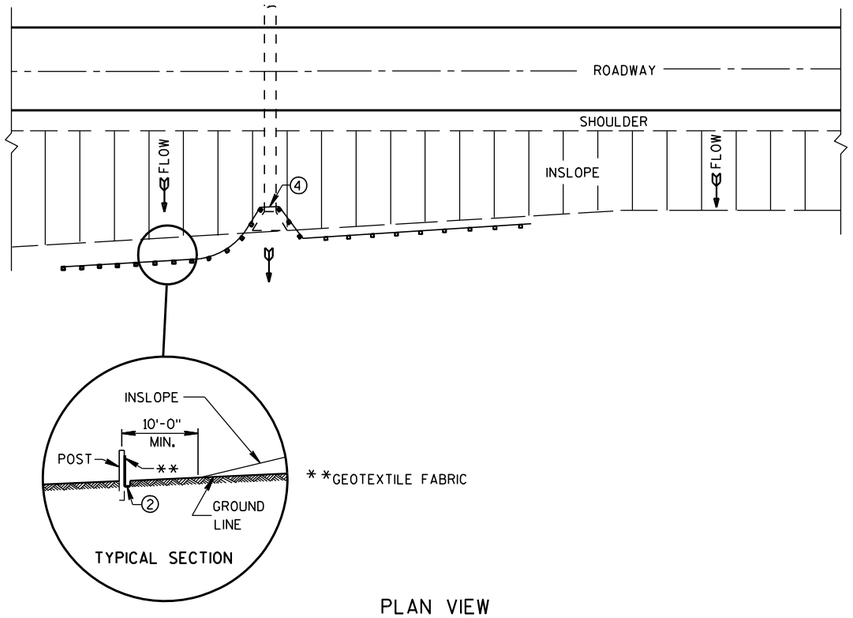
APPROVED
6/04/02 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

6

S.D.D. 8 E 8-3

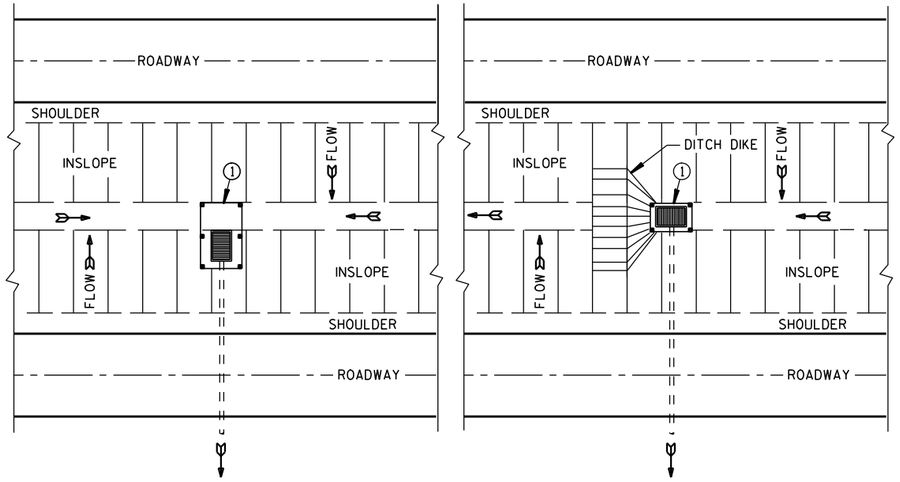
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S.D.D. 8 E 8-3



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



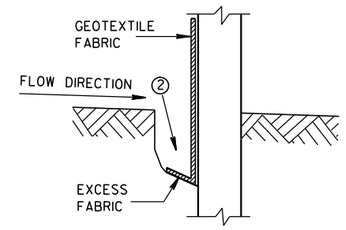
PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

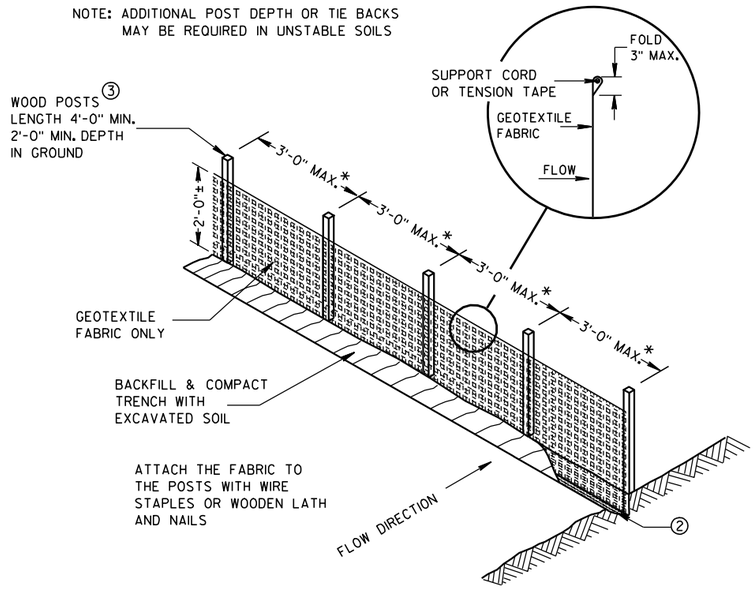
GENERAL NOTES

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

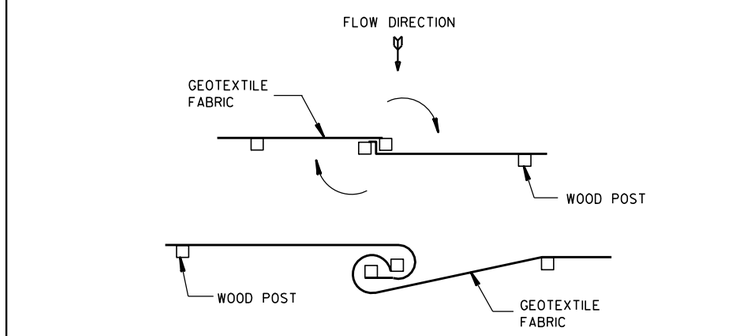
1. HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
2. FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
3. WOOD POSTS SHALL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



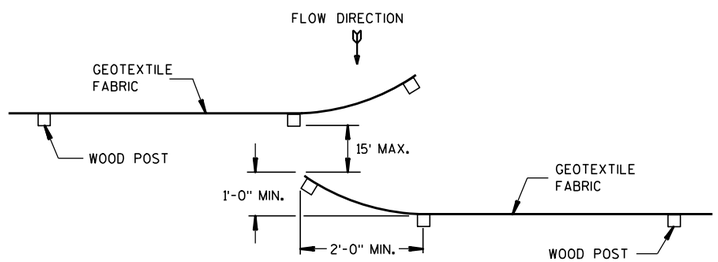
TRENCH DETAIL



SILT FENCE

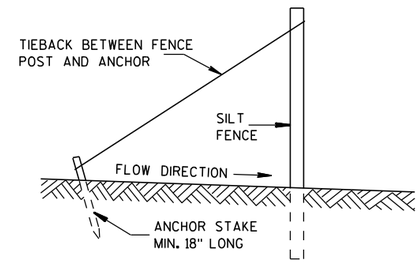


TWIST METHOD



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

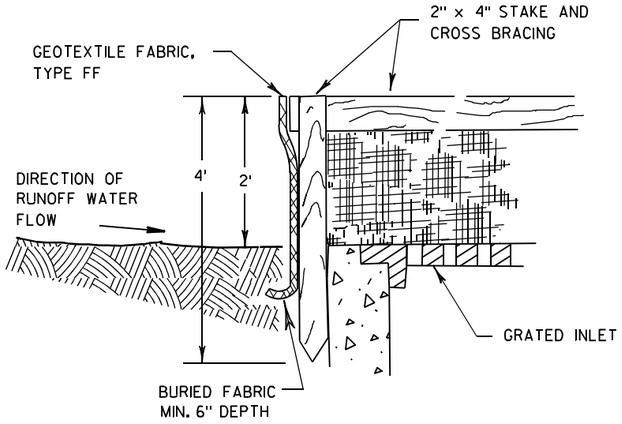
APPROVED
4-29-05 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

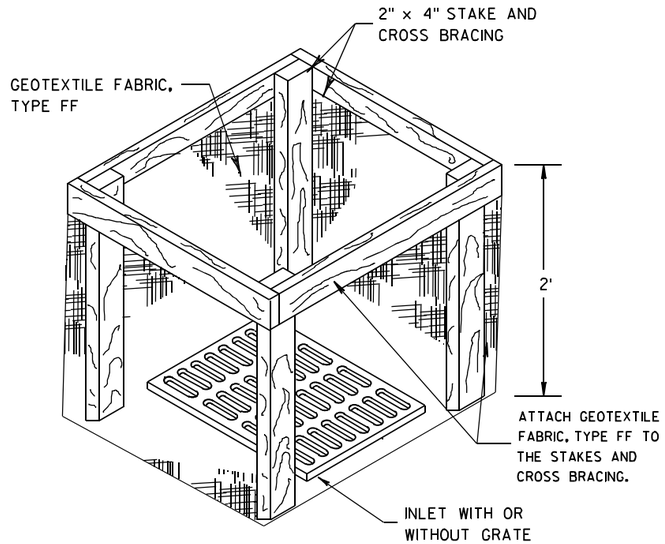
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S.D.D. 8 E 9-6

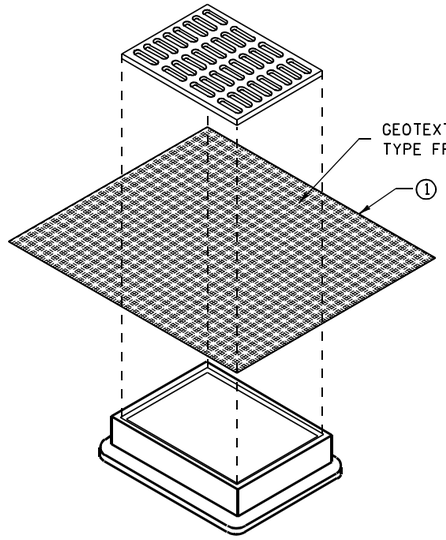
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S.D.D. 8 E 9-6



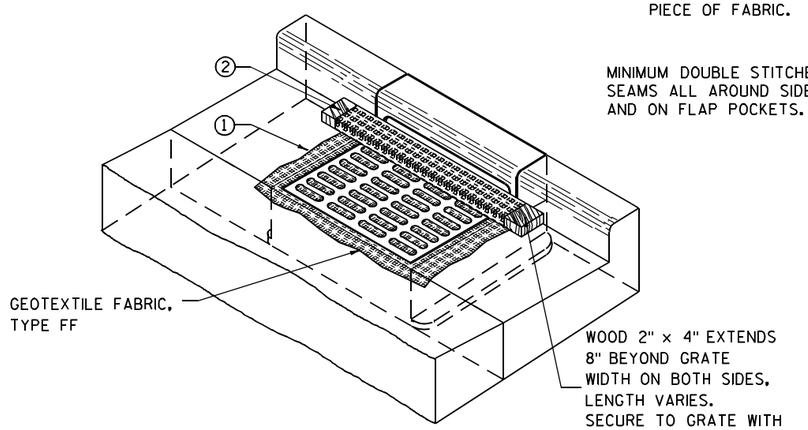


INLET PROTECTION, TYPE A

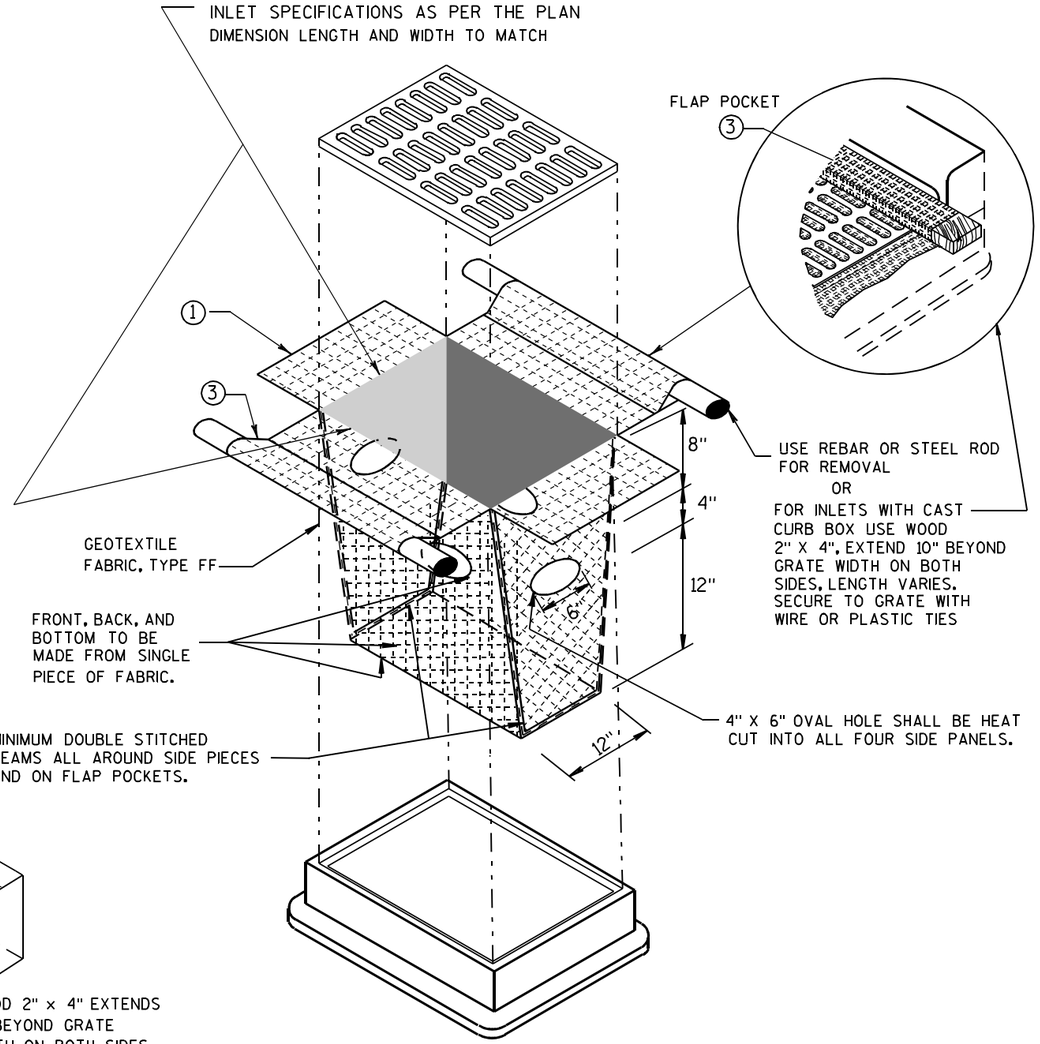


INLET PROTECTION, TYPE B
(WITHOUT CURB BOX)

(CAN BE INSTALLED IN ANY INLET WITHOUT A CURB BOX)



INLET PROTECTION, TYPE C (WITH CURB BOX)



INLET PROTECTION, TYPE D

(CAN BE INSTALLED IN ANY INLET TYPE WITH
OR WITHOUT A CURB BOX AS PER NOTE ②)

GENERAL NOTES

INLET PROTECTION DEVICES SHALL BE MAINTAINED OR REPLACED AT THE DIRECTION OF THE ENGINEER.

MANUFACTURED ALTERNATIVES APPROVED AND LISTED ON THE DEPARTMENT'S EROSION CONTROL PRODUCT ACCEPTABILITY LIST MAY BE SUBSTITUTED.

WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

① FINISHED SIZE, INCLUDING FLAP POCKETS WHERE REQUIRED, SHALL EXTEND A MINIMUM OF 10" AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.

② FOR INLET PROTECTION, TYPE C (WITH CURB BOX), AN ADDITIONAL 18" OF FABRIC IS WRAPPED AROUND THE WOOD AND SECURED WITH STAPLES. THE WOOD SHALL NOT BLOCK THE ENTIRE HEIGHT OF THE CURB BOX OPENING.

③ FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2X4.

INSTALLATION NOTES

TYPE B & C

TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.

THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HOLDS OR OTHER METHOD TO PREVENT ACCUMULATED SEDIMENT FROM ENTERING THE INLET.

TYPE D

DO NOT INSTALL INLET PROTECTION TYPE D IN INLETS SHALLOWER THAN 30", MEASURED FROM THE BOTTOM OF THE INLET TO THE TOP OF THE GRATE.

TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.

THE INSTALLED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE, BETWEEN THE INLET WALLS AND THE BAG, MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES, OF 3". WHERE NECESSARY THE CONTRACTOR SHALL CINCH THE BAG, USING PLASTIC ZIP TIES, TO ACHIEVE THE 3" CLEARANCE. THE TIES SHALL BE PLACED AT A MAXIMUM OF 4" FROM THE BOTTOM OF THE BAG.

INLET PROTECTION
TYPE A, B, C, AND D

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
10/16/02
DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

6
S.D.D. 8 E 10-2

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.

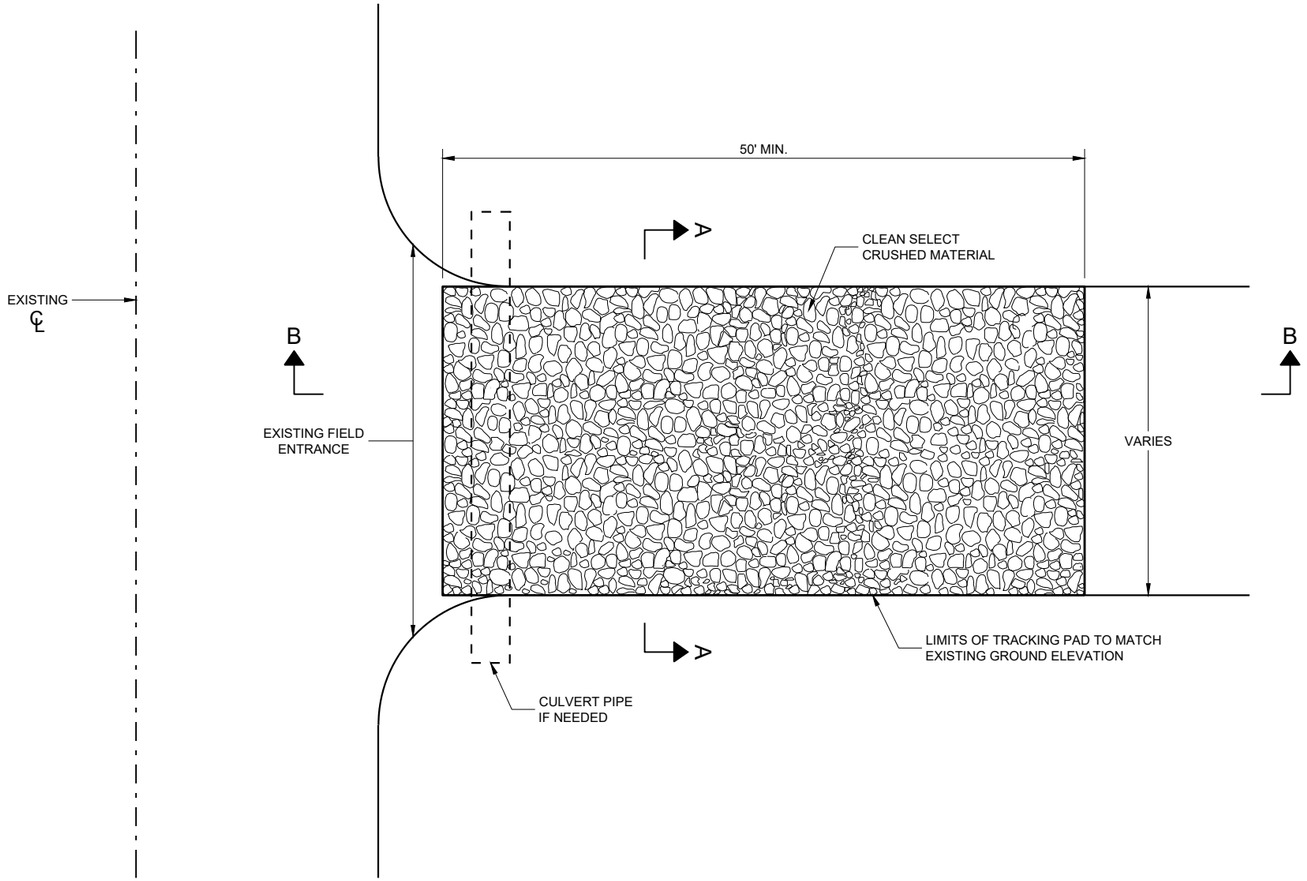
TRACKING PAD TO BE REMOVED AFTER CONSTRUCTION IS COMPLETED.

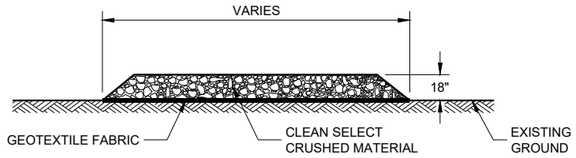
TRACKING PAD SHALL BE THE FULL WIDTH OF THE EGRESS POINT.

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

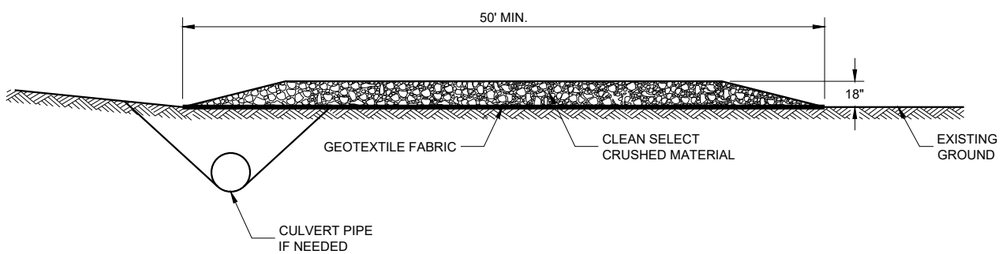
CULVERT PIPE OR OTHER BMP USED TO DIVERT WATER AWAY, AROUND OR UNDER THE TRACKING PAD SHALL BE DESIGNED TO CONVEY THE 2 YEAR - 24 HOUR EVENT.

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





SECTION A - A



SECTION B - B

TRACKING PAD

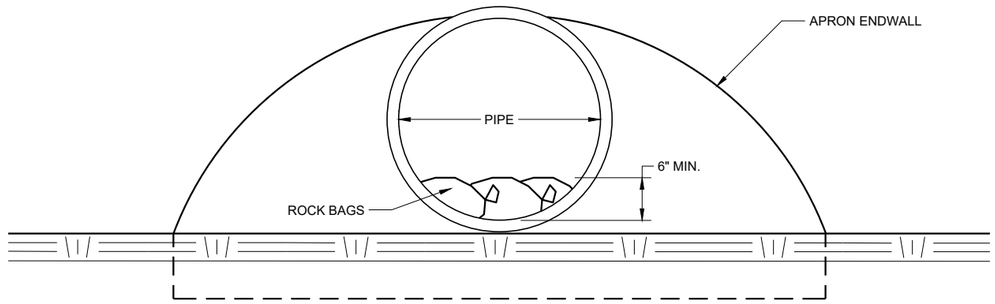
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

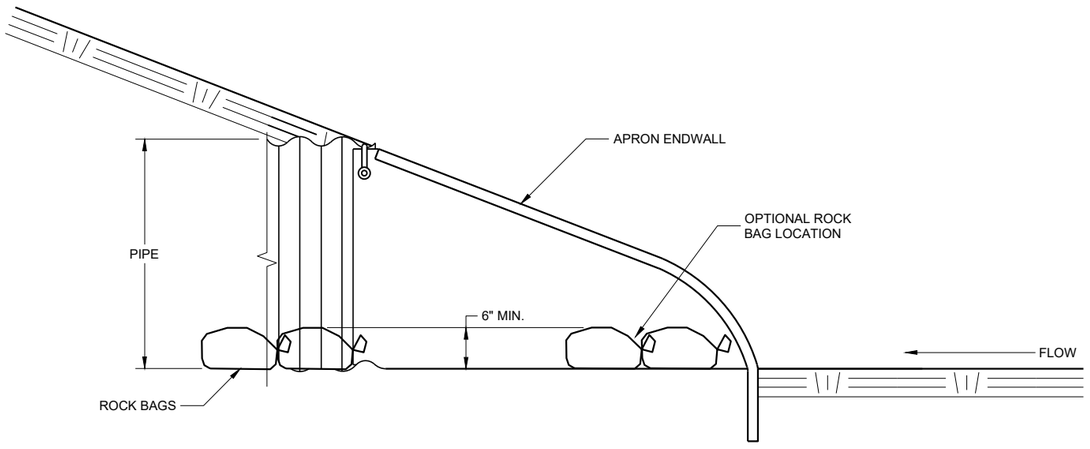
FHWA

SDD 08E14 - 01

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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

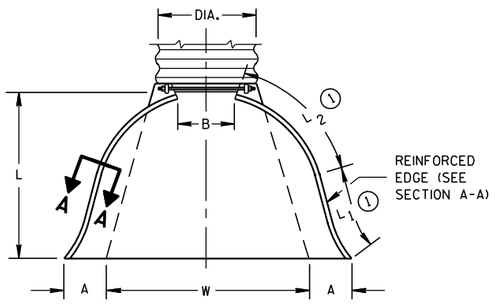
PIPE DIA. (IN.)	MIN. THICK. (Inches) STEEL	MIN. THICK. (Inches) ALUM.	DIMENSIONS (Inches) A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")	APPROX. SLOPE	BODY
12	.064	.060	6	6	6	21	12	17 1/2	24	2 1/2 to 1	1 Pc.
15	.064	.060	7	8	6	26	14	21 3/4	30	2 1/2 to 1	1 Pc.
18	.064	.060	8	10	6	31	15	28 1/4	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

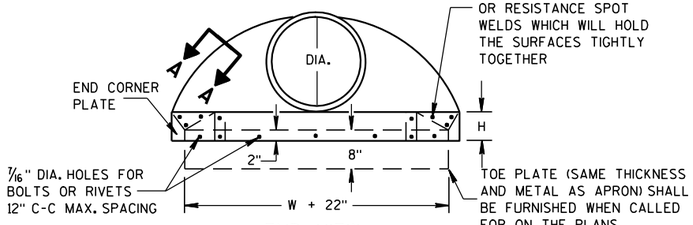
REINFORCED CONCRETE APRON ENDWALLS

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

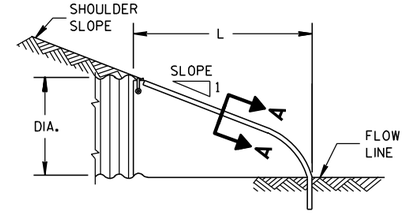
*MINIMUM
**MAXIMUM



PLAN VIEW

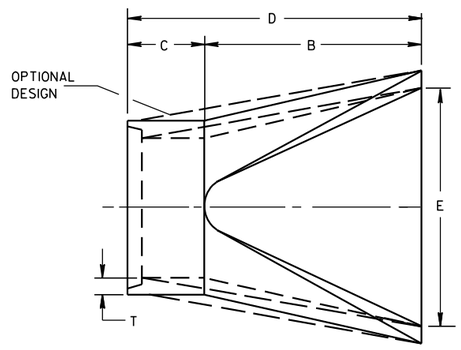


END VIEW

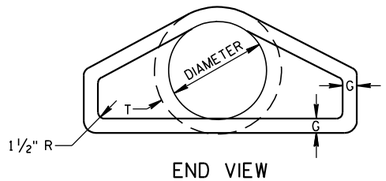


SIDE ELEVATION

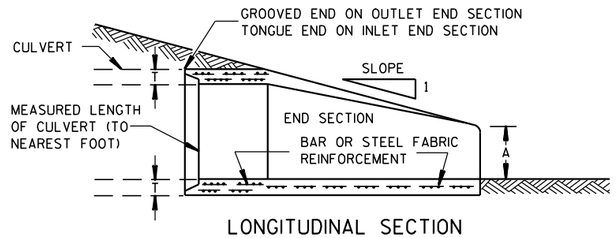
METAL ENDWALLS



PLAN

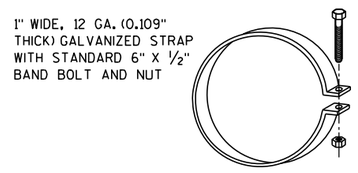


END VIEW



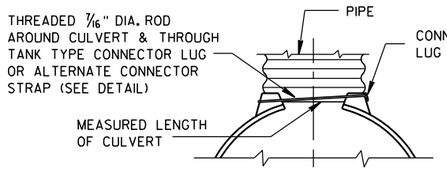
LONGITUDINAL SECTION

CONCRETE ENDWALLS

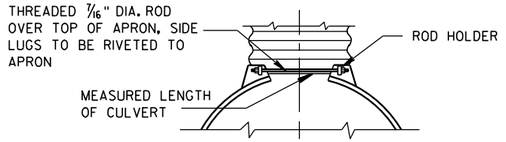


ALTERNATE FOR TYPE 1 CONNECTION

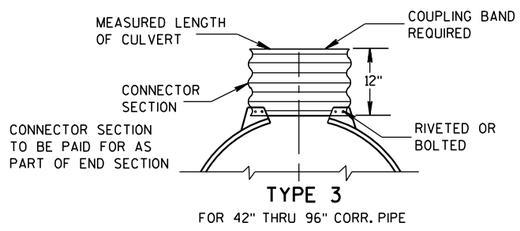
END SECTION CONNECTOR STRAP



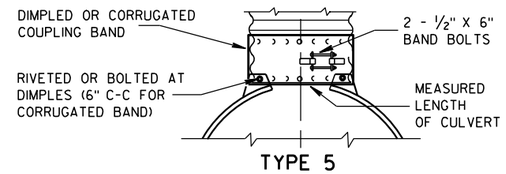
TYPE 1
FOR 12" THRU 24" CORR. PIPE



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

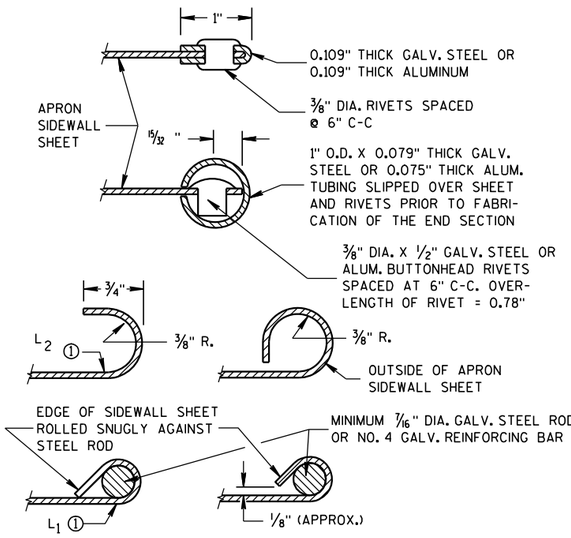
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL. AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

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.

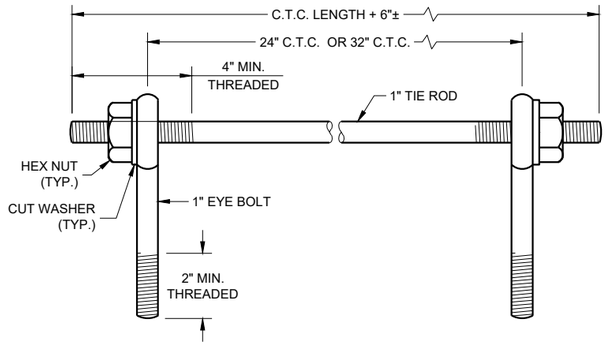
① FOR PIPE SIZES UP TO 60" DIAMETER, A 180° ROLLED EDGE MAY BE USED INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.

APRON ENDWALLS FOR CULVERT PIPE

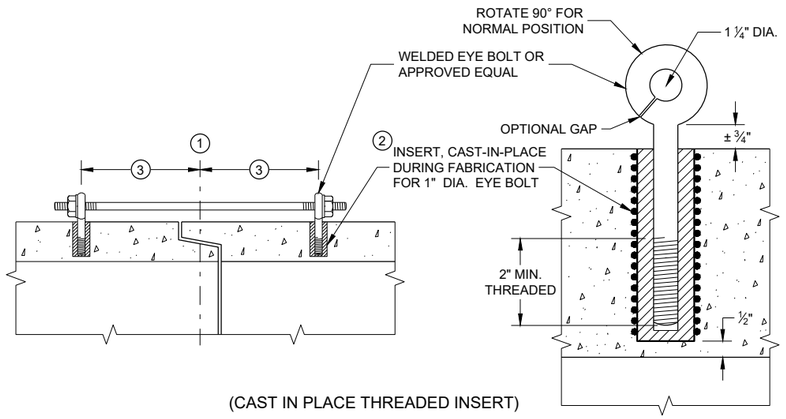
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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S.D.D. 8 F 1-11



EYE BOLTS AND TIE ROD



(CAST IN PLACE THREADED INSERT)

LONGITUDINAL SECTIONS

EYE BOLT AND TIE ROD ASSEMBLY (ALTERNATE NO. 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 APPLICABLE SPECIAL PROVISIONS.

CONCRETE CULVERT AND STORM SEWER PIPE SHALL BE TIED TOGETHER IN THE MANNER ILLUSTRATED BY THIS DETAIL AT LOCATIONS DESIGNATED IN THE STANDARD SPECIFICATIONS AND THE PLAN. THE CONTRACTOR MAY USE EITHER ALTERNATE 1, 2 OR 3 FOR DRAINAGE STRUCTURES. ONLY ALTERNATE 1 AND 3 MAY BE USED FOR CATTLE PASSES, UNLESS OTHERWISE STATED IN THE CONTRACT. THE MATERIALS, FABRICATION AND WORK NECESSARY TO TIE THE PIPE BY THIS DETAIL WILL BE CONSIDERED INCIDENTAL TO THE PIPE AND APRON ENDWALLS IF REQUIRED.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR JOINT TIES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.

JOINT TIES TO BE HOT-DIP GALVANIZED PER ASTM A 153.

(1) CENTER LINE OF TONGUE AND GROOVE OR BELL AND SPIGOT JOINTS.

(2) THE INSIDE OF THE THREADED INSERTS SHALL BE CLEAN TO ALLOW THE INSERTION OF THREADED EYE BOLTS.

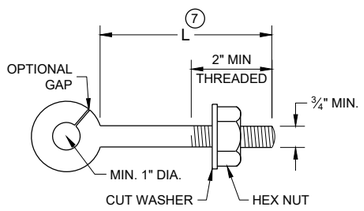
(3) HOLES SHALL BE CAST-IN-PLACE OR DRILLED PER THE APPLICABLE DETAIL, AND EQUAL DISTANCE FROM THE CENTERLINE OF THE JOINT.

(4) BOLT PROJECTION INSIDE OF PIPE SHALL NOT EXCEED 2 INCHES.

(5) OPENING TO BE ROD DIAMETER PLUS 1 INCH.

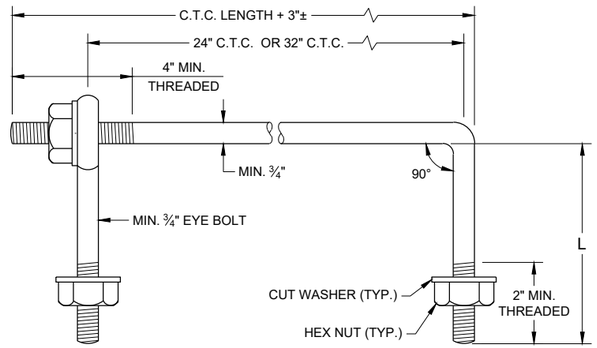
(6) LENGTH ADEQUATE TO EXTEND TO WITHIN ½ INCH OF THE INNER SURFACE OF THE PIPE.

(7) EYE BOLT LENGTH DETERMINED BY WALL THICKNESS, BELL THICKNESS AND BOLT PROJECTION INSIDE PIPE.

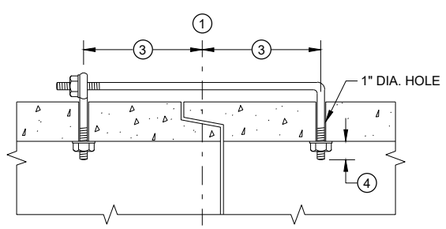


EYE BOLT (7)

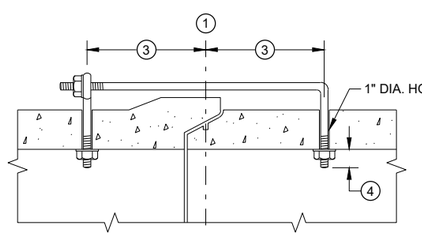
NOTE: TWO EYE BOLTS MAY BE USED WITH A 30" OR 38" LONG THREADED ROD IN LIEU OF THE 90° BENT TIE ROD.



EYE BOLT AND TIE ROD



(TONGUE AND GROOVE PIPE)



(MODIFIED BELL PIPE)

LONGITUDINAL SECTION

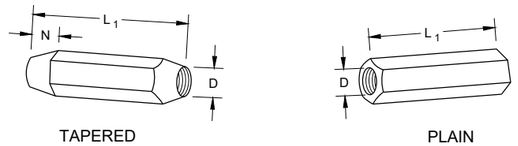
(JOINT TIES FOR 18" TO 66" DIA. CONCRETE PIPE)

EYE BOLT AND TIE ROD ASSEMBLY (ALTERNATE NO. 2)

ADJUSTABLE TIE ROD TABLE

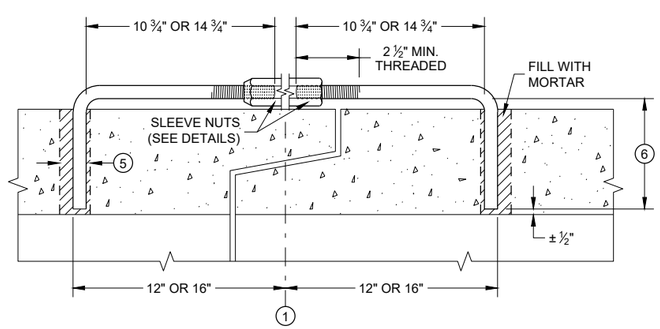
PIPE DIAMETER	TIE ROD DIAMETER	D	L_1	N
12 - 60	⅝	⅝	5	½
66 - 84	¾	¾	5	½
90 - 144	1	1	7	1 7/16

DIMENSIONS SHOWN ARE IN INCHES



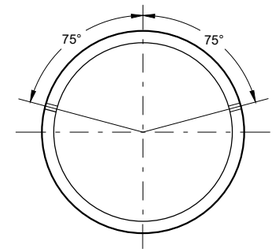
RIGHT AND LEFT THREADS

SLEEVE NUTS



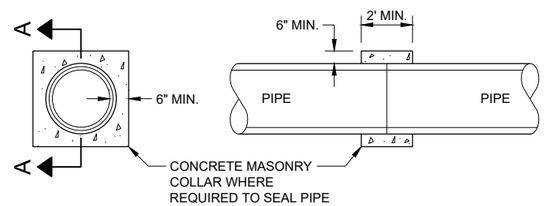
LONGITUDINAL SECTION

ADJUSTABLE TIE ROD (ALTERNATE NO. 3)



PLACEMENT OF (2) CAST-IN-PLACE INSERTS OR HOLES DURING FABRICATION FOR PIPE SECTIONS REQUIRING TIE RODS

TRANSVERSE SECTION



SECTION A - A

CONCRETE COLLAR DETAIL

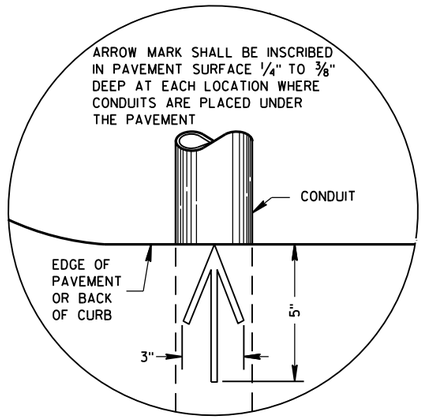
JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2021 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVE ENGINEER

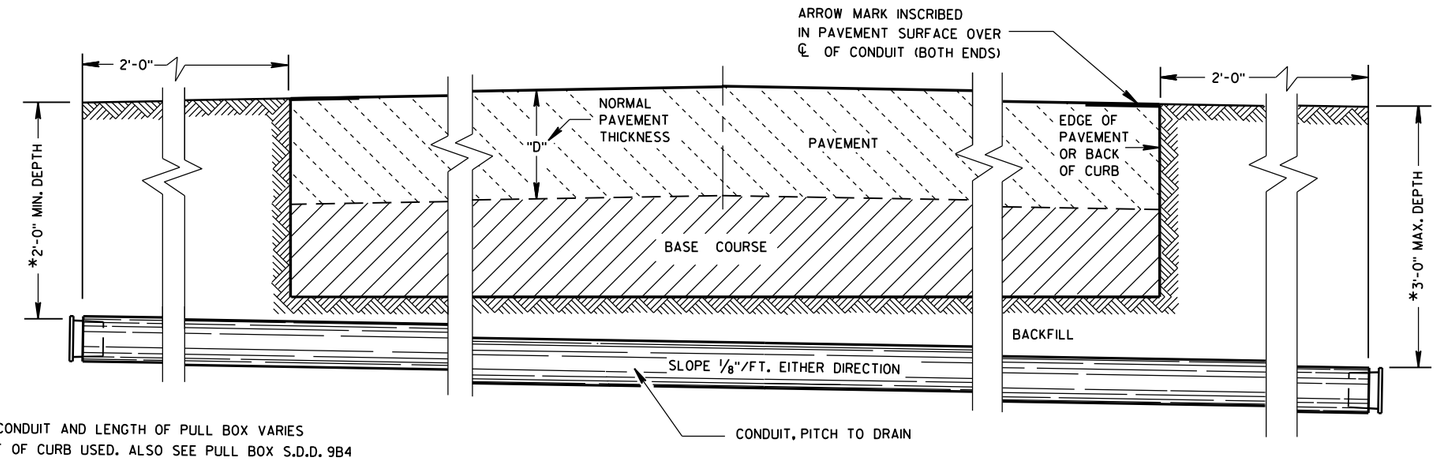
FHWA

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SDD 08F04 - 08



PLAN VIEW

ARROW MARK



*DEPTH OF CONDUIT AND LENGTH OF PULL BOX VARIES WITH HEIGHT OF CURB USED. ALSO SEE PULL BOX S.D.D. 9B4

SIDE ELEVATION

DETAIL FOR CONDUIT UNDER PAVED HIGHWAYS

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

METALLIC (STANDARD SPECIFICATION 652.2.2) OR NONMETALLIC (STANDARD SPECIFICATION 652.2.3) CONDUIT SHALL BE FURNISHED AND PLACED AS SHOWN.

DEPTH OF CONDUIT INSTALLED BELOW THE TRAVELED WAY SHALL BE 24 INCHES MINIMUM AND 36 INCHES MAXIMUM.

DEPTH OF CONDUIT INSTALLED THAT IS NOT BELOW THE TRAVELED WAY SHALL BE 18 INCHES MINIMUM AND 36 INCHES MAXIMUM.

ANY EXCEPTION TO THE MAXIMUM DEPTH SHALL BE ONLY WITH THE WRITTEN APPROVAL OF THE ENGINEER.

THE TRENCH SHALL NOT BE BACKFILLED PRIOR TO INSPECTION OF THE CONDUIT.

ALL METALLIC CONDUIT RACEWAY ENDS SHALL BE REAMED AND THREADED.

ALL METALLIC CONDUIT IN WHICH WIRE OR CABLE IS TO BE INSTALLED SHALL BE BUSHED WITH APPROVED THREADED BUSHINGS BEFORE INSTALLATION OF THE WIRE OR CABLE.

ALL METALLIC CONDUITS IN WHICH WIRE OR CABLE IS NOT TO BE INSTALLED SHALL BE CAPPED WITH THREADED PROTECTIVE CAPS, AS APPROVED BY THE ENGINEER.

ALL NONMETALLIC CONDUIT SHALL BE CAPPED OR PLUGGED IMMEDIATELY AFTER INSTALLATION AND SHALL REMAIN CAPPED OR PLUGGED UNTIL WIRE/CABLES ARE INSTALLED.

NONMETALLIC CONDUITS IN WHICH WIRE OR CABLE IS NOT BEING INSTALLED SHALL REMAIN CAPPED OR PLUGGED.

BENDING OF PVC ELECTRICAL CONDUIT SHALL BE ACCOMPLISHED BY USING A BLANKET OR EMERSION TYPE TANK DESIGNED FOR THE PURPOSE OF BENDING PVC ELECTRICAL CONDUIT.

ALL CUT ENDS SHALL BE TRIMMED INSIDE AND OUTSIDE TO REMOVE ALL ROUGH EDGES ON NONMETALLIC CONDUIT. (SEE NEC 347.5)

WHEN REQUIRED TO CONNECT NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY U.L. LISTED ADAPTER FITTINGS SHALL BE USED.

PRIOR TO CONDUIT ACCEPTANCE, CONDUIT CAPS OR PLUGS SHALL BE REMOVED, AND THE CAPS, PLUGS AND CONDUIT ENDS SHALL BE THOROUGHLY CLEANED AND THEN THE CAPS OR PLUGS REINSTALLED TO ENSURE THAT THE CAPS OR PLUGS CAN BE EASILY REMOVED IN THE FUTURE.

ALL CONDUIT BEING FURNISHED AND INSTALLED SHALL HAVE THE U.L. LABEL FIRMLY ATTACHED.

CONDUIT RUNS SHALL BE THE SAME SIZE OF CONDUIT FROM ONE END TO THE OTHER (FROM PULL BOX TO PULL BOX-OR-JUNCTION BOX TO JUNCTION BOX-OR-BASE TO BASE, ETC.).

TRACER WIRE SHALL BE INSTALLED AS STATED IN THE STANDARD SPECIFICATION, ITEM 652.3.1.1.

ALL CONDUIT RUNS SHALL BE STRAIGHT (WITHOUT BENDS) FROM PULL BOX TO PULL BOX, PULL BOX TO BASE AND BASE TO BASE AS SHOWN ON THE PLANS.

CONDUIT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
March, 2017 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

6

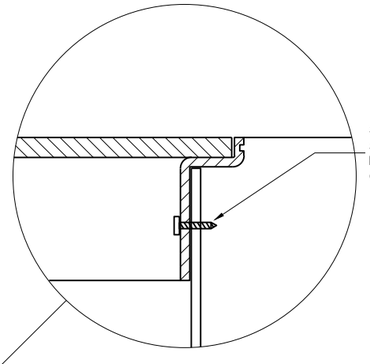
S.D.D. 9 B 2-10

TABLE OF NOMINAL DIMENSIONS
AND WEIGHTS

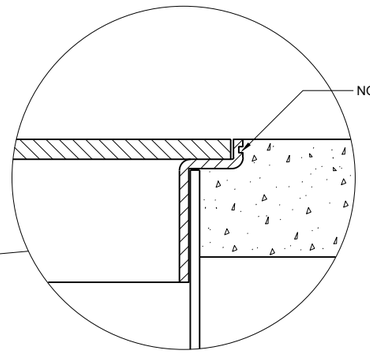
DIMENSION IN INCHES		NON- CONDUCTIVE PULL BOX	
BOX DIAMETER ** (INSIDE)	A	24	24
BOX OVERALL OUTSIDE DIAMETER	B	27	27
BOX LENGTH	C	36	42
FRAME OPENING	D	22 ½	22 ½
WEIGHT IN POUNDS *			
COVER		50	50
BOX ONLY		75	85

*THE ACTUAL WEIGHT OF THE COVER OR BOX ONLY MAY VARY NOT TO EXCEED 100 LBS INDIVIDUALLY.

** DIAMETER VARIES FROM TOP TO BOTTOM WITH THE DIAMETER LARGER AT THE BOTTOM TO PREVENT FROST HEAVE.



INSTALLED IN SOD OR CRUSHED AGGREGATE



INSTALLED IN SIDEWALK

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

ALL BOXES, FRAMES AND COVERS SHALL BE SUITABLE FOR TIER 15 LOADING AS SPECIFIED IN ANSI/SCTE 77.

PROVIDE AN OPENING FOR TOOL ASSISTED COVER REMOVAL NOT LARGE ENOUGH TO PERMIT PASSAGE OF A SPHERE MORE THAN ½" DIAMETER

ENSURE COVER SURFACE IS SKID RESISTANT WITH A COEFFICIENT OF FRICTION OF AT LEAST 0.5 AND VERTICAL SURFACE DICONTINUITIES LESS THAN ¼".

COVER SHALL BE MAGNETICALLY LOCATABLE.

BOXES AND EXTENSIONS ARE TRIMMABLE FOR CUSTOM LENGTHS. TRIMMED PIECES SHALL MAINTAIN A UNIFORM LENGTH.

ENTRANCE HOLES INTO PULL BOXES SHALL BE CUT WITH A CIRCULAR HOLE SAW OR HYDRAULIC CONDUIT PUNCH. HOLE SIZE SHALL BE THE OUTSIDE DIAMETER OF THE CONDUIT THAT IS TO FIT IN THE OPENING PLUS NO MORE THAN ¼".

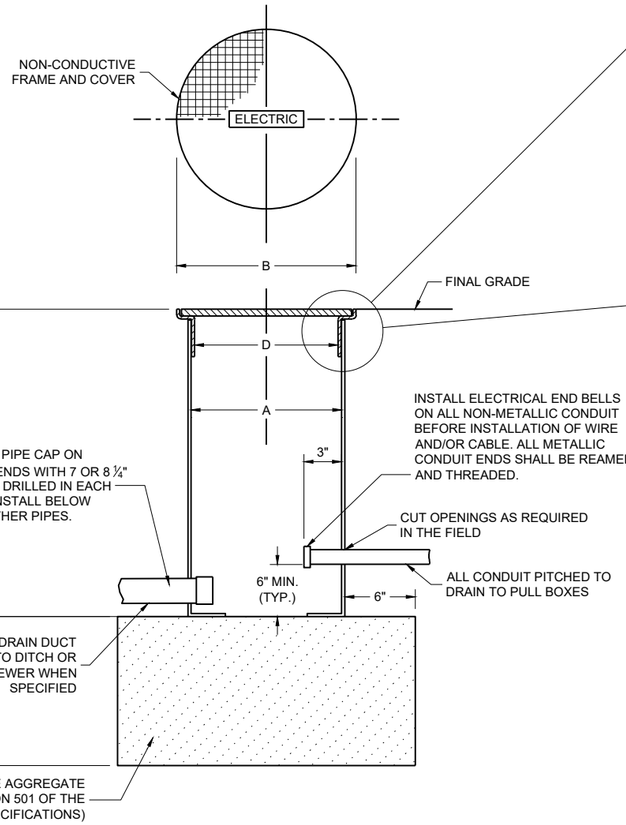
THE CONTRACTOR SHALL NOT INSTALL WIRE IN ANY PULL BOX UNTIL ITS INSTALLATION HAS BEEN INSPECTED AND ACCEPTED BY THE ENGINEER.

ALL METALLIC CONDUIT IN WHICH WIRE AND/OR CABLE IS TO BE INSTALLED, SHALL BE BUSHED BEFORE INSTALLATION OF THE WIRE AND/OR CABLE.

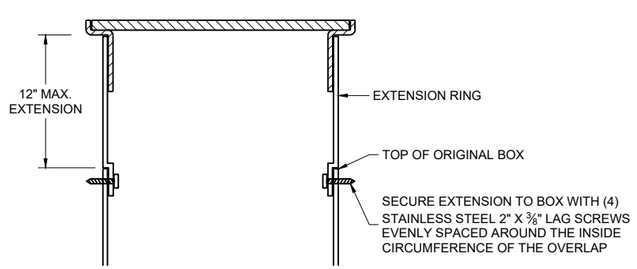
ENTIRE BOX MUST BE CONSTRUCTED OF NON-CONDUCTIVE MATERIALS WITH THE EXCEPTION OF STAINLESS STEEL FASTENERS AND MAGNETIC LOCATABLE DEVICE.

WHEN A PULL BOX IS INSTALLED IN CRUSHED AGGREGATE SHOULDERS, PLACE IT 2-3 INCHES BELOW GRADE AND COVER IT WITH 2-3 INCHES OF CRUSHED AGGREGATE.

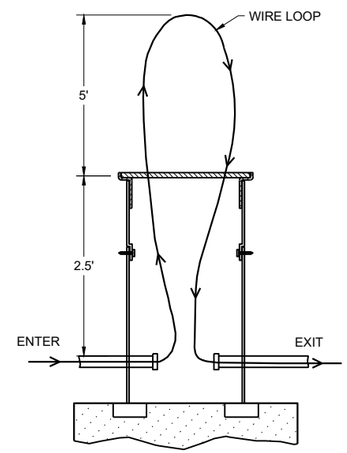
LABEL ON COVER SHALL READ "ELECTRIC" FOR SIGNAL AND LIGHTING SYSTEMS, "WISDOT ITS" FOR COMMUNICATIONS AND ITS EQUIPMENT SYSTEMS.



NON-CONDUCTIVE PULL BOX



BOX EXTENSION



MEASUREMENT DETAIL FOR WIRE/CABLE IN THE PULL BOX

PULL BOXES NON-CONDUCTIVE

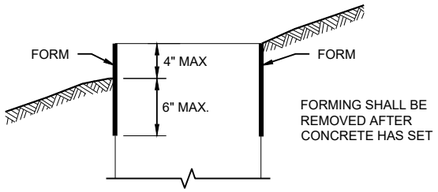
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2024 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL ENGINEER

FHWA

6
SDD 09B16-03

FORM DEPTH SHALL BE NO MORE THAN 6" BELOW GRADE ON THE LOWER SIDE OF BASE



FORMING DETAIL

QUANTITY REQUIREMENTS	CONCRETE BASE TYPE		
	1	2	5 & 6
APPROX. CUBIC YARDS OF CONCRETE	0.40	0.57	0.40
LBS. OF HOOP BAR STEEL	NONE	23	16
LBS. OF VERTICAL BAR STEEL	NONE	60	18

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWINGSHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

BASES SHALL BE EXCAVATED BY USE OF A CIRCULAR AUGER.

TOP SURFACES OF CONCRETE BASES SHALL BE TROWEL FINISHED SMOOTH AND LEVEL.

CONDUIT SIZES AND LOCATIONS SHALL BE SHOWN ON THE PLANS

THE FINAL OR TERMINATING CONCRETE BASE IN A CONDUIT RUN SHALL HAVE A 6" EXIT STUB INSTALLED FOR FUTURE CABLING USE. THE EXIT STUB SHALL BE SIZED AS USED THROUGHOUT THE CONDUIT RUN AS SHOWN A THE ENTRANCE OF THE BASE.

ENDS OF CONDUIT INSTALLED BELOW GRADE FRO FUTURE USE SHALL BE CAPPED IF METALLIC OR PLUGGED IF NON-METALLIC.

MINIMUM BENDING RADIUS OF CONDUIT IS EQUAL TO 6X THE DIAMETER.

CONDUIT HEIGHT ABOVE CONCRETE BASES SHALL BE 1 INCH. ALL METALLIC CONDUIT ENDS SHALL BE REAMED AND THREADED.

ALL CONDUIT ENDS AT THE TOP OF CONCRETE BASES SHALL BE CAPPED IF METALLIC OR PLUGGED IF NON-METALLIC IMMEDIATELY AFTER PLACEMENT AND BEFORE CONCRETE IS POURED. CONDUITS IN WHICH WIRE OR CABLE IS NOT INSTALLED SHALL REMAIN CAPPED OR PLUGGED.

BELL ENDS SHALL BE INSTALLED ON ALL PVC CONDUIT EXPOSED AT THE TOP OF CONCRETE BASES BEFORE INSTALLATION.

WHEN REQUIRED TO CONNECT NON-METALLIC CONDUIT TO METALLIC CONDUIT, ONLY ADAPTER FITTINGS, U.L. LISTED FOR ELECTRICAL USE, SHALL BE USED.

IF A BASE REQUIRES A DEEP FORM BECAUSE OF LOOSE DIRT OR FILL, THE FORM SHALL BE REMOVED BEFORE BACKFILLING AROUND THE BASE. BACKFILL SHALL BE TAMPED TIGHT AGAINST THE BARE CONCRETE BASE IN LAYERS OF 1 FOOT OR LESS.

A NO. 4 AWG STRANDED COPPER EQUIPMENT GROUNDING CONDUCTOR SHALL BE EXOTHERMICALLY WELDED TO THE EQUIPMENT GROUNDING ELECTRODE (GROUND ROD) FOR TYPE 2, TYPE 5 AND TYPE 6 BASES.

THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE FURNISHED AND INSTALLED TO ENTER ALL BASE TYPES THROUGH A 1 INCH CONDUIT INSTALLED FOR GROUNDING PURPOSES, LEAVING A 4 FOOT COIL OF WIRE ABOVE THE CONCRETE BASE. THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE NEATLY COILED AND THE COILS TIED TOGETHER.

ANCHOR RODS SHALL BE THREADED 12" IN LENGTH ON EACH END OF THE ROD. ANCHOR RODS SHALL BE MANUFACTURED IN ACCORDANCE WITH SECTION 654.2.1 OF THE STANDARD SPECIFICATIONS.

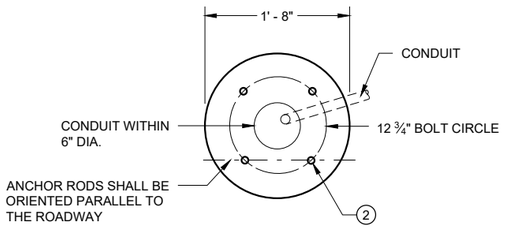
WASHERS AND LOCK WASHERS ARE REQUIRED ON ALL ANCHOR RODS.

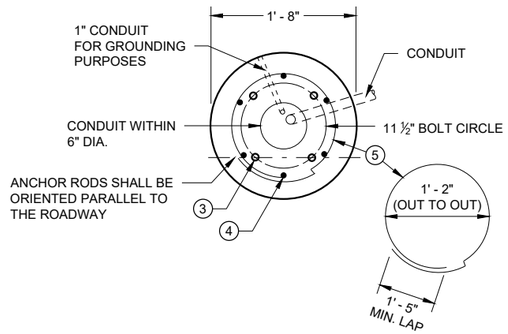
WHEN ANCHOR RODS USING THE ALTERNATE "L" BEND ARE FURNISHED, THE 4 INCH"L" BEND SHALL BE IN ADDITION TO THE SPECIFIED ANCHOR ROD BAR LENGTH. THE "L" BEND SHALL NOT BE THREADED.

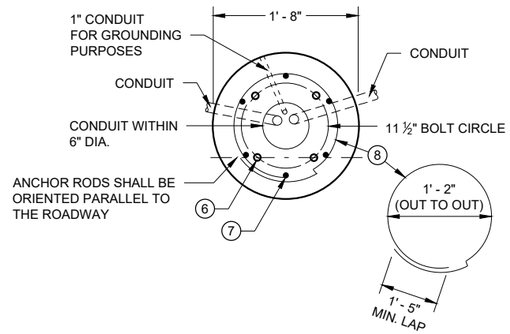
ANCHOR RODS SHALL BE INSTALLED WITH MISALIGNMENTS OF LESS THAN 1:40 FROM VERTICAL.

WELDING OF THE ANCHOR RODS TO THE CAGE IS UNACCEPTABLE. TIE WIRES SHALL BE USED.

BAR STEEL REINFORCEMENT SHALL BE COATED WITH POWDERED EPOXY RESIN IN ACCORDANCE WITH SECTION 505 OF THE STANDARD SPECIFICATIONS (LATEST EDITION).







1 THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE AND INSTALLED BELOW THE TRAVELED WAY SHALL BE 24 INCHES. THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE THAT IS NOT INSTALLED BELOW THE TRAVELED WAY SHALL BE 18 INCHES. THE MAXIMUM DEPTH OF ALL CONDUIT SHALL BE 36 INCHES EXCEPT WITH WRITTEN APPROVAL OF THE ENGINEER.

2 (4) 1" DIA. X 3' - 6" ANCHOR RODS.

3 (4) 1" DIA. X 5' - 0" ANCHOR RODS.

4 (6) NO. 6 X 6' - 8" BAR STEEL REINFORCEMENT.

5 (7) NO. 4 X 5' - 1" BAR STEEL REINFORCEMENT @ 1' - 0" C - C.

6 (4) 1" DIA. X 3' - 6" ANCHOR RODS.

7 (6) NO. 4 X 4' - 8" BAR STEEL REINFORCEMENT.

8 (5) NO. 4 X 5' - 1" BAR STELL REINFORCEMENT @ 1' - 0" C -C.

9 EXOTHERMIC CONNECTION TO EUIPMENT GROUNDING CONDUCTOR

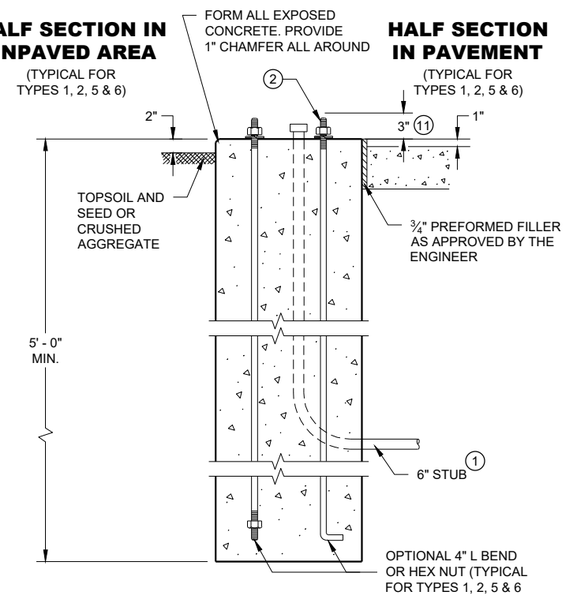
10 ⅝" DIA. X 8' -0" COPPERCLAD EQUIPMENT GROUNDING ELECTRODE REQUIRED

11 ANY ANCHOR ROD PROJECTION SHORTER THAN 2 ¾" OR LONGER THAN 3 ¼" SHALL REQUIRE THE BASE TO BE REMOVED AND REPLACED AT THE CONTRACTORS EXPENSE.

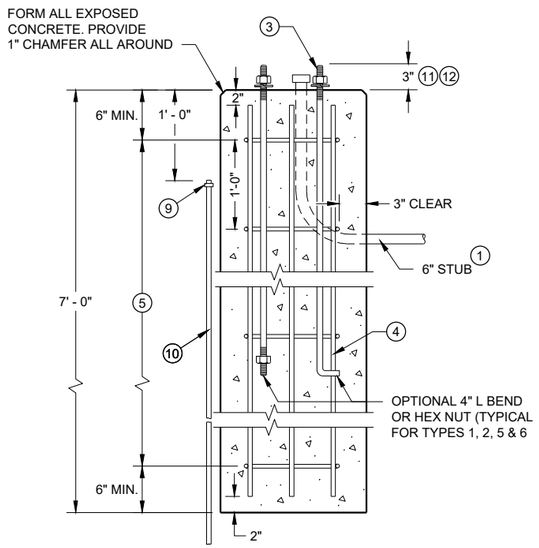
12 FOR NON - BREAKAWAY INSTALLATIONS, 4 ½" ± ANCHOR ROD PROJECTION WITH THE USE OF LEVELING NUTS. RODENT SCREEN REQUIRED.

HALF SECTION IN UNPAVED AREA
(TYPICAL FOR TYPES 1, 2, 5 & 6)

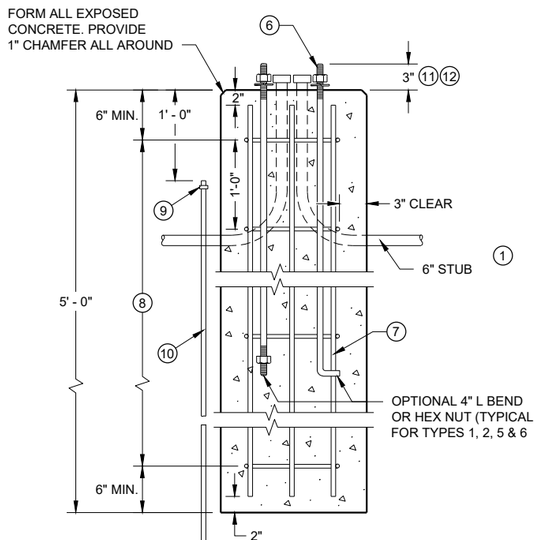
HALF SECTION IN PAVEMENT
(TYPICAL FOR TYPES 1, 2, 5 & 6)



TYPE 1



TYPE 2



TYPE 5 & 6

CONCRETE BASES

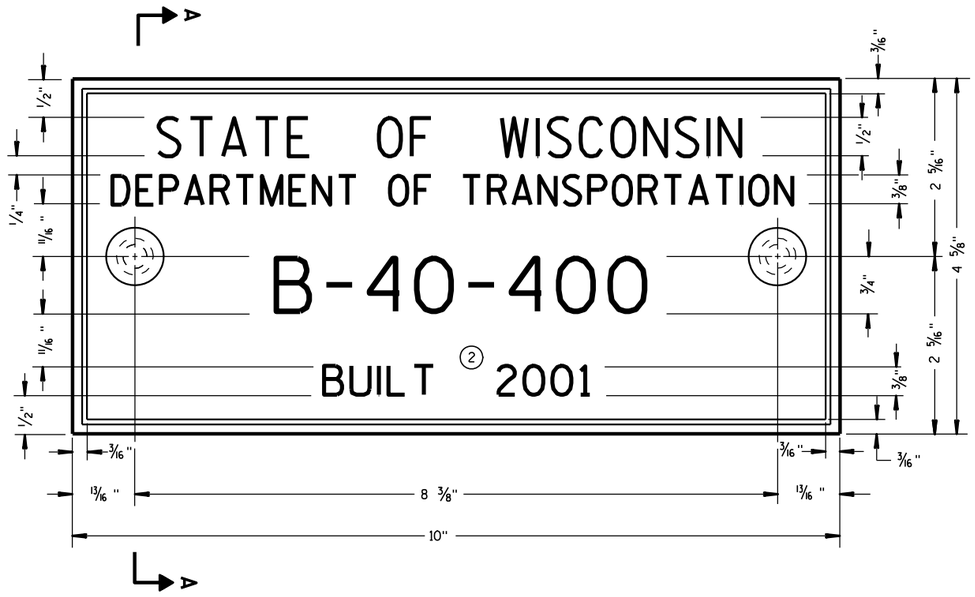
CONCRETE BASES TYPES 1, 2, 5, & 6

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2019
DATE
/S/ Ahmet Demirbilek
STATE ELECTRICAL ENGI

FHWA

106



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

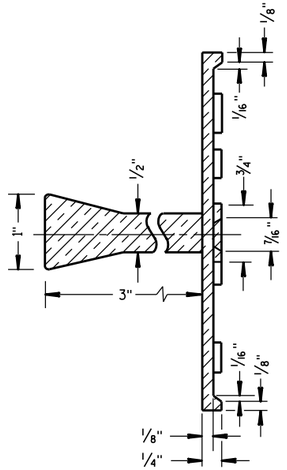
GENERAL NOTES

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

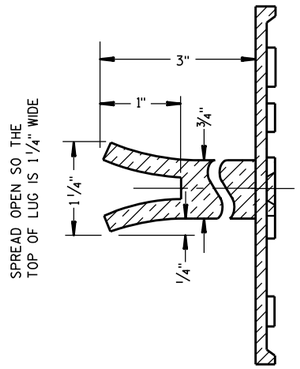
THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

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

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



SECTION A-A



ALTERNATE LUG

FOR MULTI-UNIT STRUCTURES LINE 3 ABOVE SHALL READ

B = BRIDGE
C = CULVERT
R = RETAINING WALL

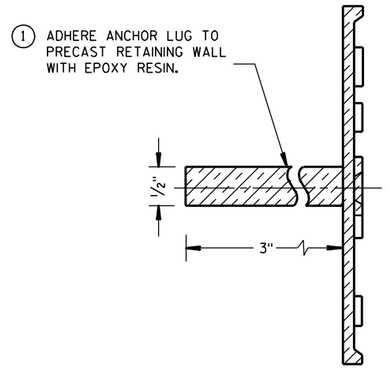
COUNTY NO.

BRIDGE NO.

UNIT NO. FOR MULTIPLE UNIT BRIDGE

B-40-400-1A

NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES



ALTERNATE LUG
(FOR ATTACHMENT TO PRECAST STRUCTURES)

NAME PLATE (STRUCTURES)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

3/26/10 DATE

/S/ Scot Beck-- CHIEF STRUCTURAL DEVELOP ENGINEER

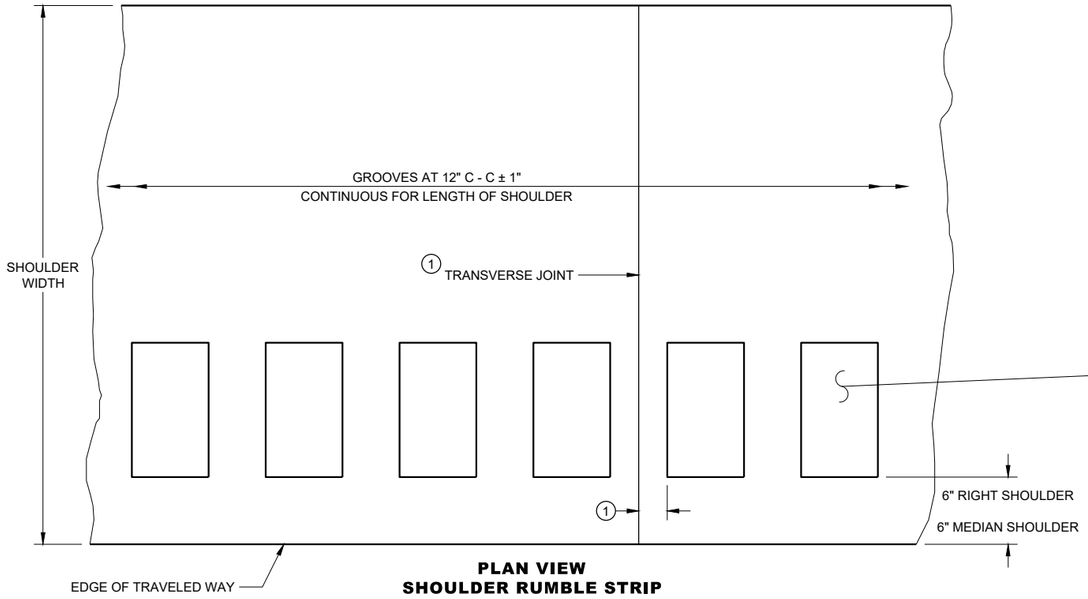
FHWA

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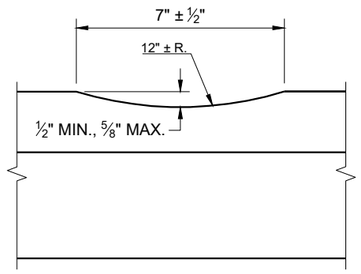
S.D.D. 12 A 3-10

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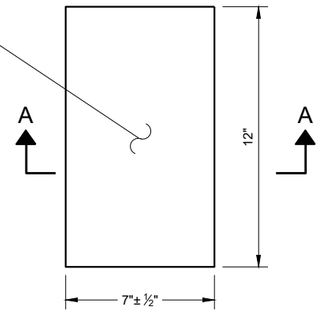
S.D.D. 12 A 3-10



PLAN VIEW
SHOULDER RUMBLE STRIP



SECTION A - A



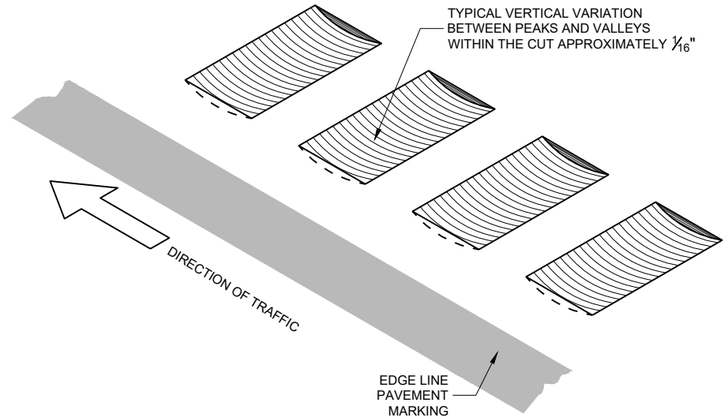
PLAN VIEW
(SINGLE GROOVE)

GENERAL NOTES

SDD 13A5, SHEET "b" SHOWS THE LOCATION OF THE RUMBLE STRIPS AT RAMP AND GORE LOCATIONS.

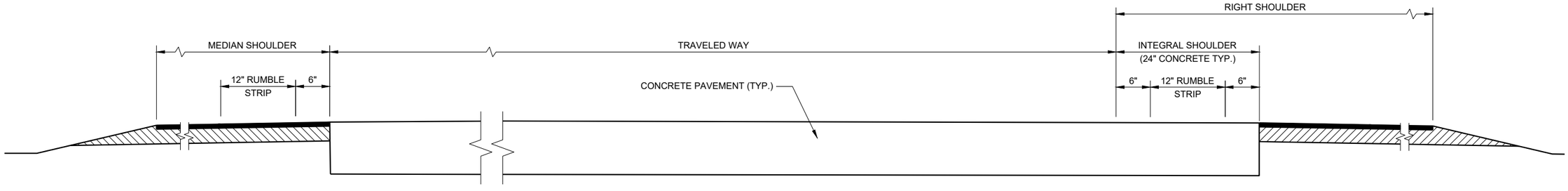
RUMBLE STRIPS ON EXPRESSWAYS:
DO NOT INSTALL SHOULDER RUMBLE STRIPS ACROSS SIDE ROAD INTERSECTIONS, COMMERCIAL AND PRIVATE DRIVEWAYS, ADJACENT TO RIGHT TURN LANES, LEFT TURN LANES, TURN LANE TAPERS, 25' IN ADVANCE OF BRIDGE DECKS, 25' IN ADVANCE OF BRIDGE APPROACHES, OR 100 FEET IN ADVANCE OF RAILROAD CROSSINGS.

(1) CONCRETE PAVEMENT - RUMBLE STRIPS SHALL BE A MINIMUM OF 6 INCHES AWAY FROM TRANSVERSE JOINTS.



ISOMETRIC

PLACEMENT DETAIL FOR RUMBLE STRIP



SECTION VIEW

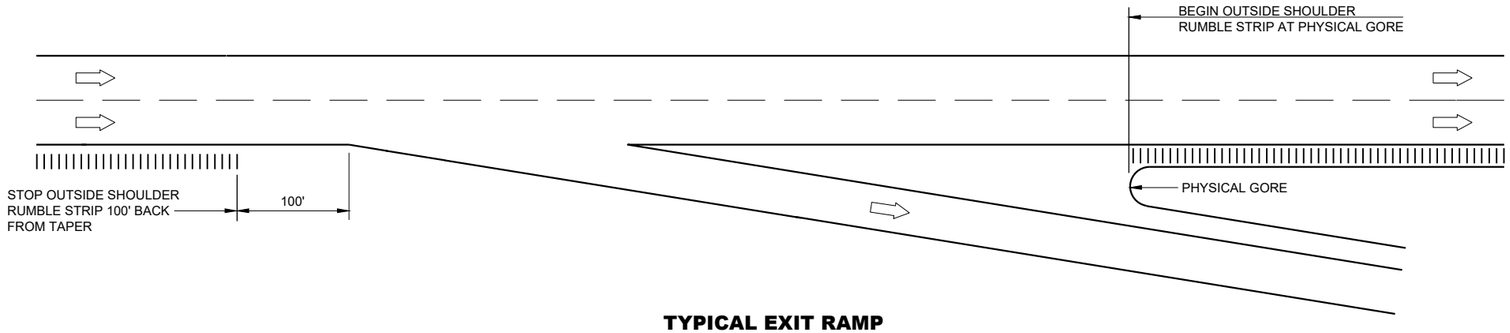
TYPICAL SHOULDER RUMBLE STRIPS
(ONE ROADWAY IS SHOWN)

SHOULDER RUMBLE STRIPS, DIVIDED ROADWAY

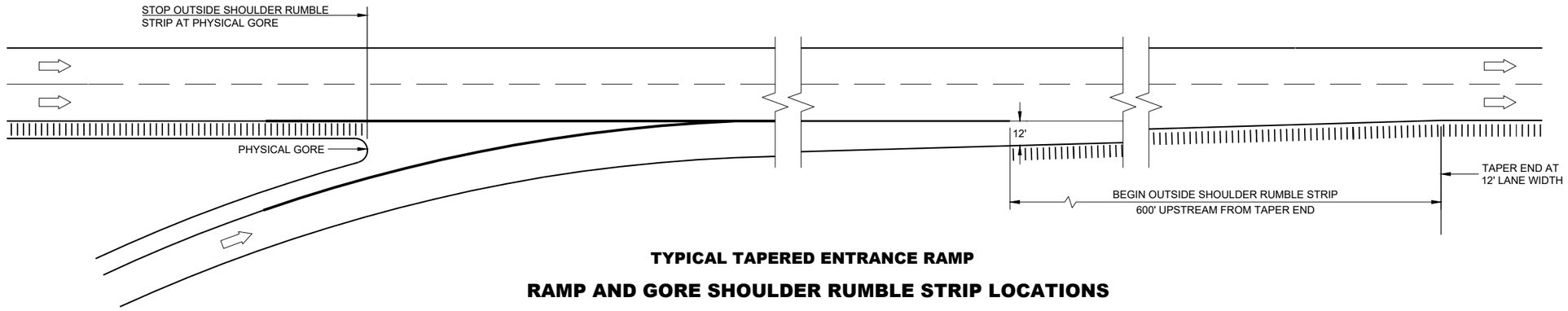
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

SDD 13A05-06a

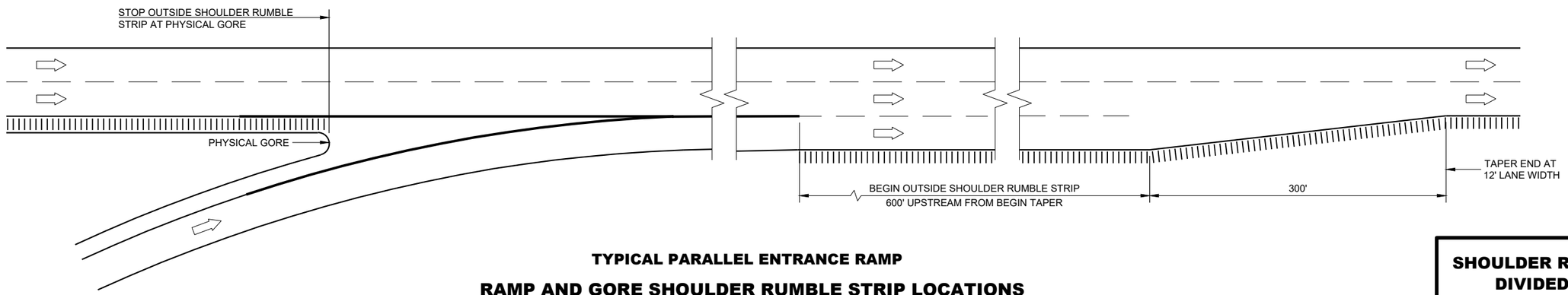


TYPICAL EXIT RAMP



TYPICAL TAPERED ENTRANCE RAMP

RAMP AND GORE SHOULDER RUMBLE STRIP LOCATIONS



TYPICAL PARALLEL ENTRANCE RAMP

RAMP AND GORE SHOULDER RUMBLE STRIP LOCATIONS

GENERAL NOTES

NO RUMBLE STRIP ON EXIT, DIRECTIONAL OR ENTRANCE RAMPS, EXCEPT NEAR THE ENTRANCE TAPER END AND ALONG THE PARALLEL RAMP AREA AS SHOWN.

RUMBLE STRIPS ON EXPRESSWAYS:
DO NOT INSTALL SHOULDER RUMBLE STRIPS ACROSS SIDE ROAD INTERSECTIONS, COMMERCIALAND PRIVATE DRIVEWAYS, ADJACENT TO RIGHT TURN LANES, LEFT TURN LANES, TURN LANE TAPERS, 25' IN ADVANCE OF BRIDGE DECKS, 25' IN ADVANCE OF BRIDGE APPROACHES, OR 100 FEET IN ADVANCE OF RAILROAD CROSSINGS.

LEGEND

DIRECTION OF TRAFFIC

SHOULDER RUMBLE STRIPS, DIVIDED ROADWAY

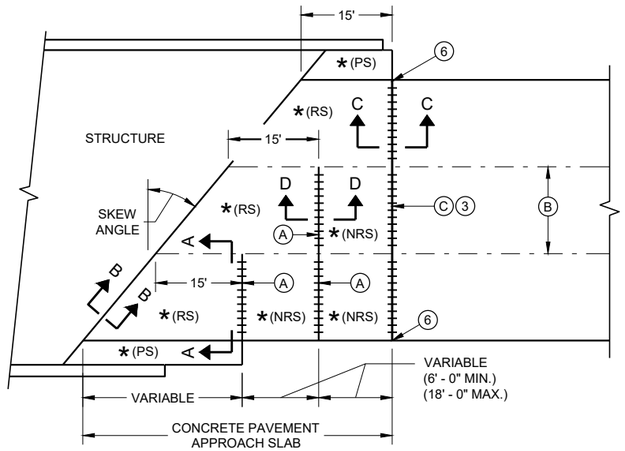
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023 — DATE
/S/ Rodney Taylor — ROADWAY DESIGN STANDARDS UNIT SUPERVISOR

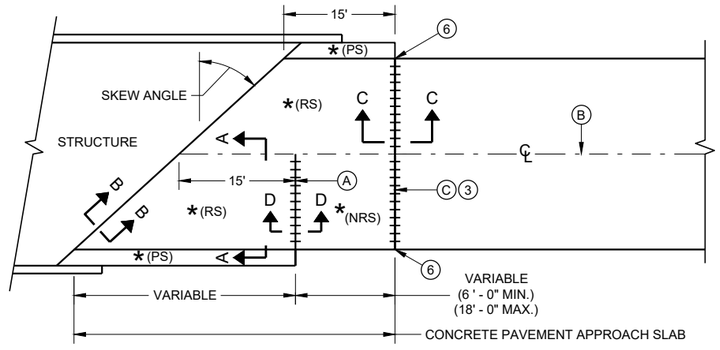
FHWA

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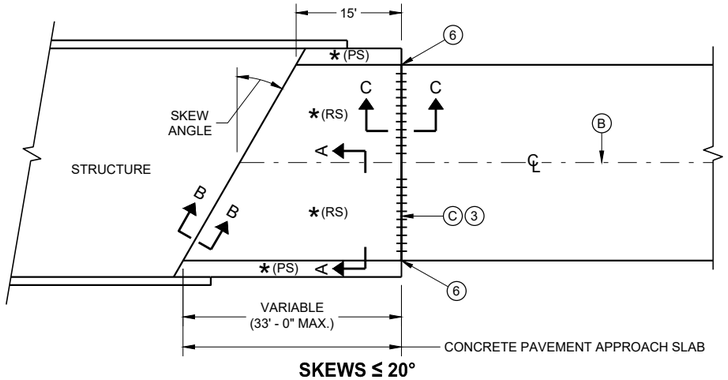
SDD 13A05-06b



SKEWED APPROACH
(PAVEMENT MORE THAN TWO LANES)



SKEWS > 20°
(PAVEMENT WIDTH ≤ 30')



SKEWS ≤ 20°
(PAVEMENT WIDTH ≤ 30')

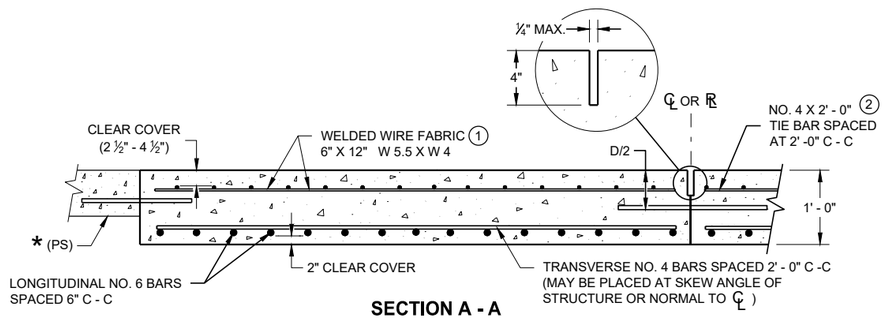
APPROACH SLAB AND ADJACENT PAVEMENT

* (RS) = REINFORCED CONCRETE SLAB

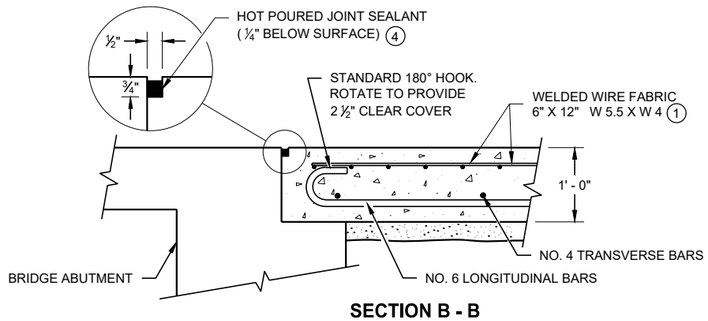
* (PS) = PAVED CONCRETE SHOULDER OR CONCRETE DRAINAGE SLAB

* (NRS) - NON - REINFORCED CONCRETE SLAB

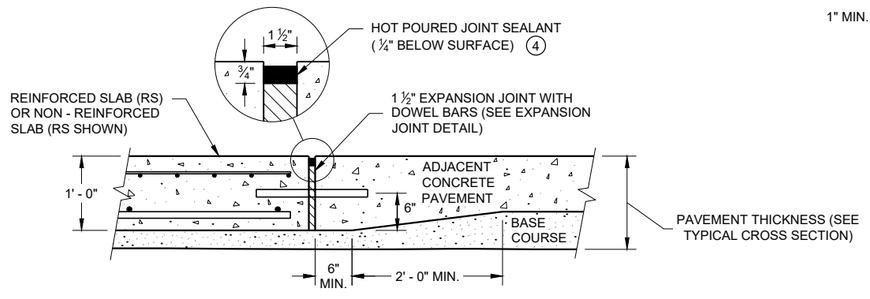
*** STANDARD DOWEL BAR DIAMETER (SEE SDD 13C11 AND SDD 13C13)



SECTION A - A
REINFORCEMENT POSITIONING DETAIL



SECTION B - B
BEND DETAIL
BOTTOM REINFORCEMENT



SECTION C - C
TRANSITION DETAIL
APPROACH SLAB TO ADJACENT PAVEMENT

GENERAL NOTES

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

TACK WELD DOWEL BARS TO THE BASKETS ON ALTERNATE ENDS.

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

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

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

(4) USE A JOINT SEALANT CONFORMING TO STANDARD SPECIFICATION 415.2.6.

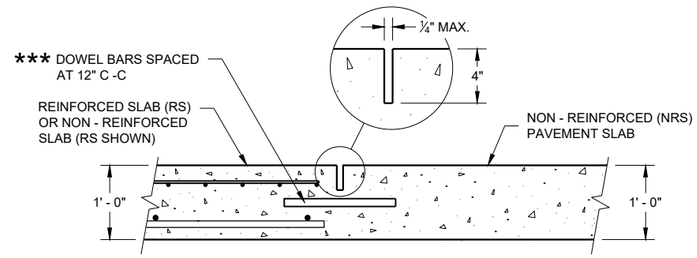
(5) PLACE EXPANSION CAP ON THE END OF THE DOWEL THAT IS NOT TACK WELDED TO THE BASKET. DO NOT FORCE DOWEL BAR PAST THE DOWEL STOP.

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

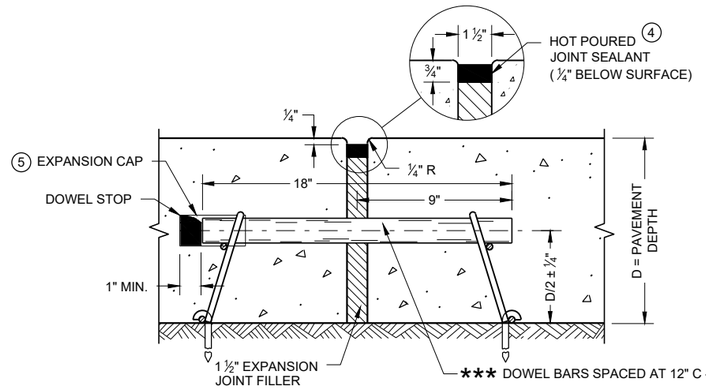
(A) STANDARD CONTRACTION JOINT NORMAL TO ℄ OR ℞.

(B) STANDARD LONGITUDINAL JOINT WITH TIE BARS.

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



SECTION D - D
CONTRACTION JOINT



EXPANSION JOINT DETAIL

CONCRETE PAVEMENT APPROACH SLAB

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

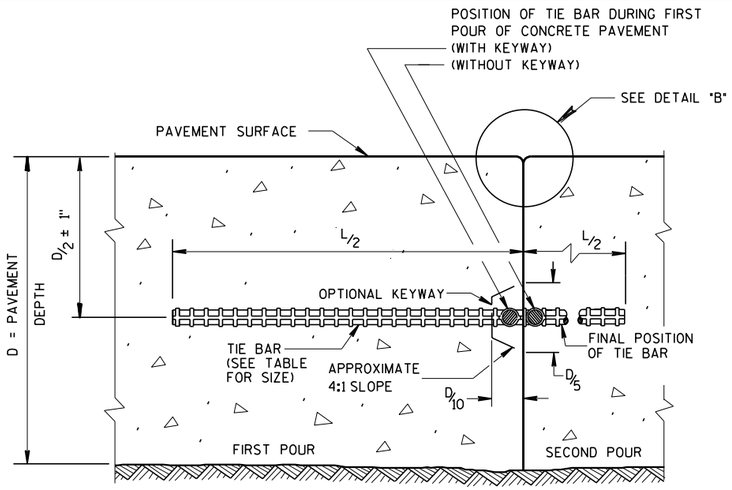
APPROVED
November 2018
DATE

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

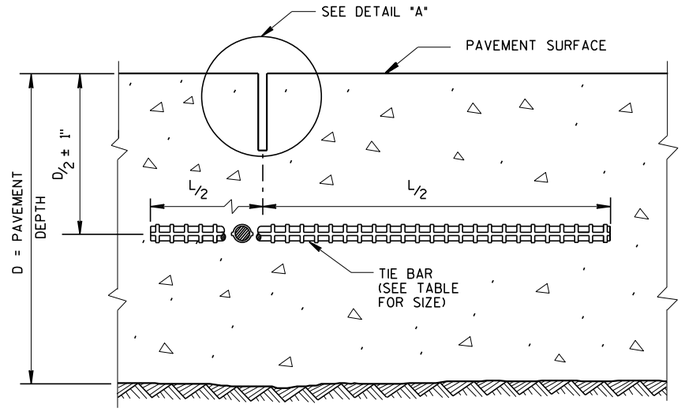
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SDD 13B02 - 09a



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

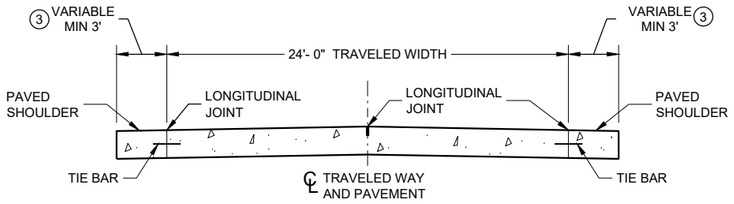
CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
March 2018 — DATE
/S/ Peter Kemp PE — PAVEMENT SUPE
FHWA

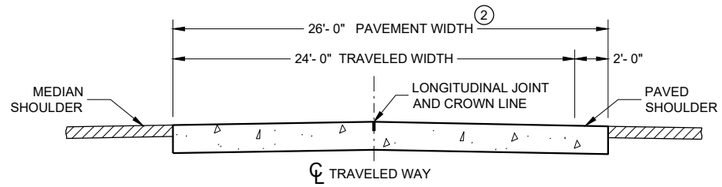
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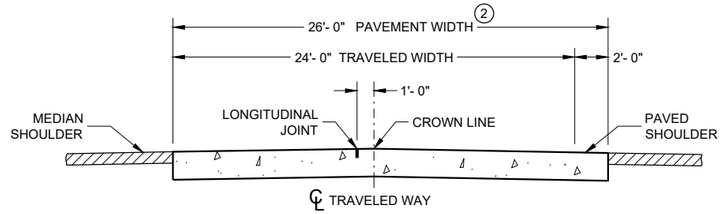


SECTION A - A

TWO-LANE TWO-WAY HIGHWAY (1)



SECTION B - B



ALTERNATIVE SECTION B - B

DIVIDED HIGHWAY (1)

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 FROM 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 THE CONTRACTION JOINTS.

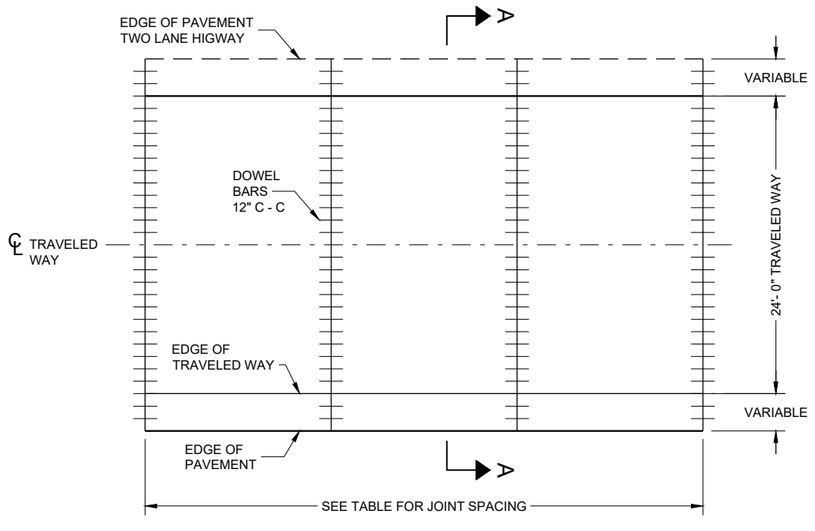
(1) REFER TO TYPICAL CROSS SECTIONS FOR ADDITIONAL DETAILS.

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

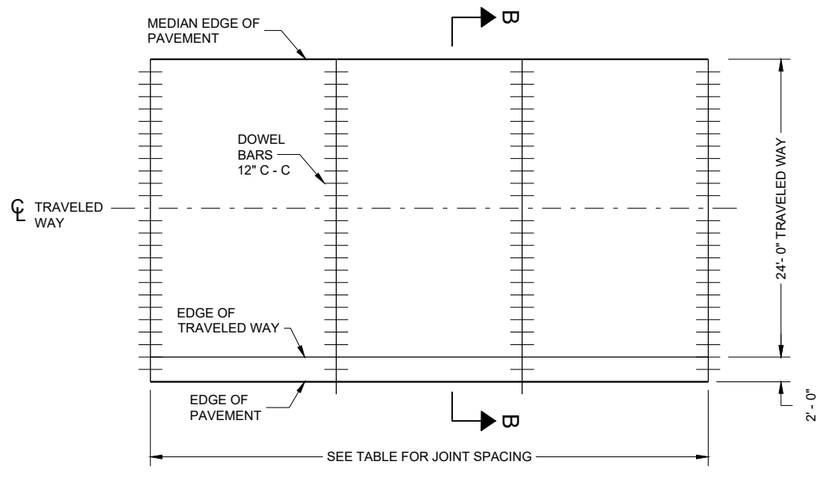
(3) SHOULDER WIDTHS LESS THAN 3 FEET SHALL BE PAVED INTEGRAL TO THE MAINLINE CONCRETE PAVEMENT, SEE SECTION B-B.

PAVEMENT DEPTH, DOWEL BAR SIZE AND JOINT SPACING TABLE

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



CONTRACTION JOINT LAYOUT FOR TWO-LANE TWO-WAY HIGHWAY



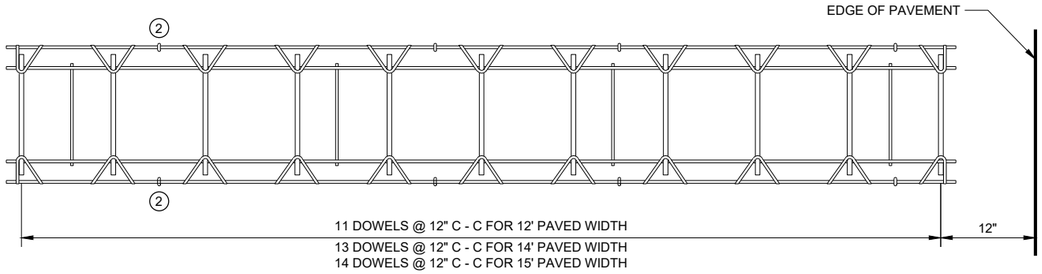
CONTRACTION JOINT LAYOUT FOR DIVIDED HIGHWAY

RURAL DOWELED CONCRETE PAVEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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SDD13C11 - 14a



PLAN VIEW



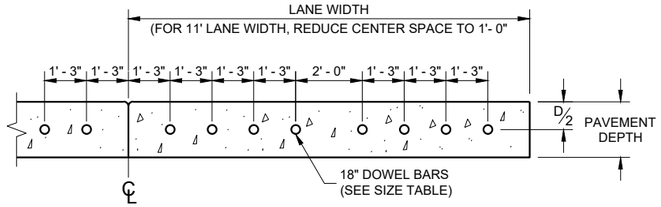
SIDE VIEW

(NORMAL TO CENTERLINE)

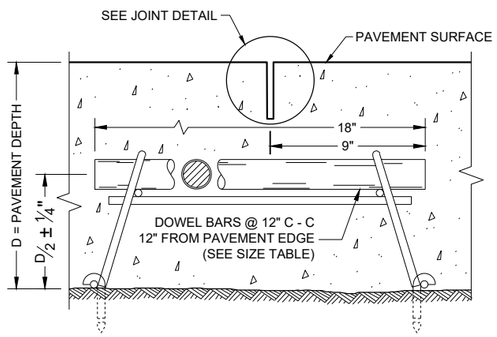
CONTRACTION JOINT DOWEL ASSEMBLY (1)

GENERAL NOTES

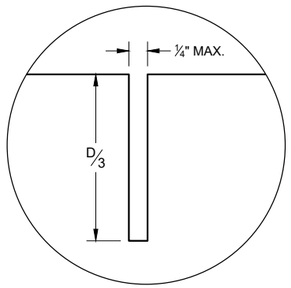
1. OBTAIN THE ENGINEER'S APPROVAL FOR THE USE OF ALTERNATIVE DESIGNS OF THE DOWEL ASSEMBLY. USE MECHANICAL DOWEL BAR INSERTERS OR DOWEL ASSEMBLIES WHEN CONSTRUCTION CONTRACTION JOINTS.
2. SECURE BASKETS WITH ANCHORS TO HOLD DOWEL BARS IN THE CORRECT POSITION AND ALIGNMENT. TYPE, LOCATION, NUMBER AND LENGTH OF ANCHORS ARE DEPENDENT UPON FIELD CONDITIONS.
3. FORM OR SAW CONSTRUCTION JOINTS. PROVIDE A ¼" 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 THE "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 AND TIE BARS INTO DRILLED HOLES WITH AN EPOXY. MAXIMUM DRILLED HOLE SIZE IS ⅛" GREATER THAN DOWEL BAR DIAMETER, 9 INCHES IN LENGTH.



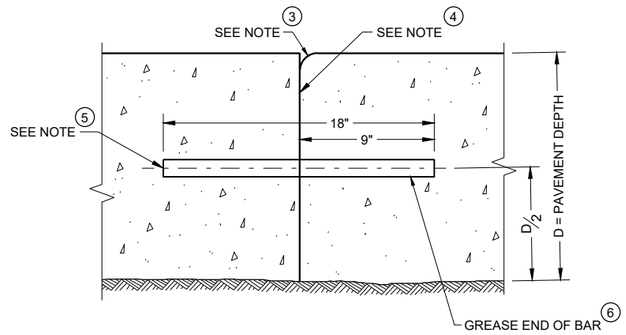
DRILLED DOWEL BAR CONSTRUCTION JOINT (7)



DOWELED CONTRACTION JOINT



JOINT DETAIL



TRANSVERSE CONSTRUCTION JOINT

RURAL DOWELED CONCRETE PAVEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

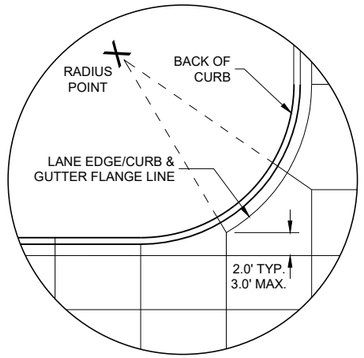
APPROVED
November 2022
DATE

/S/ Peter Kemp P.E.
PAVEMENT SUPERVIS

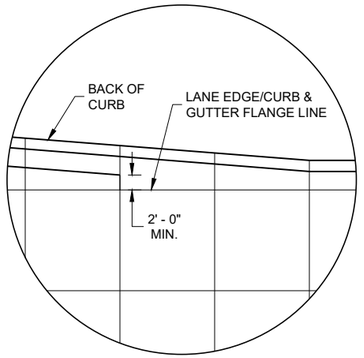
FHWA

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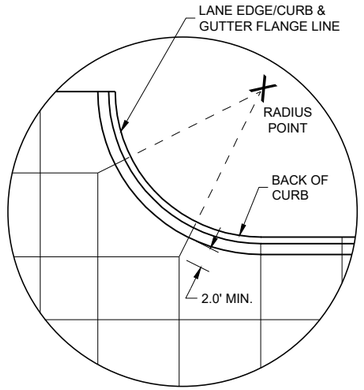
SDD 13C11 - 14b
SDD 13C11 - 14b



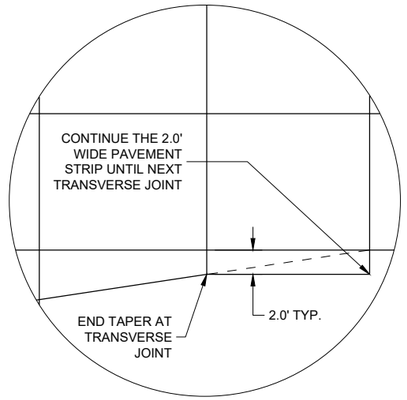
DETAIL "A"



DETAIL "B"



DETAIL "C"



DETAIL "D"

GENERAL NOTES

THE PRIMARY ROADWAY CONTROLS THE TRANSVERSE JOINT PATTERN.

ALIGN NEW JOINTS WITH EXISTING JOINTS OR CRACKS.

CONSTRUCT TRANSVERSE JOINTS PERPENDICULAR TO THE ROADWAY.

ADJUST TRANSVERSE JOINTS TO ALIGN WITH UTILITY FIXTURES (E.G MANHOLES AND INLETS) IN THE PAVEMENT STRUCTURE WHEN POSSIBLE. WATER VALVES DO NOT REQUIRE JOINT ADJUSTMENT.

AVOID SLABS LESS THAN 2 FEET WIDE OR GREATER THAN 15 FEET WIDE.

SEE TABLE FOR TRANSVERSE JOINT SPACING. JOINT SPACING SPECIFIED IS MAXIMUM AND ACTUAL SPACING CAN BE ADJUSTED TO ACCOMMODATE INTERSECTIONS.

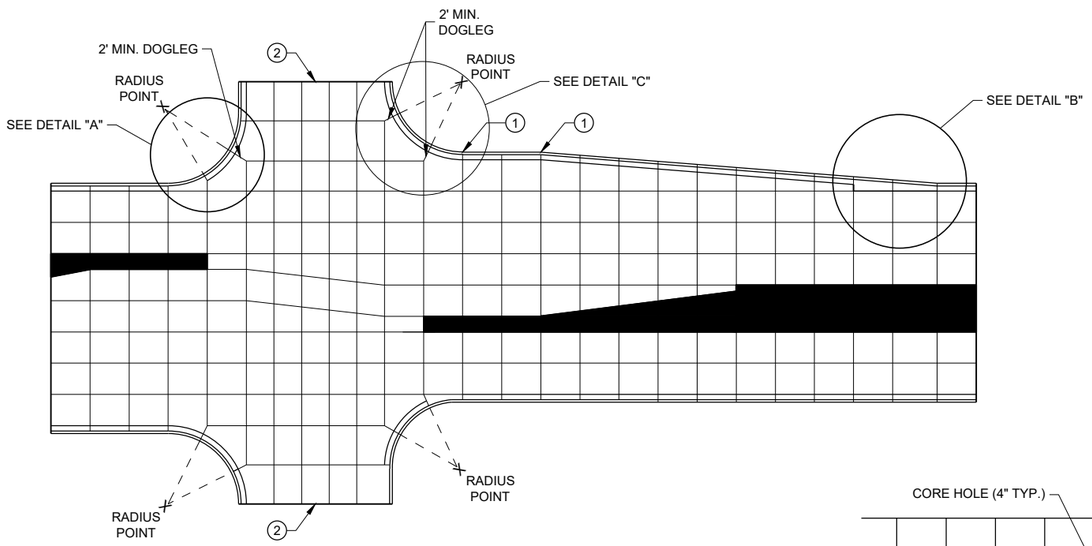
AVOID ANGLES LESS THAN 60° BY DOGLEGGING JOINTS THROUGH CURVE RADIUS POINTS. USE 90° ANGLES WHEN POSSIBLE.

CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

(1) PROVIDE TRANSVERSE JOINTS AT ALL PAVEMENT WIDTH CHANGES.

(2) CONSTRUCT DOWELED EXPANSION JOINT ON THE SIDE ROAD OF AN INTERSECTION IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH. ALIGN EXPANSION JOINT WITH EDGE OF RADIUS.

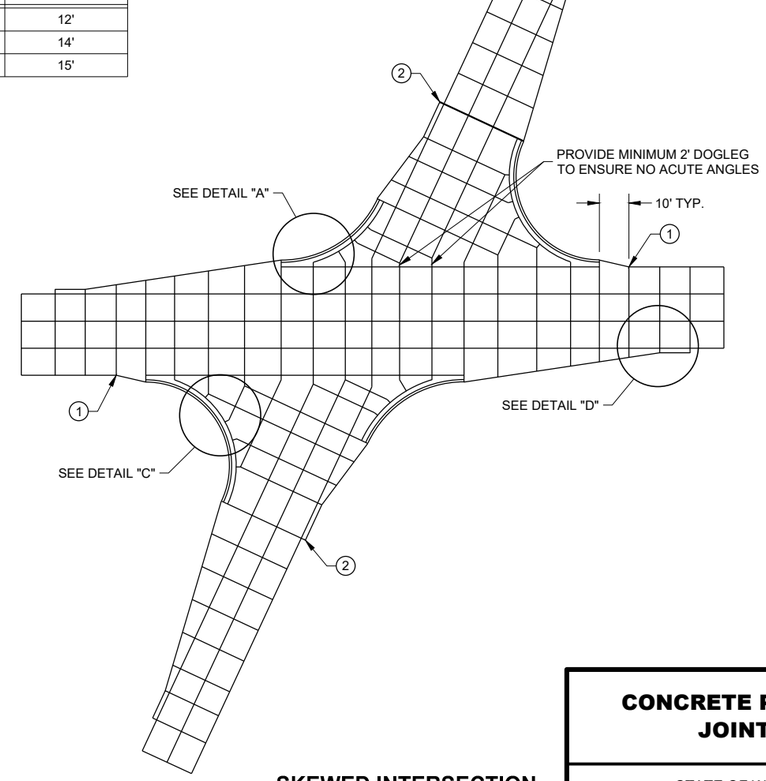
(3) THE ENGINEER MAY APPROVE SLIGHT VARIATIONS FROM THESE JOINTING DETAILS.



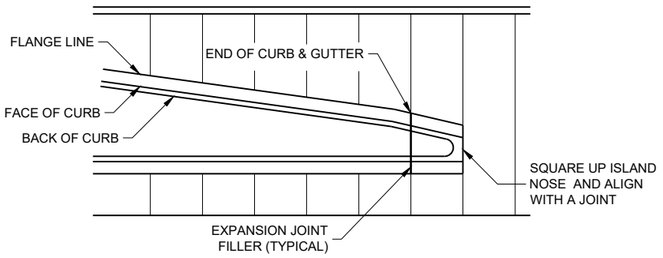
STANDARD INTERSECTION

PAVEMENT DEPTH AND JOINT SPACING TABLE

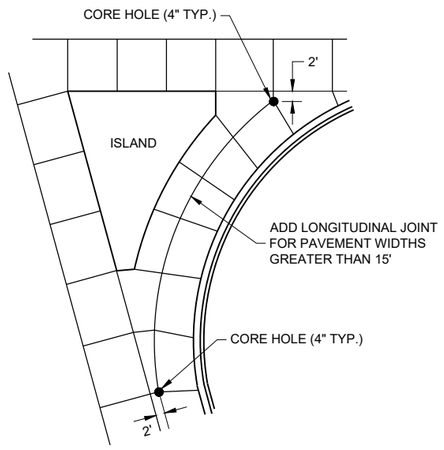
PAVEMENT DEPTH (D)	CONTRACTION JOINT SPACING
6", 6 ½"	12'
7", 7 ½"	14'
8" & ABOVE	15'



SKEWED INTERSECTION



APPROACH TO MEDIAN



LARGE RIGHT TURN

CONCRETE PAVEMENT JOINTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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SDD 13C18 - 08a

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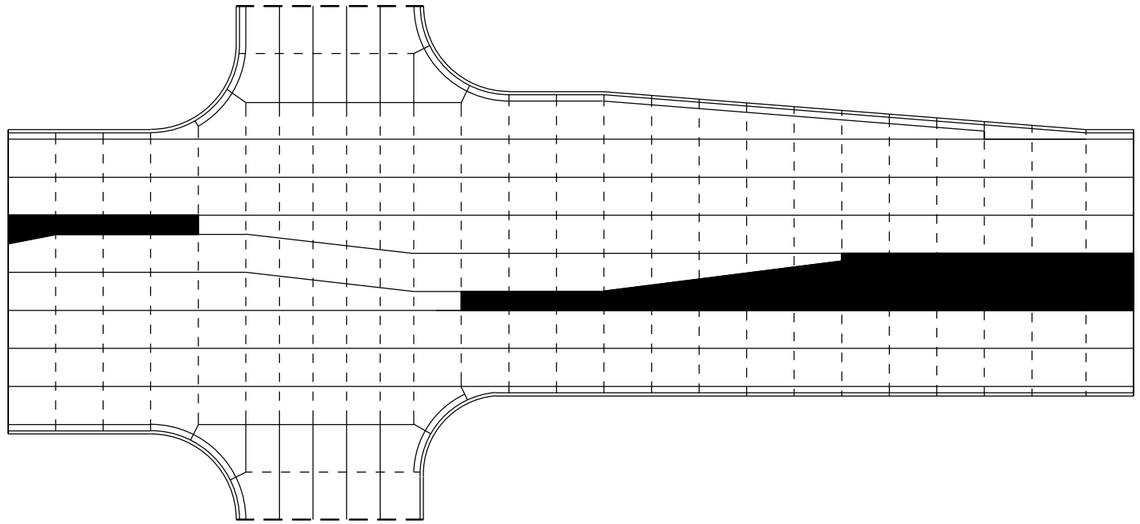
SDD 13C18 - 08a

LEGEND

POTENTIAL DOWELED EXPANSION JOINT

DOWELED JOINT

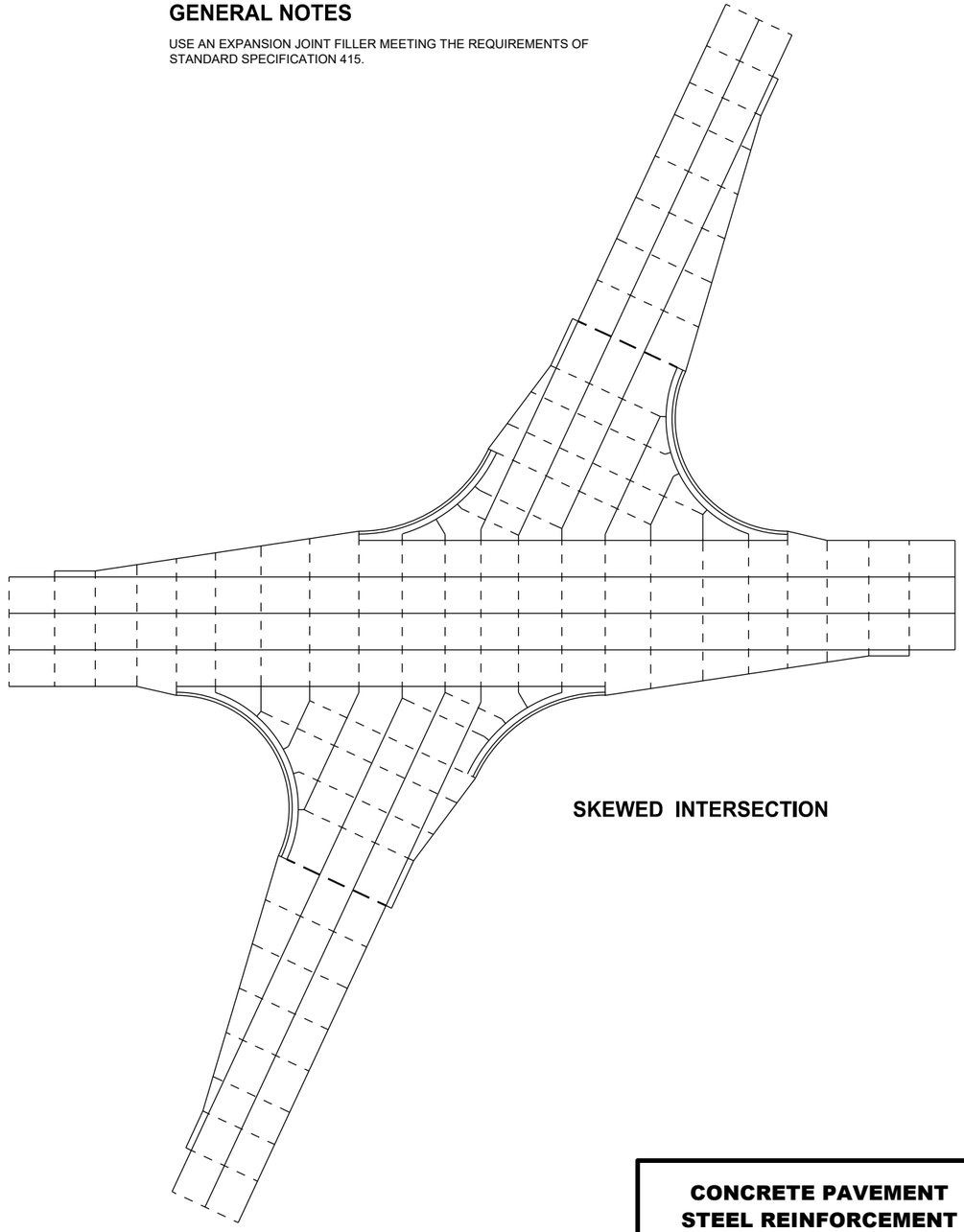
TIED JOINT



STANDARD INTERSECTION

GENERAL NOTES

USE AN EXPANSION JOINT FILLER MEETING THE REQUIREMENTS OF STANDARD SPECIFICATION 415.



SKEWED INTERSECTION

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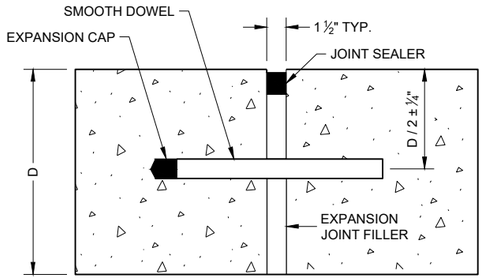
SDD 13C18 - 08b

CONCRETE PAVEMENT STEEL REINFORCEMENT

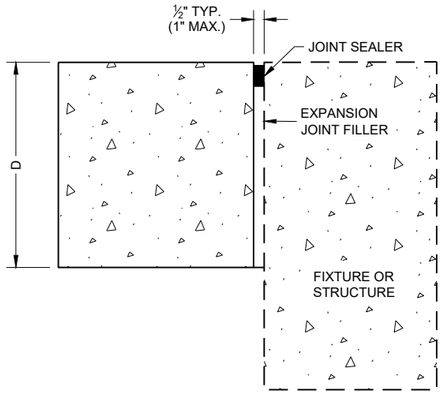
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTA

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SDD 13C18 - 08b



DOWELED TRANSVERSE (1)



UNTIED - LONGITUDINAL

EXPANSION JOINTS

TIE BAR TABLE

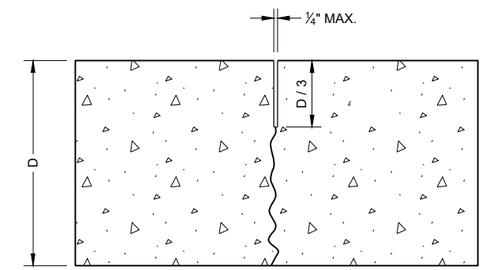
PAVEMENT DEPTH (D)	TIE BAR SIZE	TIE BAR LENGTH (L)	MAX. TIE BAR SPACING
< 10 ½"	NO. 4	30"	36"
≥ 10 ½"	NO. 5	36"	36"
	NO. 4 *	30"	24" **

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

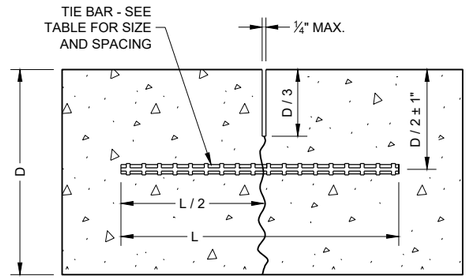
** CONFORM TO 15" MINIMUM SPACING FROM TRANSVERSE JOINTS; SPACING BETWEEN TIE BARS WILL BE 30" AT TRANSVERSE JOINTS.

GENERAL NOTES

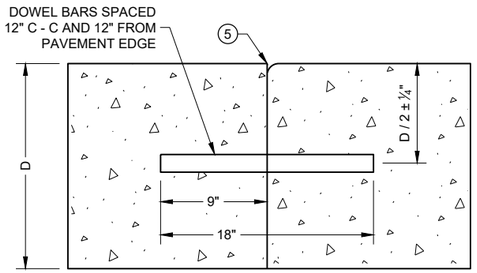
1. USE DOWELED EXPANSION JOINTS ON SIDE ROADS AT INTERSECTIONS (TO ISOLATETHE SIDE ROAD FROM THE THROUGH STREET) IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH.
2. SPACE CONTRACTION JOINTS IN ACCORDANCE WITH SDD 13C4, 13C11 OR 13C13.
3. LOCATE CONSTRUCTION JOINTS A MINIMUM OF 6 FEET FROM THE NEAREST CONTRACTION JOINT AND ALIGN PARALLEL TO CONTRACTION JOINTS.
4. CONSTRUCTION JOINTS CAN BE FORMED OR SAWED.
5. IF JOINT IS FORMED, PROVIDE A ¼" RADIUS.
6. ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.



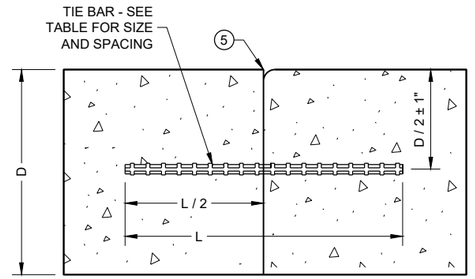
UNDOWELED TRANSVERSE



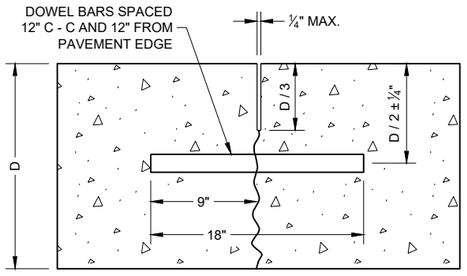
TIED LONGITUDINAL



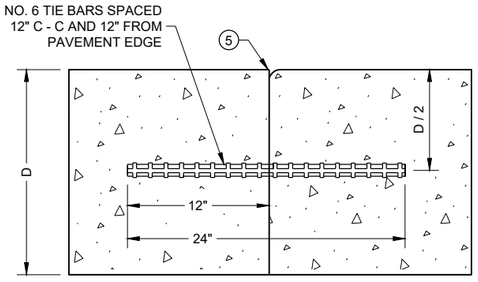
DOWELED TRANSVERSE (3)



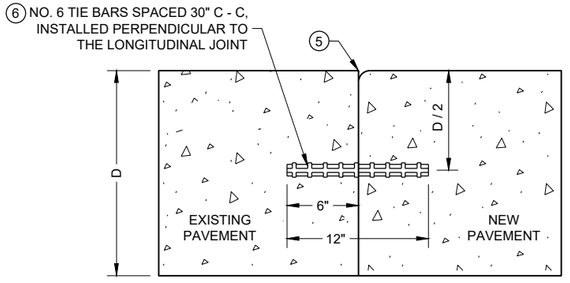
TIED LONGITUDINAL



DOWELED TRANSVERSE



TIED TRANSVERSE (3)
(FOR USE ON NON-DOWELED PAVEMENTS ONLY)

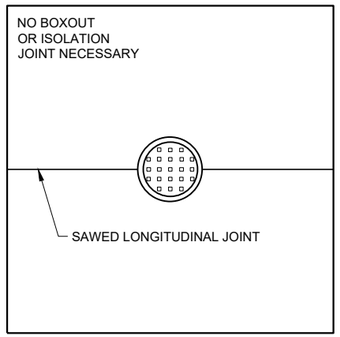


TIED LONGITUDINAL TO EXISTING

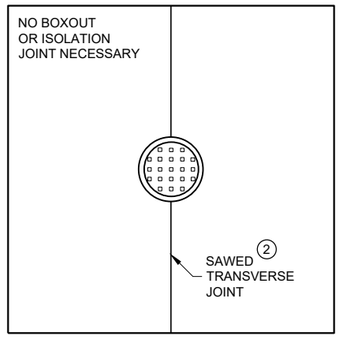
CONTRACTION JOINTS (2)

CONSTRUCTION JOINTS (4)

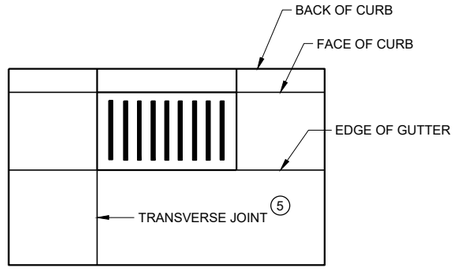
CONCRETE PAVEMENT JOINT TYPES



MANHOLE WITH LONGITUDINAL JOINT



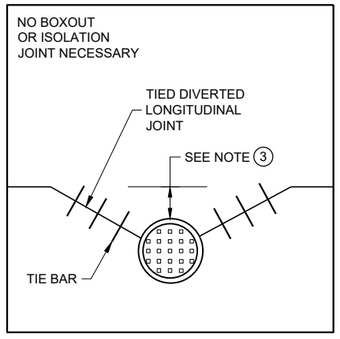
MANHOLE WITH TRANSVERSE JOINT



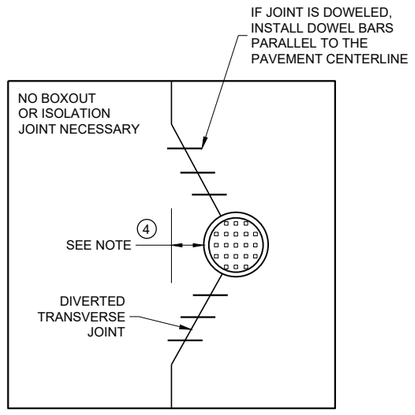
INLET WITH TRANSVERSE JOINT

GENERAL NOTES

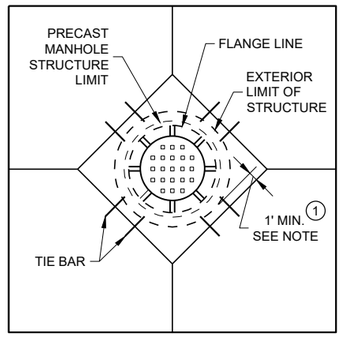
1. USE BOXOUTS WHEN UTILITY STRUCTURE IS IN THE PATH OF CONSTRUCTION JOINTS. PROVIDE A 1 FOOT MINIMUM CLEARANCE BETWEEN THE EXTERIOR LIMIT OF THE STRUCTURE TO THE DIAMOND BOXOUT.
2. ADJUST TRANSVERSE JOINT TO INTERSECT MANHOLE IF POSSIBLE.
3. IF DISTANCE BETWEEN THE LONGITUDINAL JOINT AND THE EDGE OF MANHOLE IS 2 FEET OR LESS, DIVERT THE LONGITUDINAL JOINT AT A 2:1 TAPER RATE TO THE CENTER OF THE MANHOLE. IF THE DISTANCE IS GREATER THAN 2 FEET, DO NOT DIVERT THE JOINT AND SAW AS NORMAL. PLACE REINFORCEMENT REBAR AROUND THE MANHOLE.
4. IF THE DISTANCE FROM THE EDGE OF THE MANHOLE TO THE NEAREST TRANSVERSE JOINT IS LESS 4 FEET OR LESS, REDIRECT JOINT TO INTERSECT THE CENTER OF THE MANHOLE. IF DISTANCE IS GREATER THAN 4 FEET, DO NOT DIVERT THE JOINT AND SAW AS NORMAL. PLACE REINFORCEMENT REBAR AROUND THE MANHOLE.
5. ALIGN TRANSVERSE JOINT WITH ONE EDGE OF INLET WHEN PRACTICAL.



MANHOLE WITH DIVERTED LONGITUDINAL CONTRACTION JOINT



MANHOLE WITH DIVERTED TRANSVERSE CONTRACTION JOINT



DIAGONAL MANHOLE BOXOUT FOR CONSTRUCTION JOINTS

CONCRETE PAVEMENT JOINTING AT UTILITY FIXTURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023
DATE

/S/ Peter Kemp P.E.
PAVEMENT SUPERVISO

FHWA

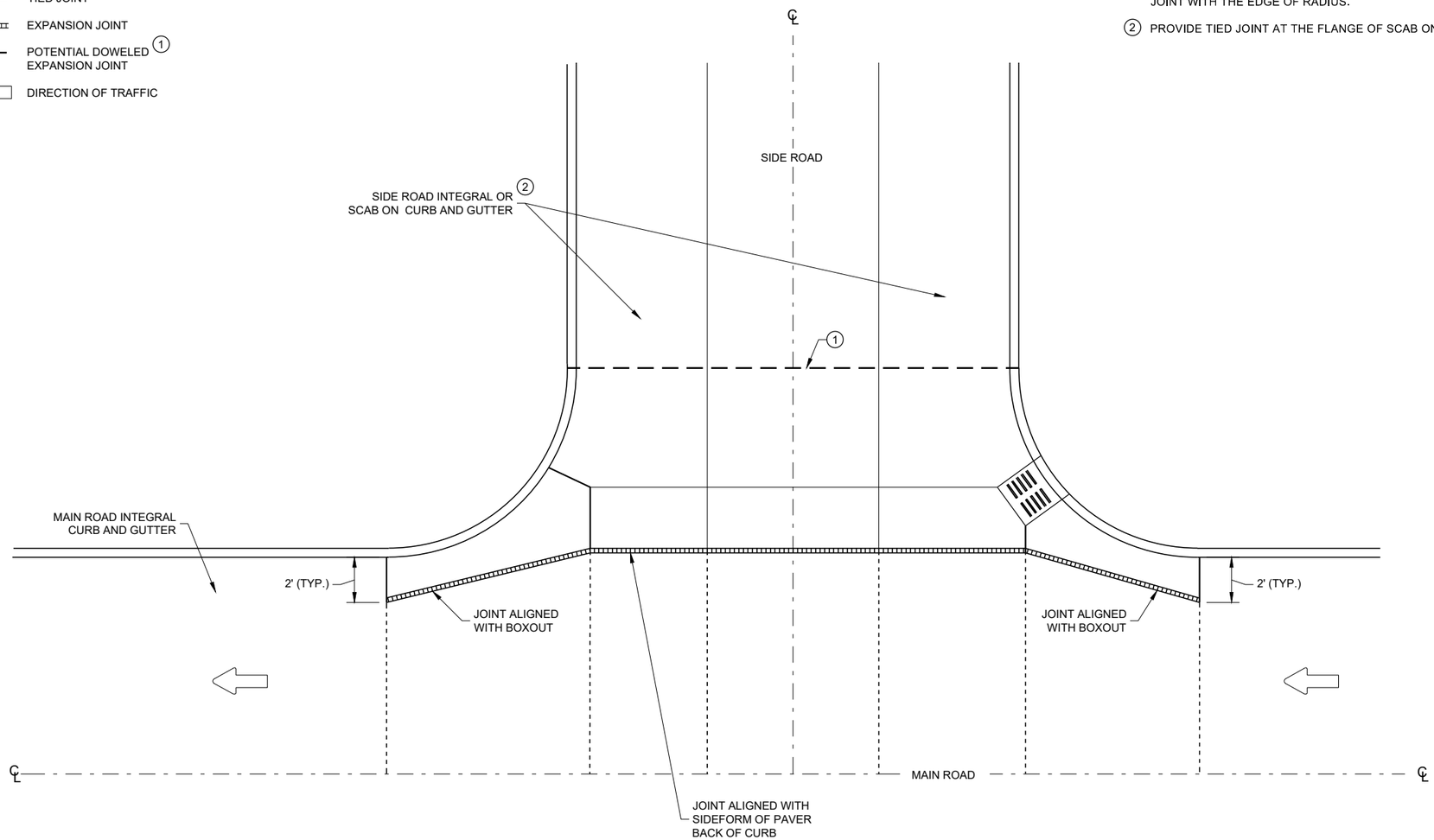
6

SDD13C18 - 08d

SDD13C18 - 08d

LEGEND

- DOWELED JOINT
- TIED JOINT
- EXPANSION JOINT
- POTENTIAL DOWELED EXPANSION JOINT (1)
- DIRECTION OF TRAFFIC



GENERAL NOTES

(1) CONSTRUCT DOWELED EXPANSION JOINT ON THE SIDE ROAD OF AN INTERSECTION IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH. ALIGN EXPANSION JOINT WITH THE EDGE OF RADIUS.

(2) PROVIDE TIED JOINT AT THE FLANGE OF SCAB ON CURB IF SCAB ON CURB AND GUTTER IS USE.

INTERSECTION BOXOUT FOR INTEGRAL CURB AND GUTTER

CONCRETE PAVEMENT INTERSECTION BOXOUT FOR INTEGRAL CURB AND GUTTER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023
DATE

/S/ Peter Kemp P.E.
PAVEMENT SUPERVIS

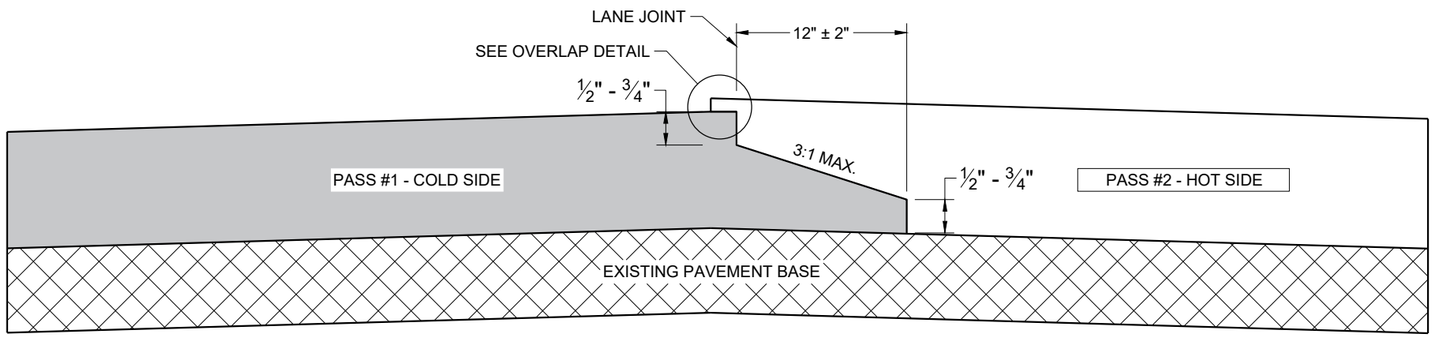
FHWA

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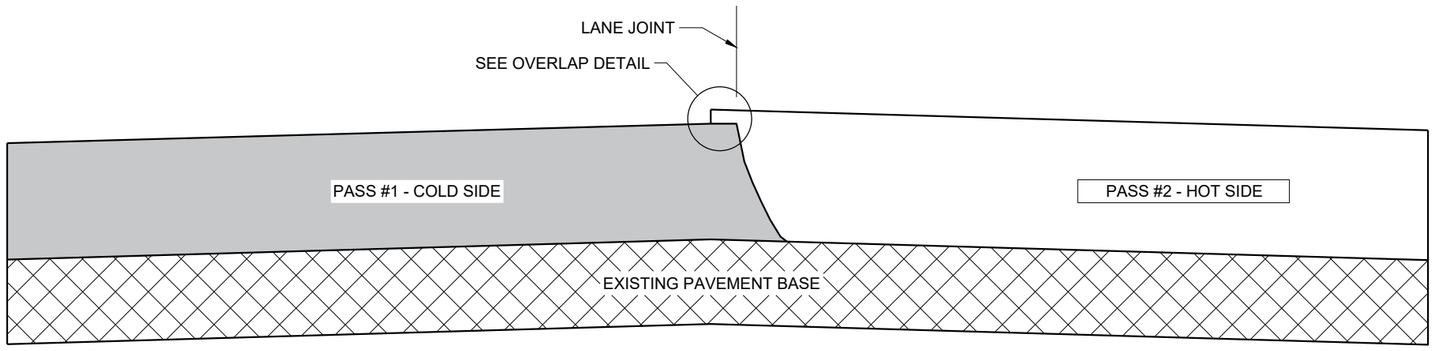
SDD 13C18 - 08f

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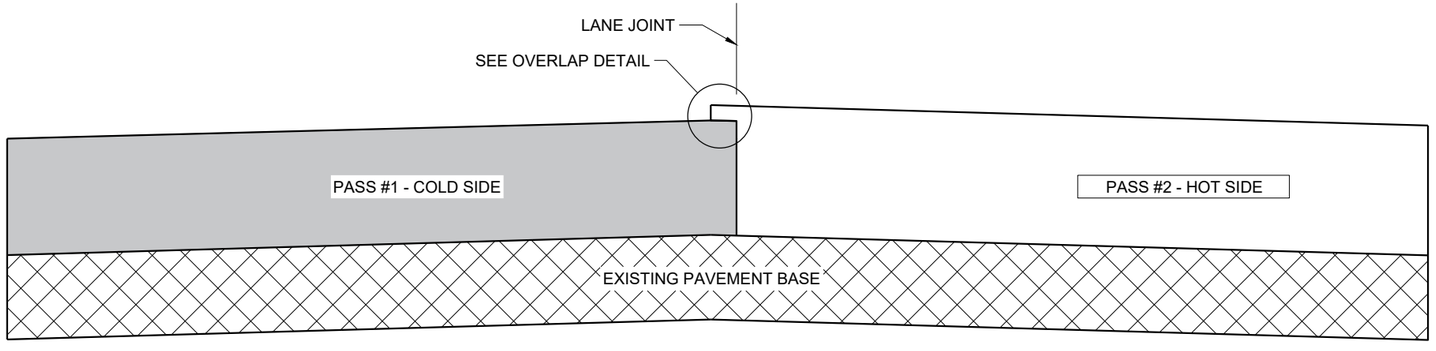
SDD 13C18 - 08f



TYPICAL PAVEMENT CROSS SECTION
NOTCHED WEDGE JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT (MILLED)

GENERAL NOTES

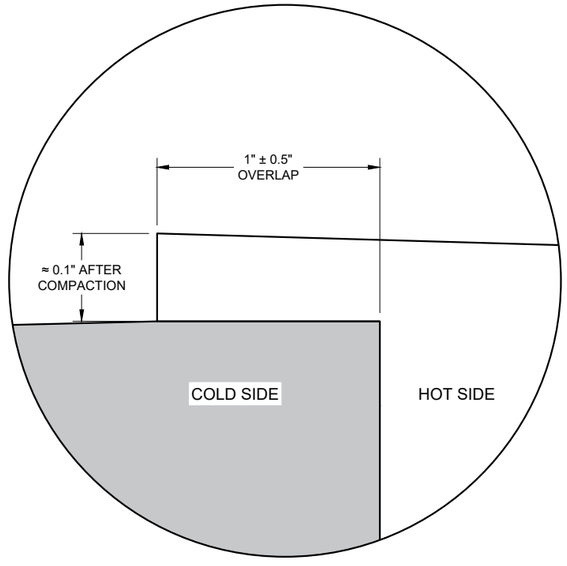
IN ADDITION TO THE DETAILS PROVIDED IN THIS DRAWING, CONFORM TO STANDARD SPECIFICATION 450.3.2.8 FOR WHEN A NOTCHED WEDGE JOINT IS REQUIRED AND FOR GENERAL JOINT CONSTRUCTION REQUIREMENTS.

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

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

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

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



OVERLAP DETAIL (TYPICAL)

HMA LONGITUDINAL JOINTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2020
DATE

/S/ Steven Hefel
HMA PAVEMENT ENGIN

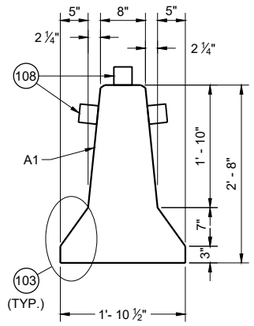
FHWA

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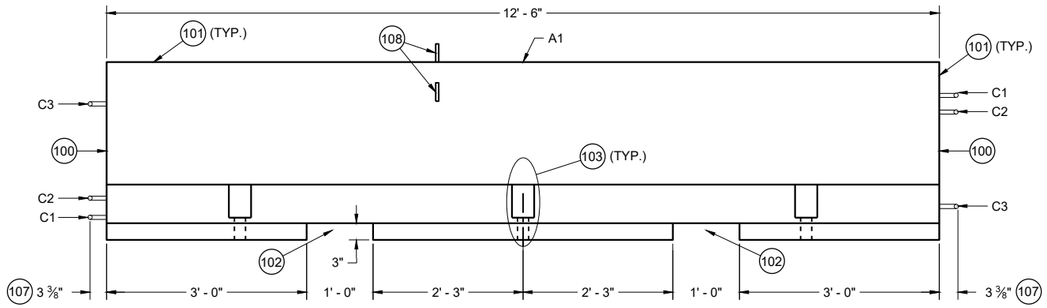
SDD 13C19 - 03

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SDD 13C19 - 03



CROSS SECTION



PROFILE VIEW

GENERAL NOTES

PLACE BARRIER ON PAVED SURFACE. BEFORE PLACEMENT OF TEMPORARY BARRIER, REMOVE ALL LOOSE MATERIAL FROM PAVED SURFACE.

LOOP BARS C1, C2 AND C3 ARE NOT FOR PLACEMENT OR MOVEMENT OF BARRIER.

(100) PERMANENTLY FORM INTO ONE END OF BARRIER THE FOLLOWING INFORMATION:
- A. TYPE OF BARRIER: WI-CBTP
- B. MANUFACTURER
- C. DATE OF MANUFACTURE (MONTH AND YEAR)

(101) 1" OPTIONAL CHAMFER

(102) SEE LIFTING SLOT DETAIL

(103) SEE ANCHOR BLOCK DETAIL

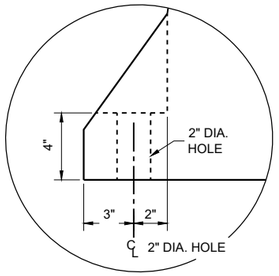
(104) 1 ¾" MIN. CLEAR COVER

(105) 2" MIN. CLEAR COVER

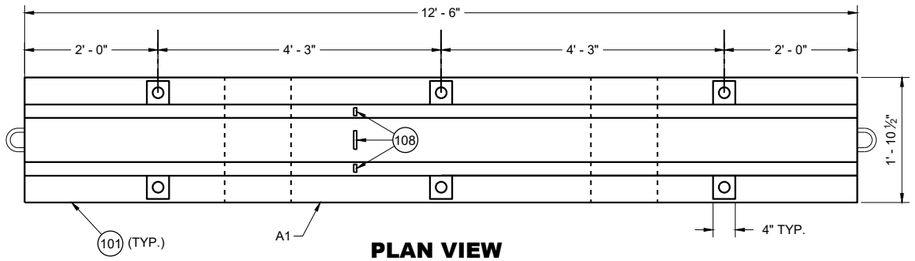
(106) 1" MIN. CLEAR COVER

(107) ± ⅛" MEASURED FROM FACE OF CONCRETE BARRIER TO OUTSIDE OF LOOP BAR (TYP.)

(108) USE DELINEATORS CONFORMING TO SECTION 633 OF THE STANDARD SPECIFICATIONS. CONTRACTOR MY USE ALTERNATE SHAPES AND HOUSING. INSTALL DELINEATORS ACCORDING TO MANUFACTURERS INSTRUCTION. INSTALL YELLOW REFLECTORS WHEN BARRIER IS LOCATED LEFT OF TRAFFIC AND WHITE WHEN BARRIER IS LOCATED RIGHT OF TRAFFIC. SPACE DELINEATORS A MAXIMUM OF 25 FEET APART, PROVIDE TOP MOUNTED DELINEATORS IN ADDITION TO SIDE MOUNTED DELINEATORS ON BARRIER INSTALLATIONS LOCATED ON A CURVED ALIGNMENT LONGER THAT 200 FEET AND ON BARRIERS USED TO SEPARATE OPPOSING TRAFFIC.

