EAU

PROJECT ID: 1196-04-77

WITH: N/A

COUNTY: BARRON

MARCH 2025

ORDER OF SHEETS

Section No.	1	Title
Section No.	2	Typical Sections and Details (Includes Erosion Control Details)
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 = 422

40

N

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

NEW AUBURN - RICE LAKE

B-03-14,16,18,20,26,30,37,218

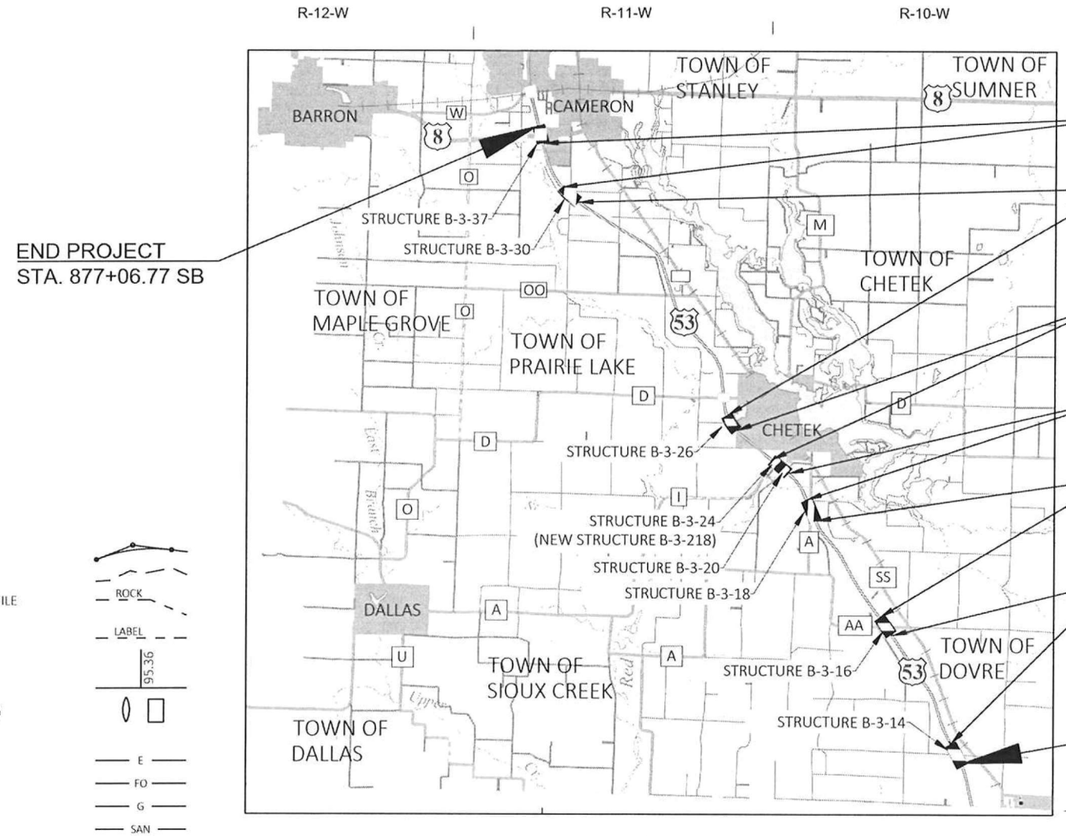
USH 53

BARRON COUNTY

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
1196-04-77		

STATE PROJECT NUMBER

1196-04-77



DESIGN DESIGNATION (USH 53 SOUTHBOUND)

A.A.D.T.	(2025)	=	9,660
A.A.D.T.	(2045)	=	10,600
D.H.V. (2025)		=	1,360
D.D.		=	59/41
T.		=	25.4%
DESIGN SPEED		=	70 MPH
ESALS		=	8,300,000 (2017 PAVEMENT DESIGN REPORT)

CONVENTIONAL SYMBOLS

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

LAYOUT

SCALE 0 3 MI

TOTAL NET LENGTH OF CENTERLINE = 1.958

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COORDINATE REFERENCE SYSTEM (WISCRS), BARRON 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:

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

WISCONSIN
KENNETH M. SWANSON
E - 40476
MADISON
WI
PROFESSIONAL ENGINEER
10-17-2024

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	STRAND ASSOCIATES, INC.
Designer	STRAND ASSOCIATES, INC.
Project Manager	MATTHEW VAN NATTA, P.E.
Regional Examiner	WISDOT NORTHWEST REGION
Regional Supervisor	MATTHEW VAN NATTA, P.E.

APPROVED FOR THE DEPARTMENT

DATE: Matthew Van Natta (Signature)

Location: Superior
Reason: I am approving this document
Date: 2024.10.24 13:50:49-05'00'

E

GENERAL NOTES

THE CENTERLINE OF SOUTHBOUND USH 53 IS APPROXIMATELY THE MAINLINE REFERENCE LINE.

EXISTING RIGHT OF WAY SHOWN IS BASED ON AVAILABLE PLAT DRAWINGS AND IS APPROXIMATE. USE FOR REFERENCE PURPOSES ONLY.

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

THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATION AS SHOWN ON THE PLANS ARE APPROXIMATE. THERE ARE OTHER UTILITY FACILITIES WITHIN THE PROJECT AREA WHICH ARE NOT SHOWN ON THE PLANS. COORDINATE CONSTRUCTION ACTIVITIES WITH A CALL TO DIGGERS HOTLINE AND/OR A DIRECT CALL TO THE UTILITIES THAT HAVE FACILITIES IN THE AREA.

WHEN THE QUANTITY OF BASE AGGREGATE DENSE IS MEASURED FOR PAYMENT IN TONS, THE DEPTH OR THICKNESS AS SHOWN ON THE PLAN IS APPROXIMATE AND THE ACTUAL THICKNESS WILL DEPEND UPON THE DISTRIBUTION OF THE MATERIAL AS DIRECTED BY THE ENGINEER IN THE FIELD.

ANY SIGNS REMOVED BECAUSE OF CONTRACTOR MEANS AND METHODS SHALL BE REPLACED BY THE CONTRACTOR AT THEIR EXPENSE.

EXISTING PIPE CULVERT SIZES ARE APPROXIMATE AND THE CONTRACTOR SHALL BASE ITS BID ON ACTUAL FIELD CONDITIONS.

THE CONTRACTOR'S PAVING OPERATIONS SHALL BE CONSISTENT WITH THE PLAN TYPICAL SECTIONS AND CONSTRUCTED TO PREVENT HMA LONGITUDINAL JOINTS FROM BEING LOCATED WITHIN A DRIVING LANE.

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

UTILITY CONTACTS

ASTREA - COMMUNICATION LINE
ANDREW HEIGL
105 KENT STREET
IRON MOUNTAIN, MI 49801
PHONE: (906) 221-7536
ANDY.HEIGL@ASTREACONNECT.COM
ASTREACONSTRUCTION@ASTREACONNECT.COM

CINC - COMMUNICATION LINE
DAREN BAUER
105 GARFIELD AVENUE
EAU CLAIRE, WI 54701
PHONE: (715) 836-5286
BAUERDP@UWEC.EDU

MOSAIC TELECOM - COMMUNICATION LINE
LYNN BENDER
401 SOUTH 1ST STREET
CAMERON, WI 54822
PHONE: (715) 458-5331
MOBILE: (715) 933-4752
LBENDER@EXPERIENCEMOSAIC.COM

WE ENERGIES - GAS/PETROLEUM
STEVEN CHAVERS
104 WEST SOUTH STREET
RICE LAKE, WI 54868
PHONE: (715) 234-9605
MOBILE: (715) 213-4327
WE-UTILITY-RELOCATIONS@WE-ENERGIES.COM

BARRON ELECTRIC COOPERATIVE - ELECTRICITY
JEFF NELSON
1434 N. STH 25
BARRON, WI 54812
PHONE: (715) 537-3171
MOBILE: (715) 418-1167
JNELSON@BARRONELECTRIC.COM

CITIZENS CONNECTED - COMMUNICATION LINE
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328 WEST MAIN STREET
NEW AUBURN, WI 54757-0127
PHONE: (715) 236-2605
MOBILE: (715) 933-0153
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INFO@CITIZENS-CONNECTED.COM

NORTHERN NATURAL GAS COMPANY - GAS/PETROLEUM
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1120 CENTRE POINTE DRIVE, SUITE 400
MENDOTA HEIGHTS, MN 55120
PHONE: (651) 456-1766
MOBILE: (507) 340-0081
MITCHELL.KLEIST@NNGCO.COM

XCEL ENERGY - ELECTRICITY
AMY BALFOUR
320 HELLER ROAD
MENOMONIE, WI 54751
PHONE: (715) 236-5722
AMY.D.BALFOUR@XCELENERGY.COM

BRIGHTSPEED OF WESTERN WISCONSIN, LLC COMMUNICATION LINE
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HAWKINS, WI 54530
PHONE: (715) 567-0725
BEN.BAKER@BRIGHTSPEED.COM

DAIRYLAND POWER COOPERATIVE - ELECTRICITY
MICHAEL LYDON
3200 EAST AVENUE SOUTH
LA CROSSE, WI 54602
PHONE: (608) 787-1381
MICHAEL.LYDON@DAIRYLANDPOWER.COM

SPECTRUM - COMMUNICATION LINE
ROBERT STEPHENS
1201 MCCANN DRIVE
ALTOONA, WI 54720
PHONE: (715) 214-1173
MOBILE: (715) 579-5594
ROBERT.STEPHENS@CHARTER.COM
CHTR_WI_CONST@CHARTER.COM

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

WISDOT REGION CONTACT

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SUPERIOR, WI 54880
PHONE: (715) 392-7966
MATTHEW.VANNATTA@DOT.WI.GOV

WISDOT ROADSIDE FACILITIES CONTACT

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WISDOT ROADSIDE FACILITIES ENGINEER
944 VANDERPERREN WAY
GREEN BAY, WI 54304
PHONE: (608) 261-8975
JOSEPH.COUGHLIN@DOT.WI.GOV

WISDOT ROADWAY WEATHER INFORMATION SYSTEM (RWIS) CONTACT

MICHAEL ADAMS
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PHONE: (608) 266-5004
MICHAEL.ADAMS@DOT.WI.GOV

WISDOT REGIONAL ENVIRONMENTAL COORDINATOR

HANNAH FREDERICKSON
WISDOT NORTHWEST REGION
718 WEST CLAIREMONT AVENUE
EAU CLAIRE, WI 54701
PHONE: (715) 836-2039
HANNAH.FREDERICKSON@DOT.WI.GOV

DNR LIAISON

AMY CRONK
WISCONSIN DEPARTMENT OF NATURAL RESOURCES
NORTHERN REGION HEADQUARTERS
810 WEST MAPLE STREET
SPOONER, WI 54801
PHONE: (715) 520-3976
AMY.CRONK@WISCONSIN.GOV

DESIGN CONSULTANT CONTACT

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STRAND ASSOCIATES, INC.
910 WEST WINGRA DRIVE
MADISON, WI 53715
PHONE: (608) 251-4843
KEN.SWANSON@STRAND.COM

HMA PAVEMENT SUMMARY TABLE

USH 53 (OUTSIDE/INSIDE TRAVEL LANES AND INSIDE SHOULDER)		
LAYER	THICKNESS	HMA TYPE
UPPER	1.75"	4 MT 58-28 S
LOWER	1.25"	5 MT 58-34 V

USH 53 (OUTSIDE LANE SHOULDER)		
LAYER	THICKNESS	HMA TYPE
UPPER	1.5"	4 MT 58-28 S

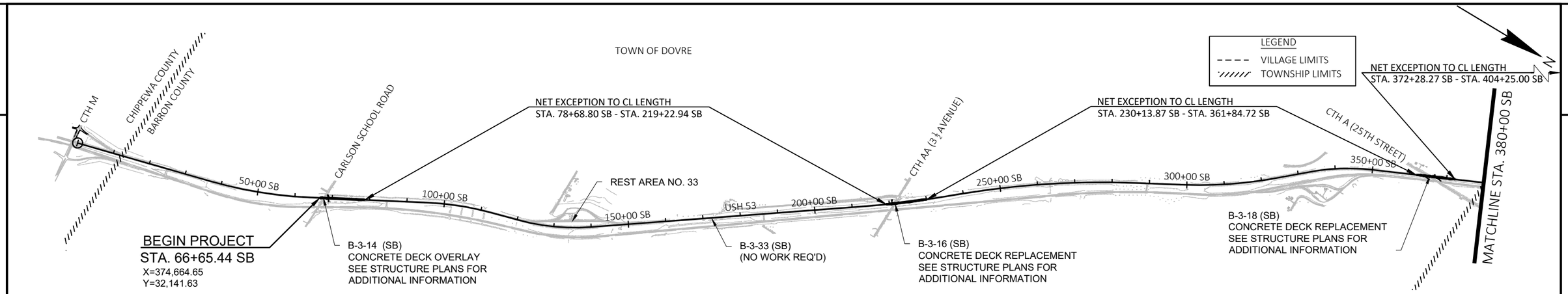
ORDER OF SECTION 2 SHEETS

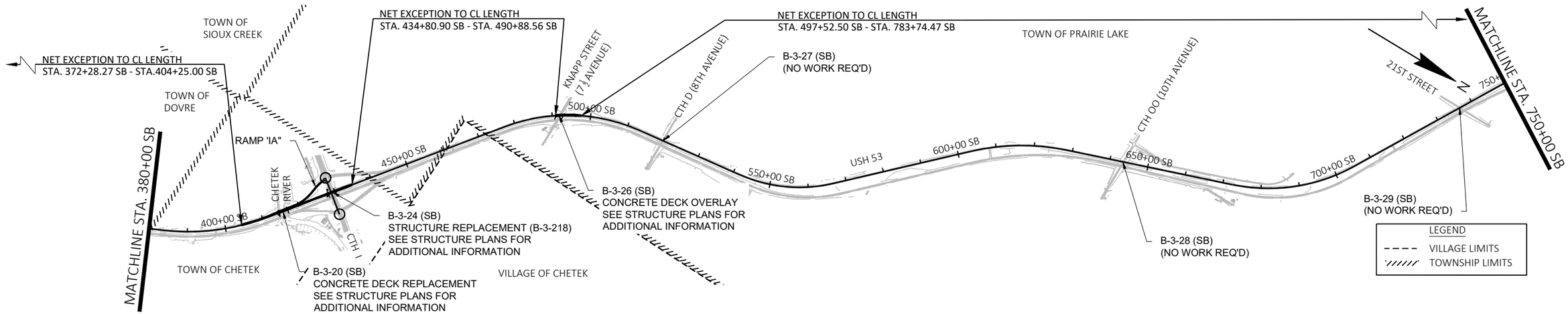
GENERAL NOTES
PROJECT OVERVIEW
TYPICAL SECTIONS
CONSTRUCTION DETAILS
EROSION CONTROL
TRAFFIC CONTROL
ALIGNMENT DETAILS (INCLUDING CONTROL POINT/BENCHMARK INFORMATION)

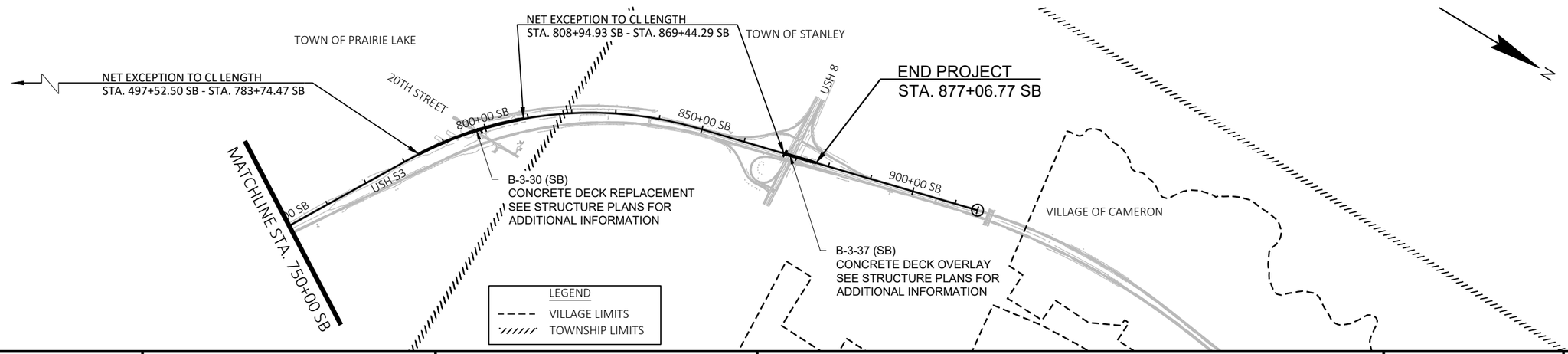
RUNOFF COEFFICIENT TABLE

	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											

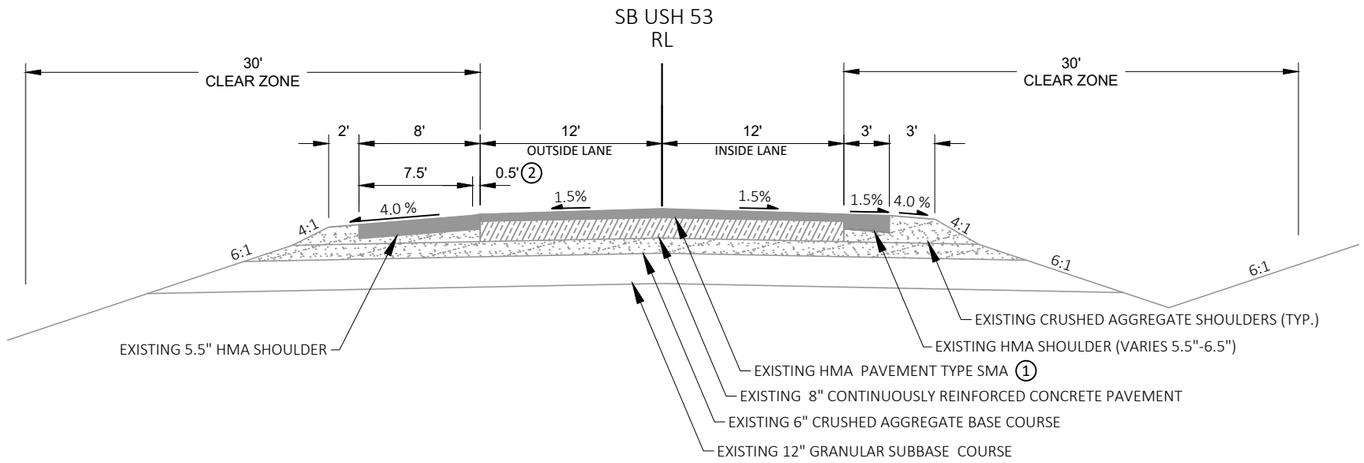
TOTAL PROJECT AREA = 132.4 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 5.5 ACRES







PROJECT NO: 1196-04-77	HWY: USH 53	COUNTY: BARRON	PROJECT OVERVIEW	SHEET 3	E



EXISTING TYPICAL SECTION
STA. 66+65 SB TO STA. 877+07 SB (5)

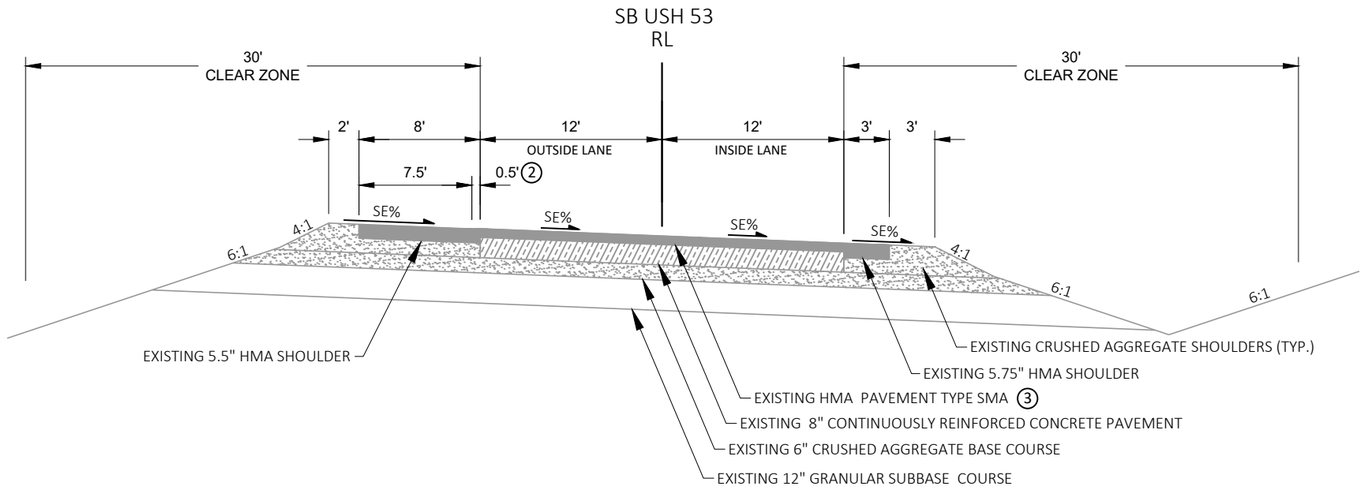
(1) THICKNESS VARIES FROM 2.75" AT SHOULDER TO 3.5 " AT CENTERLINE.

(2) PREVIOUS 2010 MAINLINE MILL AND OVERLAY LIMITS EXTENDED 0.5 FEET INTO 8-FOOT PAVED SHOULDER. VARIABLE PAVEMENT CROSS SLOPE WITHIN THESE LIMITS.

(3) THICKNESS VARIES AT HORIZONTAL CURVES WITH SUPERELEVATIONS.

(4) CURVE TO THE RIGHT SHOWN, CURVE TO THE LEFT IS A MIRROR IMAGE.

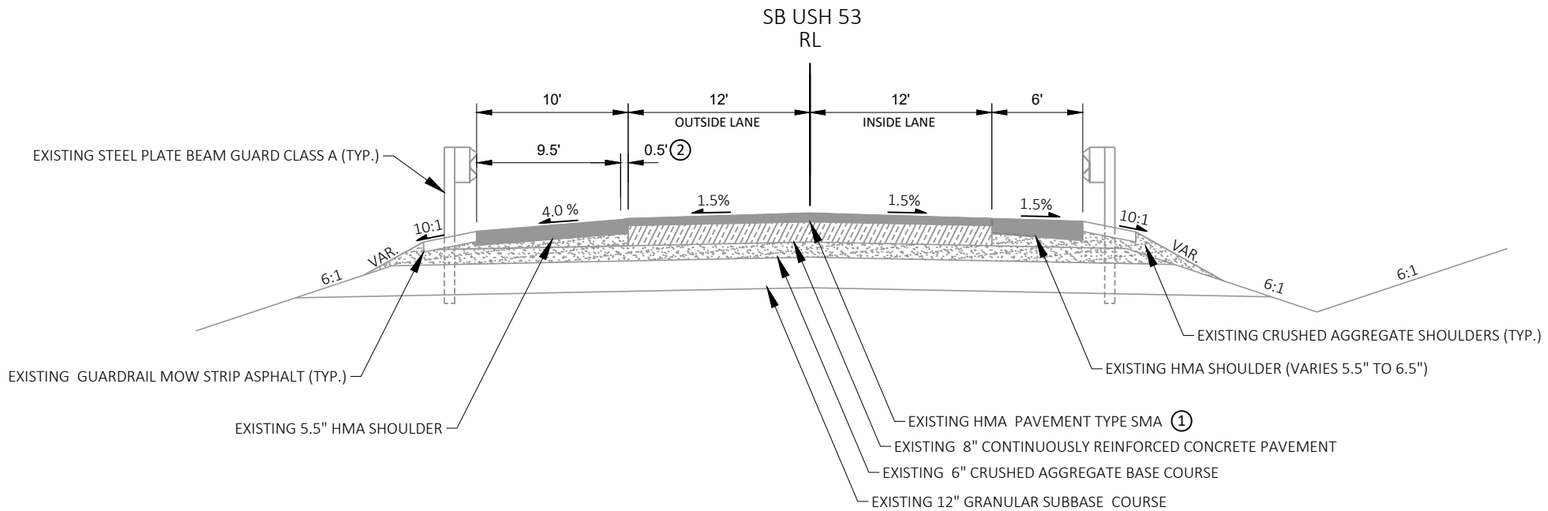
(5) SEE PLAN SHEETS FOR NET EXCEPTION TO CENTERLINE.



EXISTING TYPICAL SUPEREVELATION SECTION
(SEE PLAN SHEET FOR LOCATIONS) (4)

PROJECT NO: 1196-04-77	HWY: USH 53	COUNTY: BARRON	TYPICAL SECTIONS	SHEET 4	E

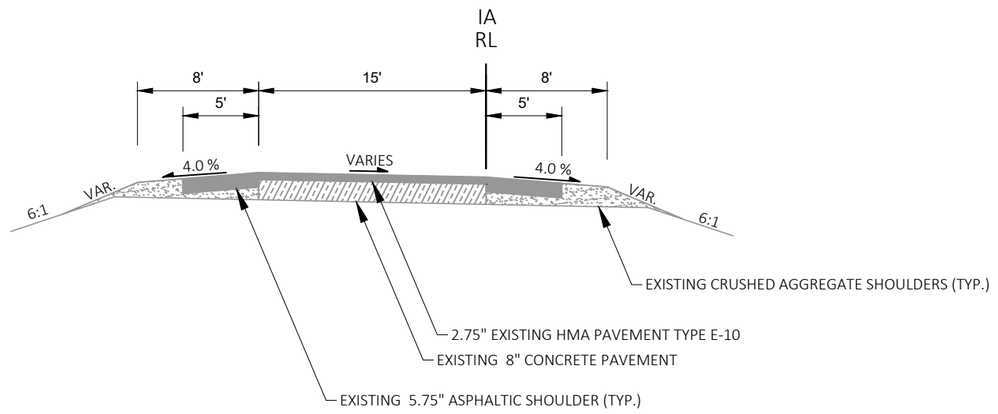
2



EXISTING TYPICAL GUARDRAIL SECTION
(SEE PLAN SHEETS FOR LOCATIONS)

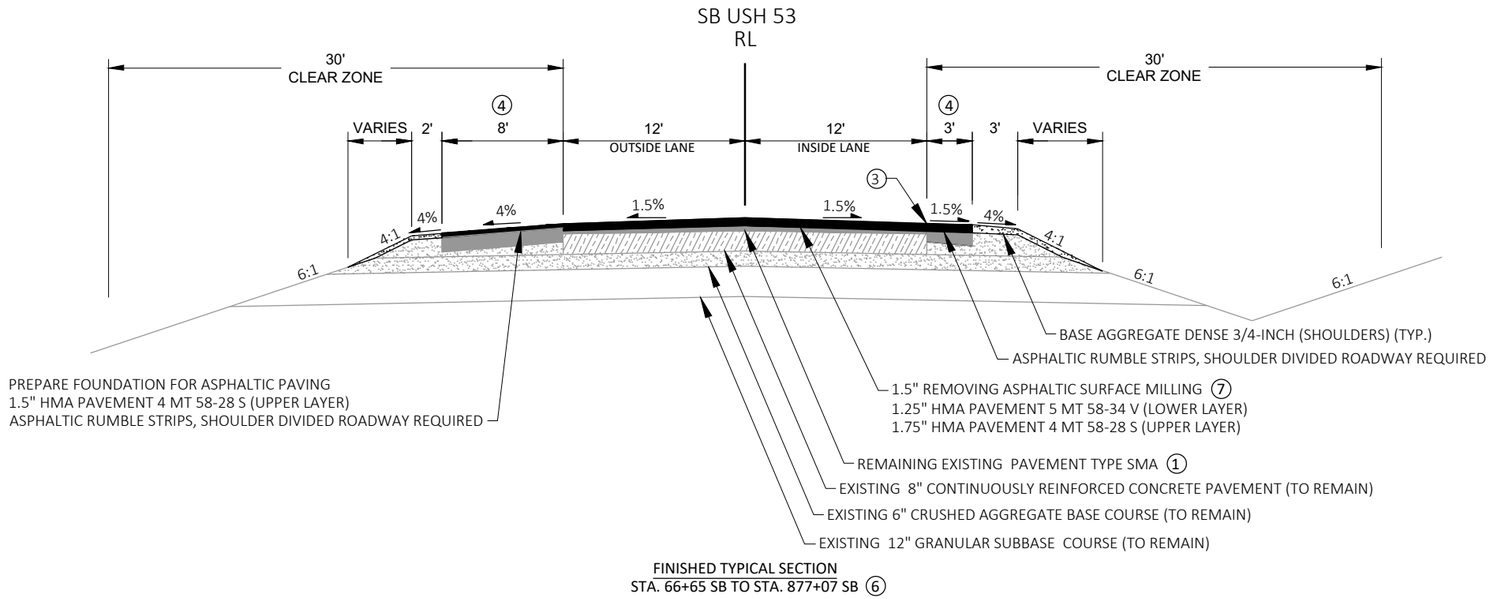
(1) THICKNESS VARIES FROM 2.75" AT SHOULDER TO 3.5 " AT CENTERLINE

(2) PREVIOUS 2010 MAINLINE MILL AND OVERLAY LIMITS EXTENDED 0.5 FEET INTO 8-FOOT PAVED SHOULDER. VARIABLE PAVEMENT CROSS SLOPE WITHIN THESE LIMITS.

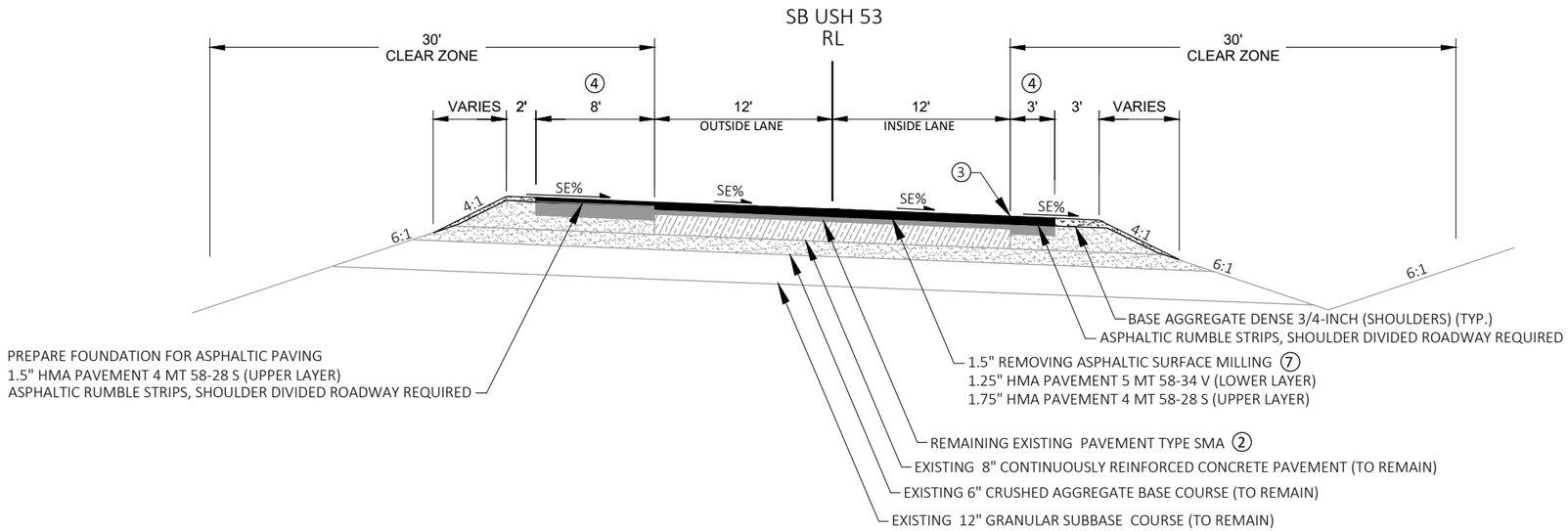


EXISTING RAMP TYPICAL SECTION
CTH I (IA LINE)

PROJECT NO: 1196-04-77	HWY: USH 53	COUNTY: BARRON	TYPICAL SECTIONS	SHEET 5	E



FINISHED TYPICAL SECTION
STA. 66+65 SB TO STA. 877+07 SB (6)

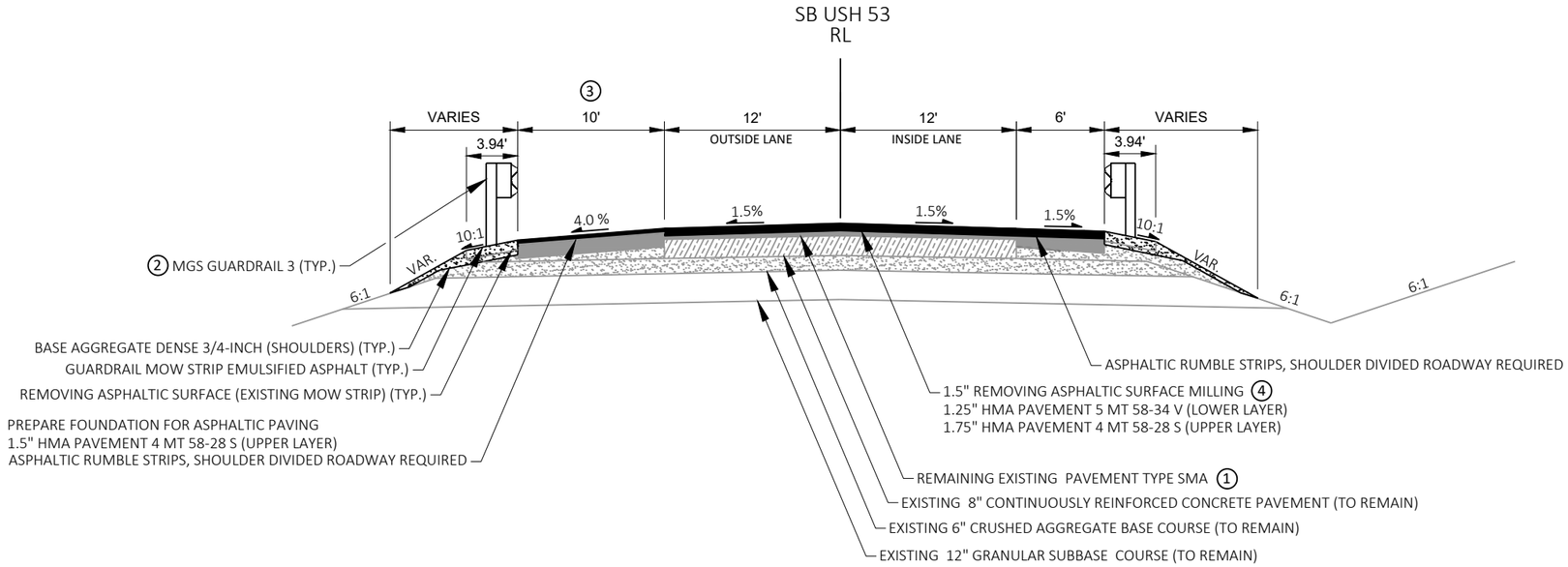


FINISHED TYPICAL SUPEREVELATION SECTION
(SEE PLAN SHEET FOR LOCATIONS) (5)

1. THICKNESS VARIES FROM 1.25 " AT SHOULDER TO 2" AT CENTERLINE.
2. THICKNESS VARIES AT HORIZONTAL CURVES WITH SUPERELEVATIONS.
3. NO LONGITUDINAL JOINT SHALL BE ALLOWED BETWEEN THE INSIDE TRAVEL LANE AND THE ADJACENT PAVED SHOULDER.
4. SEE CONSTRUCTION STAGING TYPICAL SECTIONS FOR SHOULDER WIDENING LOCATIONS AND PAVEMENT STRUCTURE.
5. CURVE TO THE RIGHT SHOWN. CURVE TO THE LEFT IS A MIRROR IMAGE.
6. SEE PLAN SHEETS FOR NET EXCEPTION TO CENTERLINE.
7. 27' TYPICAL TOTAL MILLING WIDTH; BOTH TRAVEL LANES AND INSIDE MEDIAN PAVED SHOULDER.

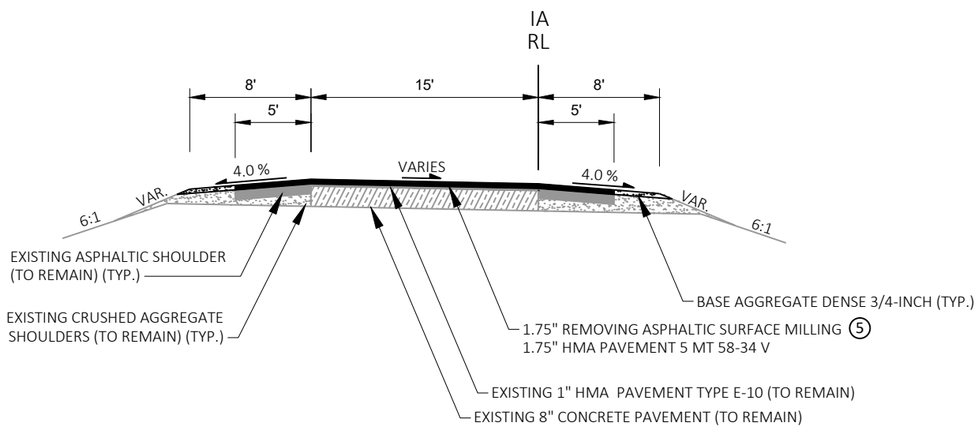
PROJECT NO: 1196-04-77	HWY: USH 53	COUNTY: BARRON	TYPICAL SECTIONS	SHEET 6	E

2



FINISHED TYPICAL GUARDRAIL SECTION
(SEE PLAN SHEET FOR LOCATION)

1. THICKNESS VARIES FROM 1.25 " AT SHOULDER TO 2" AT CENTERLINE.
2. SEE PLAN SHEETS FOR MGS GUARDRAIL 3 LAYOUT INFORMATION.
3. SEE CONSTRUCTION STAGING TYPICAL SECTIONS FOR SHOULDER WIDENING LOCATIONS AND PAVEMENT STRUCTURE.
4. 30' TYPICAL TOTAL MILLING WIDTH; BOTH TRAVEL LANES AND INSIDE MEDIAN PAVED SHOULDER.
5. 25' TYPICAL TOTAL MILLING WIDTH; RAMP TRAVEL LANE, INSIDE PAVED SHOULDER, OUTSIDE PAVED SHOULDER.

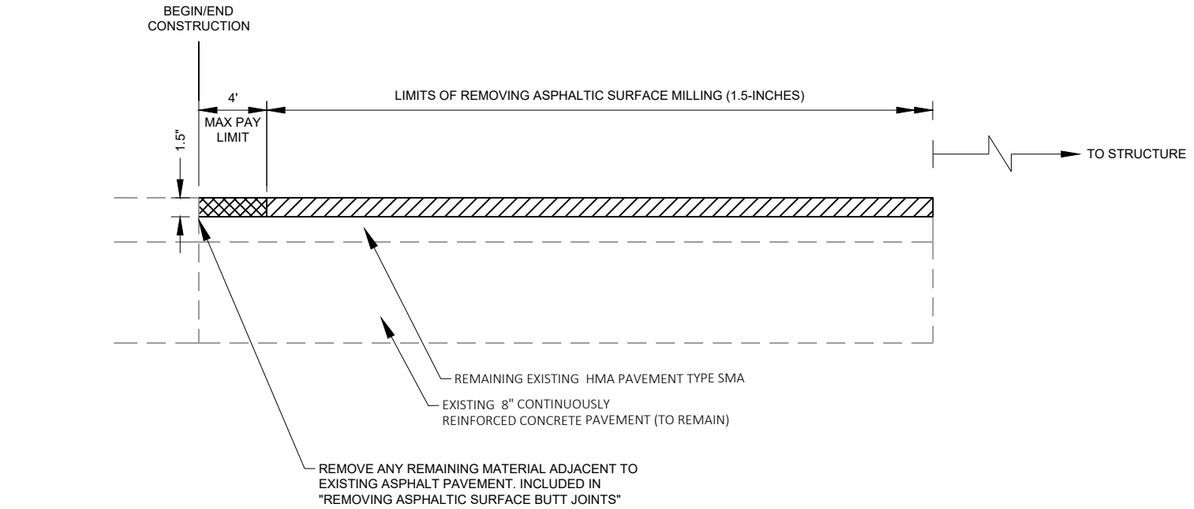


FINISHED RAMP TYPICAL SECTION
CTH I (IA LINE)

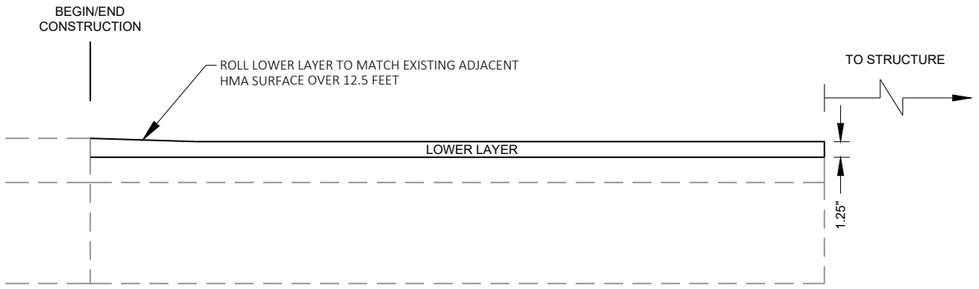
PROJECT NO: 1196-04-77	HWY: USH 53	COUNTY: BARRON	TYPICAL SECTIONS	SHEET 7	E

FILE NAME : S:\MAD\1000--1099\1089\895\DRAWINGS\CAD\AUTOCAD\CIVIL 3D\SHEETS PLAN\020301_TS.DWG
LAYOUT NAME - 020304_ts
PLOT DATE : 1/24/2025 3:13 PM PLOT BY : EDERER, BRAD PLOT NAME : PLOT SCALE : 1 IN:10 FT

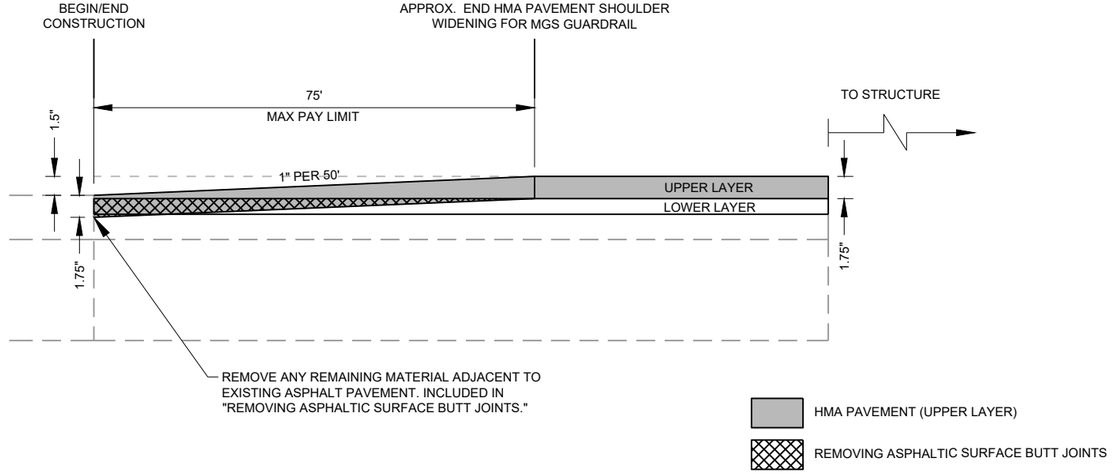
2



ASPHALT REMOVAL



LOWER LAYER

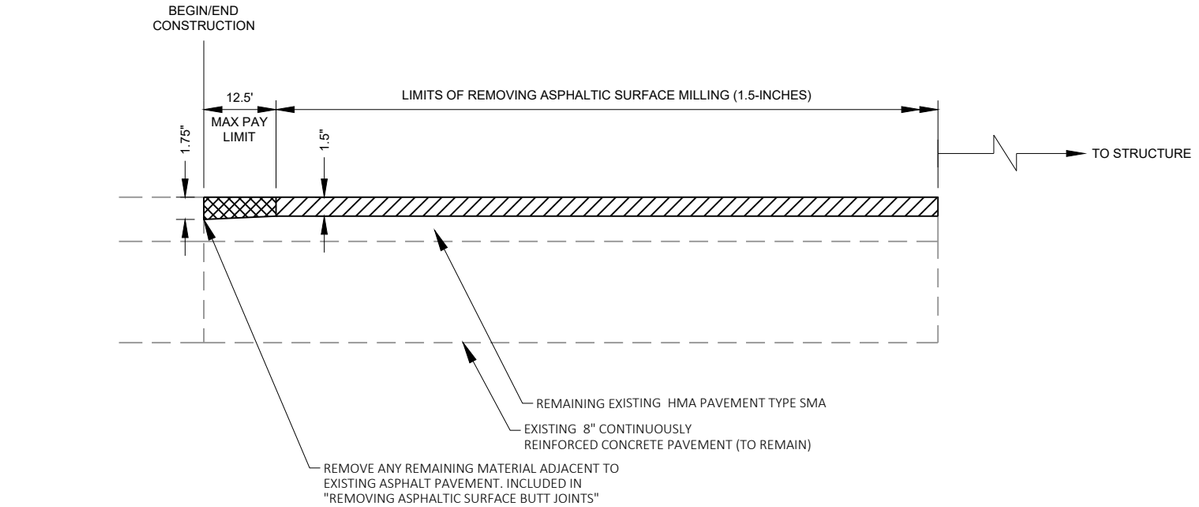


UPPER LAYER

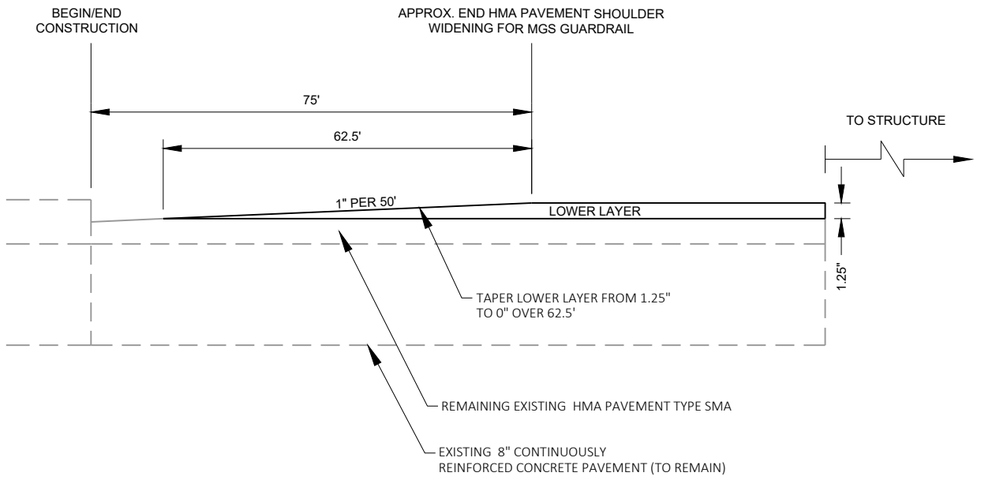
BEGIN/END CONSTRUCTION NEAR STRUCTURE APPROACHES - USH 53 (SOUTHBOUND) INSIDE LANE

PROJECT NO: 1196-04-77	HWY: USH 53	COUNTY: BARRON	CONSTRUCTION DETAILS - REMOVING BUTT JOINT	SHEET 8	E

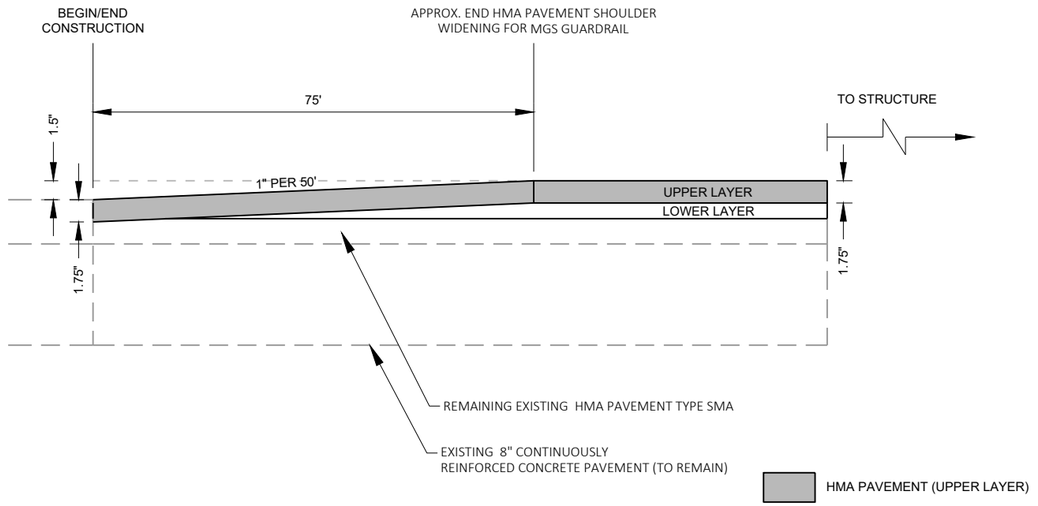
2



ASPHALT REMOVAL



LOWER LAYER



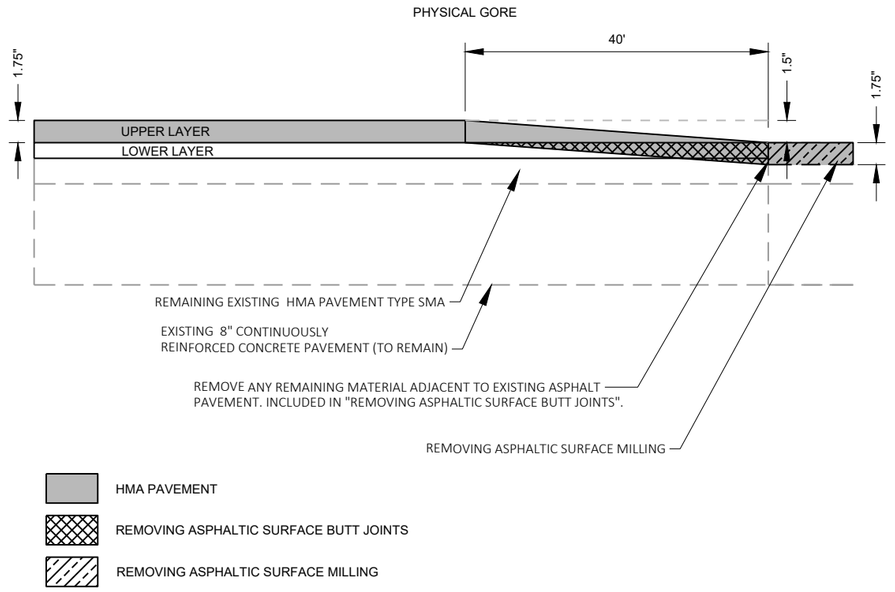
UPPER LAYER

BEGIN/END CONSTRUCTION NEAR STRUCTURE APPROACHES - USH 53 (SOUTHBOUND) OUTSIDE LANE

PROJECT NO: 1196-04-77	HWY: USH 53	COUNTY: BARRON	CONSTRUCTION DETAILS - REMOVING BUTT JOINT	SHEET 9	E

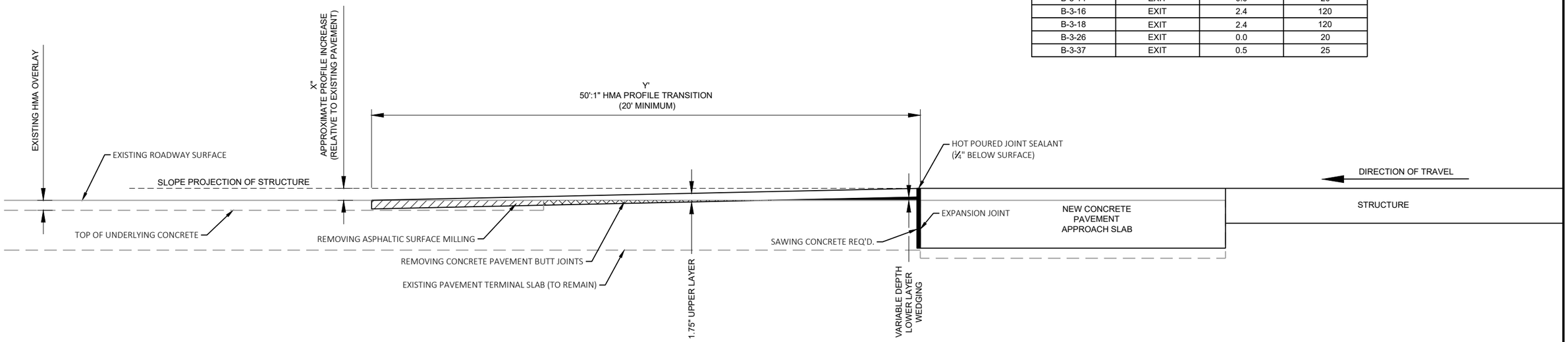
FILE NAME : S:\MAD\1000--1099\1089\895\DRAWINGS\CAD\AUTOCAD\CIVIL 3D\SHEETS PLAN\021001_CD.DWG
LAYOUT NAME - 021002_cd
PLOT DATE : 10/31/2024 9:19 AM PLOT BY : HABERKORN, DEVEN PLOT NAME : PLOT SCALE : ##########
WISDOT/CADDS SHEET 42

2



DETAIL FOR MAINLINE TO RAMP TRANSITION (CTH I-IA LINE)

PROFILE TRANSITION			
STRUCTURE	LOCATION	X (INCHES)	Y (FEET)
B-3-14	EXIT	0.0	20
B-3-16	EXIT	2.4	120
B-3-18	EXIT	2.4	120
B-3-26	EXIT	0.0	20
B-3-37	EXIT	0.5	25



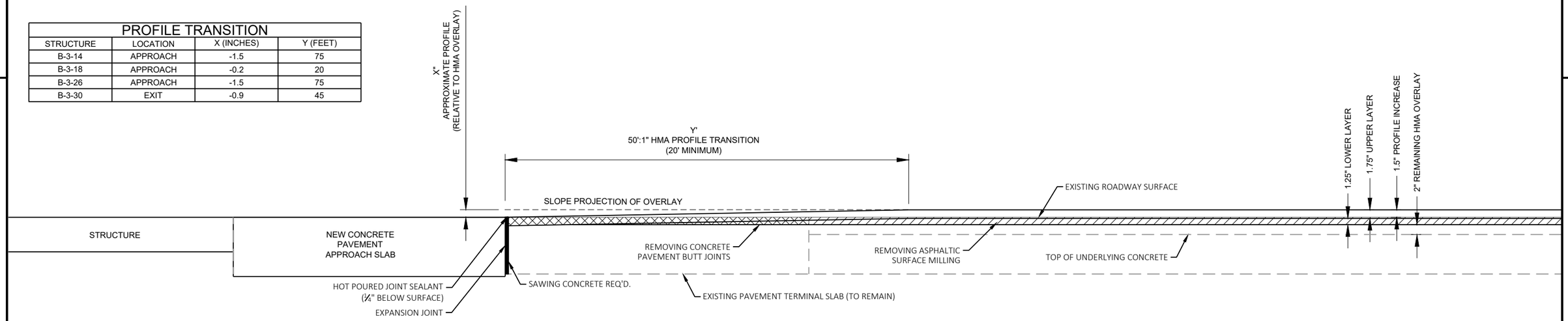
DETAIL FOR PROFILE TRANSITIONS TO EXISTING PAVEMENT- USH 53 (SOUTHBOUND) STRUCTURES

(SEE PLAN SHEETS FOR LOCATIONS)

PROJECT NO: 1196-04-77	HWY: USH 53	COUNTY: BARRON	CONSTRUCTION DETAILS - REMOVING BUTT JOINT	SHEET 10	E

2

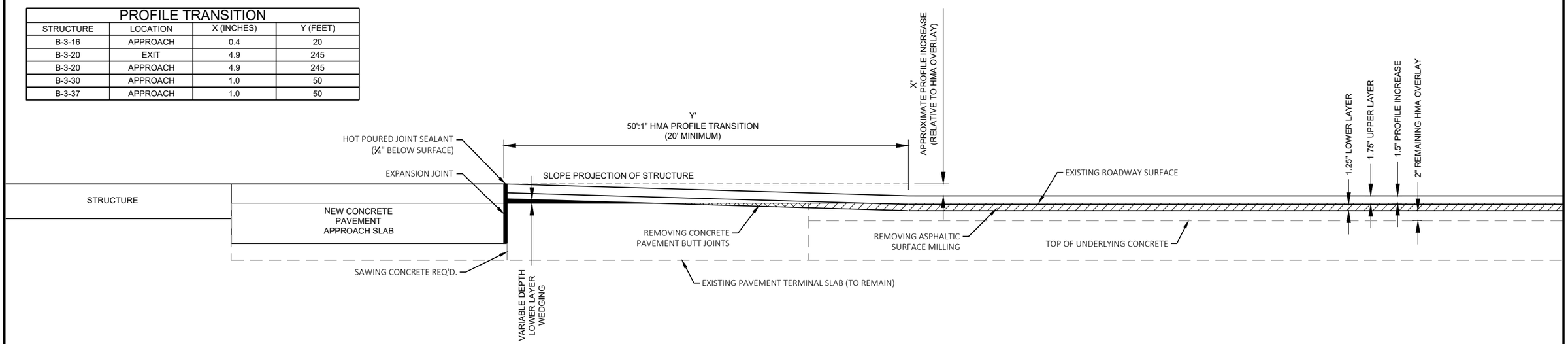
PROFILE TRANSITION			
STRUCTURE	LOCATION	X (INCHES)	Y (FEET)
B-3-14	APPROACH	-1.5	75
B-3-18	APPROACH	-0.2	20
B-3-26	APPROACH	-1.5	75
B-3-30	EXIT	-0.9	45



DETAIL FOR PROFILE TRANSITIONS TO HMA OVERLAY - USH 53 (SOUTHBOUND) STRUCTURES

(SEE PLAN SHEETS FOR LOCATIONS)

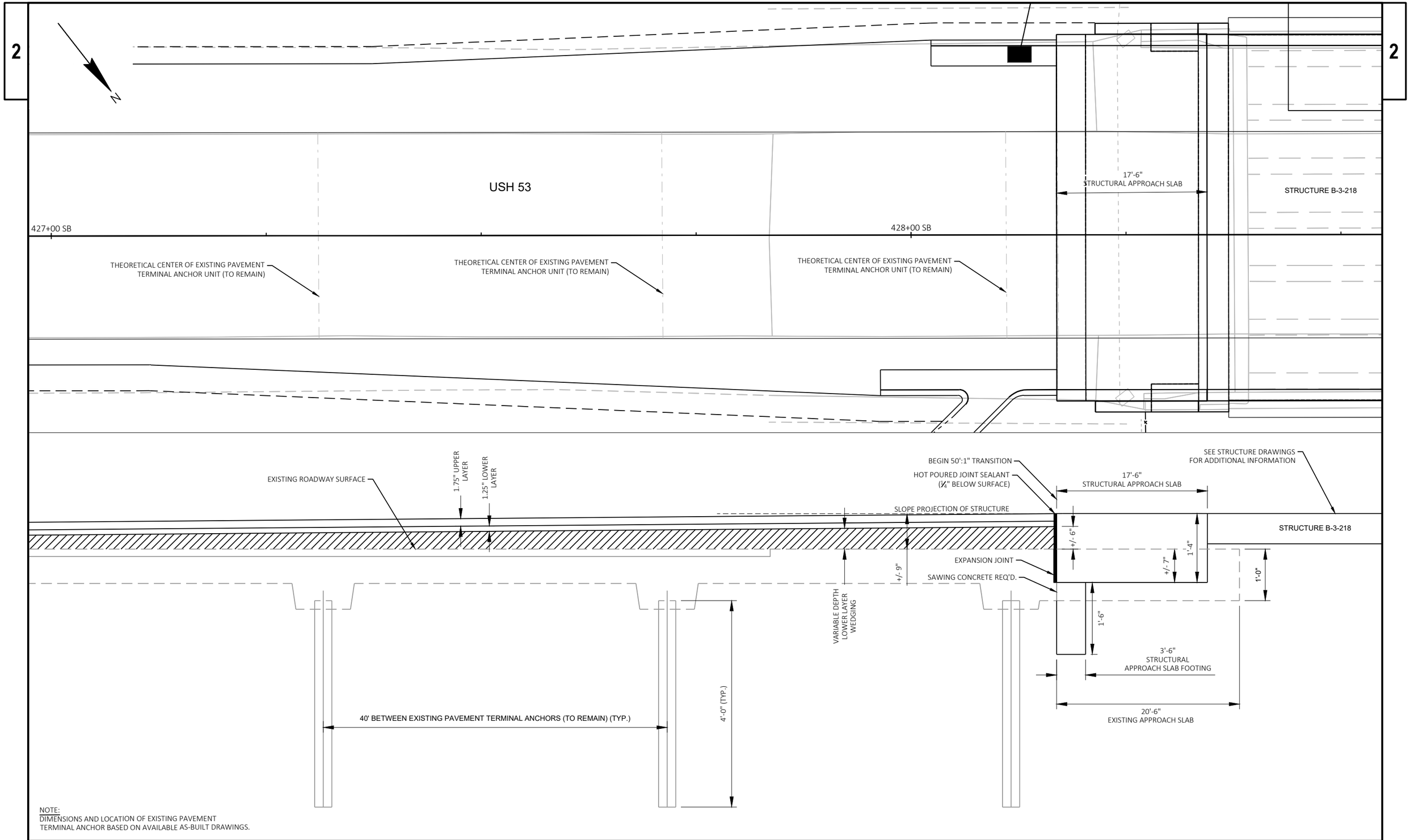
PROFILE TRANSITION			
STRUCTURE	LOCATION	X (INCHES)	Y (FEET)
B-3-16	APPROACH	0.4	20
B-3-20	EXIT	4.9	245
B-3-20	APPROACH	4.9	245
B-3-30	APPROACH	1.0	50
B-3-37	APPROACH	1.0	50



DETAIL FOR PROFILE TRANSITIONS TO HMA OVERLAY - USH 53 (SOUTHBOUND) STRUCTURES

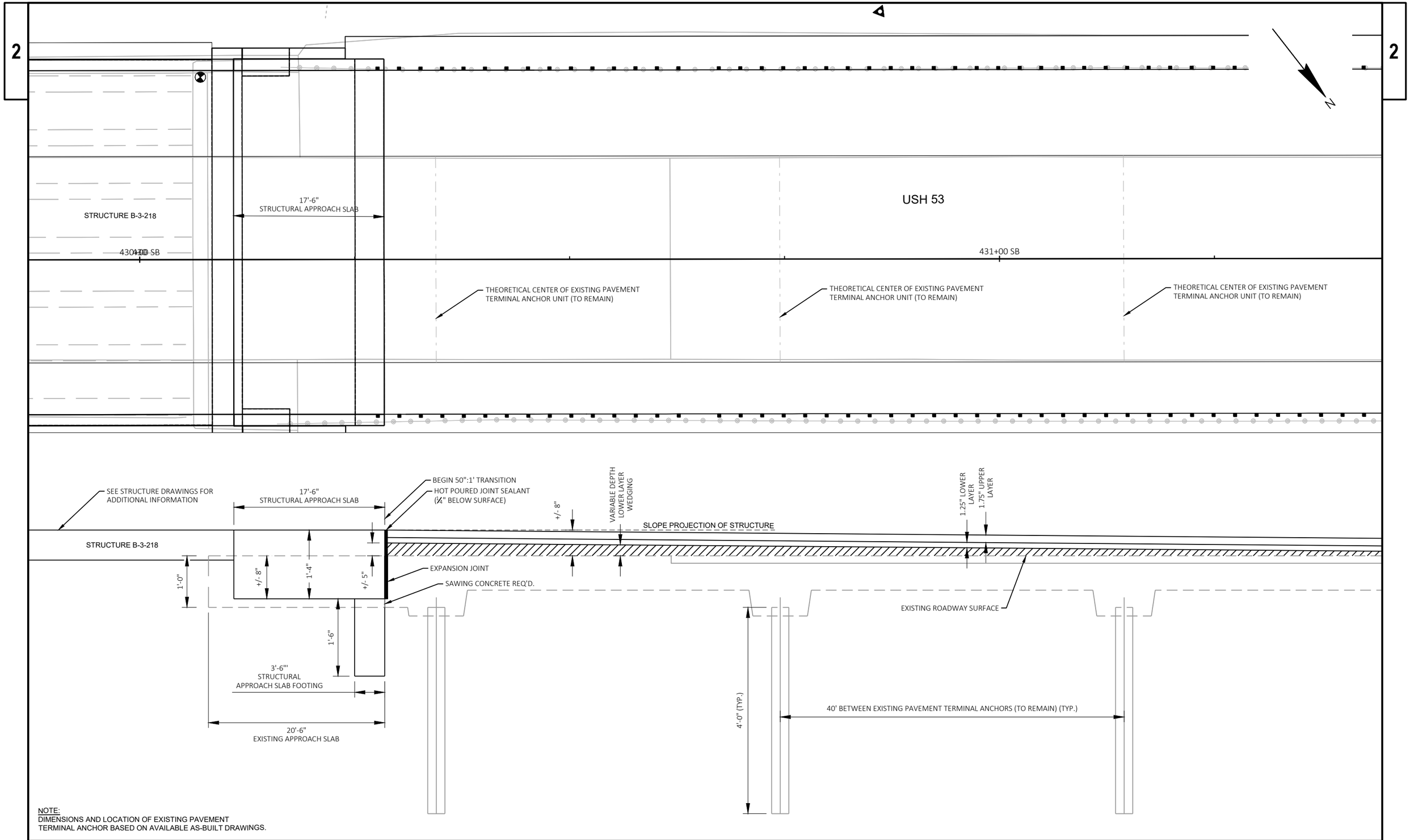
(SEE PLAN SHEETS FOR LOCATIONS)

PROJECT NO: 1196-04-77	HWY: USH 53	COUNTY: BARRON	CONSTRUCTION DETAILS - STRUCTURE PROFILE TRANSITION	SHEET 11	E



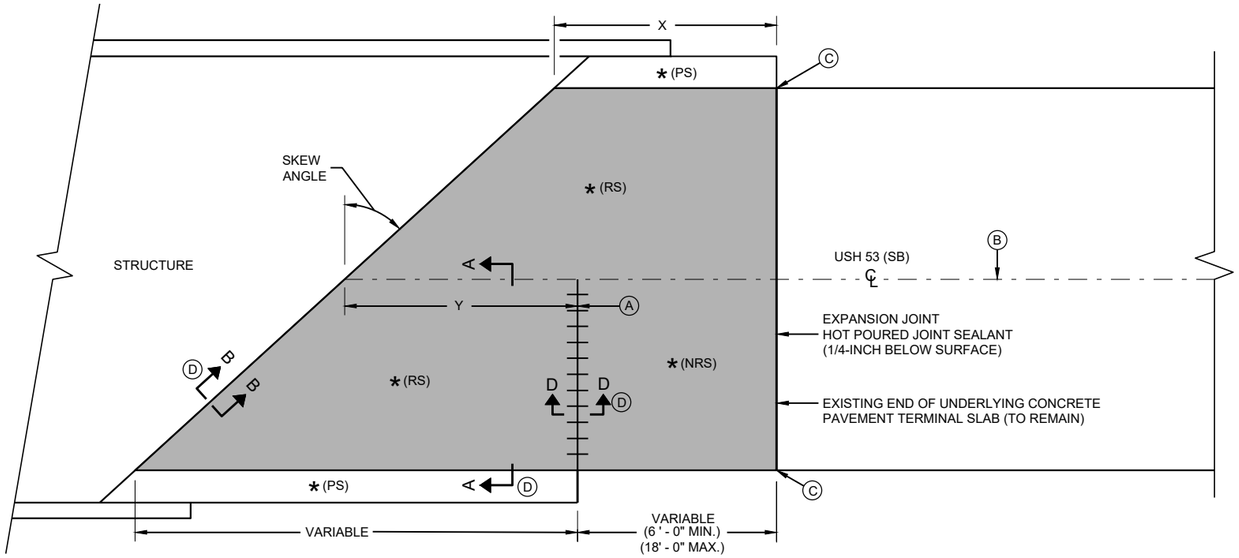
NOTE:
DIMENSIONS AND LOCATION OF EXISTING PAVEMENT
TERMINAL ANCHOR BASED ON AVAILABLE AS-BUILT DRAWINGS.

PROJECT NO: 1196-04-77	HWY: USH 53	COUNTY: BARRON	CONSTRUCTION DETAILS - STRUCTURE B-3-218 PROFILE TRANSITION	SHEET 12	E



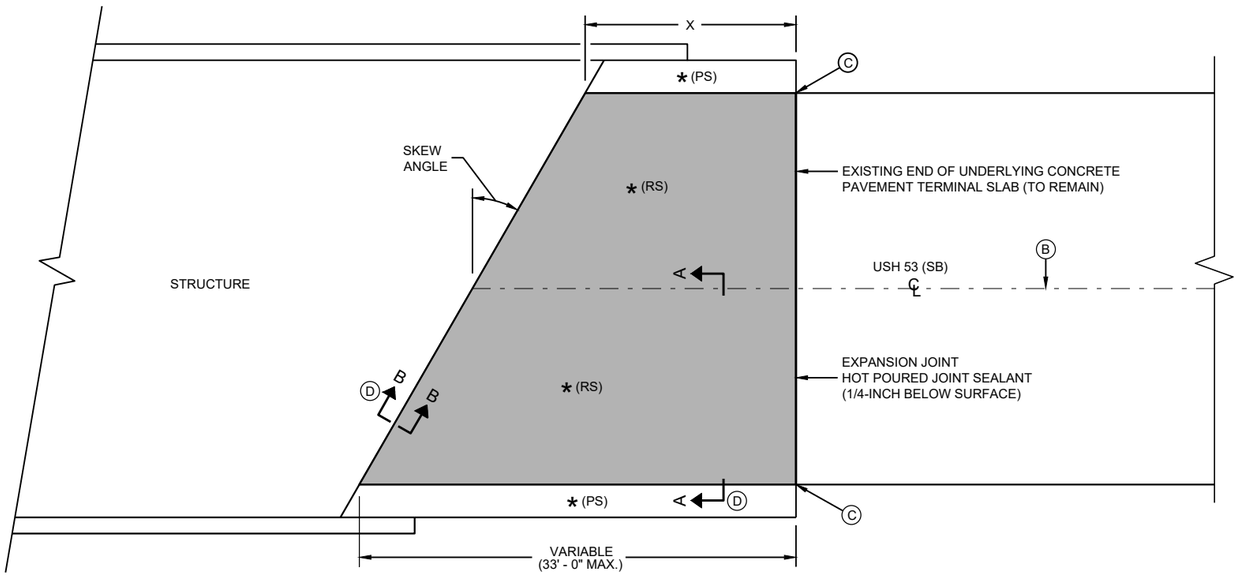
NOTE:
DIMENSIONS AND LOCATION OF EXISTING PAVEMENT
TERMINAL ANCHOR BASED ON AVAILABLE AS-BUILT DRAWINGS.

PROJECT NO: 1196-04-77	HWY: USH 53	COUNTY: BARRON	CONSTRUCTION DETAILS - STRUCTURE B-3-218 PROFILE TRANSITION	SHEET 13	E



SKEWS > 20°
(PAVEMENT WIDTH ≤ 30')

CONCRETE PAVEMENT APPROACH SLAB DIMENSIONS			
STRUCTURE	LOCATION	X (FEET)	Y (FEET)
B-3-14	APPROACH	20.6	20.5
B-3-14	EXIT	21.3	20.5
B-3-16	APPROACH	20.5	20.5
B-3-16	EXIT	20.5	20.5
B-3-18	APPROACH	20.5	20.5
B-3-18	EXIT	20.5	20.5
B-3-26	APPROACH	20.6	20.5
B-3-26	EXIT	20.3	20.5
B-3-30	APPROACH	20.5	20.5
B-3-30	EXIT	20.5	20.5



SKEWS ≤ 20°
(PAVEMENT WIDTH ≤ 30')

CONCRETE PAVEMENT APPROACH SLAB DIMENSIONS			
STRUCTURE	LOCATION	X (FEET)	Y (FEET)
B-3-20	APPROACH	21.3	---
B-3-20	EXIT	20.5	---
B-3-37	APPROACH	20.5	---
B-3-37	EXIT	20.5	---

APPROACH SLAB AND ADJACENT PAVEMENT

GENERAL NOTES

- PAY LIMITS FOR CONCRETE PAVEMENT APPROACH SLAB
- * (PS) PAVED CONCRETE SHOULDER OR CONCRETE DRAINAGE SLAB
  CONCRETE PAVEMENT 7-INCH FOR OUTER SIDE
  CONCRETE PAVEMENT 10-INCH FOR MEDIAN SIDE
- * (NRS) NON-REINFORCED CONCRETE SLAB
- * (RS) REINFORCED CONCRETE SLAB
- (A) STANDARD CONTRACTION JOINT NORMAL TO ℄ OR R
- (B) STANDARD LONGITUDINAL JOINT WITH TIE BARS
- (C) EXTEND EXPANSION JOINT THROUGH ANY ADJACENT TIED CONCRETE
- (D) REFER TO STANDARD DETAIL DRAWING "CONCRETE PAVEMENT APPROACH SLAB" AND STRUCTURE PROFILE TRANSITION CONSTRUCTION DETAILS FOR ADDITIONAL INFORMATION.