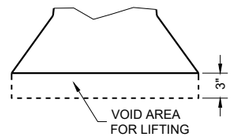


ANCHOR BLOCK DETAIL

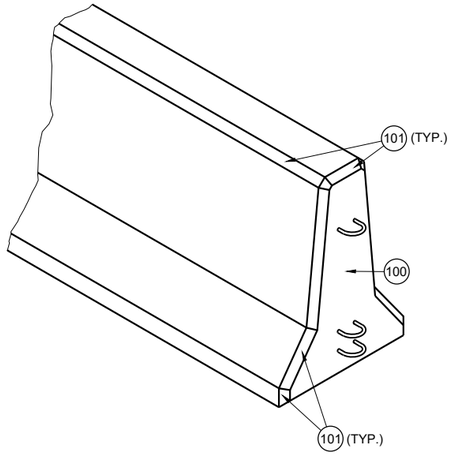


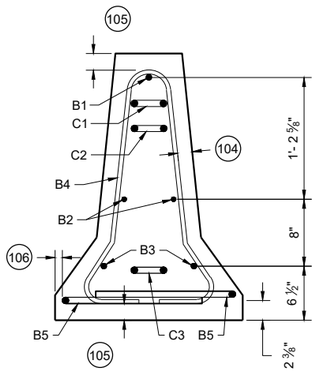
PLAN VIEW

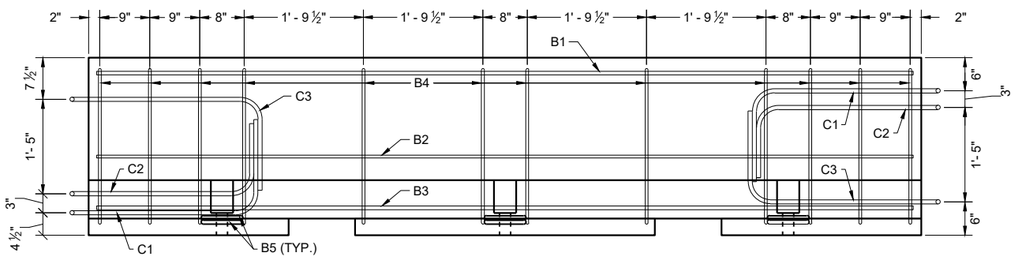
TEMPORARY BARRIER



LIFTING SLOT DETAIL (TYP.)







PROFILE VIEW

TEMPORARY BARRIER REINFORCEMENT

CONCRETE BARRIER TEMPORARY PRECAST, 12' - 6"

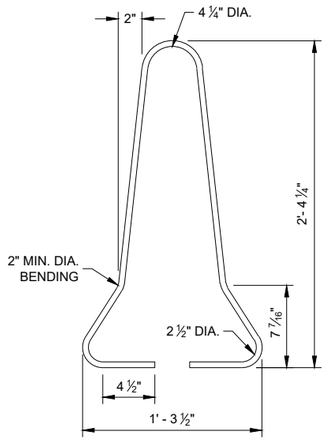
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

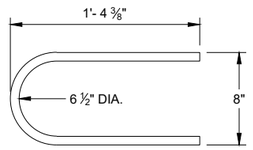
SDD 14B07-16a

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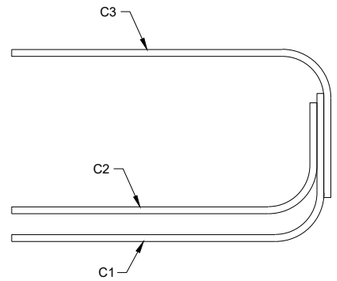
SDD 14B07-16a



B4 BAR DETAIL

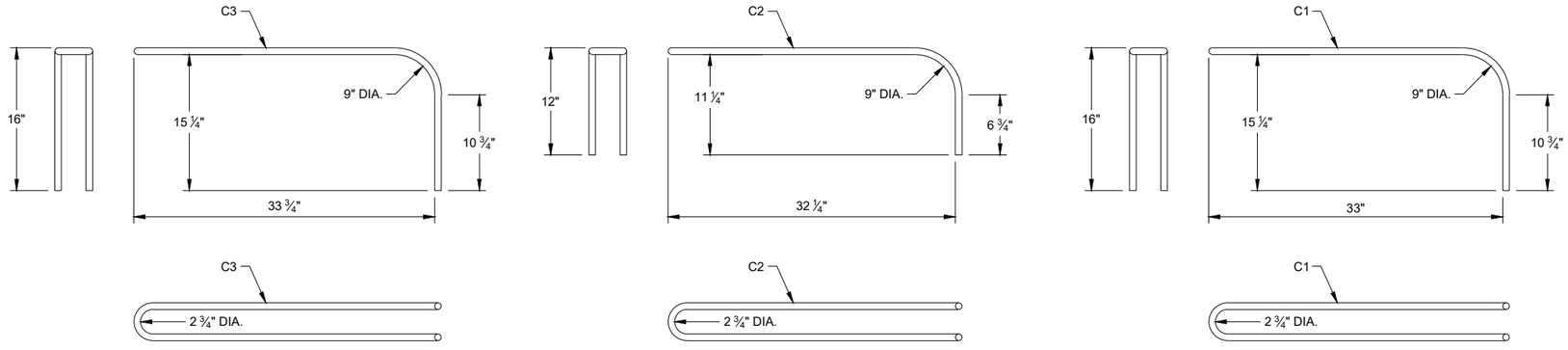


B5 BAR DETAIL



PROFILE VIEW

LOOP BAR ASSEMBLY

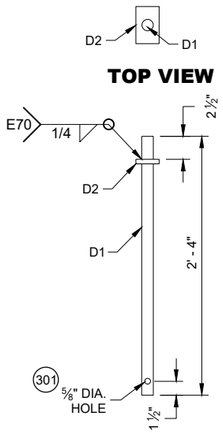


C BAR DETAILS

CONCRETE BARRIER TEMPORARY PRECAST, 12' - 6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTA

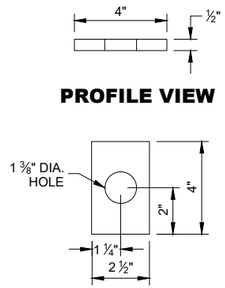
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SDD 14B07-16b



TOP VIEW

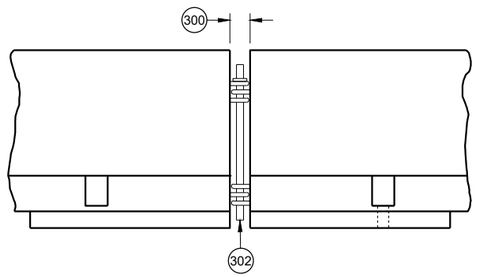
PROFILE VIEW

CONNECTOR PIN ASSEMBLY



PROFILE VIEW

TOP VIEW D2



CONNECTING TEMPORARY BARRIER SECTIONS

GENERAL NOTES

300 SET WITH 3 ⅝" WOOD BLOCK.

301 HOLE IS OPTIONAL.

302 CONNECTOR PIN ASSEMBLY.

303 CONCRETE PAVEMENT, APPROACH SLAB, OR DECK.

304 CONCRETE DECK.

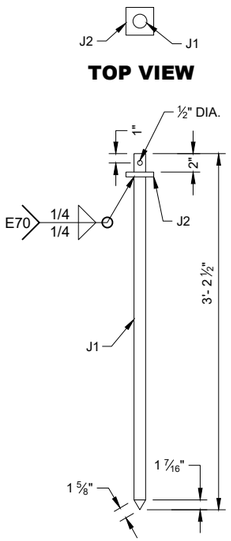
305 DO NOT USE ON CONCRETE BRIDGE DECK WITH ASPHALT OVERLAY OR CONCRETE PAVEMENT WITH ASPHALT OVERLAY.

306 MINIMUM OF 2" OF ASPHALT.

307 ASPHALT ANCHOR PIN ASSEMBLY

308 IF DRILLING A PILOT HOLE, THE MAX, DIA. OF THE HOLE IS 3/4"

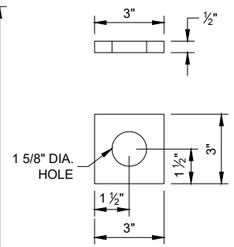
309 WHEN THERE IS ASPHALT OVERLAYING CONCRETE PAVEMENT, A 1 5/8" DIA. PILOT HOLE CAN BE DRILLED INTO THE OVERLAY AND CONCRETE. IF NEEDED DRILL A 3/4" PILOT HOLE IN BASE COURSE.



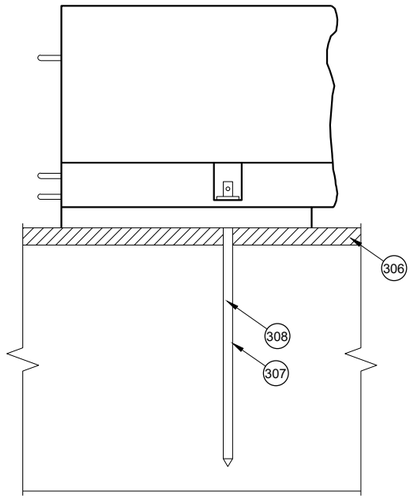
TOP VIEW

PROFILE VIEW

ASPHALT ANCHOR PIN ASSEMBLY

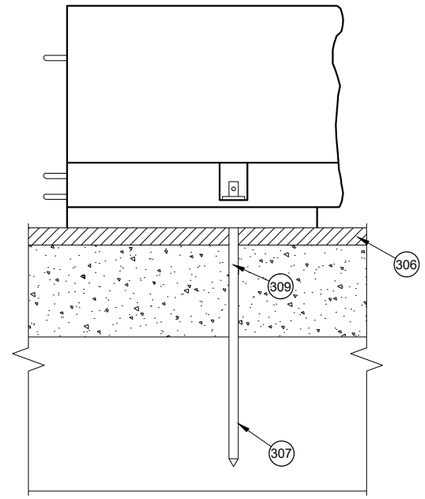


TOP VIEW J2



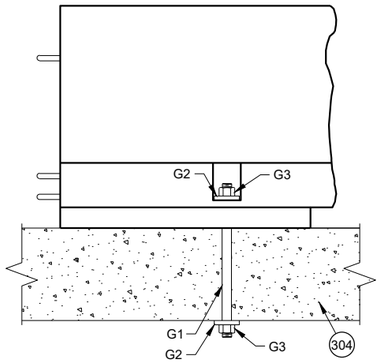
SIDE VIEW

ASPHALT ANCHOR INSTALLATION THROUGH ASPHALT PAVEMENT



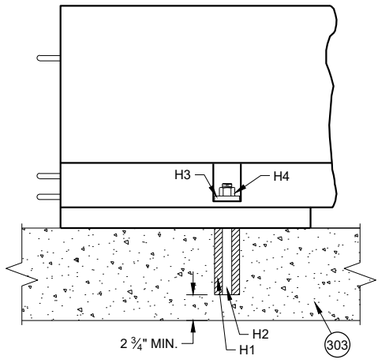
SIDE VIEW

ASPHALT ANCHOR INSTALLATION THROUGH ASPHALT OVERLAY ON TOP OF CONCRETE PAVEMENT



SIDE VIEW

THROUGH BOLT ANCHOR INSTALLATION 305



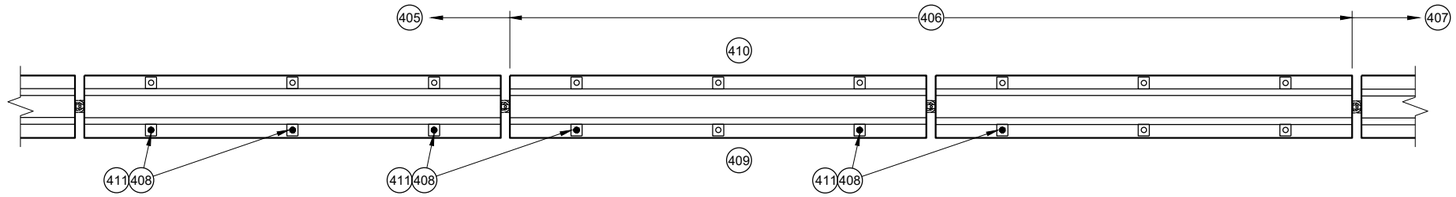
SIDE VIEW

ADHESIVE ANCHOR INSTALLATION 305

CONCRETE BARRIER TEMPORARY PRECAST, 12' - 6"

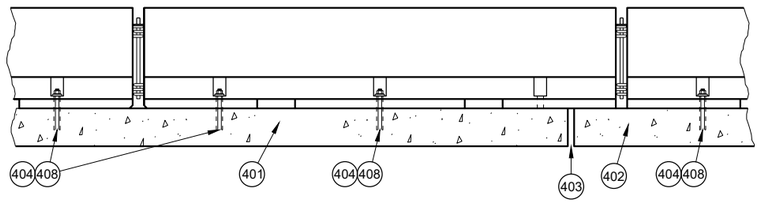
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6
SDD 14B07-16c



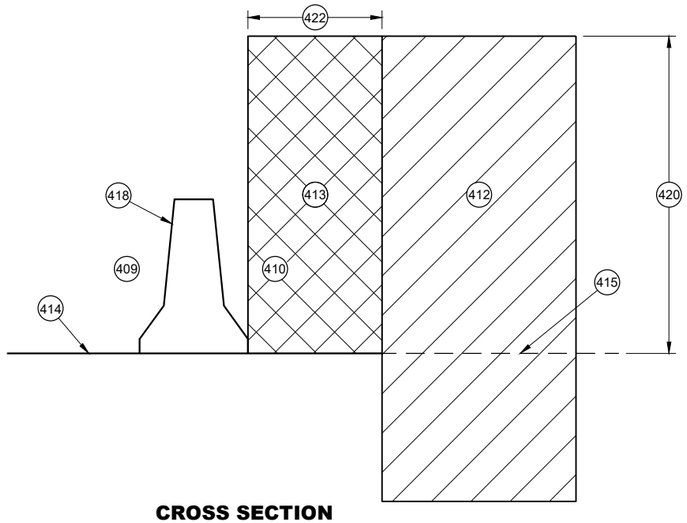
PLAN VIEW

TRANSITION FROM FREE STANDING TO ANCHORED BARRIER



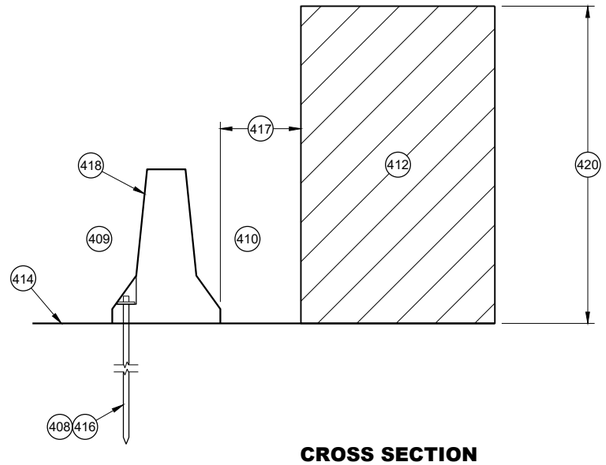
PROFILE VIEW

ANCHORED BARRIER NEAR EXPANSION JOINT (400)



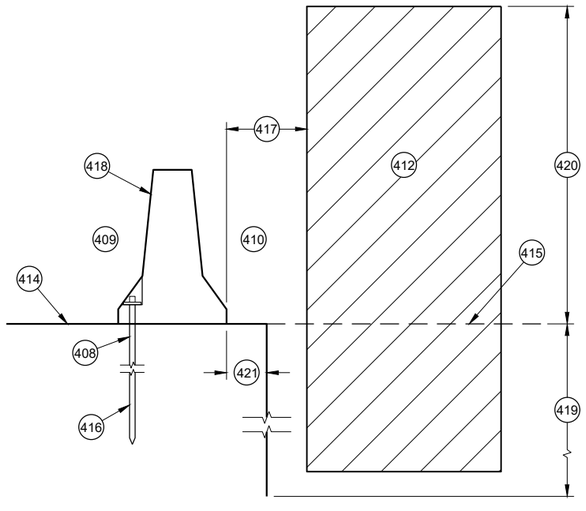
CROSS SECTION

FREE STANDING BARRIER



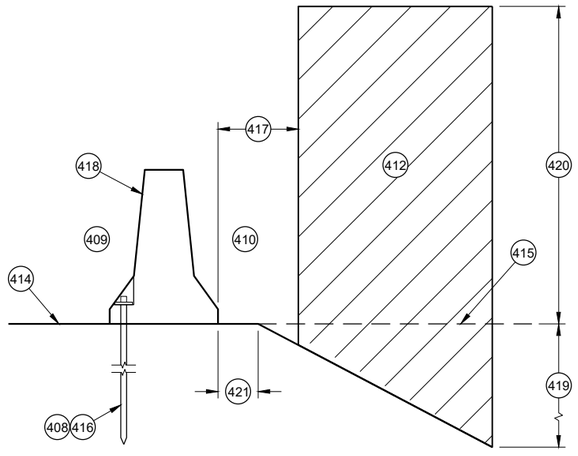
CROSS SECTION

ANCHORED BARRIER FOR OBJECTS ABOVE THE GRADE LINE AND NEAR THE BARRIER



CROSS SECTION

ANCHORED BARRIER NEAR VERTICAL DROP OFF



CROSS SECTION

ANCHORED BARRIER NEAR A SLOPE

GENERAL NOTES

(400) NO SINGLE CONCRETE BARRIER SECTION SHALL BE ANCHORED TO BOTH THE BRIDGE DECK AND THE APPROACH SLAB. ALL ANCHOR BOLT LOCATIONS SHALL BE ANCHORED TO THE DECK IN ACCORDANCE WITH THE DETAIL. NO MORE THAN ONE ANCHOR BOLT SHALL BE ELIMINATED FROM A BARRIER SECTION WHEN SPANNING AN EXPANSION JOINT.

(401) CONCRETE DECK

(402) CONCRETE DECK OR APPROACH SLAB.

(403) EXPANSION JOINT

(404) ADHESIVE ANCHOR SHOWN. SEE ANCHOR DETAILS.

(405) ANCHORED TEMPORARY BARRIER

(406) TRANSITION FROM ANCHORED TEMPORARY BARRIER TO FREE STANDING

(407) FREE STANDING BARRIER

(408) REMOVE ALL ANCHORS WHEN NO LONGER NEEDED. FILL CONCRETE PAVEMENTS, DECKS AND APPROACH SLABS WITH NON-SHRINK COMMERCIAL GROUT FROM THE APPROVED PRODUCT LIST. FILL ASPHALT PAVEMENTS WITH ASTM D6690 TYPE II RUBBERIZED CRACK FILLER.

(409) TRAFFIC SIDE

(410) NON-TRAFFIC SIDE

(411) ANCHOR LOCATION. SEE ANCHORING DETAILS.

(412) WORK AREA

(413) AREA FREE OF OBJECTS AND WORKERS

(414) GRADE LINE

(415) EXTENDED GRADE LINE

(416) ANCHORED TEMPORARY BARRIER. SEE BOLT THROUGH DECK, REMOVABLE ADHESIVE ANCHOR, OR AN ASPHALT ANCHOR ROD DETAILS FOR MORE INFORMATION. ASPHALT ANCHOR ROD SHOWN.

(417) WHEN OBJECTS EXTEND ABOVE THE GRADE. A MINIMUM OF 1 FOOT IS REQUIRED FROM BACK OF BARRIER TO OBJECT.

(418) OBJECTS ARE NOT TO BE PLACED ON, MOUNTED TO, OR ALLOWED TO LEAN AGAINST THE BARRIER WITHOUT WRITTEN PERMISSION OF THE PROJECT ENGINEER.

(419) DEPTHS OF 3 FEET OR MORE.

(420) Y = 6.5'

(421) OFFSET FROM BACK OF BARRIER EDGE:

CONCRETE PAVEMENT	0.5'
ASPHALT	0.5'

(422) POSTED SPEED (MPH):

45 OR GREATER	4.0'
40 OR LOWER	2.0'

CONCRETE BARRIER TEMPORARY PRECAST, 12' - 6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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GENERAL NOTES

(500) EXISTING RIGID BARRIERS (VARIES)

(501) TEMPORARY BARRIER

(502) SEE OTHER DETAIL ON HOW TO ANCHOR TEMPORARY BARRIER (BARRIER ASPHALT ANCHOR SHOWN).

(503) ANCHORS ARE REQUIRED ON BOTH SIDE OF THE TEMPORARY BARRIER.

(504) NESTED RAILS ARE REQUIRED ON BOTH SIDES OF THE TEMPORARY BARRIER FOR ALL INSTALLATIONS.

(505) TRAFFIC TRAVELS FROM PERMANENT BARRIER TO TEMPORARY BARRIER.

(506) TRAFFIC TRAVELS FROM TEMPORARY BARRIER TO PERMANENT BARRIER.

(507) VERTICAL BARRIER

(508) SAFETY SHAPE BARRIER

(509) SINGLE SLOPE BARRIER

(510) CAP END PLATE PLACED FLUSH WITH UPSTREAM END OF RIGID BARRIER.

(511) BENT THRIE BEAM TO FIT.

(512) THRIE BEAM PIECES ARE OFFSET 15 ¼" TO PREVENT INTERFERENCE FROM THE ANCHORS ON OPPOSING SIDES.

(513) TWO (2) P1, P2 AND P3 ARE REQUIRED

(514) FIVE (5) N1, N2 AND N3 ARE REQUIRED

(515) TWO (2) R1, R2 AND R3 ARE REQUIRED

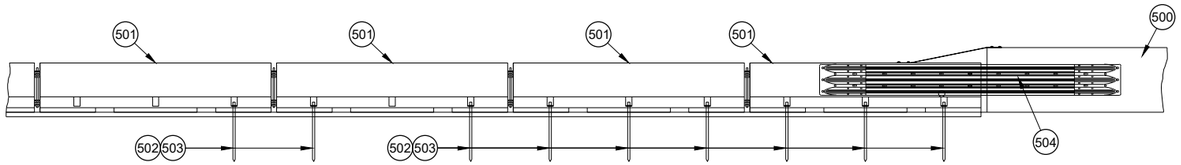
(516) CUT WOOD BLOCK TO FIT.

(517) SEE THRIE BEAM RAIL TERMINAL CONNECTOR DETAIL ASSEMBLY.

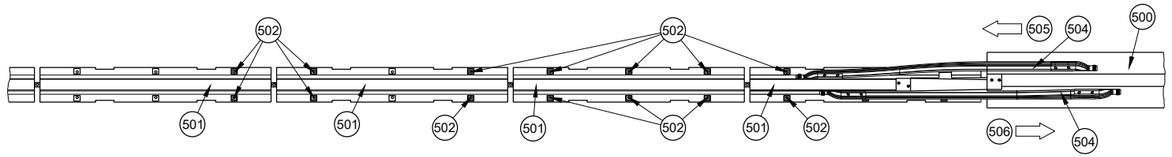
(518) CAP ASSEMBLY

(519) 4" MAX. GAP BETWEEN TEMPORARY BARRIER AND RIGID BARRIER.

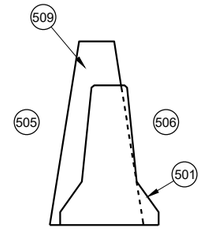
(520) ALL TWELVE SPLICE HOLES REQUIRE M1 AND M2



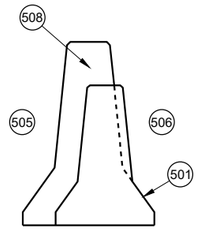
PROFILE VIEW



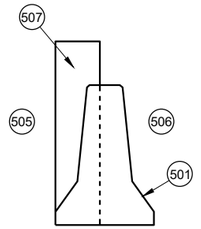
PLAN VIEW
TRANSITION TO RIGID BARRIER



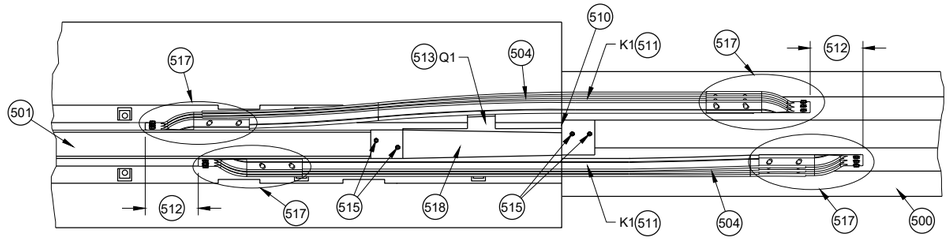
CROSS SECTION TEMPORARY BARRIER PLACEMENT SINGLE SLOPE



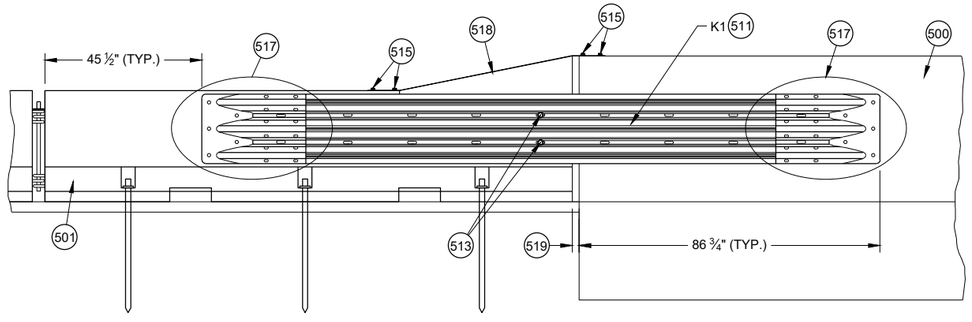
CROSS SECTION TEMPORARY BARRIER PLACEMENT SAFETY SHAPE



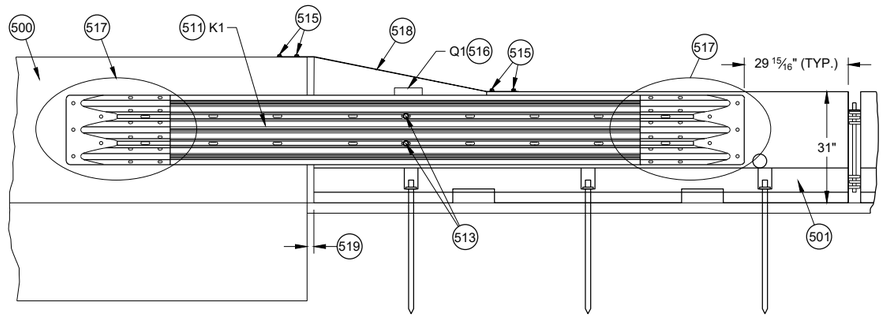
CROSS SECTION TEMPORARY BARRIER PLACEMENT VERTICAL



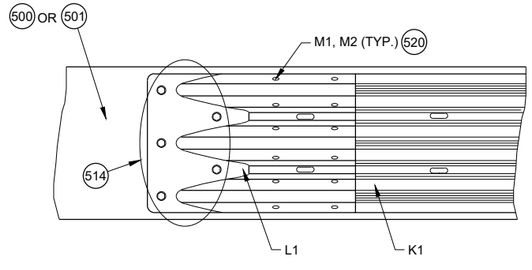
PLAN DETAIL VIEW
TRANSITION TO RIGID BARRIER



FRONT DETAIL VIEW
TRANSITION TO RIGID BARRIER



BACK DETAIL VIEW
TRANSITION TO RIGID BARRIER

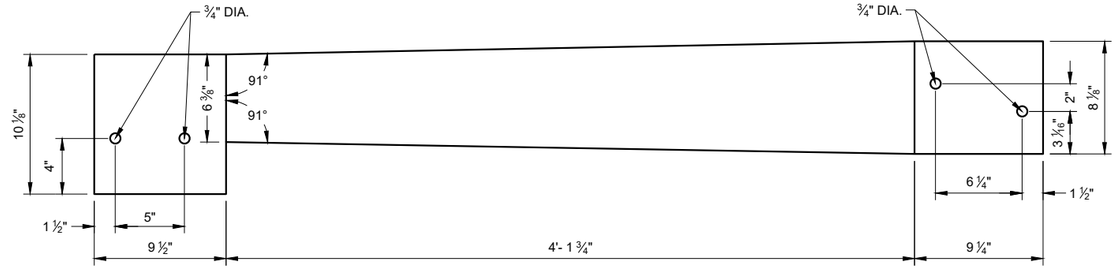


(517) DETAIL PLAN VIEW
THRIE BEAM RAIL TERMINAL CONNECTOR ASSEMBLY

CONCRETE BARRIER TEMPORARY PRECAST, 12' - 6"

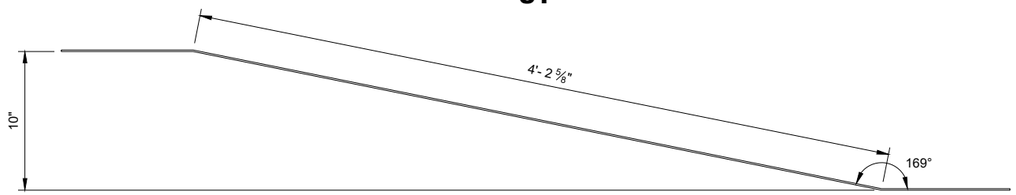
6

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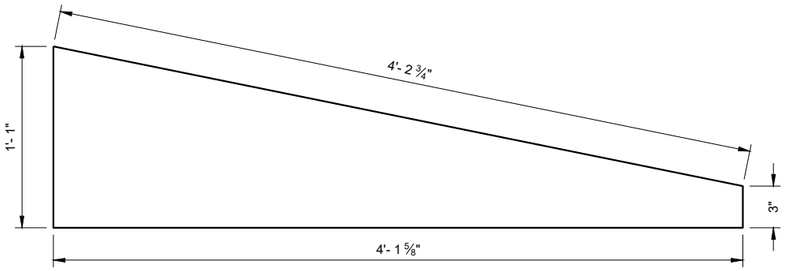
TOP VIEW

S1



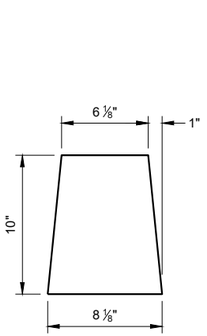
ELEVATION VIEW

S1

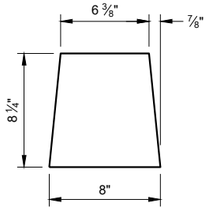


SIDE VIEW

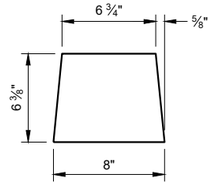
S3



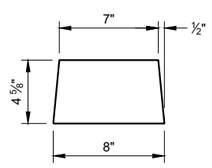
S2



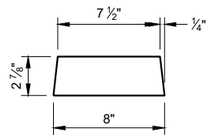
S4



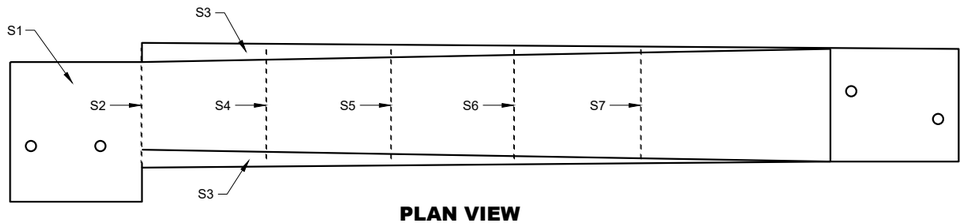
S5



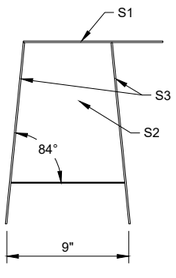
S6



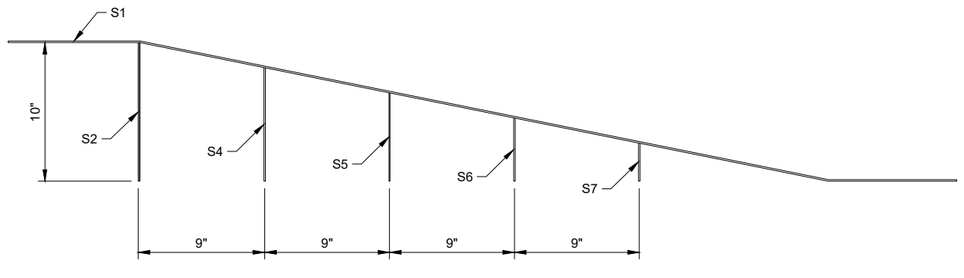
S7



PLAN VIEW



BACK VIEW



SIDE VIEW (600)

42" TOP CAP ASSEMBLY

GENERAL NOTES

STITCH WELD GUSSET PLATES AND END PLATES ON THREE SIDES

STITCH WELD TWO SIDE PLATES TO TOP PLATE, END PLATE AND GUSSETS.

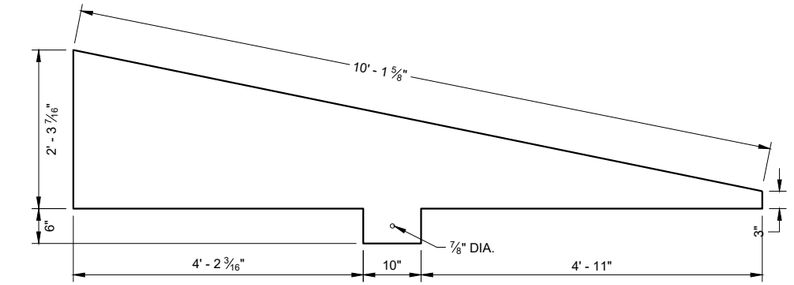
(600) SIDE PLATES (S3) NOT SHOWN FOR CLARITY.

CONCRETE BARRIER TEMPORARY PRECAST, 12' - 6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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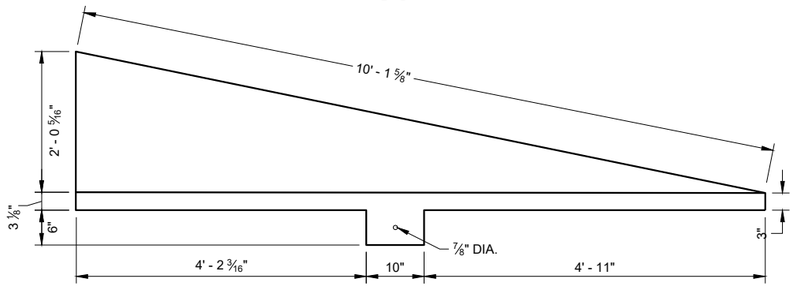
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SIDE VIEW
T4



END VIEW



SIDE VIEW
T3

END VIEW

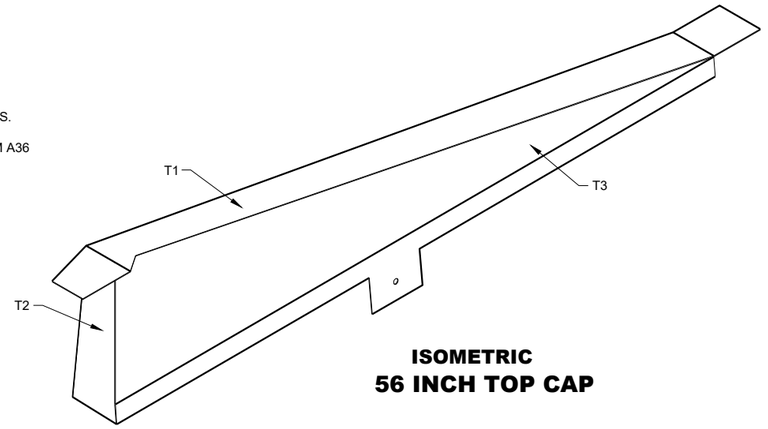
GENERAL NOTES

STITCH WELD GUSSET PLATES AND END PLATES ON THRIE SIDES

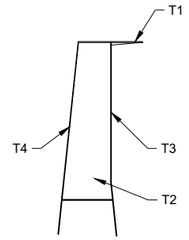
STITCH WELD TWO SIDE PLATES TO TOP PLATE, END PLATE AND GUSSETS.

SIDE PLATES, TOP PLATE, END PLATE AND GUSSETS ARE 12 GAUGE ASTM A36 GALVANIZED STEEL.

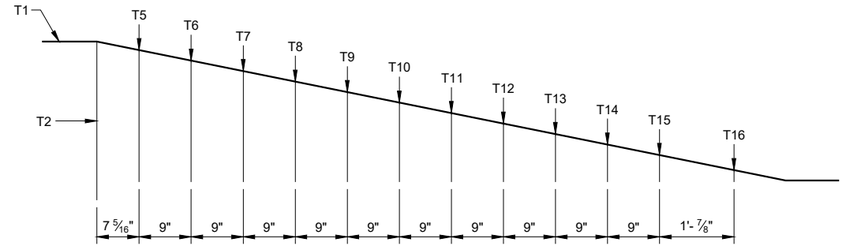
(700) SIDE PLATES (T3 AND T4) NOT SHOWN FOR CLARITY.



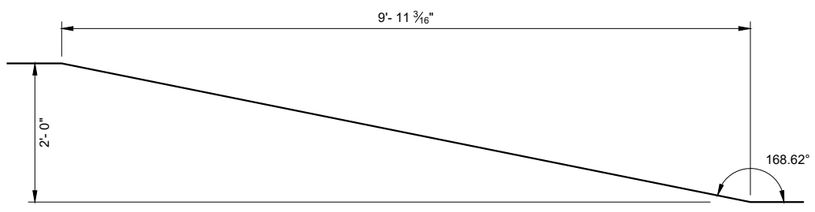
ISOMETRIC
56 INCH TOP CAP



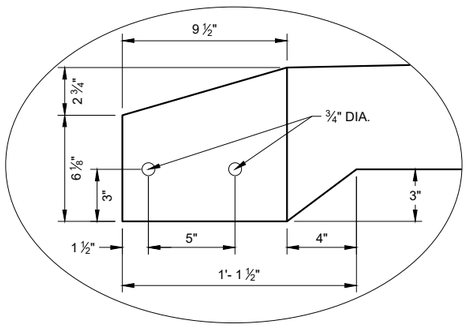
END VIEW
56 INCH TOP CAP



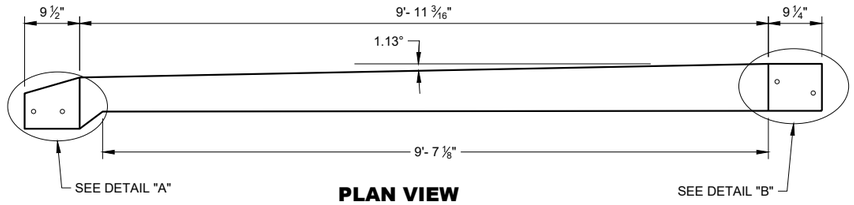
SIDE VIEW (700)
56 INCH TOP CAP



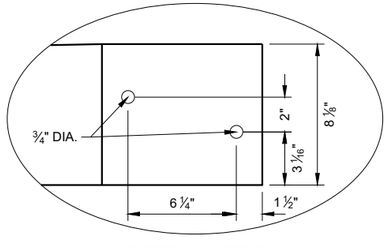
SIDE VIEW
TOP PLATE T1



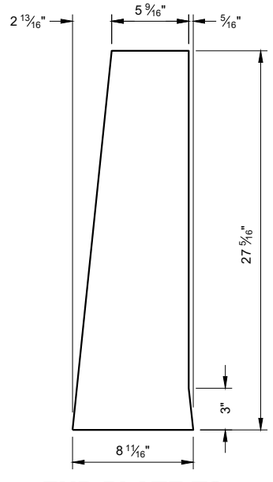
DETAIL "A"



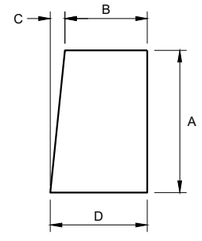
PLAN VIEW
TOP PLATE T1



DETAIL "B"



END PLATE T2



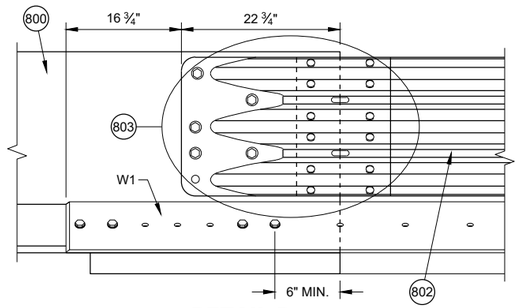
GUSSET PLATES
T5 - T16

GUSSET DIMENSIONS				
GUSSET NO.	A	B	C	D
T5	22 13/16"	5 1/16"	2 5/16"	8 1/16"
T6	21"	5 7/8"	2 3/16"	8 1/16"
T7	19 3/16"	6 1/16"	1 15/16"	8 1/16"
T8	17 3/8"	6 1/4"	1 13/16"	8 1/16"
T9	15 5/16"	6 7/16"	1 9/16"	8 1/16"
T10	13 3/4"	6 5/8"	1 7/16"	8 1/16"
T11	11 15/16"	6 13/16"	1 1/4"	8 1/16"
T12	10 1/8"	7"	1 1/16"	8 1/16"
T13	8 5/16"	7 3/16"	7/8"	8 1/16"
T14	6 1/2"	7 3/8"	1 1/16"	8 1/16"
T15	4 11/16"	7 9/16"	1/2"	8"
T16	2 7/8"	7 3/4"	1/4"	8"

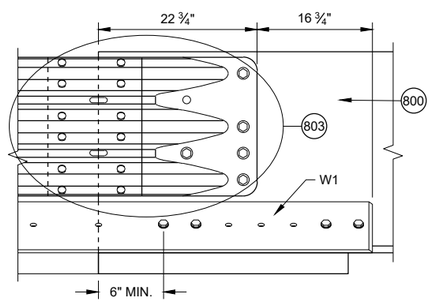
CONCRETE BARRIER TEMPORARY PRECAST, 12' - 6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

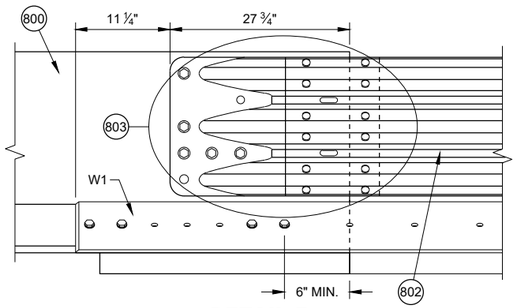
6
SDD 14B07-16g



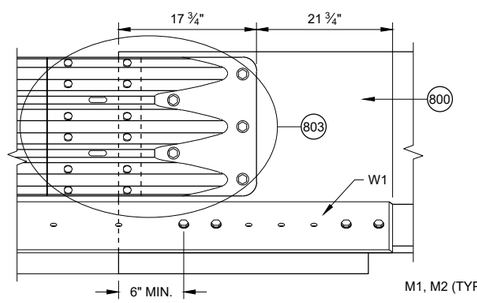
DETAIL D



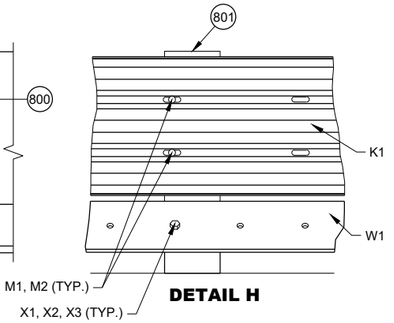
DETAIL E



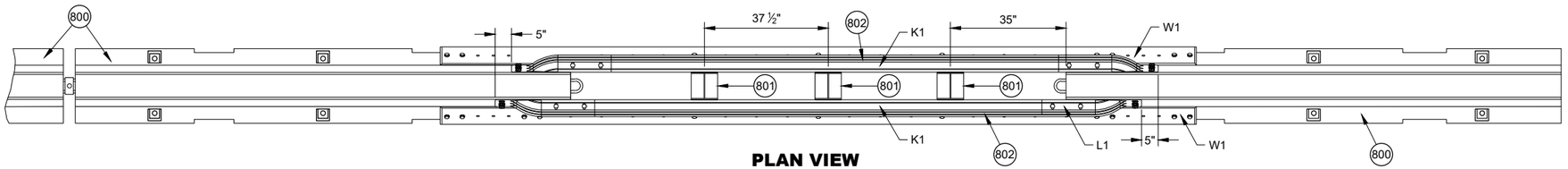
DETAIL F



DETAIL G



DETAIL H



PLAN VIEW

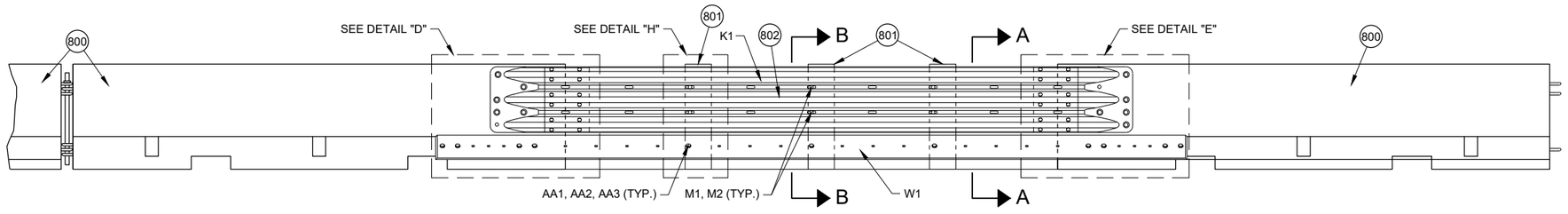
GENERAL NOTES

(800) FREE STANDING TEMPORARY BARRIER

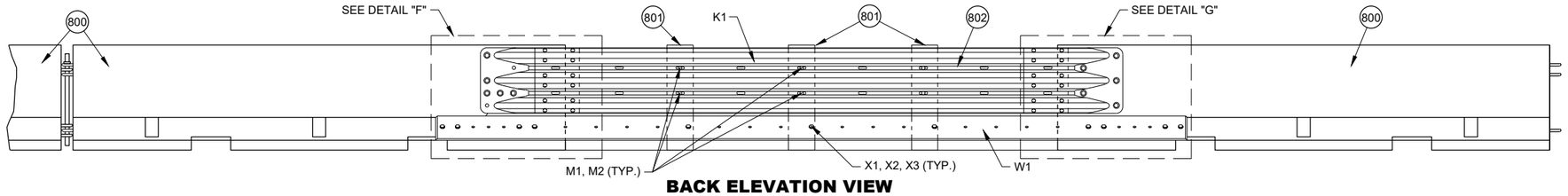
(801) GAP STIFFENER ASSEMBLY

(802) THRIE BEAMS ARE NESTED ON BOTH SIDES OF THE TEMPORARY BARRIER.

(803) SEE THRIE BEAM RAIL TERMINAL CONNECTOR DETAIL



FRONT ELEVATION VIEW



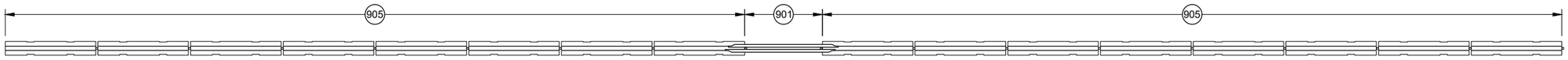
BACK ELEVATION VIEW

PORTABLE CONCRETE BARRIER GAP THRIE BEAM COVER

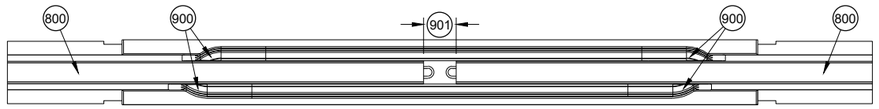
CONCRETE BARRIER TEMPORARY PRECAST, 12' - 6"

STATE OF WISCONSIN
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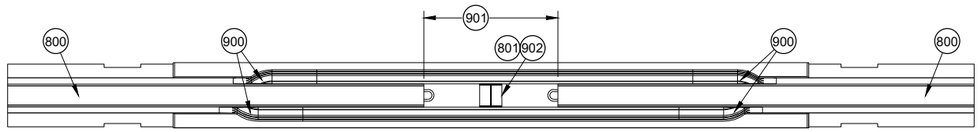
PLAN VIEW
GAP WITHIN SPACING



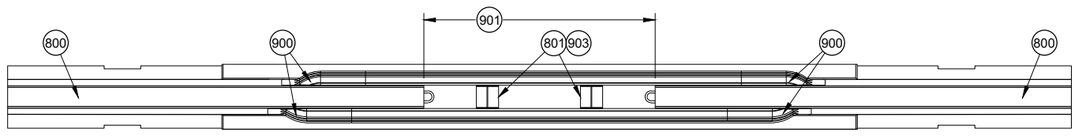
PLAN VIEW
TEMPORARY BARRIER GAP OVER 4" TO 1' MAX. (904)

GENERAL NOTES

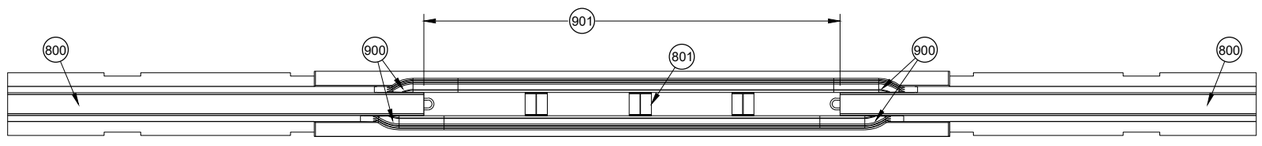
(900) SEE OTHER DETAILS FOR TEMPORARY GAP HARDWARE (TYP.)
(901) TEMPORARY BARRIER GAP
(902) GAP STIFFENER ASSEMBLY CENTERED IN THE GAP.
(903) GAP STIFFENER ASSEMBLY IS OFFSET 18 ¾" FROM CENTER
(904) MINIMUM NUMBER OF GAP STIFFENERS SHOWN FOR THE GAP RANGE SHOWN.
(905) MINIMUM OF 8 CONTINUOUS FREE STANDING TEMPORARY BARRIERS



PLAN VIEW
TEMPORARY BARRIER GAP OVER 1' TO 4' MAX. (904)



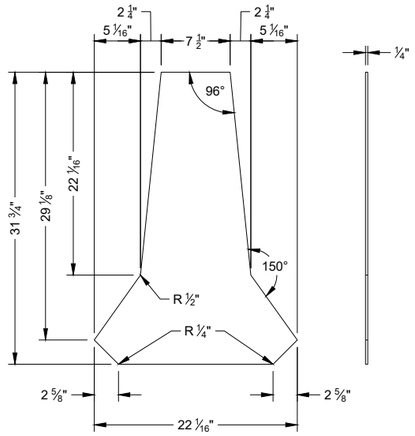
PLAN VIEW
TEMPORARY BARRIER GAP OVER 4' TO 7' MAX. (904)



PLAN VIEW
TEMPORARY BARRIER GAP OVER 7' TO 12.5' MAX. (904)

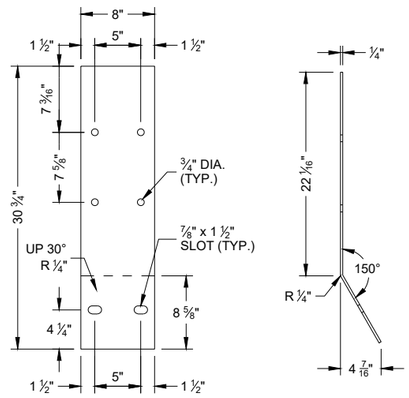
CONCRETE BARRIER TEMPORARY PRECAST, 12' - 6"

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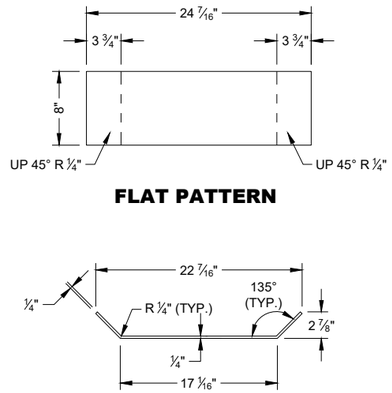
PROFILE VIEW SIDE VIEW

STIFFENER ASSEMBLY CENTER PANEL U1



FLAT PATTERN SIDE VIEW

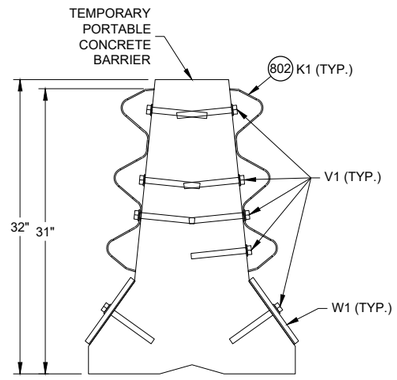
STIFFENER ASSEMBLY SIDE PANEL U2



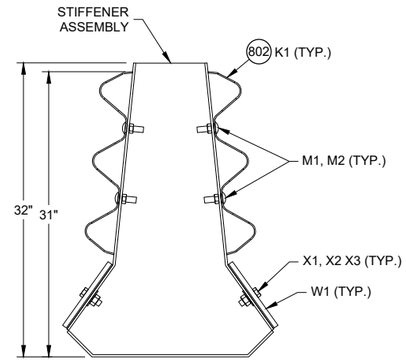
FLAT PATTERN

PROFILE VIEW

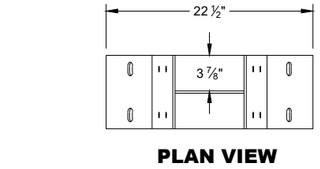
STIFFENER ASSEMBLY BOTTOM PANEL U3



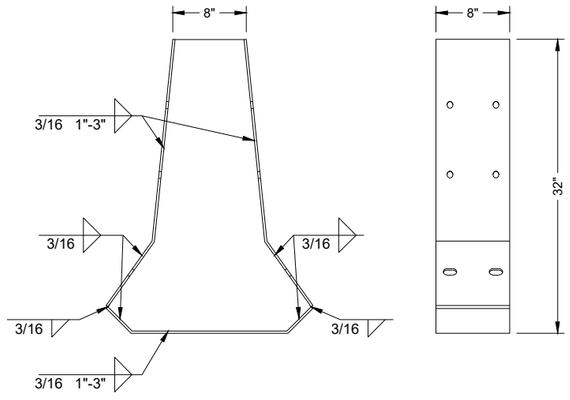
SECTION A - A



SECTION B - B

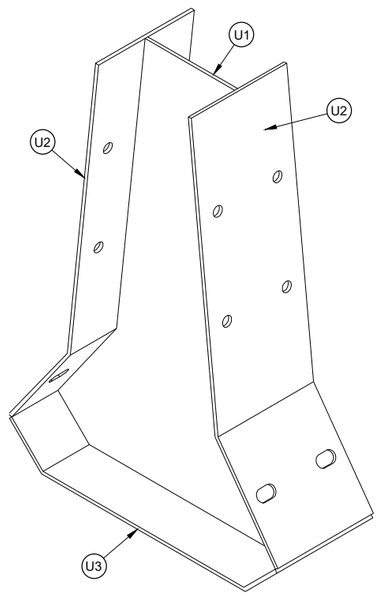


PLAN VIEW



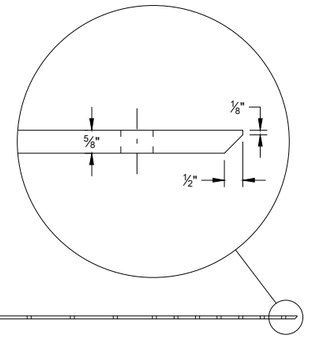
PROFILE VIEW

SIDE VIEW

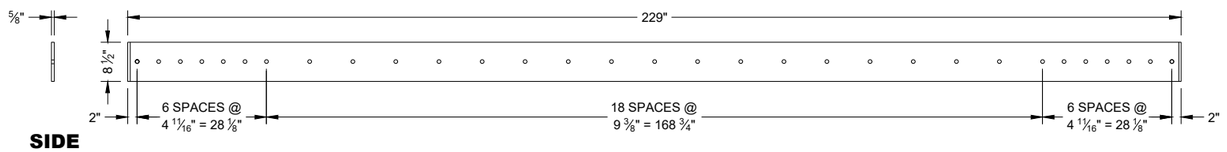


ISOMETRIC

GAP STIFFENER ASSEMBLY



PLAN VIEW



SIDE VIEW

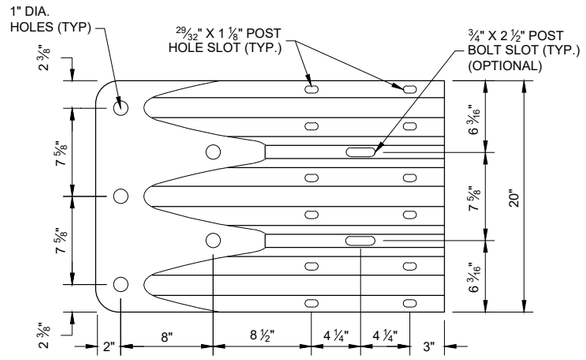
ELEVATION VIEW

W1 TOE PLATE

CONCRETE BARRIER TEMPORARY PRECAST, 12' - 6"

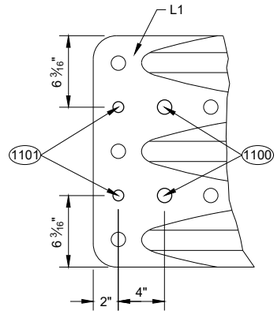
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ELEVATION VIEW

THRIE BEAM TERMINAL CONNECTOR



ELEVATION VIEW

ADDITIONAL THRIE BEAM (1102) TERMINAL CONNECTOR HOLE DETAIL

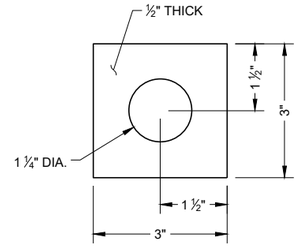


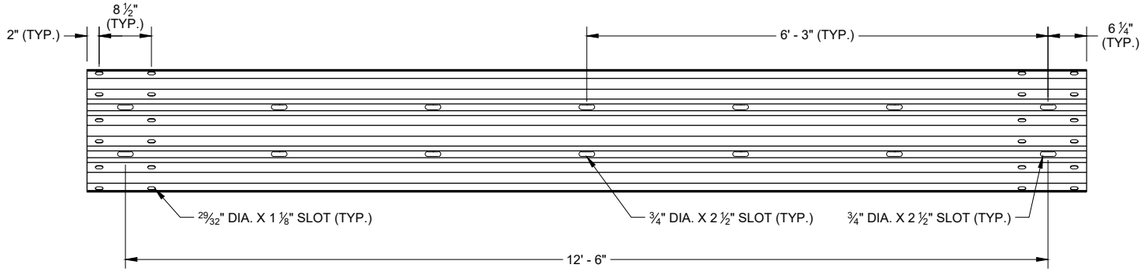
PLATE WASHER DETAIL G2, H3

GENERAL NOTES

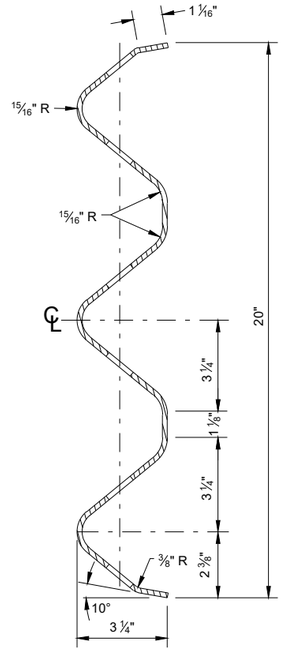
(1100) 1" DIA. HOLE

(1101) 3/4" DIA. HOLE

(1102) PROVIDE HOLES IN THRIE BEAM TERMINAL CONNECTOR TO LIMIT STEEL REINFORCEMENT OR LOOP BAR CONFLICT. CONTRACTOR MAY FIELD DRILL ADDITIONAL HOLE OR PROVIDE THRIE BEAM TERMINAL CONNECTOR WITH ADDITIONAL HOLES FROM SUPPLIER.



SLOTTED THRIE BEAM RAIL K1



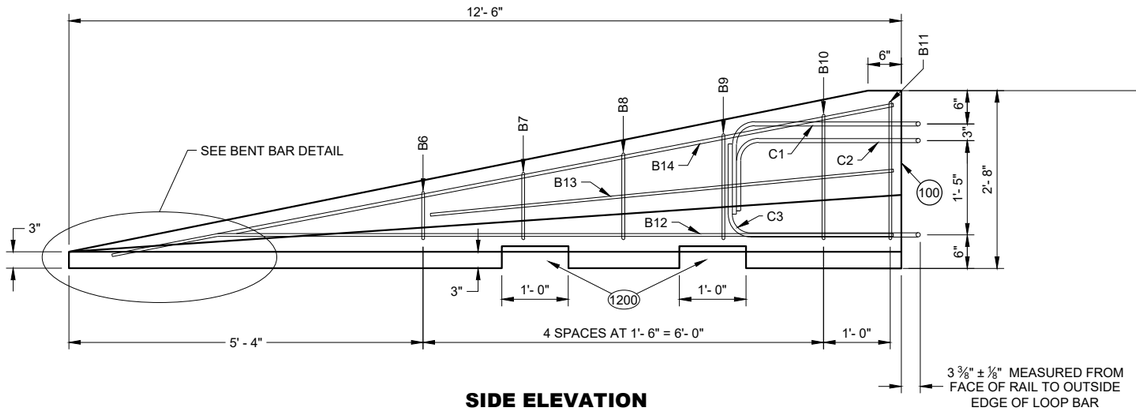
SECTION THROUGH BEAM K1

CONCRETE BARRIER TEMPORARY PRECAST, 12' - 6"

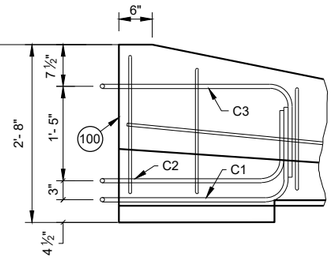
STATE OF WISCONSIN
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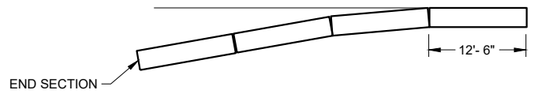
SIDE ELEVATION
(FOR CONNECTION TO LEFT END OF BARRIER)



SIDE ELEVATION
LOOP BAR ASSEMBLY INVERTED FOR OPPOSITE END
(FOR CONNECTION TO RIGHT END OF BARRIER)

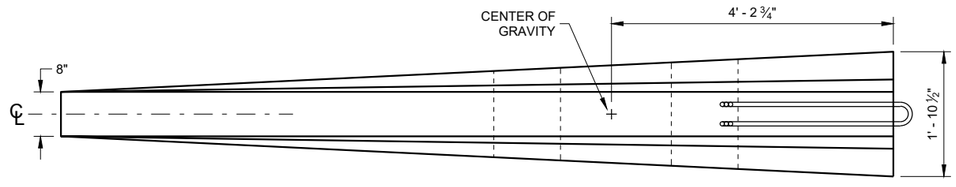
GENERAL NOTES

(1200) SEE LIFTING SLOT DETAIL. LOCATION OF LIFTING SLOTS DETERMINED BY CONTRACTOR.

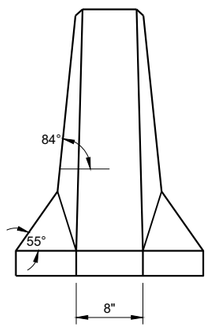


FLARE AT BARRIER END

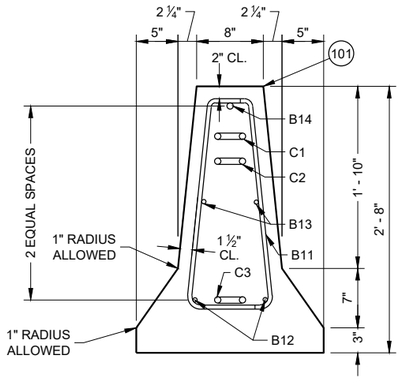
POSTED SPEED, (MPH)	FLARE RATE
40 OR LESS	6:1
45 OR GREATER	8:1



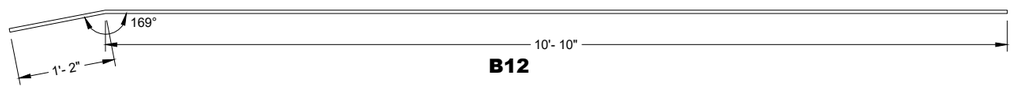
PLAN VIEW



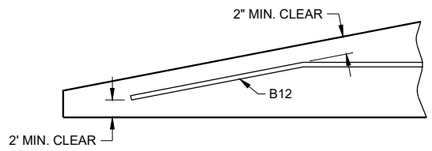
FRONT ELEVATION



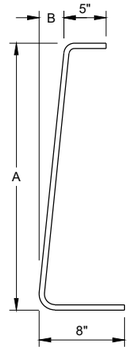
END SECTION



B12



BENT BAR DETAIL



BAR	A	B
B6	10"	1"
B7	1'- 1"	1 ¼"
B8	1'- 5"	1 ⅝"
B9	1'- 8"	1 ⅞"
B10	2'- 0 ½"	2 ⅜"
B11	2'- 3"	2 ¾"

B BARS
2 OF EACH SIZE REQUIRED FOR STIRRUP ASSEMBLY

DETAILS OF BARRIER TAPER SECTION

CONCRETE BARRIER TEMPORARY PRECAST, 12' - 6"

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BILL OF MATERIALS - CONCRETE BARRIER PRECAST

PART	DESCRIPTION	MATERIALS SPECIFICATIONS	NOTES
A1	PRECAST TEMPORARY BARRIER - CONCRETE	MIN. = f'c 5000 PSI	
B1	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#5 REBAR, LENGTH 12'-2"
B2	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#4 REBAR, LENGTH 12'-2"
B3	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#5 REBAR, LENGTH 12'-2"
B4	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#4 REBAR, LENGTH 6'-0"
B5	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#6 REBAR, LENGTH 2'-11"
B6	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#4 REBAR, LENGTH 1'-11"
B7	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#4 REBAR, LENGTH 2'-2"
B8	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#4 REBAR, LENGTH 2'-6"
B9	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#4 REBAR, LENGTH 2'-9"
B10	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#4 REBAR, LENGTH 3'-2"
B11	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#4 REBAR, LENGTH 3'-4"
B12	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#4 REBAR, LENGTH 12'-0"
B13	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#4 REBAR, LENGTH 7'-9"
B14	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#5 REBAR, LENGTH 11'-9"
C1	LOOP BAR	ASTM A709 GRADE 70 SMOOTH BAR OR ASTM A706 GRADE 60 REBAR UNCOATED	¾" DIA.
C2	LOOP BAR	ASTM A709 GRADE 70 SMOOTH BAR OR ASTM A706 GRADE 60 REBAR UNCOATED	¾" DIA.
C3	LOOP BAR	ASTM A709 GRADE 70 SMOOTH BAR OR ASTM A706 GRADE 60 REBAR UNCOATED	¾" DIA.
D1	CONNECTION PIN - ROD	ASTM A36 MIN. STRENGTH 36 KSI / ASTM A529 MAX. STRENGTH 50 KSI / ASTM A572 MAX STRENGTH 50 KSI / ASTM A709 MAX STRENGTH 50 KSI / ASTM A992 MAX STRENGTH 50 KSI	1 ¼" DIA.
D2	CONNECTION PIN - TOP PLATE	ASTM A36 MIN. STRENGTH 36 KSI / ASTM A529 MAX. STRENGTH 50 KSI / ASTM A572 MAX STRENGTH 50 KSI / ASTM A709 MAX STRENGTH 50 KSI / ASTM A992 MAX STRENGTH 50 KSI	
G1	BOLT THROUGH ANCHOR - THREADED ROD	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 TYPE 2 A307 GRADE A OR SAE J429 GRADE 2 UNC	1 ⅛" DIA.
G2	BOLT THROUGH ANCHOR - WASHER, SQUARE	ASTM A36 MIN. STRENGTH 36 KSI / ASTM A529 MAX. STRENGTH 50 KSI / ASTM A572 MAX STRENGTH 50 KSI / ASTM A709 MAX STRENGTH 50 KSI / ASTM A992 MAX STRENGTH 50 KSI	
G3	BOLT THROUGH ANCHOR - NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291 / ASTM A 563 HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5	
H1	ADHESIVE ANCHOR - ADHESIVE	ICC-ES-AC308 5 ¼" EMBEDMENT WITH A MIN. BOND STRENGTH OF 1,650 PSI. SEE 603.2 AND 603.3.1.2 OF THE WISCONSIN STANDARD SPECIFICATIONS FOR MORE INFORMATION ON ADHESIVE ANCHORS.	
H2	ADHESIVE ANCHOR - THREADED ROD	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 TYPE 2 A307 GRADE A / SAE J429 GRADE 2 UNC	1 ⅛" DIA.
H3	ADHESIVE ANCHOR - WASHER, SQUARE	ASTM A36 MIN. STRENGTH 36 KSI / ASTM A529 MAX. STRENGTH 50 KSI / ASTM A572 MAX STRENGTH 50 KSI / ASTM A709 MAX STRENGTH 50 KSI / ASTM A992 MAX STRENGTH 50 KSI	
H4	ADHESIVE ANCHOR - NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291 / ASTM A 563 HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5	
J1	ASPHALT ANCHOR PIN - ROD	ASTM A36 MIN. STRENGTH 36 KSI / ASTM A529 MAX. STRENGTH 50 KSI / ASTM A572 MAX STRENGTH 50 KSI / ASTM A709 MAX STRENGTH 50 KSI / ASTM A992 MAX STRENGTH 50 KSI	1 ½" DIA.
J2	ASPHALT ANCHOR PIN - STOP PLATE	ASTM A36 MIN. STRENGTH 36 KSI / ASTM A529 MAX. STRENGTH 50 KSI / ASTM A572 MAX STRENGTH 50 KSI / ASTM A709 MAX STRENGTH 50 KSI / ASTM A992 MAX STRENGTH 50 KSI	
K1	THRIE BEAM RAIL	AASHTO M180 CLASS A TYPE 2 APPROVED PRODUCER	12 GAUGE
L1	THRIE BEAM RAIL - TERMINAL	AASHTO M180 CLASS A TYPE 2 APPROVED PRODUCER	12 GAUGE

PART	DESCRIPTION	MATERIALS SPECIFICATIONS	NOTES
M1	SPLICE BOLT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 TYPE 2 UNC AASHTO M180 HEAD ASTM A307 GRADE B OR SAE J429 GRADE 2 OR ASTM F1554 GRADE 36	⅝" DIA.
M2	SPLICE BOLT - NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291 / ASTM A 563 AASHTO M180 RECESSED HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5	
N1	THRIE BEAM RAIL TERMINAL - MECHANICAL ANCHOR	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291 / ASTM A 563 AASHTO M180 RECESSED HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5	¾" DIA. LENGTH 6"
N2	THRIE BEAM RAIL TERMINAL - WASHER	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 TYPE 2 F436 TYPE 1	
N3	THRIE BEAM RAIL TERMINAL MECHANICAL OR ADHESIVE ANCHOR	MINIMUM MECHANICAL OR ADHESIVE ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 17.9 KIPS AND ULTIMATE SHEAR LOAD 21.96 KIPS. SEE 603.2 AND 603.3.1.2 OF THE WISCONSIN STANDARD SPECIFICATIONS FOR MORE INFORMATION ON ADHESIVE ANCHORS.	
P1	THRIE BEAM RAIL CONNECTION 1-BOLT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291 / ASTM A 563 AASHTO M180 RECESSED HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5	¾" DIA.
P2	THRIE BEAM RAIL CONNECTION 1-WASHER	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 TYPE 2 F436 TYPE 1	
P3	THRIE BEAM RAIL CONNETION 1- MECHANICAL OR ADHESIVE ANCHOR	MINIMUM MECHANICAL OR ADHESIVE ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 9.48 KIPS AND ULTIMATE SHEAR LOAD 10.48 KIPS. SEE 603.2 AND 603.3.1.2 OF THE WISCONSIN STANDARD SPECIFICATIONS FOR MORE INFORMATION ON ADHESIVE ANCHORS.	
Q1	BLOCK WOOD	SEE STANDARD SPEC. 614	
R1	CAP - BOLT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291 / ASTM A 563 AASHTO M180 RECESSED HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5	⅝" DIA.
R2	CAP- BOLT - WASHER	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 TYPE 2 F436 TYPE 1	
R3	CAP - BOLT - MECHANICAL ANCHOR	MINIMUM MECHANICAL OR ADHESIVE ANCHOR STRENGTH REQUIREMENTS ULTIMATE TENSILE LOAD 12.14 KIPS AND ULTIMATE SHEAR LOAD 17.5 KIPS.SEE 603.2 AND 603.3.1.2 OF THE WISCONSIN STANDARD SPECIFICATIONS FOR MORE INFORMATION ON ADHESIVE ANCHORS.	12 GAUGE
S1	CAP 42-INCH TOP PLATE	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
S2	CAP 42-INCH END PLATE	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
S3	CAP 42-INCH SIDE PLATE	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
S4	CAP 42-INCH GUSSET 1	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
S5	CAP 42-INCH GUSSET 2	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
S6	CAP 42-INCH GUSSET 3	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
S7	CAP 42-INCH GUSSET 4	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE

6

SDD 14B07-16m

CONCRETE BARRIER TEMPORARY PRECAST, 12' - 6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

SDD 14B07-16m

BILL OF MATERIALS - CONCRETE BARRIER PRECAST

PART	DESCRIPTION	MATERIALS SPECIFICATIONS	NOTES
T1	CAP 56-INCH TOP PLATE	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
T2	CAP 56-INCH END PLATE	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
T3	CAP 56-INCH SIDE PLATE 1	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
T4	CAP 56-INCH SIDE PLATE 2	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
T5	CAP 56-INCH GUSSET 1	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
T6	CAP 56-INCH GUSSET 2	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
T7	CAP 56-INCH GUSSET 3	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
T8	CAP 42-INCH GUSSET 4	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
T9	CAP 42-INCH GUSSET 5	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
T10	CAP 42-INCH GUSSET 6	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
T11	CAP 42-INCH GUSSET 7	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
T12	CAP 42-INCH GUSSET 8	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
T13	CAP 42-INCH GUSSET 9	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
T14	CAP 42-INCH GUSSET 10	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
T15	CAP 42-INCH GUSSET 11	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
T16	CAP 42-INCH GUSSET 12	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
U1	GAP STIFFENER	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	
U2	GAP STIFFENER - CONNECTOR PLATE 1	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	
U3	GAP STIFFENER - CONNECTOR PLATE 2	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	

PART	DESCRIPTION	MATERIALS SPECIFICATIONS	NOTES
V1	THRIE BEAM RAIL TERMINAL MECHANICAL OR ADHESIVE ANCHOR	MINIMUM MECHANICAL OR ADHESIVE ANCHOR STRENGTH REQUIREMENTS ULTIMATE TENSILE LOAD 24.0 KIPS AND ULTIMATE SHEAR LOAD 21.5 KIPS. SEE 603.2 AND 603.3.1.2 OF THE WISCONSIN STANDARD SPECIFICATIONS FOR MORE INFORMATION ON ADHESIVE ANCHORS.	¾" DIA.
V2	GAP STIFFENER - BOLT - NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C O R MECHANICAL GALVANIZE TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291/ASTM A 563 HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5	
W1	TOE PLATE	AASHTO M111/ASTM A123 ASTM A36 MIN STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	
X1	TOE PLATE - CONNECTION BOLT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 TYPE 2 UNC HEAVY HEX HEAD OR AASTHO M180 HEAD, ASTM F3125 GRADE A325 TYPE 1 HEAVY HEX HEAD OR SAE J429 GRADE 5 HEAVY HEX HEAD / ASTM A449 TYPE 1 HEAVY HEX HEAD. BOLTS MAY BE FULLY THREADED. PROVIDE ENOUGH THREADING FOR PROPER TIGHTENING OF BOLT.	¾" DIA.
X2	TOE PLATE - CONNECTION BOLT - WASHER	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 TYPE 2 F436 TYPE 1 (HARDEN WASHER ONLY)	
X3	TOE PLATE - CONNECTION BOLT - NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291 / ASTM A 563 HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5	

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SDD 14B07-16n

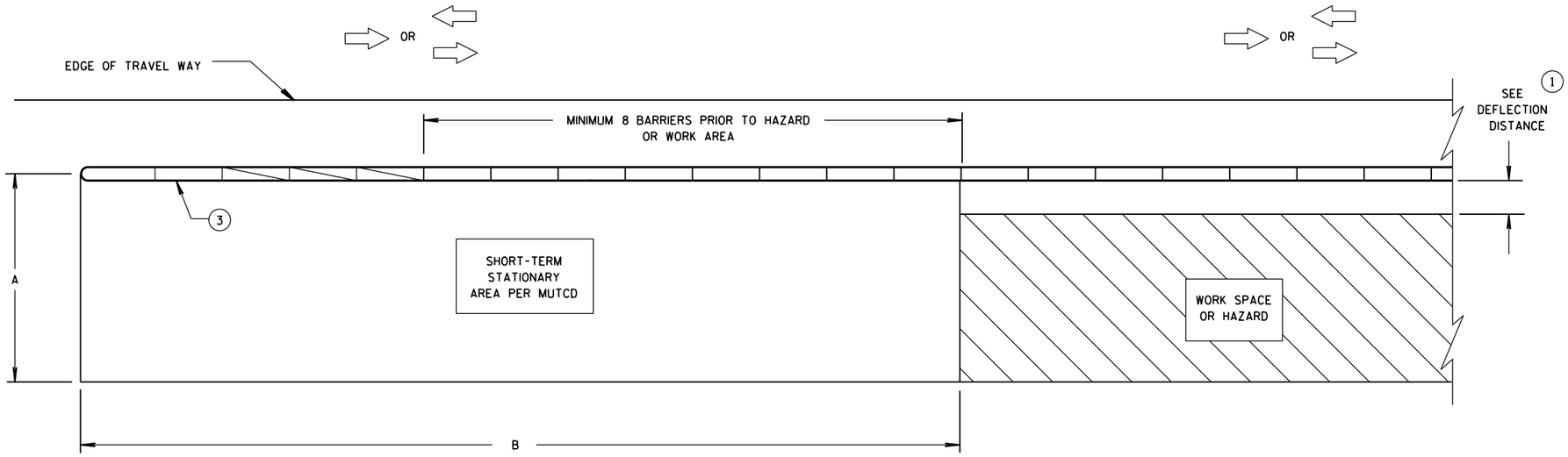
CONCRETE BARRIER TEMPORARY PRECAST, 12' - 6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2023 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVE ENGINEER
FHWA

6

SDD 14B07-16n



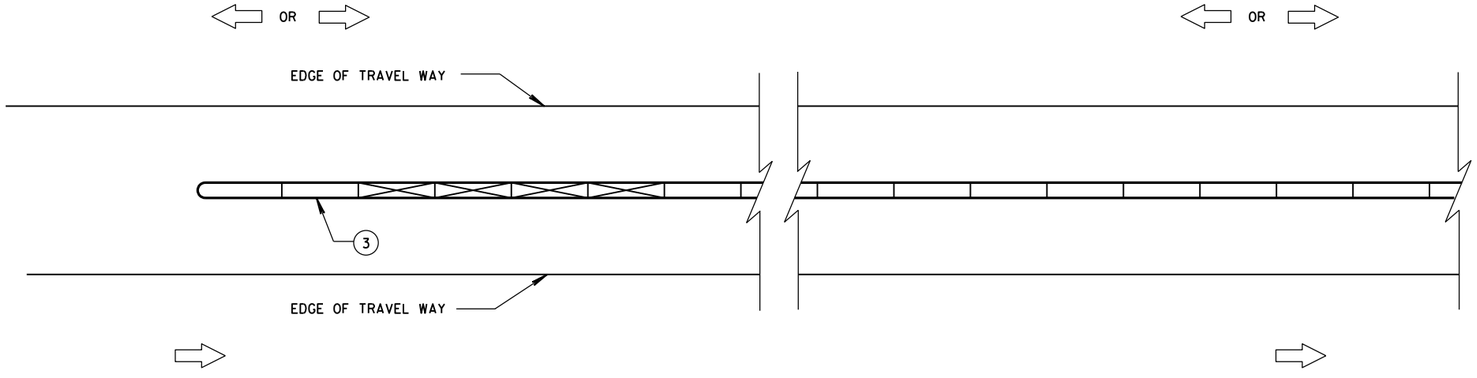
CRASH CUSHION/SAND BARREL ARRAY AND TEMPORARY BARRIER INSTALLATION FOR TRAFFIC ON ONE SIDE OF BARRIER

DIMENSION A TABLE (2)

FACILITY	POSTED SPEED MPH	DIMENSION A	
		MIN. FT	MAX. FT
FREEWAY/EXPRESSWAY	ALL	15	20
NON-FREEWAY/EXPRESSWAY	GREATER THAN OR EQUAL TO 45	10	15
NON-FREEWAY/EXPRESSWAY	LESS THAN 45	8	10
AADT LESS THAN 1,500	ALL	8	10

DIMENSION B TABLE (2)

POSTED SPEEDS MPH	DIMENSION B FT
20	115
25	155
30	200
35	250
40	305
45	360
50	425
55	495
60	570
65	645



CRASH CUSHION/SAND BARREL ARRAY AND TEMPORARY BARRIER INSTALLATION FOR TRAFFIC ON BOTH SIDES OF BARRIER

LEGEND

- DIRECTION OF TRAVEL
- CRASH CUSHION OR SAND BARREL ARRAY
- SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS
- SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS
- 3 PINS PLACED ON TRAFFIC SIDE OF BARRIER
- PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET
- FREE STANDING TEMPORARY BARRIER

GENERAL NOTES

SEE STANDARD DETAIL DRAWING 14B7 FOR MORE INFORMATION.

DETAILS PROVIDE A GENERAL LAYOUT OF TEMPORARY CONCRETE BARRIER, CRASH CUSHIONS, SAND BARREL ARRAYS AND TIE DOWN TRANSITIONS. DETAILS PROVIDED MAY NOT FIT ALL POSSIBLE SITUATIONS OR SITE CONDITIONS. SEE OTHER SECTIONS OF THE CONTRACT OR PROJECT ENGINEER FOR MORE DETAILS.

ADDITIONAL TEMPORARY BARRIER MAY BE REQUIRED TO PROTECT TRAVELING PUBLIC FROM HAZARDS, CONTRACTOR'S OPERATIONS OR TO CONTROL TRAFFIC.

TEMPORARY BARRIER MAY BE REQUIRED TO BE ANCHORED TO PAVEMENT OR BRIDGE DECK.

FOR DETAILS ON CRASH CUSHION OR SAND BARREL ARRAYS SEE OTHER SECTIONS OF THE PLAN AND MANUFACTURE'S DETAILS.

SLOPES LEADING TO TEMPORARY BARRIER, CRASH CUSHION OR SAND BARREL ARRAY ARE 10:1 OR LESS.

(1) FOR DEFLECTION INFORMATION SEE STANDARD DETAIL DRAWING 14B7.

(2) VALUES PROVIDED MAY NOT FIT ALL POSSIBLE SITUATIONS OR SITE CONDITIONS. SEE OTHER SECTIONS OF THE CONTRACT OR PROJECT ENGINEER FOR MORE DETAILS.

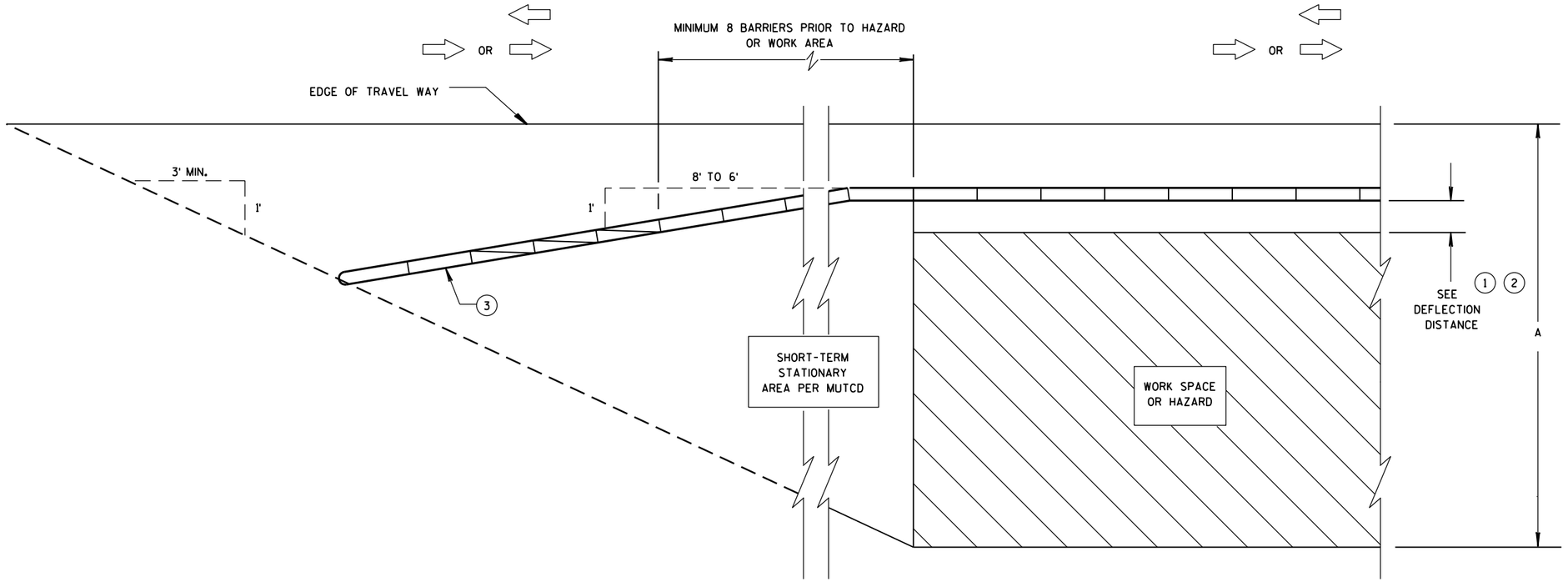
(3) ANCHOR TEMPORARY BARRIER ACCORDING TO CRASH CUSHION OR SAND BARREL MANUFACTURER'S RECOMMENDATIONS. IF MANUFACTURER'S RECOMMENDATIONS ARE NOT PROVIDED, ANCHOR 3 PINS ON TRAFFIC SIDE.

CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS

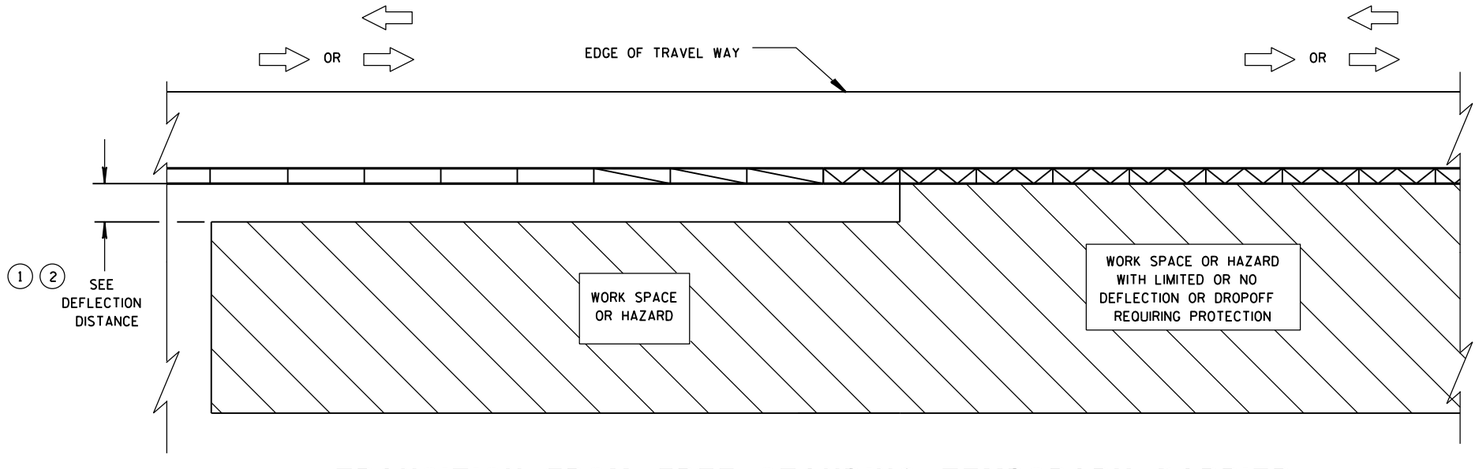
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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S.D.D. 14 B 8-2a
S.D.D. 14 B 8-2a



CRASH CUSHION/SAND BARREL ARRAY AND TEMPORARY BARRIER INSTALLATION FOR TRAFFIC ON ONE SIDE - FLARED INSTALLATION



TRANSITION FROM FREE STANDING TEMPORARY BARRIER TO ANCHORED BARRIER

LEGEND

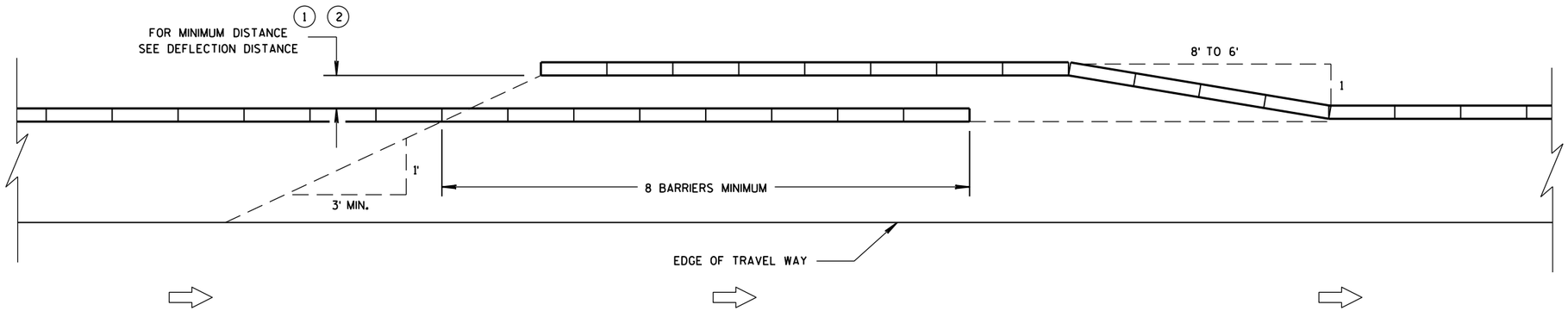
- DIRECTION OF TRAVEL
- CRASH CUSHION OR SAND BARREL ARRAY
- SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS
- SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS
- 3 PINS PLACED ON TRAFFIC SIDE OF BARRIER
- PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET
- FREE STANDING TEMPORARY BARRIER

CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS

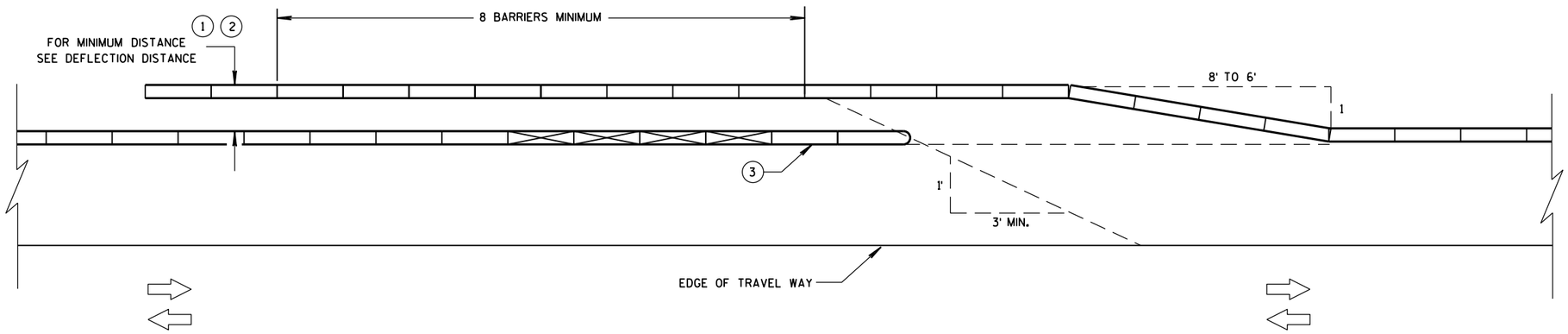
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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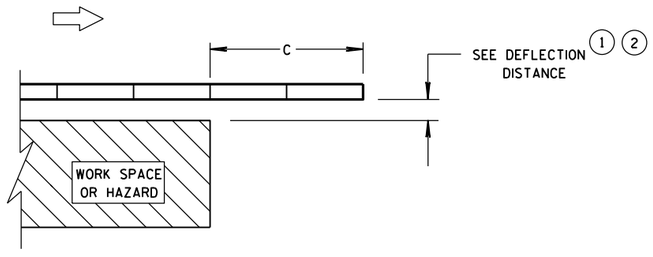
S.D.D. 14 B 8-2b



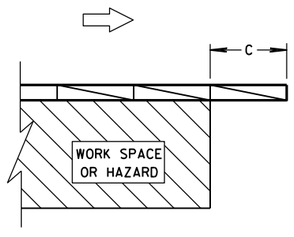
TEMPORARY BARRIER OVERLAP - ONE-WAY TRAFFIC



TEMPORARY BARRIER OVERLAP - TWO-WAY TRAFFIC



ENDING TEMPORARY BARRIER DOWNSTREAM - UNANCHORED



ENDING TEMPORARY BARRIER DOWNSTREAM - ANCHORED

LEGEND

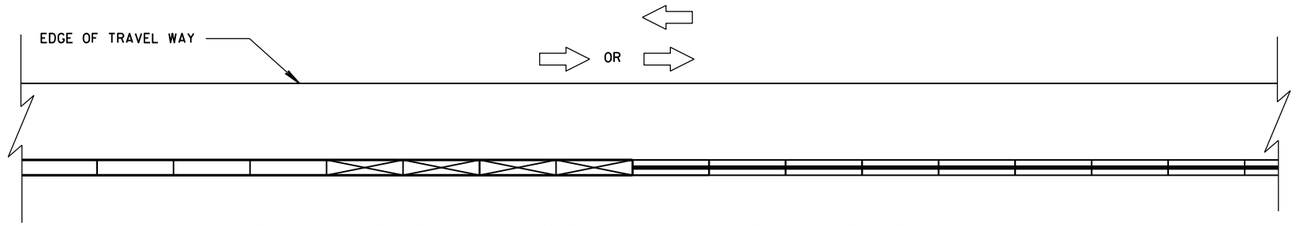
- DIRECTION OF TRAVEL
- CRASH CUSHION OR SAND BARREL ARRAY
- SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS
- SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS
- 3 PINS PLACED ON TRAFFIC SIDE OF BARRIER
- PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET
- FREE STANDING TEMPORARY BARRIER

CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS

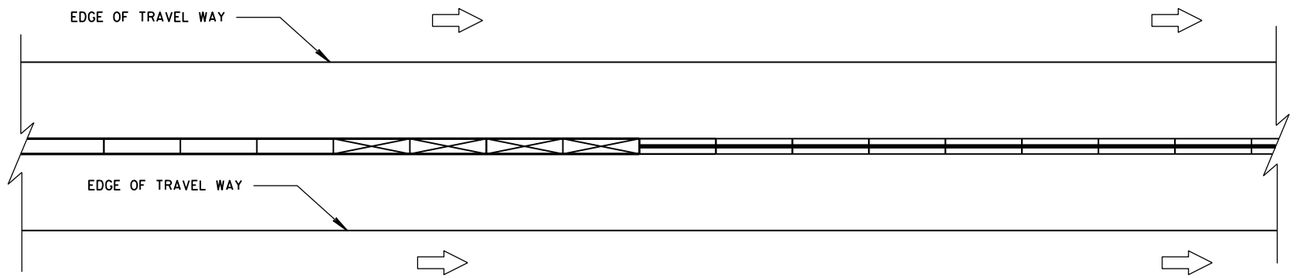
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

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S.D.D. 14 B 8-2c



CONNECTING TEMPORARY BARRIER TO PERMANENT
CONCRETE BARRIER-TRAFFIC ON ONE SIDE



CONNECTING TEMPORARY BARRIER TO PERMANENT
CONCRETE BARRIER-TRAFFIC ON BOTH SIDES

LEGEND

DIRECTION OF TRAVEL

CRASH CUSHION OR
SAND BARREL ARRAY

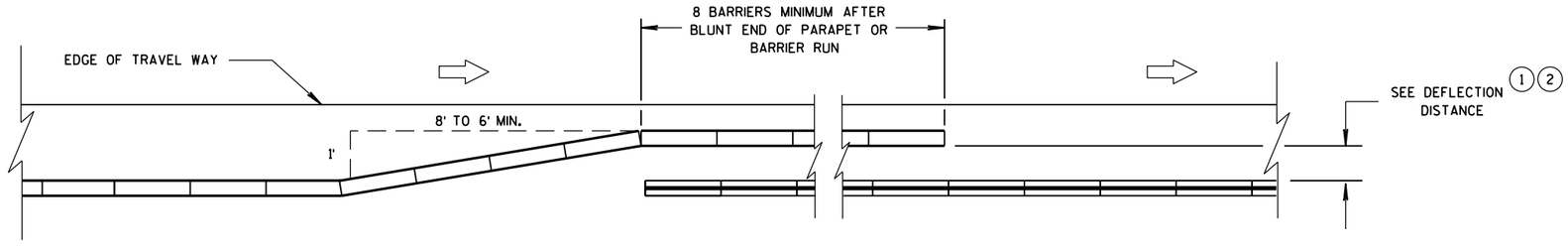
SEE FREE STANDING TRANSITION
TO TIED-DOWN SYSTEM DETAILS

SEE BI-DIRECTIONAL TRANSITION
TO TIED-DOWN SYSTEM DETAILS

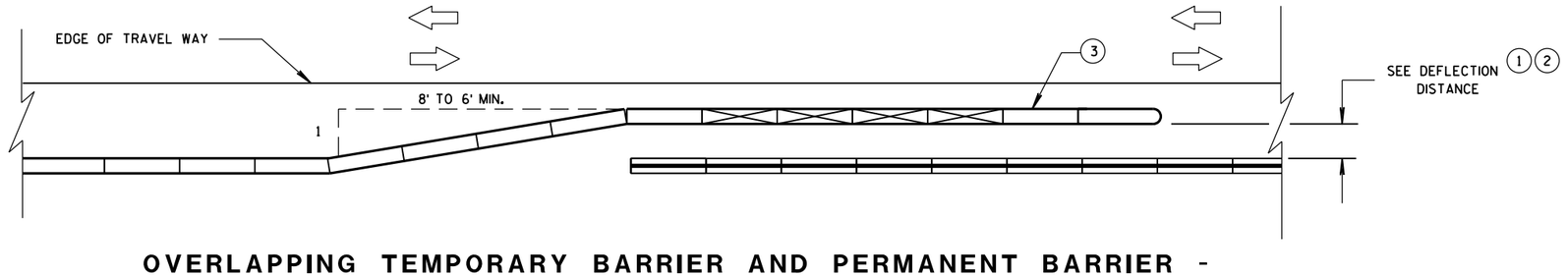
3 PINS PLACED ON
TRAFFIC SIDE OF BARRIER

PERMANENT CONCRETE BARRIER
OR CONCRETE PARAPET

FREE STANDING TEMPORARY
BARRIER



OVERLAPPING TEMPORARY BARRIER AND PERMANENT BARRIER -
ONE WAY TRAFFIC



OVERLAPPING TEMPORARY BARRIER AND PERMANENT BARRIER -
TWO WAY TRAFFIC

CRASH CUSHION/SAND BARREL
ARRAY AND OTHER TEMPORARY
BARRIER LAYOUT DETAILS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

S.D.D. 14 B 8-2d

LEGEND

DIRECTION OF TRAVEL

CRASH CUSHION OR SAND BARREL ARRAY

SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS

SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS

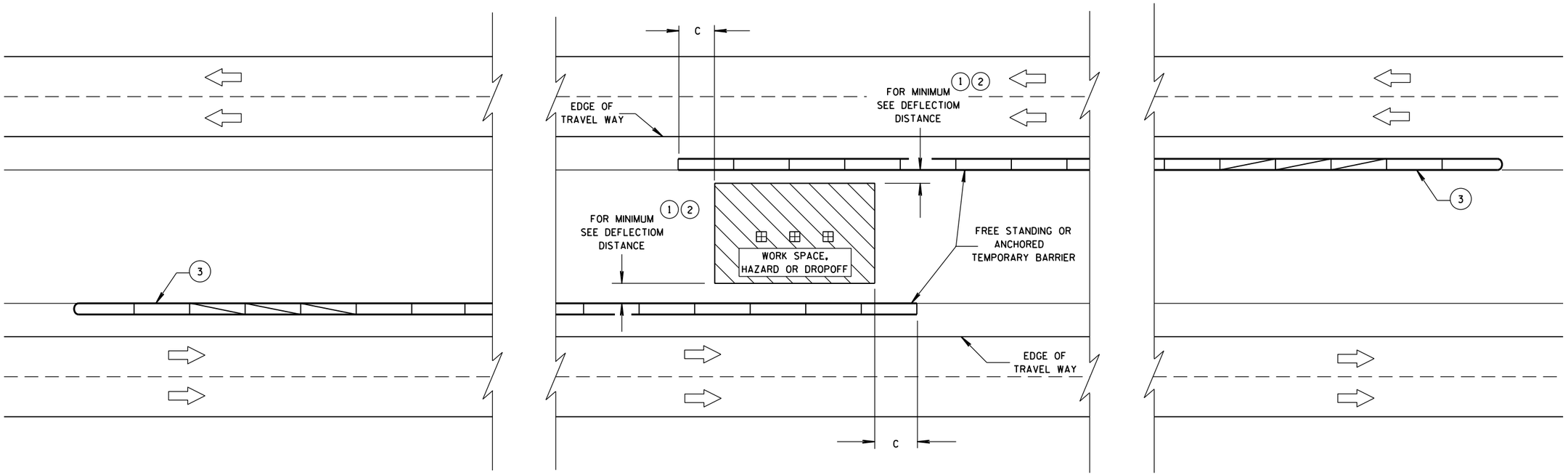
3 PINS PLACED ON TRAFFIC SIDE OF BARRIER

PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET

FREE STANDING TEMPORARY BARRIER

DIMENSION C TABLE (2)

AVAILABLE DEFLECTION DISTANCE	MINIMUM LENGTH OF BARRIER BEYOND HAZARD FT
GREATER THAN 8'	12.5
LESS THAN OR EQUAL TO 8' BUT GREATER THAN 4'	50
LESS THAN OR EQUAL TO 4'	100



CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2015
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINNER
FHWA

6

S.D.D. 14 B 8-2e

SDD 14B15a Steel Plate Beam Guard, Class "A", Installation and Elements

GENERAL NOTES

1. WOOD OR STEEL POSTS (w6X9 OR w6X8.5) AND NOTCHED PLASTIC BLOCKOUTS ARE ACCEPTABLE ALTERNATIVES FOR 6"X8" WOOD POSTS WITH WOOD OR PLASTIC BLOCKOUTS. USE APPROVED NOTCHED PLASTIC BLOCKOUTS WITH STEEL POSTS. APPROVED PLASTIC BLOCKOUT DESIGNS MAY VARY FROM THIS TYPICAL DETAIL WHEN USED IN CONJUNCTION WITH STEEL POSTS. DO NOT MIX STEEL AND WOOD POSTS IN A SINGLE INSTALLATION.

2. USE STRUCTURAL STEEL POSTS CONFORMING TO ASTM A 36. GALVANIZED POSTS ACCORDING TO AASHTO M 111. EITHER SET THE POSTS IN DRILLED HOLES OR DRIVE TO GRADE. REMOVE MUSHROOMING CAUSED BY DRIVING AND REPAIR DAMAGE SPELTER COATING ON GALVANIZED POSTS.

3. INSTALL STEEL POSTS WITH HOLES ON APPROACHING TRAFFIC SIDE.

4. USE EITHER WOOD OR APPROVED PLASTIC BLOCKOUTS ON WOOD POSTS.

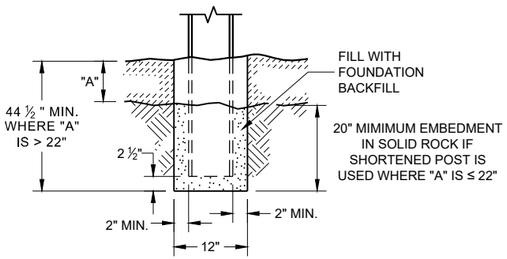
5. IF THE DISTACE FROM BACK OF POST TO SHOULDER HIGHE POINT IS LESS THAN 2 FEET, INSTALL LONGER POST AT HALF POST SPACING, W BEAM (LHW).

6. IF ROCK IS ENCOUNTERED DURING EXCAVATION, THE ENGINEER MAY APPROVE USING A 12 INCHES IN DIAMETER POST HOLE 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 ADEQUATELY.

7. 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.

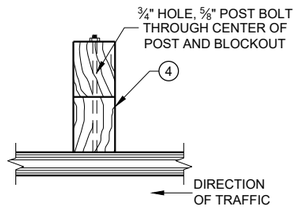
INSTALL BEAM GUARD SECTIONS AND ALL NECESSARY HARDWARE ACCORDING TO THE APPLICABLE PLAN AND CURRENT STANDARD AND SUPPLEMENTAL SPECIFICATIONS.

ALL DIMENSIONS ARE SUBJECT TO MANUFACTURER'S TOLERANCES EXCEPT WHERE ALLOWABLE TOLERANCES ARE SHOWN.



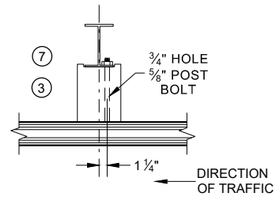
END VIEW

SETTING STEEL OR WOOD POST IN ROCK (6)



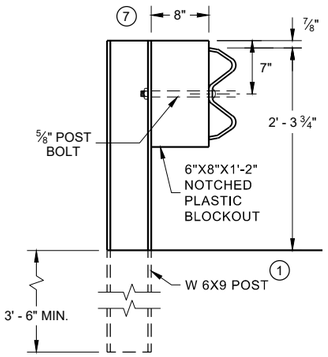
PLAN VIEW

WOOD POST, BLOCKOUT AND BEAM



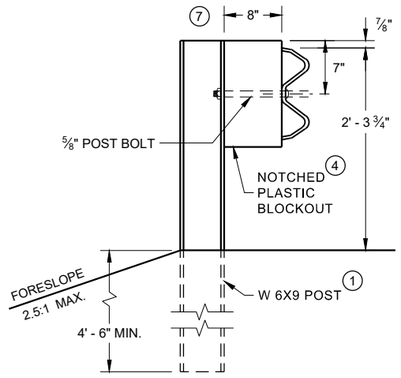
PLAN VIEW

WOOD POST, BLOCKOUT AND BEAM



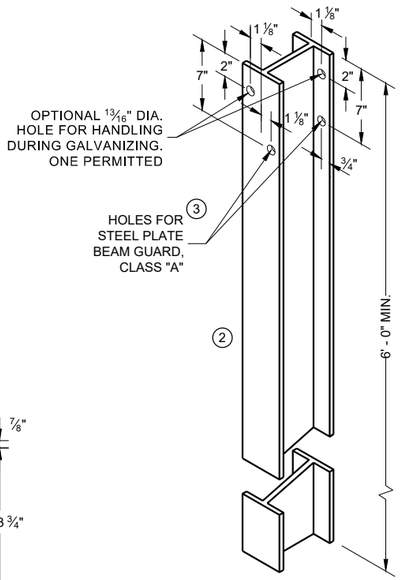
END VIEW

STEEL POST AND NOTCHED PLASTIC BLOCKOUT ALTERNATIVE STANDARD INSTALLATION



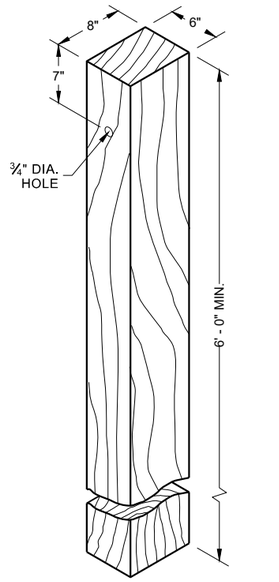
END VIEW

LONGER POST AT HALF POST SPACING W BEAM (LHW)

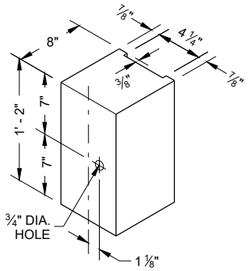


STEEL POST & HOLE PUNCHING DETAIL (W 6 X 9) (1)

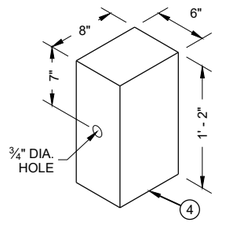
ALL HOLES 13/16" DIAMETER EXCEPT AS NOTED



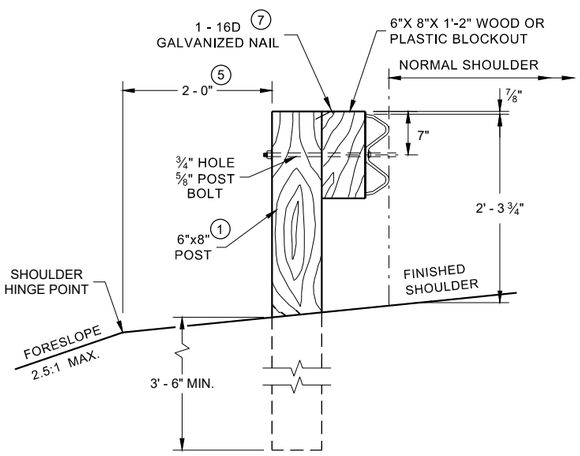
WOOD POST (6" X 8") NOMINAL (1)



TYPICAL NOTCHED PLASTIC BLOCKOUT FOR STEEL POSTS

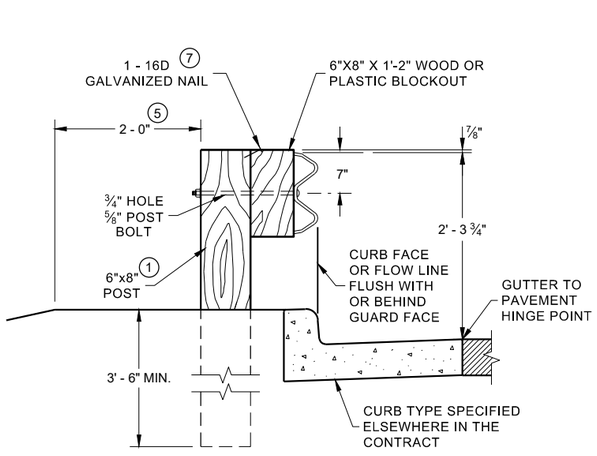


WOOD OR PLASTIC BLOCKOUT FOR WOOD POSTS



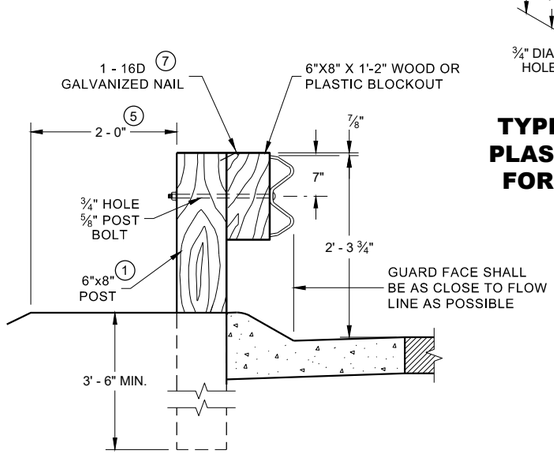
END VIEW

LOCATED ALONG A ROADWAY SHOULDER STANDARD INSTALLATION



END VIEW

LOCATED ALONG A CURBED ROADWAY



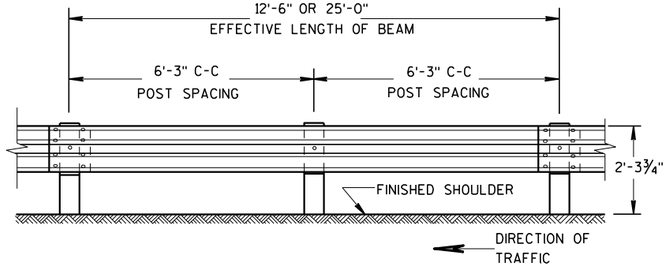
END VIEW

LOCATED ALONG A MOUNTABLE CURBED ROADWAY

STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATION AND ELEMENTS

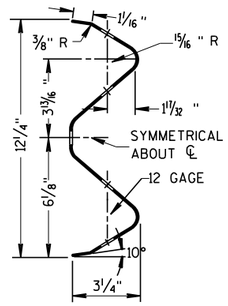
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6
SDD 14B15 -11a

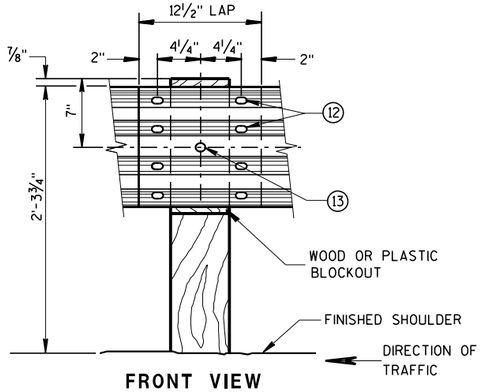


FRONT VIEW

POST SPACING STANDARD INSTALLATION



SECTION THRU W BEAM



FRONT VIEW

BEAM SPLICE AT WOOD POST AND POST MOUNTING DETAIL

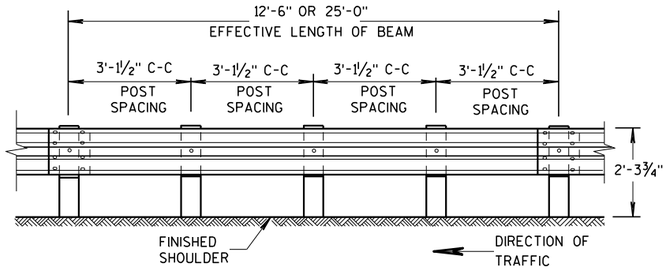
GENERAL NOTES

FURNISH GUARDRAIL DEFLECTORS FROM APPROVED PRODUCTS LIST.

(9) DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINA. START REFLECTORS AT POST #9 AND SPACE EVENLY EVERY 100 FEET (MAX.) TO THE END OF GUARDRAIL RUN, USING A MINIMUM OF 3 REFLECTORS.

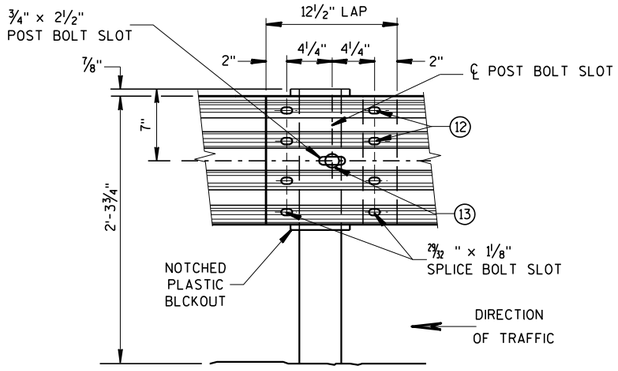
(12) 8 -5/8" ϕ X 2" BUTTON HEAD BOLTS WITH OVAL SHOULDERS & RECESS NUTS.

(13) 5/8" DIA. BUTTON HEAD BOLT AND RECESS NUT WITH 5/8" DIA. F844 FLAT WASHER UNDER NUT.



FRONT VIEW

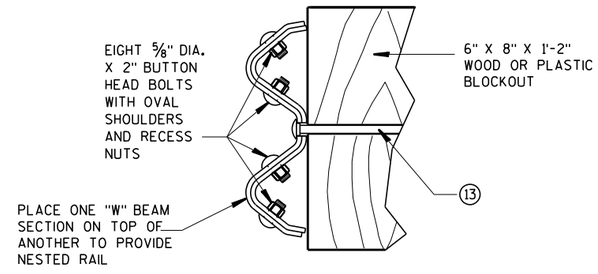
POST SPACING FOR LONGER POST AT HALF POST SPACING W BEAM (LHW)



FRONT VIEW

BEAM SPLICE AT STEEL POST

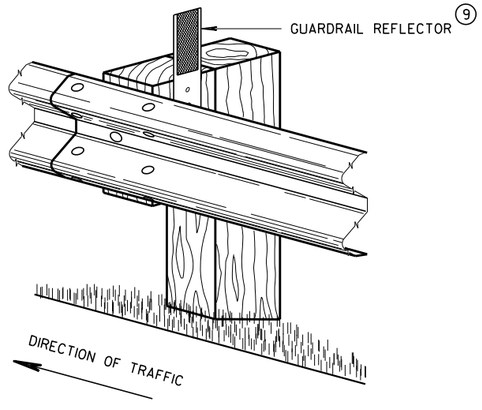
TYPICAL SPLICING DETAILS OF STEEL PLATE BEAM GUARD



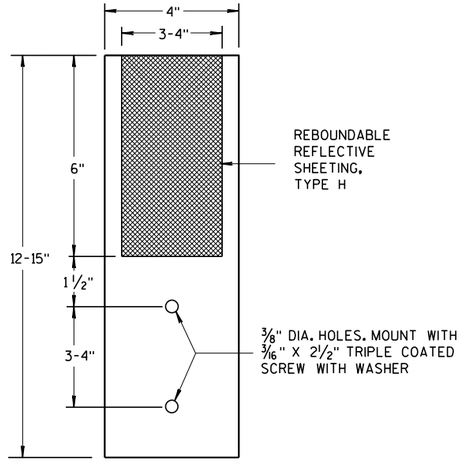
NESTED W BEAM (NW)

USE ALL OTHER STANDARD BEAM GUARD DETAILS FOR CONSTRUCTING NESTED W BEAM (NW)

* USE DOUBLE SIDED WHITE GUADRAIL REFLECTORS ON ROADWAYS WITH BI-DIRECTIONAL TRAFFIC (NO MEDIAN). USE SINGLE SIDED WHITE (RIGHT SIDE) AND SINGLE SIDED YELLOW (LEFT SIDE) ON ROADWAYS WITH MEDIAN SEPARATION.



4" X 12" GUARDRAIL REFLECTOR DETAIL AND TYPICAL INSTALLATION *



4"x 12" GUARDRAIL REFLECTOR

STEEL PLATE BEAM GUARD, CLASS "A", INSTALLATION & ELEMENTS

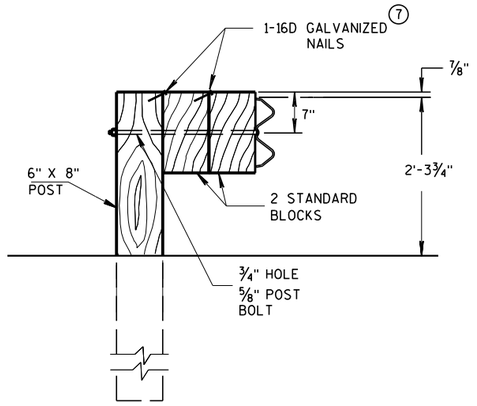
STATE OF WISCO 140
DEPARTMENT OF TRANSPORTATION

6

S.D.D. 14 B 15-11b

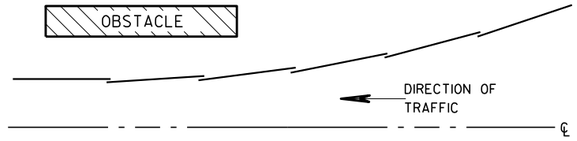
6

S.D.D. 14 B 15-11b

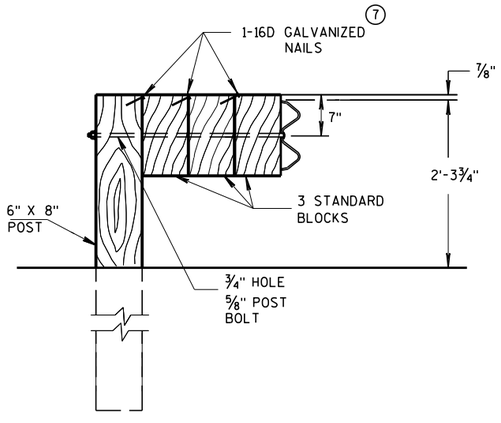


DETAIL FOR DOUBLE BLOCKS

THE NUMBER OF DOUBLE BLOCK POSTS WITHIN A BARRIER RUN IS UNLIMITED

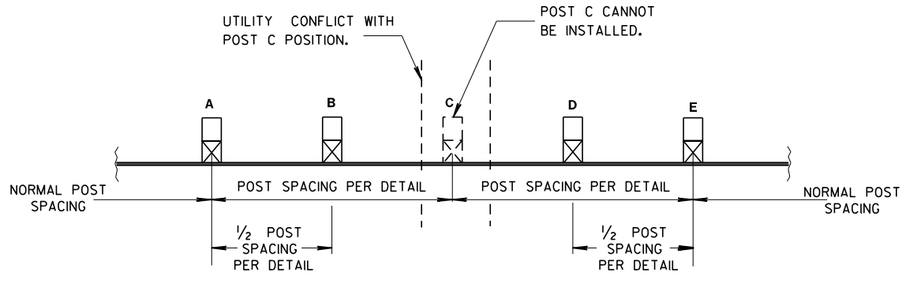


PLAN VIEW
BEAM LAPPING DETAIL



DETAIL FOR TRIPLE BLOCKS

TRIPLE BLOCK DETAIL IS LIMITED TO ONE LOCATION WITHIN A BEAM GUARD RUN.



POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION

NOTES: USE DOUBLE OR TRIPLE BLOCKS WHEN UNDERGROUND OBSTACLES PREVENT THE POST FROM BEING INSTALLED.

DO NOT USE EXTRA 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.

STEEL PLATE BEAM GUARD, CLASS "A", INSTALLATION & ELEMENTS

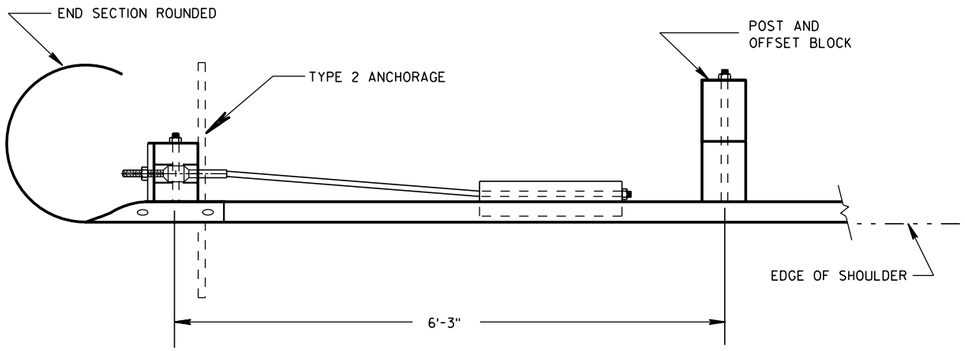
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2017
DATE

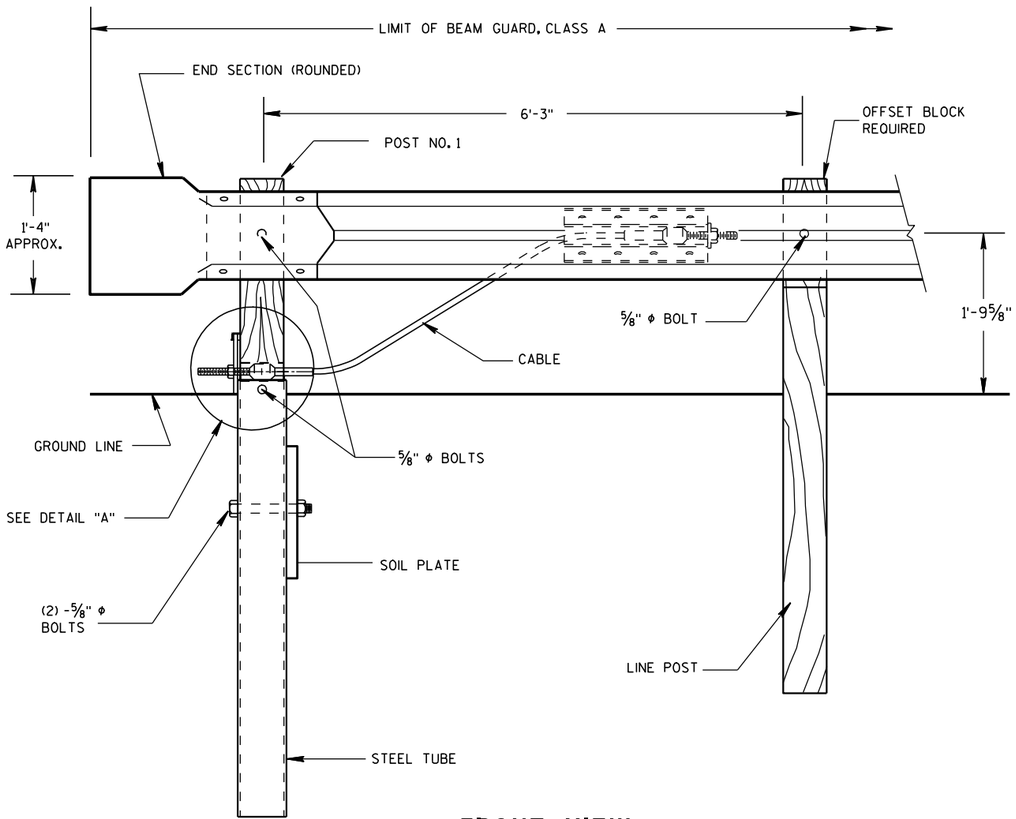
/S/ Rodney Taylor
ROADWAY STANDARDS UNIT SUPERVISOR

FHWA

6
S.D.D. 14 B 15-11c



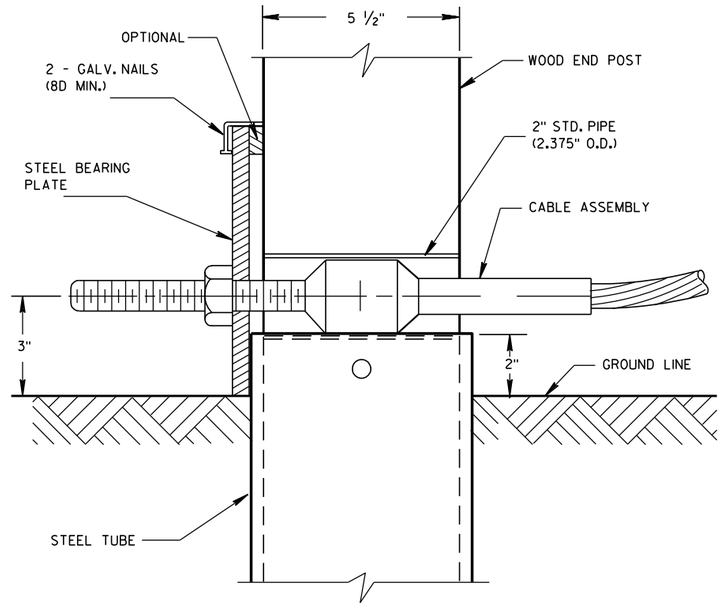
PLAN VIEW



FRONT VIEW

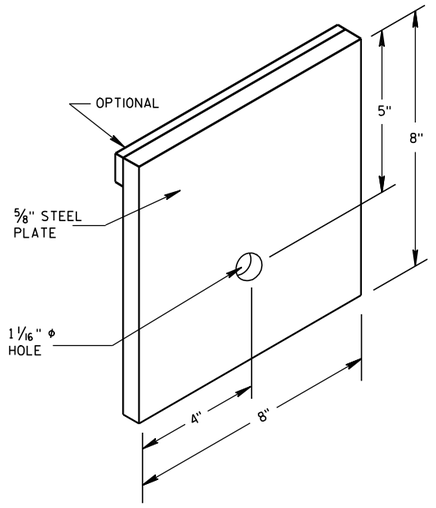
END TREATMENT WITH TYPE 2 ANCHORAGE

(USE ON ONE-WAY ROADWAYS ONLY - DEPARTING END)



DETAIL "A"

POST NO. 1



STEEL BEARING PLATE

ANCHORAGE FOR STEEL
PLATE BEAM GUARD
TYPE 2

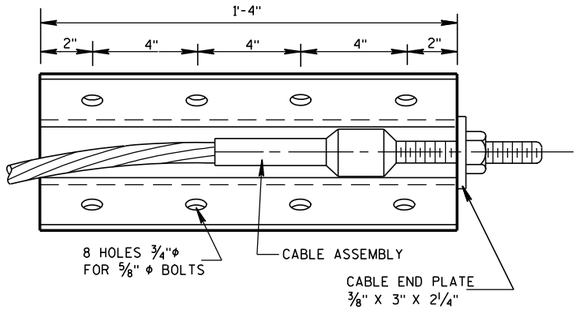
STATE OF WISCONSIN
DEPARTMENT OF TRANSPO.....T

6

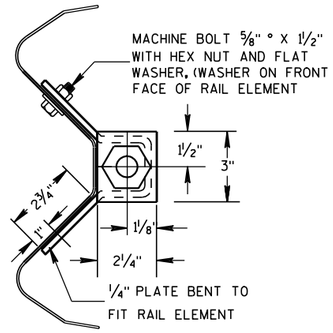
S.D.D. 14 B 16-4a

6

S.D.D. 14 B 16-4a

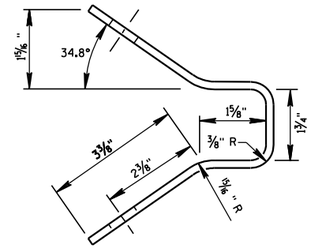


FRONT VIEW

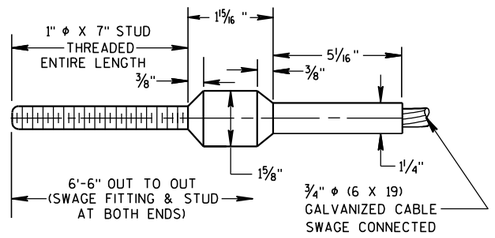


END VIEW

ANCHOR PLATE DETAIL



END VIEW OF BRACKET



CABLE ASSEMBLY

CABLE, SWAGE FITTING, STUD AND NUT SHALL DEVELOP
A MINIMUM BREAKING STRENGTH OF 40,000 LB
(TIGHTEN UNTIL TAUT)

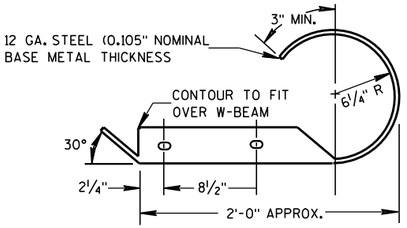
GENERAL NOTES

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

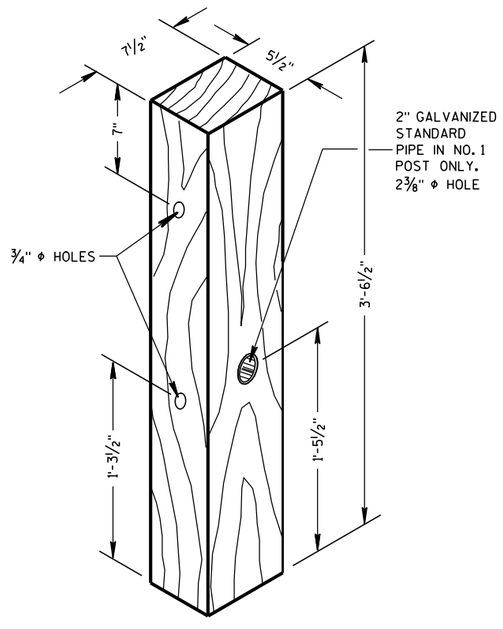
STRUCTURAL TUBING SHALL CONFORM TO THE REQUIREMENTS OF ASTM A-500 GRADE B OR ASTM A-501.

POST NO. 1 SHALL BE WOOD BREAKAWAY POST INSERTED AND BOLTED INTO STEEL TUBE.

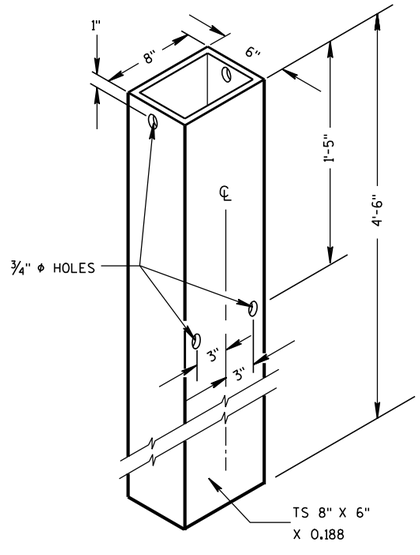
TYPE 2 ANCHORAGE SHALL CONSIST OF A STEEL TUBE, SOIL PLATE WOOD BREAKAWAY POST, BEARING PLATE, ANCHOR PLATE, CABLE ASSEMBLY AND ALL ASSOCIATED HARDWARE, ALL STEEL PARTS SHALL BE GALVANIZED.



PLAN VIEW

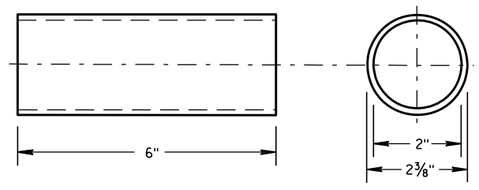


WOOD BREAKAWAY POST



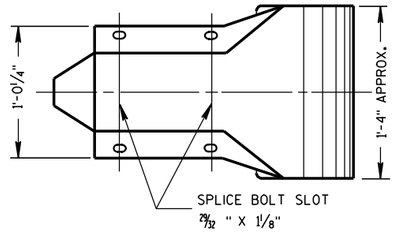
STEEL TUBE

STEEL TUBE SHALL CONFORM TO
REQUIREMENTS OF ASTM A500

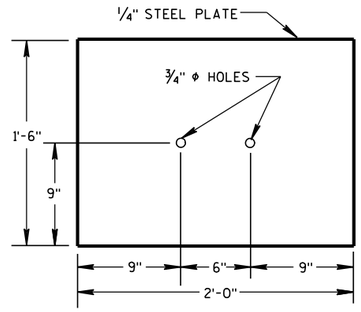


BREAKAWAY TERMINAL POST SLEEVE

GALVANIZED STANDARD STRENGTH STEEL PIPE, ASTM 53 GRADE "B"



FRONT VIEW
W BEAM END SECTION ROUNDED



SOIL PLATE

ANCHORAGE FOR STEEL
PLATE BEAM GUARD
TYPE 2

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8/21/2007
DATE
/S/ Jerry H. [illegible]
ROADWAY STANDARDS ENGINEER

FHWA

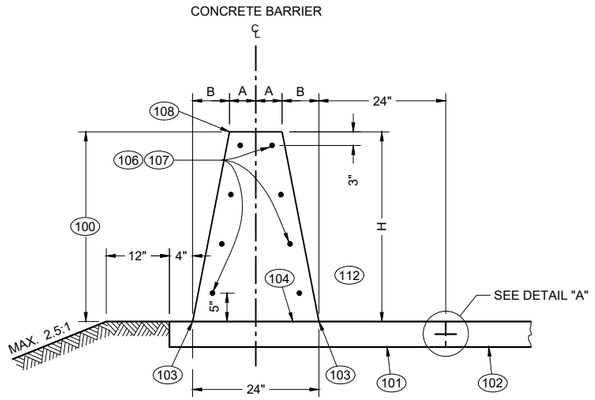
ENT

6

S.D.D. 14 B 16-4b

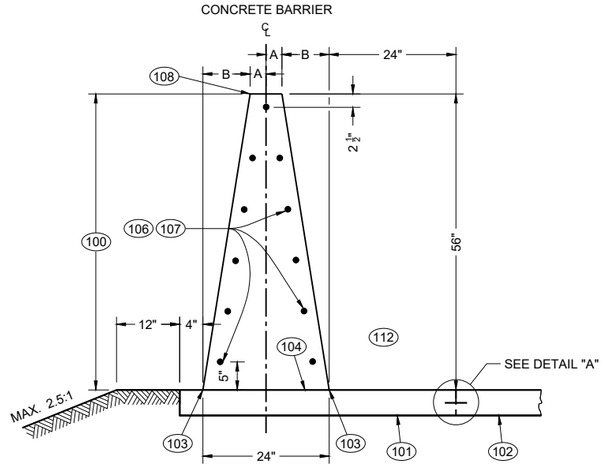
6

S.D.D. 14 B 16-4b



32 - INCH, 36 - INCH OR 42 - INCH SINGLE SLOPE CONCRETE BARRIER

(TYPE S32, TYPE S36, TYPE S42)

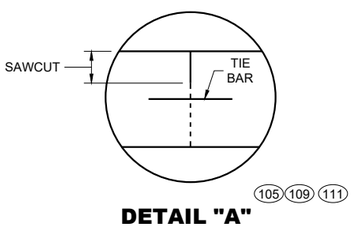


56 - INCH SINGLE SLOPE CONCRETE BARRIER

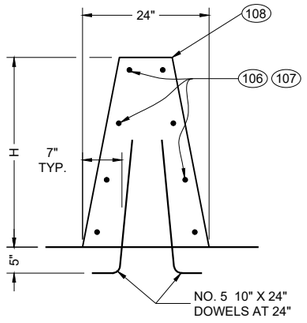
(TYPE S56)

TABLE "A"

BARRIER HEIGHT H INCHES	A INCHES	B INCHES	NUMBER OF NO. 5 BARS EACH
32	7	5	8
36	6 ¼	5 ¾	8
42	5 ¼	6 ¾	10
56	3	9	11

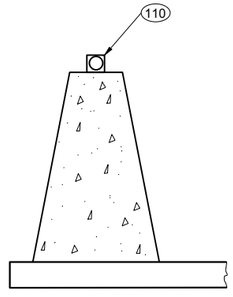


DETAIL "A"



SINGLE SLOPE CONCRETE BARRIER ON BRIDGE

(NON OUTER PARAPET APPLICATION)



DELINEATION

GENERAL NOTES

WHERE THE CONCRETE BARRIER IS ADDED TO THE FACE OF EXISTING CONCRETE STRUCTURE, MATCH EXISTING WEEP HOLES.

LOCATE EXPANSION JOINTS IN CONCRETE BARRIER SHALL AT ALL DECK AND PRINCIPAL WALL JOINTS. FILL EXPANSION JOINT WITH EXPANSION JOINT MATERIAL. SEAL THE EXPANSION JOINT CONFORMING TO STANDARD SPECIFICATION 415.2.6.

PLACE BARRIER PERPENDICULAR TO SHOULDER GRADE, UNLESS INDICATED IN PLAN.

4000 PSI CONCRETE AIR ENTRAINMENT PER STANDARD SPECIFICATION 501.

2" CLEAR COVER TYPICAL

ANCHORS ARE REQUIRED AT CONCRETE BARRIER ENDS AND AT INTERRUPTIONS IN CONCRETE BARRIER. ANCHOR MAY BE AS SHOWN IN THIS SDD OR DETAIL SHOWN ON SDD 14B33. ANCHORS INCIDENTAL TO CBSS.

PROVIDE A 1" DEEP CONTRACTION JOINT IN BARRIER PAD AND BARRIER. JOINT IS TO MATCH ADJACENT CONCRETE JOINTS. NO DOWEL BARS ARE REQUIRED FOR BARRIER PAD. IF ADJACENT TO ASPHALT, CONTRACTION JOINT IS REQUIRED EVERY 15'.

ALL REBAR SHALL BE EPOXY COATED M31 TYPE S. SEE STANDARD SPECIFICATION 505.

CONCRETE BARRIER, UPPER CONCRETE BARRIER, LOWER CONCRETE BARRIER, CONCRETE BARRIER PAD, AND FOOTINGS ARE TERMS USED TO DESCRIBE PARTS OF SINGLE SLOPE CONCRETE BARRIER BID ITEMS. THESE PARTS ARE INCIDENTAL TO THE SINGLE SLOPE CONCRETE BARRIER BID ITEMS.

(100) CONCRETE BARRIER

(101) CONCRETE BARRIER PAD

(102) PAVEMENT

(103) WHERE VERTICAL ROADWAY OFFSET IS GREATER THAN 1 ½", USE TYPE A SINGLE SLOPE BARRIER.

(104) OPTIONAL CONSTRUCTION JOINT.

(105) CONSTRUCTION JOINTS MAY BE ELIMINATED WHEN CONCRETE SHOULDER IS LESS THAT 10'.

(106) STAGGER LAPPING OF LONGITUDINAL STEEL. MINIMUM OVERLAP OF STEEL IS 2' BARS AT LAPS TO BE FIRMLY TIED OR CONNECTED.

(107) NO. 5 CONTINUOUS BARS EVENLY SPACED (SEE TABLE "A").

(108) USE ¾" BEVEL OR 1" RADIUS ON ALL EXPOSED SHARP EDGES UNLESS OTHERWISE NOTED.

(109) CONCRETE BARRIER PAD UNDER CBSS MAY BE PLACED SEPARATELY OR PLACED WITH CONCRETE SHOULDER AND SAWED ⅓ DEPTH. CONCRETE BARRIER PAD AND SAWING OF CONCRETE SHOULDER IS INCIDENTAL TO CONCRETE BARRIER BID ITEM. CONCRETE BARRIER PAD MINIMUM DEPTH IS 6", OR EQUAL TO THE DEPTH OF THE CONCRETE SHOULDER.

(110) SEE SDD 15A04 FOR DELINEATOR DETAILS AND SPACING.

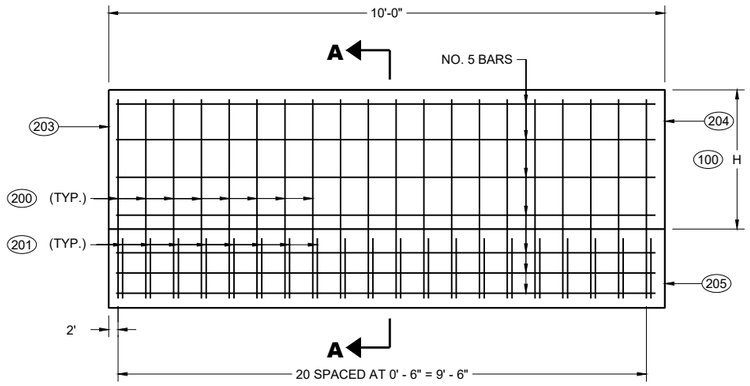
(111) SEE SDD 13C01 FOR DETAILS TYPING CONCRETE BARRIER TO ADJACENT CONCRETE

(112) TRAFFIC SIDE

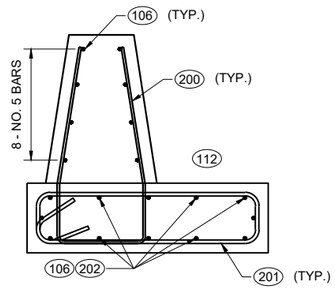
CONCRETE BARRIER SINGLE SLOPE (CBSS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

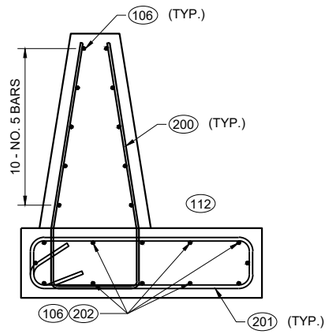
6
SDD 14B32-11a



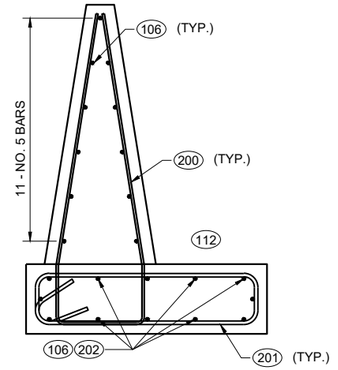
END ANCHOR SINGLE
SLOPE CONCRETE BARRIER



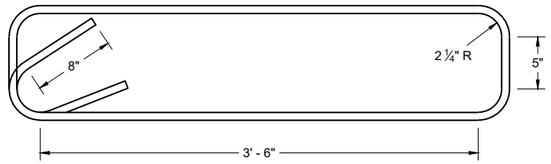
32" AND 36" CBSS



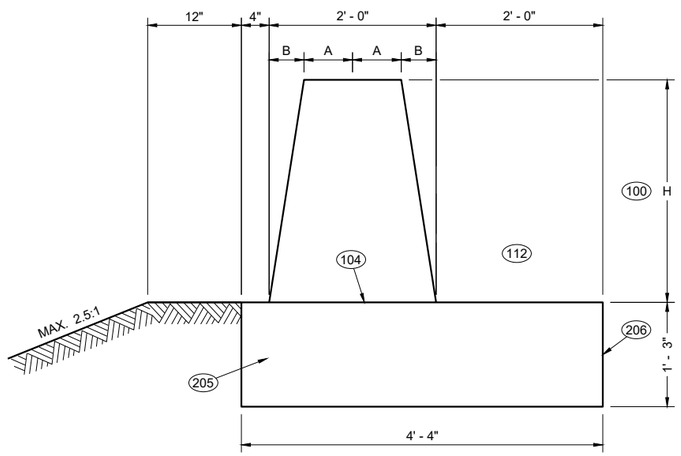
42" CBSS



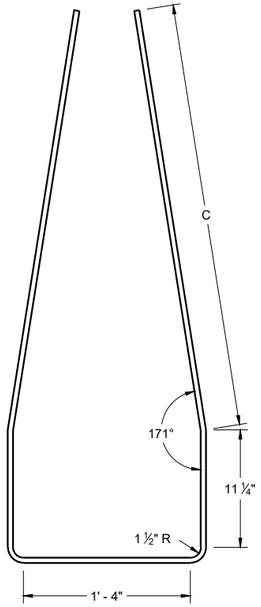
56" CBSS



STIRRUP BAR
BENDING DETAIL



SECTION A - A



V1 BAR
BENDING DETAIL

TABLE "B"

BARRIER HEIGHT H INCHES	C INCHES
32	2' - 6"
36	2' - 11"
42	3' - 4"
56	4' - 6 ½"

GENERAL NOTES

(200) V1 BARS ARE NO. 5 BARS. (SEE BAR BENDING DETAIL)

(201) STIRRUPS ARE NO. 6 BARS. (SEE BAR BENDING DETAIL)

(202) TWELVE (12) NO. 5 BARS EVENLY SPACED

(203) END OF INSTALLATION OR EXPANSION JOINT.

(204) SEE COLD JOINT DETAIL TO CONNECT END ANCHOR SINGLE SLOPE CONCRETE BARRIER TO SINGLE SLOPE CONCRETE BARRIER.

(205) FOOTING

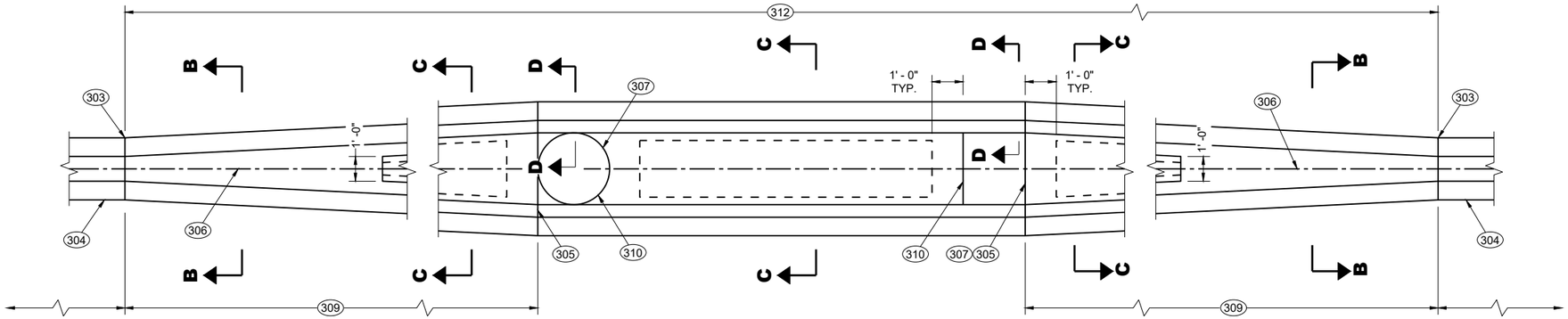
(206) DO NOT TIE TO FOOTING TO ADJACENT PAVEMENT.

CONCRETE BARRIER
SINGLE SLOPE (CBSS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

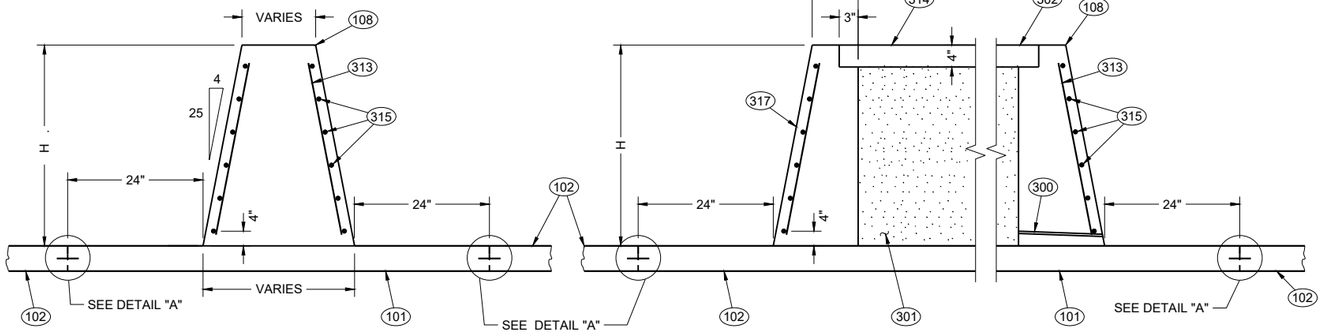
SDD 14B32-11b



LARGE FIXED OBJECTS PROTECTION
(TYPE S32, TYPE S36, TYPE S42, TYPE S56)

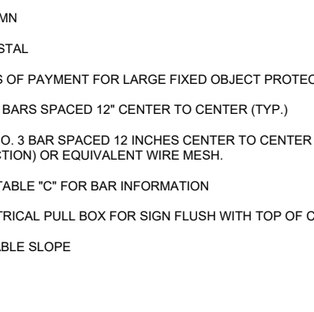
TABLE "C"

BARRIER HEIGHT H INCHES	BAR SIZE	NUMBER OF BARS EACH
32	4	6
36	4	6
42	5	6
56	5	6

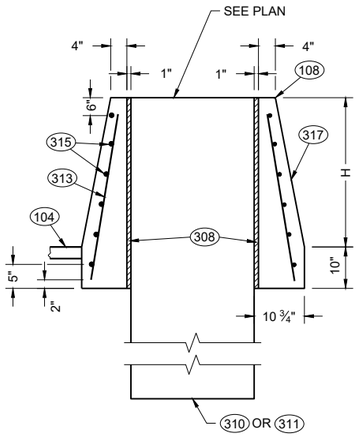


SECTION B - B

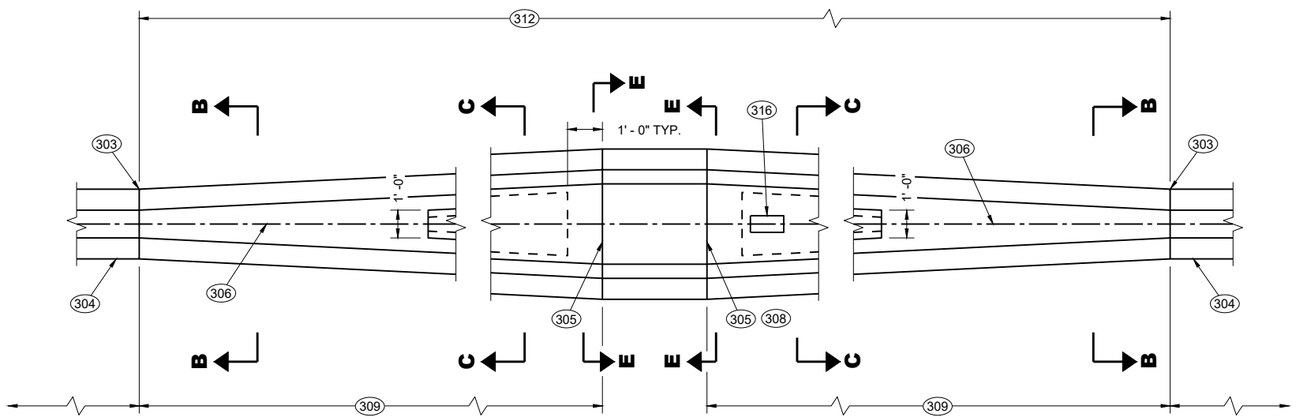
SECTION C - C



SECTION D - D



SECTION E - E



SMALL FIXED OBJECTS PROTECTION
(TYPE S32, TYPE S36, TYPE S42, TYPE S56)

GENERAL NOTES

(300) INSTALL 1 INCH DIAMETER DRAIN PIPE EVERY 20 FEET OF CROSS SECTION B -B. MINIMUM ONE DRAIN CAVITY.

(301) BETWEEN CONCRETE BARRIER WALLS FILL WITH FOUNDATION BACKFILL.

(302) LEVEL THE TOP OF CONCRETE BARRIER CAP ACROSS TOP OF BARRIER. ADJUST HEIGHT OF CONCRETE BARRIER WALL ON LOW SIDE OF OFFSET OR SUPERELEVATED ROADWAYS TO PROVIDE LEVEL GRADE ACROSS TOP OF CONCRETE CAP.

(303) USE COLD JOINTS BETWEEN FIXED OBJECT PROTECTION AND CONCRETE BARRIER ANCHOR.

(304) INSTALL END ANCHOR SINGLE SLOPE CONCRETE BARRIER.

(305) SEE COLD JOINT DETAIL

(306) CENTERLINE OF CONCRETE BARRIER.

(307) INSTALL 4" EXPANDED POLYSTYRENE BETWEEN COLUMN AND CONCRETE BARRIER.

(308) INSTALL 1" EXPANDED POLYSTYRENE BETWEEN PEDESTAL AND CONCRETE BARRIER.

(309) 20:1 MIN. TRANSITION.

(310) COLUMN

(311) PEDESTAL

(312) LIMITS OF PAYMENT FOR LARGE FIXED OBJECT PROTECTION (SEE PLAN)

(313) NO. 4 BARS SPACED 12" CENTER TO CENTER (TYP.)

(314) USE NO. 3 BAR SPACED 12 INCHES CENTER TO CENTER (PLACED IN EACH DIRECTION) OR EQUIVALENT WIRE MESH.

(315) SEE TABLE "C" FOR BAR INFORMATION

(316) ELECTRICAL PULL BOX FOR SIGN FLUSH WITH TOP OF CONCRETE BARRIER.

(317) VARIABLE SLOPE

CONCRETE BARRIER SINGLE SLOPE (CBSS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

GENERAL NOTES

(400) END ANCHOR SINGLE SLOPE CONCRETE BARRIER.

(401) PARAPET, SIGN BRIDGE BASE, LIGHT POLE BASE OR OTHER OBJECT SINGLE SLOPE CONCRETE BARRIER CANNOT TIE INTO.

(402) JOINT SEAL CONFORMING TO STANDARD SPECIFICATION 415.2.6

(403) EXPANSION JOINT MATERIAL.

(404) INLET (SEE PLAN)

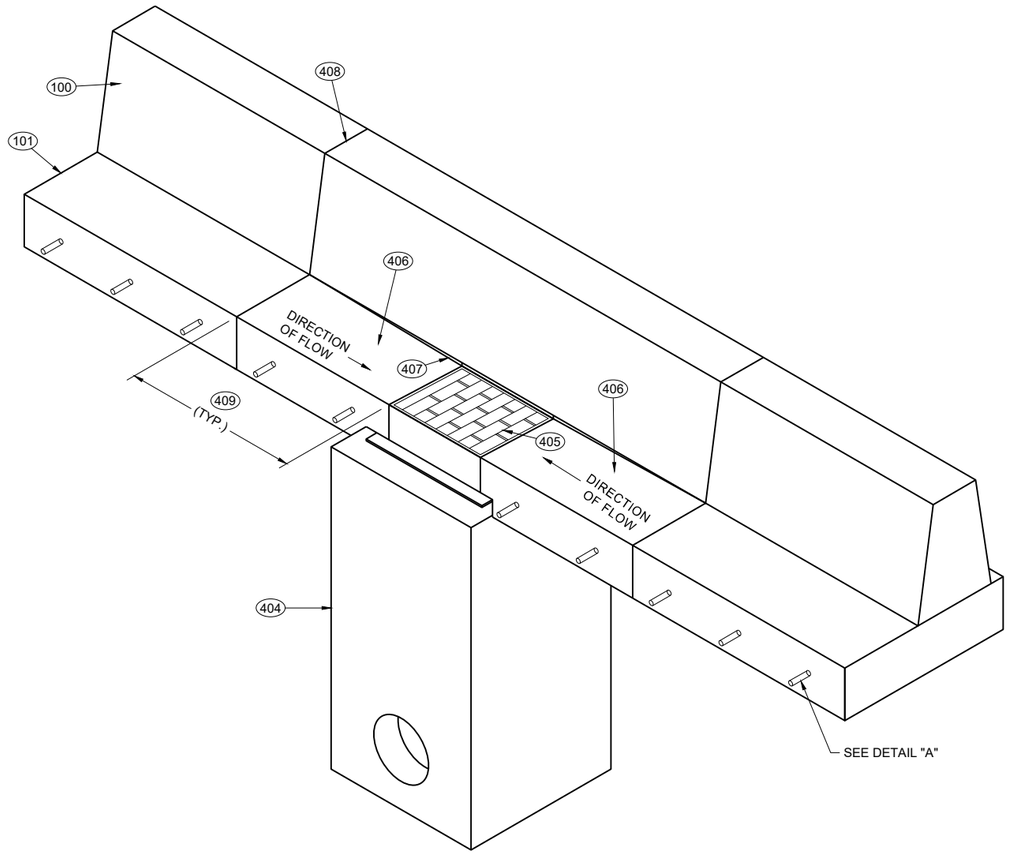
(405) INLET COVER BW (SEE PLAN)

(406) WARP PAN TO MATCH INLET COVER.

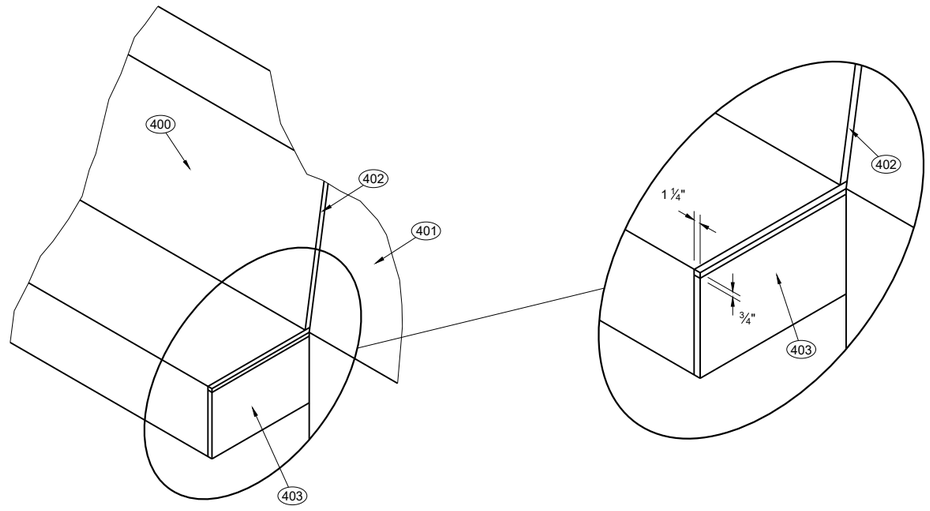
(407) EXTEND BARRIER SLOPE TO INLET. SEE PLAN FOR THE LENGTH OF EXTENSION.

(408) CONTRACTION JOINT.

(409) WHEN ADJACENT TO CONCRETE PAVEMENT OR SHOULDER, JOINT SHOULD MATCH CONCRETE JOINTS. OTHERWISE, 3' (TYP.). SEE SDD 13C18 FOR MORE INFORMATION.



DRAINAGE DETAIL



EXPANSION JOINT DETAIL

CONCRETE BARRIER SINGLE SLOPE (CBSS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6
SDD 14B32-11d

GENERAL NOTES

USE COLD JOINT TO CONNECT MULTIPLE HEIGHT TRANSITIONS.

(500) SEE TABLE "A" FOR DIMENSIONS

(501) SEE TABLE "D"

(502) MULTIPLE HEIGHT TRANSITION MAY BE USED IN SEQUENCE TO GET APPROPRIATE HEIGHT.

(503) COLD JOINT

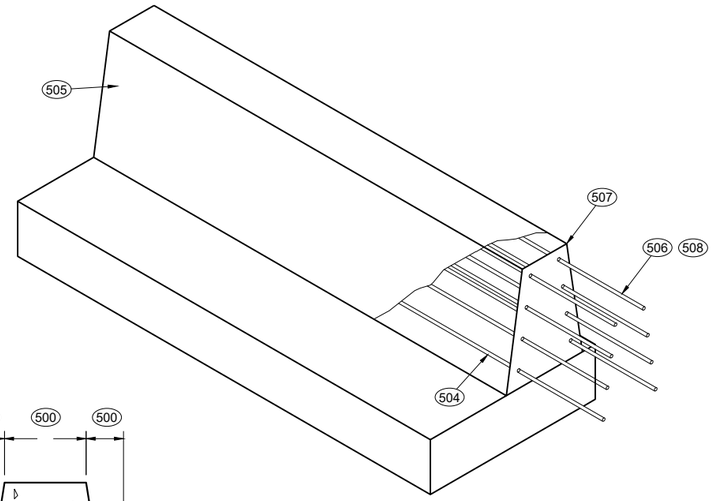
(504) BARRIER REBAR (SEE OTHER DETAILS FOR BAR SIZE, QUANTITY AND LOCATION). SINGLE SLOPE BARRIER SHOWN. SIMILAR DETAIL CAN BE USED FOR COLD JOINT IN

(505) END ANCHORS AND TRANSITIONS.

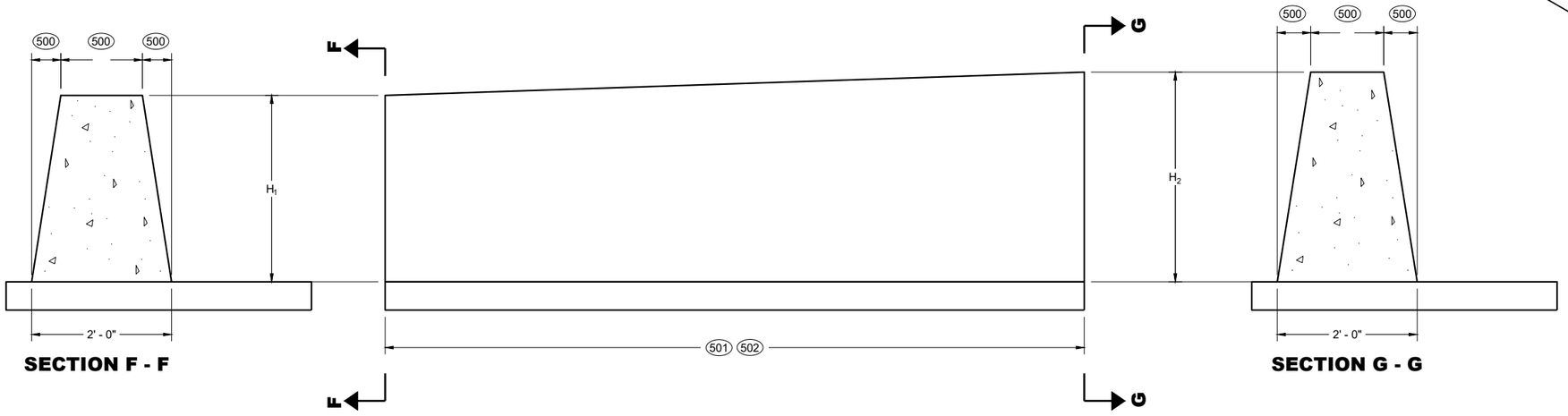
(506) NO. 5 REBAR FOR SPLICE. 3' OF SPLICE REBAR IS LAPPED AND TIED TO BARRIER REBAR. EXTEND 3' OF SPLICE REBAR BEYOND END OF POUR. ALL BARS ARE FIRMLY TIED OR CONNECTED. EVERY REBAR IN THE BARRIER SECTION REQUIRES A SPLICE BAR.

(507) END OF POUR.

(508) LAP AND TIE 3' OF NEXT POUR'S REBAR TO SPLICE REBAR.



COLD JOINT DETAIL



SECTION F - F

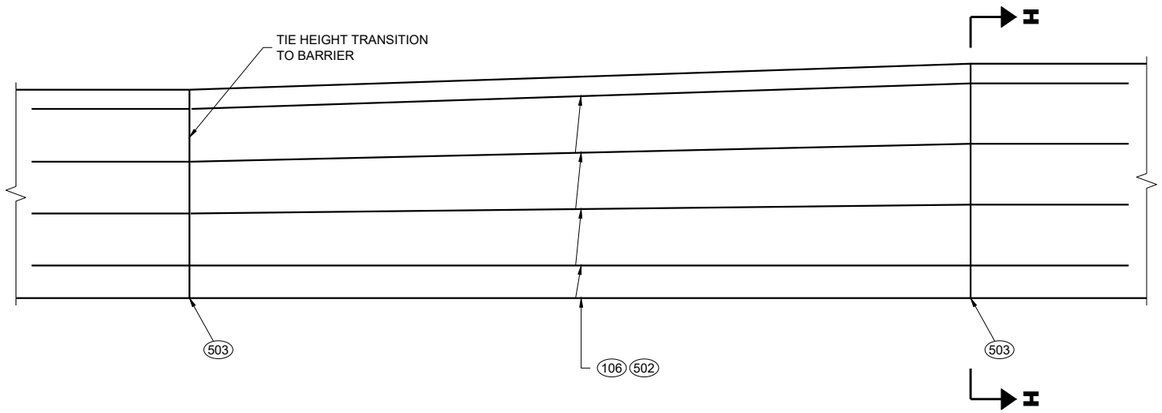
SECTION G - G

DOUBLE COLD JOINT HEIGHT TRANSITION

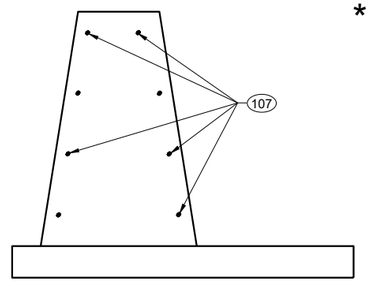
TABLE "D"

H_1	H_2	L *	NUMBER OF NO. 5 BARS
32"	36"	10' - 0"	8
36"	42"	10' - 6"	10
42"	56"	24' - 6"	11

* LENGTH OF DOUBLE COLD JOINT INCLUDED IN THE TOTAL LENGTH OF CBSS.



STEEL REINFORCEMENT DETAIL



SECTION H - H

CONCRETE BARRIER SINGLE SLOPE (CBSS)

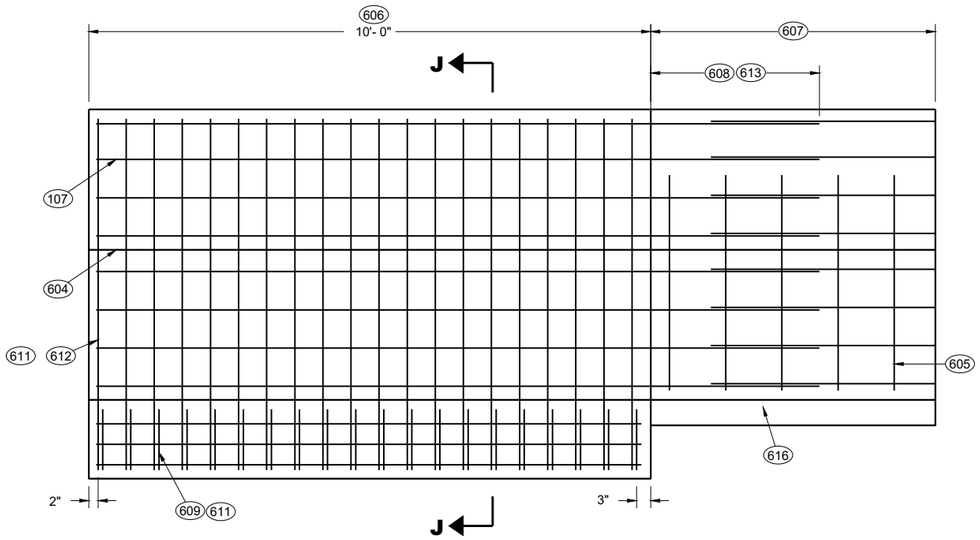
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

SDD 14B32-11e

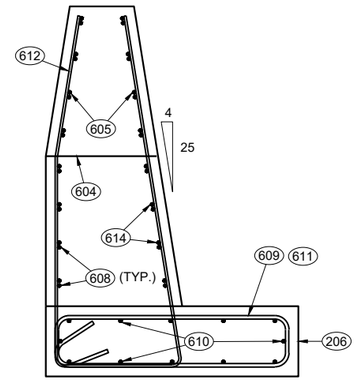
6

SDD 14B32-11e

6



END ANCHOR MEDIAN BARRIER AND RETAINING WALL



SECTION J - J
END ANCHOR AND MEDIAN WALL END ANCHOR REINFORCEMENT DETAIL

GENERAL NOTES

600 UPPER CONCRETE BARRIER

601 LOWER CONCRETE BARRIER

602 MAX HEIGHT 36".

603 VERTICAL OFFSET FROM TOP ROADWAY SURFACES

604 OPTIONAL CONSTRUCTION JOINT WHEN HEIGHT IS GREATER THAN 1 ½".

605 NO. 4 BARRIER LOOP BARS ARE NOT REQUIRED FOR ROADWAY OFFSETS ARE LESS THAN 1'- 0", EXCEPT WHEN USED IN ANCHORS. BARRIER LOOP BARS ARE SPACED 12" CENTER TO CENTER OUTSIDE OF MEDIAN BARRIER AND RETAINING WALL END ANCHOR.

606 SINGLE SLOPE CONCRETE BARRIER AND RETAINING WALL ANCHOR

607 SINGLE SLOPE CONCRETE BARRIER AND RETAINING WALL (SEE OTHER DETAILS)

608 NO. 5 REBAR 3' OF LAP OF LONGITUDINAL STEEL.

609 NO. 6 REBAR END ANCHOR FOOTING LOOP

610 TWELVE (12) NO. 5 BARS EVENLY SPACED.

611 SS ANCHOR END LOOP AND END ANCHOR FOOTING LOOP ARE SPACED 6" CENTER TO CENTER.

612 END ANCHOR LOOP BAR IS NO. 5 REBAR.

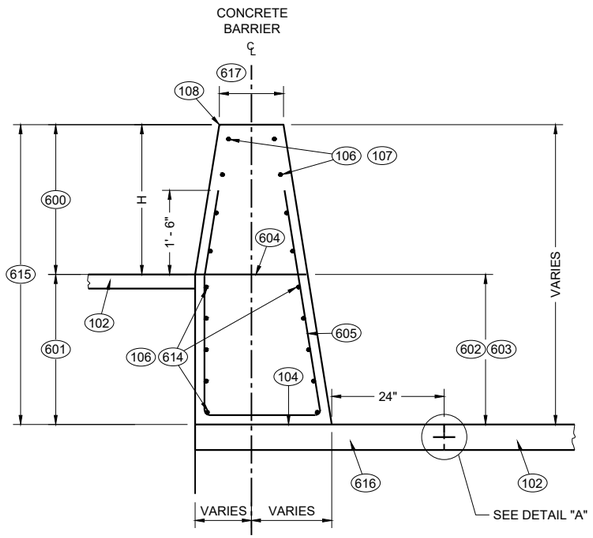
613 SEE COLD JOINT DETAIL.

614 SEE TABLE "E" FOR REQUIRED REBAR

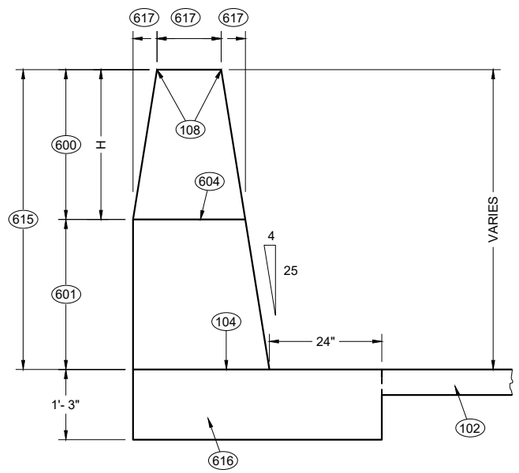
615 TOTAL BARRIER HEIGHT (SEE PLAN FOR HEIGHT)

616 FOR SOME LOCATIONS, NO PAN IS NEEDED. SEE OTHER DETAILS.

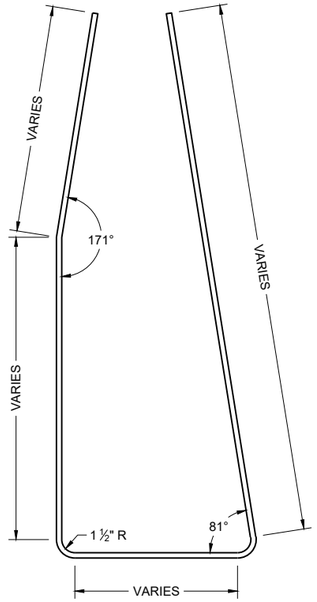
617 SEE TABLE "A" FOR DIMENSIONS



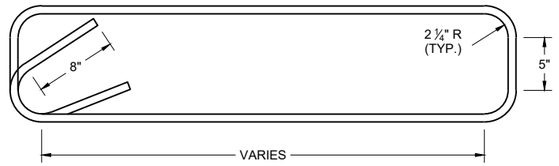
SINGLE SLOPE CONCRETE BARRIER AND RETAINING WALL (TYPE S32A, TYPE S36A, TYPE S42A, TYPE S56A) (BETWEEN ADJACENT ROADWAYS)



SECTION J - J MEDIAN BARRIER AND RETAINING WALL END ANCHOR DIMENSIONS



LOOP BAR BENDING DETAIL



END ANCHOR STIRRUP BAR BENDING DETAIL

TABLE "E"

HEIGHT BETWEEN ROADWAY	QUANTITY OF NO. 6 BARS
0 TO 3"	0
GREATER THAN 3" TO 8"	2
GREATER THAN 8" TO 12"	4
GREATER THAN 12" TO 36"	8

CONCRETE BARRIER SINGLE SLOPE (CBSS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

GENERAL NOTES

700 END ANCHOR SINGLE SLOPE CONCRETE BARRIER

701 SEE EXPANSION JOINT DETAIL

702 END ANCHOR SINGLE SLOPE CONCRETE BARRIER AND RETAINING WALL

703 PAY LIMIT FOR SINGLE SLOPE CONCRETE BARRIER AND RETAINING WALL

704 SEE COLD JOINT DETAIL

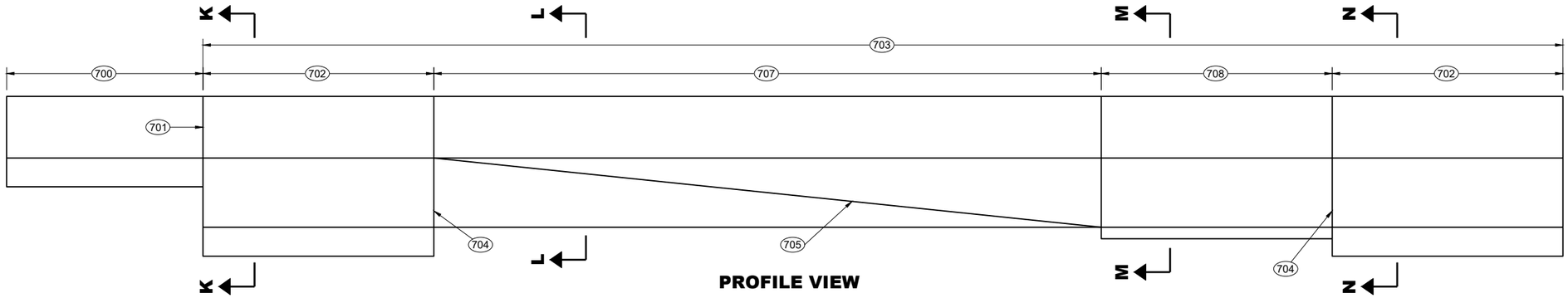
705 LOW SIDE SHOULDER

706 HIGH SIDE SHOULDER

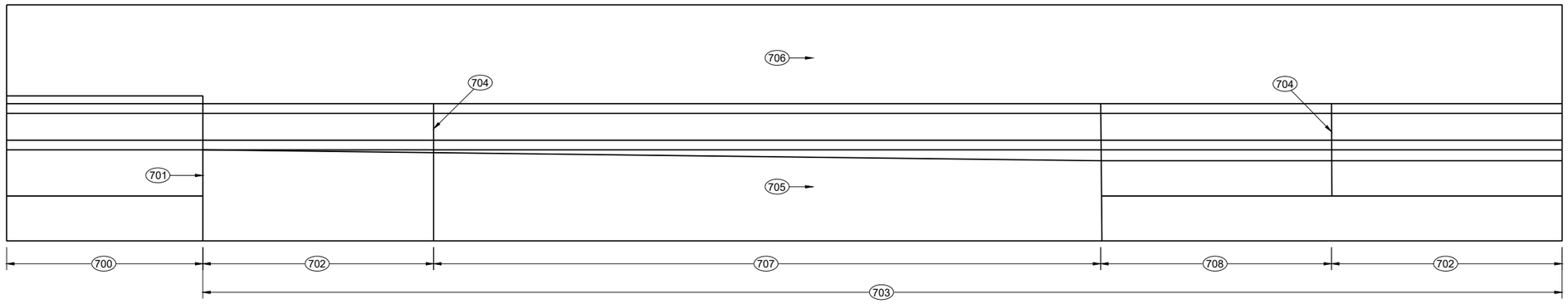
707 SINGLE SLOPE CONCRETE BARRIER AND RETAINING WALL INSTALLED WITHOUT A PAN.

708 SINGLE SLOPE CONCRETE BARRIER AND RETAINING WALL INSTALLED WITH A PAN.

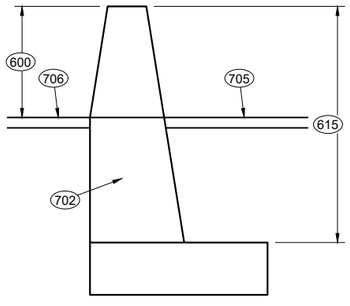
709 EXCAVATION AND COMPACTION



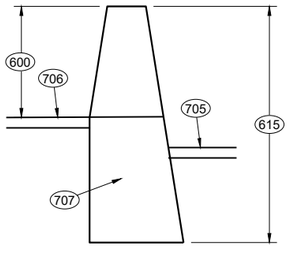
PROFILE VIEW
SINGLE SLOPE CONCRETE BARRIER AND RETAINING WALL



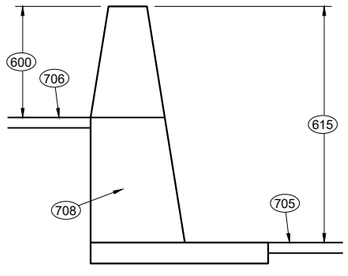
PLAN VIEW
SINGLE SLOPE CONCRETE BARRIER AND RETAINING WALL



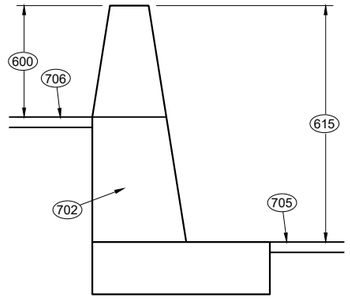
SECTION K - K



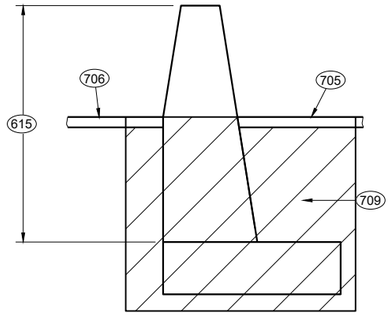
SECTION L - L



SECTION M - M



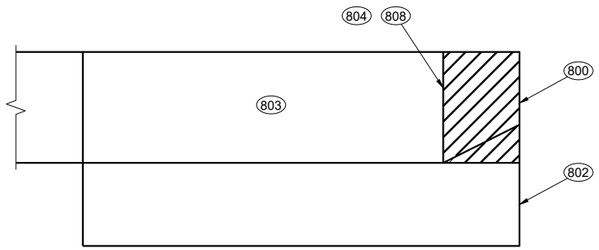
SECTION N - N



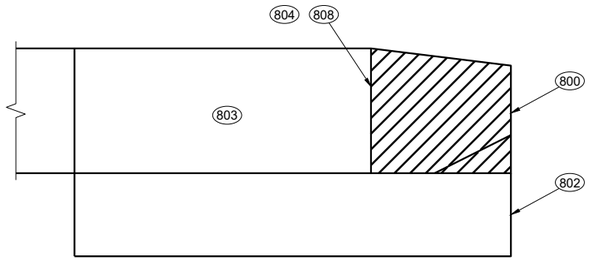
CONCRETE BARRIER
SINGLE SLOPE (CBSS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

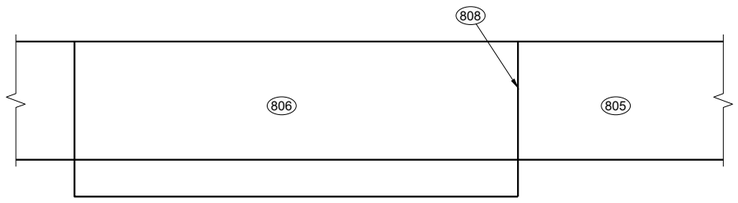
6
SDD 14B32-11g



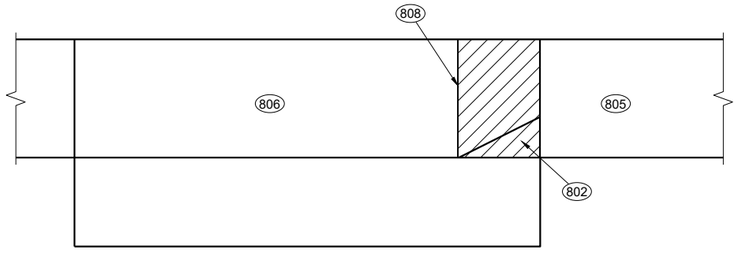
REMOVAL AREA OF
32" CONCRETE THRIE BEAM ANCHORAGE



REMOVAL AREA OF CONCRETE THRIE BEAM ANCHORAGE WITH HEIGHT GREATER THAN 32"



CONCRETE BARRIER EXTENSION NEAR END ANCHORAGE



CONCRETE BARRIER EXTENSION NEAR THRIE BEAM TERMINAL

GENERAL NOTES

END ANCHORAGE MAY OR MAY NOT BE PRESENT ON EXISTING BARRIER.

REMOVE THRIE BEAM ANCHORAGE AS SHOWN.

(800) AREA OF BARRIER REMOVAL AN NEW CONCRETE AND STEEL IS INSTALLED.

(801) MINIMUM LENGTH OF REMOVAL IS 15'

(802) FOOTING BELOW GROUND MAY REMAIN IN PLACE.

(803) CONCRETE BARRIER SINGLE SLOPE THRIE BEAM ANCHOR TO REMAIN.

(804) SAW CUT

(805) NEW SINGLE SLOPE CONCRETE BARRIER.

(806) CONCRETE BARRIE SINGLE SLOPE TO REMAIN.

(807) SINGLE SLOPE CONCRETE BARRIER OR CONCRETE BARRIER SINGLE SLOPE THRIE BEAM ANCHOR TO REMAIN.

(808) SEE CONNECTION DETAIL.

(809) NO. 5 CONTINUOUS BAR.

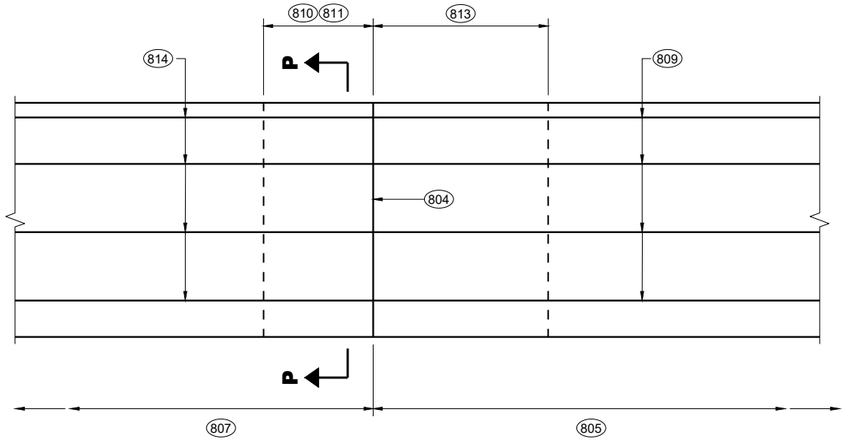
(810) 3' MIN. DRILL HOLES. USES NO. 5 ADHESIVE ANCHORS.

(811) THE NUMBER OF DRILL HOLES IS EQUAL TO THE NUMBER OF HORIZONTAL REBAR IN BARRIER. DRILL HOLES ARE TO BE A MINIMUM OF 4" FROM EDGE OF CONCRETE.

(812) EXISTING REBAR IN EXISTING BARRIER OR END ANCHOR.

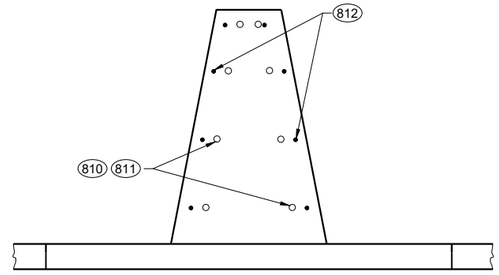
(813) 3' BAR OVERLAP

(814) EXISTING REINFORCEMENT

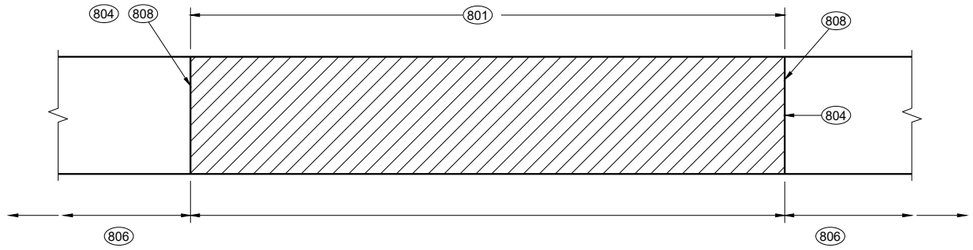


CONNECTION DETAIL

SINGLE SLOPE CONCRETE BARRIER TO
NEW SINGLE SLOPE CONCRETE BARRIER



SECTION P - P



BARRIER REMOVAL AND REPLACEMENT

RETROFIT OR REPAIR SINGLE SLOPE CONCRETE BARRIER

CONCRETE BARRIER
SINGLE SLOPE (CBSS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2024 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

6
SDD 14B32-11h

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

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

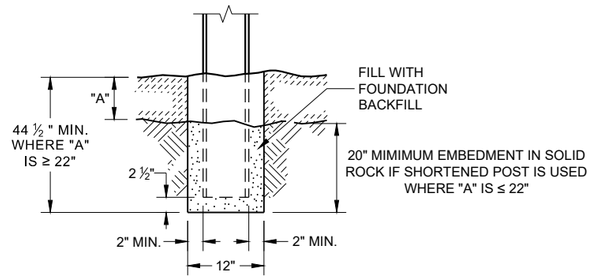
(3) IF ROCK IS ENCOUNTERED DURING EXCAVATION, PROVIDE A HOLE 12 INCHES IN DIAMETER EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2 1/2" INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS THE TO LENGTH AMD INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT. BACKFILL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

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

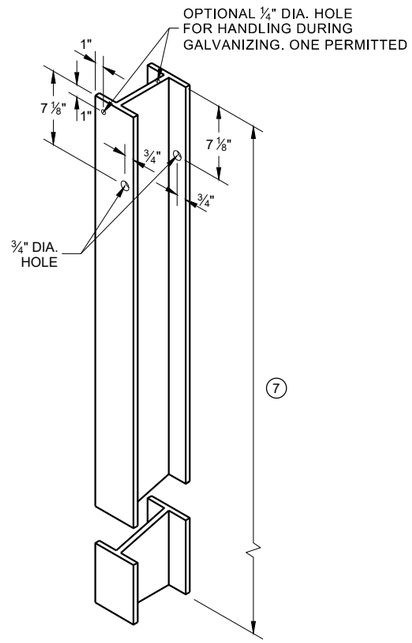
(5) FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS ±1". FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27 ¾" TO 32".

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

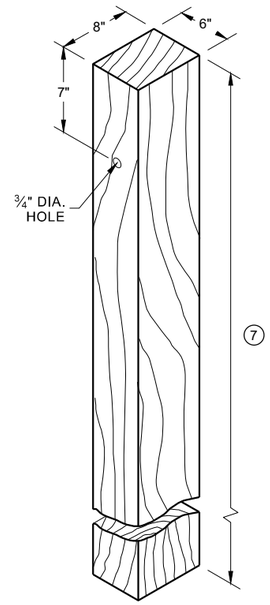
(7) TOTAL POST LENGTH FOR TYPE K IS 7' - 0".
TOTAL POST LENGTH FOR OTHER MGS TYPES IS 6' - 0".



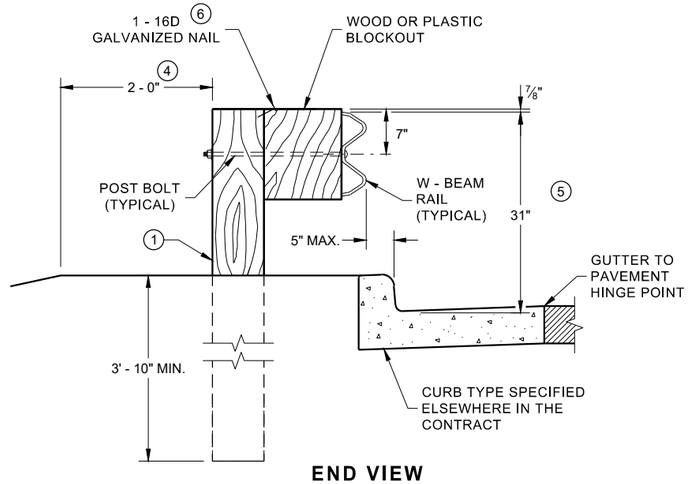
END VIEW
SETTING STEEL OR WOOD POST IN ROCK (3)



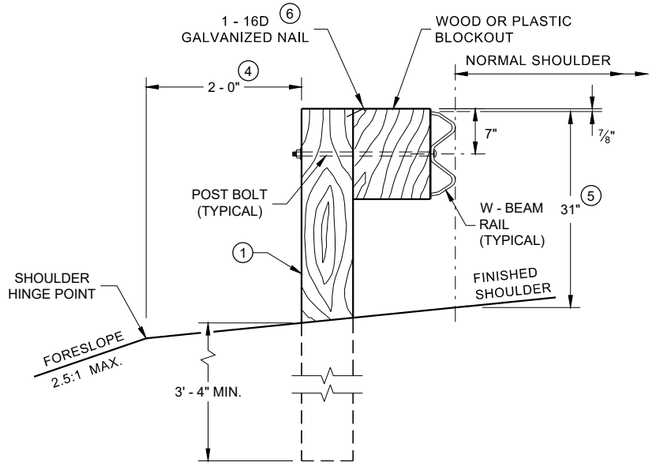
STEEL POST & HOLE PUNCHING DETAIL (W 6 X 9) (1)



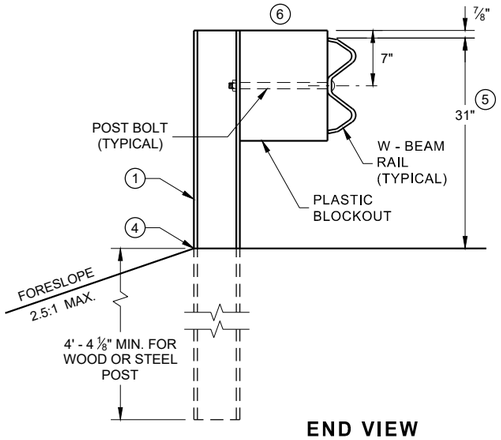
WOOD POST (6" X 8") NOMINAL (1)



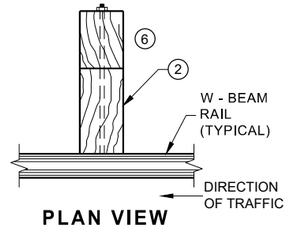
END VIEW
LOCATED ALONG A CURBED ROADWAY



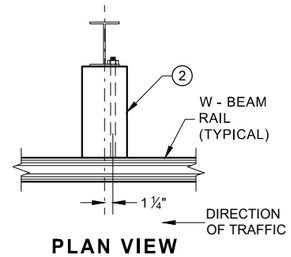
END VIEW
LOCATED ALONG A ROADWAY SHOULDER STANDARD INSTALLATION



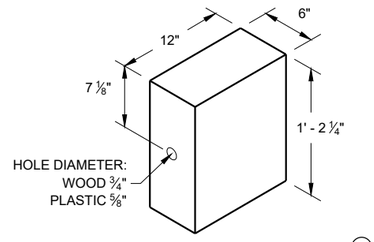
END VIEW
MGS LONGER POST AT HALFPOST SPACING W BEAM (K)



PLAN VIEW
WOOD POST, BLOCKOUT & BEAM



PLAN VIEW
STEEL POST, PLASTIC BLOCKOUT & BEAM



WOOD OR PLASTIC BLOCKOUT (2)

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

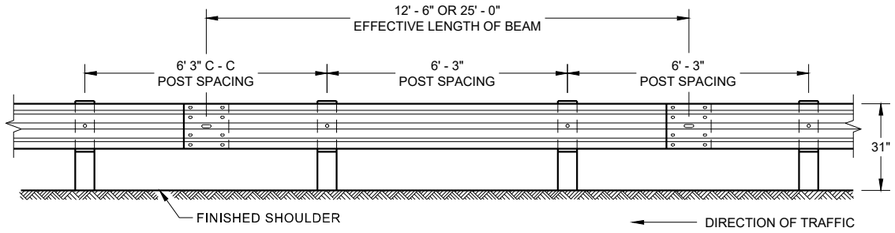
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

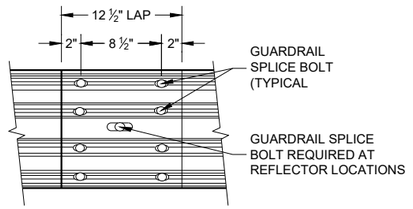
SDD 14B42 - 07a

6

SDD 14B42 - 07a



FRONT VIEW
POST SPACING STANDARD INSTALLATION



FRONT VIEW
MID-SPAN BEAM SPLICE

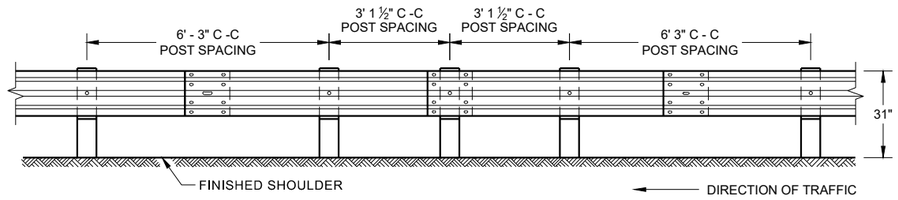
GENERAL NOTES

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

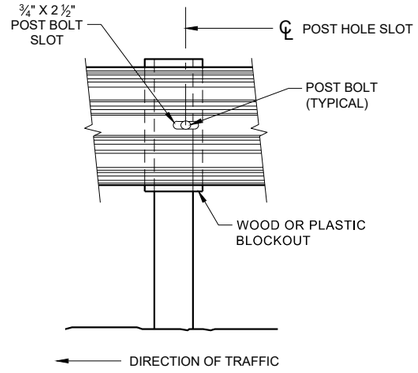
(9) 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.

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.

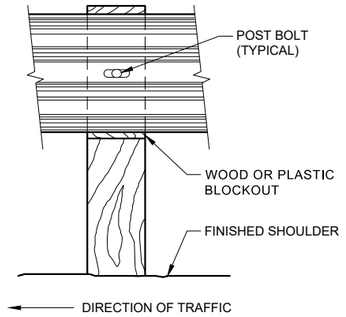
GUARD RAIL SPLICE BOLTS ARE A ⅝" DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES ⅝" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.



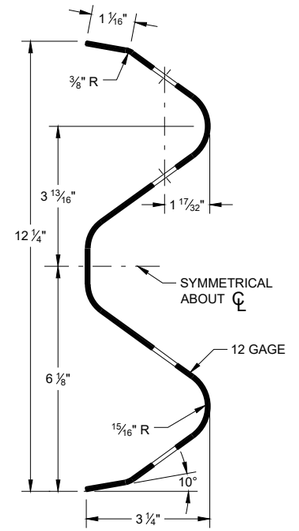
FRONT VIEW
HALF POST SPACING (HS) AND HALF POST SPACING WITH LONGER POSTS (K)



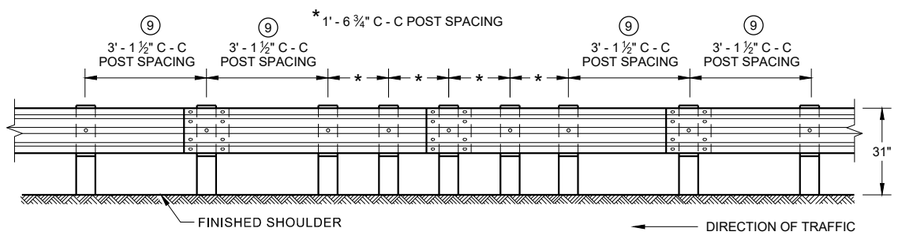
FRONT VIEW AT STEEL POST



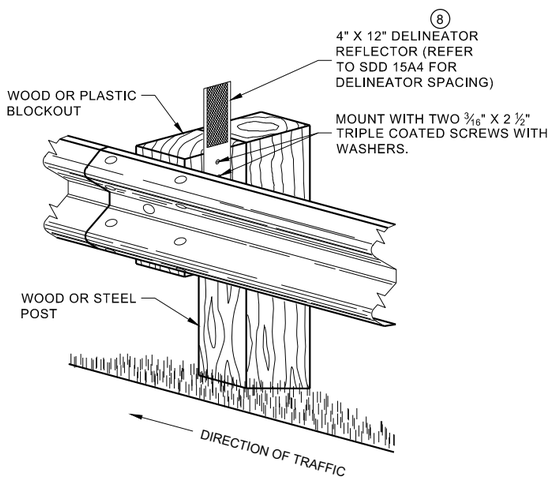
FRONT VIEW AT WOOD POST



SECTION THRU W-BEAM RAIL



FRONT VIEW
QUARTER POST SPACING (QS)



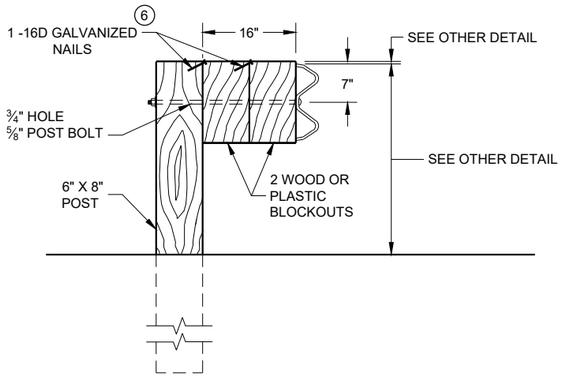
ONE SIDED REFLECTOR DETAIL AND TYPICAL INSTALLATION

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

SDD 14B42 - 07b

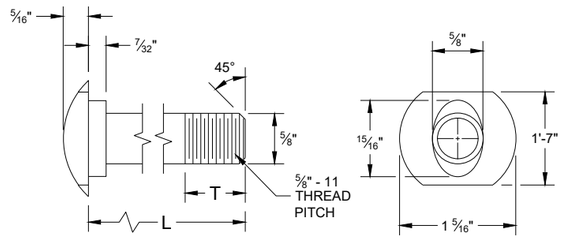


DETAIL FOR 16" BLOCKOUT DEPTH

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

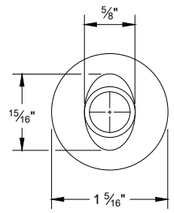
NOTE:

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

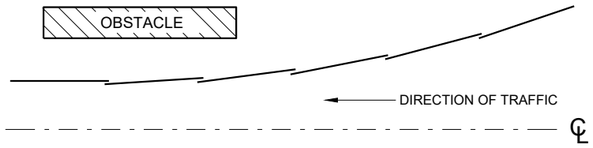


POST BOLT TABLE

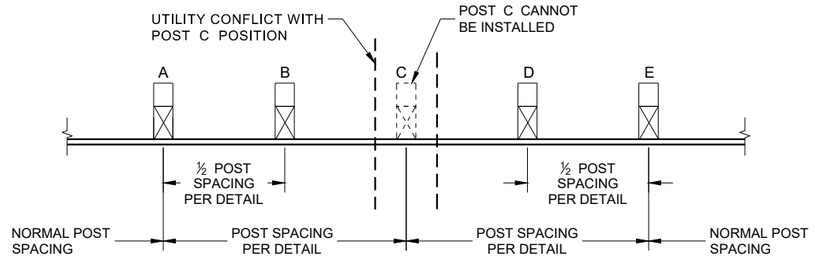
L	T (MIN.)
1 ¼"	1 ⅛"
2"	1 ¾"
10"	4"
14"	4 1⁄16"
18"	4"
21"	4 1⁄16"
25"	4"



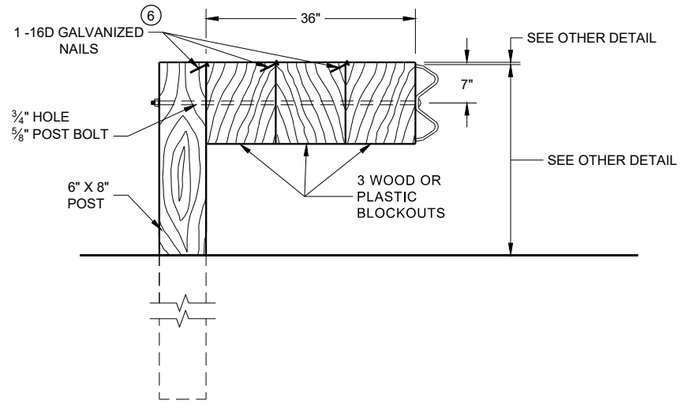
ALTERNATE BOLT HEAD



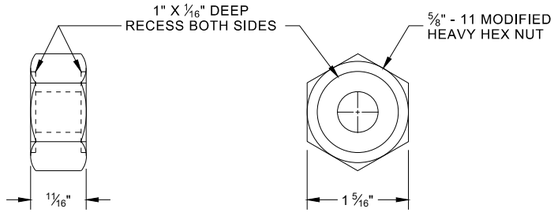
PLAN VIEW
BEAM LAPPING DETAIL



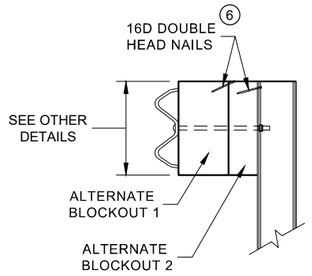
POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION



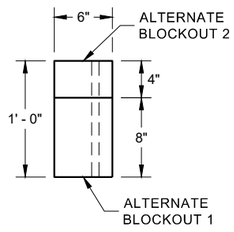
DETAIL FOR 36" BLOCKOUT DEPTH



POST BOLT, SPLICE BOLT AND RECESS NUT



SIDE VIEW



PLAN VIEW

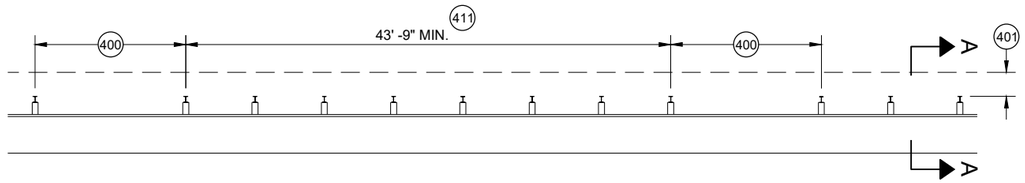
ALTERNATE WOOD BLOCKOUT DETAIL

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

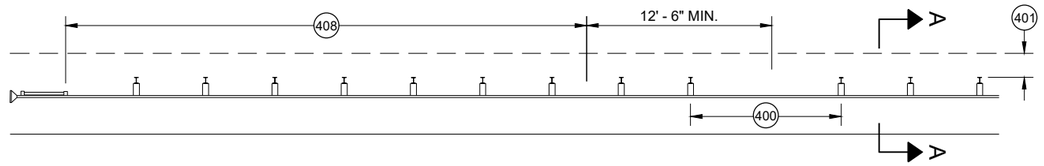
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.

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

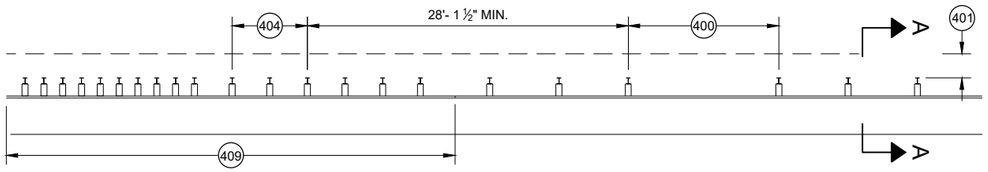
MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL



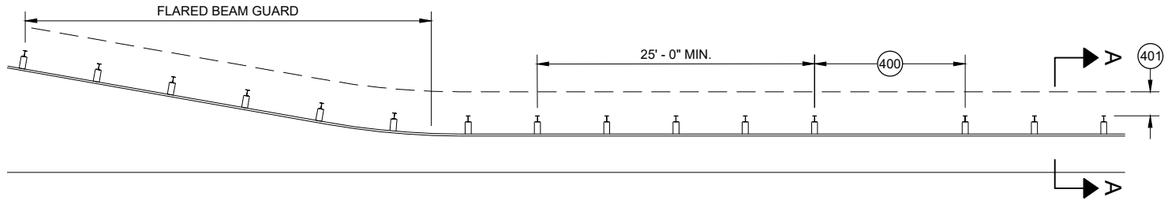
MISSING POST IN MGS GUARDRAIL



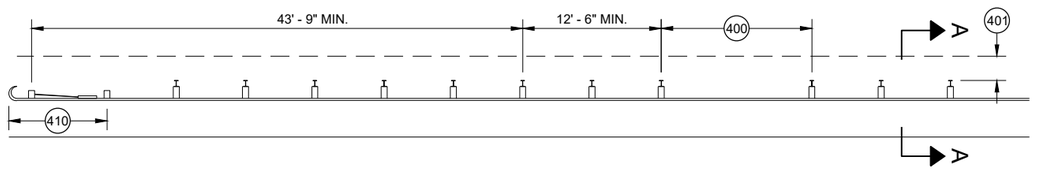
MISSING POST IN MGS GUARDRAIL NEAR EAT



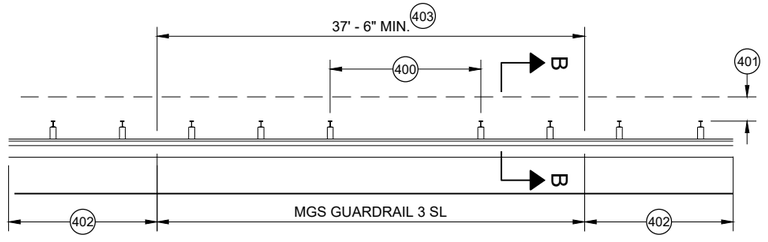
MISSING POST IN MGS GUARDRAIL NEAR AN APPROACH TRANSITION



MISSING POST IN MGS GUARDRAIL NEAR FLARED BEAM GUARD

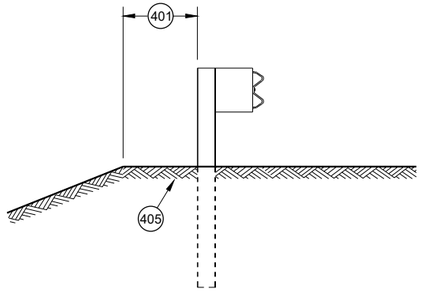


MISSING POST IN MGS GUARDRAIL NEAR A TYPE 2 END TERMINAL

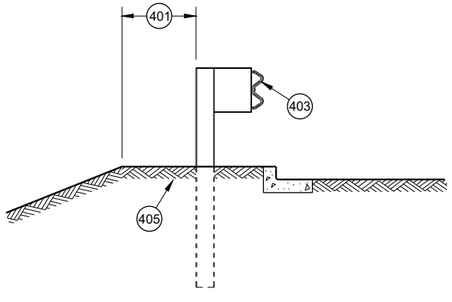


MISSING POST IN SHORT SPAN MGS GUARDRAIL NEAR CURB (SL) 407

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



SECTION A - A 406



SECTION B - B 406

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA

6

SDD 14B42 - 07d

GENERAL NOTES

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

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

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

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

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

DIMENSIONS MAY VARY, MANUFACTURER'S INFORMATION.

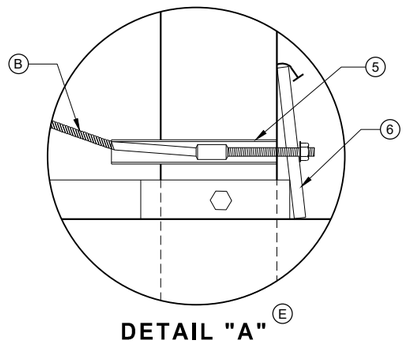
SEE SDD 14B42 FOR MORE INFORMATION.

* DO NOT ATTACH BLOCKOUTS TO POST 1 AND 2.

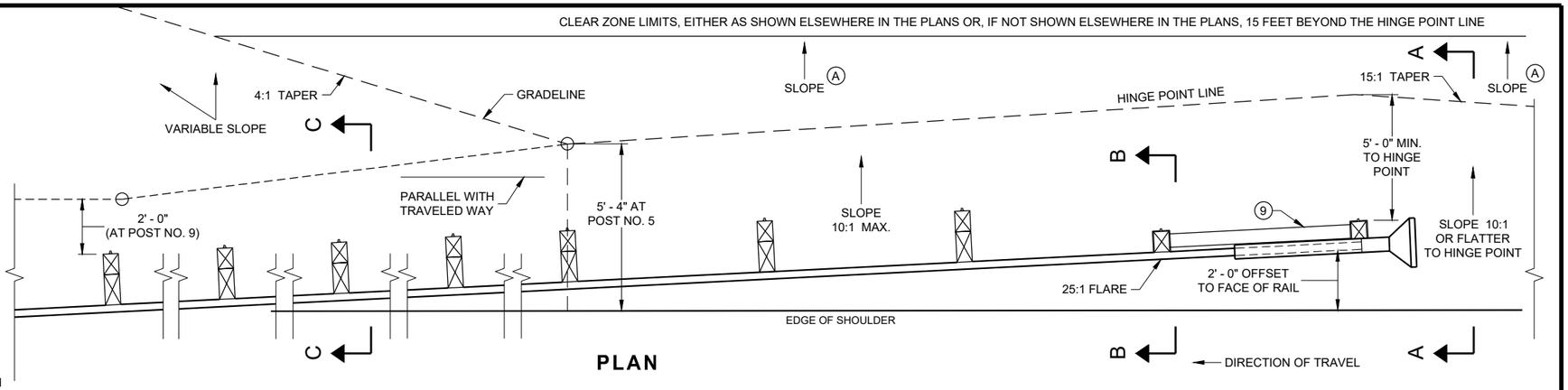
DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

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

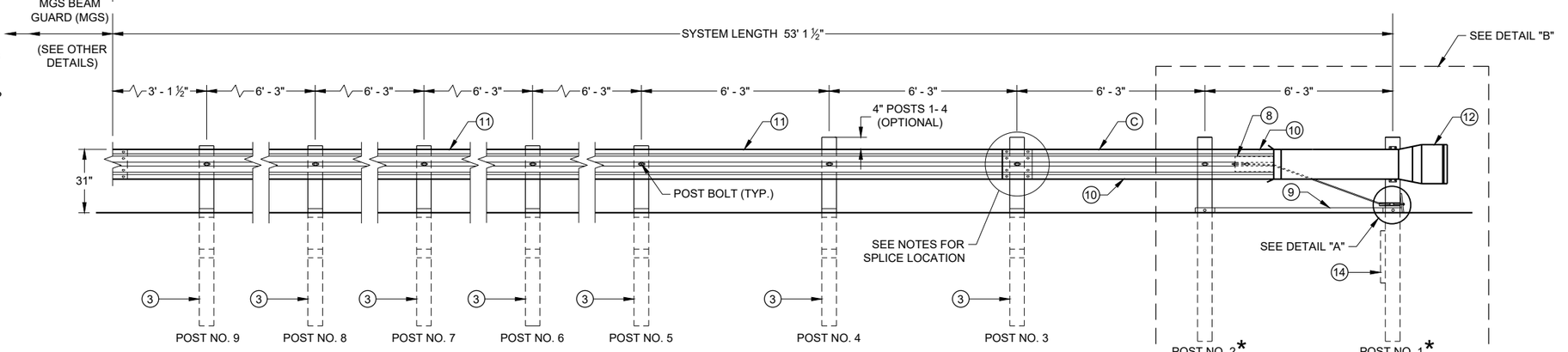
THE CENTER OF THE UPPER 3 ½" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE UP TO A MAXIMUM OF 2" ABOVE GROUND LINE. WOOD BLOCKS ON POSTS NUMBERED 3 THROUGH 9 MAY BE ADJUSTED UP TO 3" ABOVE THE TOP OF POST.



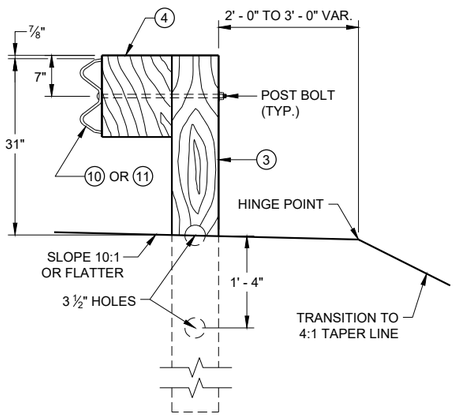
DETAIL "A" (E)



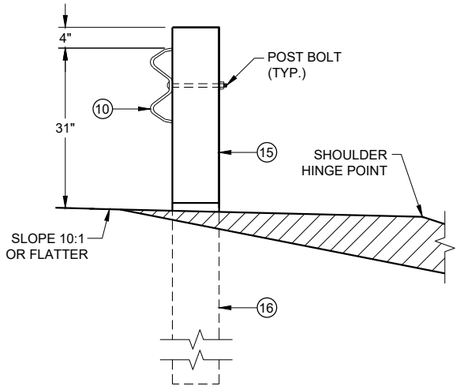
PLAN



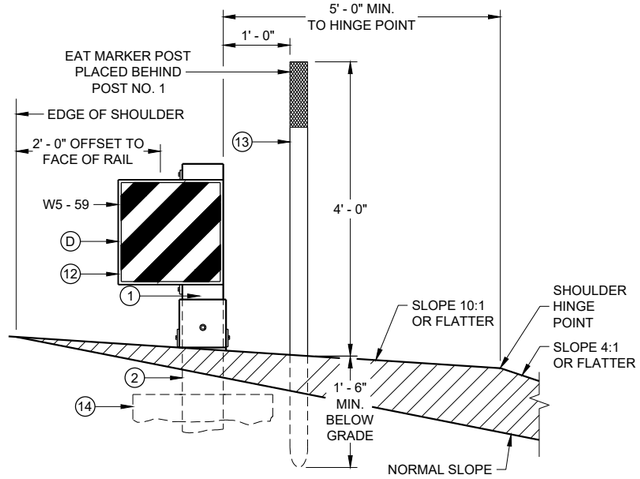
ELEVATION



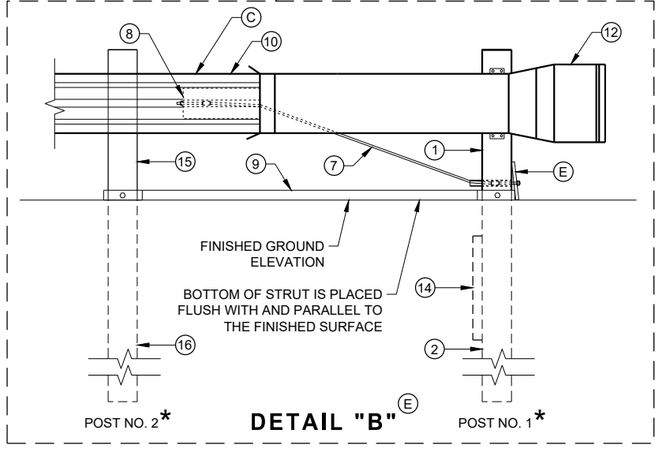
SECTION C - C
TYPICAL AT POST NOS. 3 - 9



SECTION B - B
TYPICAL AT POST NO. 2*



SECTION A - A
TYPICAL AT POST NO. 1*



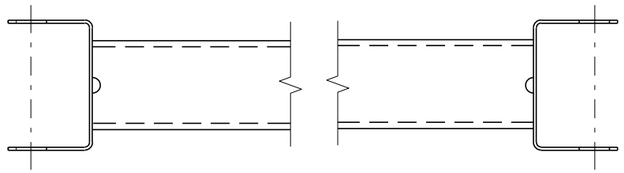
DETAIL "B" (E)

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

SDD 14B44 - 04a

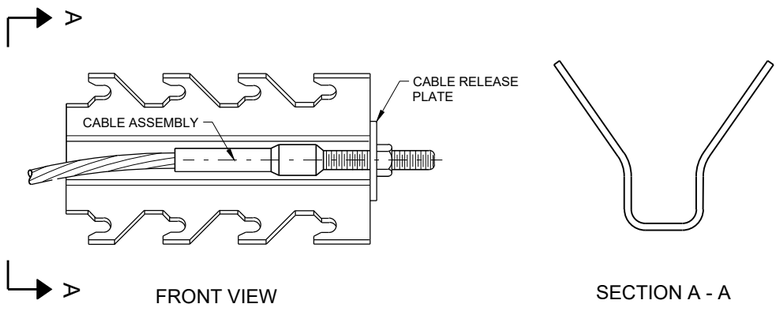
SDD 14B44 - 04a



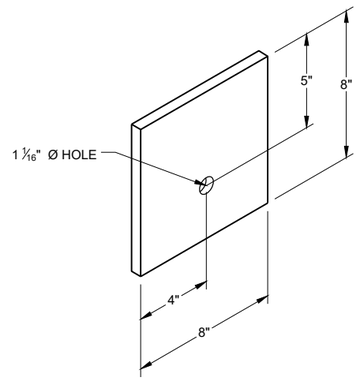
GENERIC GROUND STRUT (9) (E)

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) (E)



BEARING PLATE (6) (E)

6

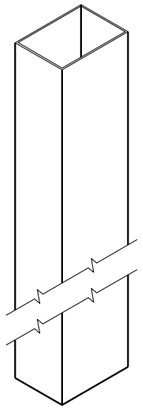
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SDD 14B44 - 04b

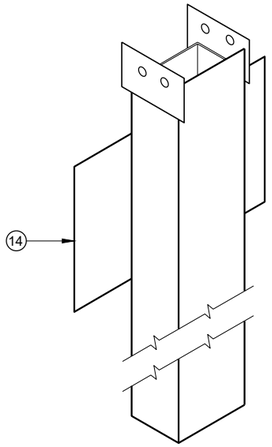
SDD 14B44 - 04b

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL (MGS)

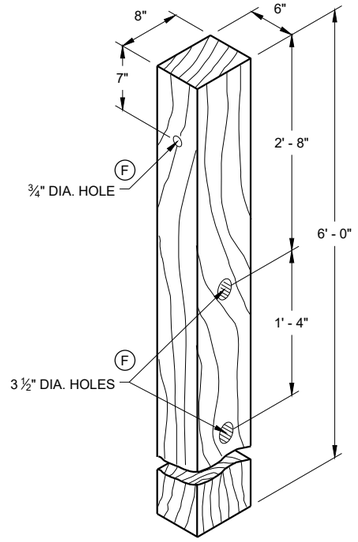
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTA



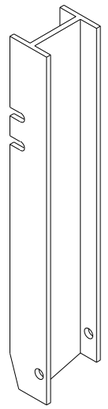
UPPER POST NO. 1 (1) (E)



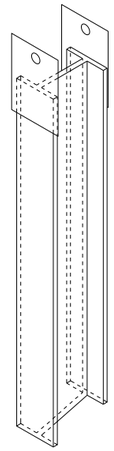
LOWER POST NO. 1 (2) (E)



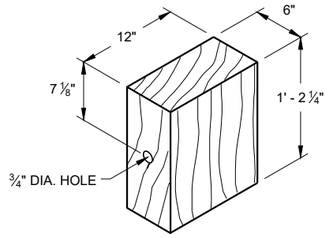
WOOD CRT POST (3) (E)
POSTS NUMBER 3-9



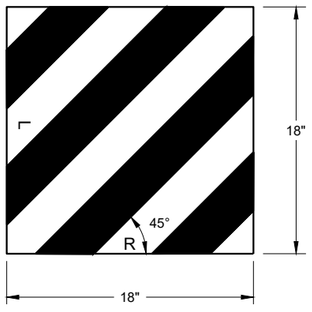
UPPER POST NO. 2 (15) (E)



LOWER POST NO. 2 (16) (E)

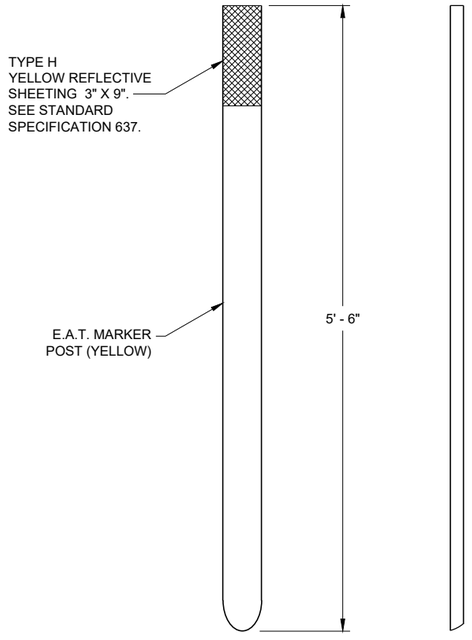


WOOD BLOCKOUT (4)
REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2



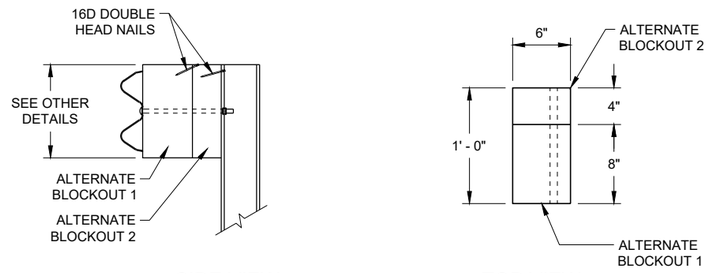
W5 - 59

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)

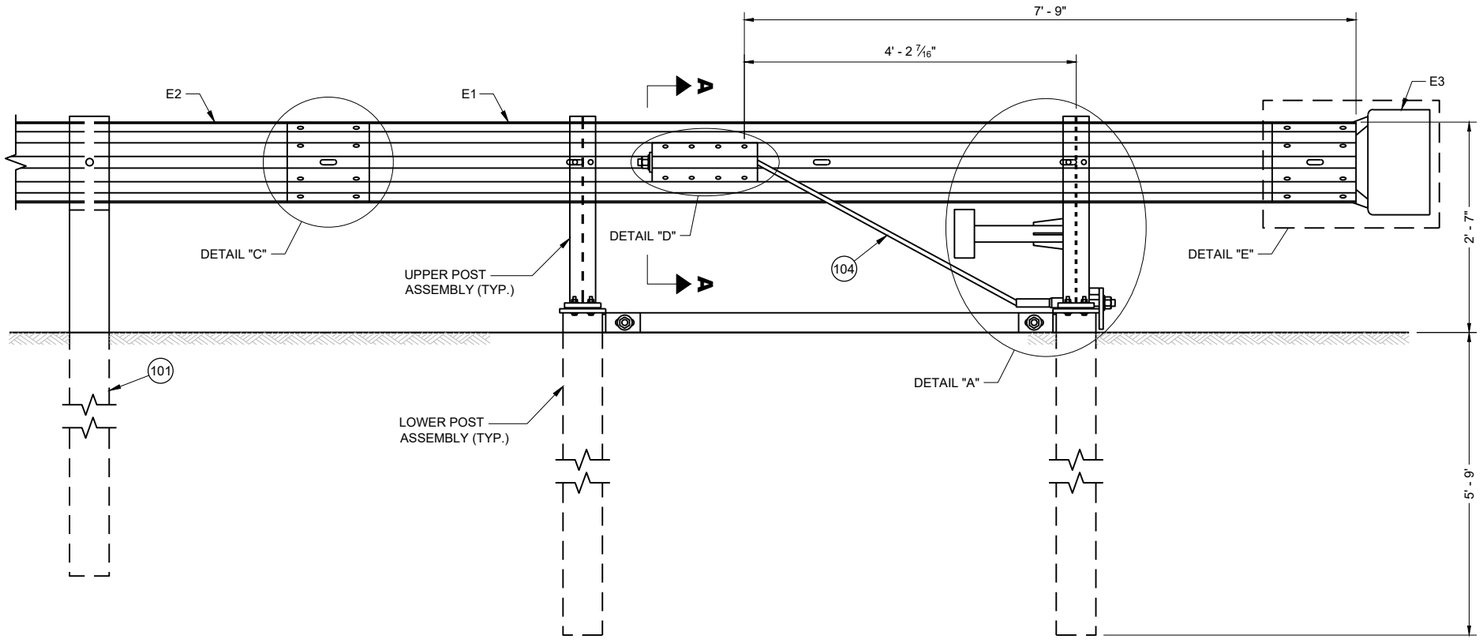
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

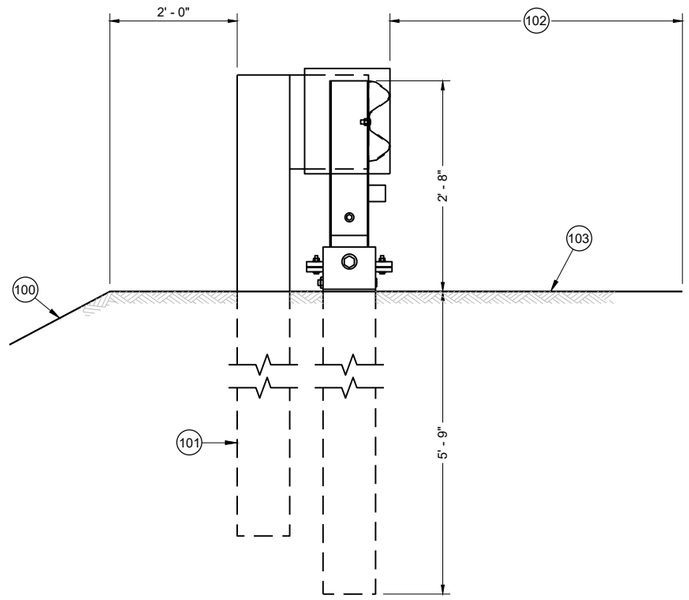
FHWA

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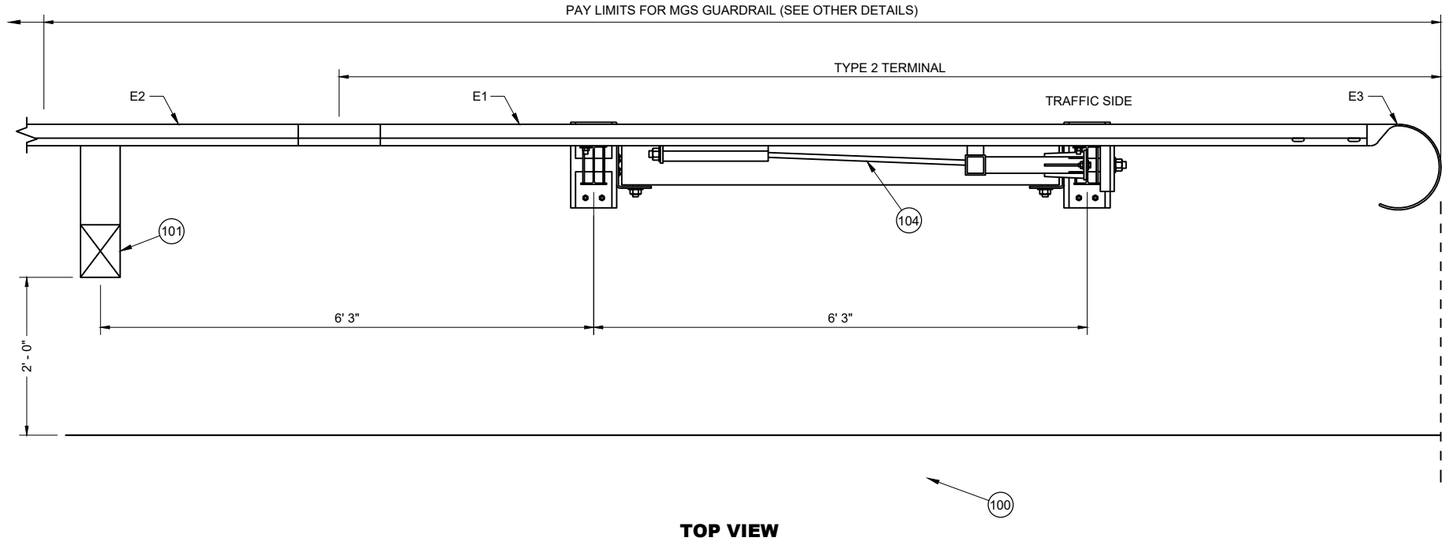
SDD 14B44 - 04c



BACK VIEW
TYPE 2 TERMINAL



SIDE VIEW
TYPE 2 TERMINAL



TOP VIEW
TYPE 2 TERMINAL

GENERAL NOTES

(100) MAXIMUM SLOPE IS 2.5:1.

(101) SEE SDD 14B42 FOR MORE INFORMATION.

(102) SHOULDER

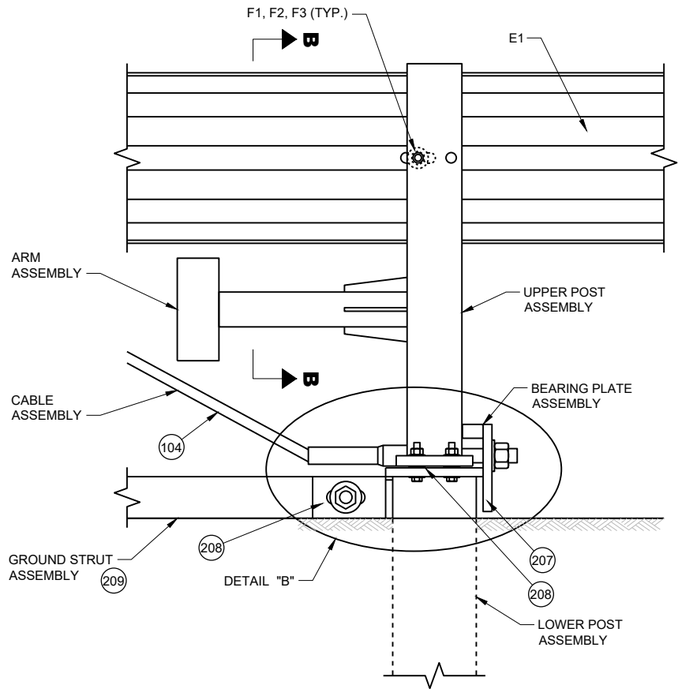
(103) MAXIMUM SLOPE IS 10:1.

(104) AFTER ASSEMBLY, CABLE IS TO BE TIGHTENED WITHOUT TWISTING THE CABLE.

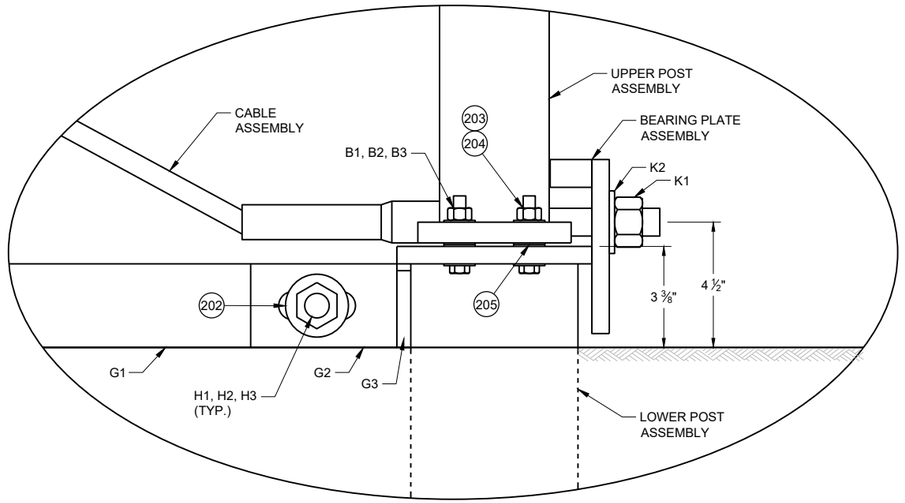
MIDWEST GUARDRAIL SYSTEM (MGS)
TYPE 2 TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

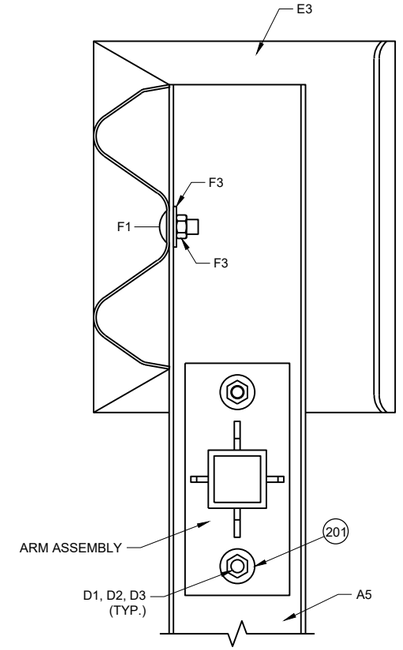
6
SDD 14B47-06a



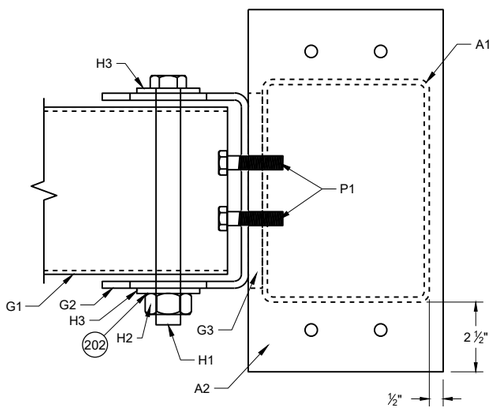
DETAIL "A"



DETAIL "B"

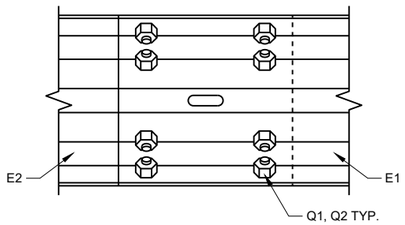


SECTION B - B

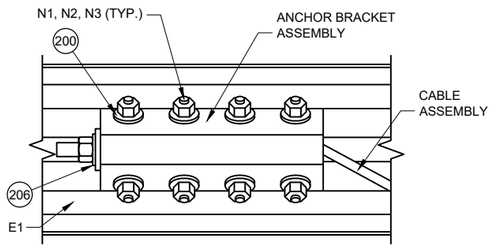


TOP VIEW

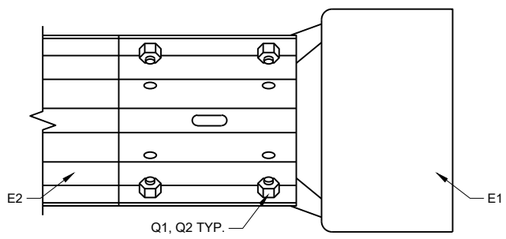
GROUND STRUT CONNECTION DETAIL



DETAIL "C"



DETAIL "D"



DETAIL "E"

GENERAL NOTES

200 INSTALL ONE WASHER UNDER BOLT HEAD AND RAIL AND ON WASHER BETWEEN NUT AND ANCHOR BRACKET ASSEMBLY.

201 INSTALL ONE WASHER UNDER BOLT HEAD AND UPPER POST ASSEMBLY AND ONE WASHER BETWEEN NUT AND ARM PLATE.

202 INSTALL ONE WASHER UNDER BOLT HEAD AND GROUND STRUT CONNECTOR AND ONE WASHER BETWEEN NUT AND GROUND STRUT CONNECTOR.

203 INSTALL ONE WASHER UNDER BOLT HEAD AND LOWER POST ASSEMBLY AND ONE WASHER BETWEEN NUT AND UPPER POST ASSEMBLY.

204 TORQUE VALUE IS BETWEEN 60 - 75 FT-LB.

205 TWO WASHERS BETWEEN UPPER AND LOWER POST ASSEMBLY.

206 INSTALL ONE WASHER BETWEEN NUT AND ANCHOR BRACKET ASSEMBLY.

207 NO MATERIAL IS TO BE PLACED AGAINST THE VERTICAL FACES OF BEARING PLATE.

208 PREVENT OR REMOVE MATERIALS THAT BLOCK ACCESS TO BOLTS FOR POST ASSEMBLIES AND GROUND STRUT.

209 PREVENT OR REMOVE MATERIALS THAT IMPEDE REMOVAL OF GROUND STRUT.

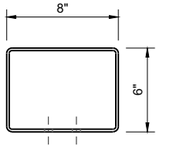
MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

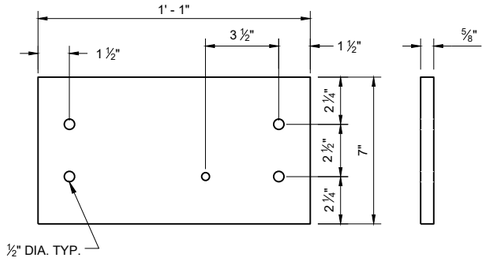
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SDD 14B47-06b

GENERAL NOTES

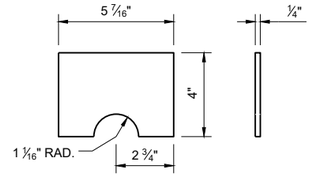
(300) TAP FOR 1/2" AFTER GALVANIZATION



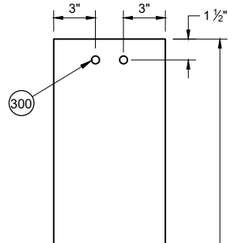
TOP VIEW



LOWER PLATE (A2)

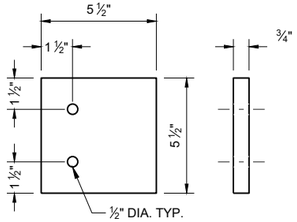


POST GUSSET (A3)

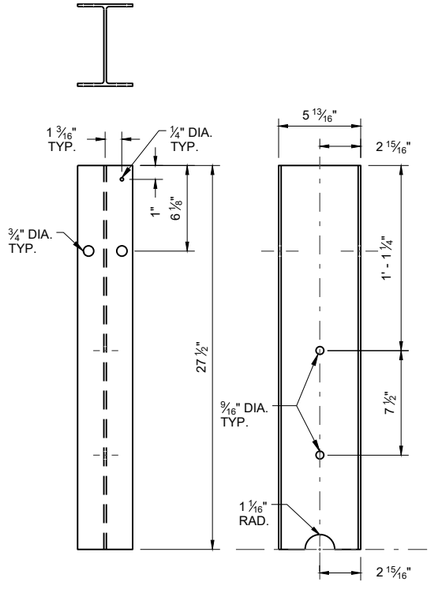


SIDE VIEW

FOUNDATION TUBE (A1)

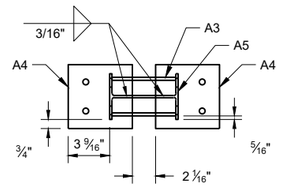


UPPER PLATE (A4)

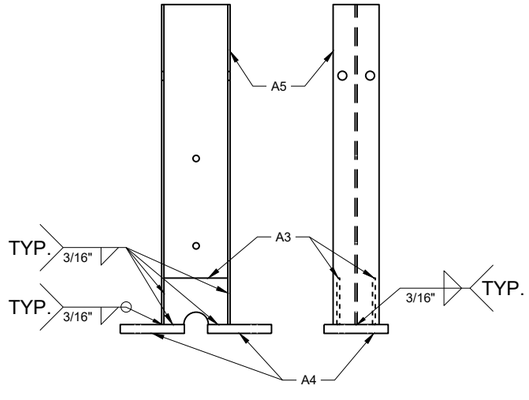


FRONT VIEW SIDE VIEW

TYPE 2 POST (A5)

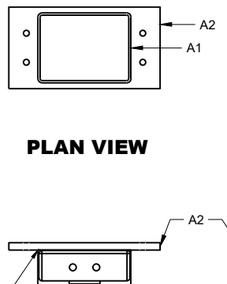


PLAN VIEW

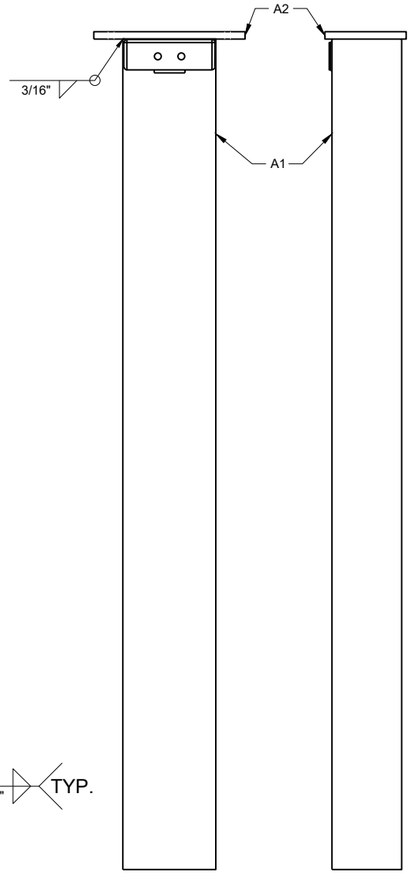


SIDE VIEW FRONT VIEW

UPPER POST ASSEMBLY

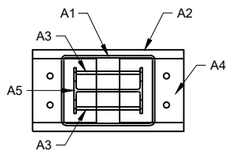


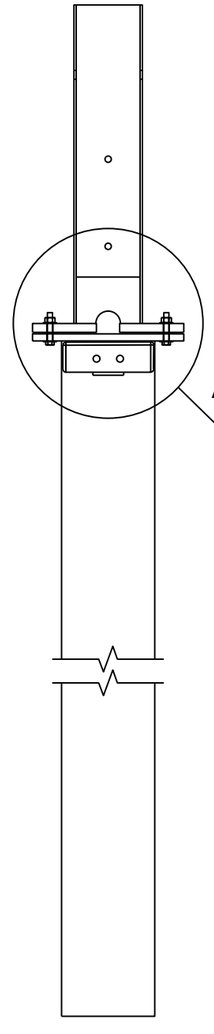
PLAN VIEW



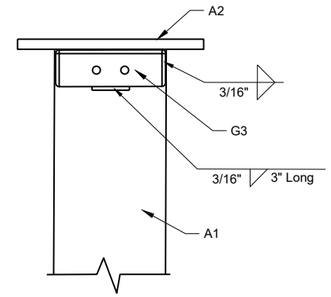
FRONT VIEW SIDE VIEW

LOWER POST ASSEMBLY

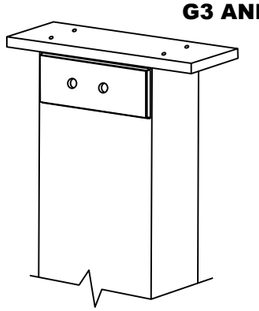




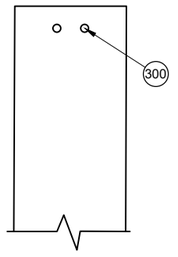
ASSEMBLED POST



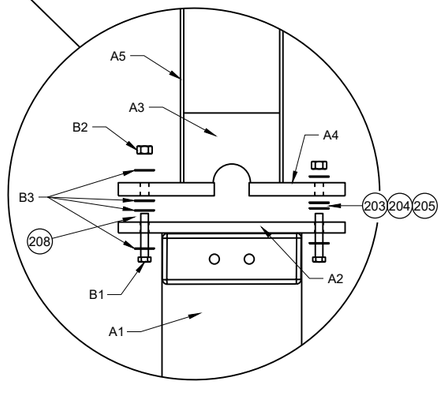
WELDING DETAIL G3 AND A1



ASSEMBLY DETAIL ISOMETRIC



A1

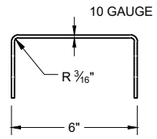


POST CONNECTION DETAIL

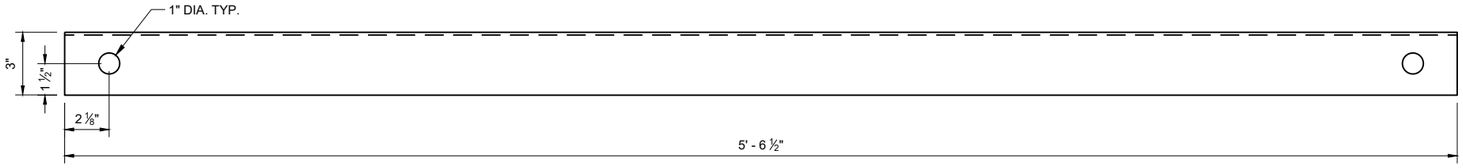
MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

SDD 14B47-06c

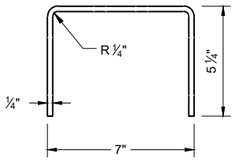


SIDE VIEW

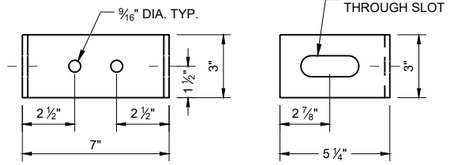


FRONT VIEW

GROUND STRUT CHANNEL (G1)

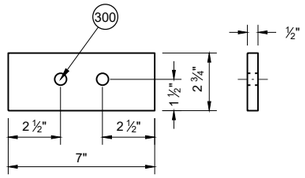


TOP VIEW

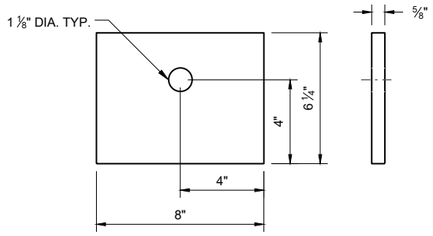


FRONT VIEW SIDE VIEW

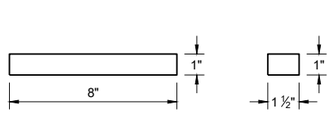
GROUND STRUT CONNECTOR (G2)



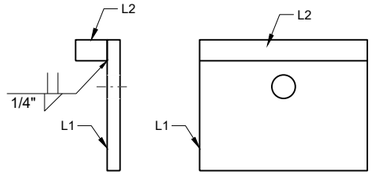
GROUND STRUT PLATE (G3)



BEARING PLATE (L1)

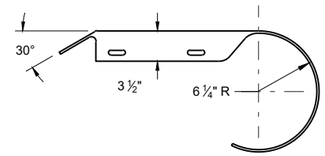


BEARING PLATE FLANGE (L2)

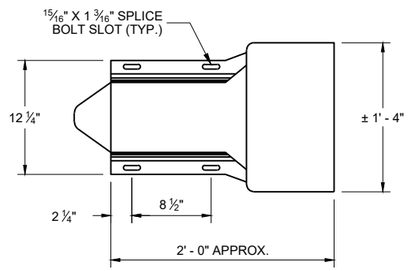


SIDE VIEW FRONT VIEW

BEARING PLATE ASSEMBLY



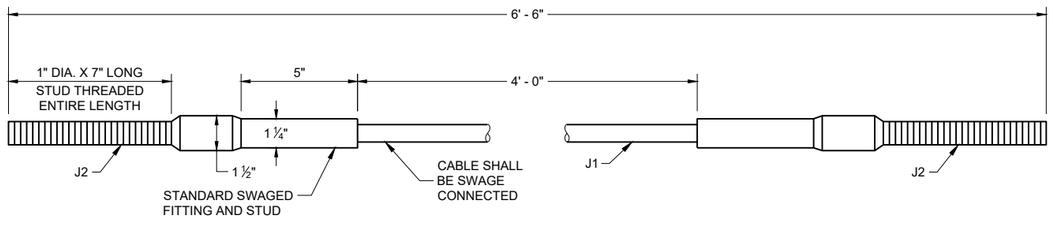
PLAN VIEW



ELEVATION VIEW

ROUNDED BUFFER END (E3)

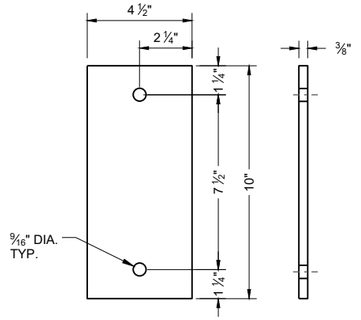
TYPE 2 GUARDRAIL (E1)



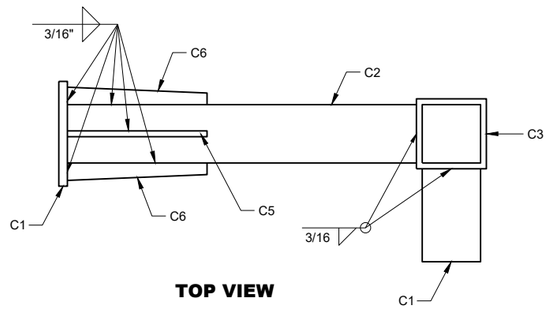
CABLE ASSEMBLY

MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL

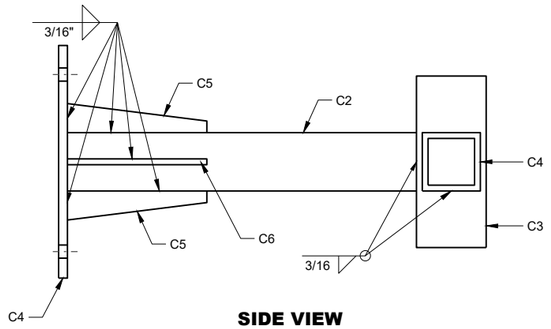
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



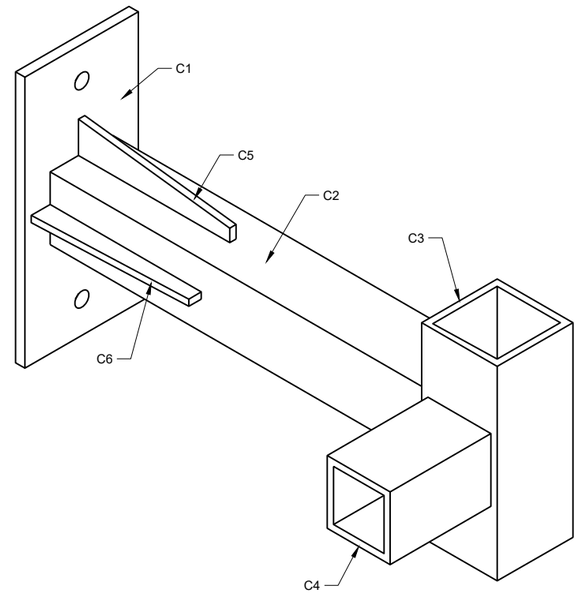
ARM PLATE (C1)



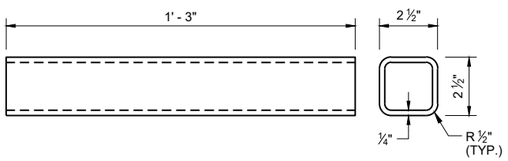
TOP VIEW
ARM ASSEMBLY



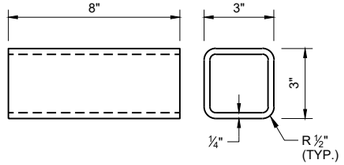
SIDE VIEW
ARM ASSEMBLY



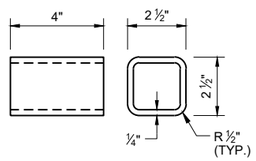
ISOMETRIC VIEW
ARM ASSEMBLY



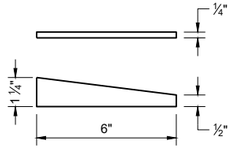
ARM TUBE 1 (C2)



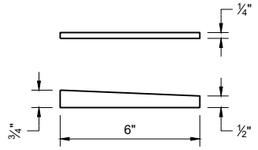
ARM TUBE 2 (C3)



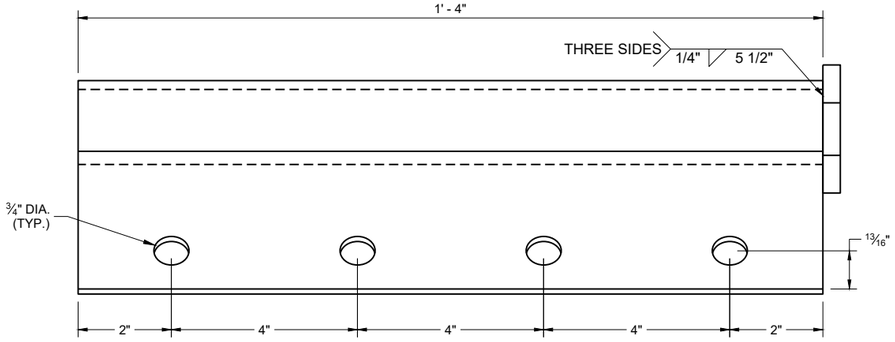
ARM TUBE 3 (C4)

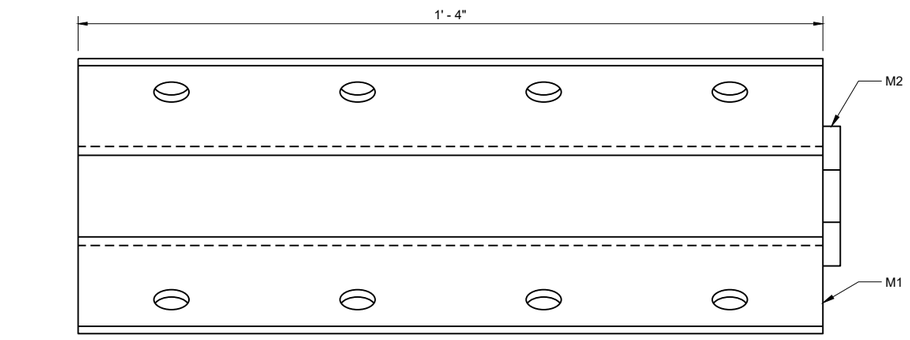


ARM GUSSET PLATE 1 (C5)

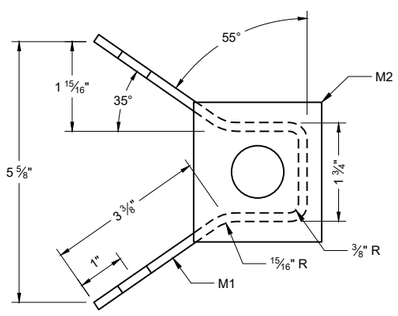


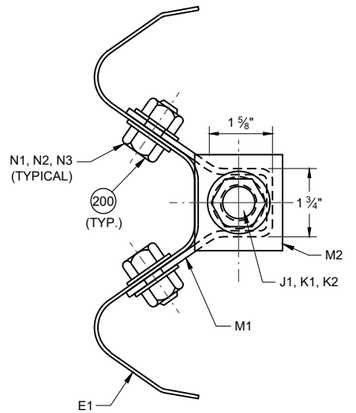
ARM GUSSET PLATE 2 (C6)

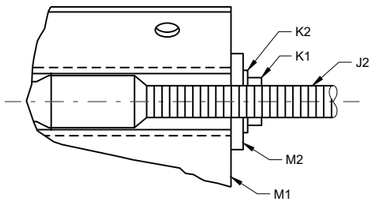




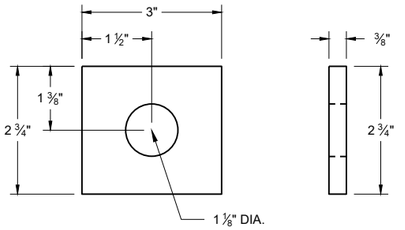
ANCHOR BRACKET (M1, M2)







SECTION A - A



ANCHOR BRACKET BEARING PLATE (M2)

MIDWEST GUARDRAIL SYSTEM (MGS)
TYPE 2 TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

BILL OF MATERIALS - TYPE 2 TERMINAL (MGS)

PART	DESCRIPTION	MATERIALS SPECIFICATIONS	NOTES
A1	TYPE 2 FOUNDATION TUBE	AASHTO M111 / ASTM A123 ASTM A500 GRADE B OR ASTM A-501	TS 8" x 6" x 3/16"
A2	LOWER PLATE	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI, OR ASTM A709 MAX STRENGTH 50 KSI, OR ASTM A992 MAX STRENGTH 50 KSI	5/8" THICKNESS
A3	POST GUSSET	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI, OR ASTM A709 MAX STRENGTH 50 KSI, OR ASTM A992 MAX STRENGTH 50 KSI	1/4" THICKNESS
A4	UPPER PLATE	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI, OR ASTM A709 MAX STRENGTH 50 KSI, OR ASTM A992 MAX STRENGTH 50 KSI	3/4" THICKNESS
A5	TYPE 2 POST	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI, OR ASTM A709 MAX STRENGTH 50 KSI, OR ASTM A992 MAX STRENGTH 50 KSI, w6x9 or w6x8.5	
B1	BREAKAWAY BOLT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 UNC HEAVY HEX HEAD ASTM F3125 GRADE A325 TYPE 1 HEAVY HEX HEAD OR SAE J429 GRADE 5 HEAVY HEX HEAD / ASTM A449 TYPE 1 HEAVY HEX HEAD. BOLTS MAY BE FULLY THREADED . PROVIDE ENOUGH THREADING FOR PROPER TIGHTENING OF BOLT.	7/16" DIA.
B2	BREAKAWAY BOLT WASHER	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 F436 TYPE 1 (HARDEN WASHER ONLY)	7/16" DIA.
B3	BREAKAWAY BOLT NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291/ASTM A 563 HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5	
C1	ARM ASSEMBLY PLATE	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI, OR ASTM A709 MAX STRENGTH 50 KSI, OR ASTM A992 MAX STRENGTH 50 KSI	3/8" THICKNESS
C2	ARM ASSEMBLY TUBE 1	AASHTO M111 / ASTM A123 ASTM A500 GRADE B OR ASTM A-501	TS 8" x 6" x 3/16"
C3	ARM ASSEMBLY TUBE 2	AASHTO M111 / ASTM A123 ASTM A500 GRADE B OR ASTM A-501	TS 3" x 3" x 1/4"
C4	ARM ASSEMBLY TUBE 3	AASHTO M111 / ASTM A123 ASTM A500 GRADE B OR ASTM A-501	TS 2 1/2" x 2 1/2" X 1/4"
C5	ARM ASSEMBLY GUSSET PLATE 1	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI, OR ASTM A709 MAX STRENGTH 50 KSI, OR ASTM A992 MAX STRENGTH 50 KSI	1/4" THICKNESS
C6	ARM ASSEMBLY GUSSET PLATE 2	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI, OR ASTM A709 MAX STRENGTH 50 KSI, OR ASTM A992 MAX STRENGTH 50 KSI	1/4" THICKNESS
D1	ARM ASSEMBLY BOLT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 UNC HEAVY HEX HEAD ASTM A307 GRADE B OR SAE J429 GRADE 2 OR ASTM F1554 GRADE 36	1/2" DIA.
D2	ARM ASSEMBLY WASHER	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 F436 TYPE 1 (HARDEN WASHER ONLY)	1/2" DIA.
D3	ARM ASSEMBLY NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291 / ASTM A 563 HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5	1/2" DIA.
E1	TYPE 2 GUARD RAIL	AASHTO M180 CLASS A TYPE 2 12 GAUGE APPROVED PRODUCER	
E2	BEAM GUARD RAIL	AASHTO M180 CLASS A TYPE 2 12 GAUGE APPROVED PRODUCER	
E3	BEAM GUARD ROUNDED BUFFER END	AASHTO M180 CLASS A TYPE 2 12 GAUGE APPROVED PRODUCER	
F1	POST BOLT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 UNC UNC HEAVY HEX HEAD ASTM A307 GRADE B OR SAE J429 GRADE 2 OR ASTM F1554 GRADE 36	5/8" DIA.
F2	POST BOLT WASHER	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 F436 TYPE 1 (HARDEN WASHER ONLY)	5/8" DIA.
F3	POST BOLT NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291/ASTM A 563 AASHTO M180 RECESSED HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5	
G1	GROUND STRUT CHANNEL	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI, OR ASTM A709 MAX STRENGTH 50 KSI, OR ASTM A992 MAX STRENGTH 50 KSI	1/2" x 11 3/4" x 10 GAUGE
G2	GROUND STRUT CONNECTOR	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI, OR ASTM A709 MAX STRENGTH 50 KSI, OR ASTM A992 MAX STRENGTH 50 KSI	1/4" THICKNESS
G3	GROUND STRUT PLATE	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI, OR ASTM A709 MAX STRENGTH 50 KSI, OR ASTM A992 MAX STRENGTH 50 KSI	1/2" THICKNESS

MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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SDD 14B47-06f

BILL OF MATERIALS - TYPE 2 TERMINAL (MGS)

PART	DESCRIPTION	MATERIALS SPECIFICATIONS	NOTES
H1	GROUND STRUT BOLT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 UNC HEAVY HEX HEAD ASTM A307 GRADE B OR SAE J429 GRADE 2 OR ASTM F1554 GRADE 36	7/8" DIA.
H2	GROUND STRUT BOLT WASHER	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1/ ASTM B695 CLASS 50 TYPE 1 F436 TYPE 1 (HARDEN WASHER ONLY)	7/8" DIA.
H3	GROUND STRUT BOLT NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 UNC HEAVY HEX HEAD 5/8" ASTM A307 GRADE B OR SAE J429 GRADE 2 OR ASTM F1554 GRADE 36	
J1	BCT CABLE	AASHTO M30 / ASTM A741 6 x 19 INDEPENDENT WIRE CORE (IWRC) IMPROVED PLOW STEEL (IPS), 6 x 19 INDEPENDENT WIRE CORE (IWRC) IMPROVED PLOW STEEL (IPS) TYPE II OR IIC, CLASS C ZINC COATED MIN. BREAKING STRENGTH OF 42.7 KIPS	3/4" DIA.
J2	BCT CABLE	UNC 1" ASTM A576 GRADE 1035 SWAGE FITTINGS ARE TO BE FACTORY SWEDGED. MIN BREAKING STRENGTH OF 42.7 KIPS ASME B30.26 "FORGED, CAST, OR DIE STAMPED WITH THE FOLLOWING IN TO CONNECTION: NAME OF MANUFACTURE OR TRADEMARK OF CONNECTION'S MANUFACTURER, SIZE OR RATED LOAD, GRADE FOR ALLOY EYEBOLTS."	
K1	CABLE ASSEMBLY NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291 / ASTM A 563 HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5	1" DIA.
K2	CABLE ASSEMBLY WASHER	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1	1" DIA.
L1	BEARING PLATE	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI, OR ASTM A709 MAX STRENGTH 50 KSI, OR ASTM A992 MAX STRENGTH 50 KSI	5/8" THICKNESS
L2	BEARING PLATE FLANGE	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI, OR ASTM A709 MAX STRENGTH 50 KSI, OR ASTM A992 MAX STRENGTH 50 KSI	1" THICKNESS
M1	BEAM GUARD ANCHOR BRACKET	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI, OR ASTM A709 MAX STRENGTH 50 KSI, OR ASTM A992 MAX STRENGTH 50 KSI	
M2	BEAM GUARD ANCHOR END PLATE	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI, OR ASTM A709 MAX STRENGTH 50 KSI, OR ASTM A992 MAX STRENGTH 50 KSI	3/8" THICKNESS
N1	ANCHOR BRACKET BOLT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 UNC AASHTO M180 HEAD ASTM A307 GRADE B OR SAE J429 GRADE 2 OR ASTM F1554 GRADE 36	5/8" DIA.
N2	ANCHOR BRACKET BOLT WASHER	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1/ ASTM B695 CLASS 50 TYPE 1 F436 TYPE 1 (HARDEN WASHER ONLY)	5/8" DIA.
N3	ANCHOR BRACKET BOLT NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291 /ASTM A 563 HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5	
P1	FOUNDATION TUBE BOLT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1/ ASTM B695 CLASS 50 TYPE 1 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291 / ASTM A 563 HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5	1/2" DIA.
Q1	SPLICE BOLT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 UNC AASHTO M180 HEAD ASTM A307 GRADE B OR SAE J429 GRADE 2 OR ASTM F1554 GRADE 36	
Q2	SPLICE NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291 / ASTM A 563 AASHTO M180 RECESSED HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5	5/8" DIA.

6

SDD 14B47-06g

MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

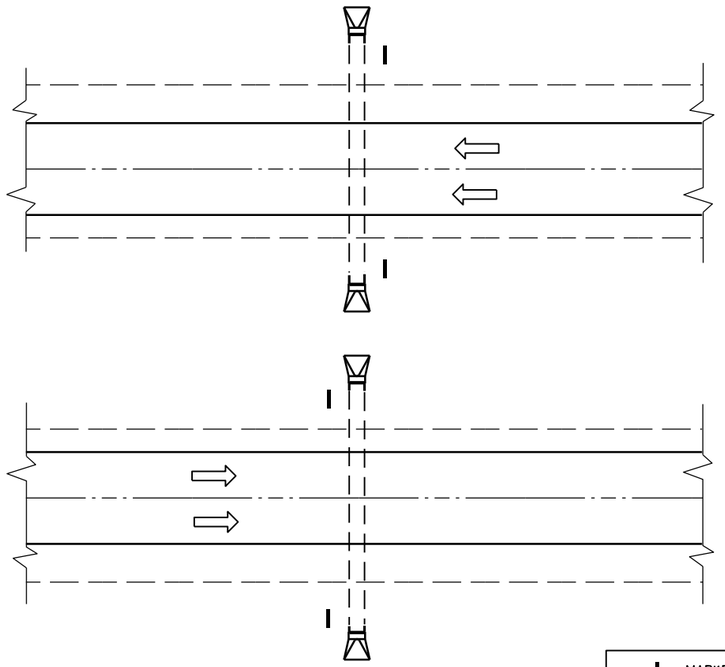
APPROVED
December 2024
DATE

/S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR

FHWA

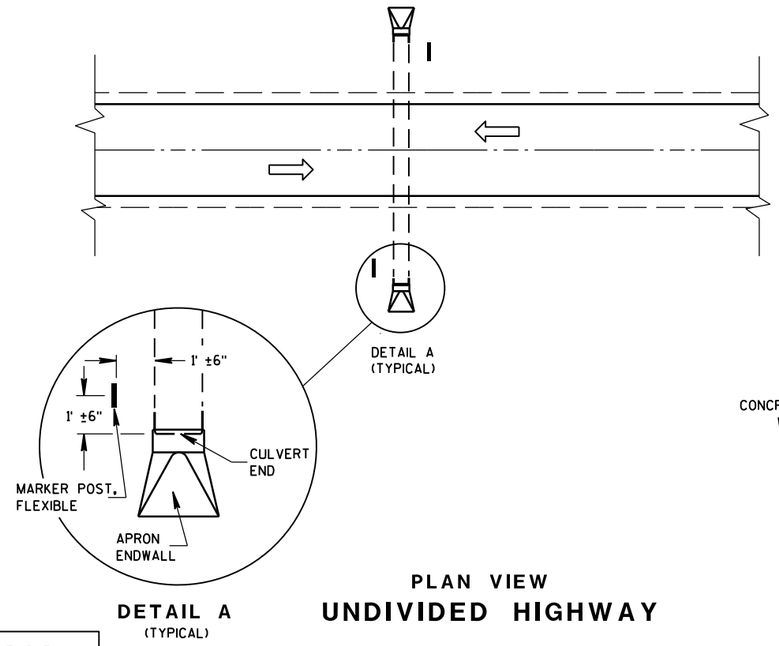
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SDD 14B47-06g



PLAN VIEW

DIVIDED HIGHWAY



DETAIL A
(TYPICAL)

PLAN VIEW

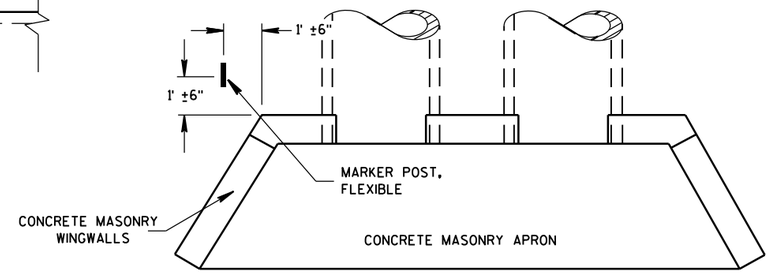
UNDIVIDED HIGHWAY

MARKER POST, FLEXIBLE

DIRECTION OF TRAFFIC FLOW

GENERAL NOTES

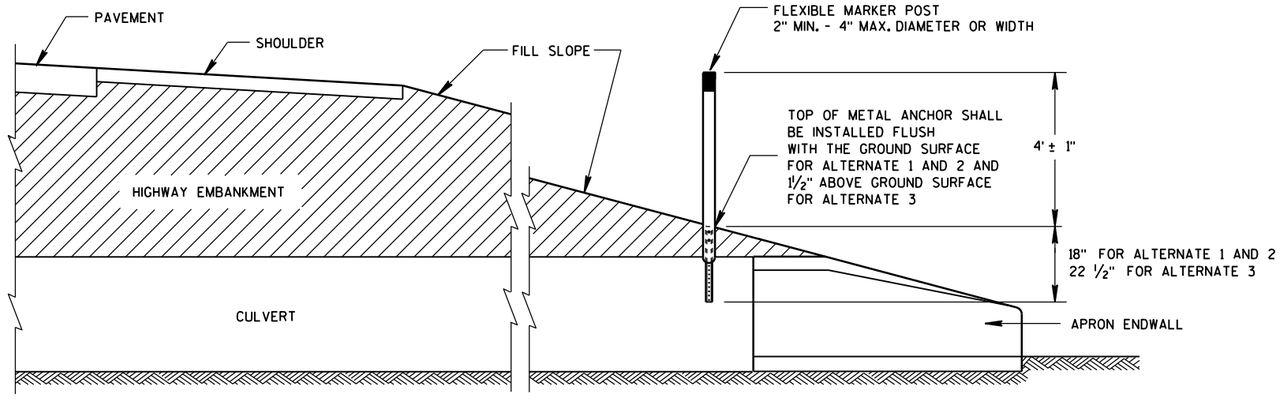
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.



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

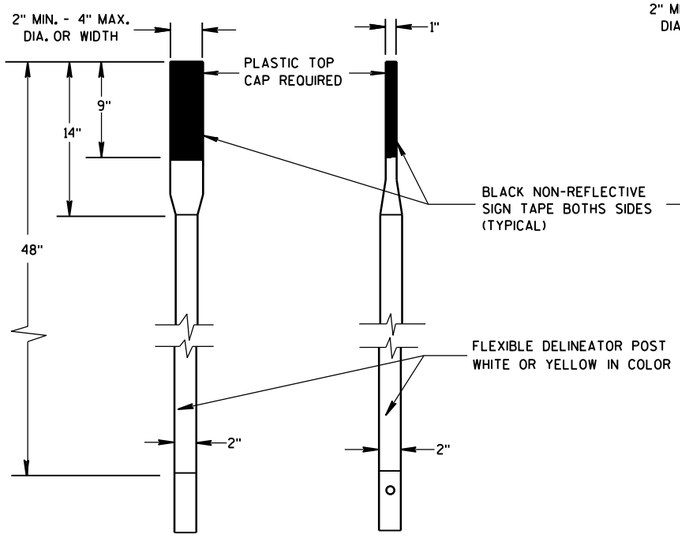
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

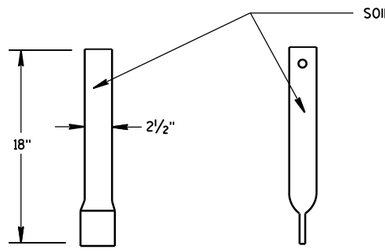
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S.D.D. 15 A 3-2a

6

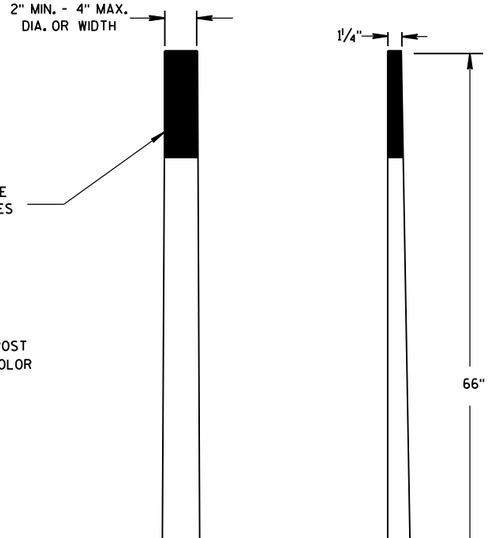
S.D.D. 15 A 3-2a





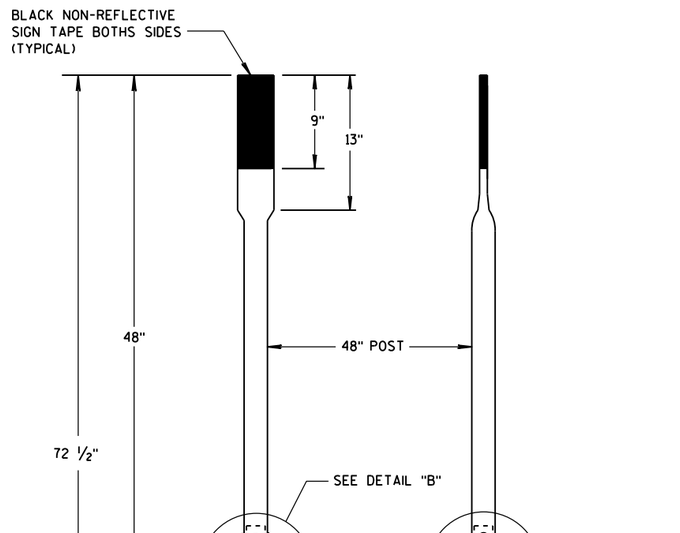
FRONT VIEW SIDE VIEW

ALTERNATE 1



FRONT VIEW SIDE VIEW

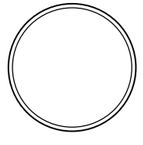
ALTERNATE 2



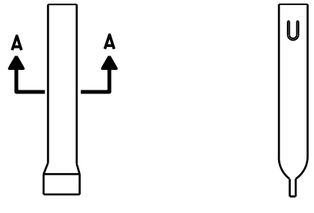
FRONT VIEW SIDE VIEW

ALTERNATE 3

FLEXIBLE MARKER POSTS

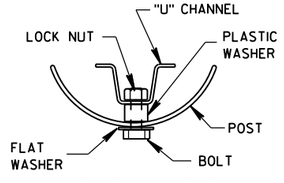


SECTION A-A

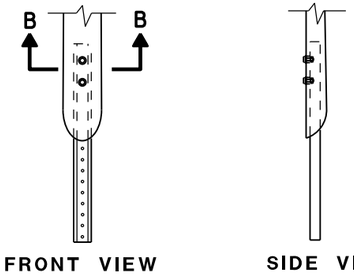


FRONT VIEW SIDE VIEW

ALTERNATE 1

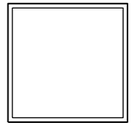


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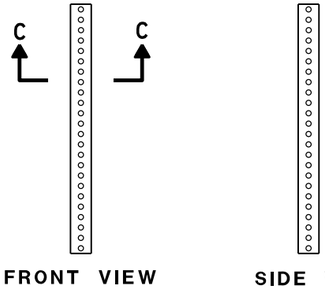


FRONT VIEW SIDE VIEW

ALTERNATE 2



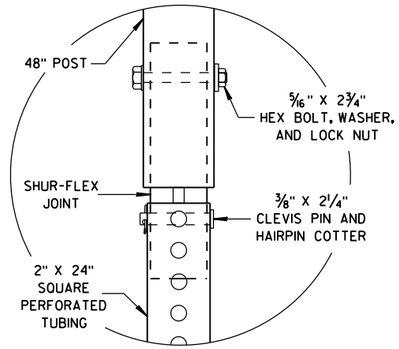
SECTION C-C



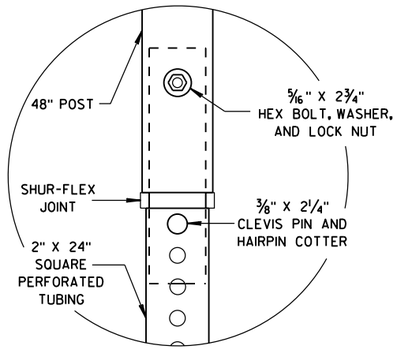
FRONT VIEW SIDE VIEW

ALTERNATE 3

FLEXIBLE MARKER POST ANCHORS



DETAIL B



DETAIL C

FLEXIBLE MARKER POST
FOR CULVERT END

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

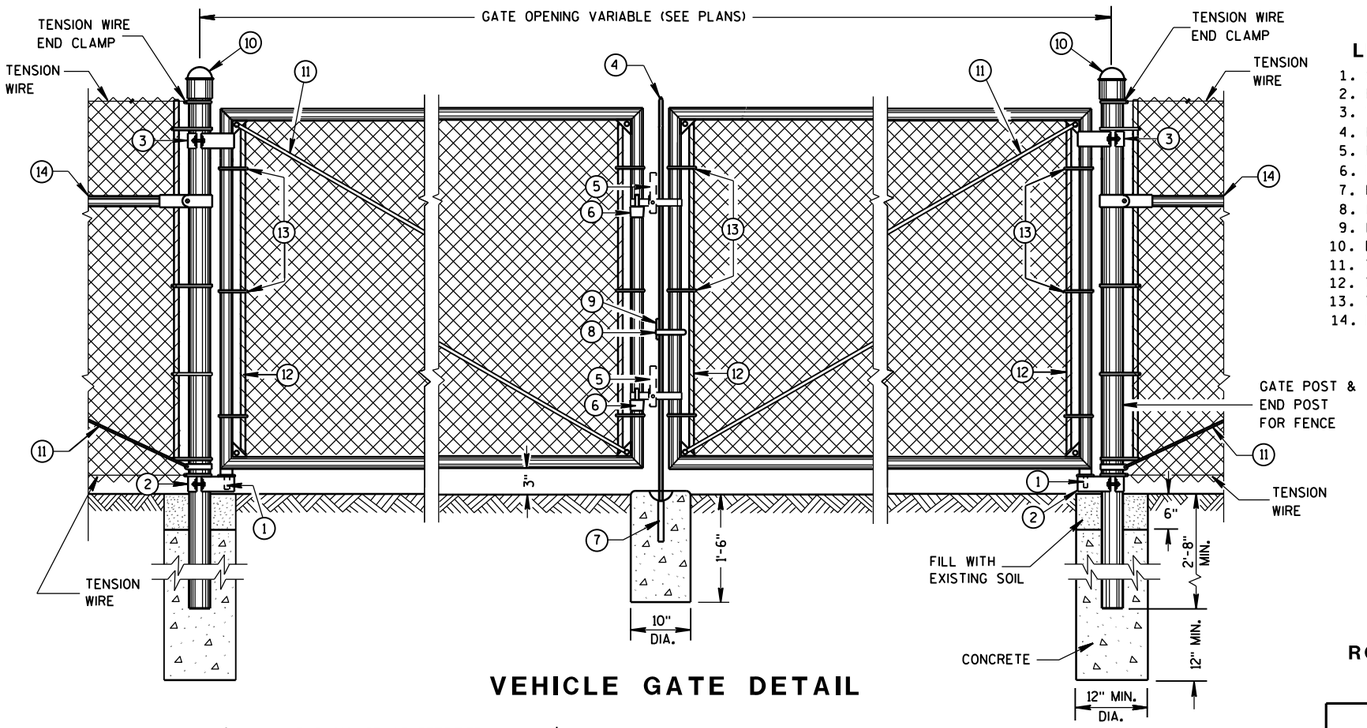
APPROVED
10/1/2012 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER
FHWA

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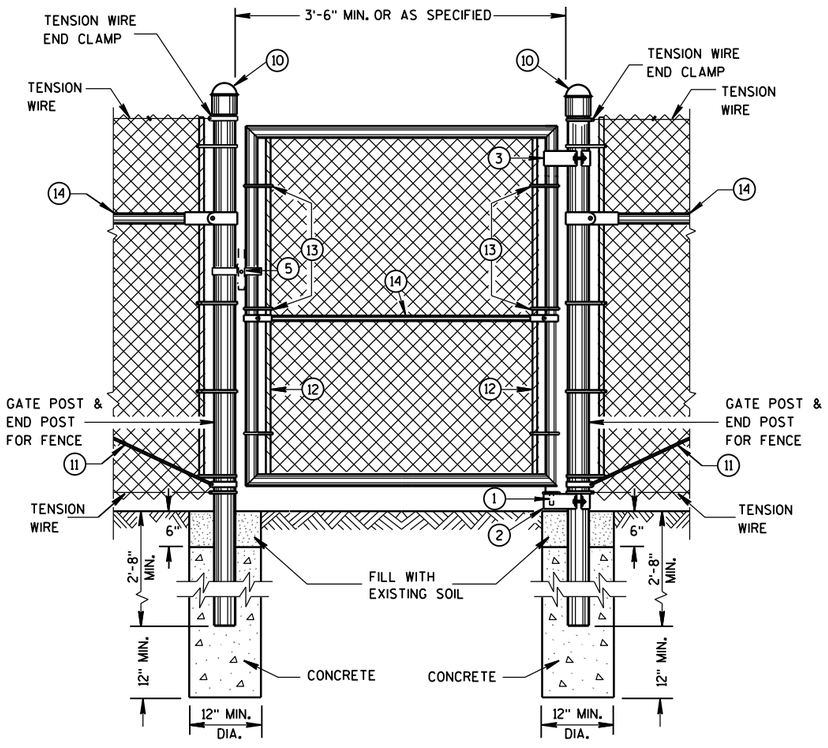
S.D.D. 15 A 3-2b

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



VEHICLE GATE DETAIL



PEDESTRIAN GATE DETAIL

LEGEND

1. STRAIGHT PLUG
2. BOTTOM HINGE
3. TOP HINGE
4. PLUNGER ROD
5. FULCRUM LATCH
6. FORK CATCH *
7. PLUNGER ROD CATCH
8. LOCK KEEPER GUIDE
9. LOCK KEEPER
10. DOME TOPS
11. TRUSS RODS
12. TENSION BAR
13. TENSION BANDS
14. BRACE RAIL

*NOT REQUIRED ON SINGLE SWING PEDESTRIAN GATE

GENERAL NOTES

FENCE POSTS INSTALLED ON CONCRETE WALLS SHALL BE ANCHORED INTO EMBEDDED METAL SLEEVES OR CORED HOLE BY FILLING THE ANNULAR SPACE WITH PEA GRAVEL FOLLOWED BY AN EPOXY RESIN ADHESIVE. THE EPOXY RESIN ADHESIVE SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M 235, CLASS A, B OR C.

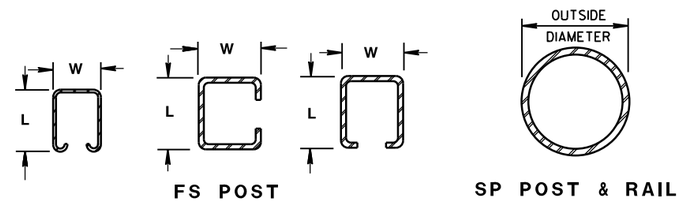
USE FENCE FABRIC KNUCKLED AT BOTH SELVAGES.

FOR LEAF GATES GREATER THAN 8 FEET WIDE, INSTALL INTERIOR VERTICAL BRACE RAIL AT 8 FOOT INTERVALS.

FOR FABRIC HEIGHTS GREATER THAN 8 FEET, INSTALL INTERIOR HORIZONTAL BRACE RAILS TO LEAF GATE.

MAXIMUM SAG FOR OUTER GATE MEMBER SHALL NOT EXCEED THE GREATER OF 1% OF THE LEAF GATE WIDTH OR 2 INCHES.

USE TYPE 2, CLASS 3, MARCELLED/CRIMPED, TENSION WIRE PER ASTM A 817.