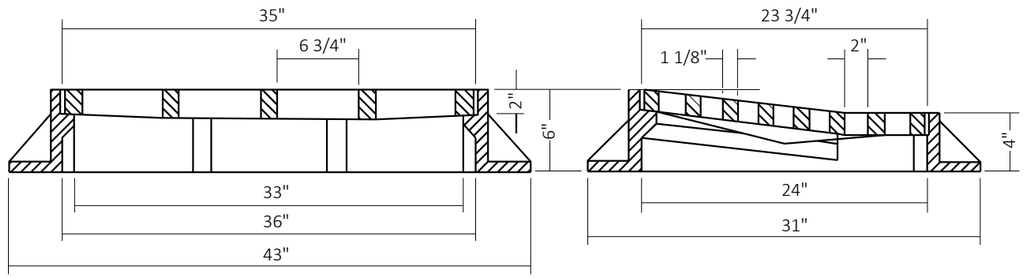
CONCRETE PAVEMENT APPROACH SLAB

PROJECT NO: 1196-04-77	HWY: USH 53	COUNTY: BARRON	CONSTRUCTION DETAILS - CONCRETE PAVEMENT APPROACH SLAB	SHEET 14	E

FILE NAME : S:\MAD\1000--1099\1089\895\DRAWINGS\CAD\AUTOCAD\CIVIL 3D\SHEETS PLAN\021001_CD.DWG
LAYOUT NAME - 021007_cd
PLOT DATE : 10/31/2024 9:20 AM PLOT BY : HABERKORN, DEVEN PLOT NAME : PLOT SCALE : ##########
WISDOT/CADDS SHEET 42

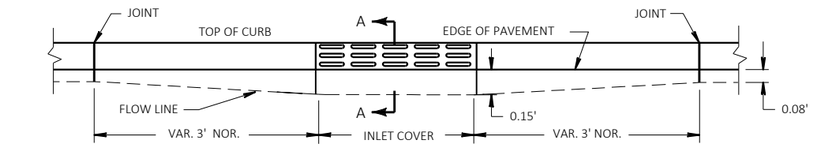
2

TOTAL WEIGHT APPROXIMATELY 420 POUNDS

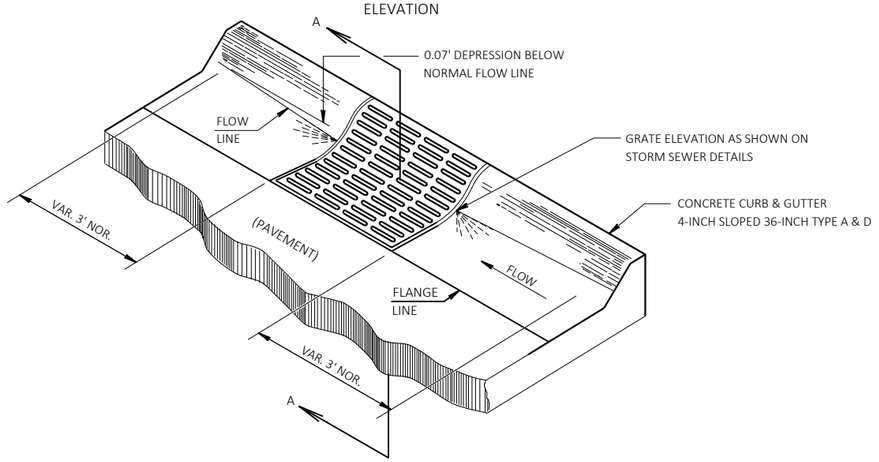


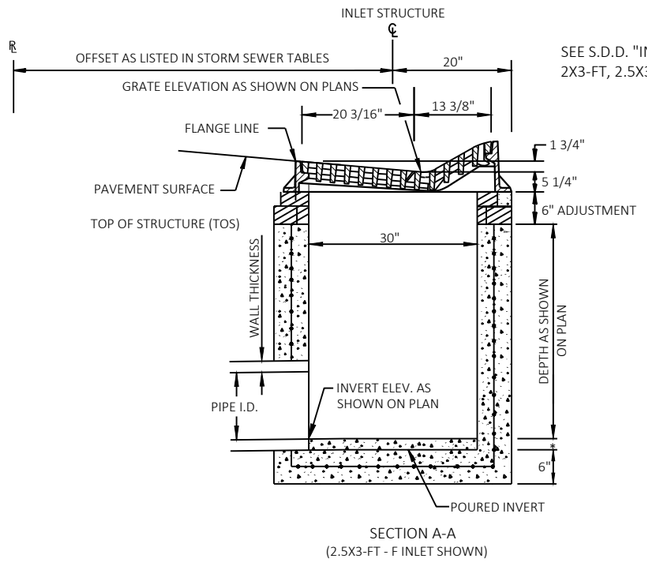
INLET COVERS TYPE DW

PROJECT NO: 1196-04-77	HWY: USH 53	COUNTY: BARRON	CONSTRUCTION DETAILS - CTH I MEDIAN CURB & GUTTER	SHEET 15	E



ELEVATION



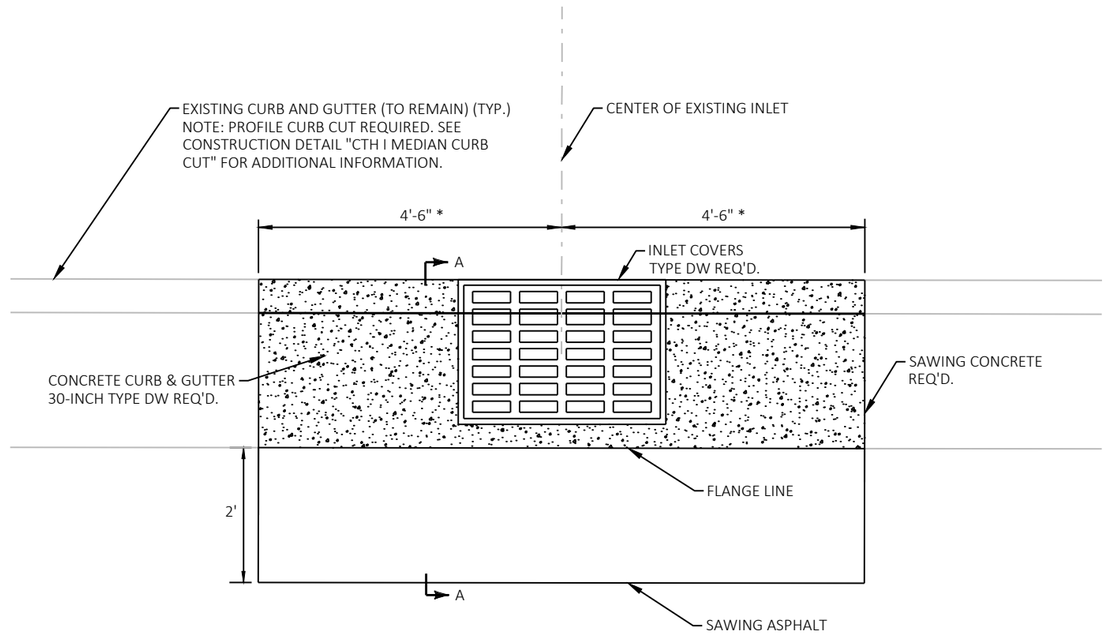


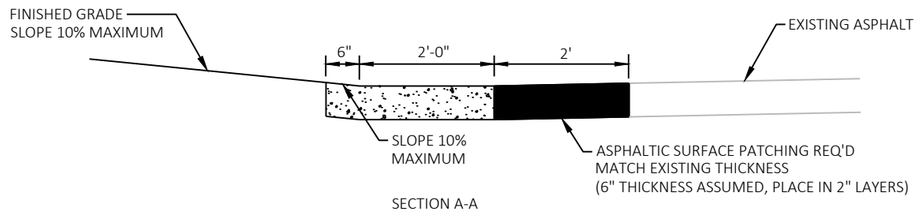
SEE S.D.D. "INLETS 2X2-FT, 2X2.5-FT,
2X3-FT, 2.5X3-FT" FOR ADDITIONAL INFORMATION

SECTION A-A
(2.5X3-FT - F INLET SHOWN)

DETAIL OF CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE A & D AT INLETS

* TRANSITION CURB HEAD TO MATCH CASTING

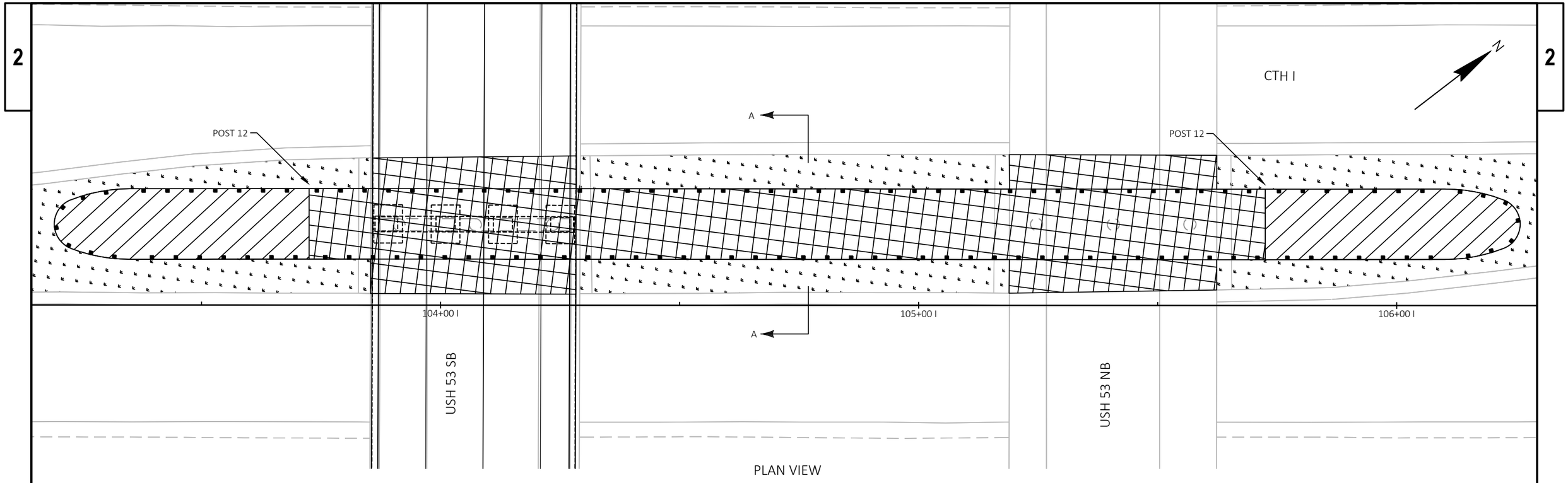




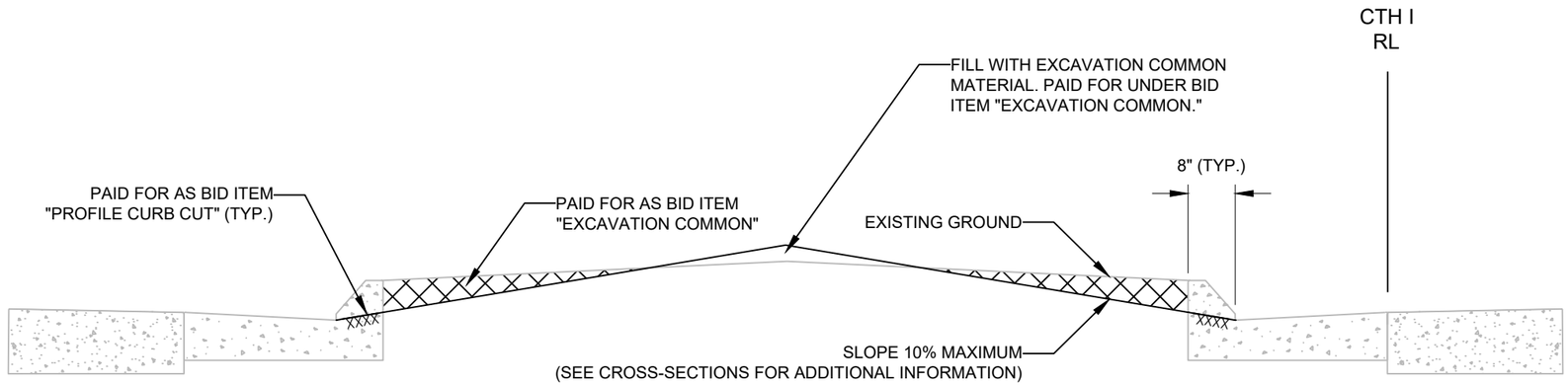
SECTION A-A

DETAIL OF CONCRETE CURB & GUTTER 30-INCH TYPE DW

STA. 102+87 I, 1' LT
STA. 102+91 I, 24' LT
STA. 106+56 I, 9' LT
STA. 106+62 I, 33' LT



PLAN VIEW



SECTION A-A

CTH I MEDIAN GRADING AND PROFILE CURB CUT (NB & SB)

STA. 102+59 I - 106+86 I
MAINTAIN EXISTING DRAINAGE PATTERNS

TRANSITION FROM FULL CURB HEAD OVER 6'
STA. 102+53 I - 102+59 I
STA. 106+86 I - 106+92 I

SALVAGED TOPSOIL; EROSION MAT CLASS I TYPE B; SEEDING MIXTURE NO. 20; SEEDING TEMPORARY; FERTILIZER TYPE B; AND SEED WATER

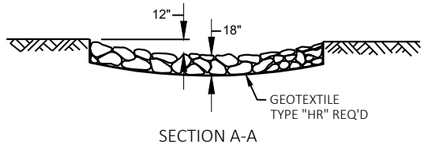
GUARDRAIL MOW STRIP EMULSIFIED ASPHALT

GUARDRAIL MOW STRIP ASPHALT

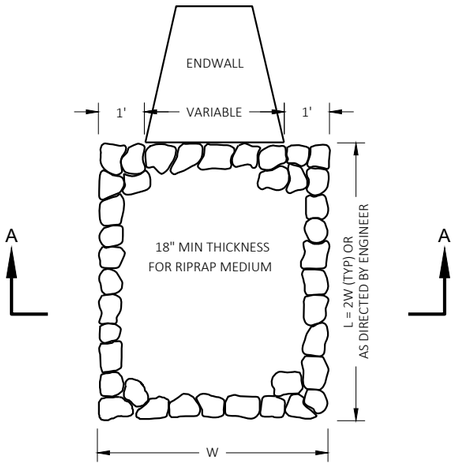
PROJECT NO: 1196-04-77	HWY: USH 53	COUNTY: BARRON	CONSTRUCTION DETAILS - CTH I MEDIAN FINISHING	SHEET 17	E

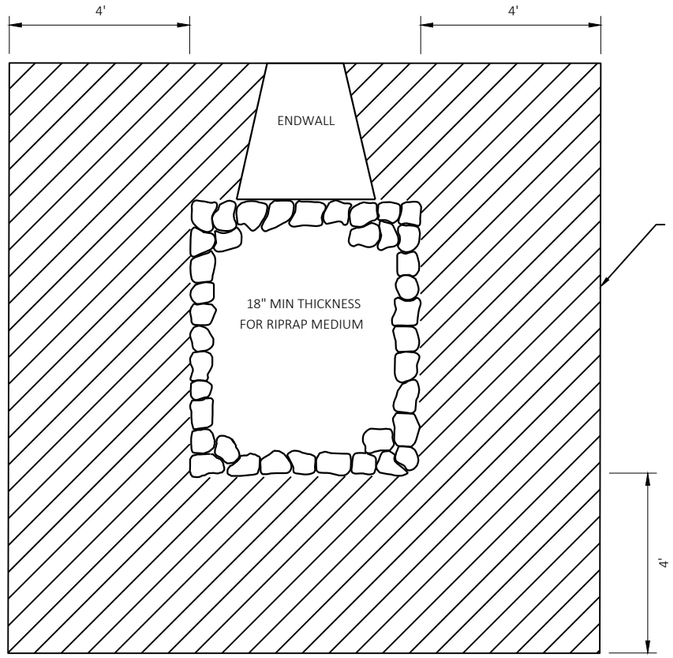
FILE NAME : S:\MAD\1000--1099\1089\895\DRAWINGS\CAD\AUTOCAD\CIVIL 3D\SHEETS PLAN\021001_CD.DWG
LAYOUT NAME - 021001_cd - 021010_cd
PLOT DATE : 10/31/2024 5:14 PM PLOT BY : HABERKORN, DEVEN PLOT NAME : PLOT SCALE : ##########
WISDOT/CADDS SHEET 42

2



SECTION A-A





TREATMENT AT RESETTING CULVERTS OR ENDWALL REPLACEMENTS

PROJECT NO: 1196-04-77	HWY: USH 53	COUNTY: BARRON	CONSTRUCTION DETAILS - CONCRETE PAVEMENT APPROACH SLAB	SHEET 18	E

2

R/W

CARLSON SCHOOL ROAD

B-3-14
SEE STRUCTURE REHABILITATION PLANS
FOR ADDITIONAL INFORMATION

SLOPE INTERCEPT (TYP.)

60+00 SB

65+00 SB

70+00 SB

75+00 SB

USH 53 SB

BEGIN PROJECT
STA. 66+65.44 SB
Y=32,141.63
X=374,664.65

DELINEATED WETLAND BOUNDARY

MATCHLINE STA. 75+00 SB

USH 53 NB

EROSION CONTROL LEGEND

- SILT FENCE
- RIPRAP MEDIUM
- EROSION MAT CLASS I TYPE B
- INLET PROTECTION TYPE A AND B
- TEMPORARY DITCH CHECKS

MATCHLINE STA. 75+00 SB

R/W

END CONSTRUCTION
STA. 78+68.80 SB

0 SB

80+00 SB

85+00 SB

90+00 SB

USH 53 SB

DELINEATED WETLAND BOUNDARY

SLOPE INTERCEPT (TYP.)

USH 53 NB

PROJECT NO: 1196-04-77	HWY: USH 53	COUNTY: BARRON	EROSION CONTROL	SHEET 19	E

FILE NAME : S:\MAD\1000--1099\1089\895\DRAWINGS\CAD\AUTOCAD\CIVIL 3D\SHEETS PLAN\022001_EC.DWG
LAYOUT NAME - 022001_ec

PLOT DATE : 11/1/2024 9:37 AM PLOT BY : HABERKORN, DEVEN PLOT NAME : PLOT SCALE : ##########

WISDOT/CADDS SHEET 42

2

R/W

DOVRE ROAD

UTILITY OWNERSHIP
UNDETERMINED (ELECTRIC)

B-3-16
SEE STRUCTURE PLANS FOR
ADDITIONAL INFORMATION

DELINEATED WETLAND
BOUNDARY

SLOPE INTERCEPT
(TYP.)

BEGIN CONSTRUCTION
STA. 219+22.94 SB

CTH AA (3 ½ AVENUE)

210+00 SB

215+00 SB

USH 53 SB

220+00 SB

225+

MATCHLINE STA. 225+00 SB

USH 53 NB

N

EROSION CONTROL LEGEND

- SILT FENCE
- RIPRAP MEDIUM
- EROSION MAT CLASS I TYPE B
- INLET PROTECTION TYPE A AND B
- TEMPORARY DITCH CHECKS

2

R/W

N

DELINEATED WETLAND BOUNDARY

SLOPE INTERCEPT (TYP.)

MATCHLINE STA. 225+00 SB

00 SB

230+00 SB

235+00 SB

240+00 SB

USH 53 SB

END CONSTRUCTION
STA. 230+13.87 SB

USH 53 NB

PROJECT NO: 1196-04-77	HWY: USH 53	COUNTY: BARRON	EROSION CONTROL	SHEET 20	E

FILE NAME : S:\MAD\1000--1099\1089\895\DRAWINGS\CAD\AUTOCAD\CIVIL 3D\SHEETS PLAN\022001_EC.DWG
LAYOUT NAME - 022002_ec

PLOT DATE : 11/1/2024 9:37 AM PLOT BY : HABERKORN, DEVEN PLOT NAME : PLOT SCALE : ###########

WISDOT/CADDS SHEET 42

2

2

CTH A (25TH STREET)

R/W

R/W

BEGIN CONSTRUCTION
STA. 361+84.72 SB

360+00 SB

365+00 SB

370+00 SB

375+00 SB

USH 53 SB

END CONSTRUCTION
STA. 372+28.27 SB

15:1 TAPER

B-3-18
SEE STRUCTURE REHABILITATION
PLANS FOR ADDITIONAL INFORMATION

DELINEATED WETLAND BOUNDARY

SLOPE INTERCEPT (TYP.)

USH 53 NB

EROSION CONTROL LEGEND

- SILT FENCE
- RIPRAP MEDIUM
- EROSION MAT CLASS I TYPE B
- INLET PROTECTION TYPE A AND B
- TEMPORARY DITCH CHECKS

N

R/W

R/W

400+00 SB

405+00 SB

410+00 SB

415+

USH 53 SB

BEGIN CONSTRUCTION
STA. 404+25.00 SB

B-3-20
SEE STRUCTURE REHABILITATION PLAN
FOR ADDITIONAL INFORMATION

MATCHLINE STA. 415+00 SB

USH 53 NB

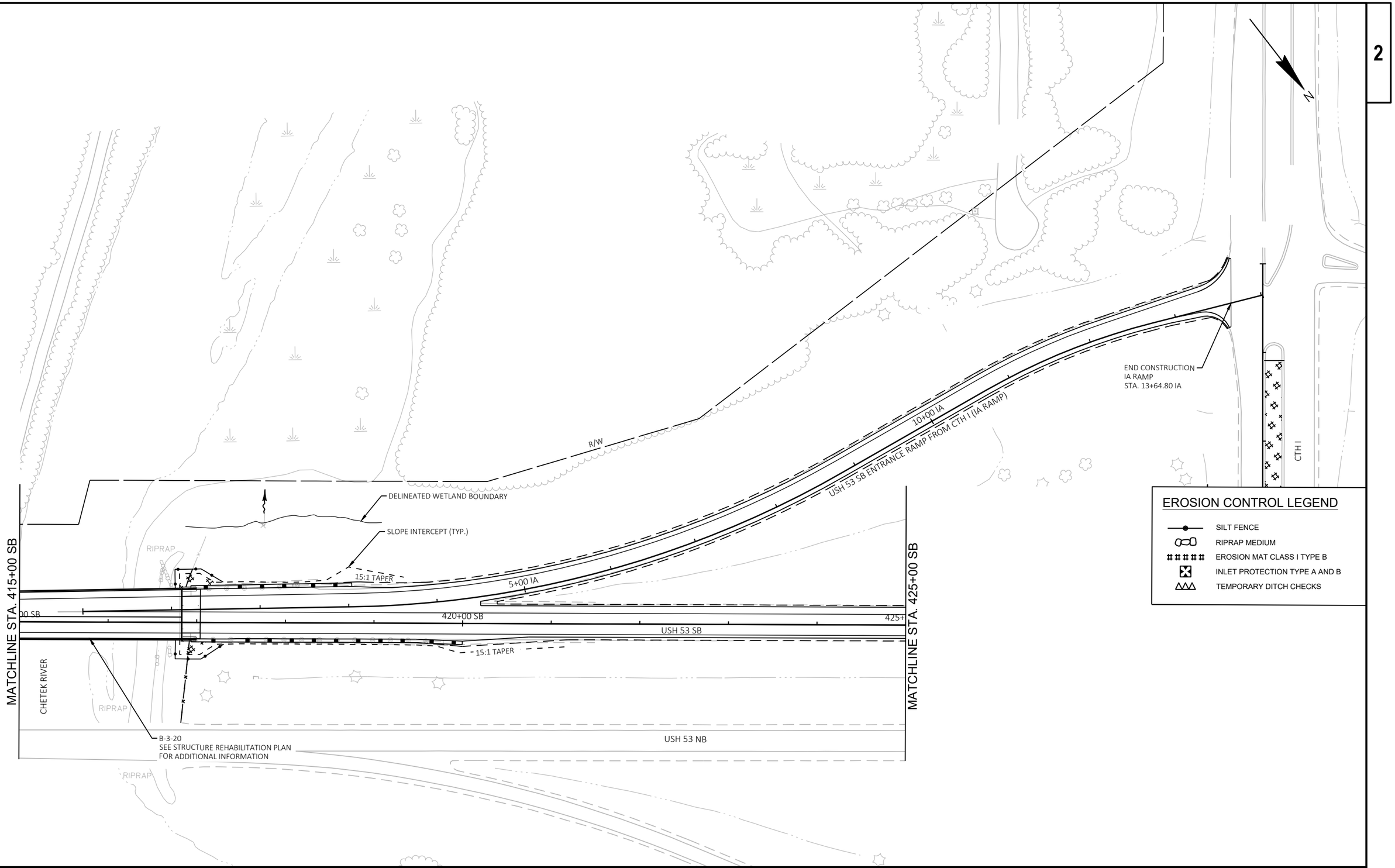
PROJECT NO: 1196-04-77	HWY: USH 53	COUNTY: BARRON	EROSION CONTROL	SHEET 21	E

FILE NAME : S:\MAD\1000--1099\1089\895\DRAWINGS\CAD\AUTOCAD\CIVIL 3D\SHEETS PLAN\022001_EC.DWG
LAYOUT NAME - 022003_ec

PLOT DATE : 11/1/2024 9:38 AM PLOT BY : HABERKORN, DEVEN PLOT NAME : PLOT SCALE : ##########

WISDOT/CADDS SHEET 42

2



PROJECT NO: 1196-04-77	HWY: USH 53	COUNTY: BARRON	EROSION CONTROL	SHEET 22	E

FILE NAME : S:\MAD\1000--1099\1089\895\DRAWINGS\CAD\AUTOCAD\CIVIL 3D\SHEETS PLAN\022001_EC.DWG
LAYOUT NAME - 022004_ec

PLOT DATE : 10/31/2024 10:52 AM PLOT BY : HABERKORN, DEVEN PLOT NAME : PLOT SCALE : 1 IN:100 FT

2

2

MATCHLINE STA. 425+00 SB

CTH I

DELINEATED WETLAND BOUNDARY

END CONSTRUCTION
STA. 434+80.90 SB

00 SB

430+00 SB

435+00 SB

USH 53 SB

SLOPE INTERCEPT (TYP.)

EXISTING STRUCTURE B-3-24
REPLACEMENT STRUCTURE B-3-218
SEE STRUCTURE PLAN FOR
ADDITIONAL INFORMATION

USH 53 NB

PLACE INLET PROTECTION TYPE B
AT NEXT TWO INLETS TO REMAIN
(EITHER SIDE OF MEDIAN)

EROSION CONTROL LEGEND

- SILT FENCE
- RIPRAP MEDIUM
- EROSION MAT CLASS I TYPE B
- INLET PROTECTION TYPE A AND B
- TEMPORARY DITCH CHECKS

R/W

R/W

B-3-26
SEE STRUCTURE REHABILITATION
PLAN FOR ADDITIONAL INFORMATION

7½ AVENUE

BEGIN CONSTRUCTION
STA. 490+88.56 SB

490+00 SB

USH 53 SB

495+00 SB

END CONSTRUCTION
STA. 497+52.50 SB

500+00 SB

SLOPE INTERCEPT (TYP.)

DELENIATED WETLAND BOUNDARY

USH 53 NB

KNAPP STREET

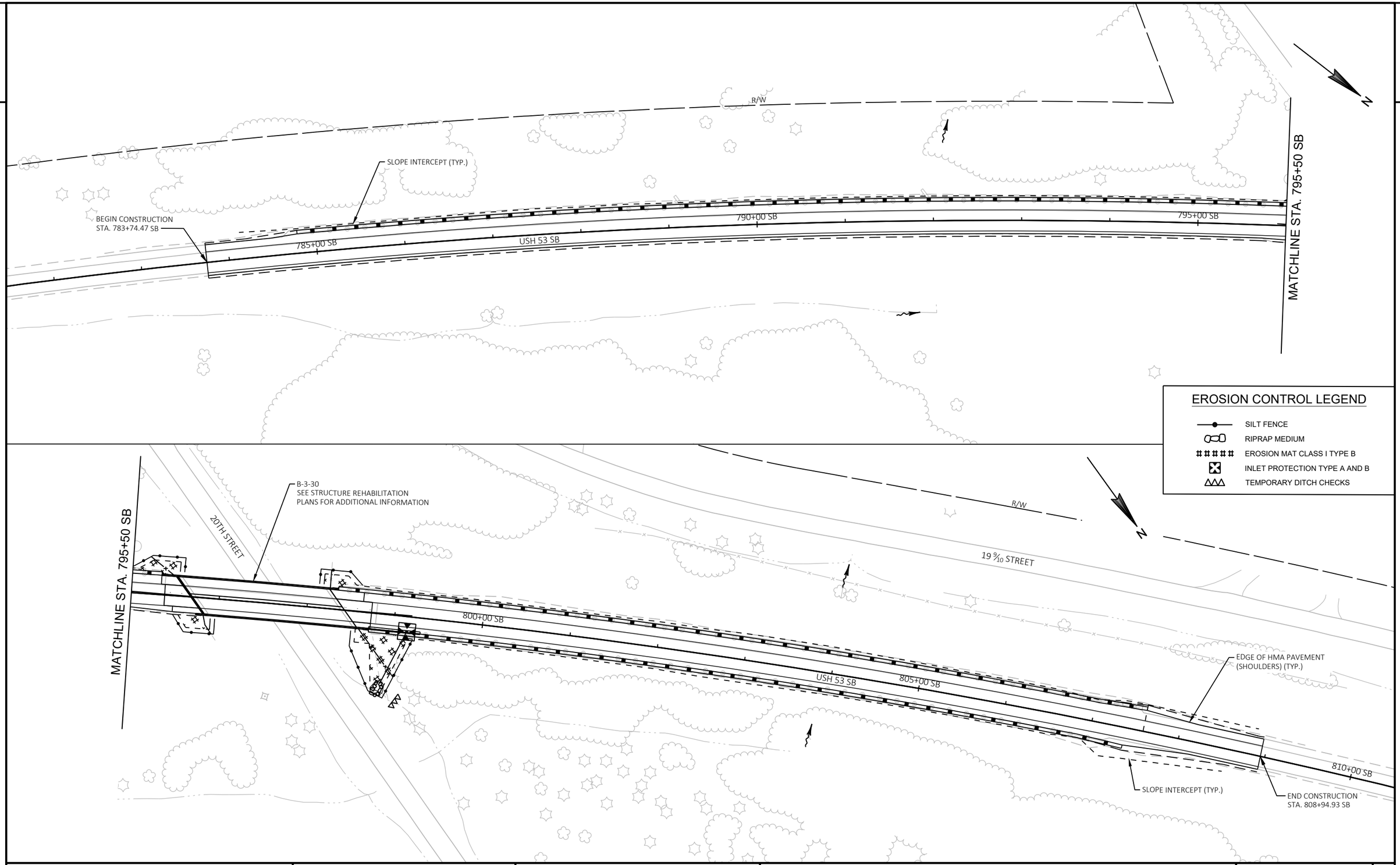
PROJECT NO: 1196-04-77	HWY: USH 53	COUNTY: BARRON	EROSION CONTROL	SHEET 23	E

FILE NAME : S:\MAD\1000--1099\1089\895\DRAWINGS\CAD\AUTOCAD\CIVIL 3D\SHEETS PLAN\022001_EC.DWG
LAYOUT NAME - 022005_ec

PLOT DATE : 11/1/2024 9:38 AM PLOT BY : HABERKORN, DEVEN PLOT NAME : PLOT SCALE : ##########

WISDOT/CADDS SHEET 42

2



PROJECT NO: 1196-04-77	HWY: USH 53	COUNTY: BARRON	EROSION CONTROL	SHEET 24	E

FILE NAME : S:\MAD\1000--1099\1089\895\DRAWINGS\CAD\AUTOCAD\CIVIL 3D\SHEETS PLAN\022001_EC.DWG
LAYOUT NAME - 022006_ec
PLOT DATE : 11/1/2024 9:38 AM PLOT BY : HABERKORN, DEVEN PLOT NAME : PLOT SCALE : ############
WISDOT/CADDS SHEET 42

2

2

N

USH 53 SB ENTRANCE
RAMP FROM USH 8

USH 8

USH 53 SB EXIT RAMP TO USH 8

CINC (UNDERGROUND FIBER OPTIC)

DELINEATED WETLAND BOUNDARY

END CONSTRUCTION
STA. 877+06.77 SB

870+00 SB

875+00 SB

USH 53 SB

BEGIN CONSTRUCTION
STA. 869+44.29 SB

B-3-37
SEE STRUCTURE REHABIILITATION
PLANS FOR ADDITIONAL INFORMATION

SLOPE INTERCEPT (TYP.)

DELINEATED WETLAND BOUNDARIES

USH 53 NB

EROSION CONTROL LEGEND

- SILT FENCE
- RIPRAP MEDIUM
- EROSION MAT CLASS I TYPE B
- INLET PROTECTION TYPE A AND B
- TEMPORARY DITCH CHECKS

PROJECT NO: 1196-04-77	HWY: USH 53	COUNTY: BARRON	EROSION CONTROL	SHEET 25	E

FILE NAME : S:\MAD\1000--1099\1089\895\DRAWINGS\CAD\AUTOCAD\CIVIL 3D\SHEETS PLAN\022001_EC.DWG
LAYOUT NAME - 022007_ec

PLOT DATE : 11/1/2024 9:38 AM PLOT BY : HABERKORN, DEVEN PLOT NAME : PLOT SCALE : ##########

TRAFFIC CONTROL SYMBOLS (ALL STAGES)

- TRAFFIC CONTROL BARRICADES TYPE III (WITH ATTACHED SIGN)
- TRAFFIC CONTROL DRUMS
- TRAFFIC CONTROL DRUMS WITH TRAFFIC CONTROL WARNING LIGHTS TYPE C
- TRAFFIC CONTROL SIGNS (ON PERMANENT SUPPORT)
- TRAFFIC CONTROL SIGNS (ON TEMPORARY SUPPORT)
- CONCRETE BARRIER TEMPORARY PRECAST (CBTP)
- WORK AREA
- RAMP WORK AREA
- TEMPORARY PAVEMENT INSTALLED IN PREVIOUS STAGE
- DIRECTION OF TRAFFIC
- CC — CRASH CUSHIONS TEMPORARY
- PCMS — TRAFFIC CONTROL SIGNS PCMS

TRAFFIC CONTROL GENERAL NOTES (ALL STAGES)

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 DESIRABLE MINIMUM OF 200 FEET (500 FEET DESIRABLE) 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 APPROVED BY THE ENGINEER. NO WARNING LIGHTS SHALL BE WORKING ON "COVERED" OR "DOWNED" SIGNS.

IF LANE CLOSURES OR SHOULDER CLOSURES ARE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS THE ADVANCED WARNING SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS.

INSTALL THE LANE CLOSURE SERIES AS A COMPLETE UNIT WHICH INCLUDES ALL ADVANCE WARNING SIGNING, DRUMS, AND ARROW BOARDS. REMOVE PAVEMENT MARKING NOT APPROPRIATE TO THE TRAVEL PATH.

THE TURNING OF TRAFFIC CONTROL DEVICES WHEN NOT IN USE TO OBSCURE THE MESSAGE WILL NOT BE ALLOWED.

ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED.

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

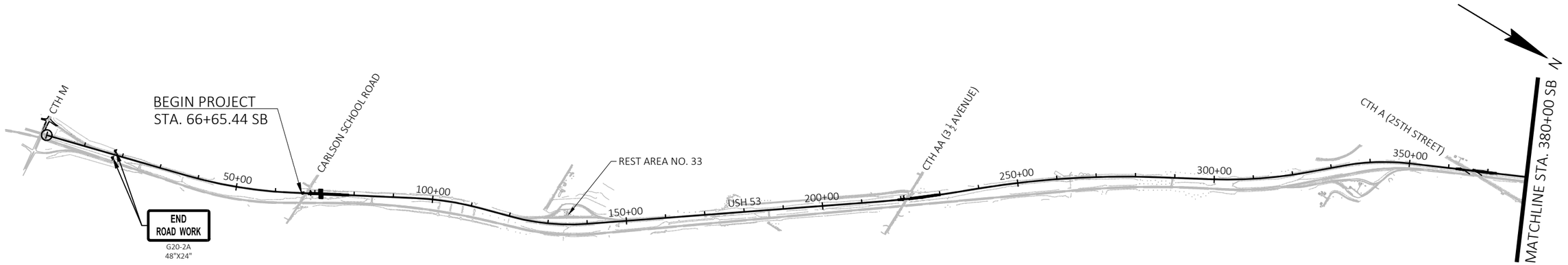
OFFSETS SHOWN FOR CONCRETE BARRIER TEMPORARY PRECAST IS TO THE CENTER OF BARRIER WALL.

TEMPORARY PAVEMENT MARKINGS INSTALLED ON FINAL BRIDGE DECKS AND PERMANENT PAVEMENT SHALL BE REMOVABLE TAPE.

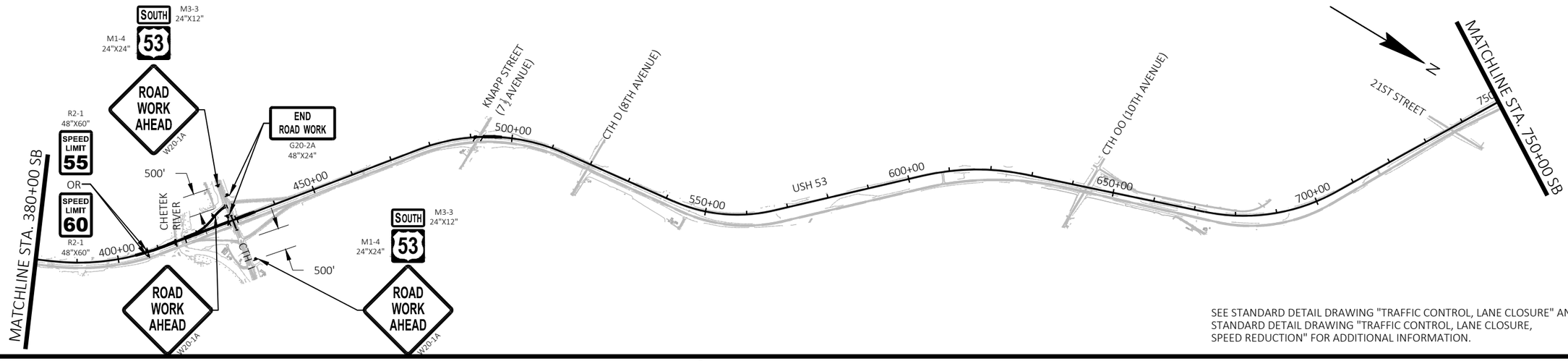
TEMPORARY MARKING LINE LEGEND (ALL STAGES)

- E-6W — TEMPORARY MARKING LINE EPOXY 6-INCH (WHITE)
- E-6Y — TEMPORARY MARKING LINE EPOXY 6-INCH (YELLOW)
- E-10W — TEMPORARY MARKING LINE EPOXY 10-INCH (WHITE)
- E-6W-D — TEMPORARY MARKING LINE EPOXY 6-INCH (WHITE) (LANE DROP) (3' LINE, 9' GAP)
- T-6W — TEMPORARY MARKING LINE REMOVABLE TAPE 6-INCH (WHITE)
- T-6Y — TEMPORARY MARKING LINE REMOVABLE TAPE 6-INCH (YELLOW)
- T-10W — TEMPORARY MARKING LINE REMOVABLE TAPE 10-INCH (WHITE)
- T-6W-D — TEMPORARY MARKING LINE REMOVABLE TAPE 6-INCH (WHITE) (LANE DROP) (3' LINE, 9' GAP)

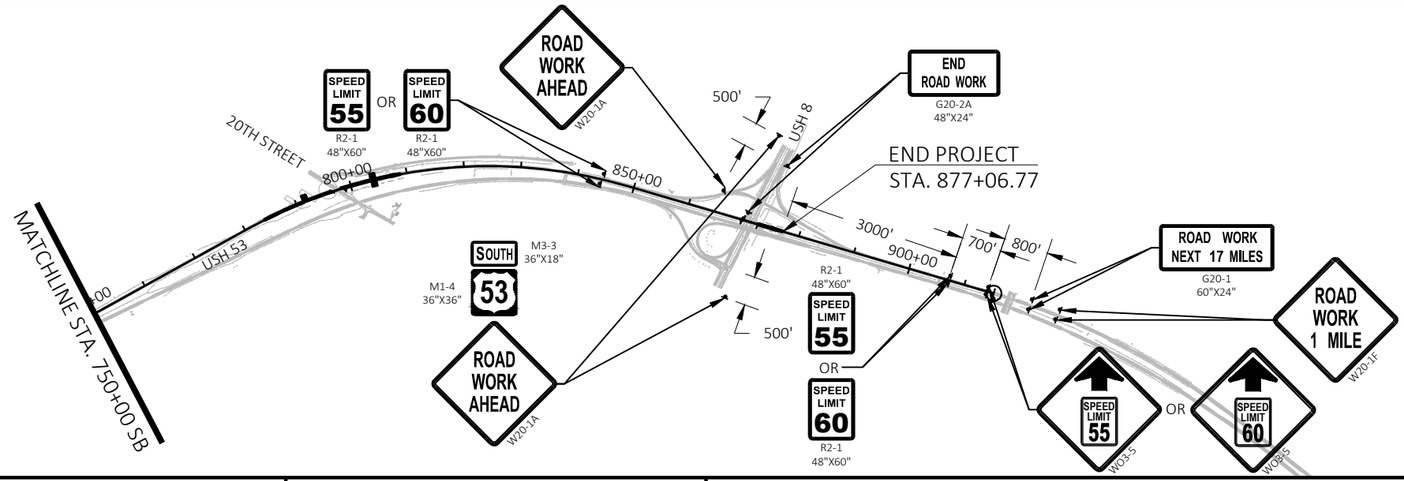
2



SEE STANDARD DETAIL DRAWING "TRAFFIC CONTROL, LANE CLOSURE" AND
STANDARD DETAIL DRAWING "TRAFFIC CONTROL, LANE CLOSURE,
SPEED REDUCTION" FOR ADDITIONAL INFORMATION.



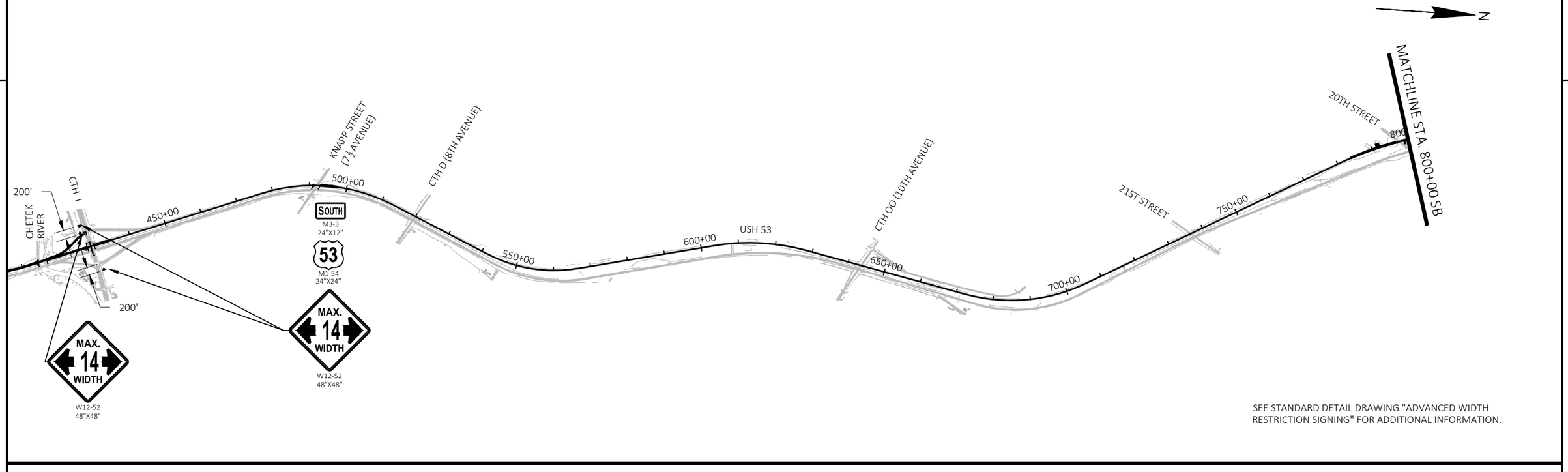
SEE STANDARD DETAIL DRAWING "TRAFFIC CONTROL, LANE CLOSURE" AND
STANDARD DETAIL DRAWING "TRAFFIC CONTROL, LANE CLOSURE,
SPEED REDUCTION" FOR ADDITIONAL INFORMATION.



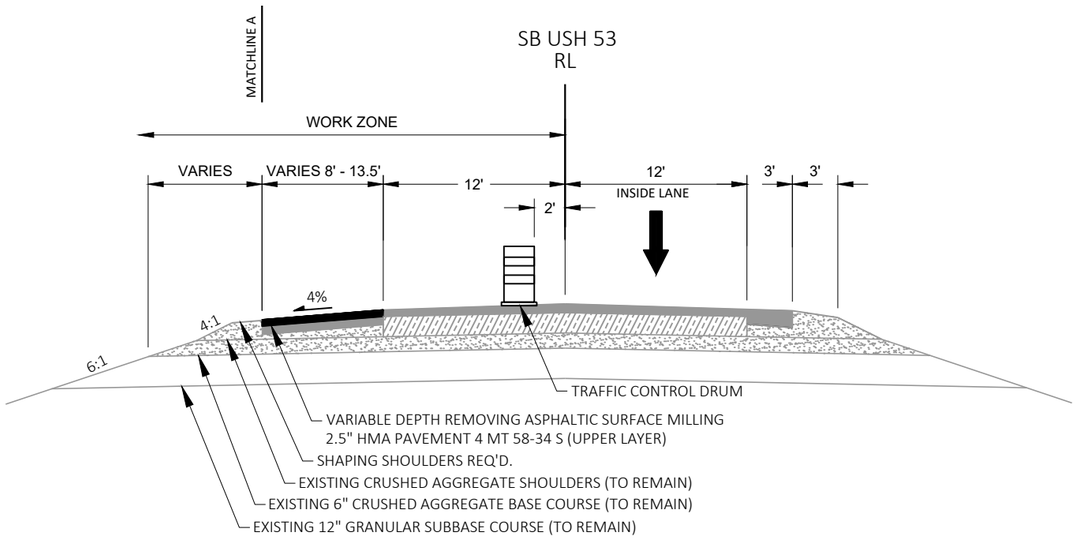
SEE STANDARD DETAIL DRAWING "TRAFFIC CONTROL, LANE CLOSURE" AND
STANDARD DETAIL DRAWING "TRAFFIC CONTROL, LANE CLOSURE,
SPEED REDUCTION" FOR ADDITIONAL INFORMATION.

PROJECT NO: 1196-04-77	HWY: USH 53	COUNTY: BARRON	TRAFFIC CONTROL - ADVANCED WARNING	SHEET 27	E

2

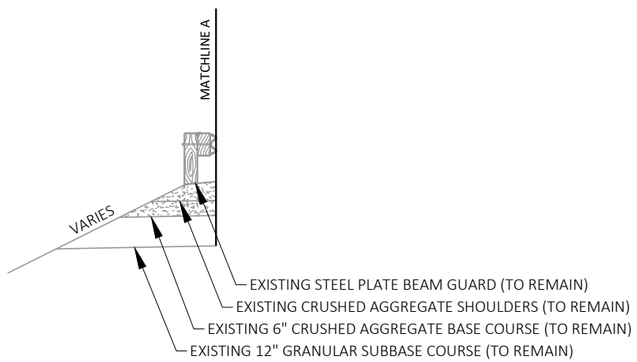


PROJECT NO: 1196-04-77	HWY: USH 53	COUNTY: BARRON	TRAFFIC CONTROL - WIDTH RESTRICTION SIGNING STAGES 1 & 2	SHEET 28	E

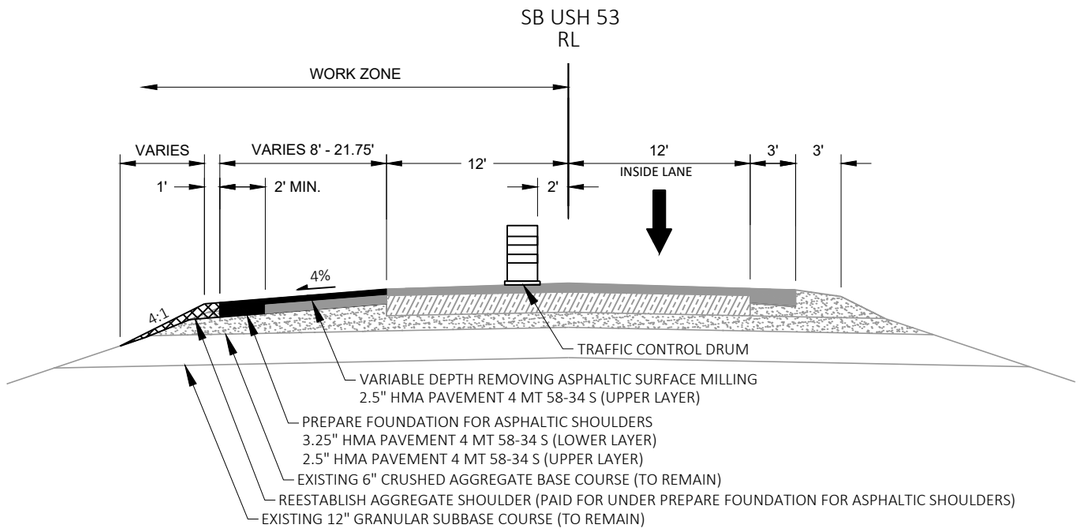


CONSTRUCTION PRE-STAGE TYPICAL SECTION
(LOOKING NORTH)

STA. 62+20 SB - STA. 67+25 SB
STA. 76+45 SB - STA. 79+81 SB
STA. 486+41 SB - STA. 491+35 SB
STA. 495+83 SB - STA. 504+27 SB
STA. 807+53 SB - STA. 810+29 SB
STA. 864+79 SB - STA. 869+69 SB
STA. 875+05 SB - STA. 883+56 SB



STA. 68+80 SB - STA. 76+45 SB
STA. 222+34 SB - STA. 228+59 SB
STA. 366+37 SB - STA. 368+29 SB
STA. 430+19 SB - STA. 432+63 SB
STA. 492+96 SB - STA. 495+83 SB
STA. 791+21 SB - STA. 807+53 SB
STA. 872+38 SB - STA. 875+05 SB



CONSTRUCTION PRE-STAGE TYPICAL SECTION
(LOOKING NORTH)

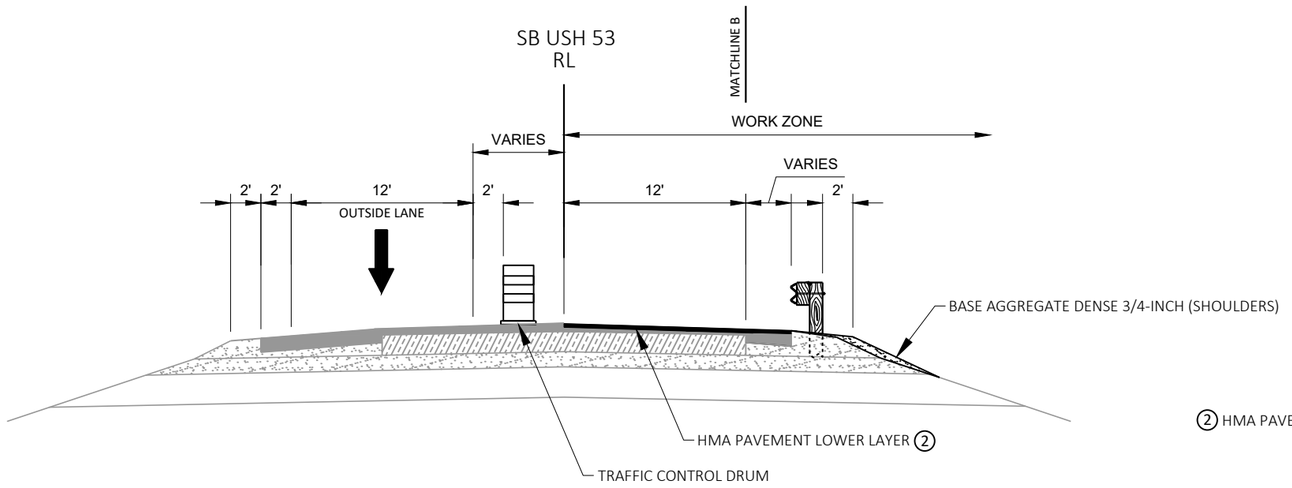
STA. 215+25 SB - STA. 220+71 SB
STA. 228+59 SB - STA. 234+30 SB
STA. 357+87 SB - STA. 363+56 SB
STA. 368+29 SB - STA. 379+33 SB
STA. 407+12 SB - STA. 414+46 SB
STA. 420+00 SB - STA. 428+22 SB
STA. 432+63 SB - STA. 441+97 SB

2

SEE STRUCTURE PLANS FOR STRUCTURE STAGING TYPICAL SECTIONS AND CONCRETE BARRIER TEMPORARY PRECAST LOCATION

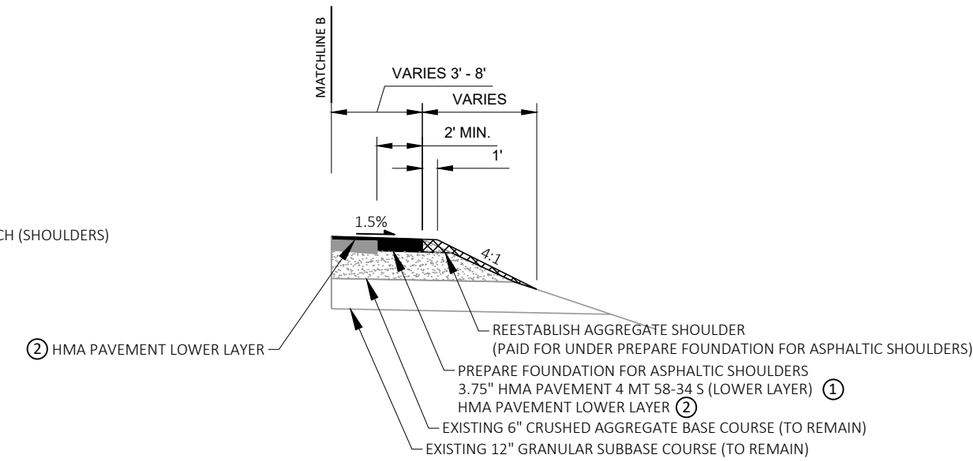
① SURFACE OF SHOULDER WIDENING TO MATCH LOWER LAYER HMA PAVEMENT WITHIN CONSTRUCTION LIMITS.
SURFACE OF SHOULDER WIDENING TO MATCH EXISTING ROADWAY OUTSIDE OF BEGIN/END CONSTRUCTION LIMITS.

② SEE TYPICAL SECTIONS FOR PAVEMENT MATERIAL TYPE AND THICKNESS



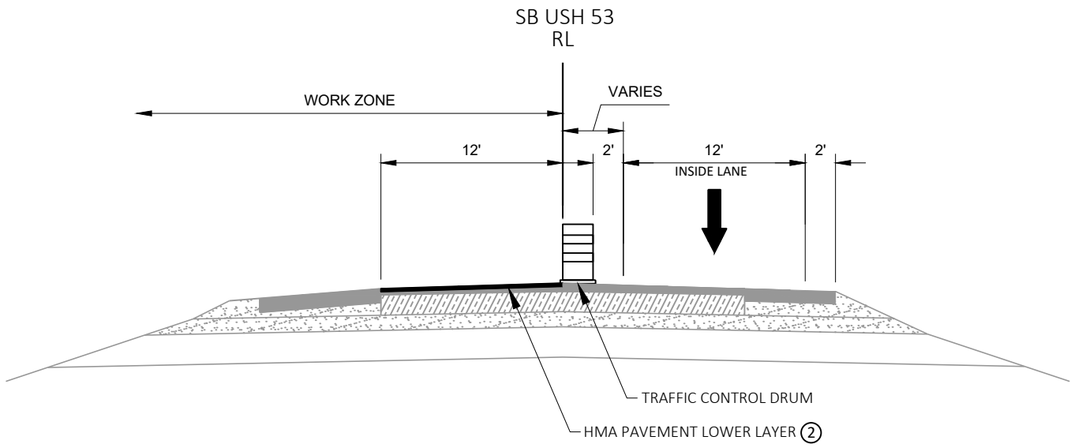
CONSTRUCTION STAGE 1 TYPICAL SECTION
(LOOKING NORTH)

STA. 68+80 SB - STA. 76+90 SB
STA. 222+45 SB - STA. 224+71 SB
STA. 367+25 SB - STA. 370+42 SB
STA. 417+04 SB - STA. 419+58 SB
STA. 430+28 SB - STA. 432+95 SB
STA. 493+08 SB - STA. 495+03 SB
STA. 798+43 SB - STA. 807+05 SB
STA. 872+60 SB - STA. 875+29 SB

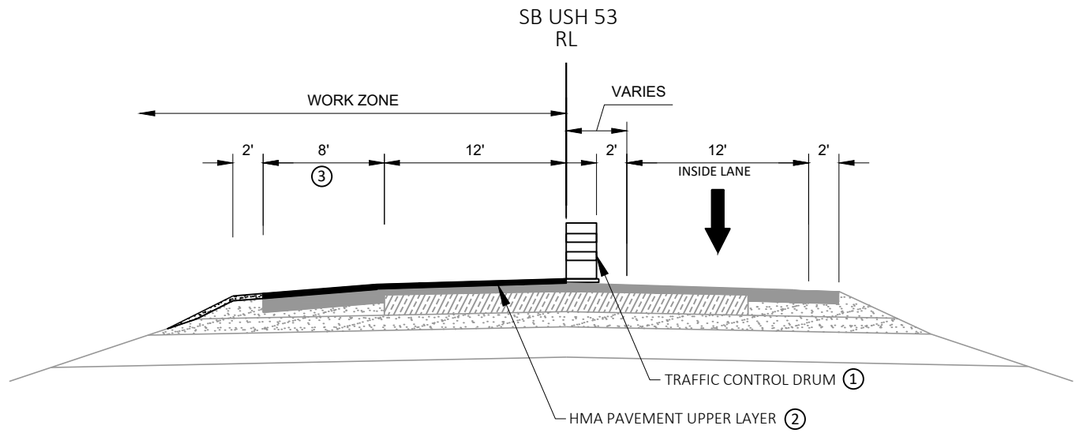


CONSTRUCTION STAGE 1 TYPICAL SECTION
(LOOKING NORTH)

STA. 62+88 SB - STA. 66+85 SB
STA. 76+90 SB - STA. 79+10 SB
STA. 215+37 SB - STA. 220+43 SB
STA. 224+71 SB - STA. 233+06 SB
STA. 359+07 SB - STA. 363+61 SB
STA. 370+42 SB - STA. 377+51 SB
STA. 410+39 SB - STA. 414+25 SB
STA. 419+58 SB - STA. 427+96 SB
STA. 432+95 SB - STA. 440+86 SB
STA. 487+11 SB - STA. 491+09 SB
STA. 495+03 SB - STA. 503+50 SB
STA. 792+45 SB - STA. 796+48 SB
STA. 807+05 SB - STA. 809+09 SB
STA. 865+63 SB - STA. 869+67 SB
STA. 875+29 SB - STA. 882+91 SB



CONSTRUCTION STAGE 2 TYPICAL SECTION
(LOOKING NORTH)



CONSTRUCTION STAGE 2 TYPICAL SECTION
(LOOKING NORTH)

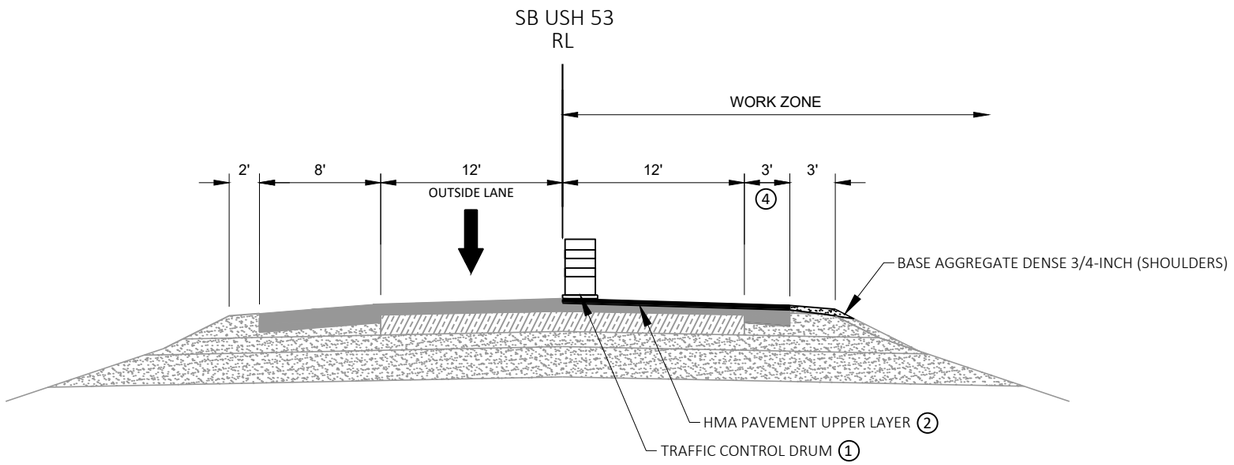
(1) ADJUST TRAFFIC CONTROL DRUM LOCATION DURING MILLING AND PAVING OPERATIONS

(2) SEE TYPICAL SECTIONS FOR PAVEMENT MATERIAL TYPE AND THICKNESS

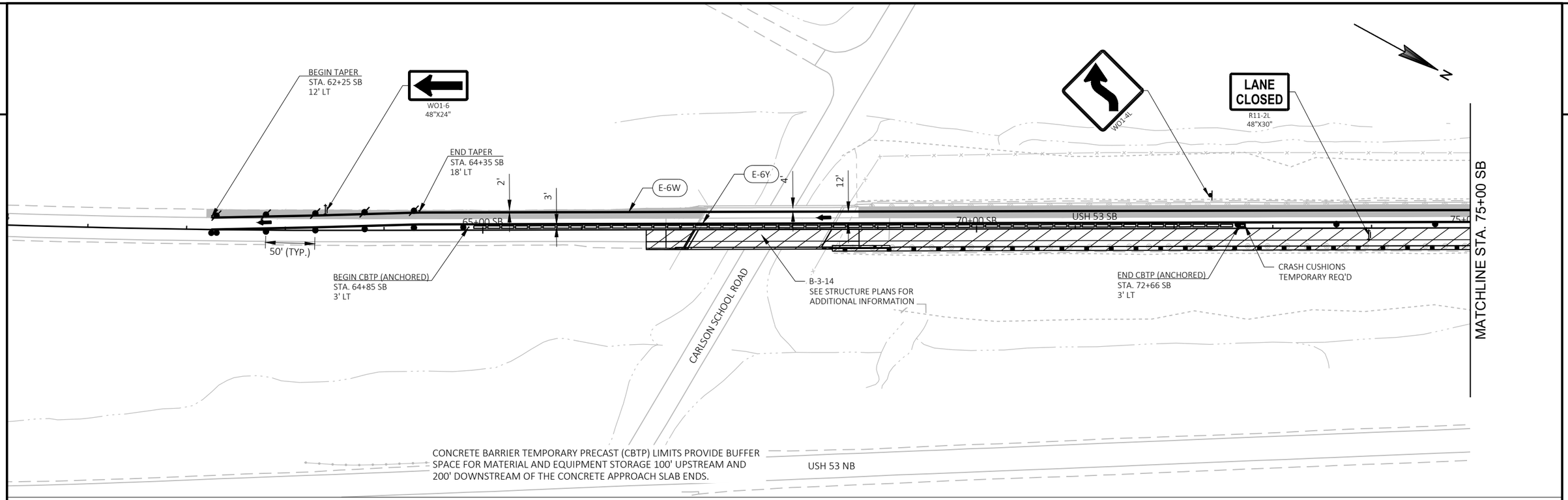
(3) BEFORE INSTALLING UPPER LAYER, SAW CUT AND REMOVE OUTSIDE SHOULDER WIDENING INSTALLED IN PRE-STAGE. SEE PLAN SHEETS FOR FINAL SHOULDER LOCATIONS.

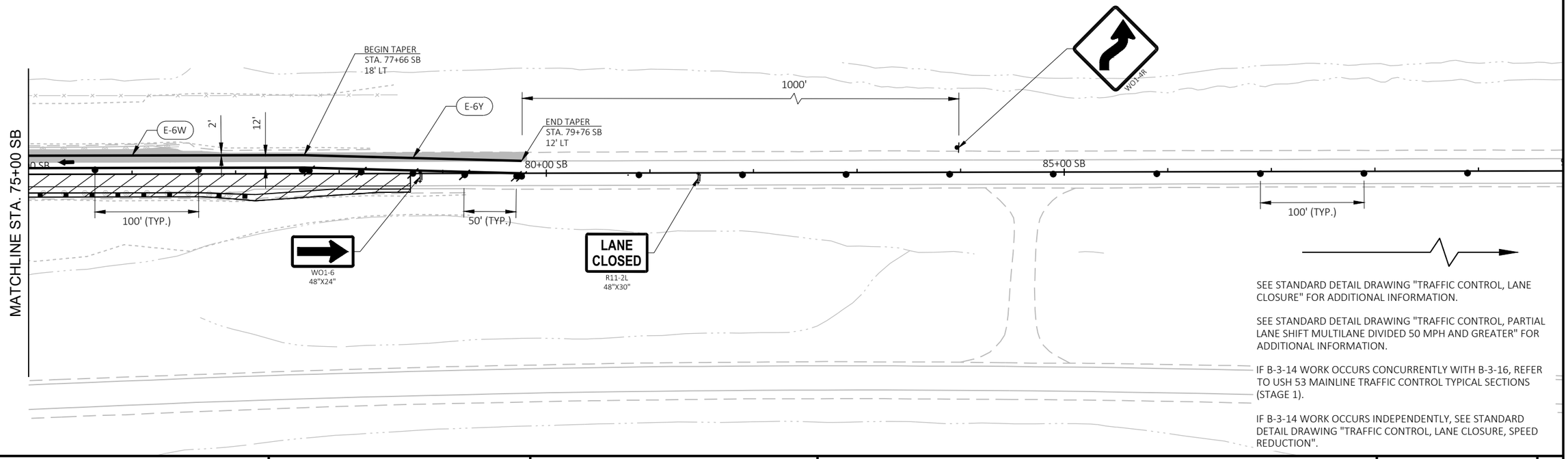
(4) BEFORE INSTALLING UPPER LAYER, SAW CUT AND REMOVE MEDIAN SHOULDER WIDENING INSTALLED IN STAGE 1. SEE PLAN SHEETS FOR FINAL SHOULDER LOCATIONS.

SEE STRUCTURE PLANS FOR STRUCTURE STAGING TYPICAL SECTIONS AND CONCRETE BARRIER TEMPORARY PRECAST LOCATION



CONSTRUCTION STAGE 3 TYPICAL SECTION
(LOOKING NORTH)





SEE STANDARD DETAIL DRAWING "TRAFFIC CONTROL, LANE CLOSURE" FOR ADDITIONAL INFORMATION.

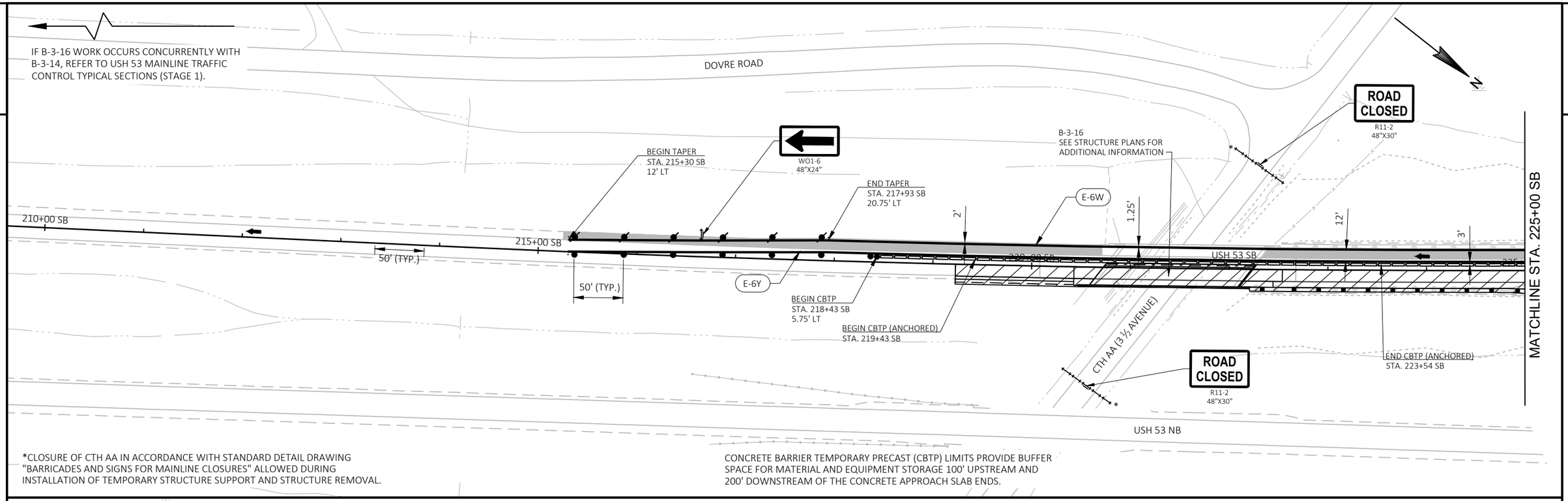
SEE STANDARD DETAIL DRAWING "TRAFFIC CONTROL, PARTIAL LANE SHIFT MULTILANE DIVIDED 50 MPH AND GREATER" FOR ADDITIONAL INFORMATION.

IF B-3-14 WORK OCCURS CONCURRENTLY WITH B-3-16, REFER TO USH 53 MAINLINE TRAFFIC CONTROL TYPICAL SECTIONS (STAGE 1).

IF B-3-14 WORK OCCURS INDEPENDENTLY, SEE STANDARD DETAIL DRAWING "TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION".

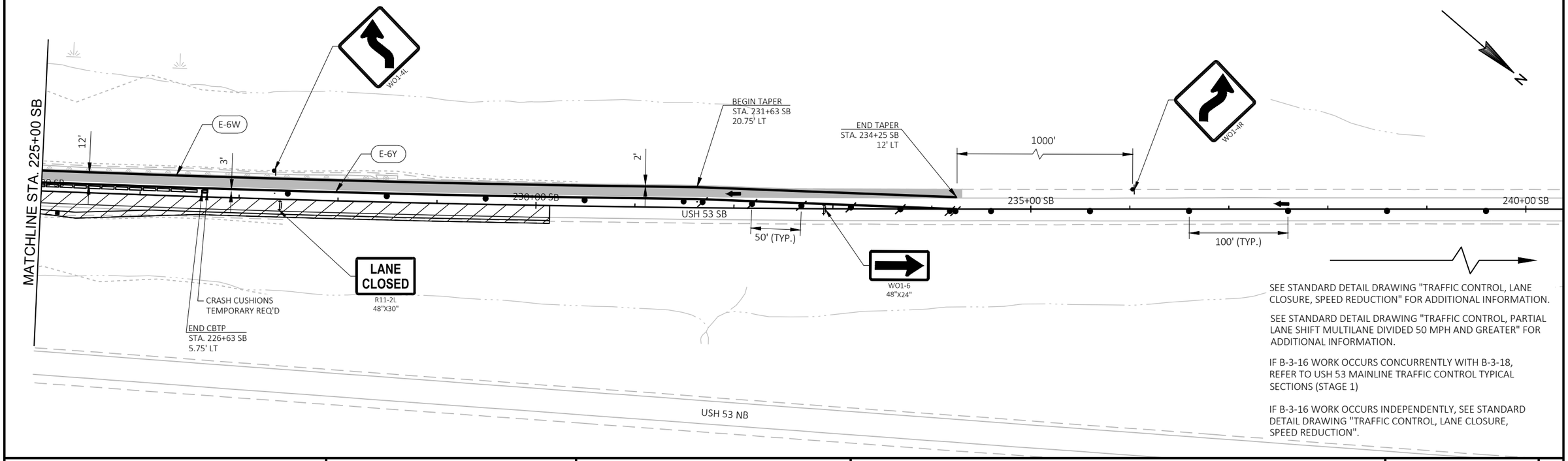
PROJECT NO: 1196-04-77	HWY: USH 53	COUNTY: BARRON	STAGING PLANS USH 53 (SOUTHBOUND) - STAGE 1 NEAR B-3-14	SHEET 32	E

IF B-3-16 WORK OCCURS CONCURRENTLY WITH B-3-14, REFER TO USH 53 MAINLINE TRAFFIC CONTROL TYPICAL SECTIONS (STAGE 1).



*CLOSURE OF CTH AA IN ACCORDANCE WITH STANDARD DETAIL DRAWING "BARRICADES AND SIGNS FOR MAINLINE CLOSURES" ALLOWED DURING INSTALLATION OF TEMPORARY STRUCTURE SUPPORT AND STRUCTURE REMOVAL.

CONCRETE BARRIER TEMPORARY PRECAST (CBTP) LIMITS PROVIDE BUFFER SPACE FOR MATERIAL AND EQUIPMENT STORAGE 100' UPSTREAM AND 200' DOWNSTREAM OF THE CONCRETE APPROACH SLAB ENDS.



SEE STANDARD DETAIL DRAWING "TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION" FOR ADDITIONAL INFORMATION.

SEE STANDARD DETAIL DRAWING "TRAFFIC CONTROL, PARTIAL LANE SHIFT MULTILANE DIVIDED 50 MPH AND GREATER" FOR ADDITIONAL INFORMATION.

IF B-3-16 WORK OCCURS CONCURRENTLY WITH B-3-18, REFER TO USH 53 MAINLINE TRAFFIC CONTROL TYPICAL SECTIONS (STAGE 1)

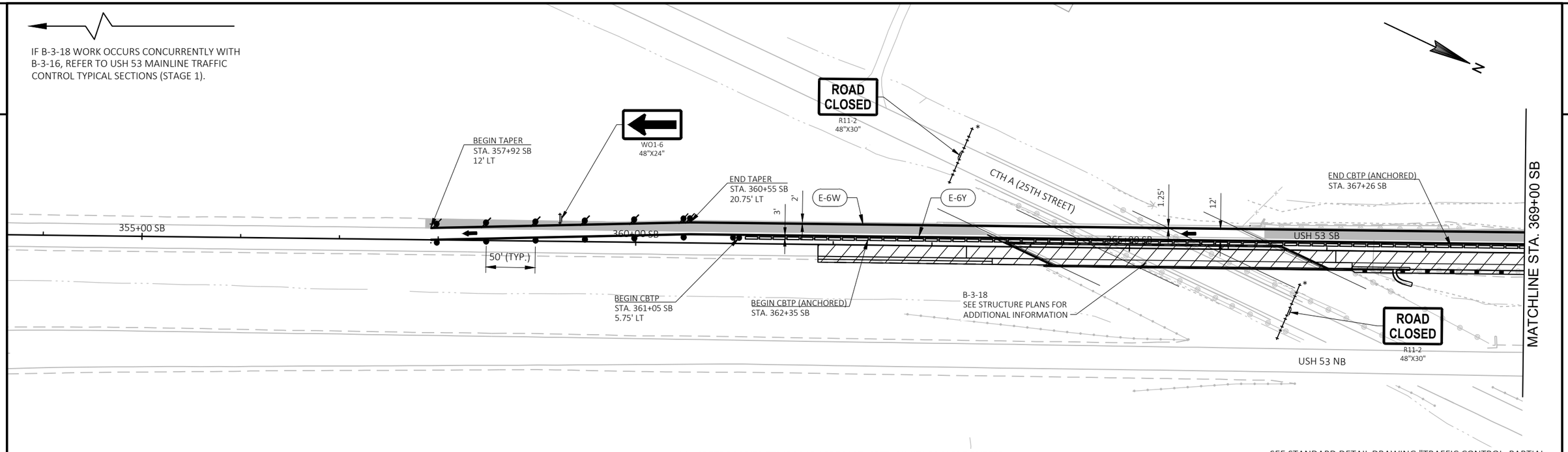
IF B-3-16 WORK OCCURS INDEPENDENTLY, SEE STANDARD DETAIL DRAWING "TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION".

PROJECT NO: 1196-04-77	HWY: USH 53	COUNTY: BARRON	STAGING PLANS USH 53 (SOUTHBOUND) - STAGE 1 NEAR B-3-16	SHEET 33	E

FILE NAME : S:\MAD\1000--1099\1089\895\DRAWINGS\CAD\AUTOCAD\CIVIL 3D\SHEETS PLAN\026101_S1.DWG
LAYOUT NAME - 026102_s1
PLOT DATE : 10/31/2024 9:23 AM PLOT BY : HABERKORN, DEVEN PLOT NAME : PLOT SCALE : ##########
WISDOT/CADDS SHEET 44

2

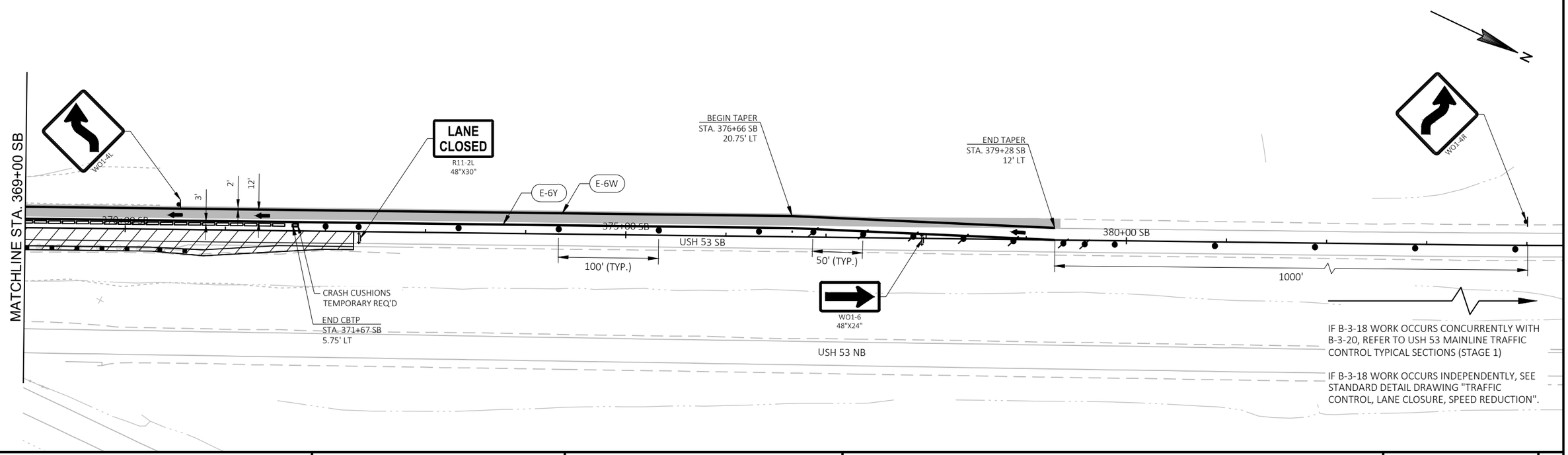
IF B-3-18 WORK OCCURS CONCURRENTLY WITH B-3-16, REFER TO USH 53 MAINLINE TRAFFIC CONTROL TYPICAL SECTIONS (STAGE 1).



*CLOSURE OF CTH A IN ACCORDANCE WITH STANDARD DETAIL DRAWING "BARRICADES AND SIGNS FOR MAINLINE CLOSURES" ALLOWED DURING INSTALLATION OF TEMPORARY STRUCTURE SUPPORT AND STRUCTURE REMOVAL.

CONCRETE BARRIER TEMPORARY PRECAST (CBTP) LIMITS PROVIDE BUFFER SPACE FOR MATERIAL AND EQUIPMENT STORAGE 100' UPSTREAM AND 200' DOWNSTREAM OF THE CONCRETE APPROACH SLAB ENDS.

SEE STANDARD DETAIL DRAWING "TRAFFIC CONTROL, PARTIAL LANE SHIFT MULTILANE DIVIDED 50 MPH AND GREATER" FOR ADDITIONAL INFORMATION.



IF B-3-18 WORK OCCURS CONCURRENTLY WITH B-3-20, REFER TO USH 53 MAINLINE TRAFFIC CONTROL TYPICAL SECTIONS (STAGE 1)

IF B-3-18 WORK OCCURS INDEPENDENTLY, SEE STANDARD DETAIL DRAWING "TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION".

PROJECT NO: 1196-04-77	HWY: USH 53	COUNTY: BARRON	STAGING PLANS USH 53 (SOUTHBOUND) - STAGE 1 NEAR B-3-18	SHEET 34	E

FILE NAME : S:\MAD\1000--1099\1089\895\DRAWINGS\CAD\AUTOCAD\CIVIL 3D\SHEETS PLAN\026101_S1.DWG
LAYOUT NAME - 026103_s1

PLOT DATE : 10/31/2024 9:23 AM PLOT BY : HABERKORN, DEVEN PLOT NAME : PLOT SCALE : ##########

WISDOT/CADDS SHEET 44

2

TENMILE CREEK

395+00 SB

400+00 SB

405+00 SB

IF B-3-20 WORK OCCURS CONCURRENTLY WITH B-3-18, REFER TO USH 53 MAINLINE TRAFFIC CONTROL TYPICAL SECTIONS (STAGE 1).

N

100' (TYP.)

E-6Y

MATCHLINE STA. 406+00 SB

CONCRETE BARRIER TEMPORARY PRECAST (CBTP) LIMITS PROVIDE BUFFER SPACE FOR MATERIAL AND EQUIPMENT STORAGE 100' UPSTREAM AND 200' DOWNSTREAM OF THE CONCRETE APPROACH SLAB ENDS.

N

CHETEK RIVER

STA. 416+05 SB
27.67' LT

WO1-4L

RIPRAP

USH 53 SB ENTRANCE RAMP FROM CTH I

25' (TYP.)

MATCHLINE STA. 406+00 SB

E-6W

BEGIN TAPER
STA. 407+17 SB
12' LT

WO1-6
48"X24"

END TAPER
STA. 411+87 SB
27.67' LT

E-6Y

E-6W

2'

3'

12'

410+00 SB

USH 53 SB

LANE CLOSED

R11-2L
48"X30"

50' (TYP.)

BEGIN CBTP
STA. 412+37 SB
12.67' LT

BEGIN CBTP (ANCHORED)
STA. 413+42 SB

B-3-20
SEE STRUCTURE PLAN FOR ADDITIONAL INFORMATION

END CBTP (ANCHORED)
STA. 418+04 SB

E-6W-D

MATCHLINE STA. 420+00 SB

USH 53 NB

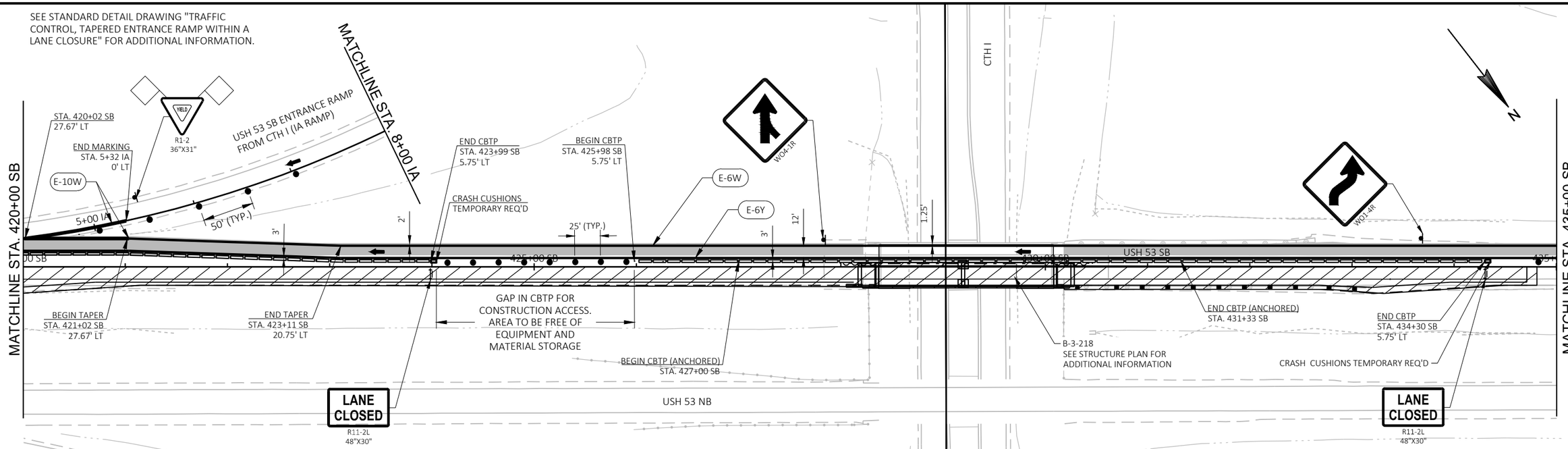
SEE STANDARD DETAIL DRAWING "TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION" FOR ADDITIONAL INFORMATION.

SEE STANDARD DETAIL DRAWING "TRAFFIC CONTROL, PARTIAL LANE SHIFT MULTILANE DIVIDED 50 MPH AND GREATER" FOR ADDITIONAL INFORMATION.

SEE STANDARD DETAIL DRAWING "TRAFFIC CONTROL, TAPERED ENTRANCE RAMP WITHIN A LANE CLOSURE" FOR ADDITIONAL INFORMATION.

PROJECT NO: 1196-04-77	HWY: USH 53	COUNTY: BARRON	STAGING PLANS USH 53 (SOUTHBOUND) - STAGE 1 NEAR B-3-20	SHEET 35	E

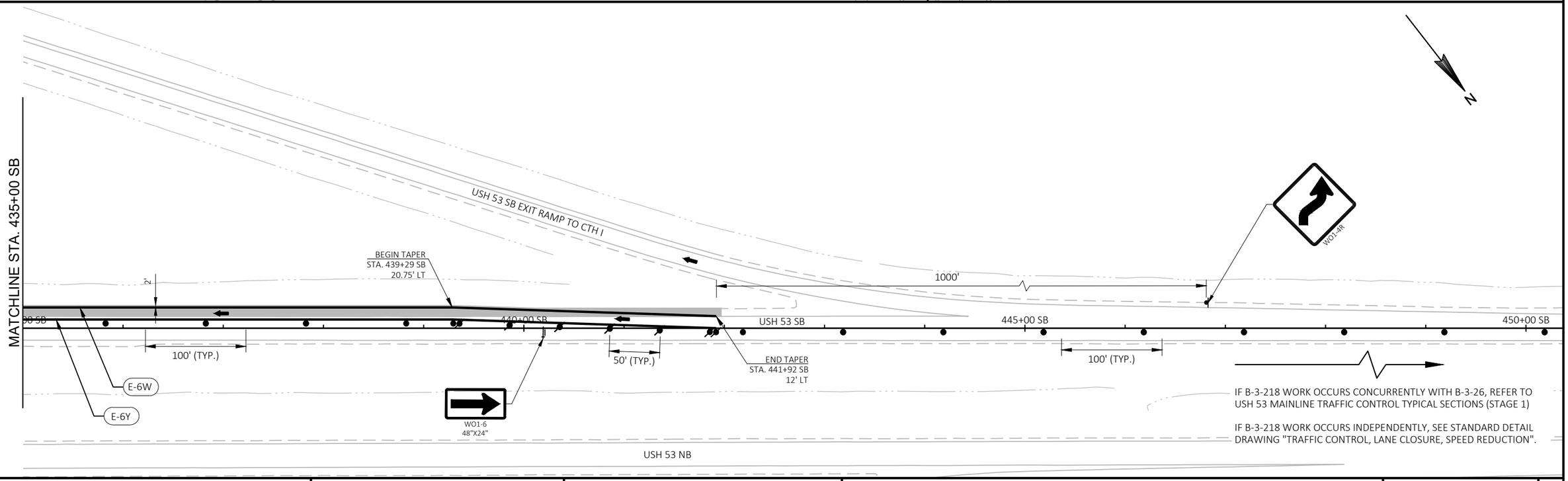
SEE STANDARD DETAIL DRAWING "TRAFFIC CONTROL, TAPERED ENTRANCE RAMP WITHIN A LANE CLOSURE" FOR ADDITIONAL INFORMATION.



CONCRETE BARRIER TEMPORARY PRECAST (CBTP) LIMITS PROVIDE BUFFER SPACE FOR MATERIAL AND EQUIPMENT STORAGE 100' UPSTREAM AND 200' DOWNSTREAM OF THE CONCRETE APPROACH SLAB ENDS.

SEE STANDARD DETAIL DRAWING "TRAFFIC CONTROL, PARTIAL LANE SHIFT MULTILANE DIVIDED 50 MPH AND GREATER" FOR ADDITIONAL INFORMATION.

SEE STANDARD DETAIL DRAWING "TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION" FOR ADDITIONAL INFORMATION.



IF B-3-218 WORK OCCURS CONCURRENTLY WITH B-3-26, REFER TO USH 53 MAINLINE TRAFFIC CONTROL TYPICAL SECTIONS (STAGE 1)

IF B-3-218 WORK OCCURS INDEPENDENTLY, SEE STANDARD DETAIL DRAWING "TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION".

PROJECT NO: 1196-04-77	HWY: USH 53	COUNTY: BARRON	STAGING PLANS USH 53 (SOUTHBOUND) - STAGE 1 NEAR B-3-218	SHEET 36	E

FILE NAME : S:\MAD\1000--1099\1089\895\DRAWINGS\CAD\AUTOCAD\CIVIL 3D\SHEETS PLAN\026101_S1.DWG
LAYOUT NAME - 026105_s1
PLOT DATE : 10/31/2024 11:03 AM PLOT BY : HABERKORN, DEVEN PLOT NAME : PLOT SCALE : ##########
WISDOT/CADDS SHEET 44

SEE STANDARD DETAIL DRAWING "TRAFFIC CONTROL, ENTRANCE RAMP WITHIN A LANE CLOSURE" FOR ADDITIONAL INFORMATION.

N

ROAD WORK AHEAD
W20-1A

W03-2

10+00 IA

USH 53 SB ENTRANCE RAMP FROM CTH I (IA RAMP)

MATCHLINE STA. 8+00 IA

USH 53 SB EXIT RAMP TO CTH I

CTH I

W04-1R

W01-4R

END CBTP
STA. 423+99 SB
5.75' LT

BEGIN CBTP
STA. 425+98 SB
5.75' LT

CRASH CUSHIONS
TEMPORARY REQ'D

E-6W

E-6Y

25' (TYP.)

2'

3'

12'

1.25'

3'

2'

425+00 SB

430+00 SB

435+00 SB

USH 53 SB

100' (TYP.)

END TAPER
STA. 423+11 SB
20.75' LT

GAP IN CBTP FOR CONSTRUCTION ACCESS. AREA TO BE FREE OF EQUIPMENT AND MATERIAL STORAGE

BEGIN CBTP (ANCHORED)
STA. 427+00 SB

END CBTP (ANCHORED)
STA. 431+33 SB

END CBTP
STA. 434+30 SB
5.75' LT

B-3-218
SEE STRUCTURE PLAN FOR ADDITIONAL INFORMATION

CRASH CUSHIONS TEMPORARY REQ'D

LANE CLOSED
R11-2L
48"X30"

USH 53 NB

LANE CLOSED
R11-2L
48"X30"

CONCRETE BARRIER TEMPORARY PRECAST (CBTP) LIMITS PROVIDE BUFFER SPACE FOR MATERIAL AND EQUIPMENT STORAGE 100' UPSTREAM AND 200' DOWNSTREAM OF THE CONCRETE APPROACH SLAB ENDS.

SEE STANDARD DETAIL DRAWING "TRAFFIC CONTROL, PARTIAL LANE SHIFT MULTILANE DIVIDED 50 MPH AND GREATER" FOR ADDITIONAL INFORMATION.

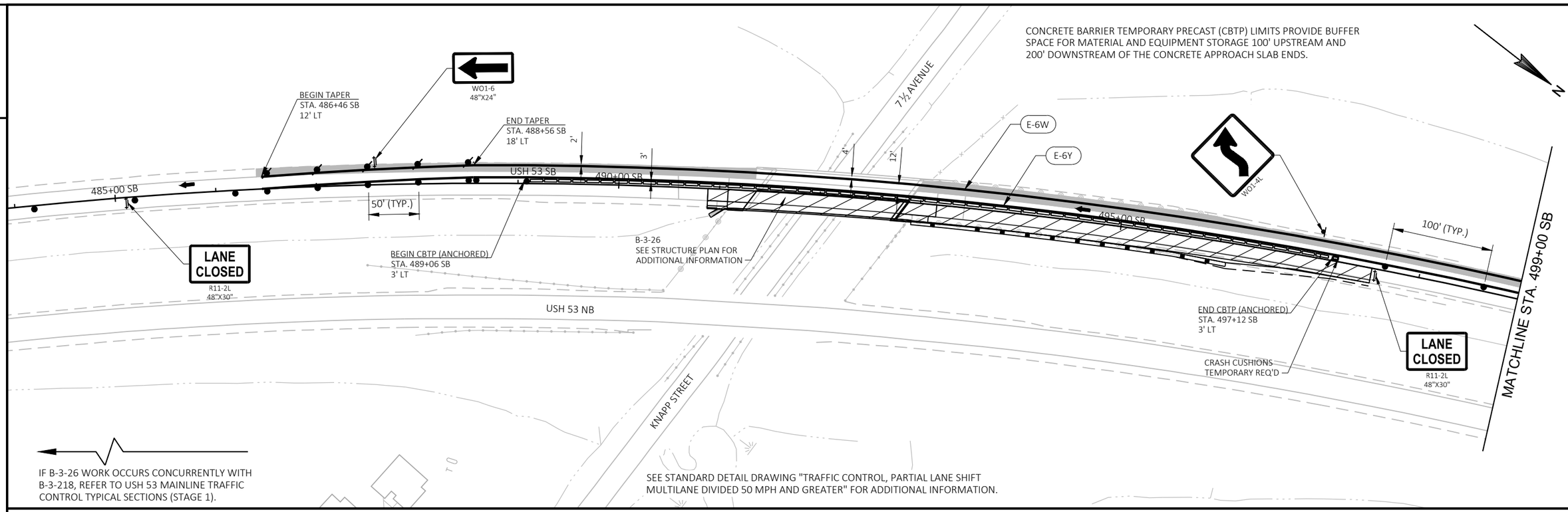
PROJECT NO: 1196-04-77	HWY: USH 53	COUNTY: BARRON	STAGING PLANS USH 53 (SOUTHBOUND) - STAGE 1 NEAR B-3-218	SHEET 37	E

FILE NAME : S:\MAD\1000--1099\1089\895\DRAWINGS\CAD\AUTOCAD\CIVIL 3D\SHEETS PLAN\026101_S1.DWG PLOT DATE : 1/23/2025 9:09 AM PLOT BY : EDERER, BRAD PLOT NAME :

WISDOT/CADDS SHEET 42

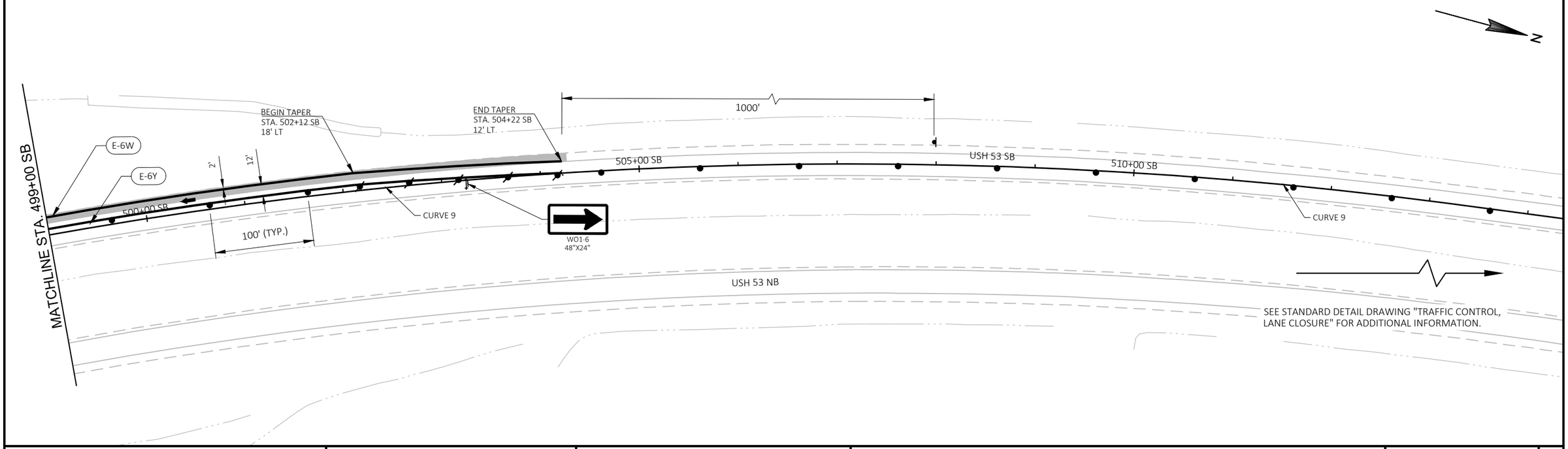
2

CONCRETE BARRIER TEMPORARY PRECAST (CBTP) LIMITS PROVIDE BUFFER SPACE FOR MATERIAL AND EQUIPMENT STORAGE 100' UPSTREAM AND 200' DOWNSTREAM OF THE CONCRETE APPROACH SLAB ENDS.



IF B-3-26 WORK OCCURS CONCURRENTLY WITH B-3-218, REFER TO USH 53 MAINLINE TRAFFIC CONTROL TYPICAL SECTIONS (STAGE 1).

SEE STANDARD DETAIL DRAWING "TRAFFIC CONTROL, PARTIAL LANE SHIFT MULTILANE DIVIDED 50 MPH AND GREATER" FOR ADDITIONAL INFORMATION.



SEE STANDARD DETAIL DRAWING "TRAFFIC CONTROL, LANE CLOSURE" FOR ADDITIONAL INFORMATION.

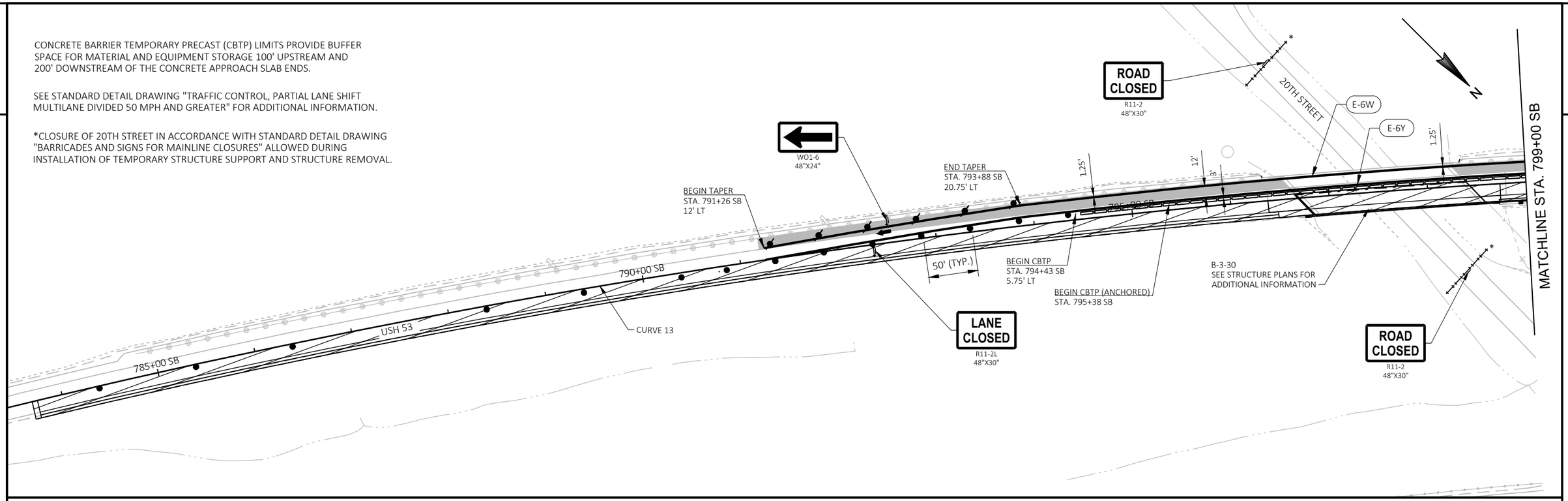
PROJECT NO: 1196-04-77	HWY: USH 53	COUNTY: BARRON	STAGING PLANS USH 53 (SOUTHBOUND) - STAGE 1 NEAR B-3-26	SHEET 38	E

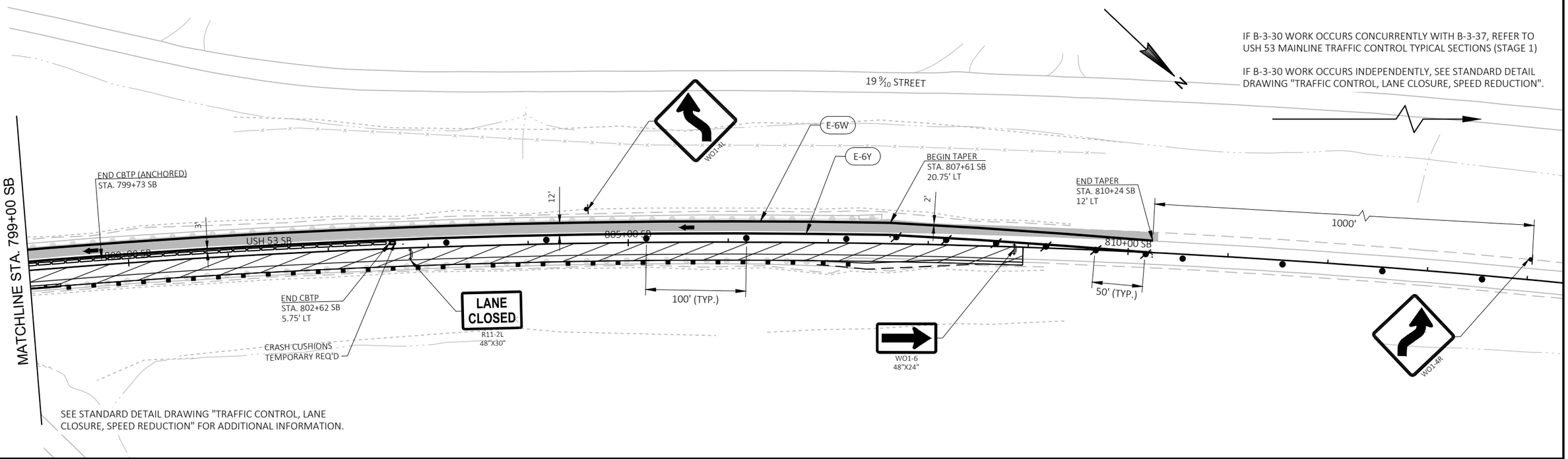
FILE NAME : S:\MAD\1000--1099\1089\895\DRAWINGS\CAD\AUTOCAD\CIVIL 3D\SHEETS PLAN\026101_S1.DWG
LAYOUT NAME - 026107_s1
PLOT DATE : 10/31/2024 9:23 AM PLOT BY : HABERKORN, DEVEN PLOT NAME : PLOT SCALE : ##########
WISDOT/CADDS SHEET 44

CONCRETE BARRIER TEMPORARY PRECAST (CBTP) LIMITS PROVIDE BUFFER SPACE FOR MATERIAL AND EQUIPMENT STORAGE 100' UPSTREAM AND 200' DOWNSTREAM OF THE CONCRETE APPROACH SLAB ENDS.

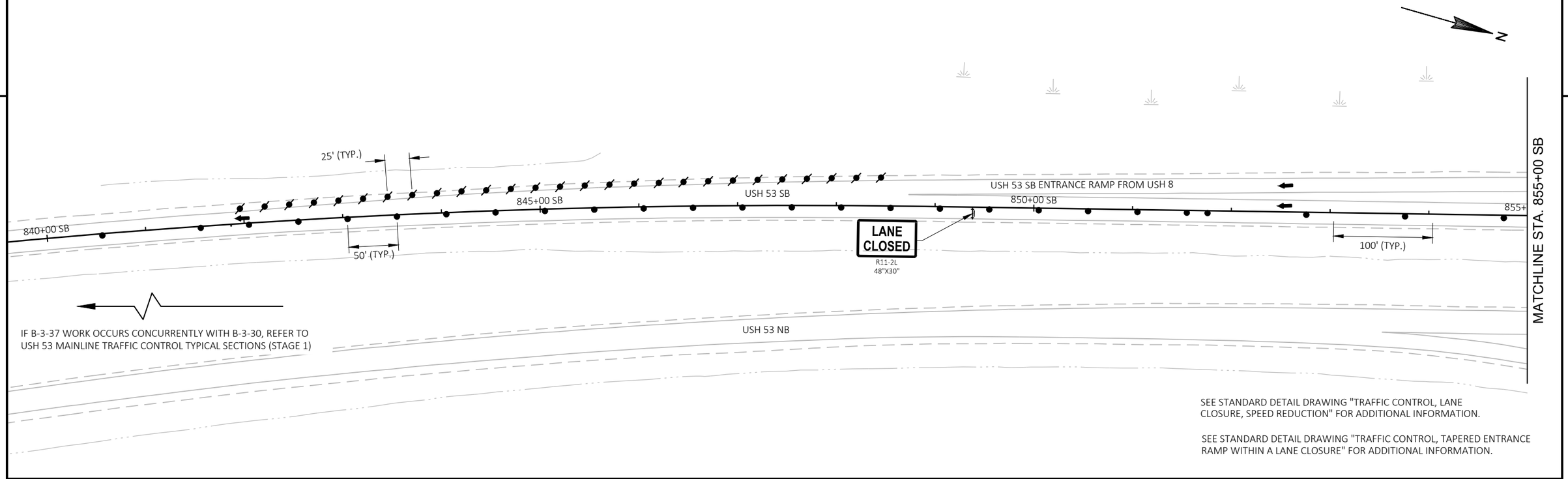
SEE STANDARD DETAIL DRAWING "TRAFFIC CONTROL, PARTIAL LANE SHIFT MULTILANE DIVIDED 50 MPH AND GREATER" FOR ADDITIONAL INFORMATION.

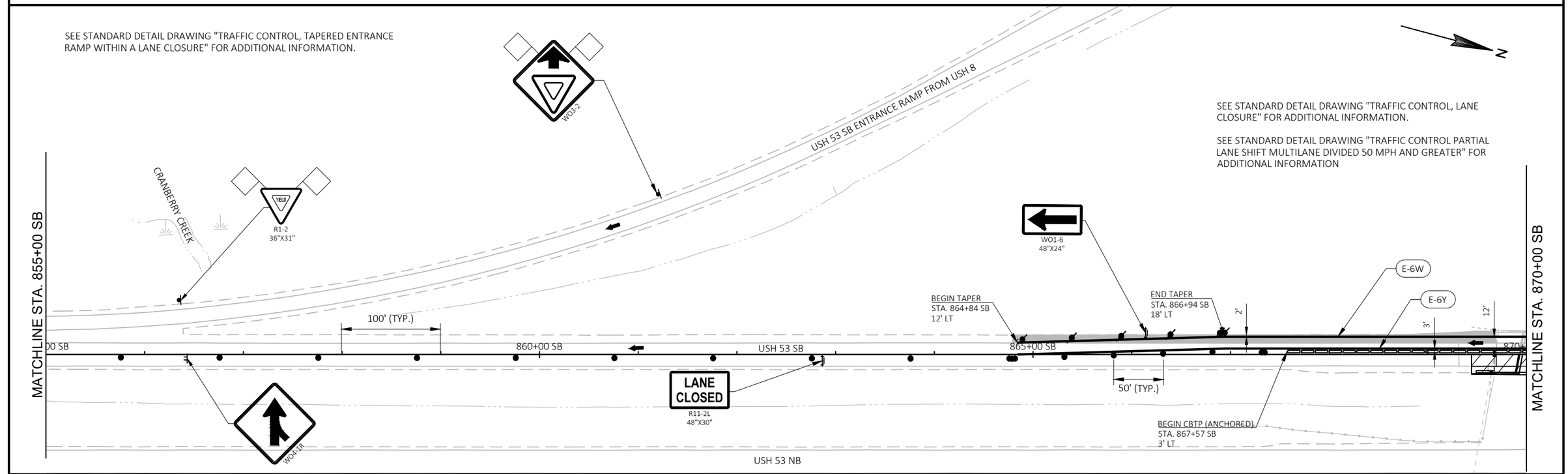
*CLOSURE OF 20TH STREET IN ACCORDANCE WITH STANDARD DETAIL DRAWING "BARRICADES AND SIGNS FOR MAINLINE CLOSURES" ALLOWED DURING INSTALLATION OF TEMPORARY STRUCTURE SUPPORT AND STRUCTURE REMOVAL.





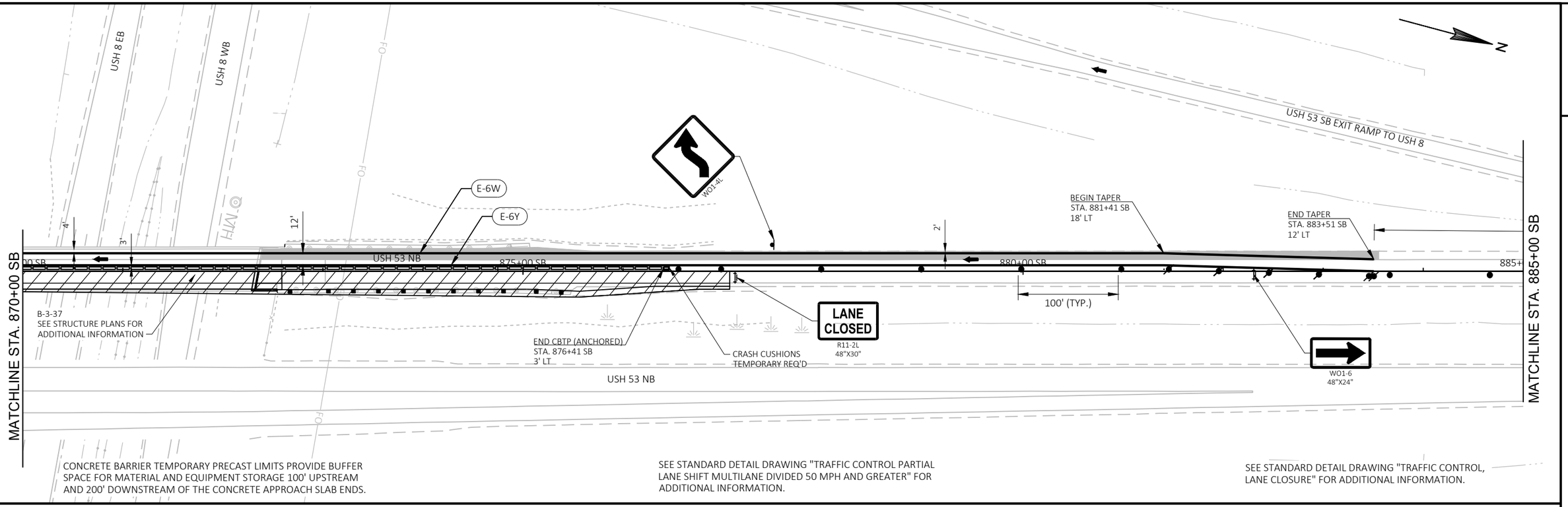
PROJECT NO: 1196-04-77	HWY: USH 53	COUNTY: BARRON	STAGING PLANS USH 53 (SOUTHBOUND) - STAGE 1 NEAR B-3-30	SHEET 39	E





PROJECT NO: 1196-04-77	HWY: USH 53	COUNTY: BARRON	STAGING PLANS USH 53 (SOUTHBOUND) - STAGE 1 NEAR B-3-37	SHEET 40	E

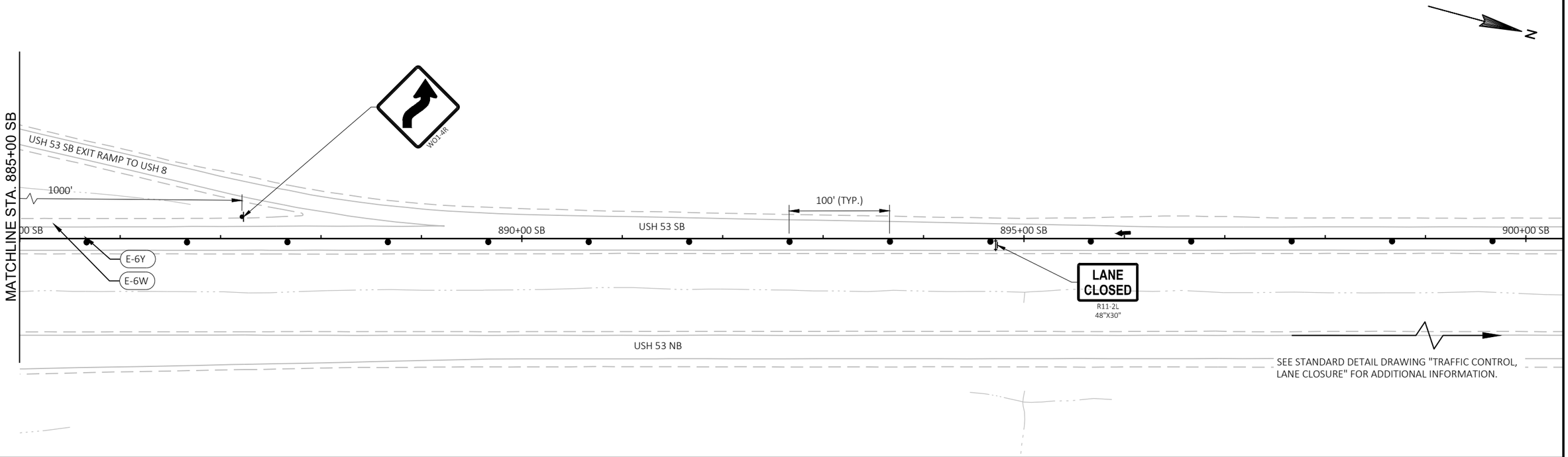
FILE NAME : S:\MAD\1000--1099\1089\895\DRAWINGS\CAD\AUTOCAD\CIVIL 3D\SHEETS PLAN\026101_S1.DWG
LAYOUT NAME - 026109_s1
PLOT DATE : 10/31/2024 9:23 AM PLOT BY : HABERKORN, DEVEN PLOT NAME : PLOT SCALE : ############
WISDOT/CADDS SHEET 44



CONCRETE BARRIER TEMPORARY PRECAST LIMITS PROVIDE BUFFER SPACE FOR MATERIAL AND EQUIPMENT STORAGE 100' UPSTREAM AND 200' DOWNSTREAM OF THE CONCRETE APPROACH SLAB ENDS.

SEE STANDARD DETAIL DRAWING "TRAFFIC CONTROL PARTIAL LANE SHIFT MULTILANE DIVIDED 50 MPH AND GREATER" FOR ADDITIONAL INFORMATION.

SEE STANDARD DETAIL DRAWING "TRAFFIC CONTROL, LANE CLOSURE" FOR ADDITIONAL INFORMATION.



SEE STANDARD DETAIL DRAWING "TRAFFIC CONTROL, LANE CLOSURE" FOR ADDITIONAL INFORMATION.

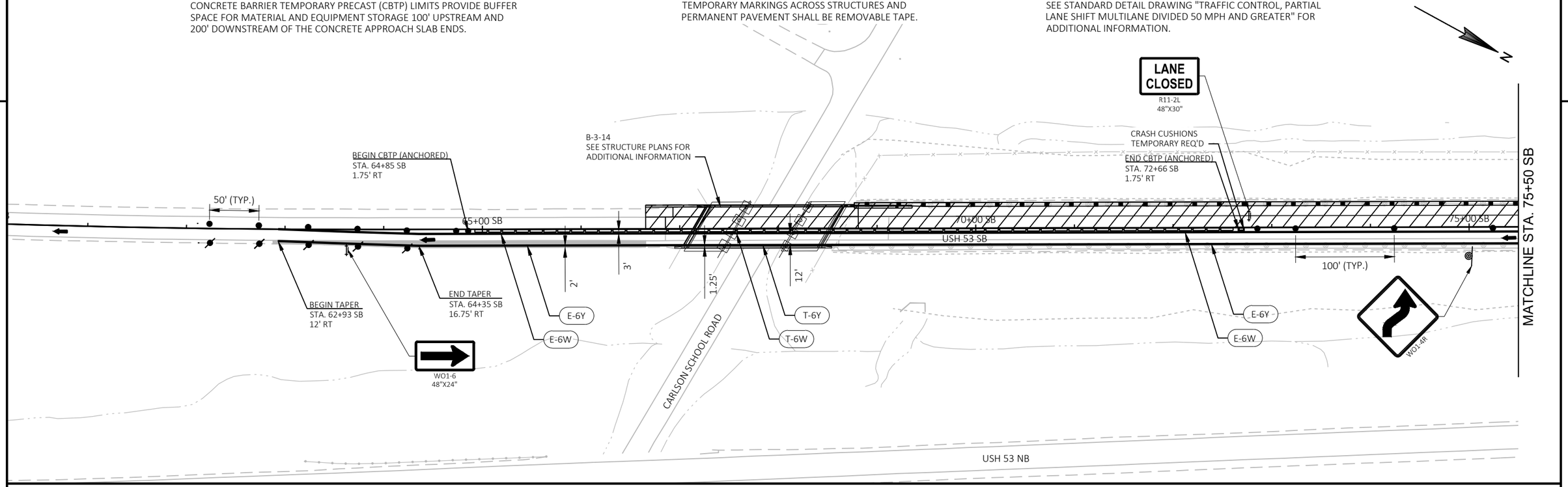
PROJECT NO: 1196-04-77	HWY: USH 53	COUNTY: BARRON	STAGING PLANS USH 53 (SOUTHBOUND) - STAGE 1 NEAR B-3-37	SHEET 41	E

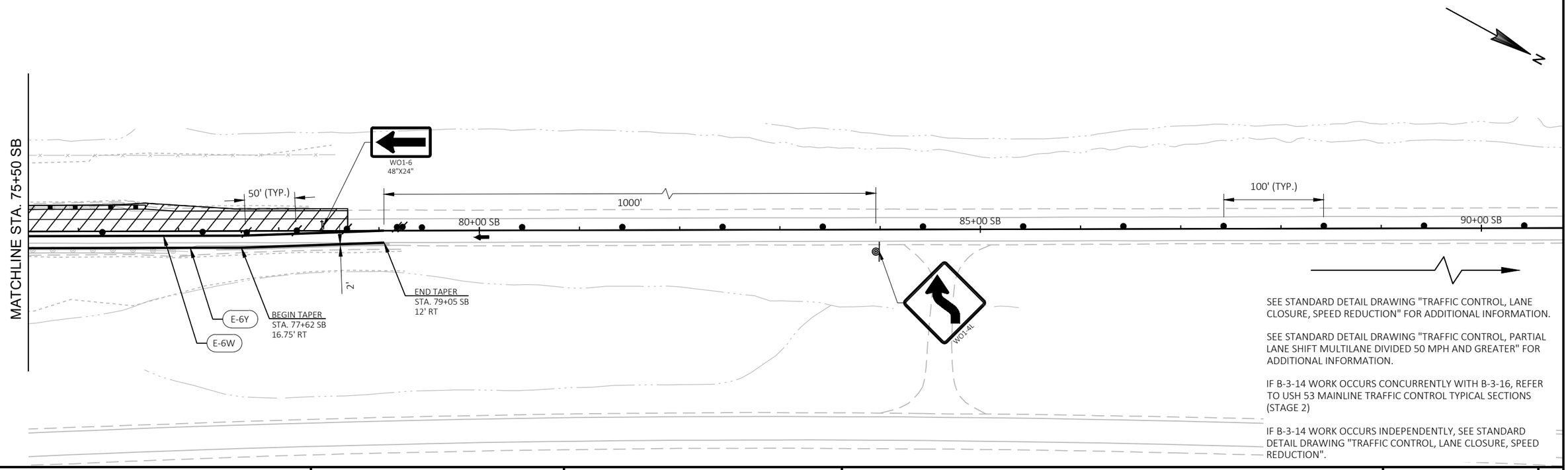
FILE NAME : S:\MAD\1000--1099\1089\895\DRAWINGS\CAD\AUTOCAD\CIVIL 3D\SHEETS PLAN\026101_S1.DWG
LAYOUT NAME - 026110_s1
PLOT DATE : 10/31/2024 9:23 AM PLOT BY : HABERKORN, DEVEN PLOT NAME : PLOT SCALE : ##########
WISDOT/CADDS SHEET 44

CONCRETE BARRIER TEMPORARY PRECAST (CBTP) LIMITS PROVIDE BUFFER SPACE FOR MATERIAL AND EQUIPMENT STORAGE 100' UPSTREAM AND 200' DOWNSTREAM OF THE CONCRETE APPROACH SLAB ENDS.

TEMPORARY MARKINGS ACROSS STRUCTURES AND PERMANENT PAVEMENT SHALL BE REMOVABLE TAPE.

SEE STANDARD DETAIL DRAWING "TRAFFIC CONTROL, PARTIAL LANE SHIFT MULTILANE DIVIDED 50 MPH AND GREATER" FOR ADDITIONAL INFORMATION.





SEE STANDARD DETAIL DRAWING "TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION" FOR ADDITIONAL INFORMATION.

SEE STANDARD DETAIL DRAWING "TRAFFIC CONTROL, PARTIAL LANE SHIFT MULTILANE DIVIDED 50 MPH AND GREATER" FOR ADDITIONAL INFORMATION.

IF B-3-14 WORK OCCURS CONCURRENTLY WITH B-3-16, REFER TO USH 53 MAINLINE TRAFFIC CONTROL TYPICAL SECTIONS (STAGE 2)

IF B-3-14 WORK OCCURS INDEPENDENTLY, SEE STANDARD DETAIL DRAWING "TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION".

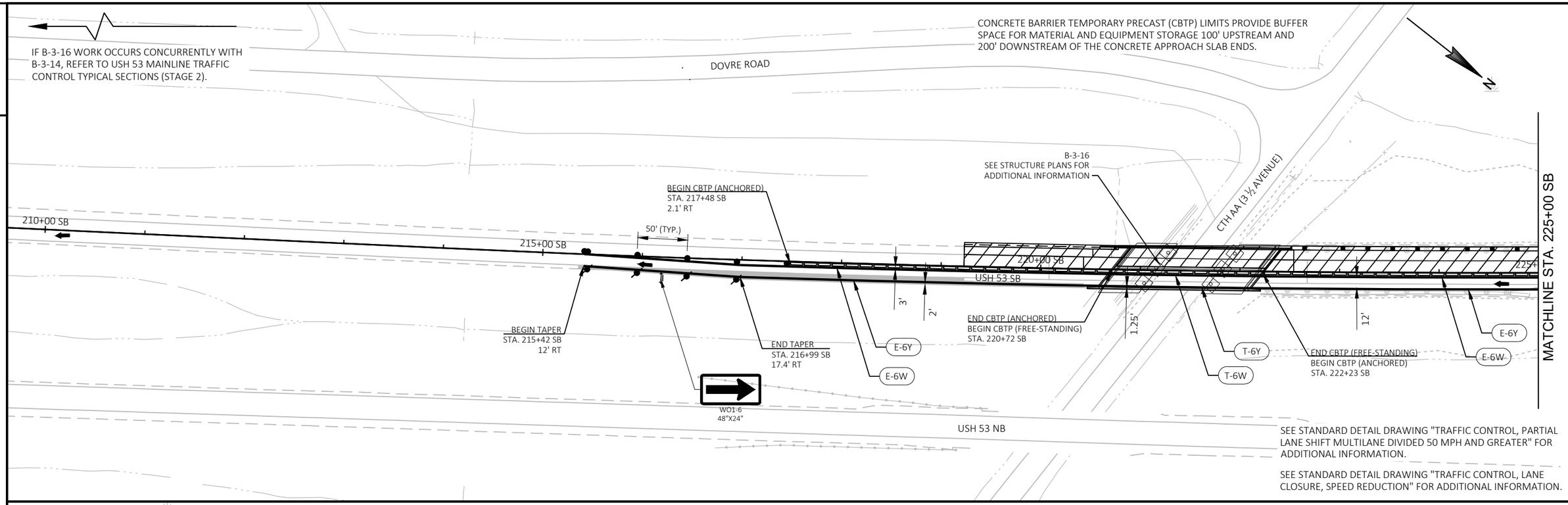
PROJECT NO: 1196-04-77	HWY: USH 53	COUNTY: BARRON	STAGING PLANS USH 53 (SOUTHBOUND) - STAGE 2 NEAR B-3-14	SHEET 42	E

FILE NAME : S:\MAD\1000--1099\1089\895\DRAWINGS\CAD\AUTOCAD\CIVIL 3D\SHEETS PLAN\026201_S2.DWG
LAYOUT NAME - 026201_s2
PLOT DATE : 10/31/2024 9:24 AM PLOT BY : HABERKORN, DEVEN PLOT NAME : PLOT SCALE : ##########
WISDOT/CADDS SHEET 44

2

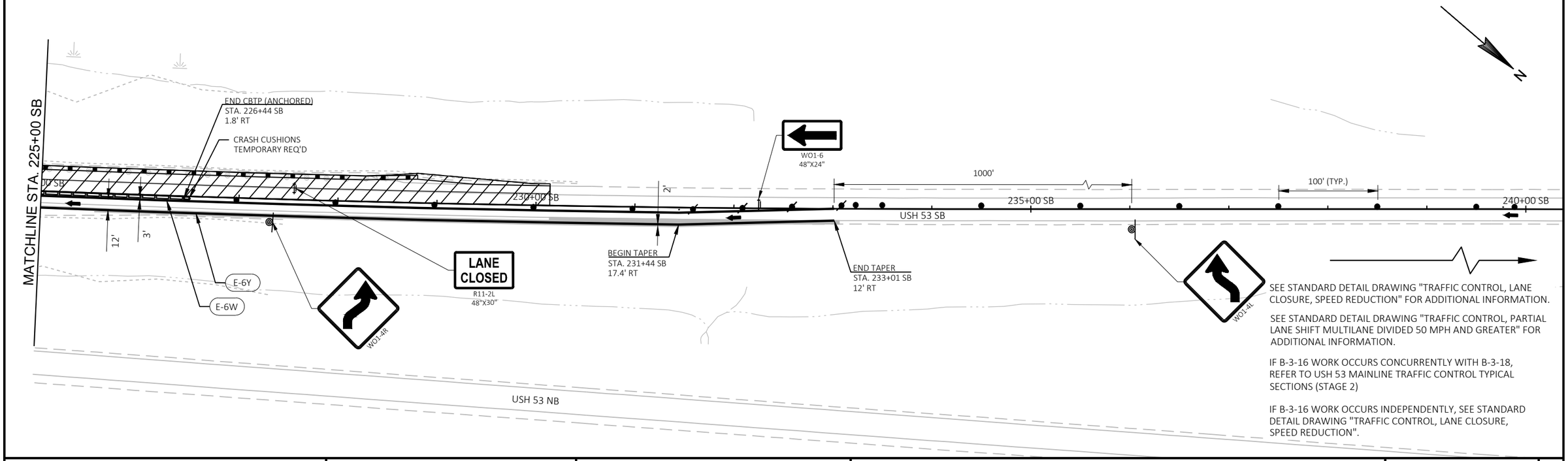
IF B-3-16 WORK OCCURS CONCURRENTLY WITH B-3-14, REFER TO USH 53 MAINLINE TRAFFIC CONTROL TYPICAL SECTIONS (STAGE 2).

CONCRETE BARRIER TEMPORARY PRECAST (CBTP) LIMITS PROVIDE BUFFER SPACE FOR MATERIAL AND EQUIPMENT STORAGE 100' UPSTREAM AND 200' DOWNSTREAM OF THE CONCRETE APPROACH SLAB ENDS.



SEE STANDARD DETAIL DRAWING "TRAFFIC CONTROL, PARTIAL LANE SHIFT MULTILANE DIVIDED 50 MPH AND GREATER" FOR ADDITIONAL INFORMATION.

SEE STANDARD DETAIL DRAWING "TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION" FOR ADDITIONAL INFORMATION.



SEE STANDARD DETAIL DRAWING "TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION" FOR ADDITIONAL INFORMATION.

SEE STANDARD DETAIL DRAWING "TRAFFIC CONTROL, PARTIAL LANE SHIFT MULTILANE DIVIDED 50 MPH AND GREATER" FOR ADDITIONAL INFORMATION.

IF B-3-16 WORK OCCURS CONCURRENTLY WITH B-3-18, REFER TO USH 53 MAINLINE TRAFFIC CONTROL TYPICAL SECTIONS (STAGE 2)

IF B-3-16 WORK OCCURS INDEPENDENTLY, SEE STANDARD DETAIL DRAWING "TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION".

PROJECT NO: 1196-04-77	HWY: USH 53	COUNTY: BARRON	STAGING PLANS USH 53 (SOUTHBOUND) - STAGE 2 NEAR B-3-16	SHEET 43	E

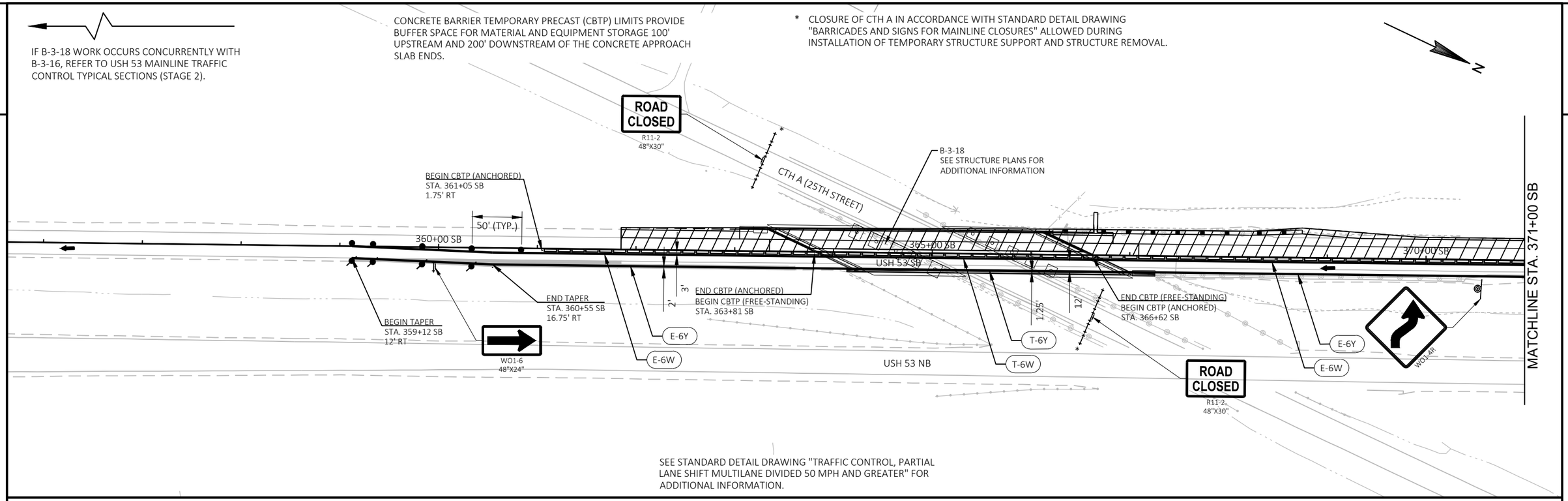
FILE NAME : S:\MAD\1000--1099\1089\895\DRAWINGS\CAD\AUTOCAD\CIVIL 3D\SHEETS PLAN\026201_S2.DWG
LAYOUT NAME - 026205_s2
PLOT DATE : 10/31/2024 9:24 AM PLOT BY : HABERKORN, DEVEN PLOT NAME : PLOT SCALE : ##########
WISDOT/CADDS SHEET 44

2

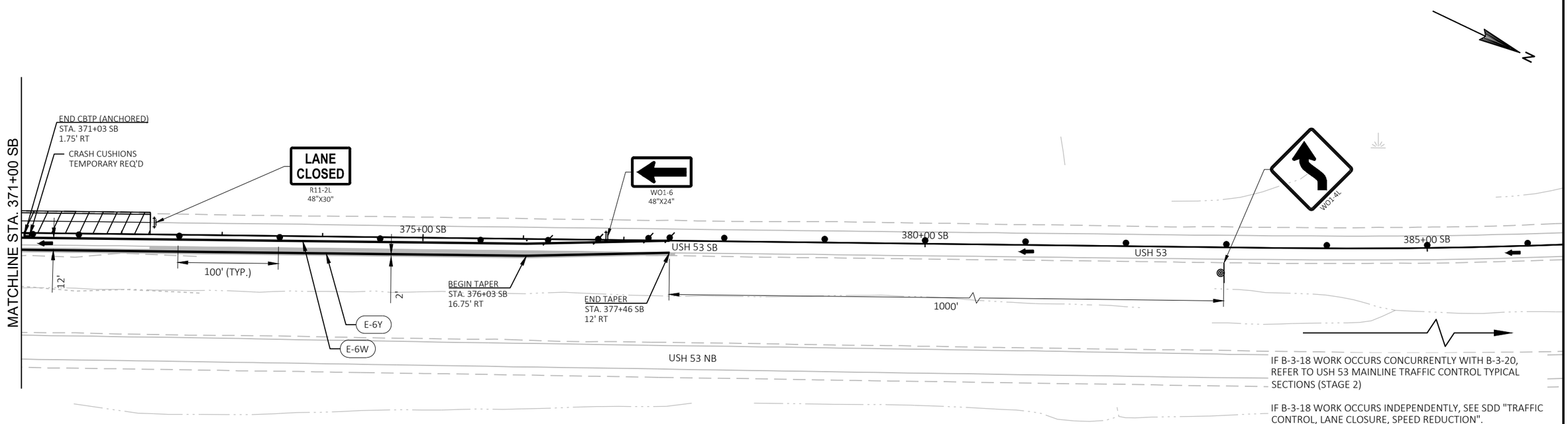
IF B-3-18 WORK OCCURS CONCURRENTLY WITH B-3-16, REFER TO USH 53 MAINLINE TRAFFIC CONTROL TYPICAL SECTIONS (STAGE 2).

CONCRETE BARRIER TEMPORARY PRECAST (CBTP) LIMITS PROVIDE BUFFER SPACE FOR MATERIAL AND EQUIPMENT STORAGE 100' UPSTREAM AND 200' DOWNSTREAM OF THE CONCRETE APPROACH SLAB ENDS.

* CLOSURE OF CTH A IN ACCORDANCE WITH STANDARD DETAIL DRAWING "BARRICADES AND SIGNS FOR MAINLINE CLOSURES" ALLOWED DURING INSTALLATION OF TEMPORARY STRUCTURE SUPPORT AND STRUCTURE REMOVAL.



SEE STANDARD DETAIL DRAWING "TRAFFIC CONTROL, PARTIAL LANE SHIFT MULTILANE DIVIDED 50 MPH AND GREATER" FOR ADDITIONAL INFORMATION.



IF B-3-18 WORK OCCURS CONCURRENTLY WITH B-3-20, REFER TO USH 53 MAINLINE TRAFFIC CONTROL TYPICAL SECTIONS (STAGE 2)

IF B-3-18 WORK OCCURS INDEPENDENTLY, SEE SDD "TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION".

PROJECT NO: 1196-04-77	HWY: USH 53	COUNTY: BARRON	STAGING PLANS USH 53 (SOUTHBOUND) - STAGE 2 NEAR B-3-18	SHEET 44	E

CONCRETE BARRIER TEMPORARY PRECAST (CBTP) LIMITS PROVIDE BUFFER SPACE FOR MATERIAL AND EQUIPMENT STORAGE 100' UPSTREAM AND 200' DOWNSTREAM OF THE CONCRETE APPROACH SLAB ENDS.

SEE SPECIAL PROVISIONS FOR ALLOWABLE RAMP CLOSURES.

LANE CLOSED
R11-2L
48"X30"

405+00 SB

100' (TYP.)

410+00 SB

BEGIN CBTP (ANCHORED)
STA. 412+37 SB
1.75' RT

B-3-20
SEE STRUCTURE PLAN FOR ADDITIONAL INFORMATION

RIPRAP

USH 53

415+00 SB

USH 53 SB ENTRANCE RAMP FROM CTH I

MATCHLINE STA. 420+00 SB

3'

2'

E-6W

1.25'

CHETEK RIVER

12'

BEGIN TAPER
STA. 410+44 SB
12' RT

E-6Y

END CBTP (ANCHORED)
BEGIN CBTP (FREE-STANDING)
STA. 414+62 SB

END TAPER
STA. 411+87 SB
16.75' RT

T-6Y

T-6W

END CBTP (FREE-STANDING)
BEGIN CBTP (ANCHORED)
STA. 416+83 SB

E-6Y

E-6W

WO1-6
48"X24"

IF B-3-20 WORK OCCURS CONCURRENTLY WITH B-3-18, REFER TO USH 53 MAINLINE TRAFFIC CONTROL TYPICAL SECTIONS (STAGE 2).

SEE STANDARD DETAIL DRAWING "TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION" FOR ADDITIONAL INFORMATION.

SEE STANDARD DETAIL DRAWING "TRAFFIC CONTROL, PARTIAL LANE SHIFT MULTILANE DIVIDED 50 MPH AND GREATER" FOR ADDITIONAL INFORMATION.

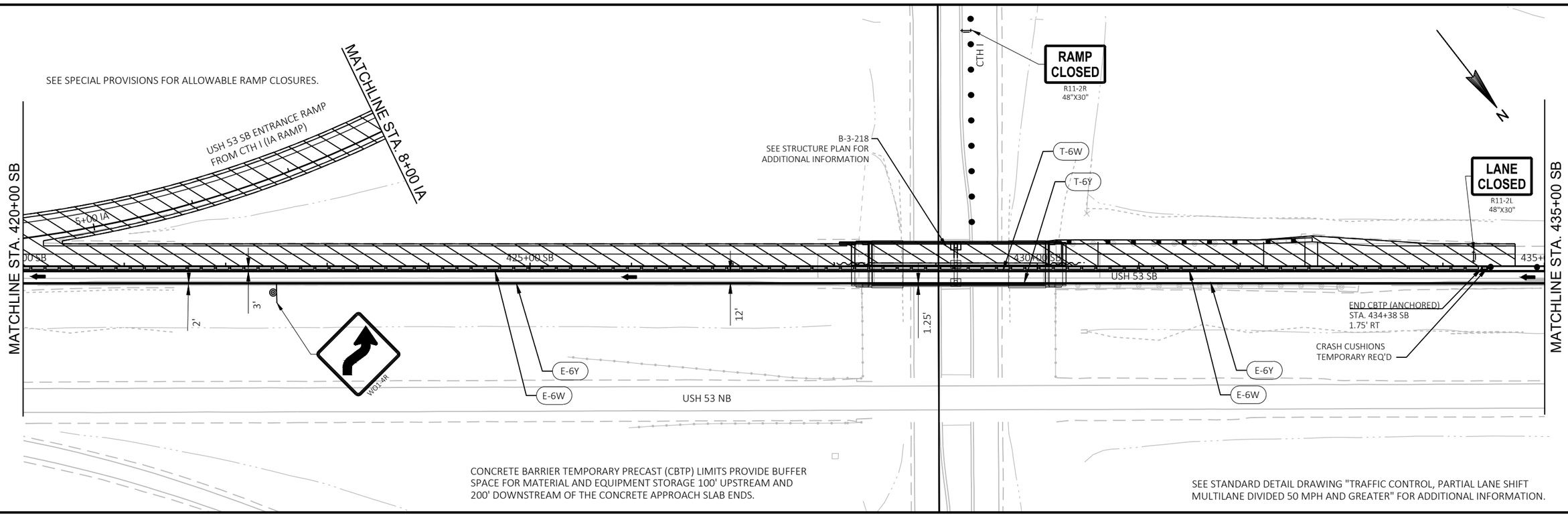
PROJECT NO: 1196-04-77	HWY: USH 53	COUNTY: BARRON	STAGING PLANS USH 53 (SOUTHBOUND) - STAGE 2 NEAR B-3-20	SHEET 45	E

FILE NAME : S:\MAD\1000--1099\1089\895\DRAWINGS\CAD\AUTOCAD\CIVIL 3D\SHEETS PLAN\026201_S2.DWG
LAYOUT NAME - 026207_s2

PLOT DATE : 10/31/2024 9:24 AM PLOT BY : HABERKORN, DEVEN PLOT NAME : PLOT SCALE : ########

WISDOT/CADDS SHEET 42

SEE SPECIAL PROVISIONS FOR ALLOWABLE RAMP CLOSURES.

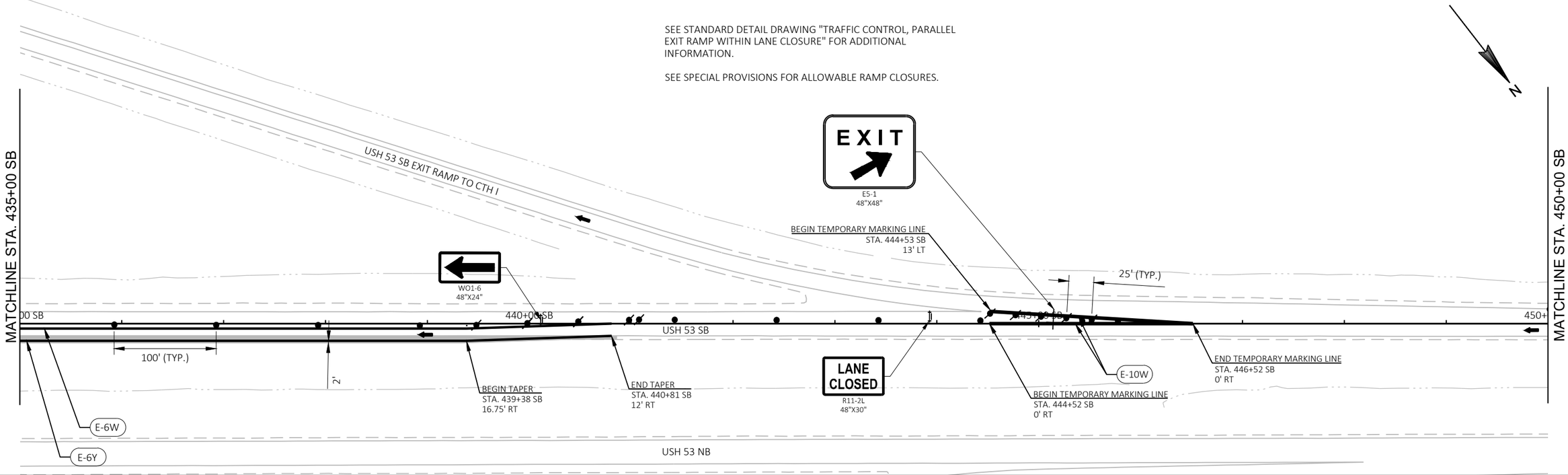


CONCRETE BARRIER TEMPORARY PRECAST (CBTP) LIMITS PROVIDE BUFFER SPACE FOR MATERIAL AND EQUIPMENT STORAGE 100' UPSTREAM AND 200' DOWNSTREAM OF THE CONCRETE APPROACH SLAB ENDS.

SEE STANDARD DETAIL DRAWING "TRAFFIC CONTROL, PARTIAL LANE SHIFT MULTILANE DIVIDED 50 MPH AND GREATER" FOR ADDITIONAL INFORMATION.

SEE STANDARD DETAIL DRAWING "TRAFFIC CONTROL, PARALLEL EXIT RAMP WITHIN LANE CLOSURE" FOR ADDITIONAL INFORMATION.

SEE SPECIAL PROVISIONS FOR ALLOWABLE RAMP CLOSURES.

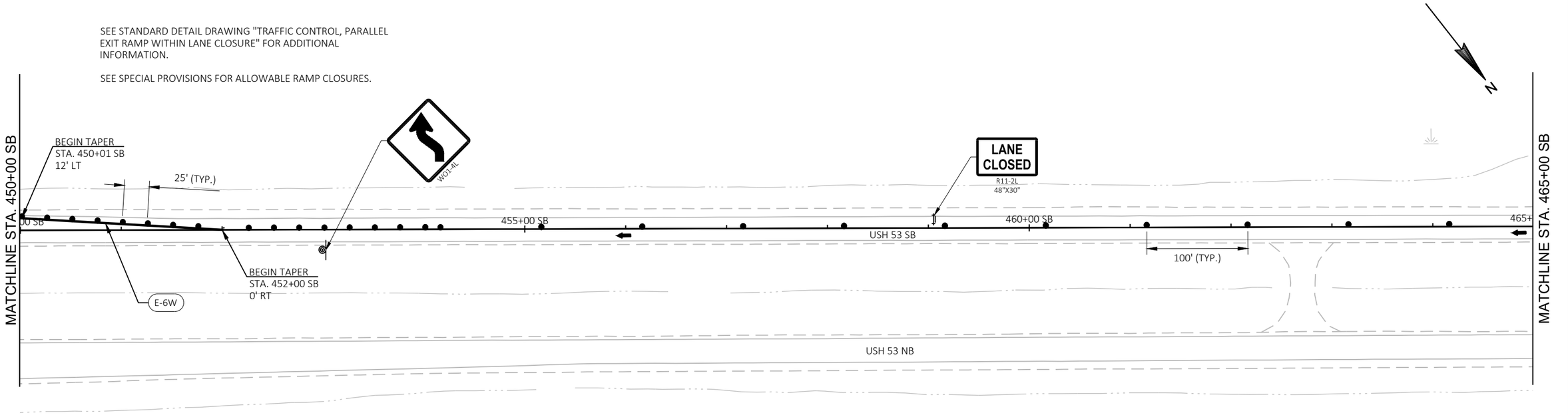


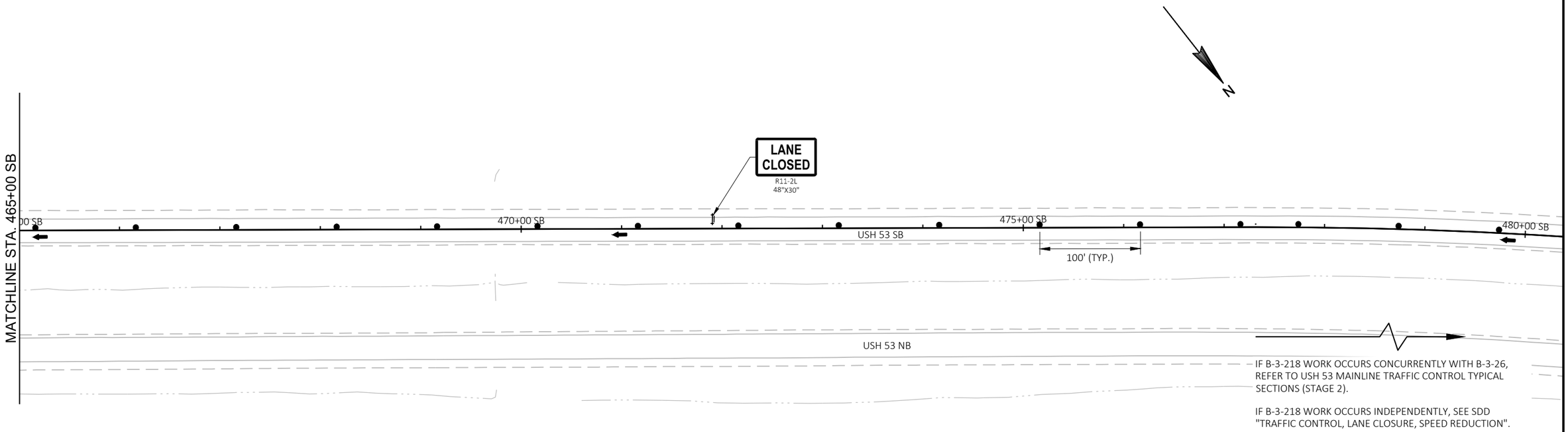
PROJECT NO: 1196-04-77	HWY: USH 53	COUNTY: BARRON	STAGING PLANS USH 53 (SOUTHBOUND) - STAGE 2 NEAR B-3-218	SHEET 46	E

FILE NAME : S:\MAD\1000--1099\1089\895\DRAWINGS\CAD\AUTOCAD\CIVIL 3D\SHEETS PLAN\026201_S2.DWG
LAYOUT NAME - 026208_s2
PLOT DATE : 10/31/2024 9:24 AM PLOT BY : HABERKORN, DEVEN PLOT NAME : PLOT SCALE : ##########
WISDOT/CADDS SHEET 44

SEE STANDARD DETAIL DRAWING "TRAFFIC CONTROL, PARALLEL EXIT RAMP WITHIN LANE CLOSURE" FOR ADDITIONAL INFORMATION.

SEE SPECIAL PROVISIONS FOR ALLOWABLE RAMP CLOSURES.





IF B-3-218 WORK OCCURS CONCURRENTLY WITH B-3-26, REFER TO USH 53 MAINLINE TRAFFIC CONTROL TYPICAL SECTIONS (STAGE 2).

IF B-3-218 WORK OCCURS INDEPENDENTLY, SEE SDD "TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION".

PROJECT NO: 1196-04-77	HWY: USH 53	COUNTY: BARRON	STAGING PLANS USH 53 (SOUTHBOUND) - STAGE 2 NEAR B-3-24	SHEET 47	E

FILE NAME : S:\MAD\1000--1099\1089\895\DRAWINGS\CAD\AUTOCAD\CIVIL 3D\SHEETS PLAN\026201_S2.DWG
LAYOUT NAME - 026209_s2
PLOT DATE : 10/31/2024 9:24 AM PLOT BY : HABERKORN, DEVEN PLOT NAME : PLOT SCALE : ##########
WISDOT/CADDS SHEET 44

2

CONCRETE BARRIER TEMPORARY PRECAST (CBTP) LIMITS PROVIDE BUFFER SPACE FOR MATERIAL AND EQUIPMENT STORAGE 100' UPSTREAM AND 200' DOWNSTREAM OF THE CONCRETE APPROACH SLAB ENDS.

SEE STANDARD DETAIL DRAWING "TRAFFIC CONTROL FOR ENTRANCE RAMP CLOSURE" FOR ADDITIONAL INFORMATION.

SEE SPECIAL PROVISIONS FOR ALLOWABLE RAMP CLOSURES.

N

25' (TYP.)

RAMP CLOSED
R11-2R
48"X30"

RAMP CLOSED
R11-2R
48"X30"

END CONSTRUCTION
IA RAMP
STA. 13+64.80 IA

10+00 IA

USH 53 SB ENTRANCE RAMP FROM CTH I (IA RAMP)

MATCHLINE STA. 8+00 IA

USH 53 SB EXIT RAMP TO CTH I

CTH I

RAMP CLOSED
R11-2R
48"X30"

B-3-218
SEE STRUCTURE PLAN FOR ADDITIONAL INFORMATION

T-6W

T-6Y

LANE CLOSED
R11-2L
48"X30"

425+00 SB

430+00 SB

435+00 SB

USH 53 SB

3'

12'

1.25'

W01-4R

E-6Y

E-6W

USH 53 NB

SEE STANDARD DETAIL DRAWING "TRAFFIC CONTROL FOR ENTRANCE RAMP CLOSURE" FOR ADDITIONAL INFORMATION.

END CBTP (ANCHORED)
STA. 434+38 SB
1.75' RT

CRASH CUSHIONS TEMPORARY REQ'D

100' (TYP.)

E-6Y

E-6W

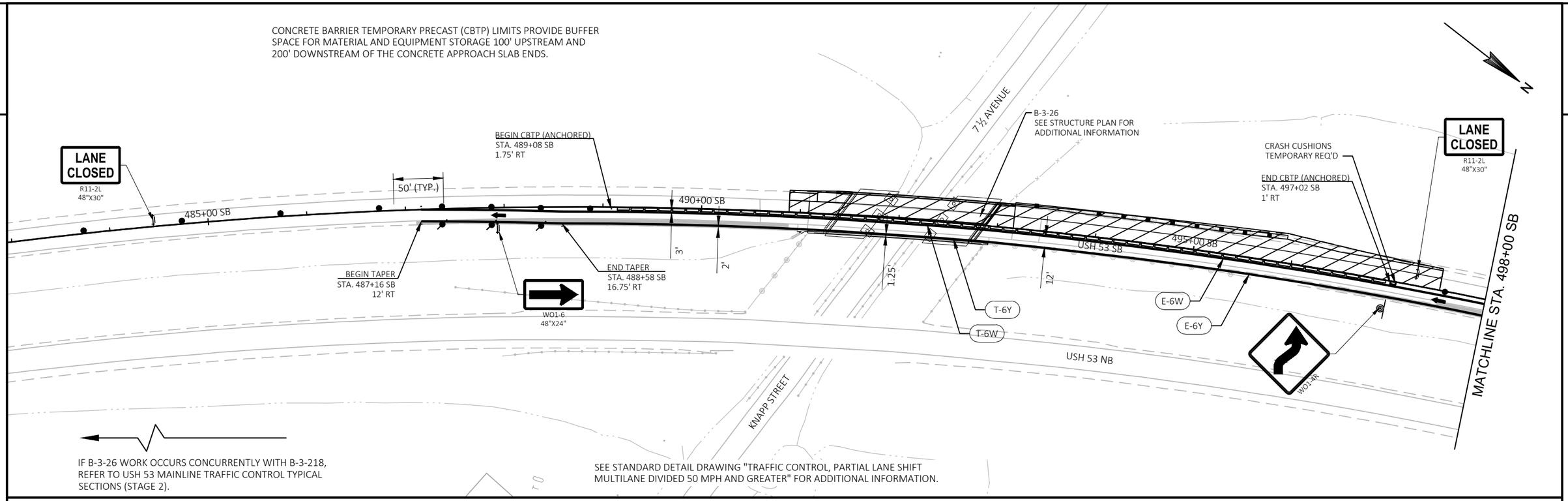
SEE STANDARD DETAIL DRAWING "TRAFFIC CONTROL, PARTIAL LANE SHIFT MULTILANE DIVIDED 50 MPH AND GREATER" FOR ADDITIONAL INFORMATION.

PROJECT NO: 1196-04-77	HWY: USH 53	COUNTY: BARRON	STAGING PLANS USH 53 (SOUTHBOUND) - STAGE 2 NEAR B-3-218	SHEET 48	E

FILE NAME : S:\MAD\1000--1099\1089\895\DRAWINGS\CAD\AUTOCAD\CIVIL 3D\SHEETS PLAN\026201_S2.DWG PLOT DATE : 10/31/2024 9:24 AM PLOT BY : HABERKORN, DEVEN PLOT NAME :

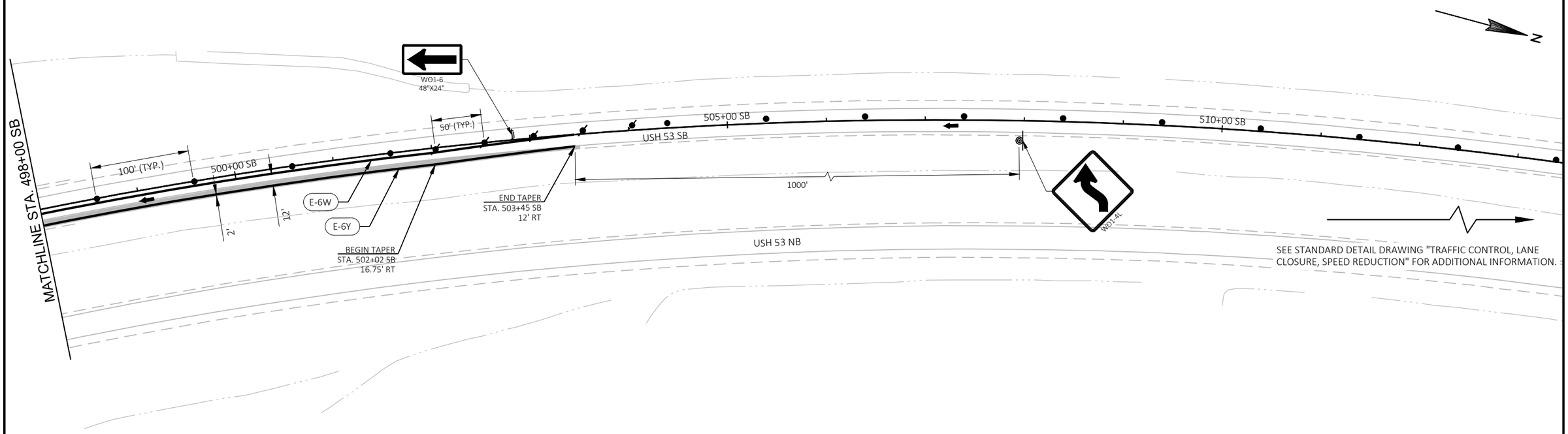
WISDOT/CADDS SHEET 42

CONCRETE BARRIER TEMPORARY PRECAST (CBTP) LIMITS PROVIDE BUFFER SPACE FOR MATERIAL AND EQUIPMENT STORAGE 100' UPSTREAM AND 200' DOWNSTREAM OF THE CONCRETE APPROACH SLAB ENDS.



IF B-3-26 WORK OCCURS CONCURRENTLY WITH B-3-218, REFER TO USH 53 MAINLINE TRAFFIC CONTROL TYPICAL SECTIONS (STAGE 2).

SEE STANDARD DETAIL DRAWING "TRAFFIC CONTROL, PARTIAL LANE SHIFT MULTILANE DIVIDED 50 MPH AND GREATER" FOR ADDITIONAL INFORMATION.

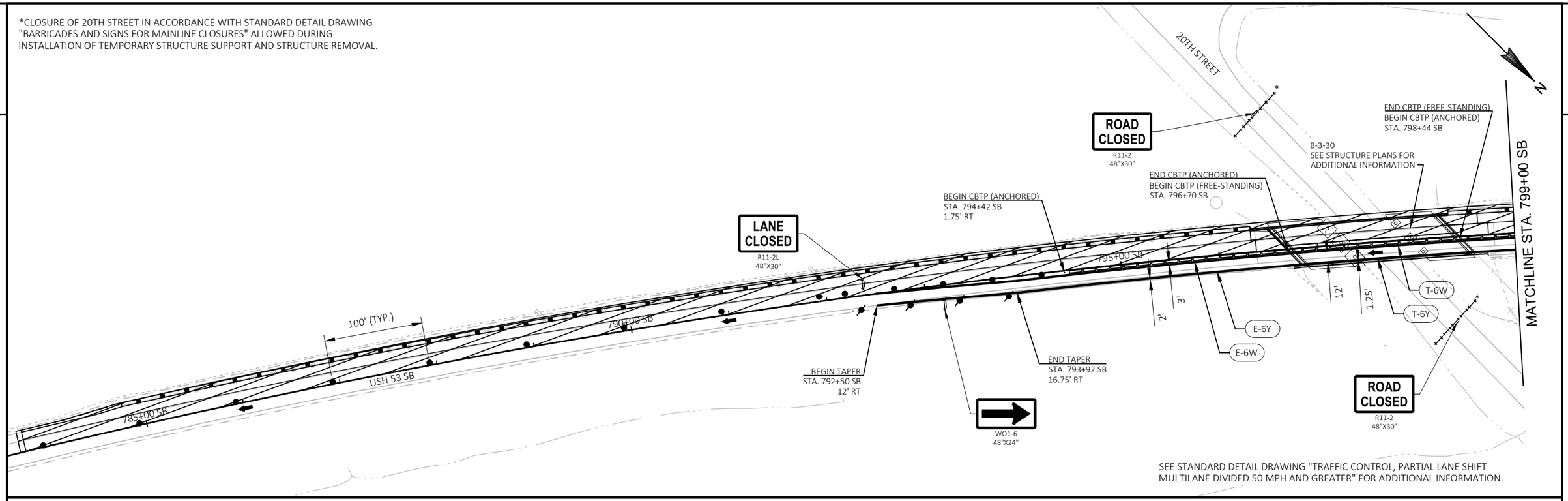


SEE STANDARD DETAIL DRAWING "TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION" FOR ADDITIONAL INFORMATION.

PROJECT NO: 1196-04-77	HWY: USH 53	COUNTY: BARRON	STAGING PLANS USH 53 (SOUTHBOUND) - STAGE 2 NEAR B-3-26	SHEET 49	E

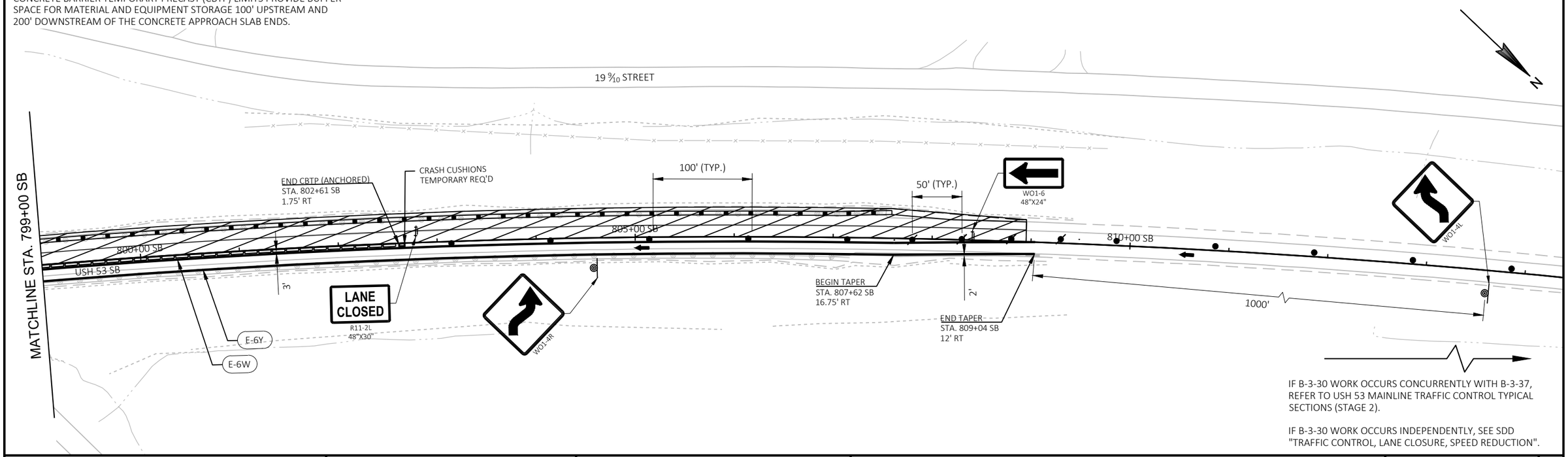
FILE NAME : S:\MAD\1000--1099\1089\895\DRAWINGS\CAD\AUTOCAD\CIVIL 3D\SHEETS PLAN\026201_S2.DWG
LAYOUT NAME - 026211_s2
PLOT DATE : 10/31/2024 9:24 AM PLOT BY : HABERKORN, DEVEN PLOT NAME : PLOT SCALE : ##########
WISDOT/CADDS SHEET 44

*CLOSURE OF 20TH STREET IN ACCORDANCE WITH STANDARD DETAIL DRAWING "BARRICADES AND SIGNS FOR MAINLINE CLOSURES" ALLOWED DURING INSTALLATION OF TEMPORARY STRUCTURE SUPPORT AND STRUCTURE REMOVAL.



SEE STANDARD DETAIL DRAWING "TRAFFIC CONTROL, PARTIAL LANE SHIFT MULTILANE DIVIDED 50 MPH AND GREATER" FOR ADDITIONAL INFORMATION.

CONCRETE BARRIER TEMPORARY PRECAST (CBTP) LIMITS PROVIDE BUFFER SPACE FOR MATERIAL AND EQUIPMENT STORAGE 100' UPSTREAM AND 200' DOWNSTREAM OF THE CONCRETE APPROACH SLAB ENDS.



IF B-3-30 WORK OCCURS CONCURRENTLY WITH B-3-37, REFER TO USH 53 MAINLINE TRAFFIC CONTROL TYPICAL SECTIONS (STAGE 2).

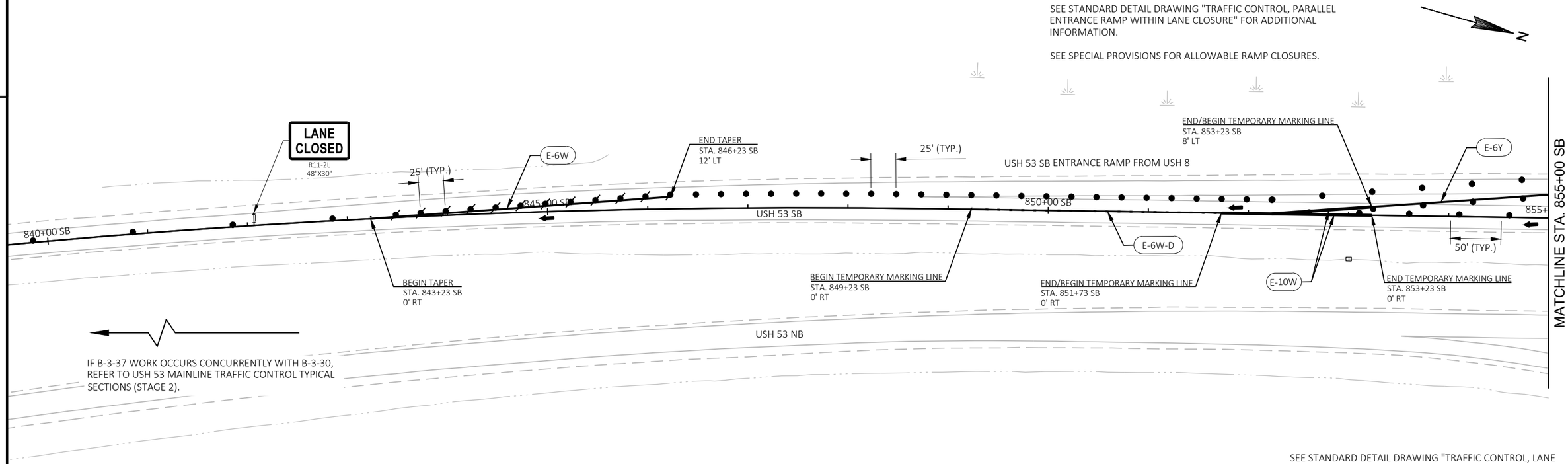
IF B-3-30 WORK OCCURS INDEPENDENTLY, SEE SDD "TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION".

PROJECT NO: 1196-04-77	HWY: USH 53	COUNTY: BARRON	STAGING PLANS USH 53 (SOUTHBOUND) - STAGE 2 NEAR B-3-30	SHEET 50	E

2

SEE STANDARD DETAIL DRAWING "TRAFFIC CONTROL, PARALLEL ENTRANCE RAMP WITHIN LANE CLOSURE" FOR ADDITIONAL INFORMATION.