CROSS SECTIONS OF POSTS AND RAILS

ROLLED-FORMED STEEL FENCE POST (2.0 OZ./SQ. FT. COATING)

POST TYPE	LENGTH (L) INCH	WIDTH (W) INCH	WEIGHT LBS/FT
FS1	1.625	1.25	1.35
FS2†	1.875	1.625	1.850
FS2	1.875	1.625	2.400
FS3	2.250	1.700	2.780

ROUND STEEL FENCE POST (1.8 OZ./SQ. FT. COATING)

POST TYPE	OUTSIDE DIMENSION INCH	WALL THICKNESS INCH	WEIGHT LBS/FT
SP1	1.660	0.140	2.270
SP2	1.900	0.145	2.720
SP3	2.375	0.154	3.650
SP4	2.875	0.203	5.800
SP5	4.000	0.226	9.120
SP6	6.625	0.280	18.990
SP7	8.625	0.322	28.580

REQUIRED FENCE POST SIZES

USE	FABRIC HEIGHTS FEET	POST TYPE
TERMINAL POSTS **	LESS THAN OR EQUAL TO 6 FT.	SP3
	GREATER THAN OR EQUAL TO 6 FT.	SP4
LINE POSTS	LESS THAN OR EQUAL TO 6 FT.	SP2
	LESS THAN OR EQUAL TO 8 FT.	SP3
	GREATER THAN OR EQUAL TO 8 FT.	SP4
	LESS THAN OR EQUAL TO 8 FT.	FS2 OR FS2†
	GREATER THAN OR EQUAL TO 8 FT.	FS3

REQUIRED POST SIZE FOR GATES

USE	LEAF WIDTHS FEET	POST TYPE
GATES	LESS THAN OR EQUAL TO 6 FT.	SP4
	LESS THAN OR EQUAL TO 13 FT.	SP5
	LESS THAN OR EQUAL TO 18 FT.	SP6
	LESS THAN OR EQUAL TO 23 FT.	SP7

BRACE RAIL TYPES

USE		TYPE
BRACE RAIL		SP1 OR FS1

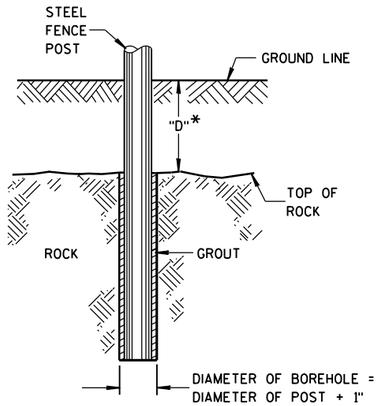
** INCLUDES END, CORNER, ANGLE, INTERSECTION AND INTERMEDIATE BRACED POSTS

FENCE CHAIN LINK

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

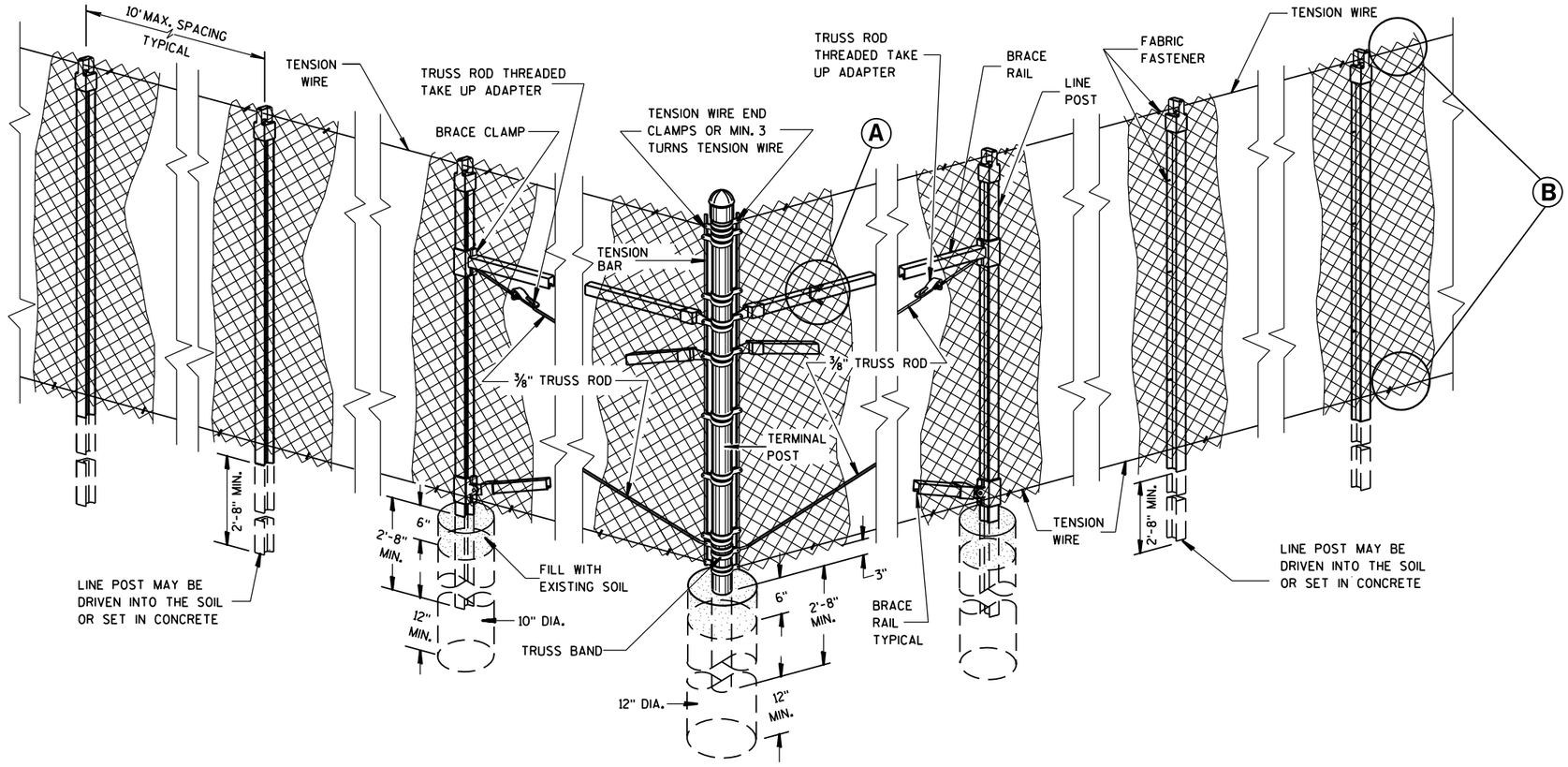
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S.D.D. 15 B 3-15a

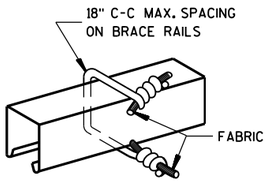


*IF "D" IS LESS THAN 2'-6", DRILL ROCK AND INSTALL GROUT

ROCK INSTALLATION OF LINE POST



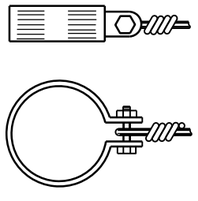
END, CORNER, ANGLE INTERSECTION & INTERMEDIATE BRACED POSTS



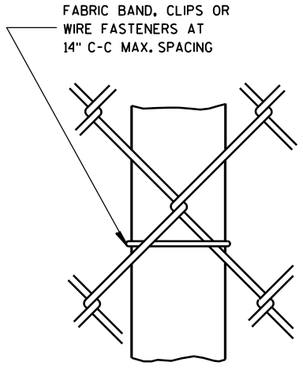
BRACE RAIL

FABRIC FASTENER

Ⓐ



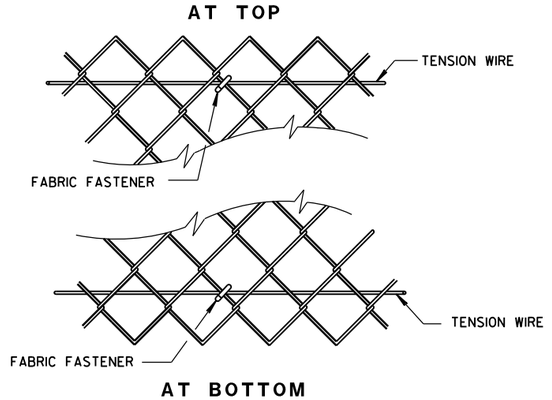
TENSION WIRE END CLAMP



LINE POST

FABRIC FASTENER

AT TOP



AT BOTTOM

SELVAGES

Ⓑ

FENCE CHAIN LINK

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

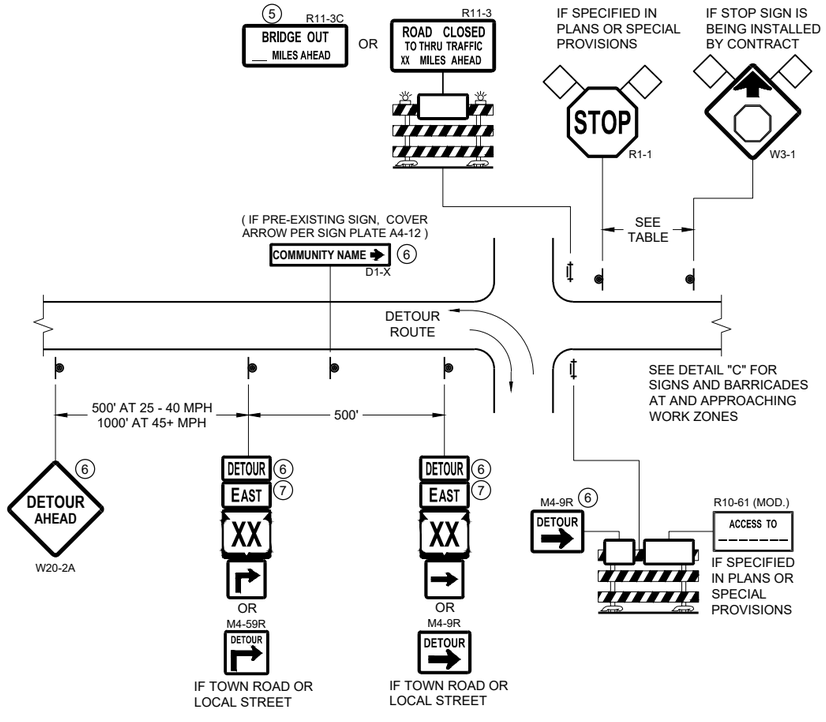
APPROVED
FEB. 2015 DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

6

S.D.D. 15 B 3-15b

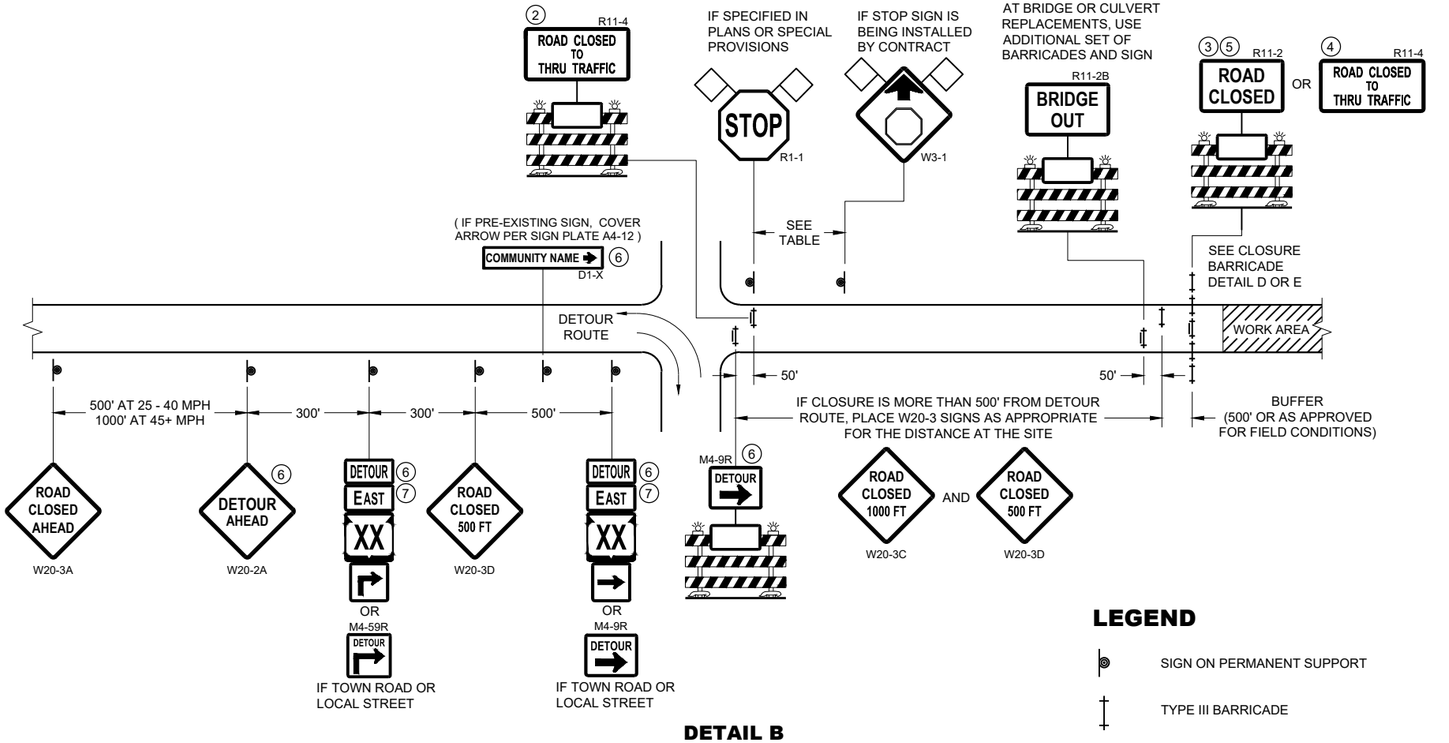
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S.D.D. 15 B 3-15b



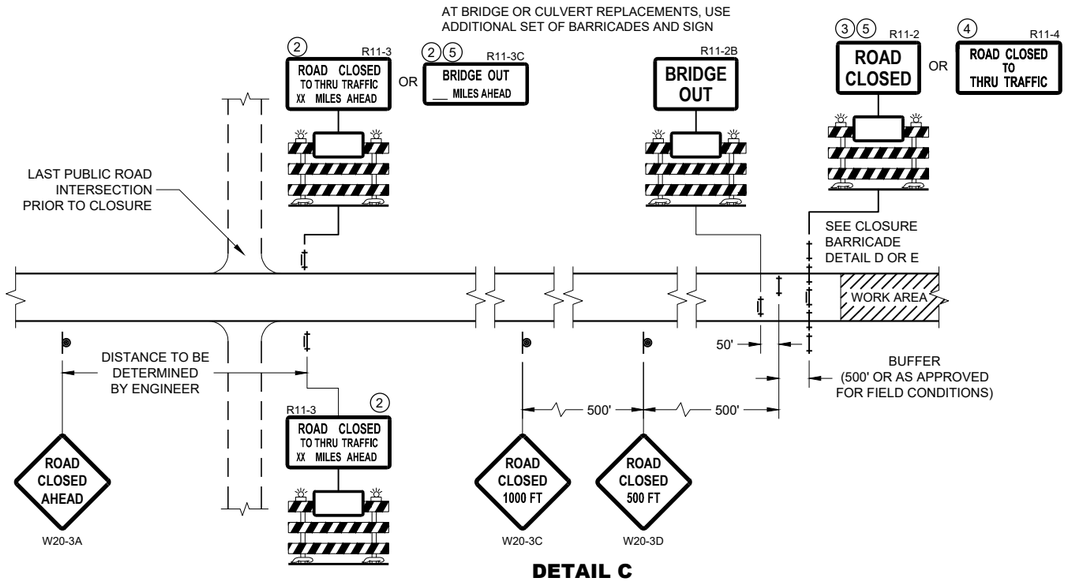
DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR

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
May 2023
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEER

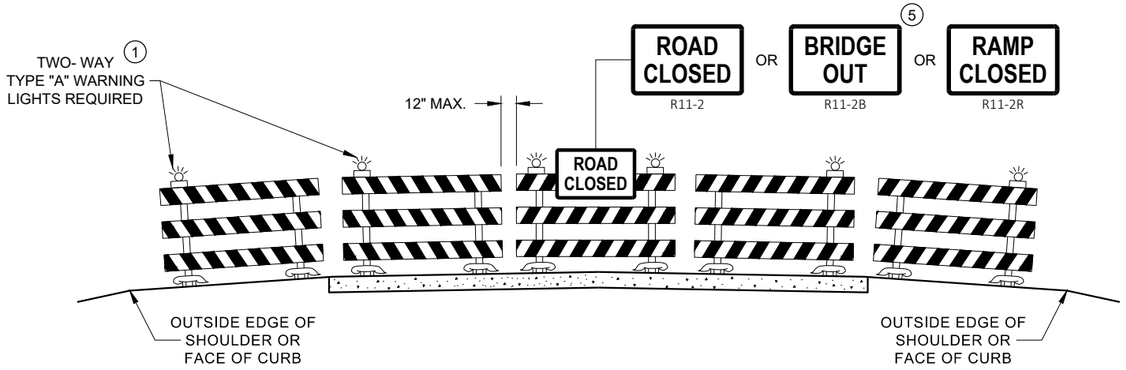
FHWA

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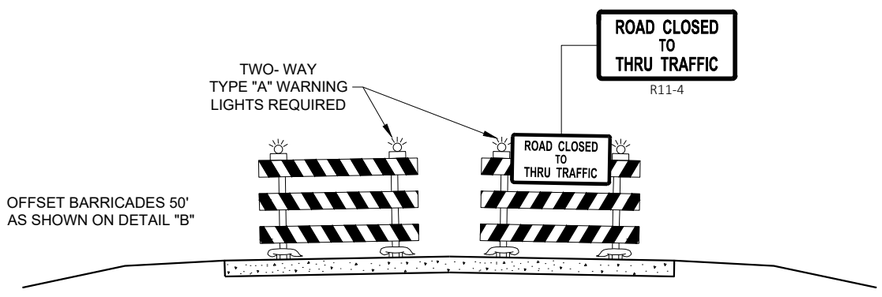
SDD 15C02 - 09a

6

SDD 15C02 - 09a



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

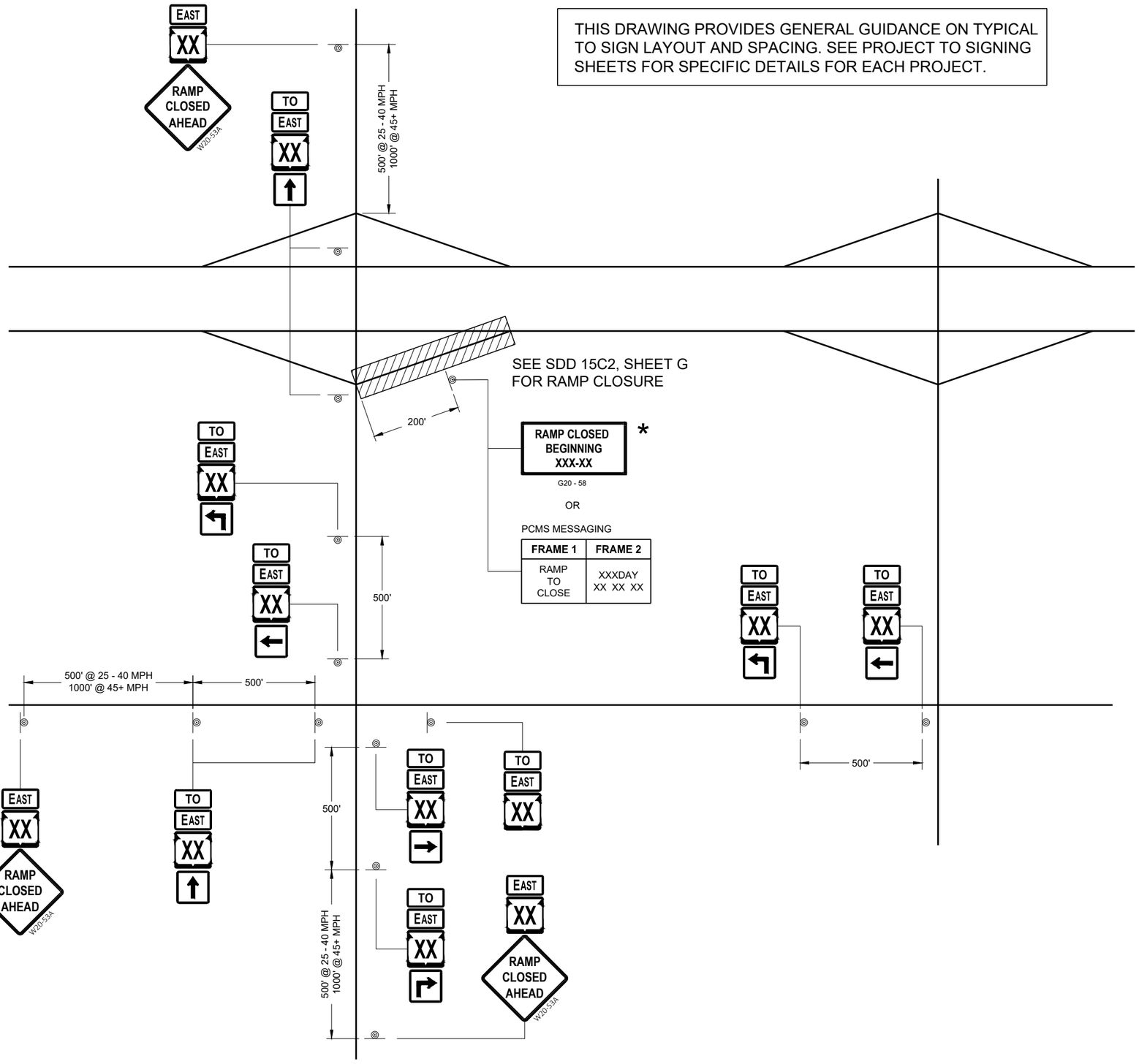
APPROVED
May 2023
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEE
FHWA

6

SDD 15C02 - 09b

6

SDD 15C02 - 09b



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

LEGEND

SIGN ON PERMANENT SUPPORT

TO EAST — MO4 - 5, M3 - X

XX M1 - 6 OR XX M1 - 4 OR INTERSTATE XX M1 - 1

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

THE SPACING BETWEEN TRAFFIC CONTROL AND TO 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 SHALL 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 FOLLOW:
- M3 - X SHALL BE 24" X 12". (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS).
- MO4 - 5 SHALL BE 24" X 12". (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS).
- M1 - 1, M1 - 4, AND M1 - 6 SHALL BE 24" X 24" (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS).
- MO5 - 1, MO5 - 2, AND MO6 - 1, SHALL BE 21" X 21". (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS).
- W20 - 53A SHALL BE 48" X 48"

* PLACE "RAMP CLOSED BEGINNING" SIGN 7 CALENDAR DAYS PRIOR TO CLOSURE OR AS DIRECTED BY THE ENGINEER. SEE WISCONSIN STANDARD SIGN PLATES FOR LAYOUT.

ON RAMP LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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May 2023 — DATE
/S/ Andrew Heidtke — WORK ZONE ENGINEER

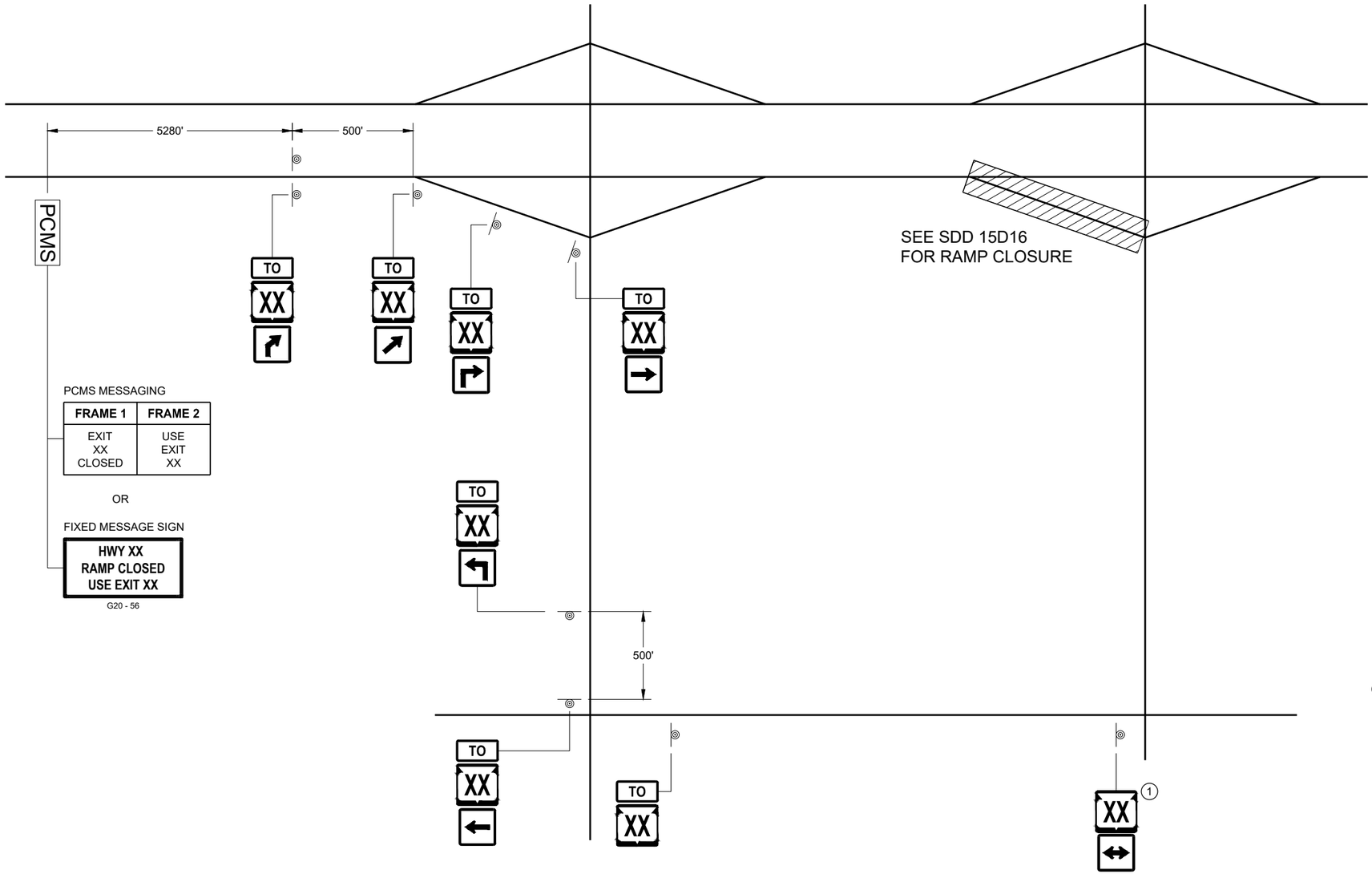
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SDD 15C02 - 09d

SDD 15C02 - 09d

THIS DRAWING PROVIDES GENERAL GUIDANCE ON TYPICAL "TO" MO-4 SIGN LAYOUT AND SPACING. SEE PROJECT TO SIGNING SHEETS FOR SPECIFIC DETAILS FOR EACH PROJECT.



PCMS MESSAGING

FRAME 1	FRAME 2
EXIT XX CLOSED	USE EXIT XX

OR

FIXED MESSAGE SIGN

HWY XX
RAMP CLOSED
USE EXIT XX

G20 - 56

LEGEND

SIGN ON PERMANENT SUPPORT

PCMS PORTABLE CHANGEABLE MESSAGE SIGN

TO MO4 - 5

XX M1 - 4 OR XX M1 - 6 OR COUNTY X M1 - 5A

M05 - 1 OR M05 - 2 OR M06 - 1 OR M06 - 2 OR M06 - 4

GENERAL NOTES

SEE SDD 15D16 "TRAFFIC CONTROL, EXIT RAMP CLOSURE" DETAIL FOR TRAFFIC CONTROL AT EXIT RAMP CLOSURE.

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

IF THERE ARE ANY ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE "TO" MO-4 ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. SEE SPECIFIC PROJECT TO SIGNING DETAIL SHEETS. MODIFY EXISTING SIGNS WHERE POSSIBLE.

THE SPACING BETWEEN TRAFFIC CONTROL AND "TO" MO-4 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 SHALL 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 FOLLOW:
- MO4 - 5 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, MO5 - 2, AND MO6 - 1, SHALL BE 21" X 21". (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS).

(1) ONLY ADD IF THERE ARE NO EXISTING ROUTE MARKERS FOR THE INTERSECTING ROADWAY.

OFF RAMP
LANE CLOSURE

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DEPARTMENT OF TRANSPORTATION

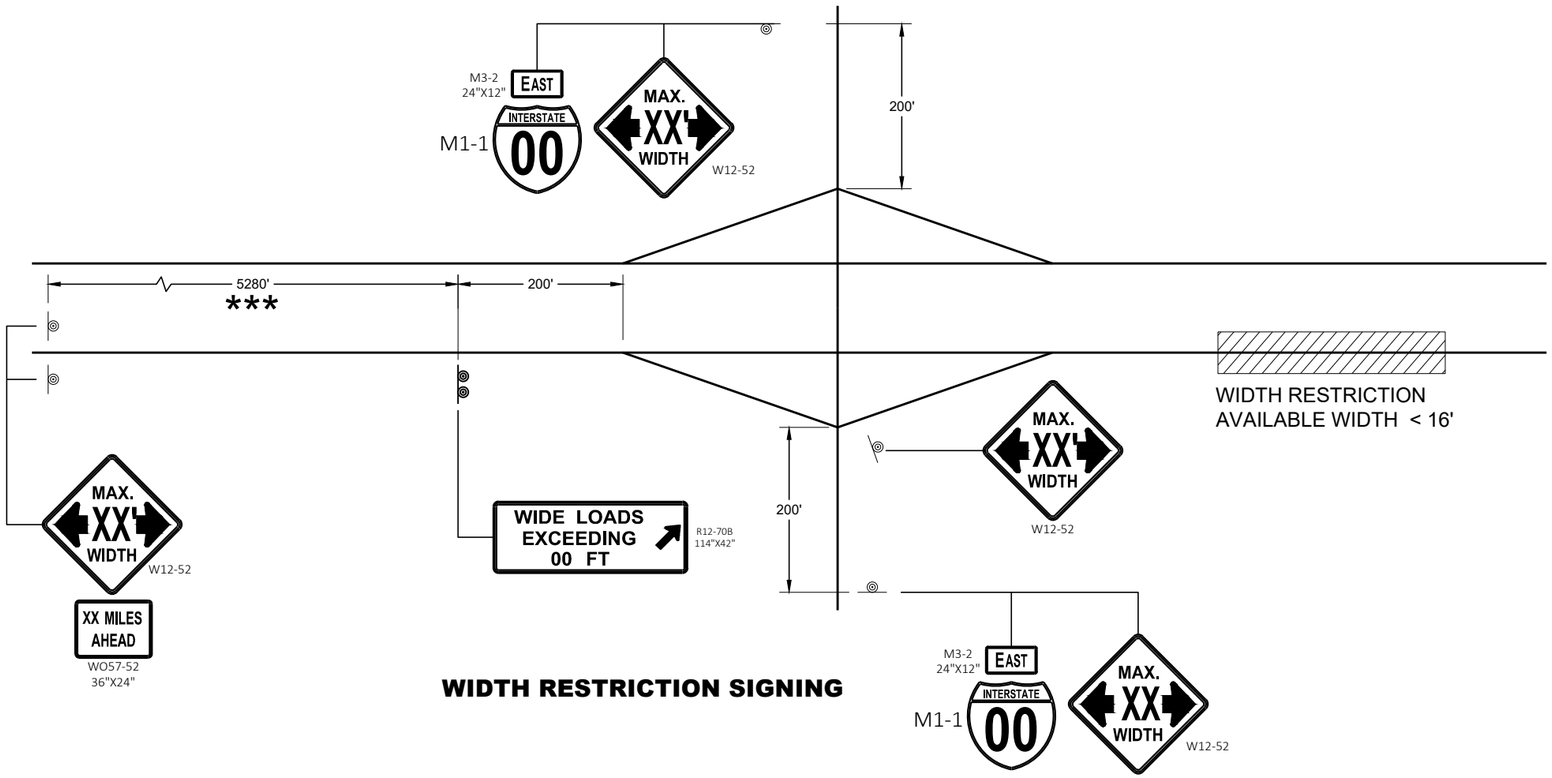
APPROVED
May 2023 DATE
/S/ Andrew Heidtke
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FHWA

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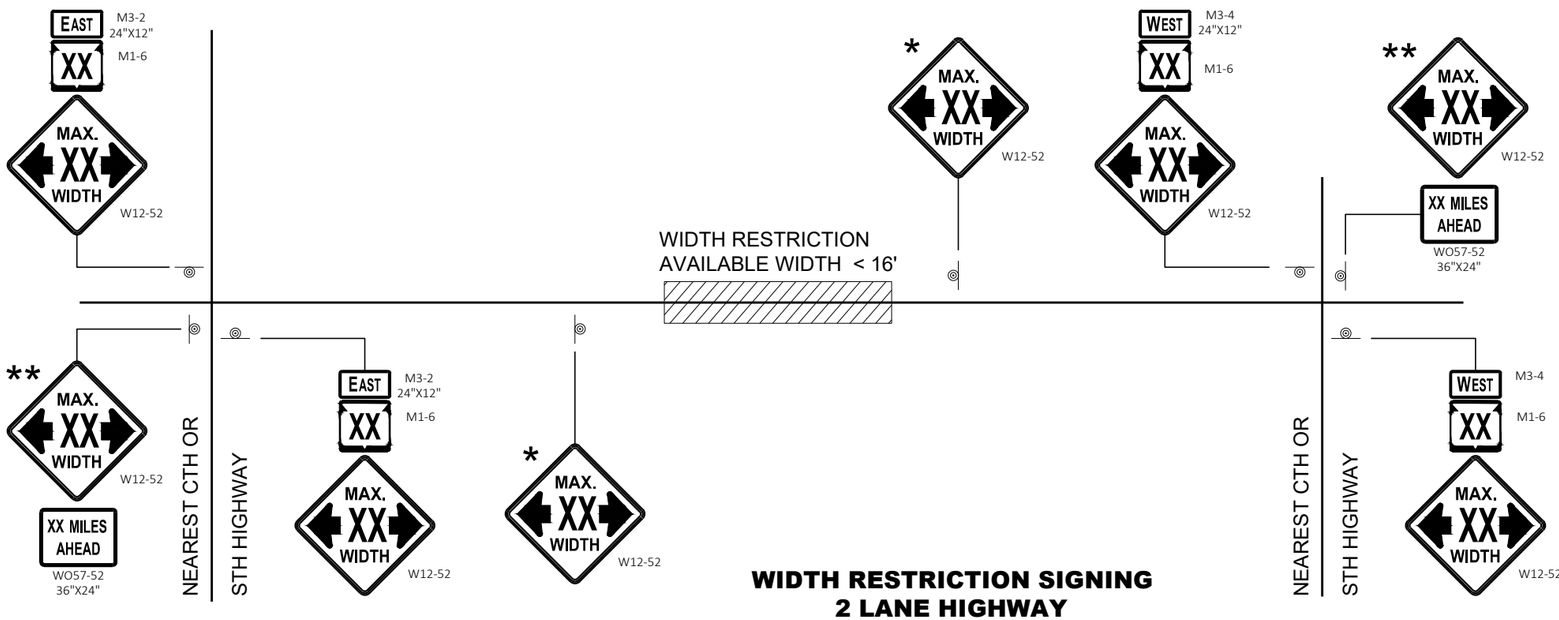
SDD 15C02 - 09e

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SDD 15C02 - 09e



WIDTH RESTRICTION SIGNING



WIDTH RESTRICTION SIGNING
2 LANE HIGHWAY

LEGEND

SIGN ON PERMANENT SUPPORT

GENERAL NOTES

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

THE SPACING BETWEEN 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.

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

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

WIDTH ON SIGN TO BE APPROXIMATELY ONE FOOT LESS THAN AVAILABLE WIDTH.

* PLACE 500 FEET AFTER THE W20 - 1A AND 500 FEET BEFORE ADDITIONAL SIGNS FOR ROADWAYS WITH A PRE - CONSTRUCTION SPEED LIMIT OF 45 MPH OR MORE. FOR 35-40 MPH, USE 350 FOOT TYPICAL SPACING. FOR 25-30 MPH, USE 200 FOOT TYPICAL SPACING.

** SIGN SHALL BE VISIBLE FROM ROADWAY.

*** ADDITIONAL SIGNS NEEDED IF THERE IS AN ON RAMP BETWEEN SIGNS.



WIDTH ON SIGN TO BE APPROX. 1 - FOOT LESS THAN AVAILABLE WIDTH

ADVANCED WIDTH RESTRICTION SIGNING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

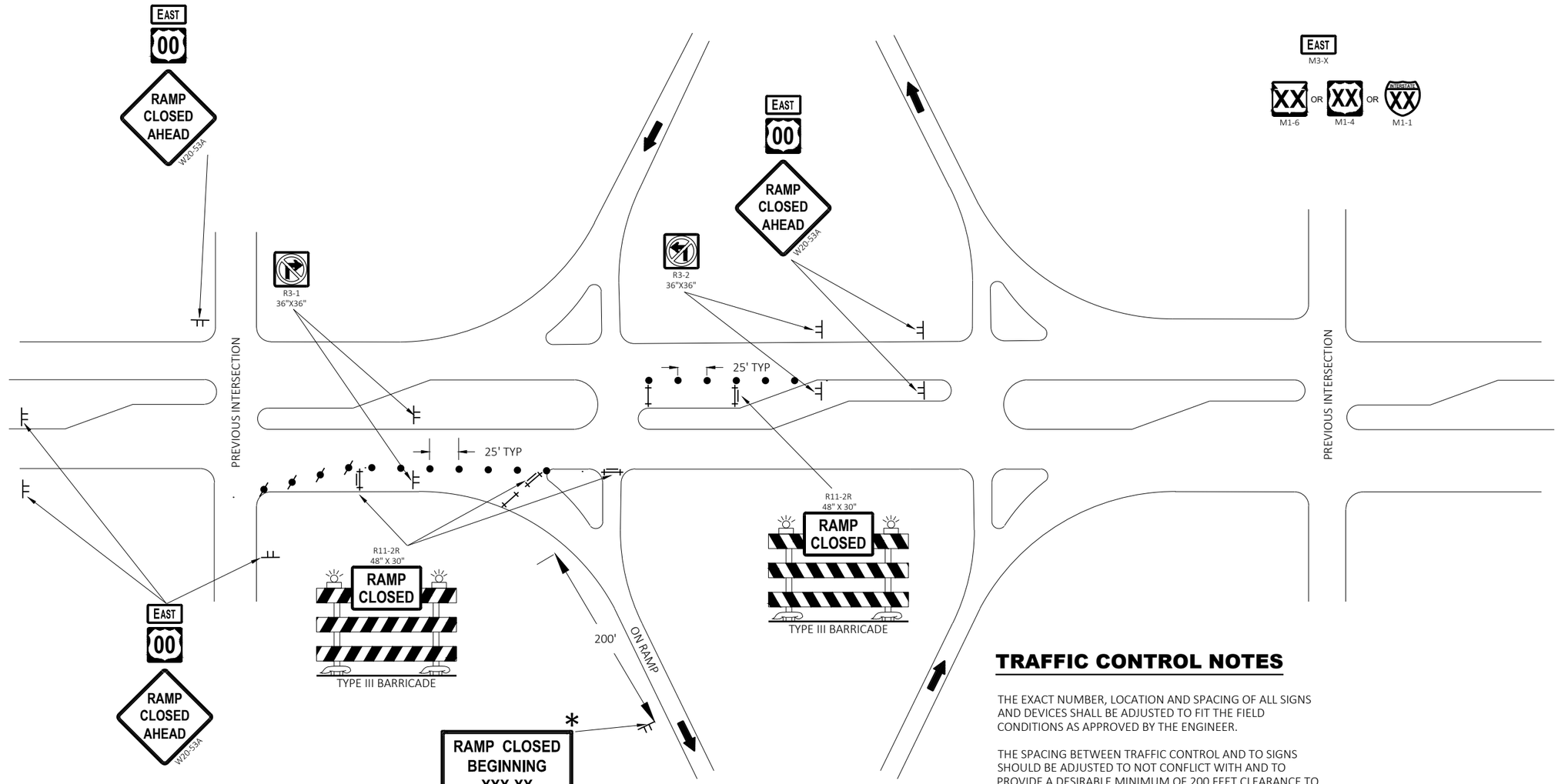
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LEGEND

- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DIRECTION OF TRAFFIC

TRAFFIC CONTROL NOTES

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

THE SPACING BETWEEN TRAFFIC CONTROL AND TO 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 THE TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

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

SIGN SIZES SHALL BE AS FOLLOWS:

- M3-X SHALL BE 24"x24" (36" x18" IF NEEDED TO MATCH EXISTING SIGNS)
- M1-1, M1-4, AND M1-6 SHALL BE 24"x24" (36"x36" IF NEEDED TO MATCH EXISTING SIGNS)
- W20-53A SHALL BE 48"X48"

* PLACE "RAMP CLOSED BEGINNING" SIGN 7 CALENDAR DAYS PRIOR TO CLOSURE OR AS DIRECTED BY THE ENGINEER. SEE WISCONSIN STANDARD SIGN PLATES FOR LAYOUT.

TRAFFIC CONTROL FOR ENTRANCE RAMP CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023 — DATE
/S/ Andrew Heidtke — WORK ZONE ENGINEE
FHWA

6

SDD 15C02-09g

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SDD 15C02-09g

GENERAL NOTES

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

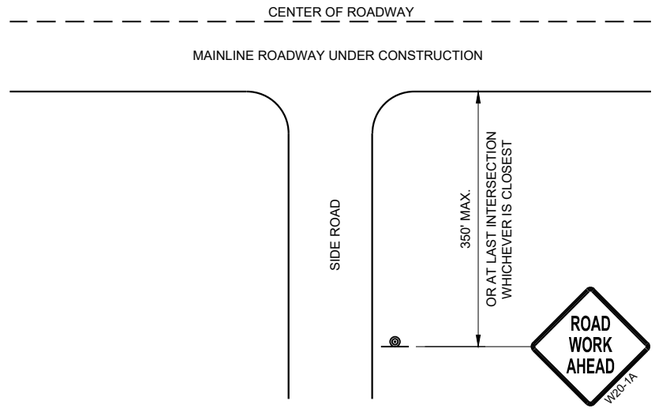
THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

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

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

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

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



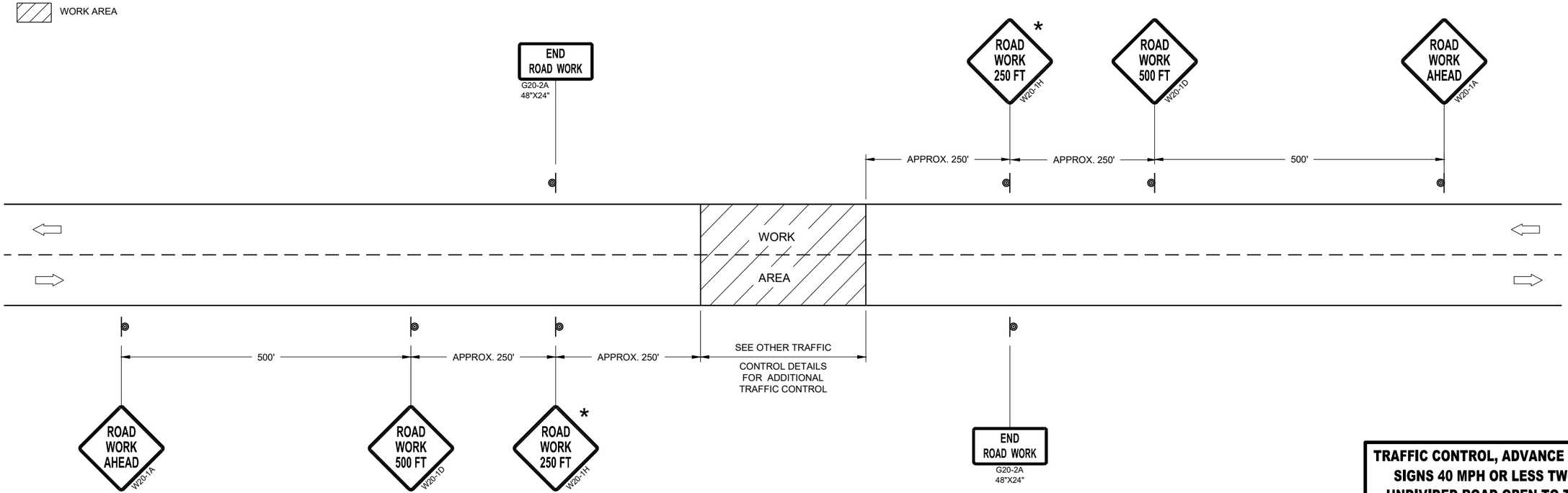
TYPICAL SIDE ROAD APPROACH WARNING SIGN DETAIL

LEGEND

SIGN ON PERMANENT SUPPORT

DIRECTION OF TRAFFIC

WORK AREA



TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40MPH OR LESS

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
July 2018
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

6

SDD 15C05 - 05

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.

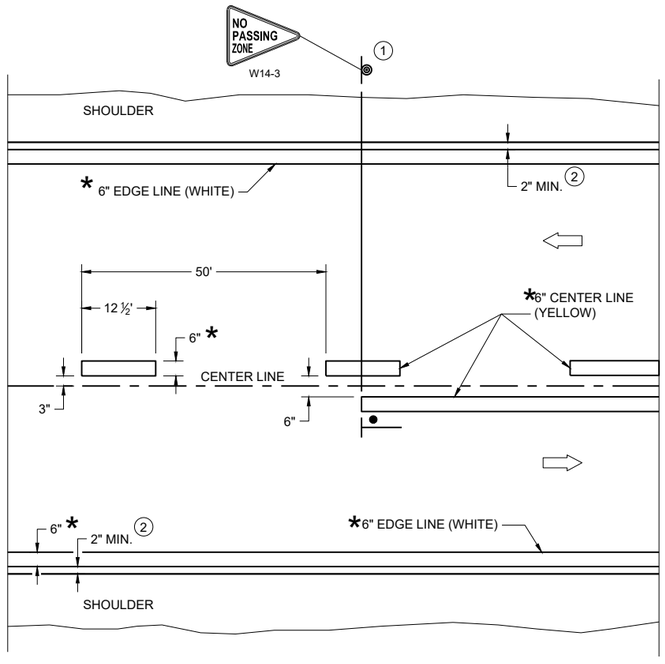
*CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES

LEGEND

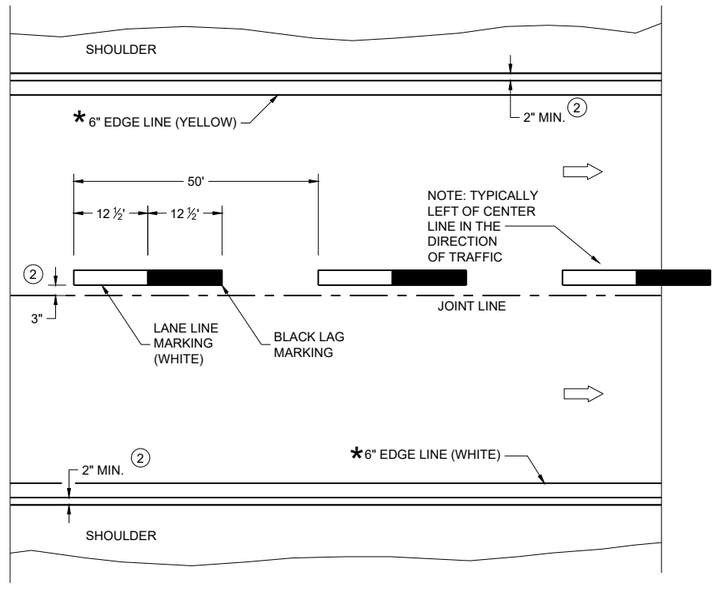
"T" MARKING

SIGN ON PERMANENT SUPPORT

DIRECTION OF TRAFFIC



TWO WAY TRAFFIC



ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING

6

SDD 15C08-23a

PERMANENT LONGITUDINAL PAVEMENT MARKINGS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

May 2023
DATE

/S/ Jeannie Silver
Statewide Pavement Marking Engineer

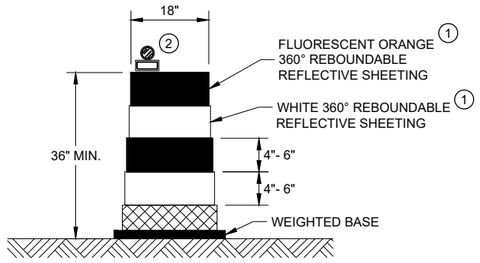
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SDD 15C08-23a

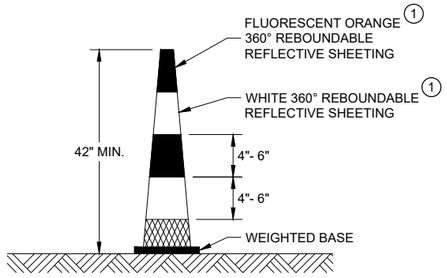
GENERAL NOTES

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

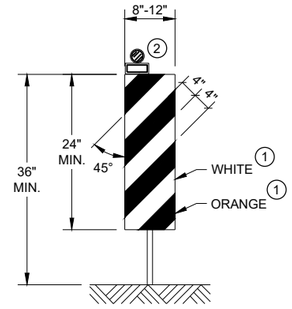
BALLAST WIDTHS
RANGE FROM 24"-36"



42" CONE

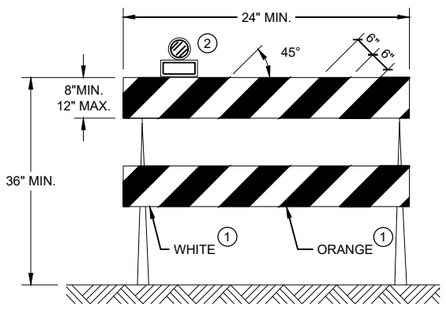
DO NOT USE IN TAPERS
½ SPACING OF DRUMS

BALLAST WIDTHS
RANGE FROM 14"-20"



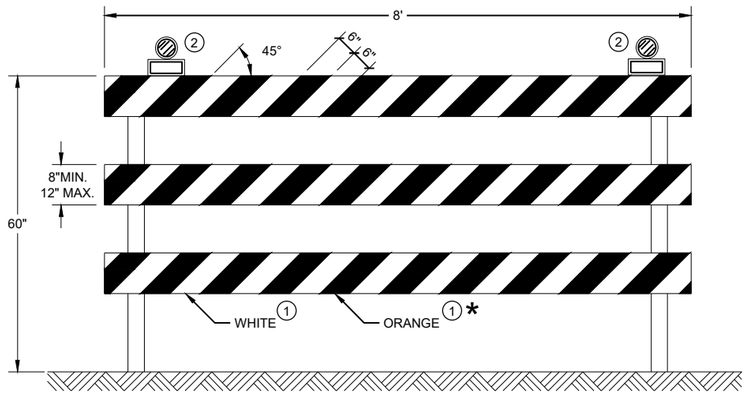
VERTICAL PANEL

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
November 2022
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

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SDD 15C11 - 10b

6

SDD 15C11 - 10b

LEGEND

SIGN ON PORTABLE OR PERMANENT SUPPORT

TEMPORARY PORTABLE RUMBLE STRIP ARRAY

DIRECTION OF TRAFFIC

WORK AREA

FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF

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.

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

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

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

THE FIRST ADVANCE WARNING SIGN SHOULD TYPICALLY BE LOCATED IN ADVANCE OF THE ANTICIPATED TRAFFIC BACKUP OR QUEUE.

WHEN A SIDE ROAD OR RAMP INTERSECTS THE FACILITY ON WHICH THE WORK IS BEING PERFORMED, ADDITIONAL TRAFFIC CONTROLS SHALL BE PROVIDED AS SPECIFIED IN THE PLANS AND/OR THE SPECIAL PROVISIONS OR AS APPROVED BY THE ENGINEER.

FLAGGING

FLAGGERS SHALL BE IN SIGHT OF EACH OTHER OR IN DIRECT COMMUNICATION AT ALL TIMES. THEY SHALL BE EQUIPPED WITH STOP/SLOW PADDLES FASTENED ON SUPPORT STAFFS. WHEN THE FLAGGING OPERATION IS NOT IN EFFECT REMOVE TEMPORARY PORTABLE RUMBLE STRIPS PRIOR TO COVERING OR REMOVING ALL ADVANCE SIGNING.

(1) FOR MOVING WORK OPERATIONS, POST ADDITIONAL W20-7A FLAGGER SIGNS AT APPROXIMATELY 3,500' INTERVALS IN THE MOVING WORK OPERATION OR AS APPROVED BY THE ENGINEER.

(2) SIGN NOT REQUIRED IF FLAGGING OPERATION OCCURS WITHIN A SIGNED ROAD WORK ZONE AREA.

WHEN THE DISTANCE BETWEEN FLAGGERS EXCEEDS 2 MILES, A PILOT CAR IS REQUIRED. WHEN CURVES REDUCE SIGHT DISTANCE BELOW 400', A PILOT CAR IS REQUIRED.

TEMPORARY PORTABLE RUMBLE STRIPS

UTILIZE TEMPORARY PORTABLE RUMBLE STRIPS ON ALL FLAGGING OPERATIONS.

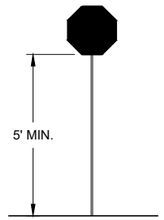
(3) EACH TEMPORARY PORTABLE RUMBLE STRIP ARRAY CONSISTS OF THREE RUMBLE STRIPS PLACED TRANSVERSE ACROSS THE LANE AT THE LOCATIONS SHOWN. WITHIN EACH ARRAY, SPACING BETWEEN RUMBLE STRIPS SHALL BE 15 FEET ON CENTER

ONLY USE TEMPORARY PORTABLE RUMBLE STRIPS FROM THE APPROVED PRODUCTS LIST.

INSTALL TEMPORARY RUMBLE STRIPS PER MANUFACTURER'S RECOMMENDATIONS.

PLACE ADVANCE SIGNING PRIOR TO INSTALLING TEMPORARY RUMBLE STRIPS.

DO NOT INSTALL TEMPORARY PORTABLE RUMBLE STRIPS ON GRAVEL, MILLED SURFACES, OR ASPHALT THAT HAS BEEN PAVED LESS THAN 12 HOURS.



STOP/SLOW PADDLE ON SUPPORT STAFF

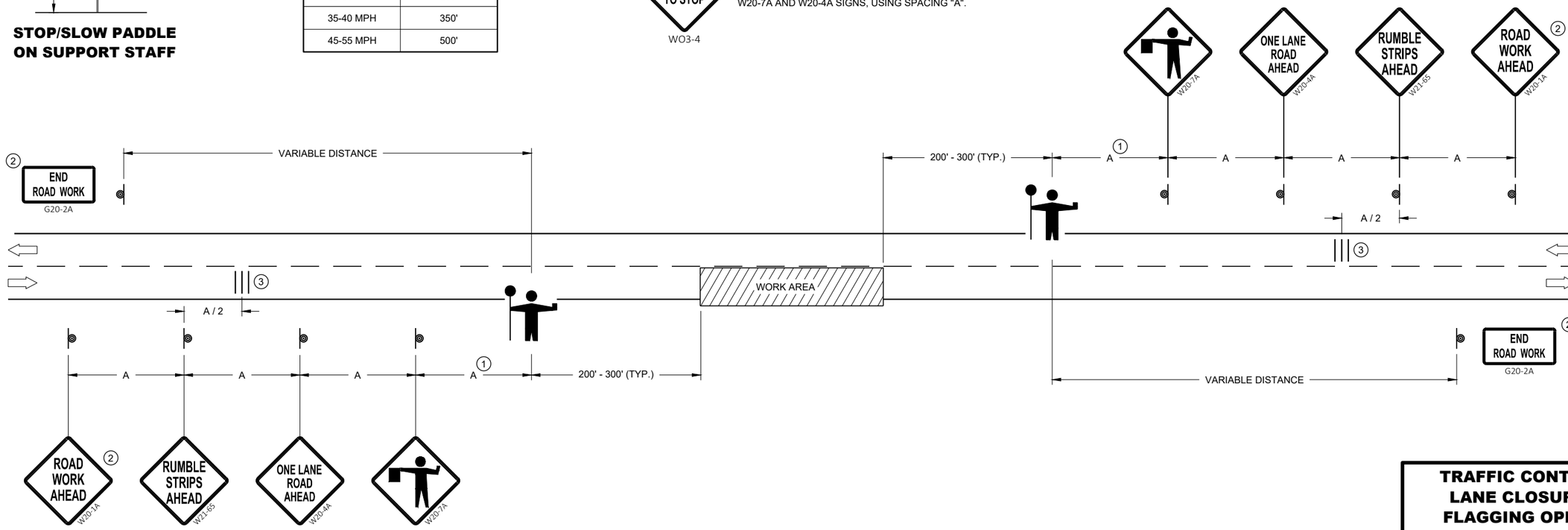
SIGN AND TEMPORARY RUMBLE STRIP ARRAY SPACING TABLE

SPEED LIMIT	SPACING "A"
25-30 MPH	200'
35-40 MPH	350'
45-55 MPH	500'



WO3-4

USE OF WO3-4 SIGN IS OPTIONAL. WHEN USED, THIS SIGN SHALL BE LOCATED BETWEEN THE W20-7A AND W20-4A SIGNS, USING SPACING "A".



TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2022
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

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SDD 15C12 - 09a

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LEGEND

V1 MARKING VEHICLE

V2 SHADOW VEHICLE

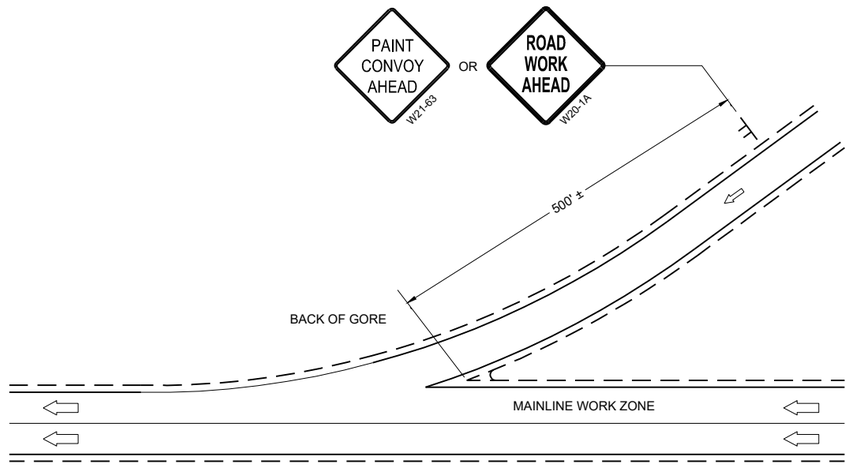
V3 TRAIL VEHICLE

TRUCK MOUNTED ATTENUATOR (TMA)

SIGN ON TEMPORARY SUPPORT

DIRECTION OF TRAFFIC

FLASHING ARROW PANEL (MERGE)



GENERAL NOTES

ALL VEHICLES SHALL BE EQUIPPED WITH TWO 360 DEGREE HIGH INTENSITY YELLOW FLASHING LIGHTS OR STROBE LIGHTS AND OPERATED WITH HEADLIGHTS TURNED ON.

ALL VEHICLES SHALL BE EQUIPPED WITH REAR FACING TYPE B OR C FLASHING ARROW PANEL. SIGNS PLACED ON VEHICLES MUST NOT OBSCURE THE ARROW PANEL.

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE SPECIFIED.

DISTANCE BETWEEN VEHICLES MAY VARY ACCORDING TO TERRAIN, SIGHT DISTANCE, PAINT DRYING TIME, AND OTHER FACTORS. WHENEVER ADEQUATE STOPPING SIGHT DISTANCE EXISTS TO THE REAR, SHADOW VEHICLES SHOULD MAINTAIN THE MINIMUM DISTANCE FROM THE WORK VEHICLE AND PROCEED AT THE SAME SPEED AS THE WORK VEHICLE. SHADOW VEHICLES SHOULD SLOW DOWN IN ADVANCE OF VERTICAL AND HORIZONTAL CURVES THAT RESTRICT SIGHT DISTANCE.

WHEN WORK ACTIVITY BLOCKS THE LEFT LANE, REVERSE TRAFFIC CONTROL.

WHEN A RAMP INTERSECTS THE FACILITY ON WHICH THE WORK IS BEING PERFORMED, PROVIDE ADDITIONAL TRAFFIC CONTROLS AS SPECIFIED IN THE CONTRACT OR AS APPROVED BY THE ENGINEER.

USE AN ATTENUATOR ON THE REARMOST VEHICLE THAT BLOCKS ALL OR PART OF THE TRAFFIC LANE.

IF THE SHOULDER IS TOO NARROW TO ACCOMMODATE THE LAST TRAILING VEHICLE, THE VEHICLE SHOULD STRADDLE THE EDGE LINE.

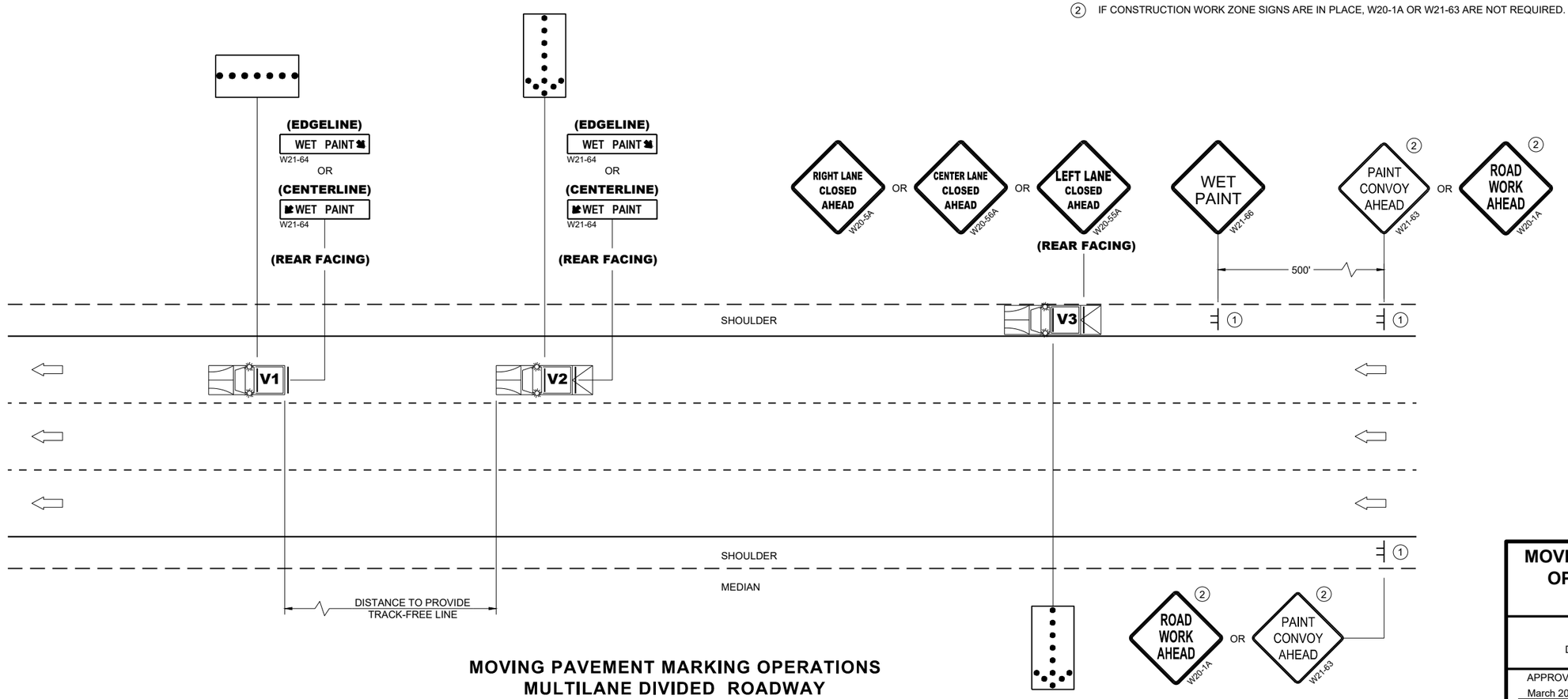
WHEN NO WORK ACTIVITY IS TAKING PLACE, REMOVE OR LAY STATIONARY SIGNS AND SUPPORTS FLAT ON THE GRADE WITH UPRIGHTS ORIENTED PARALLEL TO AND DOWNSTREAM FROM TRAFFIC

CONES SHOULD BE USED BETWEEN THE MARKING AND SHADOW VEHICLE AT 100 FOOT SPACING. CONES MAY BE OMITTED ON PAINTED LINE IF APPROVED BY THE ENGINEER. CONSIDER PAVEMENT MARKING DRY OR CURE TIMES AND TRAFFIC VOLUME.

CONES SHALL BE A MINIMUM HEIGHT OF 28" FOR WET PAVEMENT MARKINGS

(1) SIGNS SHALL BE REPEATED APPROXIMATELY EVERY THREE MILES AND AFTER EVERY ON RAMP.

(2) IF CONSTRUCTION WORK ZONE SIGNS ARE IN PLACE, W20-1A OR W21-63 ARE NOT REQUIRED.



MOVING PAVEMENT MARKING OPERATIONS MULTILANE DIVIDED ROADWAY

MOVING PAVEMENT MARKING OPERATION MULTI-LANE DIVIDED ROADWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
March 2024
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

6

SDD 15C19-9c

6

SDD 15C19-9c

GENERAL NOTES

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

THE SPACING BETWEEN SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS.

THIS LANE CLOSURE IS TYPICAL FOR CLOSING RIGHT LANE - REVERSE FOR CLOSING LEFT LANE.

ALL SIGNS ARE 48" x 48" UNLESS OTHERWISE NOTED.

"WO" IS THE SAME AS "W" EXCEPT THE BACKGROUND IS ORANGE.

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

FOR A LANE CLOSURE THAT IS IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, THE ADVANCED WARNING SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS.

REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING LINE IF LANE CLOSURE IS TO BE IN PLACE 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

IF THE HORIZONTAL ALIGNMENT IS SUCH THAT A CURVE MAY REQUIRE ADDITIONAL DELINEATION, THE DEVICE SPACING MAY BE DECREASED TO 50 FEET.

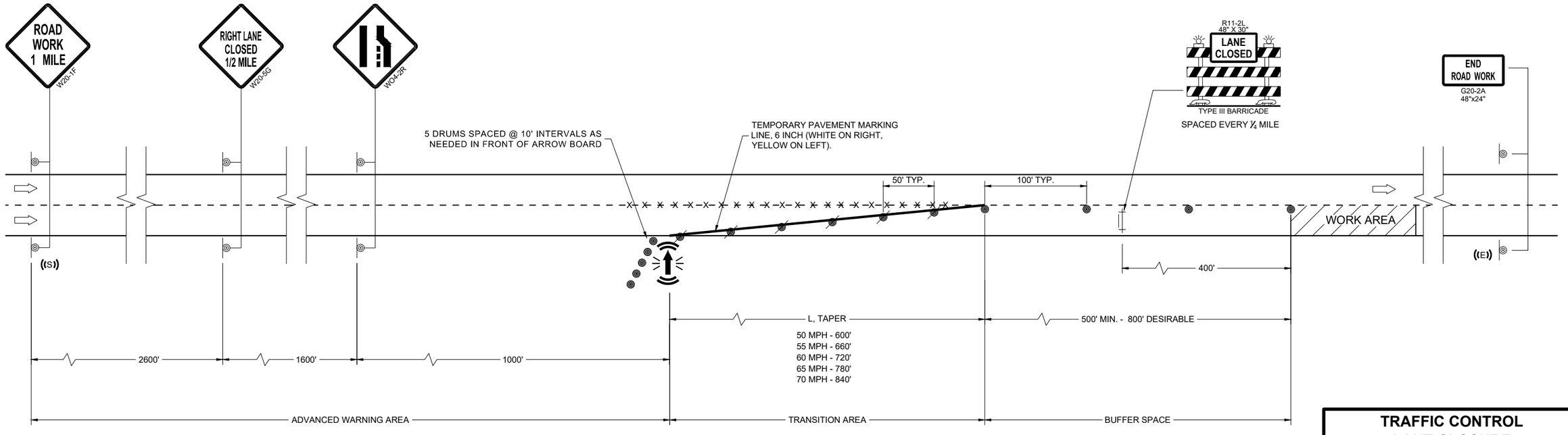
WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

ADJUSTMENTS IN BUFFER SPACE NEED TO BE INCORPORATED WHEN THE LANE CLOSURE OCCURS NEAR AN INTERCHANGE EXIT OR ENTRANCE RAMP OR INTERSECTION. THE LANE CLOSURE MUST TAKE PLACE FAR ENOUGH IN ADVANCE OF AN EXIT OR ENTRANCE RAMP TO STILL ALLOW FOR ADEQUATE BUFFER SPACE. THE MINIMUM LENGTH OF THE BUFFER SPACE BEFORE AN EXIT RAMP SHOULD BE ONE HALF THE LENGTH OF THE TRANSITION AREA. THE ENTRANCE RAMP SHOULD BE FOLLOWED BY THE ORIGINAL BUFFER SPACE LENGTH OF 800 FEET DESIRABLE PRIOR TO ANOTHER TRAFFIC CONTROL CHANGE SUCH AS A CROSSOVER MANEUVER.

CONSIDER ROADWAY GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARD SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS.

LEGEND

- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)
- REMOVING PAVEMENT MARKINGS
- DIRECTION OF TRAFFIC
- WORK AREA
- CONNECTED ARROW BOARD
- WZ START LOCATION MARKER
- WZ END LOCATION MARKER



TRAFFIC CONTROL LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2024 — DATE
/S/ Andrew Heidtke — ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR

FHWA

6

SDD 15D12-14a

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SDD 15D12-14a

GENERAL NOTES

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

THE SPACING BETWEEN SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS.

THIS LANE CLOSURE IS TYPICAL FOR CLOSING RIGHT LANE - REVERSE FOR CLOSING LEFT LANE.

ALL SIGNS ARE 48" x 48" UNLESS OTHERWISE NOTED.

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

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

CONSIDER ROADWAY GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARD SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS.

FOR A LANE CLOSURE THAT IS IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, THE ADVANCED WARNING SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS.

REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING LINE IF LANE CLOSURE IS TO BE IN PLACE 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

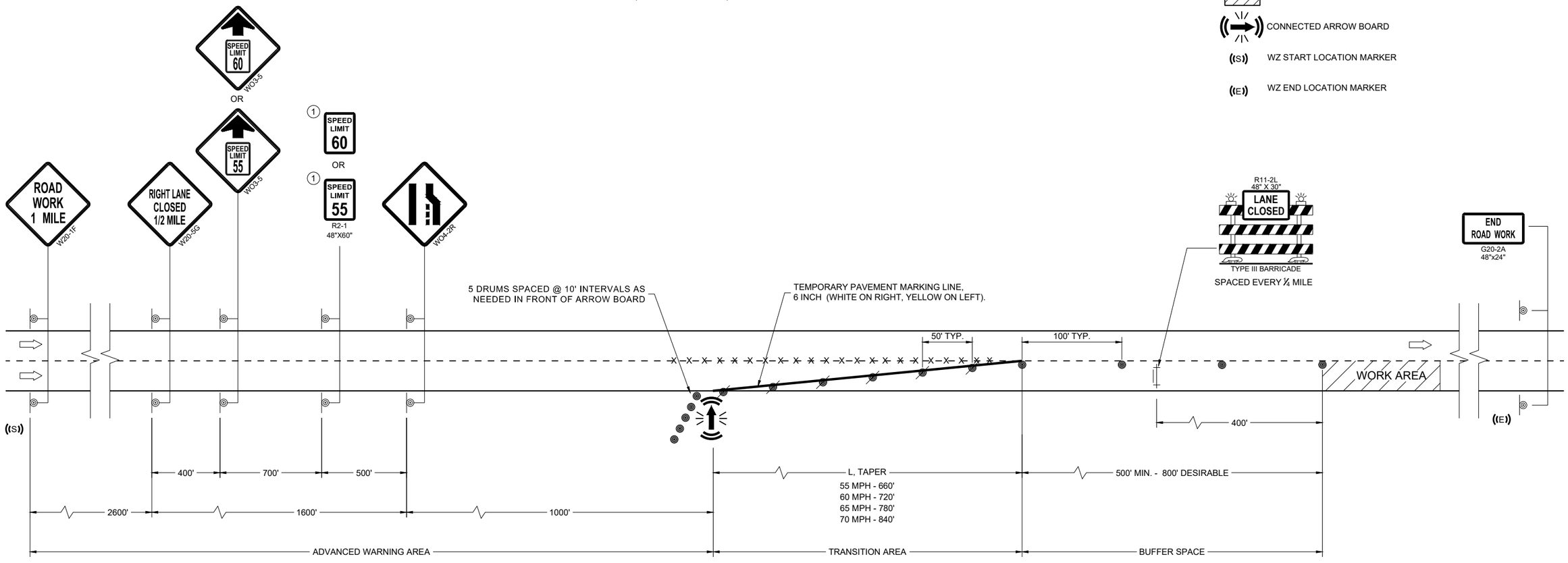
IF THE HORIZONTAL ALIGNMENT IS SUCH THAT A CURVE MAY REQUIRE ADDITIONAL DELINEATION, THE DEVICE SPACING MAY BE DECREASED TO 50 FEET.

ADJUSTMENTS IN BUFFER SPACE NEED TO BE INCORPORATED WHEN THE LANE CLOSURE OCCURS NEAR AN INTERCHANGE EXIT OR ENTRANCE RAMP OR INTERSECTION. THE LANE CLOSURE MUST TAKE PLACE FAR ENOUGH IN ADVANCE OF AN EXIT OR ENTRANCE RAMP TO STILL ALLOW FOR ADEQUATE BUFFER SPACE. THE MINIMUM LENGTH OF THE BUFFER SPACE BEFORE AN EXIT RAMP SHOULD BE ONE HALF THE LENGTH OF THE TRANSITION AREA. THE ENTRANCE RAMP SHOULD BE FOLLOWED BY THE ORIGINAL BUFFER SPACE LENGTH OF 800 FEET DESIRABLE PRIOR TO ANOTHER TRAFFIC CONTROL CHANGE SUCH AS A CROSSOVER MANEUVER.

(1) A SPEED LIMIT SIGN SHALL BE LOCATED 1500 FEET BEYOND THE END OF THE ACCELERATION LANE OF EACH ENTRANCE RAMP. PLACE A SPEED LIMIT SIGN A MINIMUM OF EVERY 3 MILES. INCLUDE A RESUME SPEED LIMIT SIGN 200 FEET MINIMUM (500 FEET DESIRABLE) BEYOND THE "END OF ROADWORK" SIGN.

LEGEND

- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)
- REMOVING PAVEMENT MARKINGS
- DIRECTION OF TRAFFIC
- WORK AREA
- CONNECTED ARROW BOARD
- (S) WZ START LOCATION MARKER
- (E) WZ END LOCATION MARKER



TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2024 — DATE
/S/ Andrew Heidtke — ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR
FHWA

6

SDD 15D12-14b

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SDD 15D12-14b

LEGEND

- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)
- REMOVING PAVEMENT MARKINGS
- DIRECTION OF TRAFFIC
- WORK AREA
- CONNECTED ARROW BOARD
- WZ START LOCATION MARKER
- WZ END LOCATION MARKER

GENERAL NOTES

THIS DETAIL IS TYPICAL FOR CLOSING THE RIGHT TWO LANES. FOR CLOSING THE LEFT TWO LANES, REVERSE THE TRAFFIC CONTROL.

ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED.

"WO" SIGN IS THE SAME AS "W" SIGN EXCEPT THE BACKGROUND IS ORANGE.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH THE TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER. NO WARNING LIGHTS SHALL BE WORKING ON COVERED OR "DOWNED" SIGNS.

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

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

W20-1E AND G20-2A SIGNS ARE NOT REQUIRED IF THE LANE CLOSURE IS WITHIN A LARGER WORK ZONE WHERE THESE SIGNS ARE ALREADY PRESENT.

CONSIDER ROADWAY GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARDS SO THE APPROACHING DRIVER HAS A CLEAR VIEW OF THE ARROW BOARDS AND LANE CLOSURE DRUMS.

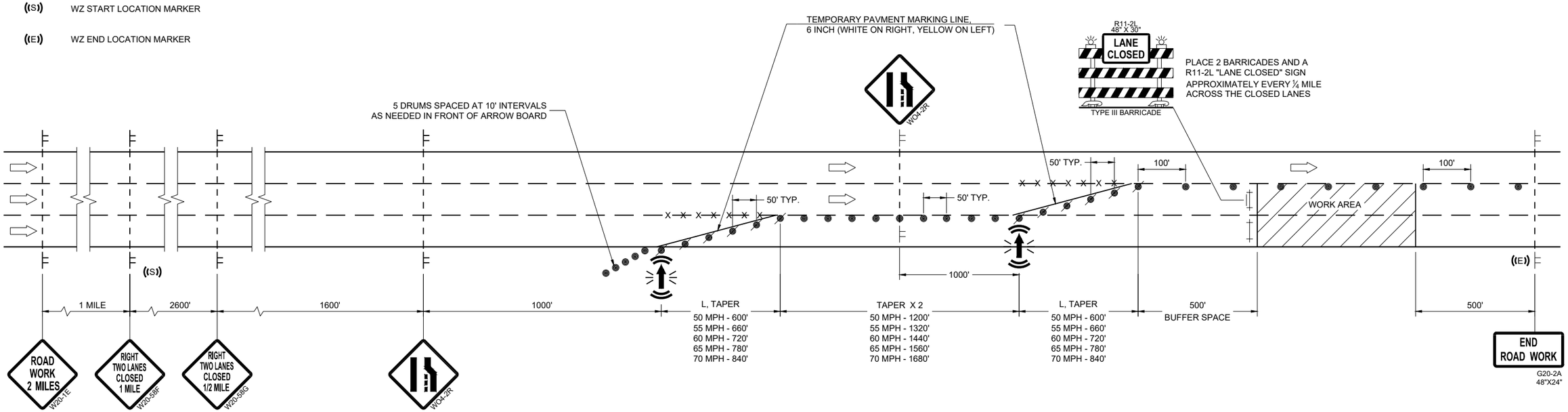
WHEN A RAMP OR SIDE ROAD INTERSECTS THE FACILITY ON WHICH THE WORK IS BEING PERFORMED, ADDITIONAL TRAFFIC CONTROLS SHALL BE PROVIDED AS SPECIFIED IN THE PLANS AND/OR SPECIAL PROVISIONS OR AS APPROVED BY THE ENGINEER.

BARRICADES IN A CLOSED LANE 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.

CHANNELIZING DEVICES PLACED ADJACENT TO WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING LINE IF LANE CLOSURE IS TO BE IN PLACE 4 OR MORE CONTINUOUS DAYS AND NIGHTS.



TRAFFIC CONTROL, TWO LANE CLOSURE ON FREEWAY OR EXPRESSWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2024
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

6

SDD 15D14-08

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SDD 15D14-08

LEGEND

- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- REMOVING PAVEMENT MARKING (SEE GENERAL NOTES)
- TYPE III BARRICADE WITH ATTACHED SIGN
- DIRECTION OF TRAFFIC

GENERAL NOTES

THE INSTALLATIONS SHOWN ON THIS SHEET ARE TYPICAL EXAMPLES AND ARE NOT INTENDED TO REPRESENT ANY PARTICULAR RAMP. AT SPECIFIC FIELD LOCATIONS, SIMILAR INSTALLATIONS SHALL BE USED AND ADJUSTED TO THE GEOMETRICS OF THE RAMP AS COORDINATED WITH THE ENGINEER.

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

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

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

"WO" IS THE SAME AS "W" EXCEPT THE BACKGROUND IS ORANGE.

SEE SEPARATE LANE CLOSURE DETAIL FOR TYPICAL SPACING OF TYPE III BARRICADES AND R11-2L "LANE CLOSED" SIGNS.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONSECUTIVE DAYS AND NIGHTS OR THAT WILL BE PLACED IN A CLOSED LANE, MAY BE MOUNTED ON PORTABLE SUPPORTS.

IF INDICATED IN MISCELLANEOUS QUANTITIES, SUBSTITUTE FLEXIBLE TUBULAR MARKERS /OR DRUMS IN THE GORE BETWEEN THE EXIT RAMP AND MAINLINE TRAFFIC.

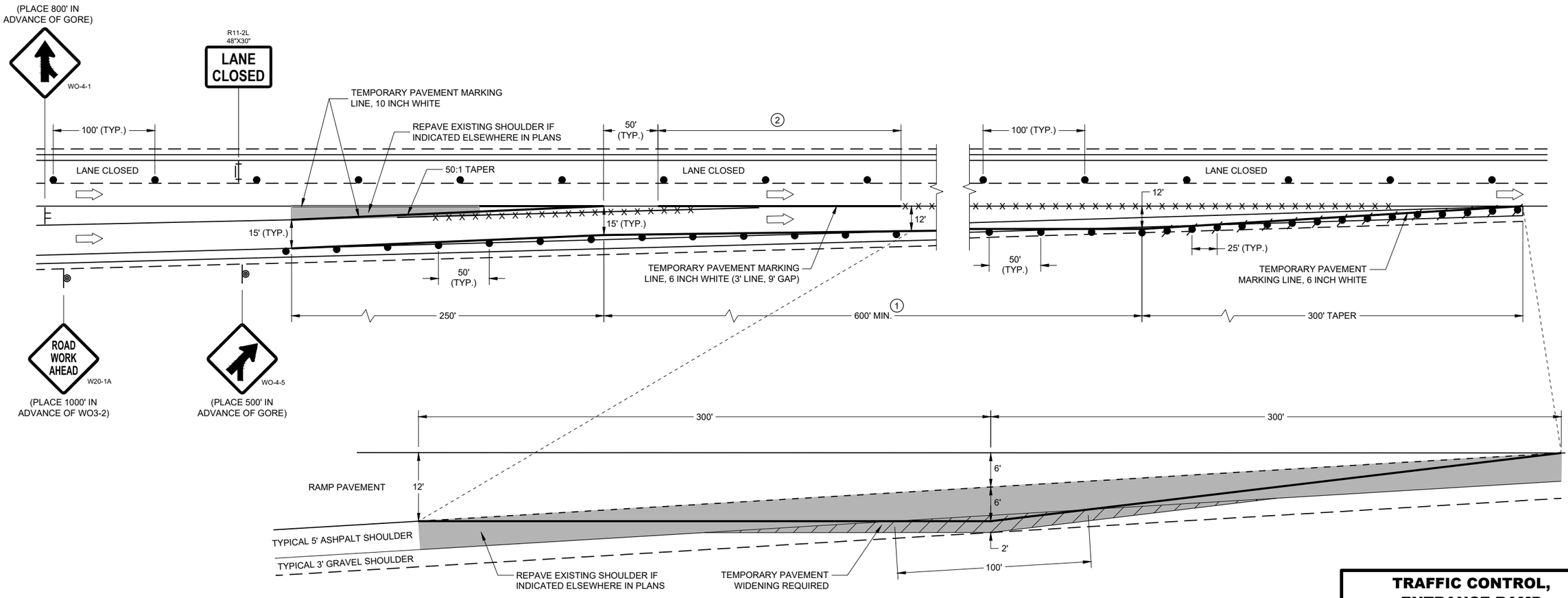
ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING LINES IF LANE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

(1) EXTEND THE LENGTH OF THE MERGE AREA IF THE ENTERING (DESIGN) SPEED OF THE RAMP IS LESS THAN 50 MPH OR IF THE MAINLINE GRADE EXCEEDS ±2.2%.

(2) END TEMPORARY PAVEMENT MARKING LINE AT ½ THE LENGTH OF FULL WIDTH OF THE ACCELERATION LANE.



TEMPORARY PAVEMENT DETAIL

(EXISTING RAMP DIMENSIONS MAY VARY, ADJUST TEMPORARY PAVEMENT ACCORDINGLY)

TRAFFIC CONTROL, ENTRANCE RAMP WITHIN LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

6

SDD 15D15-07b

6

SDD 15D15-07b

LEGEND

SIGN ON PERMANENT SUPPORT

SIGN ON TEMPORARY SUPPORT

TRAFFIC CONTROL DRUM

TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT

REMOVING PAVEMENT MARKING (SEE GENERAL NOTES)

TYPE III BARRICADE WITH ATTACHED SIGN

FLAGS, 16" X 16" MIN., ORANGE

DIRECTION OF TRAFFIC

GENERAL NOTES

THE INSTALLATIONS SHOWN ON THIS SHEET ARE TYPICAL EXAMPLES AND ARE NOT INTENDED TO REPRESENT ANY PARTICULAR RAMP. AT SPECIFIC FIELD LOCATIONS, SIMILAR INSTALLATIONS SHALL BE USED AND ADJUSTED TO THE GEOMETRICS OF THE RAMP AS COORDINATED WITH THE ENGINEER.

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

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

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

"WO" IS THE SAME AS "W" EXCEPT THE BACKGROUND IS ORANGE.

SEE SEPARATE LANE CLOSURE DETAIL FOR TYPICAL SPACING OF TYPE III BARRICADES AND R11-2L "LANE CLOSED" SIGNS.

YIELD SIGN AND WARNING SIGNS ON ENTRANCE RAMP ARE ALSO APPROPRIATE FOR CLOSURE OF THE MAINLINE LEFT LANE. OMIT THE YIELD SIGN IF MORE THAN ONE LANE REMAINS OPEN ON THE MAINLINE AND THE RAMP TAPER IS AT LEAST AS LONG AS THE NORMAL ENTRANCE RAMP TAPER AT THE SITE.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONSECUTIVE DAYS AND NIGHTS OR THAT WILL BE PLACED IN A CLOSED LANE, MAY BE MOUNTED ON PORTABLE SUPPORTS. USE SUPPORTS THAT PROVIDE A MINIMUM OF 5 FEET FROM THE BOTTOM OF THE SIGN TO THE PAVEMENT.

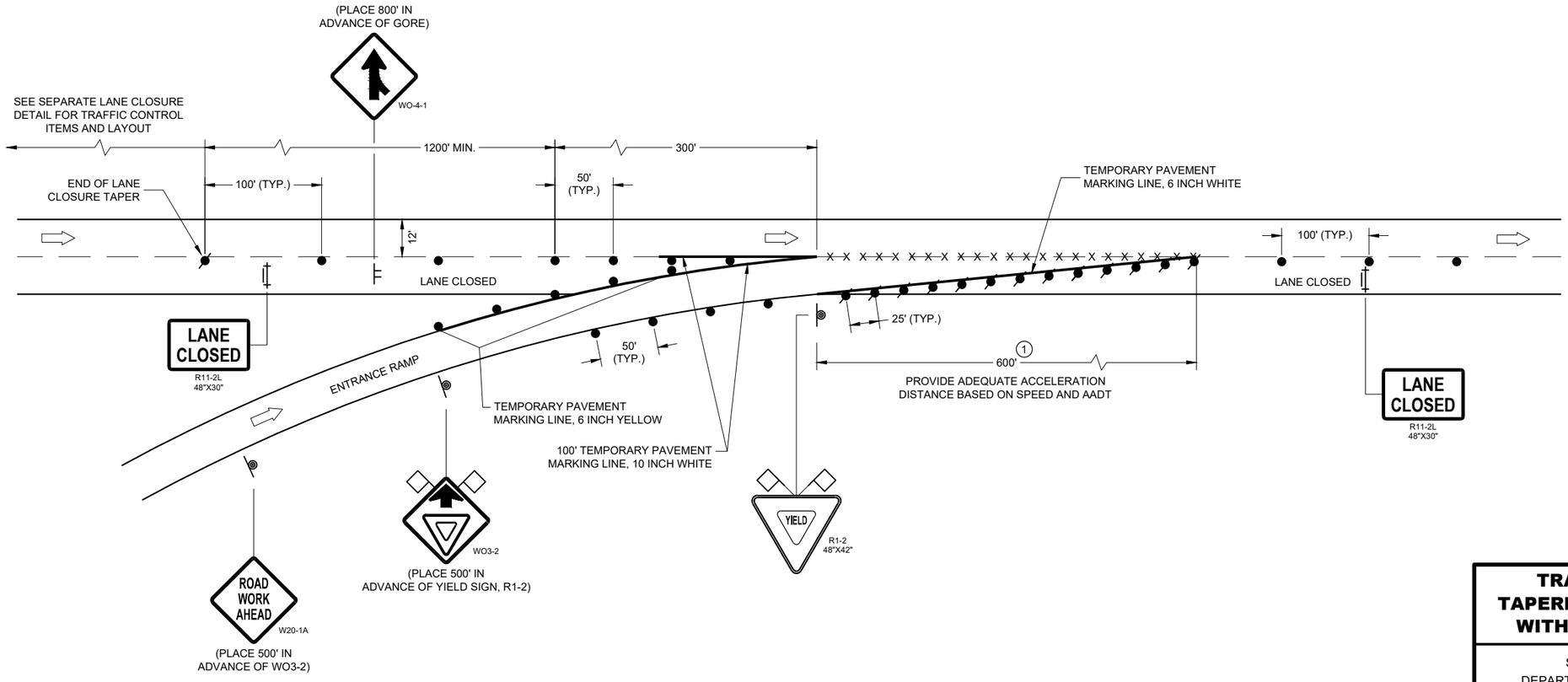
IF INDICATED IN MISCELLANEOUS QUANTITIES, SUBSTITUTE FLEXIBLE TUBULAR MARKERS FOR DRUMS IN THE GORE BETWEEN THE ENTRANCE RAMP AND MAINLINE TRAFFIC.

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.

REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING LINES IF LANE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

(1) CONSULT WITH REGIONAL WORK ZONE ENGINEER IF NEED TO REDUCE LENGTH EXISTS.



TRAFFIC CONTROL, TAPERED ENTRANCE RAMP WITHIN LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEE
FHWA

6

SDD 15D15-07c

6

SDD 15D15-07c

LEGEND

SIGN ON PERMANENT SUPPORT

SIGN ON TEMPORARY SUPPORT

TRAFFIC CONTROL DRUM

TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT

TYPE III BARRICADE WITH ATTACHED SIGN

FLAGS, 16" X 16" MIN., ORANGE

DIRECTION OF TRAFFIC

GENERAL NOTES

THE INSTALLATIONS SHOWN ON THIS SHEET ARE TYPICAL EXAMPLES AND ARE NOT INTENDED TO REPRESENT ANY PARTICULAR RAMP. AT SPECIFIC FIELD LOCATIONS, SIMILAR INSTALLATIONS SHALL BE USED AND ADJUSTED TO THE GEOMETRICS OF THE RAMP AS COORDINATED WITH THE ENGINEER.

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

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

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

"WO" IS THE SAME AS "W" EXCEPT THE BACKGROUND IS ORANGE.

SEE SEPARATE LANE CLOSURE DETAIL FOR TYPICAL SPACING OF TYPE III BARRICADES AND R11-2L "LANE CLOSED" SIGNS.

YIELD SIGN AND WARNING SIGNS ON ENTRANCE RAMP ARE ALSO APPROPRIATE FOR CLOSURE OF THE MAINLINE LEFT LANE. OMIT THE YIELD SIGN IF MORE THAN ONE LANE REMAINS OPEN ON THE MAINLINE AND THE RAMP TAPER IS AT LEAST AS LONG AS THE NORMAL ENTRANCE RAMP TAPER AT THE SITE.

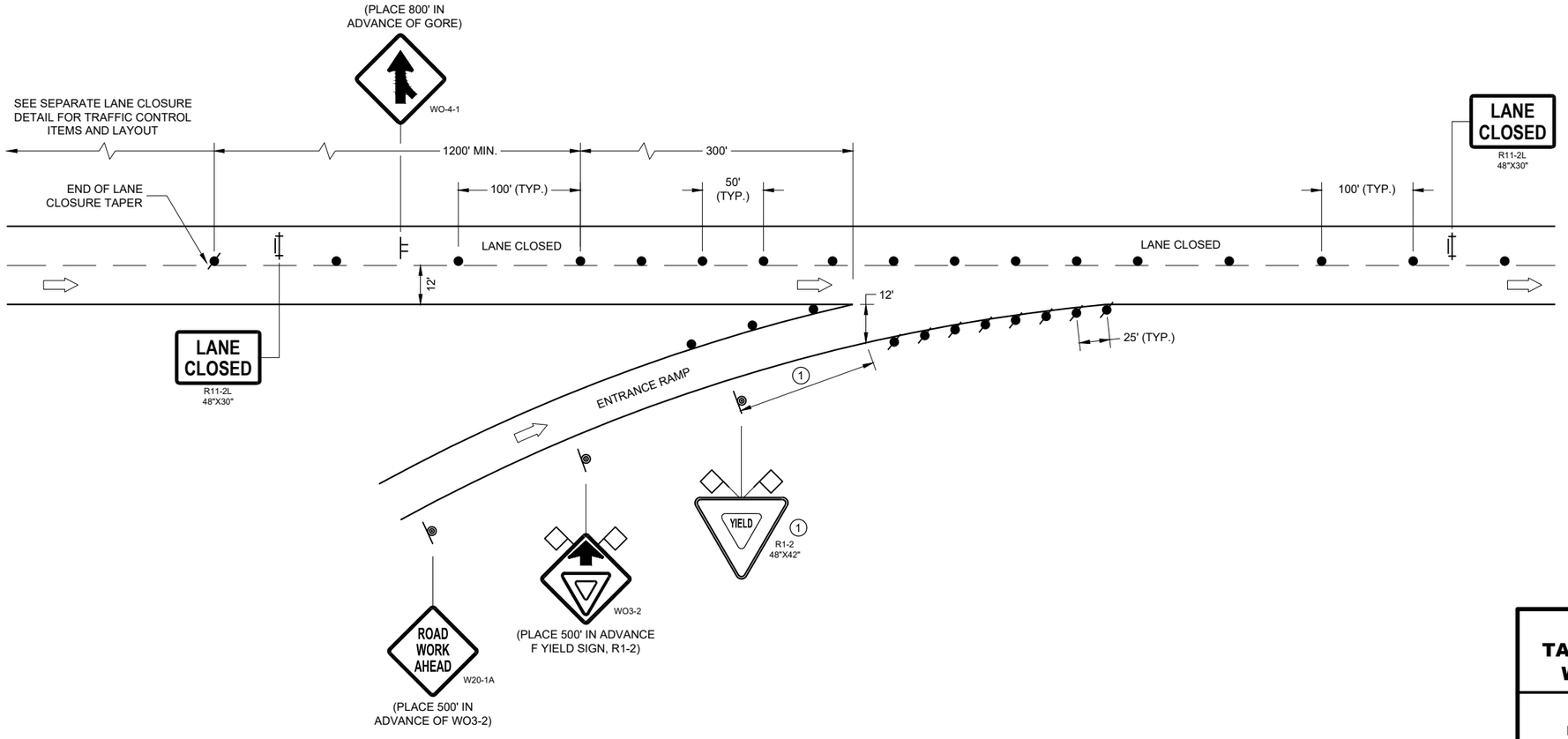
SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONSECUTIVE DAYS AND NIGHTS OR THAT WILL BE PLACED IN A CLOSED LANE, MAY BE MOUNTED ON PORTABLE SUPPORTS. USE SUPPORTS THAT PROVIDE A MINIMUM OF 5 FEET FROM THE BOTTOM OF THE SIGN TO THE PAVEMENT.

IF INDICATED IN MISCELLANEOUS QUANTITIES, SUBSTITUTE FLEXIBLE TUBULAR MARKERS FOR DRUMS IN THE GORE BETWEEN THE ENTRANCE RAMP AND MAINLINE TRAFFIC.

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.

WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

(1) PLACE YIELD SIGN TO PROVIDE ADEQUATE SIGHT DISTANCE AND ACCELERATION DISTANCE.



TRAFFIC CONTROL, TAPERED ENTRANCE RAMP WITHIN LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

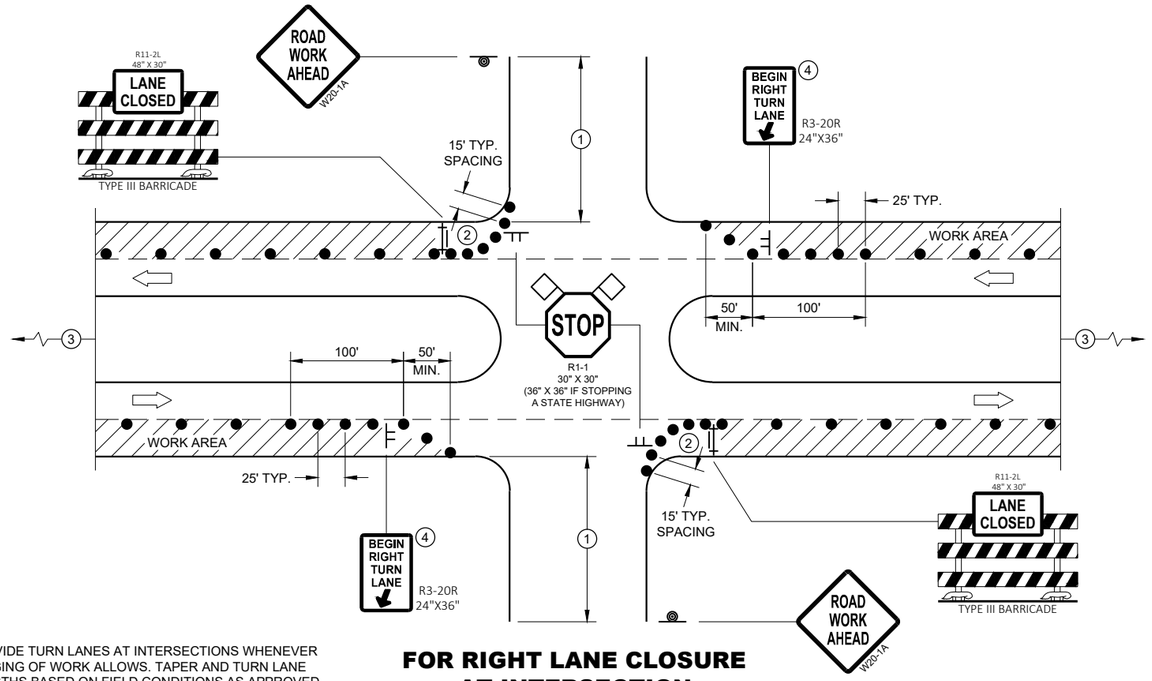
FHWA

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SDD 15D15-07d

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SDD 15D15-07d



PROVIDE TURN LANES AT INTERSECTIONS WHENEVER STAGING OF WORK ALLOWS. TAPER AND TURN LANE LENGTHS BASED ON FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

FOR RIGHT LANE CLOSURE AT INTERSECTION

GENERAL NOTES

ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36" X 36" MAY BE USED IF APPROVED BY THE DISTRICT TRAFFIC UNIT.

"WO" SIGN IS THE SAME AS "W" SIGN EXCEPT THE BACKGROUND IS ORANGE.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH THE TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER. NO WARNING LIGHTS SHALL BE WORKING ON COVERED OR "DOWNED" SIGNS.

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

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

SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FHWA'S MANUAL OF STANDARD HIGHWAY SIGNS OR THE WISCONSIN STANDARD SIGN PLATES.

SIGNS THAT WILL REMAIN IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS OR THAT WILL BE PLACED IN A CLOSED LANE MAY BE MOUNTED ON PORTABLE SUPPORTS.

BARRICADES IN A CLOSED LANE 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.

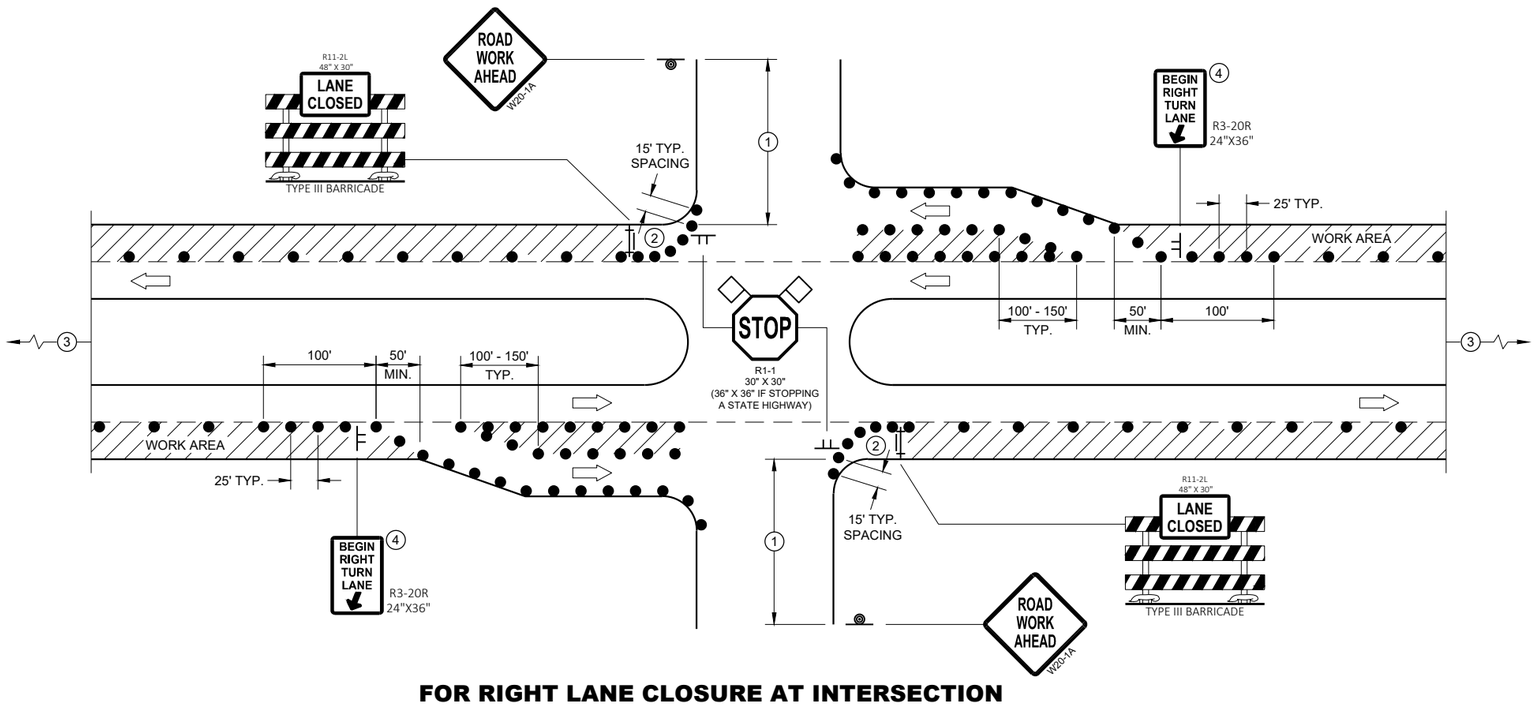
CHANNELIZING DEVICES PLACED ADJACENT TO WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

(1) 500' TYPICAL OR AT LAST INTERSECTION, WHICHEVER IS CLOSER.
350' IF 35 - 40 MPH.
200' IF 25 - 30 MPH.

(2) ALSO USE BARRICADE AND 15 FOOT TYPICAL DRUM SPACING AT COMMERCIAL DRIVEWAYS

(3) SEE SEPARATE LANE CLOSURE DETAIL FOR ADDITIONAL TRAFFIC CONTROL.

(4) MINIMUM MOUNTING HEIGHT OF 5 FEET FROM EDGE OF PAVEMENT (AT EDGE LINE LOCATION) TO BOTTOM OF SIGN.



FOR RIGHT LANE CLOSURE AT INTERSECTION (WITH RIGHT TURN BAY OPEN)

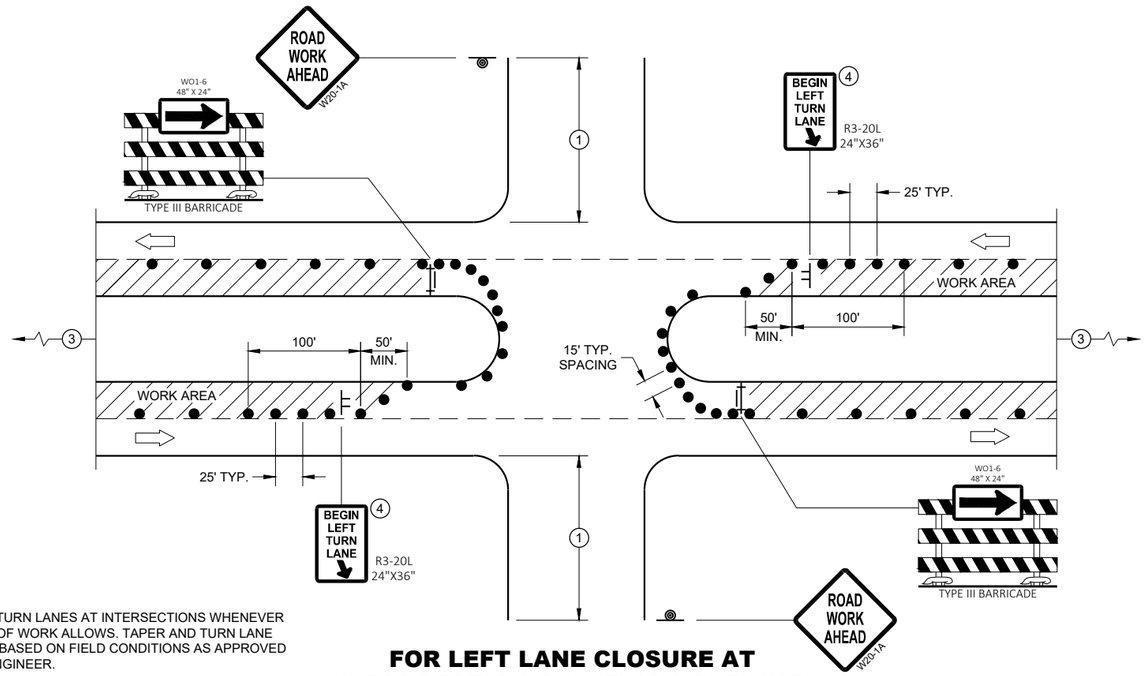
LEGEND

- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM
- TYPE III BARRICADE WITH ATTACHED SIGN
- DIRECTION OF TRAFFIC
- FLAGS, 16" X 16" MIN., ORANGE
- WORK AREA

TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE RIGHT LANE CLOSURE

SDD 15D21 - 07a

6



PROVIDE TURN LANES AT INTERSECTIONS WHENEVER STAGING OF WORK ALLOWS. TAPER AND TURN LANE LENGTHS BASED ON FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

FOR LEFT LANE CLOSURE AT INTERSECTION OR MEDIAN OPENING

GENERAL NOTES

ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36" X 36" MAY BE USED IF APPROVED BY THE DISTRICT TRAFFIC UNIT.

"WO" SIGN IS THE SAME AS "W" SIGN EXCEPT THE BACKGROUND IS ORANGE.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH THE TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER. NO WARNING LIGHTS SHALL BE WORKING ON COVERED OR "DOWNED" SIGNS.

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

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

SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FHWA'S MANUAL OF STANDARD HIGHWAY SIGNS OR THE WISCONSIN STANDARD SIGN PLATES.

SIGNS THAT WILL REMAIN IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS OR THAT WILL BE PLACED IN A CLOSED LANE MAY BE MOUNTED ON PORTABLE SUPPORTS.

BARRICADES IN A CLOSED LANE 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.

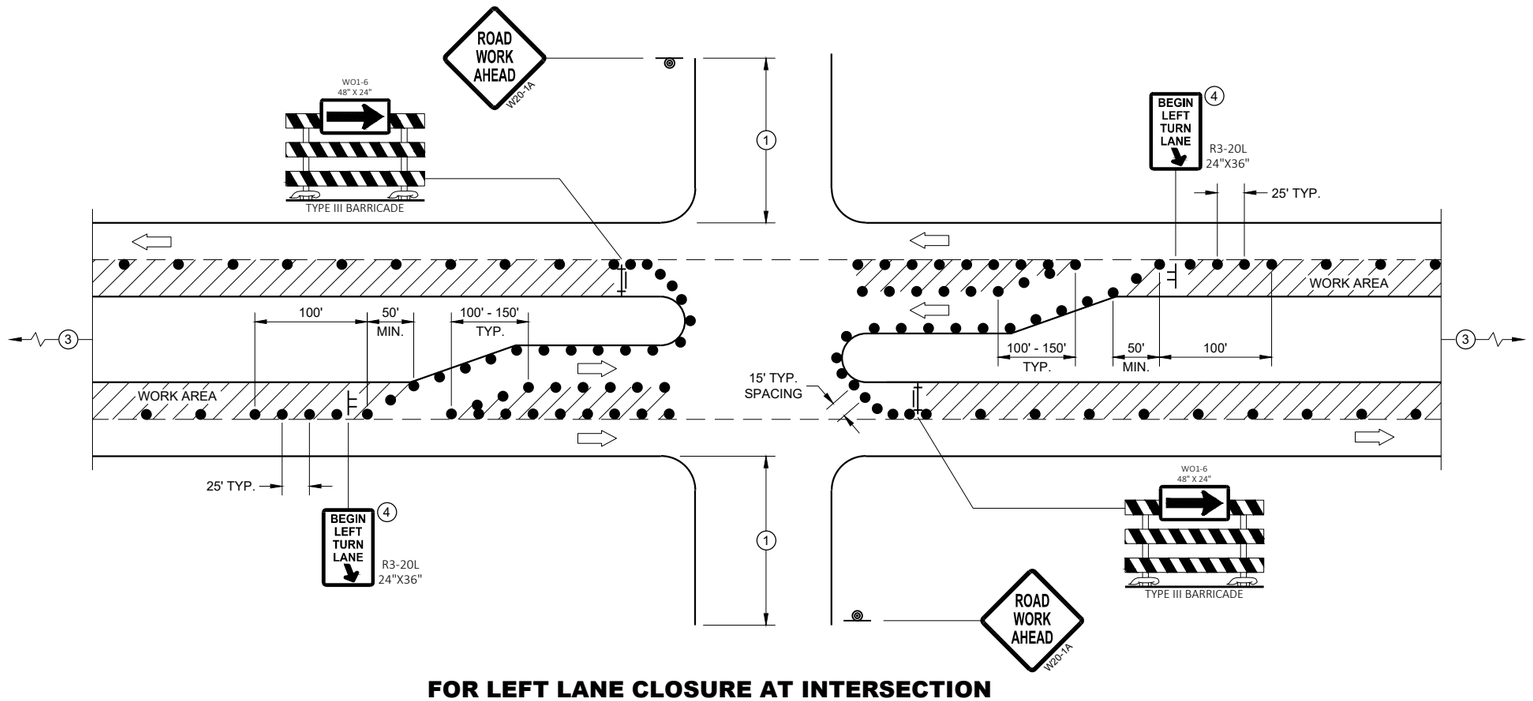
CHANNELIZING DEVICES PLACED ADJACENT TO WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

(1) 500' TYPICAL OR AT LAST INTERSECTION, WHICHEVER IS CLOSER.
350' IF 35 - 40 MPH.
200' IF 25 - 30 MPH.

(2) ALSO USE BARRICADE AND 15 FOOT TYPICAL DRUM SPACING AT COMMERCIAL DRIVEWAYS

(3) SEE SEPARATE LANE CLOSURE DETAIL FOR ADDITIONAL TRAFFIC CONTROL.

(4) MINIMUM MOUNTING HEIGHT OF 5 FEET FROM EDGE OF PAVEMENT (AT EDGE LINE LOCATION) TO BOTTOM OF SIGN.



FOR LEFT LANE CLOSURE AT INTERSECTION OR MEDIAN OPENING (WITH LEFT TURN BAY OPEN)

LEGEND

- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM
- TYPE III BARRICADE WITH ATTACHED SIGN
- DIRECTION OF TRAFFIC
- FLAGS, 16" X 16" MIN., ORANGE
- WORK AREA

TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LEFT LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
August 2020
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

6

SDD 15D21 - 07b

6

SDD 15D21 - 07b

LEGEND

- TRAFFIC CONTROL DRUM
- SIGN ON PERMANENT SUPPORT
- DIRECTION OF TRAFFIC
- FLASHING ARROW BOARD
- WORK AREA

GENERAL NOTES

THIS DETAIL IS TYPICAL FOR CLOSING THE RIGHT SHOULDER. FOR CLOSING THE LEFT SHOULDER, REVERSE THE TRAFFIC CONTROL.

THIS DETAIL MAY BE USED FOR DIVIDED ROADWAYS WITH ANY NUMBER OF TRAVEL LANES.

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

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FHWA'S MANUAL OF STANDARD HIGHWAY SIGNS OR THE WISCONSIN STANDARD SIGN PLATES.

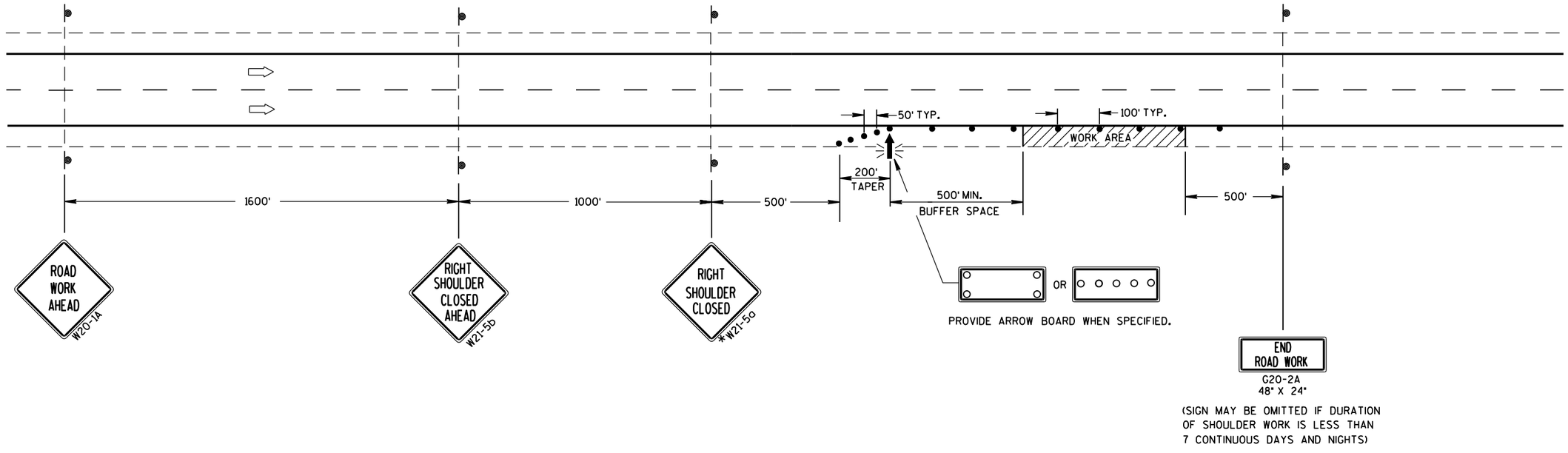
SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

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.

CHANNELIZING DEVICES PLACED ADJACENT TO THE WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

WHEN A RAMP INTERSECTS THE FACILITY ON WHICH THE WORK IS BEING PERFORMED, ADDITIONAL TRAFFIC CONTROLS SHALL BE PROVIDED AS SPECIFIED IN THE PLANS AND/OR THE SPECIAL PROVISIONS OR AS APPROVED BY THE ENGINEER.

*FOR SHORT DURATION SHOULDER WORK OF LESS THAN ONE HOUR, THE W21-5a SIGN MAY BE OMITTED.



TRAFFIC CONTROL SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

June 2016 — DATE

/S/ Peter Amakobe Atepe
STATEWIDE WORK ZO[illegible] SAFETY ENGI[illegible]

FHWA

6

S.D.D. 15 D 27-3

LEGEND

SIGN ON PERMANENT SUPPORT

TRAFFIC CONTROL DRUM

DIRECTION OF TRAFFIC

WORK ZONE

GENERAL NOTES

ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36" X 36" SIGNS MAY BE USED IF APPROVED BY THE REGIONAL TRAFFIC UNIT.

"WO" SIGN IS THE SAME AS "W" SIGN EXCEPT THE BACKGROUND IS ORANGE.

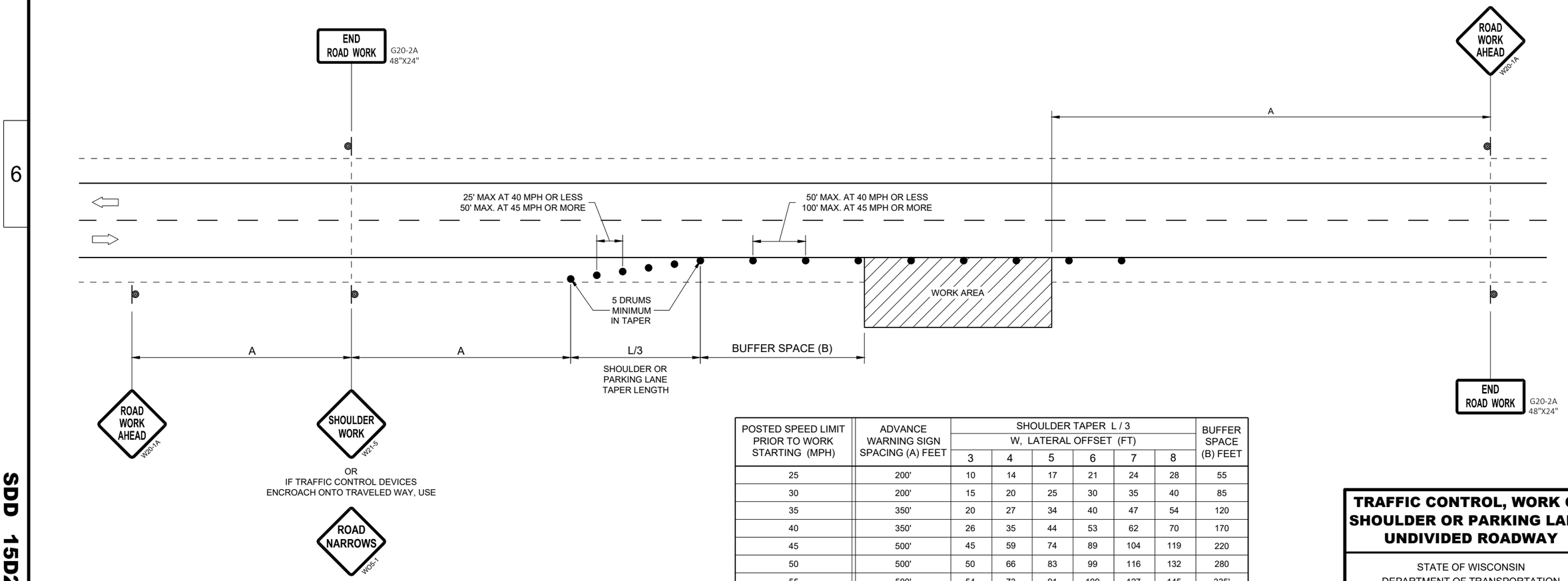
ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH THE TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

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

CHANNELIZING DEVICES PLACED ADJACENT TO WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

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

W20-1A AND G20-2A SIGNS ARE NOT REQUIRED IF THE WORK AREA IS WITHIN A LARGER WORK ZONE WHERE THESE SIGNS ARE ALREADY PRESENT. G20-2A SIGNS MAY ALSO BE OMITTED IF DURATION OF WORK IS LESS THAN 7 CONTINUOUS DAYS AND NIGHTS.



POSTED SPEED LIMIT PRIOR TO WORK STARTING (MPH)	ADVANCE WARNING SIGN SPACING (A) FEET	SHOULDER TAPER L / 3 W, LATERAL OFFSET (FT)						BUFFER SPACE (B) FEET
		3	4	5	6	7	8	
25	200'	10	14	17	21	24	28	55
30	200'	15	20	25	30	35	40	85
35	350'	20	27	34	40	47	54	120
40	350'	26	35	44	53	62	70	170
45	500'	45	59	74	89	104	119	220
50	500'	50	66	83	99	116	132	280
55	500'	54	73	91	109	127	145	335'

TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2020
DATE

/S/ Andrew Heidtke
STATEWIDE WORK ZONE T SAFETY ENGINEER

FHWA

SDD 15D28 - 04

SDD 15D28 - 04

LEGEND

- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)
- REMOVING PAVEMENT MARKINGS
- DIRECTION OF TRAFFIC
- WORK AREA
- CONNECTED ARROW BOARD
- WZ START LOCATION MARKER
- WZ END LOCATION MARKER

GENERAL NOTES

RIGHT CLOSURE SHOWN (LEFT LANE CLOSURE SIMILAR)

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

WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS PART OF A DAYTIME ONLY OPERATION.

ALL SIGNS ARE 48" x 48" UNLESS OTHERWISE NOTED.

"WO" SIGN IS THE SAME AS "W" SIGN EXCEPT THE BACKGROUND IS ORANGE.

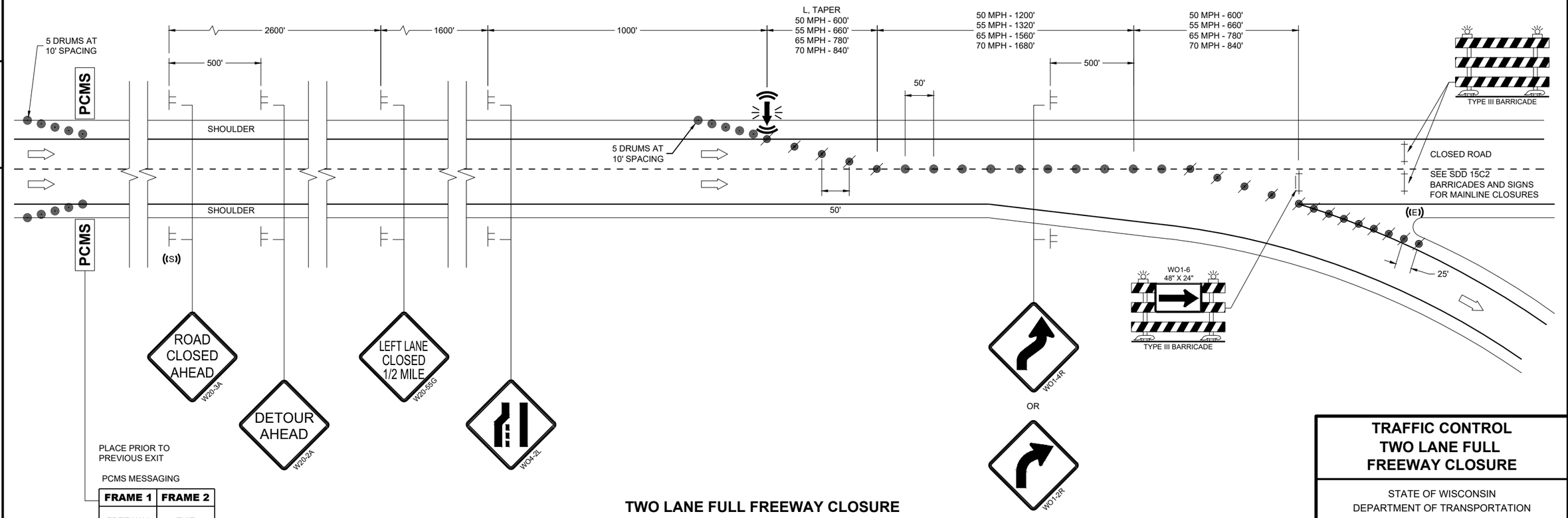
WHEN A RAMP INTERSECTS THE FACILITY ON WHICH THE WORK IS BEING PERFORMED, ADDITIONAL TRAFFIC CONTROL SHALL BE PROVIDED AS SPECIFIED IN THE PLANS AND / OR THE SPECIAL PROVISIONS OR AS DIRECTED BY THE ENGINEER.

PLACE A TYPE III BARRICADE APPROXIMATELY EVERY 1000' ACROSS EACH CLOSED LANE TO HELP REINFORCE THE DRUM LINE.

CONSIDER ROADWAY GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARD SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS.

REFER TO DETOUR ROUTES FOR TRAFFIC GUIDANCE SIGNING.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED OR AS APPROVED BY THE ENGINEER. NO WARNING LIGHTS SHALL BE WORKING ON "COVERED" OR "DOWNED" SIGNS.



PLACE PRIOR TO PREVIOUS EXIT

PCMS MESSAGING

FRAME 1	FRAME 2
FREEWAY CLOSED	EXIT AHEAD

TWO LANE FULL FREEWAY CLOSURE

TRAFFIC CONTROL
TWO LANE FULL
FREEWAY CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2025 — DATE
/S/ Andrew Heidtke

FHWA

6
SDD 15D42-04

LEGEND

- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM
- DELINEATOR, FLEXIBLE TUBULAR MARKER
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TYPE III BARRICADE WITH ATTACHED SIGN
- DIRECTION OF TRAFFIC
- CONSTRUCTION TRAFFIC
- WORK AREA
- CC — CRASH CUSHION TEMPORARY
- EXISTING CONCRETE BARRIER TEMPORARY PRECAST

GENERAL NOTES

ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED.

"WO" SIGN IS THE SAME AS "W" SIGN EXCEPT THE BACKGROUND IS ORANGE.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH THE TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER. NO WARNING LIGHTS SHALL BE WORKING ON COVERED OR "DOWNED" SIGNS.

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

WORK ZONE INGRESS/EGRESS LOCATIONS SHALL BE APPROVED BY THE ENGINEER. LOCATIONS FOR WORK ZONE ACCESS TO/FROM THE FREEWAY SHALL NOT BE USED FOR INGRESS AND EGRESS AT THE SAME TIME.

THIS ACCESS DETAIL IS TYPICAL FOR LEFT LANE ACCESS, FOR RIGHT LANE ACCESS, REVERSE THE TRAFFIC CONTROL

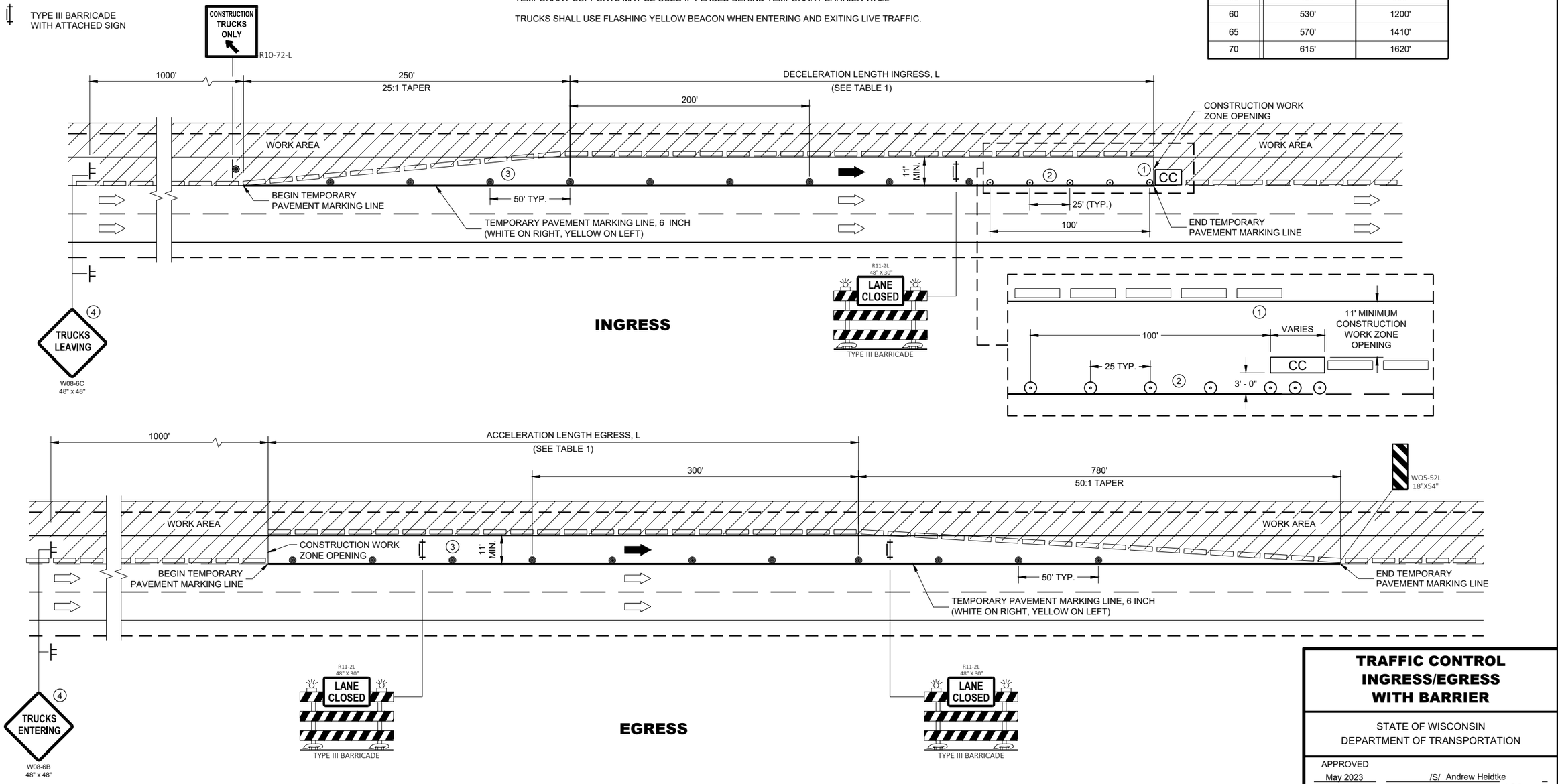
TEMPORARY SUPPORTS MAY BE USED IF PLACED BEHIND TEMPORARY BARRIER WALL

TRUCKS SHALL USE FLASHING YELLOW BEACON WHEN ENTERING AND EXITING LIVE TRAFFIC.

1. WIDEN BARRIER AS NECESSARY TO ACCOMMODATE CRASH CUSHION WIDTH.
2. USE TUBULAR MARKERS TO HELP DELINEATE TEMPORARY CRASH CUSHION.
3. REMOVE DRUMS / BARRICADES WHEN INGRESS / EGRESS ARE IN USE.
4. REMOVE OR COVER WHEN ACCESS IS NOT NEEDED.

TABLE 1

S (MPH)	INGRESS, L	EGRESS, L
50	435'	720'
55	480'	960'
60	530'	1200'
65	570'	1410'
70	615'	1620'



TRAFFIC CONTROL INGRESS/EGRESS WITH BARRIER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

6

SDD 15D47-03a

6

SDD 15D47-03a

LEGEND

- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TYPE III BARRICADE WITH ATTACHED SIGN
- DIRECTION OF TRAFFIC
- CONSTRUCTION TRAFFIC
- WORK AREA

TABLE 1

S (MPH)	INGRESS, L	EGRESS, L
50	435'	720'
55	480'	960'
60	530'	1200'
65	570'	1410'
70	615'	1620'

LEGEND

ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED.

"WO" SIGN IS THE SAME AS "W" SIGN EXCEPT THE BACKGROUND IS ORANGE.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH THE TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER. NO WARNING LIGHTS SHALL BE WORKING ON COVERED OR "DOWNED" SIGNS.

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

WORK ZONE INGRESS/EGRESS LOCATIONS SHALL BE APPROVED BY THE ENGINEER. LOCATIONS FOR WORK ZONE ACCESS TO/FROM THE FREEWAY SHALL NOT BE USED FOR INGRESS AND EGRESS AT THE SAME TIME.

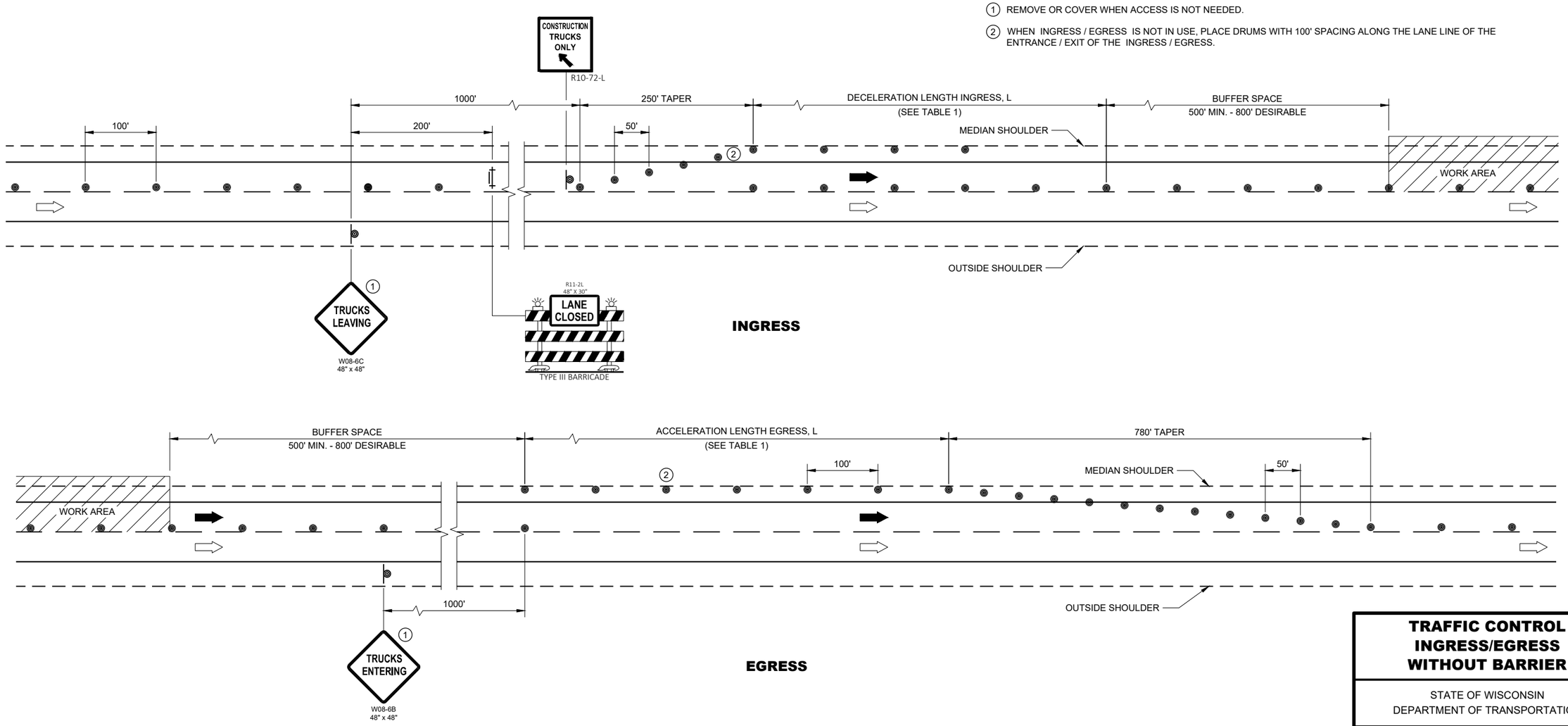
THIS ACCESS DETAIL IS TYPICAL FOR LEFT LANE ACCESS, FOR RIGHT LANE ACCESS, REVERSE THE TRAFFIC CONTROL

TEMPORARY SUPPORTS MAY BE USED IF PLACED BEHIND TEMPORARY BARRIER WALL

TRUCKS SHALL USE FLASHING YELLOW BEACON WHEN ENTERING AND EXITING LIVE TRAFFIC.

(1) REMOVE OR COVER WHEN ACCESS IS NOT NEEDED.

(2) WHEN INGRESS / EGRESS IS NOT IN USE, PLACE DRUMS WITH 100' SPACING ALONG THE LANE LINE OF THE ENTRANCE / EXIT OF THE INGRESS / EGRESS.



TRAFFIC CONTROL INGRESS/EGRESS WITHOUT BARRIER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

6

SDD 15D47-03b

6

SDD 15D47-03b

LEGEND

- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)
- REMOVING PAVEMENT MARKINGS
- DIRECTION OF TRAFFIC
- WORK AREA
- CONNECTED ARROW BOARD
- WZ START LOCATION MARKER
- WZ END LOCATION MARKER

GENERAL NOTES

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

THE SPACING BETWEEN SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS.

THIS LANE CLOSURE IS TYPICAL FOR CLOSING RIGHT LANE - REVERSE FOR CLOSING LEFT LANE.

ALL SIGNS ARE 48" x 48" UNLESS OTHERWISE NOTED.

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

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED OR AS APPROVED BY THE ENGINEER. NO WARNING LIGHTS SHALL BE WORKING ON "COVERED" OR "DOWNED SIGNS.

FOR A LANE CLOSURE THAT IS IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, THE ADVANCED WARNING SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS.

REMOVE PAVEMENT MARKINGS IF LANE CLOSURE IS TO BE IN PLACE 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

CONSIDER ROADWAY GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARD SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS.

WHEN A RAMP INTERSECTS THE FACILITY ON WHICH WORK IS BEING PERFORMED, ADDITIONAL TRAFFIC CONTROLS SHALL BE PROVIDED AS SPECIFIED IN THE PLANS AND/OR THE SPECIAL PROVISIONS OR AS DIRECTED BY THE ENGINEER.

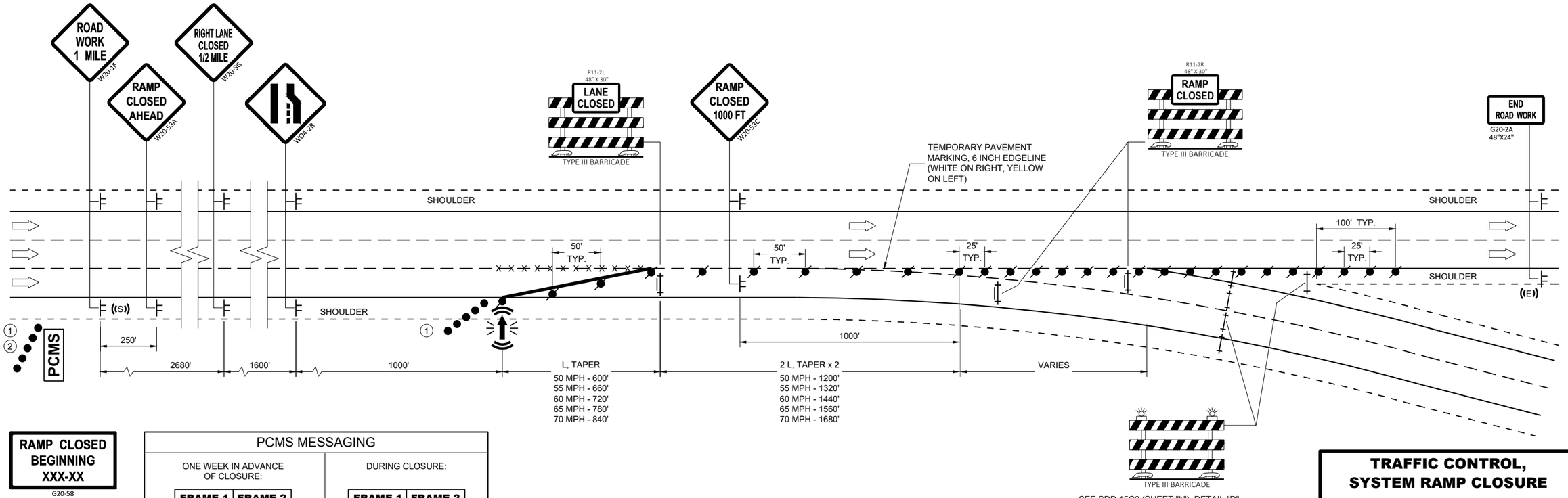
REMOVE ALL ARROW BOARDS AND DEVICES BEYOND THE SHOULDER WHEN THE WORK IS NOT IN PROGRESS.

REFER TO SDD 15C2 FOR SETTING DETOUR SIGNAGE.

ADD FREEWAY SHIELD AND DIRECTION IF APPLICABLE. COVER EXISTING RAMP AND LANE SIGNS IF APPLICABLE.

(1) 5 DRUMS SPACED AT 10 FOOT INTERVALS.

(2) DURING THE PRE-WARNING PERIOD, PLACE THE PCMS AT THE SYSTEM RAMP THAT IS TO BE CLOSED. DURING CLOSURE PERIOD, PLACE PCMS OR FMS AT LAST AVAILABLE EXIT IN ADVANCE OF SYSTEM RAMP CLOSURE. IF DYNAMIC MESSAGE SIGNS (DMS) ARE AVAILABLE, COORDINATE POTENTIAL SIGN MESSAGES WITH THE TRAFFIC MANAGEMENT CENTER (TMC).



SEE SDD 15C2 (SHEET "b"), DETAIL "D" "BARRICADES AND SIGNS FOR MAINLINE CLOSURES" PLACE BARRICADES TO FULLY SEAL OFF ROAD

RAMP CLOSED BEGINNING XXX-XX
G20-58

PCMS MESSAGING	
ONE WEEK IN ADVANCE OF CLOSURE:	DURING CLOSURE:

FRAME 1	FRAME 2
RAMP TO CLOSE	XXXDAY XX XX XX

FRAME 1	FRAME 2
HWY XX RAMP CLOSED	USE ALT ROUTE

TRAFFIC CONTROL, SYSTEM RAMP CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2024
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

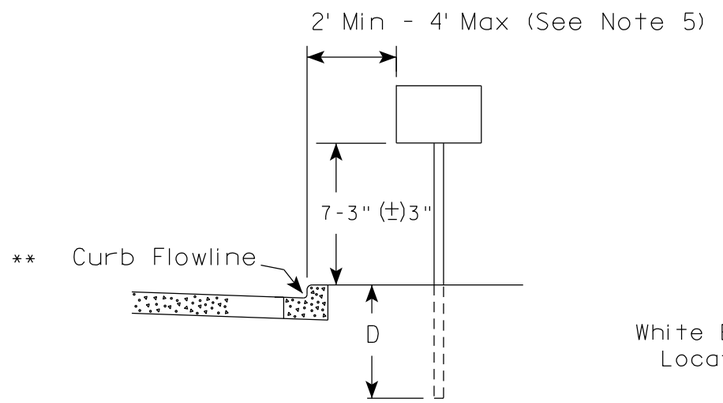
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SDD 15D49-04

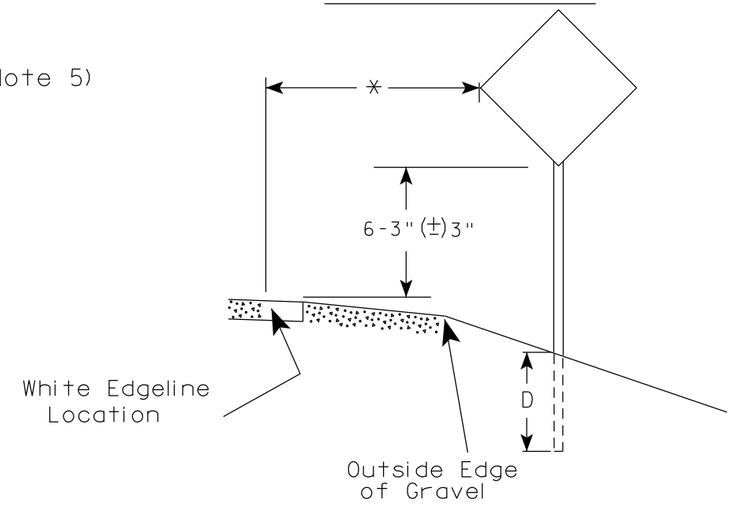
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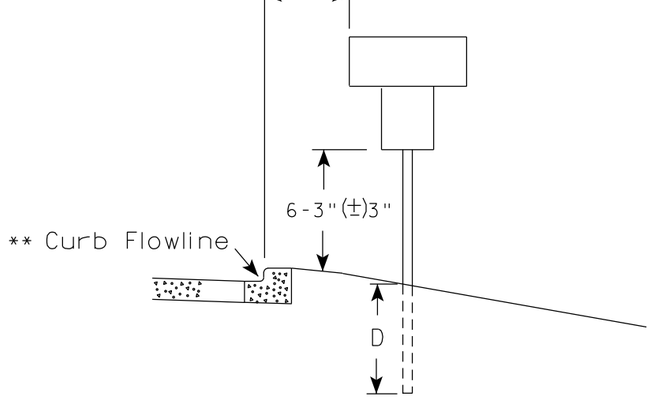
SDD 15D49-04

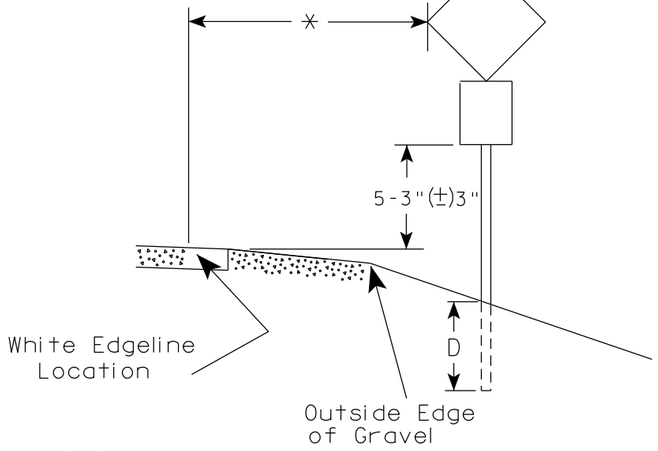
URBAN AREA



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.