SEE SPECIAL PROVISIONS FOR ALLOWABLE RAMP CLOSURES.



IF B-3-37 WORK OCCURS CONCURRENTLY WITH B-3-30, REFER TO USH 53 MAINLINE TRAFFIC CONTROL TYPICAL SECTIONS (STAGE 2).

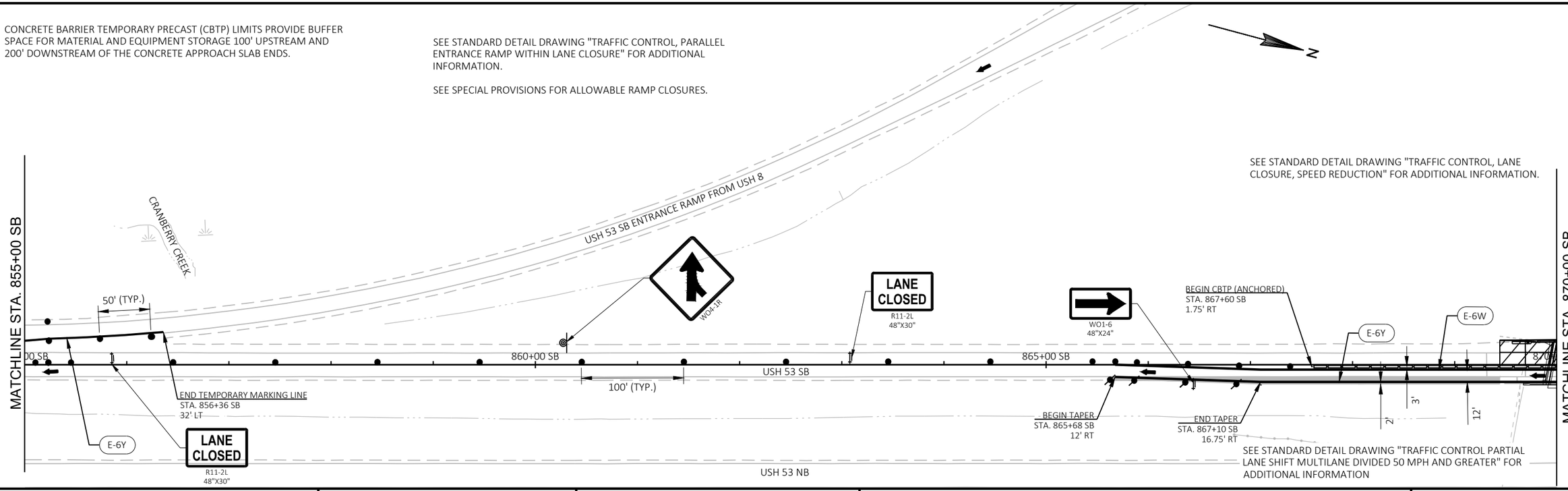
SEE STANDARD DETAIL DRAWING "TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION" FOR ADDITIONAL INFORMATION.

2

CONCRETE BARRIER TEMPORARY PRECAST (CBTP) LIMITS PROVIDE BUFFER SPACE FOR MATERIAL AND EQUIPMENT STORAGE 100' UPSTREAM AND 200' DOWNSTREAM OF THE CONCRETE APPROACH SLAB ENDS.

SEE STANDARD DETAIL DRAWING "TRAFFIC CONTROL, PARALLEL ENTRANCE RAMP WITHIN LANE CLOSURE" FOR ADDITIONAL INFORMATION.

SEE SPECIAL PROVISIONS FOR ALLOWABLE RAMP CLOSURES.

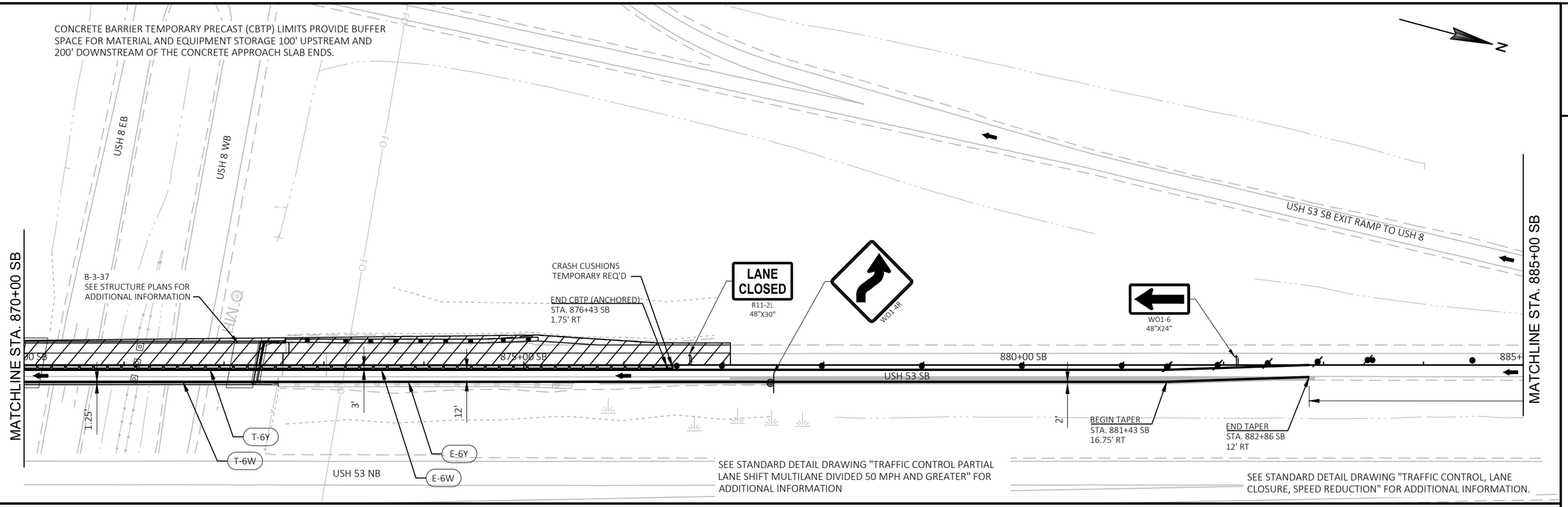


SEE STANDARD DETAIL DRAWING "TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION" FOR ADDITIONAL INFORMATION.

SEE STANDARD DETAIL DRAWING "TRAFFIC CONTROL PARTIAL LANE SHIFT MULTILANE DIVIDED 50 MPH AND GREATER" FOR ADDITIONAL INFORMATION

PROJECT NO: 1196-04-77	HWY: USH 53	COUNTY: BARRON	STAGING PLANS USH 53 (SOUTHBOUND) - STAGE 2 NEAR B-3-37	SHEET 51	E

CONCRETE BARRIER TEMPORARY PRECAST (CBTP) LIMITS PROVIDE BUFFER SPACE FOR MATERIAL AND EQUIPMENT STORAGE 100' UPSTREAM AND 200' DOWNSTREAM OF THE CONCRETE APPROACH SLAB ENDS.

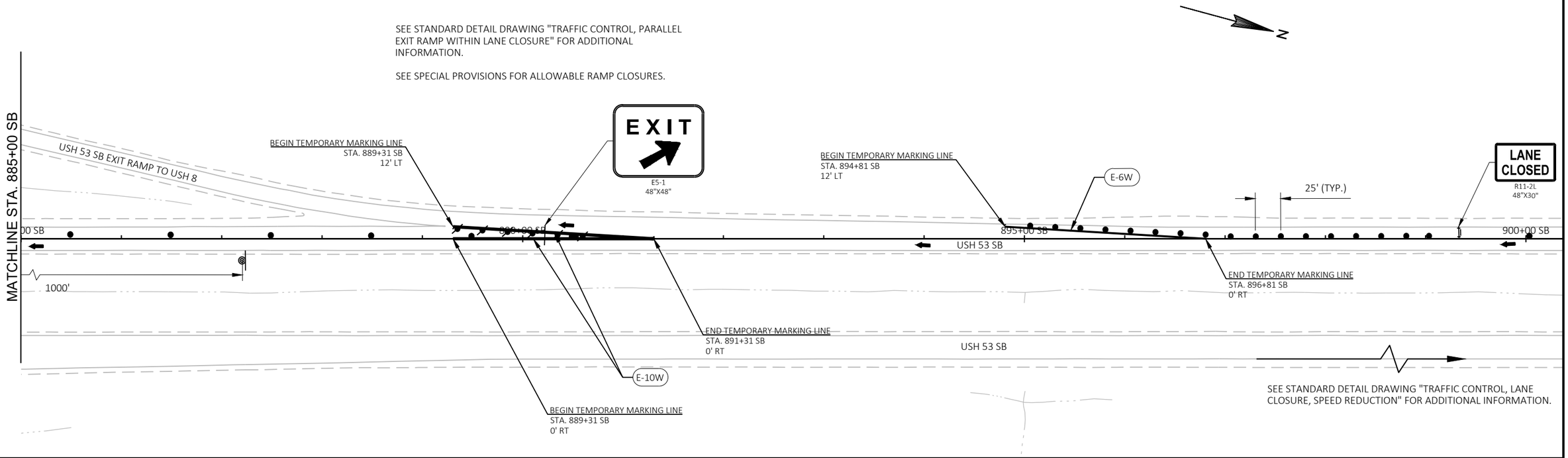


SEE STANDARD DETAIL DRAWING "TRAFFIC CONTROL PARTIAL LANE SHIFT MULTILANE DIVIDED 50 MPH AND GREATER" FOR ADDITIONAL INFORMATION

SEE STANDARD DETAIL DRAWING "TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION" FOR ADDITIONAL INFORMATION.

SEE STANDARD DETAIL DRAWING "TRAFFIC CONTROL, PARALLEL EXIT RAMP WITHIN LANE CLOSURE" FOR ADDITIONAL INFORMATION.

SEE SPECIAL PROVISIONS FOR ALLOWABLE RAMP CLOSURES.

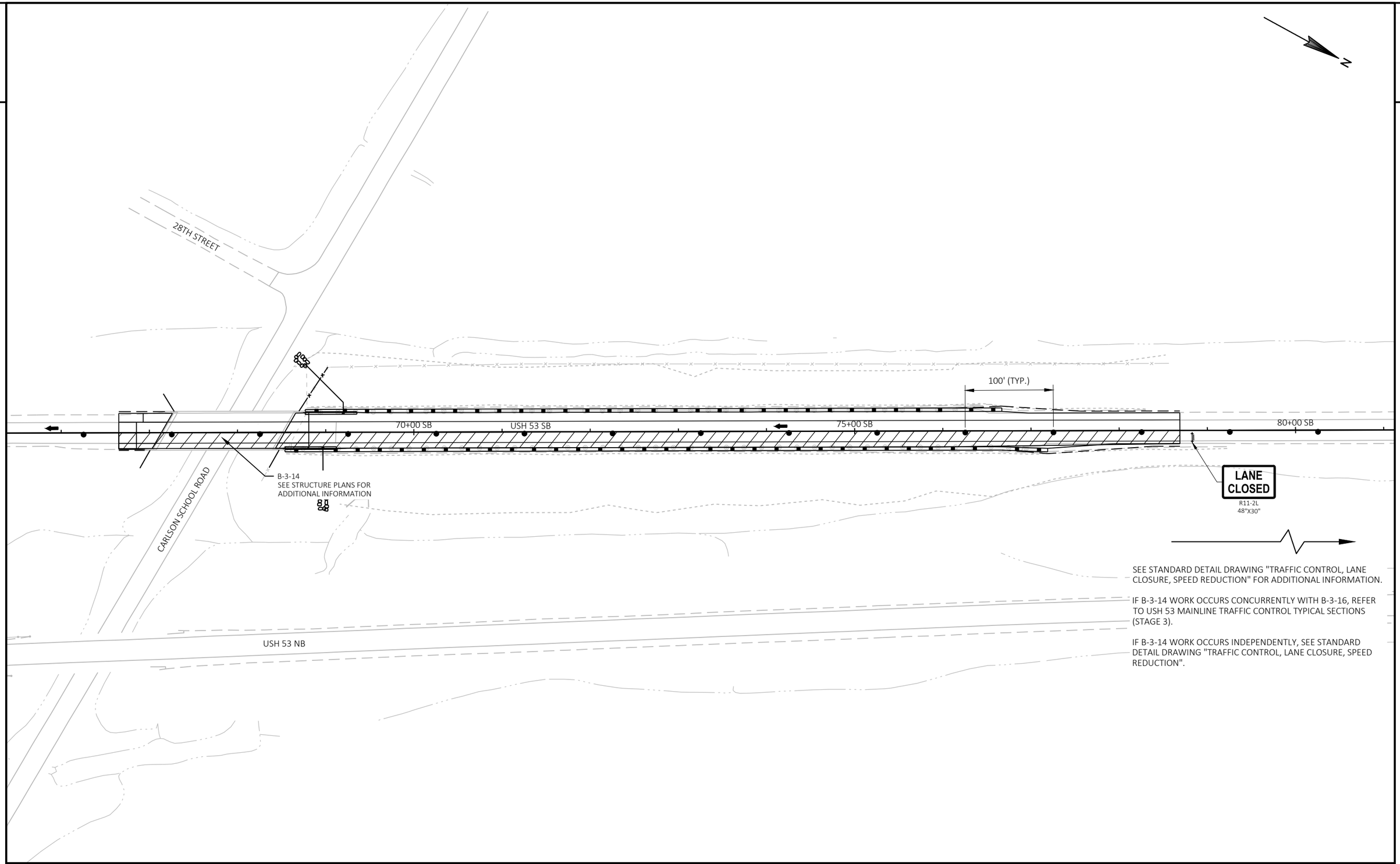


SEE STANDARD DETAIL DRAWING "TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION" FOR ADDITIONAL INFORMATION.

PROJECT NO: 1196-04-77	HWY: USH 53	COUNTY: BARRON	STAGING PLANS USH 53 (SOUTHBOUND) - STAGE 2 NEAR B-3-37	SHEET 52	E

FILE NAME : S:\MAD\1000--1099\1089\895\DRAWINGS\CAD\AUTOCAD\CIVIL 3D\SHEETS PLAN\026201_S2.DWG
LAYOUT NAME - 026214_s2
PLOT DATE : 10/31/2024 9:25 AM PLOT BY : HABERKORN, DEVEN PLOT NAME : PLOT SCALE : ##########
WISDOT/CADDS SHEET 44

2



SEE STANDARD DETAIL DRAWING "TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION" FOR ADDITIONAL INFORMATION.

IF B-3-14 WORK OCCURS CONCURRENTLY WITH B-3-16, REFER TO USH 53 MAINLINE TRAFFIC CONTROL TYPICAL SECTIONS (STAGE 3).

IF B-3-14 WORK OCCURS INDEPENDENTLY, SEE STANDARD DETAIL DRAWING "TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION".

PROJECT NO: 1196-04-77	HWY: USH 53	COUNTY: BARRON	STAGING PLANS USH 53 (SOUTHBOUND) - STAGE 3 NEAR B-3-14	SHEET 53	E

2

N

DOVRE ROAD

IF B-3-16 WORK OCCURS CONCURRENTLY WITH B-3-14, REFER TO USH 53 MAINLINE TRAFFIC CONTROL TYPICAL SECTIONS (STAGE 3).

100' (TYP.)

220+00 SB

USH 53 SB

225+00 SB

230+00 SB

CTH AA (3½ AVENUE)

B-3-16
SEE STRUCTURE PLANS FOR ADDITIONAL INFORMATION

LANE CLOSED
R11-2L
48"X30"

USH 53 NB

SEE STANDARD DETAIL DRAWING "TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION" FOR ADDITIONAL INFORMATION.

IF B-3-16 WORK OCCURS CONCURRENTLY WITH B-3-18, REFER TO USH 53 MAINLINE TRAFFIC CONTROL TYPICAL SECTIONS (STAGE 3).

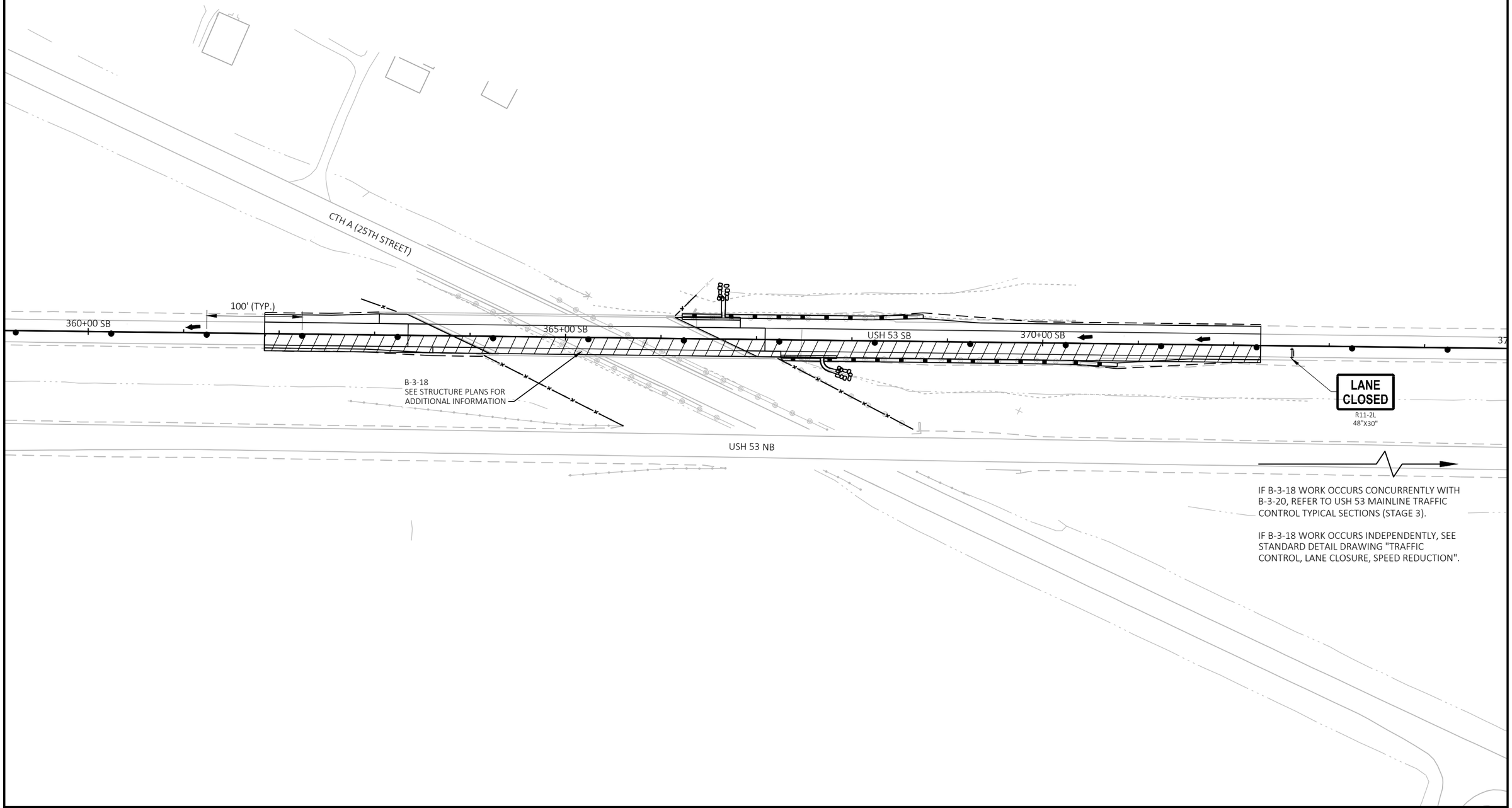
IF B-3-16 WORK OCCURS INDEPENDENTLY, SEE STANDARD DETAIL DRAWING "TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION".

PROJECT NO: 1196-04-77	HWY: USH 53	COUNTY: BARRON	STAGING PLANS USH 53 (SOUTHBOUND) - STAGE 3 NEAR B-3-16	SHEET 54	E

FILE NAME : S:\MAD\1000--1099\1089\895\DRAWINGS\CAD\AUTOCAD\CIVIL 3D\SHEETS PLAN\026101_S3.DWG
LAYOUT NAME - 026102_s3
PLOT DATE : 10/31/2024 9:25 AM PLOT BY : HABERKORN, DEVEN PLOT NAME : PLOT SCALE : ##########
WISDOT/CADDS SHEET 42

2

IF B-3-18 WORK OCCURS CONCURRENTLY WITH B-3-16, REFER TO USH 53 MAINLINE TRAFFIC CONTROL TYPICAL SECTIONS (STAGE 3).



IF B-3-18 WORK OCCURS CONCURRENTLY WITH B-3-20, REFER TO USH 53 MAINLINE TRAFFIC CONTROL TYPICAL SECTIONS (STAGE 3).

IF B-3-18 WORK OCCURS INDEPENDENTLY, SEE STANDARD DETAIL DRAWING "TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION".

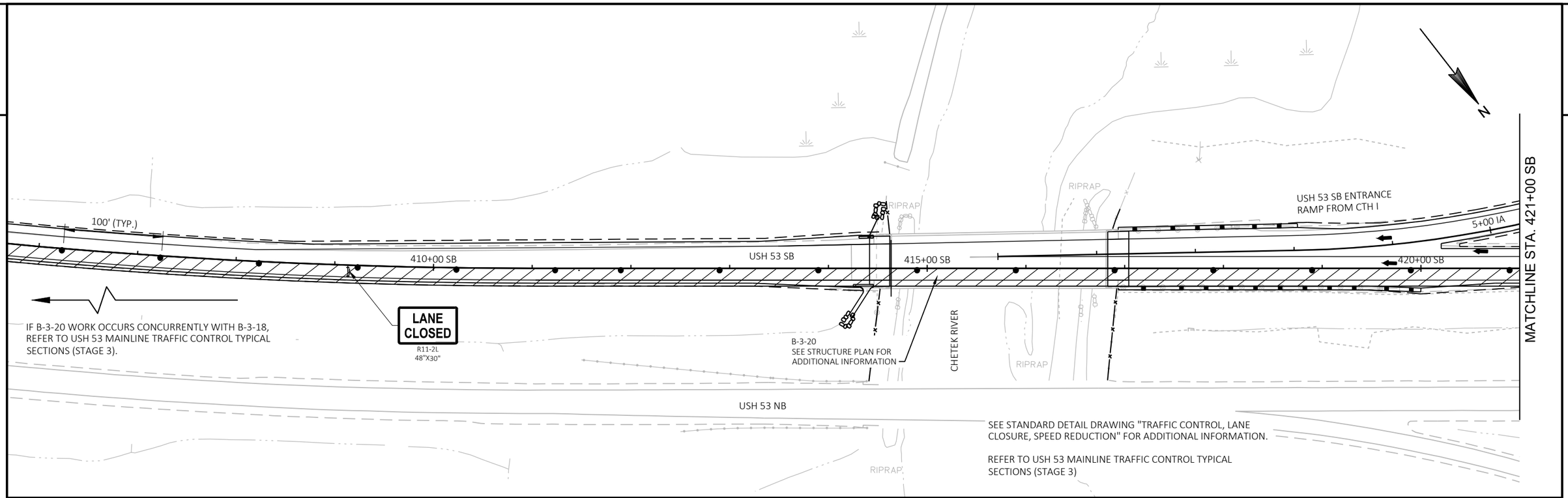
2

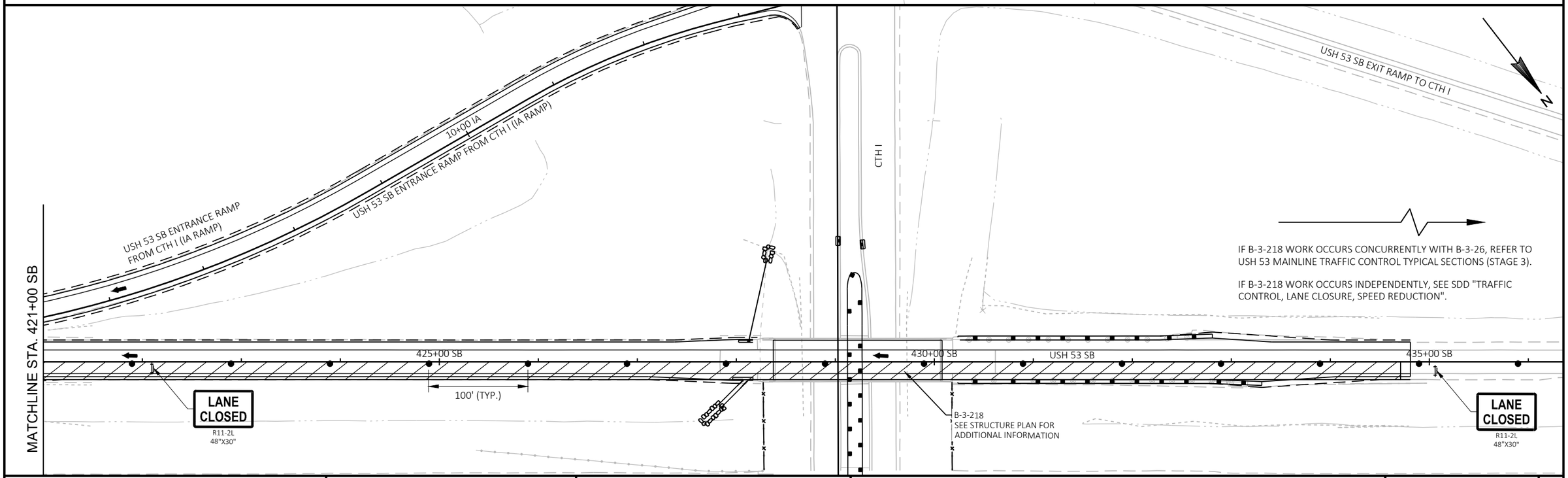
PROJECT NO: 1196-04-77	HWY: USH 53	COUNTY: BARRON	STAGING PLANS USH 53 (SOUTHBOUND) - STAGE 3 NEAR B-3-18	SHEET 55	E

FILE NAME : S:\MAD\1000--1099\1089\895\DRAWINGS\CAD\AUTOCAD\CIVIL 3D\SHEETS PLAN\026101_S3.DWG
LAYOUT NAME - 026103_s3

PLOT DATE : 10/31/2024 9:25 AM PLOT BY : HABERKORN, DEVEN PLOT NAME : PLOT SCALE : ############

2

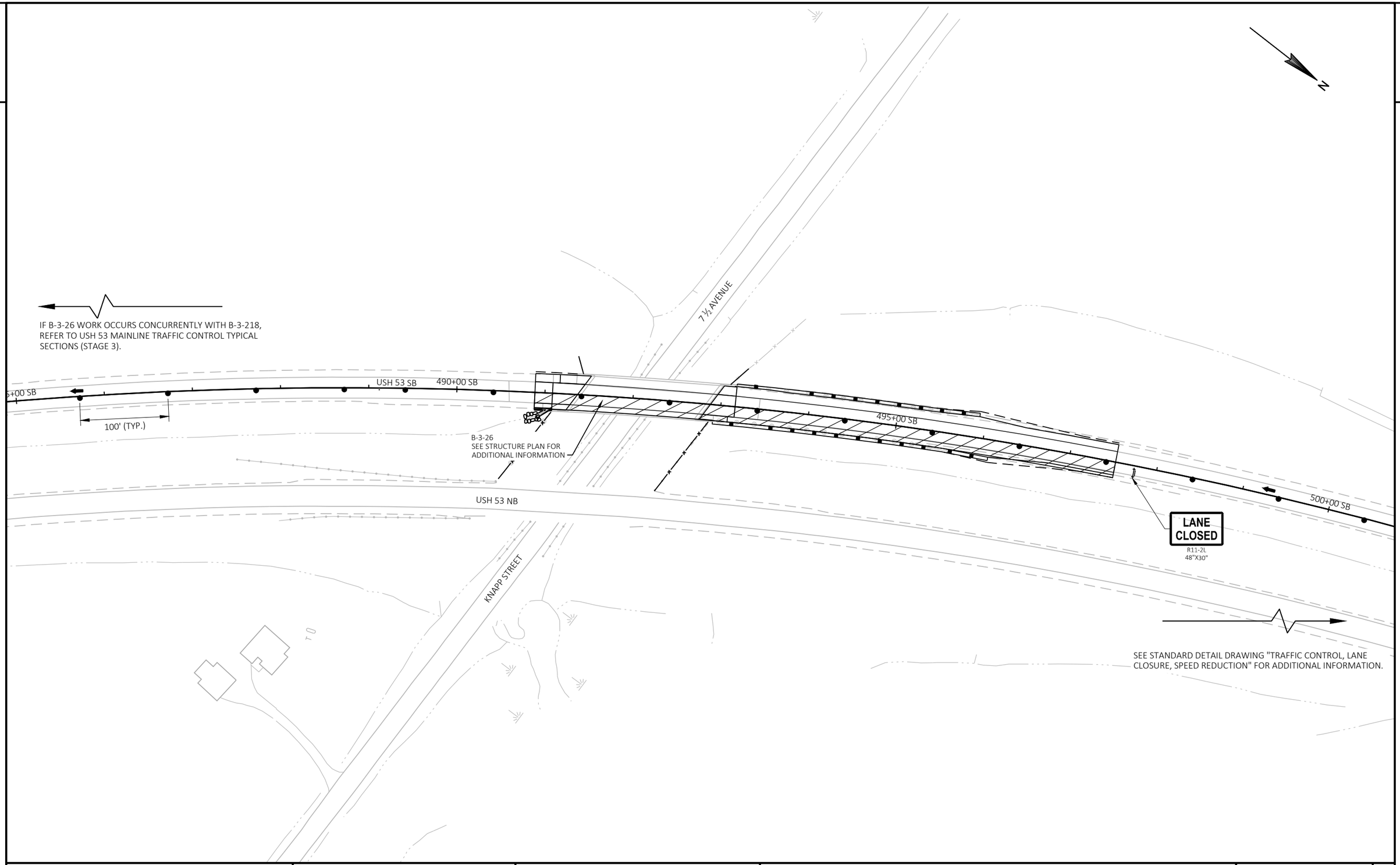




PROJECT NO: 1196-04-77	HWY: USH 53	COUNTY: BARRON	STAGING PLANS USH 53 (SOUTHBOUND) - STAGE 3 NEAR B-3-218	SHEET 56	E

FILE NAME : S:\MAD\1000--1099\1089\895\DRAWINGS\CAD\AUTOCAD\CIVIL 3D\SHEETS PLAN\026101_S3.DWG
LAYOUT NAME - 026104_s3
PLOT DATE : 10/31/2024 9:25 AM PLOT BY : HABERKORN, DEVEN PLOT NAME : PLOT SCALE : ############
WISDOT/CADDS SHEET 44

2



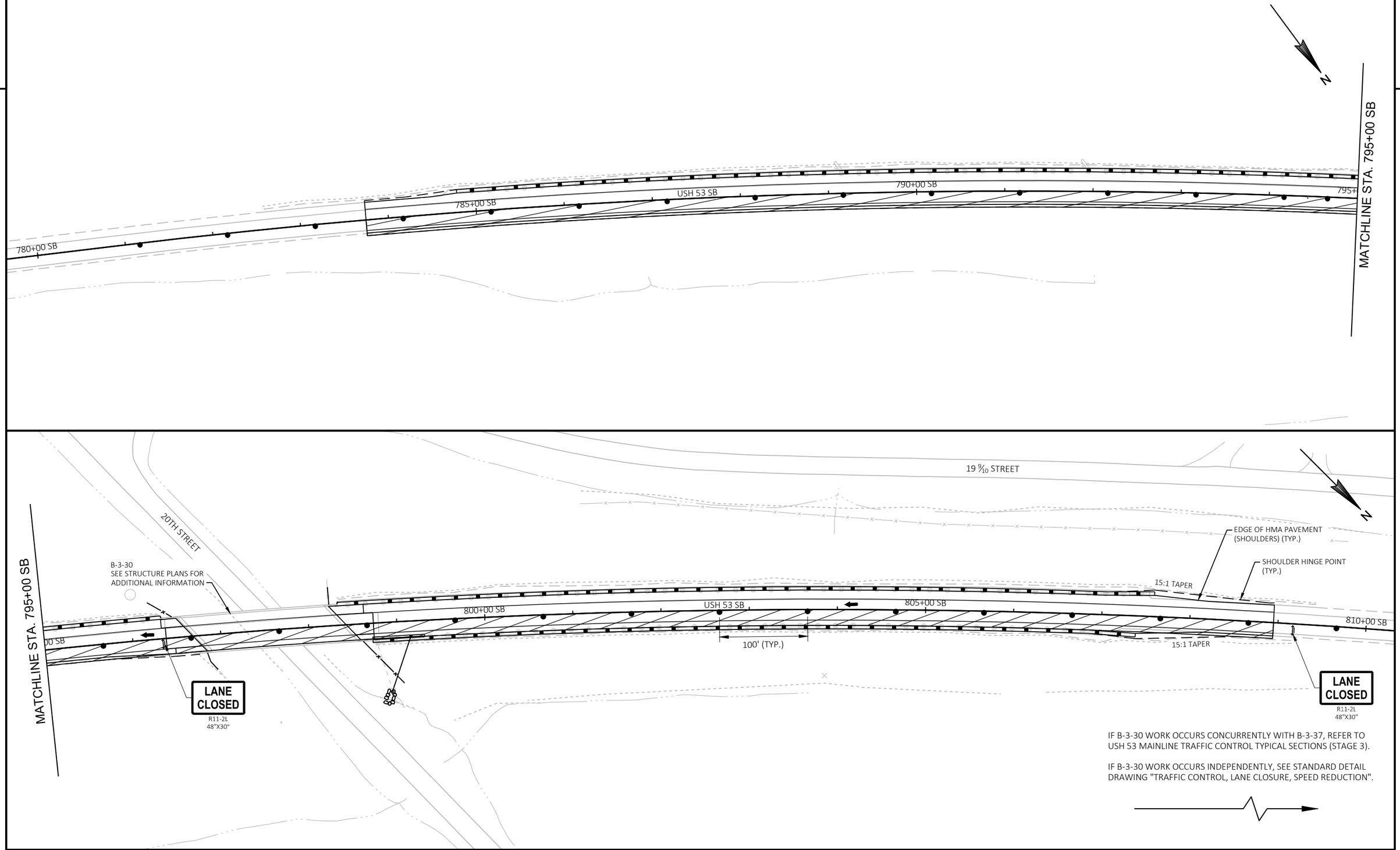
IF B-3-26 WORK OCCURS CONCURRENTLY WITH B-3-218, REFER TO USH 53 MAINLINE TRAFFIC CONTROL TYPICAL SECTIONS (STAGE 3).

SEE STANDARD DETAIL DRAWING "TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION" FOR ADDITIONAL INFORMATION.

PROJECT NO: 1196-04-77	HWY: USH 53	COUNTY: BARRON	STAGING PLANS USH 53 (SOUTHBOUND) - STAGE 3 NEAR B-3-26	SHEET 57	E

2

2



IF B-3-30 WORK OCCURS CONCURRENTLY WITH B-3-37, REFER TO USH 53 MAINLINE TRAFFIC CONTROL TYPICAL SECTIONS (STAGE 3).

IF B-3-30 WORK OCCURS INDEPENDENTLY, SEE STANDARD DETAIL DRAWING "TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION".

PROJECT NO: 1196-04-77	HWY: USH 53	COUNTY: BARRON	STAGING PLANS USH 53 (SOUTHBOUND) - STAGE 3 NEAR B-3-30	SHEET 58	E

FILE NAME : S:\MAD\1000--1099\1089\895\DRAWINGS\CAD\AUTOCAD\CIVIL 3D\SHEETS PLAN\026101_S3.DWG
LAYOUT NAME - 026106_s3

PLOT DATE : 10/31/2024 9:25 AM PLOT BY : HABERKORN, DEVEN PLOT NAME : PLOT SCALE : ##########

WISDOT/CADDS SHEET 44

2

2

N

USH 53 SB ENTRANCE RAMP FROM USH 8

USH 8 EB

USH 8 WB

USH 53 SB EXIT RAMP TO USH 8

SEE STANDARD DETAIL DRAWING "TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION" FOR ADDITIONAL INFORMATION.

IF B-3-37 WORK OCCURS CONCURRENTLY WITH B-3-30, REFER TO USH 53 MAINLINE TRAFFIC CONTROL TYPICAL SECTIONS (STAGE 3).

865+00 SB

870+00 SB

USH 53 SB

875+00 SB

880+00 SB

B-3-37
SEE STRUCTURE PLANS FOR ADDITIONAL INFORMATION

100' (TYP.)

LANE CLOSED

R11-2L
48"X30"

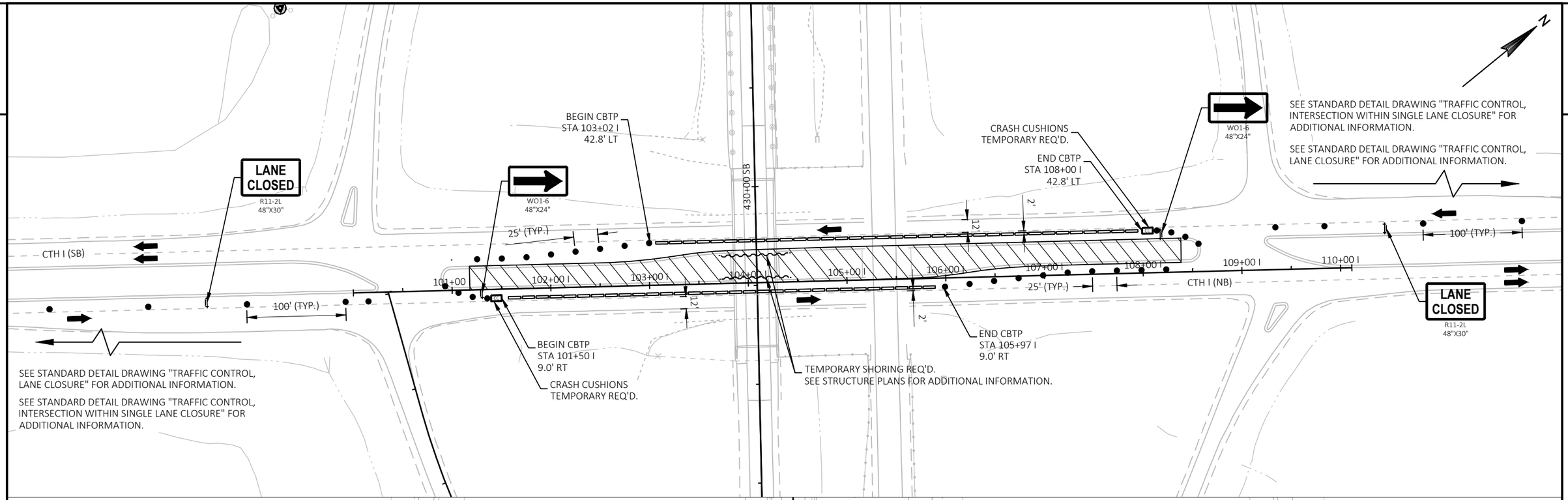
USH 53 NB

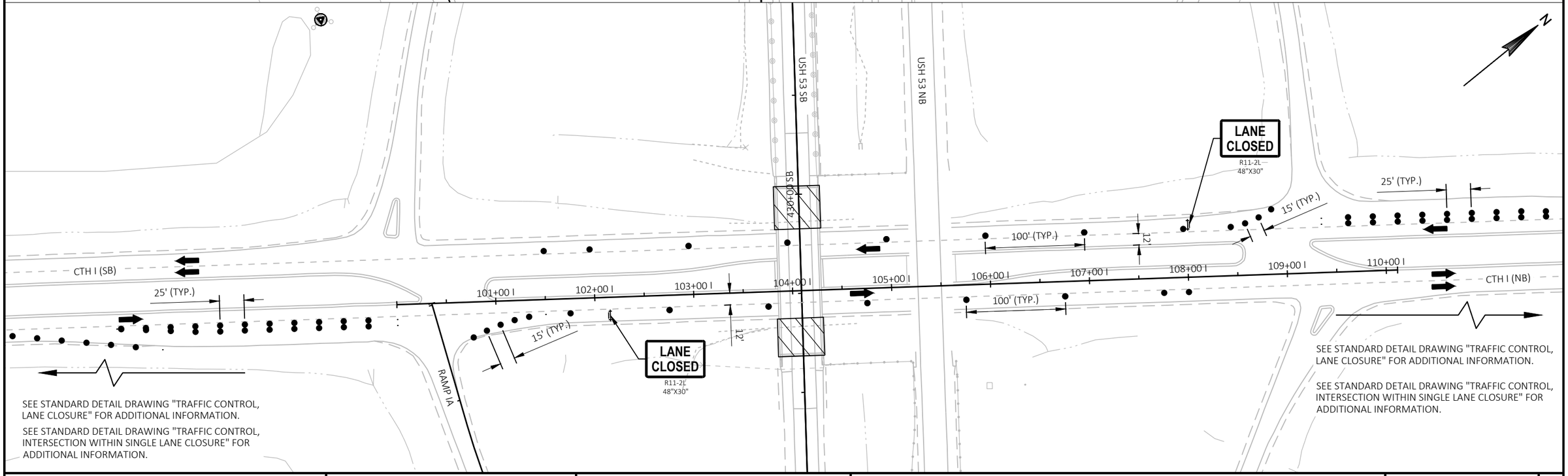
PROJECT NO: 1196-04-77	HWY: USH 53	COUNTY: BARRON	STAGING PLANS USH 53 (SOUTHBOUND) - STAGE 3 NEAR B-3-37	SHEET 59	E

FILE NAME : S:\MAD\1000--1099\1089\895\DRAWINGS\CAD\AUTOCAD\CIVIL 3D\SHEETS PLAN\026101_S3.DWG
LAYOUT NAME - 026107_s3

PLOT DATE : 10/31/2024 9:25 AM PLOT BY : HABERKORN, DEVEN PLOT NAME : PLOT SCALE : ##########

WISDOT/CADDS SHEET 42





PROJECT NO: 1196-04-77	HWY: USH 53	COUNTY: BARRON	STAGING PLANS USH 53 (CTH I)	SHEET 60	E

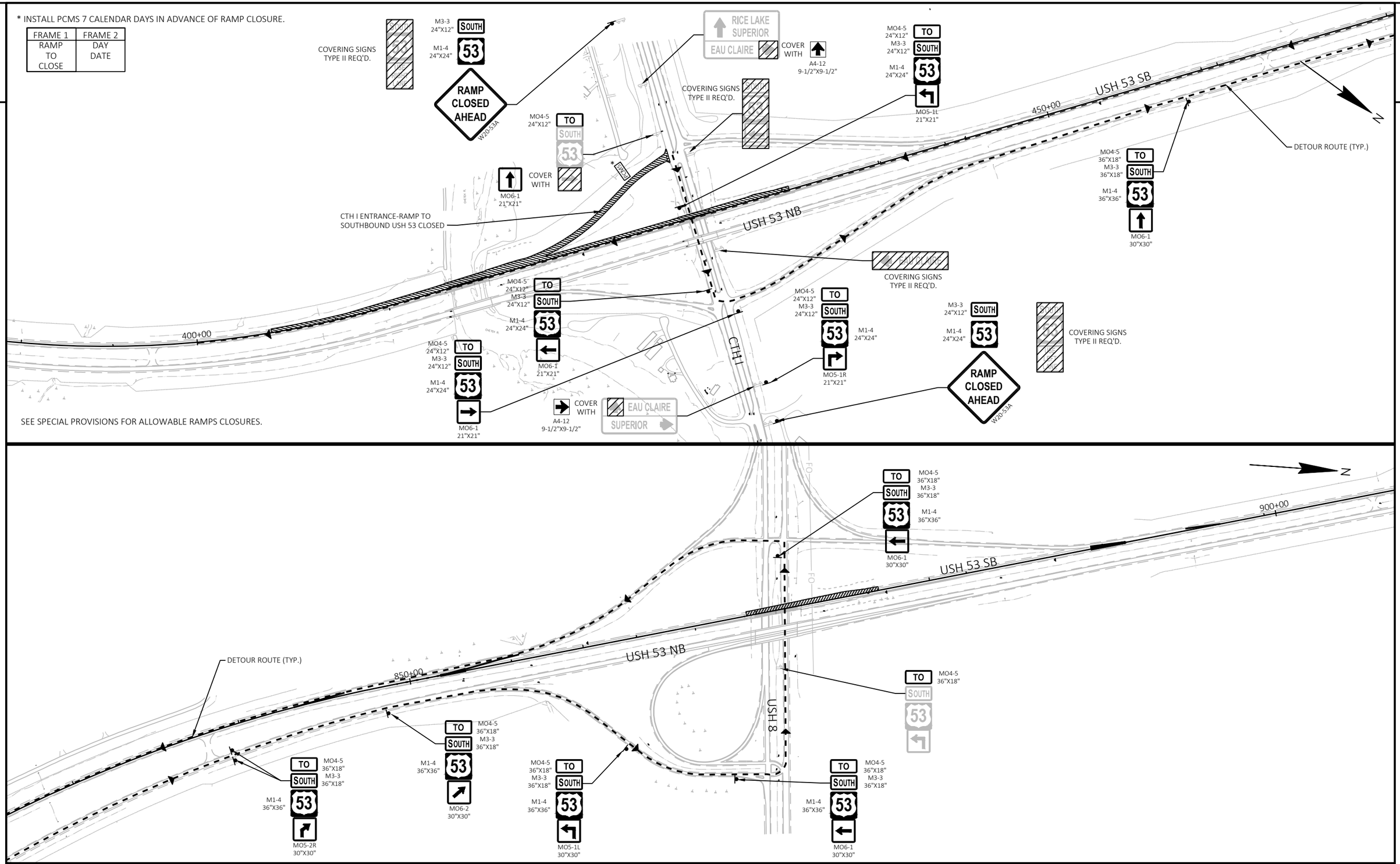
FILE NAME : S:\MAD\1000--1099\1089\895\DRAWINGS\CAD\AUTOCAD\CIVIL 3D\SHEETS PLAN\026301_S1_S2 CTH I.DWG
LAYOUT NAME - 026301_CTH I
PLOT DATE : 10/31/2024 9:26 AM PLOT BY : HABERKORN, DEVEN PLOT NAME : PLOT SCALE : ####
WISDOT/CADDS SHEET 42

2

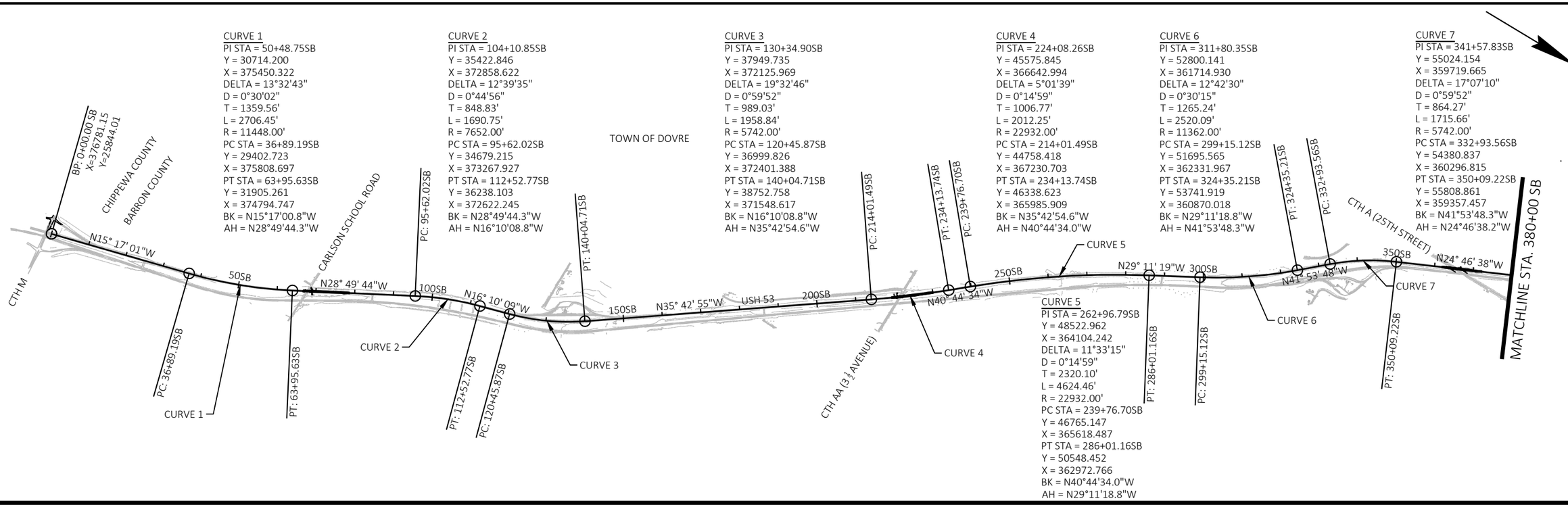
* INSTALL PCMS 7 CALENDAR DAYS IN ADVANCE OF RAMP CLOSURE.

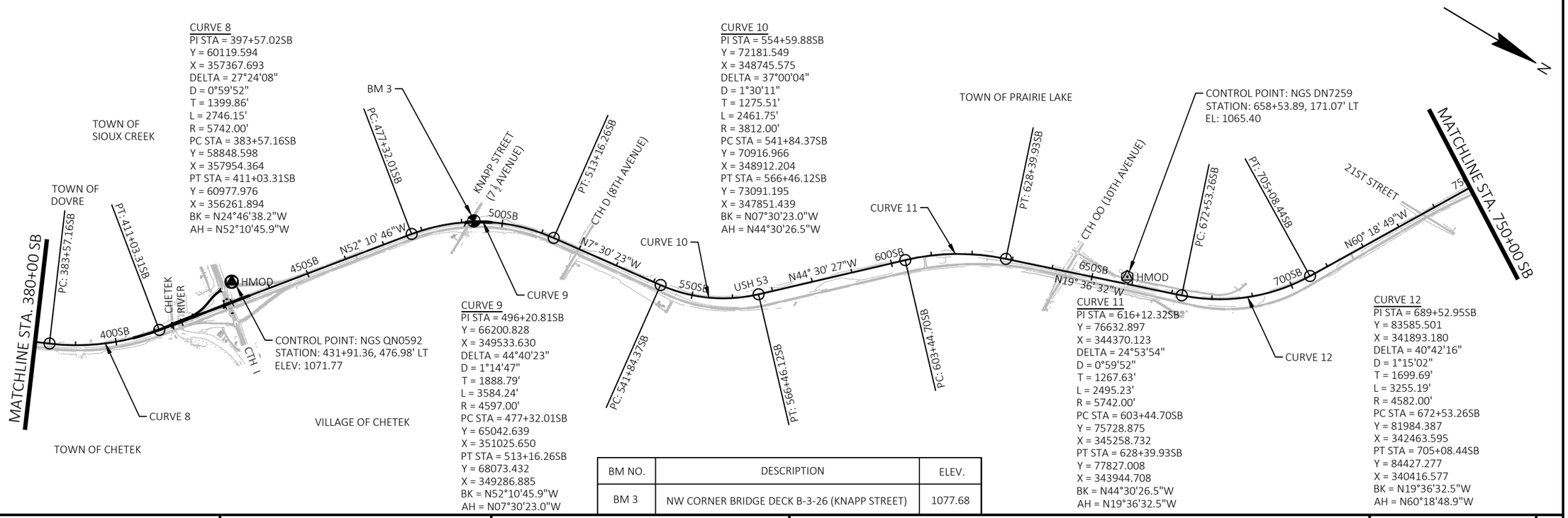
FRAME 1	FRAME 2
RAMP TO CLOSE	DAY DATE

SEE SPECIAL PROVISIONS FOR ALLOWABLE RAMPS CLOSURES.



PROJECT NO: 1196-04-77	HWY: USH 53	COUNTY: BARRON	DETOUR ROUTE - CTH I ENTRANCE RAMP TO USH 53 SB	SHEET 61	E



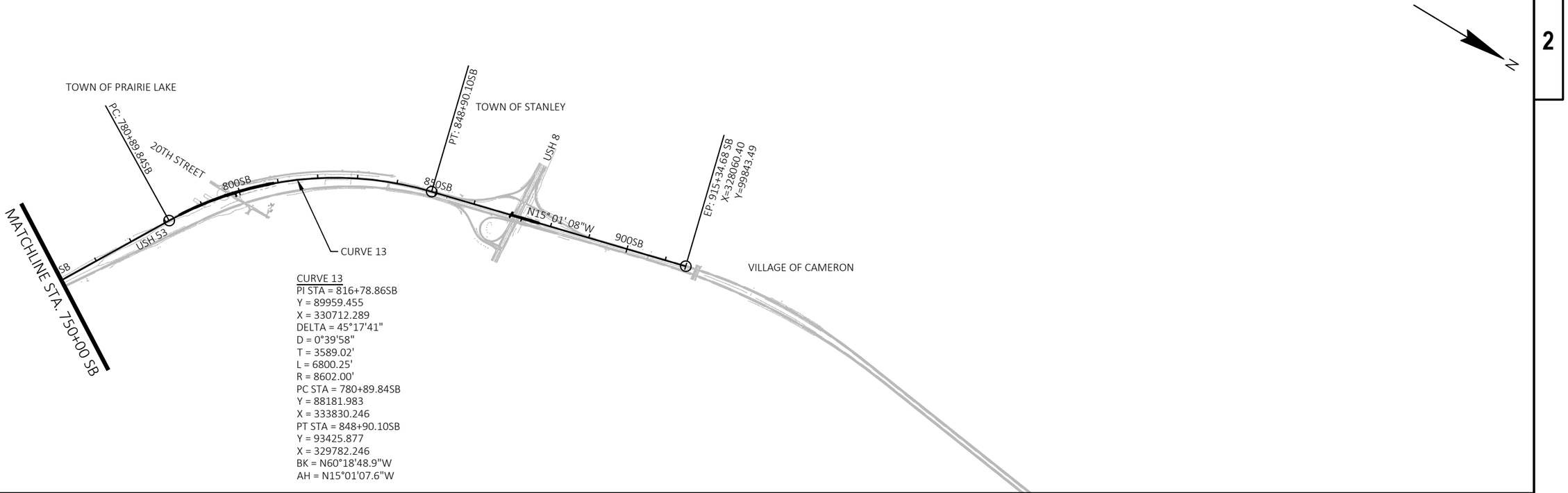


BM NO.	DESCRIPTION	ELEV.
BM 3	NW CORNER BRIDGE DECK B-3-26 (KNAPP STREET)	1077.68

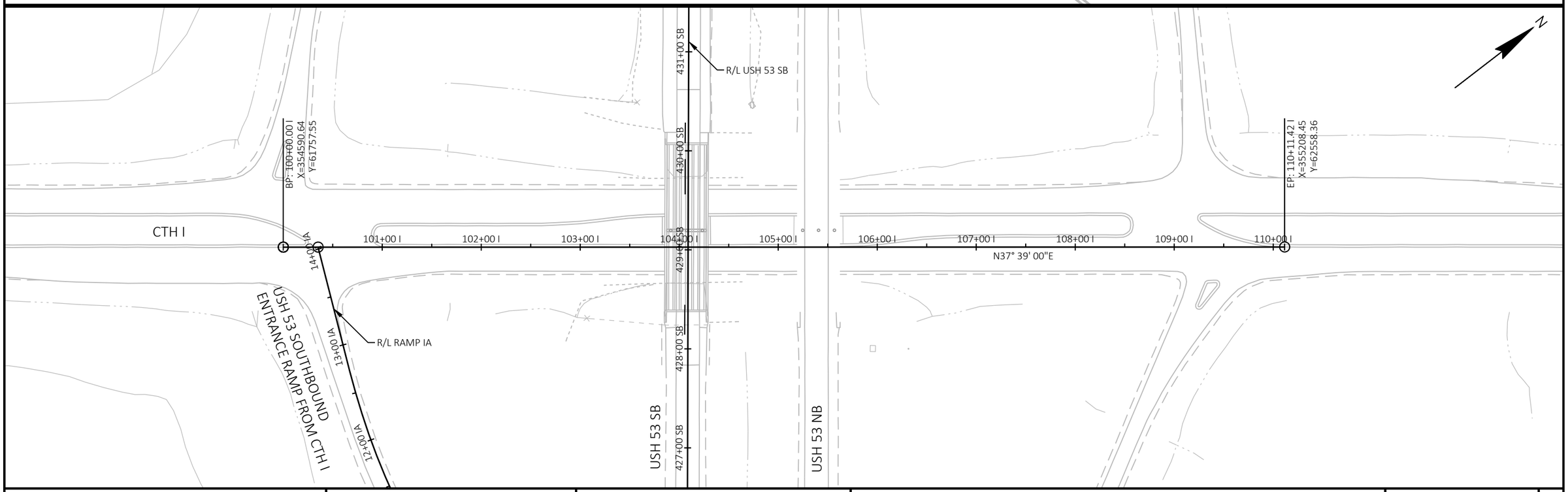
PROJECT NO: 1196-04-77	HWY: USH 53	COUNTY: BARRON	ALIGNMENT DETAILS	SHEET 62	E

FILE NAME : S:\MAD\1000--1099\1089\895\DRAWINGS\CAD\AUTOCAD\CIVIL 3D\SHEETS PLAN\027201-AD.DWG
LAYOUT NAME - 027201_ad
PLOT DATE : 10/31/2024 5:21 PM
PLOT BY : HABERKORN, DEVEN
PLOT NAME :
PLOT SCALE : 1 IN : .5 MIL
WISDOT/CADDS SHEET 42

2



CURVE 13
PI STA = 816+78.86SB
Y = 89959.455
X = 330712.289
DELTA = 45°17'41"
D = 0°39'58"
T = 3589.02'
L = 6800.25'
R = 8602.00'
PC STA = 780+89.84SB
Y = 88181.983
X = 333830.246
PT STA = 848+90.10SB
Y = 93425.877
X = 329782.246
BK = N60°18'48.9"W
AH = N15°01'07.6"W

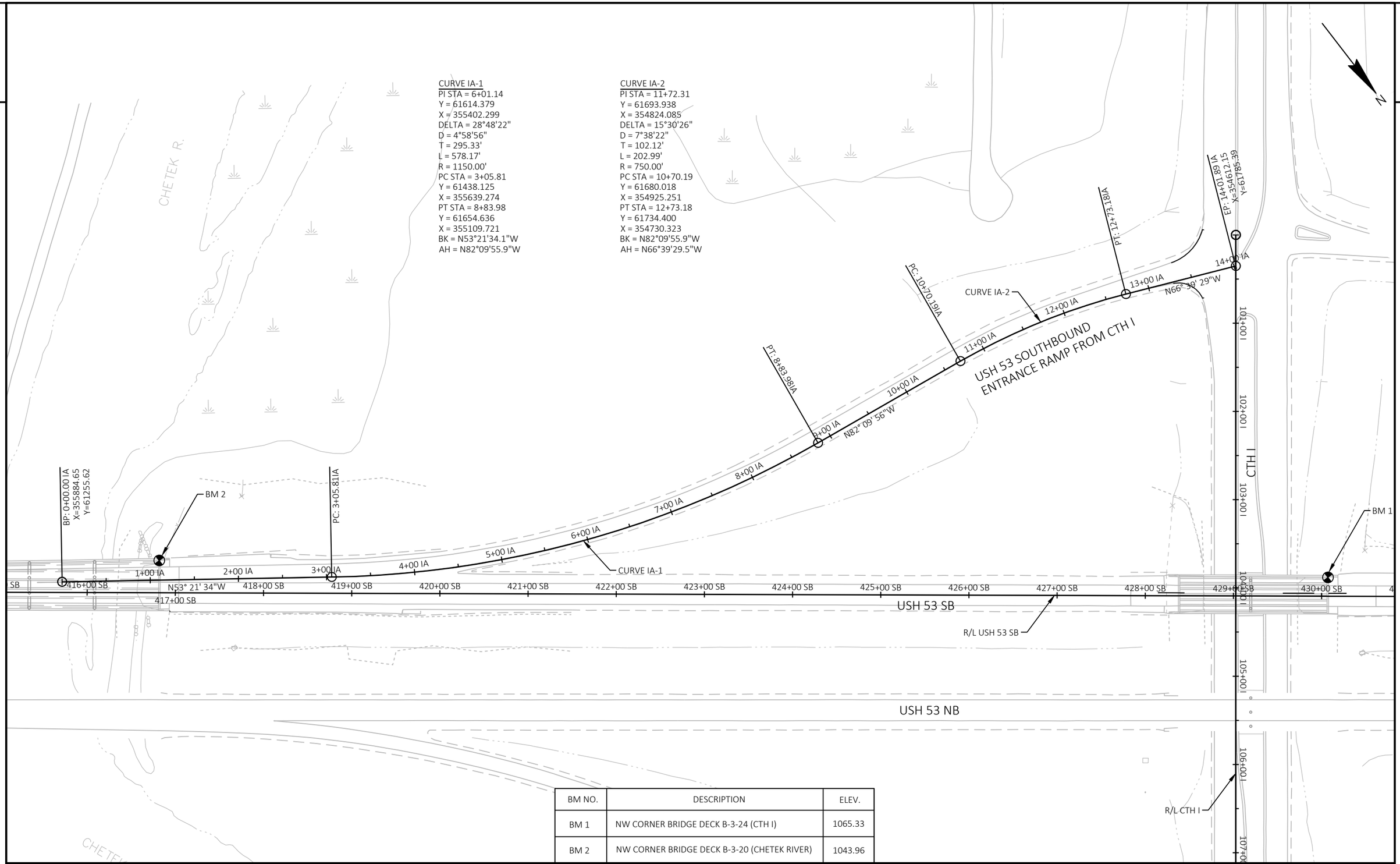


PROJECT NO: 1196-04-77	HWY: USH 53	COUNTY: BARRON	ALIGNMENT DETAILS	SHEET 63	E

2

CURVE IA-1
PI STA = 6+01.14
Y = 61614.379
X = 355402.299
DELTA = 28°48'22"
D = 4°58'56"
T = 295.33'
L = 578.17'
R = 1150.00'
PC STA = 3+05.81
Y = 61438.125
X = 355639.274
PT STA = 8+83.98
Y = 61654.636
X = 355109.721
BK = N53°21'34.1"W
AH = N82°09'55.9"W

CURVE IA-2
PI STA = 11+72.31
Y = 61693.938
X = 354824.085
DELTA = 15°30'26"
D = 7°38'22"
T = 102.12'
L = 202.99'
R = 750.00'
PC STA = 10+70.19
Y = 61680.018
X = 354925.251
PT STA = 12+73.18
Y = 61734.400
X = 354730.323
BK = N82°09'55.9"W
AH = N66°39'29.5"W



BM NO.	DESCRIPTION	ELEV.
BM 1	NW CORNER BRIDGE DECK B-3-24 (CTH I)	1065.33
BM 2	NW CORNER BRIDGE DECK B-3-20 (CHETEK RIVER)	1043.96

PROJECT NO: 1196-04-77	HWY: USH 53	COUNTY: BARRON	ALIGNMENT DETAILS	SHEET 64	E

FILE NAME : S:\MAD\1000--1099\1089\895\DRAWINGS\CAD\AUTOCAD\CIVIL 3D\SHEETS PLAN\027201-AD.DWG
LAYOUT NAME - 027203_ad
PLOT DATE : 1/24/2025 3:34 PM
PLOT BY : EDERER, BRAD
PLOT NAME :
PLOT SCALE : ##############
WISDOT/CADDS SHEET 42

Estimate Of Quantities

1196-04-77

Line	Item	Item Description	Unit	Total	Qty
0002	203.0211.S	Abatement of Asbestos Containing Material (structure) 01. B-3-18	EACH	1.000	1.000
0004	203.0211.S	Abatement of Asbestos Containing Material (structure) 02. B-3-26	EACH	1.000	1.000
0006	203.0211.S	Abatement of Asbestos Containing Material (structure) 03. B-3-30	EACH	1.000	1.000
0008	203.0220	Removing Structure (structure) 01. B-3-14	EACH	1.000	1.000
0010	203.0220	Removing Structure (structure) 02. B-3-16	EACH	1.000	1.000
0012	203.0220	Removing Structure (structure) 03. B-3-18	EACH	1.000	1.000
0014	203.0220	Removing Structure (structure) 04. B-3-24	EACH	1.000	1.000
0016	203.0220	Removing Structure (structure) 05. B-3-26	EACH	1.000	1.000
0018	203.0220	Removing Structure (structure) 06. B-3-30	EACH	1.000	1.000
0020	203.0220	Removing Structure (structure) 07. B-3-37	EACH	1.000	1.000
0022	203.0270	Removing Structure Over Waterway Debris Capture (structure) 01. B-3-20	EACH	1.000	1.000
0024	203.0330	Debris Containment (structure) 02. B-3-24	EACH	1.000	1.000
0026	203.0330	Debris Containment (structure) 03. B-3-30	EACH	1.000	1.000
0028	204.0100	Removing Concrete Pavement	SY	1,510.000	1,510.000
0030	204.0105	Removing Concrete Pavement Butt Joints	SY	525.000	525.000
0032	204.0110	Removing Asphaltic Surface	SY	7,258.000	7,258.000
0034	204.0115	Removing Asphaltic Surface Butt Joints	SY	6,400.000	6,400.000
0036	204.0120	Removing Asphaltic Surface Milling	SY	50,950.000	50,950.000
0038	204.0150	Removing Curb & Gutter	LF	56.000	56.000
0040	204.0155	Removing Concrete Sidewalk	SY	310.000	310.000
0042	204.0165	Removing Guardrail	LF	9,110.000	9,110.000
0044	204.0170	Removing Fence	LF	595.000	595.000
0046	204.0180	Removing Delineators and Markers	EACH	5.000	5.000
0048	204.0190	Removing Surface Drains	EACH	3.000	3.000
0050	204.0220	Removing Inlets	EACH	10.000	10.000
0052	204.0245	Removing Storm Sewer (size) 01. 15-Inch	LF	114.000	114.000
0054	204.0245	Removing Storm Sewer (size) 02. 18-Inch	LF	200.000	200.000
0056	204.0270	Abandoning Culvert Pipes	EACH	5.000	5.000
0058	205.0100	Excavation Common	CY	27.000	27.000
0060	206.1001	Excavation for Structures Bridges (structure) 01. B-3-14	EACH	1.000	1.000
0062	206.1001	Excavation for Structures Bridges (structure) 02. B-3-16	EACH	1.000	1.000
0064	206.1001	Excavation for Structures Bridges (structure) 03. B-3-18	EACH	1.000	1.000
0066	206.1001	Excavation for Structures Bridges (structure) 04. B-3-20	EACH	1.000	1.000
0068	206.1001	Excavation for Structures Bridges (structure) 05. B-3-218	EACH	1.000	1.000
0070	206.1001	Excavation for Structures Bridges (structure) 06. B-3-26	EACH	1.000	1.000
0072	206.1001	Excavation for Structures Bridges (structure) 07. B-3-30	EACH	1.000	1.000
0074	206.1001	Excavation for Structures Bridges (structure) 08. B-3-37	EACH	1.000	1.000
0076	210.1500	Backfill Structure Type A	TON	1,041.000	1,041.000
0078	211.0101	Prepare Foundation for Asphaltic Paving (project) 01. 1196-04-77	EACH	1.000	1.000
0080	211.0400	Prepare Foundation for Asphaltic Shoulders	STA	141.000	141.000
0082	213.0100	Finishing Roadway (project) 01. 1196-04-77	EACH	1.000	1.000
0084	305.0110	Base Aggregate Dense 3/4-Inch	TON	1,290.000	1,290.000
0086	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	759.000	759.000
0088	305.0500	Shaping Shoulders	STA	40.000	40.000
0090	415.0070	Concrete Pavement 7-Inch	SY	405.000	405.000
0092	415.0100	Concrete Pavement 10-Inch	SY	250.000	250.000
0094	415.0410	Concrete Pavement Approach Slab	SY	1,170.000	1,170.000
0096	450.4000	HMA Cold Weather Paving	TON	700.000	700.000
0098	455.0605	Tack Coat	GAL	5,950.000	5,950.000

1196-04-77

Line	Item	Item Description	Unit	Total	Qty
0100	460.2000	Incentive Density HMA Pavement	DOL	6,380.000	6,380.000
0102	460.6224	HMA Pavement 4 MT 58-28 S	TON	3,556.000	3,556.000
0104	460.6244	HMA Pavement 4 MT 58-34 S	TON	2,785.000	2,785.000
0106	460.6645	HMA Pavement 5 MT 58-34 V	TON	3,569.000	3,569.000
0108	465.0110	Asphaltic Surface Patching	TON	8.000	8.000
0110	465.0510	Asphaltic Rumble Strips, Shoulder Divided Roadway	LF	26,230.000	26,230.000
0112	502.0100	Concrete Masonry Bridges	CY	2,211.000	2,211.000
0114	502.2000	Compression Joint Sealer Preformed Elastomeric (width) 01. 2-1/4 Inch	LF	106.000	106.000
0116	502.3101	Expansion Device	LF	472.000	472.000
0118	502.3200	Protective Surface Treatment	SY	7,462.000	7,462.000
0120	502.3210	Pigmented Surface Sealer	SY	1,680.000	1,680.000
0122	502.4106	Adhesive Anchors 3/4-inch	EACH	5.000	5.000
0124	502.4204	Adhesive Anchors No. 4 Bar	EACH	296.000	296.000
0126	502.4205	Adhesive Anchors No. 5 Bar	EACH	1,038.000	1,038.000
0128	503.0137	Prestressed Girder Type I 36W-Inch	LF	1,049.000	1,049.000
0130	503.0145	Prestressed Girder Type I 45-Inch	LF	67.000	67.000
0132	505.0400	Bar Steel Reinforcement HS Structures	LB	18,750.000	18,750.000
0134	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	441,110.000	441,110.000
0136	505.0800.S	Bar Steel Reinforcement HS Stainless Structures	LB	1,500.000	1,500.000
0138	505.0904	Bar Couplers No. 4	EACH	42.000	42.000
0140	505.0905	Bar Couplers No. 5	EACH	2,662.000	2,662.000
0142	505.0906	Bar Couplers No. 6	EACH	67.000	67.000
0144	505.0907	Bar Couplers No. 7	EACH	22.000	22.000
0146	505.0908	Bar Couplers No. 8	EACH	42.000	42.000
0148	506.2605	Bearing Pads Elastomeric Non-Laminated	EACH	25.000	25.000
0150	506.2610	Bearing Pads Elastomeric Laminated	EACH	19.000	19.000
0152	506.4000	Steel Diaphragms (structure) 01. B-3-16	EACH	9.000	9.000
0154	506.4000	Steel Diaphragms (structure) 02. B-3-20	EACH	15.000	15.000
0156	506.4000	Steel Diaphragms (structure) 03. B-3-218	EACH	20.000	20.000
0158	506.4000	Steel Diaphragms (structure) 04. B-3-30	EACH	12.000	12.000
0160	506.6000	Bearing Assemblies Expansion (structure) 01. B-3-16	EACH	1.000	1.000
0162	506.7050.S	Removing Bearings (structure) 01. B-3-16	EACH	4.000	4.000
0164	506.7050.S	Removing Bearings (structure) 02. B-3-18	EACH	10.000	10.000
0166	506.7050.S	Removing Bearings (structure) 03. B-3-26	EACH	4.000	4.000
0168	506.7050.S	Removing Bearings (structure) 04. B-3-30	EACH	5.000	5.000
0170	509.0301	Preparation Decks Type 1	SY	275.000	275.000
0172	509.0302	Preparation Decks Type 2	SY	138.000	138.000
0174	509.0505.S	Cleaning Decks to Reapply Concrete Masonry Overlay	SY	2,360.000	2,360.000
0176	509.1000	Joint Repair	SY	76.000	76.000
0178	509.1500	Concrete Surface Repair	SF	651.000	651.000
0180	509.2000	Full-Depth Deck Repair	SY	8.000	8.000
0182	509.2500	Concrete Masonry Overlay Decks	CY	339.000	339.000
0184	509.9005.S	Removing Concrete Masonry Deck Overlay (structure) 01. B-3-14	SY	615.000	615.000
0186	509.9005.S	Removing Concrete Masonry Deck Overlay (structure) 02. B-3-26	SY	671.000	671.000
0188	509.9005.S	Removing Concrete Masonry Deck Overlay (structure) 03. B-3-37	SY	1,074.000	1,074.000
0190	509.9020.S	Epoxy Crack Sealing	LF	66.000	66.000
0192	509.9050.S	Cleaning Parapets	LF	1,066.000	1,066.000
0194	511.1200	Temporary Shoring (structure) 01. B-3-20	SF	720.000	720.000
0196	511.1200	Temporary Shoring (structure) 02. B-3-218	SF	1,020.000	1,020.000

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Line	Item	Item Description	Unit	Total	Qty
0198	511.1200	Temporary Shoring (structure) 03. B-3-30	SF	264.000	264.000
0200	514.0450	Floor Drains Type WF	EACH	3.000	3.000
0202	514.2608	Downspout 8-Inch	LF	113.000	113.000
0204	516.0500	Rubberized Membrane Waterproofing	SY	114.000	114.000
0206	517.0901.S	Preparation and Coating of Top Flanges (structure) 01. B-3-18	EACH	1.000	1.000
0208	517.3001.S	Structure Overcoating Cleaning and Priming (structure) 01. B-3-18	EACH	1.000	1.000
0210	517.3001.S	Structure Overcoating Cleaning and Priming (structure) 02. B-3-37	EACH	1.000	1.000
0212	517.4001.S	Containment and Collection of Waste Materials (structure) 01. B-3-18	EACH	1.000	1.000
0214	517.4001.S	Containment and Collection of Waste Materials (structure) 02. B-3-37	EACH	1.000	1.000
0216	521.1018	Apron Endwalls for Culvert Pipe Steel 18-Inch	EACH	7.000	7.000
0218	530.0118	Culvert Pipe Corrugated Polyethylene 18-Inch	LF	378.000	378.000
0220	550.0010	Pre-Boring Unconsolidated Materials	LF	618.000	618.000
0222	550.0020	Pre-Boring Rock or Consolidated Materials	LF	135.000	135.000
0224	550.1100	Piling Steel HP 10-Inch X 42 Lb	LF	753.000	753.000
0226	601.0551	Concrete Curb & Gutter 4-Inch Sloped 36-Inch Type A	LF	28.000	28.000
0228	601.0553	Concrete Curb & Gutter 4-Inch Sloped 36-Inch Type D	LF	112.000	112.000
0230	601.0588	Concrete Curb & Gutter 4-Inch Sloped 36-Inch Type TBT	LF	202.000	202.000
0232	601.0590	Concrete Curb & Gutter 4-Inch Sloped 36-Inch Type TBTT	LF	94.000	94.000
0234	602.3010	Concrete Surface Drains	CY	12.000	12.000
0236	603.8000	Concrete Barrier Temporary Precast Delivered	LF	8,315.000	8,315.000
0238	603.8125	Concrete Barrier Temporary Precast Installed	LF	15,480.000	15,480.000
0240	603.8500	Anchoring Concrete Barrier Temporary Precast	LF	8,995.000	8,995.000
0242	603.8505	Anchoring Concrete Barrier Temporary Precast on Bridge Decks	LF	2,235.000	2,235.000
0244	604.0500	Slope Paving Crushed Aggregate	SY	365.000	365.000
0246	606.0100	Riprap Light	CY	4.000	4.000
0248	606.0200	Riprap Medium	CY	64.000	64.000
0250	611.0615	Inlet Covers Type F	EACH	4.000	4.000
0252	611.0654	Inlet Covers Type V	EACH	3.000	3.000
0254	611.3225	Inlets 2x2.5-FT	EACH	3.000	3.000
0256	611.3253	Inlets 2.5x3-FT	EACH	4.000	4.000
0258	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	370.000	370.000
0260	614.0150	Anchor Assemblies for Steel Plate Beam Guard	EACH	17.000	17.000
0262	614.0220	Steel Thrie Beam Bullnose Terminal	EACH	2.000	2.000
0264	614.0230	Steel Thrie Beam	LF	400.000	400.000
0266	614.0396	Guardrail Mow Strip Asphalt	SY	460.000	460.000
0268	614.0397	Guardrail Mow Strip Emulsified Asphalt	SY	3,750.000	3,750.000
0270	614.0400	Adjusting Steel Plate Beam Guard	LF	2,410.000	2,410.000
0272	614.0905	Crash Cushions Temporary	EACH	17.000	17.000
0274	614.2300	MGS Guardrail 3	LF	6,889.000	6,889.000
0276	614.2500	MGS Thrie Beam Transition	LF	640.000	640.000
0278	614.2610	MGS Guardrail Terminal EAT	EACH	16.000	16.000
0280	614.2620	MGS Guardrail Terminal Type 2	EACH	1.000	1.000
0282	616.0100	Fence Woven Wire (height) 01. 4-FT	LF	1,610.000	1,610.000
0284	618.0100	Maintenance and Repair of Haul Roads (project) 01. 1196-04-77	EACH	1.000	1.000
0286	619.1000	Mobilization	EACH	1.000	1.000
0288	624.0100	Water	MGAL	50.000	50.000
0290	625.0500	Salvaged Topsoil	SY	4,730.000	4,730.000
0292	628.1504	Silt Fence	LF	3,960.000	3,960.000
0294	628.1520	Silt Fence Maintenance	LF	3,960.000	3,960.000

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Line	Item	Item Description	Unit	Total	Qty
0296	628.1905	Mobilizations Erosion Control	EACH	9.000	9.000
0298	628.1910	Mobilizations Emergency Erosion Control	EACH	9.000	9.000
0300	628.2004	Erosion Mat Class I Type B	SY	4,730.000	4,730.000
0302	628.7005	Inlet Protection Type A	EACH	11.000	11.000
0304	628.7010	Inlet Protection Type B	EACH	13.000	13.000
0306	628.7504	Temporary Ditch Checks	LF	220.000	220.000
0308	629.0210	Fertilizer Type B	CWT	3.000	3.000
0310	630.0120	Seeding Mixture No. 20	LB	214.000	214.000
0312	630.0200	Seeding Temporary	LB	127.000	127.000
0314	630.0500	Seed Water	MGAL	105.000	105.000
0316	633.5200	Markers Culvert End	EACH	7.000	7.000
0318	642.5201	Field Office Type C	EACH	1.000	1.000
0320	643.0300	Traffic Control Drums	DAY	166,447.000	166,447.000
0322	643.0420	Traffic Control Barricades Type III	DAY	14,402.000	14,402.000
0324	643.0705	Traffic Control Warning Lights Type A	DAY	28,292.000	28,292.000
0326	643.0715	Traffic Control Warning Lights Type C	DAY	39,565.000	39,565.000
0328	643.0800	Traffic Control Arrow Boards	DAY	1,216.000	1,216.000
0330	643.0900	Traffic Control Signs	DAY	79,607.000	79,607.000
0332	643.0920	Traffic Control Covering Signs Type II	EACH	15.000	15.000
0334	643.1050	Traffic Control Signs PCMS	DAY	289.000	289.000
0336	643.3170	Temporary Marking Line Epoxy 6-Inch	LF	53,010.000	53,010.000
0338	643.3180	Temporary Marking Line Removable Tape 6-Inch	LF	6,575.000	6,575.000
0340	643.3270	Temporary Marking Line Epoxy 10-Inch	LF	1,255.000	1,255.000
0342	643.5000	Traffic Control	EACH	1.000	1.000
0344	645.0111	Geotextile Type DF Schedule A	SY	78.000	78.000
0346	645.0120	Geotextile Type HR	SY	149.000	149.000
0348	646.2020	Marking Line Epoxy 6-Inch	LF	36,006.000	36,006.000
0350	646.4020	Marking Line Epoxy 10-Inch	LF	2,360.000	2,360.000
0352	646.9000	Marking Removal Line 4-Inch	LF	20,119.000	20,119.000
0354	646.9100	Marking Removal Line 8-Inch	LF	1,320.000	1,320.000
0356	650.4000	Construction Staking Storm Sewer	EACH	14.000	14.000
0358	650.5500	Construction Staking Curb Gutter and Curb & Gutter	LF	350.000	350.000
0360	650.6501	Construction Staking Structure Layout (structure) 01. B-3-16	EACH	1.000	1.000
0362	650.6501	Construction Staking Structure Layout (structure) 02. B-3-18	EACH	1.000	1.000
0364	650.6501	Construction Staking Structure Layout (structure) 03. B-3-20	EACH	1.000	1.000
0366	650.6501	Construction Staking Structure Layout (structure) 04. B-3-218	EACH	1.000	1.000
0368	650.6501	Construction Staking Structure Layout (structure) 05. B-3-30	EACH	1.000	1.000
0370	650.7000	Construction Staking Concrete Pavement	LF	415.000	415.000
0372	650.8000	Construction Staking Resurfacing Reference	LF	15,779.000	15,779.000
0374	650.9911	Construction Staking Supplemental Control (project) 01. 1196-04-77	EACH	1.000	1.000
0376	650.9920	Construction Staking Slope Stakes	LF	770.000	770.000
0378	690.0150	Sawing Asphalt	LF	19,104.000	19,104.000
0380	690.0250	Sawing Concrete	LF	1,360.000	1,360.000
0382	715.0502	Incentive Strength Concrete Structures	DOL	13,266.000	13,266.000
0384	715.0720	Incentive Compressive Strength Concrete Pavement	DOL	1,825.000	1,825.000
0386	740.0440	Incentive IRI Ride	DOL	2,315.000	2,315.000
0388	999.2005.S	Maintaining Bird Deterrent System (station) 01. 68+00 SB	EACH	1.000	1.000
0390	999.2005.S	Maintaining Bird Deterrent System (station) 02. 221+50 SB	EACH	1.000	1.000
0392	999.2005.S	Maintaining Bird Deterrent System (station) 03. 365+00 SB	EACH	1.000	1.000