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" (±) 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".
3. For expressways and freeways, mounting height is 7'- 3" (±) 3" or 6'-3" (±) 3" depending upon existence of a sub-sign.
4. Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±) 3".
5. Offset distance shall be consistent with existing signs or consistent throughout length of project.
6. Folding signs shall be mounted at a height of 5'-3" (±) 3" or as directd by the Engineer.

POST EMBEDMENT DEPTH

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

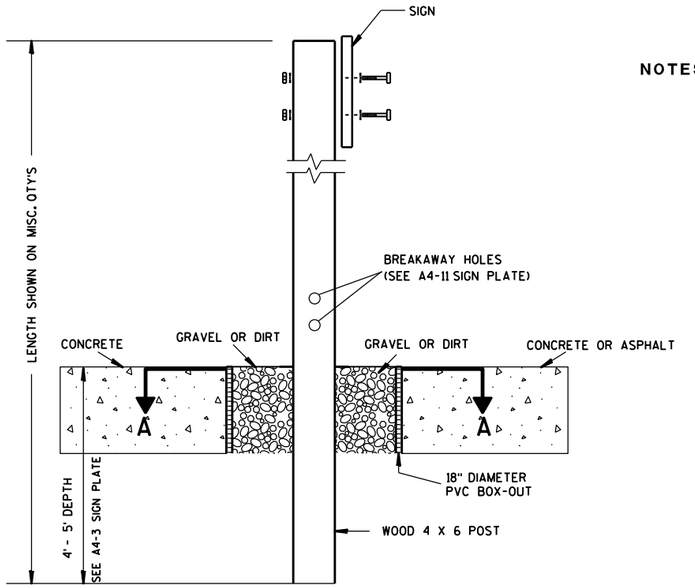
TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/6/23 PLATE NO. A4-3.23

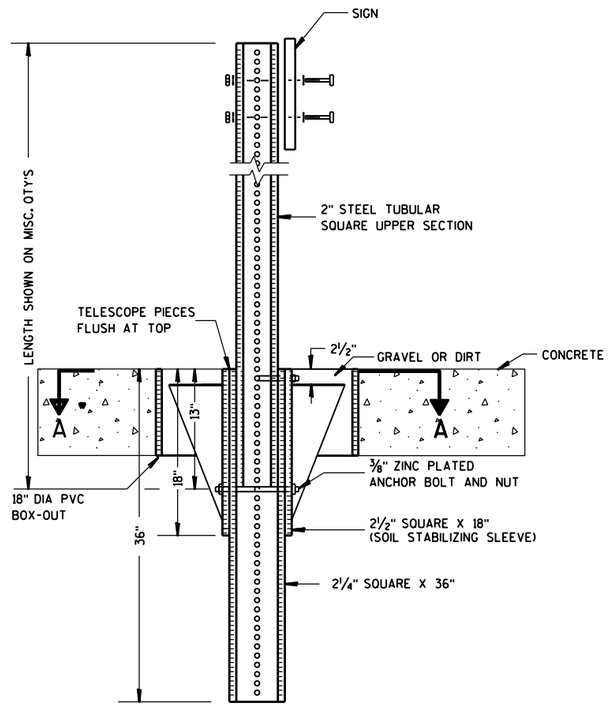
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 195	E



ELEVATION VIEW

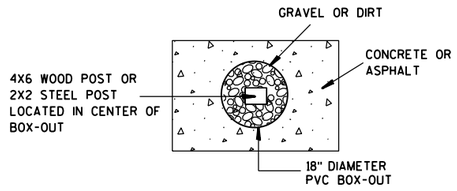
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

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



ELEVATION VIEW

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



PLAN VIEW

FOR NEW CONCRETE/ASPHALT INSTALLATIONS

SIGN POST BOX-OUTS A4-3B

WISCONSIN DEPT OF TRANSPORTATION

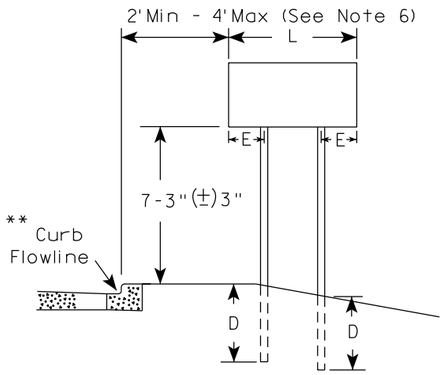
APPROVED Matthew R Rauch
for State Traffic Engineer

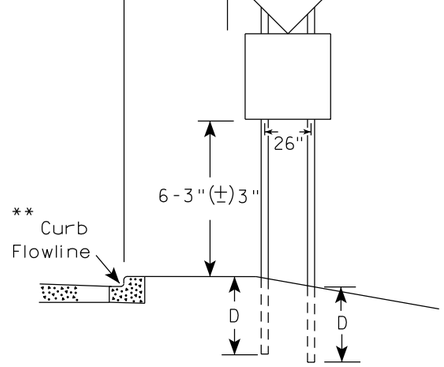
DATE 1/27/14 PLATE NO. A4-3B.1

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

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

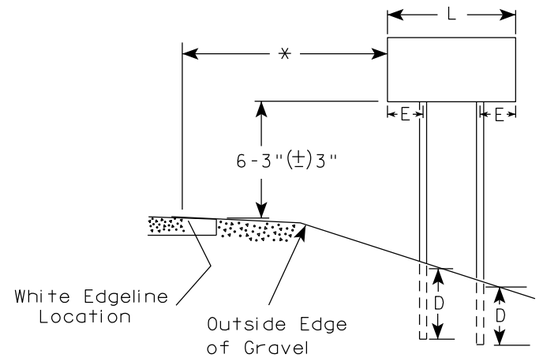
URBAN AREA

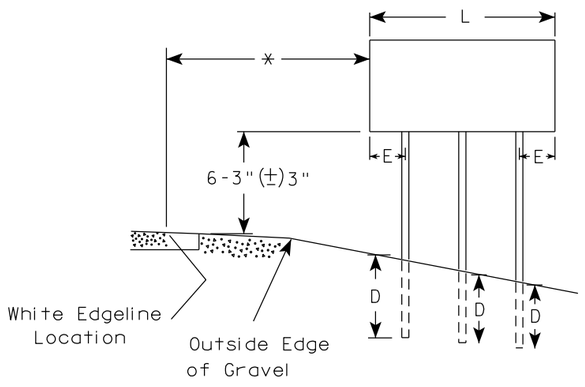


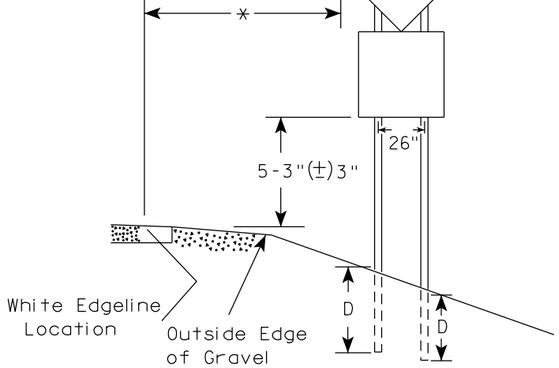


48" DIAMOND WARNING SIGN

RURAL AREA (See Note 3)







48" DIAMOND WARNING SIGN

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" (±) 3" or 6'-3" (±) 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" (±) 3" or as directed by the engineer.
8. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±) 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" (±) 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.

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"

POST EMBEDMENT DEPTH

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

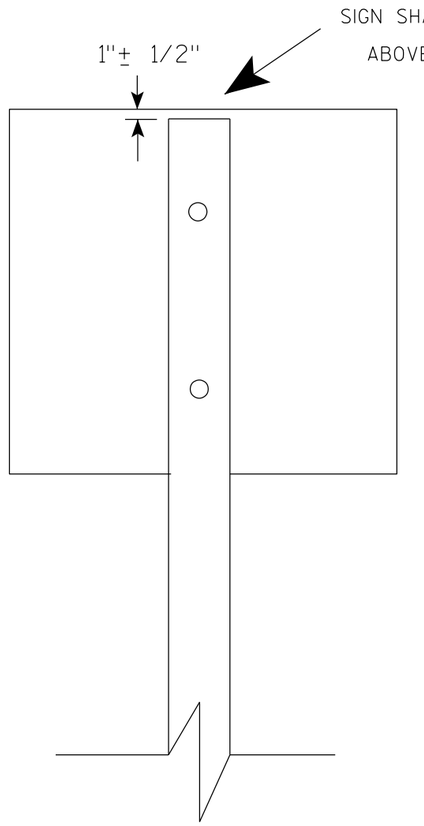
TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

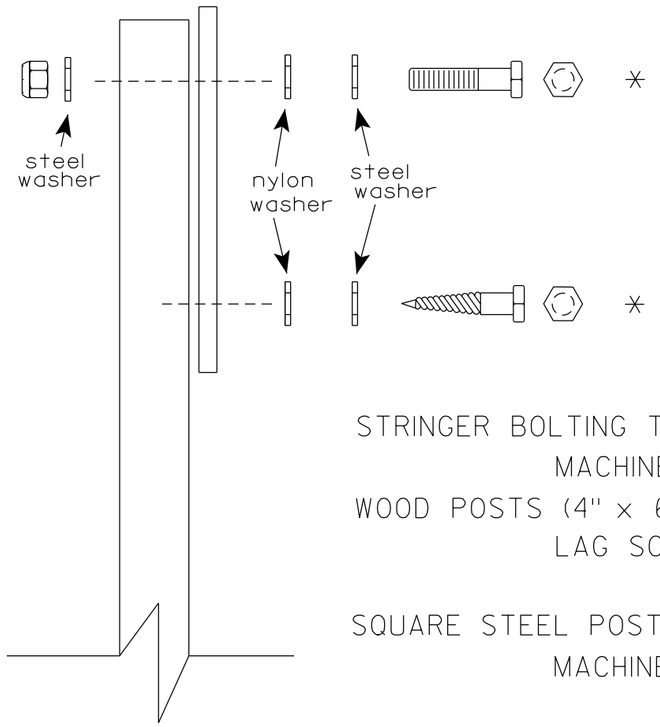
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/6/23 PLATE NO. A4-4.16

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 197	E





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

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

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

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

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

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

WOOD POSTS (4" x 6")

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

SQUARE STEEL POSTS (2" x 2")

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

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

WASHERS (ALL POSTS) -

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

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

ATTACHMENT OF SIGNS TO POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

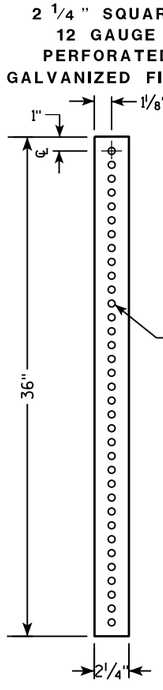
DATE 4/1/2020 PLATE NO. A4-8.9

PROJECT NO:

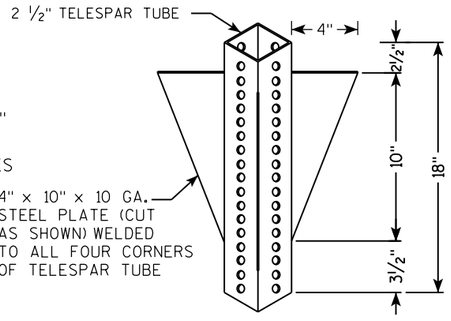
SHEET NO: 198 E

TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM

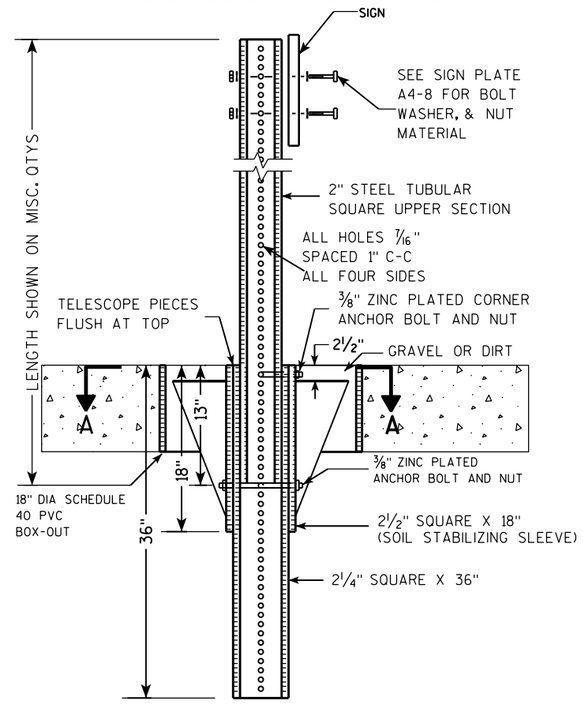
2 1/4 " SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH



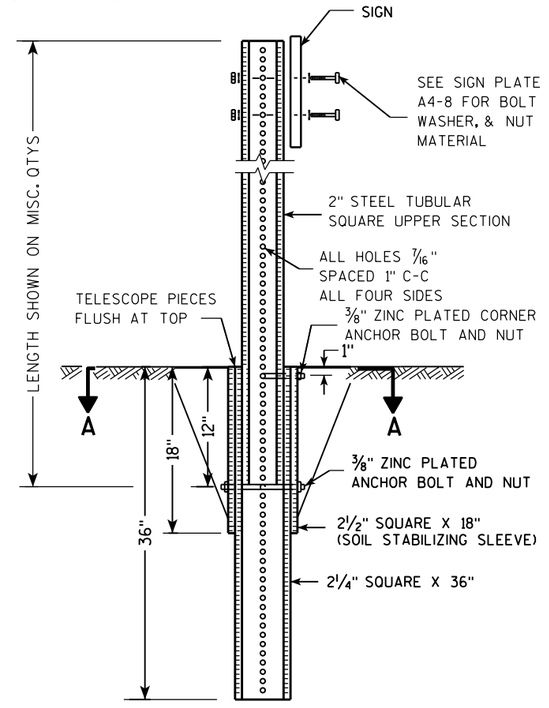
2 1/2 " SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH

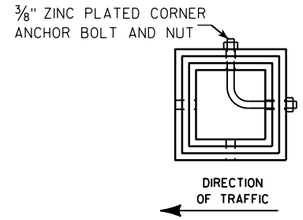


DETAIL OF TUBULAR STEEL SIGN POST
(IN POURED CONCRETE OR ASPHALT)



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





SECTION A-A

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

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

TUBULAR STEEL
SIGN POST
A4-9

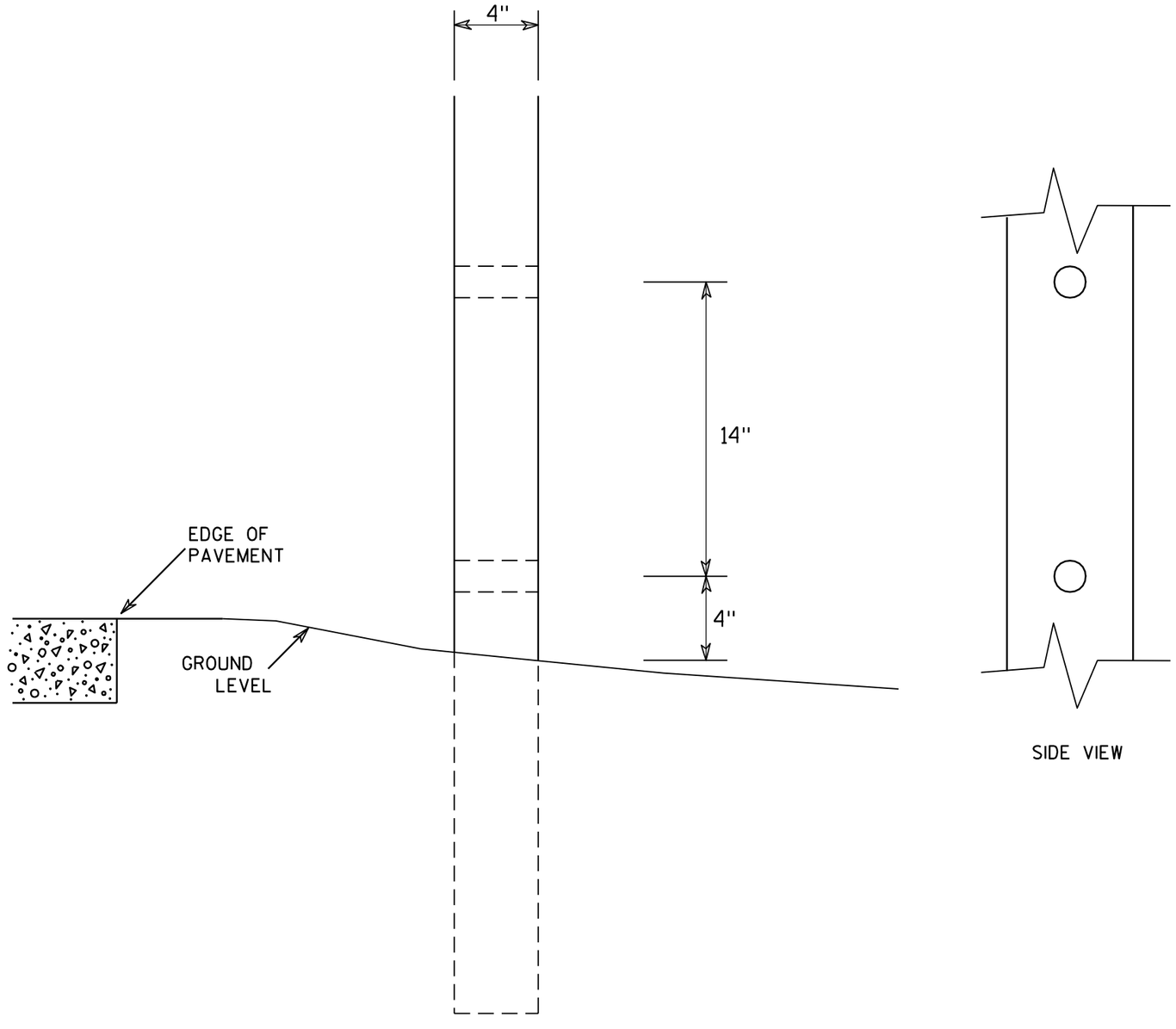
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/05/15 PLATE A4-9.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

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



SIDE VIEW

GENERAL NOTES

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

4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

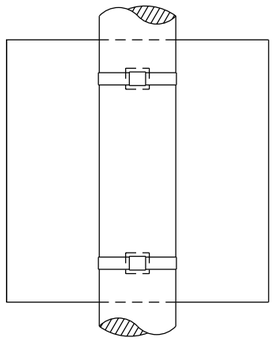
APPROVED Chester J Spang for State Traffic Engineer

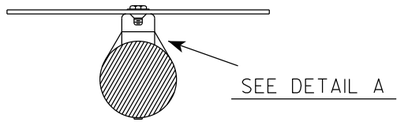
DATE 3/27/97 PLATE NO. A4-11.2

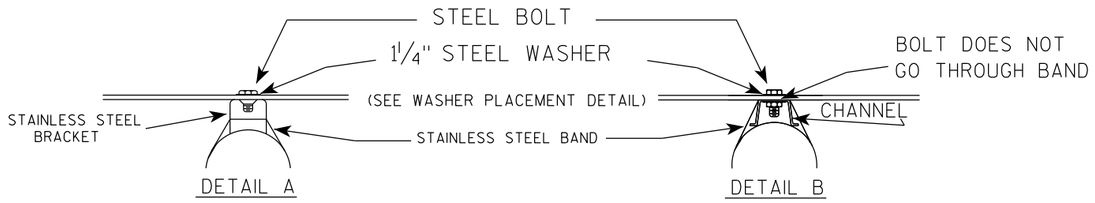
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 200	E

BANDING

SINGLE SIGN



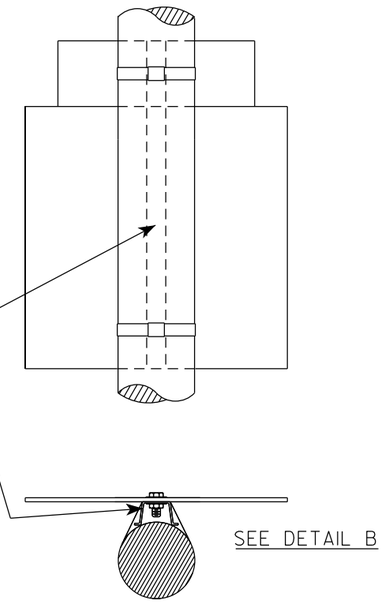




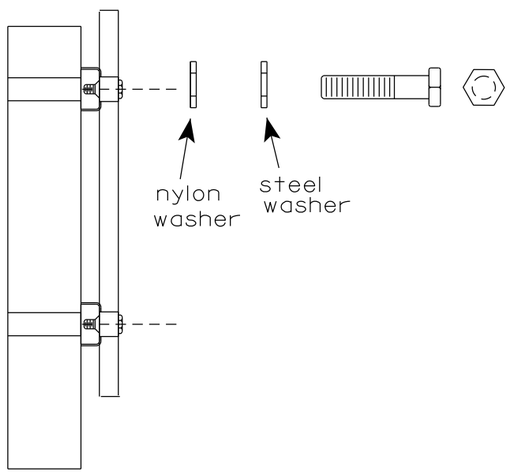
GENERAL NOTES

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

"J" ASSEMBLY



WASHER PLACEMENT



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

STANDARD SIGN
SIGN BANDING DETAILS

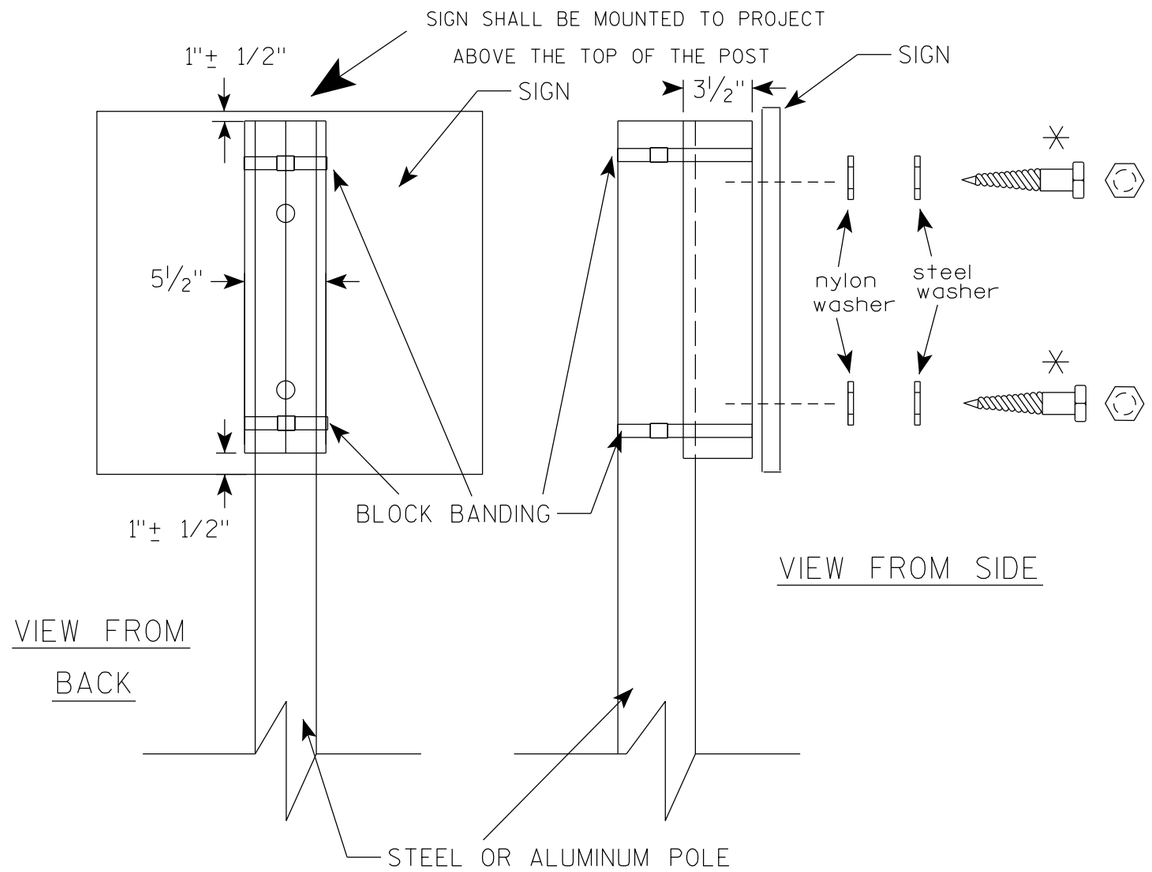
WISCONSIN DEPT OF TRANSPORTATION

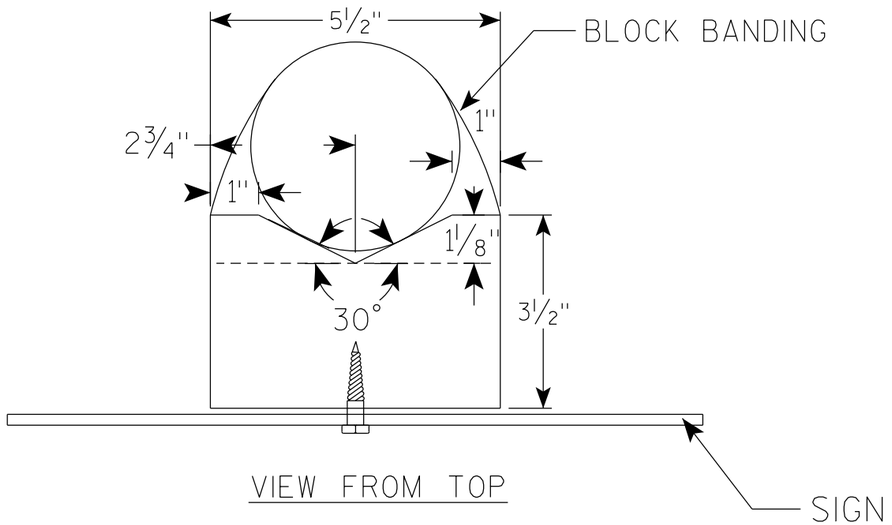
APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 201	E

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





GENERAL NOTES

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

✳ LAG BOLTS SHALL BE ⅜" X 2½"

BLOCK BANDING DETAIL (V-BLOCK OPTION)

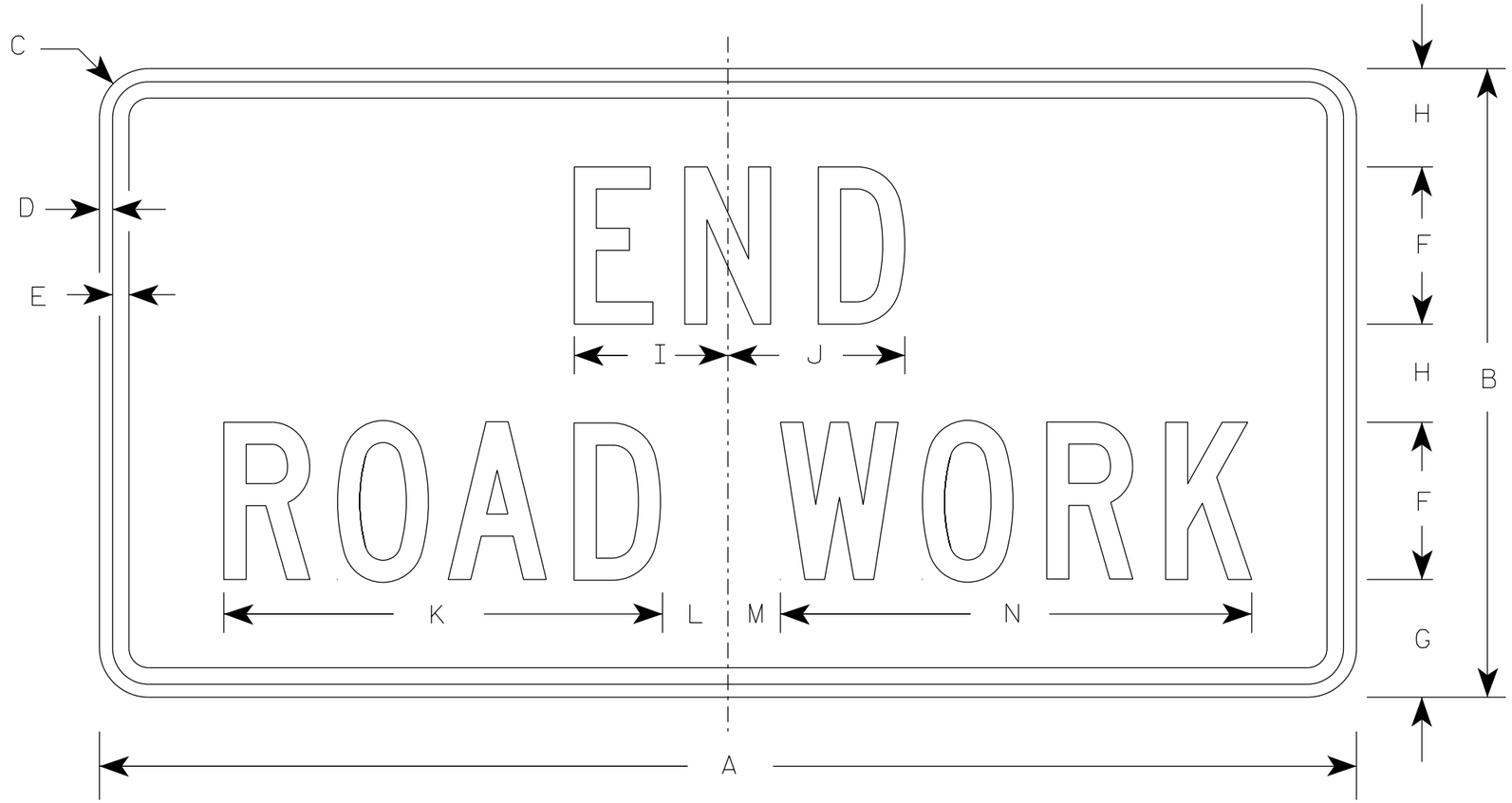
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 4/19/2022 PLATE NO. A5-10.3

PROJECT NO:

SHEET NO: 202 E



G20-2A

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - Orange
   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.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36	18	1 1/2	3/8	1/2	4	3 3/4	2 1/2	4 1/8	4 1/8	11 1/8	2	1	12 1/8													4.5
2	48	24	1 7/8	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0
2M	48	24	1 7/8	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0
3	48	24	1 7/8	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0
4	48	24	1 7/8	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0
5	48	24	1 7/8	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0

STANDARD SIGN

G20-2A

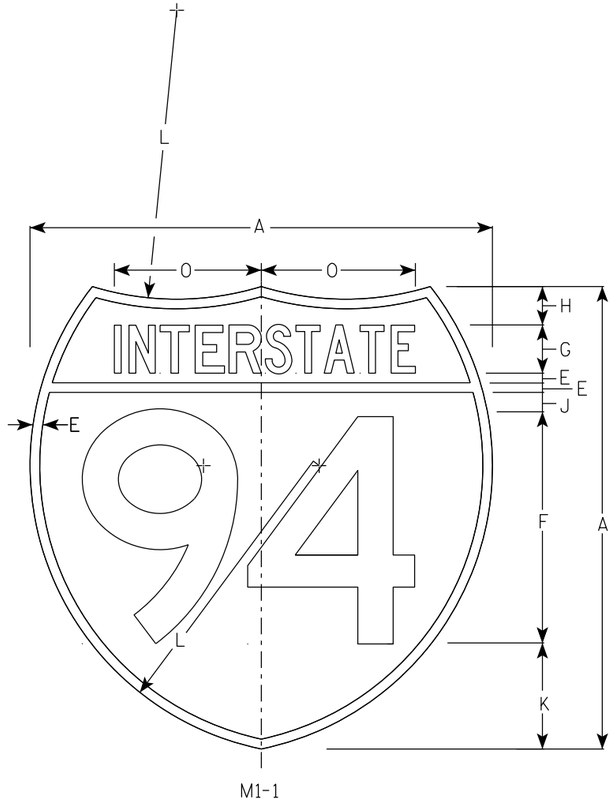
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

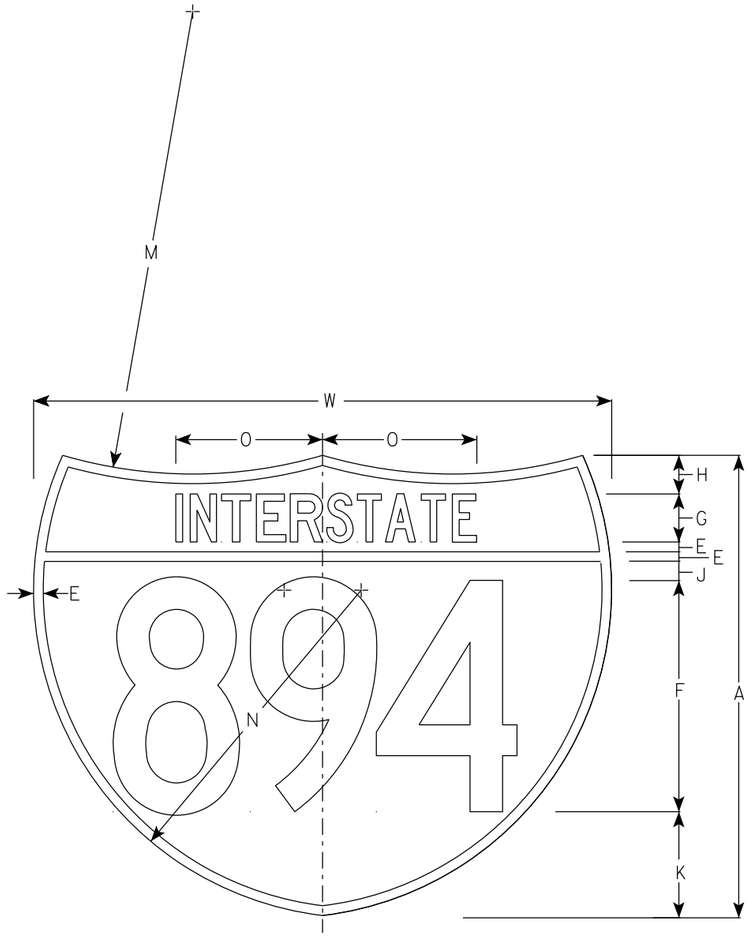
DATE 1/26/2023 PLATE NO. G20-2A.10

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 203 E

7



M1-1



M1-1A

NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - Top Red - Bottom Blue
   Message - White
3. Message Series - See note 5
4. Substitute appropriate numerals & ajust spacing as per plate A10-1.
5. M1-1 - Numerals - D
   Interstate - C
   M1-1A - All copy - C

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	M1-1 Area sq. ft.	M1-1A Area sq. ft.
1																											
2	24				1/2	12	2 1/2	2		1	5 1/2	15	24	17	7 7/8								30			3.13	3.91
2M	24				1/2	12	2 1/2	2		1	5 1/2	15	24	17	7 7/8								30			3.13	3.91
3	36				3/4	18	3 3/4	3		1 1/2	8 1/4	22 1/2	36	25 1/2	11 3/4								45			7.03	8.79
4	36				3/4	18	3 3/4	3		1 1/2	8 1/4	22 1/2	36	25 1/2	11 3/4								45			7.03	8.79
5	36				3/4	18	3 3/4	3		1 1/2	8 1/4	22 1/2	36	25 1/2	11 3/4								45			7.03	8.79

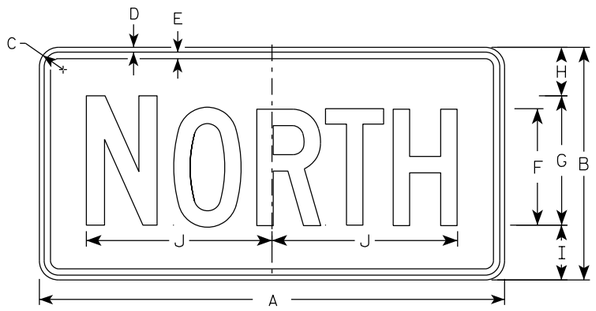
INTERSTATE ROUTE MARKER M1-1 FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

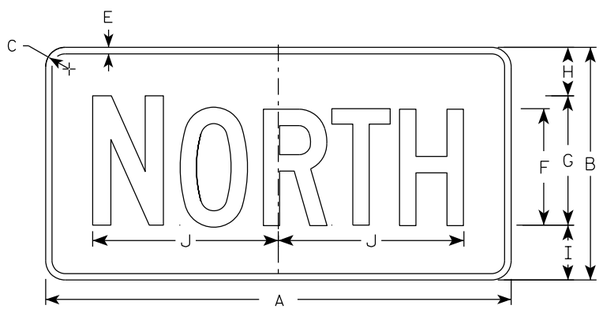
APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 11/7/2022 PLATE NO. M1-1.9

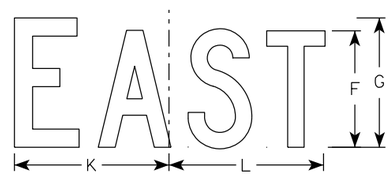
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 204 E



M3-1
MM3-1
MP3-1



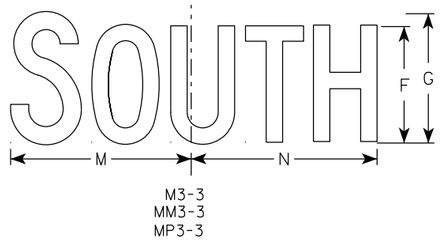
MB3-1
MK3-1
MN3-1



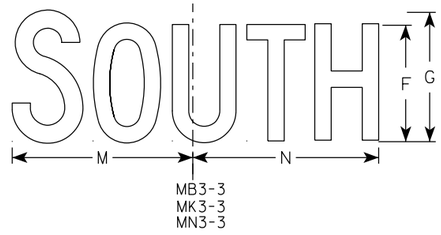
M3-2
MM3-2
MP3-2



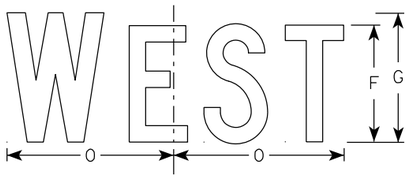
MB3-2
MK3-2
MN3-2



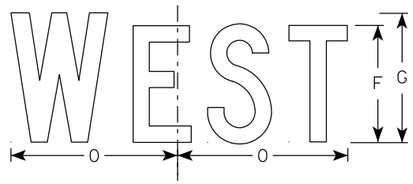
M3-3
MM3-3
MP3-3



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 Reflective
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																											
2S	24	12	1 1/2	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												2.00
2M	24	12	1 1/2	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												2.00
3	36	18	1 1/2	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13												4.5
4	36	18	1 1/2	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13												4.5
5	36	18	1 1/2	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13												4.5

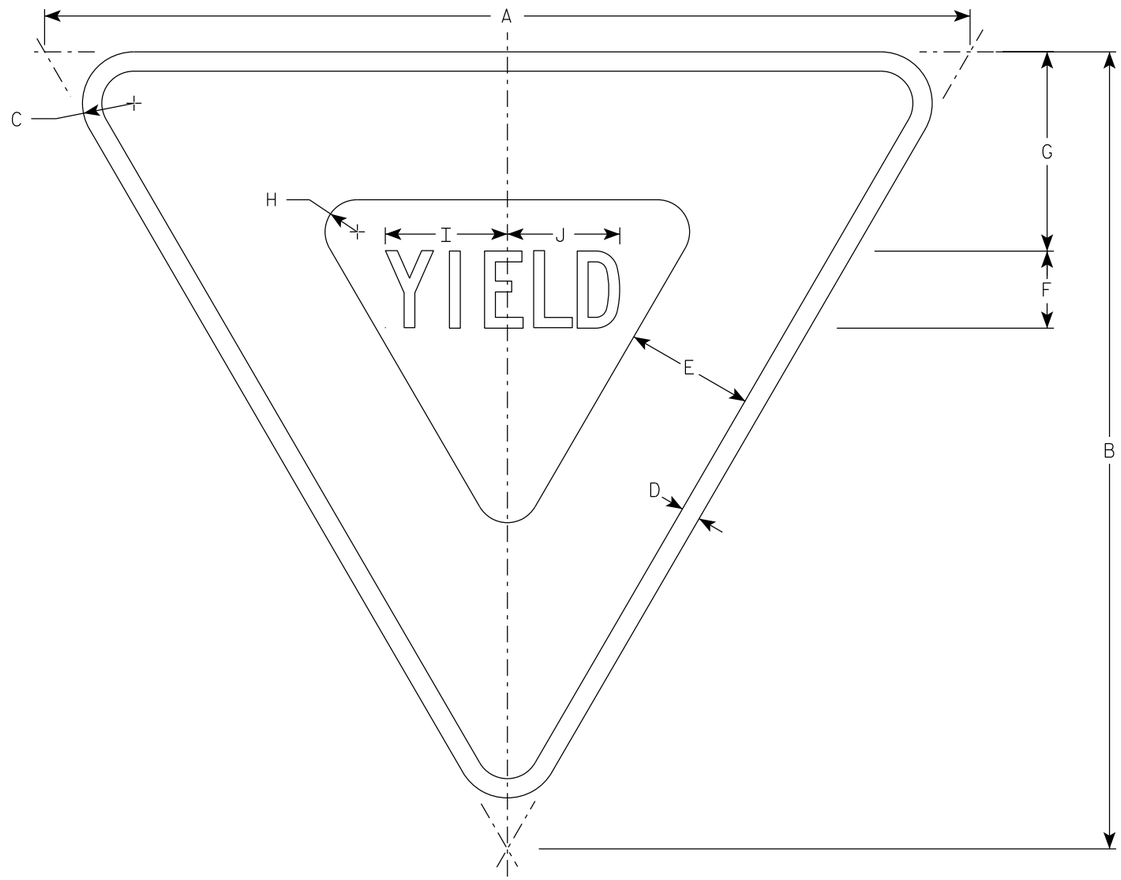
STANDARD SIGNS
M3-1 THRU M3-4
SERIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 2/8/2023 PLATE NO. M3-1.15

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 205 | E



R1-2

NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - See note 4
3. Message Series - C
4. The border strip and word message are reflectorized red.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30	26	2	5/8	4	2 1/2	6 3/8	7/8	4	3 5/8																	2.71
2S	36	31	2	3/4	5	3	7 3/4	1 1/4	4 3/4	4 3/8																	3.88
2M	48	42	3	1	6	4	9 3/4	2	6 1/4	5 7/8																	7.00
3	48	42	3	1	6	4	9 3/4	2	6 1/4	5 7/8																	7.00
4	48	42	3	1	6	4	9 3/4	2	6 1/4	5 7/8																	7.00
5	60	52	3	1 1/2	8	5	13	2 1/2	7 7/8	7 1/4																	10.83
6																											
7	18	15 1/2	1	3/8	2 1/2	1 1/2	3 7/8	5/8	2 3/8	2 1/4																	0.97

STANDARD SIGN
R1-2

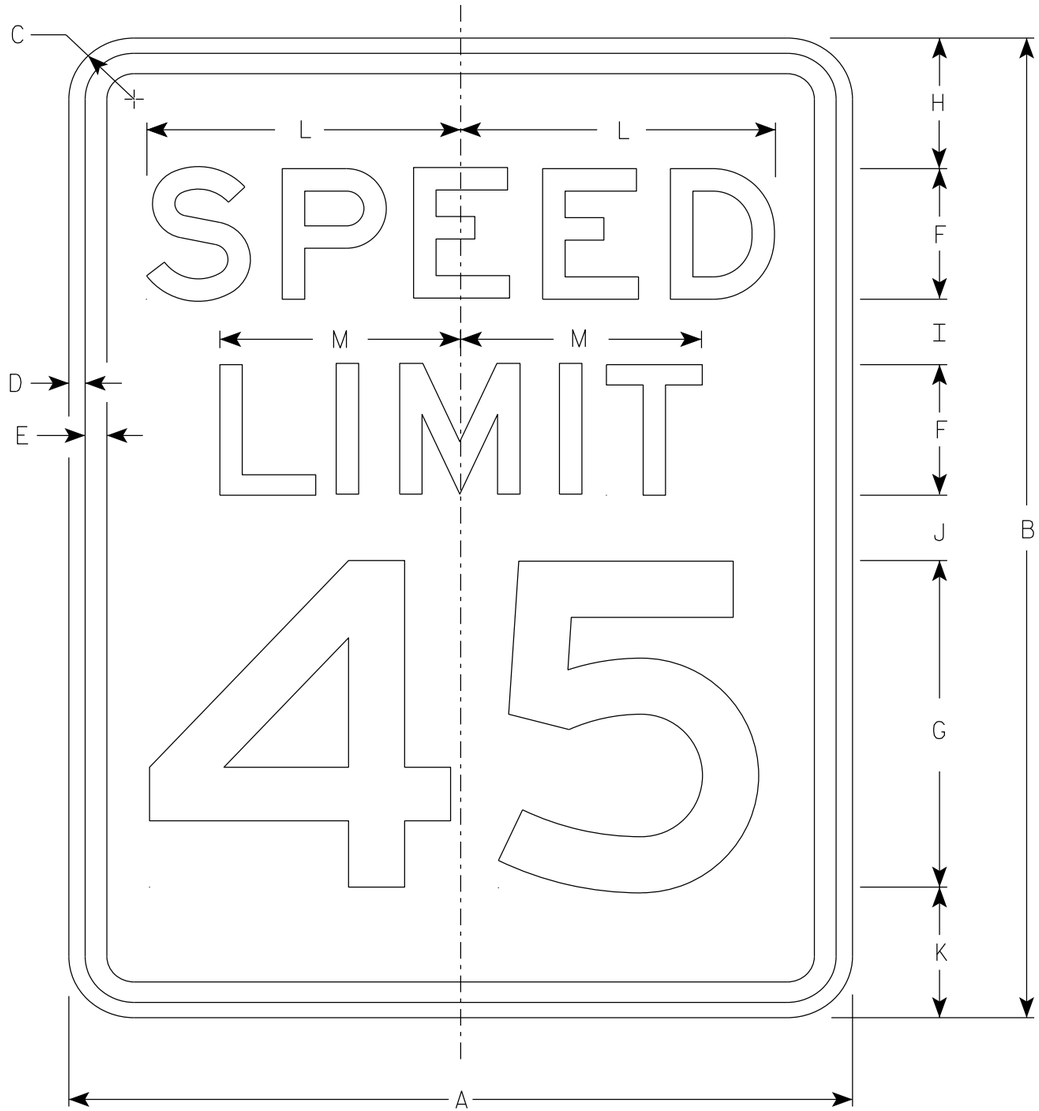
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 9/10/2024 PLATE NO. R1-2.13

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 206	E

7



R2-1

NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - Black
3. Message Series - E
4. Substitute appropriate numerals and optically adjust spacing to achieve proper balance.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	18	24	1 1/2	3/8	1/2	3	8	3	2	2	3	7 1/4	5 1/2														3.0
2S	24	30	1 1/2	3/8	1/2	4	10	3	2 1/4	3 3/8	3 3/8	9 5/8	7 3/8														5.0
2M	30	36	1 7/8	1/2	5/8	5	12	5	2 1/2	2 1/2	4	12	9 1/4														7.5
3	36	48	1 7/8	1/2	5/8	6	14	6	5	5	6	14 3/8	11														12.0
4	36	48	1 7/8	1/2	5/8	6	14	6	5	5	6	14 3/8	11														12.0
5	48	60	3	3/4	1	8	20	6	4 1/2	6 3/4	6 3/4	19 1/4	14 5/8														20.0

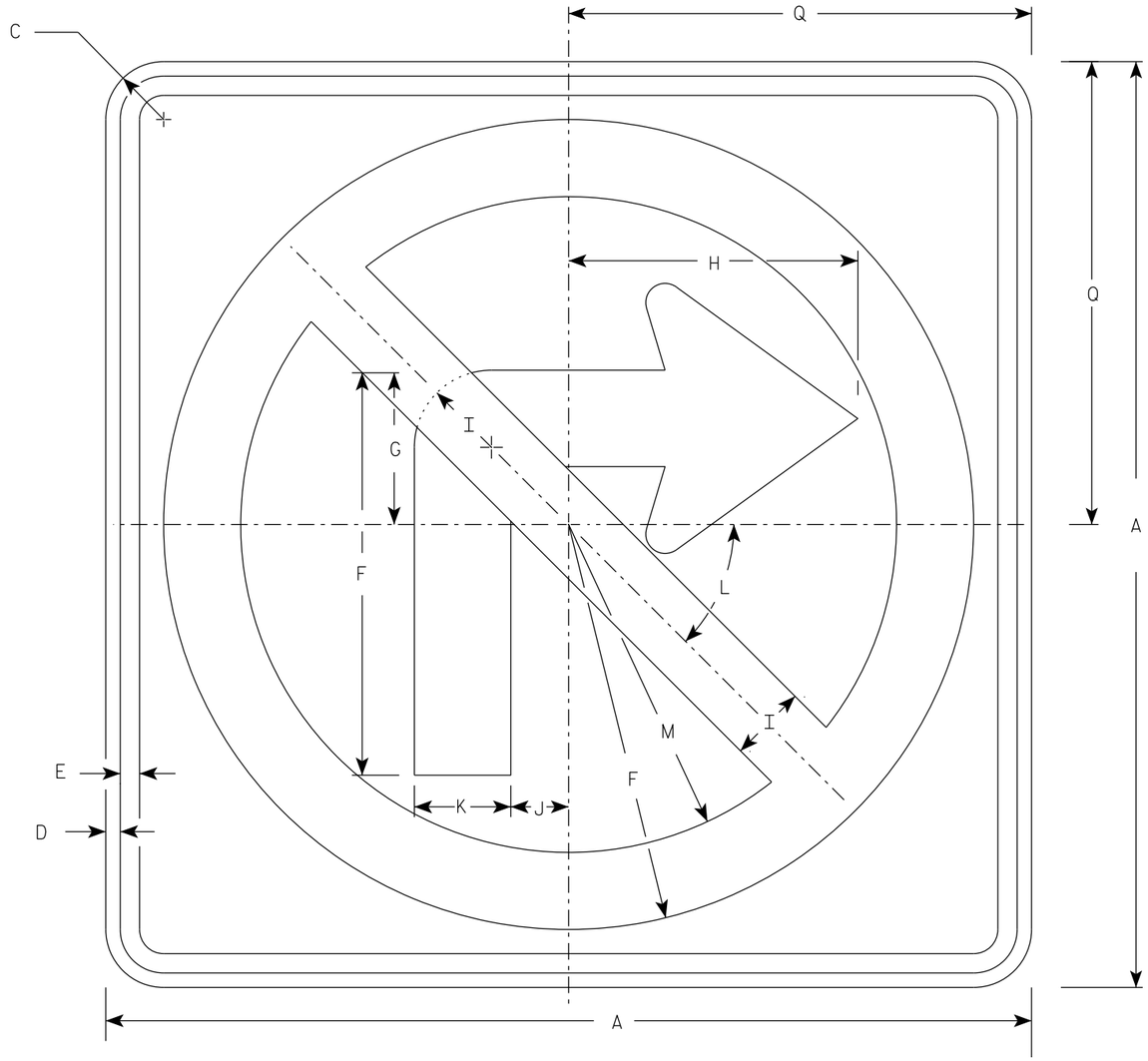
STANDARD SIGN
R2-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/1/23 PLATE NO. R2-1.14

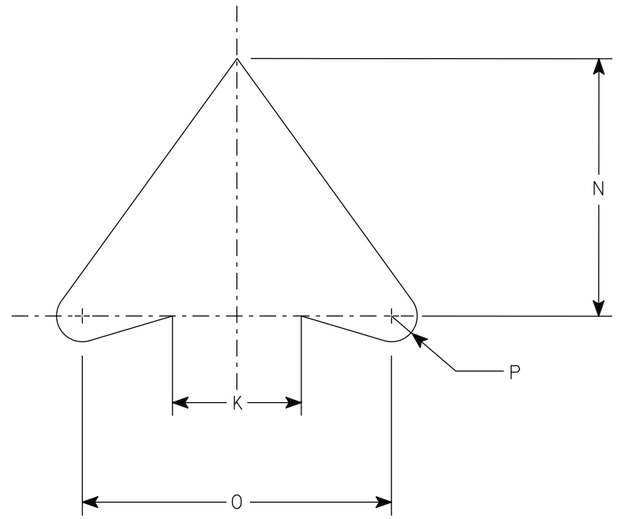
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 207 | E



R3-1

NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - See note 3
3. Border & Arrow are non reflective black, the circle with diagonal bar is reflective red.



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	24		1 ½	⅜	½	10 ½	4	7 ½	2	1 ½	2 ½	45	8 ½	5	6	½	12										4.0
2S	24		1 ½	⅜	½	10 ½	4	7 ½	2	1 ½	2 ½	45°	8 ½	5	6	½	12										4.0
2M	36		2 ¼	⅝	¾	15 ¾	6	11 ¼	3	2 ¼	3 ¾	45	12 ¾	7 ½	9	¾	18										9.0
3	36		2 ¼	⅝	¾	15 ¾	6	11 ¼	3	2 ¼	3 ¾	45	12 ¾	7 ½	9	¾	18										9.0
4	36		2 ¼	⅝	¾	15 ¾	6	11 ¼	3	2 ¼	3 ¾	45°	12 ¾	7 ½	9	¾	18										9.0
5	48		2 ¼	¾	1	21	8	15	4	3	5	45°	17	10	12	1	24										16.0

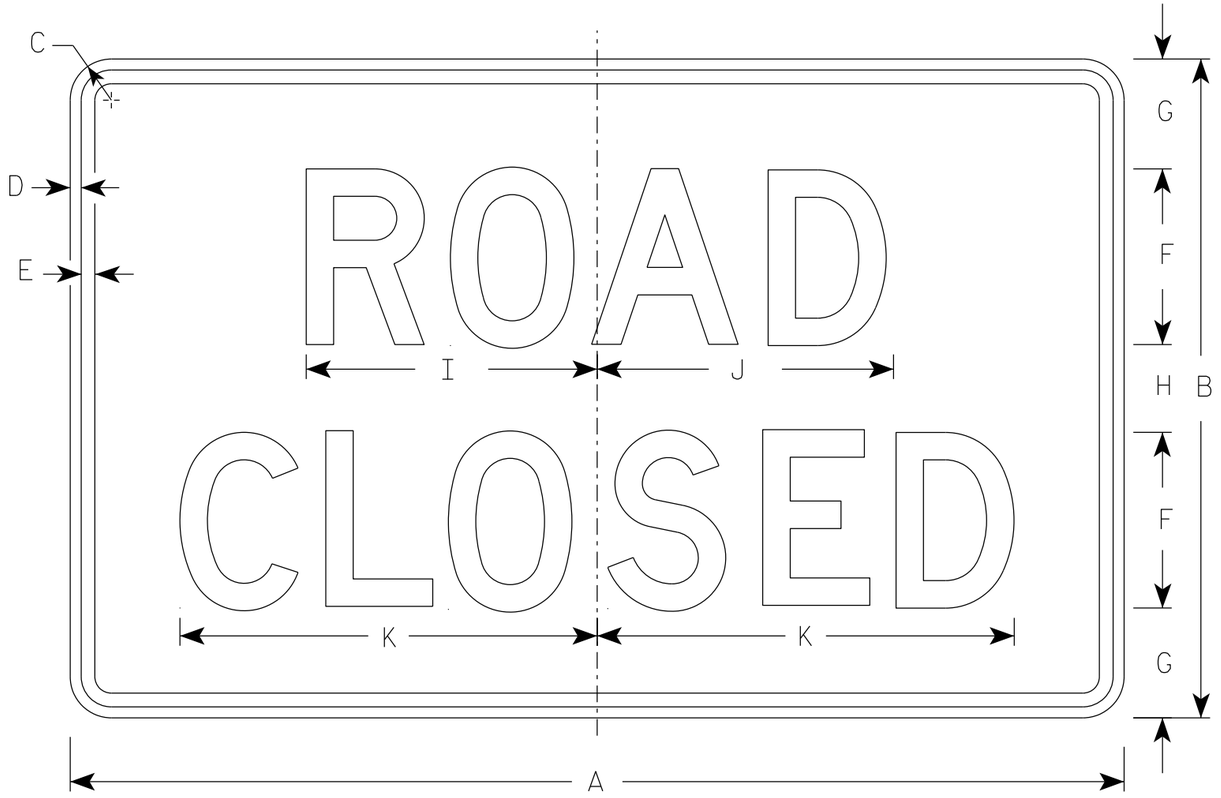
STANDARD SIGN
R3-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/2/23 PLATE NO. R3-1.6

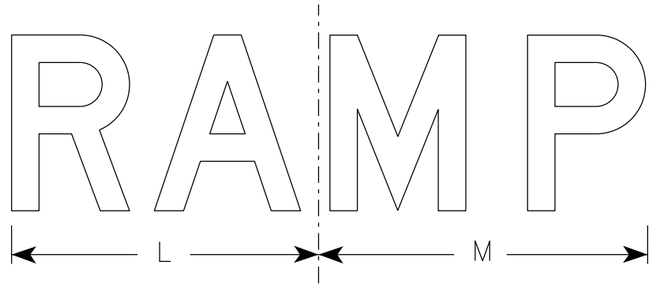
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 208 | E



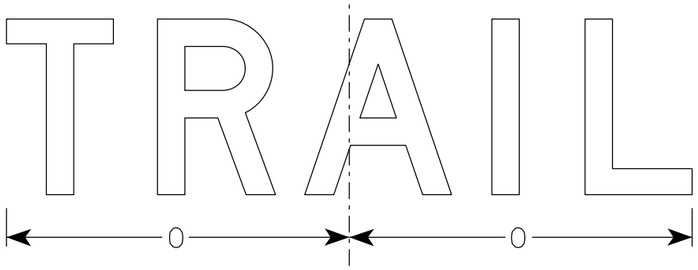
R11-2

NOTES

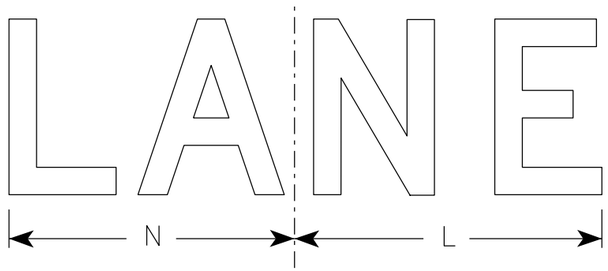
1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - Black
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Modify the message as required.



R11-2R



R11-2T



R11-2L

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 7/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13	15 5/8												10.0
2M	48	30	1 7/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13	15 5/8												10.0
3	48	30	1 7/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13	15 5/8												10.0
4	48	30	1 7/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13	15 5/8												10.0
5	48	30	1 7/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13	15 5/8												10.0

STANDARD SIGN
R11-2

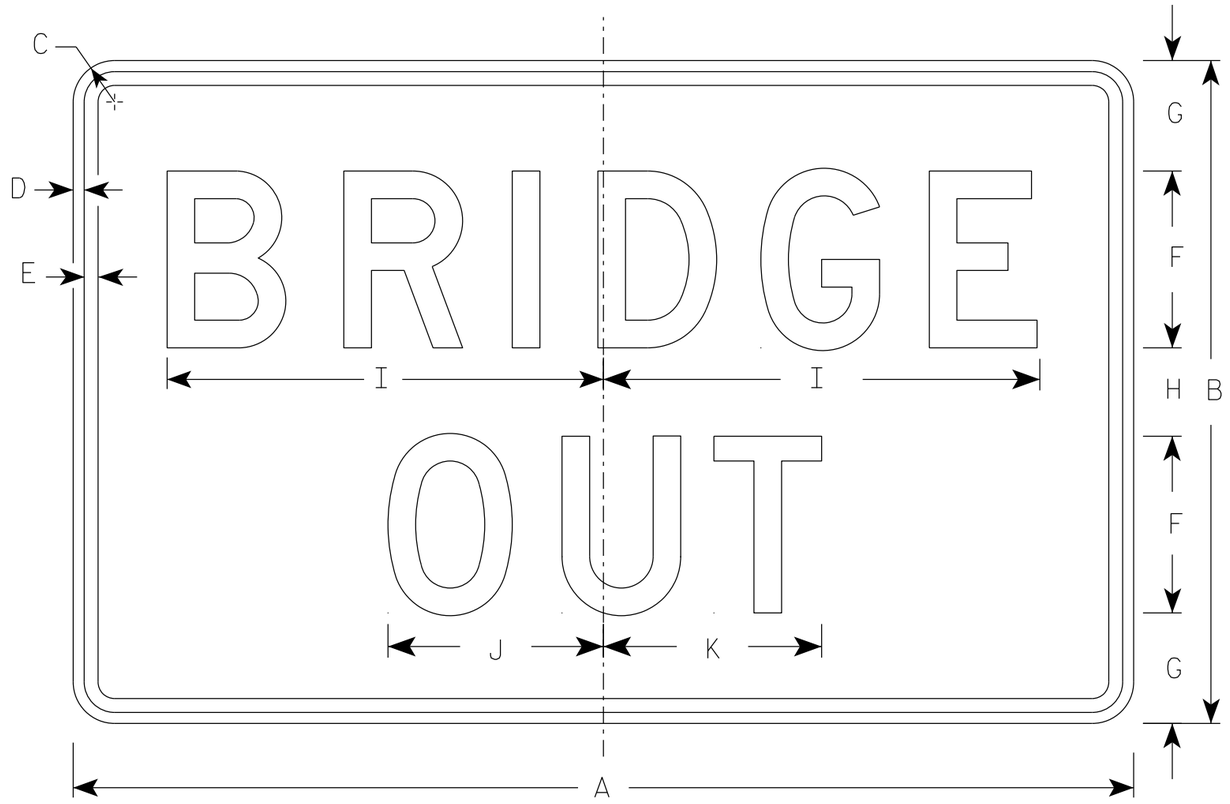
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/5/24 PLATE NO. R11-2.12

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

7



R11-2B

NOTES

1. Sign is Type II - Type H Reflective
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 7/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
2M	48	30	1 7/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
3	48	30	1 7/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
4	48	30	1 7/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
5	48	30	1 7/8	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

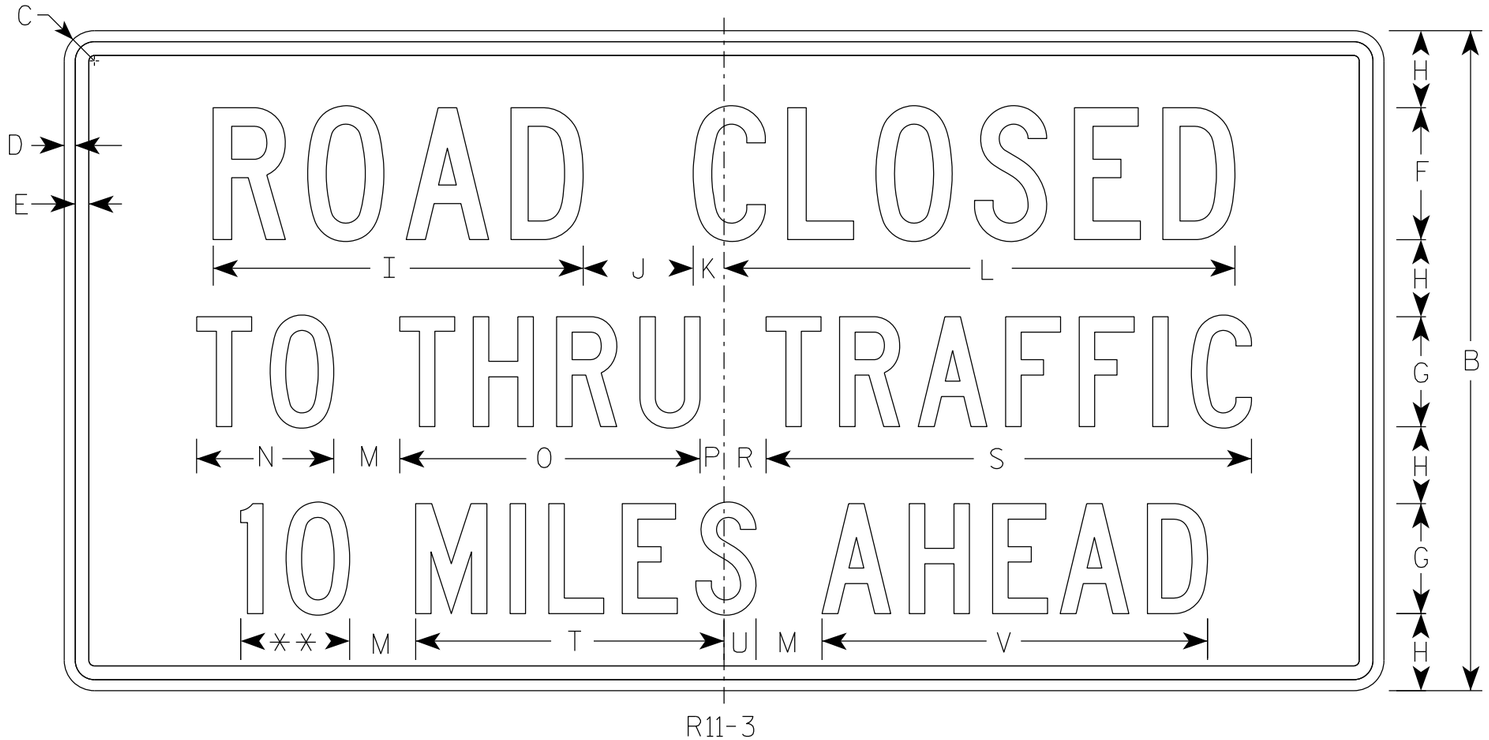
DATE 2/5/24 PLATE NO. R11-2B.3

PROJECT NO:

SHEET NO: 210 E

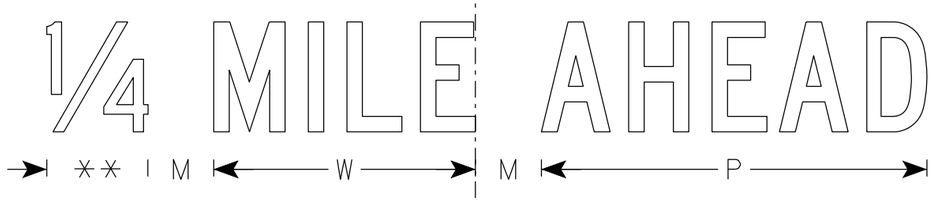
NOTES

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



R11-3

** 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	18	1 1/2	3/8	3/8	4	3	2	11 1/4	3	1 1/8	15 3/8	2	3 3/4	8 1/4	5/8		1 3/8	13 1/4	8 3/8	7/8	10 1/2	7 1/8				4.5
2S	60	30	1 7/8	1/2	5/8	6	5	3 1/2	16 7/8	5	1 3/8	23 1/4	3	6 1/4	13 5/8	1 1/8		1 7/8	22 1/8	14	1 1/2	17 1/2	11 7/8				12.5
2M	60	30	1 7/8	1/2	5/8	6	5	3 1/2	16 7/8	5	1 3/8	23 1/4	3	6 1/4	13 5/8	1 1/8		1 7/8	22 1/8	14	1 1/2	17 1/2	11 7/8				12.5
3																											
4																											
5																											

STANDARD SIGN
R11-3

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

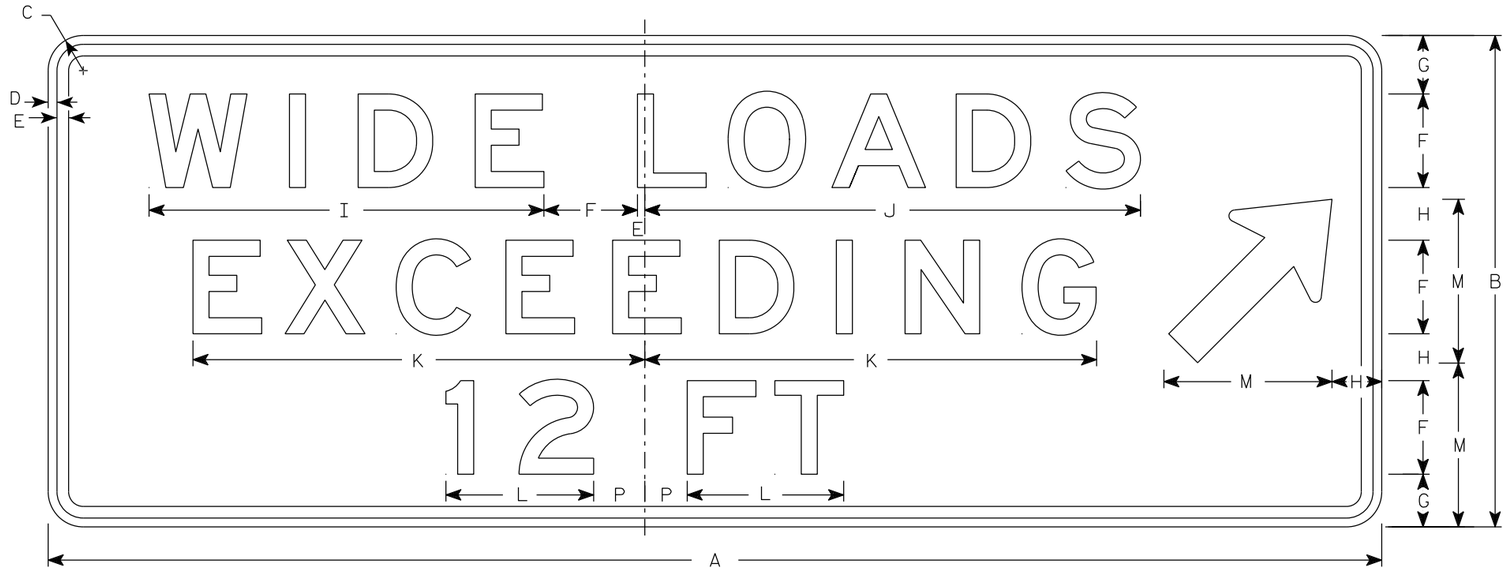
DATE 2/5/24 PLATE NO. R11-3.10

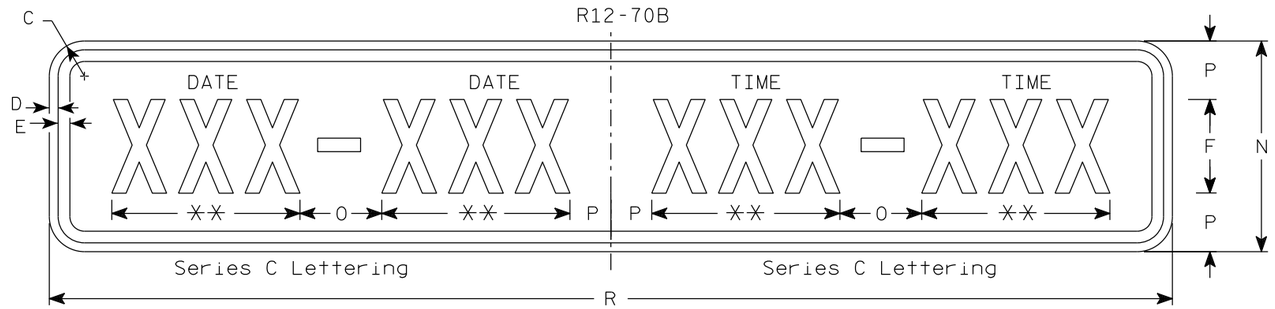
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 211 | E

NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - Black
3. Message Series - E except as noted
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.

** Substitute appropriate message, optically center message





R12-70C

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	R12-70 Area sq. ft.	R12-70C Area sq. ft.
1																												
2S	90	36	3	1/2	5/8	6	4	5	20 7/8	28 3/8	24 5/8	8 1/8	12	12	6	3		66									22.5	5.5
2M	90	36	3	1/2	5/8	6	4	5	20 7/8	28 3/8	24 5/8	8 1/8	12	12	6	3		66									22.5	5.5
3	90	36	3	1/2	5/8	6	4	5	20 7/8	28 3/8	24 5/8	8 1/8	12	12	6	3		66									22.5	5.5
4	114	42	3	3/4	1	8	5	4	34	42	39	13	14	18	7	3 1/2		96									36.75	12.0
5	114	42	3	3/4	1	8	5	4	34	42	39	13	14	18	7	3 1/2		96									36.75	12.0

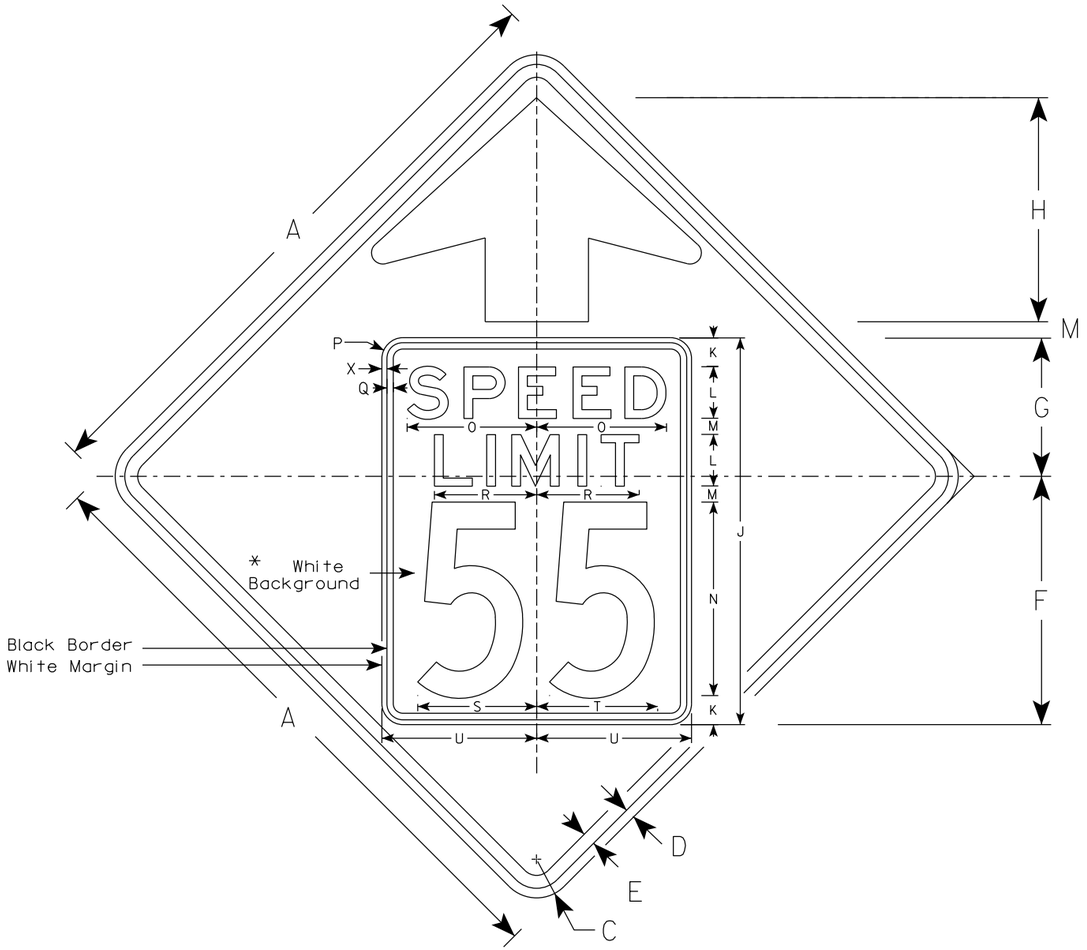
TYPICAL SIGN
R12-70B

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/9/24 PLATE NO. R12-70B.4

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 212	E

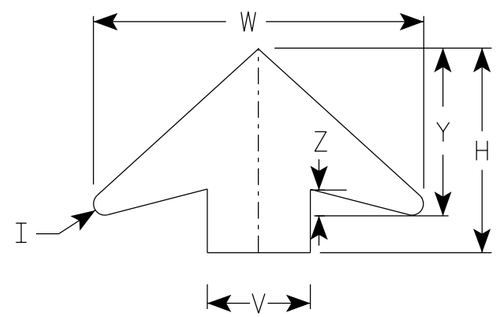


W3-5

NOTES

1. Sign is Type II - See Note 2 for Sheeting Type
2. Color: *
   Background - Yellow* (Type F Reflective)
   Message - Black
3. Message Series - C for numbers Series E for wording
4. Substitute appropriate numerals and optically adjust spacing to achieve proper balance

*Speed Limit Sign shall have a White Background with black message (Type SH Reflective)



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																											
2S	36		2 1/4	5/8	3/4	14 1/2	9 1/2	11 1/2	5/8	24	2	3	1	12	7 1/8	1 1/2	3/8	5 3/4	7 1/4	7 1/8	9	6	19 1/4	3/8	9 3/4	1 5/8	9.0
2M	36		2 1/4	5/8	3/4	14 1/2	9 1/2	11 1/2	5/8	24	2	3	1	12	7 1/8	1 1/2	3/8	5 3/4	7 1/4	7 1/8	9	6	19 1/4	3/8	9 3/4	1 5/8	9.0
3	36		2 1/4	5/8	3/4	14 1/2	9 1/2	11 1/2	5/8	24	2	3	1	12	7 1/8	1 1/2	3/8	5 3/4	7 1/4	7 1/8	9	6	19 1/4	3/8	9 3/4	1 5/8	9.0
4	48		3	3/4	1	19 1/4	10 3/4	17 3/8	7/8	30	2 1/4	4	1 1/4	15	10	1 5/8	1/2	8	9 1/4	9 3/8	12	8	25 5/8	3/8	13	2	16.0
5	48		3	3/4	1	19 1/4	10 3/4	17 3/8	7/8	30	2 1/4	4	1 1/4	15	10	1 5/8	1/2	8	9 1/4	9 3/8	12	8	25 5/8	3/8	13	2	16.0

STANDARD SIGN
W3-5

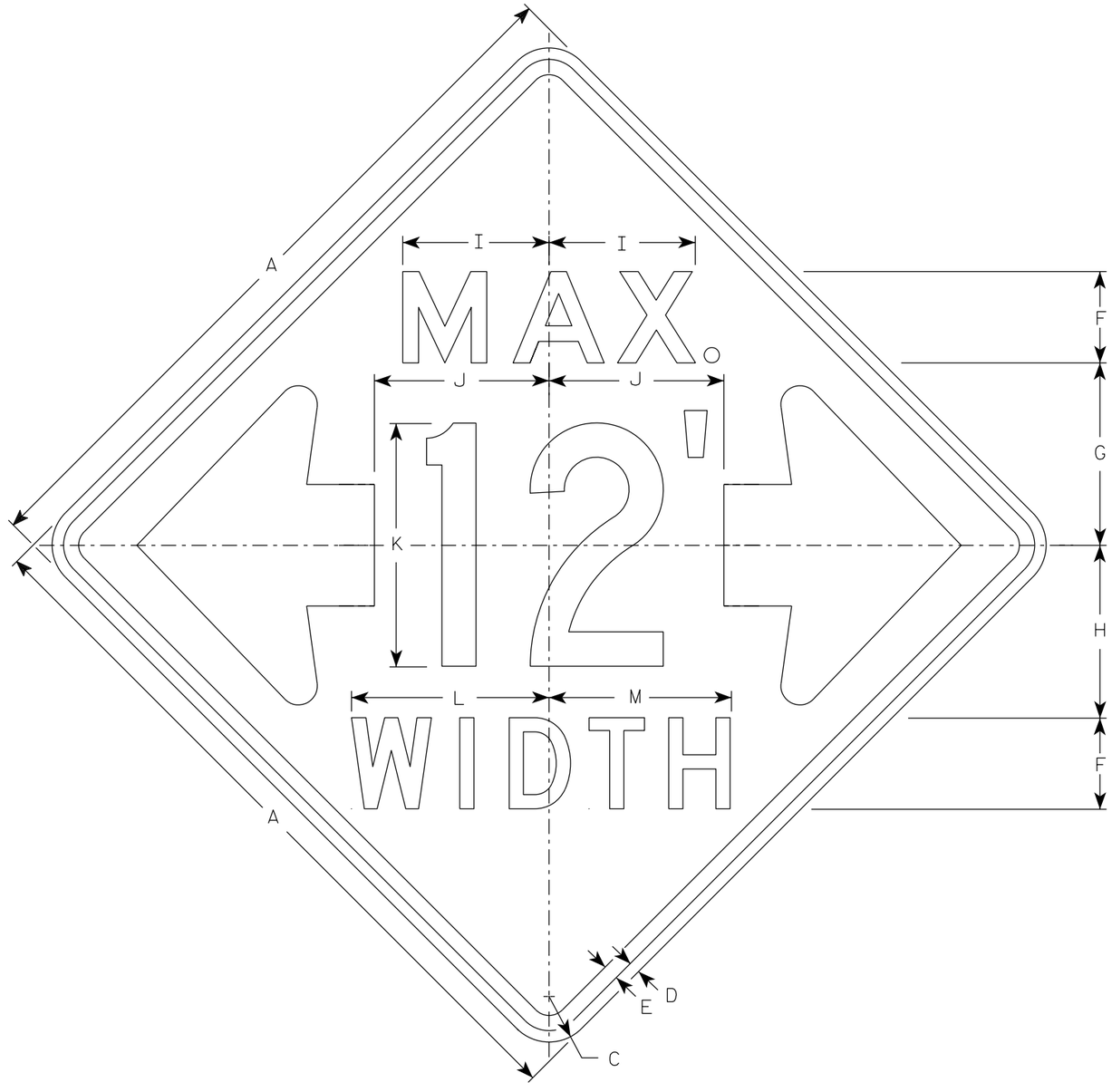
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 8/30/2023 PLATE NO. W3-5.7

PROJECT NO:

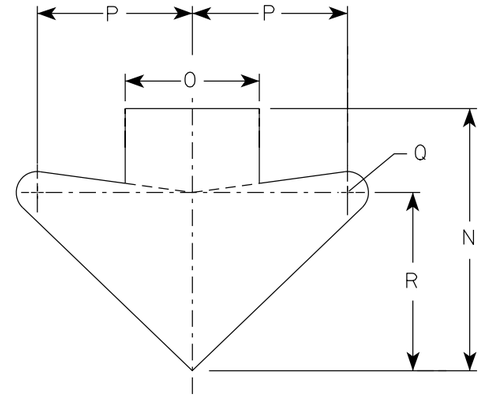
SHEET NO: 213 E



W12-52

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Message Series - See note 5
4. The top line is series E, the numerals are series C, and the bottom line is series D.
5. Substitute appropriate numerals and adjust spacing as required.



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																											
2S	48		3	¾	1	6	12	11 ⅜	9 ⅝	11 ½	16	13	12	15 ⅝	8	9 ¼	1 ¼	10 ⅝									16.0
2M	48		3	¾	1	6	12	11 ⅜	9 ⅝	11 ½	16	13	12	15 ⅝	8	9 ¼	1 ¼	10 ⅝									16.0
3																											
4																											
5																											

STANDARD SIGN
W12-52

WISCONSIN DEPT OF TRANSPORTATION

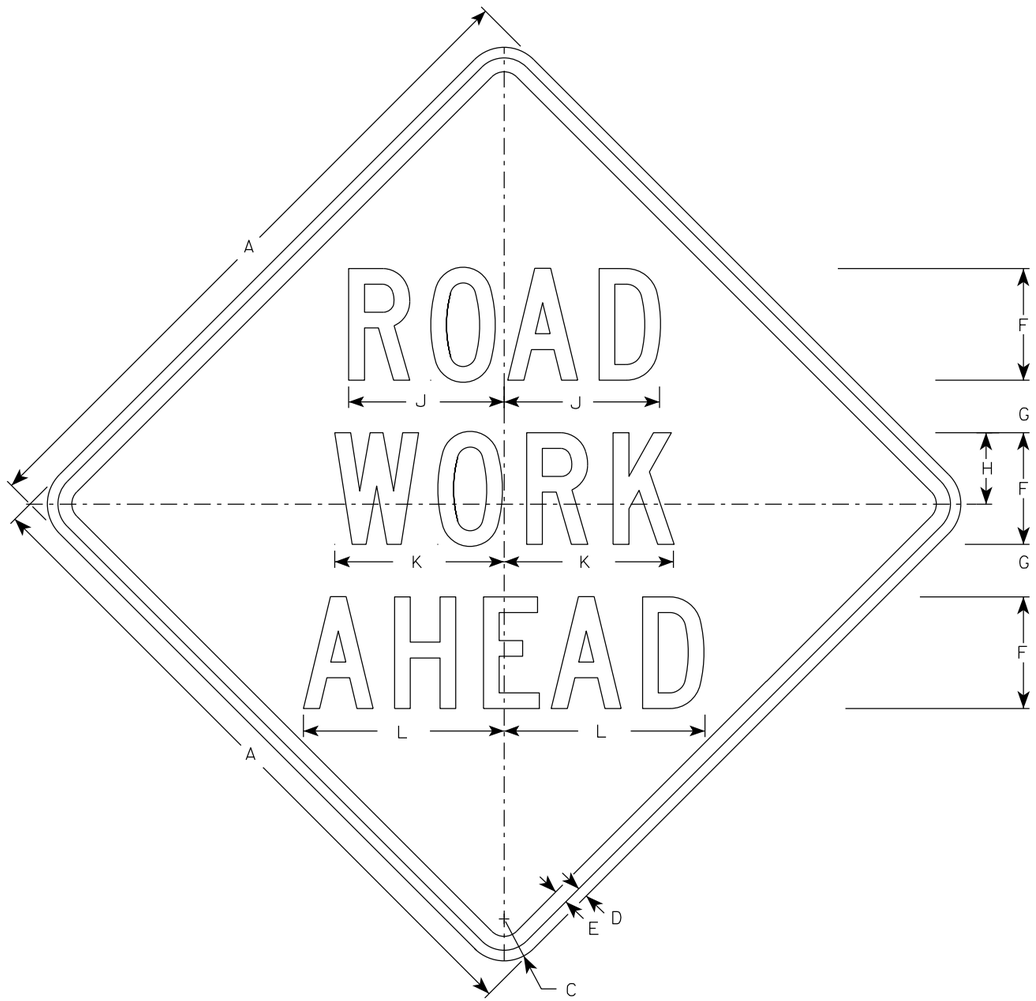
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/10/2024 PLATE NO. W12-52.8

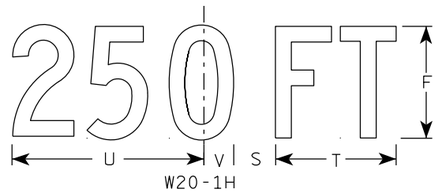
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 214 | E

NOTES

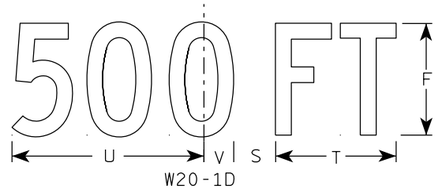
1. Sign is Type II - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.



W20-1A



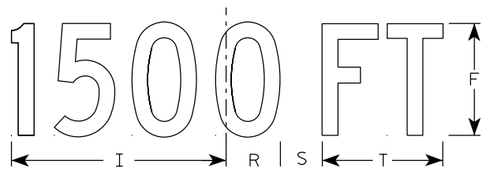
W20-1H



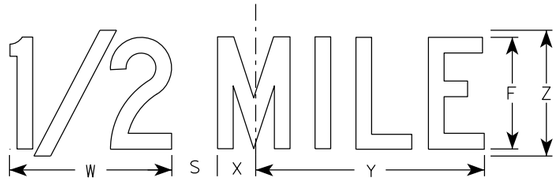
W20-1D



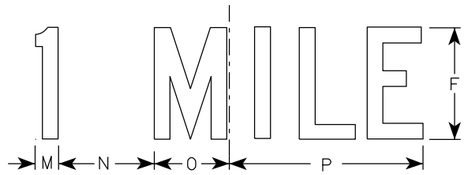
W20-1C



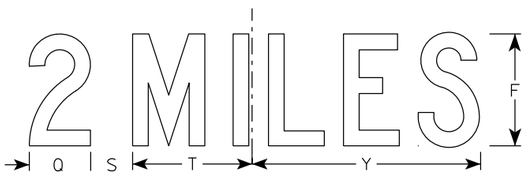
W20-1B



W20-1G



W20-1F



W20-1E

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		2 1/4	5/8	3/4	5	2 5/8	3 1/4	10 1/8	7	7 5/8	8 7/8	1 1/8	4 1/2	3 1/2	9	3 1/4	2 1/2	2 1/4	5 5/8	9	1 3/8	8	1 3/4	10 3/4	6	9.0
2S	48		3	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
2M	48		3	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
3	48		3	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
4	48		3	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
5	48		3	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0

STANDARD SIGN
W20-1A, B, C, D, E, F, G & H

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 1/10/2024 PLATE NO. W20-1.12

PROJECT NO:

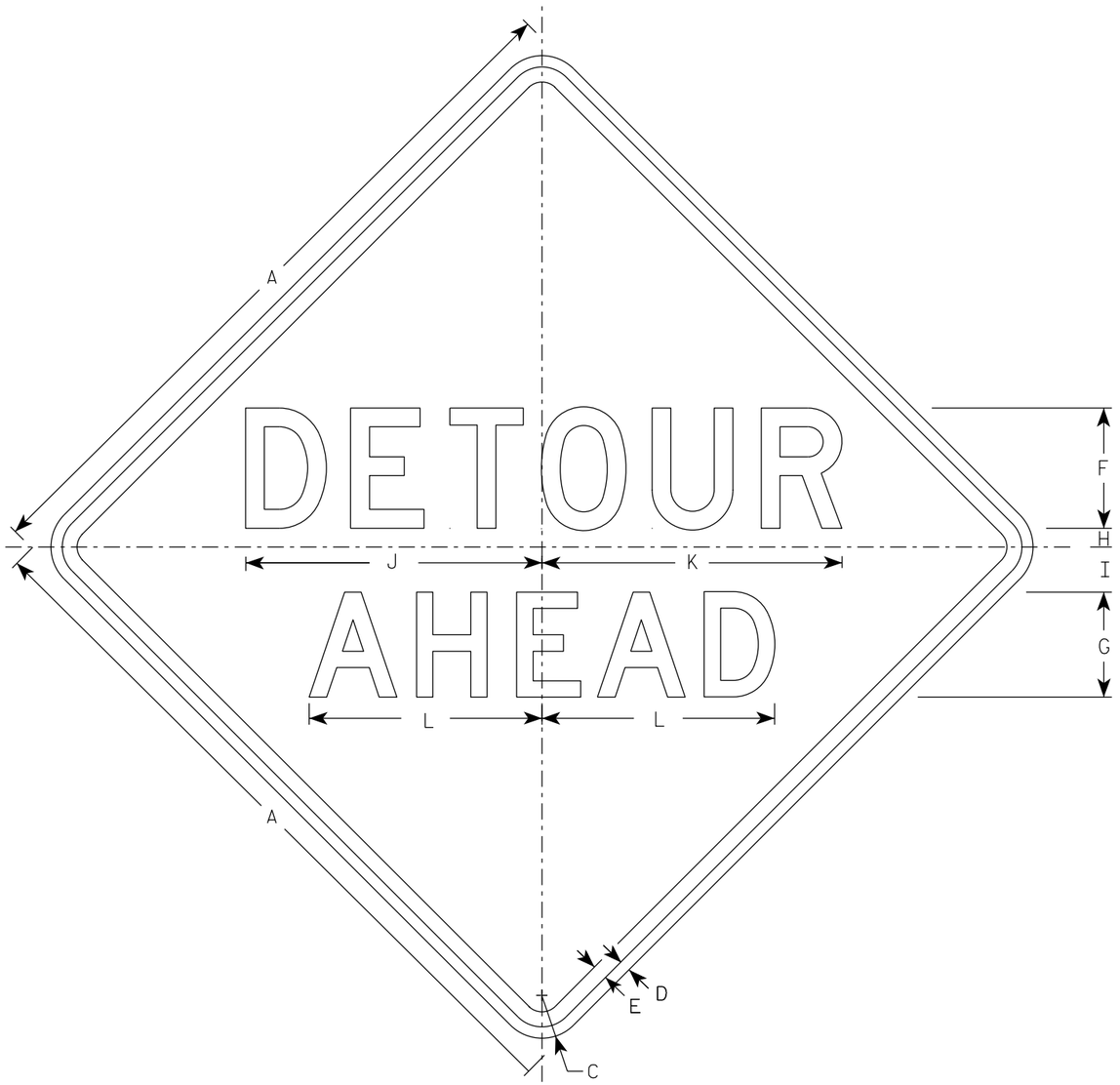
SHEET NO: 215 E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\W201.DGN PLOT DATE : 10-JAN 2024 11:16 PLOT BY : dotc4c

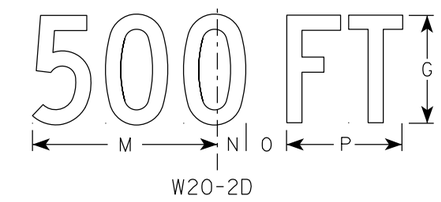
WISDOT/CADDS SHEET 42

7

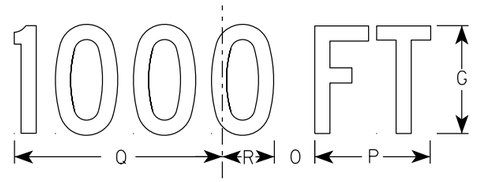
7



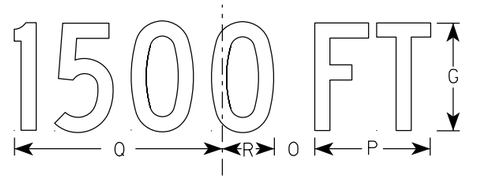
W20-2A



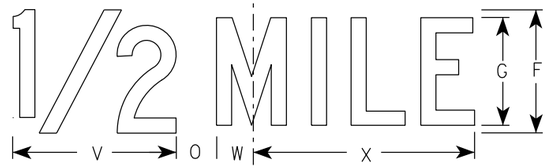
W20-2D



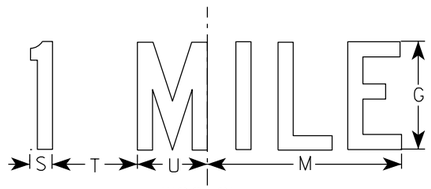
W20-2C



W20-2B



W20-2G



W20-2F

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		2 1/4	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		3	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		3	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		3	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		3	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		3	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

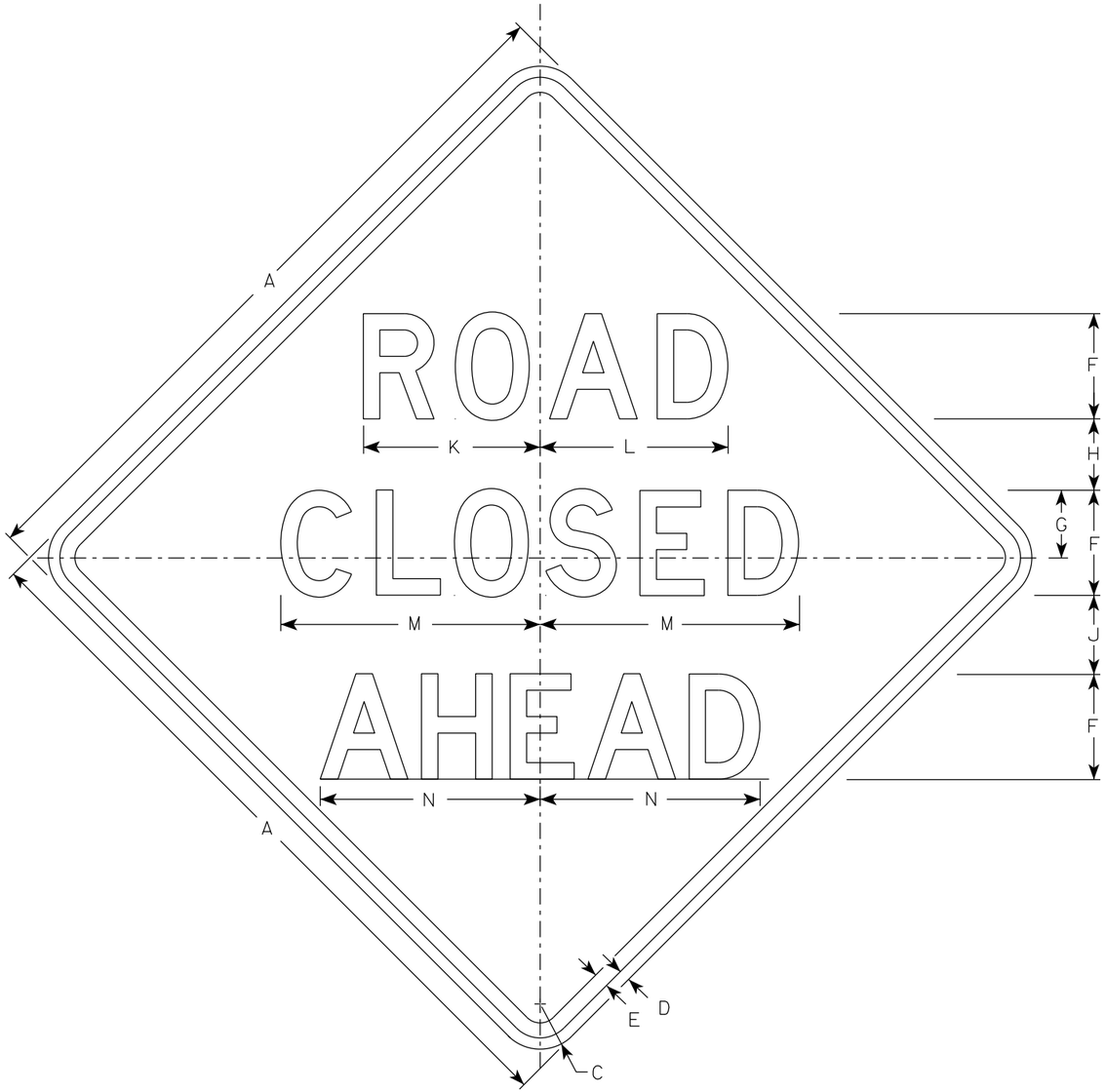
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

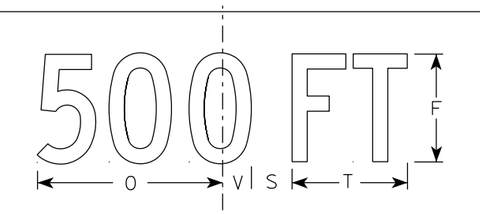
DATE 1/10/2024 PLATE NO. W20-2.7

PROJECT NO:	HWY:	COUNTY:		SHEET NO: E

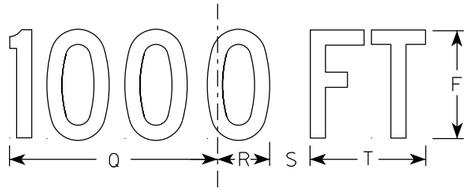
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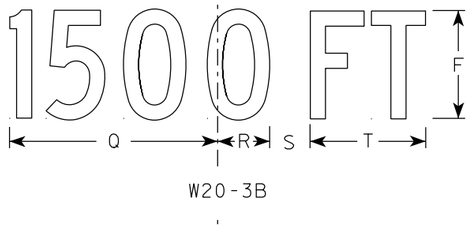
W20-3A



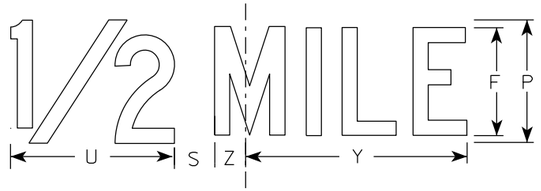
W20-3D



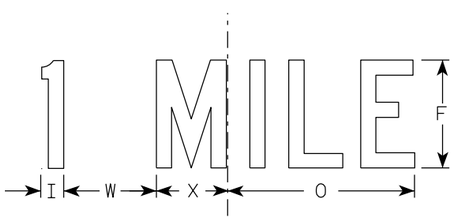
W20-3C



W20-3B



W20-3G



W20-3F

NOTES

1. Sign is Type II - Type F Reflective
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		2 1/4	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		3	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		3	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		3	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		3	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		3	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

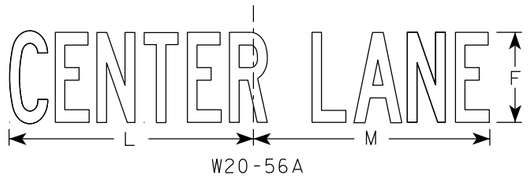
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

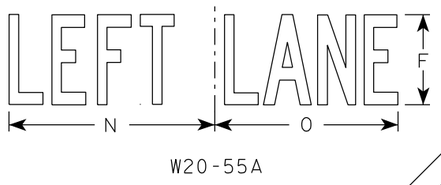
DATE 1/10/2024 PLATE NO. W20-3.8

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

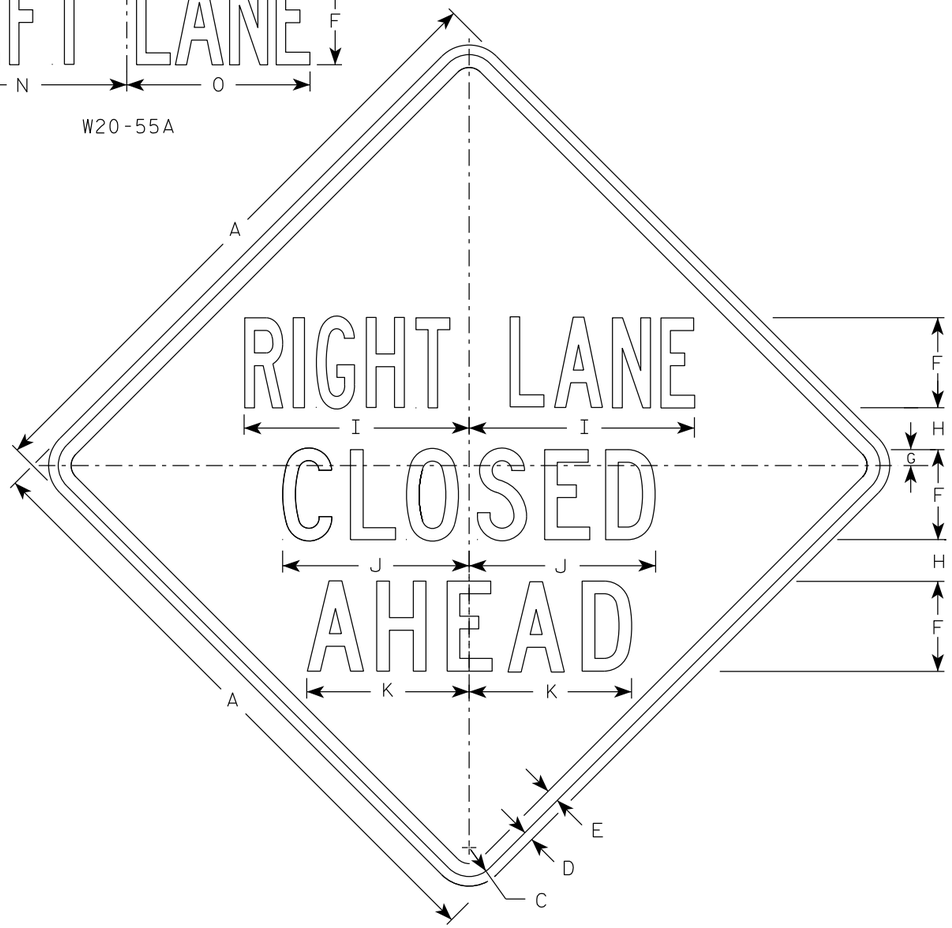
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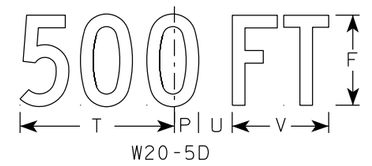
W20-56A



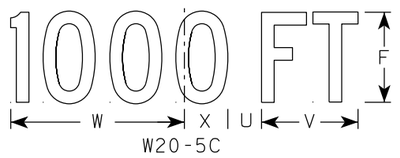
W20-55A



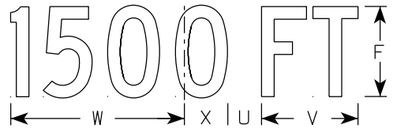
W20-5A



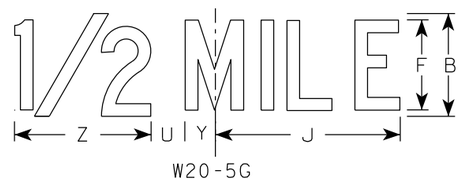
W20-5D



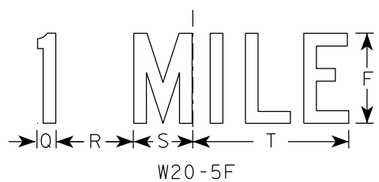
W20-5C



W20-5B



W20-5G



W20-5F

NOTES

1. Sign is Type II - Type F Reflective
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. " _____ LANE" is Series B.
   All other copy is Series C.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36	6	2 1/4	5/8	3/4	5	7/8	2 1/2	13 1/8	10 3/4	9 1/2	14 1/4	13 5/8	12	12	1 3/8	1 1/8	4 1/2	3 1/2	9	1 7/8	5 5/8	10 1/8	2 1/2	1 3/4	8	9.0
2S	48	8	3	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
2M	48	8	3	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
3	48	8	3	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
4	48	8	3	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
5	48	8	3	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0

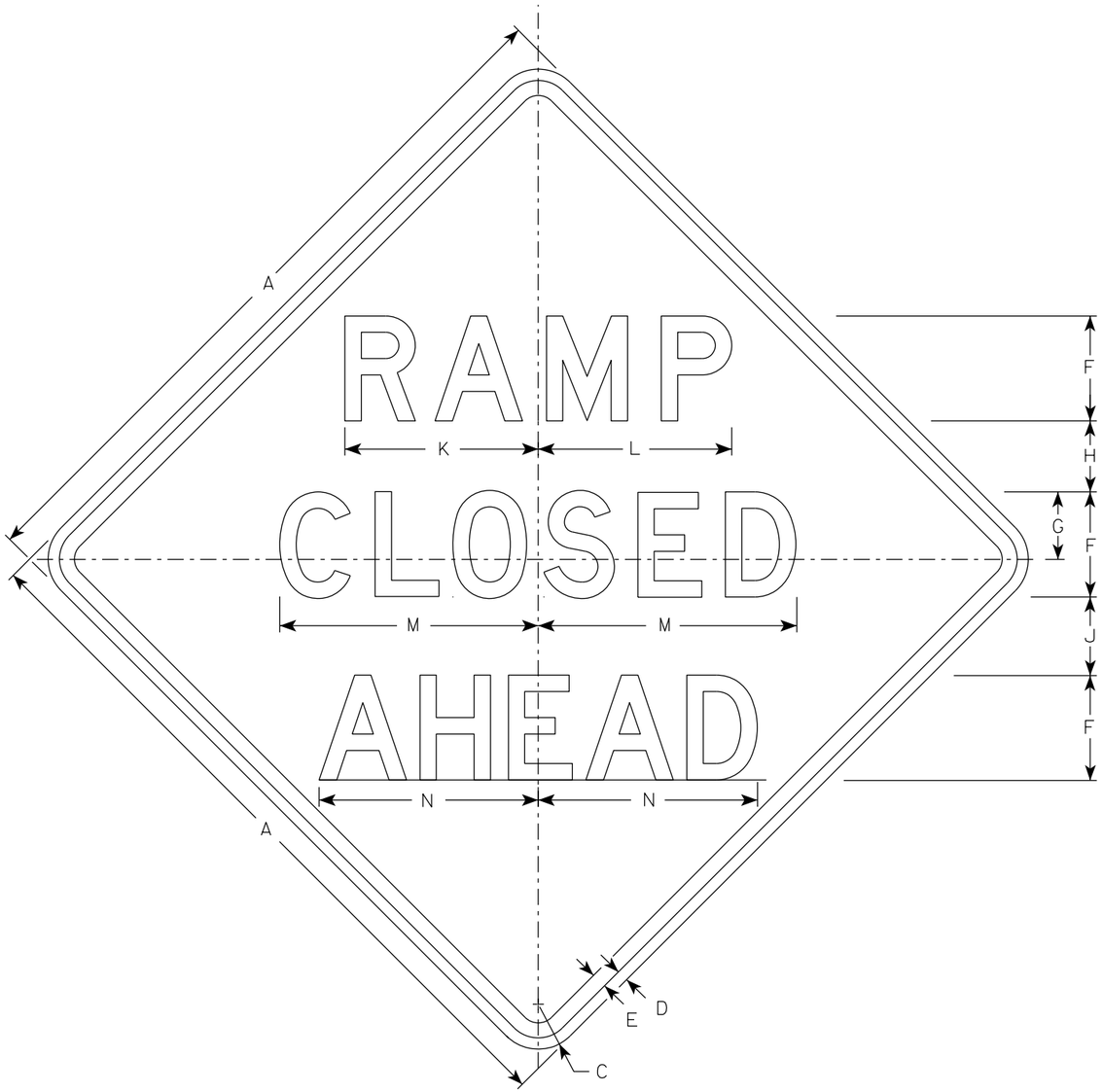
STANDARD SIGN
W20-5A, B, C, D, F & G

WISCONSIN DEPT OF TRANSPORTATION

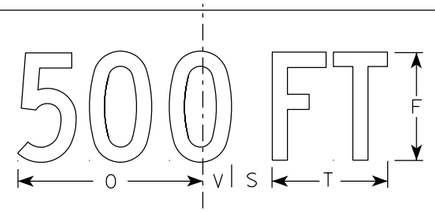
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/27/24 PLATE NO. W20-5.12

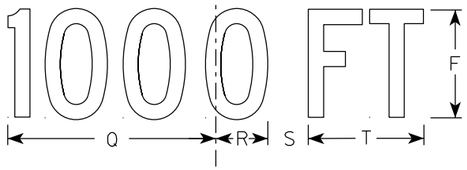
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 218 | E



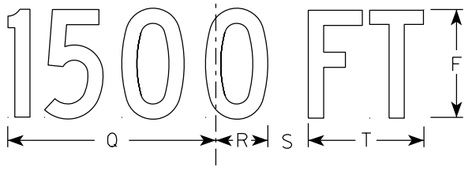
W20-53A



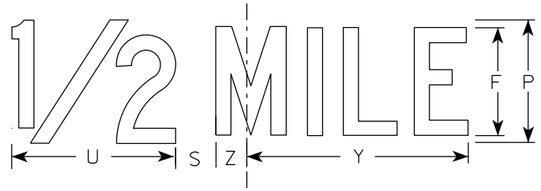
W20-53D



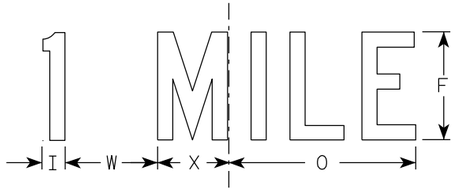
W20-53C



W20-53B



W20-53G



W20-53F

NOTES

1. Sign is Type II - Type F Reflective
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		2 1/4	5/8	3/4	5	3 3/8	3 1/2	1 1/8	4	9 1/4	9 1/4	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		3	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	12 7/8	12 7/8	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		3	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	12 7/8	12 7/8	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		3	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	12 7/8	12 7/8	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		3	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	12 7/8	12 7/8	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		3	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	12 7/8	12 7/8	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
W20-53A,B,C,D,F,G

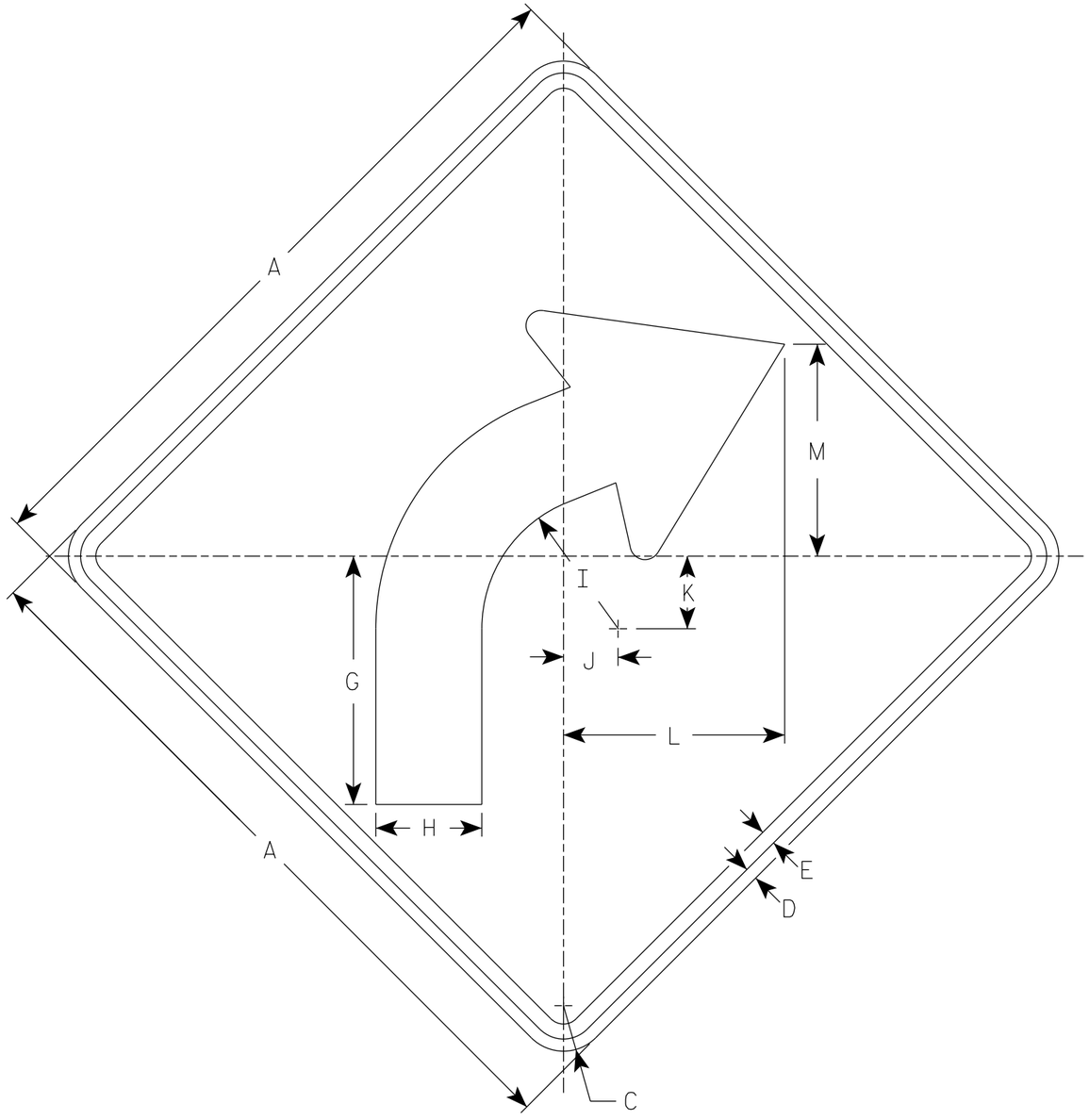
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 1/10/2024 PLATE NO. W20-53.2

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

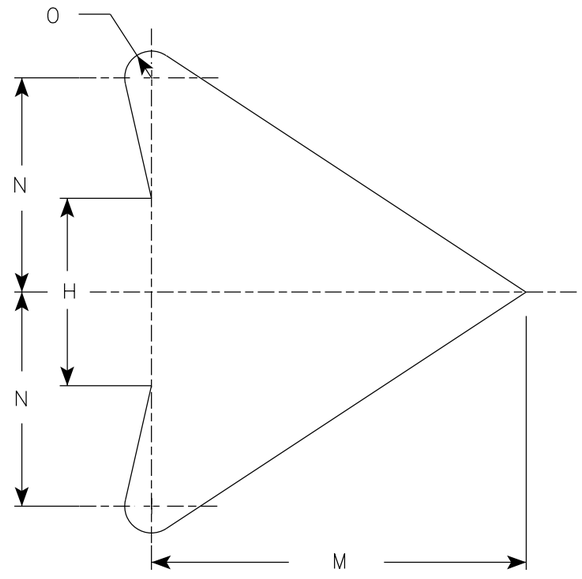
FILE NAME : C:\CAEfiles\Projects\tr_stdplate\W2053.DGN PLOT DATE : 10-JAN 2024 2:38 PLOT BY : dotc4c PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42



W01-2R

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - Orange
   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. W01-2L is the same as W01-2R except the arrow is reversed along the vertical centerline.



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	36		2 1/4	5/8	3/4		12 3/8	5 1/4	6 3/4	2 5/8	3 1/2	10 7/8	10 1/2	6	3/4												4.0
2S	48		3	3/4	1		16 1/2	7	9	3 1/2	4 5/8	14 1/2	14	8	1												16.0
2M	48		3	3/4	1		16 1/2	7	9	3 1/2	4 5/8	14 1/2	14	8	1												16.0
3	48		3	3/4	1		16 1/2	7	9	3 1/2	4 5/8	14 1/2	14	8	1												16.0
4	48		3	3/4	1		16 1/2	7	9	3 1/2	4 5/8	14 1/2	14	8	1												16.0
5	48		3	3/4	1		16 1/2	7	9	3 1/2	4 5/8	14 1/2	14	8	1												16.0

STANDARD SIGN
W01-2

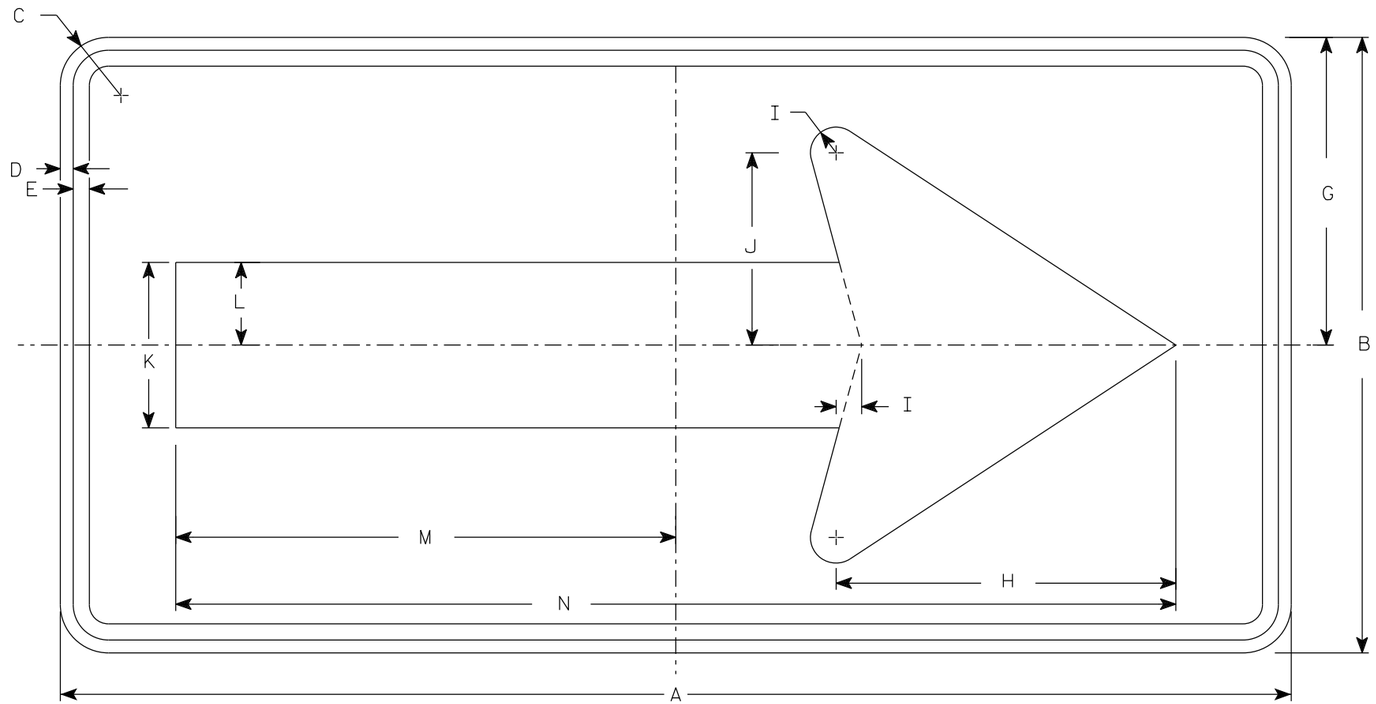
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 1/24/2024 PLATE NO. W01-2.2

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\W012.dgn PLOT DATE : 24-JAN 2024 10:17 PLOT BY : dotc4c PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42



WO1-6

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - Orange
   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.

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	24	1 7/8	1/2	5/8		12	13 1/4	1	7 1/2	6 1/2	3 1/4	19 1/2	39													8.0
2M	48	24	1 7/8	1/2	5/8		12	13 1/4	1	7 1/2	6 1/2	3 1/4	19 1/2	39													8.0
3	60	30	1 7/8	1/2	5/8		15	16 1/4	1 1/4	9 1/4	8	4	24 3/8	48 3/4													12.5
4	60	30	1 7/8	1/2	5/8		15	16 1/4	1 1/4	9 1/4	8	4	24 3/8	48 3/4													12.5
5	60	30	1 7/8	1/2	5/8		15	16 1/4	1 1/4	9 1/4	8	4	24 3/8	48 3/4													12.5

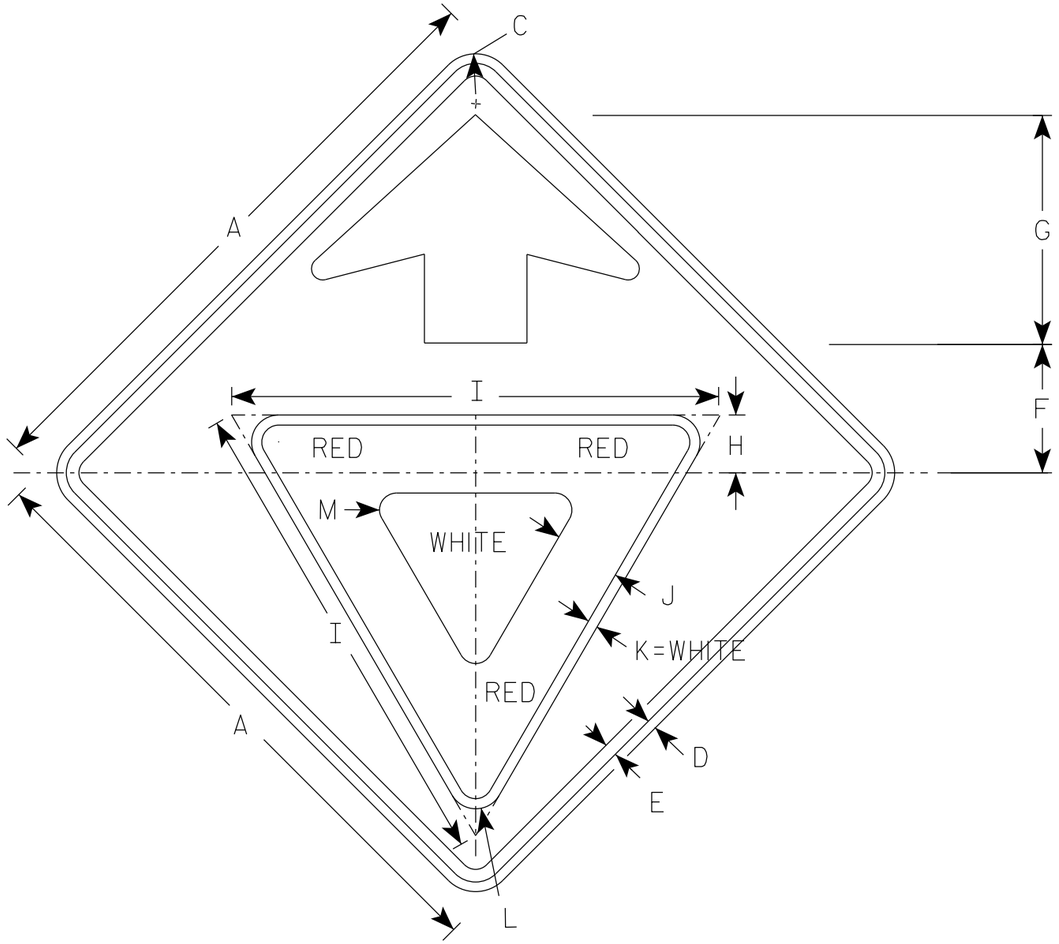
STANDARD SIGN
WO1-6

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 1/24/2024 PLATE NO. WO1-6.2

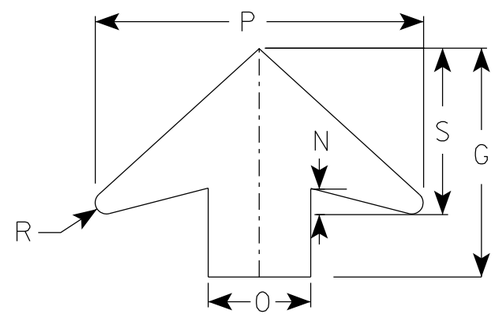
PROJECT NO: | HWY: | COUNTY: | SHEET NO: E



W03-2

NOTES

1. All Signs Type II - Type F Reflective
2. Color:
   Background - ORANGE
   Arrow & Border - BLACK
   Yield Symbol - WHITE BORDER ON RED BACKGROUND



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		2 1/4	5/8	3/4	7 1/2	13 1/2	3 3/8	28	3 3/4	5/8	1 1/2	1	1 5/8	6	19 1/4		5/8	9 3/4								9.0
2S	48		3	3/4	1	10	17 7/8	4 1/2	38	5	3/4	2 1/8	1 3/8	2	8	25 5/8		7/8	13								16.0
2M	48		3	3/4	1	10	17 7/8	4 1/2	38	5	3/4	2 1/8	1 3/8	2	8	25 5/8		7/8	13								16.0
3	48		3	3/4	1	10	17 7/8	4 1/2	38	5	3/4	2 1/8	1 3/8	2	8	25 5/8		7/8	13								16.0
4	48		3	3/4	1	10	17 7/8	4 1/2	38	5	3/4	2 1/8	1 3/8	2	8	25 5/8		7/8	13								16.0
5	48		3	3/4	1	10	17 7/8	4 1/2	38	5	3/4	2 1/8	1 3/8	2	8	25 5/8		7/8	13								16.0

STANDARD SIGN
W03-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

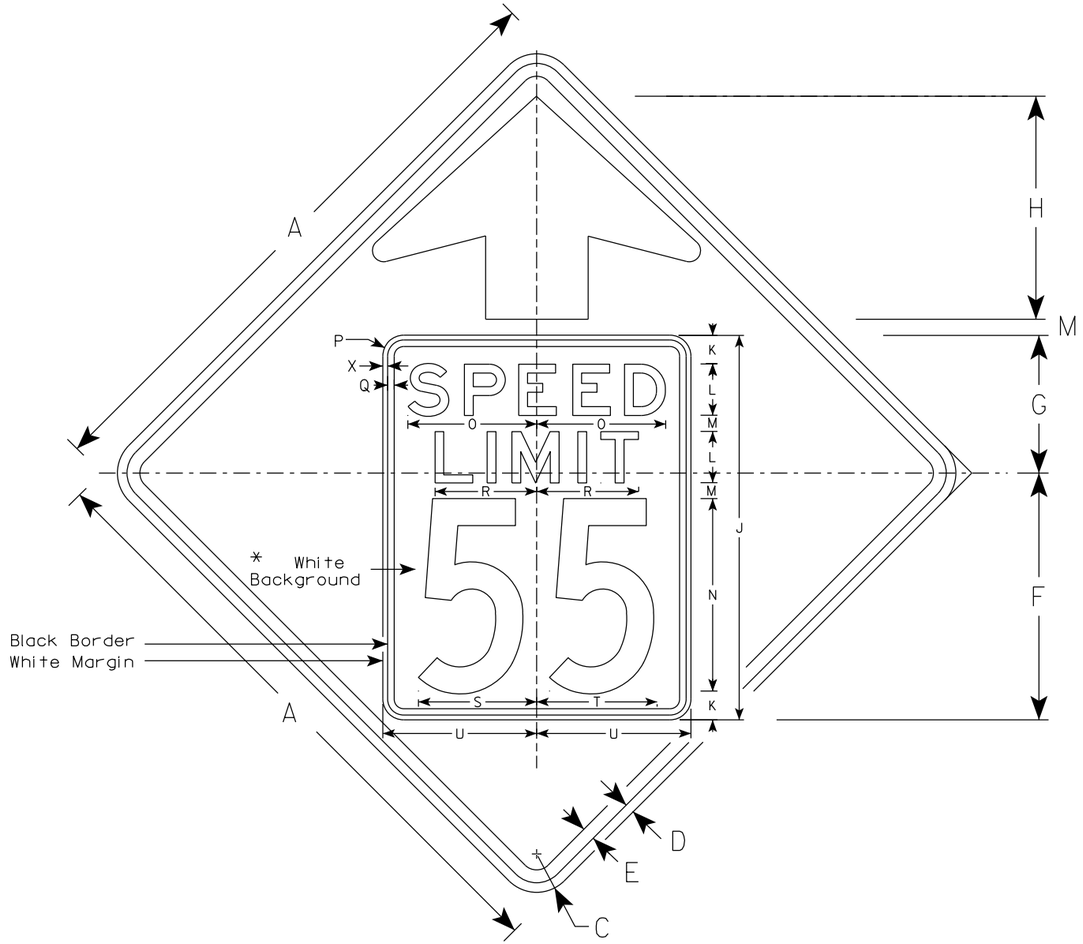
DATE 1/24/2024 PLATE NO. W03-2.2

PROJECT NO:

SHEET NO: E

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\W032.DGN PLOT DATE : 24-JAN 2024 1:55 PLOT BY : dotc4c

WISDOT/CADDS SHEET 42

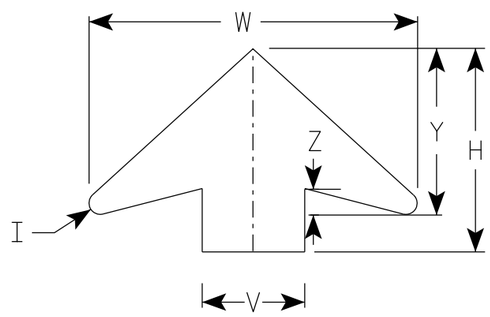


W03-5

NOTES

1. Sign is Type II - Type F Reflective
2. Color: *
   Background - ORANGE*
   Message - BLACK
3. Message Series - C for numbers Series E for wording
4. Substitute appropriate numerals and optically adjust spacing to achieve proper balance

*Speed Limit Sign shall have a White Background



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		2 1/4	5/8	3/4	14 1/2	9 1/2	11 1/2	5/8	24	2	3	1	12	7 1/8	1 1/2	3/8	5 3/4	7 1/4	7 1/8	9	6	19 1/4	3/8	9 3/4	1 5/8	9.0
2S	48		3	3/4	1	19 1/4	10 3/4	17 3/8	7/8	30	2 1/4	4	1 1/4	15	10	1 5/8	1/2	8	9 1/4	9 3/8	12	8	25 5/8	3/8	13	2	16.0
2M	48		3	3/4	1	19 1/4	10 3/4	17 3/8	7/8	30	2 1/4	4	1 1/4	15	10	1 5/8	1/2	8	9 1/4	9 3/8	12	8	25 5/8	3/8	13	2	16.0
3	48		3	3/4	1	19 1/4	10 3/4	17 3/8	7/8	30	2 1/4	4	1 1/4	15	10	1 5/8	1/2	8	9 1/4	9 3/8	12	8	25 5/8	3/8	13	2	16.0
4	48		3	3/4	1	19 1/4	10 3/4	17 3/8	7/8	30	2 1/4	4	1 1/4	15	10	1 5/8	1/2	8	9 1/4	9 3/8	12	8	25 5/8	3/8	13	2	16.0
5	48		3	3/4	1	19 1/4	10 3/4	17 3/8	7/8	30	2 1/4	4	1 1/4	15	10	1 5/8	1/2	8	9 1/4	9 3/8	12	8	25 5/8	3/8	13	2	16.0

STANDARD SIGN
W03-5

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 1/24/2024 PLATE NO. W03-5.2

PROJECT NO:

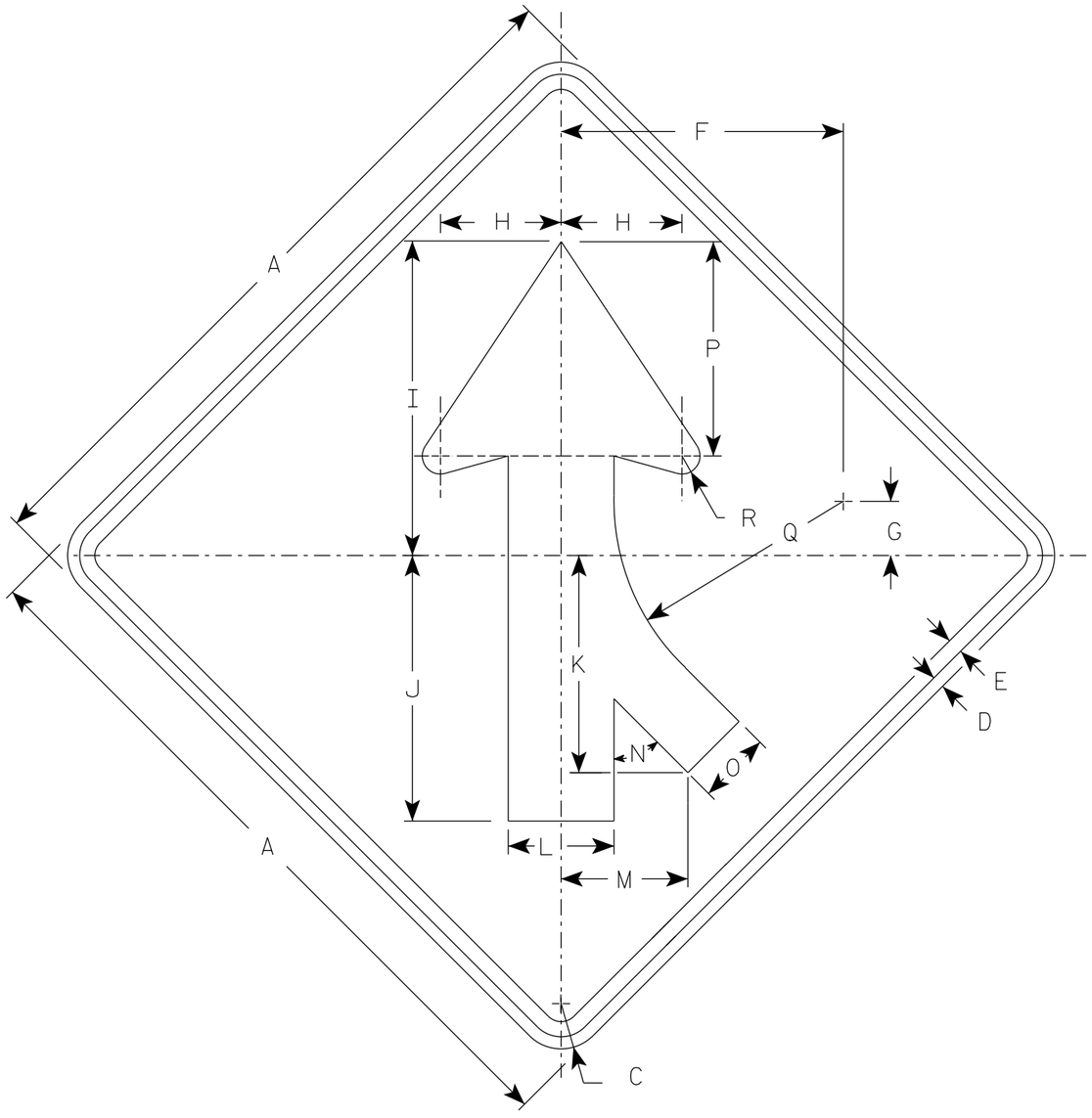
SHEET NO: E

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\W035.DGN PLOT DATE : 24-JAN 2024 2:20 PLOT BY : dotc4c

WISDOT/CADDS SHEET 42

7

7



W04-1R

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - Orange
   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. W04-1L is the same as W04-1R except the arrow is reversed along the vertical centerline.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		2 1/4	5/8	3/4	14	2 3/4	6	15 3/4	13 1/4	10 1/4	5 1/4	6 3/8	45°	3 5/8	10 5/8	11 3/8	7/8									9.0
2S	48		3	3/4	1	18 3/4	3 5/8	8	20 1/2	17 1/2	14 3/8	7	8 3/8	45°	4 3/4	14 1/4	15 1/4	1 1/4									16.0
2M	48		3	3/4	1	18 3/4	3 5/8	8	20 1/2	17 1/2	14 3/8	7	8 3/8	45°	4 3/4	14 1/4	15 1/4	1 1/4									16.0
3	48		3	3/4	1	18 3/4	3 5/8	8	20 1/2	17 1/2	14 3/8	7	8 3/8	45°	4 3/4	14 1/4	15 1/4	1 1/4									16.0
4	48		3	3/4	1	18 3/4	3 5/8	8	20 1/2	17 1/2	14 3/8	7	8 3/8	45°	4 3/4	14 1/4	15 1/4	1 1/4									16.0
5	48		3	3/4	1	18 3/4	3 5/8	8	20 1/2	17 1/2	14 3/8	7	8 3/8	45°	4 3/4	14 1/4	15 1/4	1 1/4									16.0

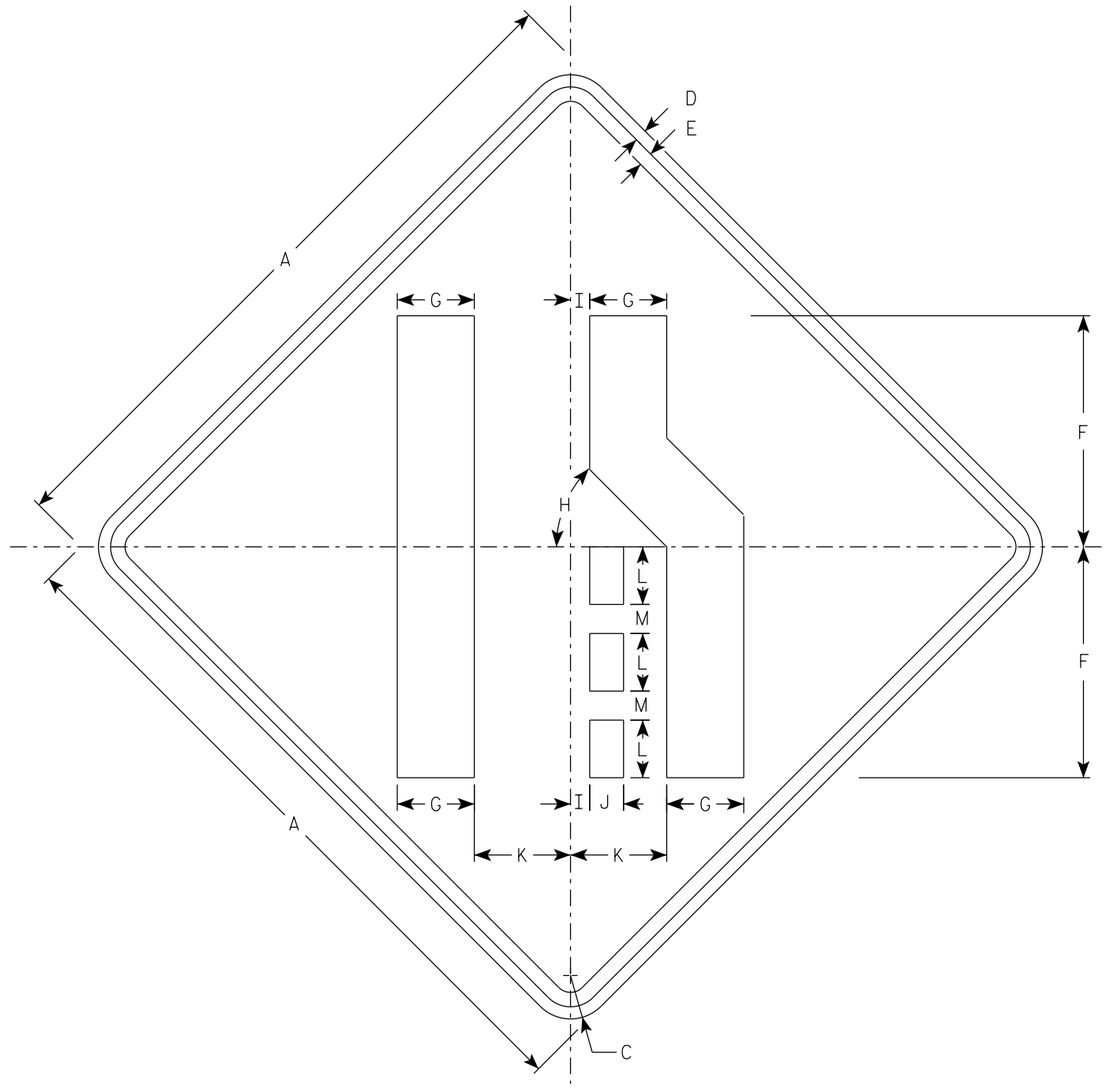
STANDARD SIGN
W04-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 1/25/2024 PLATE NO. W04-1.3

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 224 | E



W04-2R

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - Orange
   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. W04-2L is the same as W04-2R except the symbol is reversed along the vertical centerline.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		2 1/4	5/8	3/4	12	4	45°	1	1 3/4	5	3	1 1/2														9.0
2S	48		3	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
2M	48		3	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
3	48		3	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
4	48		3	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
5	48		3	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0

STANDARD SIGN
W04-2

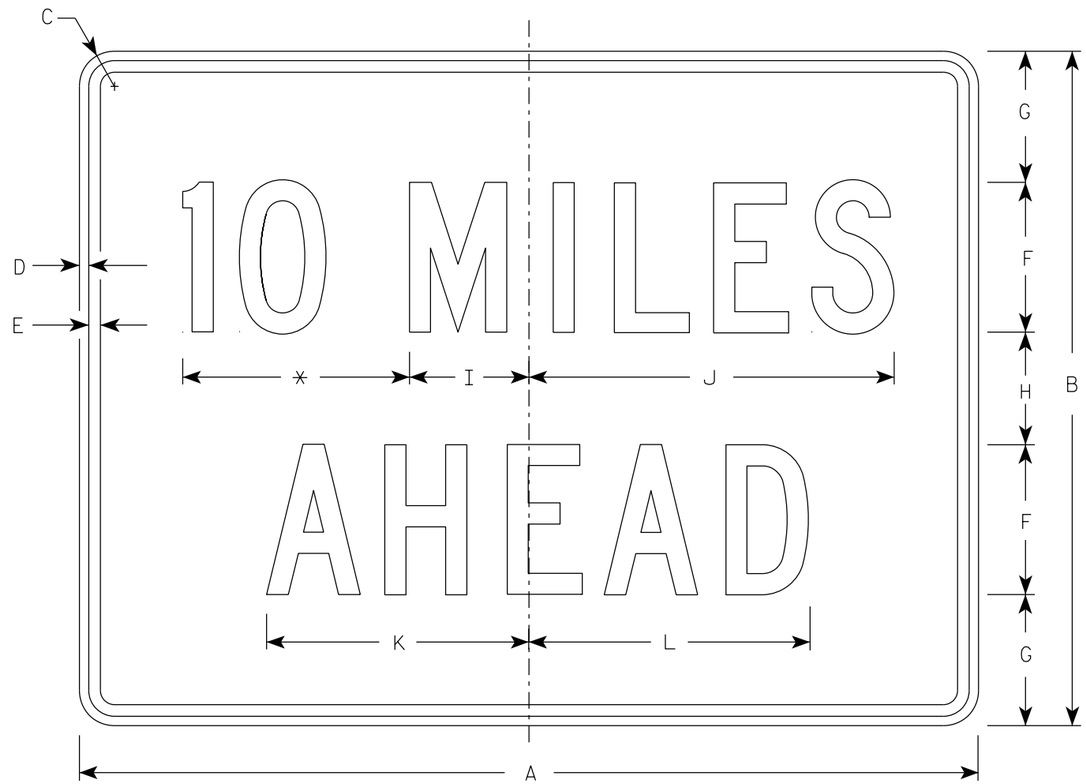
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

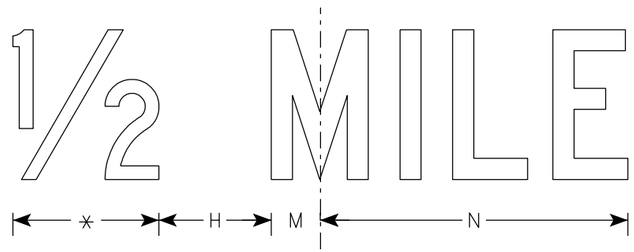
DATE 1/25/2024 PLATE NO. W04-2.2

PROJECT NO:

SHEET NO: 225 E



W057-52



NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - Orange
   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 the nearest quarter mile and optically adjust spacing to achieve proper balance.