Line	Item	Item Description	Unit	Total	Qty
0394	999.2005.S	Maintaining Bird Deterrent System (station) 04. 429+00 SB	EACH	1.000	1.000
0396	999.2005.S	Maintaining Bird Deterrent System (station) 05. 492+00 SB	EACH	1.000	1.000
0398	999.2005.S	Maintaining Bird Deterrent System (station) 06. 797+50 SB	EACH	1.000	1.000
0400	999.2005.S	Maintaining Bird Deterrent System (station) 07. 415+50 SB	EACH	1.000	1.000
0402	999.2005.S	Maintaining Bird Deterrent System (station) 08. 871+00 SB	EACH	1.000	1.000
0404	SPV.0060	Special 01. Cleaning and Painting Bearings	EACH	21.000	21.000
0406	SPV.0060	Special 02. Embedded Galvanic Anodes	EACH	495.000	495.000
0408	SPV.0060	Special 03. Temporary Support B-3-16	EACH	1.000	1.000
0410	SPV.0060	Special 04. Temporary Support B-3-18	EACH	1.000	1.000
0412	SPV.0060	Special 05. Temporary Support B-3-218 (Existing Deck)	EACH	1.000	1.000
0414	SPV.0060	Special 06. Temporary Support B-3-30	EACH	1.000	1.000
0416	SPV.0060	Special 07. Temporary Support B-3-218 (New Deck)	EACH	1.000	1.000
0418	SPV.0060	Special 08. Temporary Pier Support B-3-218	EACH	1.000	1.000
0420	SPV.0060	Special 09. Inlet Covers Type DW	EACH	4.000	4.000
0422	SPV.0060	Special 10. Salvage and Reinstall EAT Terminal	EACH	8.000	8.000
0424	SPV.0090	Special 01. PVC Waterstop	LF	34.000	34.000
0426	SPV.0090	Special 02. Concrete Curb & Gutter 30-Inch Type DW	LF	36.000	36.000
0428	SPV.0090	Special 03. Profile Curb Cut	LF	880.000	880.000
0430	SPV.0165	Special 01. Fiber Wrap Reinforcing Non-Structural	SF	900.000	900.000
0432	SPV.0180	Special 01. Abutment Seat Cleaning and Sealing	SY	141.000	141.000
0434	SPV.0180	Special 02. Epoxy Sealer	SY	29.000	29.000

REMOVING CONCRETE SUMMARY

CATEGORY	STRUCTURE	LOCATION	204.0100 REMOVING CONCRETE PAVEMENT SY	204.0105 REMOVING CONCRETE PAVEMENT BUTT JOINTS SY	204.0150 REMOVING CURB & GUTTER LF	204.0155 REMOVING CONCRETE SIDEWALK SY
0010	B-3-14 APPROACHES	LT/RT	180	80	---	---
	B-3-16 APPROACHES	LT/RT	170	35	---	---
	B-3-18 APPROACHES	LT/RT	180	100	---	---
	B-3-20 APPROACHES	LT/RT	220	---	20	---
	B-3-24 APPROACHES	LT/RT	160	---	---	---
	B-3-26 APPROACHES	LT/RT	210	130	---	---
	B-3-30 APPROACHES	LT/RT	180	---	---	---
	B-3-37 APPROACHES	LT/RT	210	180	---	---
	CTH I	LT/RT	---	---	36	310
		TOTALS	1,510	525	56	310

REMOVAL ITEMS

CATEGORY	STRUCTURE	LOCATION	204.0165 REMOVING GUARDRAIL LF	204.0170 REMOVING FENCE LF	204.0180 REMOVING DELINEATORS AND MARKERS EACH
0010	B-3-14 APPROACHES	LT/RT	1,650	130	1
	B-3-16 APPROACHES	LT/RT	880	150	1
	B-3-18 APPROACHES	LT/RT	880	70	---
	B-3-20 APPROACHES	LT/RT	610	55	1
	B-3-24 APPROACHES	LT/RT	720	---	1
	B-3-26 APPROACHES	LT/RT	740	50	---
	B-3-30 APPROACHES	LT/RT	2,950	140	1
	B-3-37 APPROACHES	LT/RT	680	---	---
		TOTALS	9,110	595	5

REMOVING ASPHALTIC SURFACE

CATEGORY	STRUCTURE	LOCATION	204.0110 SY	204.0115 BUTT JOINTS SY	204.0120 MILLING SY
0010	B-3-14 APPROACHES	LT/RT	900	610	5,100
	B-3-16 APPROACHES	LT/RT	1,000	710	4,450
	B-3-18 APPROACHES	LT/RT	890	860	3,700
	B-3-20 APPROACHES	LT/RT	1,000	1,450	5,850
	B-3-24 APPROACHES	LT/RT	700	810	4,900
	B-3-26 APPROACHES	LT/RT	580	510	7,250
	B-3-30 APPROACHES	LT/RT	1,600	870	9,100
	B-3-37 APPROACHES	LT/RT	580	430	5,700
	CTH I	LT/RT	8	---	---
	RAMP IA	LT/RT	---	150	4,900
		TOTALS	7,258	6,400	50,950

EXCAVATION COMMON

CATEGORY	STATION	-	STATION	LOCATION	205.0100 CY	REMARKS
0010	STA. 102+59 I	-	STA. 106+86 I	LT	27	MEDIAN
				TOTAL	27	

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REMOVING STORM SEWER SUMMARY

CATEGORY	STRUCTURE	LOCATION	204.0190 REMOVING SURFACE DRAINS EACH	204.0220 REMOVING INLETS EACH	204.0245.01 REMOVING STORM SEWER 15-INCH LF	204.0245.02 REMOVING STORM SEWER 18-INCH LF	204.0270 ABANDONING CULVERT PIPES EACH
0010	B-3-14 APPROACHES	LT/RT	---	2	---	53	1
	B-3-16 APPROACHES	LT/RT	---	1	---	69	---
	B-3-18 APPROACHES	LT/RT	2	---	---	---	---
	B-3-20 APPROACHES	LT/RT	---	2	18	---	1
	B-3-24 APPROACHES	LT/RT	---	2	---	78	1
	B-3-26 APPROACHES	LT/RT	1	---	---	---	---
	B-3-30 APPROACHES	LT/RT	---	1	61	---	---
	B-3-37 APPROACHES	LT/RT	---	2	35	---	2
		TOTALS	3	10	114	200	5

SHAPING SHOULDERS SUMMARY

CATEGORY	STRUCTURE	LOCATION	211.0400 PREPARE FOUNDATION FOR ASPHALTIC SHOULDERS STA	305.0500 SHAPING SHOULDERS STA	* 624.0100 WATER MGAL
0010	B-3-14 APPROACHES	LT/RT	7	9	3
	B-3-16 APPROACHES	LT/RT	26	0	4
	B-3-18 APPROACHES	LT/RT	29	0	5
	B-3-20 APPROACHES	LT/RT	23	0	4
	B-3-218 APPROACHES	LT/RT	24	0	4
	B-3-26 APPROACHES	LT/RT	13	14	5
	B-3-30 APPROACHES	LT/RT	7	3	2
	B-3-37 APPROACHES	LT/RT	12	14	4
	TOTALS		141	40	31

* ADDITIONAL QUANTITIES LISTED ELSEWHERE

BASE AGGREGATE DENSE

CATEGORY	STRUCTURE	LOCATION	305.0110 BASE AGGREGATE DENSE 3/4-INCH TON	** 305.0115 BASE AGGREGATE DENSE 1 1/4-INCH TON	* 624.0100 WATER MGAL	REMARKS
0010	B-3-14 APPROACHES	LT/RT	160	40	2	
	B-3-16 APPROACHES	LT/RT	130	40	2	
	B-3-18 APPROACHES	LT/RT	95	210	3	
	B-3-20 APPROACHES	LT/RT	190	45	2	
	B-3-218 APPROACHES	LT/RT	110	45	2	
	B-3-26 APPROACHES	LT/RT	75	45	1	
	B-3-30 APPROACHES	LT/RT	320	40	4	
	B-3-37 APPROACHES	LT/RT	75	60	1	
	RAMP IA	LT/RT	100	---	1	
	RAMP IA GORE	LT/RT	35	---	1	TEMPORARY WIDENING
		TOTALS	1,290	525	19	

* ADDITIONAL QUANTITIES LISTED ELSEWHERE

** FOR MISCELLANEOUS PAVEMENT APPROACH AND CONCRETE SURFACE DRAIN GRADING

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ASPHALTIC ITEMS

CATEGORY	STRUCTURE	460.6224 HMA PAVEMENT 4 MT 58-28 S TON	460.6244 HMA PAVEMENT 4 MT 58-34 S TON	460.6645 HMA PAVEMENT 5 MT 58-34 V TON	455.0605 TACK COAT GAL	465.0510 ASPHALTIC RUMBLE STRIPS, SHOULDER DIVIDED ROADWAY LF
0010	B-3-14 APPROACHES	430	290	259	690	2,970
	B-3-16 APPROACHES	365	415	250	640	3,260
	B-3-18 APPROACHES	275	445	205	540	3,230
	B-3-20 APPROACHES	810	290	670	1,160	3,290
	B-3-218 APPROACHES	320	400	610	575	2,850
	B-3-26 APPROACHES	195	315	160	410	2,960
	B-3-30 APPROACHES	940	330	755	1,330	4,710
	B-3-37 APPROACHES	221	300	395	415	2,960
	RAMP IA	---	---	265	190	---
	TOTALS	3,556	2,785	3,569	5,950	26,230

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

HMA COLD WEATHER PAVING

CATEGORY	PROJECT	450.4000 TON
0010	1196-04-77	700
	TOTAL	700

ASPHALTIC SURFACE PATCHING

CATEGORY	LOCATION	465.0110 TON
0010	CTH I	3
	UNDISTRIBUTED	5
	TOTAL	8

CULVERT PIPE SUMMARY

CATEGORY	STRUCTURE	FROM STATION	OFFSET	TO STATION	OFFSET	530.0118 CULVERT PIPE CORRUGATED POLYETHYLENE 18-INCH LF	521.1018 APRON ENDWALLS CULVERT PIPE STEEL 18-INCH EACH	* 606.0200 RIPRAP MEDIUM CY	633.5200 MARKERS CULVERT END EACH	* 645.0120 GEOTEXTILE TYPE HR SY
0010	B-3-14 APPROACHES	68+96.90 SB	17.8 RT	- 68+96.90 SB	52.8 RT	35	1	12	1	25
	B-3-14 APPROACHES	69+20.06 SB	21.8 LT	- 68+78.51 SB	75.5 LT	71	1	4	1	9
	B-3-16 APPROACHES	220+73.25 SB	22.1 LT	- 220+77.71 SB	91.3 LT	70	1	4	1	9
	B-3-20 APPROACHES	414+47.11 SB	32.2 LT	- 414+49.73 SB	50.5 LT	20	1	4	1	9
	B-3-218 APPROACHES	428+12.00 SB	21.2 LT	- 428+30.4 SB	100.8 LT	82	1	4	1	9
	B-3-30 APPROACHES	799+15.19 SB	17.2 RT	- 798+91.07 SB	77.5 RT	65	1	4	1	9
	B-3-37 APPROACHES	869+70.43 SB	22.4 LT	- 869+70.43 SB	57.4 LT	35	1	4	1	9
					TOTALS	378	7	36	7	79

* ADDITIONAL QUANTITIES LISTED ELSEWHERE

INLETS AND INLET COVERS

CATEGORY	STRUCTURE	STATION	OFFSET	611.0615 INLET COVERS TYPE F EACH	611.0654 INLET COVERS TYPE V EACH	611.3225 INLETS 2x2.5-FT EACH	611.3253 INLETS 2.5x3-FT EACH	SPV.0060.09 INLET COVERS TYPE DW EACH
0010	B-3-14 APPROACHES	68+96.90 SB	17.75 RT	---	1	1	---	---
	B-3-14 APPROACHES	69+20.06 SB	21.75 LT	---	1	1	---	---
	B-3-16 APPROACHES	220+73.25 SB	22.05 LT	1	---	---	1	---
	B-3-20 APPROACHES	414+47.11 SB	32.07 LT	1	---	---	1	---
	B-3-218 APPROACHES	428+12 SB	21.19 LT	1	---	---	1	---
	B-3-30 APPROACHES	799+15.19 SB	17.21 RT	---	1	1	---	---
	B-3-37 APPROACHES	869+70.43 SB	22.37 LT	1	---	---	1	---
	CTH I	102+87.09 I	2.0 LT	---	---	---	---	1
	CTH I	102+90.87 I	23.6 LT	---	---	---	---	1
	CTH I	106+57.79 I	10.4 LT	---	---	---	---	1
	CTH I	106+62.08 I	32.3 LT	---	---	---	---	1
			TOTALS	4	3	3	4	4

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CONCRETE PAVEMENT

CATEGORY	STRUCTURE	LOCATION	415.0070 7-INCH SY	415.0100 10-INCH SY	415.0410 APPROACH SLAB SY
0010	B-3-14 APPROACHES	LT/RT	55	35	150
	B-3-16 APPROACHES	LT/RT	50	35	160
	B-3-18 APPROACHES	LT/RT	95	55	250
	B-3-20 APPROACHES	LT/RT	35	30	180
	B-3-26 APPROACHES	LT/RT	55	30	150
	B-3-30 APPROACHES	LT/RT	60	35	160
	B-3-37 APPROACHES	LT/RT	55	30	120
		TOTALS	405	250	1,170

CONCRETE CURB & GUTTER

CATEGORY	STRUCTURE	LOCATION	601.0551 4-INCH SLOPED 36-INCH TYPE A LF	601.0553 4-INCH SLOPED 36-INCH TYPE D LF	601.0588 4-INCH SLOPED 36-INCH TYPE TBT LF	601.0590 4-INCH SLOPED 36-INCH TYPE TBTT LF	SPV.0090.02 30-INCH TYPE DW LF
0010	B-3-14 APPROACHES	LT/RT	---	---	86	31	---
	B-3-16 APPROACHES	LT/RT	15	---	---	---	---
	B-3-18 APPROACHES	LT/RT	---	---	59	61	---
	B-3-20 APPROACHES	LT/RT	8	27	---	---	---
	B-3-218 APPROACHES	LT/RT	---	35	---	---	---
	B-3-26 APPROACHES	LT/RT	---	20	---	---	---
	B-3-30 APPROACHES	LT/RT	---	---	57	2	---
	B-3-37 APPROACHES	LT/RT	5	30	---	---	---
	CTH I	LT/RT	---	---	---	---	36
		TOTALS	28	112	202	94	36

CONCRETE SURFACE DRAINS

CATEGORY	STRUCTURE	STATION	OFFSET	602.3010 CONCRETE SURFACE DRAINS CY	* 606.0200 RIPRAP MEDIUM CY	* 645.0120 GEOTEXTILE TYPE HR SY
0010	B-3-18 APPROACHES	366+65 SB	43.2 LT	1.5	4	8
	B-3-18 APPROACHES	367+86.5 SB	33.5 RT	1.9	4	8
	B-3-20 APPROACHES	414+21 SB	49.0 RT	2.7	4	8
	B-3-218 APPROACHES	427+84 SB	44.0 RT	2.7	8	16
	B-3-26 APPROACHES	490+91.5 SB	27.0 RT	0.9	4	8
	B-3-37 APPROACHES	869+42 SB	44.6 RT	2.3	4	8
			TOTALS	12	28	56

* ADDITIONAL QUANTITIES LISTED ELSEWHERE

CONCRETE BARRIER TEMPORARY PRECAST

CATEGORY	STAGE	LOCATION	603.8000 DELIVERED LF	603.8125 INSTALLED LF	603.8500 ANCHORING CONCRETE BARRIER TEMPORARY PRECAST LF	603.8505 ANCORING CONCRETE BARRIER TEMPORARY PRECAST ON BRIDGE DECKS LF
0010	1	64+85 SB - 72+48 SB	780	780	640	140
		217+42 SB - 227+30 SB	820	820	260	150
		360+35 SB - 371+85 SB	1,060	1,060	215	280
		412+37 SB - 423+99 SB	1,160	1,160	240	220
		425+98 SB - 434+11 SB	830	830	265	170
		489+11 SB - 497+10 SB	805	805	655	150
		794+43 SB - 802+67 SB	820	820	260	175
		867+60 SB - 876+35 SB	885	885	640	245
		101+50 I - 105+97 I	445	445	---	---
		103+02 I - 108+00 I	500	500	---	---
		STAGE 1 SUBTOTALS	8,105	8,105	3,175	1,530
	2	64+85 SB - 72+48 SB	---	780	625	140
		217+48 SB - 227+36 SB	---	895	745	---
		360+35 SB - 371+85 SB	---	1,000	715	---
		412+37 SB - 434+12 SB	210	2,200	1,810	170
		489+08 SB - 497+09 SB	---	795	640	150
		794+42 SB - 802+67 SB	---	820	645	---
		867+60 SB - 876+35 SB	---	885	640	245
		STAGE 2 SUBTOTALS	210	7,375	5,820	705
		TOTALS	8,315	15,480	8,995	2,235

CRASH CUSHIONS TEMPORARY

CATEGORY	STAGE	LOCATION	OFFSET	614.0905 EACH	BACK WIDTH FT	OBJECT MARKING MATERN	CRASH TEST LEVEL	TRAFFIC DIRECTION	TRAFFIC LOCATION	CRASH CUSHION SHIELDS
0010	1	72+66 SB	3.0' LT	1	2	OM-3L (WO5-58L)	TL-3	UNIDIRECTIONAL	RT	TEMPORARY CONCRETE BARRIER
		226+63 SB	5.75' LT	1	2	OM-3L (WO5-58L)	TL-3	UNIDIRECTIONAL	RT	TEMPORARY CONCRETE BARRIER
		371+67 SB	5.75' LT	1	2	OM-3L (WO5-58L)	TL-3	UNIDIRECTIONAL	RT	TEMPORARY CONCRETE BARRIER
		423+99 SB	5.75' LT	1	2	OM-3L (WO5-58L)	TL-3	UNIDIRECTIONAL	RT	TEMPORARY CONCRETE BARRIER
		434+30 SB	5.75' LT	1	2	OM-3L (WO5-58L)	TL-3	UNIDIRECTIONAL	RT	TEMPORARY CONCRETE BARRIER
		497+12 SB	3.0' LT	1	2	OM-3L (WO5-58L)	TL-3	UNIDIRECTIONAL	RT	TEMPORARY CONCRETE BARRIER
		802+62 SB	5.75' LT	1	2	OM-3L (WO5-58L)	TL-3	UNIDIRECTIONAL	RT	TEMPORARY CONCRETE BARRIER
		876+41 SB	3.0' LT	1	2	OM-3L (WO5-58L)	TL-3	UNIDIRECTIONAL	RT	TEMPORARY CONCRETE BARRIER
		101+50 I	9.0' RT	1	2	OM-3L (WO5-58L)	TL-3	UNIDIRECTIONAL	RT	TEMPORARY CONCRETE BARRIER
		108+00 I	42.8' LT	1	2	OM-3L (WO5-58L)	TL-3	UNIDIRECTIONAL	RT	TEMPORARY CONCRETE BARRIER
		STAGE 1 SUBTOTAL		10						
	2	72+48 SB	1.75' RT	1	2	OM-3R (WO5-58R)	TL-3	UNIDIRECTIONAL	LT	TEMPORARY CONCRETE BARRIER
		227+36 SB	1.8' RT	1	2	OM-3R (WO5-58R)	TL-3	UNIDIRECTIONAL	LT	TEMPORARY CONCRETE BARRIER
		371+85 SB	1.75' RT	1	2	OM-3R (WO5-58R)	TL-3	UNIDIRECTIONAL	LT	TEMPORARY CONCRETE BARRIER
		434+12 SB	1.75' RT	1	2	OM-3R (WO5-58R)	TL-3	UNIDIRECTIONAL	LT	TEMPORARY CONCRETE BARRIER
		497+09 SB	1.0' RT	1	2	OM-3R (WO5-58R)	TL-3	UNIDIRECTIONAL	LT	TEMPORARY CONCRETE BARRIER
		802+67 SB	1.75' RT	1	2	OM-3R (WO5-58R)	TL-3	UNIDIRECTIONAL	LT	TEMPORARY CONCRETE BARRIER
		876+35 SB	1.75' RT	1	2	OM-3R (WO5-58R)	TL-3	UNIDIRECTIONAL	LT	TEMPORARY CONCRETE BARRIER
		STAGE 2 SUBTOTAL		7						
		TOTAL		17						

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MOBILIZATIONS EROSION CONTROL

CATEGORY	PROJECT	628.1905 MOBILIZATIONS EROSION CONTROL EACH	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EACH
0010	1196-04-77	9	9

GRADING SHAPING FINISHING

CATEGORY	STRUCTURE	LOCATION	625.0500 SALVAGED TOPSOIL SY	628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINTENANCE LF	628.2004 EROSION MAT CLASS I TYPE B SY	628.7005 INLET PROTECTION TYPE A EACH	628.7010 INLET PROTECTION TYPE B EACH	628.7504 TEMPORARY DITCH CHECKS LF	629.0210 FERTILIZER TYPE B CWT	630.0120 SEEDING MIXTURE NO. 20 LB	630.0200 SEEDING TEMPORARY LB	630.0500 SEED WATER MGAL
0010	B-3-14 APPROACHES	LT/RT	490	510	510	490	2	2	20	0.3	22	13	11
	B-3-16 APPROACHES	LT/RT	330	405	405	330	1	1	20	0.2	15	9	7
	B-3-18 APPROACHES	LT/RT	420	430	430	420	---	---	40	0.3	19	11	9
	B-3-20 APPROACHES	LT/RT	310	350	350	310	1	1	20	0.2	14	8	7
	B-3-218 APPROACHES	LT/RT	565	665	665	565	1	1	60	0.4	25	15	13
	B-3-26 APPROACHES	LT/RT	215	320	320	215	---	---	20	0.1	10	6	5
	B-3-30 APPROACHES	LT/RT	395	390	390	395	1	1	20	0.2	18	11	9
	B-3-37 APPROACHES	LT/RT	325	375	375	325	1	1	20	0.2	15	9	7
	CTH I	LT/RT	1,220	---	---	1,220	4	6	---	0.8	55	33	27
	UNDISTRIBUTED	---	460	515	515	460	---	---	---	0.3	21	12	10
		TOTALS	4,730	3,960	3,960	4,730	11	13	220	3.0	214	127	105

GUARDRAIL SUMMARY

CATEGORY	STRUCTURE	LOCATION	614.0220 STEEL THRIE BEAM BULLNOSE TERMINAL EACH	614.0230 STEEL THRIE BEAM LF	614.0400 ADJUSTING STEEL PLATE BEAM GUARD LF	614.2300 MGS GUARDRAIL 3 LF	614.2610 MGS GUARDRAIL TERMINAL EAT EACH	614.2620 MGS GUARDRAIL TERMINAL TYPE 2 EACH	614.2500 MGS THRIE BEAM TRANSITION LF	614.0396 GUARDRAIL MOW STRIP ASPHALT SY	614.0397 GUARDRAIL MOW STRIP EMULSIFIED ASPHALT SY	SPV.0060.10 SALVAGE AND REINSTALL EAT TERMINAL EACH	REMARKS
0010	B-3-14 APPROACHES	LT/RT	---	---	175	1,475	2	---	79	---	705	1	STG. 1 INSTALL RT, STG. 3 ADJUSTMENT
	B-3-16 APPROACHES	LT/RT	---	---	240	762.5	2	---	79	---	410	1	STG. 1 INSTALL RT, STG. 3 ADJUSTMENT
	B-3-18 APPROACHES	LT/RT	---	---	240	425	2	---	79	---	245	1	STG. 1 INSTALL RT, STG. 3 ADJUSTMENT
	B-3-20 APPROACHES	LT/RT	---	---	245	300	2	---	79	---	205	1	STG. 1 INSTALL RT, STG. 3 ADJUSTMENT
	B-3-218 APPROACHES	LT/RT	---	---	250	375	2	---	79	---	245	1	STG. 1 INSTALL RT, STG. 3 ADJUSTMENT
	B-3-26 APPROACHES	LT/RT	---	---	260	412.5	2	---	79	---	255	1	STG. 1 INSTALL RT, STG. 3 ADJUSTMENT
	B-3-30 APPROACHES	LT/RT	---	---	755	2,764	2	1	87	--	1,280	1	STG. 1 INSTALL RT, STG. 3 ADJUSTMENT
	B-3-37 APPROACHES	LT/RT	---	---	245	375	2	---	79	---	240	1	STG. 1 INSTALL RT, STG. 3 ADJUSTMENT
	CTH I	LT/RT	2	400	---	---	---	---	---	460	165	---	
		TOTALS	2	400	2,410	6,889	16	1	640	460	3,750	8	

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TRAFFIC CONTROL

CATEGORY	TRAFFIC CONTROL OPERATIONS	DURATION (DAYS)	643.0300 DRUMS EACH	643.0300 DRUMS DAY	643.0420 BARRICADES TYPE III EACH	643.0420 BARRICADES TYPE III DAY	643.0705 WARNING LIGHTS TYPE A EACH	643.0705 WARNING LIGHTS TYPE A DAY	643.0715 WARNING LIGHTS TYPE C EACH	643.0715 WARNING LIGHTS TYPE C DAY	643.0800 ARROW BOARDS EACH	643.0800 ARROW BOARDS DAY	643.0900 SIGNS EACH	643.0900 SIGNS DAY	643.1050 SIGNS PCMS EACH	643.1050 SIGNS PCMS DAY
0010	ADVANCE WARNING	291	---	---	---	---	---	---	---	---	---	---	128	37,274	2	14
	WIDTH RESTRICTION	291	---	---	---	---	---	---	---	---	---	---	26	7,571	---	---
	PRE-STAGE	24	475	11,397	35	840	70	1,680	52	1,248	4	96	67	1,608	---	---
	STAGE 1	123	574	70,777	45	5,544	90	11,088	175	21,560	4	493	100	12,320	---	---
	STAGE 2	105	592	62,211	49	5,145	98	10,290	135	14,175	4	420	112	11,760	---	---
	STAGE 3	24	475	11,302	35	833	70	1,666	52	1,238	4	95	67	1,595	---	---
	CTH AA CLOSURE	21	---	---	18	378	28	588	---	---	---	---	14	294	2	56
	CTH A CLOSURE	21	---	---	18	378	28	588	---	---	---	---	14	294	2	56
	20TH STREET CLOSURE	21	---	---	18	378	28	588	---	---	---	---	14	294	2	56
	CTH I CLOSURE	15	---	---	18	270	28	420	---	---	---	---	14	210	2	100
	USH 53 SB ENTRANCE RAMP FROM CTH I CLOSURE	60	30	1,800	5	300	10	600	---	---	---	---	20	1,200	---	---
	DETOUR ROUTE - CTH I ENTRANCE RAMP TO USH 53 SB	60	---	---	---	---	---	---	---	---	---	---	51	3,060	1	7
	CTH I INSIDE LANE CLOSURE	56	60	3,360	4	224	8	448	12	672	1	56	20	1,120	---	---
	CTH I OUTSIDE LANE CLOSURE	56	100	5,600	2	112	6	336	12	672	1	56	18	1,008	---	---
		TOTALS		166,447		14,402		28,292		39,565		1,216		79,607		289

TRAFFIC CONTROL COVERING SIGNS TYPE II

CATEGORY	TRAFFIC CONTROL OPERATION	NO. OF CYCLES	NO. OF SIGNS	643.0920 EACH
0010	DETOUR AND CLOSURE	1	10	10
	UNDISTRIBUTED	1	5	5
			TOTAL	15

FENCING

CATEGORY	STRUCTURE	LOCATION	616.0100.01 FENCE WOVEN WIRE (4-FT) LF
0010	B-3-14 APPROACHES	LT/RT	130
	B-3-16 APPROACHES	LT/RT	150
	B-3-18 APPROACHES	LT/RT	400
	B-3-20 APPROACHES	LT/RT	240
	B-3-218 APPROACHES	LT/RT	180
	B-3-26 APPROACHES	LT/RT	240
	B-3-30 APPROACHES	LT/RT	140
	B-3-37 APPROACHES	LT/RT	130
		TOTAL	1,610

TEMPORARY MARKING LINE

CATEGORY	STAGE	LOCATION	643.3170 EPOXY 6-INCH (WHITE) (3' SEG., 9' GAP) LF	643.3170 EPOXY 6-INCH (YELLOW) LF	643.3180 REMOVABLE TAPE 6-INCH (WHITE) LF	643.3180 REMOVABLE TAPE 6-INCH (YELLOW) LF	643.3270 EPOXY 10-INCH (WHITE) LF
0010	1	62+25 SB - 79+76 SB	1,750	1,750	---	---	---
		215+30 SB - 234+25 SB	1,890	1,900	---	---	---
		357+92 SB - 379+28 SB	2,140	2,140	---	---	---
		407+17 SB - 441+92 SB	2,970	3,480	---	---	205
		486+46 SB - 504+22 SB	1,780	1,780	---	---	---
		791+26 SB - 810+24 SB	1,900	1,900	---	---	---
		864+84 SB - 883+51 SB	1,870	1,870	---	---	---
		CTH I	---	---	1,320	---	---
		STAGE 1 SUBTOTALS	14,300	14,820	1,320	0	205
	2	62+93 SB - 79+05 SB	1,420	1,420	195	195	---
		215+42 SB - 233+01 SB	1,550	1,560	210	200	---
		359+12 SB - 377+46 SB	1,460	1,470	375	365	---
		410+44 SB - 440+81 SB	2,560	2,560	475	475	---
		444+52 SB - 452+00 SB	200	---	---	---	400
		487+16 SB - 503+45 SB	1,420	1,430	205	200	---
		792+50 SB - 809+04 SB	1,420	1,430	235	225	---
		843+23 SB - 856+36 SB	300	315	---	---	250
		865+68 SB - 882+86 SB	1,430	1,430	290	290	---
		889+31 SB - 896+81 SB	200	---	---	---	400
		CTH I	---	---	---	1,320	---
		STAGE 2 SUBTOTALS	11,960	11,615	1,985	3,270	1,050
		TOTALS	53,010		6,575		1,255

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MARKING LINE ITEMS

CATEGORY	STATION	-	STATION	646.2020 MARKING LINE EPOXY 6-INCH (WHITE) LF	646.2020 MARKING LINE EPOXY 6-INCH (3 SKIPS) LF	646.2020 MARKING LINE EPOXY 6-INCH (12.5 SKIPS) LF	646.2020 MARKING LINE EPOXY 6-INCH (YELLOW) LF	646.4020 MARKING LINE EPOXY 10-INCH (WHITE) LF
0010	62+25 SB	-	62+93 SB	68	---	17	---	---
	62+93 SB	-	79+05 SB	1,610	---	405	1,610	---
	79+05 SB	-	79+76 SB	71	---	18	---	---
	215+30 SB	-	215+42 SB	11	---	3	---	---
	215+42 SB	-	233+02 SB	1,760	---	440	1,760	---
	233+02 SB	-	234+25 SB	125	---	31	---	---
	357+92 SB	-	359+12 SB	120	---	30	---	---
	359+12 SB	-	377+46 SB	1,830	---	460	1,830	---
	377+46 SB	-	379+28 SB	180	---	46	---	---
	404+25 SB	-	440+81 SB	2,390	188	940	3,660	---
	440+81 SB	-	441+92 SB	110	---	27	---	---
	444+52 SB	-	452+00 SB	---	---	135	---	---
	486+46 SB	-	487+16 SB	70	---	18	---	---
	487+16 SB	-	503+45 SB	1,630	---	410	1,630	---
	503+45 SB	-	504+22 SB	77	---	19	---	---
	783+74 SB	-	809+04 SB	2,530	---	630	2,530	---
	809+04 SB	-	810+24 SB	120	---	30	---	---
	843+23 SB	-	856+36 SB	---	170	250	---	1,330
	864+84 SB	-	865+67 SB	83	---	21	---	---
	865+67 SB	-	882+86 SB	1,720	---	430	1,720	---
	882+86 SB	-	883+51 SB	65	---	16	---	---
	889+31 SB	-	896+81 SB	---	---	190	---	---
	RAMP IA			2,130	---	---	---	1,030
	SUBTOTALS			16,700	358	4,566	14,740	2,360
	TOTALS				36,006			2,360

MARKING REMOVAL LINE

CATEGORY	STAGE	LOCATION	646.9000 4-INCH LF	646.9100 8-INCH LF
0010	1	62+25 SB - 79+76 SB	1,750	---
		212+32 SB - 235+17 SB	1,890	---
		355+60 SB - 382+48 SB	2,140	---
		405+25 SB - 441+92 SB	3,470	---
		484+82 SB - 506+80 SB	1,780	---
		789+31 SB - 812+62 SB	1,900	---
		863+35 SB - 886+15 SB	1,870	---
		STAGE 1 SUBTOTALS	14,800	0
	2	60+59 SB - 82+36 SB	410	---
		212+32 SB - 235+17 SB	670	---
		355+60 SB - 382+48 SB	790	---
		405+25 SB - 441+92 SB	610	---
		444+53 SB - 452+00 SB	550	---
		484+82 SB - 506+80 SB	965	---
		789+31 SB - 812+62 SB	9	---
		843+23 SB - 856+36 SB	215	1,320
		863+35 SB - 886+15 SB	960	---
		889+31 SB - 896+81 SB	140	---
		STAGE 2 SUBTOTALS	5,319	1,320
		TOTALS	20,119	1,320

CONSTRUCTION STAKING

CATEGORY	STRUCTURE	LOCATION	650.4000 STORM SEWER EACH	650.5500 CURB GUTTER AND CURB & GUTTER LF	650.7000 CONCRETE PAVEMENT LF	650.8000 RESURFACING REFERENCE LF	650.9920 SLOPE STAKES LF
0010	B-3-14 APPROACHES	LT/RT	4	86	56	1,761	---
	B-3-16 APPROACHES	LT/RT	2	---	60	1,904	---
	B-3-18 APPROACHES	LT/RT	---	59	93	2,026	---
	B-3-20 APPROACHES	LT/RT	2	27	43	3,772	---
	B-3-218 APPROACHES	LT/RT	2	35	---	---	---
	B-3-26 APPROACHES	LT/RT	---	20	56	1,786	---
	B-3-30 APPROACHES	LT/RT	2	57	61	2,654	---
	B-3-37 APPROACHES	LT/RT	2	30	46	1,876	---
	RAMP IA	LT/RT	---	---	---	---	---
	CTH I	LT/RT	---	36	---	---	770
		TOTALS	14	350	415	15,779	770

SAWING SUMMARY

CATEGORY	STRUCTURE	690.0150 SAWING ASPHALT LF	690.0250 SAWING CONCRETE LF	SPV.0090.03 PROFILE CURB CUT LF
0010	B-3-14 APPROACHES	2,130	140	---
	B-3-16 APPROACHES	2,800	155	---
	B-3-18 APPROACHES	2,700	295	---
	B-3-20 APPROACHES	2,000	145	---
	B-3-218 APPROACHES	2,740	110	---
	B-3-26 APPROACHES	1,640	160	---
	B-3-30 APPROACHES	3,460	170	---
	B-3-37 APPROACHES	1,590	165	---
	CTH I	44	20	880
	TOTALS	19,104	1,360	880

MAINTAINING BIRD DETERRENT SYSTEM

CATEGORY	LOCATION	EACH	REMARKS
0010	STATION 68+00 SB	1	999.2005.S.01
	STATION 221+50 SB	1	999.2005.S.02
	STATION 365+00 SB	1	999.2005.S.03
	STATION 429+00 SB	1	999.2005.S.04
	STATION 492+00 SB	1	999.2005.S.05
	STATION 797+50 SB	1	999.2005.S.06
	STATION 415+50 SB	1	999.2005.S.07
	STATION 871+00 SB	1	999.2005.S.08

TRANSITION CROSS SLOPE FROM 1.5% AT STA. 66+65.44 SB TO 2% AT STA. 68+85 SB
TRANSITION CROSS SLOPE FROM 2% AT STA. 68+81 SB TO 1.5% AT STA. 68+93 SB

STA. 68+77 SB - STA. 68+81 SB RT, CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE TBTT REQ'D
STA. 68+81 SB - STA. 69+35 SB RT, CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE TBT REQ'D

STA. 68+74.41 SB - STA. 69+13.81 SB LT, MGS THRIE BEAM TRANSITION REQ'D
STA. 69+13.81 SB - STA. 76+13.81 SB LT, MGS GUARDRAIL 3 REQ'D

STA. 68+96.96 SB, 17.75' RT
1 - INLETS 2X2.5-FT REQ'D
1 - INLET COVERS TYPE V REQ'D
GRATE EL = 1097.77
PIPE INV EL = 1093.52

R/W

35' - CULVERT PIPE CORRUGATED POLYETHYLENE 18-INCH REQ'D
STA 68+96.90 SB, 52.75' RT
1 - APRON ENDWALL FOR CULVERT PIPE STEEL 18-INCH REQ'D
PIPE DISCHARGE INV EL = 1088.09
1 - MARKERS CULVERT END REQ'D
RIPRAP MEDIUM REQ'D: 6.33' X 35'

CARLSON SCHOOL ROAD

MANUFACTURER SUPPLIED BEND
STA. 69+20.06 SB, 21.75' LT
1 - INLETS 2X2.5-FT REQ'D
1 - INLET COVERS TYPE V REQ'D
GRATE EL = 1097.45
PIPE INV EL = 1093.20

R/W

71' - CULVERT PIPE CORRUGATED POLYETHYLENE 18-INCH REQ'D
STA 68+78.51XX SB, 75.5' LT
1 - APRON ENDWALL FOR CULVERT PIPE STEEL 18-INCH REQ'D
PIPE DISCHARGE INV EL = 1079.56 (MATCH EXISTING)
1 - MARKERS CULVERT END REQ'D
RIPRAP MEDIUM REQ'D: 6.33' X 12.67'

B-3-14
SEE STRUCTURE REHABILITATION PLANS
FOR ADDITIONAL INFORMATION

TAPER MGS GUARDRAIL 3 STA. 69+35.43, 22.5' LT
TO STA. 69+47.93, 22.0' LT

GUARDRAIL MOW STRIP
EMULSIFIED ASPHALT REQ'D.

MGS GUARDRAIL 3 REQ'D

SLOPE INTERCEPT (TYP.)

FENCE WOVEN WIRE 4-FT REQ'D. (TYP.)

SB+65.44
-22.00'L

60+00 SB

65+00 SB

70+00 SB

75+0

USH 53 SB

TAPER MGS GUARDRAIL 3 STA. 69+12.28, 18.5' RT
TO STA. 69+24.78, 18.0' RT

MGS GUARDRAIL 3 REQ'D

GUARDRAIL MOW STRIP
EMULSIFIED ASPHALT REQ'D.

BEGIN PROJECT
STA. 66+65.44 SB
Y=32,141.63
X=374,664.65

SB+65.44
18.75'R

DELINEATED WETLAND BOUNDARY

CONCRETE PAVEMENT APPROACH SLAB REQ'D.
SEE CONSTRUCTION DETAIL CONCRETE PAVEMENT
APPROACH SLAB FOR ADDITIONAL INFORMATION.

MATCHLINE STA. 75+00 SB

STA. 68+54 SB - STA. 68+81 SB RT, CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE TBTT REQ'D
STA. 68+81 SB - STA. 69+12 SB RT, CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE TBT REQ'D

STA. 68+51.32 SB - STA. 68+90.71 SB RT, MGS THRIE BEAM TRANSITION REQ'D
STA. 68+90.71 SB - STA. 76+65.71 SB RT, MGS GUARDRAIL 3 REQ'D

USH 53 NB

STA. 69+13.81 SB - STA. 76+13.81 SB LT, MGS GUARDRAIL 3 REQ'D
STA. 76+13.81 SB - STA. 76+66.93 SB LT, MGS GUARDRAIL TERMINAL EAT REQ'D
-EAT POST #9, STA. 76+16.93 SB, 22' LT
-EAT POST #5, STA. 76+41.93 SB, 22' LT
-EAT POST #1, STA. 76+66.93 SB, 22' LT
-END TAPER, STA. 76+96.93 SB, 20' LT

R/W

MGS GUARDRAIL 3 REQ'D

GUARDRAIL MOW STRIP
EMULSIFIED ASPHALT REQ'D.

END CONSTRUCTION
STA. 78+68.80 SB

15:1 TAPER

0 SB

80+00 SB

85+00 SB

90+00 SB

USH 53 SB

15:1 TAPER

GUARDRAIL MOW STRIP
EMULSIFIED ASPHALT REQ'D.

SHOULDER HINGE POINT (TYP.)

MGS GUARDRAIL 3 REQ'D

EDGE OF HMA PAVEMENT
(SHOULDERS) (TYP.)

DELINEATED WETLAND BOUNDARY

SLOPE INTERCEPT (TYP.)

MATCHLINE STA. 75+00 SB

STA. 68+90.71 SB - STA. 76+65.71 SB RT, MGS GUARDRAIL 3 REQ'D
STA. 76+65.71 SB - STA. 77+18.80 SB RT, MGS GUARDRAIL TERMINAL EAT REQ'D
-EAT POST #9, STA. 76+68.84 SB, 18.1' RT
-EAT POST #5, STA. 76+93.82 SB, 19.1' RT
-EAT POST #1, STA. 77+18.80 SB, 20' RT
-END TAPER, STA. 77+93.80 SB, 15' RT

USH 53 NB

PROJECT NO: 1196-04-77	HWY: USH 53	COUNTY: BARRON	USH 53 (SOUTHBOUND)	SHEET 80	E

FILE NAME : S:\MAD\1000--1099\1089\895\DRAWINGS\CAD\AUTOCAD\CIVIL 3D\SHEETS PLAN\050101_PP.DWG
LAYOUT NAME - 050103_pn
PLOT DATE : 11/1/2024 9:34 AM
PLOT BY : HABERKORN, DEVEN
PLOT NAME :
PLOT SCALE : ##########
WISDOT/CADDS SHEET 44

R/W

STA. 220+63 SB - STA. 220+78 SB LT, CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE A REQ'D

STA. 222+49.36 SB - STA. 222+88.79 SB LT, MGS THRIE BEAM TRANSITION REQ'D
STA. 222+88.79 SB - STA. 228+26.81 SB LT, MGS GUARDRAIL 3 REQ'D

DOVRE ROAD

STA. 220+73.25 SB, 22.05' LT
1 - INLETS 2.5X3-FT REQ'D
1 - INLET COVERS TYPE F REQ'D
GRATE EL = 1120.84
PIPE INV EL = 1116.90
70' - CULVERT PIPE CORRUGATED POLYETHYLENE 18-INCH REQ'D
STA 220+77.71 SB, 91.3' LT
1 - APRON ENDWALL FOR CULVERT PIPE STEEL 18-INCH REQ'D
PIPE DISCHARGE INV EL = 1104.88 (MATCH EXISTING)
1 - MARKERS CULVERT END REQ'D
RIPRAP MEDIUM REQ'D: 6.33' X 12.67'

UTILITY OWNERSHIP UNDETERMINED (ELECTRIC)

B-3-16
SEE STRUCTURE PLANS FOR ADDITIONAL INFORMATION

BEGIN CONSTRUCTION
STA. 219+22.94 SB

CTH AA (3 ½ AVENUE)

DELINEATED WETLAND BOUNDARY

SLOPE INTERCEPT (TYP.)

210+00 SB

215+00 SB

USH 53 SB

220+00 SB

225+

MATCHLINE STA. 225+00 SB

MGS GUARDRAIL 3 REQ'D

CONCRETE PAVEMENT APPROACH SLAB REQ'D.
SEE CONSTRUCTION DETAIL CONCRETE PAVEMENT APPROACH SLAB FOR ADDITIONAL INFORMATION.

FENCE WOVEN WIRE 4-FT REQ'D. (TYP.)

GUARDRAIL MOW STRIP EMULSIFIED ASPHALT REQ'D.

USH 53 NB

STA. 222+18.42 SB - STA. 222+57.79 SB RT, MGS THRIE BEAM TRANSITION REQ'D
STA. 222+57.79 SB - STA. 224+82.61 SB RT, MGS GUARDRAIL 3 REQ'D
STA. 224+82.61 SB - STA. 225+35.66 SB RT, MGS GUARDRAIL TERMINAL EAT REQ'D
-EAT POST # 9, STA. 224+85.73 SB, 18.1' RT
-EAT POST #5, STA. 225+10.69 SB, 19' RT
-EAT POST #1, STA. 225+35.66 SB, 20' RT

5

STA. 222+88.79 SB - STA. 228+26.81 SB LT, MGS GUARDRAIL 3 REQ'D
STA. 228+26.81 SB - STA. 228+79.95 SB LT, MGS GUARDRAIL TERMINAL EAT REQ'D
-EAT POST #9, STA. 228+29.94 SB, 22.1' LT
-EAT POST #5, STA. 228+54.94 SB, 23.1' LT
-EAT POST #1, STA. 228+79.95 SB, 24' LT
-END TAPER, STA. 229+38.87 SB, 20' LT

R/W

MATCHLINE STA. 225+00 SB

MGS GUARDRAIL 3 REQ'D

DELINEATED WETLAND BOUNDARY

EDGE OF HMA PAVEMENT (SHOULDERS) (TYP.)

SLOPE INTERCEPT (TYP.)

SHOULDER HINGE POINT (TYP.)

GUARDRAIL MOW STRIP EMULSIFIED ASPHALT REQ'D.

15:1 TAPER

00 SB

230+00 SB

235+00 SB

240+00 SB

USH 53 SB

15:1 TAPER

GUARDRAIL MOW STRIP EMULSIFIED ASPHALT REQ'D.

END CONSTRUCTION
STA. 230+13.87 SB

STA. 224+82.61 SB - STA. 225+35.66 SB RT, MGS GUARDRAIL TERMINAL EAT REQ'D
-EAT POST # 9, STA. 224+85.73 SB, 18.1' RT
-EAT POST #5, STA. 225+10.69 SB, 19' RT
-EAT POST #1, STA. 225+35.66 SB, 20' RT
-END TAPER, STA. 226+12.51 SB, 15' RT

USH 53 NB

PROJECT NO: 1196-04-77	HWY: USH 53	COUNTY: BARRON	USH 53 (SOUTHBOUND)	SHEET 81	E

FILE NAME : S:\MAD\1000--1099\1089\895\DRAWINGS\CAD\AUTOCAD\CIVIL 3D\SHEETS PLAN\050101_PP.DWG
LAYOUT NAME - 050108_pn
PLOT DATE : 11/1/2024 9:34 AM
PLOT BY : HABERKORN, DEVEN
PLOT NAME :
PLOT SCALE : ##########
WISDOT/CADDS SHEET 44

STA. 366+22 SB - STA. 366+83 SB LT, CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE TBTT REQ'D

STA. 366+19.42 SB - STA. 366+58.81 SB LT, MGS THRIE BEAM TRANSITION REQ'D
STA. 366+58.81 SB - STA. 368+21.31 SB LT, MGS GUARDRAIL 3 REQ'D
STA. 368+21.31 SB - STA. 368+74.40 SB LT, MGS GUARDRAIL TERMINAL EAT REQ'D
-EAT POST # 9, STA. 368+24.44 SB, 22.1' LT
-EAT POST #5, STA. 368+49.42 SB, 23.1' LT
-EAT POST #1, STA. 368+74.40 SB, 24' LT
-END TAPER, STA. 369+34.40 SB, 20' LT

CTH A (25TH STREET)

R/W

FENCE WOVEN WIRE 4-FT REQ'D. (TYP.)

CONCRETE SURFACE DRAINS REQ'D.
STA. 366+65 SB, 43.2'LT
PERPENDICULAR FLUME.
FINAL LOCATION SHALL MAINTAIN MINIMUM
POST SEPARATION DISTANCES IN SDD "CONCRETE
SURFACE DRAINS FLUME TYPE AT STRUCTURES".
RIPRAP MEDIUM REQ'D: 6' X 12'

CONCRETE PAVEMENT APPROACH SLAB REQ'D.
SEE CONSTRUCTION DETAIL CONCRETE PAVEMENT
APPROACH SLAB FOR ADDITIONAL INFORMATION.

MGS GUARDRAIL 3 REQ'D

GUARDRAIL MOW STRIP
EMULSIFIED ASPHALT REQ'D.

R/W

EDGE OF HMA PAVEMENT
(SHOULDERS) (TYP.)

SHOULDER HINGE POINT
(TYP.)

END CONSTRUCTION
STA. 372+28.27 SB

BEGIN CONSTRUCTION
STA. 361+84.72 SB

360+00 SB

365+00 SB

370+00 SB

375+00 SB

15:1 TAPER

USH 53 SB

15:1 TAPER

B-3-18
SEE STRUCTURE REHABILITATION
PLANS FOR ADDITIONAL INFORMATION

CONCRETE SURFACE DRAINS REQ'D.
STA. 367+86.5 SB, 33.5' RT
ANGLED FLUME.
FINAL LOCATION SHALL MAINTAIN MINIMUM
POST SEPARATION DISTANCES IN SDD "CONCRETE
SURFACE DRAINS FLUME TYPE AT STRUCTURES".
RIPRAP MEDIUM REQ'D: 6' X 12'

MGS GUARDRAIL 3 REQ'D.

GUARDRAIL MOW STRIP
EMULSIFIED ASPHALT REQ'D.

DELINEATED WETLAND BOUNDARY

SLOPE INTERCEPT (TYP.)

USH 53 NB

STA. 367+26 SB - STA. 367+84 SB RT, CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE TBT REQ'D

STA. 367+23.29 SB - STA. 367+62.68 SB RT, MGS THRIE BEAM TRANSITION REQ'D
STA. 367+62.68 SB - STA. 370+25.18 SB RT, MGS GUARDRAIL 3 REQ'D
STA. 370+25.18 SB - STA. 370+78.27 SB RT, MGS GUARDRAIL TERMINAL EAT REQ'D
-EAT POST # 9, STA. 370+28.30 SB, 18.1' RT
-EAT POST #5, STA. 370+53.29 SB, 19.1' RT
-EAT POST #1, STA. 370+78.27 SB, 20' RT
-END TAPER, STA. 371+53.27 SB, 15' RT

5

5

STA. 414+31 SB - STA. 414+42 SB LT, CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE D REQ'D

STA. 414+42 SB - STA. 414+45 SB LT, CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE A REQ'D

R/W

400+00 SB

405+00 SB

410+00 SB

415+

R/W

R/W

BEGIN CONSTRUCTION
STA. 404+25.00 SB

STA. 414+41.12 SB, 32.19' LT
1 - INLETS 2.5X3-FT REQ'D
1 - INLET COVERS TYPE F REQ'D
GRATE EL = 1041.77
PIPE INV EL = 1038.83
20' - CULVERT PIPE CORRUGATED POLYETHYLENE 18-INCH REQ'D
STA 414+49.73 SB, 50.5' LT
1 - APRON ENDWALL FOR CULVERT PIPE STEEL 18-INCH REQ'D
PIPE DISCHARGE INV EL = 1038.75 (MATCH EXISTING)
1 - MARKERS CULVERT END REQ'D
RIPRAP MEDIUM REQ'D: 6.33' X 12.67'

B-3-20
SEE STRUCTURE REHABILITATION PLAN
FOR ADDITIONAL INFORMATION

FENCE WOVEN WIRE 4-FT REQ'D.

RIPRAP

MATCHLINE STA. 415+00 SB

USH 53 SB

CONCRETE PAVEMENT APPROACH SLAB REQ'D.
SEE CONSTRUCTION DETAIL CONCRETE PAVEMENT
APPROACH SLAB FOR ADDITIONAL INFORMATION.

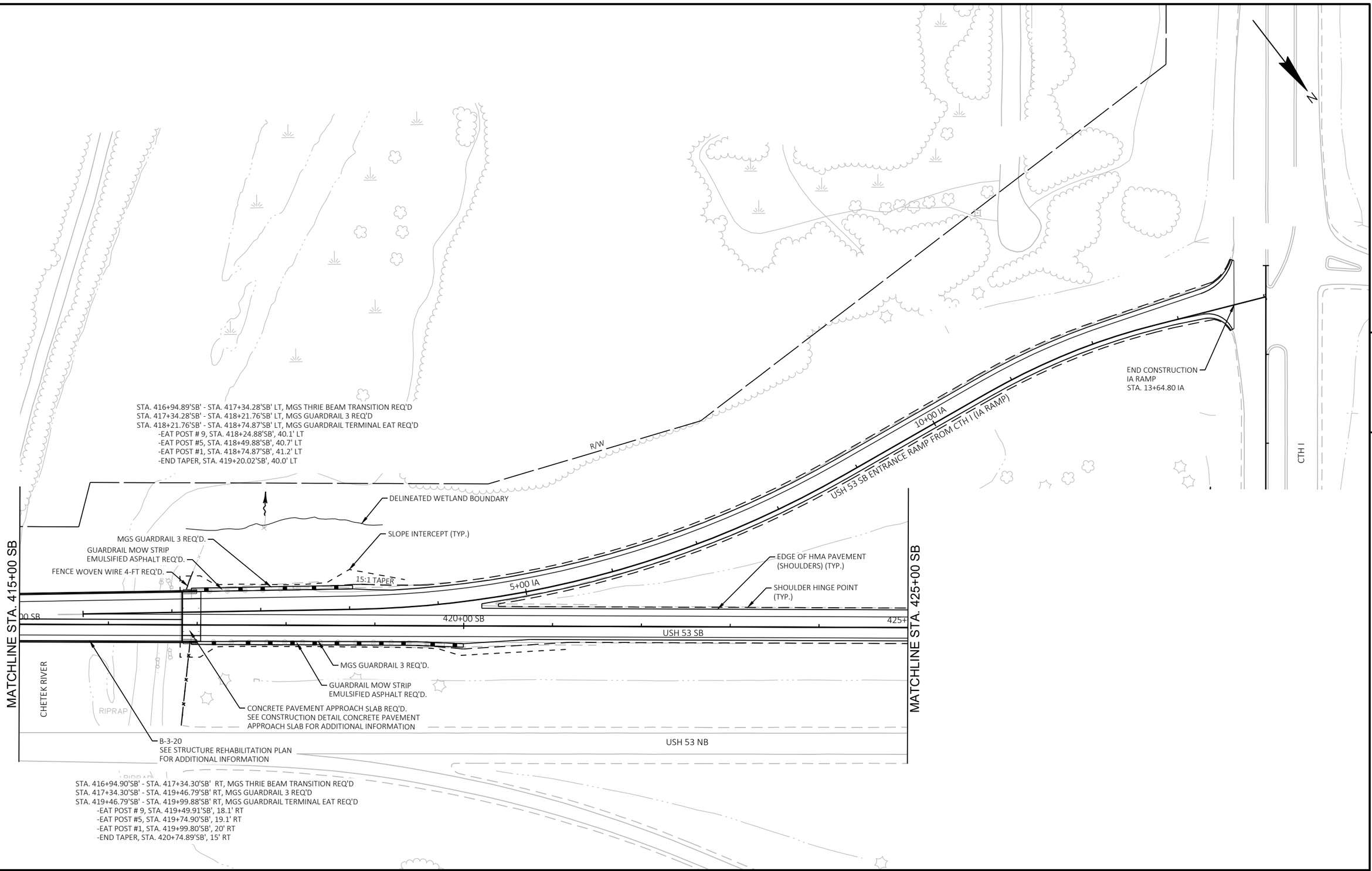
CONCRETE SURFACE DRAINS REQ'D.
STA. 414+23 SB, 48' RT
ANGLED FLUME
RIPRAP MEDIUM REQ'D: 6' X 12'

USH 53 NB

STA. 414+25 SB - STA. 414+42 SB RT, CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE D REQ'D

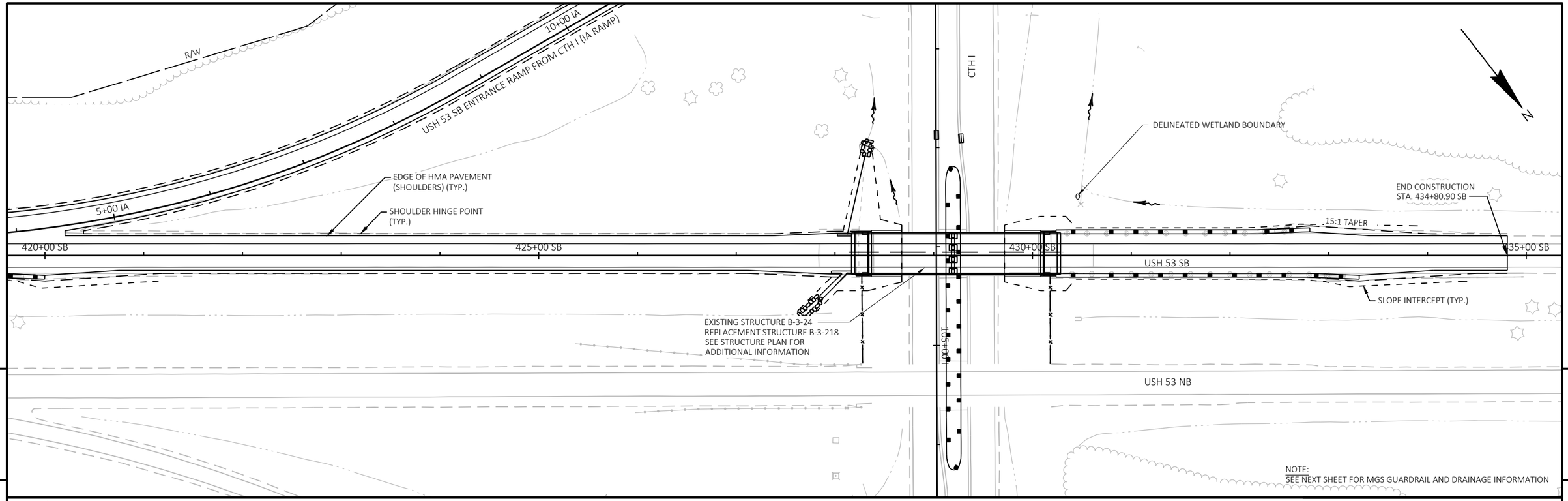
STA. 414+42 SB - STA. 414+45 SB RT, CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE A REQ'D

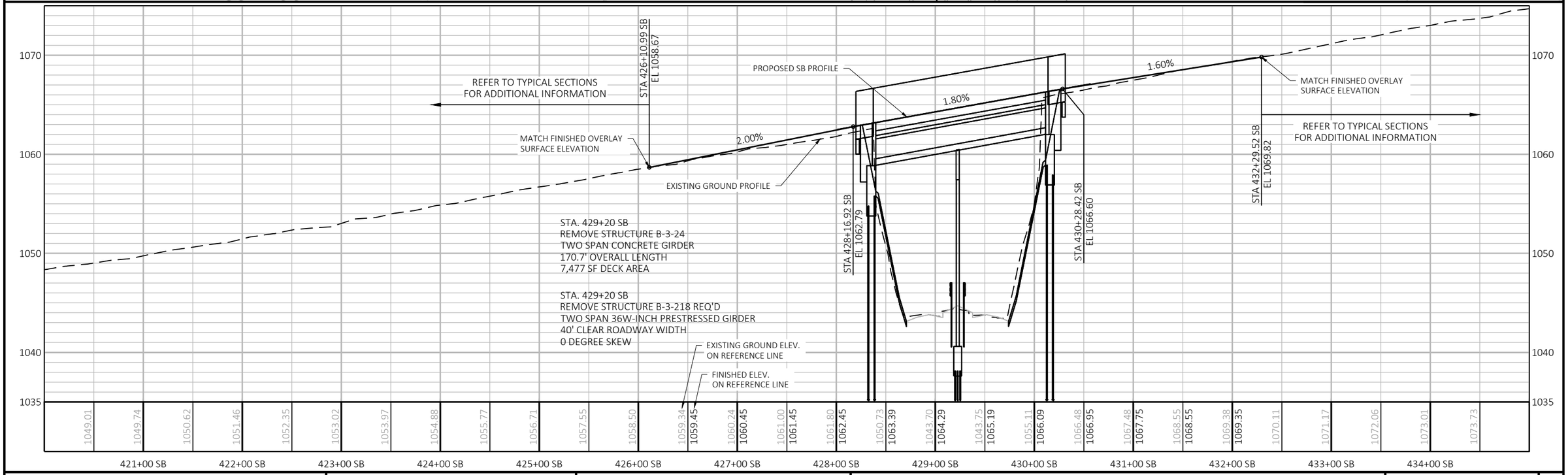
PROJECT NO: 1196-04-77	HWY: USH 53	COUNTY: BARRON	USH 53 (SOUTHBOUND)	SHEET 82	E



PROJECT NO: 1196-04-77	HWY: USH 53	COUNTY: BARRON	USH 53 (SOUTHBOUND)	SHEET 83	E

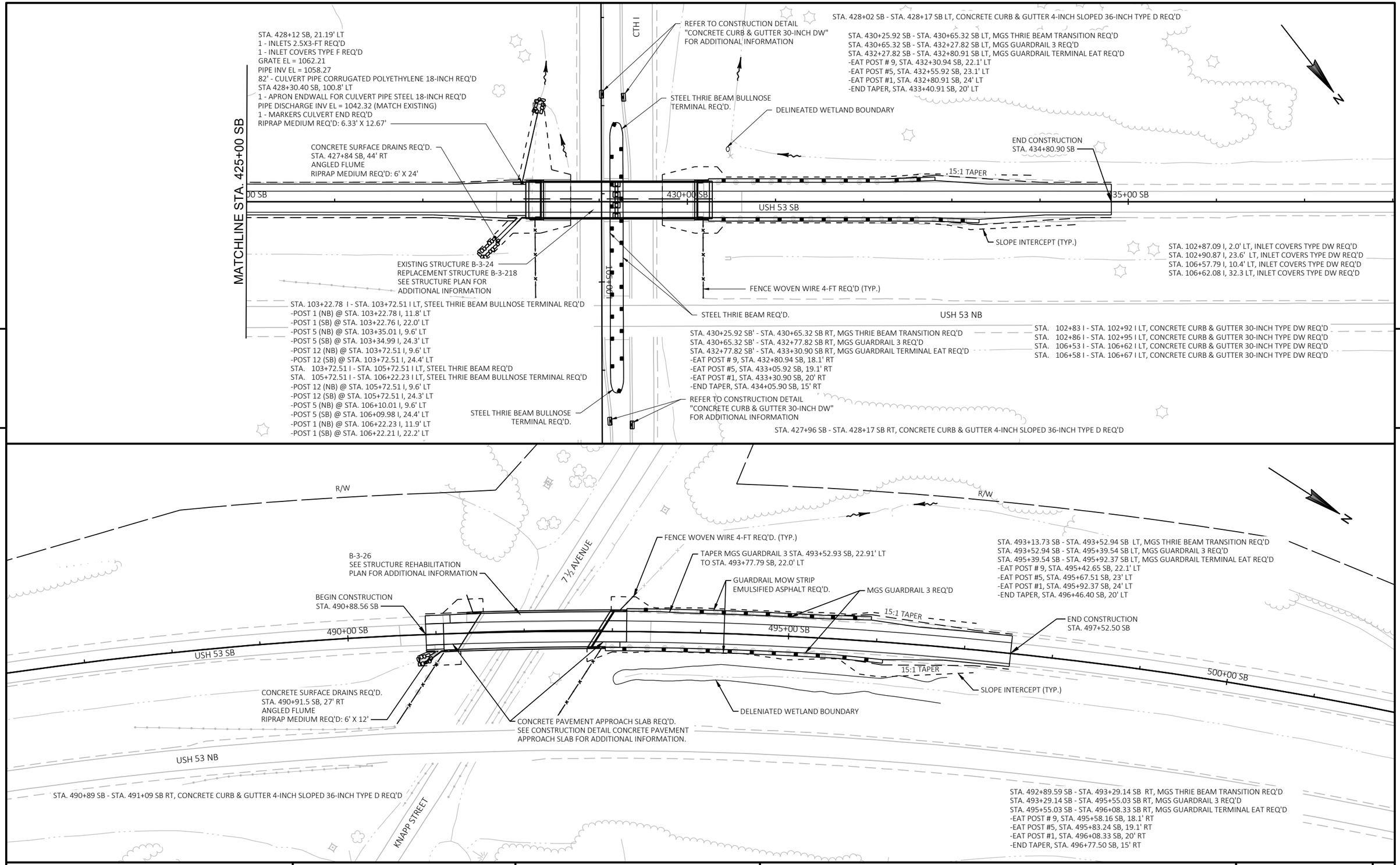
FILE NAME : S:\MAD\1000--1099\1089\895\DRAWINGS\CAD\AUTOCAD\CIVIL 3D\SHEETS PLAN\050101_PP.DWG
LAYOUT NAME - 0501014_pn
PLOT DATE : 10/31/2024 11:21 AM
PLOT BY : HABERKORN, DEVEN
PLOT NAME :
PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 44





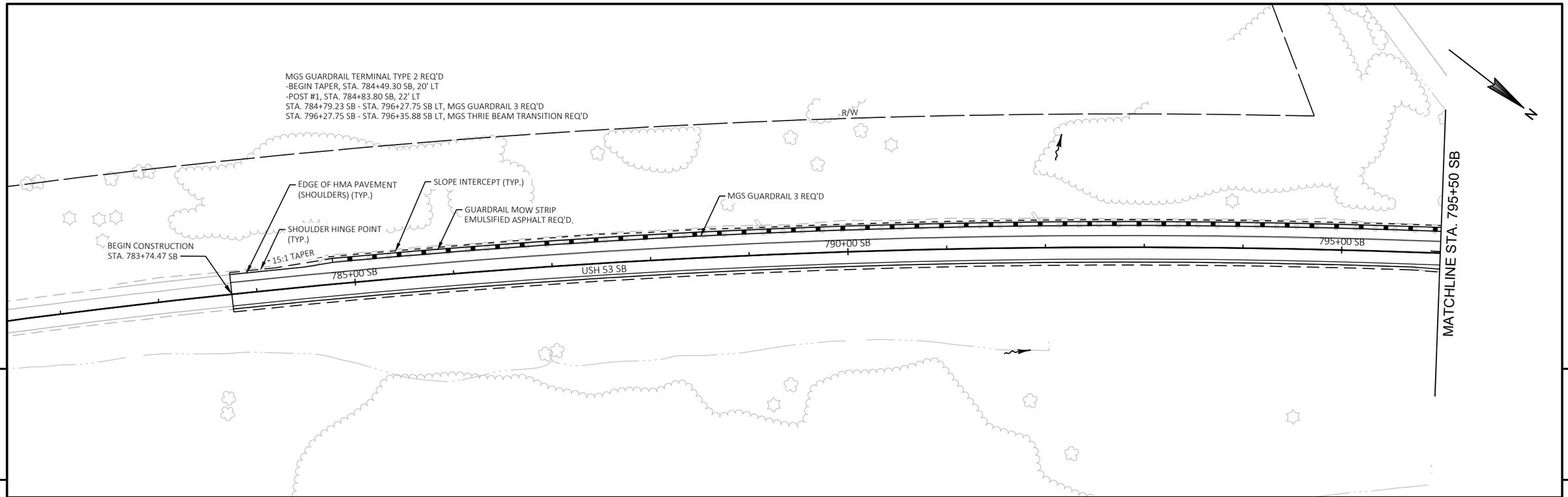
PROJECT NO: 1196-04-77	HWY: USH 53	COUNTY: BARRON	USH 53 (SOUTHBOUND) - B-3-218	SHEET 84	E

FILE NAME : S:\MAD\1000--1099\1089\895\DRAWINGS\CAD\AUTOCAD\CIVIL 3D\SHEETS PLAN\050101_PP.DWG
LAYOUT NAME - 050103_pp
PLOT DATE : 10/31/2024 5:30 PM PLOT BY : HABERKORN, DEVEN PLOT NAME : PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 44



PROJECT NO: 1196-04-77	HWY: USH 53	COUNTY: BARRON	USH 53 (SOUTHBOUND)	SHEET 85	E

FILE NAME : S:\MAD\1000--1099\1089\895\DRAWINGS\CAD\AUTOCAD\CIVIL 3D\SHEETS PLAN\050101_PP.DWG
LAYOUT NAME - 0501015_pn
PLOT DATE : 1/23/2025 12:59 PM PLOT BY : EDERER, BRAD PLOT NAME : PLOT SCALE : ############
WISDOT/CADDS SHEET 44



5

PROJECT NO: 1196-04-77	HWY: USH 53	COUNTY: BARRON	USH 53 (SOUTHBOUND)	SHEET 86	E

FILE NAME : S:\MAD\1000--1099\1089\895\DRAWINGS\CAD\AUTOCAD\CIVIL 3D\SHEETS PLAN\050101_PP.DWG
LAYOUT NAME - 0501017_pn
PLOT DATE : 11/1/2024 9:35 AM
PLOT BY : HABERKORN, DEVEN
PLOT NAME :
PLOT SCALE : ############
WISDOT/CADDS SHEET 44

TRANSITION CROSS SLOPE FROM 1.5% AT STA. 869+44 SB TO 2% AT STA. 869+69 SB
TRANSITION CROSS SLOPE FROM 2% AT STA. 872+59 SB TO 1.5% AT STA. 872+84 SB

STA. 869+60 SB - STA. 869+69 SB LT, CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE D REQ'D
STA. 869+69 SB - STA. 869+75 SB LT, CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE A REQ'D

STA. 872+59.76 SB - STA. 872+98.66 SB LT, MGS THRIE BEAM TRANSITION REQ'D
STA. 872+98.66 SB - STA. 874+61.16 SB LT, MGS GUARDRAIL 3 REQ'D
STA. 874+61.16 SB - STA. 875+14.24 SB LT, MGS GUARDRAIL TERMINAL EAT REQ'D
-EAT POST # 9, STA. 874+64.28 SB, 22.1' LT
-EAT POST #5, STA. 874+89.26 SB, 23.1' LT
-EAT POST #1, STA. 875+14.24 SB, 24' LT
-END TAPER, STA. 875+74.24 SB, 20' LT

N

CONCRETE PAVEMENT APPROACH SLAB REQ'D.
SEE CONSTRUCTION DETAIL CONCRETE PAVEMENT
APPROACH SLAB FOR ADDITIONAL INFORMATION.

CINC (UNDERGROUND FIBER OPTIC)

USH 8

STA. 869+70.43 SB, 22.37' LT
1 - INLETS 2.5X3-FT REQ'D
1 - INLET COVERS TYPE F REQ'D
GRATE EL = 1092.69
PIPE INV EL = 1088.75
35' - CULVERT PIPE CORRUGATED POLYETHYLENE 18-INCH REQ'D
STA. 869+70.43 SB, 57.37' LT
1 - APRON ENDWALL FOR CULVERT PIPE STEEL 18-INCH REQ'D
PIPE DISCHARGE INV EL = 1083.45
1 - MARKERS CULVERT END REQ'D
RIPRAP MEDIUM REQ'D: 6.33' X 12.67'

TAPER MGS GUARDRAIL 3 STA. 872+98.66, 22.6' LT
TO STA. 873+17.41, 22.0' LT

DELINEATED WETLAND BOUNDARY

GUARDRAIL MOW STRIP
EMULSIFIED ASPHALT REQ'D.

SHOULDER HINGE POINT
(TYP.)

EDGE OF HMA PAVEMENT
(SHOULDERS) (TYP.)

MGS GUARDRAIL 3 REQ'D

15:1 TAPER

END CONSTRUCTION
STA. 877+06.77 SB

870+00 SB

875+00 SB

880+00 SB

USH 53 SB

15:1 TAPER

BEGIN CONSTRUCTION
STA. 869+44.29 SB

B-3-37
SEE STRUCTURE REHABIILITATION
PLANS FOR ADDITIONAL INFORMATION

SLOPE INTERCEPT (TYP.)

DELINEATED WETLAND BOUNDARIES

CONCRETE SURFACE DRAINS REQ'D.
STA. 869+42 SB, 44.6' RT
ANGLED FLUME
RIPRAP MEDIUM REQ'D: 6' X 12'

USH 53 NB

FENCE WOVEN WIRE 4-FT REQ'D. (TYP.)

TAPER MGS GUARDRAIL 3 STA. 872+91.23, 18.4' RT
TO STA. 873+03.69, 18.0' RT

STA. 869+47 SB - STA. 869+67 SB RT, CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE D REQ'D

STA. 872+51.79 SB - STA. 872+91.19 SB RT, MGS THRIE BEAM TRANSITION REQ'D
STA. 872+91.19 SB - STA. 875+03.69 SB RT, MGS GUARDRAIL 3 REQ'D
STA. 875+03.69 SB - STA. 875+56.77 SB RT, MGS GUARDRAIL TERMINAL EAT REQ'D
-EAT POST # 9, STA. 875+06.81 SB, 18.1' RT
-EAT POST #5, STA. 875+31+79 SB, 19.1' RT
-EAT POST #1, STA. 875+56.77 SB, 20' RT
-END TAPER, STA. 876+31.77 SB, 15' RT

PROJECT NO: 1196-04-77	HWY: USH 53	COUNTY: BARRON	USH 53 (SOUTHBOUND)	SHEET 87	E

Standard Detail Drawing List

08A05-21C	INLET COVERS TYPE F, HM, HM-S, S, T, HM-GJ & HM-GJ-S
08A05-21D	INLET COVERS TYPE V, V-B, & VV-B
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
08D02-08A	CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES
08D02-08B	CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES
08D02-08C	CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES
08D03-09A	CONCRETE SURFACE DRAINS DROP INLET TYPE AT STRUCTURES
08D03-09B	CONCRETE SURFACE DRAINS DROP INLET TYPE AT STRUCTURES
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
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
12A03-10	NAME PLATE (STRUCTURES)
13A03-07	CONCRETE PAVEMENT SHOULDERS
13A05-06A	SHOULDER RUMBLE STRIPS, DIVIDED ROADWAY
13A05-06B	SHOULDER RUMBLE STRIPS, DIVIDED ROADWAY
13B02-09A	CONCRETE PAVEMENT APPROACH SLAB
13B02-09B	STRUCTURAL APPROACH SLAB AND CONCRETE PAVEMENT APPROACH SLAB
13C01-19	CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES
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
13C18-08E	CONCRETE PAVEMENT JOINTING AND STEEL REINFORCEMENT IN ROUNDABOUTS
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
14B26-05A	STEEL THRIE BEAM BULLNOSE TERMINAL
14B26-05B	STEEL THRIE BEAM BULLNOSE TERMINAL
14B26-05C	STEEL THRIE BEAM BULLNOSE TERMINAL
14B26-05D	STEEL THRIE BEAM BULLNOSE TERMINAL
14B26-05E	STEEL THRIE BEAM BULLNOSE TERMINAL
14B26-05F	STEEL THRIE BEAM BULLNOSE TERMINAL
14B26-05G	STEEL THRIE BEAM BULLNOSE TERMINAL
14B26-05H	STEEL THRIE BEAM BULLNOSE TERMINAL
14B28-04A	GUARDRAIL MOW STRIP
14B28-04B	GUARDRAIL MOW STRIP
14B29-01	SAFETY EDGE
14B42-07A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07D	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B44-04A	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-04B	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-04C	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B45-05A	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05B	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05C	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05D	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)

6

Standard Detail Drawing List

14B47-05A	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
14B47-05B	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
14B47-05C	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
14B47-05D	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
14B47-05E	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
14B47-05F	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
14B47-05G	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
15A03-02A	FLEXIBLE MARKER POST FOR CULVERT END
15A03-02B	FLEXIBLE MARKER POST FOR CULVERT END
15A04-08A	FLEXIBLE DELINEATOR POST
15A04-08B	BARRIER WALL DELINEATOR WITH REFLECTIVE SHEETING
15A04-08C	DELINEATOR POST WITH REFLECTIVE SHEETING
15A04-08D	CHANNELIZING DEVICES, PERMANENT FLEXIBLE TUBULAR MARKER POST
15A04-08E	DELINEATOR POST WITH REFLECTIVE SHEETING
15B01-08A	FENCE WOVEN WIRE
15B01-08B	FENCE WOVEN WIRE
15C02-09A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-09B	BARRICADES AND SIGNS FOR VARIOUS CLOSURES
15C02-09C	DETOUR SIGNING FOR MAINLINE CLOSURES
15C02-09D	ON RAMP LANE CLOSURE
15C02-09F	ADVANCED WIDTH RESTRICTION SIGNING
15C02-09G	TRAFFIC CONTROL FOR ENTRANCE RAMP CLOSURE
15C02-09H	MODIFIED ROUTE ASSEMBLY FOR DETOUR SIGNING
15C03-05	BARRICADES AND SIGNS FOR SIDEROAD CLOSURES
15C08-23A	PERMANENT LONGITUDINAL PAVEMENT MARKINGS
15C08-23B	TEMPORARY LONGITUDINAL PAVEMENT MARKING
15C11-10A	CHANNELIZING DEVICES FLEXIBLE TUBULAR MARKER POST
15C11-10B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS
15C12-09A	TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION
15C31-06A	PAVEMENT MARKING EXIT RAMP AND PARALLEL EXIT RAMP
15D12-13A	TRAFFIC CONTROL, TAPERED ENTRANCE RAMP WITHIN LANE CLOSURE
15D12-13B	TRAFFIC CONTROL, PARALLEL EXIT RAMP WITHIN LANE CLOSURE
15D15-07A	TRAFFIC CONTROL, PARALLEL ENTRANCE RAMP WITHIN LANE CLOSURE
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
15D15-07E	TRAFFIC CONTROL, PARALLEL EXIT RAMP WITHIN LANE CLOSURE
15D16-06	TRAFFIC CONTROL, EXIT RAMP 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
15D40-05D	TRAFFIC CONTROL, PARTIAL LANE SHIFT MULTILANE DIVIDED 50 MPH AND GREATER
15D47-03A	TRAFFIC CONTROL, INGRESS/EGRESS WITH BARRIER
15D47-03B	TRAFFIC CONTROL, INGRESS/EGRESS WITHOUT BARRIER
15D50-03A	TRAFFIC CONTROL, ADDED LANE CLOSURE WITHOUT LANE SHIFT
15D50-03B	TRAFFIC CONTROL, ADDED LANE CLOSURE WITH LANE SHIFT

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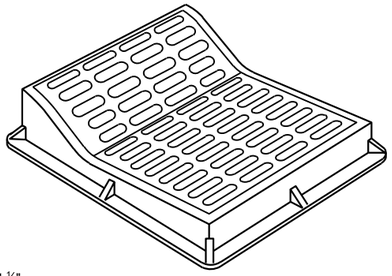
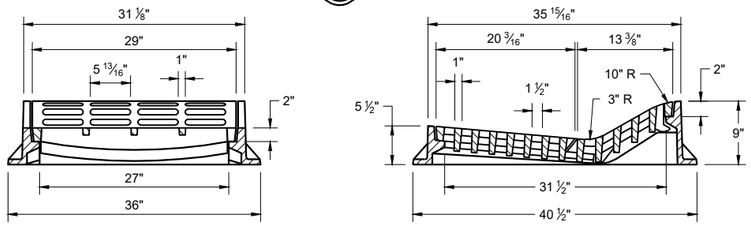
GENERAL NOTES

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.

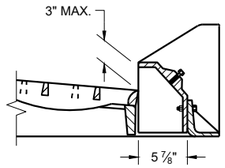
DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR INLET COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.





TYPE "F"

USE WITH TYPES "A" AND "D" CONCRETE CURB AND GUTTER, 36"

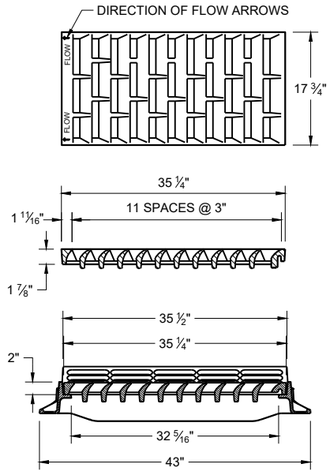


ALTERNATIVE CURB BOX FOR TYPE "HM" COVER

USE WITH TYPES "G" AND "J" CONCRETE CURB AND GUTTER, 30 INCH
NOTED AS TYP "HM-GJ" ON DRAINAGE TABLE

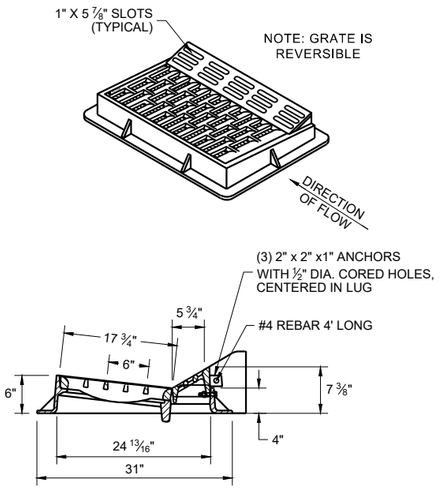
NOTE:
SPECIAL GRATE FOR THE TYPE "H" COVER MAY ALSO BE USED FOR THE TYPE "HM-GJ" COVER.

NOTED AS TYPE HM-GJ-S ON THE DRAINAGE TABLE.



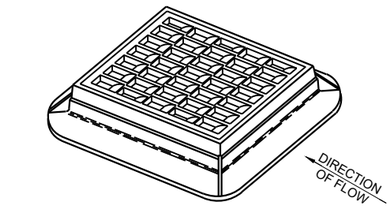
TYPE "HM"

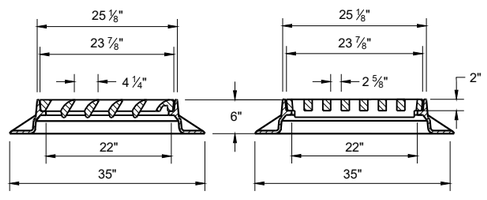
USE WITH TYPES "A" AND "D" CONCRETE CURB AND GUTTER, 36"



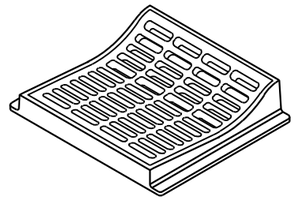
NOTE:
SPECIAL GRATE FOR THE TYPE "H" COVER MAY ALSO BE USED FOR THE TYPE "HM-GJ" COVER.

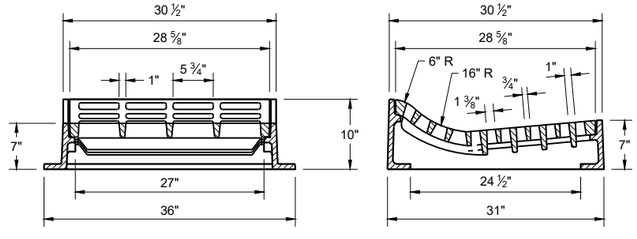
NOTED AS TYPE HM-GJ-S ON THE DRAINAGE TABLE.





TYPE "S"





TYPE "T"

USE WITH TYPES "R" AND "T" CONCRETE CURB AND GUTTER, 36"

INLET COVERS
TYPES F, HM, HM-S, S, T, HM-GJ AND HM-GJ-S

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
December 2023 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR

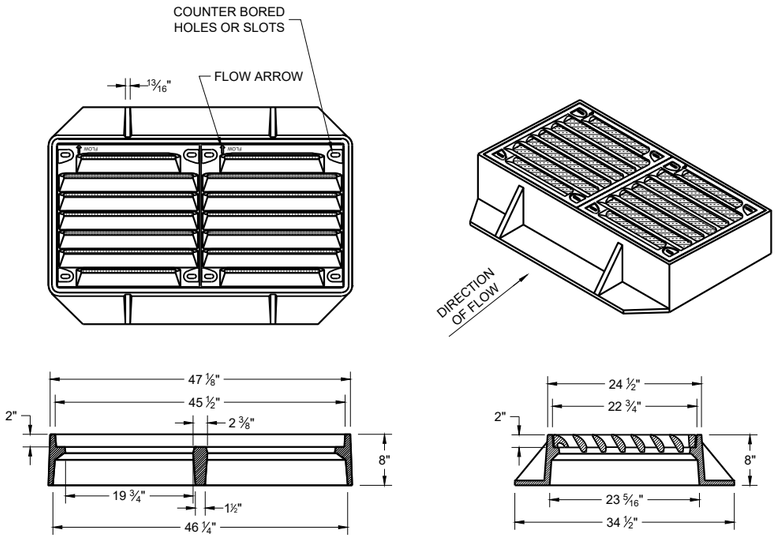
FHWA

6
SDD 08A05-21c

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.

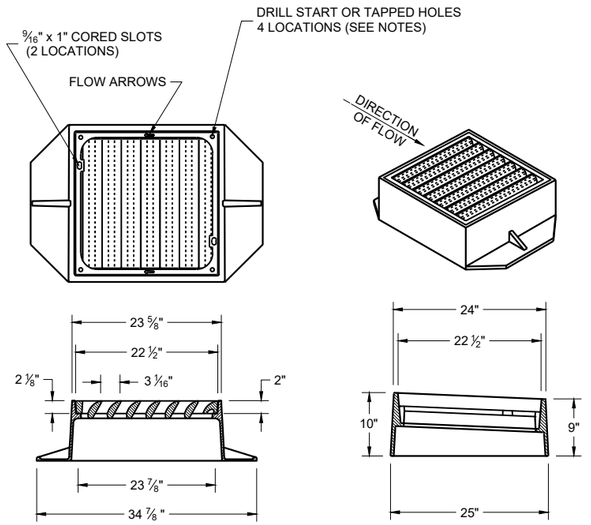
DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR INLET COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.



TYPE "VV-B"

NOTES: ALL HARDWARE TO BE SUPPLIED BY CASTING MANUFACTURER
ALL DRILLING AND TAPPING GRATES AND FRAMES BY CASTING MANUFACTURER

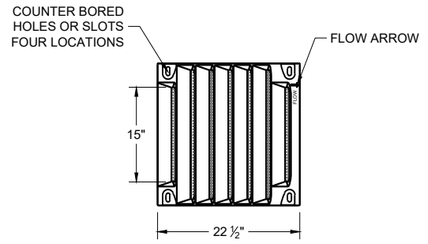
TYPE V
FRAME - CAST GRAY IRON ASTM A48 CLASS 35B
⅜" DIA. X 1/16" DRILL START IN 8 LOCATIONS
GRATE - CAST GRAY IRON ASTM A-48, CLASS 35B



TYPE "V"

NOTES: ALL HARDWARE TO BE SUPPLIED BY CASTING MANUFACTURER ALL DRILLING AND TAPPING GRATES AND FRAMES BY CASTING MANUFACTURER

TYPE V
FRAME - CAST GRAY IRON ASTM A48 CLASS 40A
⅜" DIA. X 1/16" DRILL START IN 4 LOCATIONS
GRATE - CAST GRAY IRON ASTM A-48, CLASS 35B



BOLT DOWN GRATE FOR TYPE "V" AND "VV-B" COVER

NOTES: ALL HARDWARE TO BE SUPPLIED BY CASTING MANUFACTURER NOTED AS TYPE "V-B" OR "VV-B" (FOR DOUBLE GRATE) ON DRAINAGE TABLE

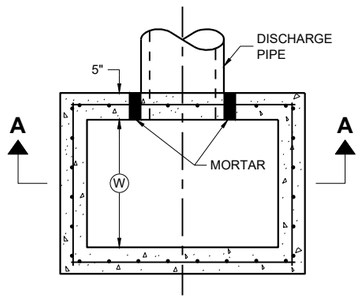
TAP ½" -13 HOLES IN FOUR LOCATIONS PER GRATE IN FRAME TO BOLT GRATE(S).
FRAME - CAST GRAY IRON ASTM A48 CLASS 40A

GRATE - CAST DUCTILE IRON ASTM A536, 55+KSI YIELD
BOLTS - ½" -13 STAINLESS STEEL BOLTS WITH WASHERS
TORQUE BOLTS TO MANUFACTURER SPECIFICATION DO NOT OVERTIGHTEN.

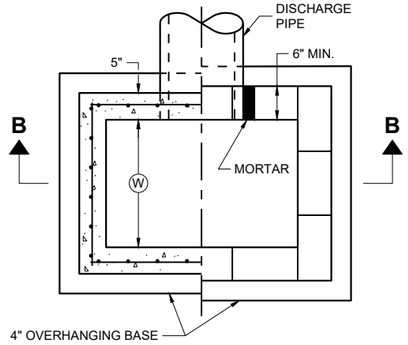
INLET COVERS
TYPES V, V-B, AND VV-B

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

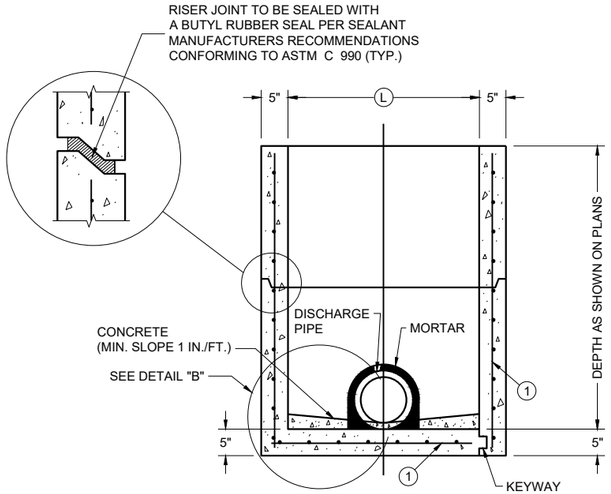
APPROVED
December 2023 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR
FHWA



PLAN VIEW



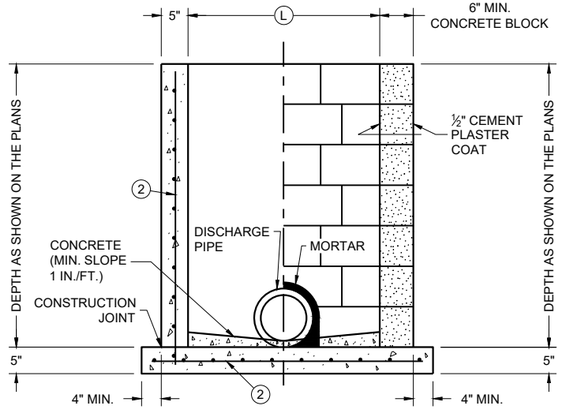
PLAN VIEW



PRECAST REINFORCED CONCRETE WITH MONOLITHIC BASE

PRECAST REINFORCED CONCRETE WITH INTEGRAL BASE

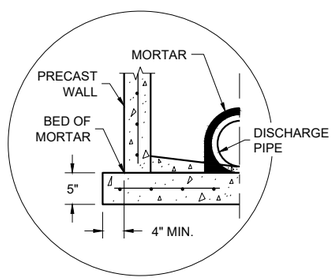
SECTION A - A



CAST IN PLACE REINFORCED CONCRETE

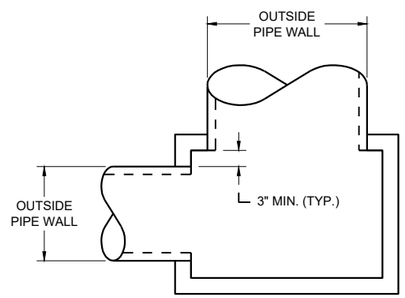
CONCRETE BLOCK WITH CAST IN PLACE OR PRECAST REINFORCED CONCRETE BASE (1)

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

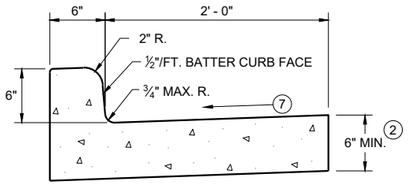
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
December 2023
DATE

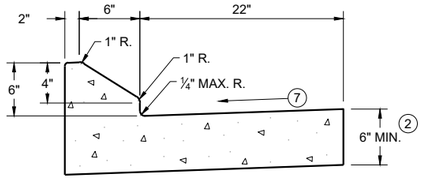
/S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR

FHWA

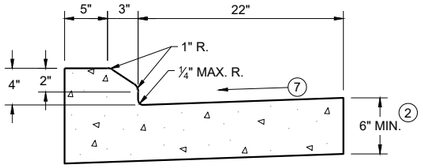
6
SDD 08C07-03



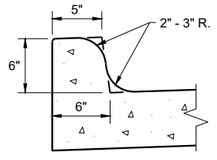
TYPES A (1) & D



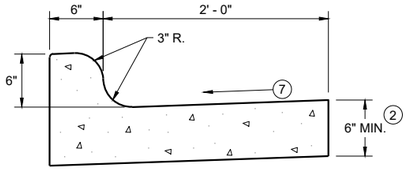
6" SLOPED CURB TYPES G (1) & J



4" SLOPED CURB TYPES G (1) & J

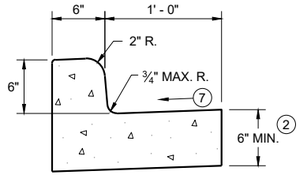


TYPES K (1) & L
(OPTIONAL CURB SHAPE)



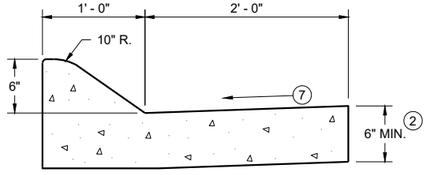
TYPES K (1) & L

CONCRETE CURB AND GUTTER 30"

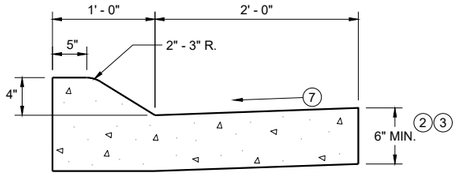


TYPES A (1) & D

CONCRETE CURB AND GUTTER 18"

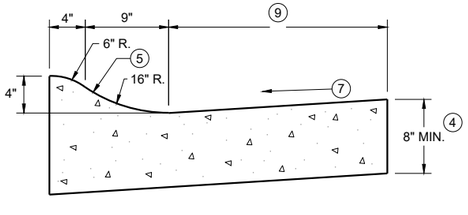


6" SLOPED CURB TYPES A (1) & D



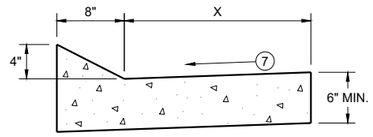
4" SLOPED CURB TYPES A (1) & D

CONCRETE CURB AND GUTTER 36"



4" SLOPED CURB TYPES R (1) & T

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

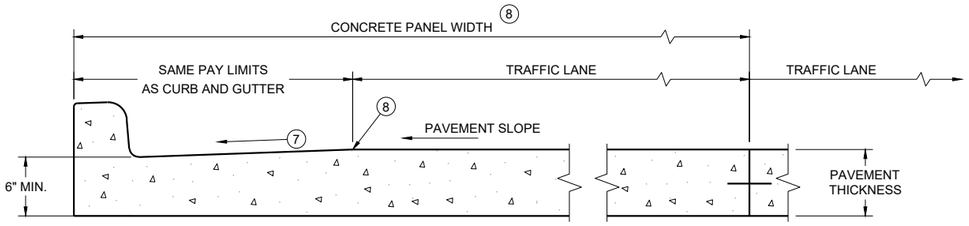


TYPES TBT & TBTT (1)

CONCRETE CURB AND GUTTER

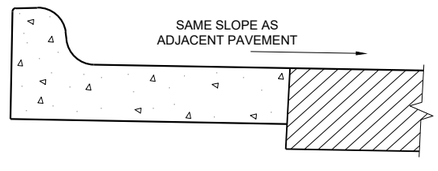
PAVEMENT THICKNESS AND MAXIMUM CONCRETE PANEL WIDTH TABLE

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.

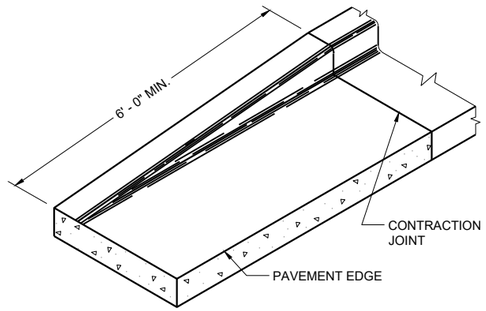
(8) INCLUDE LONGITUDINAL JOINT AND TIE BARS ALONG LANE EDGE WHEN CONCRETE PANEL WIDTH EXCEEDS THE MAXIMUM WIDTH PER TABLE BELOW. LONGITUDINAL JOINT(S) ARE NOT ALLOWED WITHIN TRAFFIC LANES AND BIKE LANES. LONGITUDINAL JOINT MAY BE SAWED.

(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

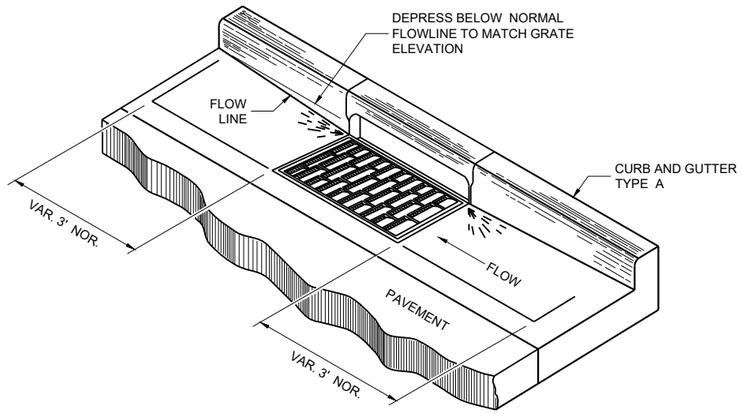
CONCRETE CURB AND GUTTER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

SDD 08D01-23a



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.

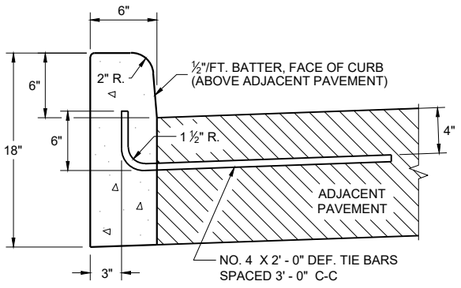
UNLESS OTHERWISE SHOWN ON THE TYPICAL CROSS SECTIONS, THE BASE AGGREGATE AND COMMON EXCAVATION LIMITS ARE 2' - 0" BEHIND THE BACK OF CURBS.

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

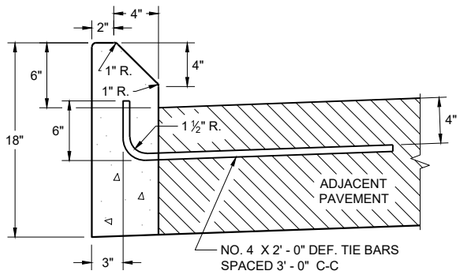
(2) THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.

(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.

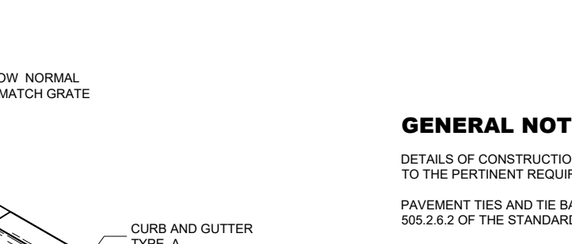


TYPES A (1) & D

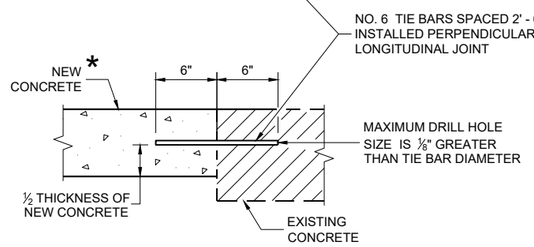


TYPES G (1) & J

CONCRETE CURB

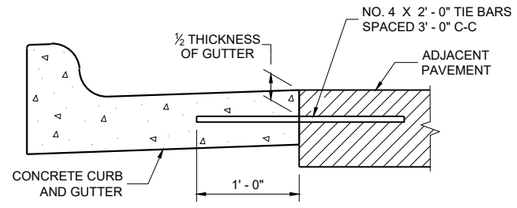


PLAN VIEW

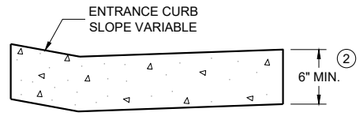


SECTION A - A

TIE BARS DRILLED INTO EXISTING PAVEMENT

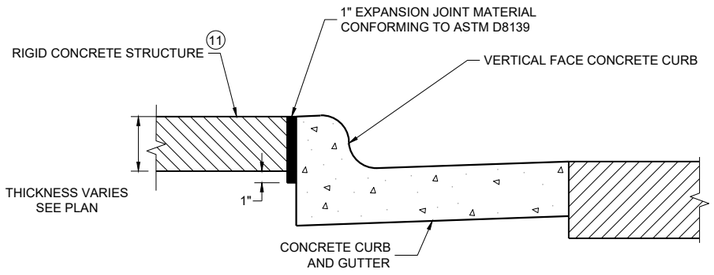


TYPICAL TIE BAR LOCATION (1)



DRIVEWAY ENTRANCE CURB (10)

(WHEN DIRECTED BY THE ENGINEER)



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

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

6
SDD 08D01-23b

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.

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

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

(2) NO. 4 X 2' - 0" TIE BARS SPACED AT 12" C-C TO BE PLACED BY BRIDGE CONTRACTOR OR DRILLED TIE BARS PLACED AS DIRECTED BY THE ENGINEER.

(3) PAVED CONCRETE SHOULDER (SDD 13A03) OR CONCRETE DRAINAGE SLAB.

(4) CONCRETE PAVEMENT APPROACH SLAB (SHOWN) OR STRUCTURE APPROACH SLAB AND CONCRETE PAVEMENT APPROACH SLAB. SEE SDD 13B02.

(5) PAVED CONCRETE SHOULDER (SDD 13A03) OR ASPHALT SHOULDER.

(6) CONCRETE CURB AND GUTTER 4-INCH SLOPED 36-INCH TYPE TBT OR TBTT. USE TYPE TBTT CURB WITH NO. 4 X 2' -0" TIE BARS SPACED AT 3' - 0" C-C ONLY WHEN ADJACENT TO CONCRETE PAVEMENTS.

(7) PLACE FLUME BEFORE MSG THRIE BEAM TRANSITION POST 1 (SEE SDD 14B45)

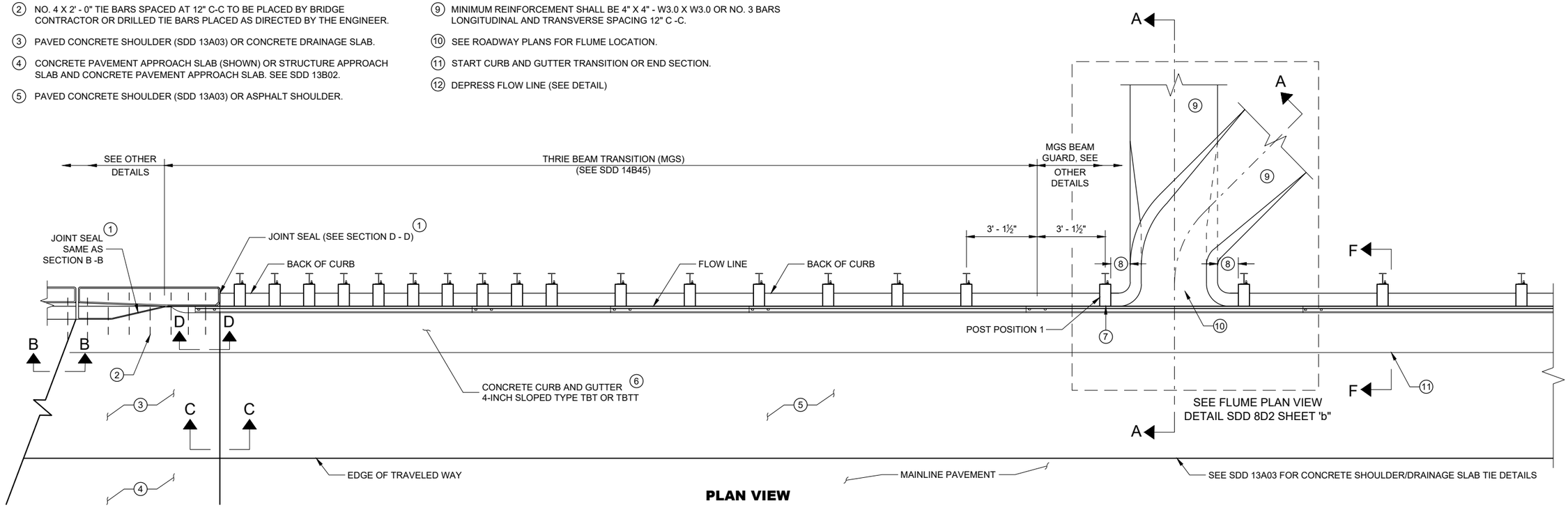
(8) CENTER FLUME BETWEEN POSTS. 6-INCH MINIMUM SEPARATION FROM OUTSIDE EDGE OF FLUME TO POSTS.

(9) MINIMUM REINFORCEMENT SHALL BE 4" X 4" - W3.0 X W3.0 OR NO. 3 BARS LONGITUDINAL AND TRANSVERSE SPACING 12" C -C.

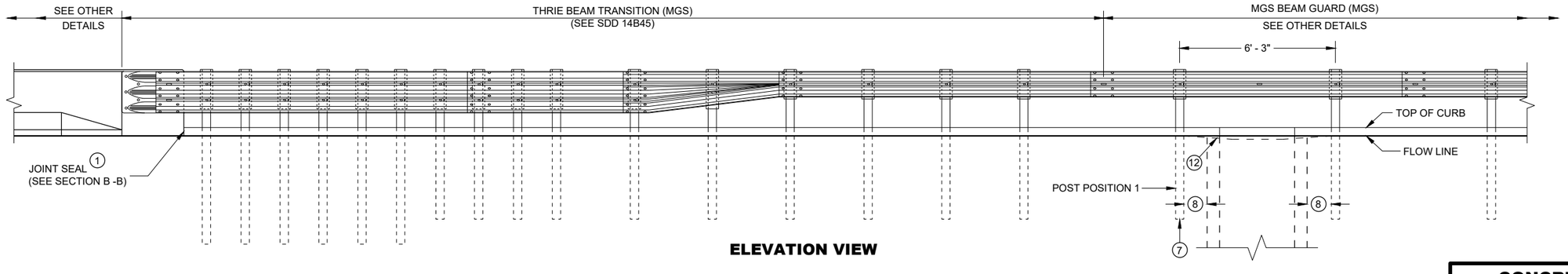
(10) SEE ROADWAY PLANS FOR FLUME LOCATION.

(11) START CURB AND GUTTER TRANSITION OR END SECTION.

(12) DEPRESS FLOW LINE (SEE DETAIL)



PLAN VIEW



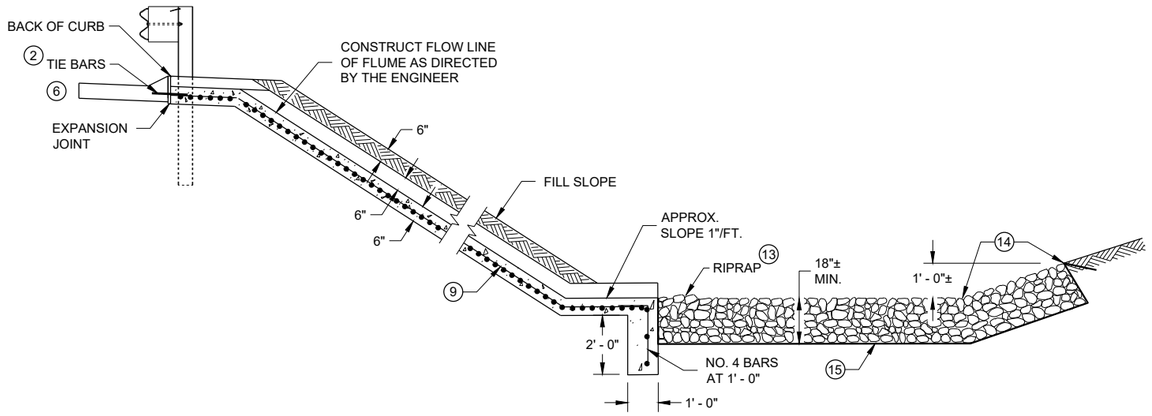
ELEVATION VIEW

CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES

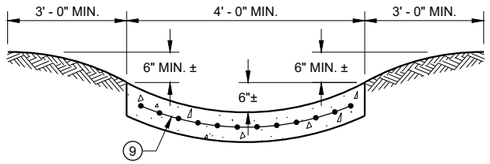
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

SDD 08D02 - 08a

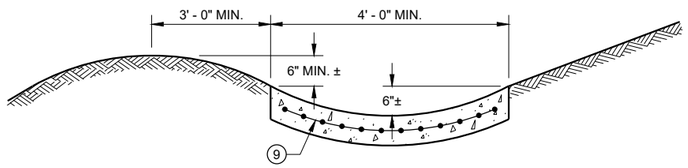
SDD 08D02 - 08a



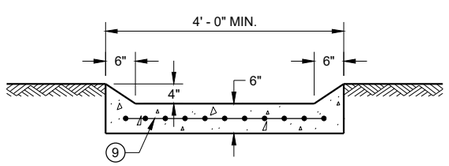
SECTION A - A



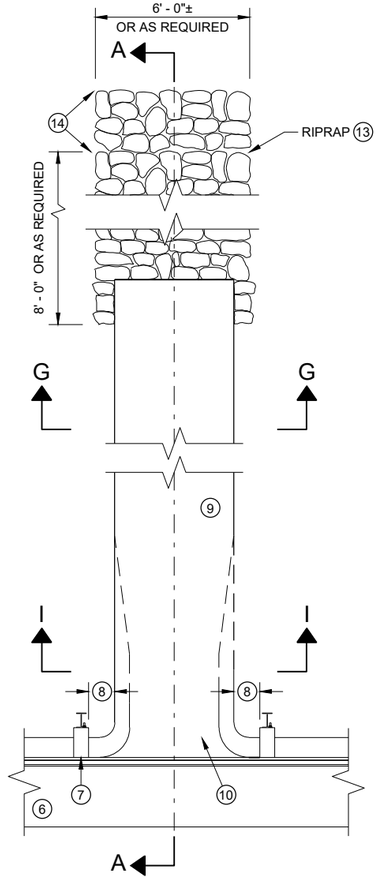
SECTION G - G



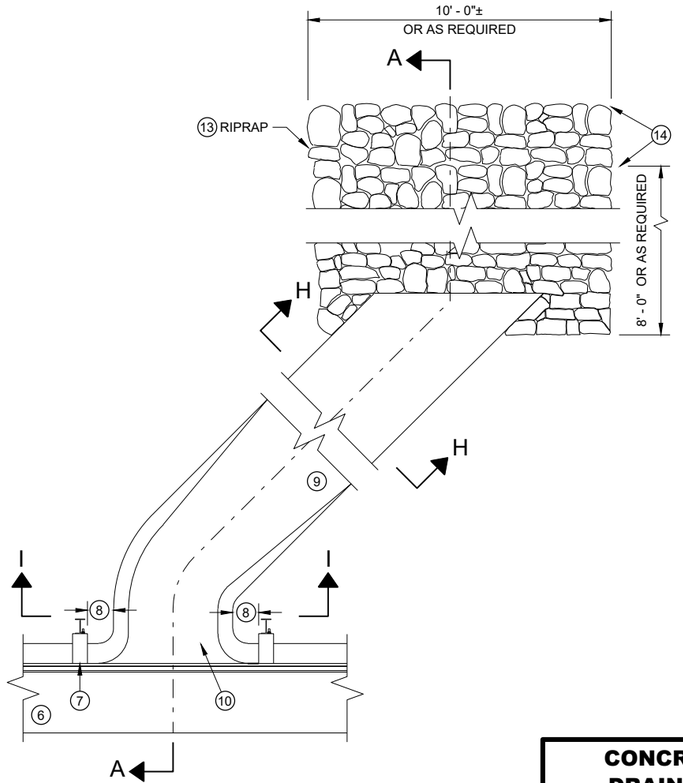
SECTION H - H



SECTION I - I



PLAN VIEW PERPENDICULAR FLUME



PLAN VIEW SKEWED FLUME

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.

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

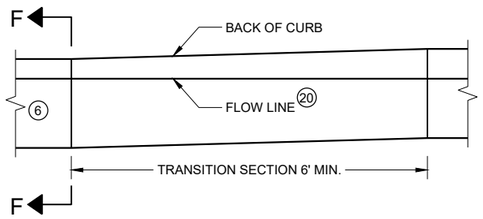
1. USE A JOINT SEALANT CONFORMING TO STANDARD SPECIFICATION 415.2.6.
2. NO. 4 X 2' - 0" TIE BARS SPACED AT 12" C-C TO BE PLACED BY BRIDGE CONTRACTOR OR DRILLED TIE BARS PLACED AS DIRECTED BY THE ENGINEER.
3. PAVED CONCRETE SHOULDER (SDD 13A03) OR CONCRETE DRAINAGE SLAB.
4. CONCRETE PAVEMENT APPROACH SLAB (SHOWN) OR STRUCTURE APPROACH SLAB AND CONCRETE PAVEMENT APPROACH SLAB. SEE SDD 13B02 AND STRUCTURE PLANS.
5. PAVED CONCRETE SHOULDER (SDD 13A03) OR ASPHALT SHOULDER.
6. CONCRETE CURB AND GUTTER 4-INCH SLOPED 36-INCH TYPE TBT OR TBTT. USE TYPE TBTT CURB WITH NO. 4 X 2' -0" TIE BARS SPACED AT 3' - 0" C-C ONLY WHEN ADJACENT TO CONCRETE PAVEMENTS.
7. PLACE FLUME BEFORE MSG THRIE BEAM TRANSITION POST 1 (SEE SDD 14B45)
8. CENTER FLUME BETWEEN POSTS. 6-INCH MINIMUM SEPARATION FROM OUTSIDE EDGE OF FLUME TO POSTS.
9. MINIMUM REINFORCEMENT SHALL BE 4" X 4" - W3.0 X W3.0 OR NO. 3 BARS LONGITUDINAL AND TRANSVERSE SPACING 12" C -C.
10. SEE ROADWAY PLANS FOR FLUME LOCATION.
11. START CURB AND GUTTER TRANSITION OR END SECTION.
12. DEPRESS FLOW LINE (SEE DETAIL)
13. MEDIUM RIPRAP UNLESS OTHERWISE SPECIFIED.
14. LIMITS OF ADDITIONAL RIPRAP WHEN SPECIAL DITCH AS REQUIRED.
15. GEOTEXTILE TYPE HR.

CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES

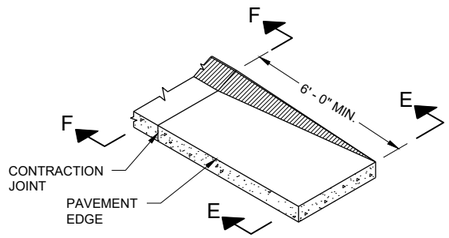
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

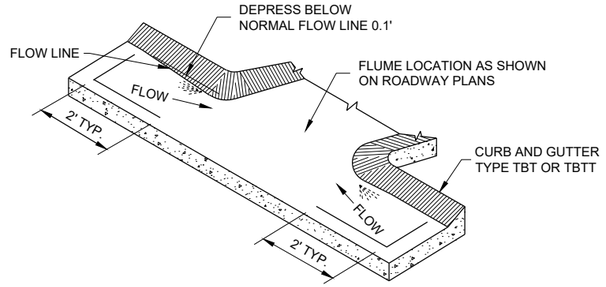
SDD 08D02 - 08b



**CURB AND GUTTER TRANSITION SECTION
CONCRETE CURB AND GUTTER 4-INCH SLOPED
36 INCH TYPE TBT OR TBTT**



**CURB AND GUTTER END SECTION
CONCRETE CURB AND GUTTER 4-INCH SLOPED
36 INCH TYPE TBT OR TBTT**



**CURB AND GUTTER FLOW LINE DEPRESSION
AT FLUMES CONCRETE CURB AND GUTTER
4-INCH SLOPED 36 INCH TYPE TBT OR TBTT**

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.

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

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

(2) NO. 4 X 2' - 0" TIE BARS SPACED AT 12" C-C TO BE PLACED BY BRIDGE CONTRACTOR OR DRILLED TIE BARS PLACED AS DIRECTED BY THE ENGINEER.

(3) PAVED CONCRETE SHOULDER (SDD 13A03) OR CONCRETE DRAINAGE SLAB.

(4) CONCRETE PAVEMENT APPROACH SLAB (SHOWN) OR STRUCTURE APPROACH SLAB AND CONCRETE PAVEMENT APPROACH SLAB. SEE SDD 13B02 AND STRUCTURE PLANS.

(5) PAVED CONCRETE SHOULDER (SDD 13A03) OR ASPHALT SHOULDER.

(6) CONCRETE CURB AND GUTTER 4-INCH SLOPED 36-INCH TYPE TBT OR TBTT. USE TYPE TBTT CURB WITH NO. 4 X 2' -0" TIE BARS SPACED AT 3' - 0" C-C ONLY WHEN ADJACENT TO CONCRETE PAVEMENTS.

(7) PLACE FLUME BEFORE MSG THRIE BEAM TRANSITION POST 1 (SEE SDD 14B45)

(8) CENTER FLUME BETWEEN POSTS. 6-INCH MINIMUM SEPARATION FROM OUTSIDE EDGE OF FLUME TO POSTS.

(9) MINIMUM REINFORCEMENT SHALL BE 4" X 4" - W3.0 X W3.0 OR NO. 3 BARS LONGITUDINAL AND TRANSVERSE SPACING 12" C -C.

(10) SEE ROADWAY PLANS FOR FLUME LOCATION.

(11) START CURB AND GUTTER TRANSITION OR END SECTION.

(12) DEPRESS FLOW LINE (SEE DETAIL)

(13) MEDIUM RIPRAP UNLESS OTHERWISE SPECIFIED.

(14) LIMITS OF ADDITIONAL RIPRAP WHEN SPECIAL DITCH IS REQUIRED.

(15) GEOTEXTILE TYPE HR.

(16) MINIMUM REINFORCEMENT SHALL BE 6" X 6" - W4.0 X W4.0 OR NO. 3 BARS LONGITUDINAL AND TRANSVERSE SPACING 12" C - C.

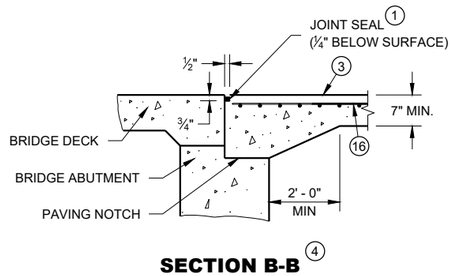
(17) MSG THRIE BEAM TRANSITION POST 1. SEE SDD 14B45 FOR ADDITIONAL CONSTRUCTION DETAILS AND ACCEPTABLE MATERIALS.

(18) MAINTAIN WIDTH, THICKNESS AND CROSS SLOPE OF ADJACENT TYPE TBT OR TBTT CURB. SEE NOTE 6 FOR TIE BAR SPACING.

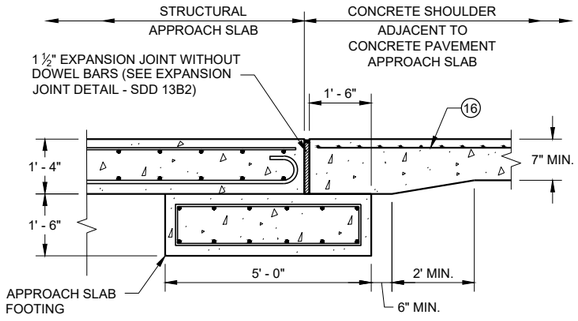
(19) ALIGN FACE OF POST BLOCK WITH FLOW LINE.

(20) MAINTAIN FLOW LINE AT EDGE OF PAVEMENT/FACE OF BEAM GUARD AS APPLICABLE.

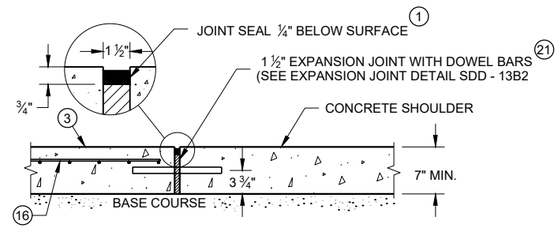
(21) DO NOT CONSTRUCT AN EXPANSION JOINT OR INSTALL DOWEL BARS WHEN ABUTTING HMA PAVEMENTS.



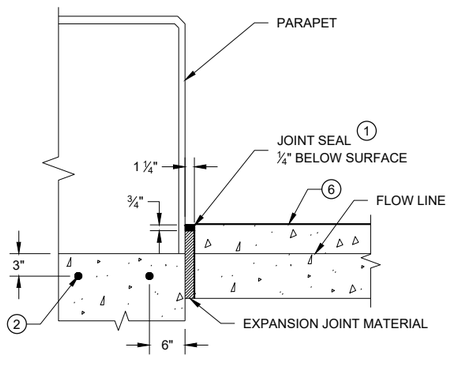
SECTION B-B (4)



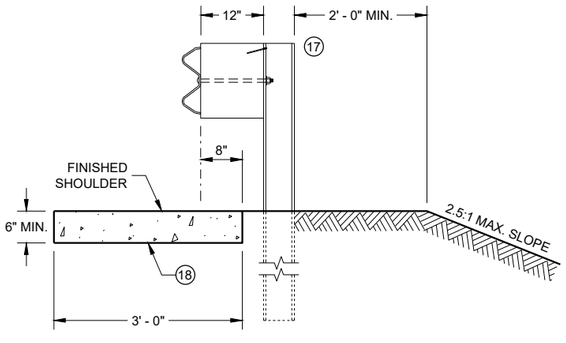
SECTION C - C
JOINT DETAIL FOR BRIDGE WITH STRUCTURAL APPROACH SLAB AND CONCRETE APPROACH SLAB



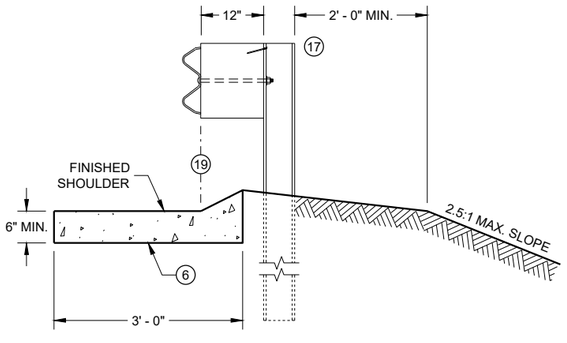
SECTION C - C
JOINT DETAIL FOR BRIDGE APPROACH WITH CONCRETE SHOULDERS



SECTION D - D



SECTION E - E



SECTION F - F

CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA

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SDD 08D02 - 08c

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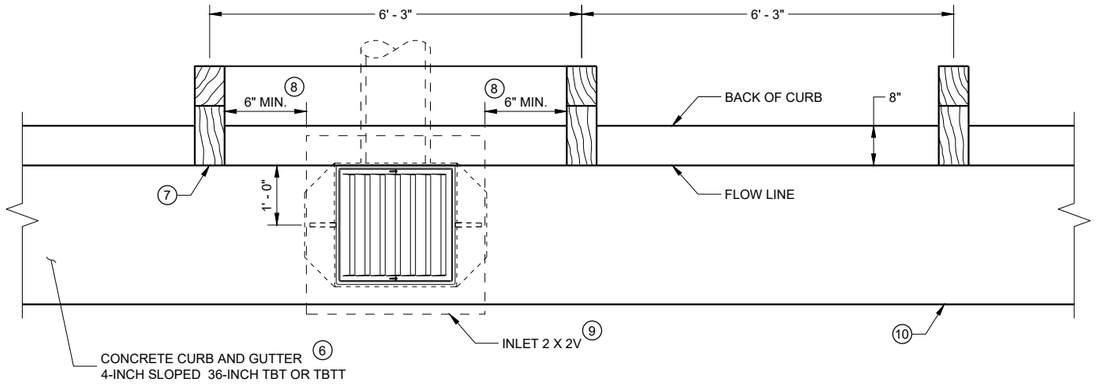
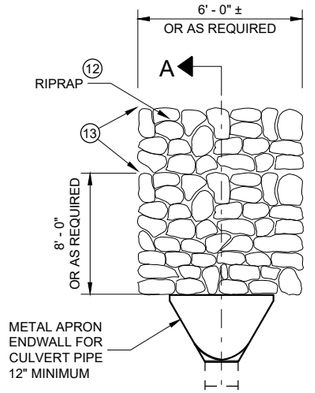
SDD 08D02 - 08c



INLET PLAN VIEW

(NOTE: RAIL NOT SHOWN FOR CLARITY)

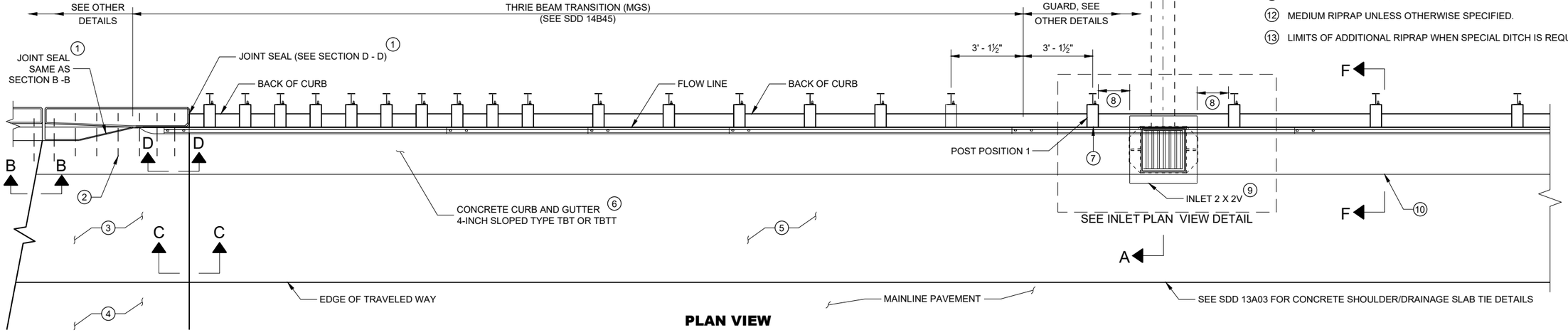


GENERAL NOTES

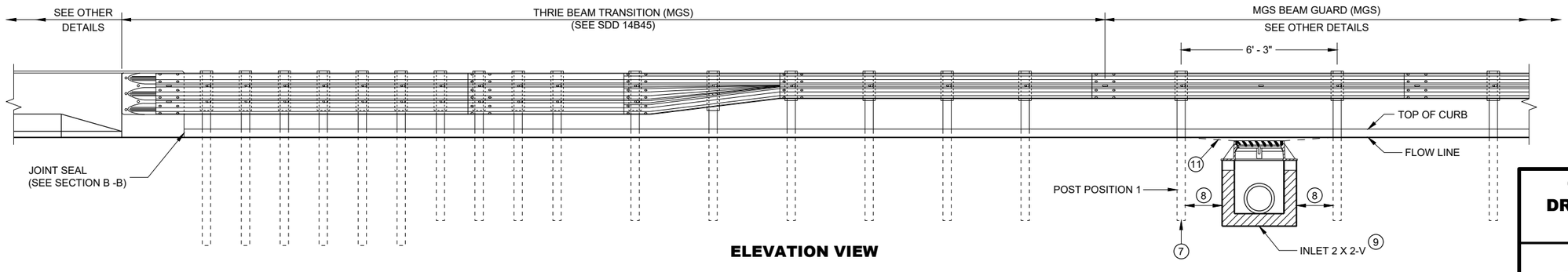
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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

1. USE A JOINT SEALANT CONFORMING TO STANDARD SPECIFICATION 415.2.6.
2. NO. 4 X 2' - 0" TIE BARS SPACED AT 12" C-C TO BE PLACED BY BRIDGE CONTRACTOR OR DRILLED TIE BARS PLACED AS DIRECTED BY THE ENGINEER.
3. PAVED CONCRETE SHOULDER (SDD 13A03) OR CONCRETE DRAINAGE SLAB.
4. CONCRETE PAVEMENT APPROACH SLAB (SHOWN) OR STRUCTURE APPROACH SLAB AND CONCRETE PAVEMENT APPROACH SLAB. SEE SDD 13B02.
5. PAVED CONCRETE SHOULDER (SDD 13A03) OR ASPHALT SHOULDER.
6. CONCRETE CURB AND GUTTER 4-INCH SLOPED 36-INCH TYPE TBT OR TBTT. USE TYPE TBTT CURB WITH NO. 4 X 2' -0" TIE BARS SPACED AT 3' - 0" C-C ONLY WHEN ADJACENT TO CONCRETE PAVEMENTS.
7. PLACE DRAINAGE STRUCTURE BEFORE MSG THRIE BEAM TRANSITION POST 1 (SEE SDD 14B45)
8. CENTER DRAINAGE STRUCTURE BETWEEN POSTS. 6-INCH MINIMUM SEPARATION FROM OUTSIDE WALL OF DRAINAGE STRUCTURE TO POSTS.
9. SEE SDD 08A05 AND 08C07 FOR DETAILS. SEE ROADWAY PLANS FOR LOCATION.
10. START CURB AND GUTTER TRANSITION OR END SECTION.
11. DEPRESS FLOW LINE (SEE DETAIL)
12. MEDIUM RIPRAP UNLESS OTHERWISE SPECIFIED.
13. LIMITS OF ADDITIONAL RIPRAP WHEN SPECIAL DITCH IS REQUIRED.



PLAN VIEW



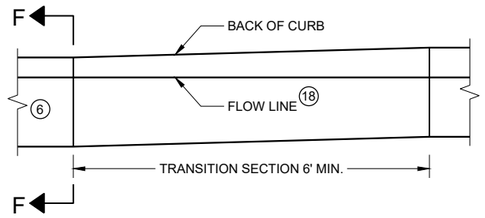
ELEVATION VIEW

CONCRETE SURFACE DRAINS DROP INLET TYPE AT STRUCTURES

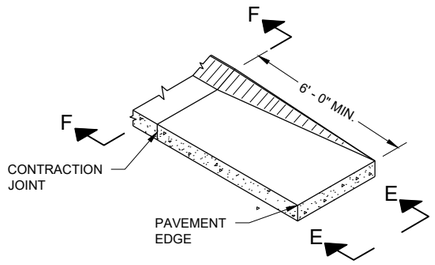
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

SDD 08D03 - 09a

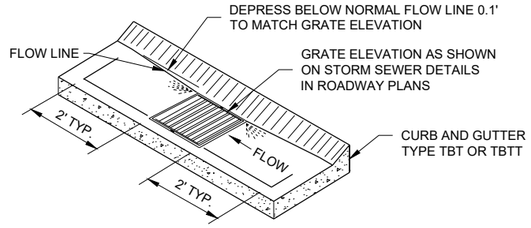
SDD 08D03 - 09a



CURB AND GUTTER TRANSITION SECTION CONCRETE CURB AND GUTTER 4-INCH SLOPED 36 INCH TYPE TBT OR TBTT



CURB AND GUTTER END SECTION CONCRETE CURB AND GUTTER 4-INCH SLOPED 36 INCH TYPE TBT OR TBTT



CURB AND GUTTER FLOW LINE DEPRESSION AT INLETS CONCRETE CURB AND GUTTER 4-INCH SLOPED 36 INCH TYPE TBT OR TBTT

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.

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

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

(2) NO. 4 X 2' - 0" TIE BARS SPACED AT 12" C-C TO BE PLACED BY BRIDGE CONTRACTOR OR DRILLED TIE BARS PLACED AS DIRECTED BY THE ENGINEER.

(3) PAVED CONCRETE SHOULDER (SDD 13A03) OR CONCRETE DRAINAGE SLAB.

(4) CONCRETE PAVEMENT APPROACH SLAB (SHOWN) OR STRUCTURE APPROACH SLAB AND CONCRETE PAVEMENT APPROACH SLAB. SEE SDD 13B02 AND STRUCTURE PLANS.

(5) PAVED CONCRETE SHOULDER (SDD 13A03) OR ASPHALT SHOULDER.

(6) CONCRETE CURB AND GUTTER 4-INCH SLOPED 36-INCH TYPE TBT OR TBTT. USE TYPE TBTT CURB WITH NO. 4 X 2' -0" TIE BARS SPACED AT 3' - 0" C-C ONLY WHEN ADJACENT TO CONCRETE PAVEMENTS.

(7) PLACE DRAINAGE STRUCTURE BEFORE MSG THRIE BEAM TRANSITION POST 1 (SEE SDD 14B45)

(8) CENTER DRAINAGE STRUCTURE BETWEEN POSTS. 6-INCH MINIMUM SEPARATION FROM OUTSIDE WALL OF DRAINAGE STRUCTURE TO POSTS.

(9) SEE SDD 08A05 AND 08C07 FOR DETAILS. SEE ROADWAY PLANS FOR LOCATION.

(10) START CURB AND GUTTER TRANSITION OR END SECTION.

(11) DEPRESS FLOW LINE (SEE DETAIL)

(12) MEDIUM RIPRAP UNLESS OTHERWISE SPECIFIED.

(13) LIMITS OF ADDITIONAL RIPRAP WHEN SPECIAL DITCH IS REQUIRED.

(14) GEOTEXTILE TYPE HR.

(15) MSG THRIE BEAM TRANSITION POST 1. SEE SDD 14B45 FOR ADDITIONAL CONSTRUCTION DETAILS AND ACCEPTABLE MATERIALS.

(16) MAINTAIN WIDTH, THICKNESS AND CROSS SLOPE OF ADJACENT TYPE TBT OR TBTT CURB. SEE NOTE 6 FOR TIE BAR SPACING.

(17) ALIGN FACE OF POST BLOCK WITH FLOW LINE.

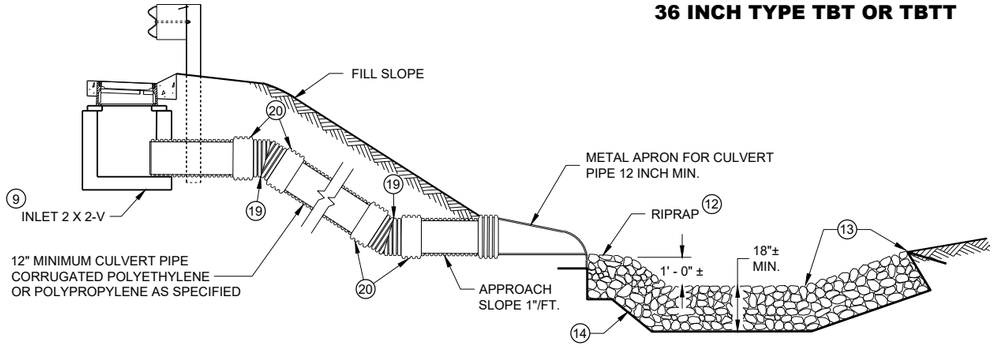
(18) MAINTAIN FLOW LINE AT EDGE OF PAVEMENT/FACE OF BEAM GUARD AS APPLICABLE.

(19) MANUFACTURER SUPPLIED BEND.

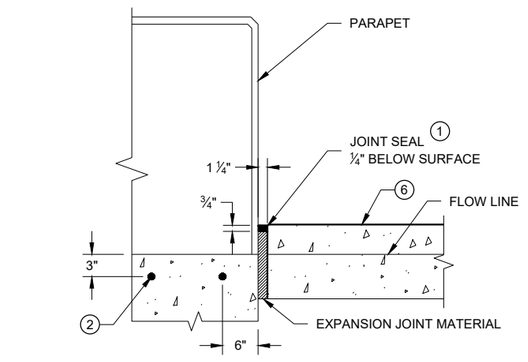
(20) MANUFACTURER SUPPLIED EXTERNAL MECHANICAL COUPLING OR A MANUFACTURER RECOMMENDED COUPLING WITH A MASTIC IMPREGNATED GEOTEXTILE WRAP AND MECHANICAL FASTENING BANDS.

(21) MINIMUM REINFORCEMENT SHALL BE 6" X 6" - W4.0 X W4.0 OR NO. 3 BARS LONGITUDINAL AND TRANSVERSE SPACING 12" C - C.

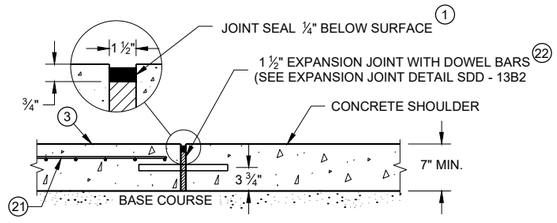
(22) DO NOT CONSTRUCT AN EXPANSION JOINT OR INSTALL DOWEL BARS WHEN ABUTTING HMA PAVEMENTS.



SECTION A - A

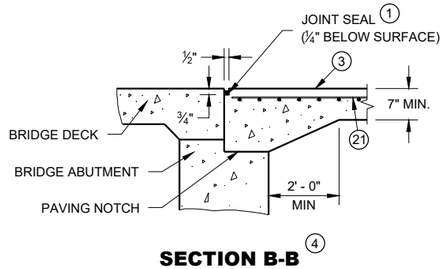


SECTION D - D



SECTION C - C

JOINT DETAIL FOR BRIDGE APPROACH WITH CONCRETE SHOULDERS



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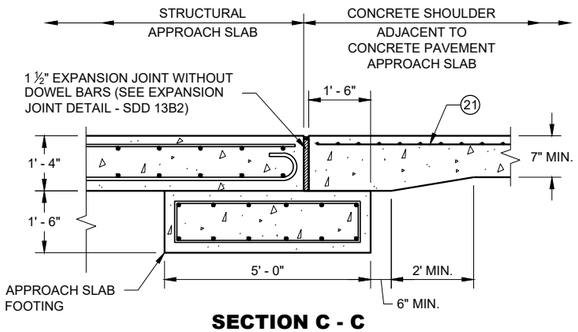
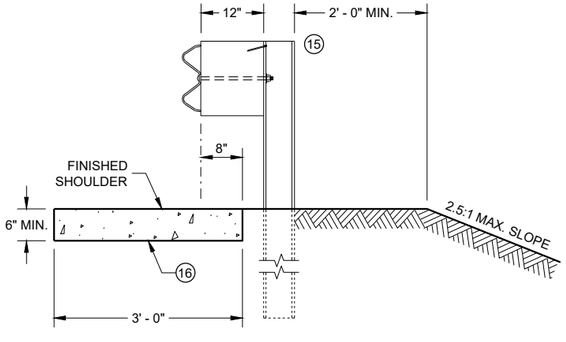
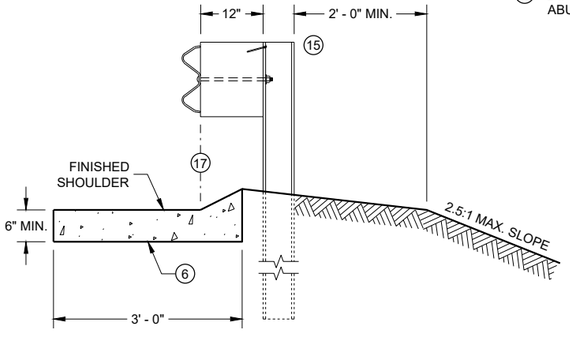


SECTION C - C

JOINT DETAIL FOR BRIDGE WITH STRUCTURAL APPROACH SLAB AND CONCRETE APPROACH SLAB



SECTION E - E



SECTION F - F

CONCRETE SURFACE DRAINS DROP INLET TYPE AT STRUCTURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA

6

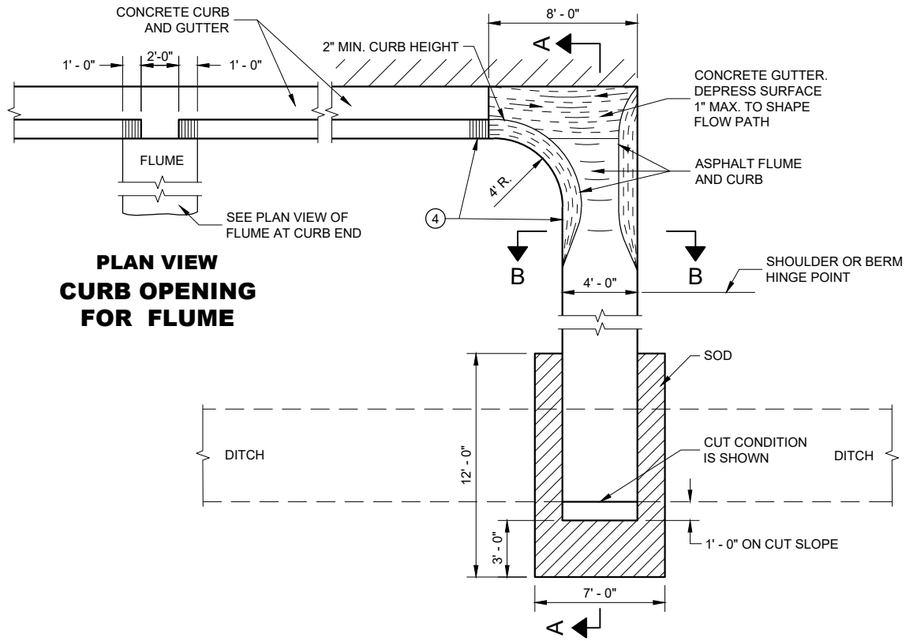
SDD 08D03 - 09b

6

SDD 08D03 - 09b

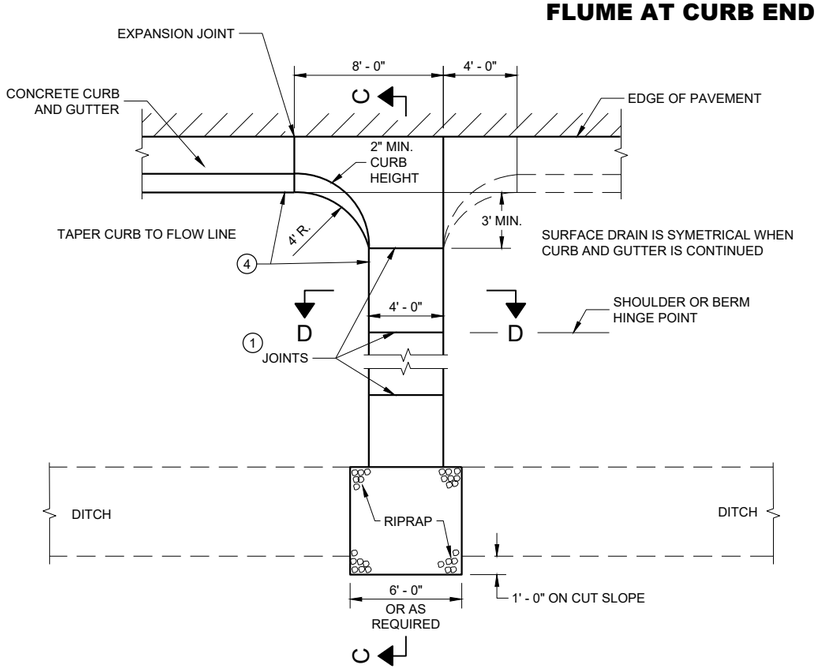
NOTE: TAPER CURB ENDS TO GUTTER IN 1' - 0"

ASPHALTIC FLUME



PLAN VIEW
CURB OPENING FOR FLUME

PLAN VIEW
FLUME AT CURB END



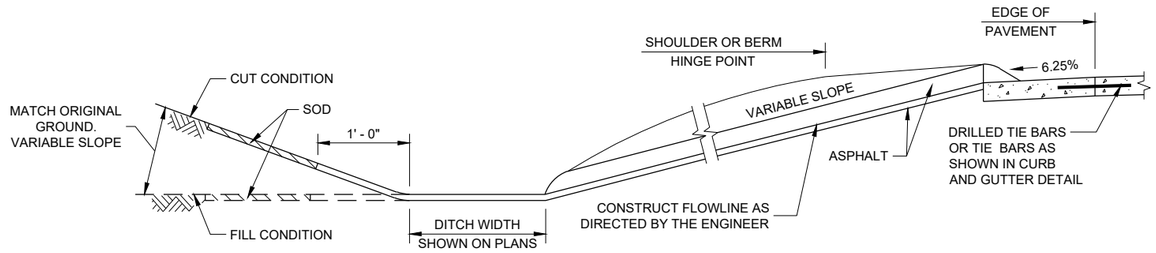
PLAN VIEW
CONCRETE SURFACE DRAIN

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.

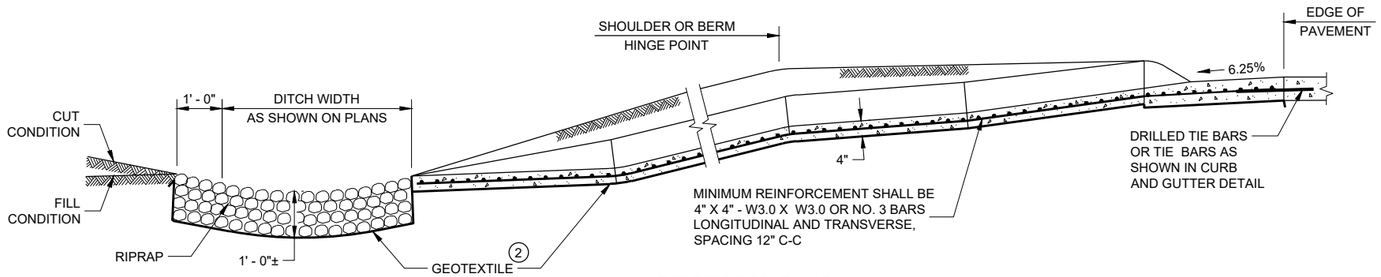
4" X 4" - W3.0 X W3.0 CONCRETE REINFORCEMENT SHALL BE IN ACCORDANCE WITH AASHTO SPECIFICATION M55.

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.

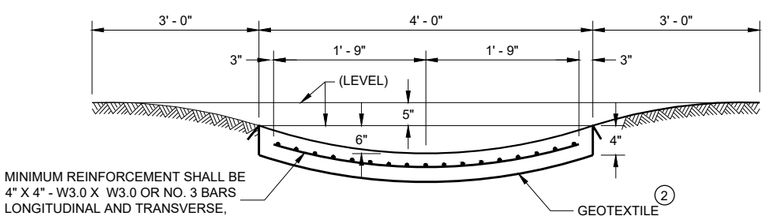


SECTION A - A

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

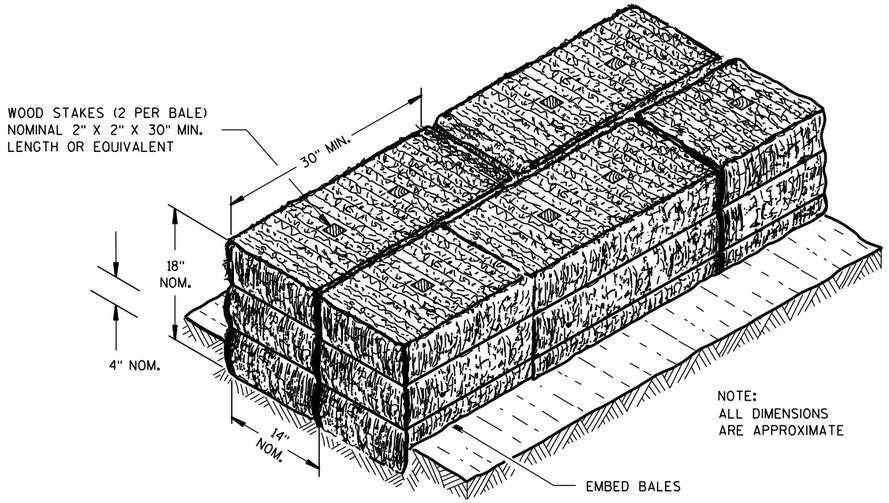
FHWA

6

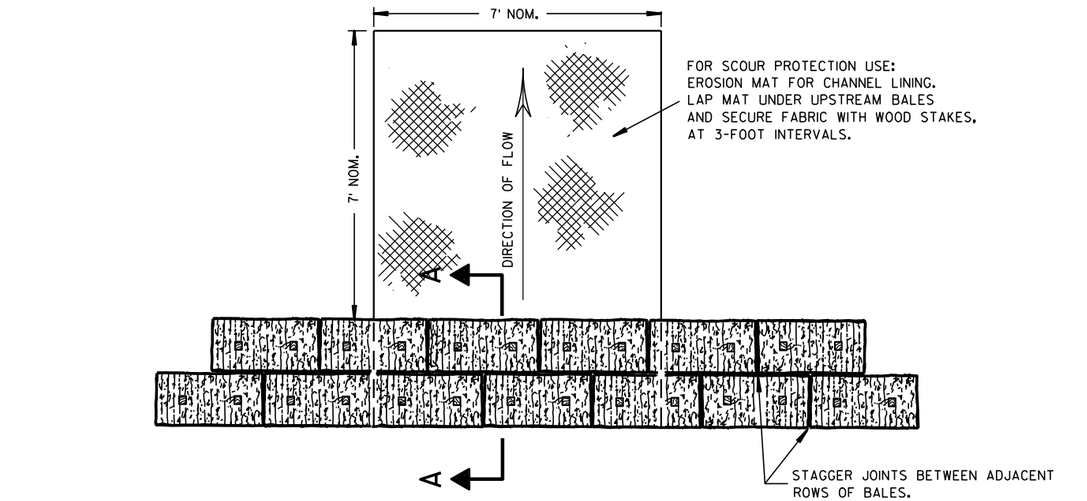
SDD 08D04 - 07

6

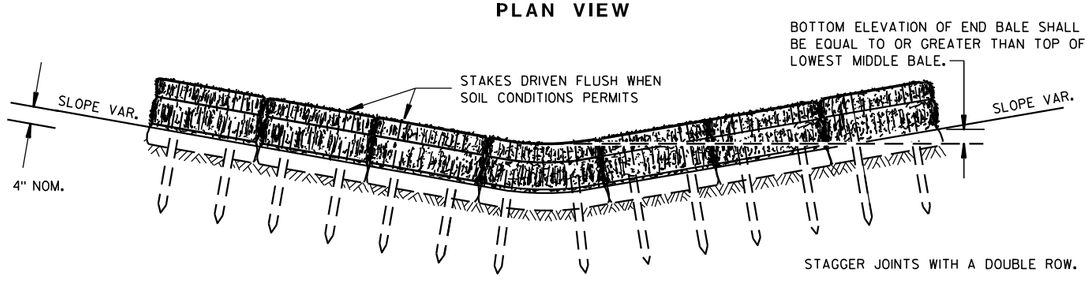
SDD 08D04 - 07



SECTION A-A



PLAN VIEW



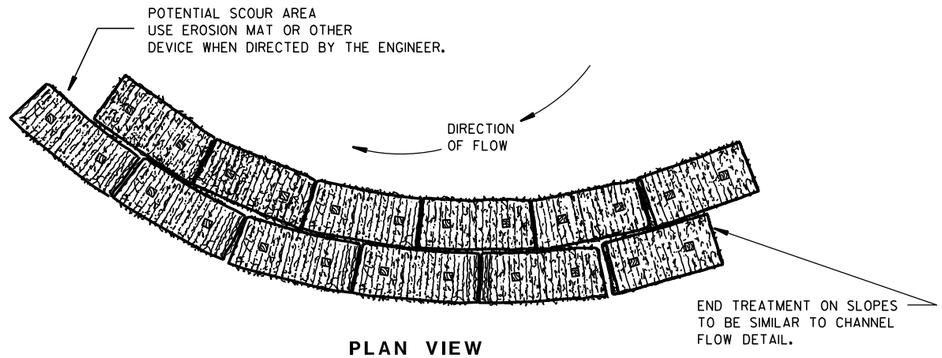
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES ①

GENERAL NOTES

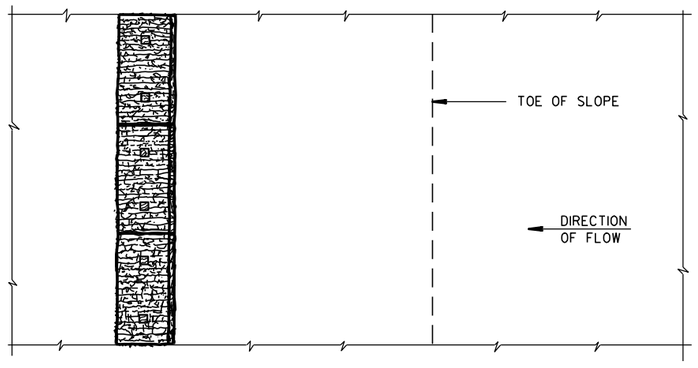
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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.

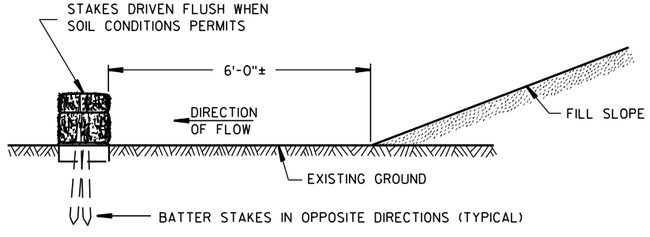


PLAN VIEW

WHEN ALTERING THE DIRECTION OF FLOW



PLAN VIEW



FRONT ELEVATION

WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

EROSION BALES FOR SHEET FLOW

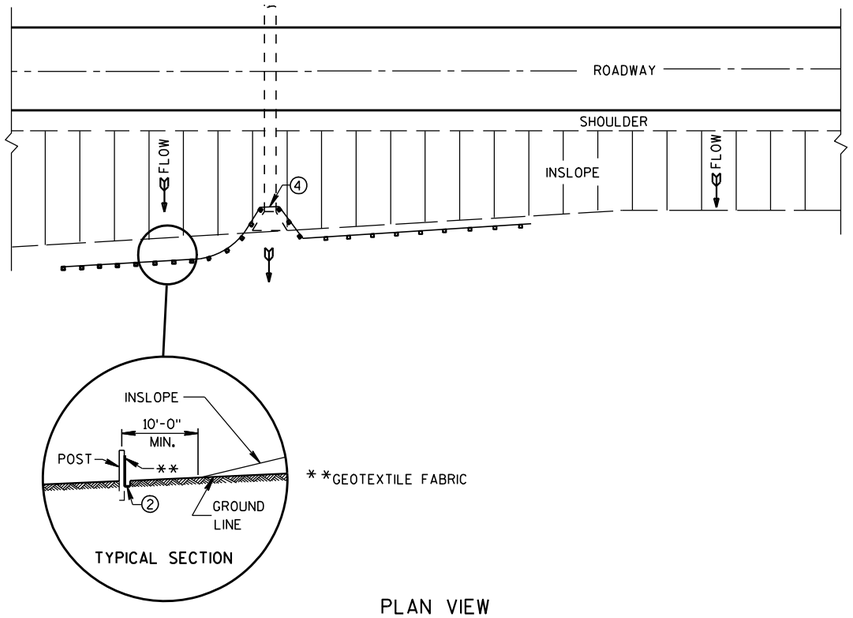
TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

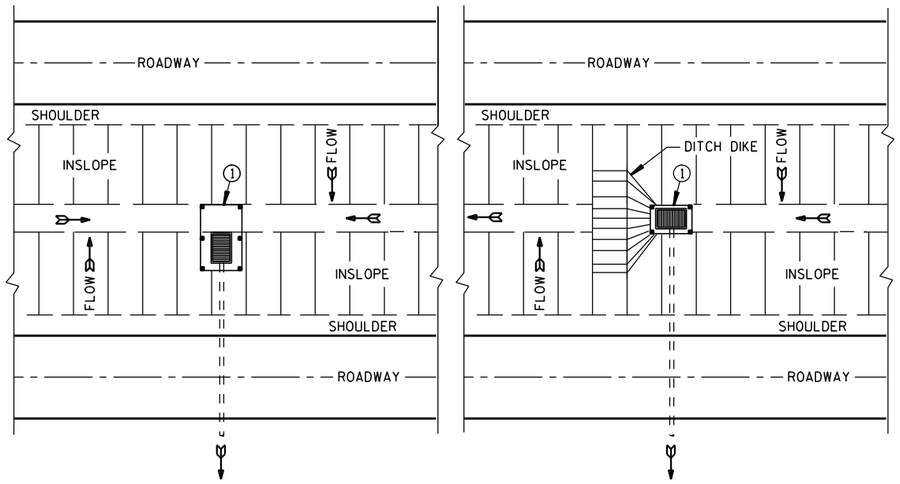
6/04/02 DATE — /S/ Beth Cannestra CHIEF ROADWAY DEVELOPMENT ENGINEER

FHWA



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



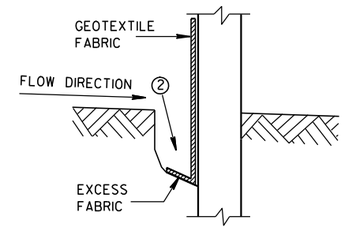
PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

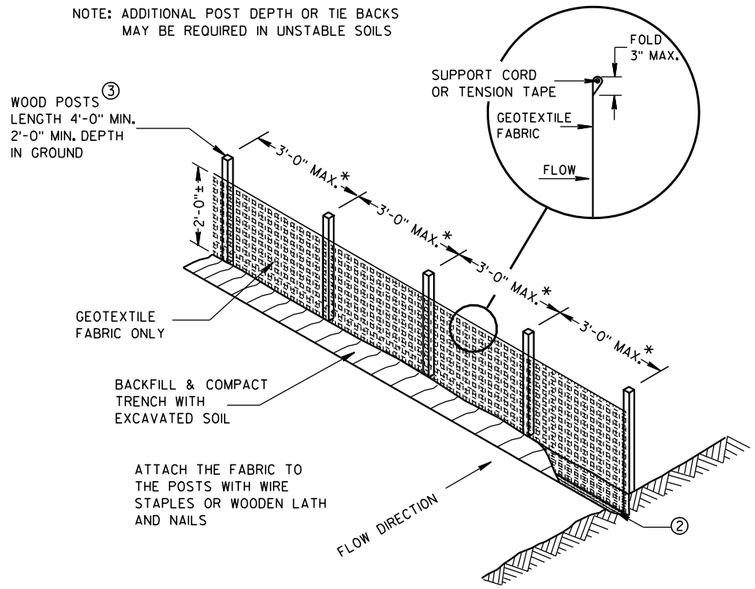
GENERAL NOTES

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

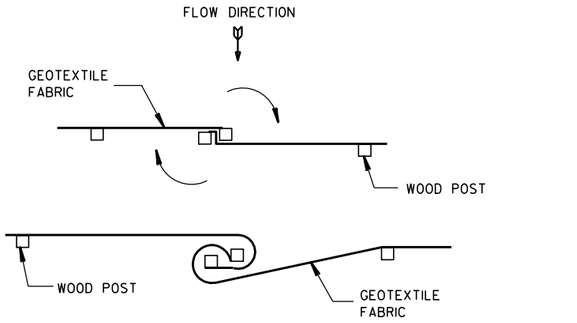
1. HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
2. FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
3. WOOD POSTS SHALL BE A MINIMUM SIZE OF 1⅛" X 1⅛" OF OAK OR HICKORY.
4. SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.
5. CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.