* 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	24	1 1/2	3/8	1/2	6	4 1/2	3	4 3/4	14 5/8	10 5/8	11 3/8	2	12													6.0
2S	48	36	2 1/4	1/2	5/8	8	7	6	6 3/8	19 1/2	14	15	2 3/4	16 3/8													12.0
2M	48	36	2 1/4	1/2	5/8	8	7	6	6 3/8	19 1/2	14	15	2 3/4	16 3/8													12.0
3	48	36	2 1/4	1/2	5/8	8	7	6	6 3/8	19 1/2	14	15	2 3/4	16 3/8													12.0
4	48	36	2 1/4	1/2	5/8	8	7	6	6 3/8	19 1/2	14	15	2 3/4	16 3/8													12.0
5	48	36	2 1/4	1/2	5/8	8	7	6	6 3/8	19 1/2	14	15	2 3/4	16 3/8													12.0

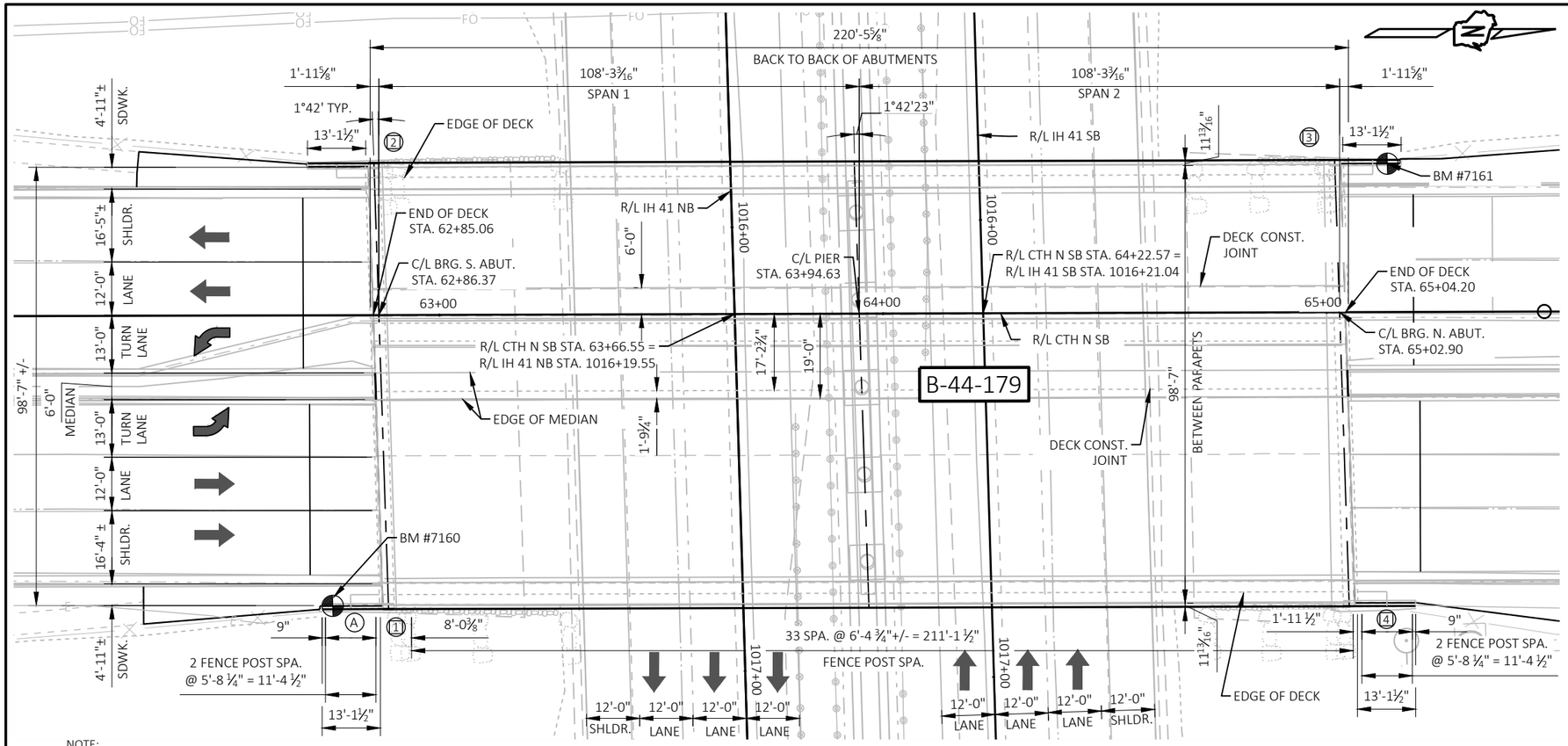
STANDARD SIGN
W057-52

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/1/2024 PLATE NO. W057-52.3

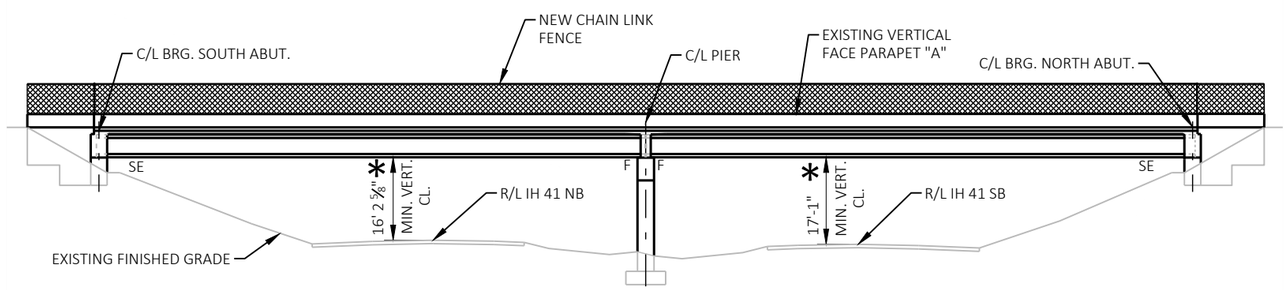
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 226 E



NOTE:
EXISTING FENCE POST SPACING SHOWN PER 2002 AS-BUILT PLANS. CONTRACTOR TO FIELD VERIFY POST SPACING PRIOR TO FABRICATION OF NEW FENCE.

PLAN

TWO SPAN 54" PRESTRESSED GIRDER BRIDGE



ELEVATION

(LOOKING WEST)

BENCH MARK

NO.	STATION	DESCRIPTION	ELEV.
7160	62+76, 65' RT	BM DISK	744.33
7161	65+14, 33' LT	BM DISK	746.41

DESIGN DATA

LIVE LOAD:

DESIGN LOADING: HS-20
INVENTORY RATING: HS-21
OPERATING RATING: HS-40
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV): 250 (KIPS)

TRAFFIC DATA

CTH N:
ADT (2020) = 11,350
ADT (2045) = 16,150
R.D.S. = 40 MPH

IH 41:
ADT (2020)= 61,290
ADT (2040) = 79,830
R.D.S = 75 MPH

LEGEND

(1) INDICATES WING NUMBER

* ELEVATIONS AND VERTICAL CLEARANCES BASED ON EXISTING 2002 AS-BUILT PLANS AND DATA FROM INSPECTION REPORT DATED 3/5/2017.

(A) NAME PLATE LOCATION

LIST OF DRAWINGS

1 GENERAL PLAN & ELEVATION
2 TYPICAL SECTION & QUANTITIES
3 STAINING DETAILS
4 FENCING DETAILS

WISCONSIN
ANTHONY J. CASTLE
E-43345
OAK CREEK
WI
PROFESSIONAL ENGINEER

1/15/2025

STRUCTURE DESIGN CONTACTS:

CONSULTANT: TONY CASTLE 414-935-5740
WISDOT BOS: AARON BONK 608-261-0261

NO.	DATE	REVISION	BY

STATE OF WISCONSIN DEPARTMENT OF TRANSPORATION

ACCEPTED SDR 02/04/25
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-44-179

CTH N OVER IH 41

COUNTY	TOWN OF
OUTAGAMIE	VANDENBROEK

DESIGN SPEC.
REHABILITATION N/A

DESIGNED BY	DESIGNED CK'D	DRAWN BY	PLANS CK'D
LWB	AJC	LWB	AJC

GENERAL PLAN & ELEVATION

SHEET 1 OF 4
227

SCALE=

I.D. DATE:

STATE PROJECT NUMBER
1130-66-82

8

8

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STATE PROJECT NUMBER

1130-66-82

TOTAL ESTIMATED QUANTITIES

BID ITEM NO.	BID ITEMS	UNIT	S ABUT.	PIER	N ABUT.	SUPER	TOTAL
517.1010.S.04	CONCTETE STAINING (B-44-179)	SF	476	1,639	481	7,019	9,615
SPV.0090.01	REMOVING EXISTING BRIDGE CHAIN LINK FENCING	LF	27	-	27	439	493
SPV.0090.02	FENCE CHAIN LINK POLYMER COATED 6-FT B-44-179 SPECIAL	LF	27	-	27	439	493

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

ALL DIMENSIONS ARE IN FEET AND INCHES UNLESS OTHERWISE NOTED.

DIMENSIONS SHOWN ARE BASED ON ORIGINAL STRUCTURE PLANS

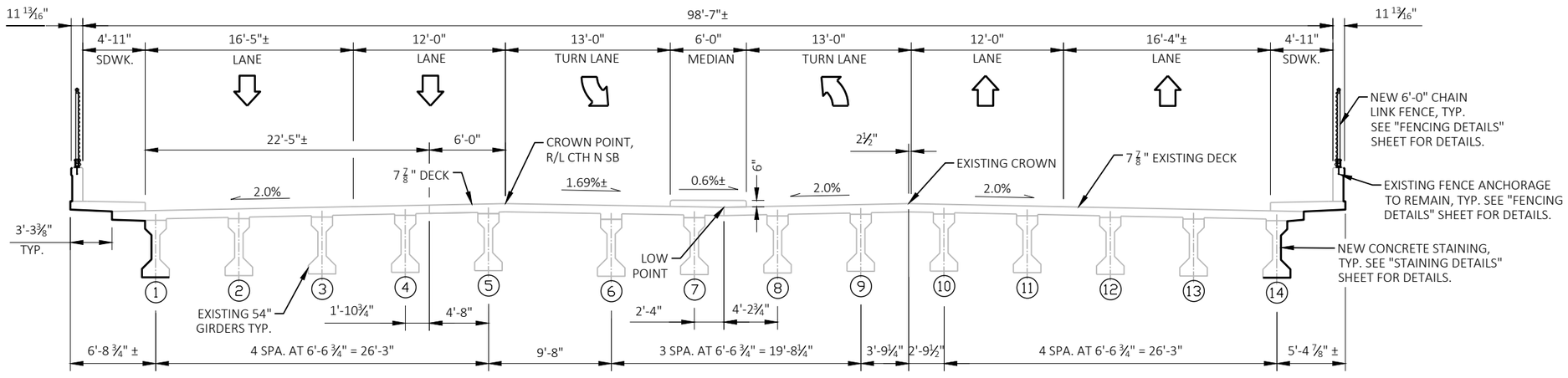
ALL STATIONS AND ALL ELEVATIONS ARE IN FEET. ELEVATIONS ARE REFERENCED TO THE NAVD 88 DATUM (2012).

UTILIZE EXISTING BAR STEEL REINFORCEMENT WHERE SHOWN AND EXTEND 24 BAR DIAMETERS INTO NEW WORK, UNLESS SPECIFIED OTHERWISE.

REMOVE THE EXISTING FENCING ALONG THE ENTIRE LENGTH OF BOTH EXISTING PARAPETS. REMOVAL AND DISPOSAL OF EXISTING FENCING INCLUDED IN BID ITEM "REMOVING EXISTING BRIDGE CHAIN LINK FENCING". CONTRACTOR TO SALVAGE AND REUSE EXISTING FENCING ANCHORAGE. DAMAGE TO EXISTING ANCHORAGE DURING REMOVAL OF EXISTING FENCING WILL BE THE CONTRACTORS RESPONSIBILITY AND REPLACED AT NO ADDITIONAL COST TO THE OWNER. ANCHORAGE SALVAGE WORK INCLUDED IN BID ITEM, "REMOVING EXISTING BRIDGE CHAIN LINK FENCING".

INSTALL NEW CHAIN LINK FENCING ALONG THE ENTIRE LENGTH OF BOTH EXISTING PARAPETS, INCLUDING ALL WING PARAPETS. SEE "FENCING DETAILS" SHEET FOR FENCING DETAILS. INSTALLATION AND MATERIALS OF NEW FENCING INCLUDED IN BID ITEM "FENCE CHAIN LINK POLYMER COATED 6-FT B-44-179 SPECIAL".

(X) DENOTES GIRDER NUMBER.



PROPOSED CROSS SECTION

LOOKING NORTH

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-44-179

DRAWN BY LWB | PLANS CK'D AJC

TYPICAL SECTION & QUANTITIES

SHEET 2 OF 4

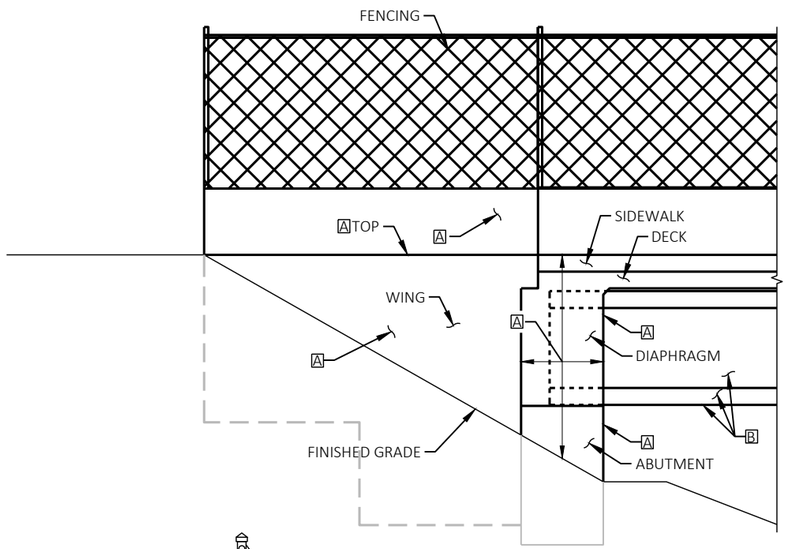
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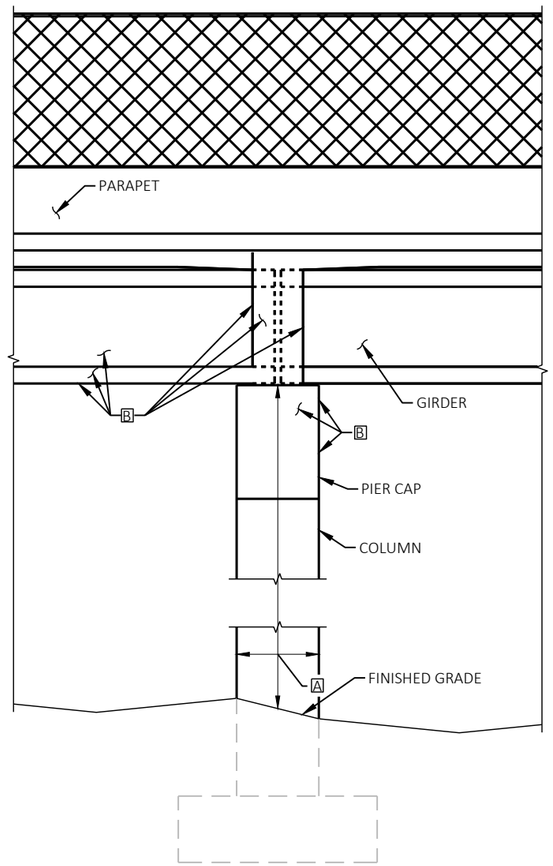
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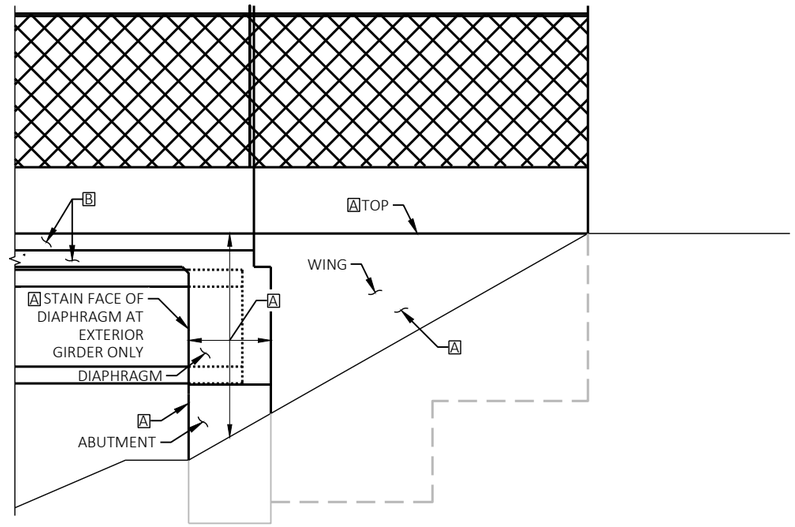
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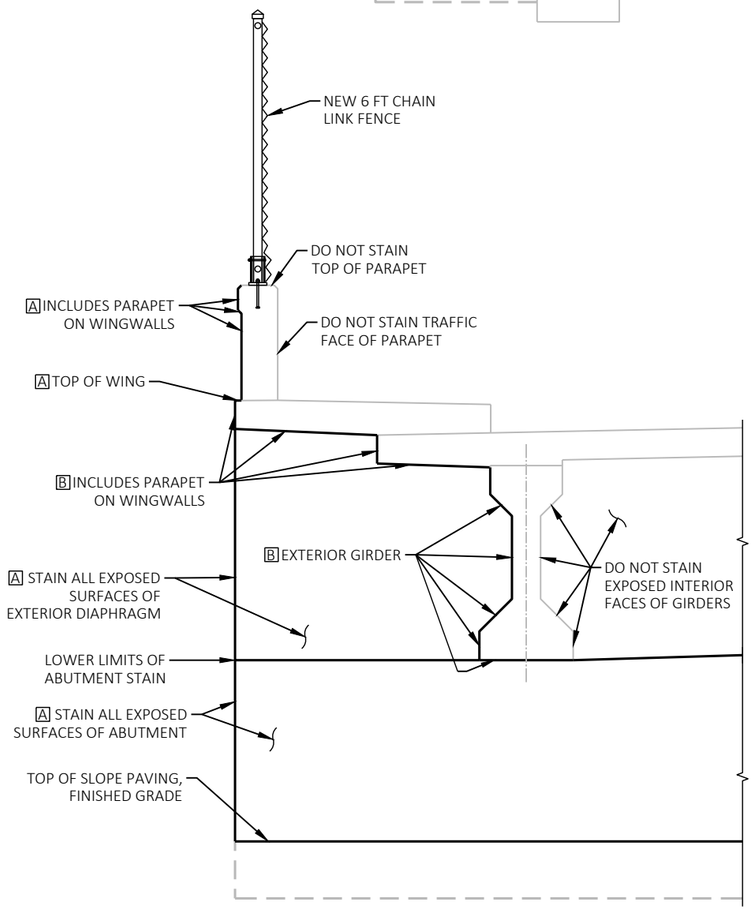
STATE PROJECT NUMBER

1130-66-82









PARTIAL ABUTMENT ELEVATION

WEST EDGE OF NORTH ABUTMENT SHOWN - OTHERS SIMILAR)

OUTSIDE ELEVATION OF STRUCTURE

EAST SIDE LOOKING WEST

CONCRETE STAINING SCHEDULE

MARK	COLOR	AMS COLOR NO.	LOCATION	NOTES
A	CRAFT PAPER	31090	PARAPETS	EXTERIOR FACE.
			ABUTMENTS	FRONT FACE FROM TOP OF ABUTMENT TO FINISHED GRADE AND EXPOSED SIDES.
			DIAPHRAGMS	EXPOSED SIDES AND FRONT FACE FROM ENDS OF ABUTMENT TO EDGES OF FIRST INTERIOR GIRDER EACH END.
			WINGS	TOP OF WING AND ALL EXPOSED SIDES TO FINISHED GRADE.
			PIERS	ALL EXPOSED FACES OF PIER COLUMNS.
B	VIRTUAL TAUPE	20150	DECK	FASCIA & EXPOSED UNDERSIDE TO EXTERIOR GIRDER FLANGE
			GIRDERS	EXTERIOR FACES AND UNDERSIDE OF EXTERIOR GIRDERS.
			PIERS	EXPOSED FACES OF PIER CAP.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-44-179

DRAWN BY AMR | PLANS CK'D AJC

STAINING DETAILS

SHEET 3 OF 4

229

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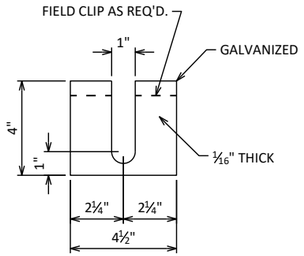
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STATE PROJECT NUMBER

1130-66-82

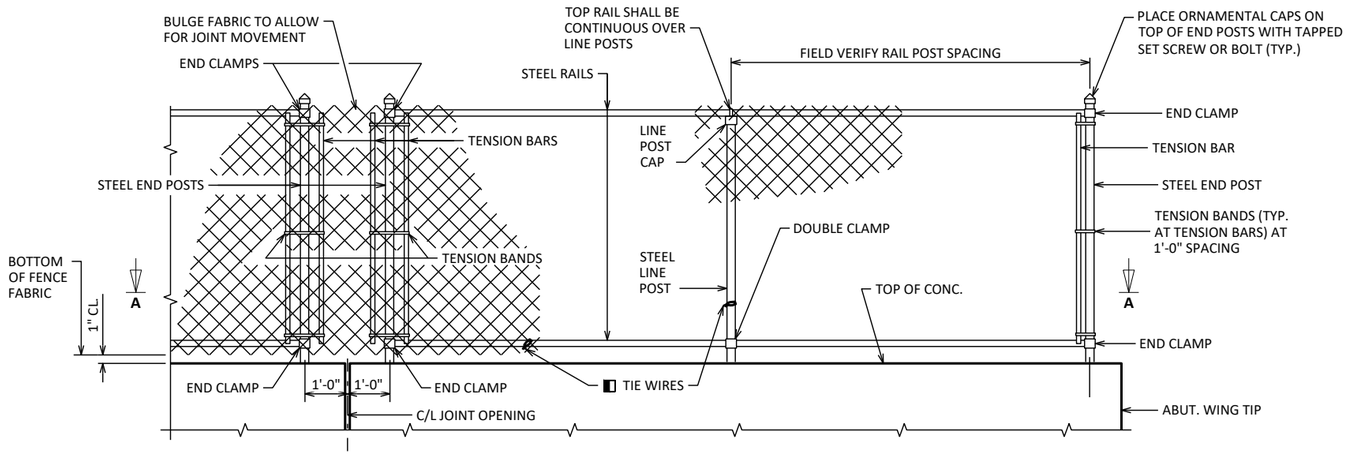
FENCE MEMBER SIZE & WEIGHT

STEEL FENCE MEMBER	OUTSIDE DIAMETER (INCHES)	WEIGHT (LB/FT)
RAILS	1.660	2.27
END POST	2.875	5.80
OVERHANG POST	2.875	5.80
LINE POST	2.375	3.65
POST SLEEVE	4.000	9.12



POST SHIM DETAILS

SHIMS REQUIRED ONLY WHEN END POSTS AND LINE POSTS ARE WELDED TO BASE PLATES. PROVIDE 4 SHIMS PER POST. USE WHERE REQUIRED FOR ALIGNMENT.



FENCE PART ELEVATION

NOTES

POSTS ARE TO BE SET VERTICAL.

ALL FENCE COMPONENTS SHALL BE GALVANIZED STEEL, WITH A COLORED POLYMER-COATING ON THE OUTSIDE.

FABRIC SHALL CONFORM TO ASTM F668, CLASS 2B. STEEL RAILS, POSTS AND POST SLEEVES SHALL CONFORM TO ASTM F1083, STANDARD WEIGHT PIPE (SCHEDULE 40). FITTINGS SHALL CONFORM TO ASTM F626. SEE THE "BRIDGE SPECIAL PROVISIONS" FOR ADDITIONAL DETAILS.

THE COLOR OF POLYMER-COATING FOR THIS STRUCTURE SHALL BE BLACK IN ACCORDANCE WITH ASTM F934.

THE BID ITEM SHALL BE "FENCE CHAIN LINK POLYMER COATED 6-FT B-44-179 SPECIAL."

COMPLETE ANY REQUIRED WELDING OF COMPONENTS BEFORE GALVANIZING.

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.

BASE PLATES, ANCHOR PLATES AND SHIMS SHALL BE ASTM A709, GRADE 36.

ALL POST SPACINGS ARE MEASURED HORIZONTALLY ALONG THE C/L OF THE POST.

▪ CAULK AROUND PERIMETER OF BASE PLATE AND FILL PORTION OF SLOTTED HOLE AROUND ANCHOR BOLT IN SHIM WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER.

✳ ALTERNATE TO DOUBLE CLAMP: USE LINE RAIL CLAMP (BOULEVARD) OR 180° BRACE BAND, WHICH MAY BE USED WHEN THE POSTS ARE EITHER BOLTED TO THE POST SLEEVES OR DIRECTLY WELDED TO THE BASE PLATE.

▲ ½" DIA. X 6⅞" LONG GALVANIZED HEX BOLT WITH NUT & WASHER.

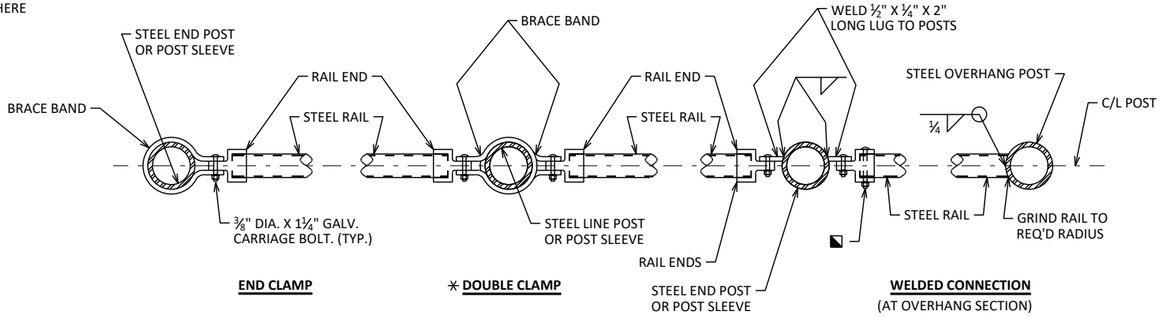
☆ ALTERNATIVE ANCHORAGE: CONCRETE ADHESIVE ANCHORS ½-INCH. EMBED 7" IN CONCRETE. ADHESIVE ANCHORS SHALL CONFORM TO SECTIONS 502.2.12 AND 502.3.14 OF THE STANDARD SPECIFICATIONS.

◧ ATTACH FABRIC TO RAILS, AND TO POSTS WITHOUT TENSION BANDS, WITH TIE WIRES (ROUND, 9-GAGE) SPACED AT 1'-0".

◪ BOLT RAIL TO RAIL END TO SECURE OVERHANG SECTION. ALTERNATE IS TO WELD RAIL DIRECTLY TO END POST.

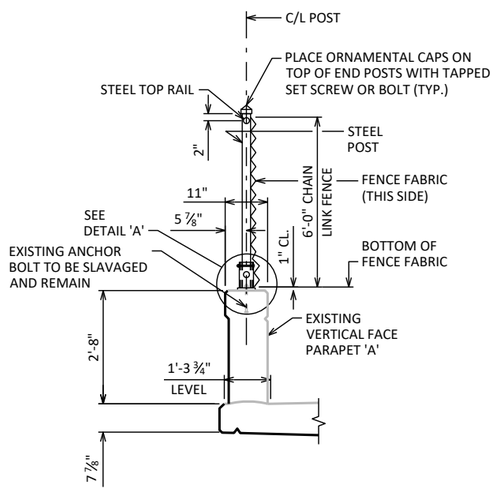
MINIMUM LENGTH OF TOP RAIL BETWEEN SPLICES SHALL BE 20'-0". LOCATE SPLICES NEAR ¼ POINT OF POST SPACING.

◐ CONTRACTOR TO FIELD VERIFY EXISTING ANCHOR BOLT SPACING PRIOR TO FABRICATION.

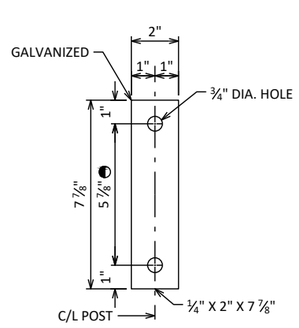


SECTION A-A

NOTE: PLACE ALL BOLT HEADS ON SIDE OF FENCE ADJACENT TO PEDESTRIANS

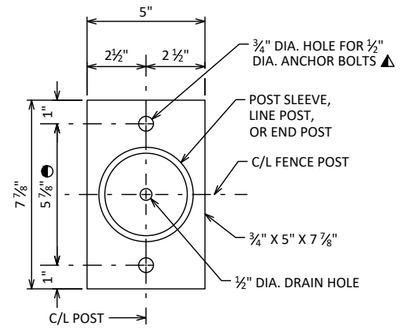


SECTION THRU FENCE

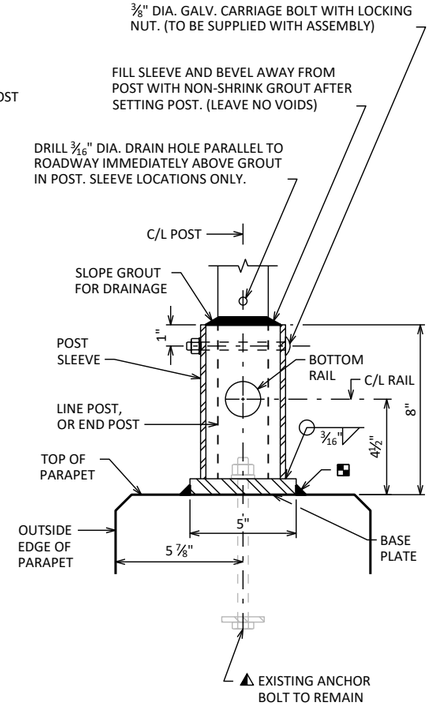


ANCHOR PLATE

☆ NOTE: ANCHOR PLATE NOT REQUIRED WHEN ADHESIVE ANCHORS ARE USED.



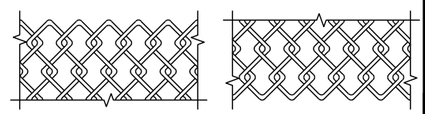
BASE PLATE



DETAIL 'A'

UNIT SHALL BE GALVANIZED AFTER FABRICATION

NOTE: IN LIEU OF USING THE POST SLEEVE, THE FENCE POST MAY BE WELDED TO THE BASE PLATE.



FENCE FABRIC

FENCE FABRIC WOVEN OF 9-GAGE WIRE IN 2" DIAMOND PATTERN MESH WITH BOTH THE TOP AND BOTTOM SELVAGES KNUCKLED.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-44-179

DRAWN BY AMR | PLANS CK'D AJC

FENCING DETAILS

SHEET 4 OF 4

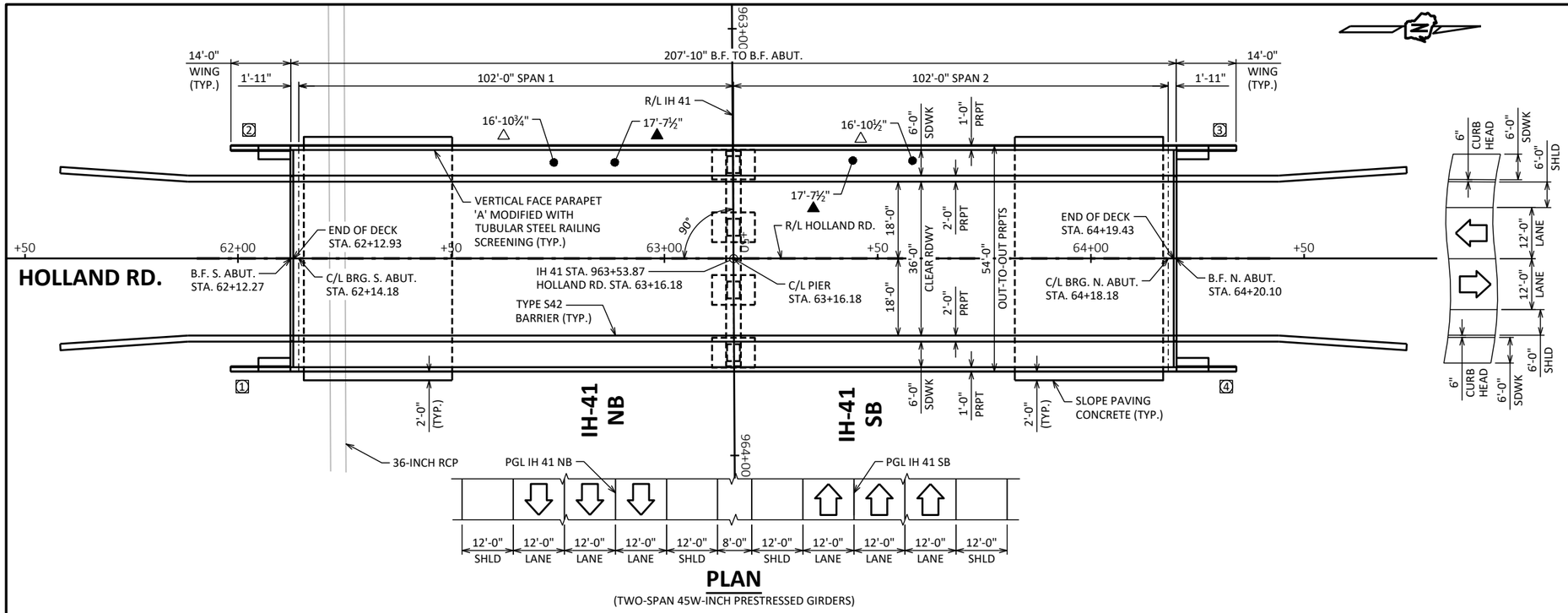
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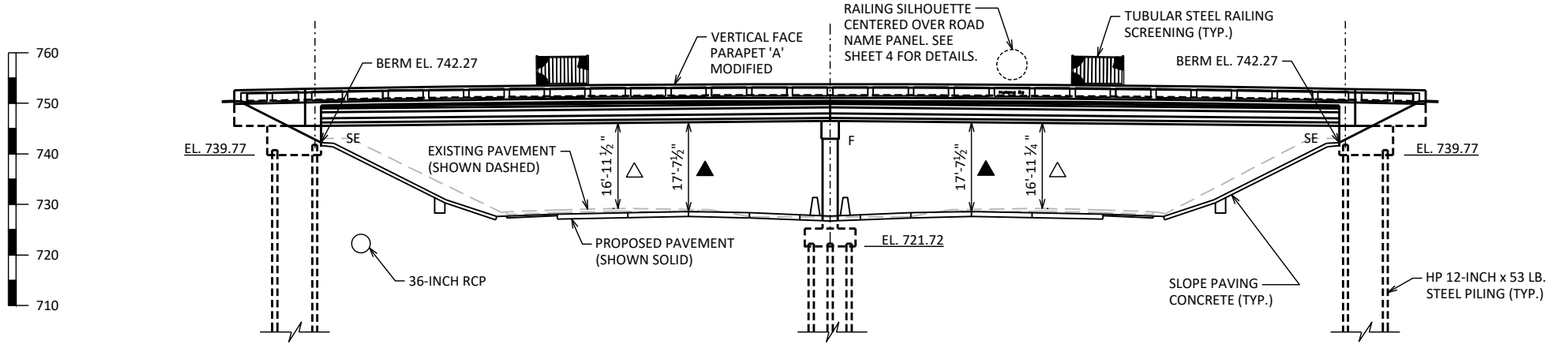
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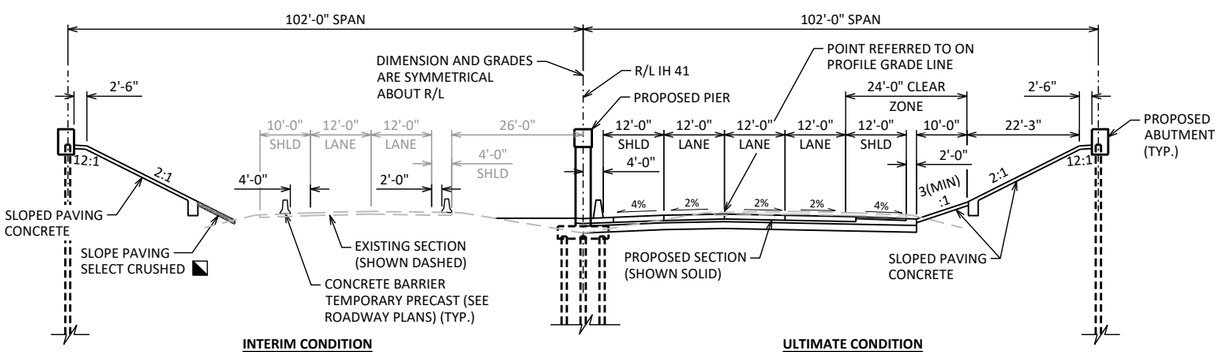
PLAN

(TWO-SPAN 45W-INCH PRESTRESSED GIRDERS)



ELEVATION

(NORMAL TO SUBSTRUCTURE, LOOKING WEST)



INTERIM CONDITION
(SHOWING EXISTING NB IH 41 DIMENSIONS AND GRADES)
(SB SIMILAR)

ULTIMATE CONDITION
(SHOWING PROPOSED SB IH 41 DIMENSIONS AND GRADES)
(NB SIMILAR)

TYPICAL SECTION

(LOOKING WEST, NORMAL TO IH 41)

STATE PROJECT NUMBER

1130-66-82

GENERAL NOTES

SCOPE OF WORK:
- CONCRETE STAINING
- RAILING SILHOUETTE

DIMENSIONS, STATIONS, AND ELEVATIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE DRAWINGS.

SEE SHEET 3 FOR STAINING DETAILS.

DRAWINGS SHALL NOT BE SCALED.

ALL STATIONS AND ELEVATIONS ARE IN FEET.

TRAFFIC DATA

	ADT (2026)	ADT (2046)	DESIGN SPEED (MPH)
IH 41 =	61,290	79,830	75
HOLLAND RD. =	1,800	2,400	40

LEGEND

- [#] INDICATES WING NUMBER
- ▲ POINT OF MINIMUM VERTICAL CLEARANCE FOR PROPOSED PAVEMENT (FINAL CONDITION).
- △ POINT OF MINIMUM VERTICAL CLEARANCE FOR EXISTING PAVEMENT (INTERIM CONDITION).
- ◥ SLOPE PAVING SELECT CRUSHED TO BE REPLACED WITH SLOPE PAVING CONCRETE WHEN FUTURE PROPOSED PAVEMENT WORK IS COMPLETED.

LIST OF DRAWINGS:

1 GENERAL PLAN
2 CROSS SECTION & QUANTITIES
3 STAINING DETAILS
4 RAILING SILHOUETTE DETAILS

STRUCTURE DESIGN CONTACTS:
DESIGN CONSULTANT CONTACT:
KEITH BEHREND (608) 251-4843

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

NO.	DATE	REVISION	BY

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORATION

ACCEPTED _____ SDR 02/14/25
CHIEF STRUCTURES DESIGN ENGINEER — DATE

WISCONSIN
KEITH R. BEHREND
E-42073
MADISON
WI
PROFESSIONAL ENGINEER
Keith Behrend
2-13-2025

STRUCTURE B-44-330

HOLLAND ROAD OVER IH 41

COUNTY	TOWN/~~CITY/VILLAGE~~
OUTAGAMIE	VANDENBROEK

DESIGN SPEC.
AASHTO LRFD BRIDGE DESIGN SPECIFICATION

DESIGNED BY	DESIGNED CK'D	DRAWN BY	PLANS CK'D
JFG	KRB	ZHC	KRB

GENERAL PLAN

SHEET 1 OF 4
231

SCALE =

I.D.

DATE:

8

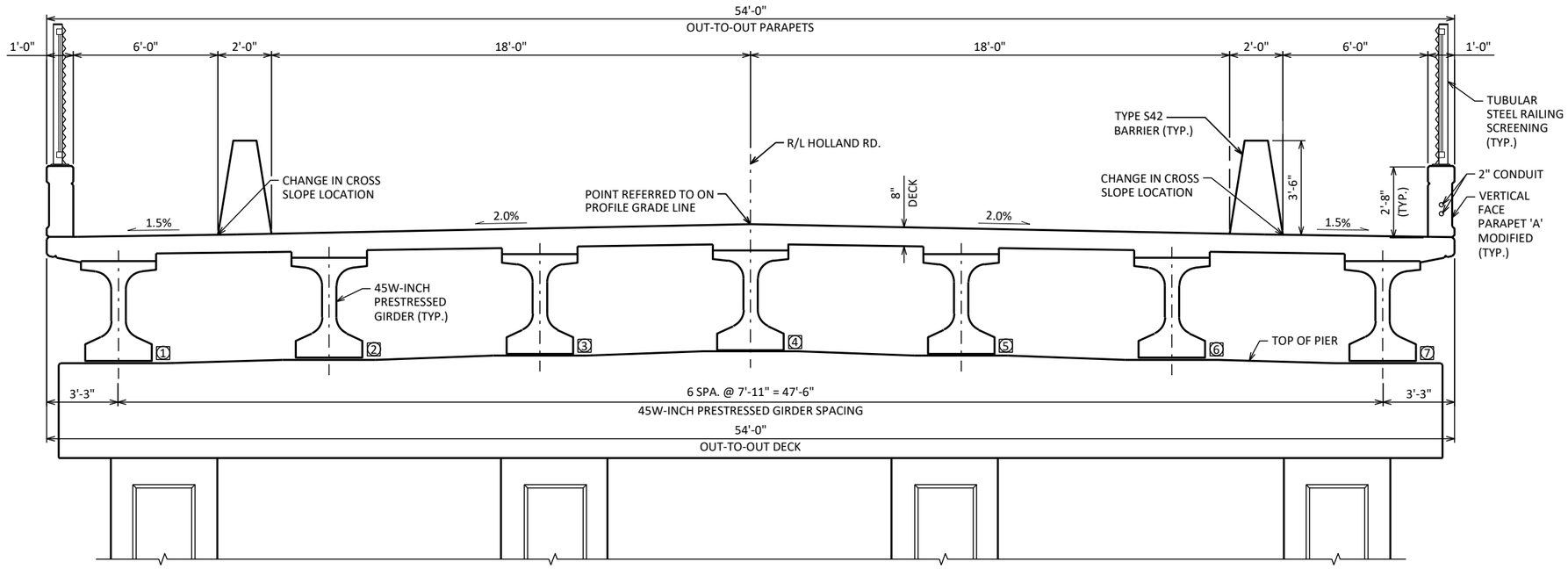
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STATE PROJECT NUMBER

1130-66-82

LEGEND

[#] INDICATES GIRDER NUMBER.



CROSS SECTION THRU SUPERSTRUCTURE

(LOOKING NORTH)

TOTAL ESTIMATED QUANTITIES

BID NUMBER	BID ITEM	UNIT	S. ABUT.	PIER	N. ABUT.	SUPER.	TOTAL
517.1010.S	CONCRETE STAINING B-44-330	SF	346	1,395	345	5,263	7,349
SPV.0060.05	DECORATIVE SILHOUETTE	EACH	---	---	---	2	2

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-44-330

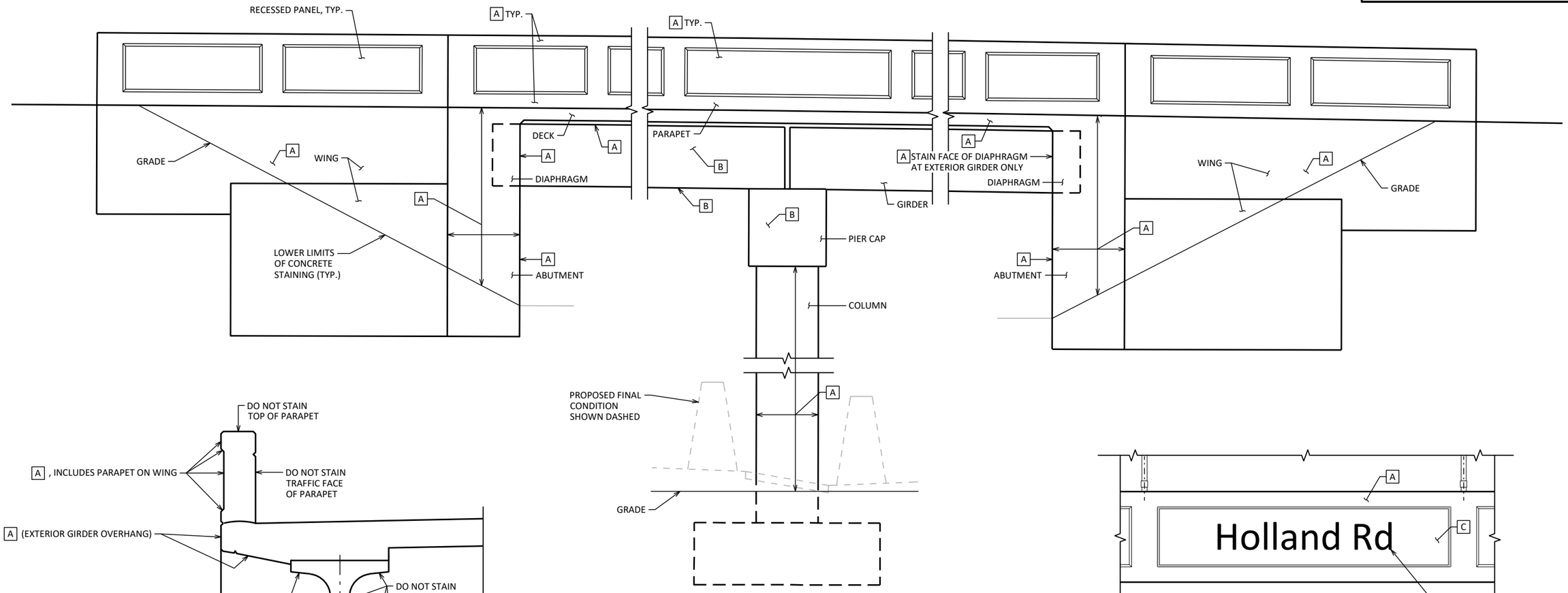
DRAWN BY ZHC | PLANS CK'D KRB

CROSS SECTION & QUANTITIES

SHEET 2
232

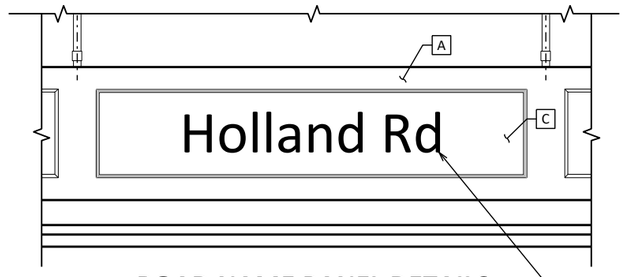
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STATE PROJECT NUMBER
1130-66-82

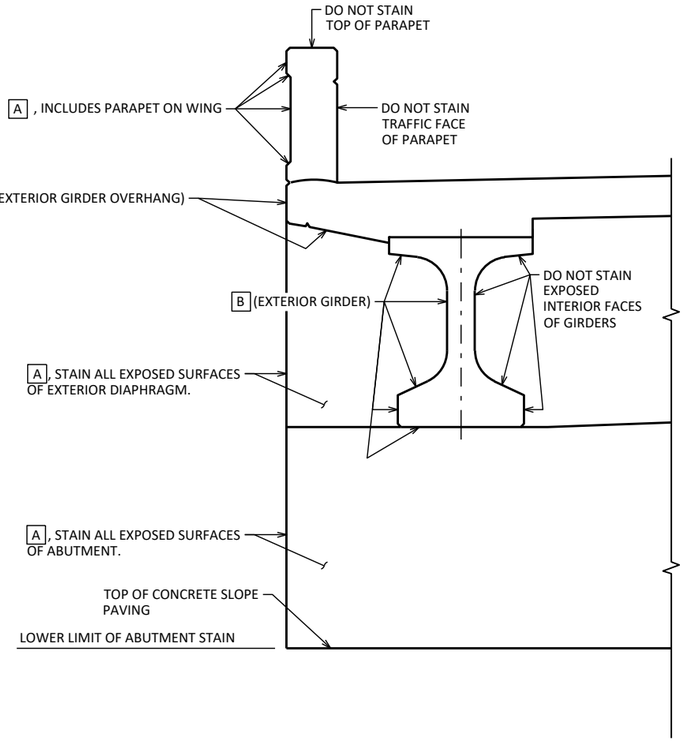


OUTSIDE ELEVATION OF STRUCTURE

EAST SIDE LOOKING WEST



ROAD NAME PANEL DETAILS



PARTIAL ABUTMENT ELEVATION

(WEST EDGE OF NORTH ABUTMENT SHOWN - OTHERS SIMILAR)

CONCRETE STAINING SCHEDULE

MARK	COLOR	AMS COLOR NO.	LOCATION	NOTES
A	CRAFT PAPER	31090	PARAPETS	EXTERIOR FACE, EXCEPT AS NOTED FOR ROAD NAME BLOCK.
			ABUTMENTS	FRONT FACE FROM TOP OF ABUTMENT TO FINISHED GRADE AT SLOPE PAVING AND EXPOSED SIDES.
			DIAPHRAGMS	EXPOSED SIDES AND FRONT FACE FROM ENDS OF ABUTMENT TO EDGES OF FIRST INTERIOR GIRDER EACH END.
			WINGS	TOP OF WING AND ALL EXPOSED SIDES TO FINISHED GRADE.
			PIERS	ALL EXPOSED FACES OF PIER COLUMNS.
			DECK	FASCIA & EXPOSED UNDERSIDE TO EXTERIOR GIRDER FLANGE
B	VIRTUAL TAUPE	20150	GIRDERS	EXTERIOR FACES AND UNDERSIDE OF EXTERIOR GIRDERS.
			PIERS	EXPOSED FACES OF PIER CAP
C	WHOLE WHEAT	30450	ROAD NAME BLOCK	ENTIRE RECESSED PANEL AT THE LOCATION OF ROAD NAME.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-44-330

DRAWN BY ZHC | PLANS CK'D KRB

STAINING DETAILS

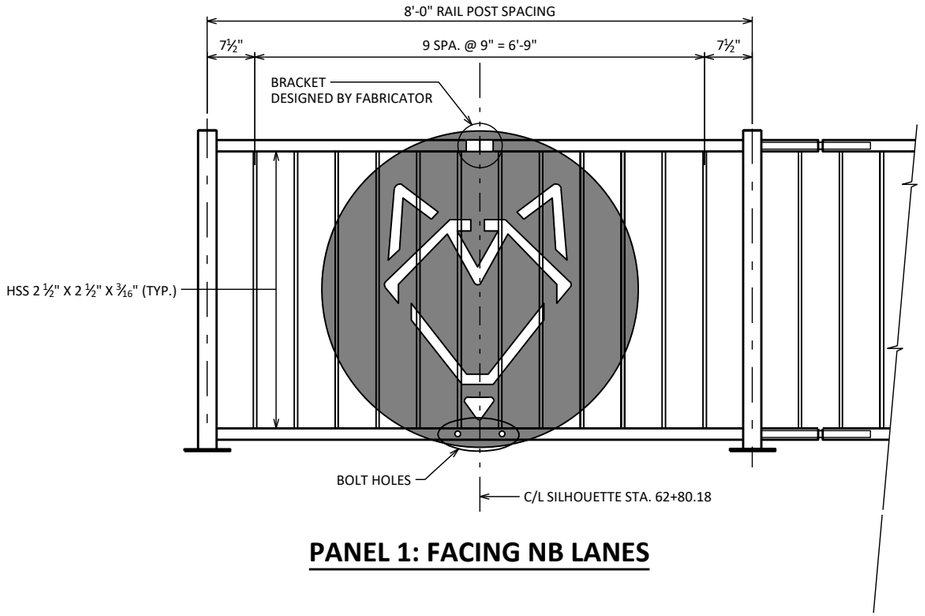
SHEET 3
233

8

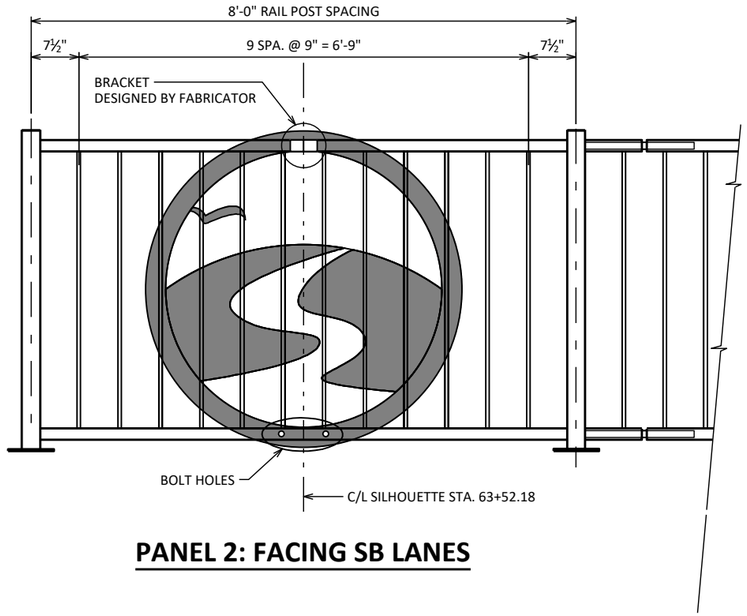
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STATE PROJECT NUMBER

1130-66-82



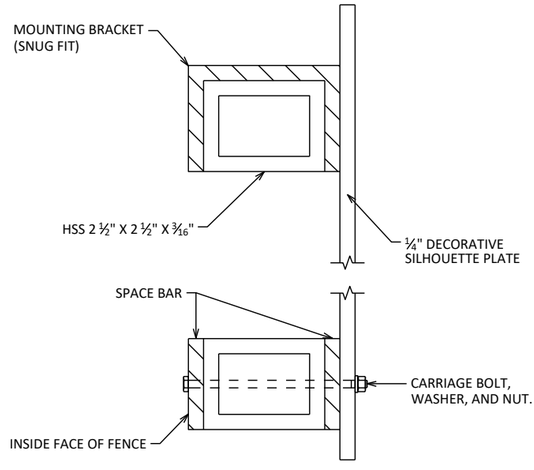
PANEL 1: FACING NB LANES



PANEL 2: FACING SB LANES

NOTES:

- PLACE SILHOUETTE IN CENTER OF RAIL PANEL CENTERED OVER THE ROAD NAME PANEL.
- PLATES, BRACKETS, ANGLES, BARS, AND SHIMS SHALL CONFORM TO ASTM A709, GRADE 36.
- CARRIAGE BOLTS, NUTS AND WASHERS SHALL BE EITHER STAINLESS STEEL OR ASTM 307. IF 307 IS USED, CARRIAGE BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED.
- ANCHORAGES TO TUBULAR RAILING SHALL BE ACCURATELY PLACED TO PROVIDE CORRECT ALIGNMENT OF SILHOUETTE.
- THE BID ITEM SHALL BE "DECORATIVE SILHOUETTE" AND SHALL INCLUDE ALL ITEMS SHOWN INCLUDING THE PLATE, BRACKET AND MOUNTING HARDWARE.
- THE SILHOUETTE PANELS AND ALL MOUNTING HARDWARE SHALL BE PAINTED AMS STD. COLOR NO. 27038, BLACK.
- PROVIDE ¼" DECORATIVE SILHOUETTE INSET PLATE. 5'-0" O.D. WITH HOLES FOR ½" DIA. CARRIAGE BOLTS.
- ELECTRONIC COPIES OF THE CUTTING PATTERN ARE AVAILABLE BY CONTACTING:
  BRYAN LEARST, WISDOT
  944 VAN DER PERREN WAY, GREEN BAY, WI 54304
  PHONE: (920) 366-5639
  EMAIL: BRYAN.LEARST@DOT.WI.GOV
- FIELD DRILL HOLES IN HSS 2 ½" X 2 ½" X ¾16" FOR ½" DIA. CARRIAGE BOLT, WASHER, AND NUT. PROVIDE ⅝" X ⅝" SQUARE HOLE IN SPACE BAR FOR SQUARE PORTION OF HT BOLT HEAD.



BRACKET DETAIL

(CONCEPT BRACKET DETAIL SHOWN.
DESIGN TO BE PROVIDED BY FABRICATOR.)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-44-330

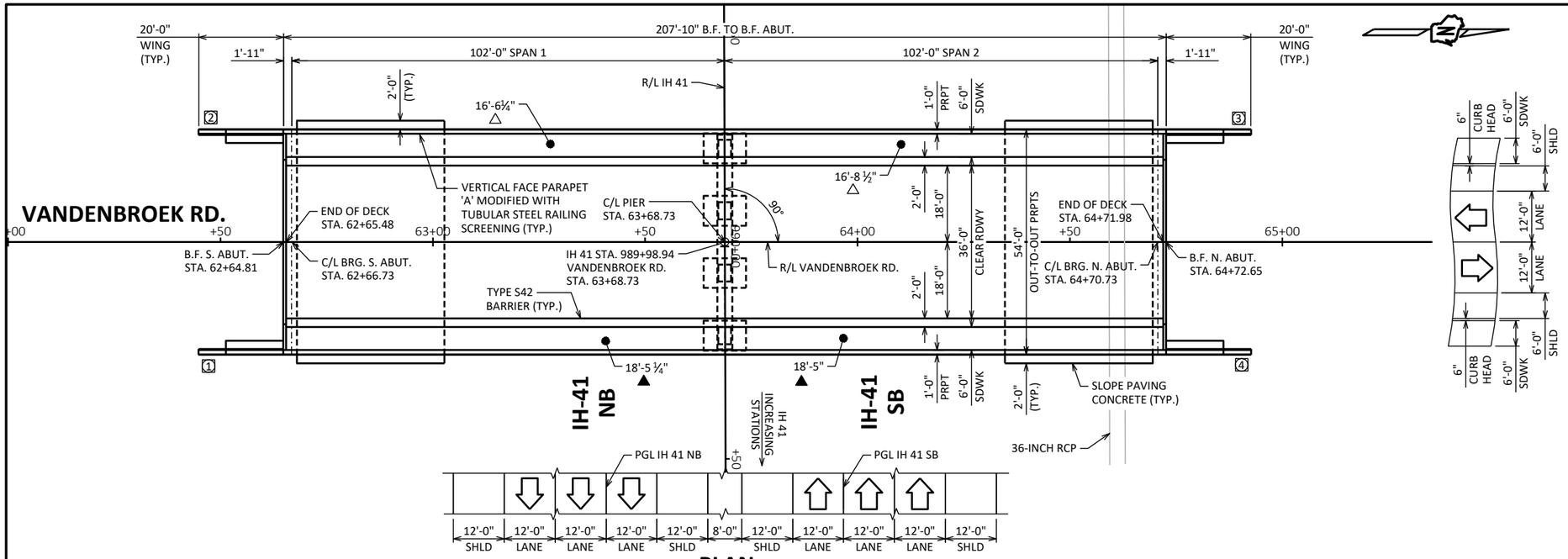
DRAWN BY ZHC | PLANS CK'D KRB

RAILING SILHOUETTE DETAILS

SHEET 4
234

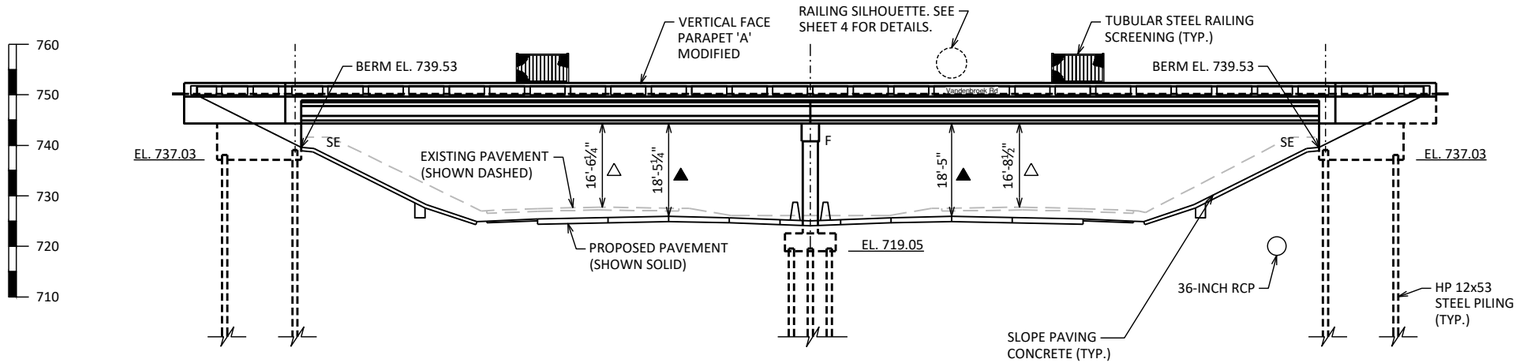
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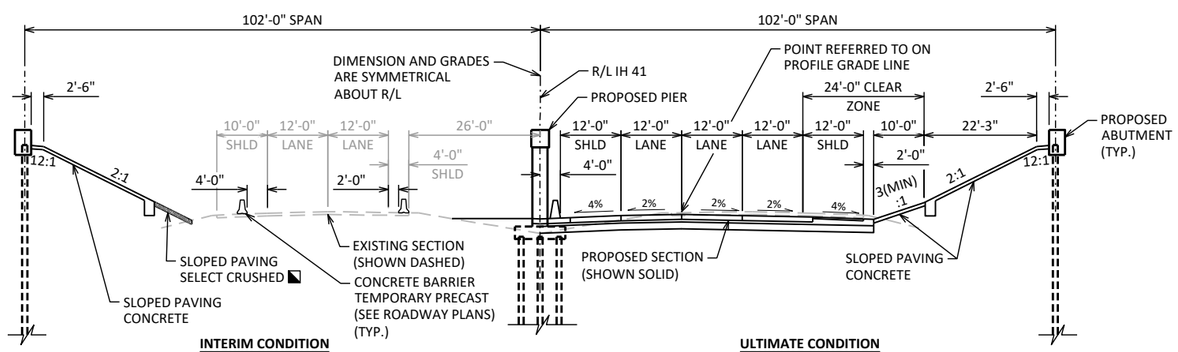
PLAN

(TWO-SPAN 54W-INCH PRESTRESSED GIRDERS)



ELEVATION

(NORMAL TO SUBSTRUCTURE, LOOKING WEST)



INTERIM CONDITION
(SHOWING EXISTING NB IH 41 DIMENSIONS AND GRADES)
(SB SIMILAR)

ULTIMATE CONDITION
(SHOWING PROPOSED SB IH 41 DIMENSIONS AND GRADES)
(NB SIMILAR)

TYPICAL SECTION

(LOOKING WEST, NORMAL TO IH 41)

STATE PROJECT NUMBER

1130-66-82

GENERAL NOTES

SCOPE OF WORK
- CONCRETE STAINING
- RAILING SILHOUETTE

DIMENSIONS, STATIONS, AND ELEVATIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE DRAWINGS.

SEE SHEET 3 FOR STAINING DETAILS.

DRAWINGS SHALL NOT BE SCALED.

ALL STATIONS AND ELEVATIONS ARE IN FEET.

TRAFFIC DATA

	ADT (2026)	ADT (2046)	DESIGN SPEED (MPH)
IH 41 =	61,290	79,830	75
VANDENBROEK RD. =	1,100	1,400	40

LEGEND

- [#] INDICATES WING NUMBER
- ▲ POINT OF MINIMUM VERTICAL CLEARANCE FOR PROPOSED PAVEMENT (FINAL CONDITION).
- △ POINT OF MINIMUM VERTICAL CLEARANCE FOR EXISTING PAVEMENT (INTERIM CONDITION).
- ◪ SLOPE PAVING SELECT CRUSHED TO BE REPLACED WITH SLOPE PAVING CONCRETE WHEN FUTURE PROPOSED PAVEMENT WORK IS COMPLETED.

LIST OF DRAWINGS:

1 GENERAL PLAN
2 CROSS SECTION & QUANTITIES
3 STAINING DETAILS
4 RAILING SILHOUETTE DETAILS

STRUCTURE DESIGN CONTACTS:

DESIGN CONSULTANT CONTACT:
KEITH BEHREND (608) 251-4843

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

NO.	DATE	REVISION	BY

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED _____ SDR 02/14/25
CHIEF STRUCTURES DESIGN ENGINEER — DATE

WISCONSIN
KEITH R. BEHREND
E-42073
MADISON
WI
PROFESSIONAL ENGINEER
Keith Behrend
2-13-2025

STRUCTURE B-44-331

VANDENBROEK ROAD OVER IH 41

COUNTY	TOWN/~~CITY/VILLAGE~~
OUTAGAMIE	VANDENBROEK

DESIGN SPEC.
AASHTO LRFD BRIDGE DESIGN SPECIFICATION

DESIGNED BY	JFG	DESIGNED CK'D	KRB	DRAWN BY	ZHC	PLANS CK'D	KRB

GENERAL PLAN

SHEET 1 OF 4
235

SCALE =
I.D.
DATE:

8

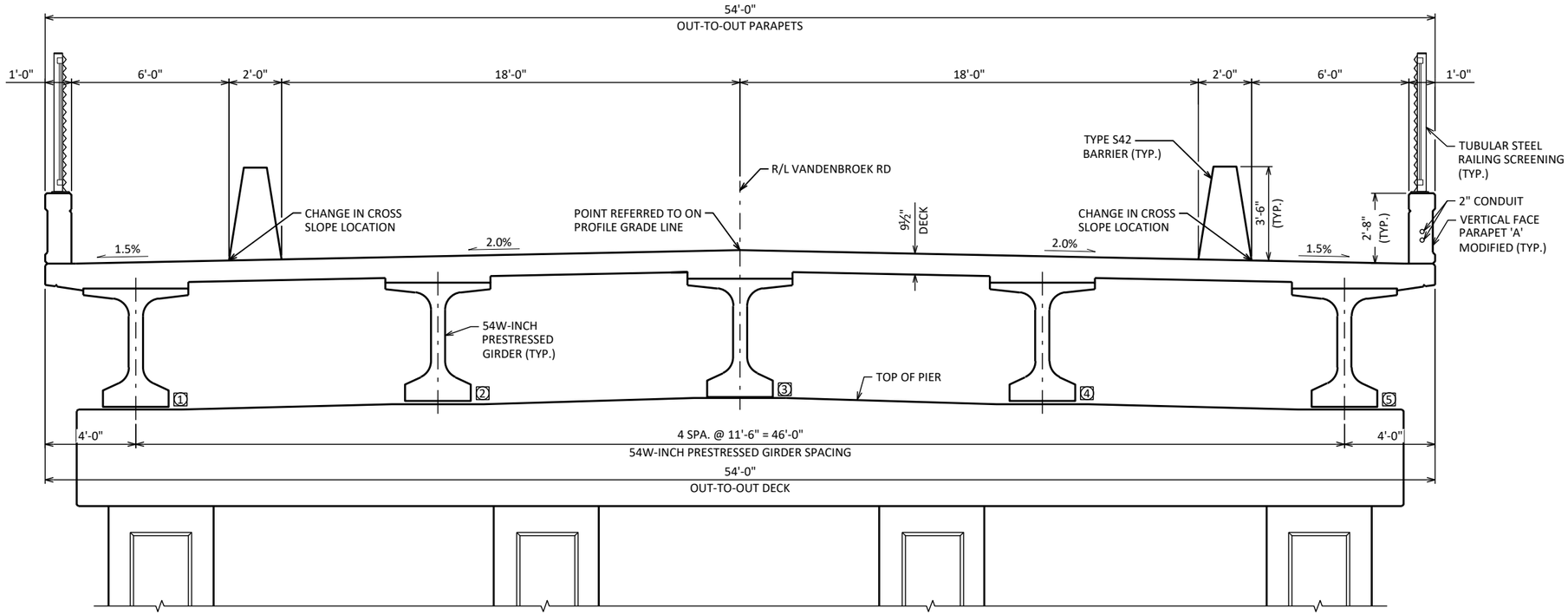
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STATE PROJECT NUMBER

1130-66-82

LEGEND

[#] INDICATES GIRDER NUMBER.



CROSS SECTION THRU SUPERSTRUCTURE

(LOOKING NORTH)

8

TOTAL ESTIMATED QUANTITIES

BID NUMBER	BID ITEM	UNIT	S. ABUT.	PIER	N. ABUT.	SUPER.	TOTAL
517.1010.S	CONCRETE STAINING B-44-331	SF	524	1,424	528	5,676	8,152
SPV.0060.05	DECORATIVE SILHOUETTE	EACH	---	---	---	2	2

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-44-331

DRAWN BY ZHC | PLANS CK'D KRB

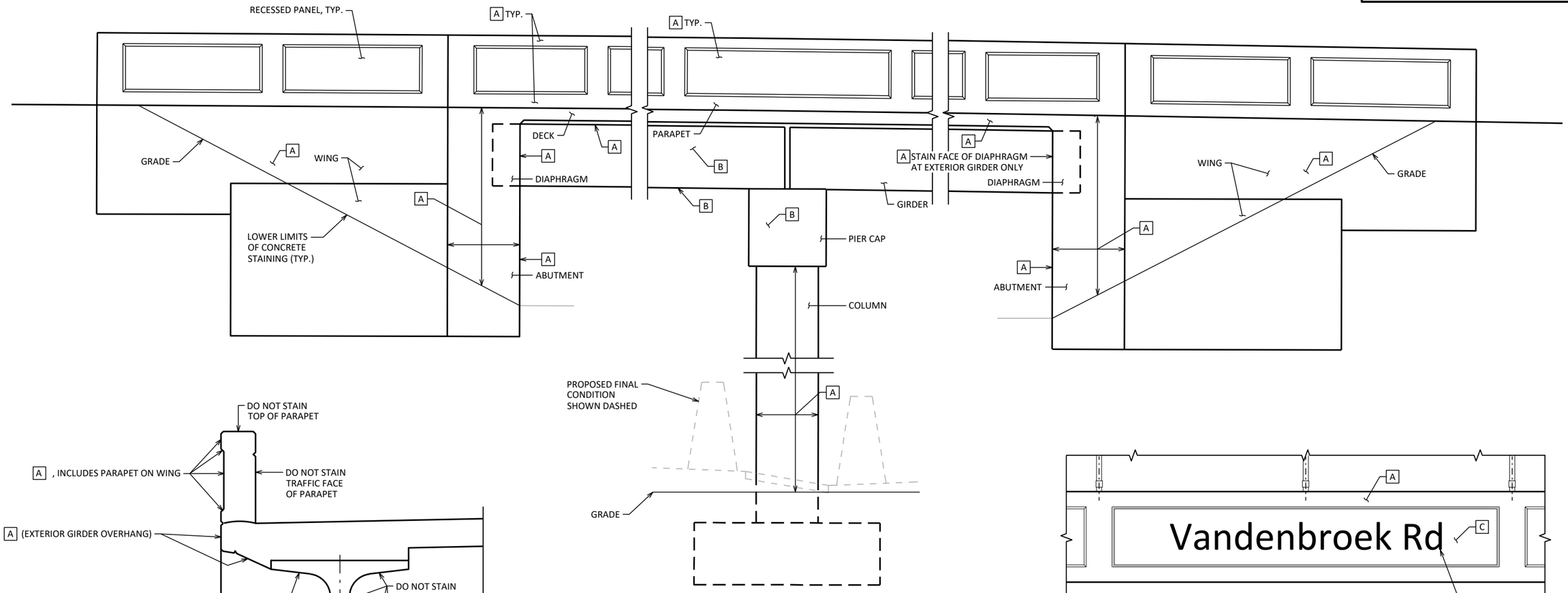
CROSS SECTION & QUANTITIES

SHEET 2
236

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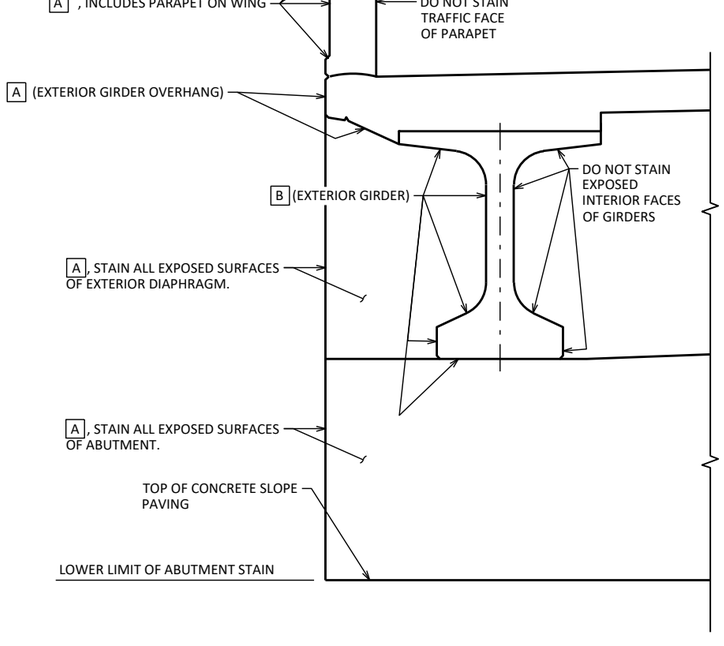
STATE PROJECT NUMBER

1130-66-82



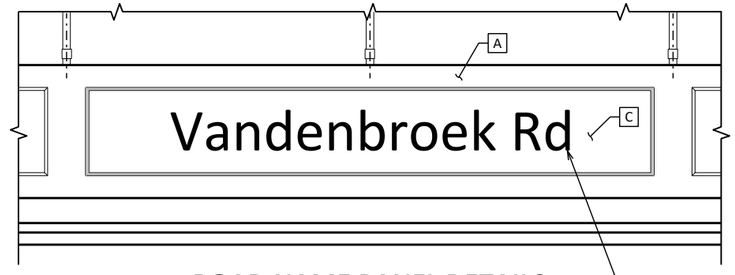
OUTSIDE ELEVATION OF STRUCTURE

EAST SIDE LOOKING WEST



PARTIAL ABUTMENT ELEVATION

WEST EDGE OF NORTH ABUTMENT SHOWN - OTHERS SIMILAR)



ROAD NAME PANEL DETAILS

CONCRETE STAINING SCHEDULE

MARK	COLOR	AMS COLOR NO.	LOCATION	NOTES
A	CRAFT PAPER	31090	PARAPETS	EXTERIOR FACE, EXCEPT AS NOTED FOR ROAD NAME BLOCK.
			ABUTMENTS	FRONT FACE FROM TOP OF ABUTMENT TO FINISHED GRADE AT SLOPE PAVING AND EXPOSED SIDES.
			DIAPHRAGMS	EXPOSED SIDES AND FRONT FACE FROM ENDS OF ABUTMENT TO EDGES OF FIRST INTERIOR GIRDER EACH END.
			WINGS	TOP OF WING AND ALL EXPOSED SIDES TO FINISHED GRADE.
			PIERS	ALL EXPOSED FACES OF PIER COLUMNS.
			DECK	FASCIA & EXPOSED UNDERSIDE TO EXTERIOR GIRDER FLANGE
B	VIRTUAL TAUPE	20150	GIRDERS	EXTERIOR FACES AND UNDERSIDE OF EXTERIOR GIRDERS.
			PIERS	EXPOSED FACES OF PIER CAP
C	WHOLE WHEAT	30450	ROAD NAME BLOCK	ENTIRE RECESSED PANEL AT THE LOCATION OF ROAD NAME.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-44-331

DRAWN BY ZHC | PLANS CK'D KRB

STAINING DETAILS

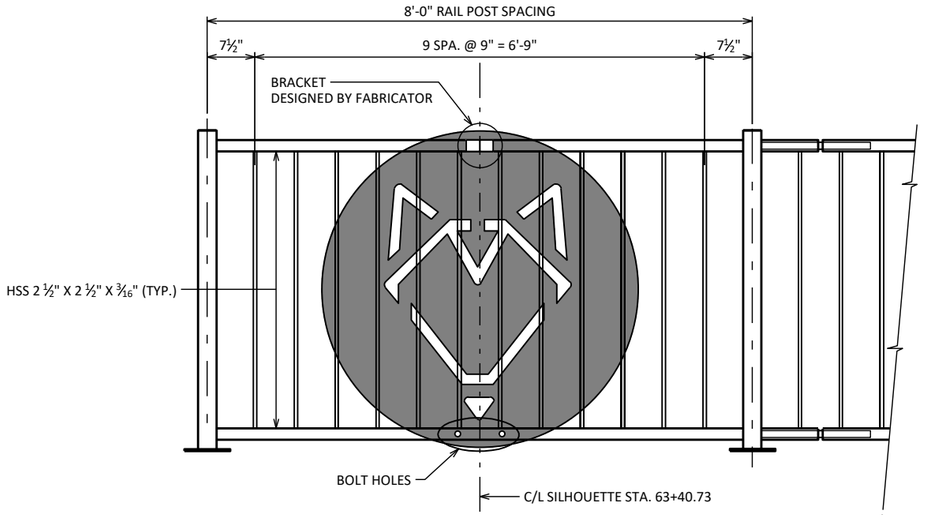
SHEET 3
237

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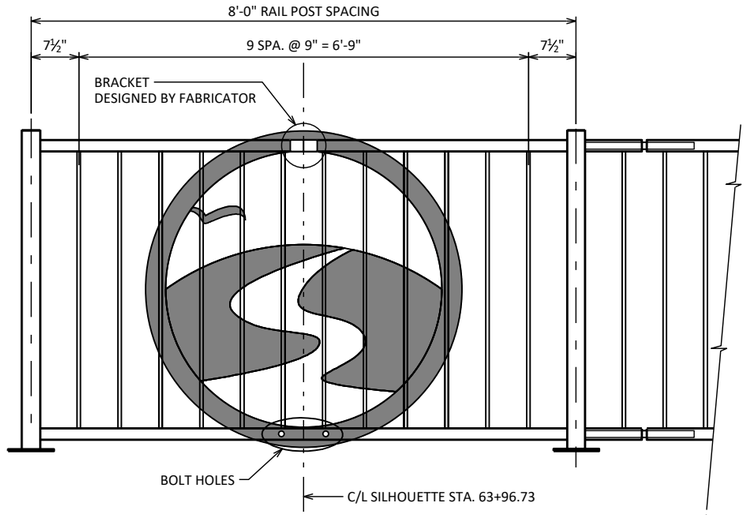
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STATE PROJECT NUMBER

1130-66-82



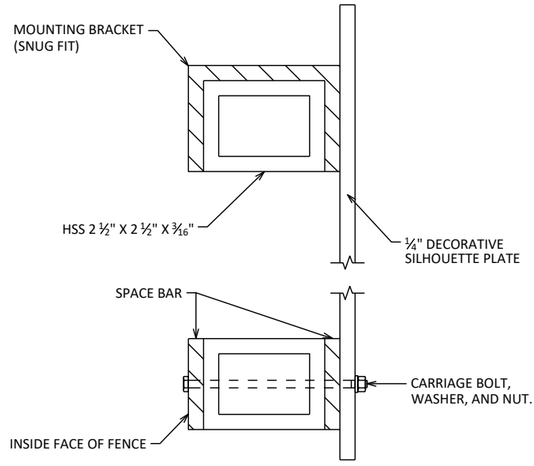
PANEL 1: FACING NB LANES



PANEL 2: FACING SB LANES

NOTES:

- PLACE SILHOUETTE IN CENTER OF RAIL PANEL OVER THE ROAD NAME PANEL.
- PLATES, BRACKETS, ANGLES, BARS, AND SHIMS SHALL CONFORM TO ASTM A709, GRADE 36.
- CARRIAGE BOLTS, NUTS AND WASHERS SHALL BE EITHER STAINLESS STEEL OR ASTM 307. IF 307 IS USED, CARRIAGE BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED.
- ANCHORAGES TO TUBULAR RAILING SHALL BE ACCURATELY PLACED TO PROVIDE CORRECT ALIGNMENT OF SILHOUETTE.
- THE BID ITEM SHALL BE "DECORATIVE SILHOUETTE" AND SHALL INCLUDE ALL ITEMS SHOWN INCLUDING THE PLATE, BRACKET AND MOUNTING HARDWARE.
- THE SILHOUETTE PANELS AND ALL MOUNTING HARDWARE SHALL BE PAINTED AMS STD. COLOR NO. 27038, BLACK.
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BRACKET DETAIL

(CONCEPT BRACKET DETAIL SHOWN.
DESIGN TO BE PROVIDED BY FABRICATOR.)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-44-331

DRAWN BY ZHC | PLANS CK'D KRB

RAILING SILHOUETTE DETAILS

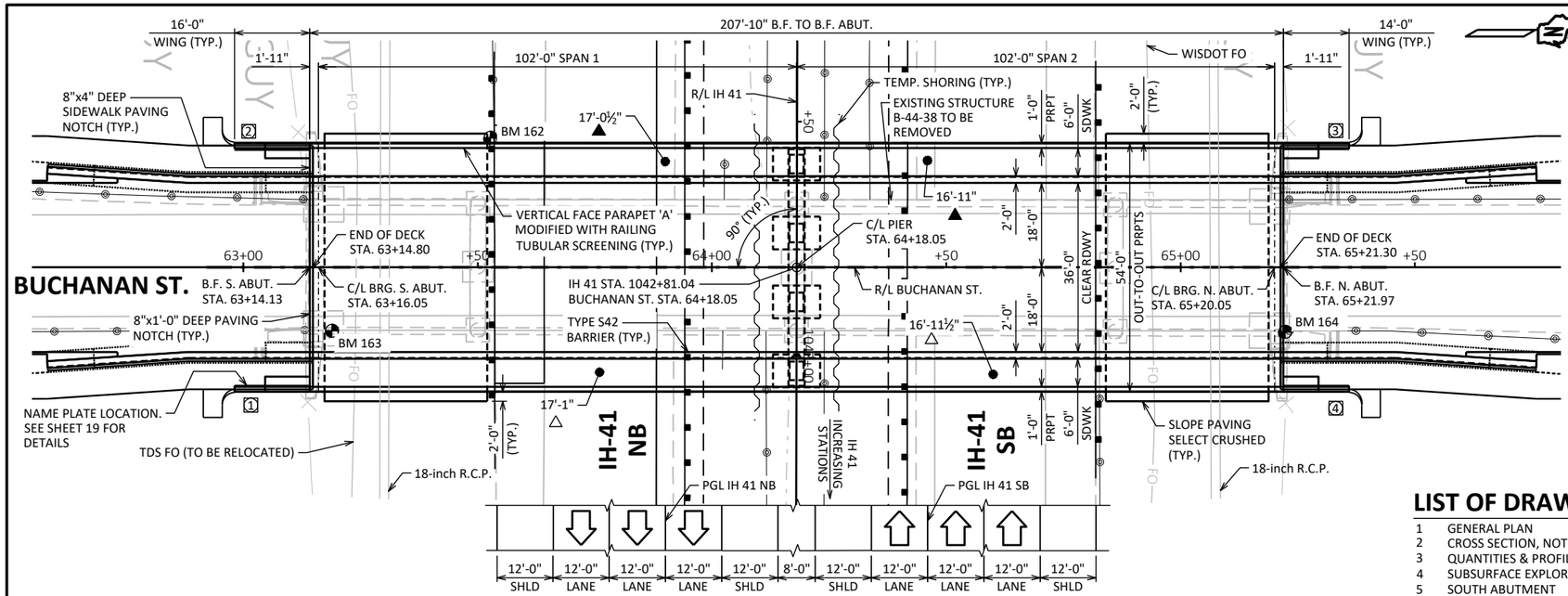
SHEET 4
238

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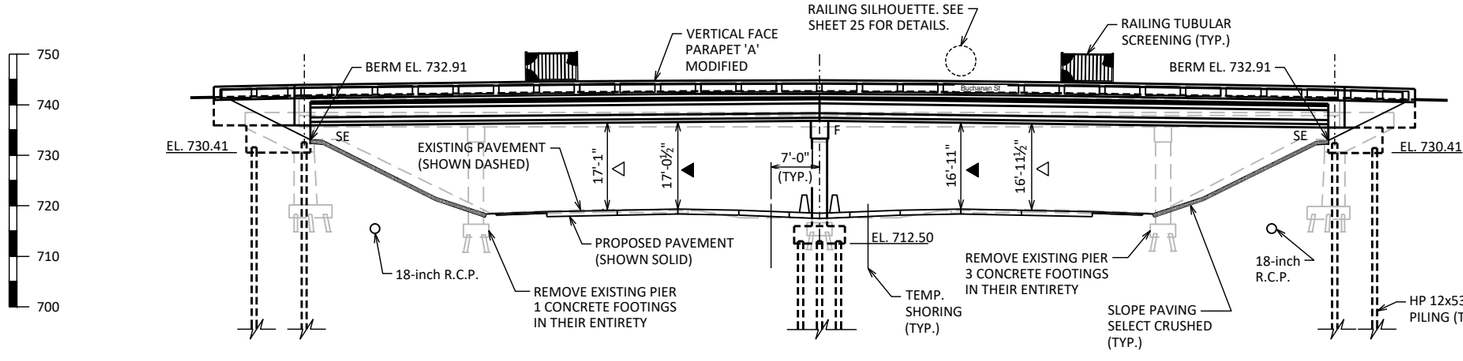
STATE PROJECT NUMBER

1130-66-82



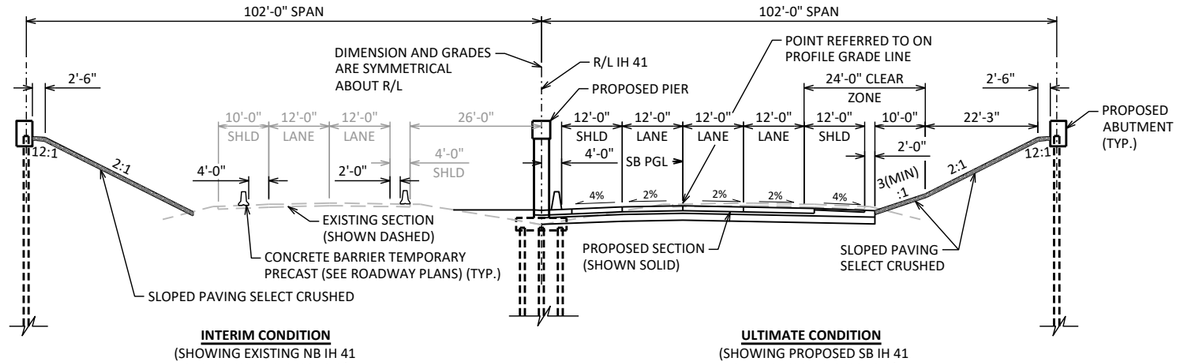
PLAN

(TWO-SPAN 54W-INCH PRESTRESSED GIRDERS)



ELEVATION

(NORMAL TO SUBSTRUCTURE, LOOKING WEST)



INTERIM CONDITION
(SHOWING EXISTING NB IH 41 DIMENSIONS AND GRADES)
(SB SIMILAR)

ULTIMATE CONDITION
(SHOWING PROPOSED SB IH 41 DIMENSIONS AND GRADES)
(NB SIMILAR)

TYPICAL SECTION

(LOOKING WEST, NORMAL TO IH41)

DESIGN DATA

LIVE LOAD:

DESIGN LOADING: HL-93
INVENTORY RATING: RF = 1.25
OPERATING RATING: RF = 1.64
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV): 250 (KIPS)

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

MATERIAL PROPERTIES:

CONCRETE MASONRY:
- SUPERSTRUCTURE — f'_c = 4,000 PSI
- ALL OTHER — f'_c = 3,500 PSI

BAR STEEL REINFORCEMENT
- GRADE 60 — f_y = 60,000 PSI

54W" PRESTRESSED GIRDERS:
- CONCRETE MASONRY — f'_c = 8,000 PSI
- STRANDS: 0.6" DIA. WITH ULTIMATE TENSILE STRENGTH OF 270,000 P.S.I.

FOUNDATION DATA

ABUTMENTS TO BE SUPPORTED ON PILING STEEL HP 12-INCH X 53 LB DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 220 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 PILE CAPACITY.

ESTIMATED PILE LENGTHS:
- SOUTH ABUTMENT — 60 FEET EACH
- PIER — 45 FEET EACH
- NORTH ABUTMENT — 65 FEET EACH

TRAFFIC DATA

	ADT (2026)	ADT (2046)	DESIGN SPEED (MPH)
IH 41 =	61,290	79,830	75
BUCHANAN ST. =	1,400	1,700	40

LIST OF DRAWINGS:

1 GENERAL PLAN
2 CROSS SECTION, NOTES & DETAILS
3 QUANTITIES & PROFILE GRADE LINES
4 SUBSURFACE EXPLORATION
5 SOUTH ABUTMENT
6 SOUTH ABUTMENT DETAILS
7 NORTH ABUTMENT
8 NORTH ABUTMENT DETAILS
9 ABUTMENT DETAILS
10 PIER
11 PIER DETIALS
12 54W" PRESTRESSED GIRDER DETAILS - 1
13 54W" PRESTRESSED GIRDER DETAILS - 2
14 STEEL DIAPHRAGMS
15 SUPERSTRUCTURE PLAN
16 SUPERSTRUCTURE SECTION
17 SUPERSTRUCTURE DETAILS - 1
18 SUPERSTRUCTURE DETAILS - 2
19 VERTICAL FACE PARAPET 'A' MODIFIED
20 CONDUIT DETAILS AND NOTES
21 TUBULAR STEEL RAILING SCREENING
22 AESTHETIC DETAILS - 1
23 AESTHETIC DETAILS - 2
24 STAINING DETAILS
25 RAILING SILHOUETTE DETAILS

LEGEND

- [#] INDICATES WING NUMBER
- ▲ POINT OF MINIMUM VERTICAL CLEARANCE FOR PROPOSED PAVEMENT (FINAL CONDITION)
- △ POINT OF MINIMUM VERTICAL CLEARANCE FOR EXISTING PAVEMENT (INTERIM CONDITION)

BENCH MARK

NO.	STATION	DESCRIPTION	ELEV.
BM 162	63+52.69, 27.59' LT	CHISELED SQUARE	721.35
BM 163	63+18.87, 13.51' RT	DISK SE WINGWALL	741.76
BM 164	65+22.27, 13.73' RT	BOLT NE WINGWALL	741.69

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

STRUCTURE DESIGN CONTACTS:

DESIGN CONSULTANT CONTACT:
KEITH BEHREND (608) 251-4843

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

WISCONSIN
KEITH R BEHREND
E-42073
VERONA
WI
PROFESSIONAL ENGINEER
4/10/2025

NO.	DATE	REVISION	BY

STRAND ASSOCIATES®
MADISON, WISCONSIN 53715
(608)–251–4843
(608) 251–8655 FAX
WWW.STRAND.COM

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORATION

ACCEPTED EMK 04/15/25
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE B-44-332

BUCHANAN STREET OVER IH 41

COUNTY: OUTAGAMIE
TOWN/~~CITY/VILLAGE~~: VANDENBROEK

DESIGN SPEC.: AASHTO LRFD BRIDGE DESIGN SPECIFICATION

DESIGNED BY	JFG	DESIGNED CK'D	KRB	DRAWN BY	ZHC	PLANS CK'D	KRB

GENERAL PLAN

SHEET 1 OF 25
239

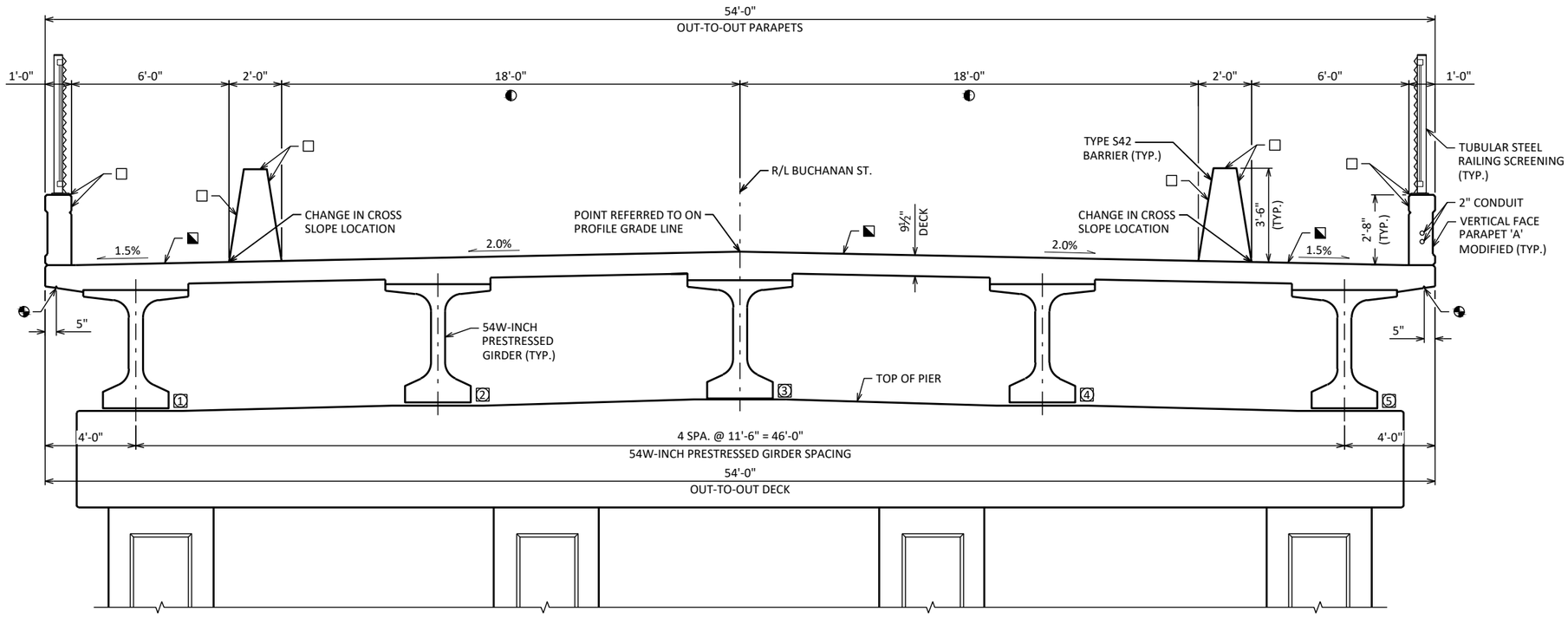
SCALE =
I.D.
DATE:

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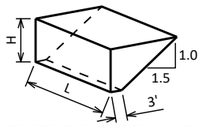
STATE PROJECT NUMBER

1130-66-82



CROSS SECTION THRU SUPERSTRUCTURE

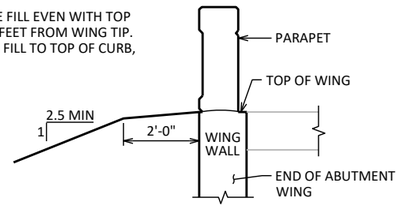
(LOOKING NORTH)



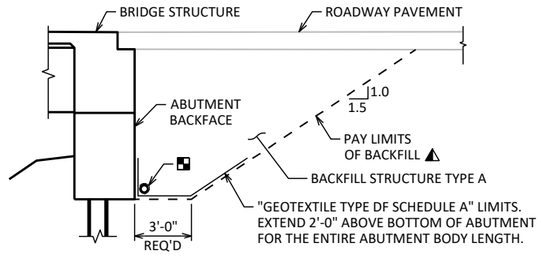
ABUTMENT BACKFILL DIAGRAM

L	= OUT TO OUT OF ABUTMENT BODY 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)

NOTE: PLACE FILL EVEN WITH TOP OF WING, 2 FEET FROM WING TIP. TRANSITION FILL TO TOP OF CURB, IF PRESENT.



TYPICAL FILL SECTION AT WING TIPS



TYPICAL SECTION THRU ABUTMENT

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.

BEVEL EXPOSED EDGES OF CONCRETE ¾" UNLESS OTHERWISE NOTED.

THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES BRIDGES B-44-332" SHALL BE THE EXISTING GROUNDLINE.

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

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

THE SLOPE OF THE FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH SLOPE PAVING MATERIAL TO THE EXTENT SHOWN ON SHEET 1 AND THE ABUTMENT DETAILS.

THE HAUNCH CONCRETE QUANTITY IS BASED ON THE AVERAGE HAUNCH SHOWN ON THE 54W" PRESTRESSED GIRDER DETAILS - 2 SHEET.

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.

THE EXISTING STRUCTURE B-44-38, A 4-SPAN PRESTRESSED GIRDER BRIDGE 209' LONG BY 29' WIDE, IS TO BE REMOVED. EXISTING FOOTINGS AT PIERS 1 & 3 ARE TO BE REMOVED IN ENTIRETY.

ALL CAST-IN-PLACE SUPERSTRUCTURE CONCRETE SHALL BE HIGH PERFORMANCE CONCRETE. THIS INCLUDES THE DECK, PARAPETS/BARRIERS, PIER DIAPHRAGM, AND ABUTMENT DIAPHRAGMS. ALL OTHER CAST-IN-PLACE CONCRETE SHALL BE PAID FOR UNDER BID ITEM CONCRETE MASONRY BRIDGES.

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 AND VERTICAL AND HORIZONTAL SURFACES OF PAVING NOTCHES.
- 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.
- PIGMENTED SURFACE SEALER SHALL BE APPLIED TO THE INSIDE FACE, TOP AND ENDS OF THE VERTICAL FACE PARAPET 'A' CONCRETE PARAPETS AND BOTH FACES, AND TOP OF THE TYPE S42 BARRIERS.
- [#] INDICATES GIRDER NUMBER.
- LONGITUDINAL GROOVING BRIDGE DECK.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-44-332

DRAWN BY ZHC | PLANS CK'D KRB

CROSS SECTION, NOTES & DETAILS

SHEET 2
240

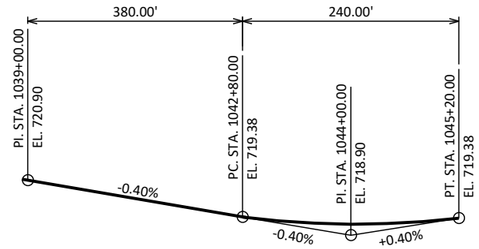
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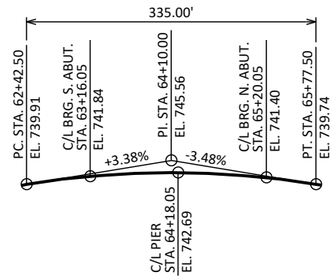
8

TOTAL ESTIMATED QUANTITIES

BID NUMBER	BID ITEM	UNIT	S. ABUT.	PIER	N. ABUT.	SUPER.	TOTAL
203.0220	REMOVING STRUCTURE B-44-38	EACH	---	---	---	---	1
206.1001	EXCAVATION FOR STRUCTURES BRIDGES B-44-332	EACH	---	---	---	---	1
210.1500	BACKFILL STRUCTURE TYPE A	TON	435		404	---	839
501.1000.S	ICE HOT WEATHER CONCRETING	LB	23	---	20	4,281	4,324
502.0100	CONCRETE MASONRY BRIDGES	CY	56.0	91.8	48.8	---	197
502.3200	PROTECTIVE SURFACE TREATMENT	SY	---	---	---	1,119	1,119
502.3210	PIGMENTED SURFACE SEALER	SY	14	---	12	535	561
503.0155	PRESTRESSED GIRDER TYPE I 54W-INCH	LF	---	---	---	1,024	1,024
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	3,900	2,330	3,840	---	10,070
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	2,910	16,160	2,470	100,760	122,300
506.2605	BEARING PADS ELASTOMERIC NON-LAMINATED	EACH	5	10	5	---	20
506.4000	STEEL DIAPHRAGMS B-44-332	EACH	---	---	---	16	16
511.1200	TEMPORARY SHORING B-44-332	SF	---	480	---	---	480
513.4091	RAILING TUBULAR SCREENING	LF	31	---	27	416	474
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	20	---	18		38
517.1010.S	CONCRETE STAINING B-44-332	SF	484	1,300	426	5,676	7,886
550.0010	PRE-BORING UNCONSOLIDATED MATERIALS	LF	38	---	48	---	86
550.1120	PILING STEEL HP 12-INCH X 53 LB	LF	780	1,080	845	---	2,705
604.0600	SLOPE PAVING SELECT CRUSHED MATERIAL	SY	229	---	229	---	458
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	118	---	114	---	232
645.0111	GEOTEXTILE TYPE DF SCHEDULE A	SY	52	---	52	---	104
652.0125	CONDUIT RIGID METALLIC 2-INCH	LF	6	---	6	12	24
652.0225	CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH	LF	32	---	28	404	464
653.0222	JUNCTION BOXES 18X12X6-INCH	EACH	---	---	---	1	1
SPV.0035.01	HIGH PERFORMANCE CONCRETE (HPC) MASONRY STRUCTURES	CY	3.0	---	2.6	570.8	576
SPV.0060.01	EXISTING FOOTING OPENING	EACH	4	---	4	---	8
SPV.0060.05	DECORATIVE SILHOUETTE	EACH	---	---	---	2	2
SPV.0165.01	LONGITUDINAL GROOVING BRIDGE DECK	SF	---	---	---	7,434	7,434
	NON-BID ITEMS						
	NAME PLATE	EACH					1
	FILLER	SIZE					1/2", 3/4", & 1"



FUTURE PROFILE GRADE LINE IH 41 NB & SB



PROFILE GRADE LINE BUCHANAN ST.

STATE PROJECT NUMBER

1130-66-82

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-44-332

DRAWN BY ZHC | PLANS CK'D KRB

QUANTITIES & PROFILE GRADE LINES

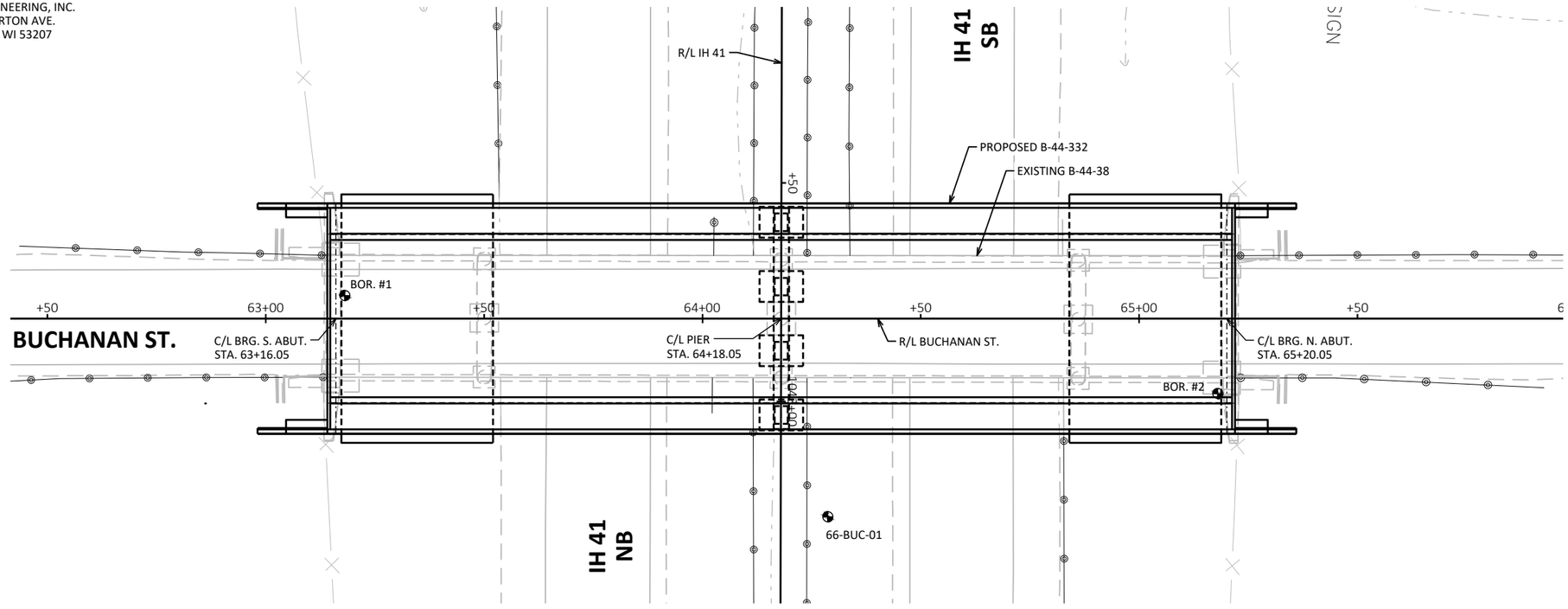
SHEET 3
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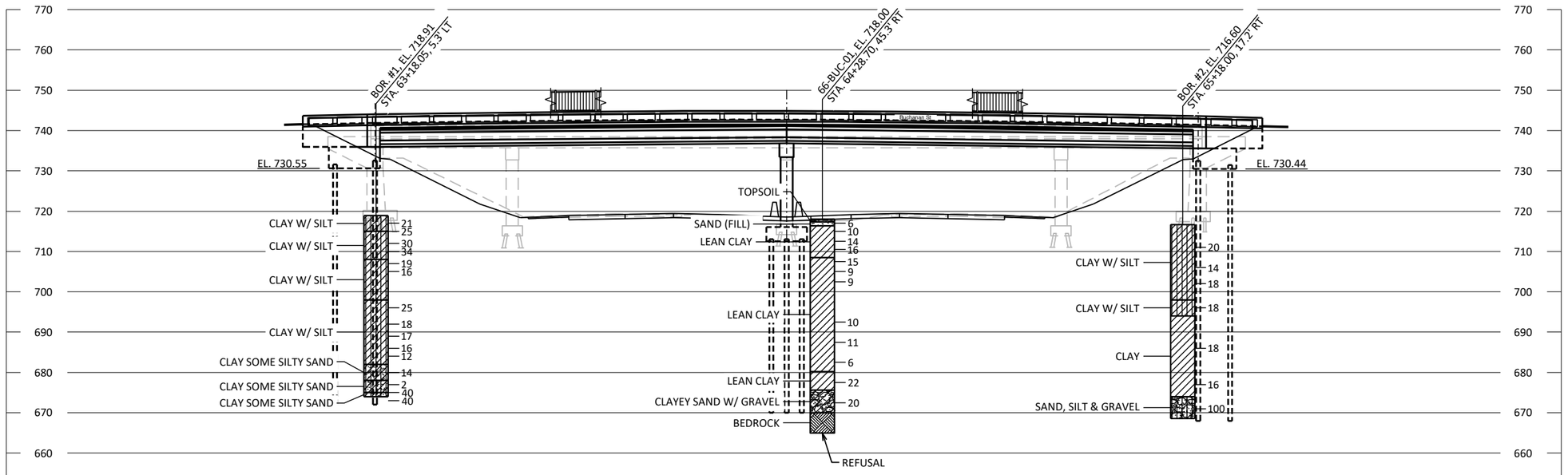
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BORING #	DATE COMPLETED	NORTHING (Y)	EASTING (X)
66-BUC-01	5/16/2022	575392	854662
BORINGS COMPLETED BY: GESTRA ENGINEERING, INC.			
REPORT COMPLETED BY: GESTRA ENGINEERING, INC.			
ALL COORDINATES REFERENCED TO WCCS NAD 83(91) OUTAGAMIE COUNTY			

NOTE:
B-44-38 BORINGS #1 AND #2 ARE HISTORICAL BORINGS COMPLETED AROUND 1960 PRIOR TO CONSTRUCTION OF THE EXISTING B-44-38 BRIDGE. BORING INFORMATION SHOWN ON THIS DRAWING FOR THESE BORINGS IS REPRODUCED FROM THE ORIGINAL B-44-38 STRUCTURE PLANS.

BORINGS PERFORMED AND REPORT COMPLETED BY:
GESTRA ENGINEERING, INC.
191 W. EDGERTON AVE.
MILWAUKEE, WI 53207





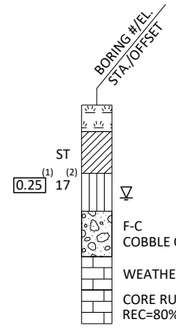
STATE PROJECT NUMBER

1130-66-82

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-44-332

DRAWN BY ZHC | PLANS CK'D KRB

SUBSURFACE EXPLORATION

SHEET 4
242

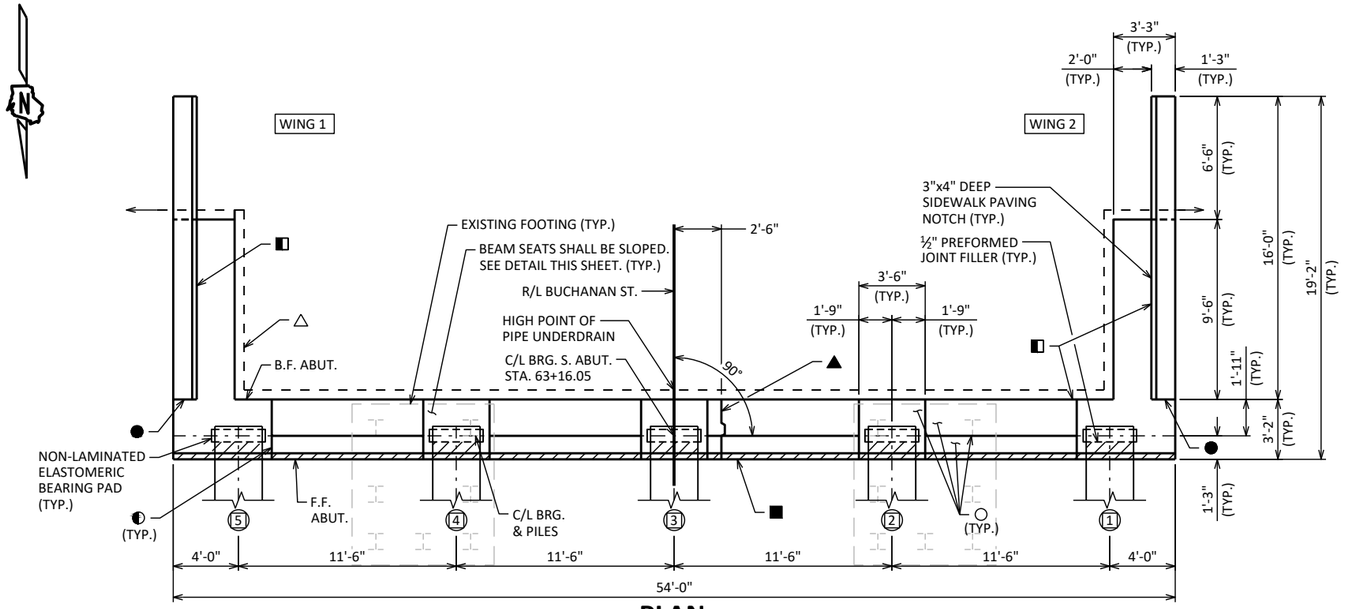
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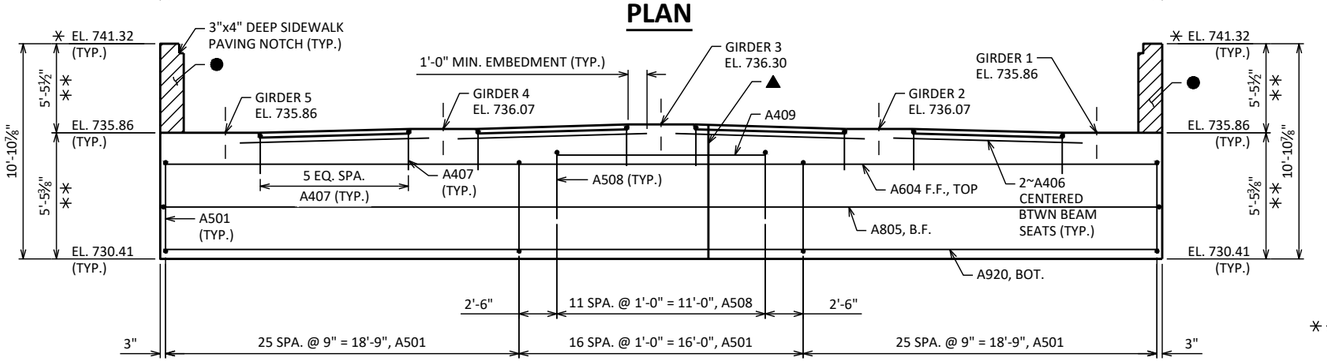
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STATE PROJECT NUMBER

1130-66-82

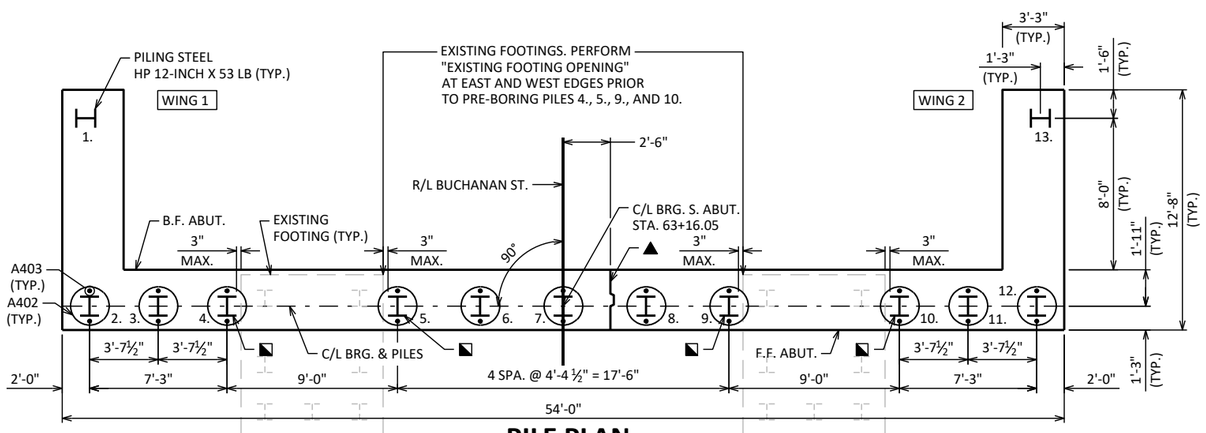


PLAN



ELEVATION

(LOOKING SOUTH)



PILE PLAN

NOTES

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

ADJUST A501 BARS INTERFERING WITH PILES.

SEE SHEET 9 FOR PILE SPLICE DETAILS.

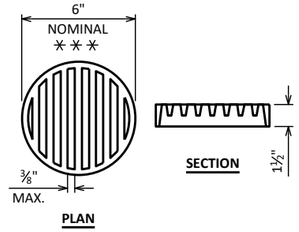
SEE SHEET 6 FOR REINFORCING DETAILS.

SOUTH ABUTMENT TO BE SUPPORTED ON PILING STEEL 12-INCH X 53 LB WITH A REQUIRED DRIVING RESISTANCE OF 220 TONS PER PILE. ESTIMATED 60 FEET LONG EACH.

LEGEND

- ● ½" FILLER. EXTEND FROM ABUT. SEAT TO TOP OF PARAPET. 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"x½" PREFORMED JOINT FILLER, LENGTH OF ABUTMENT.
- ◐ ¾" CORK FILLER ON VERTICAL BEAM SEAT FACES THAT RUN PARALLEL WITH GIRDERS.
- ▲ VERTICAL CONSTRUCTION JOINT KEYWAY FORMED BY BEVELED 2"x8". PROVIDE ¾" V-GROOVE AT F.F. RUN BAR STEEL THRU JOINT. SEAL JOINT WITH 18" RUBBERIZED MEMBRANE WATERPROOFING (B.F.). SEE ABUTMENT DETAILS SHEET FOR ALTERNATE CONSTRUCTION JOINT DETAIL.
- ◪ PRE-BORE PILES 4., 5., 9., AND 10. FROM BOTTOM OF ABUTMENT ELEVATION TO TOP OF EXISTING FOOTING AT APPROXIMATE EL. 720.88. CONTACT ENGINEER IF 9'-0" SPACING CANNOT BE MET.

⁎⁎ DIMENSION MEASURED TO BEAM SEAT ELEVATION AT C/L BRG.

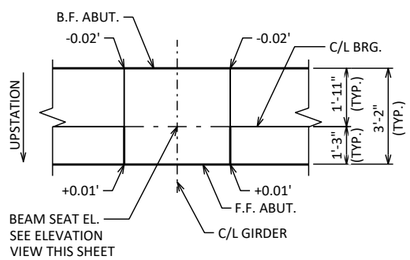


RODENT SHIELD DETAIL

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

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

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



SLOPED BEAM SEAT DETAIL

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-44-332

DRAWN BY ZHC | PLANS CK'D KRB

SOUTH ABUTMENT

SHEET 5
243

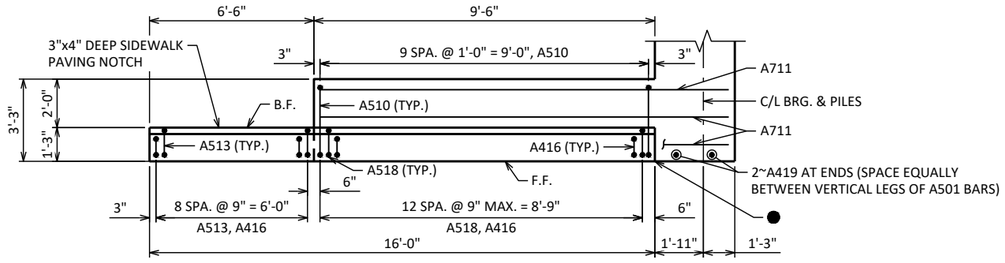
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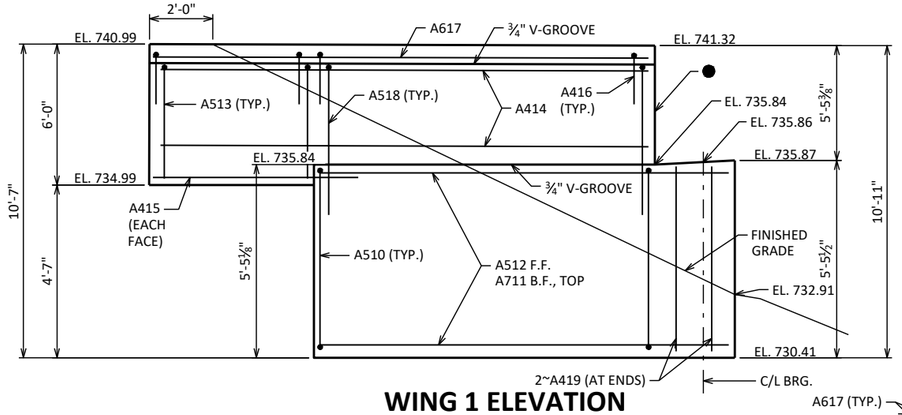
STATE PROJECT NUMBER

1130-66-82



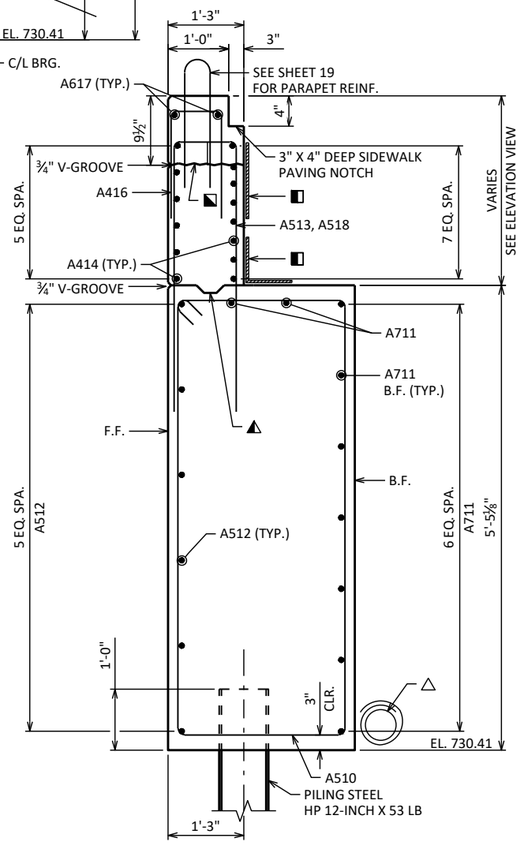
WING 1 PLAN

(WING 2 SIMILAR)



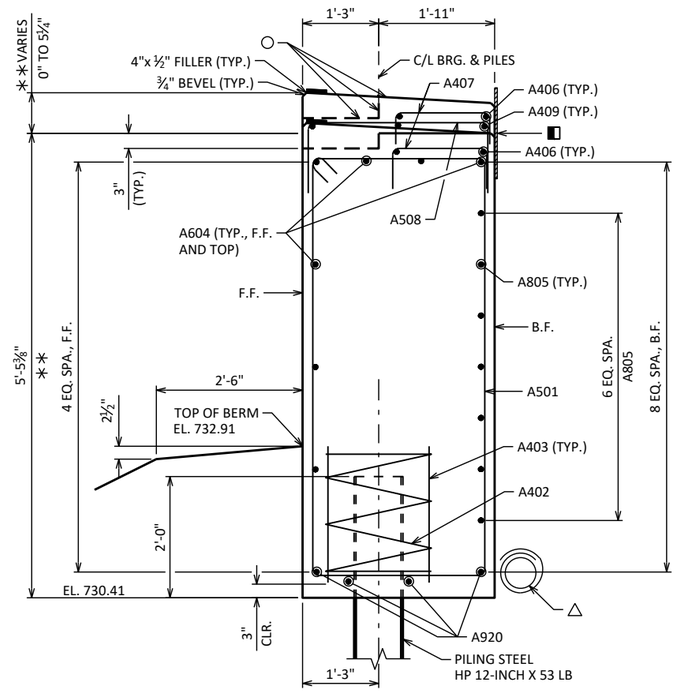
WING 1 ELEVATION

(LOOKING AT FRONT FACE)
(WING 2 SIMILAR)



WING 1 SECTION

(WING 2 SIMILAR)

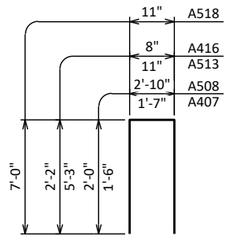


BODY SECTION

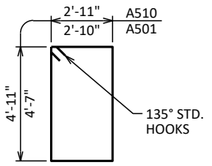
SOUTH ABUTMENT BILL OF BARS

UNCOATED: 3,900 LBS.
COATED: 2,100 LBS.

BAR MARK	NO. REQ'D	LENGTH	BENT	COAT	LOCATION
A501	67	15'-6"	X		LOWER BODY - VERT. STIRRUPS
A402	11	28'-0"	X		LOWER BODY - PILES - SPIRAL
A403	22	2'-3"			LOWER BODY - PILES - VERT.
A604	7	53'-8"			BODY - F.F., TOP - HORIZ.
A805	7	55'-9"	X		BODY - B.F. - HORIZ.
A406	8	10'-0"			BODY - TOP - HORIZ.
A407	24	4'-5"	X		BODY - TOP - VERT.
A508	12	6'-7"	X		BODY - TOP - VERT.
A409	3	11'-0"			BODY - TOP - HORIZ.
A510	20	16'-4"	X	X	WINGS - LOWER STIRRUPS
A711	18	12'-4"		X	WINGS - LOWER - B.F. - HORIZ
A512	12	12'-4"		X	WINGS - LOWER - F.F. - HORIZ.
A513	18	11'-2"	X	X	WINGS - UPPER - VERT.
A414	28	15'-7"		X	WINGS - UPPER - F.F., B.F. - HORIZ.
A415	4	7'-9"		X	WINGS - UPPER - F.F., B.F. - HORIZ.
A416	44	4'-10"	X	X	WINGS - UPPER - SIDEWALK NOTCH - VERT.
A617	4	15'-7"		X	WINGS - UPPER - SIDEWALK NOTCH - HORIZ.
A518	26	14'-8"	X	X	WINGS - UPPER - VERT.
A419	4	5'-0"			BODY - ENDS - VERT.
A920	4	53'-8"			BODY - BOT. - HORIZ.



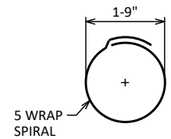
A407, A508, A513, A416, A518



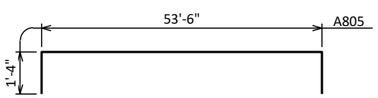
A501, A510

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 5.
- ◭ 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".
- ● ½" FILLER, INCLUDED IN WING LENGTH.
- ◪ CONSTRUCTION JOINT. LEAVE ROUGH. POUR CONCRETE ABOVE THE JOINT AFTER SUPER STRUCTURE IS IN PLACE.
- ∗∗ DIMENSION MEASURED TO BEAM SEAT ELEVATION AT C/L BRG.



A402



A805

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-44-332

DRAWN BY ZHC | PLANS CK'D KRB

SOUTH ABUTMENT DETAILS

SHEET 6
244

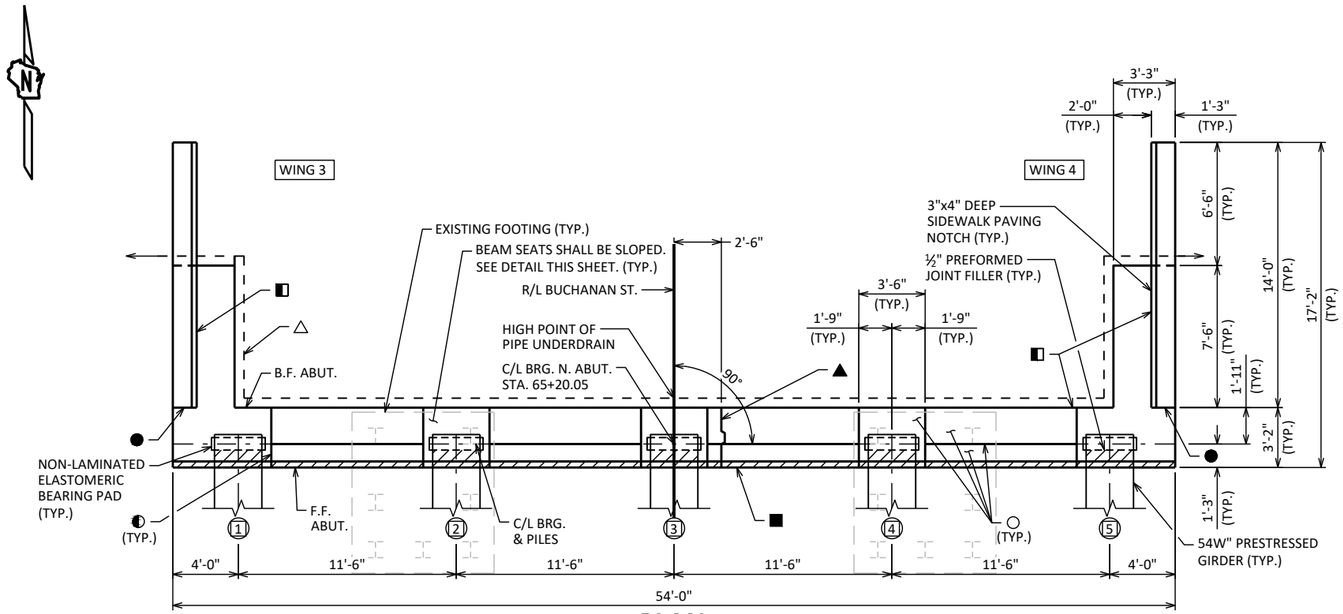
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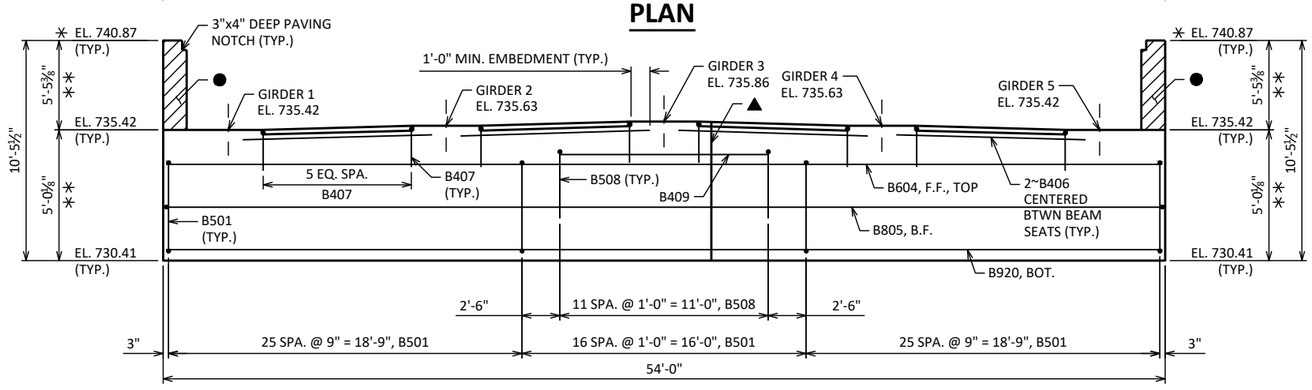
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STATE PROJECT NUMBER

1130-66-82

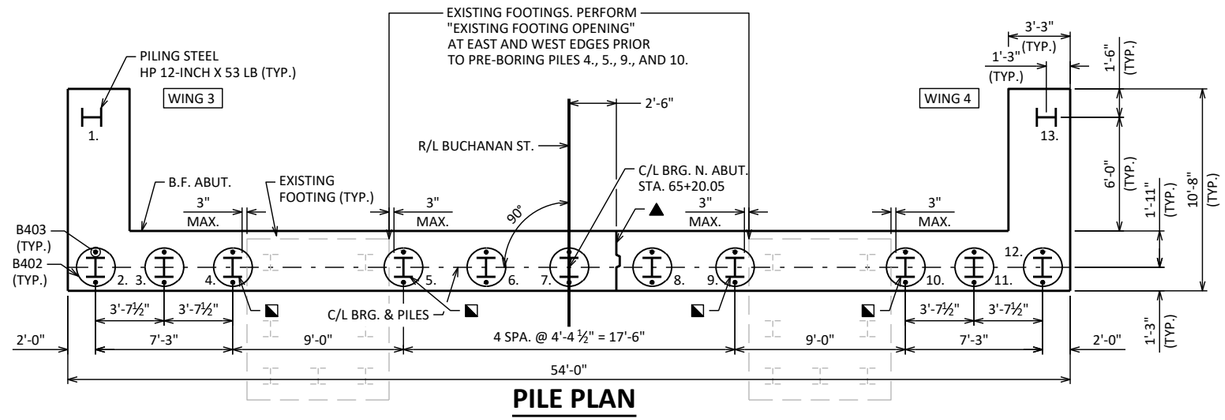


PLAN

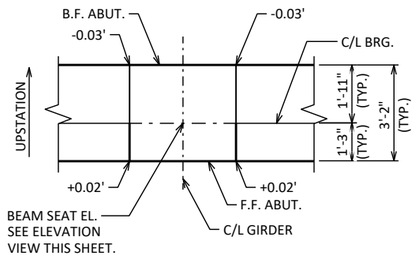


ELEVATION

(LOOKING NORTH)



PILE PLAN



SLOPED BEAM SEAT DETAIL

NOTES

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

ADJUST B501 BARS INTERFERING WITH PILES.

SEE SHEET 9 FOR PILE SPLICE DETAILS.

SEE SHEET 8 FOR REINFORCING DETAILS.

NORTH ABUTMENT TO BE SUPPORTED ON PILING STEEL 12-INCH X 53 LB WITH A REQUIRED DRIVING RESISTANCE OF 220 TONS PER PILE. ESTIMATED 65 FEET LONG EACH.

LEGEND

- ● ½" FILLER. EXTEND FROM ABUT. SEAT TO TOP OF PARAPET. 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 ON SHEET 5.
- ○ 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"x½" PREFORMED JOINT FILLER, LENGTH OF ABUTMENT.
- ◐ ¾" CORK FILLER ON VERTICAL BEAM SEAT FACES THAT RUN PARALLEL WITH GIRDERS.
- ▲ VERTICAL CONSTRUCTION JOINT KEYWAY FORMED BY BEVELED 2"x8". PROVIDE ¾" V-GROOVE AT F.F. RUN BAR STEEL THRU JOINT. SEAL JOINT WITH 18" RUBBERIZED MEMBRANE WATERPROOFING (B.F.). SEE ABUTMENT DETAILS SHEET FOR ALTERNATE CONSTRUCTION JOINT DETAIL.
- ◪ PRE-BORE PILES 4., 5., 9., 10. FROM BOTTOM OF ABUTMENT ELEVATION TO TOP OF EXISTING FOOTING AT APPROXIMATE EL. 718.53. CONTACT ENGINEER IF 9'-0" SPACING CANNOT BE MET.
- ✳ ✳ DIMENSION MEASURED TO BEAM SEAT ELEVATION AT C/L BRG.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-44-332

DRAWN BY ZHC | PLANS CK'D KRB

NORTH ABUTMENT

SHEET 7
245

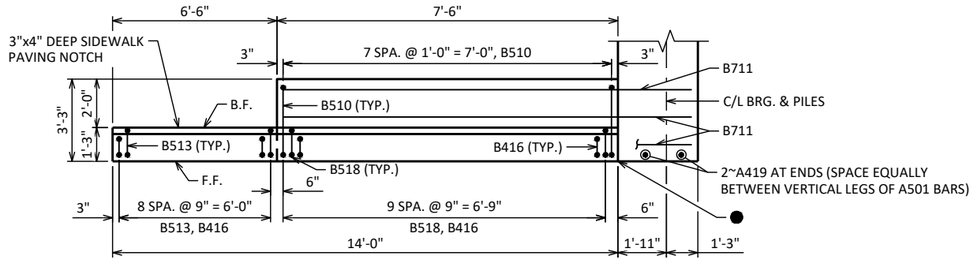
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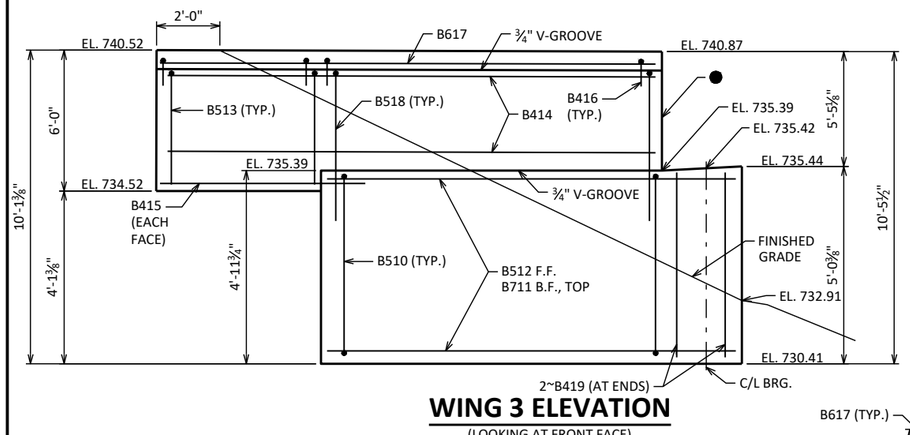
STATE PROJECT NUMBER

1130-66-82



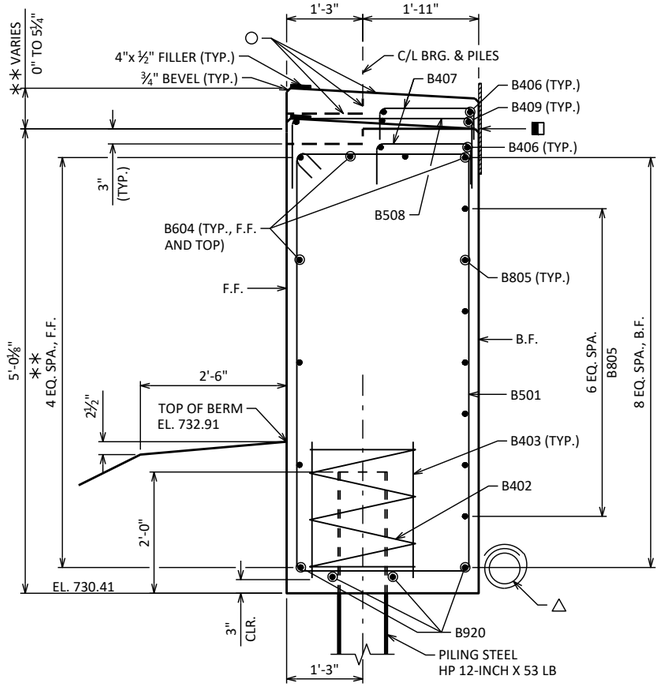
WING 3 PLAN

(WING 4 SIMILAR)

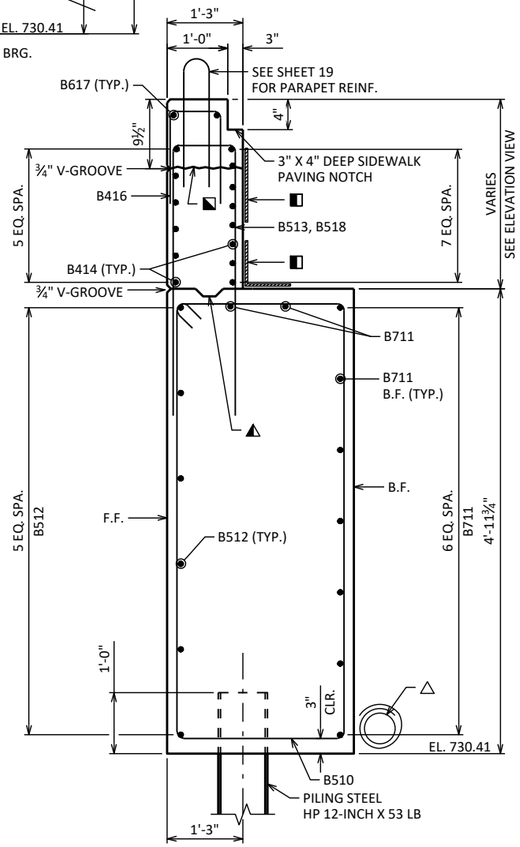


WING 3 ELEVATION

(LOOKING AT FRONT FACE)
(WING 4 SIMILAR)



BODY SECTION



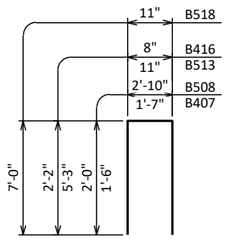
WING 3 SECTION

(WING 4 SIMILAR)

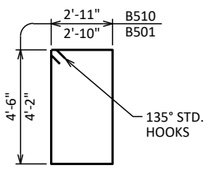
NORTH ABUTMENT BILL OF BARS

UNCOATED: 3,840 LBS.
COATED: 1,760 LBS.