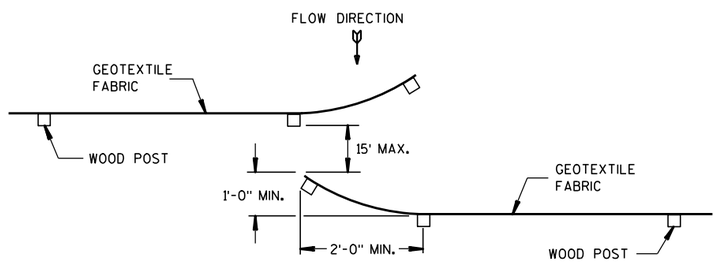
TRENCH DETAIL



SILT FENCE

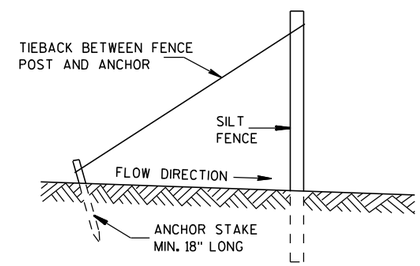


TWIST METHOD



HOOK METHOD

JOINING TWO LENGTHS OF SILT FENCE 5



SILT FENCE TIE BACK

(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

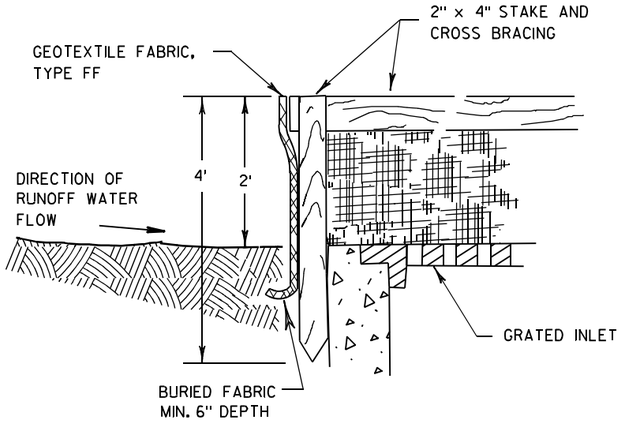
APPROVED
4-29-05 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

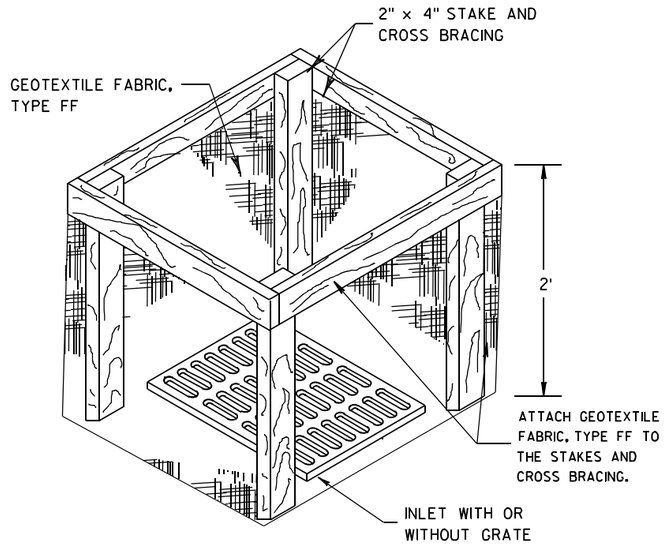
6

S.D.D. 8 E 9-6

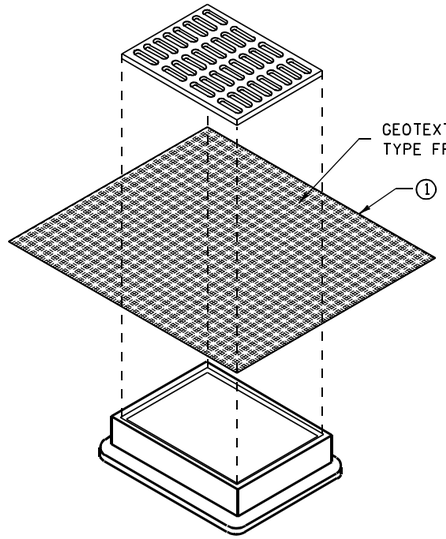
6

S.D.D. 8 E 9-6



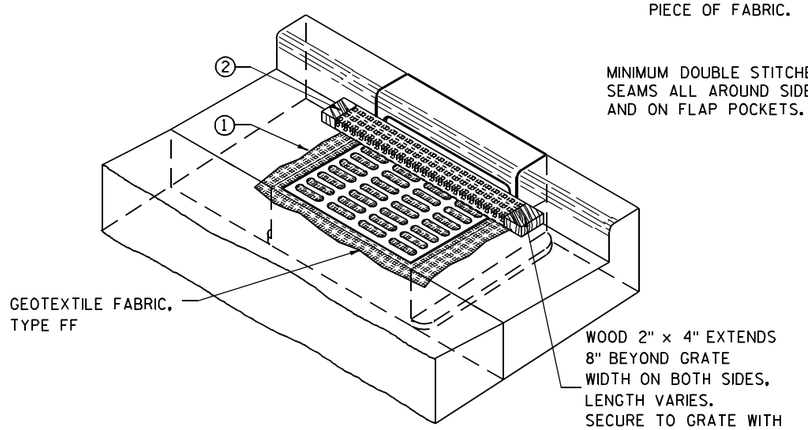


INLET PROTECTION, TYPE A

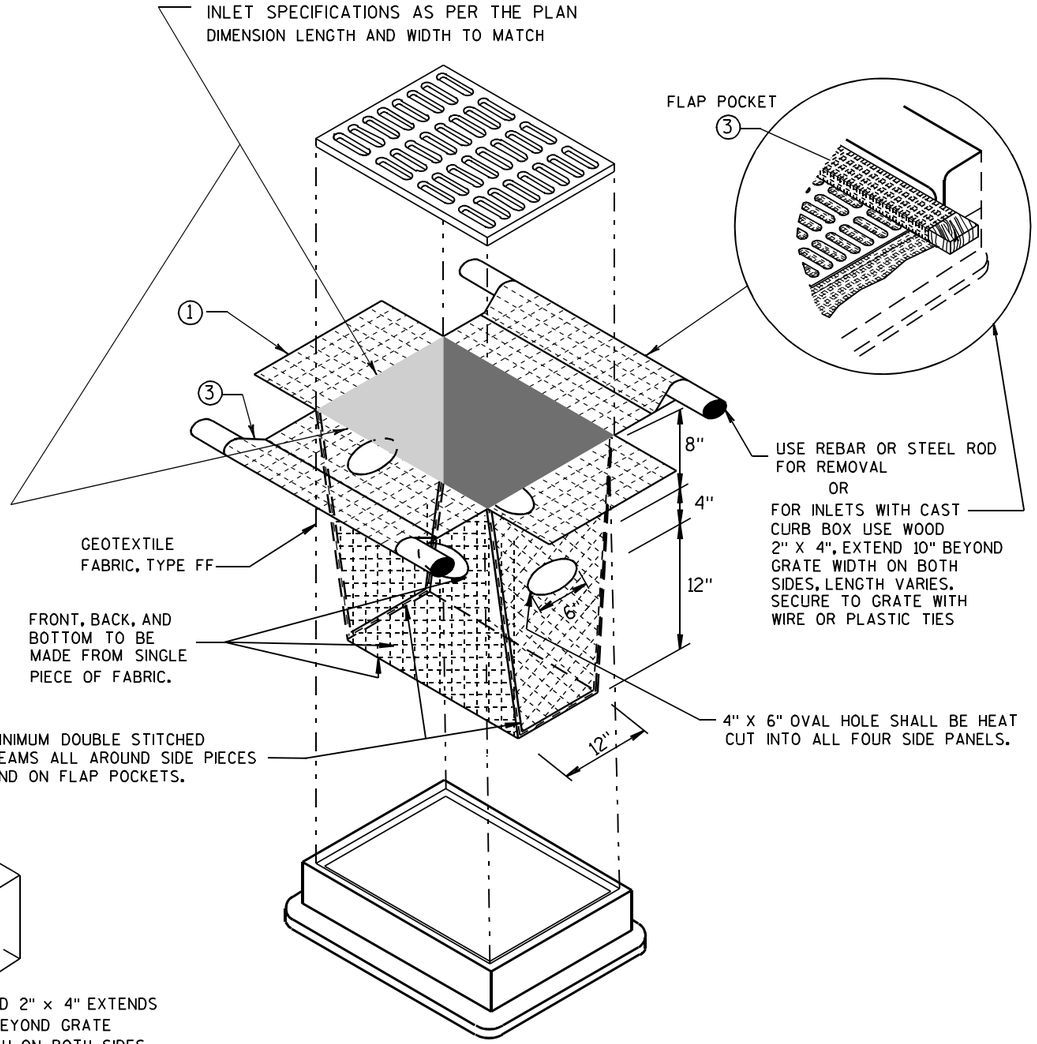


INLET PROTECTION, TYPE B
(WITHOUT CURB BOX)

(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

METAL APRON ENDWALLS

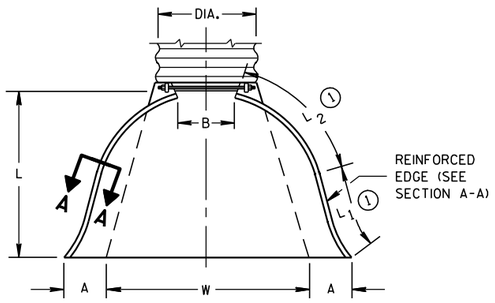
PIPE DIA. (IN.)	MIN. THICK. (Inches) STEEL	MIN. THICK. (Inches) ALUM.	DIMENSIONS (Inches) A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")	APPROX. SLOPE	BODY
12	.064	.060	6	6	6	21	12	17 1/2	24	2 1/2 to 1	1 Pc.
15	.064	.060	7	8	6	26	14	21 3/4	30	2 1/2 to 1	1 Pc.
18	.064	.060	8	10	6	31	15	28 1/4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

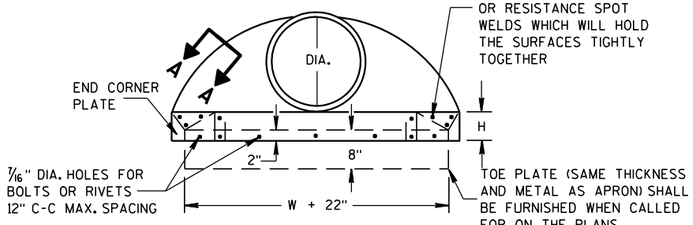
REINFORCED CONCRETE APRON ENDWALLS

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

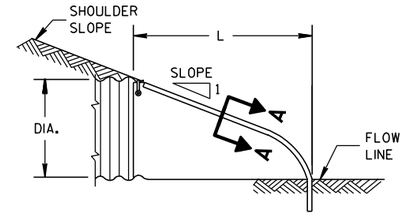
*MINIMUM
**MAXIMUM



PLAN VIEW

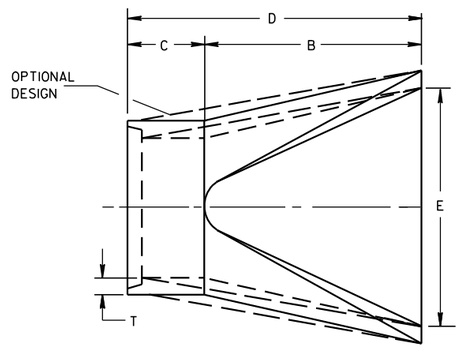


END VIEW

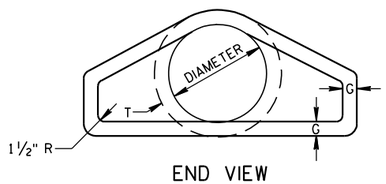


SIDE ELEVATION

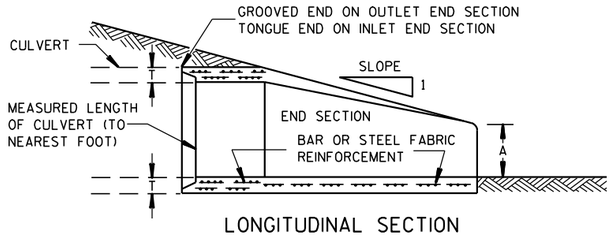
METAL ENDWALLS



PLAN

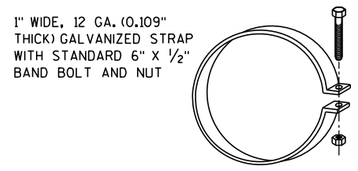


END VIEW



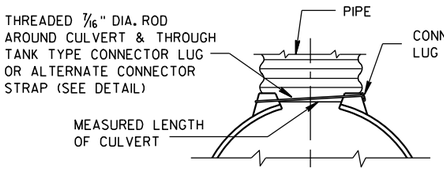
LONGITUDINAL SECTION

CONCRETE ENDWALLS

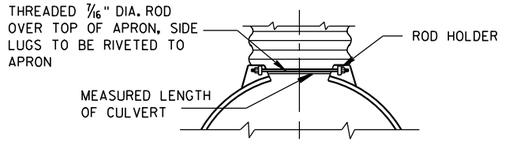


ALTERNATE FOR TYPE 1 CONNECTION

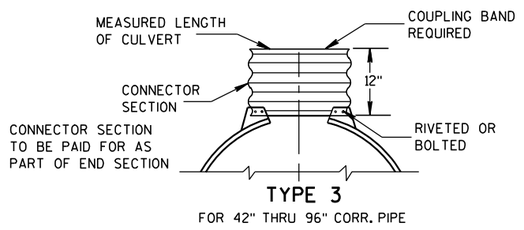
END SECTION CONNECTOR STRAP



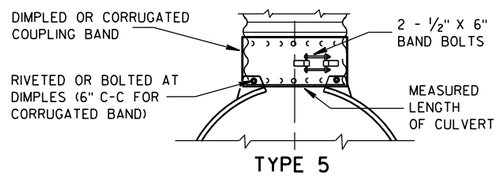
TYPE 1
FOR 12" THRU 24" CORR. PIPE



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

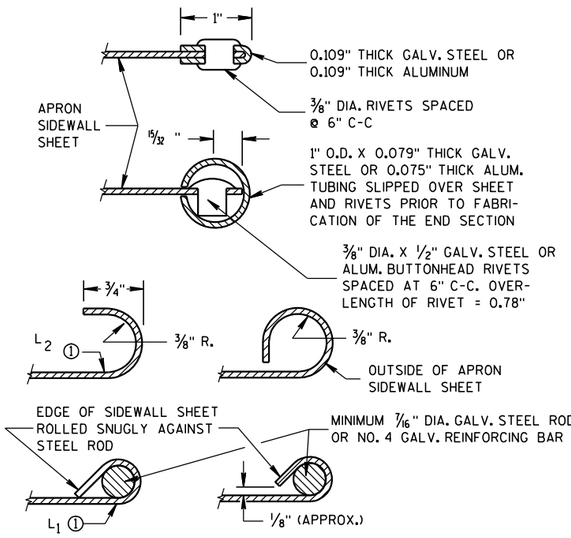
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL. AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

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.

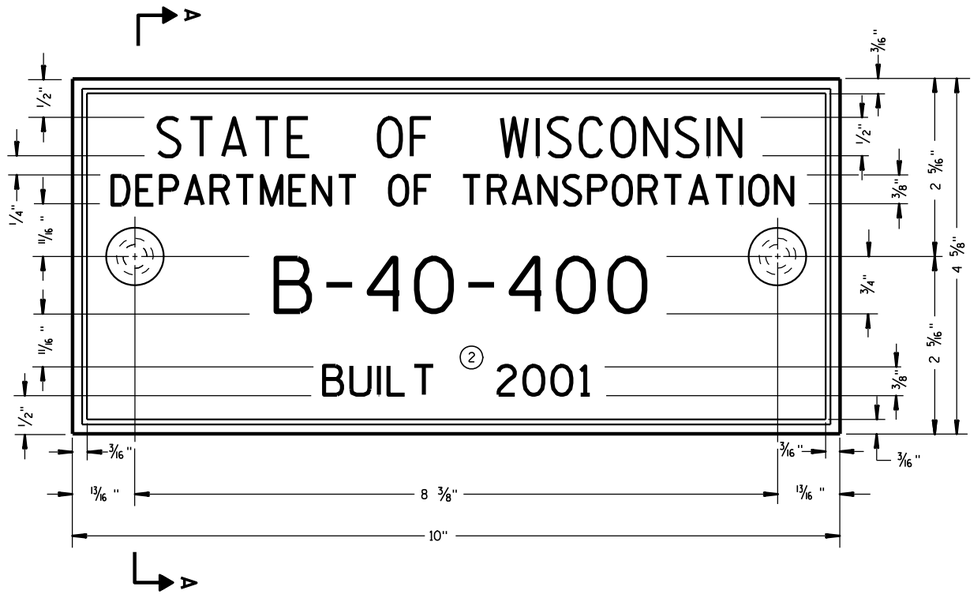
WHERE TWO OR MORE PIPES WITH APRON ENDWALLS ARE LAID ADJACENT TO EACH OTHER, THEY SHALL BE SEPARATED BY A DISTANCE SUFFICIENT TO PROVIDE A MINIMUM CLEARANCE OF 6 INCHES BETWEEN APRON ENDWALLS.

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

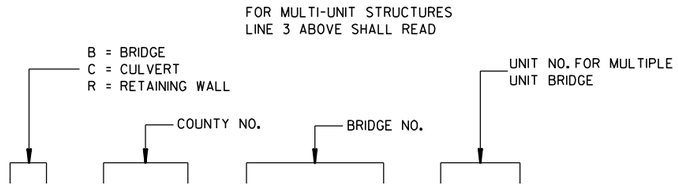
APRON ENDWALLS FOR CULVERT PIPE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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



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



NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES

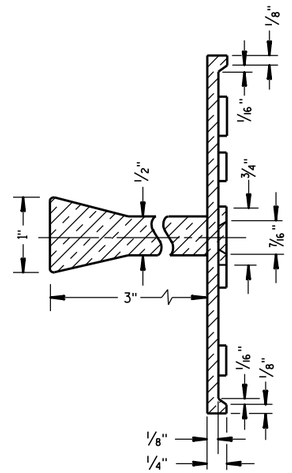
GENERAL NOTES

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

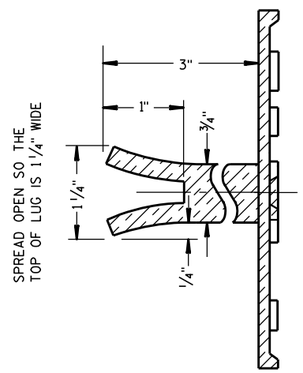
THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

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

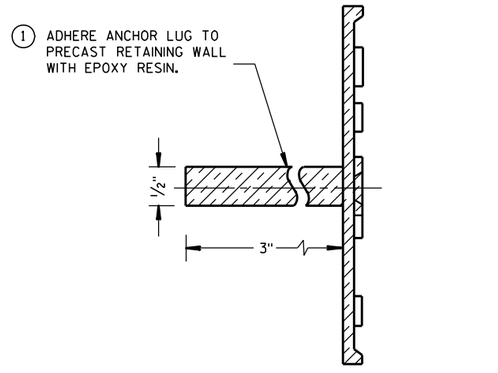
(2) REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.



SECTION A-A



ALTERNATE LUG



ALTERNATE LUG
(FOR ATTACHMENT TO PRECAST STRUCTURES)

NAME PLATE (STRUCTURES)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

3/26/10 DATE

/S/ Scot Beck-- CHIEF STRUCTURAL DEVELOP ENGINEER

FHWA

6

S.D.D. 12 A 3-10

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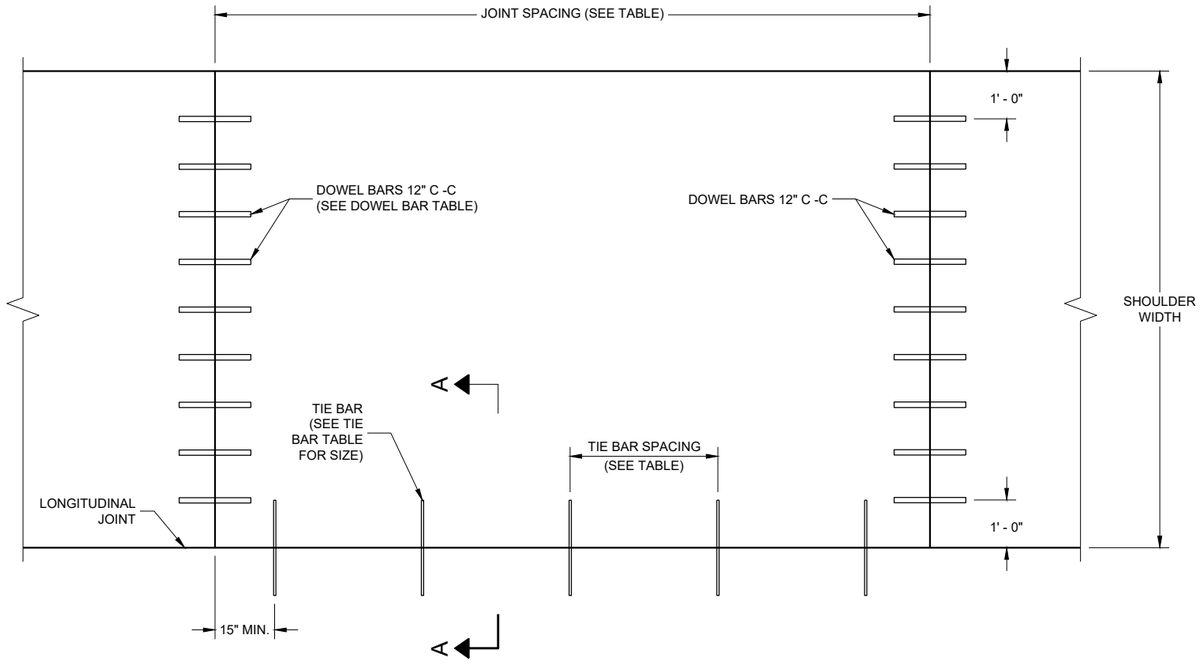
S.D.D. 12 A 3-10



PLAN VIEW

CONCRETE PAVEMENT SHOULDER

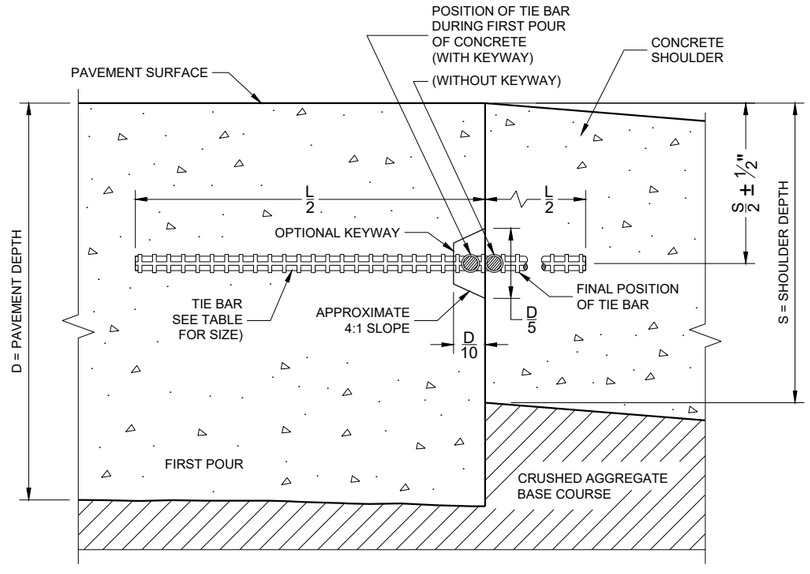
GENERAL NOTES

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

TRANSVERSE JOINT DETAILS ARE SHOWN ELSEWHERE IN THE PLAN.

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

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



SECTION A - A

LONGITUDINAL CONSTRUCTION JOINT

TIE BAR TABLE

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

* SUBSTITUTE BENT BATS 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.

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"

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

CONCRETE PAVEMENT SHOULDERS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2022
DATE

/S/ Peter Kemp
PAVEMENT SUPERVIS

FHWA

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SDD 13A03 - 07

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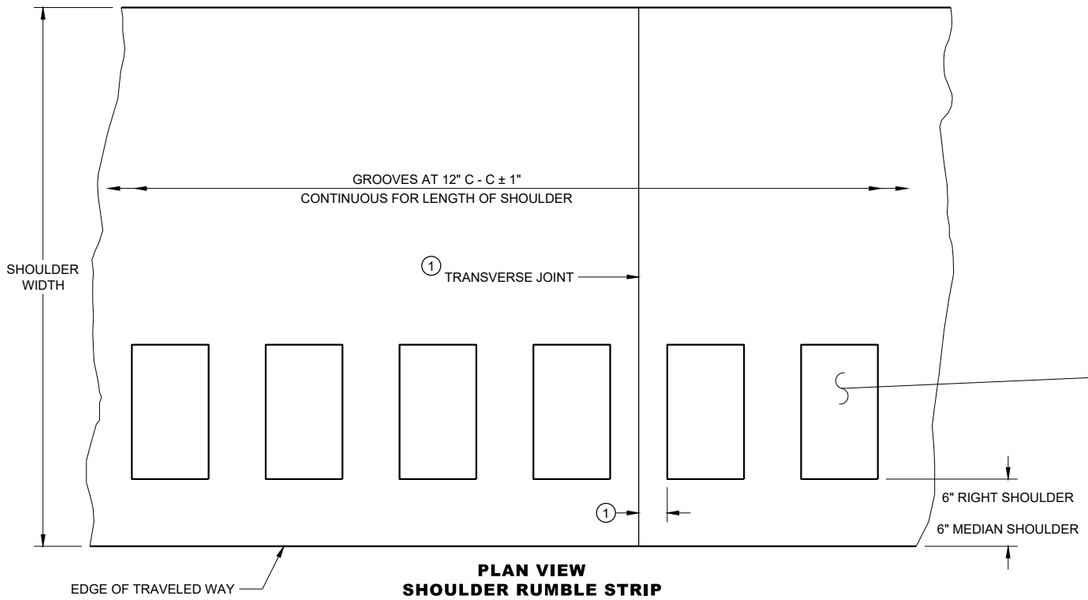
SDD 13A03 - 07

GENERAL NOTES

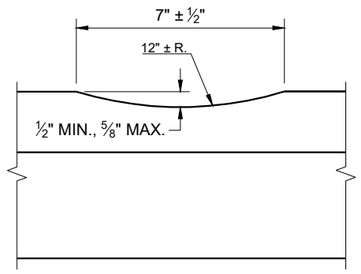
SDD 13A5, SHEET "b" SHOWS THE LOCATION OF THE RUMBLE STRIPS AT RAMP AND GORE LOCATIONS.

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.

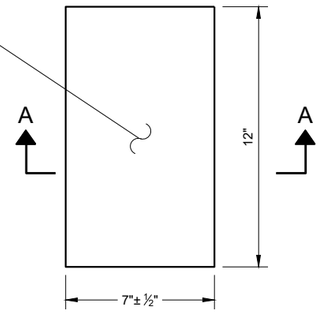
(1) CONCRETE PAVEMENT - RUMBLE STRIPS SHALL BE A MINIMUM OF 6 INCHES AWAY FROM TRANSVERSE JOINTS.



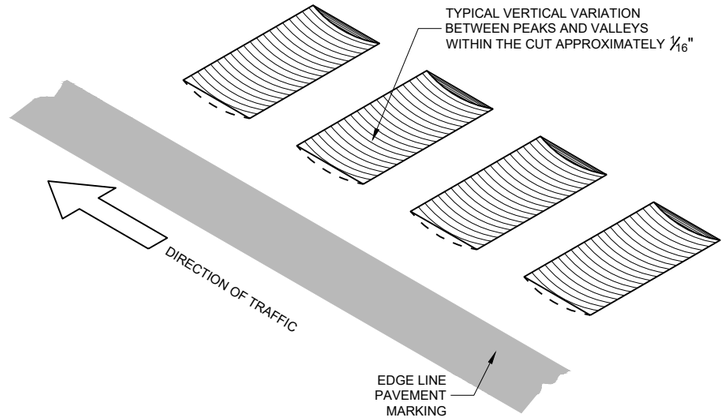
PLAN VIEW
SHOULDER RUMBLE STRIP



SECTION A - A

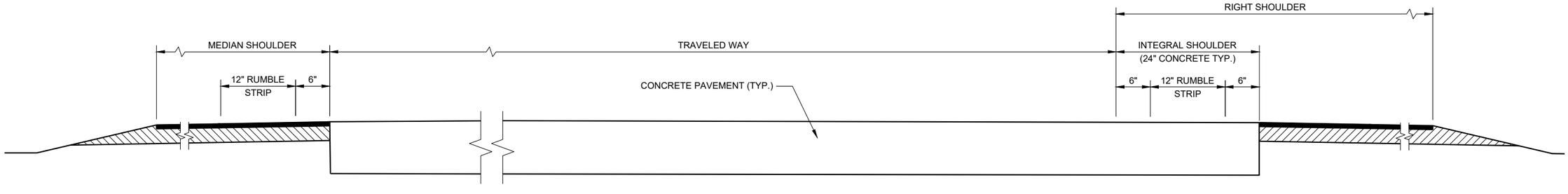


PLAN VIEW
(SINGLE GROOVE)



ISOMETRIC

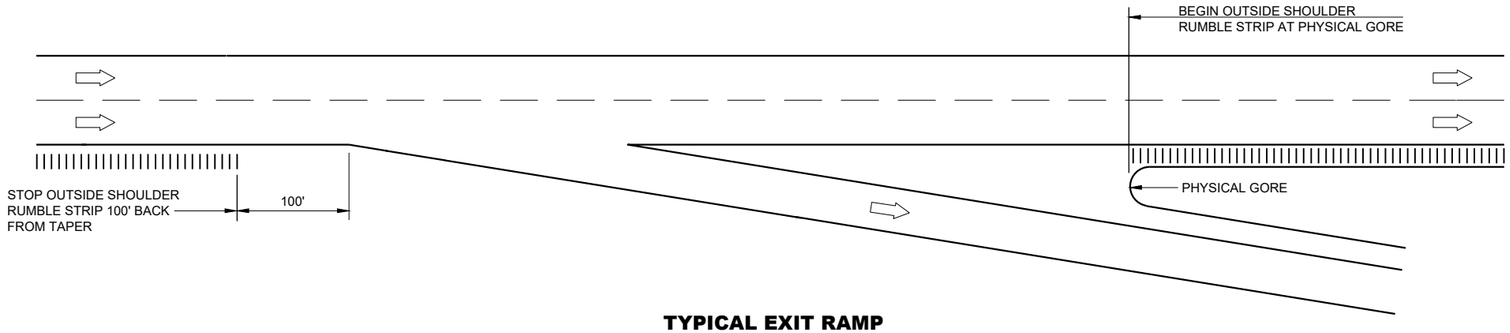
PLACEMENT DETAIL FOR RUMBLE STRIP



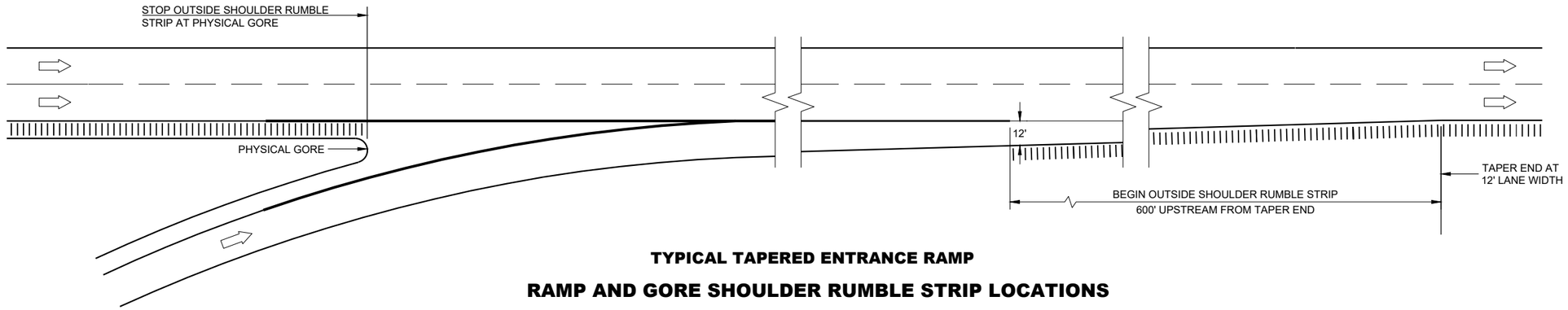
SECTION VIEW

TYPICAL SHOULDER RUMBLE STRIPS
(ONE ROADWAY IS SHOWN)

SHOULDER RUMBLE STRIPS, DIVIDED ROADWAY



TYPICAL EXIT RAMP



TYPICAL TAPERED ENTRANCE RAMP

RAMP AND GORE SHOULDER RUMBLE STRIP LOCATIONS

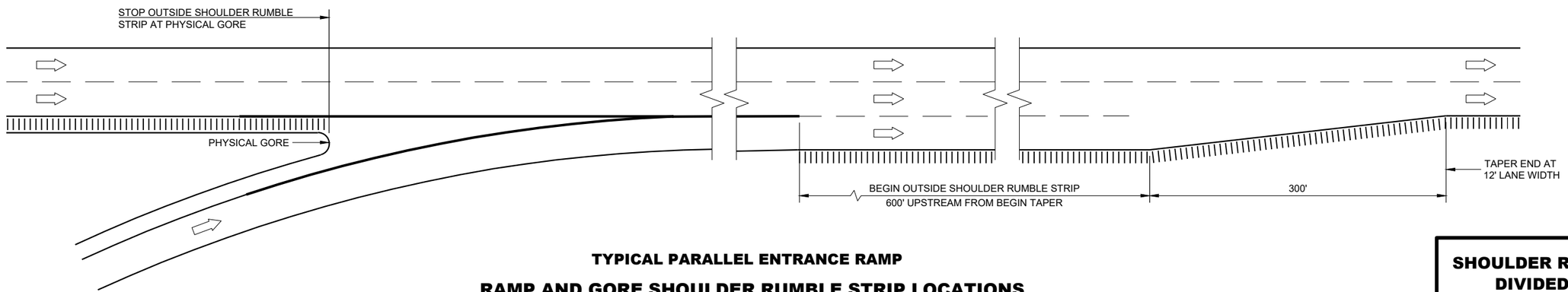
GENERAL NOTES

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



TYPICAL PARALLEL ENTRANCE RAMP

RAMP AND GORE SHOULDER RUMBLE STRIP LOCATIONS

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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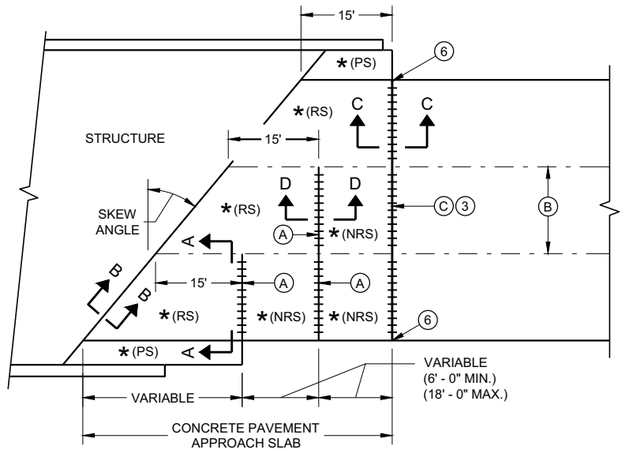
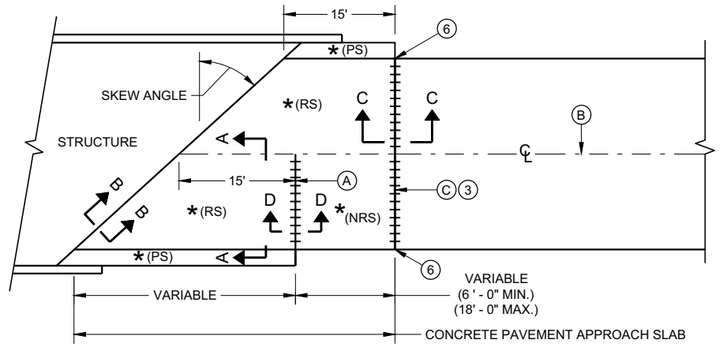
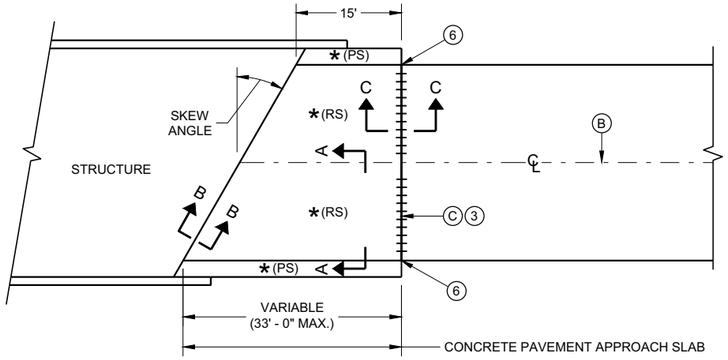
SDD 13A05-06b



SKEWED APPROACH
(PAVEMENT MORE THAN TWO LANES)



SKEWS > 20°
(PAVEMENT WIDTH ≤ 30')



SKEWS ≤ 20°
(PAVEMENT WIDTH ≤ 30')

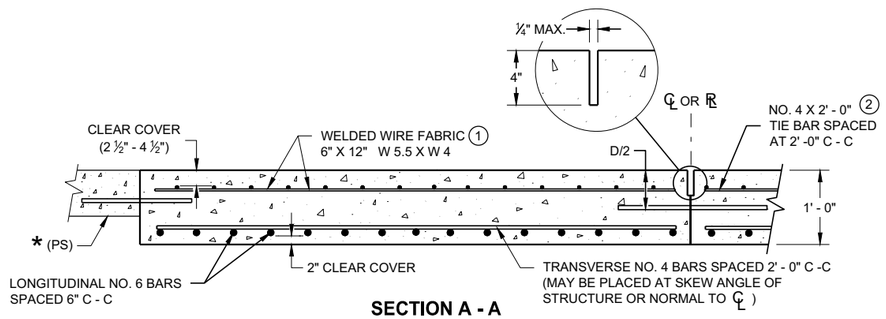
APPROACH SLAB AND ADJACENT PAVEMENT

* (RS) = REINFORCED CONCRETE SLAB

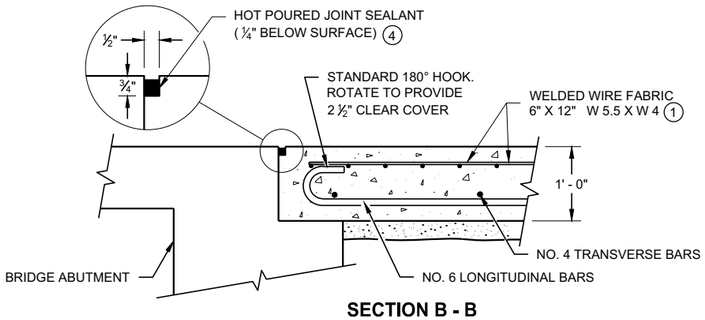
* (PS) = PAVED CONCRETE SHOULDER OR CONCRETE DRAINAGE SLAB

* (NRS) - NON - REINFORCED CONCRETE SLAB

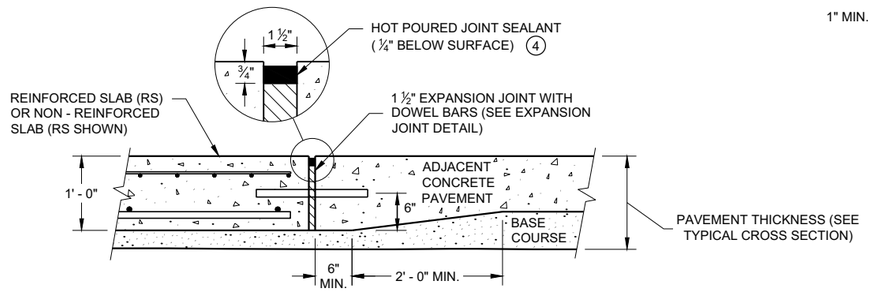
*** STANDARD DOWEL BAR DIAMETER (SEE SDD 13C11 AND SDD 13C13)



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.

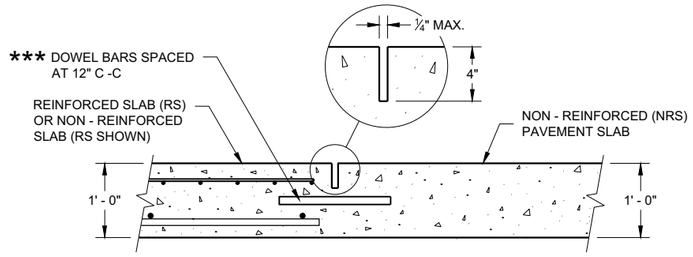
(5) PLACE EXPANSION CAP ON THE END OF THE DOWEL THAT IS NOT TACK WELDED TO THE BASKET. DO NOT FORCE DOWEL BAR PAST THE DOWEL STOP.

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

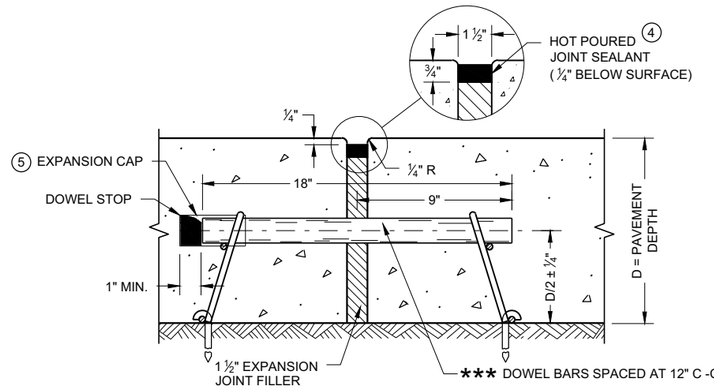
(A) STANDARD CONTRACTION JOINT NORMAL TO ℄ OR ℞.

(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

FHWA

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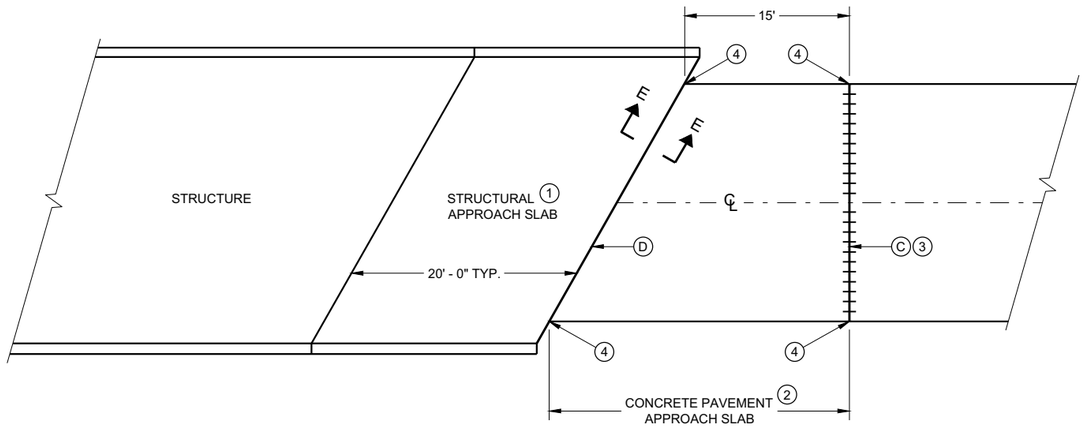
SDD 13B02 - 09a



BRIDGE APPROACHES

GENERAL NOTES

ALL PROJECTS THAT INVOLVE A STRUCTURAL APPROACH SLAB WILL ALSO HAVE A CONCRETE PAVEMENT APPROACH SLAB.

(1) SEE BRIDGE PLAN.

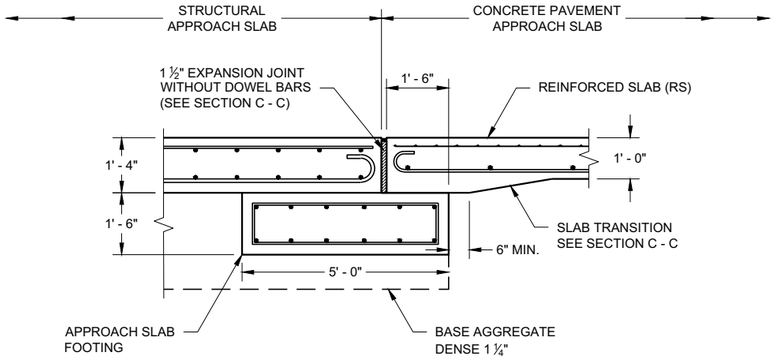
(2) CONFORM TO SDD 13B02 SHEET A FOR CONCRETE PAVEMENT APPROACH SLAB DETAILS

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

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

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

(D) 1 ½" EXPANSION JOINT (NO DOWELS)



SECTION E - E
FOOTING DETAIL
STRUCTURAL APPROACH SLAB TO CONCRETE BRIDGE APPROACH

STRUCTURAL APPROACH SLAB AND CONCRETE PAVEMENT APPROACH SLAB

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2018
DATE
/S/ Peter Kemp P.E.
PAVEMENT SUPERVIS

FHWA

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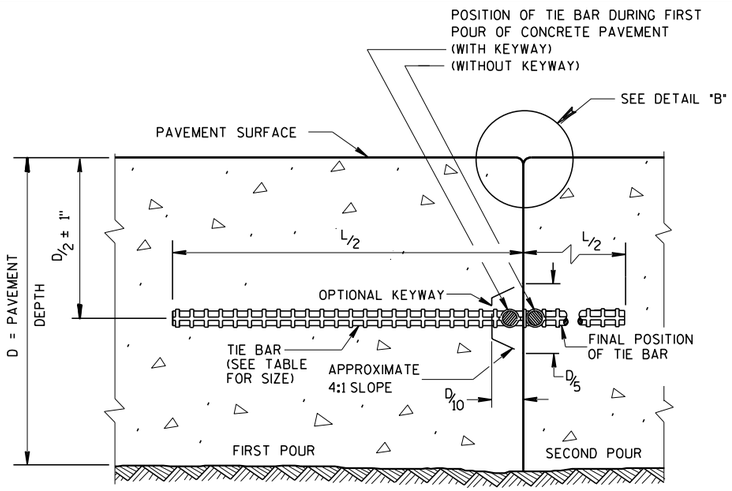
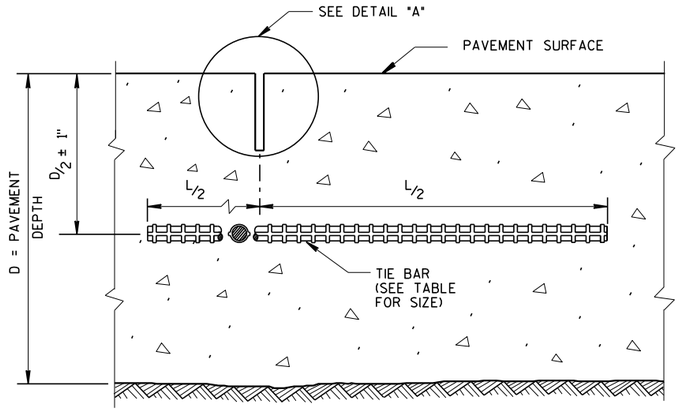
SDD 13B02 - 09b



CONSTRUCTION JOINT



SAWED JOINT

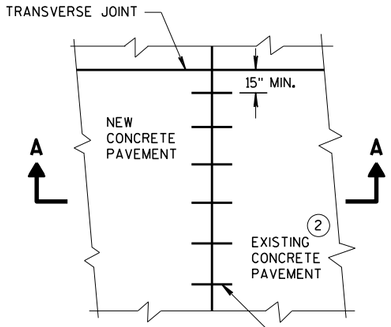
GENERAL NOTES

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

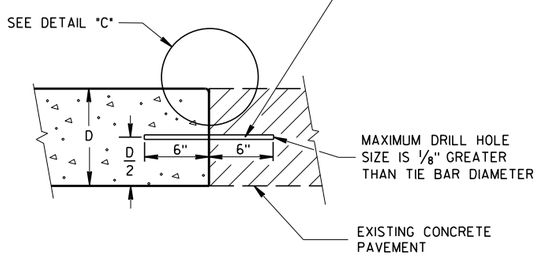
CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

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

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

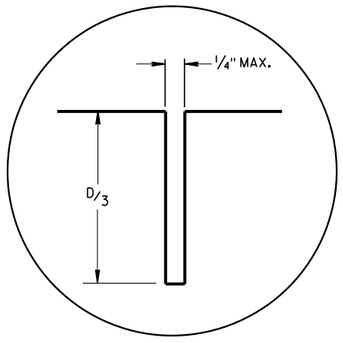


PLAN VIEW

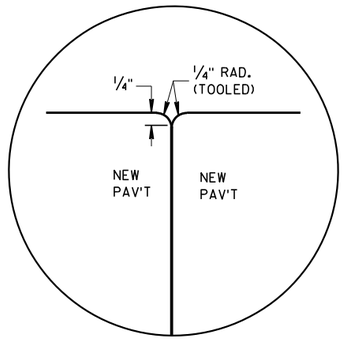


SECTION A-A

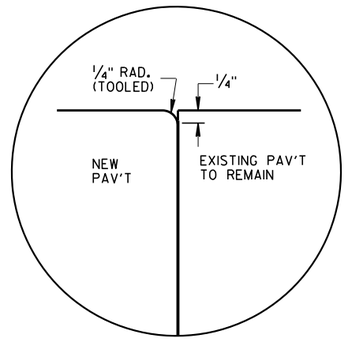
LONGITUDINAL CONSTRUCTION JOINT TIE BARS ANCHORED INTO EXISTING PAVEMENT



DETAIL "A"



DETAIL "B"



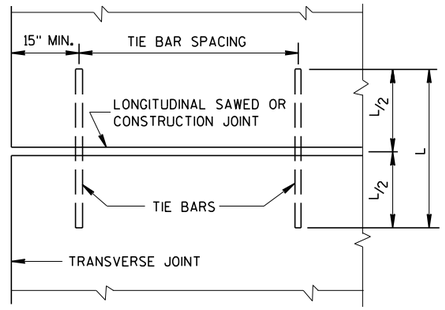
DETAIL "C"

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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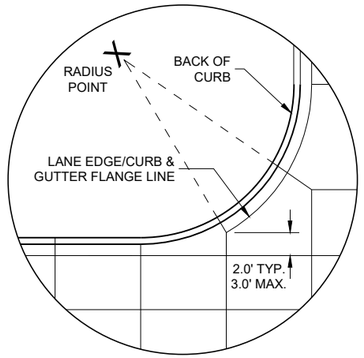
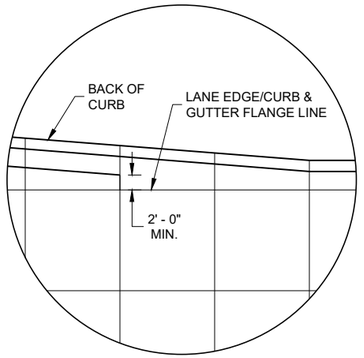
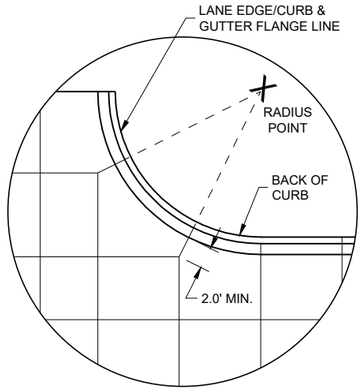
S.D.D. 13 C 1-19



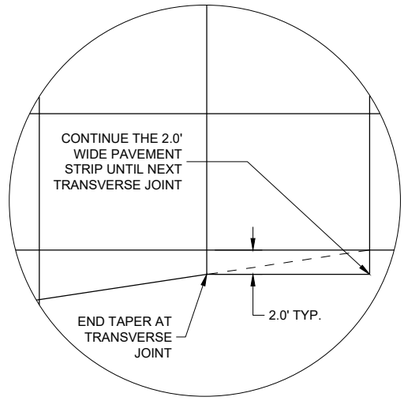
DETAIL "A"



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.

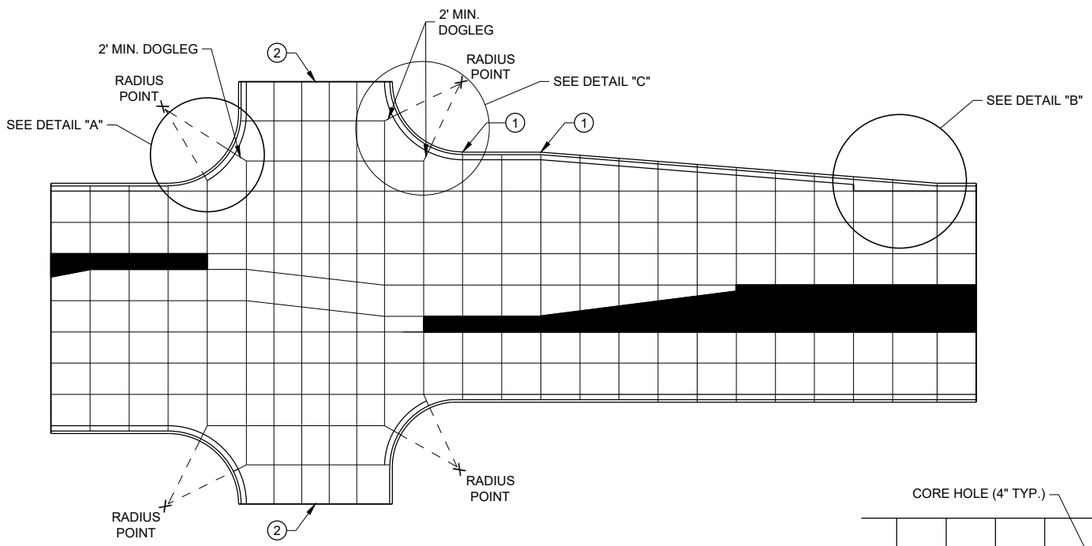
AVOID SLABS LESS THAN 2 FEET WIDE OR GREATER THAN 15 FEET WIDE.

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.

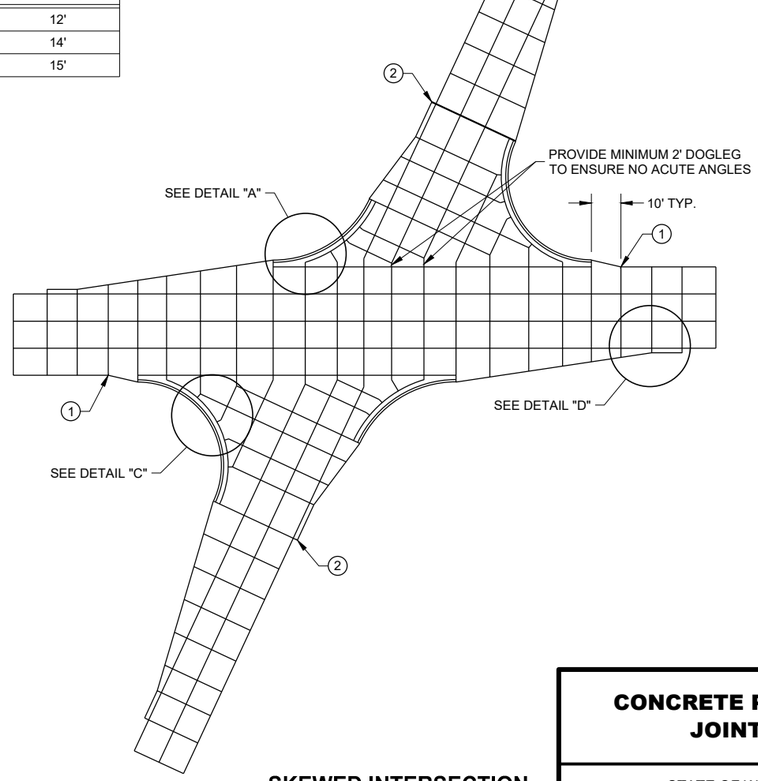
1. PROVIDE TRANSVERSE JOINTS AT ALL PAVEMENT WIDTH CHANGES.
2. CONSTRUCT DOWELED EXPANSION JOINT ON THE SIDE ROAD OF AN INTERSECTION IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH. ALIGN EXPANSION JOINT WITH EDGE OF RADIUS.
3. THE ENGINEER MAY APPROVE SLIGHT VARIATIONS FROM THESE JOINTING DETAILS.



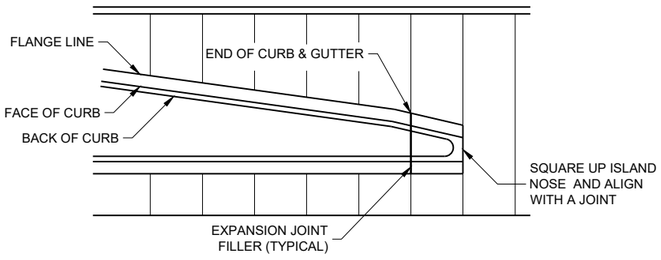
STANDARD INTERSECTION

PAVEMENT DEPTH AND JOINT SPACING TABLE

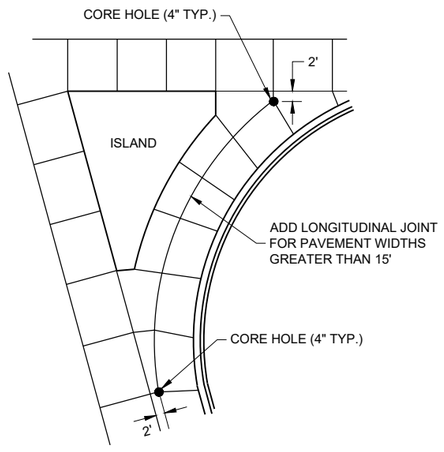
PAVEMENT DEPTH (D)	CONTRACTION JOINT SPACING
6", 6 ½"	12'
7", 7 ½"	14'
8" & ABOVE	15'



SKEWED INTERSECTION



APPROACH TO MEDIAN



LARGE RIGHT TURN

CONCRETE PAVEMENT JOINTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

SDD 13C18 - 08a

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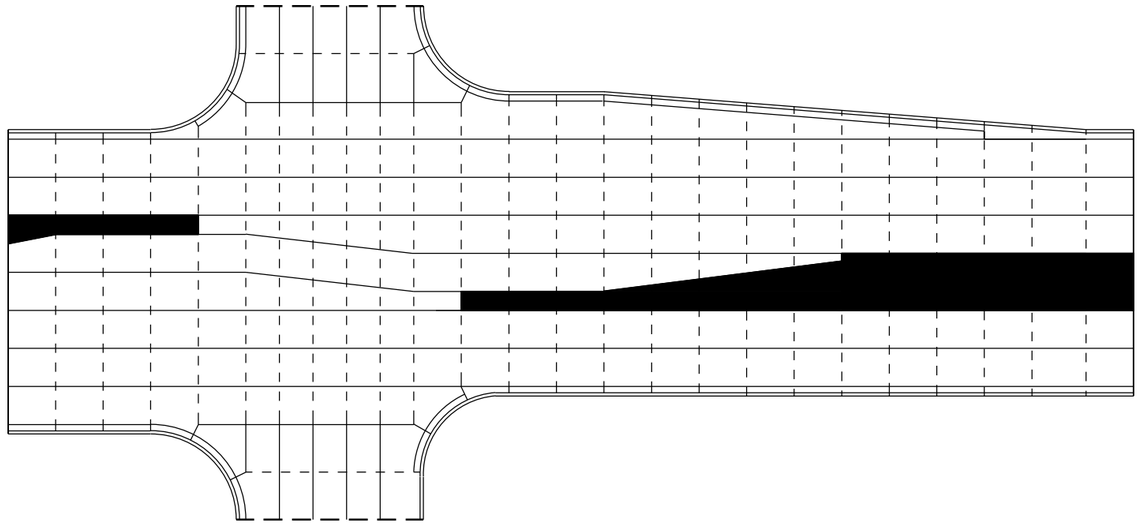
SDD 13C18 - 08a

LEGEND

POTENTIAL DOWELED EXPANSION JOINT

DOWELED JOINT

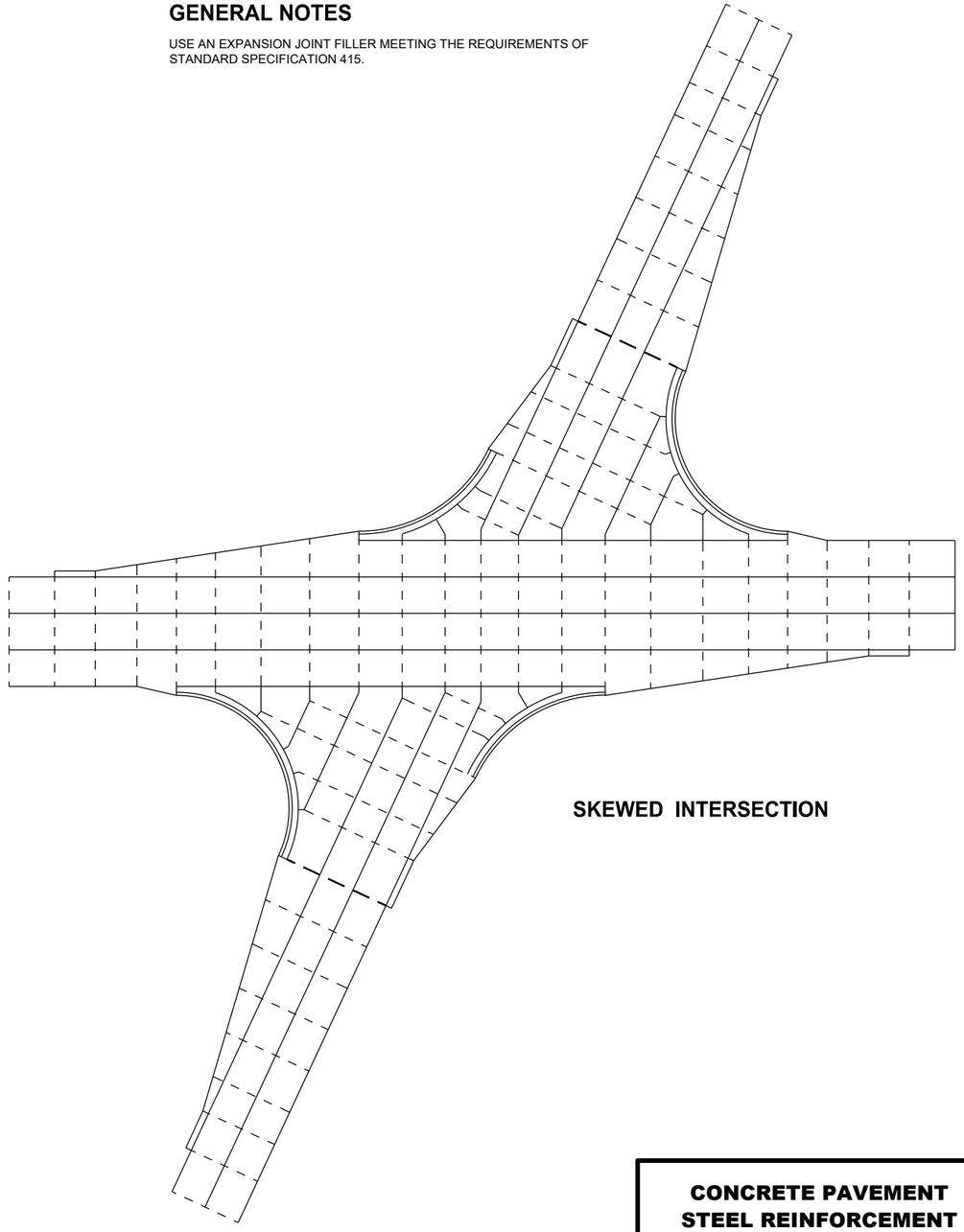
TIED JOINT



STANDARD INTERSECTION

GENERAL NOTES

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



SKEWED INTERSECTION

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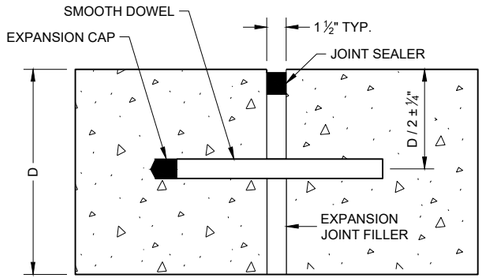
SDD 13C18 - 08b

CONCRETE PAVEMENT STEEL REINFORCEMENT

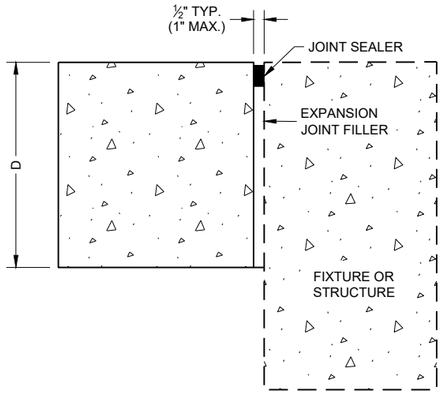
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTA

6

SDD 13C18 - 08b



DOWELED TRANSVERSE (1)



UNTIED - LONGITUDINAL

EXPANSION JOINTS

TIE BAR TABLE

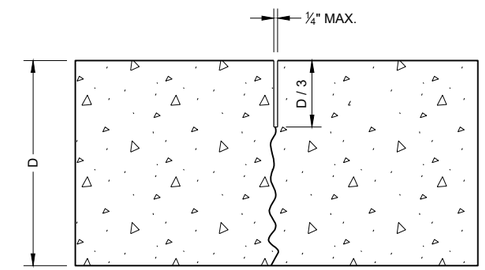
PAVEMENT DEPTH (D)	TIE BAR SIZE	TIE BAR LENGTH (L)	MAX. TIE BAR SPACING
< 10 ½"	NO. 4	30"	36"
≥ 10 ½"	NO. 5	36"	36"
	NO. 4 *	30"	24" **

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

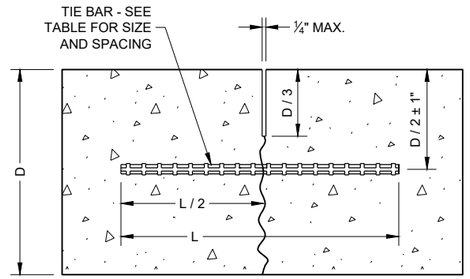
** CONFORM TO 15" MINIMUM SPACING FROM TRANSVERSE JOINTS; SPACING BETWEEN TIE BARS WILL BE 30" AT TRANSVERSE JOINTS.

GENERAL NOTES

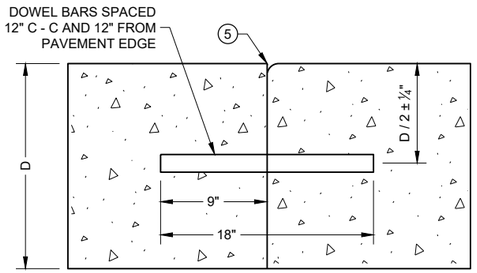
1. USE DOWELED EXPANSION JOINTS ON SIDE ROADS AT INTERSECTIONS (TO ISOLATETHE SIDE ROAD FROM THE THROUGH STREET) IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH.
2. SPACE CONTRACTION JOINTS IN ACCORDANCE WITH SDD 13C4, 13C11 OR 13C13.
3. LOCATE CONSTRUCTION JOINTS A MINIMUM 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.



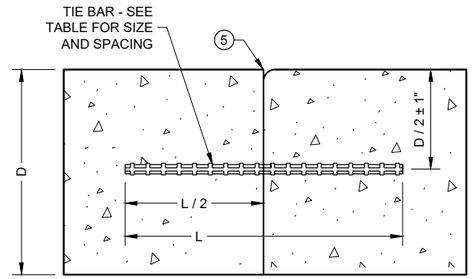
UNDOWELED TRANSVERSE



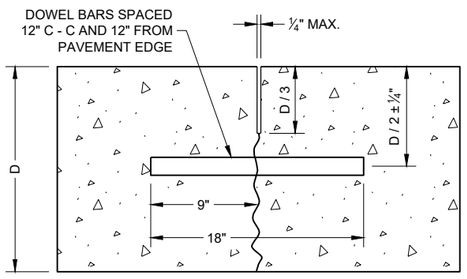
TIED LONGITUDINAL



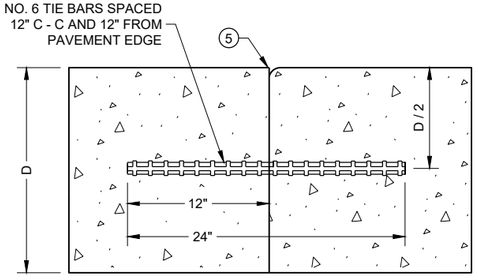
DOWELED TRANSVERSE (3)



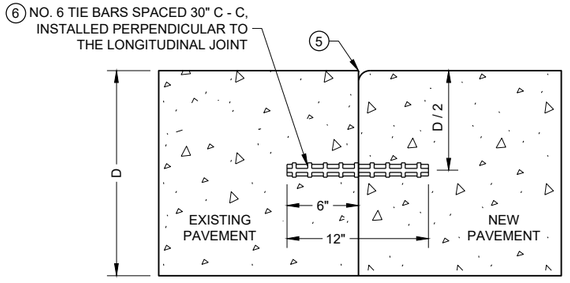
TIED LONGITUDINAL



DOWELED TRANSVERSE



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

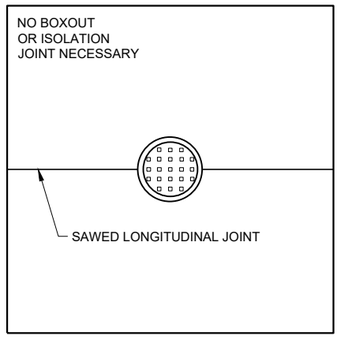


TIED LONGITUDINAL TO EXISTING

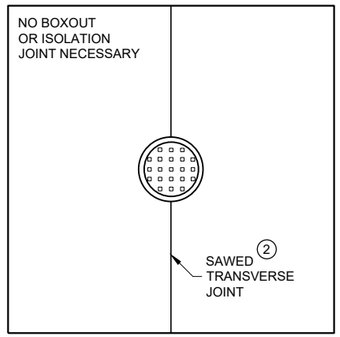
CONTRACTION JOINTS (2)

CONSTRUCTION JOINTS (4)

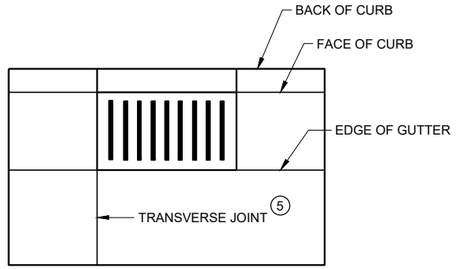
CONCRETE PAVEMENT JOINT TYPES



MANHOLE WITH LONGITUDINAL JOINT



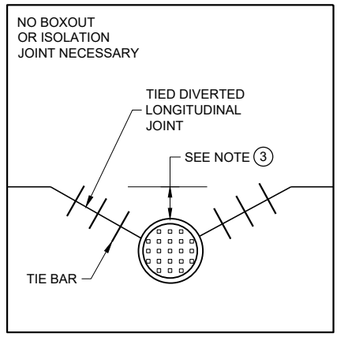
MANHOLE WITH TRANSVERSE JOINT



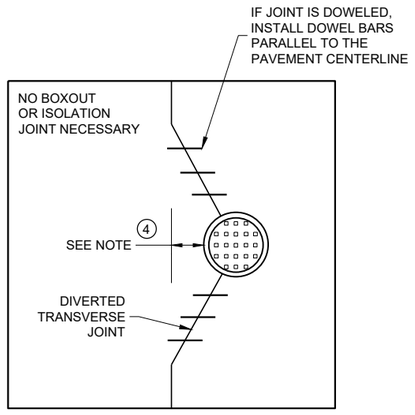
INLET WITH TRANSVERSE JOINT

GENERAL NOTES

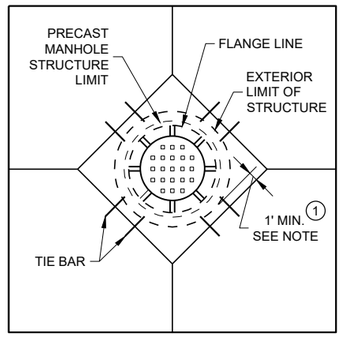
1. USE BOXOUTS WHEN UTILITY STRUCTURE IS IN THE PATH OF CONSTRUCTION JOINTS. PROVIDE A 1 FOOT MINIMUM CLEARANCE BETWEEN THE EXTERIOR LIMIT OF THE STRUCTURE TO THE DIAMOND BOXOUT.
2. ADJUST TRANSVERSE JOINT TO INTERSECT MANHOLE IF POSSIBLE.
3. IF DISTANCE BETWEEN THE LONGITUDINAL JOINT AND THE EDGE OF 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

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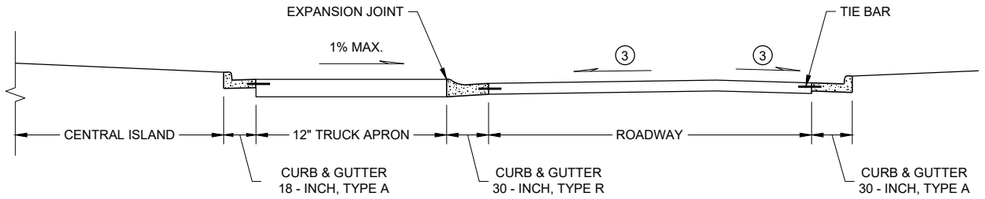
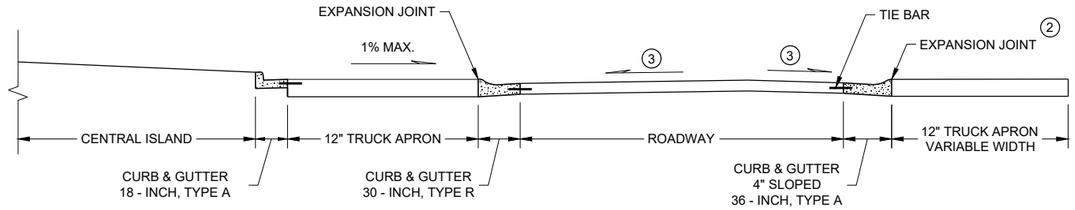
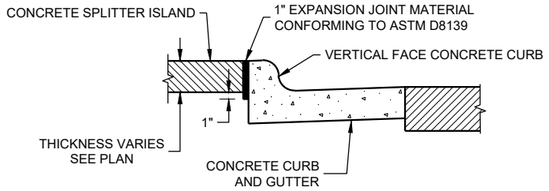
SDD13C18 - 08d



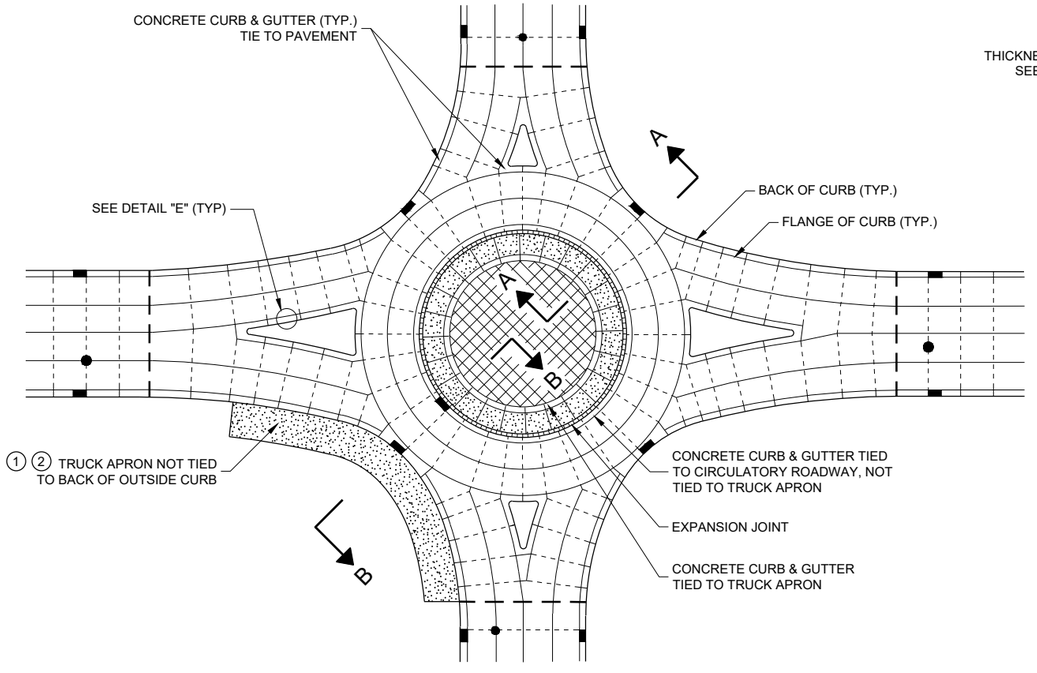
SECTION A - A



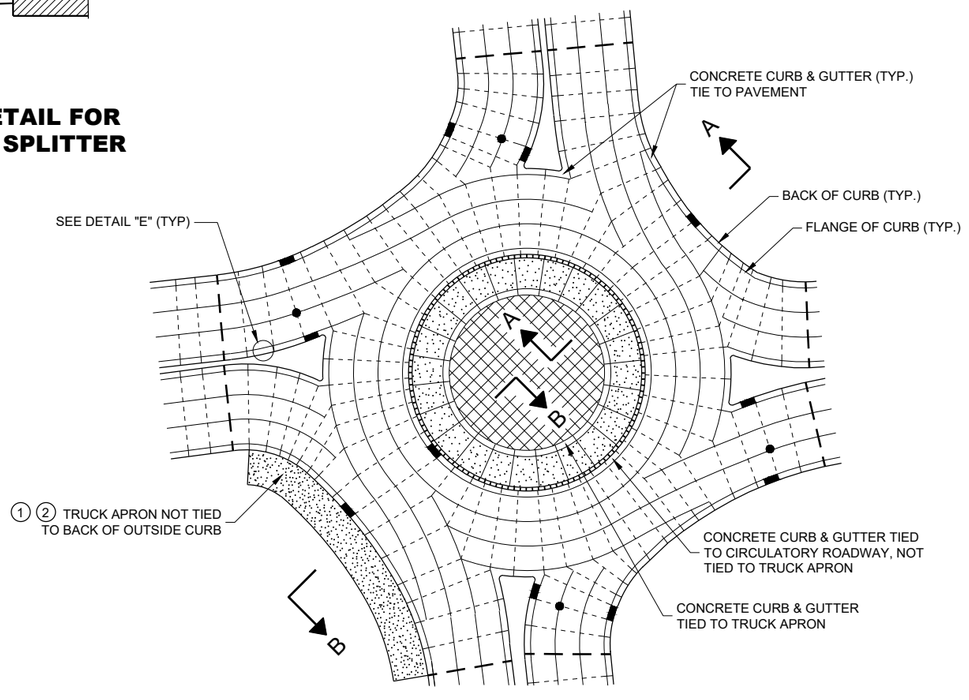
SECTION B - B



DETAIL 'E'
EXPANSION JOINT DETAIL FOR VERTICAL CURB AT A SPLITTER ISLAND



ISOLATED CIRCLE JOINT LAYOUT FOR ROUNDABOUTS



PINWHEEL JOINT LAYOUT FOR ROUNDABOUTS

GENERAL NOTES

MAXIMUM JOINT SPACING IS IN ACCORDANCE WITH THE TABLE SHOWN ON SDD 13C18 - SHEET "a"

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

DO NOT DOWEL OR TIE THE TRUCK APRON TRANSVERSE JOINTS.

(1) DESIGNER DETERMINES SIZE AND LOCATION(S) OF TRUCK APRON TO ACCOMMODATE TRACKING OF OVERSIZE / OVERWEIGHT VEHICLES.

(2) TIE THE OUTSIDE TRUCK APRON TO THE BACK SIDE OF CURB ONLY WHEN ENTIRE TRUCK APRON IS LESS THAN 3 FEET.