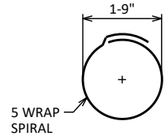
BAR MARK	NO. REQ'D	LENGTH	BENT	COAT	LOCATION
B501	67	14'-8"	X		LOWER BODY - VERT. STIRRUPS
B402	11	28'-0"	X		LOWER BODY - PILES - SPIRAL
B403	22	2'-3"			LOWER BODY - PILES - VERT.
B604	7	53'-8"			BODY - F.F., TOP - HORIZ.
B805	7	55'-9"	X		BODY - B.F. - HORIZ.
B406	8	10'-0"			BODY - TOP - HORIZ.
B407	24	4'-5"	X		BODY - TOP - VERT
B508	12	6'-7"	X		BODY - TOP - VERT
B409	3	11'-0"			BODY - TOP - HORIZ.
B510	16	15'-6"	X	X	WINGS - LOWER STIRRUPS
B711	18	10'-4"		X	WINGS - LOWER - B.F. - HORIZ
B512	12	10'-4"		X	WINGS - LOWER - F.F. - HORIZ.
B513	18	11'-2"	X	X	WINGS - UPPER - VERT.
B414	28	13'-7"		X	WINGS - UPPER - F.F., B.F. - HORIZ
B415	4	7'-9"		X	WINGS - UPPER - F.F., B.F. - HORIZ
B416	38	4'-10"	X	X	WINGS - UPPER - SIDEWALK NOTCH - VERT
B617	4	13'-7"		X	WINGS - UPPER - SIDEWALK NOTCH - HORIZ.
B518	20	14'-8"	X	X	WINGS - UPPER - VERT.
B419	4	4'-7"			BODY - ENDS - VERT.
B920	4	53'-8"			BODY - BOT. - HORIZ.



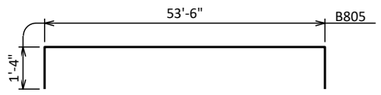
B407, B508, B513, B416, B518



B501, B510



B402



B805

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 5.
- ◭ 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".
- ● ½" FILLER, INCLUDED IN WING LENGTH.
- ◪ CONSTRUCTION JOINT. LEAVE ROUGH. POUR CONCRETE ABOVE THE JOINT AFTER SUPERSTRUCTURE IS IN PLACE.
- ✳✳ DIMENSION MEASURED TO BEAM SEAT ELEVATION AT C/L BRG.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-44-332

DRAWN BY ZHC | PLANS CK'D KRB

NORTH ABUTMENT DETAILS

SHEET 8
246

SCALE =

8

8

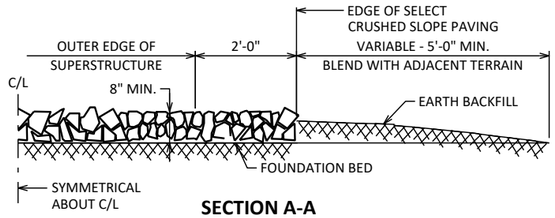
STATE PROJECT NUMBER

1130-66-82

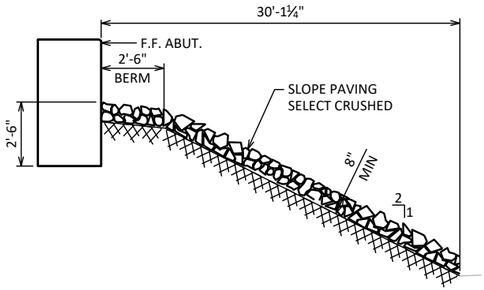
SLOPE PAVING NOTES

BID ITEM SHALL BE "SLOPE PAVING SELECT CRUSHED".

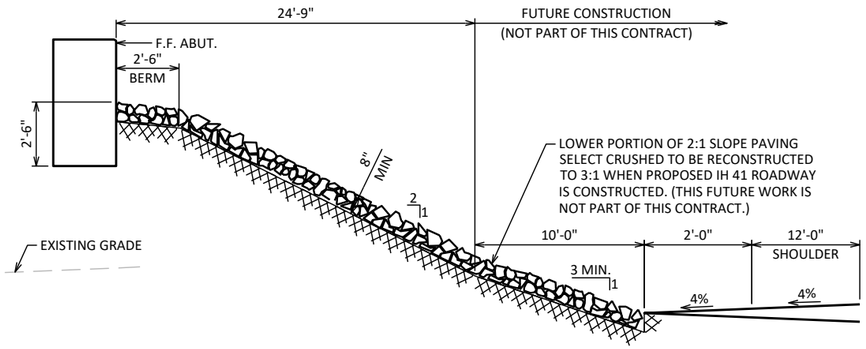
WOOD FORMS MAY BE LEFT IN PLACE WHEN OF A QUALITY ACCEPTABLE TO THE ENGINEER.



SECTION A-A

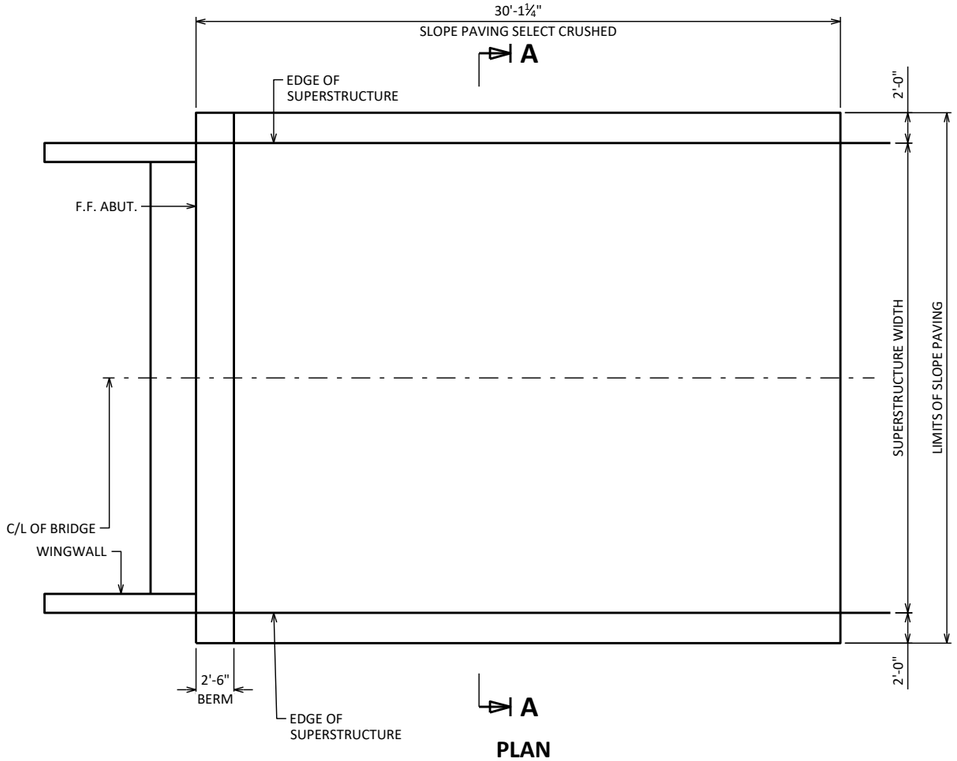


TYPICAL SECTION - INTERIM CONDITION

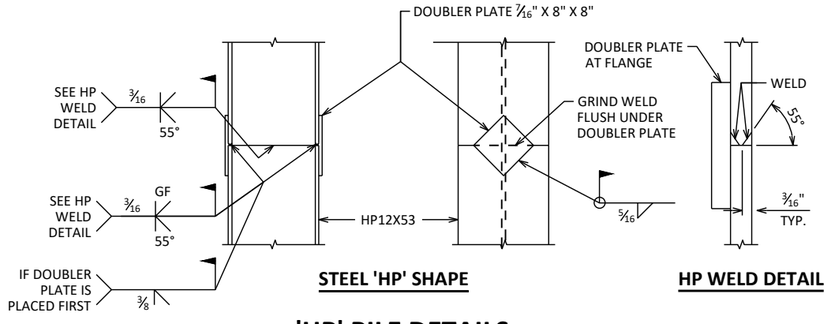


TYPICAL SECTION - ULTIMATE CONDITION

SLOPE PAVING

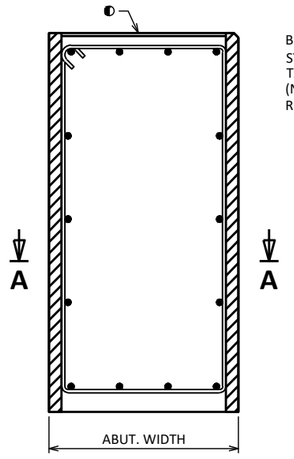


PLAN

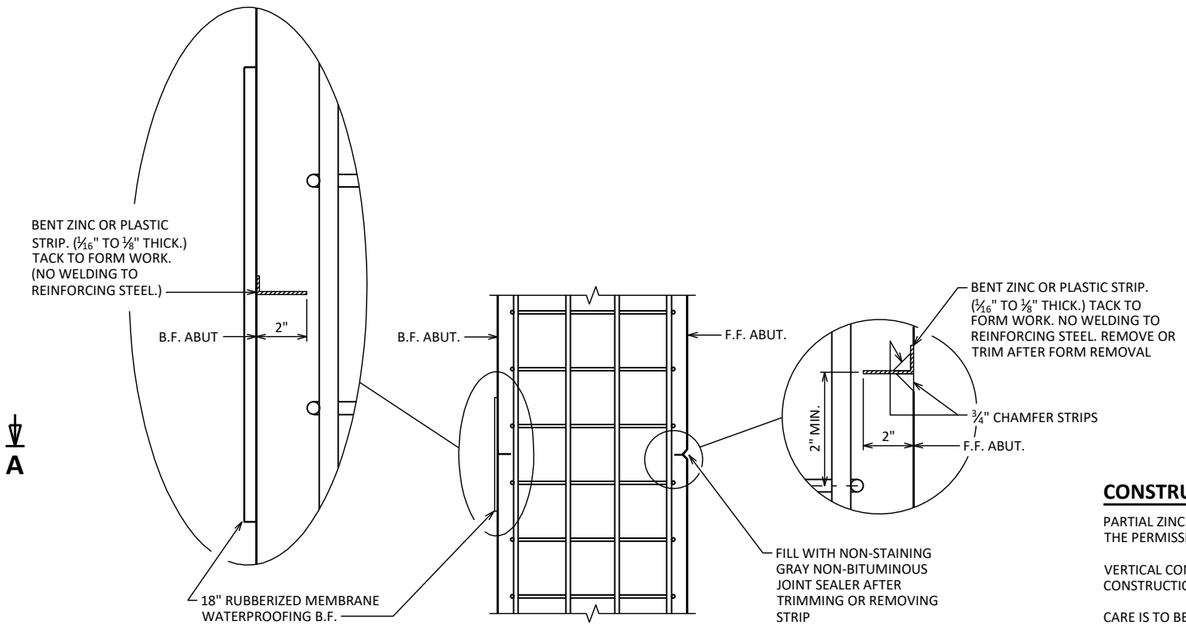


STEEL 'HP' SHAPE **HP WELD DETAIL**

'HP' PILE DETAILS



SECTION THRU ABUTMENT BODY



SECTION A-A

ALTERNATE CONSTRUCTION JOINT AT ABUTMENT

CONSTRUCTION JOINT NOTES

PARTIAL ZINC OR PLASTIC BULKHEAD MAY BE USED AS ALTERNATE CONSTRUCTION JOINT, WITH THE PERMISSION OF THE ENGINEER, AT THE CONTRACTOR'S EXPENSE.

VERTICAL CONSTRUCTION JOINT KEYWAY IS NOT REQUIRED WHEN USING ALTERNATE CONSTRUCTION JOINT.

CARE IS TO BE USED IN CASTING CONCRETE AROUND BULKHEAD TO PREVENT DISLOCATION OR MISALIGNMENT OF THE BULKHEAD.

SAW CUTTING JOINT IS NOT ALLOWED.

◐ USE A JOINT TOOL TO CONSTRUCT A CONTRACTION JOINT APPROXIMATELY ½" DEEP.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-44-332

DRAWN BY ZHC | PLANS CK'D KRB

ABUTMENT DETAILS

SHEET 9
247

SCALE =

8

8

STATE PROJECT NUMBER

1130-66-82

NOTES

PIER TO BE SUPPORTED ON HP 12-INCH X 53 LB. STEEL PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 220 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED PILE LENGTH 45 FT EACH.

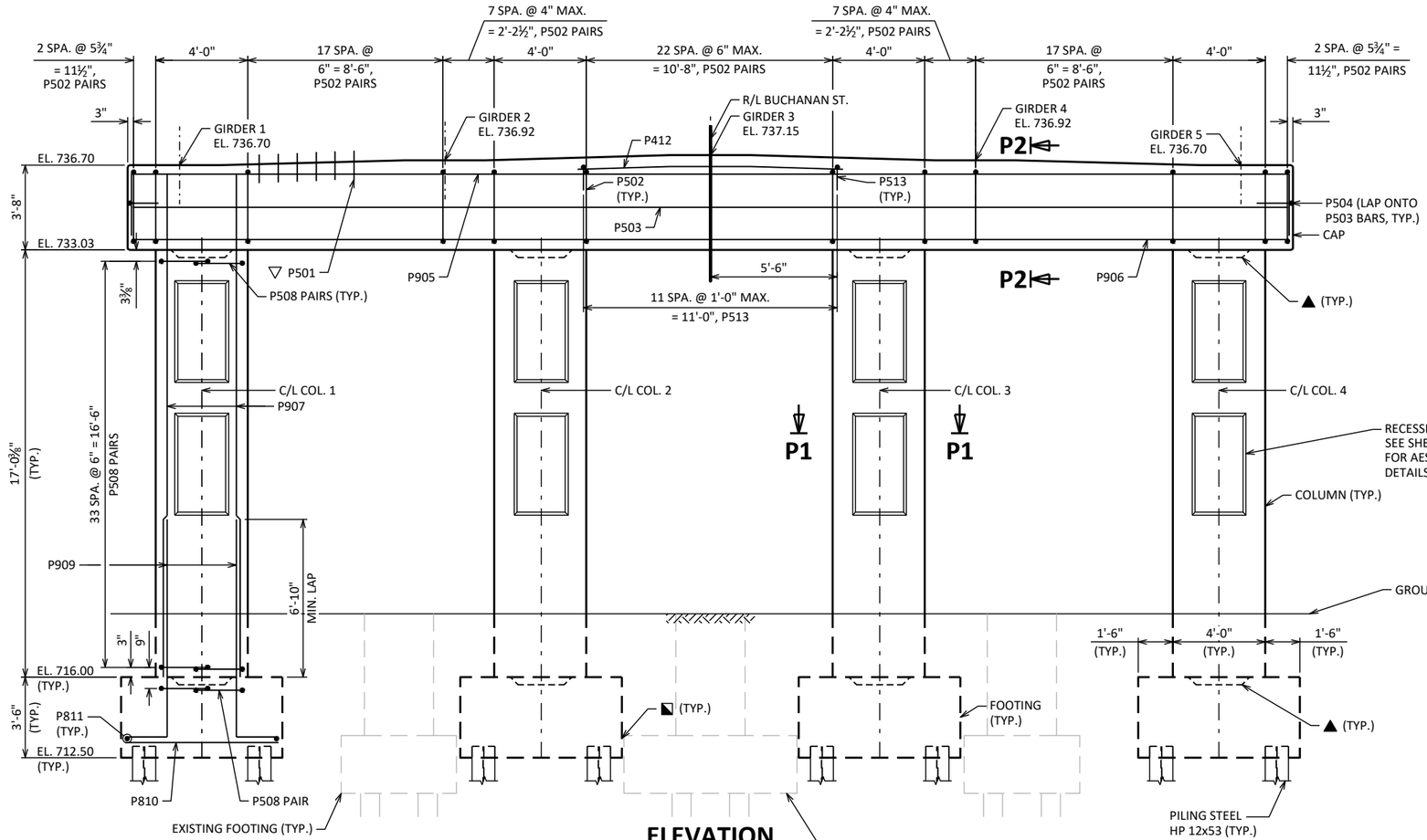
SEE SHEET 9 FOR PILE SPLICE DETAILS.

SEE SHEET 11 FOR PIER DETAILS.

SEE SHEET 23 FOR AESTHETIC DETAILS.

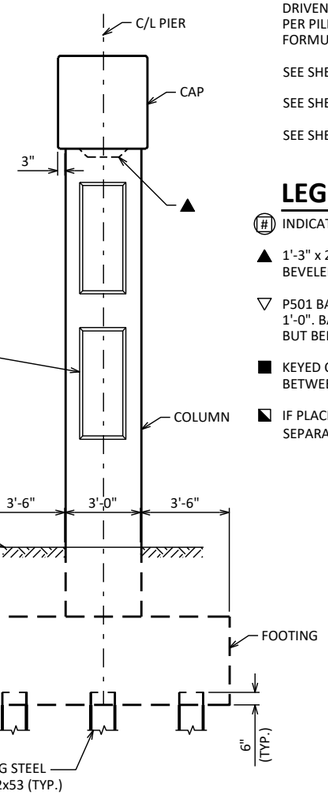
LEGEND

- (#) INDICATES GIRDER NUMBER.
- ▲ 1'-3" x 2'-0" x 4" DEEP CONSTRUCTION JOINT FORMED BY BEVELED KEYWAY. (TYP.)
- ▽ P501 BARS @ 1'-0" MAX. BETWEEN BEAM SEATS, EMBED 1'-0". BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE.
- ■ KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2" x 6" BETWEEN BEAM SEATS. (TYP.)
- ◪ IF PLACING NEW CONCRETE ADJACENT TO EXISTING, SEPARATE WITH ½" PREFORMED JOINT FILLER.

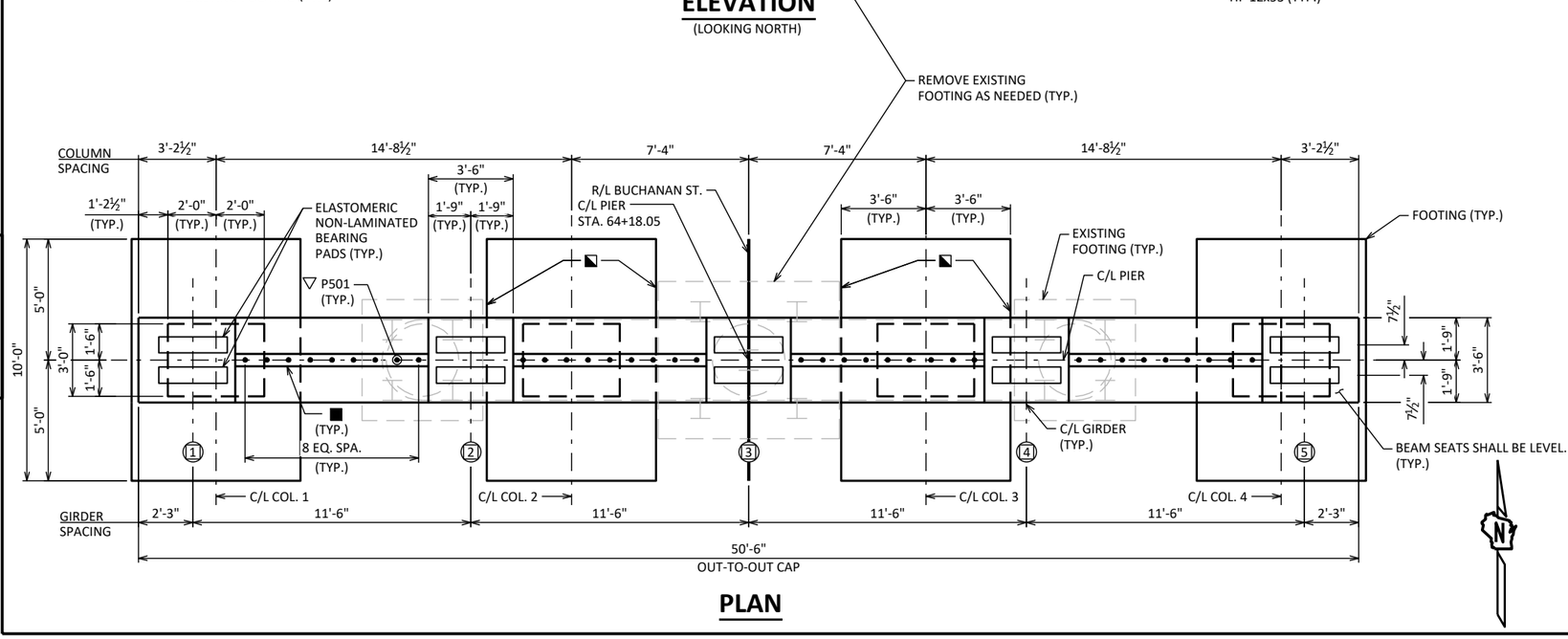


ELEVATION

(LOOKING NORTH)



END VIEW



PLAN

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-44-332

DRAWN BY	ZHC	PLANS CK'D	KRB

PIER

SHEET 10
248

SCALE =

8

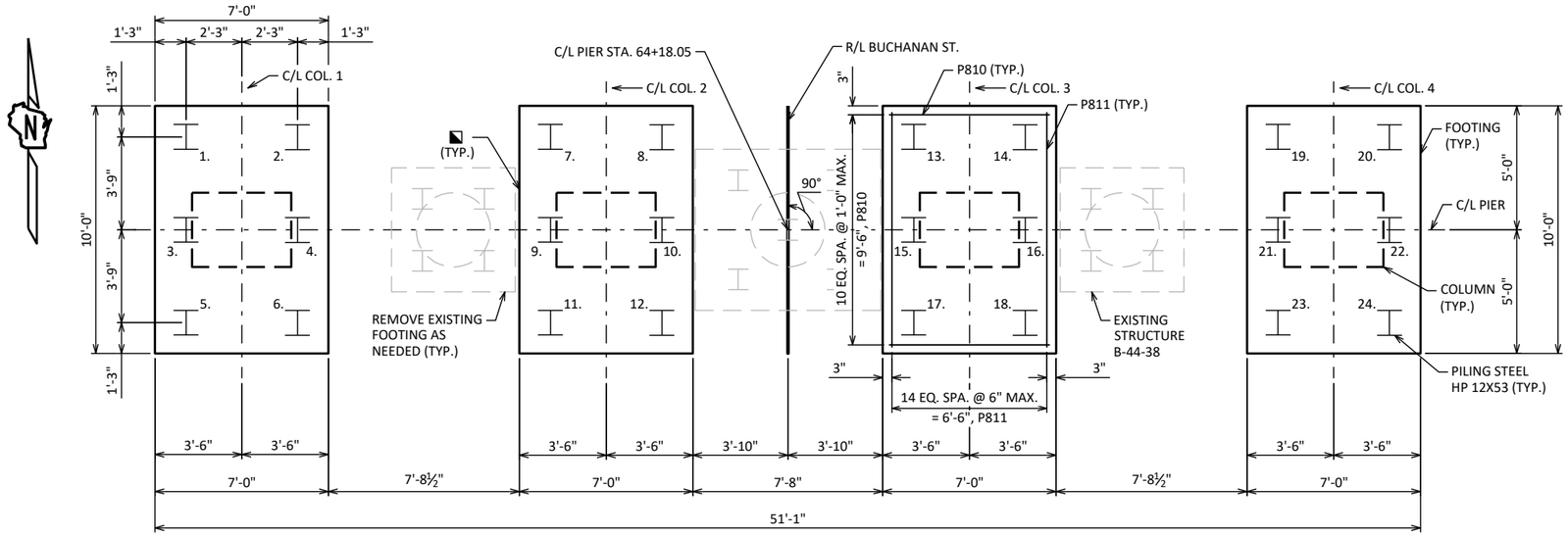
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STATE PROJECT NUMBER
1130-66-82

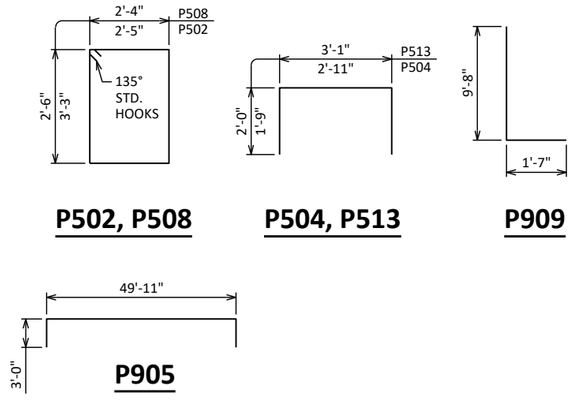
PIER BILL OF BARS

UNCOATED: 2,330 LBS
COATED: 16,160 LBS

BAR MARK	NO. REQ'D	LENGTH	BENT	COAT	LOCATION
P501	36	2'-0"		X	CAP - DOWEL - VERT.
P502	158	12'-0"	X	X	CAP - STIRRUPS - VERT.
P503	8	50'-0"		X	CAP - SIDES - HORIZ.
P504	8	6'-2"	X	X	CAP - ENDS - HORIZ.
P905	8	55'-5"	X	X	CAP - TOP - HORIZ.
P906	8	50'-0"		X	CAP - BOT. - HORIZ.
P907	72	20'-3"		X	COLUMN - VERT.
P508	280	10'-4"	X	X	COLUMN - STIRRUPS
P909	72	11'-0"	X	X	FOOTING/COLUMN - VERT.
P810	44	6'-8"			FOOTING - HORIZ.
P811	60	9'-8"			FOOTING - HORIZ.
P412	3	11'-0"		X	CAP - TOP - HORIZ.
P513	12	6'-10"	X	X	CAP - STIRRUPS - VERT.

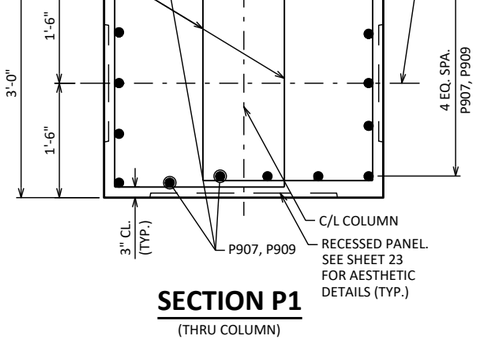


FOUNDATION PLAN

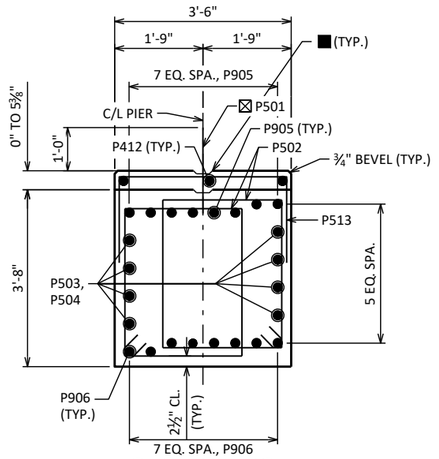


P502, P508 **P504, P513** **P909**

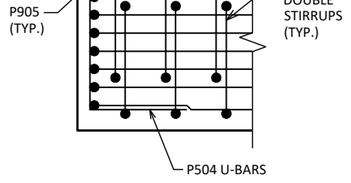
P905



SECTION P1
(THRU COLUMN)



SECTION P2
(THRU CAP)



PLAN VIEW SHOWING END OF CAP REINF.

LEGEND

- ☒ P501 BARS @ 1'-0" MAX. BETWEEN BEAM SEATS, EMBED 1'-0". BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE.
- ■ KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2" X 6" BETWEEN BEAM SEATS (TYP.)
- ◪ IF PLACING NEW CONCRETE ADJACENT TO EXISTING SEPARATE WITH ½" PREFORMED JOINT FILLER

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DEPARTMENT OF TRANSPORTATION

STRUCTURE B-44-332

DRAWN BY ZHC | PLANS CK'D KRB

PIER DETAILS

SHEET 11
249

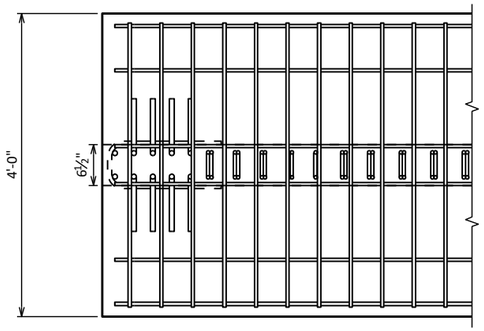
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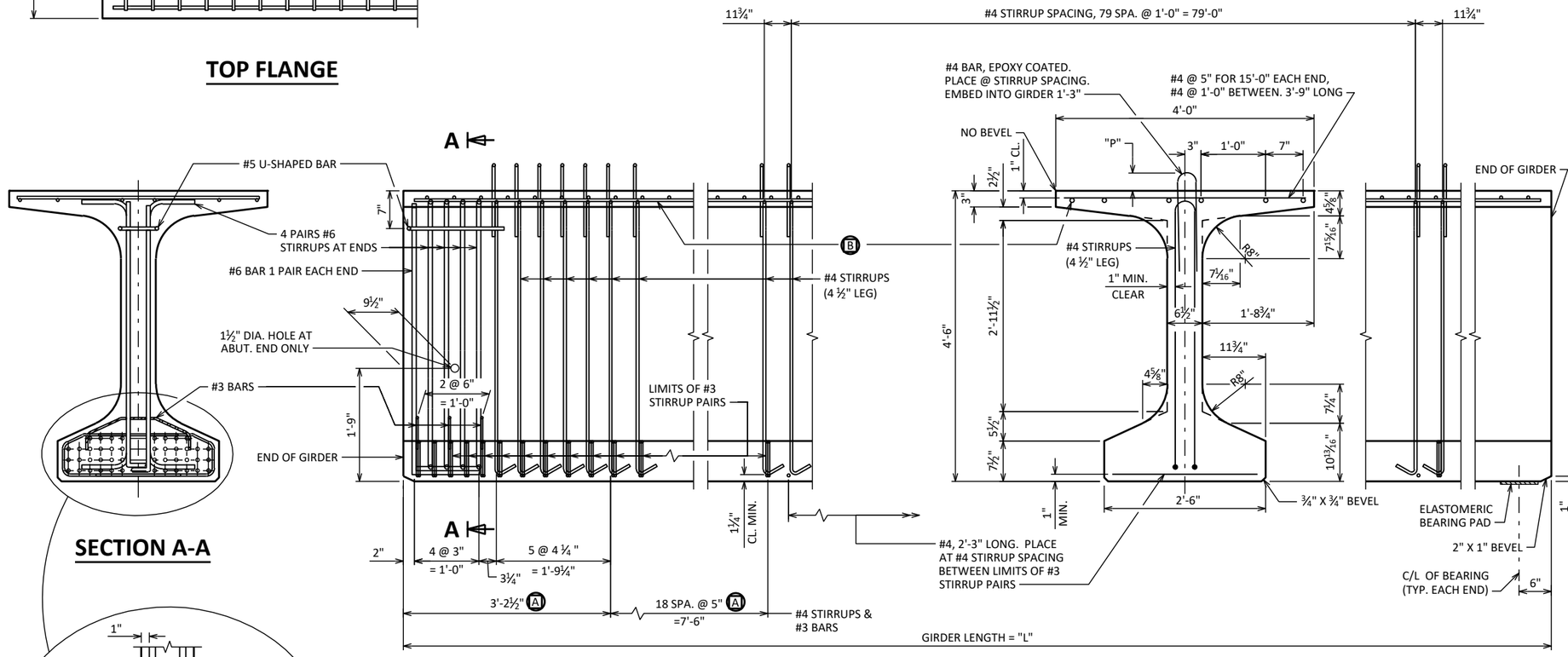
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TOP FLANGE

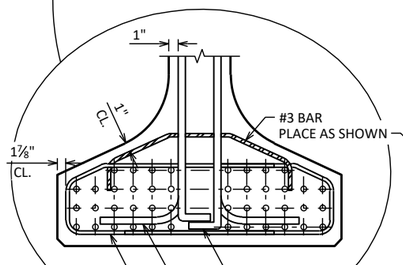


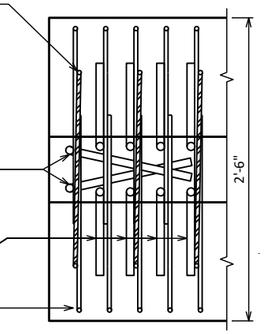
SECTION A-A

SIDE VIEW & TYP. SECTION IN SPAN

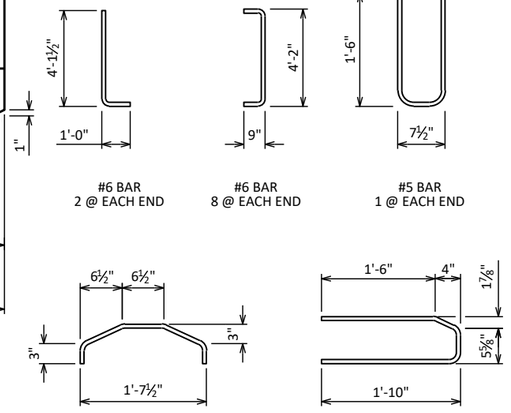
A DETAIL TYP. AT EACH END

B 6 - #5 BARS, FULL LENGTH, MIN. LAP = 2'-5"





BOTTOM FLANGE



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

GIRDER DATA

SPAN	GIRDER	GIRDER LENGTH "L" (FEET)	DEAD LOAD DEFL. (IN.)									CONC. STRGTH. f'c (P.S.I.)	"P" (IN.)			DIA. OF STRAND (IN.)	DRAPED PATTERN					
			1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10		1ST 1/3 OF GIRDER	MID 1/3 OF GIRDER	END 1/3 OF GIRDER		TOTAL NO. OF STRANDS	f'ci (P.S.I.) ⚹	(IN.) "A"	"B" MIN.	"B" MAX.	"C"
1	1,5	102'-4 1/2"	0.53	1.03	1.41	1.66	1.74	1.65	1.39	1.00	0.51	8,000	8.25	8.25	8.25	0.60	36	6800	48.0	15.75	18.75	5.0
1	2-4	102'-4 1/2"	0.58	1.13	1.56	1.83	1.91	1.81	1.53	1.10	0.56	8,000	8.25	8.25	8.25	0.60	36	6800	48.0	15.75	18.75	5.0
2	1,5	102'-4 1/2"	0.51	1.00	1.39	1.65	1.74	1.66	1.41	1.03	0.53	8,000	8.25	8.25	8.25	0.60	36	6800	48.0	15.75	18.75	5.0
2	2-4	102'-4 1/2"	0.56	1.10	1.53	1.81	1.91	1.83	1.56	1.13	0.58	8,000	8.25	8.25	8.25	0.60	36	6800	48.0	15.75	18.75	5.0

NOTES

TOP OF GIRDER TO BE ROUGH FLOATED AND BROOMED TRANSVERSELY, EXCEPT THE OUTSIDE 15" OF GIRDER, WHICH SHALL RECEIVE A SMOOTH FINISH. AN APPROVED CONCRETE SEALER SHALL BE APPLIED TO ALL SMOOTH SURFACES INCLUDING THE OUTSIDE 15" OF THE TOP FLANGE.

THE GIRDERS SHALL BE PROVIDED WITH A SUITABLE LIFTING DEVICE FOR HANDLING AND ERECTING THE GIRDERS. SEE SECT. 503.3.4 OF 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 EQUIVALENT OF WELDED WIRE FABRIC (WWF) ASTM A1064 MAY BE SUBSTITUTED FOR THE STIRRUP REINFORCEMENT SHOWN, UPON APPROVAL OF THE STRUCTURES DESIGN 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.

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

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-44-332

DRAWN BY ZHC | PLANS CK'D KRB

54W" PRESTRESSED GIRDER DETAILS - 1

SHEET 12
250

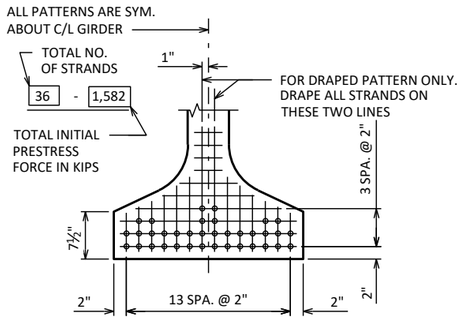
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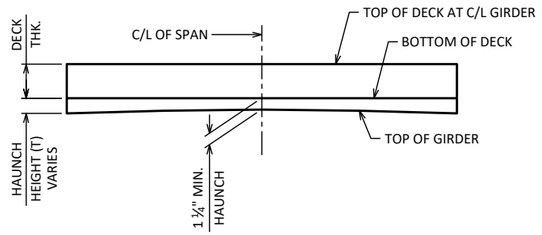
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STATE PROJECT NUMBER

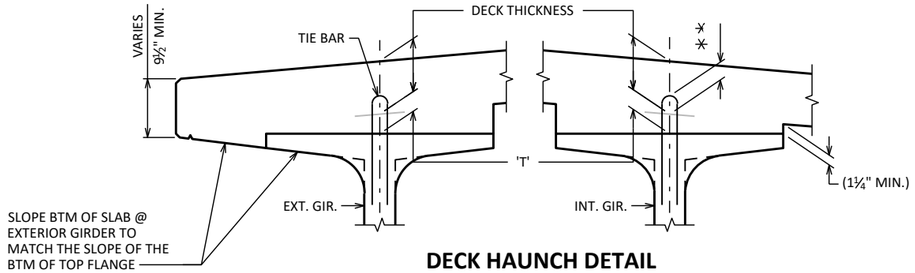
1130-66-82



TYP. STRAND PATTERN



ELEVATION



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 STRUCTURES SECTION IF THE

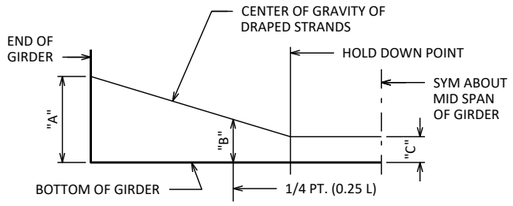
⁑ GRADE LINE IS RAISED FROM THE PLAN PROFILE BY MORE THAN ½" OR,

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

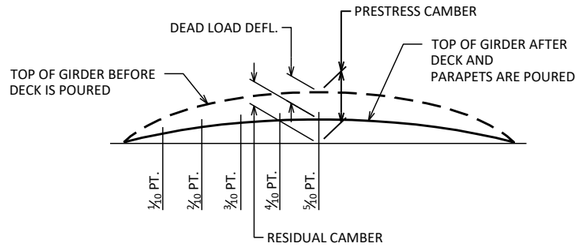
TO DETERMINE 'T', ELEV. OF TOP OF GIR'S. AT C/L OF SUBSTRUCTURE UNITS & AT $\frac{1}{10}$ POINTS OF EACH SPAN SHALL BE TAKEN. THEN FOLLOW THIS PROCESS:

	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 3⅜" WAS USED IN THE QUANTITY "HIGH PERFORMANCE CONCRETE (HPC) MASONRY STRUCTURES".



DRAPED STRAND PROFILE



DEAD LOAD 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	3.15
2	3.15

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

THESE VALUES ARE FOR INFORMATIONAL PURPOSES ONLY.

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-44-332

DRAWN BY ZHC | PLANS CK'D KRB

54W" PRESTRESSED GIRDER DETAILS - 2

SHEET 13
251

SCALE = 2.00

STATE PROJECT NUMBER

1130-66-82

NOTES

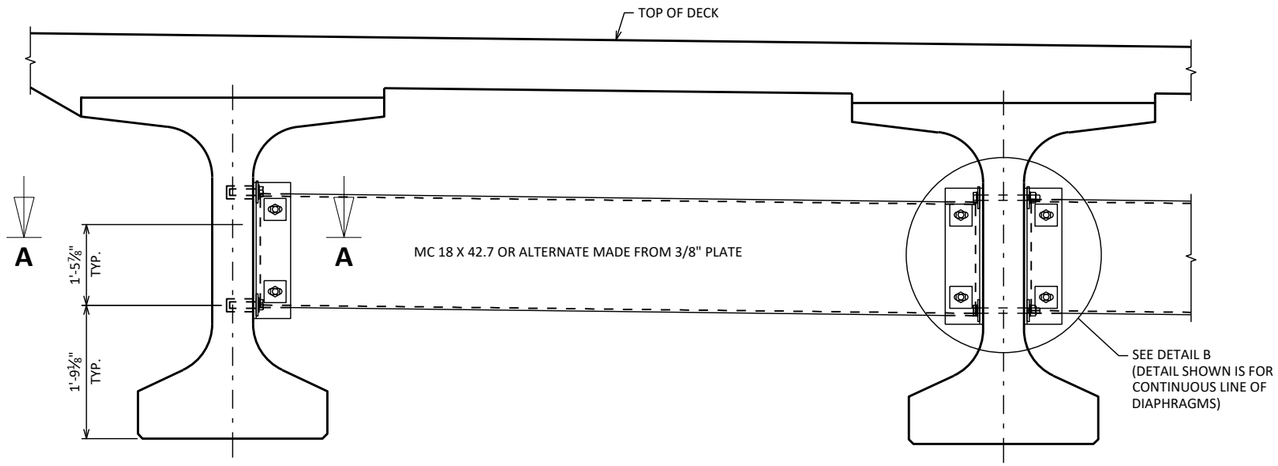
ALL DIAPHRAGM MATERIAL NOT EMBEDDED IN THE CONCRETE GIRDER SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "STEEL DIAPHRAGMS B-44-332", EACH.

EACH DIAPHRAGM BETWEEN GIRDERS SHALL CONSTITUTE ONE UNIT.

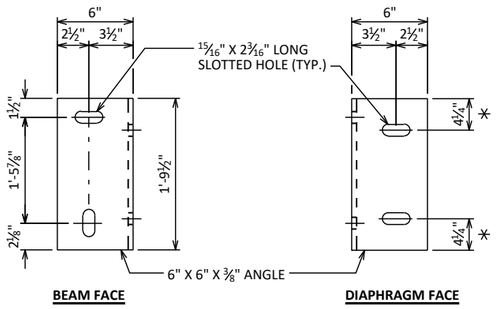
ALL DIAPHRAGM STRUCTURAL STEEL SHALL BE ASTM A709 GRADE 36.

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

STEEL DIAPHRAGM TO CONCRETE WEB CONNECTION SHALL BE SNUG-TIGHT PLUS 1/4 TURN, UNLESS NOTED OTHERWISE. HIGH STRENGTH BOLTS FOR WEB CONNECTION SHALL MEET THE REQUIREMENTS FOR ASTM A325 OR ASTM A449.

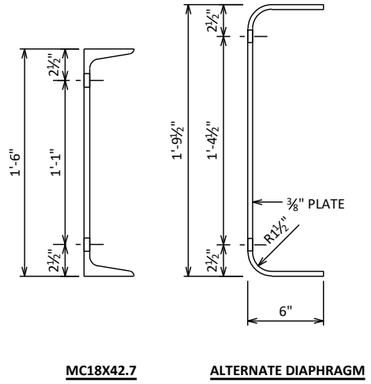


PART TRANSVERSE SECTION AT DIAPHRAGM

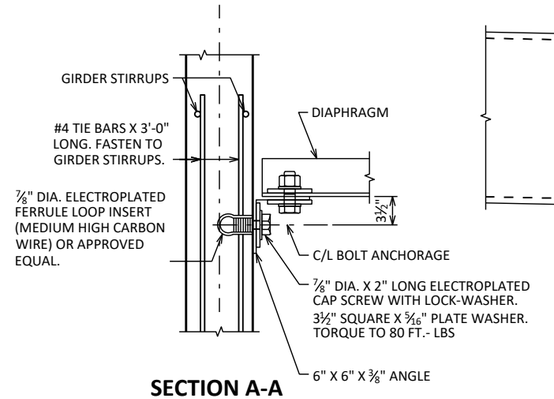


DIAPHRAGM SUPPORT

* 2½" FOR ALTERNATE PLATE DIAPHRAGM

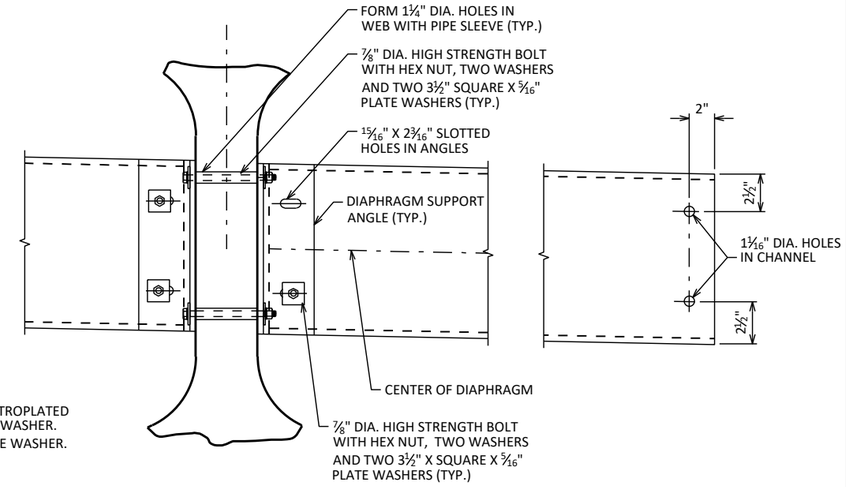


SECTION THRU DIAPHRAGM

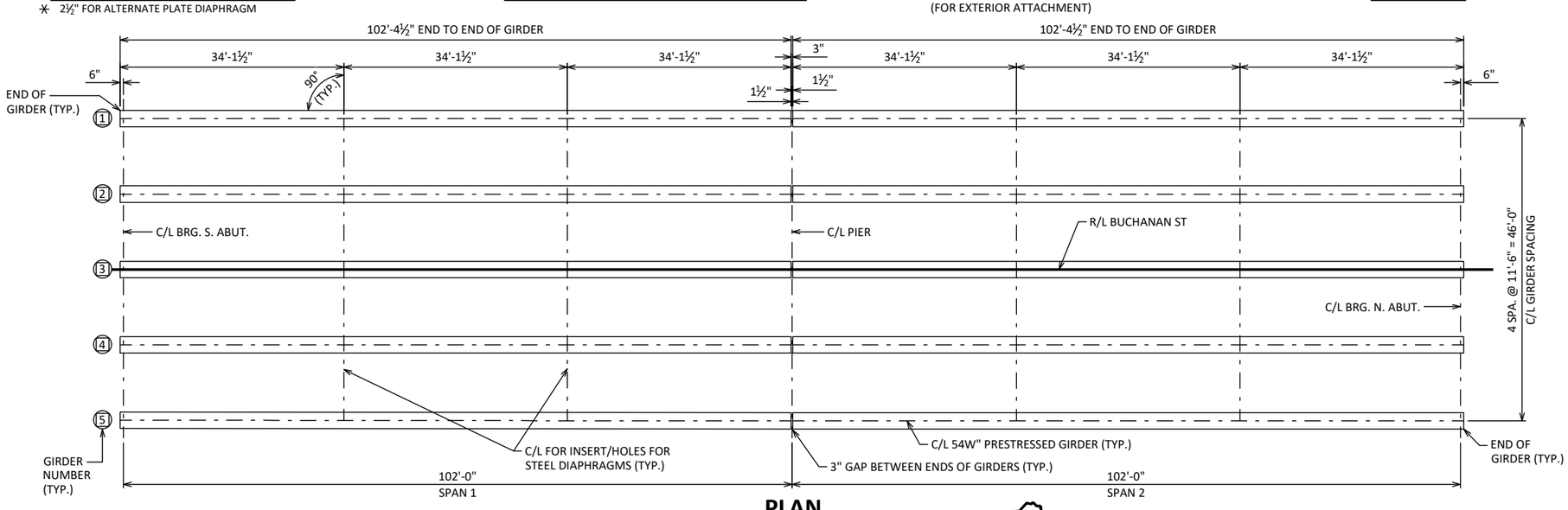


SECTION A-A

(FOR EXTERIOR ATTACHMENT)



DETAIL B



PLAN

(SHOWING STEEL DIAPHRAGM LAYOUT)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-44-332

DRAWN BY ZHC | PLANS CK'D KRB

STEEL DIAPHRAGMS

SHEET 14
252

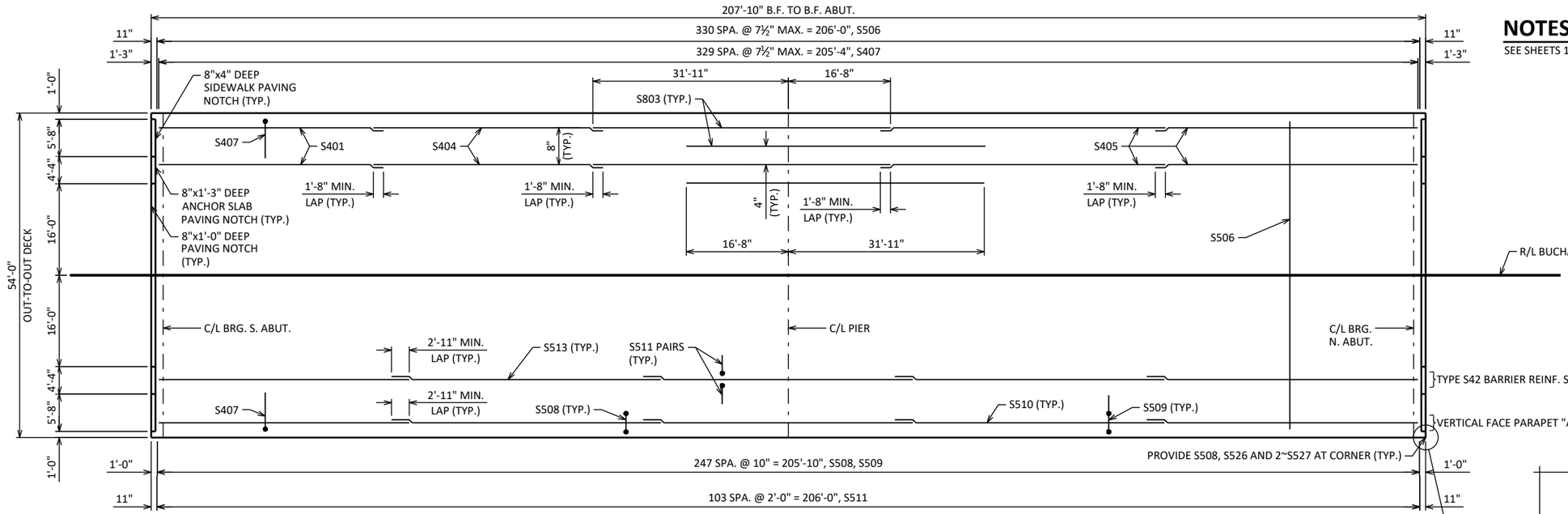
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8

STATE PROJECT NUMBER

1130-66-82

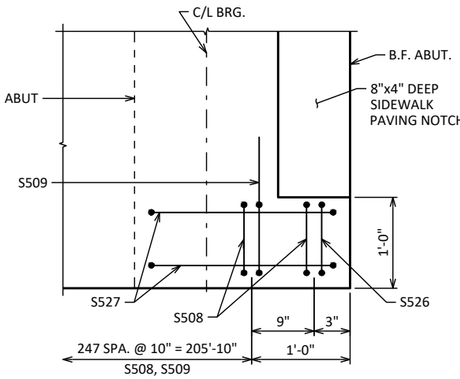


PLAN

(SHOWING TOP MAT SLAB REINFORCING)

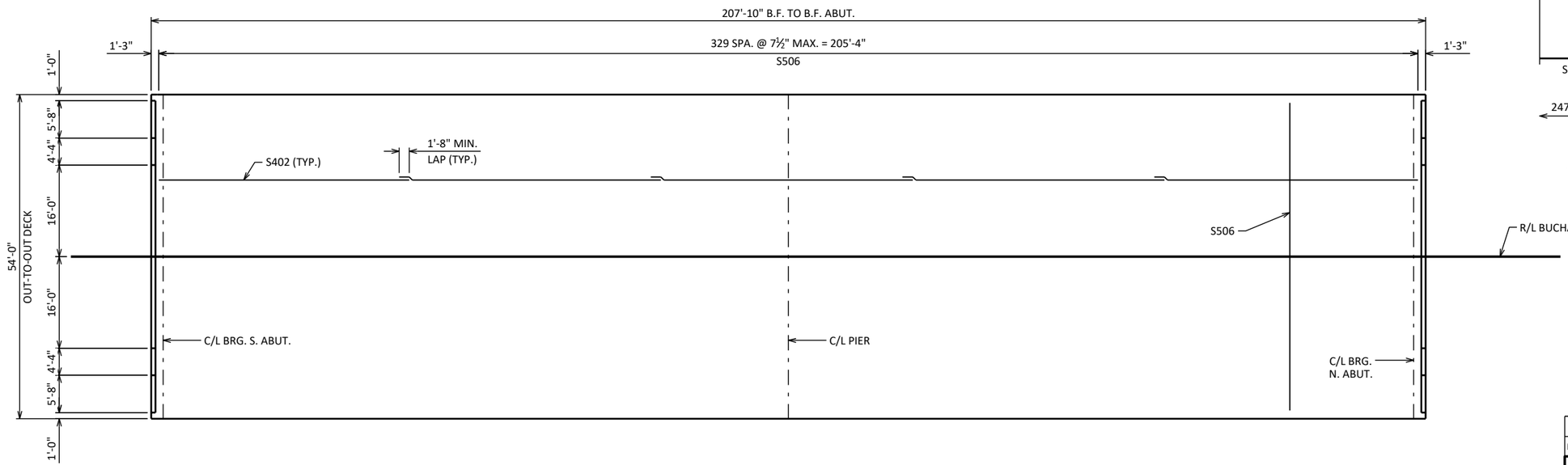
NOTES

SEE SHEETS 16-18 FOR REINFORCING DETAILS.



ENLARGED VIEW AT NE CORNER

(OTHER CORNERS SIMLAR)



PLAN

(SHOWING BOTTOM MAT SLAB REINFORCING)

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-44-332

DRAWN BY ZHC | PLANS CK'D KRB

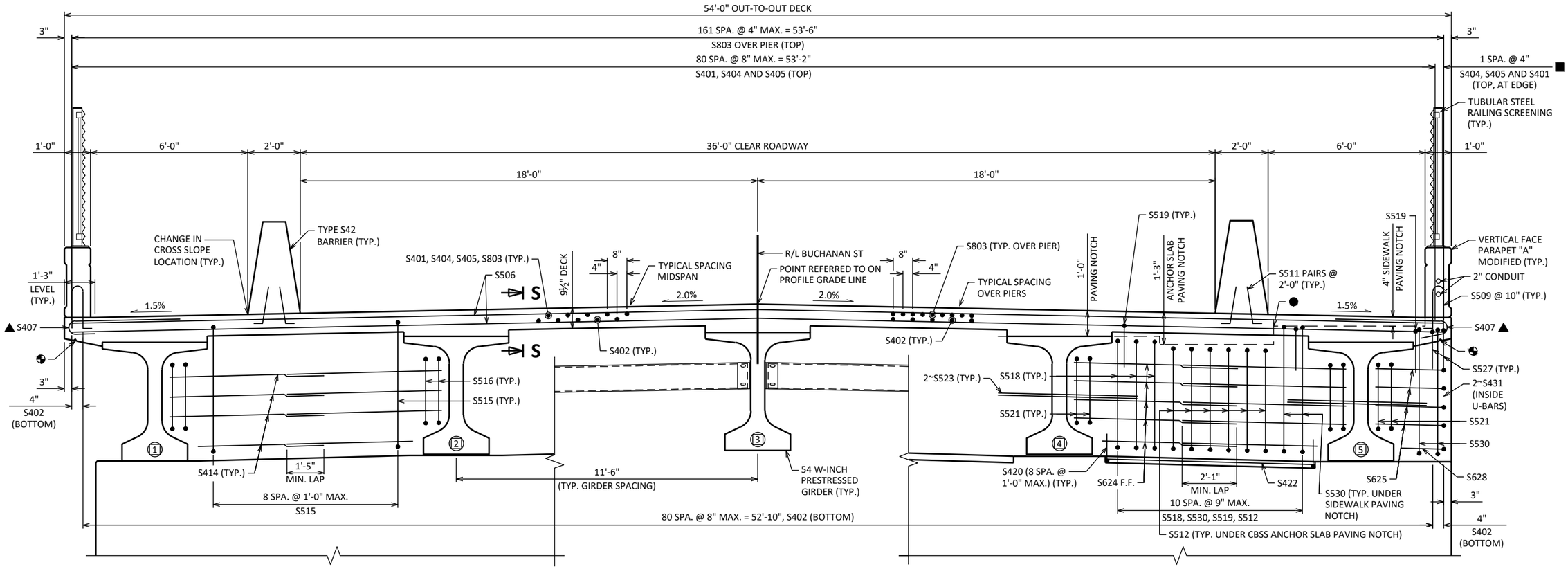
SUPERSTRUCTURE PLAN

SHEET 15
253

SCALE =

STATE PROJECT NUMBER

1130-66-82



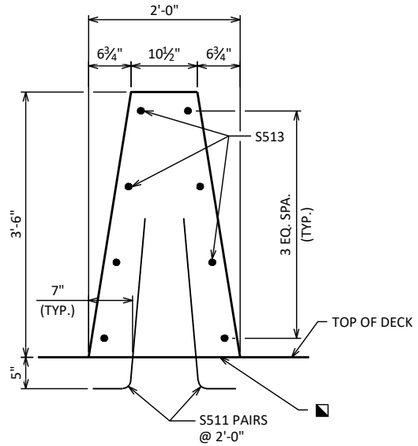
IN-SPAN DIAPHRAGM

CONCRETE DIAPHRAGM AT PIER

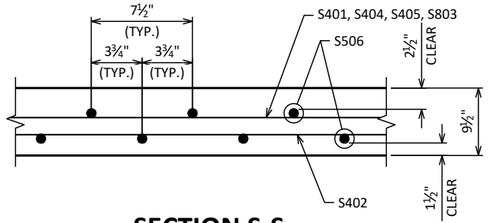
CONCRETE DIAPHRAGM AT ABUTMENTS

CROSS SECTION THROUGH DECK

(LOOKING NORTH)



TYPE S42 BARRIER REINFORCING



SECTION S-S

LEGEND

- (#) INDICATES GIRDER NUMBER.
- ¾" V-GROOVE REQ'D. EXTEND TO 6" FROM F.F. OF ABUTMENT DIAPHRAGMS. LOCATE 5" FROM EDGE OF DECK.
- ▲ LOCATE S407 MIDWAY BETWEEN S506.
- ● ½" FILLER BETWEEN SIDEWALK PAVING NOTCH AND PARAPET FOOTING
- ■ LOCATE S401 AND S404 AT EDGE OF DECK THIS SIDE IN SPAN 2. LOCATE S405 AT EDGE OF DECK THIS SIDE IN SPAN 1.
- ◹ CONST. JOINT. STRIKE OFF AS SHOWN AND LEAVE ROUGH.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-44-332

DRAWN BY	ZHC	PLANS CK'D	KRB

SUPERSTRUCTURE SECTION

SHEET 16
254

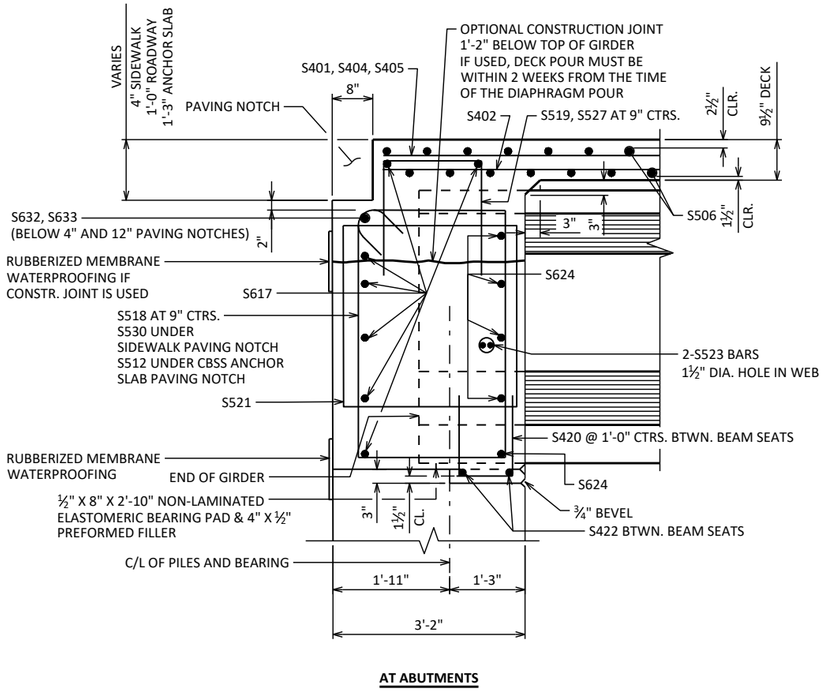
SCALE =

8

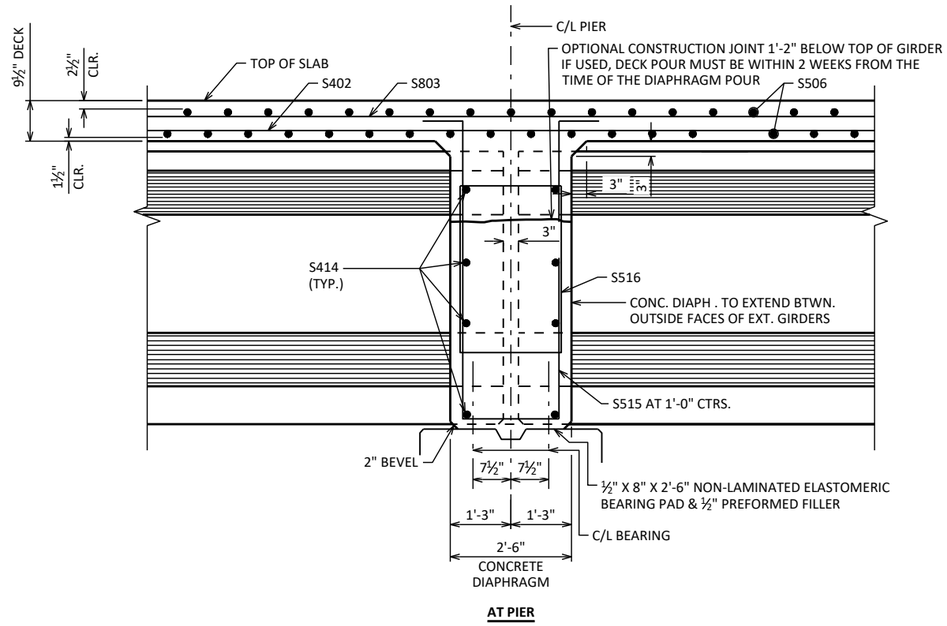
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STATE PROJECT NUMBER

1130-66-82

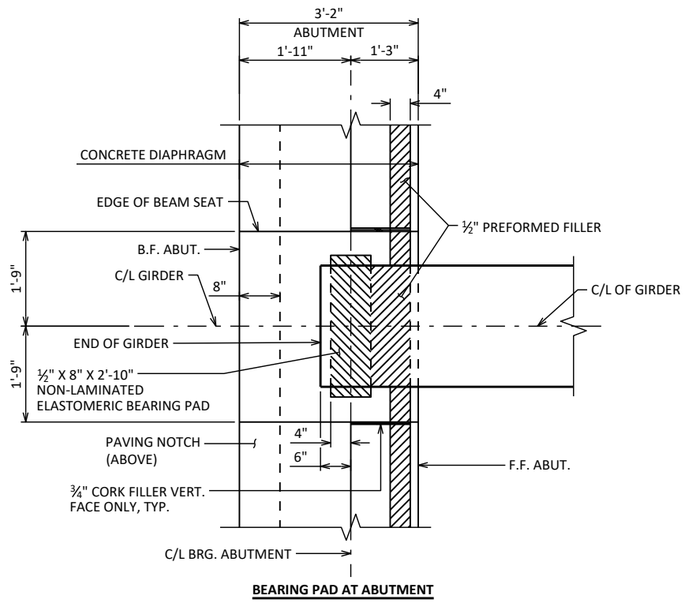


AT ABUTMENTS

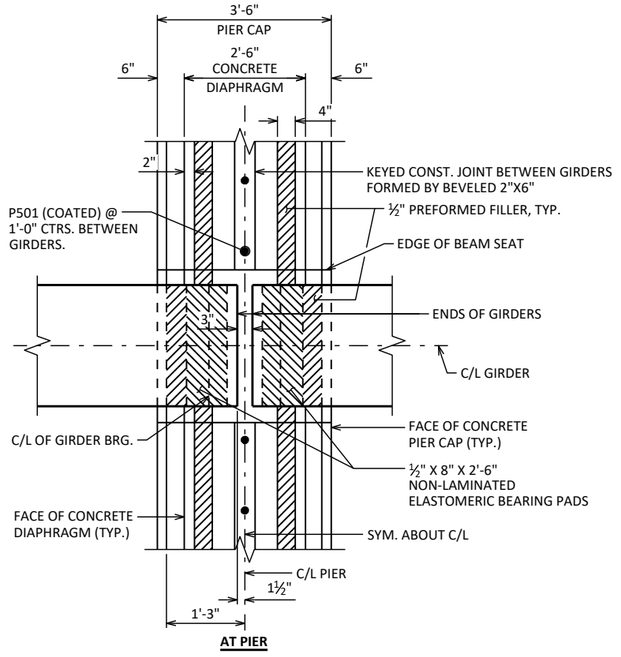


AT PIER

PARTIAL LONGIT. SECTION



BEARING PAD AT ABUTMENT



AT PIER

PARTIAL PLAN

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-44-332

DRAWN BY ZHC | PLANS CK'D KRB

SUPERSTRUCTURE DETAILS - 1

SHEET 17
255

SCALE = 1:30

8

8

TOP OF DECK ELEVATIONS

LOCATION	STATION	LOCATION 'A'	LOCATION 'B'	LOCATION 'C'	LOCATION 'D'	LOCATION 'E'	LOCATION 'F'
		WEST EDGE OF DECK (OFFSET = 27.00' LT)	INSIDE FACE PARAPET 'A' (OFFSET = 25.75' LT)	C/L GIRDER 1 (OFFSET = 23.00' LT)	BACK FACE S42 BARRIER (OFFSET = 20.00' LT)	C/L GIRDER 2 (OFFSET = 11.50' LT)	C/L GIRDER 3 & R/L BUCHANAN ST
		EAST EDGE OF DECK (OFFSET = 27.00' RT)	INSIDE FACE PARAPET 'A' (OFFSET = 25.75' RT)	C/L GIRDER 5 (OFFSET = 23.00' RT)	BACK FACE S42 BARRIER (OFFSET = 20.00' RT)	C/L GIRDER 4 (OFFSET = 11.50' RT)	
C/L BRG. S. ABUT.	63+16.05	741.36	741.36	741.40	741.44	741.61	741.84
0.1 SPAN	63+26.25	741.54	741.54	741.58	741.62	741.79	742.02
0.2 SPAN	63+36.45	741.70	741.70	741.74	741.78	741.95	742.18
0.3 SPAN	63+46.65	741.83	741.83	741.87	741.92	742.09	742.32
0.4 SPAN	63+56.85	741.95	741.95	741.99	742.04	742.21	742.44
0.5 SPAN	63+67.05	742.05	742.05	742.09	742.13	742.30	742.53
0.6 SPAN	63+77.25	742.12	742.12	742.16	742.21	742.38	742.61
0.7 SPAN	63+87.45	742.17	742.17	742.21	742.26	742.43	742.66
0.8 SPAN	63+97.65	742.20	742.20	742.24	742.29	742.46	742.69
0.9 SPAN	64+07.85	742.21	742.21	742.25	742.30	742.47	742.70
C/L PIER	64+18.05	742.20	742.20	742.24	742.29	742.46	742.69
0.1 SPAN	64+28.25	742.17	742.17	742.21	742.26	742.43	742.66
0.2 SPAN	64+38.45	742.12	742.12	742.16	742.20	742.37	742.60
0.3 SPAN	64+48.65	742.04	742.04	742.08	742.13	742.30	742.53
0.4 SPAN	64+58.85	741.94	741.94	741.99	742.03	742.20	742.43
0.5 SPAN	64+69.05	741.83	741.83	741.87	741.91	742.08	742.31
0.6 SPAN	64+79.25	741.69	741.69	741.73	741.77	741.94	742.17
0.7 SPAN	64+89.45	741.53	741.53	741.57	741.61	741.78	742.01
0.8 SPAN	64+99.65	741.34	741.34	741.39	741.43	741.60	741.83
0.9 SPAN	65+09.85	741.14	741.14	741.18	741.23	741.40	741.63
C/L BRG. N. ABUT.	65+20.05	740.92	740.92	740.96	741.00	741.17	741.40

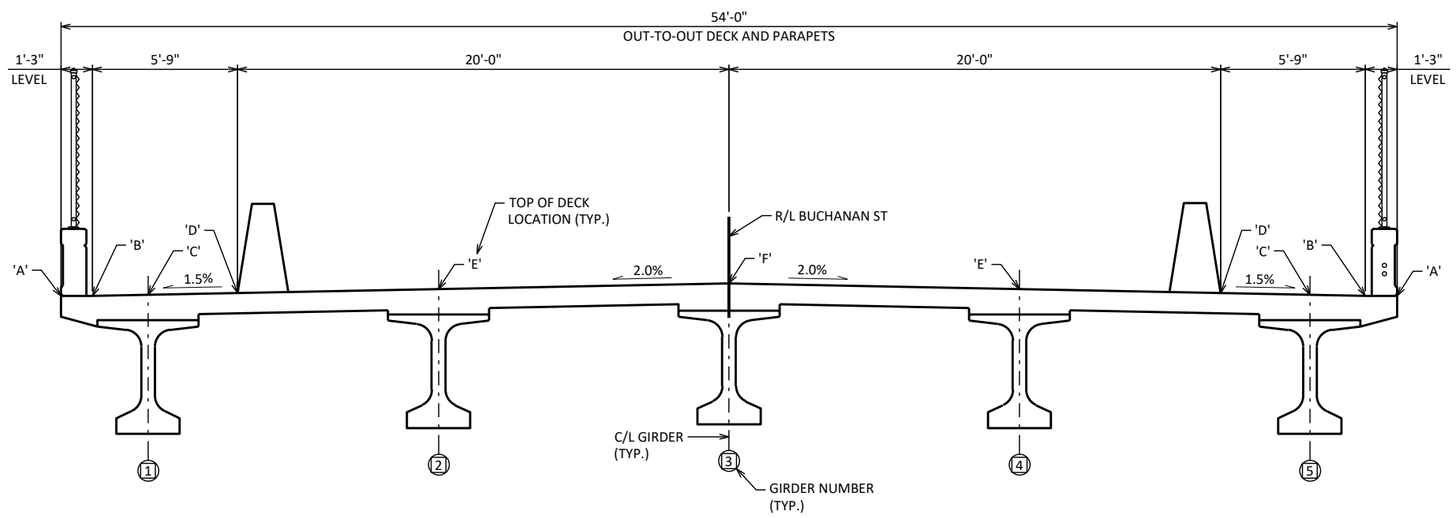
SUPERSTRUCTURE BILL OF BARS

COATED: 100,760 LBS

BAR MARK	NO. REQ'D	LENGTH	BENT	COAT	LOCATION
S401	82	37'-9"		X	SLAB - LONG. - TOP - SPAN 1
S402	415	42'-7"		X	SLAB - LONG. - BOTTOM - SPANS 1&2
S803	162	48'-7"		X	SLAB - LONG. - TOP AT PIER
S404	82	36'-9"		X	SLAB - LONG. - TOP - SPAN 1
S405	164	44'-11"		X	SLAB - LONG. - TOP - SPAN 2
S506	661	53'-8"		X	SLAB - TRANS. - TOP & BOTTOM - SPANS 1 & 2
S407	660	5'-4"	X	X	SLAB - TRANS. - TOP - OVERHANG
S508	500	4'-9"	X	X	PARAPET - VERT. - TYPE 'A'
S509	498	4'-4"	X	X	PARAPET - VERT. - TYPE 'A'
S510	80	43'-10"		X	PARAPET - LONG. - TYPE 'A'
S511	416	2'-9"	X	X	BARRIER VERT. - TYPE S42
S512	24	14'-0"	X	X	ABUT. DIAPHRAGM - VERT. - AT 15" PAVING NOTCHES
S513	80	43'-7"		X	BARRIER LONG. - TYPE S42
S414	64	6'-0"		X	PIER DIAPHRAGM - HORIZ.
S515	36	13'-2"	X	X	PIER DIAPHRAGM - VERT
S516	16	10'-8"	X	X	PIER DIAPHRAGM - VERT.
S617	14	53'-6"		X	ABUT. DIAPHRAGM - HORIZ. - B.F., TOP
S518	56	14'-6"	X	X	ABUT. DIAPHRAGM - VERT
S519	92	7'-5"	X	X	ABUT. DIAPHRAGM - VERT
S420	72	3'-7"	X	X	ABUT. DIAPHRAGM - VERT.
S521	40	12'-0"	X	X	ABUT. DIAPHRAGM - VERT.
S422	16	7'-8"		X	ABUT. DIAPHRAGM - HORIZ.
S523	20	6'-0"		X	ABUT. DIAPHRAGM. - GIRDER ENDS
S624	80	6'-4"		X	ABUT. DIAPHRAGM - HORIZ
S625	16	8'-6"	X	X	ABUT. DIAPHRAGM - HORIZ. - ENDS
S526	4	5'-9"	X	X	PARAPET - VERT. - TYPE 'A' - CORNERS
S527	8	8'-1"	X	X	ABUT. DIAPHRAGM - VERT. CORNERS
S628	4	7'-2"	X	X	ABUT. DIAPHRAGM - HORIZ. - ENDS
S529	2	2'-2"		X	PARAPET - VERT. - TYPE 'A' - JUNCTION BOX
S530	16	15'-6"	X	X	ABUT. DIAPHRAGM - VERT.
S431	8	5'-2"		X	ABUT. DIAPHRAGM - VERT. - ENDS
S632	2	31'-8"		X	ABUT. DIAPHRAGM - HORIZ. - 12" PAVING NOTCHES
S633	4	6'-4"		X	ABUT. DIAPHRAGM - HORIZ. - 4" PAVING NOTCHES

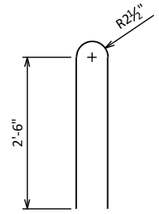
STATE PROJECT NUMBER

1130-66-82

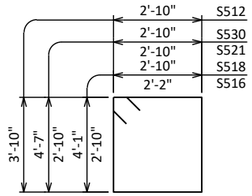


CROSS SECTION THRU DECK

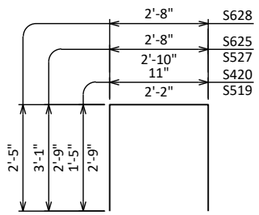
(LOOKING NORTH-SHOWING TOP OF DECK ELEVATION LOCATIONS)



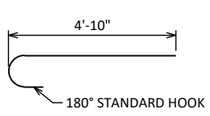
S526



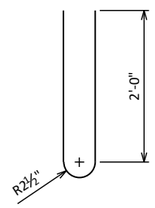
S516, S518, S521, S530, S512



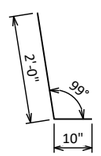
S519, S420, S625, S527, S628



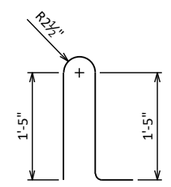
S407



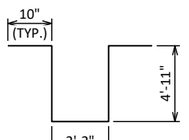
S508



S511



S509



S515

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-44-332

DRAWN BY ZHC | PLANS CK'D KRB

SUPERSTRUCTURE DETAILS - 2

SHEET 18
256

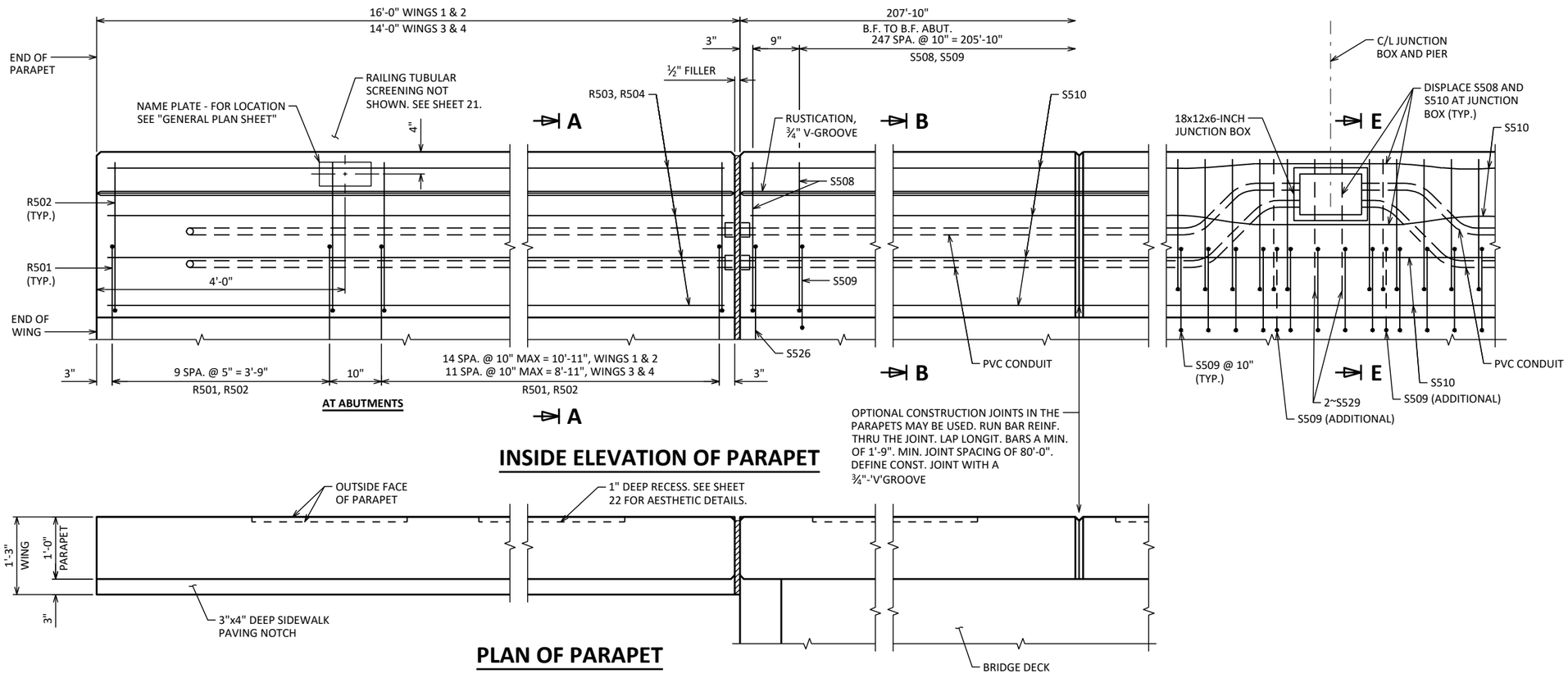
SCALE =

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8

STATE PROJECT NUMBER

1130-66-82

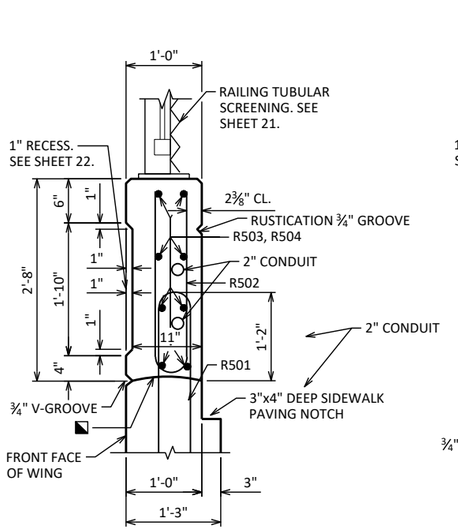


NOTES

SEE SHEET 22 FOR AESTHETIC REQUIREMENTS.

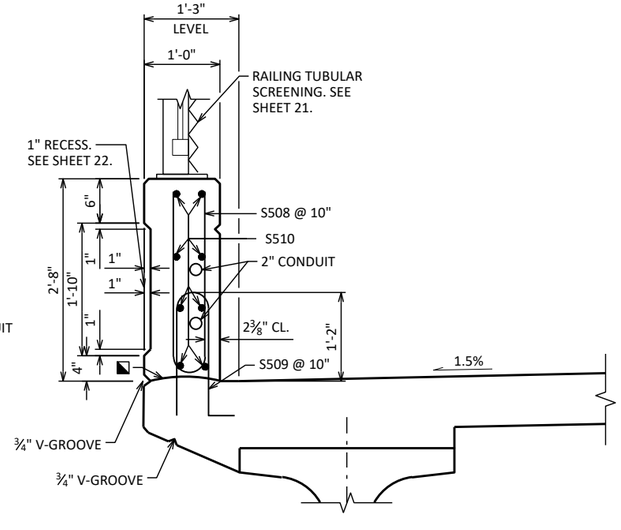
LEGEND

- CONST. JOINT. STRIKE OFF AS SHOWN AND LEAVE ROUGH.
- CUT OUT ± 1" GASKET AT BOTTOM OF JUNCTION BOX COVER TO ALLOW FOR DRAINAGE.
- LOCATION OF CONDUIT IS MEASURED FROM OUTSIDE EDGE OF JUNCTION BOX.



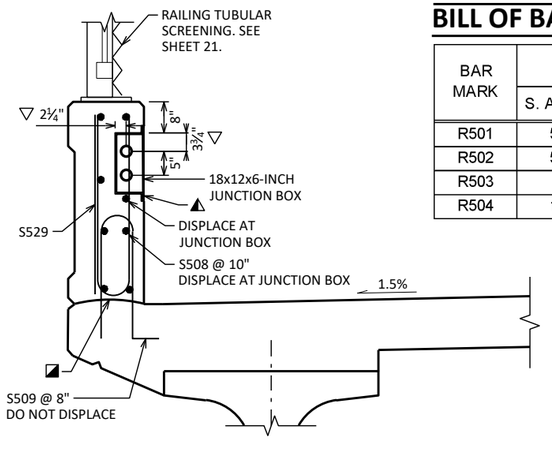
SECTION A-A

(THRU ABUT. WING)



SECTION B-B

(THRU DECK)

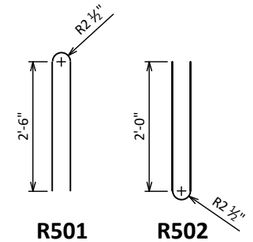


SECTION E-E

VERTICAL FACE PARAPET 'A'
BILL OF BARS

COATED: 1,520 LBS

BAR MARK	NO. REQ'D		LENGTH	BENT	COAT	LOCATION
	S. ABUT.	N. ABUT.				
R501	50	44	5'-9"	X	X	PARAPET - VERT.
R502	50	44	4'-9"	X	X	PARAPET - VERT.
R503	0	16	13'-7"		X	PARAPET - HORIZ. - WINGS 3 & 4
R504	16	0	15'-7"		X	PARAPET - HORIZ. - WINGS 1 & 2



R501 **R502**

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-44-332

DRAWN BY ZHC | PLANS CK'D KRB

VERTICAL FACE PARAPET 'A' MODIFIED

SHEET 19
257

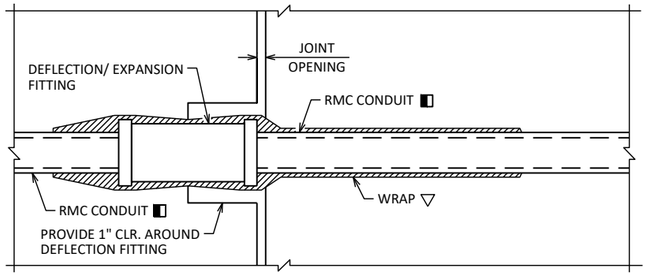
SCALE =

8

8

STATE PROJECT NUMBER

1130-66-82



DEFLECTION/EXPANSION FITTING

THIS DETAIL ACCOMMODATES A MAXIMUM OF ¾" TOTAL MOVEMENT AND UP TO 30 DEGREES OF ANGULAR MISALIGNMENT IN ANY DIRECTION. BOND JUMPER NOT SHOWN FOR CLARITY. (CONCRETE TO CONCRETE FITTING)

NOTES

CONDUIT SHALL BE EMBEDDED 2" CLEAR, MIN.

USE 2" DIA. RIGID NONMETALLIC CONDUIT (PVC) UNLESS NOTED OTHERWISE.

CONDUIT FITTINGS, CONDUIT BENDS, AND ADAPTER FITTINGS INCIDENTAL TO CONDUIT WORK.

CONDUIT BENDS SHALL CONFORM TO THE NATIONAL ELECTRIC CODE.

PROVIDE JUNCTION BOXES FROM THE APPROVED PRODUCTS LIST.

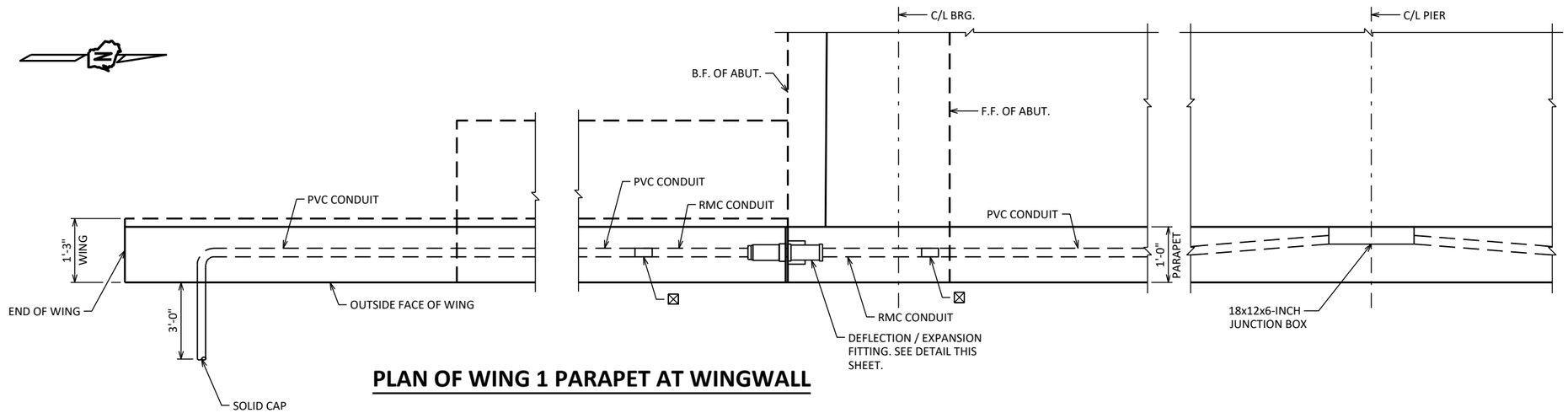
LEGEND

◧ USE 2" DIA. RIGID METALLIC CONDUIT (RMC) AT FITTINGS. PROVIDE RMC FOR 3'-0" MIN. ON EACH SIDE OF JOINT OPENINGS UNLESS NOTED OTHERWISE.

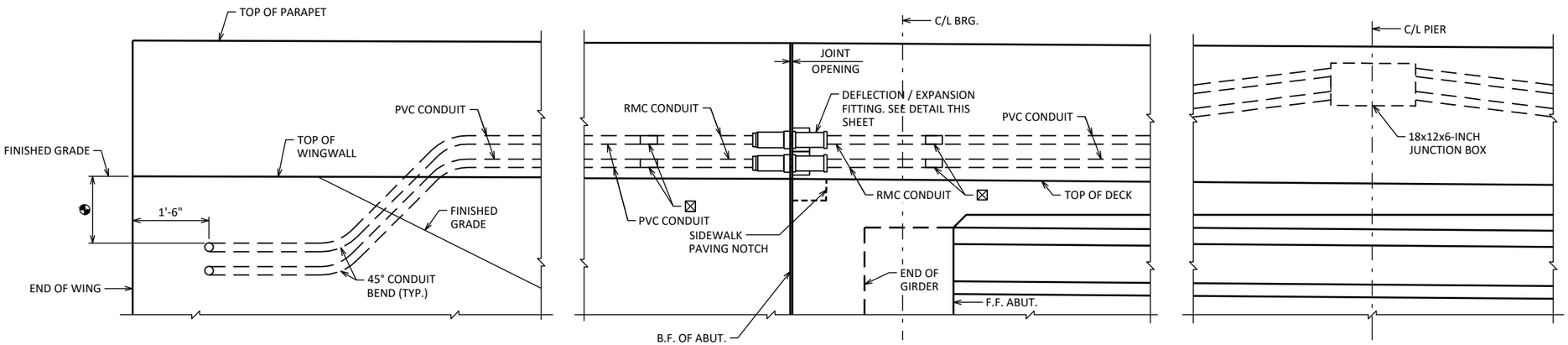
⊠ NONMETALLIC CONDUIT TO METALLIC CONDUIT ADAPTER FITTING (UL OR NRTL LISTED FOR ELECTRICAL USE SHALL BE USED).

▽ SPONGE RUBBER WRAP TO BE AASHTO M153, TYPE 1 OR EQUIVALENT - ¼" MINIMUM THICKNESS. PROVIDE WRAP FOR THE ENTIRE LENGTH OF THE FITTING OR AS SHOWN. SPONGE RUBBER WRAP INCIDENTAL TO "CONDUIT RIGID METALLIC 2-INCH".

◓ 1'-6" MIN. CONDUIT COVER. CONDUIT COVER SHOULD NOT EXCEED 3'-0".



PLAN OF WING 1 PARAPET AT WINGWALL



OUTSIDE ELEVATION OF WING 1 PARAPET AT WINGWALL

(AESTHETIC RECESSES NOT SHOWN)
(WING 4 SIMILAR)

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

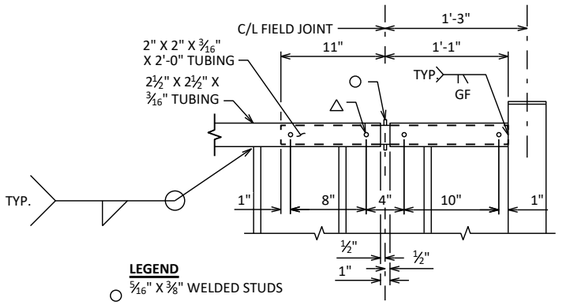
STRUCTURE B-44-332

DRAWN BY ZHC | PLANS CK'D KRB

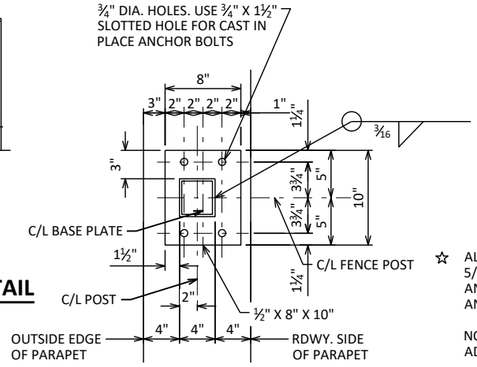
CONDUIT DETAILS AND NOTES

SHEET 20
258

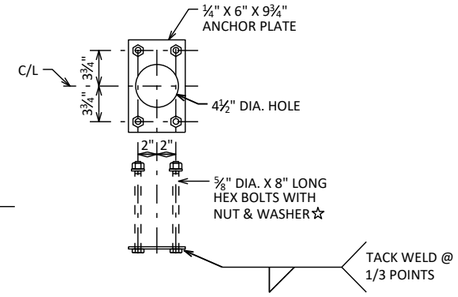
SCALE =



RAILING EXPANSION JOINT DETAIL



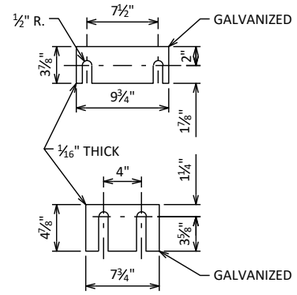
BASE PLATE



ANCHORAGE DETAIL

☆ ALTERNATIVE ANCHORAGE: ADHESIVE ANCHORS 5/8-INCH. EMBED 7" IN CONCRETE. ADHESIVE ANCHORS SHALL CONFORM TO SECTIONS 502.2.12 AND 502.3.14 OF THE STANDARD SPECIFICATIONS.

NOTE: ANCHOR PLATE NOT REQUIRED WHEN ADHESIVE ANCHORS ARE USED.



SHIM PLATE DETAILS

TWO SHIMS OF EACH SIZE REQUIRED PER POST

NOTES

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.

STRUCTURAL TUBING SHALL CONFORM TO ASTM A500, GRADE B. PLATES, ANGLES, BARS AND SHIMS SHALL CONFORM TO ASTM A709, GRADE 36. FENCE FABRIC SHALL CONFORM TO F668, CLASS 2B.

ANCHORAGES SHALL BE ACCURATELY PLACED TO PROVIDE CORRECT ALIGNMENT OF RAILING. SET POSTS NORMAL TO GRADE.

ALL POST SPACINGS ARE TAKEN HORIZONTAL ALONG CENTERLINE OF RAILING AT BASE OF POST.

STEEL SHIMS SHALL BE PROVIDED & USED UNDER BASE PLATES WHERE REQUIRED FOR ALIGNMENT, AND SHALL BE GALVANIZED.

CAULK AROUND PERIMETER OF BASE PLATES AND FILL PORTION OF SLOTTED HOLES AROUND ANCHOR BOLTS WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER.

CUT BOTTOM OF POST TO MAKE VERTICAL IN TRANSVERSE DIRECTION.

ANCHOR BOLTS, NUTS AND WASHERS SHALL BE EITHER STAINLESS STEEL OR ASTM 307. IF 307 IS USED, ANCHOR BOLTS, NUTS, AND WASHERS SHALL BE GALVANIZED. ☆

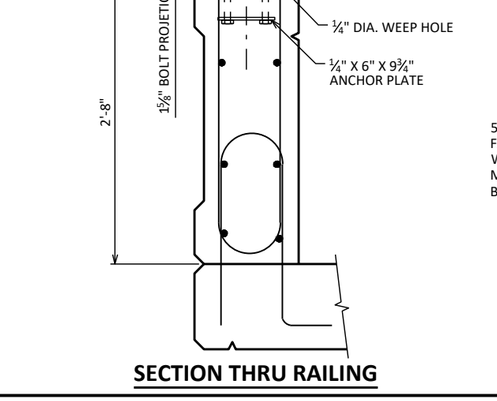
THE BID ITEM SHALL BE "RAILING TUBULAR SCREENING B-44-332" WHICH SHALL INCLUDE ALL ITEMS SHOWN.

RAILING SHALL BE FABRICATED IN LENGTHS THAT INCLUDE NOT MORE THAN 3 POSTS.

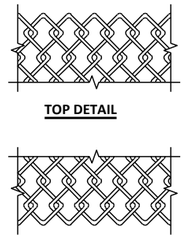
VENT HOLES SHALL BE DRILLED IN MEMBERS AS REQUIRED TO FACILITATE GALVANIZING AND DRAINAGE.

ALL RAILING MATERIAL SHALL BE GALVANIZED AFTER FABRICATION. PRIOR TO GALVANIZING THE STEEL RAILING SHALL BE GIVEN A NO. 6 BLAST CLEANING PER SSPC SPECIFICATIONS. PAINT OVER GALVANIZING WITH AN APPROVED TIE COAT AND TOP COAT AS SPECIFIED IN THE CONTRACT DOCUMENTS. THE RAILING SHALL BE PAINTED AMS STD. COLOR NO. 27038. FENCE FABRIC AND TIES TO BE VINYL-COATED. COLOR SHALL BE BLACK IN ACCORDANCE WITH ASTM F934.

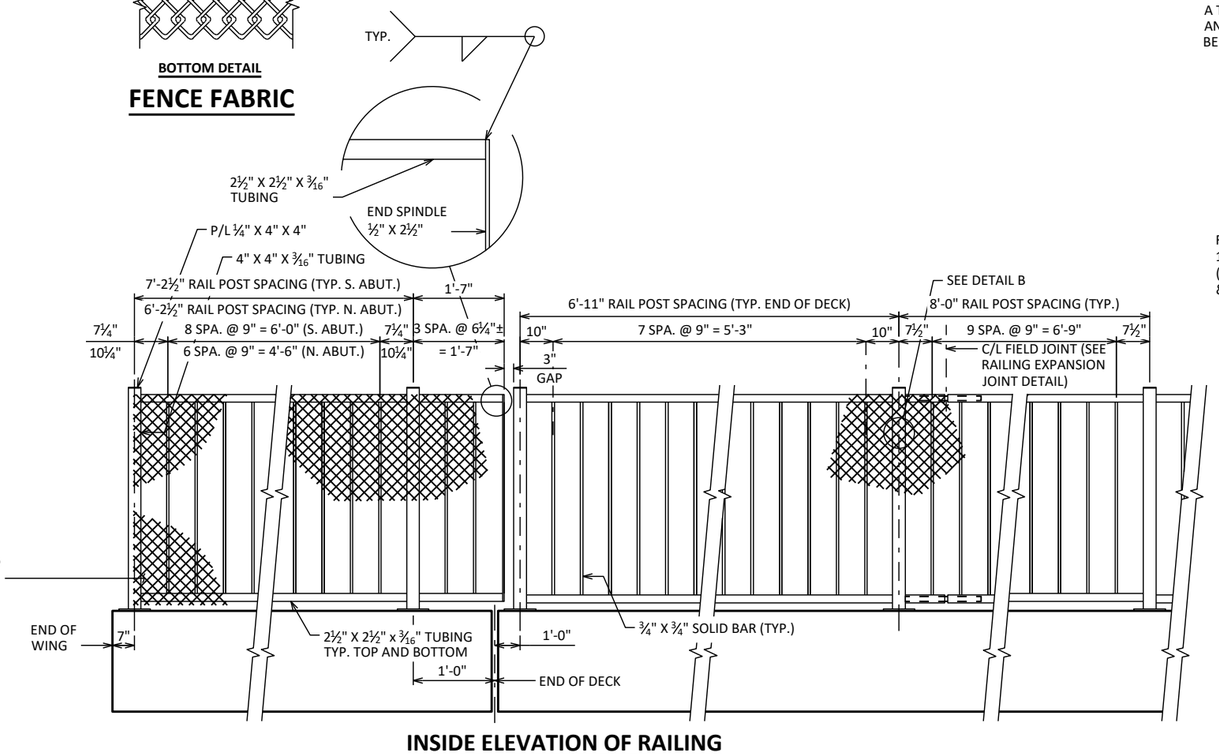
THE END OF THE FABRIC SHALL BE ATTACHED TO THE POST BY MEANS OF A TENSION BAR THREADED THROUGH THE END LOOPS OF THE FABRIC AND SECURED TO THE POST WITH CLAMPS & BOLT. THE FABRIC SHALL BE STRETCHED TO REMOVE ALL SLACK.



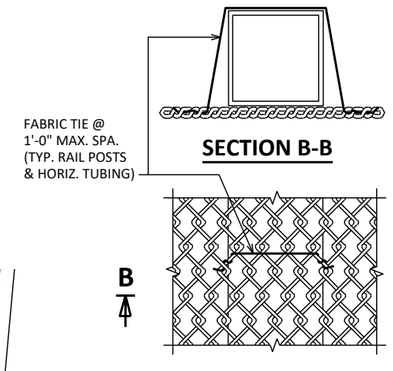
SECTION THRU RAILING



FENCE FABRIC



INSIDE ELEVATION OF RAILING



SECTION B-B

DETAIL B

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STATE PROJECT NUMBER

1130-66-82

STRUCTURE B-44-332

DRAWN BY ZHC | PLANS CK'D KRB

TUBULAR STEEL RAILING SCREENING

SHEET 21
259

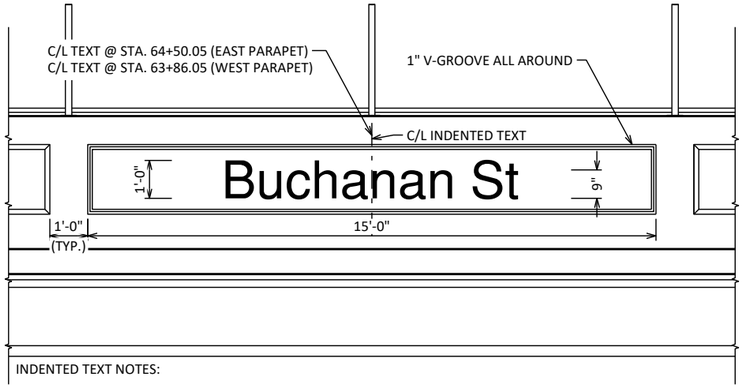
SCALE = 2.00

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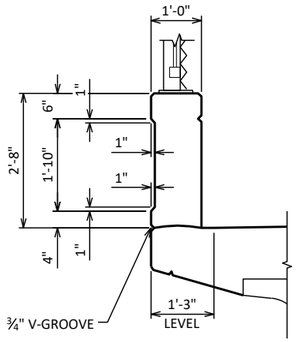
STATE PROJECT NUMBER

1130-66-82



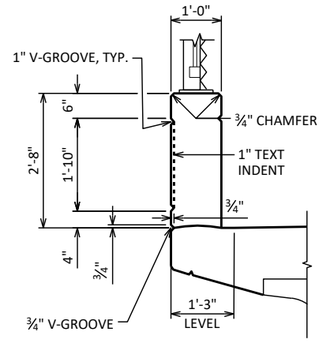
INDENTED TEXT NOTES:

1. LETTERING SHALL BE HELVETICA . 12" UPPERCASE AND 9" LOWERCASE HEIGHT.
2. LETTERING SHALL BE CENTERED HORIZONTALLY AND VERTICALLY WITHIN PANELS.
3. LETTERING IS ONLY ON EXTERIOR FACE OF PARAPET IN LOCATIONS AS INDICATED ON THIS SHEET.
4. FORMING OF LETTERING INCIDENTAL TO "HPC MASONRY STRUCTURES".
5. STAIN RECESSED LETTERING BLACK, AMS STANDARD COLOR #27038. INCIDENTAL TO "HPC MASONRY STRUCTURES".
6. PANEL RAISED AT ROAD NAME ONLY. 15'-0" PANEL AT ROAD NAME ONLY.

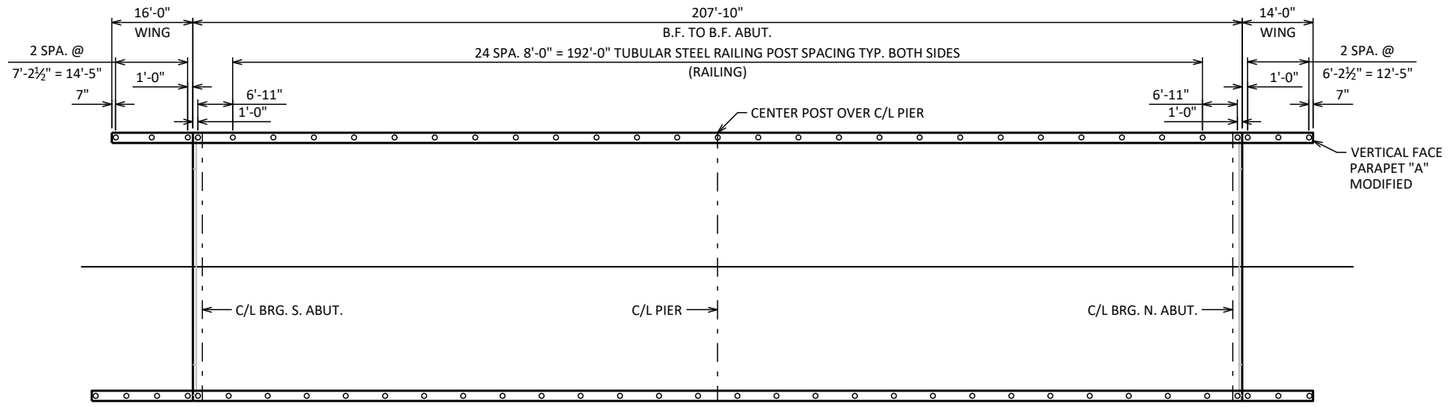


SECTION THRU PARAPET ON BRIDGE

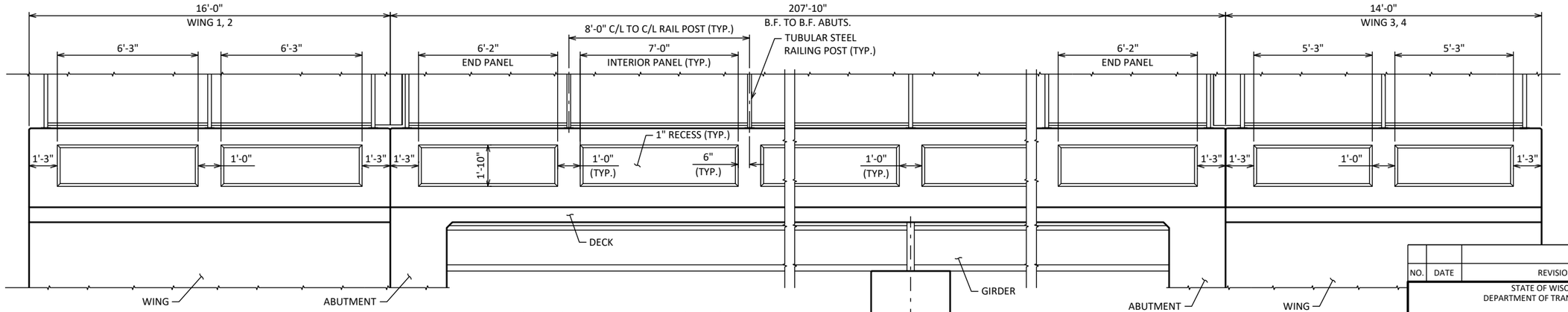
VERTICAL FACE PARAPET 'A' - MODIFIED



SECTION THRU PARAPET AT ROAD NAME PANEL



PARAPET FENCE POST PLAN



OUTSIDE ELEVATION OF PARAPET

(LOOKING WEST)

NOTES

PARAPET PANELS ARE CENTERED BETWEEN RAILING POSTS EXCEPT AS SHOWN NEAR ABUTMENTS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-44-332

DRAWN BY ZHC | PLANS CK'D KRB

AESTHETIC DETAILS - 1

SHEET 22
260

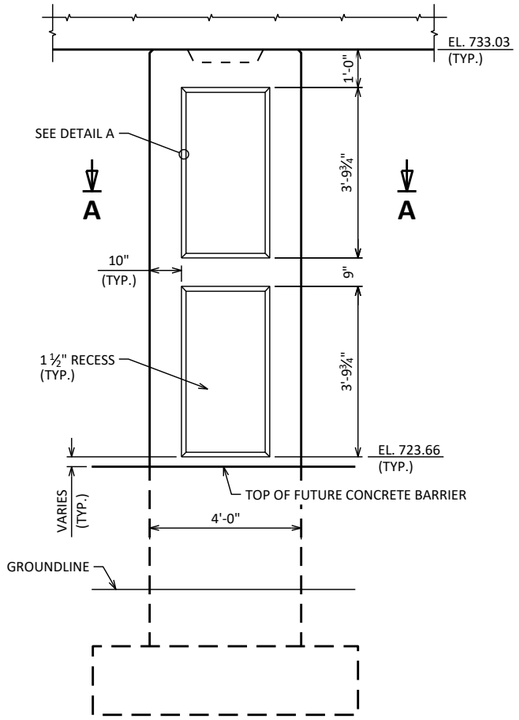
SCALE =

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8

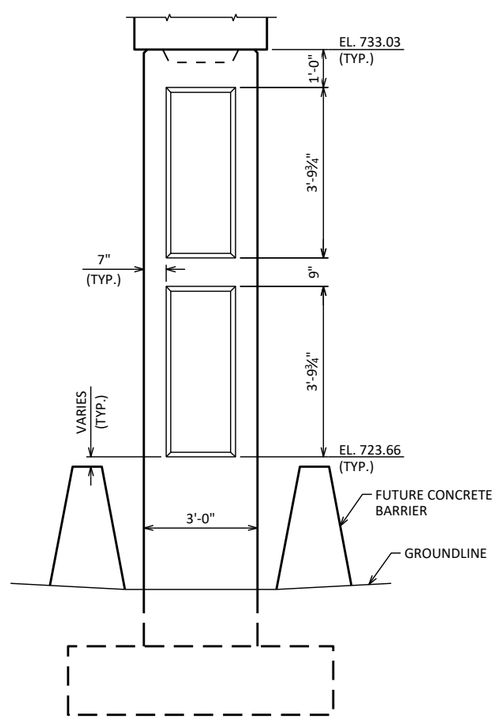
STATE PROJECT NUMBER

1130-66-82



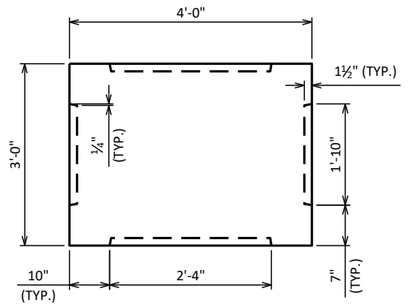
PIER ELEVATION

(TYPICAL AT ALL COLUMNS)



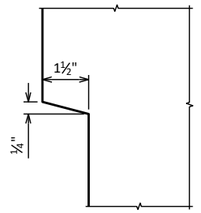
PIER VIEW

(TYPICAL AT ALL COLUMNS)



SECTION A-A

(THRU TYPICAL PIER COLUMN)



DETAIL A

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-44-332

DRAWN BY ZHC | PLANS CK'D KRB

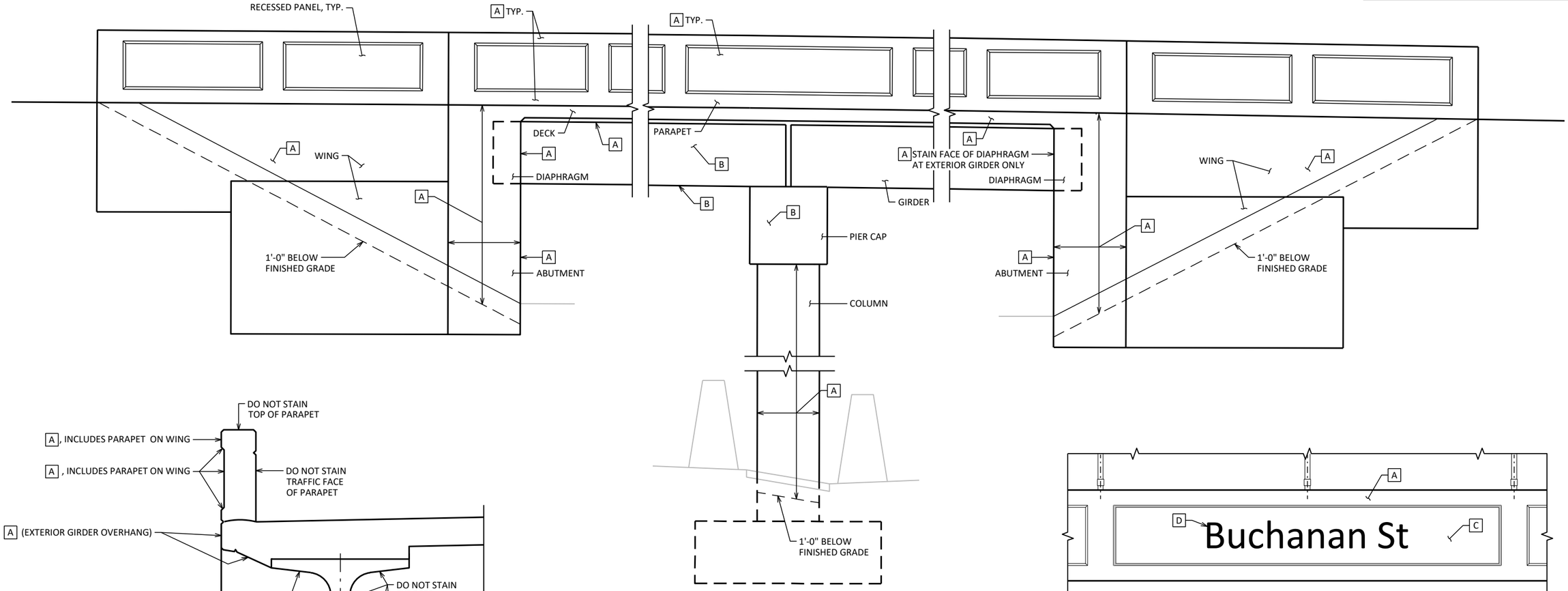
AESTHETIC DETAILS - 2

SHEET 23
261

SCALE =

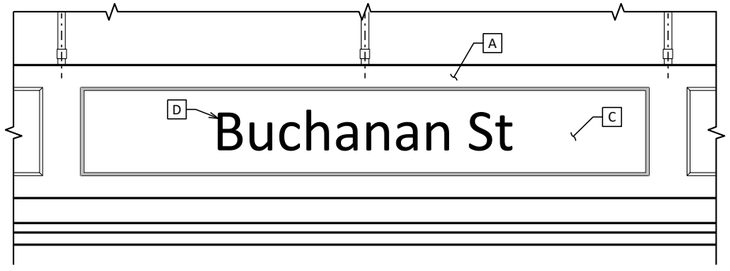
STATE PROJECT NUMBER

1130-66-82

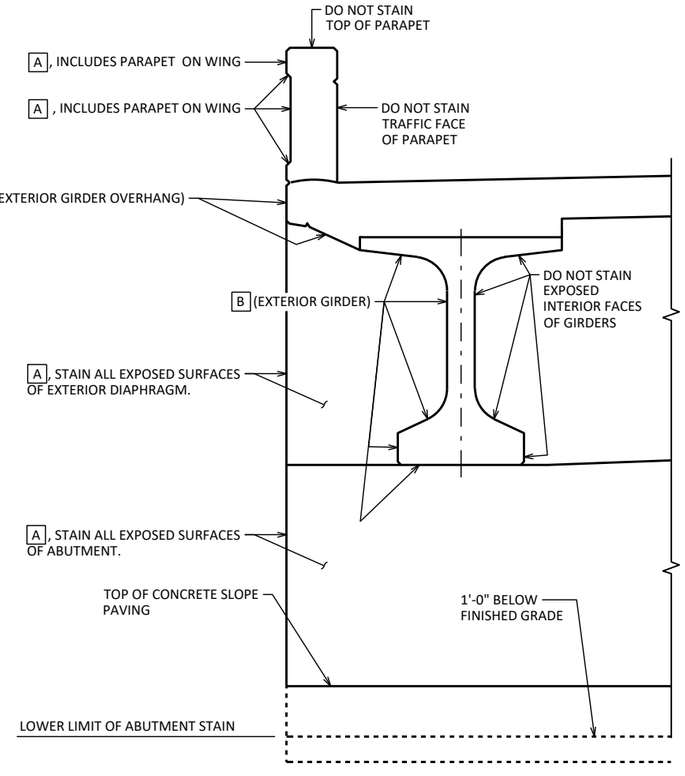


OUTSIDE ELEVATION OF STRUCTURE

EAST SIDE LOOKING WEST



ROAD NAME PANEL DETAILS



PARTIAL ABUTMENT ELEVATION

WEST EDGE OF NORTH ABUTMENT SHOWN - OTHERS SIMILAR)

CONCRETE STAINING SCHEDULE

MARK	COLOR	AMS COLOR NO.	LOCATION	NOTES
A	CRAFT PAPER	31090	PARAPETS	EXTERIOR FACE, EXCEPT AS NOTED FOR ROAD NAME BLOCK.
			ABUTMENTS	FRONT FACE FROM TOP OF ABUTMENT TO FINISHED GRADE AT SLOPE PAVING AND EXPOSED SIDES.
			DIAPHRAGMS	EXPOSED SIDES AND FRONT FACE FROM ENDS OF ABUTMENT TO EDGES OF FIRST INTERIOR GIRDER EACH END.
			WINGS	TOP OF WING AND ALL EXPOSED SIDES TO FINISHED GRADE.
			PIERS	ALL EXPOSED FACES OF PIER COLUMNS.
			DECK	FASCIA & EXPOSED UNDERSIDE TO EXTERIOR GIRDER FLANGE
B	VIRTUAL TAUPE	20150	GIRDERS	EXTERIOR FACES AND UNDERSIDE OF EXTERIOR GIRDERS.
			PIERS	EXPOSED FACES OF PIER CAP
C	WHOLE WHEAT	30450	ROAD NAME BLOCK	ENTIRE RECESSED PANEL AT THE LOCATION OF ROAD NAME.
D	TRICORN BLACK	27038	ROAD NAME BLOCK	ROAD NAME TEXT WITHIN ROAD NAME BLOCK.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-44-332

DRAWN BY ZHC | PLANS CK'D KRB

STAINING DETAILS

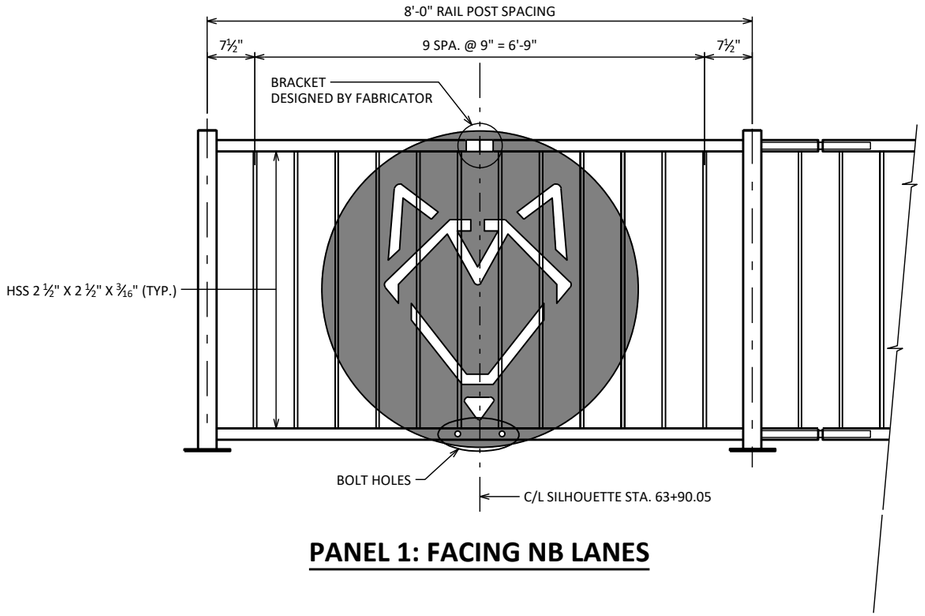
SHEET 24
262

8

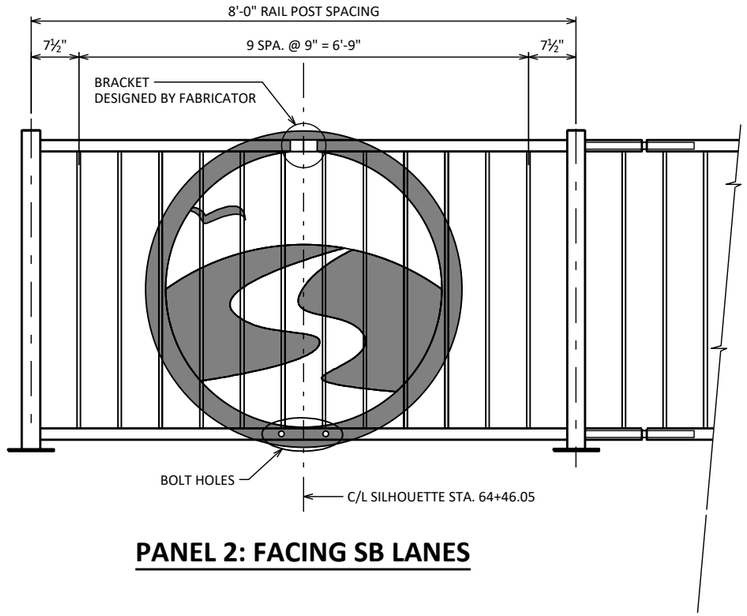
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STATE PROJECT NUMBER

1130-66-82



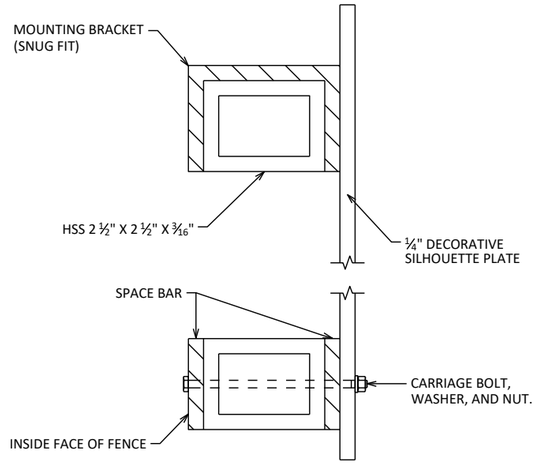
PANEL 1: FACING NB LANES



PANEL 2: FACING SB LANES

NOTES:

- PLACE SILHOUETTE IN CENTER OF RAIL PANEL OVER THE ROAD NAME PANEL.
- PLATES, BRACKETS, ANGLES, BARS, AND SHIMS SHALL CONFORM TO ASTM A709, GRADE 36.
- CARRIAGE BOLTS, NUTS AND WASHERS SHALL BE EITHER STAINLESS STEEL OR ASTM 307. IF 307 IS USED, CARRIAGE BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED.
- ANCHORAGES TO TUBULAR RAILING SHALL BE ACCURATELY PLACED TO PROVIDE CORRECT ALIGNMENT OF SILHOUETTE.
- THE BID ITEM SHALL BE "DECORATIVE SILHOUETTE" AND SHALL INCLUDE ALL ITEMS SHOWN INCLUDING THE PLATE, BRACKET AND MOUNTING HARDWARE.
- THE SILHOUETTE PANELS AND ALL MOUNTING HARDWARE SHALL BE PAINTED AMS STD. COLOR NO. 27038, BLACK.
- PROVIDE ¼" DECORATIVE SILHOUETTE INSET PLATE. 5'-0" O.D. WITH HOLES FOR ½" DIA. CARRIAGE BOLTS.
- ELECTRONIC COPIES OF THE CUTTING PATTERN ARE AVAILABLE BY CONTACTING:
  BRYAN LEARST, WISDOT
  944 VAN DER PERREN WAY, GREEN BAY, WI 54304
  PHONE: (920) 366-5639
  EMAIL: BRYAN.LEARST@DOT.WI.GOV
- FIELD DRILL HOLES IN HSS 2 ½" X 2 ½" X ¾16" FOR ½" DIA. CARRIAGE BOLT, WASHER, AND NUT. PROVIDE ⅝" X ⅝" SQUARE HOLE IN SPACE BAR FOR SQUARE PORTION OF HT BOLT HEAD.



BRACKET DETAIL

(CONCEPT BRACKET DETAIL SHOWN.
DESIGN TO BE PROVIDED BY FABRICATOR.)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-44-332

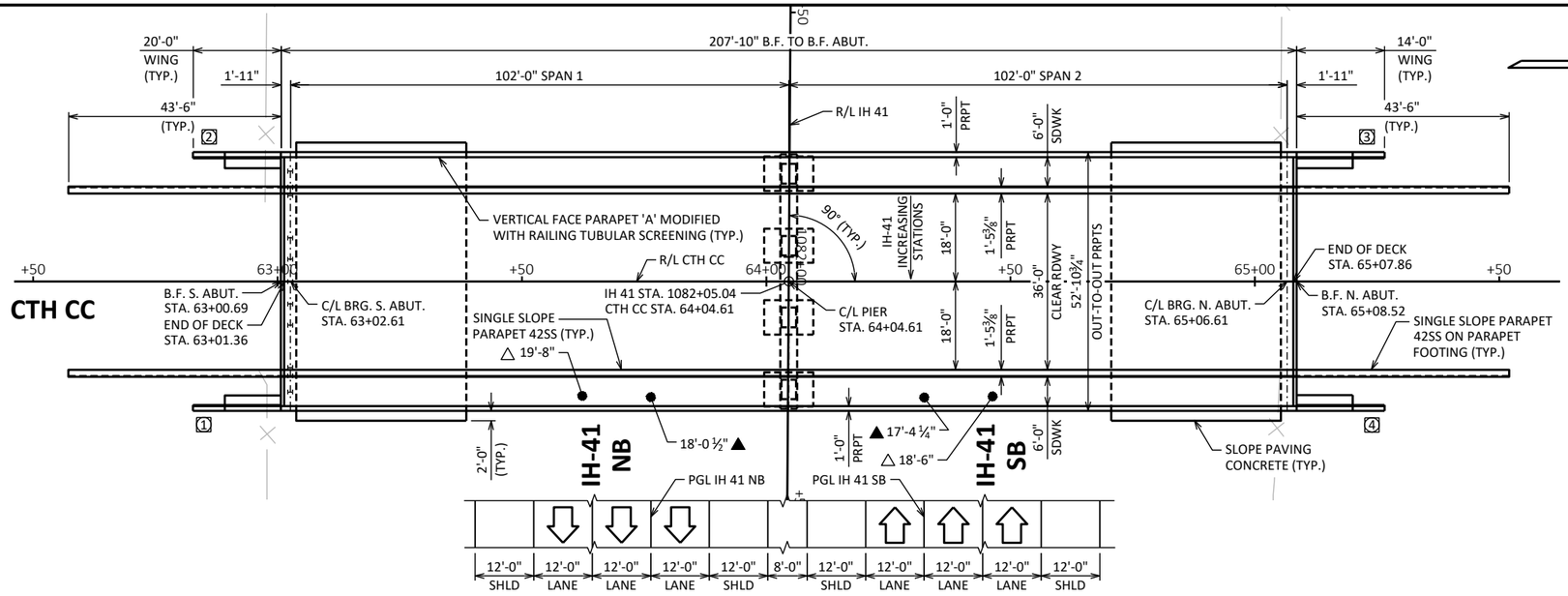
DRAWN BY ZHC | PLANS CK'D KRB

RAILING SILHOUETTE DETAILS

SHEET 25
263

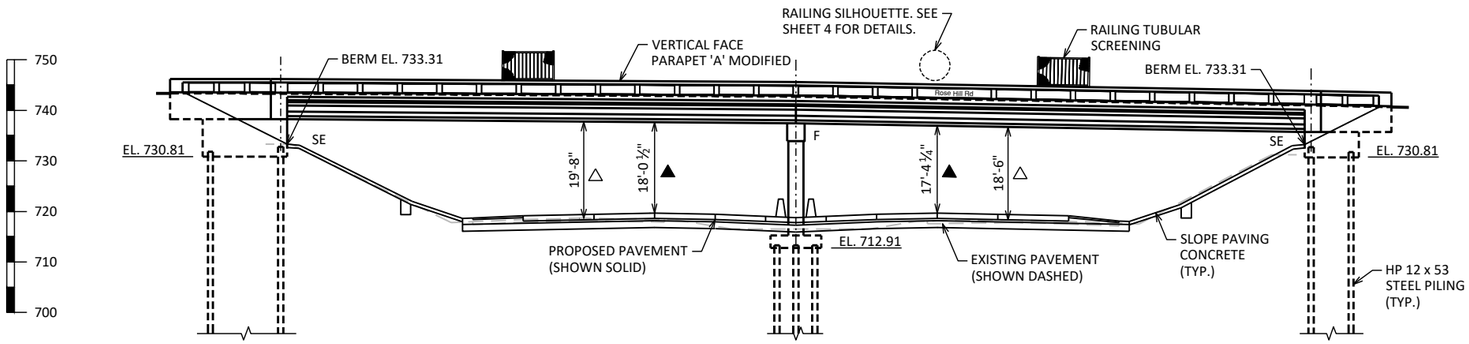
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8



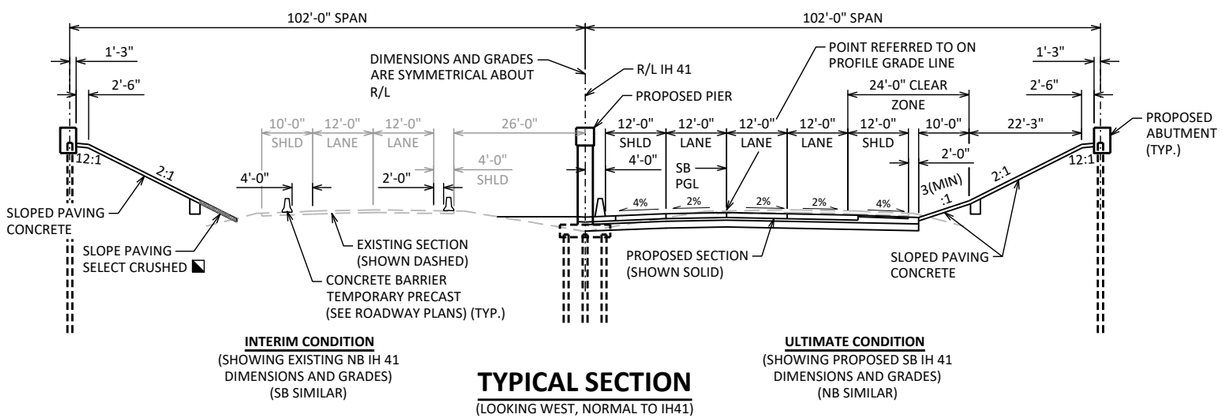
PLAN

(TWO-SPAN 45W-INCH PRESTRESSED GIRDERS)



ELEVATION

(NORMAL TO SUBSTRUCTURE, LOOKING WEST)



INTERIM CONDITION
(SHOWING EXISTING NB IH 41 DIMENSIONS AND GRADES)
(SB SIMILAR)

TYPICAL SECTION

(LOOKING WEST, NORMAL TO IH41)

ULTIMATE CONDITION
(SHOWING PROPOSED SB IH 41 DIMENSIONS AND GRADES)
(NB SIMILAR)

STATE PROJECT NUMBER

1130-66-82

GENERAL NOTES

SCOPE OF WORK
- CONCRETE STAINING
- RAILING SILHOUETTE

DIMENSIONS, STATIONS, AND ELEVATIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE DRAWINGS.

SEE SHEET 3 FOR STAINING DETAILS.

DRAWINGS SHALL NOT BE SCALED.

ALL STATIONS AND ELEVATIONS ARE IN FEET.

TRAFFIC DATA

	ADT (2026)	ADT (2046)	DESIGN SPEED (MPH)
IH 41 =	55,380	74,270	75
CTH CC =	2,000	3,000	55

LEGEND

- [#] INDICATES WING NUMBER.
- ▲ POINT OF MINIMUM VERTICAL CLEARANCE FOR PROPOSED PAVEMENT (FINAL CONDITION).
- △ POINT OF MINIMUM VERTICAL CLEARANCE FOR EXISTING PAVEMENT (INTERIM CONDITION).
- ◥ SLOPE PAVING SELECT CRUSHED TO BE REPLACED WITH SLOPE PAVING CONCRETE WHEN FUTURE PROPOSED PAVEMENT WORK IS COMPLETED.

LIST OF DRAWINGS:

1 GENERAL PLAN
2 CROSS SECTION & QUANTITIES
3 STAINING DETAILS
4 RAILING SILHOUETTE DETAILS

STRUCTURE DESIGN CONTACTS:
DESIGN CONSULTANT CONTACT:
KEITH BEHREND (608) 251-4843

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

NO.	DATE	REVISION	BY

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORATION

ACCEPTED SDR 02/14/25
CHIEF STRUCTURES DESIGN ENGINEER — DATE

WISCONSIN KEITH R. BEHREND E-42073 MADISON WI PROFESSIONAL ENGINEER
Keith Behrend 2-13-2025

STRUCTURE B-44-333

CTH CC (ROSE HILL RD) OVER IH 41

COUNTY	TOWN/~~CITY/VILLAGE~~
OUTAGAMIE	VANDENBROEK

DESIGN SPEC.
AASHTO LRFD BRIDGE DESIGN SPECIFICATION

DESIGNED BY	DESIGNED CK'D	DRAWN BY	PLANS CK'D
JFG	KRB	ZHC	KRB

GENERAL PLAN

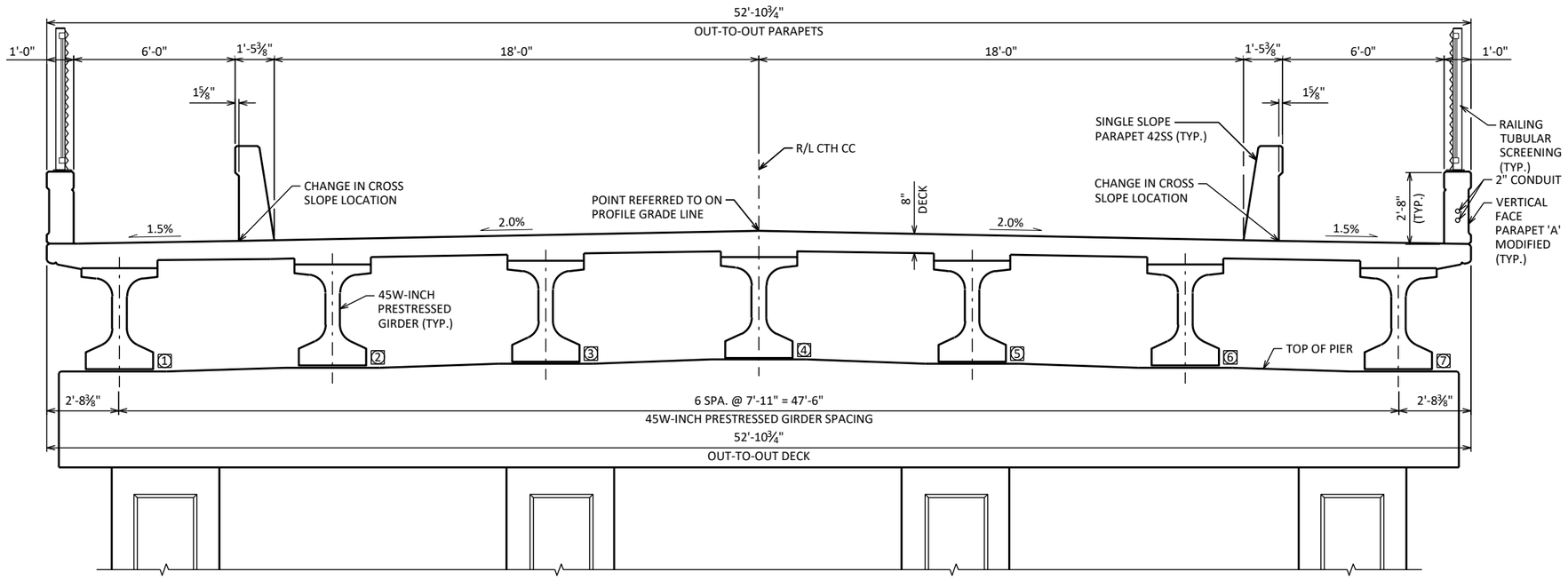
SHEET 1 OF 4
264

I.D.
DATE:
SCALE =

STATE PROJECT NUMBER
1130-66-82

LEGEND

(#) INDICATES GIRDER NUMBER.



CROSS SECTION THRU SUPERSTRUCTURE

(LOOKING NORTH)

TOTAL ESTIMATED QUANTITIES

BID NUMBER	BID ITEM	UNIT	S. ABUT.	PIER	N. ABUT.	SUPER.	TOTAL
517.1010.S	CONCRETE STAINING B-44-333	SF	569	1,389	307	5,052	7,317
SPV.0060.05	DECORATIVE SILHOUETTE	EACH	---	---	---	2	2

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-44-333

DRAWN BY	ZHC	PLANS CK'D	KRB

CROSS SECTION & QUANTITIES

SHEET 2
265

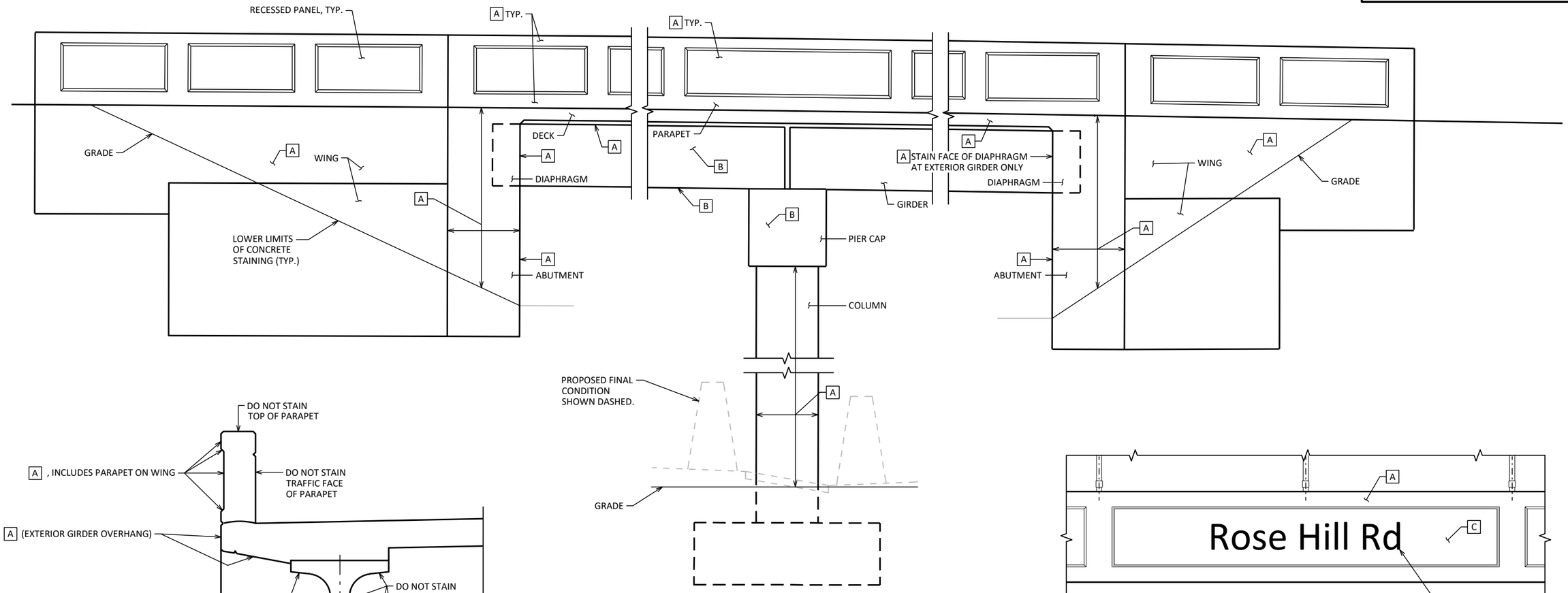
SCALE =

8

8

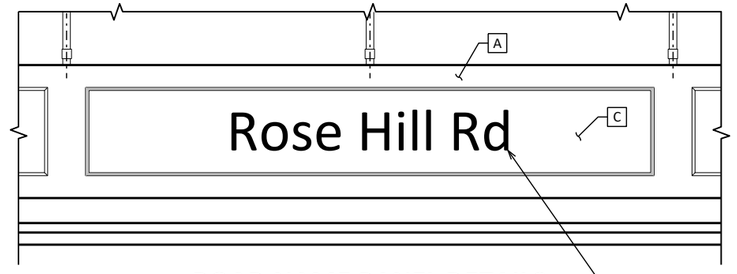
STATE PROJECT NUMBER

1130-66-82

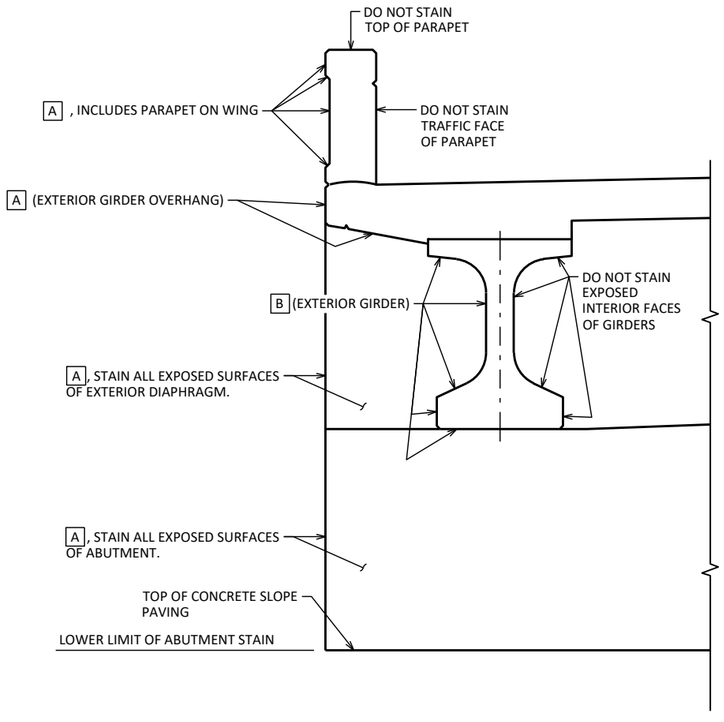


OUTSIDE ELEVATION OF STRUCTURE

EAST SIDE LOOKING WEST



ROAD NAME PANEL DETAILS



PARTIAL ABUTMENT ELEVATION

(WEST EDGE OF NORTH ABUTMENT SHOWN - OTHERS SIMILAR)

CONCRETE STAINING SCHEDULE

MARK	COLOR	AMS COLOR NO.	LOCATION	NOTES
A	CRAFT PAPER	31090	PARAPETS	EXTERIOR FACE, EXCEPT AS NOTED FOR ROAD NAME BLOCK.
			ABUTMENTS	FRONT FACE FROM TOP OF ABUTMENT TO FINISHED GRADE AT SLOPE PAVING AND EXPOSED SIDES.
			DIAPHRAGMS	EXPOSED SIDES AND FRONT FACE FROM ENDS OF ABUTMENT TO EDGES OF FIRST INTERIOR GIRDER EACH END.
			WINGS	TOP OF WING AND ALL EXPOSED SIDES TO FINISHED GRADE.
			PIERS	ALL EXPOSED FACES OF PIER COLUMNS.
			DECK	FASCIA & EXPOSED UNDERSIDE TO EXTERIOR GIRDER FLANGE
B	VIRTUAL TAUPE	20150	GIRDERS	EXTERIOR FACES AND UNDERSIDE OF EXTERIOR GIRDERS.
			PIERS	EXPOSED FACES OF PIER CAP
C	WHOLE WHEAT	30450	ROAD NAME BLOCK	ENTIRE RECESSED PANEL AT THE LOCATION OF ROAD NAME.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-44-333

DRAWN BY ZHC | PLANS CK'D KRB

STAINING DETAILS

SHEET 3

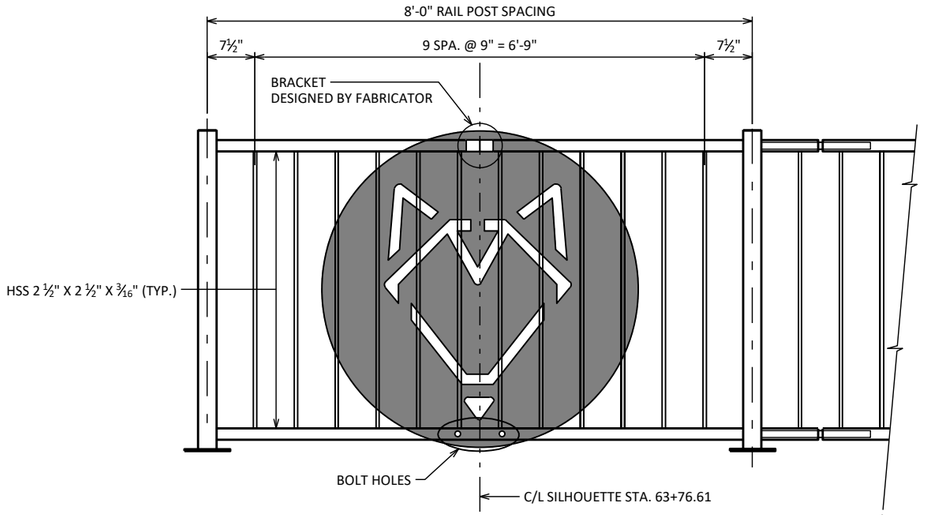
266

8

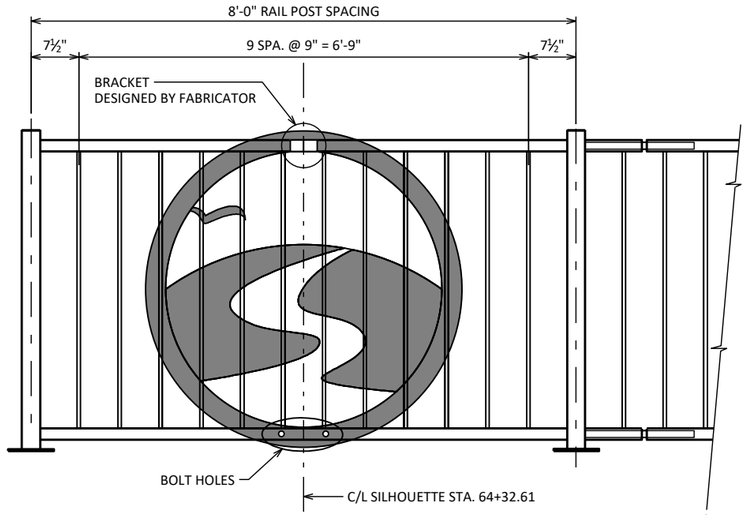
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STATE PROJECT NUMBER

1130-66-82



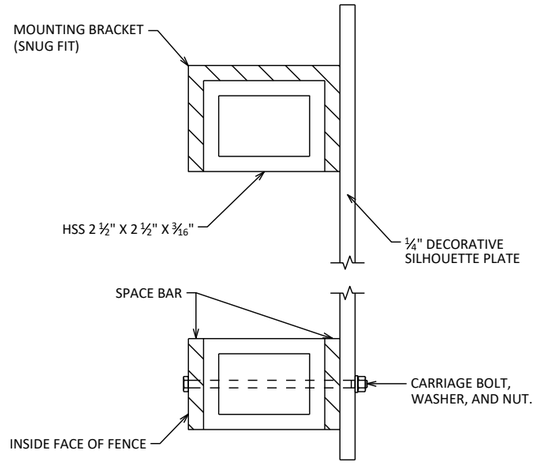
PANEL 1: FACING NB LANES



PANEL 2: FACING SB LANES

NOTES:

- PLACE SILHOUETTE IN CENTER OF RAIL PANEL OVER THE ROAD NAME PANEL.
- PLATES, BRACKETS, ANGLES, BARS, AND SHIMS SHALL CONFORM TO ASTM A709, GRADE 36.
- CARRIAGE BOLTS, NUTS AND WASHERS SHALL BE EITHER STAINLESS STEEL OR ASTM 307. IF 307 IS USED, CARRIAGE BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED.
- ANCHORAGES TO TUBULAR RAILING SHALL BE ACCURATELY PLACED TO PROVIDE CORRECT ALIGNMENT OF SILHOUETTE.
- THE BID ITEM SHALL BE "DECORATIVE SILHOUETTE" AND SHALL INCLUDE ALL ITEMS SHOWN INCLUDING THE PLATE, BRACKET AND MOUNTING HARDWARE.
- THE SILHOUETTE PANELS AND ALL MOUNTING HARDWARE SHALL BE PAINTED AMS STD. COLOR NO. 27038, BLACK.
- PROVIDE ¼" DECORATIVE SILHOUETTE INSET PLATE. 5'-0" O.D. WITH HOLES FOR ½" DIA. CARRIAGE BOLTS.
- ELECTRONIC COPIES OF THE CUTTING PATTERN ARE AVAILABLE BY CONTACTING:
  BRYAN LEARST, WISDOT
  944 VAN DER PERREN WAY, GREEN BAY, WI 54304
  PHONE: (920) 366-5639
  EMAIL: BRYAN.LEARST@DOT.WI.GOV
- FIELD DRILL HOLES IN HSS 2 ½" X 2 ½" X ¾16" FOR ½" DIA. CARRIAGE BOLT, WASHER, AND NUT. PROVIDE ⅝" X ⅝" SQUARE HOLE IN SPACE BAR FOR SQUARE PORTION OF HT BOLT HEAD.



BRACKET DETAIL

(CONCEPT BRACKET DETAIL SHOWN.
DESIGN TO BE PROVIDED BY FABRICATOR.)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-44-333

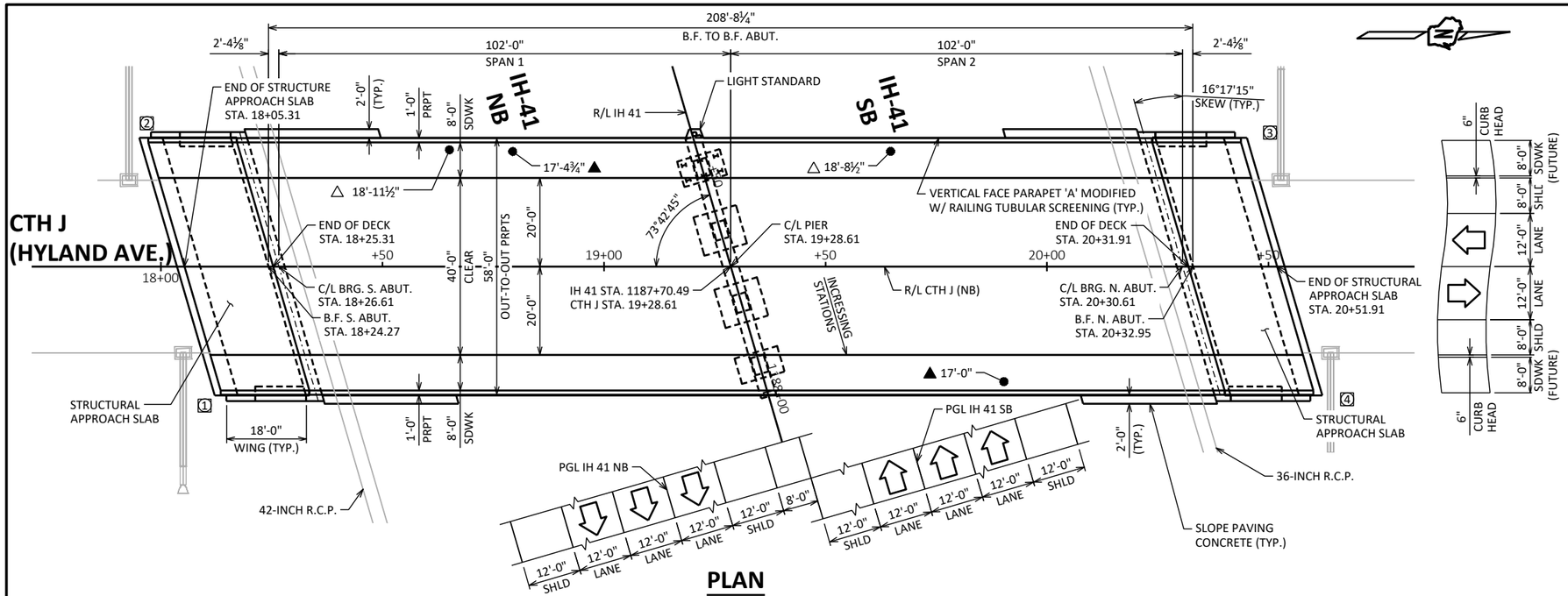
DRAWN BY ZHC | PLANS CK'D KRB

RAILING SILHOUETTE DETAILS

SHEET 4
267

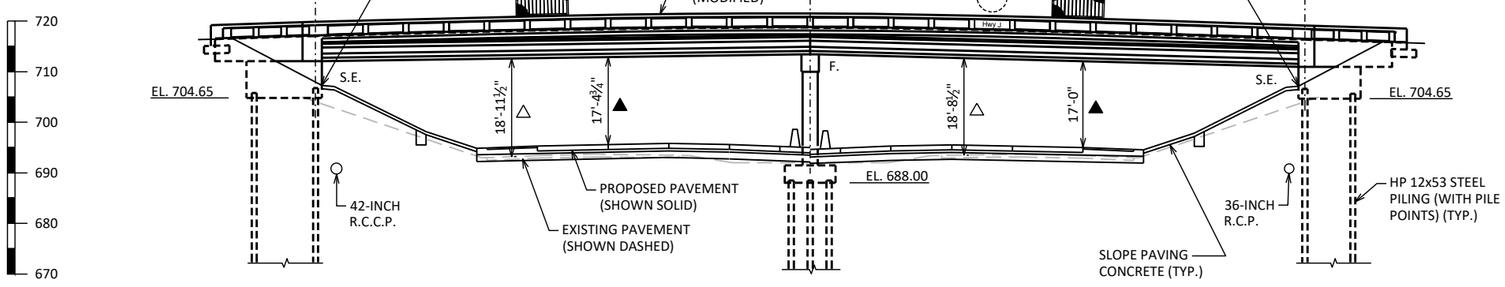
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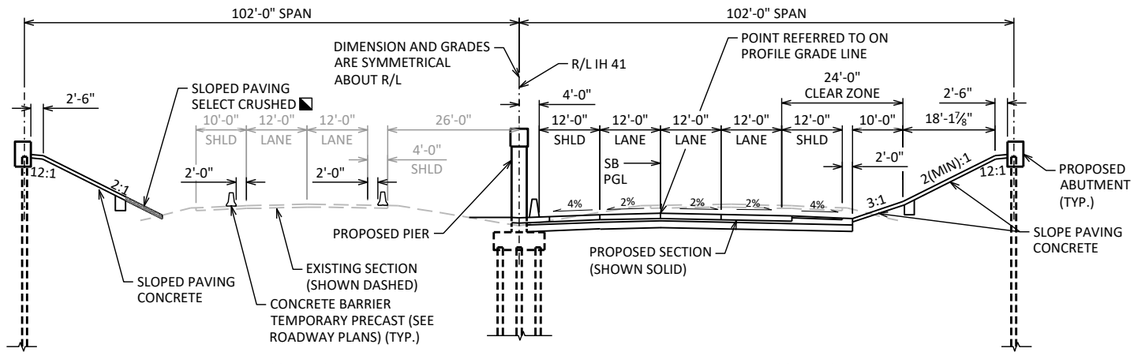
PLAN

(TWO-SPAN 45W-INCH PRESTRESSED GIRDERS)



ELEVATION

(NORMAL TO SUBSTRUCTURE, LOOKING WEST)



INTERIM CONDITION
(SHOWING EXISTING NB IH 41 DIMENSIONS AND GRADES)
(SB SIMILAR)

TYPICAL SECTION

(LOOKING WEST, NORMAL TO IH41)

ULTIMATE CONDITION
(SHOWING PROPOSED SB IH 41 DIMENSIONS AND GRADES)
(NB SIMILAR)

STATE PROJECT NUMBER

1130-66-82

GENERAL NOTES

SCOPE OF WORK
- CONCRETE STAINING
- RAILING SILHOUETTE

DIMENSIONS, STATIONS, AND ELEVATIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE DRAWINGS.

SEE SHEET 3 FOR STAINING DETAILS.

DRAWINGS SHALL NOT BE SCALED.

ALL STATIONS AND ELEVATIONS ARE IN FEET.

TRAFFIC DATA

	ADT (2025)	ADT (2045)	DESIGN SPEED (MPH)
IH 41 =	49,870	67,310	75
CTH J =	11,850	15,650	30

LEGEND

- [#] INDICATES WING NUMBER
- ▲ POINT OF MINIMUM VERTICAL CLEARANCE FOR PROPOSED PAVEMENT (FINAL CONDITION).
- △ POINT OF MINIMUM VERTICAL CLEARANCE FOR EXISTING PAVEMENT (INTERIM CONDITION).
- ◥ SLOPE PAVING SELECT CRUSHED TO BE REPLACED WITH SLOPE PAVING CONCRETE WHEN FUTURE PROPOSED PAVEMENT WORK IS COMPLETED.

LIST OF DRAWINGS:

1 GENERAL PLAN
2 CROSS SECTION & QUANTITIES
3 STAINING DETAILS
4 RAILING SILHOUETTE DETAILS

STRUCTURE DESIGN CONTACTS:
DESIGN CONSULTANT CONTACT:
KEITH BEHREND (608) 251-4843

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

NO.	DATE	REVISION	BY

STRAND ASSOCIATES®
MADISON, WISCONSIN 53715
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(608) 251–8655 FAX
WWW.STRAND.COM

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORATION

ACCEPTED SDR 02/14/25
CHIEF STRUCTURES DESIGN ENGINEER DATE

WISCONSIN KEITH R. BEHREND E-42073 MADISON WI PROFESSIONAL ENGINEER
Keith Behrend 2-13-2025

STRUCTURE B-44-338

CTH J (HYLAND AVE.) OVER IH 41

COUNTY	~~TOWN~~/CITY/~~VILLAGE~~
OUTAGAMIE	KAUKAUNA

DESIGN SPEC.
AASHTO LRFD BRIDGE DESIGN SPECIFICATION

DESIGNED BY	DESIGNED CK'D	DRAWN BY	PLANS CK'D
JFG	KRB	ZHC	KRB

GENERAL PLAN

SHEET 1 OF 4
268

I.D. DATE:

SCALE =

8

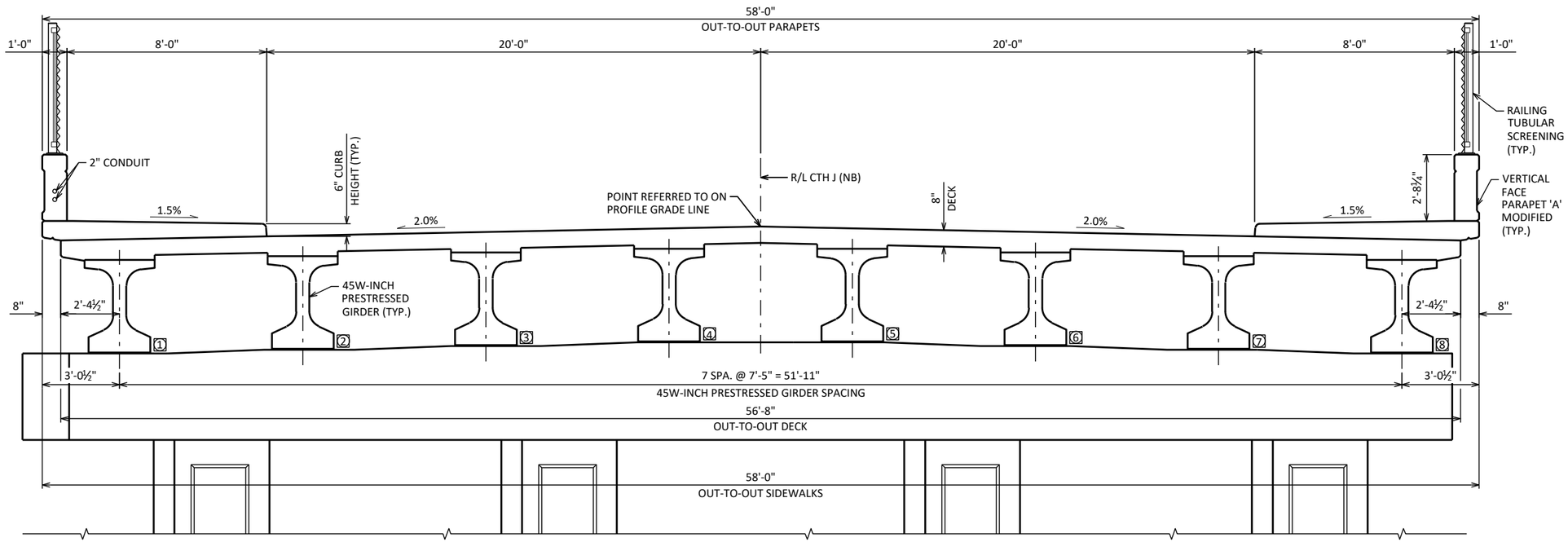
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STATE PROJECT NUMBER

1130-66-82

LEGEND

[#] INDICATES GIRDER NUMBER.



CROSS SECTION THRU SUPERSTRUCTURE

(LOOKING NORTH)

8

TOTAL ESTIMATED QUANTITIES

BID NUMBER	BID ITEM	UNIT	S. ABUT.	PIER	N. ABUT.	SUPER.	APPROACH SLABS	TOTAL
517.1010.S	CONCRETE STAINING B-44-338	SF	472	1,529	424	5,506	220	8,151
SPV.0060.05	DECORATIVE SILHOUETTE	EACH	---	---	---	2	---	2

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-44-338

DRAWN BY ZHC | PLANS CK'D KRB

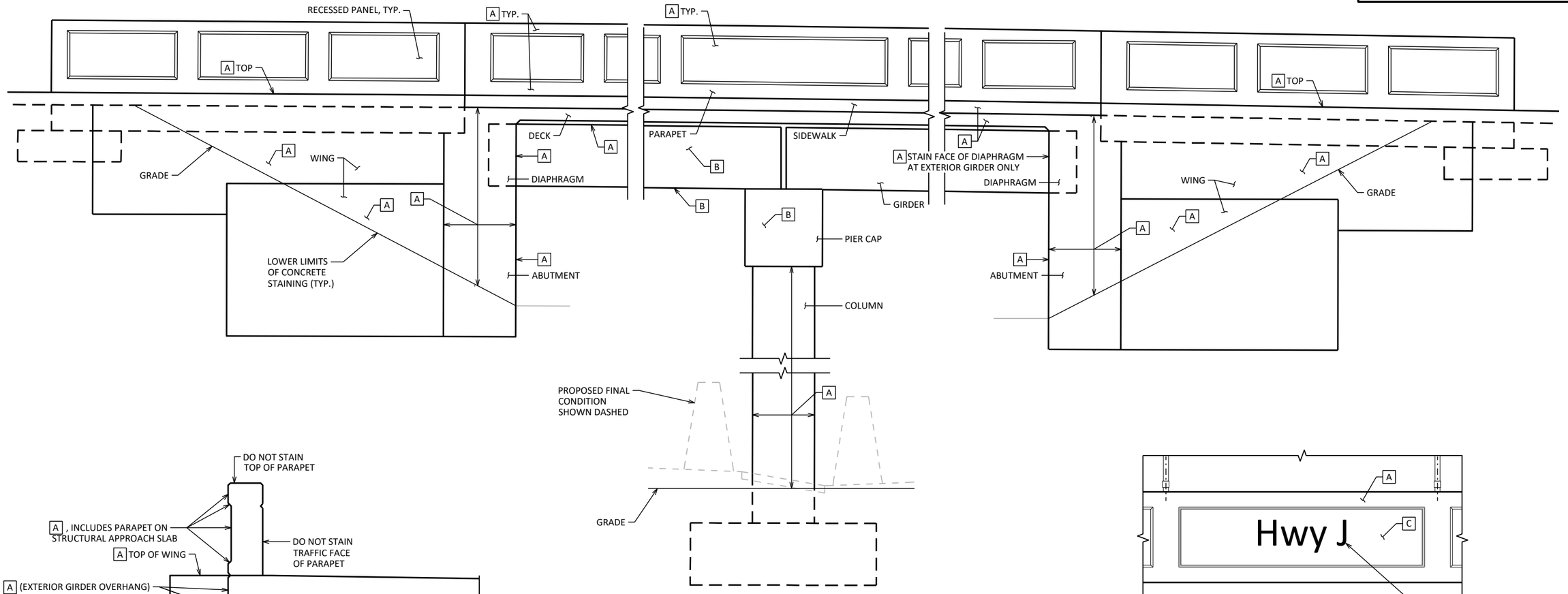
CROSS SECTION & QUANTITIES

SHEET 2
269

SCALE =

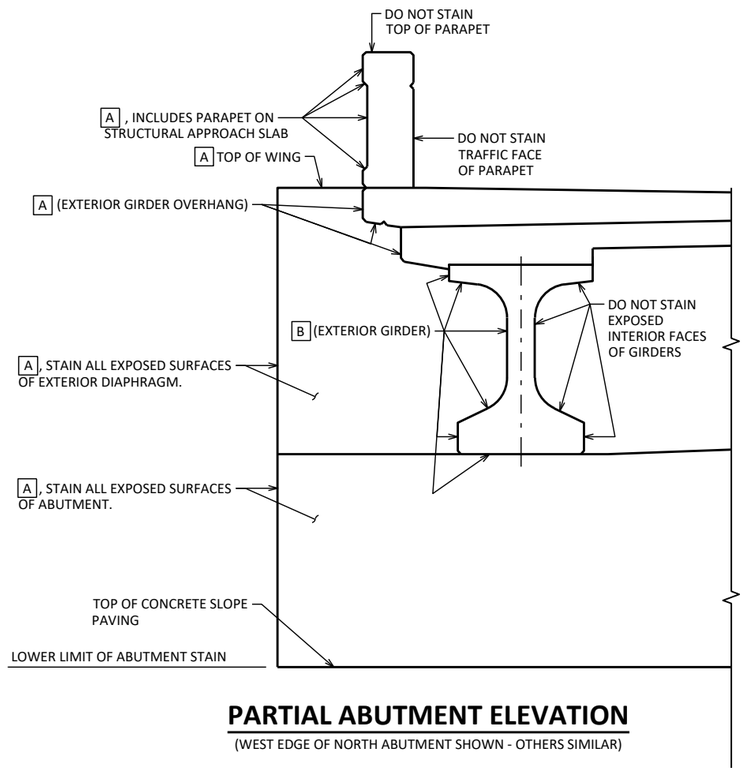
STATE PROJECT NUMBER

1130-66-82



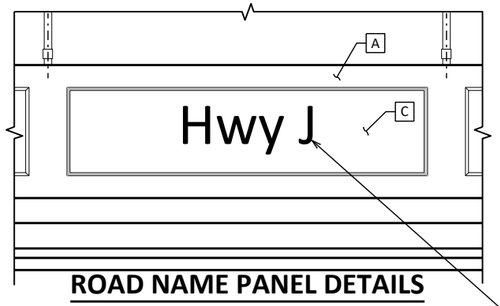
OUTSIDE ELEVATION OF STRUCTURE

EAST SIDE LOOKING WEST



PARTIAL ABUTMENT ELEVATION

(WEST EDGE OF NORTH ABUTMENT SHOWN - OTHERS SIMILAR)



ROAD NAME PANEL DETAILS

CONCRETE STAINING SCHEDULE

MARK	COLOR	AMS COLOR NO.	LOCATION	NOTES
A	CRAFT PAPER	31090	PARAPETS	EXTERIOR FACE, EXCEPT AS NOTED FOR ROAD NAME BLOCK.
			ABUTMENTS	FRONT FACE FROM TOP OF ABUTMENT TO FINISHED GRADE AT RETAINING WALLS AND EXPOSED SIDES.
			DIAPHRAGMS	EXPOSED SIDES AND FRONT FACE FROM ENDS OF ABUTMENT TO EDGES OF FIRST INTERIOR GIRDER EACH END.
			WINGS	TOP OF WING AND ALL EXPOSED SIDES TO FINISHED GRADE.
			PIERS	ALL EXPOSED FACES OF PIER COLUMNS.
			DECK	FASCIA & EXPOSED UNDERSIDE TO EXTERIOR GIRDER FLANGE
B	VIRTUAL TAUPE	20150	GIRDERS	EXTERIOR FACES AND UNDERSIDE OF EXTERIOR GIRDERS.
			PIERS	EXPOSED FACES OF PIER CAP AND SIGN STRUCTURAL PEDESTAL.
C	WHOLE WHEAT	30450	ROAD NAME BLOCK	ENTIRE RECESSED PANEL AT THE LOCATION OF ROAD NAME.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-44-338

DRAWN BY ZHC | PLANS CK'D KRB

STAINING DETAILS

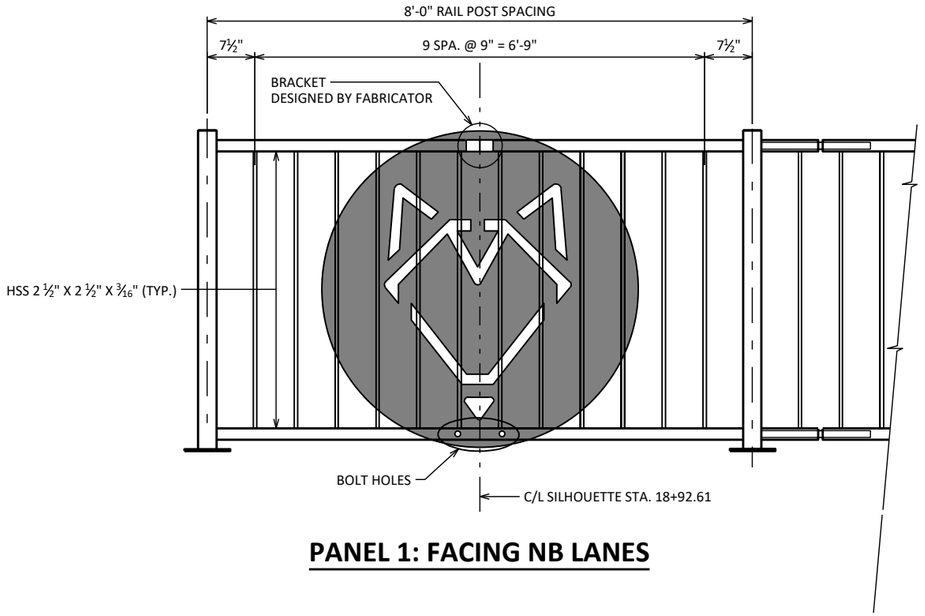
SHEET 3
270

8

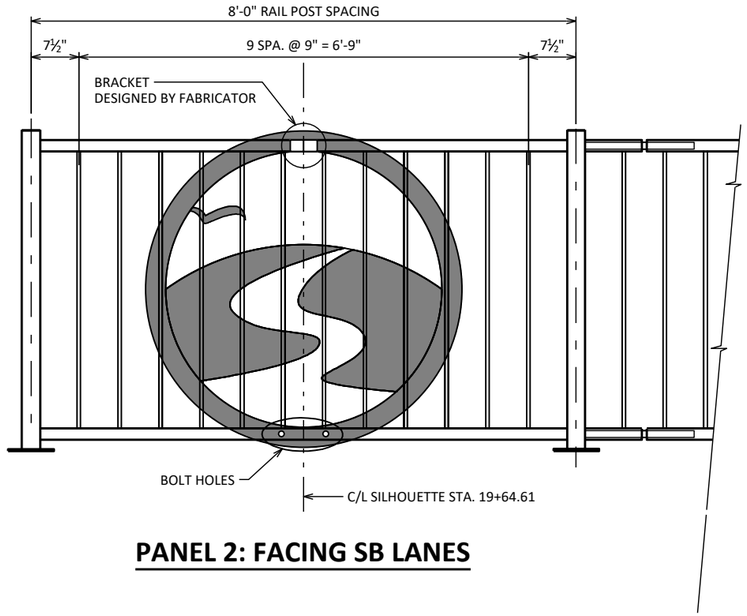
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STATE PROJECT NUMBER

1130-66-82



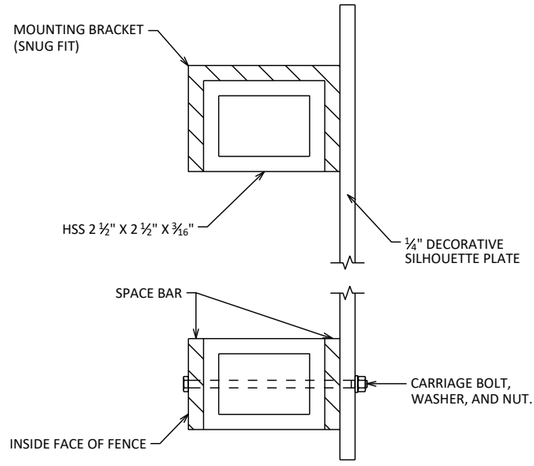
PANEL 1: FACING NB LANES



PANEL 2: FACING SB LANES

NOTES:

- PLACE SILHOUETTE IN CENTER OF RAIL PANEL CENTERED OVER THE ROAD NAME PANEL.
- PLATES, BRACKETS, ANGLES, BARS, AND SHIMS SHALL CONFORM TO ASTM A709, GRADE 36.
- CARRIAGE BOLTS, NUTS AND WASHERS SHALL BE EITHER STAINLESS STEEL OR ASTM 307. IF 307 IS USED, CARRIAGE BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED.
- ANCHORAGES TO TUBULAR RAILING SHALL BE ACCURATELY PLACED TO PROVIDE CORRECT ALIGNMENT OF SILHOUETTE.
- THE BID ITEM SHALL BE "DECORATIVE SILHOUETTE" AND SHALL INCLUDE ALL ITEMS SHOWN INCLUDING THE PLATE, BRACKET AND MOUNTING HARDWARE.
- THE SILHOUETTE PANELS AND ALL MOUNTING HARDWARE SHALL BE PAINTED AMS STD. COLOR NO. 27038, BLACK.
- PROVIDE ¼" DECORATIVE SILHOUETTE INSET PLATE. 5'-0" O.D. WITH HOLES FOR ½" DIA. CARRIAGE BOLTS.
- ELECTRONIC COPIES OF THE CUTTING PATTERN ARE AVAILABLE BY CONTACTING:
  BRYAN LEARST, WISDOT
  944 VAN DER PERREN WAY, GREEN BAY, WI 54304
  PHONE: (920) 366-5639
  EMAIL: BRYAN.LEARST@DOT.WI.GOV
- FIELD DRILL HOLES IN HSS 2 ½" X 2 ½" X ¾16" FOR ½" DIA. CARRIAGE BOLT, WASHER, AND NUT. PROVIDE ⅝" X ⅝" SQUARE HOLE IN SPACE BAR FOR SQUARE PORTION OF HT BOLT HEAD.



BRACKET DETAIL

(CONCEPT BRACKET DETAIL SHOWN.
DESIGN TO BE PROVIDED BY FABRICATOR.)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-44-338

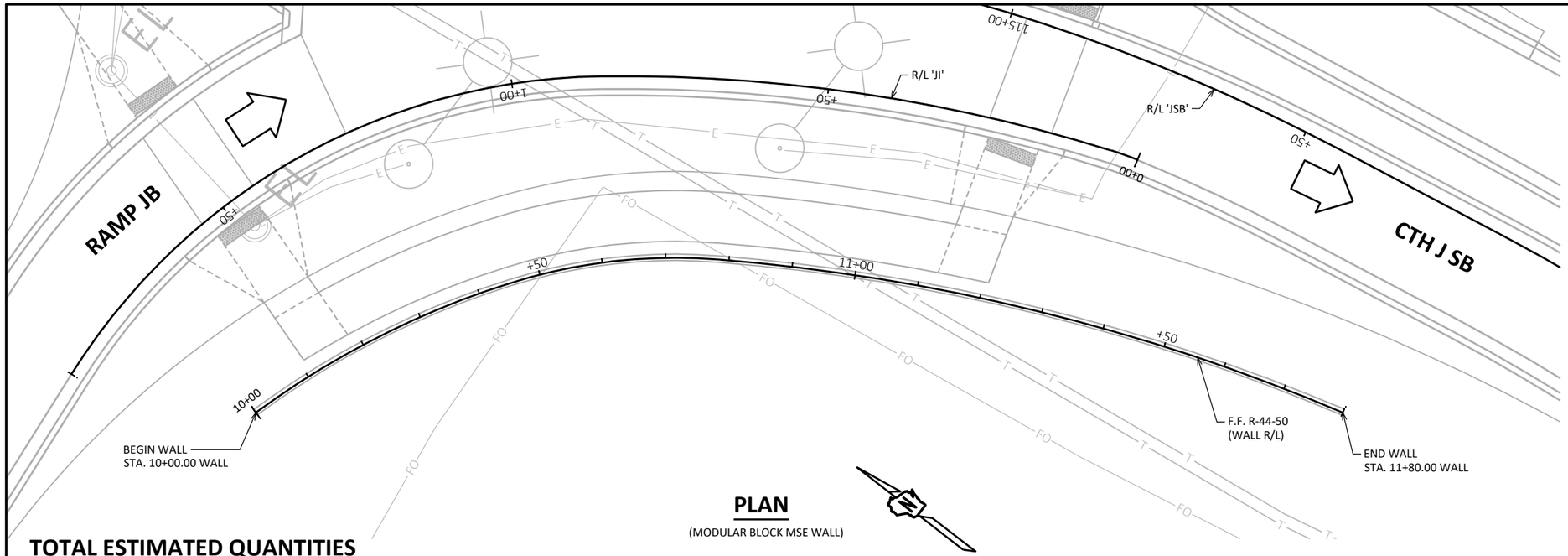
DRAWN BY ZHC | PLANS CK'D KRB

RAILING SILHOUETTE DETAILS

SHEET 4
271

8

8



PLAN

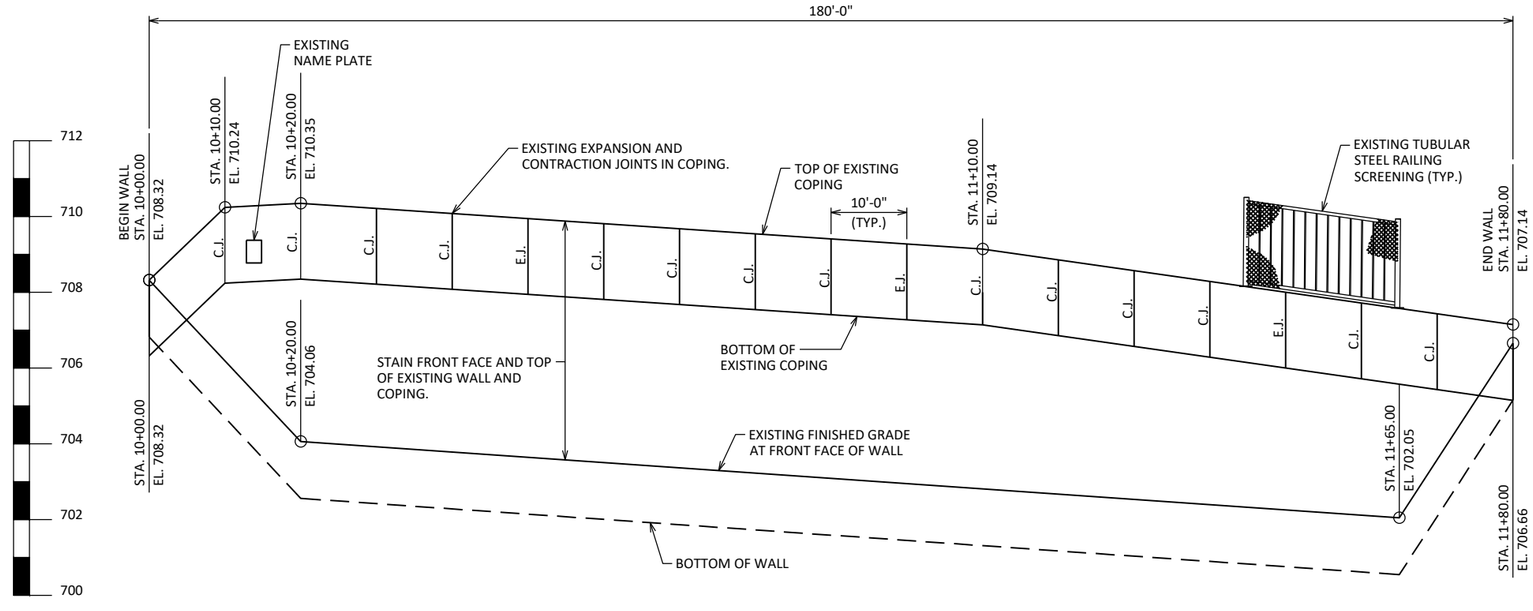
(MODULAR BLOCK MSE WALL)

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	TOTAL
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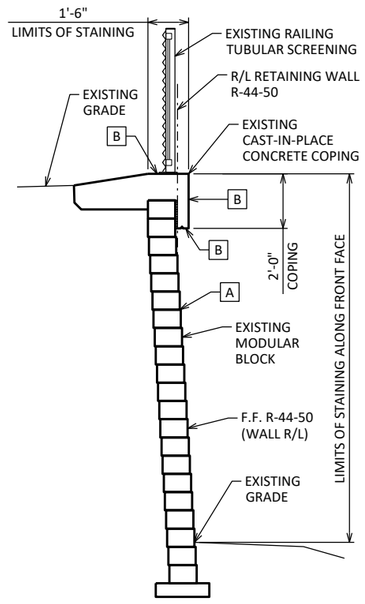
CONCRETE STAINING SCHEDULE

MARK	COLOR	AMS COLOR NO.	LOCATION	NOTES
A	CRAFT PAPER	31090	MODULAR BLOCKS	EXPOSED FRONT FACE
B	VIRTUAL TAUPE	20150	CONCRETE COPING	EXPOSED TOP, FRONT, AND BOTTOM FACES AS SHOWN IN TYPICAL SECTION.



ELEVATION

(LOOKING AT F.F. OF WALL)



TYPICAL SECTION

STATE PROJECT NUMBER

1130-66-82

GENERAL NOTES

SCOPE OF WORK
- CONCRETE STAINING

DIMENSIONS, ELEVATIONS, AND STATIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS.

DRAWINGS SHALL NOT BE SCALED.

ALL DIMENSIONS, STATIONS, AND OFFSETS ARE GIVEN AT THE WALL R/L UNLESS OTHERWISE SHOWN.

LIST OF DRAWINGS:

1. GENERAL PLAN

LEGEND

R/L = REFERENCE LINE
F.F. = FRONT FACE
B.F. = BACK FACE
E.J. = EXPANSION JOINT
C.J. = CONTRACTION JOINT

TRAFFIC DATA:
A.A.D.T. (2025) = 11,850
A.A.D.T. (2045) = 15,650
DESIGN SPEED = 65 MPH

WISCONSIN
KEITH R. BEHREND
E-42073
MADISON
WI
PROFESSIONAL ENGINEER
11/22/2024

STRUCTURE DESIGN CONTACTS:
DESIGN CONSULTANT CONTACT:
KEITH BEHREND (608) 251-4843

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

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 TRANSPORATION

ACCEPTED JLR 08/06/25
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE R-44-50

WALL WEST SIDE OF CTH J

COUNTY	TOWN/CITY/VILLAGE
OUTAGAMIE	KAUKAUNA

DESIGN SPEC.
AASHTO LRFD BRIDGE DESIGN SPECIFICATION

DESIGNED BY	DESIGNED CK'D	DRAWN BY	PLANS CK'D
JFG	KRB	ZHC	KRB

GENERAL PLAN

SHEET 1 OF 1
272

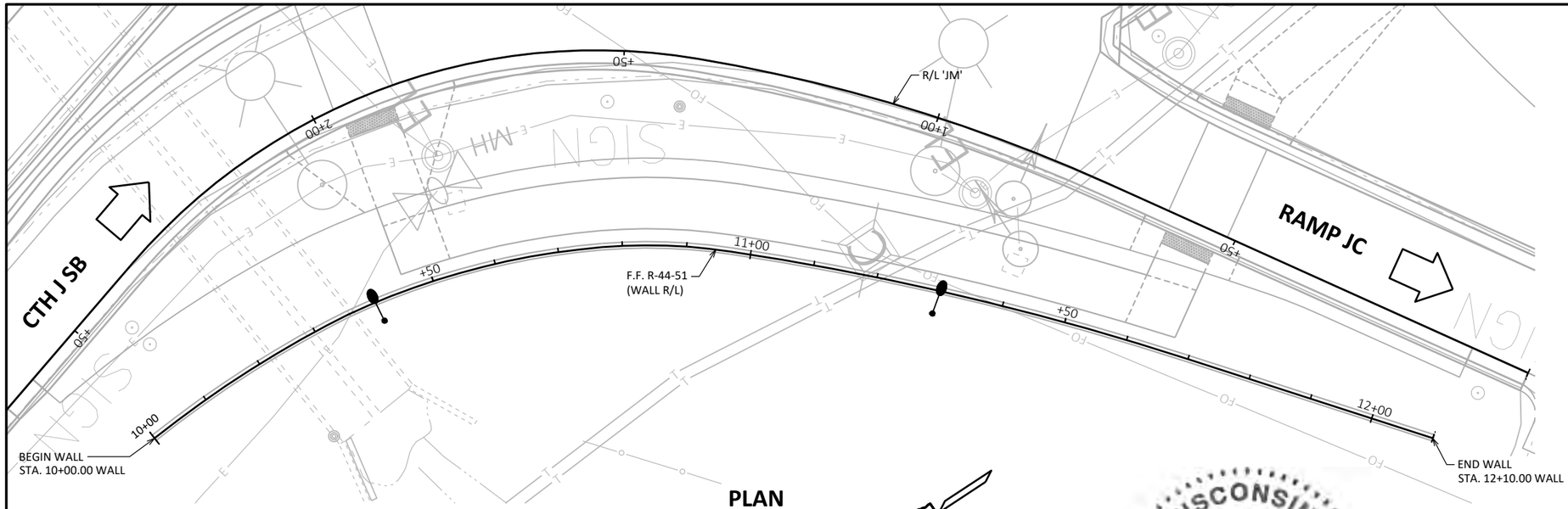
SCALE =
I.D.
DATE:

8

8

STATE PROJECT NUMBER

1130-66-82



PLAN

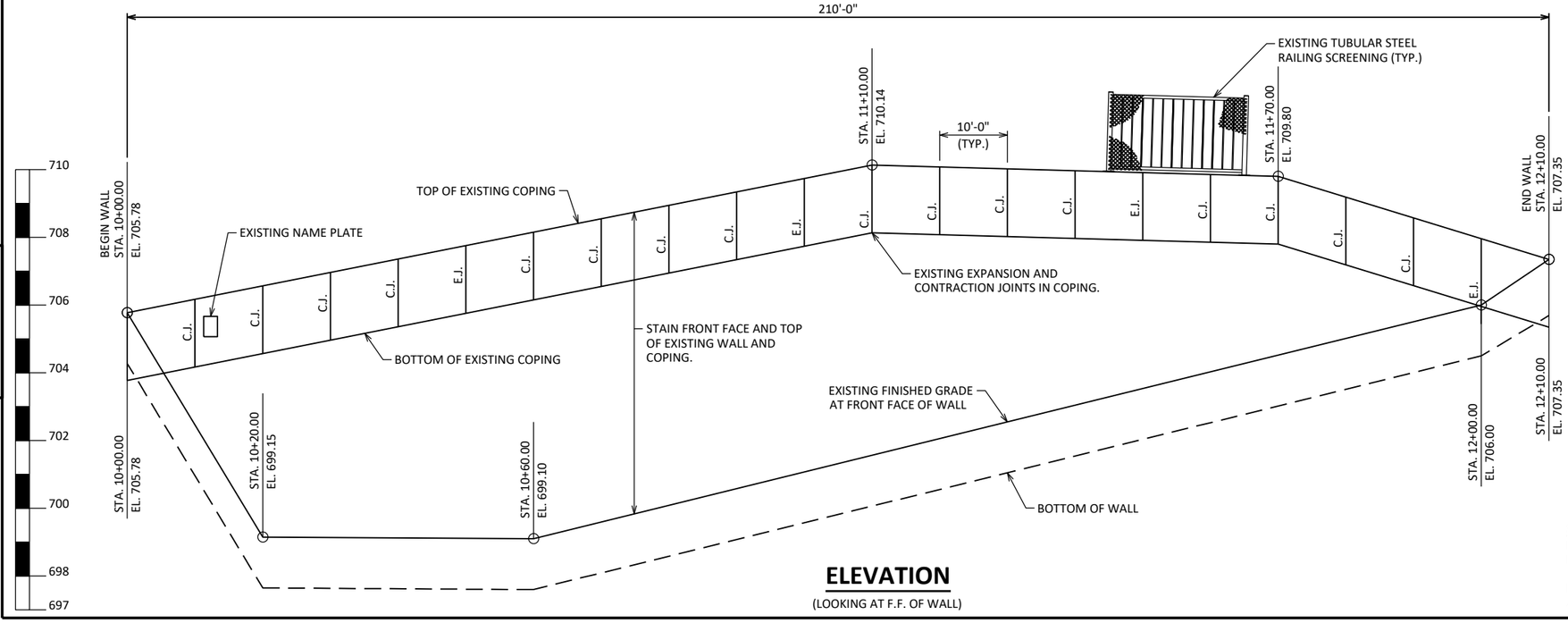
(MODULAR BLOCK MSE WALL)

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	TOTAL
517.1010.S	CONCRETE STAINING R-44-51	SF	1,798

CONCRETE STAINING SCHEDULE

MARK	COLOR	AMS COLOR NO.	LOCATION	NOTES
A	CRAFT PAPER	31090	MODULAR BLOCKS	EXPOSED FRONT FACE
B	VIRTUAL TAUPE	20150	CONCRETE COPING	EXPOSED TOP, FRONT, AND BOTTOM FACES AS SHOWN IN TYPICAL SECTION.



ELEVATION

(LOOKING AT F.F. OF WALL)



GENERAL NOTES

SCOPE OF WORK
- CONCRETE STAINING

DIMENSIONS, ELEVATIONS, AND STATIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS.

DRAWINGS SHALL NOT BE SCALED.

ALL DIMENSIONS, STATIONS, AND OFFSETS ARE GIVEN AT THE WALL R/L UNLESS OTHERWISE SHOWN.

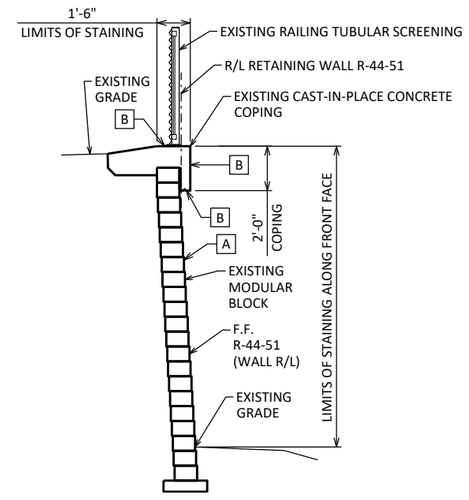
LIST OF DRAWINGS:

1. GENERAL PLAN

LEGEND

R/L = REFERENCE LINE
F.F. = FRONT FACE
B.F. = BACK FACE
E.J. = EXPANSION JOINT
C.J. = CONTRACTION JOINT

TRAFFIC DATA:
A.A.D.T. (2025) = 11,850
A.A.D.T. (2045) = 15,650
DESIGN SPEED = 65 MPH



TYPICAL SECTION

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 TRANSPORATION

ACCEPTED JT.LR 08/06/25
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE R-44-51

WALL WEST SIDE OF CTH J

COUNTY	~~TOWN~~/CITY/~~VILLAGE~~
OUTAGAMIE	KAUKAUNA

DESIGN SPEC.
AASHTO LRFD BRIDGE DESIGN SPECIFICATION

DESIGNED BY	DESIGNED CK'D	DRAWN BY	PLANS CK'D
JFG	KRB	ZHC	KRB

GENERAL PLAN

SHEET 1 OF 1
273

SCALE =

I.D.

DATE:

STRUCTURE DESIGN CONTACTS:
DESIGN CONSULTANT CONTACT:
KEITH BEHREND (608) 251-4843

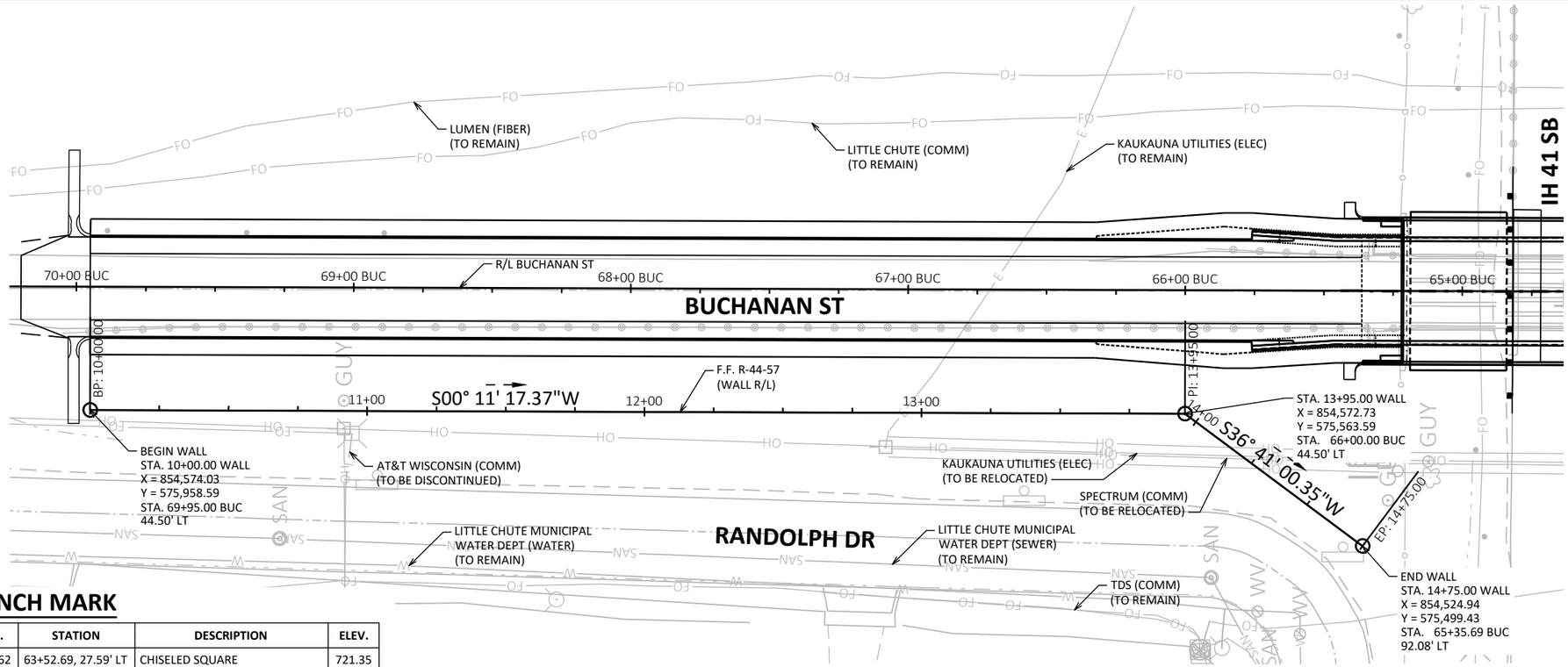
BUREAU OF STRUCTURES CONTACT:
AARON BONK (608) 261-0261

8

8

STATE PROJECT NUMBER

1130-66-82



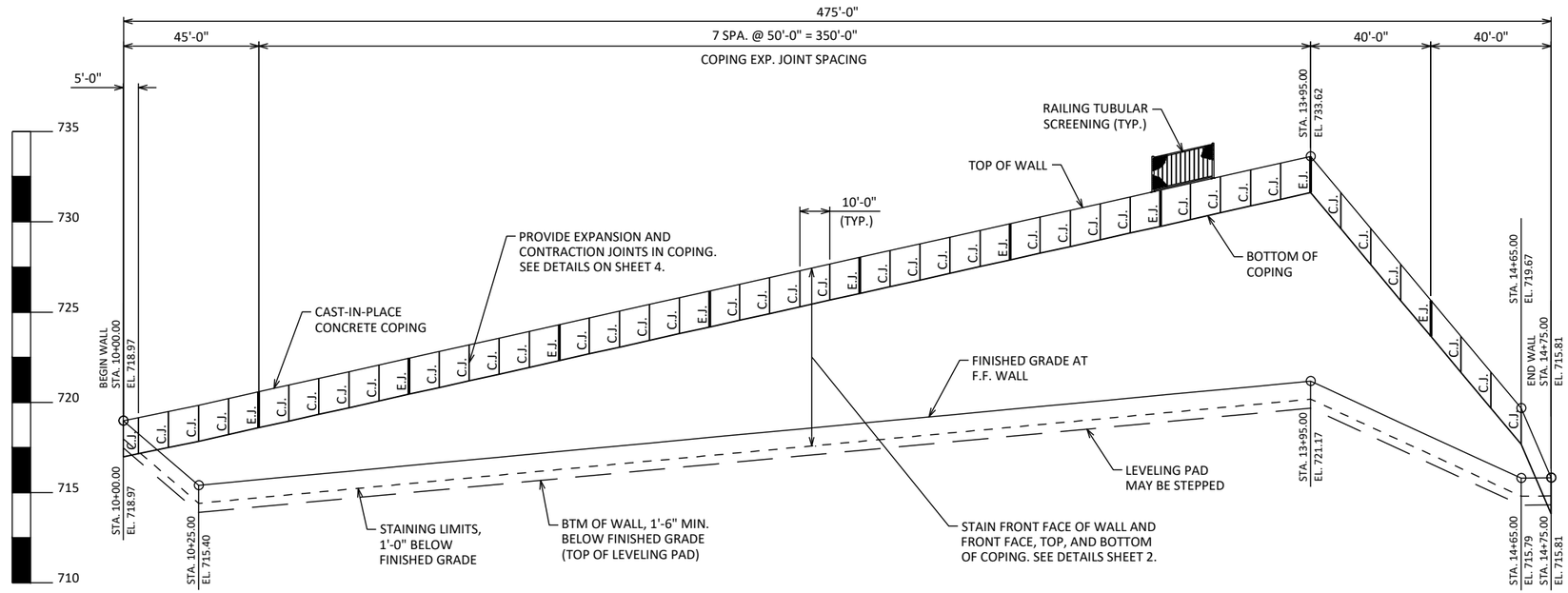
PLAN

(PRECAST PANEL MSE WALL)

BENCH MARK

NO.	STATION	DESCRIPTION	ELEV.
BM 162	63+52.69, 27.59' LT	CHISELED SQUARE	721.35
BM 163	63+18.87, 13.51' RT	DISK SE WINGWALL	741.76
BM 164	65+22.27, 13.73' RT	BOLT NE WINGWALL	741.69

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



ELEVATION

(LOOKING AT F.F. OF WALL)

DESIGN DATA

THE CONTRACTOR SHALL PROVIDE COMPLETE DESIGN, PLANS, DETAILS, SPECIFICATIONS, AND DRAWINGS FOR THE RETAINING WALL IN ACCORDANCE WITH THE SPECIAL PROVISIONS. THE RETAINING WALL MANUFACTURER SHALL PROVIDE TECHNICAL ASSISTANCE TO THE CONTRACTOR DURING CONSTRUCTION. THE COST OF FURNISHING THESE ITEMS SHALL BE INCLUDED IN THE BID ITEM "WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH R-44-57".

PLANS, ELEVATIONS AND DETAILS SHOWN ON THESE DRAWINGS ARE INTENDED TO INDICATE WALL LOCATIONS,LENGTHS, HEIGHTS, AND DETAILS COMMON TO THE WALL SYSTEM SELECTED. THE CONTRACTOR SHALL VERIFY THAT THE WALL SYSTEM SELECTED WILL CONFORM TO THE REQUIRED ALIGNMENTS AND DETAILS.

THE RETAINING WALL IS TO BE DESIGNED USING THE ELEVATIONS GIVEN IN THIS PLAN.

DESIGN FOR RETAINING WALL TO PROVIDE FOR FINISHED GRADE SLOPED IN FRONT OF AND BEHIND WALL AS SHOWN ON THE WALL PLAN AND ROADWAY CROSS SECTIONS.

DESIGN RETAINING WALL FOR A LIVE LOAD SURCHARGE OF 240 PSF.

THE MAXIMUM VALUE OF THE ANGLE OF INTERNAL FRICTION OF THE WALL BACKFILL MATERIAL IN THE REINFORCED ZONE SHALL BE ASSUMED TO BE 30 DEGREES WITHOUT CERTIFIED TEST VALUES.

LIST OF DRAWINGS:

1. GENERAL PLAN
2. TYPICAL SECTION, QUANTITIES, AND NOTES
3. SUBSURFACE EXPLORATION
4. WALL DETAILS
5. TUBULAR STEEL RAILING SCREENING

LEGEND

R/L = REFERENCE LINE
F.F. = FRONT FACE
B.F. = BACK FACE
R/W = RIGHT OF WAY
E.J. = EXPANSION JOINT
C.J. = CONTRACTION JOINT

TRAFFIC DATA (BUCHANAN ST.):
A.A.D.T. (2025) = 1,400
A.A.D.T. (2045) = 1,700
DESIGN SPEED = 40 MPH

MATERIAL PROPERTIES:
CONCRETE MASONRY (COPING) — f'_c = 3,500 PSI
COATED HIGH-STRENGTH BAR STEEL REINFORCEMENT, GRADE 60 — fy = 60,000 PSI

WISCONSIN
KEITH R. BEHREND
E-42073
MADISON
WI
PROFESSIONAL ENGINEER
11/22/2024

STRUCTURE DESIGN CONTACTS:
DESIGN CONSULTANT CONTACT:
KEITH BEHREND (608) 251-4843

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

NO.	DATE	REVISION	BY

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED EMK 06/09/25
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE R-44-57

WALL WEST SIDE OF BUCHANAN STREET

COUNTY	TOWN/~~CITY/VILLAGE~~
OUTAGAMIE	VANDENBROEK

DESIGN SPEC.
AASHTO LRFD BRIDGE DESIGN SPECIFICATION

DESIGNED BY	DESIGNED CK'D	DRAWN BY	PLANS CK'D
JFG	KRB	ZHC	KRB

GENERAL PLAN

SHEET 1 OF 5
274

I.D. 1130-66-82 DATE:

8

8

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	TOTAL
209.1500	BACKFILL GRANULAR GRADE 1	CY	200
513.4091	RAILING TUBULAR SCREENING	LF	473
517.1010.S	CONCRETE STAINING R-44-57	SF	4,958
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	495
SPV.0165.02	WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH R-44-57	SF	4,483
	NON-BID ITEMS		
	PREFORMED JOINT FILLER	SIZE	3/4"
	NAME PLATE	EACH	1
	EXPANDED POLYSTYRENE	SIZE	1"

SOIL PARAMETERS

STRATUM LOCATIONS & SOIL DESCRIPTIONS	TOTAL UNIT WEIGHT (PCF)	DRAINED		UNDRAINED	
		EFFECTIVE COHESION (PSF)	EFFECTIVE FRICTION ANGLE (DEGREES)	EFFECTIVE COHESION (PSF)	EFFECTIVE FRICTION ANGLE (DEGREES)
GRANULAR BACKFILL (REINFORCING ZONE OR BACKFILL)	120	0	30	0	30
(EMBANKMENT FILL) RETAINED SOIL *	120	0	30	0	30
BORING 66-BUC-101					
EMBANKMENT FILL EL. 739 — EL. 715	120	0	30	0	30
LEAN CLAY EL. 715 — EL. 703	125	0	26	2,500	0
LEAN CLAY EL. 703 — EL. 692	125	0	26	4,000	0
FAT CLAY EL. 692— EL. 690	125	0	24	2,000	0

* DESIGN WALL FOR THESE VALUES

WALL EXTERNAL & OVERALL STABILITY EVALUATION

DIMENSIONS	EVALUATED LOCATION
WALL HEIGHT (FEET)	13.95
EXPOSED WALL HEIGHT (FEET)	12.45
MINIMUM LENGTH OF REINFORCEMENT (FEET)	16.0
WALL STATION	13+95
BORING USED	66-BUC-101
CAPACITY TO DEMAND RATIO (CDR) AND FACTORED BEARING RESISTANCE	
SLIDING (CDR>1.0)	1.21
ECCENTRICITY (CDR>1.0)	2.86
OVERALL STABILITY (CDR>1.0)	1.01
BEARING RESISTANCE (CDR>1.0)	1.09
FACTORED BEARING RESISTANCE (PSF)	6,900

GEOMETRY TABLE

WALL STA.	ROADWAY STA.	ROADWAY OFFSET TO F.F. WALL	TOP OF WALL EL.	FINISHED GRADE EL.
10+00.00	69+95.00	-44.50	718.97	718.97
10+25.00	69+70.00	-44.50	719.84	715.40
10+50.00	69+45.00	-44.50	720.77	715.79
10+75.00	69+20.00	-44.50	721.70	716.18
11+00.00	68+95.00	-44.50	722.63	716.57
11+25.00	68+70.00	-44.50	723.56	716.96
11+50.00	68+45.00	-44.50	724.50	717.35
11+75.00	68+20.00	-44.50	725.43	717.74
12+00.00	67+95.00	-44.50	726.36	718.13
12+25.00	67+70.00	-44.50	727.29	718.52
12+50.00	67+45.00	-44.50	728.22	718.91
12+75.00	67+20.00	-44.50	729.15	719.30
13+00.00	66+95.00	-44.50	730.08	719.69
13+25.00	66+70.00	-44.50	731.01	720.08
13+50.00	66+45.00	-44.50	731.94	720.47
13+75.00	66+20.00	-44.50	732.88	720.86
13+95.00	66+00.00	-44.50	733.62	721.17
14+00.00	65+95.98	-47.47	732.62	720.79
14+25.00	65+75.88	-62.34	727.64	718.86
14+50.00	65+55.79	-77.21	722.66	716.94
14+65.00	65+43.72	-86.14	719.67	715.79
14+75.00	65+35.69	-92.08	715.81	715.81

STATE PROJECT NUMBER

1130-66-82

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

THE PLAN QUANTITY FOR THE BID ITEM "WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH R-44-57" IS BASED ON A WALL HEIGHT MEASURED FROM THE TOP OF WALL TO A CONSTANT DEPTH OF 1'-6" BELOW FINISHED GRADE.

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

AT THE BACK FACE OF THE WALL, ALL EXCAVATED VOLUME NOT OCCUPIED BY THE NEW STRUCTURE OR THE REINFORCED SOIL ZONE SHALL BE BACKFILLED WITH EMBANKMENT. BACKFILLING THE RETAINED SOIL ZONE IS INCLUDED IN THE BID ITEM FOR "WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH R-44-57".

THE CONCRETE COPING MUST BE CAST-IN-PLACE AND CANNOT BE PRECAST CONCRETE COPING. COST OF COPING AND ALL REINFORCING TO BE INCLUDED IN BID ITEM "WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH."

ALL DIMENSIONS, STATIONS, AND OFFSETS ARE GIVEN AT THE FRONT FACE OF WALL UNLESS OTHERWISE SHOWN.

BAR STEEL REINFORCEMENT FOR CAST-IN-PLACE CONCRETE COPING SHALL BE EPOXY COATED.

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

THE TOTAL ESTIMATED MAXIMUM SETTLEMENT OF THE WALL IS 1 INCH.

LEGEND

▲ MINIMUM LENGTH OF MSE WALL REINFORCING MUST BE 70% THE TOTAL WALL HEIGHT (EXPOSED HEIGHT PLUS EMBEDMENT DEPTH) OR 8.0 FEET, WHICHEVER IS GREATER. SOIL REINFORCING MUST EXTEND A MINIMUM OF 3.0 FEET BEYOND THE FAILURE PLANE FOR INTERNAL STABILITY AS DEFINED BY AASHTO SPECIFICATIONS.

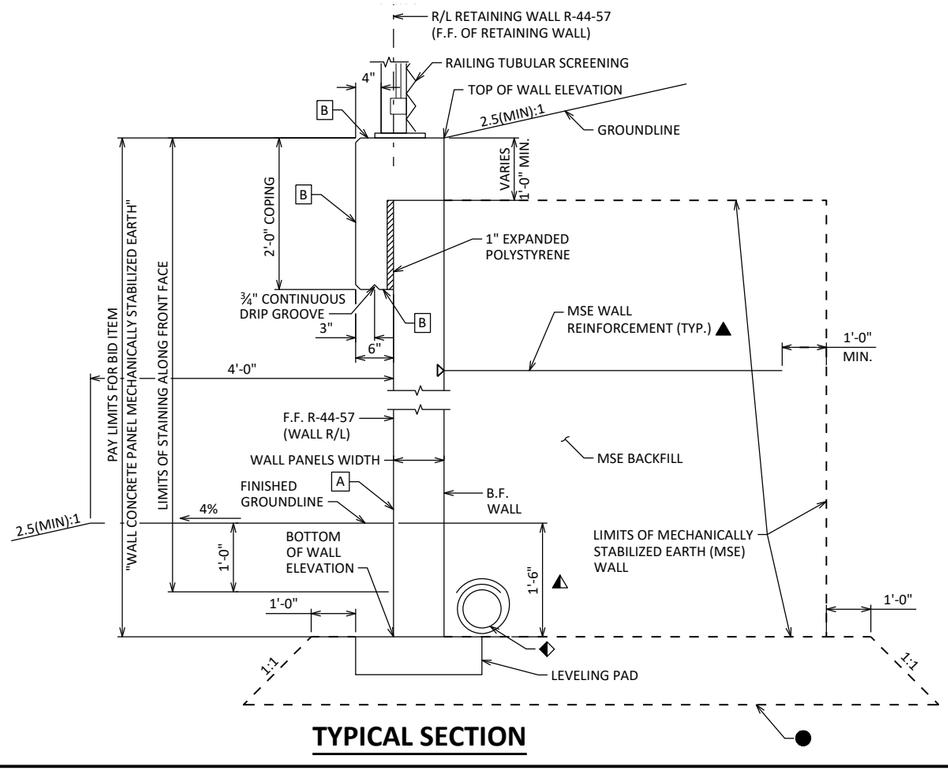
◭ MINIMUM EMBEDMENT BASED ON SITE SPECIFIC PARAMETERS (1'-6" MINIMUM FOR ALL WALLS ON LEVEL GROUND). FIELD EMBEDMENTS SHALL MEET OR EXCEED THE MINIMUM EMBEDMENT. FIELD EMBEDMENTS BELOW MINIMUM EMBEDMENT SHALL NOT BE INCLUDED IN THE PAY LIMITS.

◆ PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. DAYLIGHT UNDERDRAIN AT ENDS OF WALL. PROVIDE RODENT PROTECTION AT DISCHARGE ENDS OF PIPE. SEE DETAIL THIS SHEET.

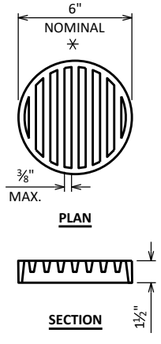
● EXCAVATION BELOW PLANNED SUBGRADE (EBS) MAY BE REQUIRED BELOW THE FOOTING WHERE SOFT, LOOSE, OR OTHERWISE UNSUITABLE MATERIALS ARE PRESENT AT THE PLANNED SUBGRADE. WHERE EBS IS REQUIRED, EXTEND EXCAVATION OUT ONE FOOT LATERALLY FOR EACH FOOT REMOVED BELOW THE STRUCTURE, ON EITHER SIDE OF THE FOOTING. COORDINATE SUITABILITY OF THE EXISTING SOILS AT THE PLANNED SUBGRADE WITH ENGINEER. THE REGION GEOTECHNICAL ENGINEER MAY BE CONTACTED IF NEEDED TO ASSIST IN THE SUITABILITY DETERMINATION. EXCAVATION FOR EBS TO BE PAID FOR AS EXTRA WORK UNDER "WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH R-44-57". UNDERCUT VOLUME TO BE BACKFILLED WITH BACKFILL GRANULAR GRADE 1.

CONCRETE STAINING SCHEDULE

MARK	COLOR	AMS COLOR NO.	LOCATION	NOTES
A	CRAFT PAPER	31090	PRECAST WALL PANELS	EXPOSED FRONT FACE.
B	VIRTUAL TAUPE	20150	CONCRETE COPING	EXPOSED TOP, FRONT, AND BOTTOM FACES AS SHOWN IN THE TYPICAL SECTION.



TYPICAL SECTION



RODENT SHIELD DETAIL

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

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

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

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE R-44-57

DRAWN BY ZHC | PLANS CK'D KRB

TYPICAL SECTION, QUANTITIES, AND NOTES

SHEET 2
275

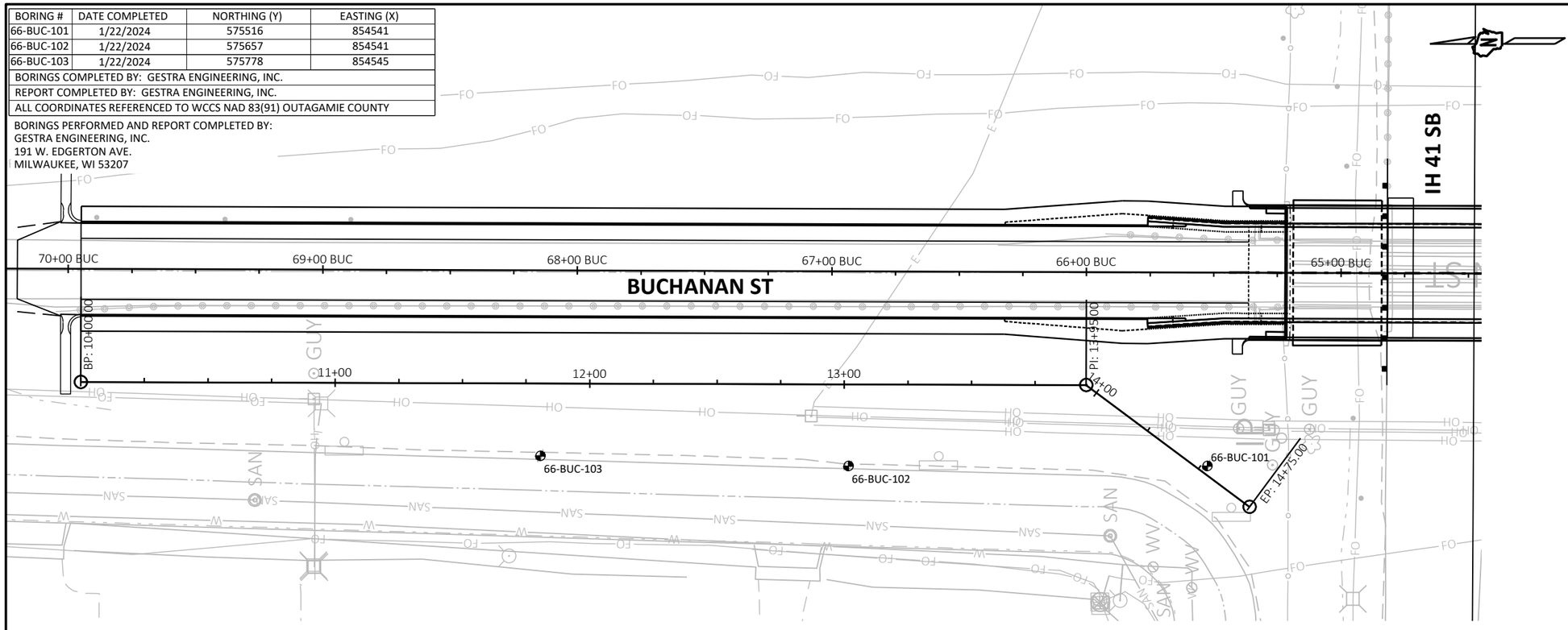
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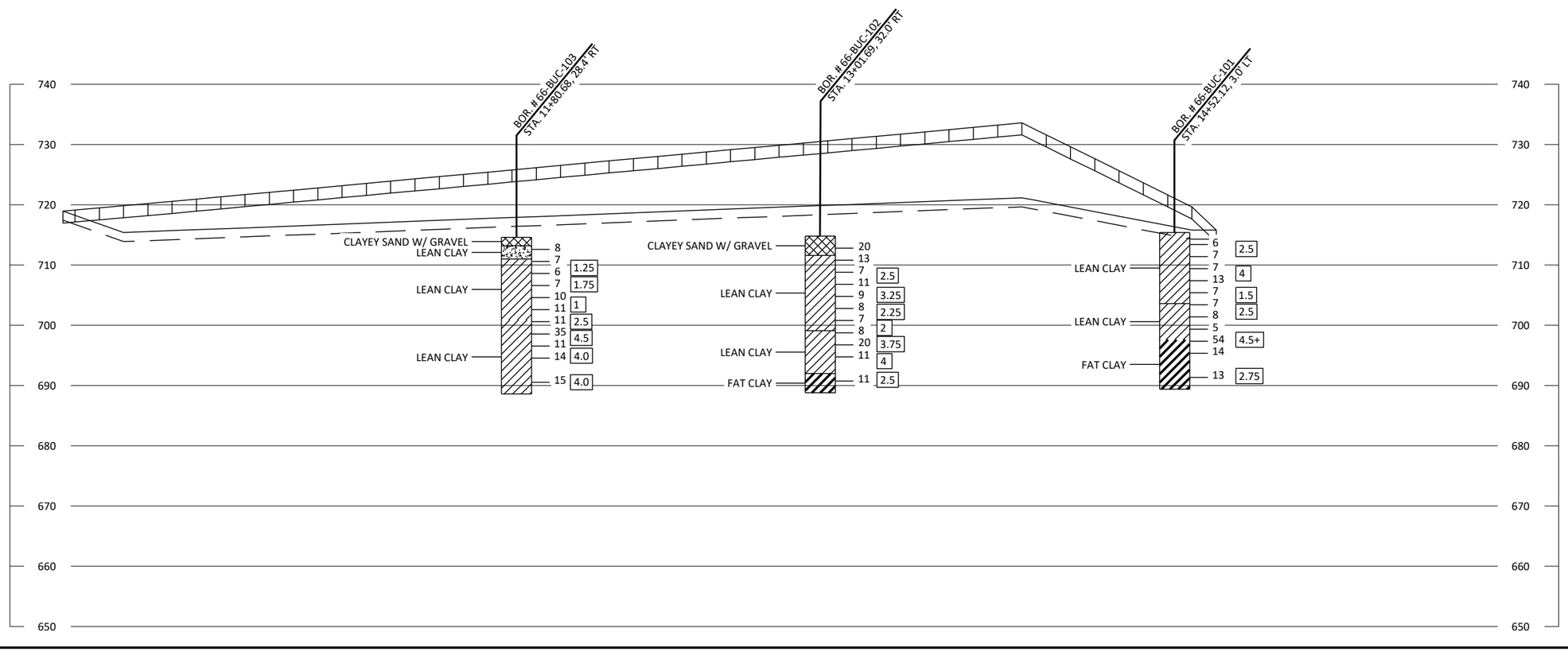
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BORING #	DATE COMPLETED	NORTHING (Y)	EASTING (X)
66-BUC-101	1/22/2024	575516	854541
66-BUC-102	1/22/2024	575657	854541
66-BUC-103	1/22/2024	575778	854545
BORINGS COMPLETED BY: GESTRA ENGINEERING, INC.			
REPORT COMPLETED BY: GESTRA ENGINEERING, INC.			
ALL COORDINATES REFERENCED TO WCCS NAD 83(91) OUTAGAMIE COUNTY			

BORINGS PERFORMED AND REPORT COMPLETED BY:
GESTRA ENGINEERING, INC.
191 W. EDGERTON AVE.
MILWAUKEE, WI 53207





STATE PROJECT NUMBER

1130-66-82

MATERIAL SYMBOLS

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

LEGEND OF BORING

BORING #/EL
STA/OFFSET
ST
0.25 (1) 17 (2)
F-C
COBBLE OR BOULDER
WEATHERED LIMESTONE
CORE RUN #1 - 24'-29'
REC=80%, RQD=72%

(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 R-44-57

DRAWN BY ZHC | PLANS CK'D KRB

SUBSURFACE EXPLORATION

SHEET 3
276

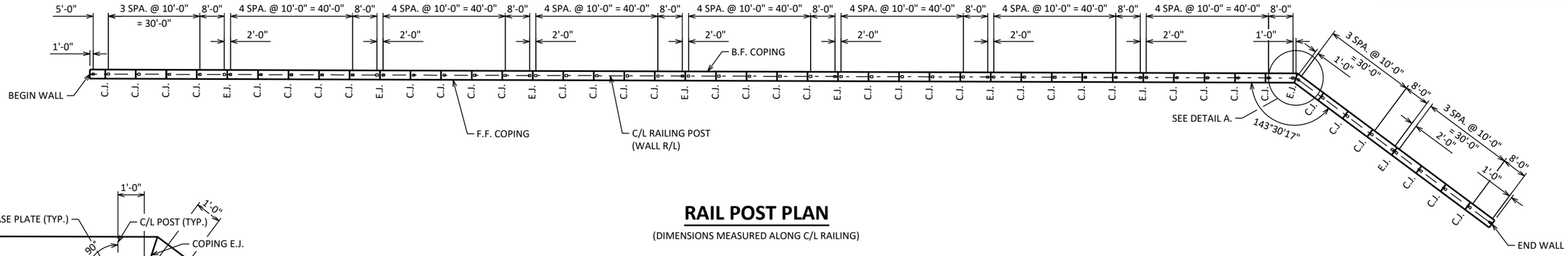
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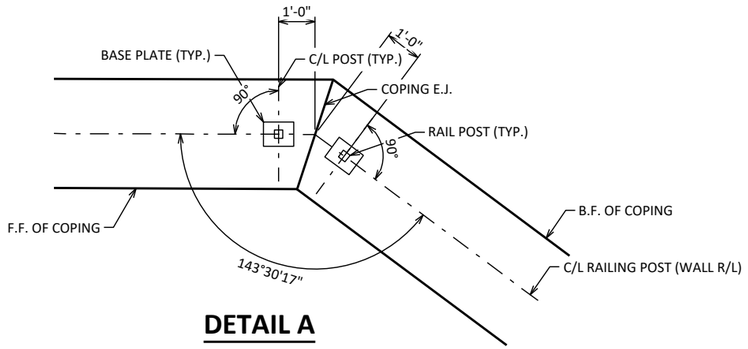
STATE PROJECT NUMBER

1130-66-82

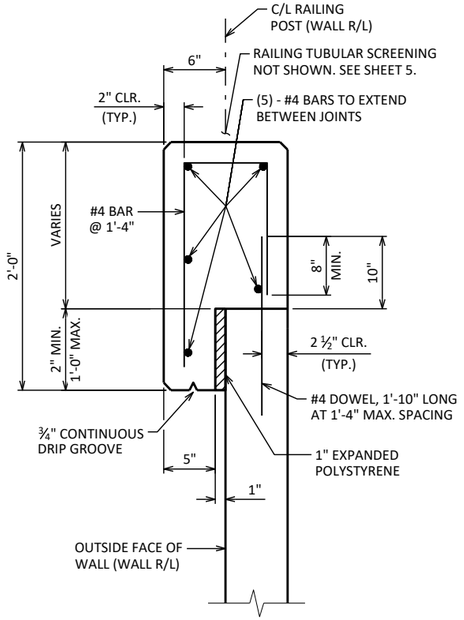


RAIL POST PLAN

(DIMENSIONS MEASURED ALONG C/L RAILING)

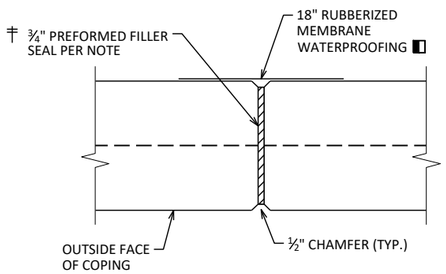


DETAIL A



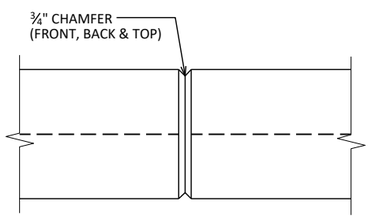
CAST-IN-PLACE CONCRETE COPING DETAIL

ALL BAR STEEL SHALL BE EPOXY COATED.



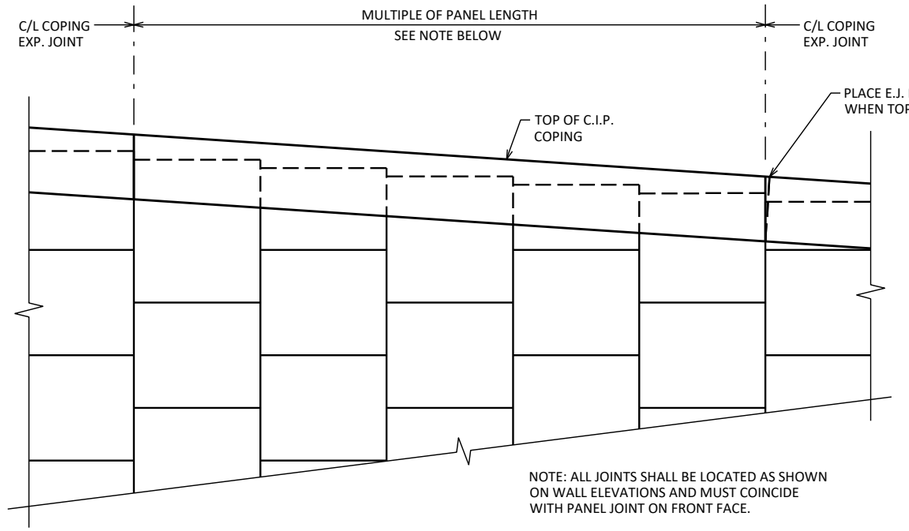
COPING EXPANSION JOINT

DO NOT RUN BAR STEEL THRU JOINT.
MAX. SPACING OF JOINT = 50'



COPING CONTRACTION JOINT

DO NOT RUN BAR STEEL THRU JOINT. MAX. SPACING OF JOINT = 10'.



C.I.P. COPING PARTIAL ELEVATION

LEGEND

◧ MEMBRANE WATERPROOFING TO EXTEND FROM TOP OF COPING TO 6" BELOW TOP OF PANELS. MEMBRANE WATERPROOFING INCLUDED IN BID ITEM "WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH".

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

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE R-44-57

DRAWN BY ZHC | PLANS CK'D KRB

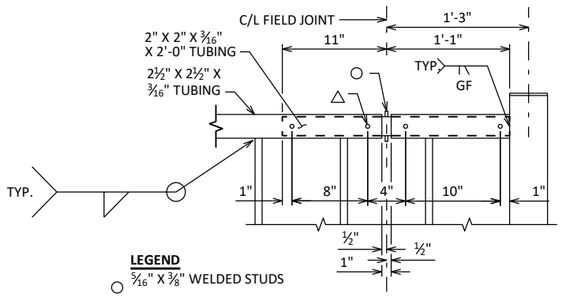
WALL DETAILS

SHEET 4
277

SCALE =

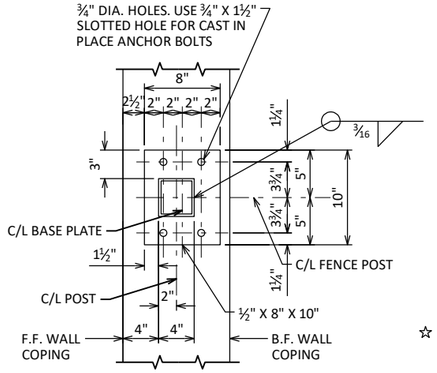
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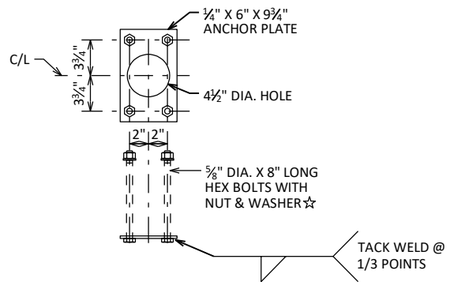


LEGEND
○ 5/16" X 3/8" WELDED STUDS
△ WELD BEAD ON EACH SIDE OF TUBE. GRIND BEADS SO THAT SLEEVE FITS FREELY INSIDE THE 2½" X 2½" TUBE.

RAILING EXPANSION JOINT DETAIL



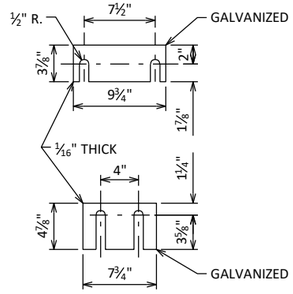
BASE PLATE



ANCHORAGE DETAIL

☆ ALTERNATIVE ANCHORAGE: ADHESIVE ANCHORS 5/8-INCH. EMBED 7" IN CONCRETE. ADHESIVE ANCHORS SHALL CONFORM TO SECTIONS 502.2.12 AND 502.3.14 OF THE STANDARD SPECIFICATIONS.

NOTE: ANCHOR PLATE NOT REQUIRED WHEN ADHESIVE ANCHORS ARE USED.



SHIM PLATE DETAILS

TWO SHIMS OF EACH SIZE REQUIRED PER POST

LEGEND

△ SEE RAIL POST PLAN ON SHEET 4 FOR LOCATIONS WHERE RAIL POST SPACINGS APPLY.

NOTES

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.

STRUCTURAL TUBING SHALL CONFORM TO ASTM A500, GRADE B. PLATES, ANGLES, BARS AND SHIMS SHALL CONFORM TO ASTM A709, GRADE 36. FENCE FABRIC SHALL CONFORM TO F668, CLASS 2B.

ANCHORAGES SHALL BE ACCURATELY PLACED TO PROVIDE CORRECT ALIGNMENT OF RAILING. SET POSTS NORMAL TO GRADE.

ALL POST SPACINGS ARE TAKEN HORIZONTAL ALONG CENTERLINE OF RAILING AT BASE OF POST.

STEEL SHIMS SHALL BE PROVIDED & USED UNDER BASE PLATES WHERE REQUIRED FOR ALIGNMENT, AND SHALL BE GALVANIZED.

CAULK AROUND PERIMETER OF BASE PLATES AND FILL PORTION OF SLOTTED HOLES AROUND ANCHOR BOLTS WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER.

CUT BOTTOM OF POST TO MAKE VERTICAL IN TRANSVERSE DIRECTION.

ANCHOR BOLTS, NUTS AND WASHERS SHALL BE EITHER STAINLESS STEEL OR ASTM 307. IF 307 IS USED, ANCHOR BOLTS, NUTS, AND WASHERS SHALL BE GALVANIZED. ☆

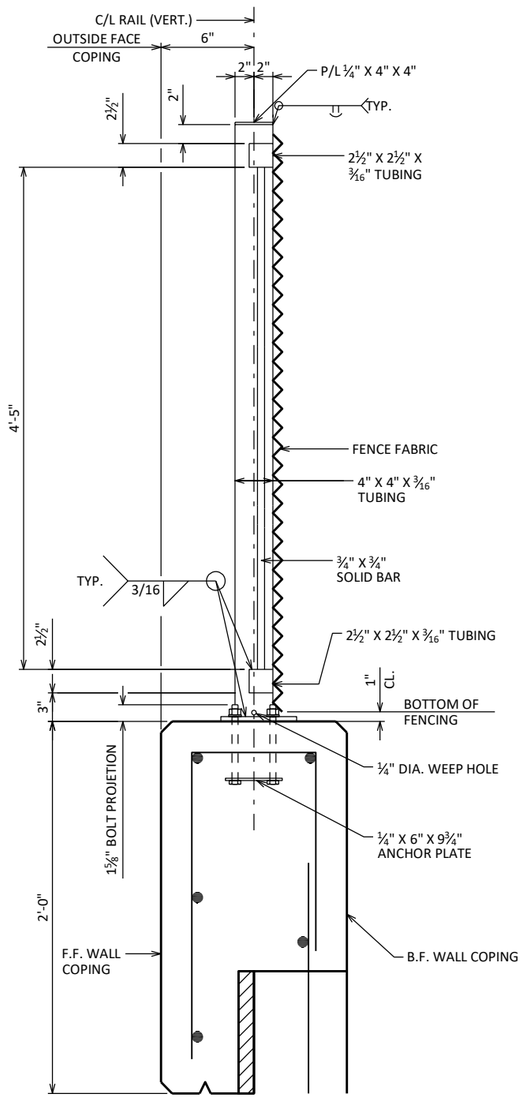
THE BID ITEM SHALL BE "RAILING TUBULAR SCREENING R-44-57" WHICH SHALL INCLUDE ALL ITEMS SHOWN.

RAILING SHALL BE FABRICATED IN LENGTHS THAT INCLUDE NOT MORE THAN 3 POSTS.

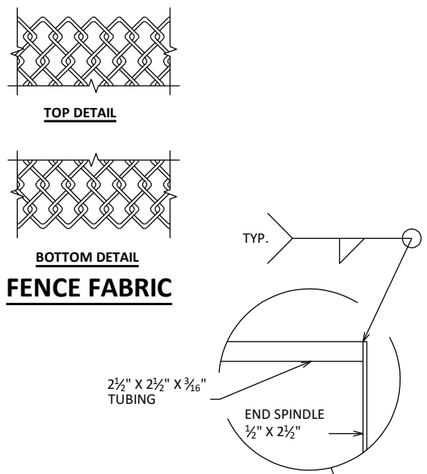
VENT HOLES SHALL BE DRILLED IN MEMBERS AS REQUIRED TO FACILITATE GALVANIZING AND DRAINAGE.

ALL RAILING MATERIAL SHALL BE GALVANIZED AFTER FABRICATION. PRIOR TO GALVANIZING THE STEEL RAILING SHALL BE GIVEN A NO. 6 BLAST CLEANING PER SSPC SPECIFICATIONS. PAINT OVER GALVANIZING WITH AN APPROVED TIE COAT AND TOP COAT AS SPECIFIED IN THE CONTRACT DOCUMENTS. THE RAILING SHALL BE PAINTED AMS STD. COLOR NO. 27038 BLACK. FENCE FABRIC AND TIES TO BE VINYL-COATED. COLOR SHALL BE BLACK IN ACCORDANCE WITH ASTM F934.

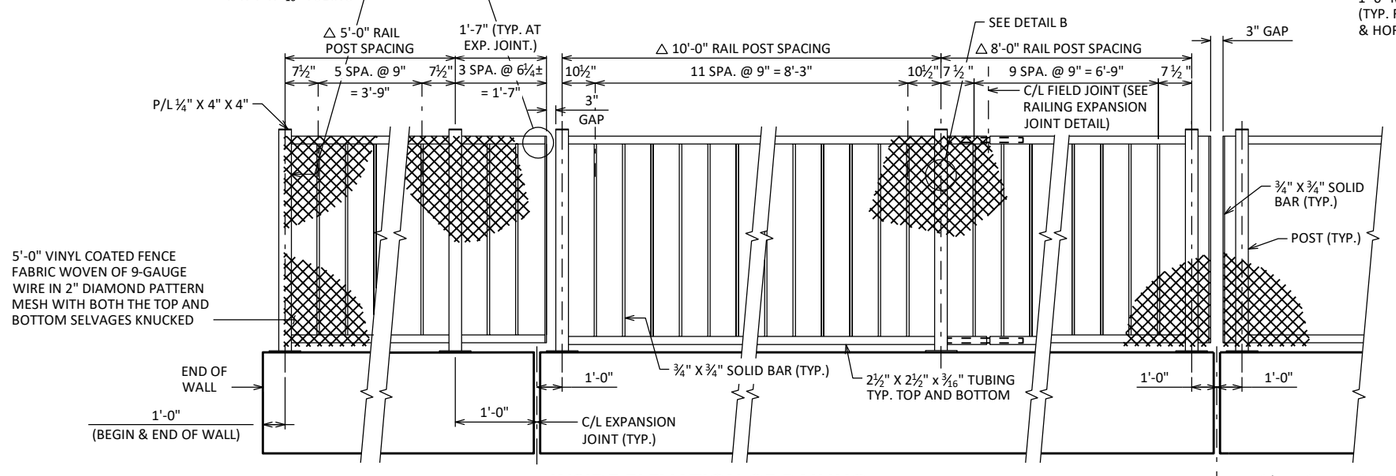
THE END OF THE FABRIC SHALL BE ATTACHED TO THE POST BY MEANS OF A TENSION BAR THREADED THROUGH THE END LOOPS OF THE FABRIC AND SECURED TO THE POST WITH CLAMPS & BOLT. THE FABRIC SHALL BE STRETCHED TO REMOVE ALL SLACK.



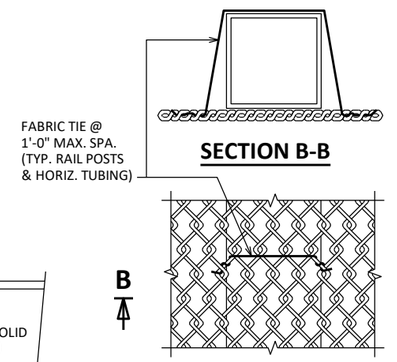
SECTION THRU RAILING



FENCE FABRIC



INSIDE ELEVATION OF RAILING



SECTION B-B

DETAIL B

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE R-44-57

DRAWN BY ZHC | PLANS CK'D

TUBULAR STEEL RAILING SCREENING

SHEET 5 — 278 — KRB

SCALE =

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BUCHANAN STREET SOUTH OF IH-41

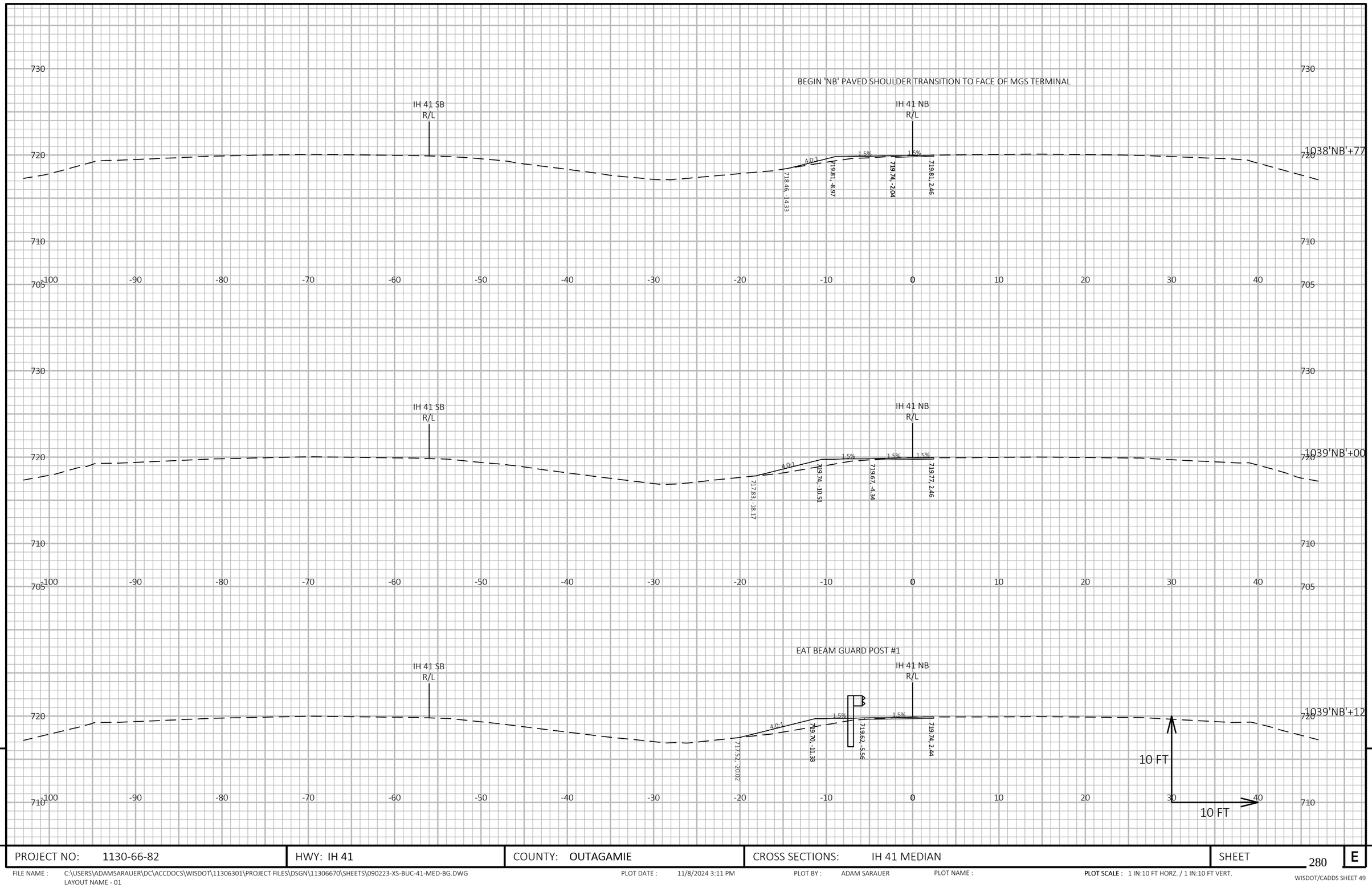
STATION	DISTANCE	AREA (SF)		INCREMENTAL VOL (CY) (UNADJUSTED)		CUMULATIVE VOL (CY)		
		CUT	FILL	CUT	FILL	CUT 1.00	EXPANDED FILL 1.25	MASS ORDINATE
60+25.00	0.00	0.89	0.77	0	0	0	0	0
60+50.00	25.00	91.86	220.89	43	103	43	129	-86
61+00.00	50.00	92.47	264.24	171	449	214	690	-476
62+00.00	100.00	57.67	287.01	278	1021	492	1966	-1474
63+00.00	100.00	6.54	639.36	119	1716	611	4111	-3500
63+08.80	8.80	6.46	730.86	2	223	613	4390	-3777
			TOTALS:	613	3,512			

BUCHANAN STREET NORTH OF IH-41

STATION	DISTANCE	AREA (SF)		INCREMENTAL VOL (CY) (UNADJUSTED)		CUMULATIVE VOL (CY)		
		CUT	FILL	CUT	FILL	CUT 1.00	EXPANDED FILL 1.25	MASS ORDINATE
65+27.30	0.00	16.11	914.00	0	0	0	0	0
66+00.00	72.70	62.48	483.88	106	1882	106	2353	-2247
67+00.00	100.00	88.94	317.05	280	1483	386	4206	-3820
68+00.00	100.00	96.62	267.85	344	1083	730	5560	-4830
69+00.00	100.00	100.33	237.89	365	937	1095	6731	-5636
69+95.00	95.00	95.92	211.78	345	791	1440	7720	-6280
70+20.00	25.00	2.32	0.18	45	98	1485	7843	-6358
			TOTALS:	1,485	6,274			

IH-41 MEDIAN BELOW BUCHANAN STREET

STATION	DISTANCE	AREA (SF)		INCREMENTAL VOL (CY) (UNADJUSTED)		CUMULATIVE VOL (CY)		
		CUT	FILL	CUT	FILL	CUT 1.00	EXPANDED FILL 1.25	MASS ORDINATE
1038+77.35	0.00	0.00	2.92	0	0	0	0	0
1039+00.00	22.65	0.13	5.92	0	4	0	5	-5
1039+11.99	11.99	0.06	7.68	0	3	0	9	-9
1039+36.98	24.99	0.00	3.36	0	5	0	15	-15
1039+61.96	24.98	0.00	1.99	0	2	0	18	-18
1040+00.00	38.04	0.03	1.64	0	3	0	21	-21
1041+00.00	100.00	0.01	3.81	0	10	0	34	-34
1041+93.02	93.02	0.02	1.38	0	9	0	45	-45
1042+00.00	6.98	0.02	1.43	0	0	0	45	-45
1043+00.00	100.00	0.01	2.39	0	7	0	54	-54
1043+68.98	68.98	0.03	1.54	0	5	0	60	-60
1044+00.00	31.02	0.03	2.12	0	2	0	63	-63
1045+00.00	100.00	0.00	5.23	0	14	0	80	-80
1045+99.64	99.64	0.00	1.65	0	13	0	96	-96
1046+24.63	24.99	0.16	2.07	0	2	0	99	-99
1046+49.61	24.98	0.17	7.59	0	4	0	104	-104
1046+80.99	31.38	0.03	2.87	0	6	0	111	-111
			TOTALS:	0	89			



9

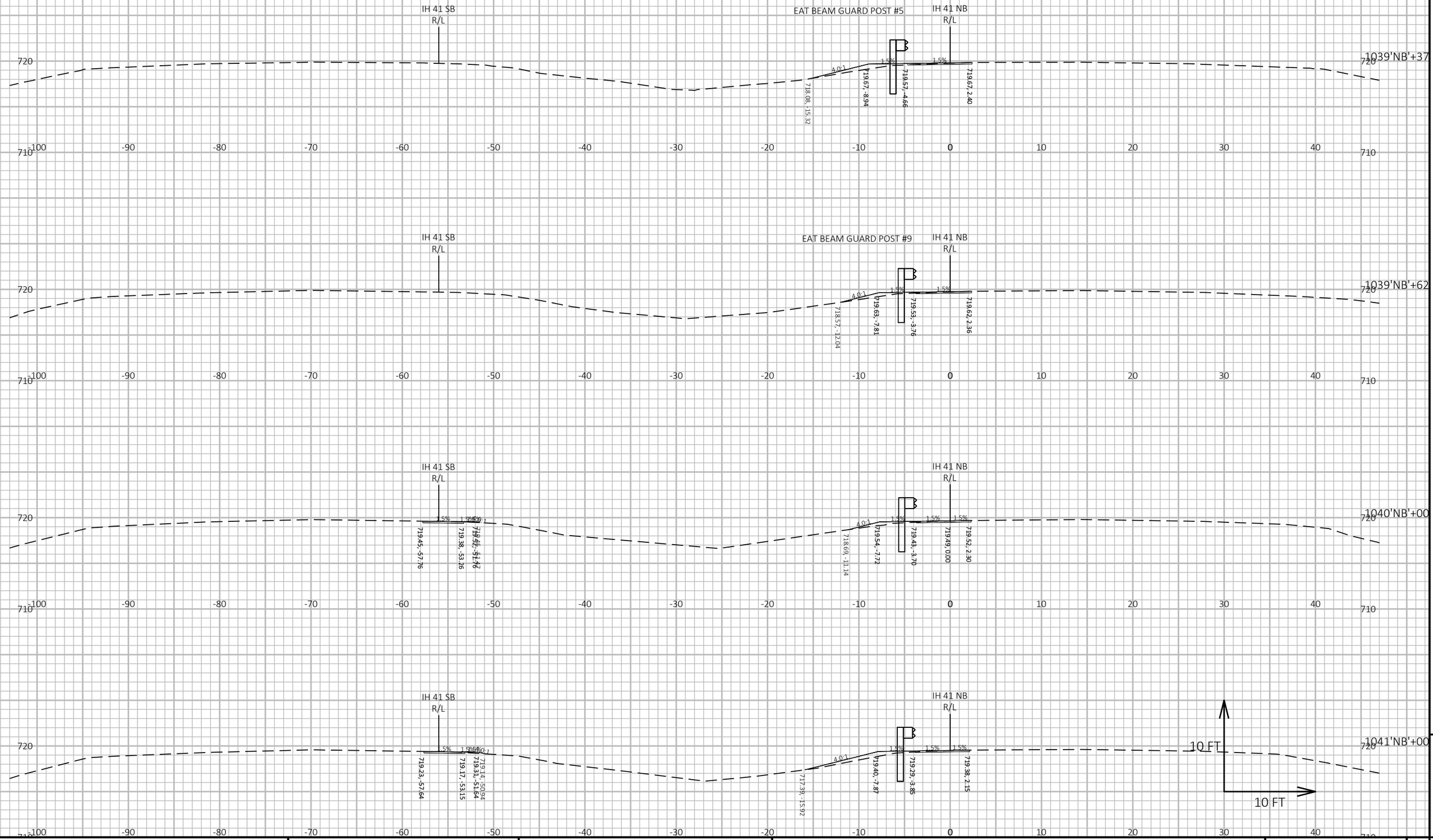
PROJECT NO: 1130-66-82	HWY: IH 41	COUNTY: OUTAGAMIE	CROSS SECTIONS: IH 41 MEDIAN	SHEET 280	E

FILE NAME : C:\USERS\ADAMSARAUER\DC\ACCDOCS\WISDOT\11306301\PROJECT FILES\DSGN\11306670\SHEETS\090223-XS-BUC-41-MED-BG.DWG
LAYOUT NAME - 01

PLOT DATE : 11/8/2024 3:11 PM PLOT BY : ADAM SARAUER PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

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PROJECT NO: 1130-66-82	HWY: IH 41	COUNTY: OUTAGAMIE	CROSS SECTIONS: IH 41 MEDIAN	SHEET 281	E

FILE NAME : C:\USERS\ADAMSARAUER\DC\ACCDOCS\WISDOT\11306301\PROJECT FILES\DSGN\11306670\SHEETS\090223-XS-BUC-41-MED-BG.DWG
LAYOUT NAME - 02

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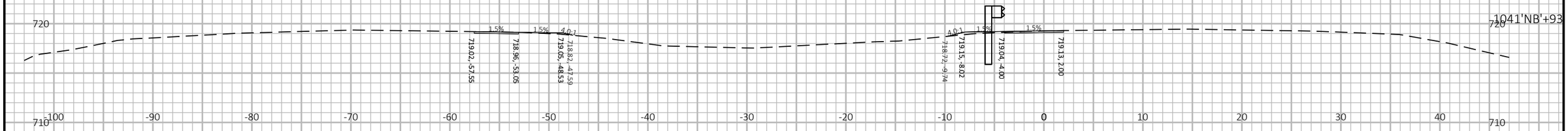
PLOT BY : ADAM SARAUER

PLOT NAME :

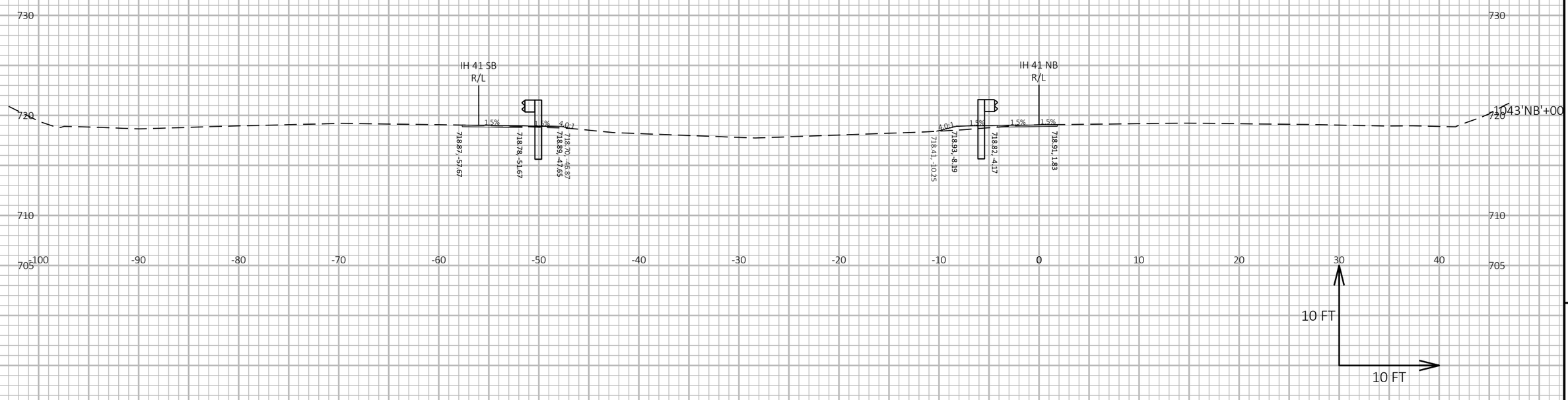
PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

END 'SB' PAVED SHOULDER TRANSITION FROM FACE OF MGS GUARDRAIL







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PROJECT NO: 1130-66-82	HWY: IH 41	COUNTY: OUTAGAMIE	CROSS SECTIONS: IH 41 MEDIAN	SHEET 282	E

FILE NAME : C:\USERS\ADAMSARAUER\DC\ACCDOCS\WISDOT\11306301\PROJECT FILES\DSGN\11306670\SHEETS\090223-XS-BUC-41-MED-BG.DWG
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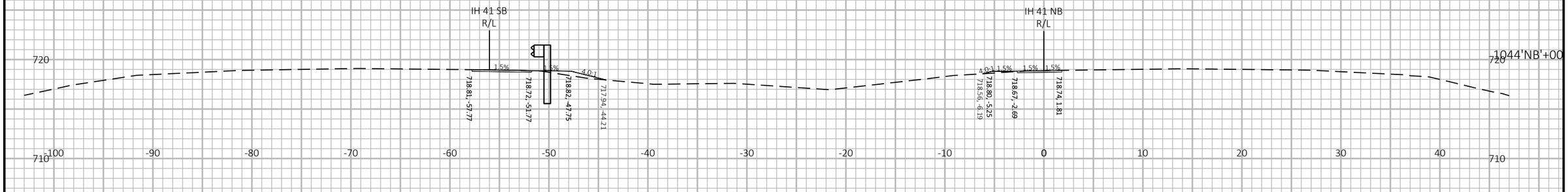
PLOT BY : ADAM SARAUER

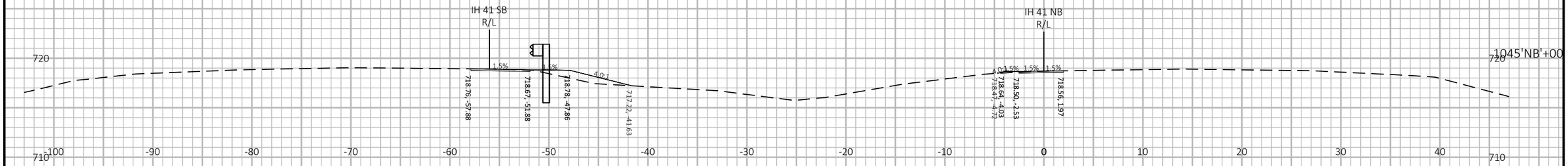
PLOT NAME :

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

WISDOT/CADDS SHEET 49









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PROJECT NO: 1130-66-82	HWY: IH 41	COUNTY: OUTAGAMIE	CROSS SECTIONS: IH 41 MEDIAN	SHEET 283	E

FILE NAME : C:\USERS\ADAMSARAUER\DC\ACCDOCS\WISDOT\11306301\PROJECT FILES\DSGN\11306670\SHEETS\090223-XS-BUC-41-MED-BG.DWG
LAYOUT NAME - 04

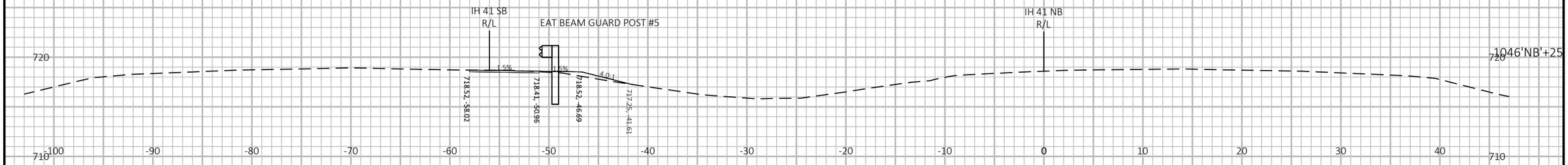
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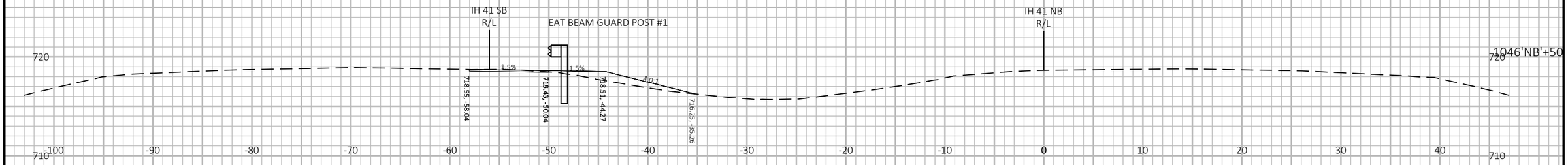
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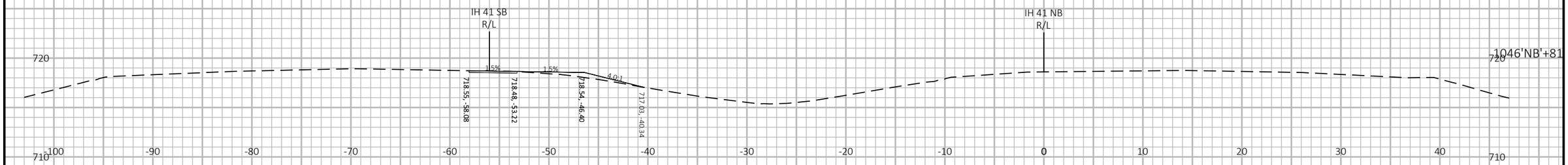
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PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

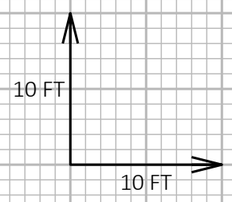
WISDOT/CADDS SHEET 49







BEGIN 'SB' PAVED SHOULDER TRANSITION TO FACE OF MGS TERMINAL



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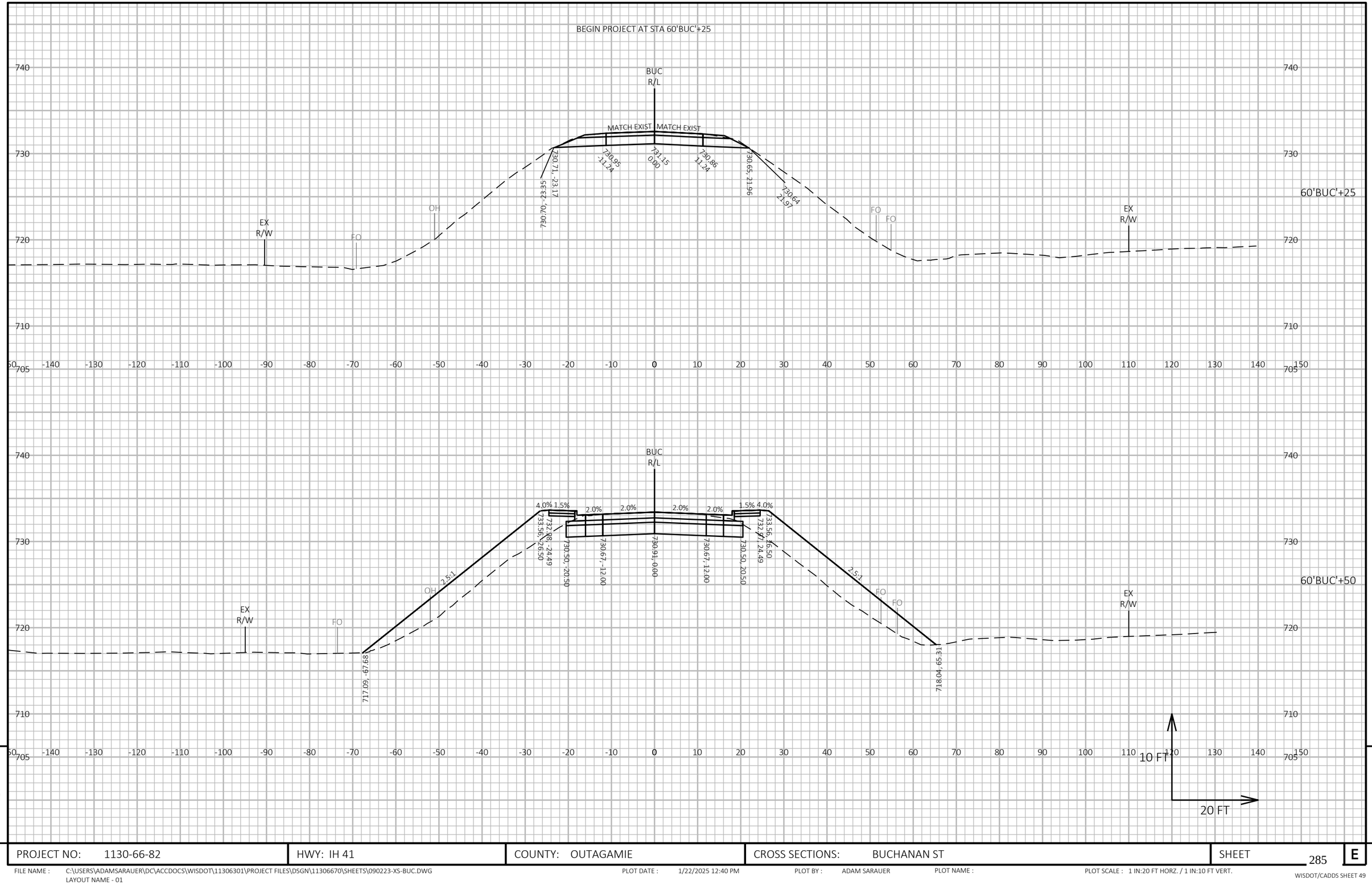
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PROJECT NO: 1130-66-82	HWY: IH 41	COUNTY: OUTAGAMIE	CROSS SECTIONS: IH 41 MEDIAN	SHEET 284	E

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LAYOUT NAME - 05

PLOT DATE : 11/8/2024 3:11 PM PLOT BY : ADAM SARAUER PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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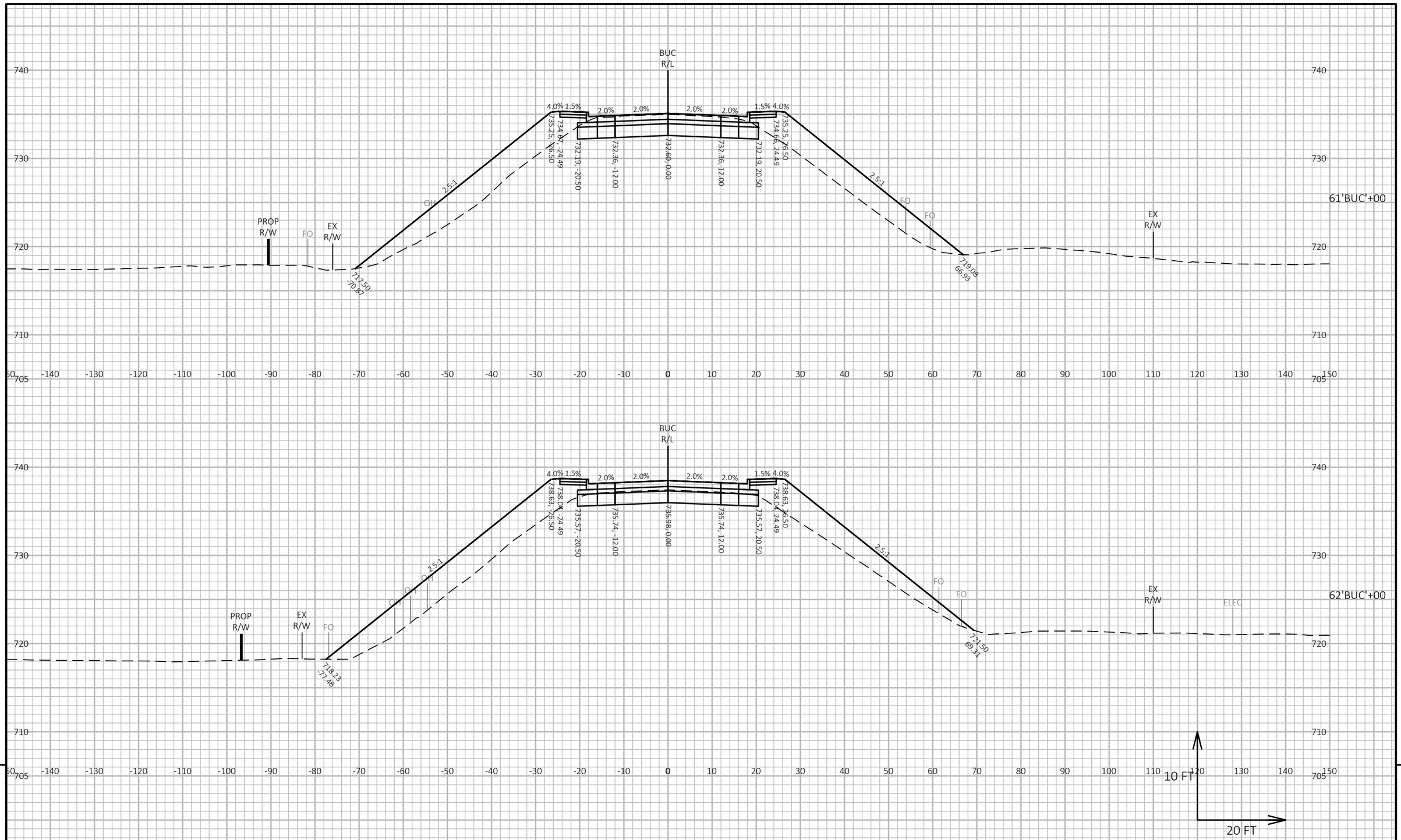
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LAYOUT NAME - 01

PLOT DATE : 1/22/2025 12:40 PM PLOT BY : ADAM SARAUER PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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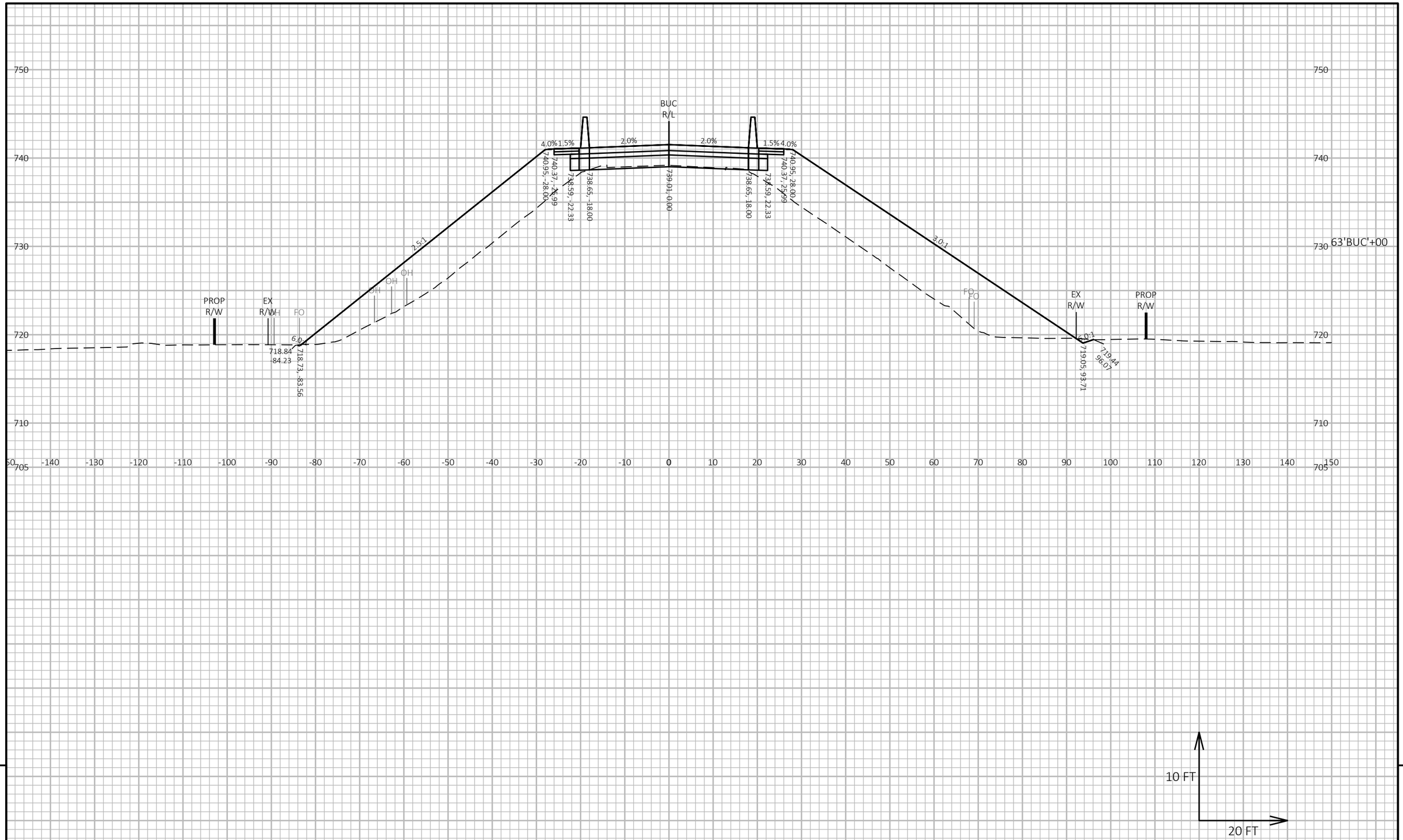
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PROJECT NO: 1130-66-82	HWY: IH 41	COUNTY: OUTAGAMIE	CROSS SECTIONS: BUCHANAN ST	SHEET 286	E

FILE NAME : C:\USERS\ADAMSARAUER\DC\ACCDOCS\WISDOT\11306301\PROJECT FILES\DSGN\11306670\SHEETS\090223-XS-BUC.DWG
LAYOUT NAME - 02

PLOT DATE : 1/22/2025 12:40 PM PLOT BY : ADAM SARAUER PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

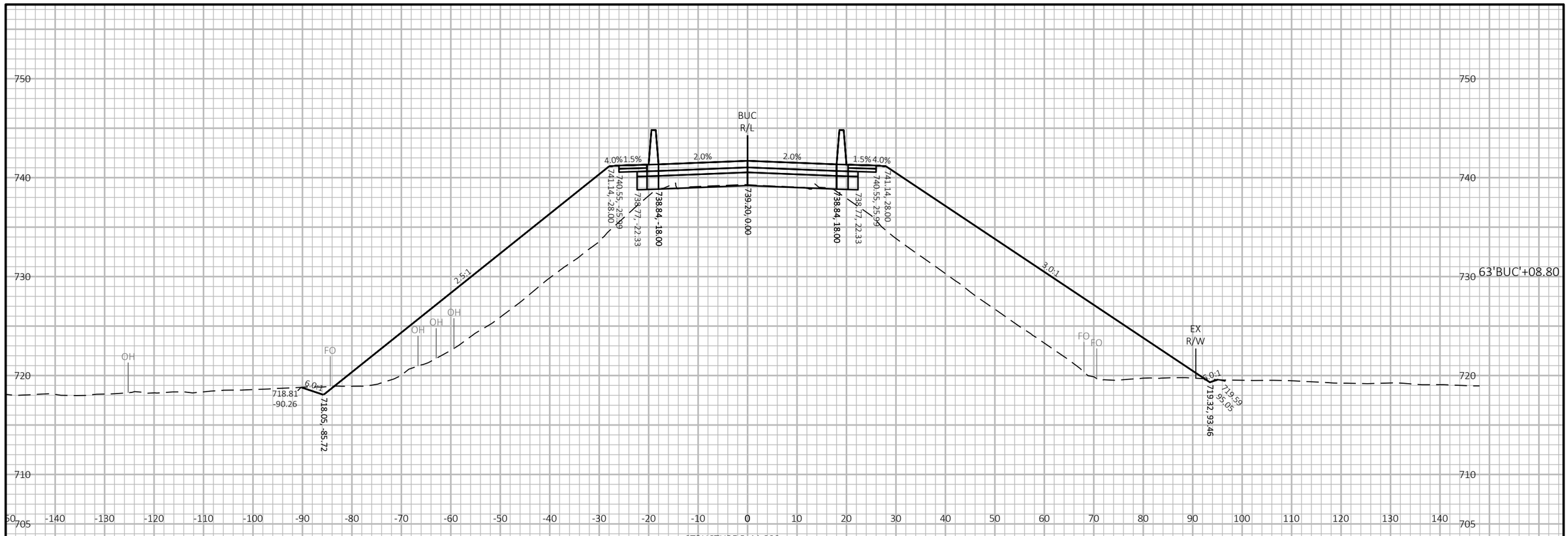


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FILE NAME : C:\USERS\ADAMSARAUER\DC\ACCDOCS\WISDOT\11306301\PROJECT FILES\DSGN\11306670\SHEETS\090223-XS-BUC.DWG
LAYOUT NAME - 03

PLOT DATE : 1/22/2025 12:40 PM PLOT BY : ADAM SARAUER PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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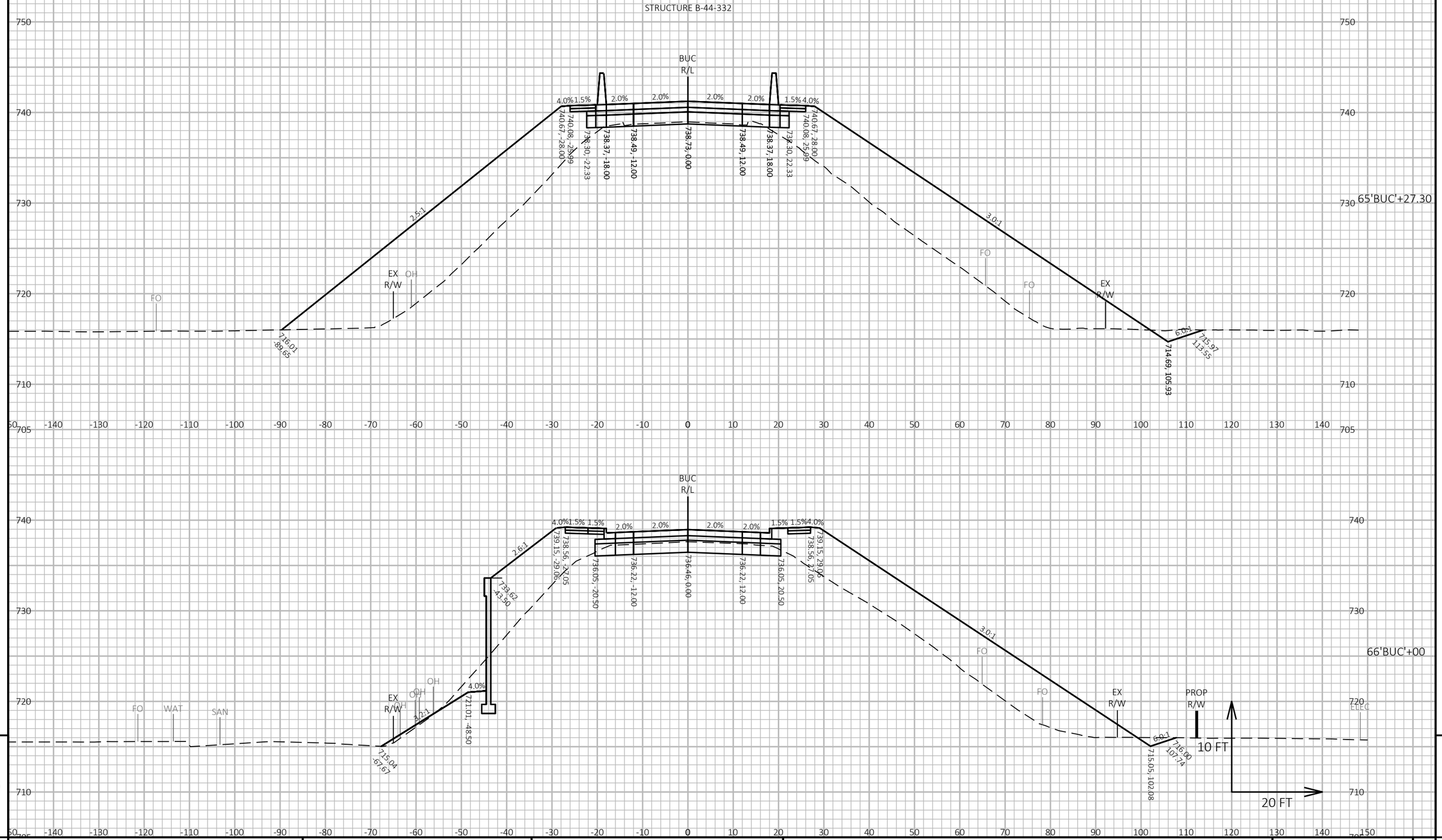
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LAYOUT NAME - 04

PLOT DATE : 1/22/2025 12:40 PM PLOT BY : ADAM SARAUER PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

STRUCTURE B-44-332

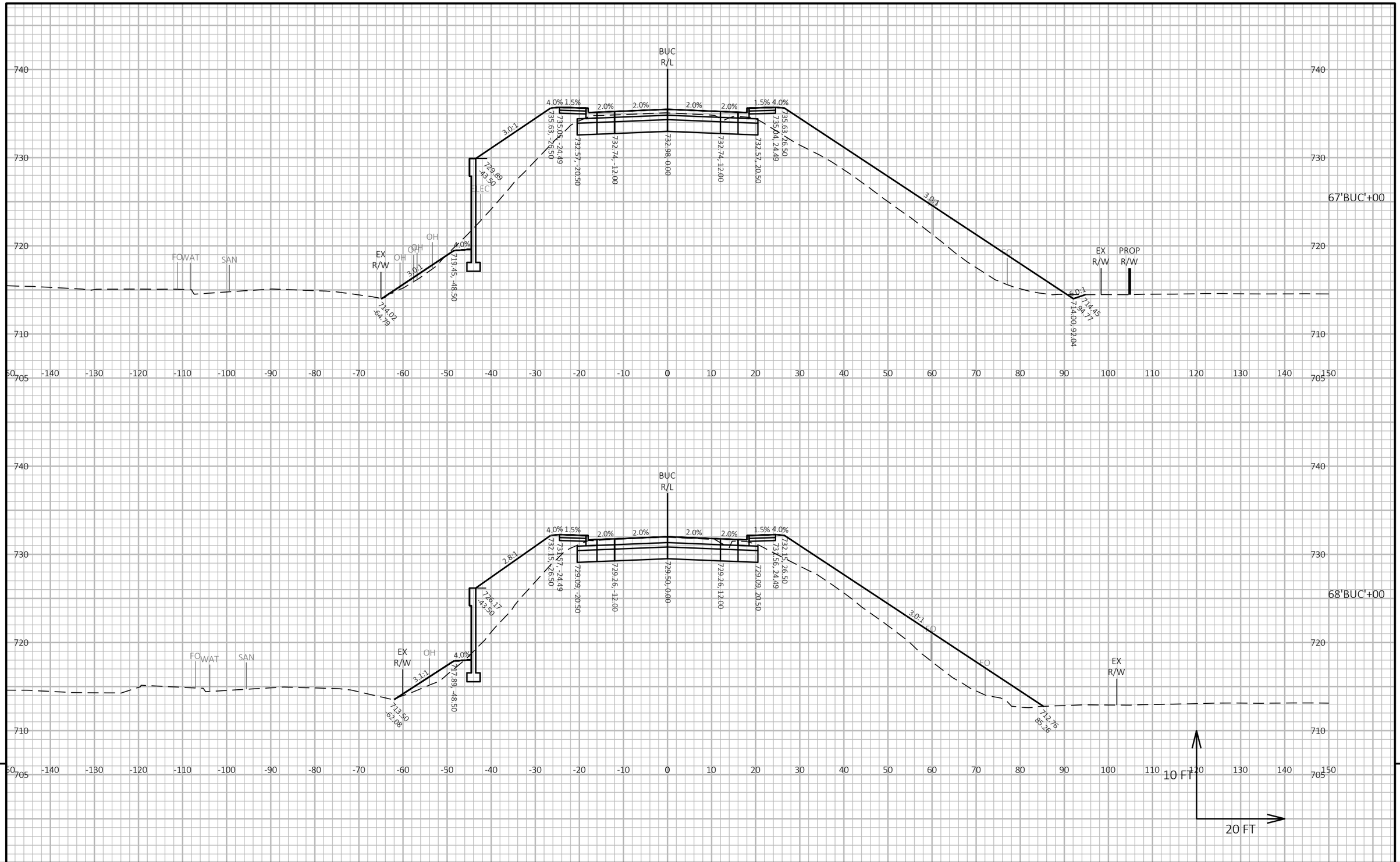


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FILE NAME : C:\USERS\ADAMSARAUER\DC\ACCDOCS\WISDOT\11306301\PROJECT FILES\DSGN\11306670\SHEETS\090223-XS-BUC.DWG
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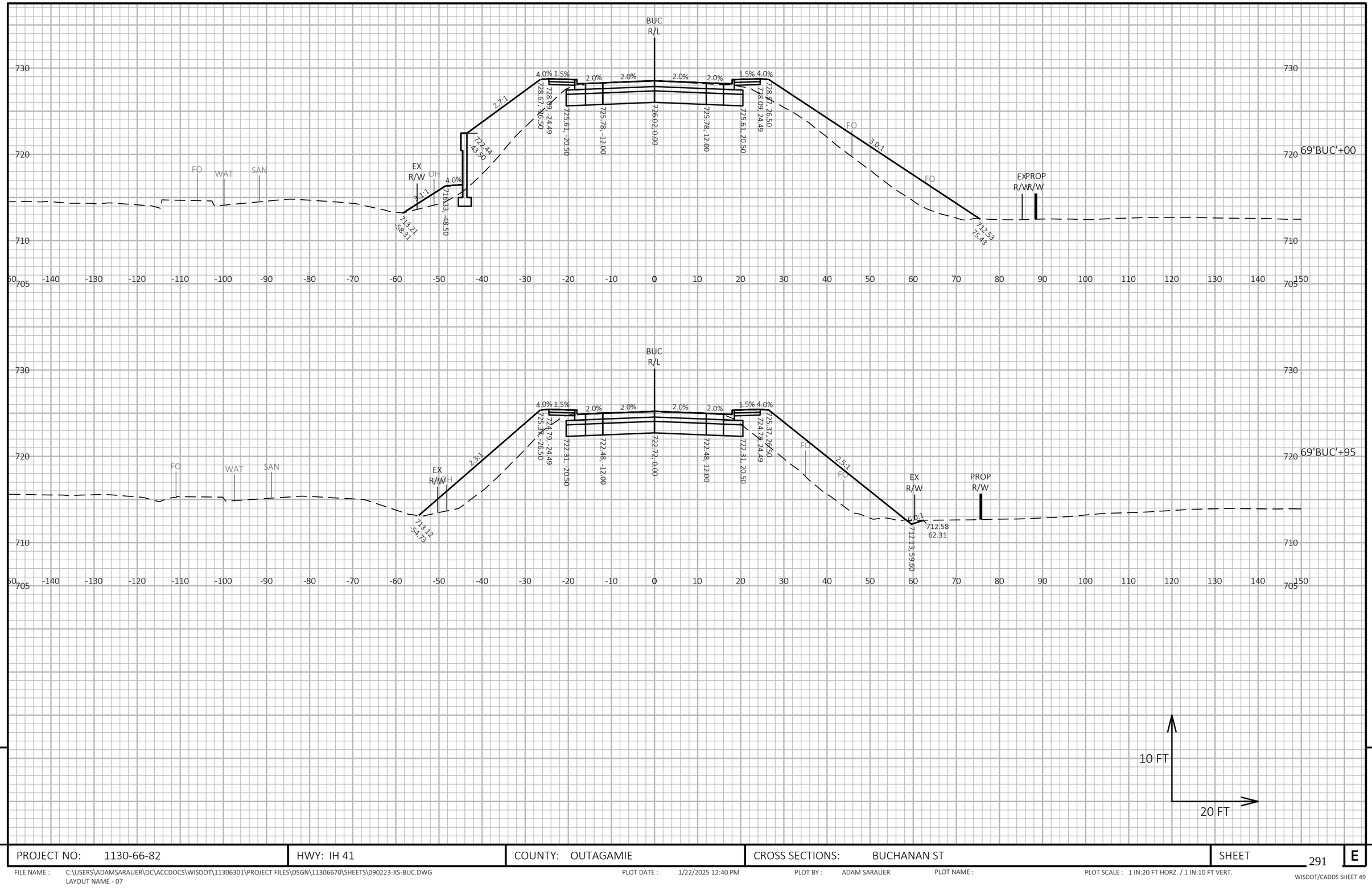
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WISDOT/CADDS SHEET 49



PROJECT NO: 1130-66-82	HWY: IH 41	COUNTY: OUTAGAMIE	CROSS SECTIONS: BUCHANAN ST	SHEET 290	E

FILE NAME : C:\USERS\ADAMSARAUER\DC\ACCDOCS\WISDOT\11306301\PROJECT FILES\DSGN\11306670\SHEETS\090223-XS-BUC.DWG
LAYOUT NAME - 06
PLOT DATE : 1/22/2025 12:40 PM
PLOT BY : ADAM SARAUER
PLOT NAME :
PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.
WISDOT/CADDS SHEET 49



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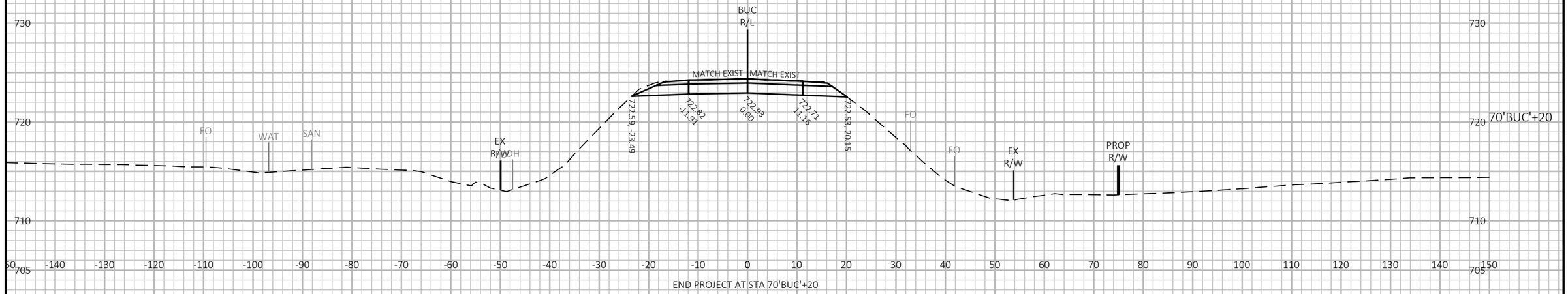
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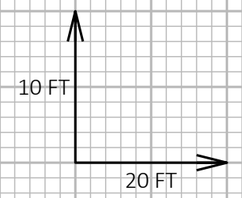
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FILE NAME : C:\USERS\ADAMSARAUER\DC\ACCDOCS\WISDOT\11306301\PROJECT FILES\DSGN\11306670\SHEETS\090223-XS-BUC.DWG
LAYOUT NAME - 07

PLOT DATE : 1/22/2025 12:40 PM PLOT BY : ADAM SARAUER PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49





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PROJECT NO: 1130-66-82	HWY: IH 41	COUNTY: OUTAGAMIE	CROSS SECTIONS: BUCHANAN ST	SHEET 292	E

FILE NAME : C:\USERS\ADAMSARAUER\DC\ACCDOCS\WISDOT\11306301\PROJECT FILES\DSGN\11306670\SHEETS\090223-XS-BUC.DWG
LAYOUT NAME - 08

PLOT DATE : 1/22/2025 12:40 PM PLOT BY : ADAM SARAUER PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.

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Notes

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