(3) CONFORM TO PLAN CONSTRUCTION DETAILS FOR CIRCULATORY ROADWAY CROSS SLOPE.

LEGEND

- DOWELED JOINT
- TIED JOINT
- EXPANSION JOINT
- POTENTIAL DOWELED EXPANSION JOINT
- TRUCK APRON
- CENTRAL ISLAND
- UTILITY STRUCTURES

CONCRETE PAVEMENT JOINTING AND STEEL REINFORCEMENT IN ROUNDABOUTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023
DATE
/S/ Peter Kemp P.E.
PAVEMENT SUPERVIS

FHWA

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SDD 13C18 - 08e

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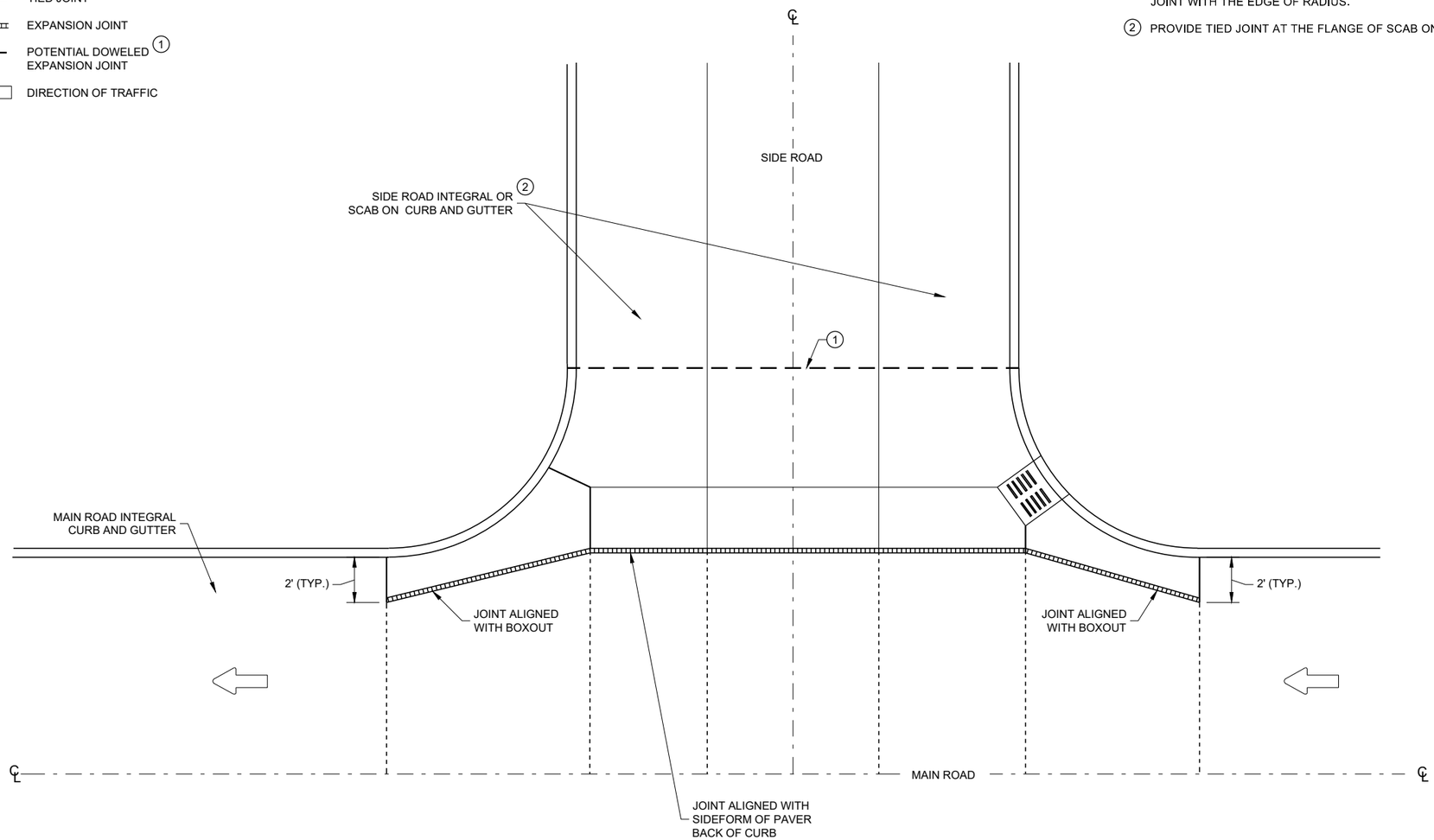
SDD 13C18 - 08e

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

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SDD 13C18 - 08f

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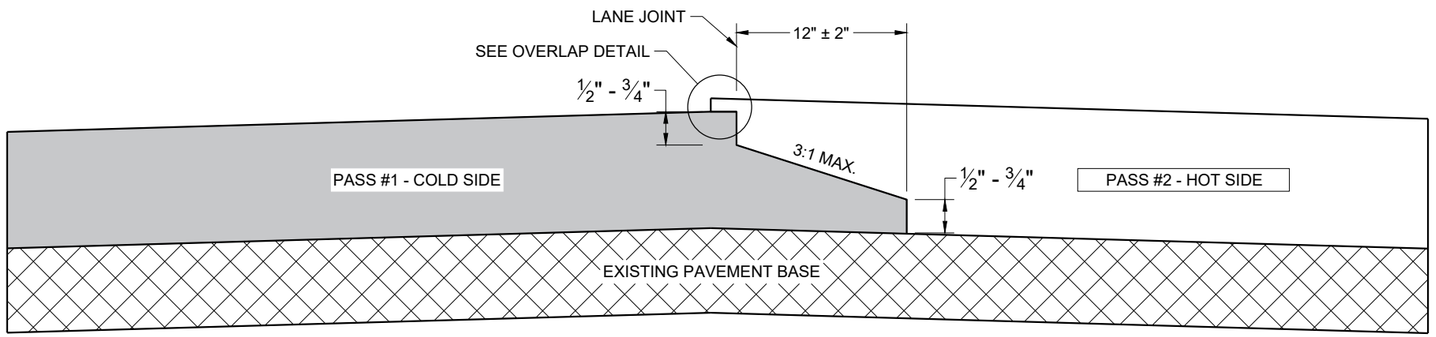
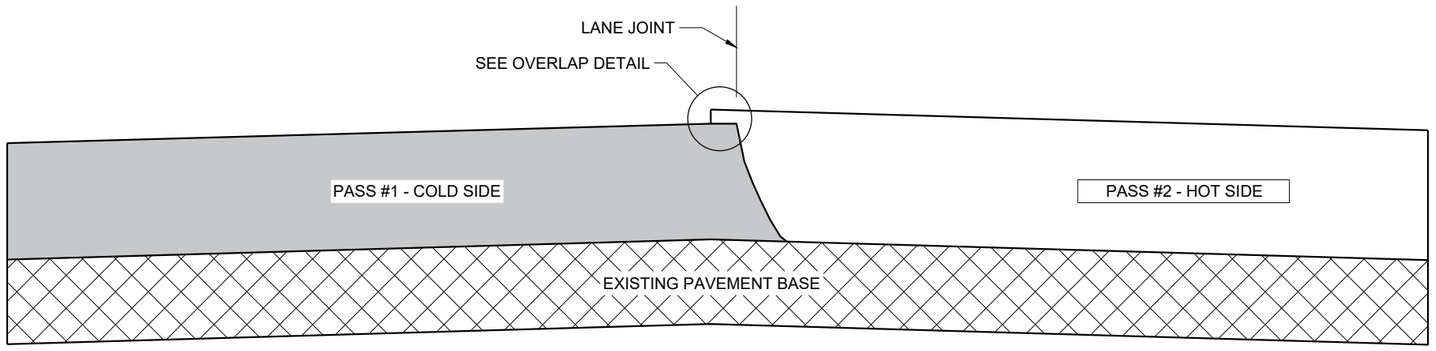
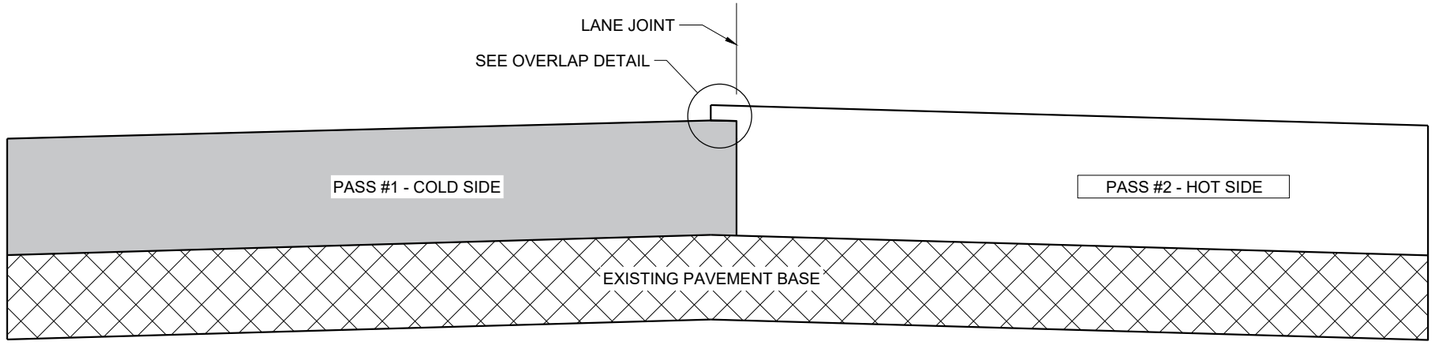
SDD 13C18 - 08f



TYPICAL PAVEMENT CROSS SECTION
NOTCHED WEDGE JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT (MILLED)

GENERAL NOTES

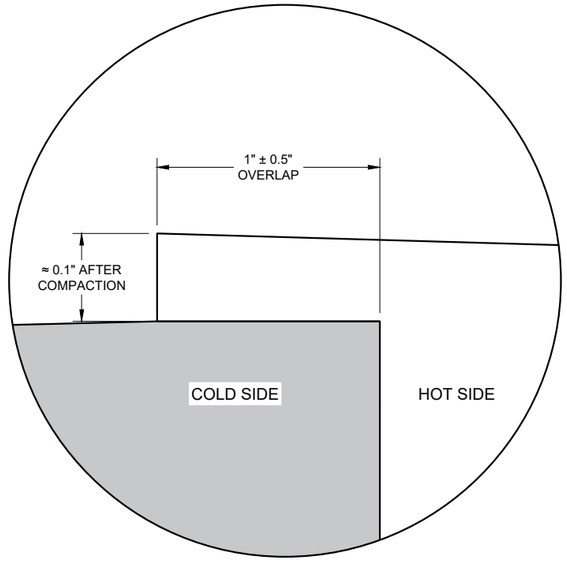
IN ADDITION TO THE DETAILS PROVIDED IN THIS DRAWING, CONFORM TO STANDARD SPECIFICATION 450.3.2.8 FOR WHEN A NOTCHED WEDGE JOINT IS REQUIRED AND FOR GENERAL JOINT CONSTRUCTION REQUIREMENTS.

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)

6

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SDD 13C19 - 03

SDD 13C19 - 03

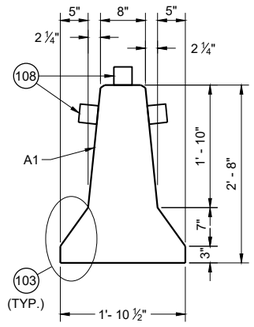
HMA LONGITUDINAL JOINTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

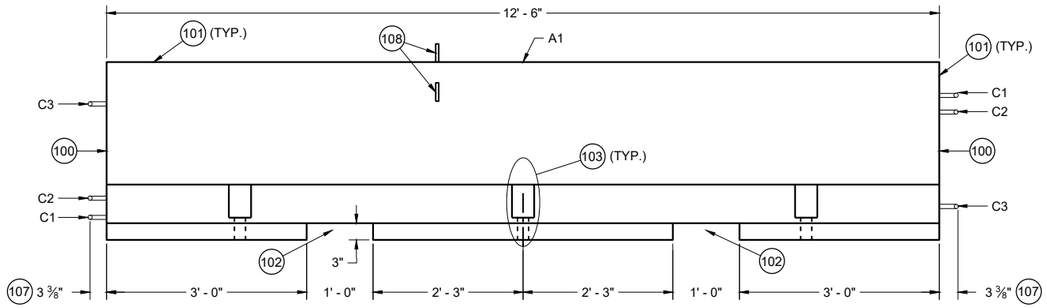
APPROVED
November 2020
DATE

/S/ Steven Hefel
HMA PAVEMENT ENGIN

FHWA



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

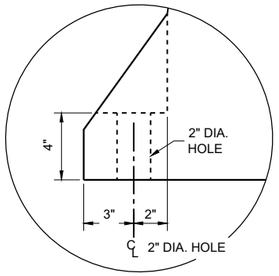
(104) 1 ¾" MIN. CLEAR COVER

(105) 2" MIN. CLEAR COVER

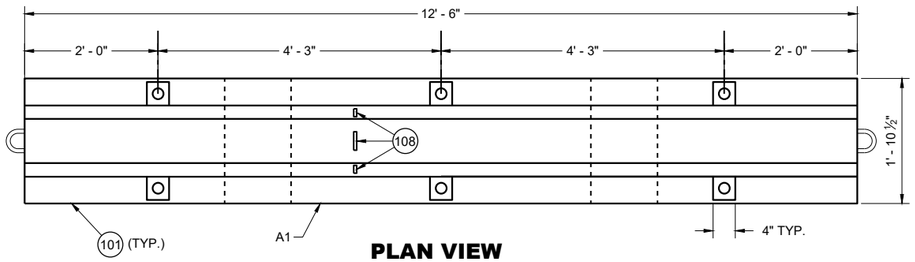
(106) 1" MIN. CLEAR COVER

(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.

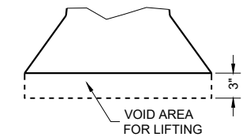


ANCHOR BLOCK DETAIL

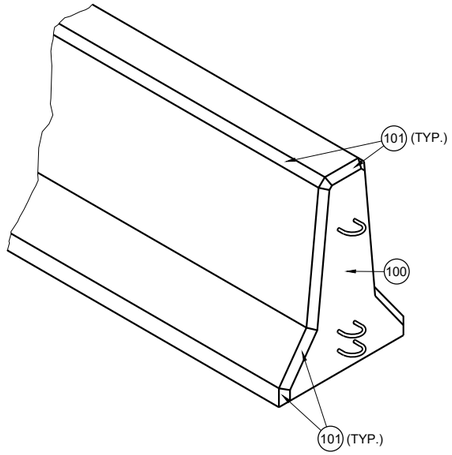


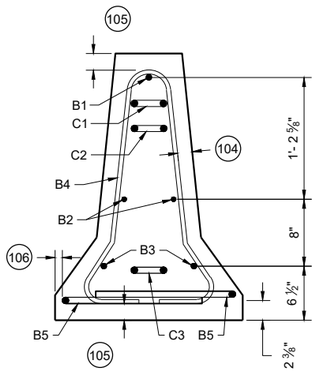
PLAN VIEW

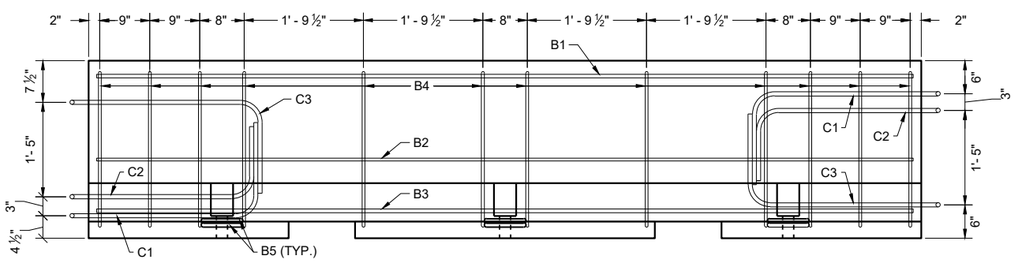
TEMPORARY BARRIER



LIFTING SLOT DETAIL (TYP.)







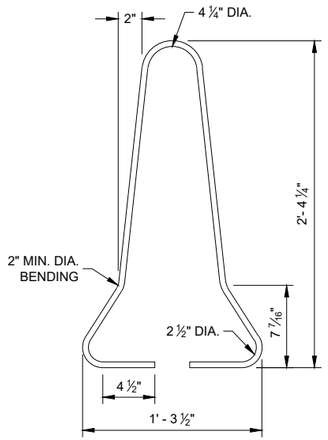
PROFILE VIEW

TEMPORARY BARRIER REINFORCEMENT

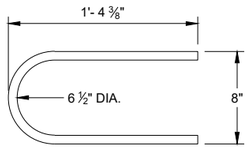
CONCRETE BARRIER TEMPORARY PRECAST, 12' - 6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

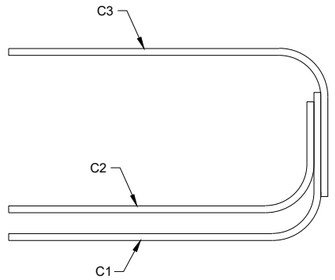
SDD 14B07-16a



B4 BAR DETAIL

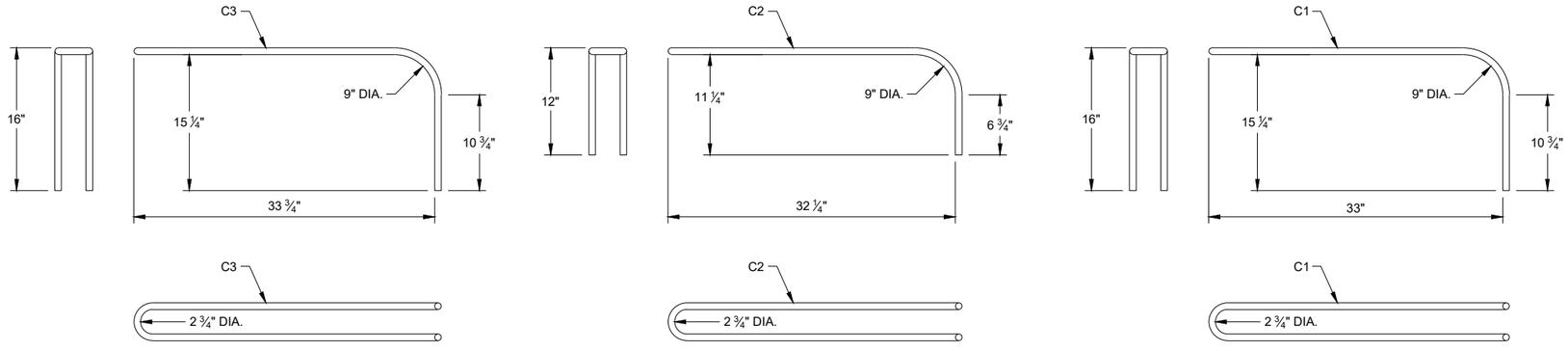


B5 BAR DETAIL



PROFILE VIEW

LOOP BAR ASSEMBLY



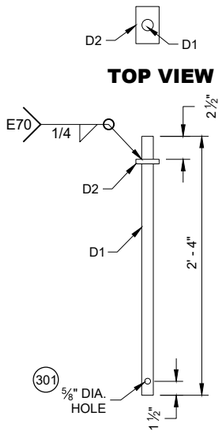
C BAR DETAILS

CONCRETE BARRIER TEMPORARY PRECAST, 12' - 6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

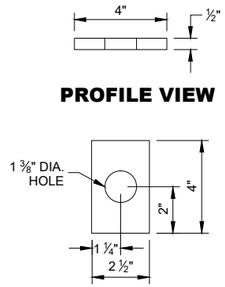
SDD 14B07-16b



TOP VIEW

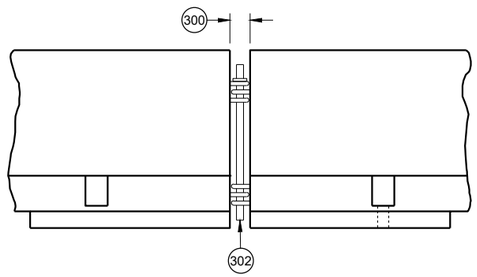
PROFILE VIEW

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.

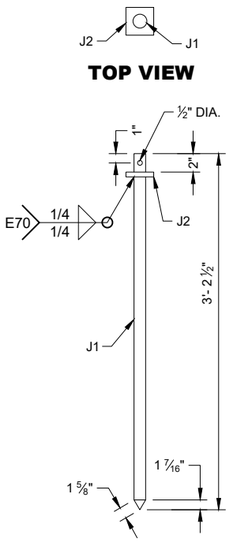
305 DO NOT USE ON CONCRETE BRIDGE DECK WITH ASPHALT OVERLAY OR CONCRETE PAVEMENT WITH ASPHALT OVERLAY.

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"

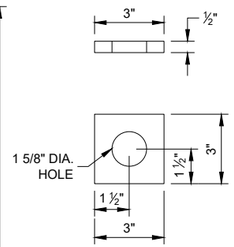
309 WHEN THERE IS ASPHALT OVERLAYING CONCRETE PAVEMENT, A 1 5/8" DIA. PILOT HOLE CAN BE DRILLED INTO THE OVERLAY AND CONCRETE. IF NEEDED DRILL A 3/4" PILOT HOLE IN BASE COURSE.



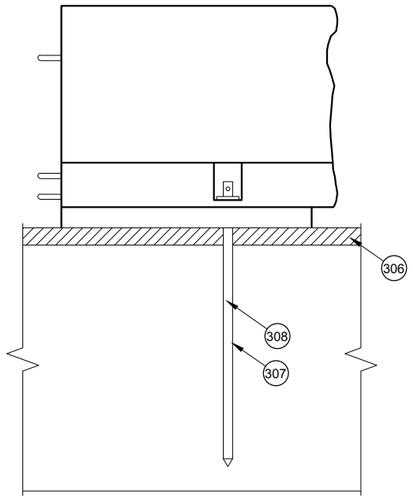
TOP VIEW

PROFILE VIEW

ASPHALT ANCHOR PIN ASSEMBLY

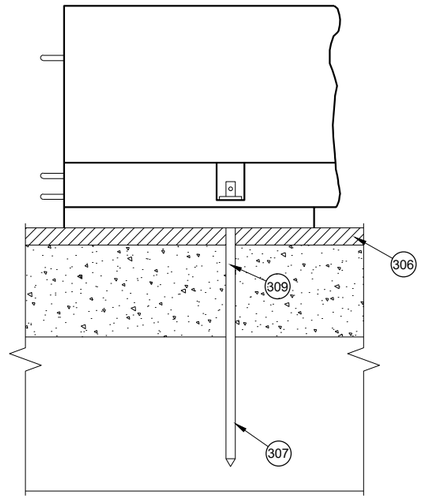


TOP VIEW J2



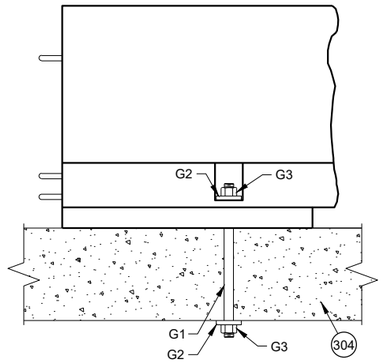
SIDE VIEW

ASPHALT ANCHOR INSTALLATION THROUGH ASPHALT PAVEMENT



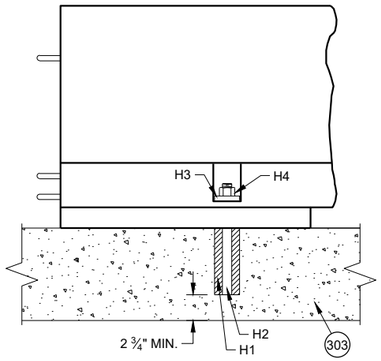
SIDE VIEW

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

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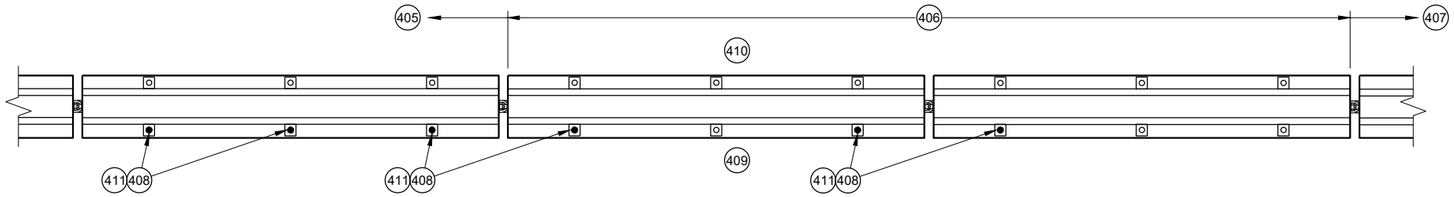
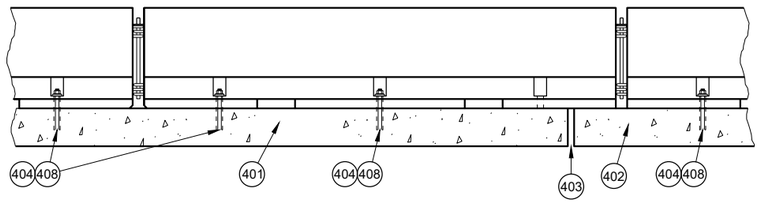


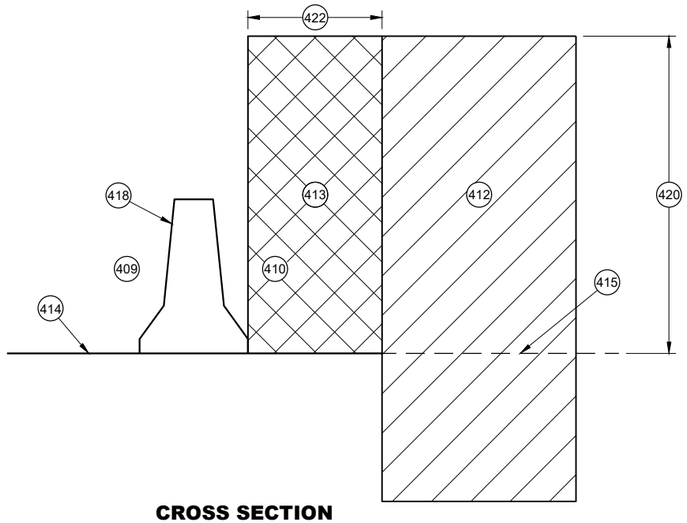
PLAN VIEW

TRANSITION FROM FREE STANDING TO ANCHORED BARRIER



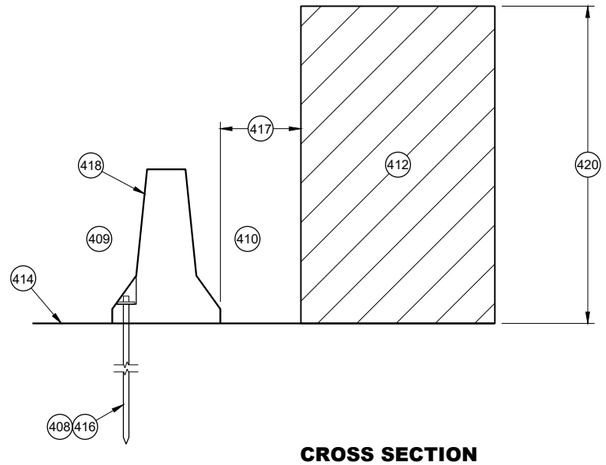
PROFILE VIEW

ANCHORED BARRIER NEAR EXPANSION JOINT (400)



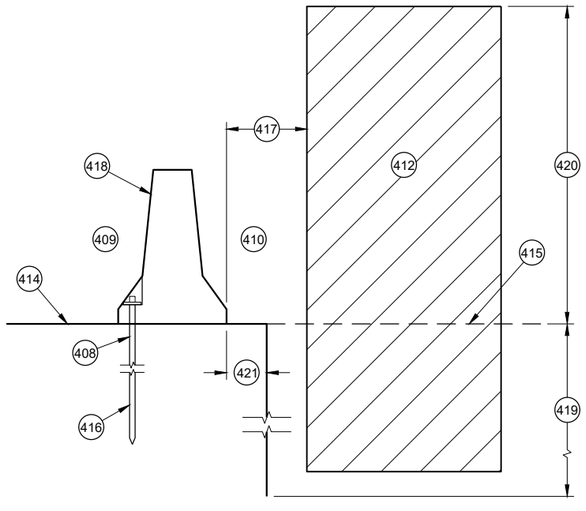
CROSS SECTION

FREE STANDING BARRIER



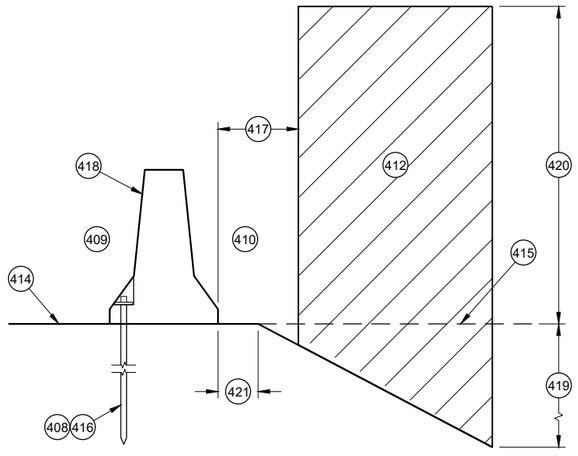
CROSS SECTION

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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SDD 14B07-16d

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

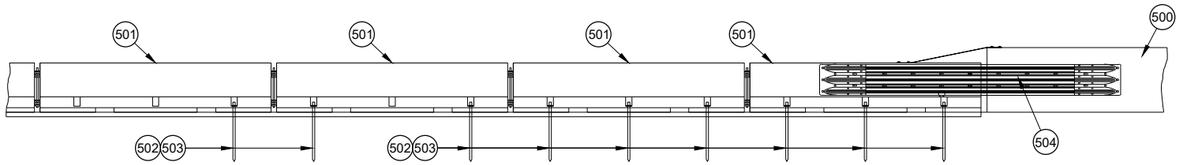
(516) CUT WOOD BLOCK TO FIT.

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

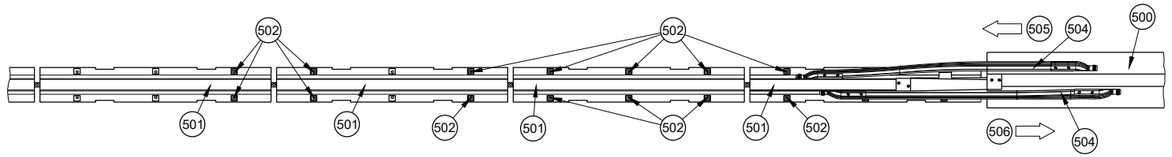
(518) CAP ASSEMBLY

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

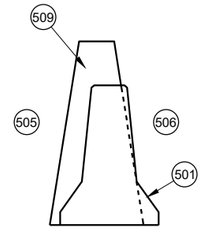
(520) ALL TWELVE SPLICE HOLES REQUIRE M1 AND M2



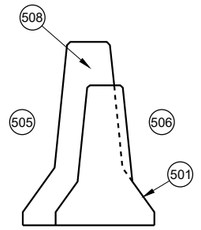
PROFILE VIEW



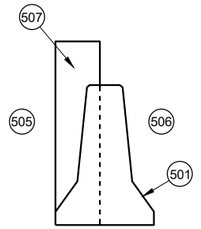
PLAN VIEW
TRANSITION TO RIGID BARRIER



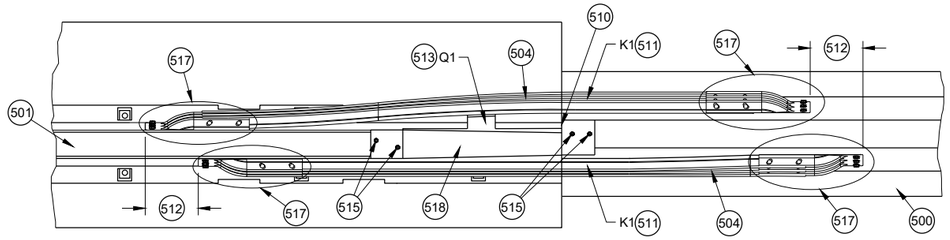
CROSS SECTION TEMPORARY BARRIER PLACEMENT SINGLE SLOPE



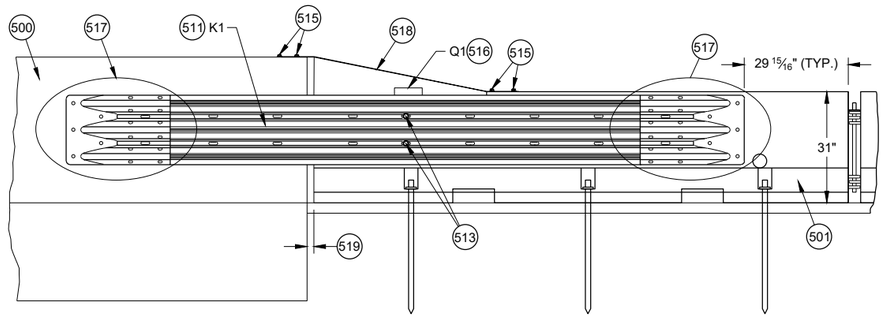
CROSS SECTION TEMPORARY BARRIER PLACEMENT SAFETY SHAPE



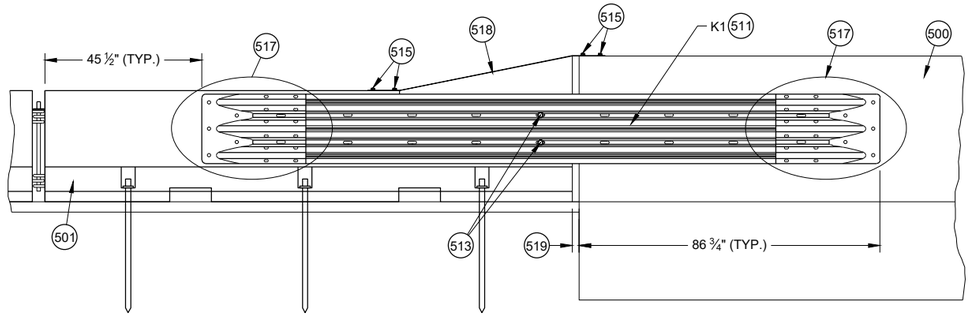
CROSS SECTION TEMPORARY BARRIER PLACEMENT VERTICAL



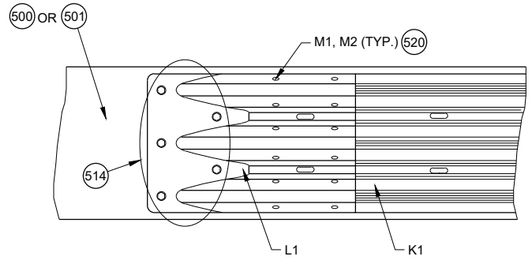
PLAN DETAIL VIEW
TRANSITION TO RIGID BARRIER



BACK DETAIL VIEW
TRANSITION TO RIGID BARRIER



FRONT DETAIL VIEW
TRANSITION TO RIGID BARRIER



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

CONCRETE BARRIER TEMPORARY PRECAST, 12' - 6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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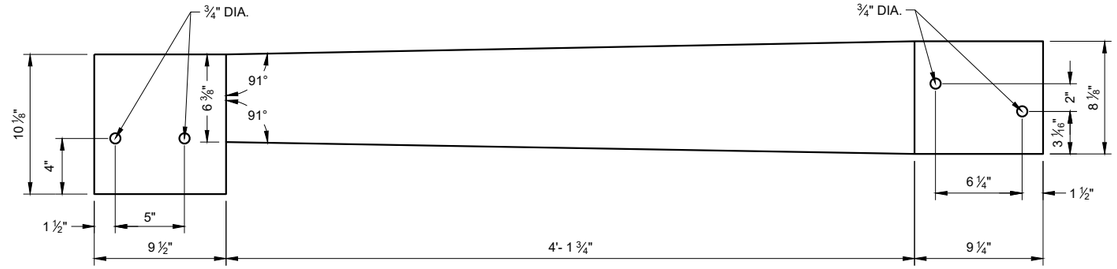
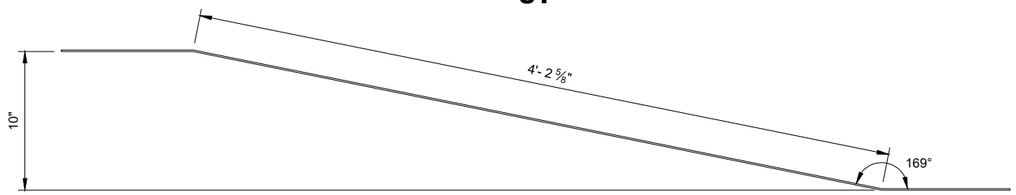


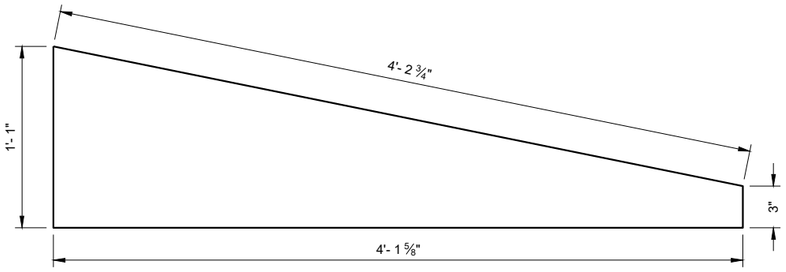
TOP VIEW

S1



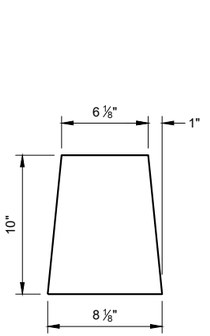
ELEVATION VIEW

S1

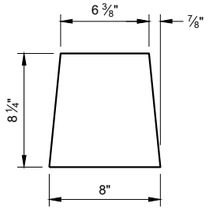


SIDE VIEW

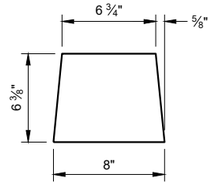
S3



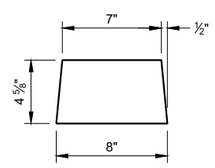
S2



S4



S5



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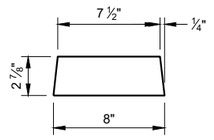
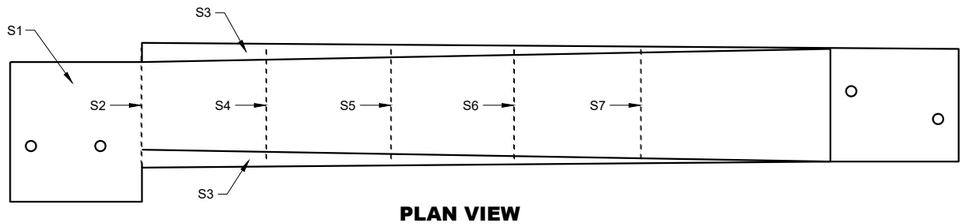
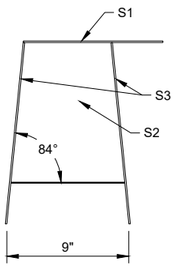


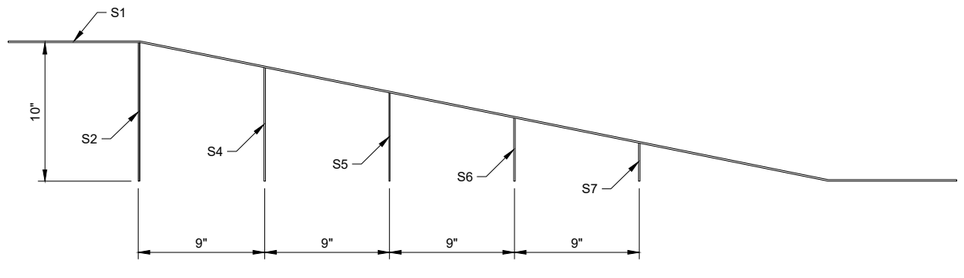
S7



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 TRANSPORTA

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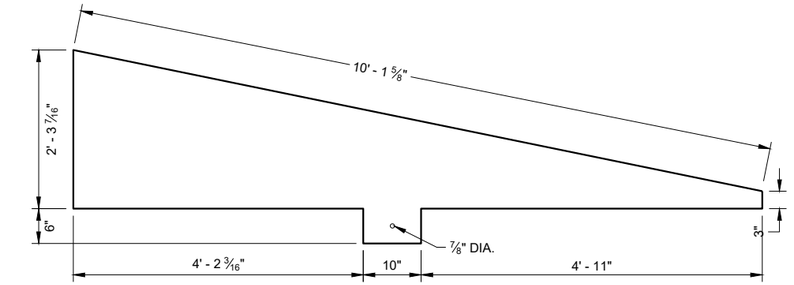
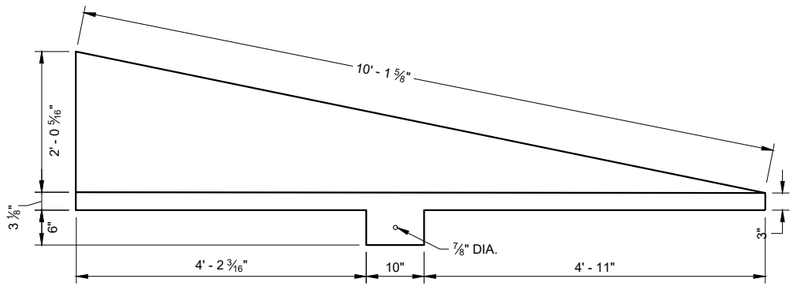
SDD 14B07-16f



SIDE VIEW
T4

END VIEW



SIDE VIEW
T3

END VIEW

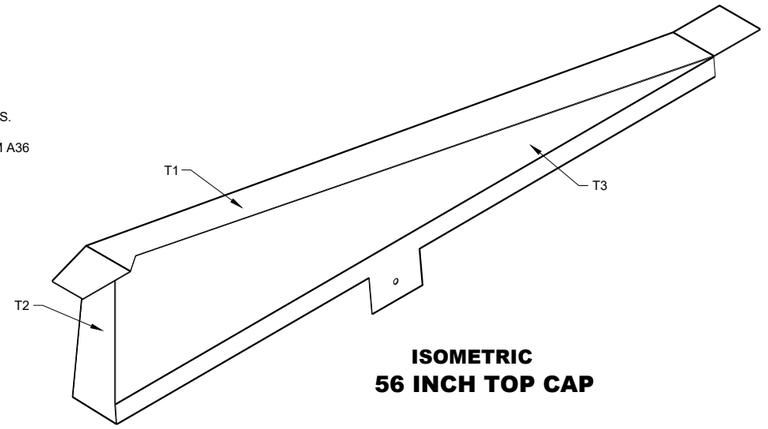
GENERAL NOTES

STITCH WELD GUSSET PLATES AND END PLATES ON THRIE SIDES

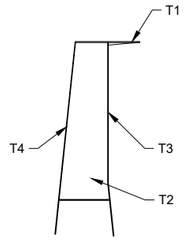
STITCH WELD TWO SIDE PLATES TO TOP PLATE, END PLATE AND GUSSETS.

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

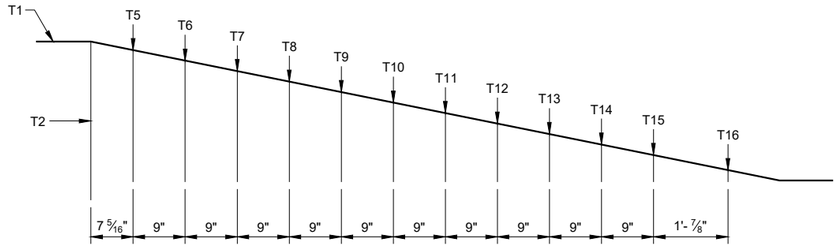
(700) SIDE PLATES (T3 AND T4) NOT SHOWN FOR CLARITY.



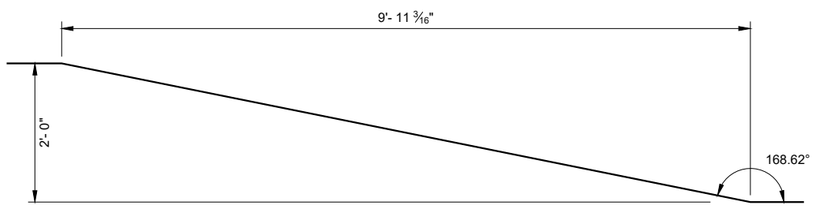
ISOMETRIC
56 INCH TOP CAP



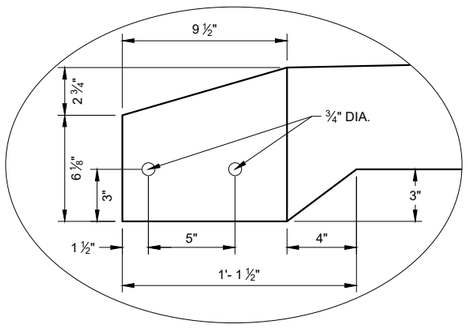
END VIEW
56 INCH TOP CAP



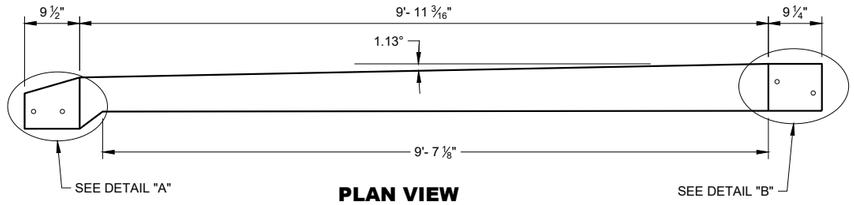
SIDE VIEW (700)
56 INCH TOP CAP



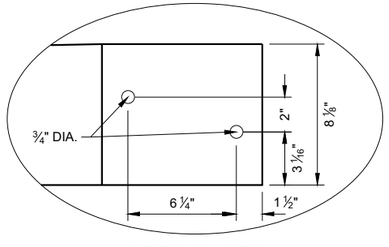
SIDE VIEW
TOP PLATE T1



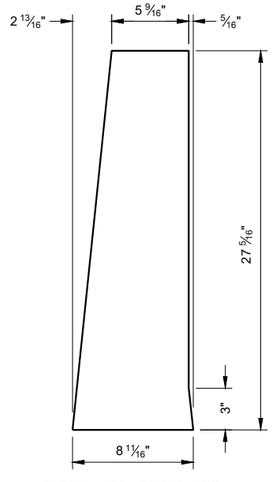
DETAIL "A"



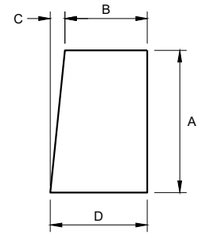
PLAN VIEW
TOP PLATE T1



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

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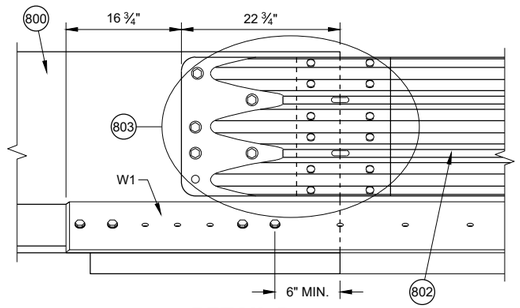
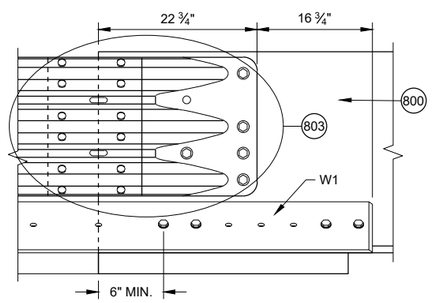
SDD 14B07-16g



DETAIL D



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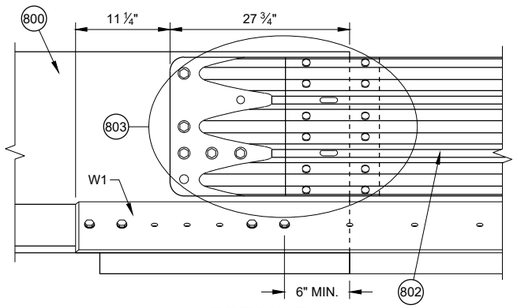
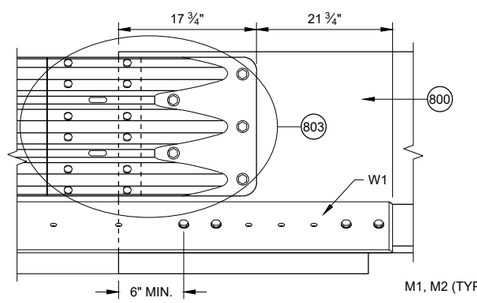
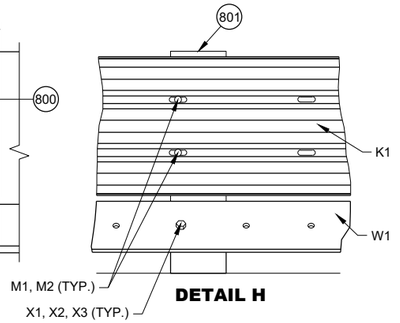


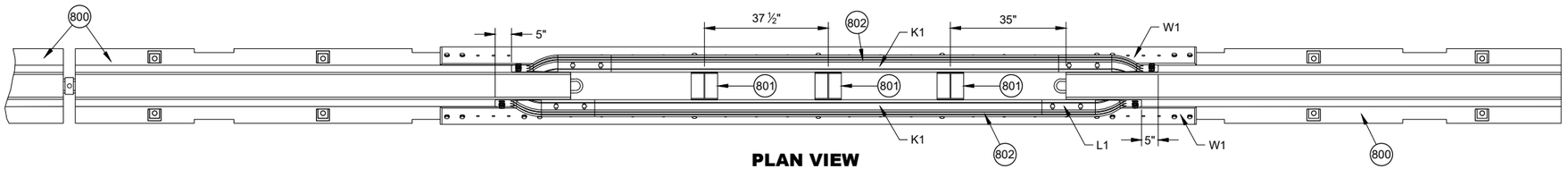
DETAIL F



DETAIL G



DETAIL H



PLAN VIEW

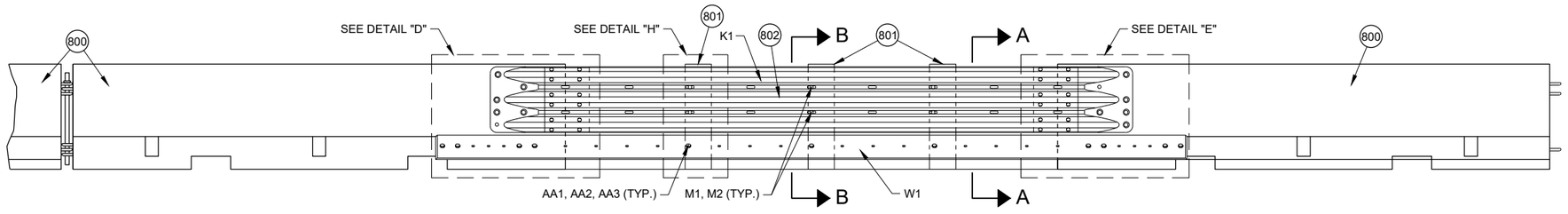
GENERAL NOTES

(800) FREE STANDING TEMPORARY BARRIER

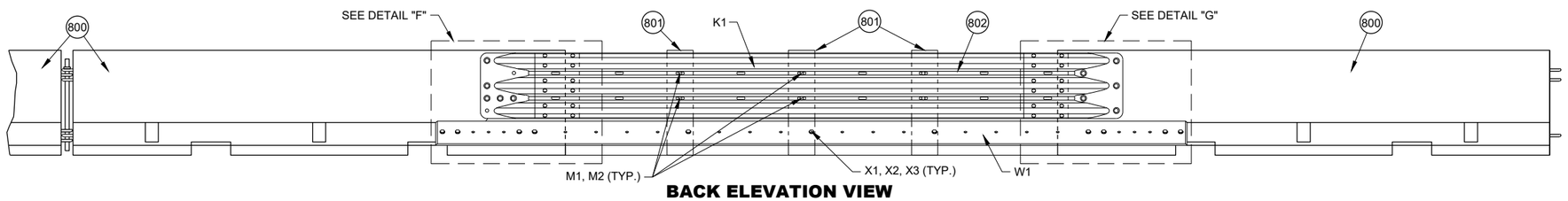
(801) GAP STIFFENER ASSEMBLY

(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
DEPARTMENT OF TRANSPORTATION

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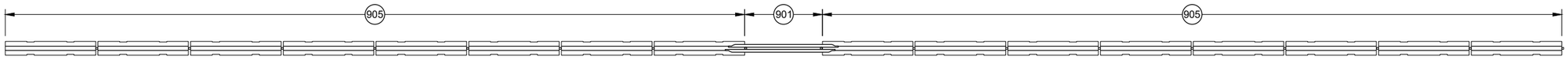
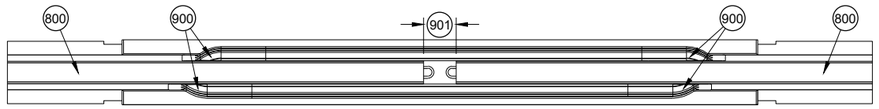


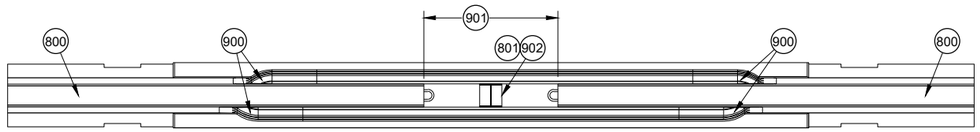
PLAN VIEW
GAP WITHIN SPACING



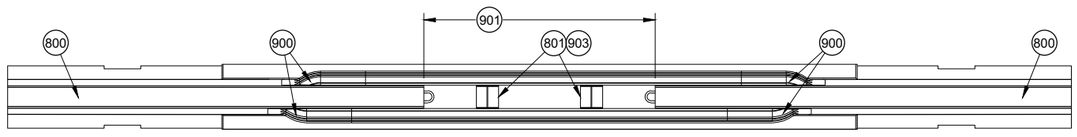
PLAN VIEW
TEMPORARY BARRIER GAP OVER 4" TO 1' MAX. (904)

GENERAL NOTES

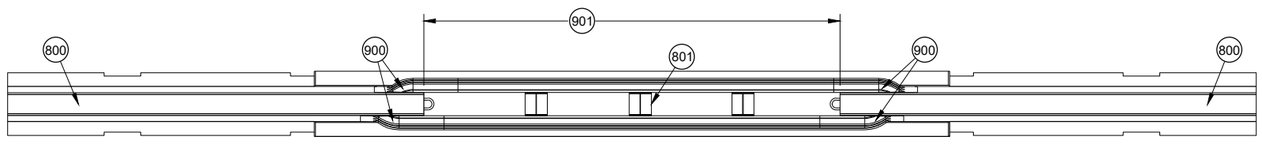
(900) SEE OTHER DETAILS FOR TEMPORARY GAP HARDWARE (TYP.)
(901) TEMPORARY BARRIER GAP
(902) GAP STIFFENER ASSEMBLY CENTERED IN THE GAP.
(903) GAP STIFFENER ASSEMBLY IS OFFSET 18 ¾" FROM CENTER
(904) MINIMUM NUMBER OF GAP STIFFENERS SHOWN FOR THE GAP RANGE SHOWN.
(905) MINIMUM OF 8 CONTINUOUS FREE STANDING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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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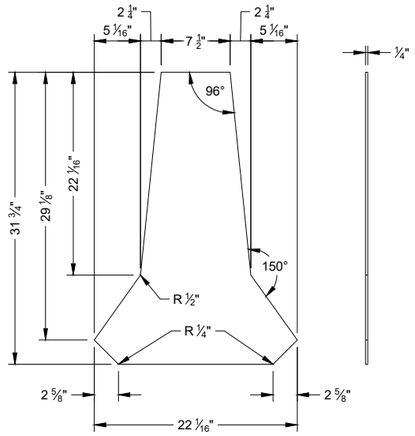
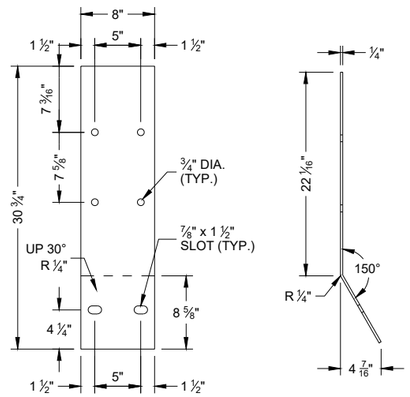
SDD 14B07-16i



PROFILE VIEW SIDE VIEW

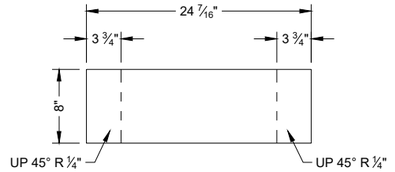
STIFFENER ASSEMBLY CENTER PANEL U1



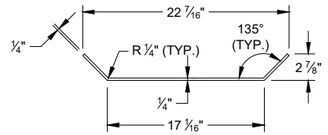
FLAT PATTERN

SIDE VIEW

STIFFENER ASSEMBLY SIDE PANEL U2

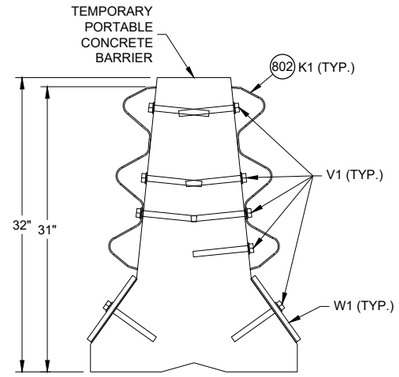


FLAT PATTERN

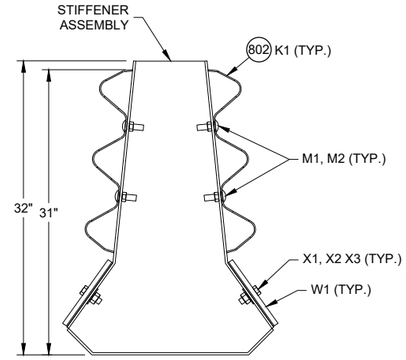


PROFILE VIEW

STIFFENER ASSEMBLY BOTTOM PANEL U3

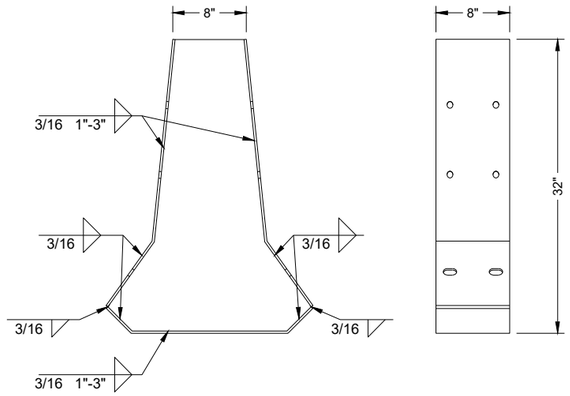


SECTION A - A



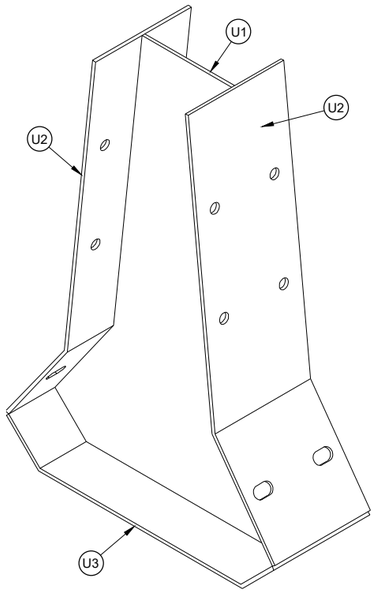
SECTION B - B

PLAN VIEW



PROFILE VIEW

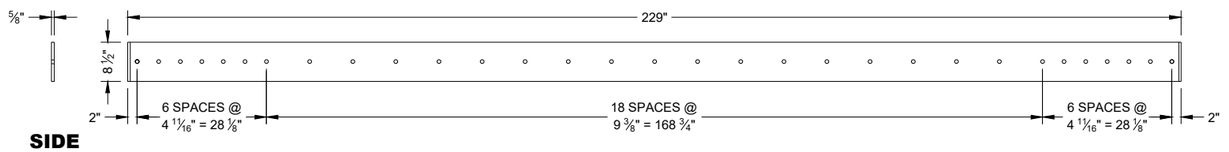
SIDE VIEW



ISOMETRIC

GAP STIFFENER ASSEMBLY

PLAN VIEW



SIDE VIEW

ELEVATION VIEW

W1 TOE PLATE

CONCRETE BARRIER TEMPORARY PRECAST, 12' - 6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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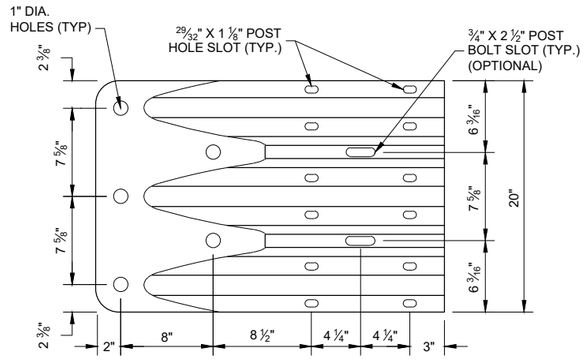
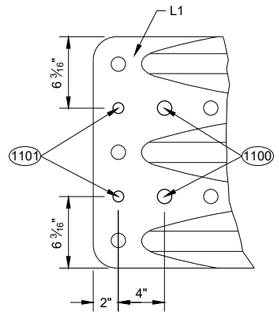
SDD 14B07-16j



ELEVATION VIEW

THRIE BEAM TERMINAL CONNECTOR



ELEVATION VIEW

ADDITIONAL THRIE BEAM (1102) TERMINAL CONNECTOR HOLE DETAIL

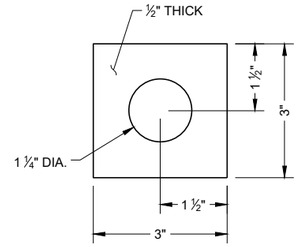


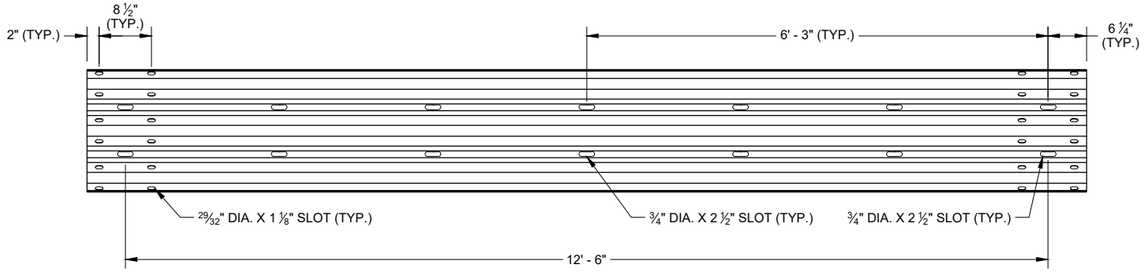
PLATE WASHER DETAIL G2, H3

GENERAL NOTES

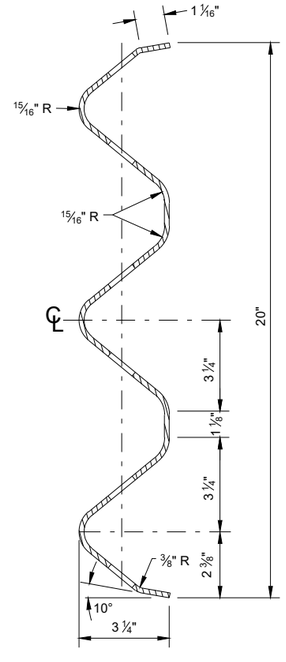
(1100) 1" DIA. HOLE

(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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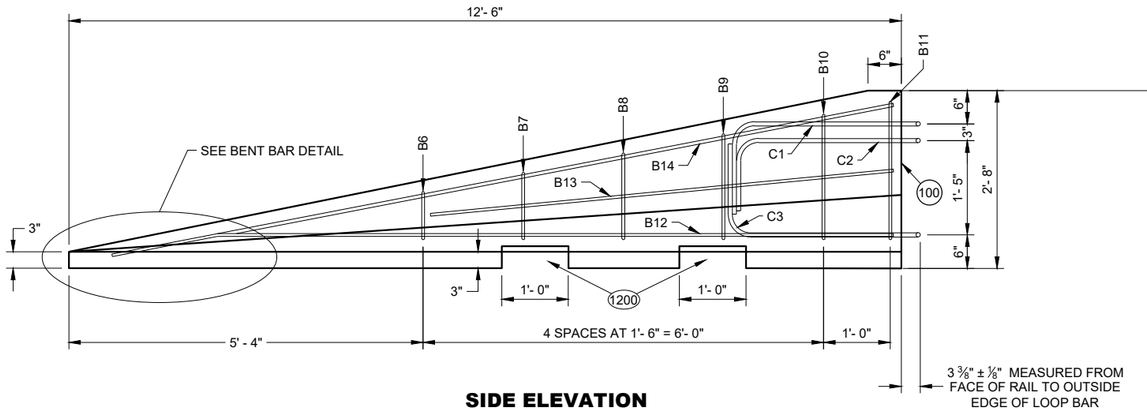
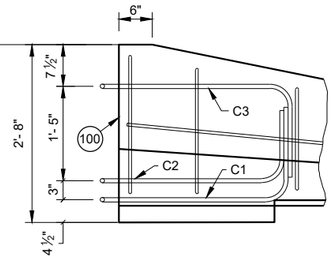


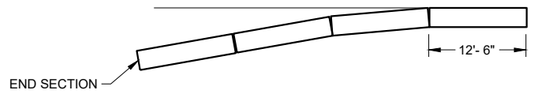
SIDE ELEVATION
(FOR CONNECTION TO LEFT END OF BARRIER)



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

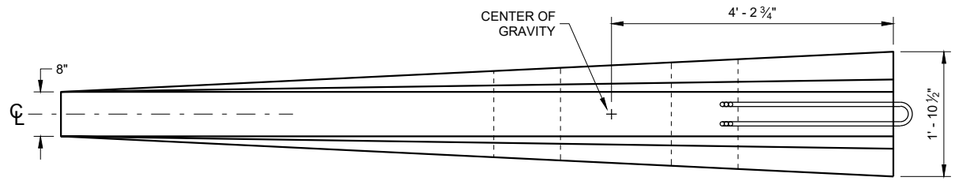
GENERAL NOTES

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

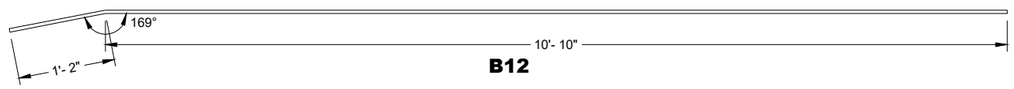


FLARE AT BARRIER END

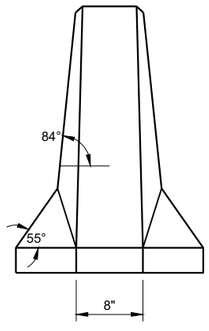
POSTED SPEED, (MPH)	FLARE RATE
40 OR LESS	6:1
45 OR GREATER	8:1



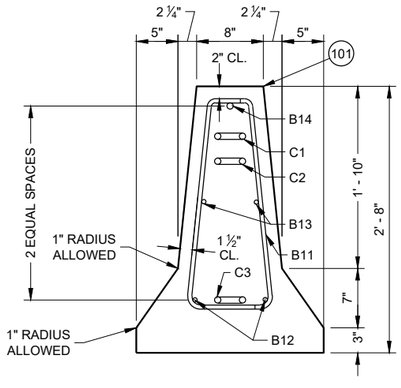
PLAN VIEW



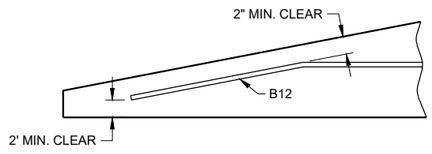
B12



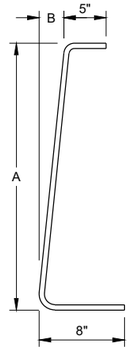
FRONT ELEVATION



END SECTION



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"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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SDD 14B07-16I

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

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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"

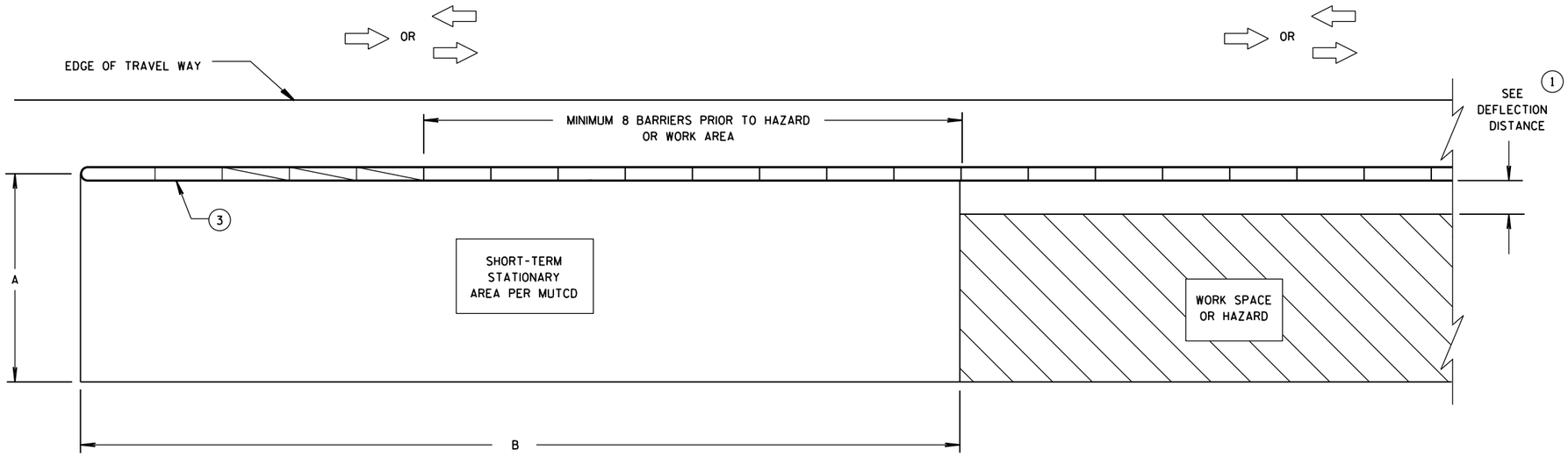
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA

6

SDD 14B07-16n



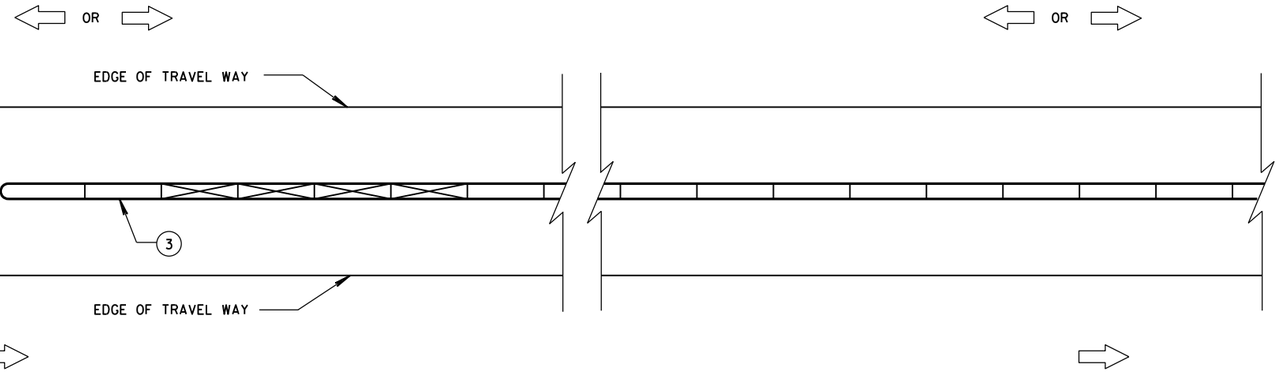
CRASH CUSHION/SAND BARREL ARRAY AND TEMPORARY BARRIER INSTALLATION FOR TRAFFIC ON ONE SIDE OF BARRIER

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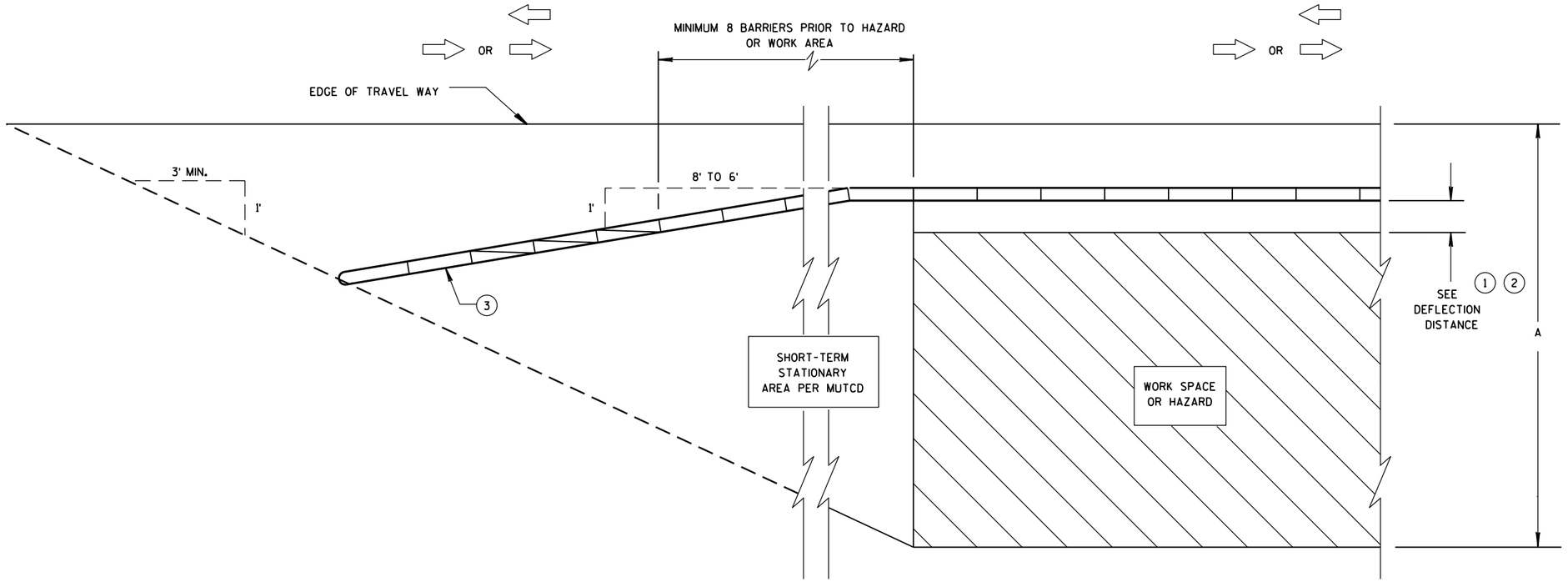
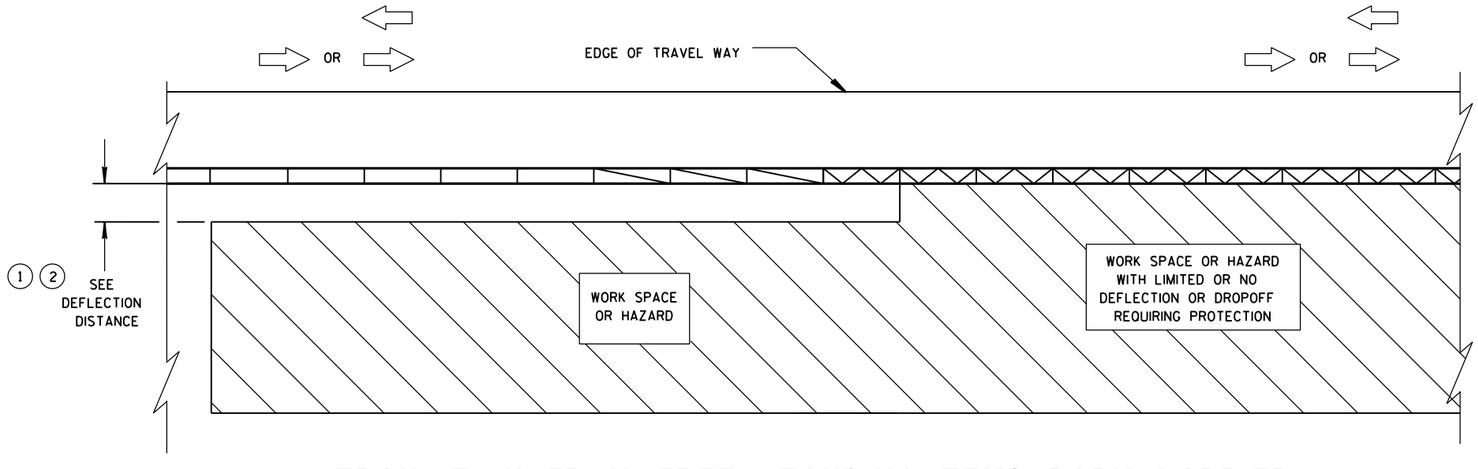
S.D.D. 14 B 8-2a



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

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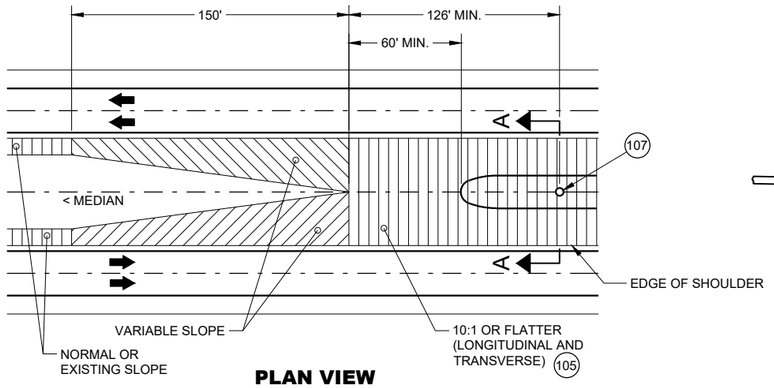
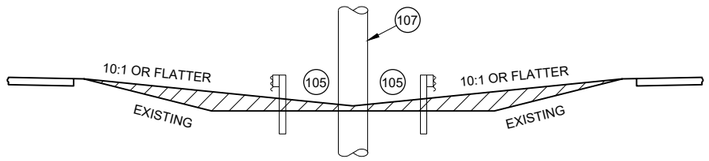
S.D.D. 14 B 8-2b



PLAN VIEW
GRADING AT BULLNOSE
(ALL INSTALLATIONS)



SECTION A -A
MEDIAN GRADING
(ALL INSTALLATIONS)

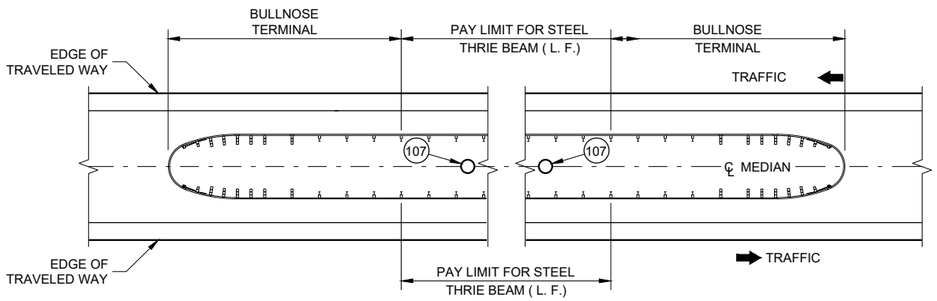
GENERAL NOTES

THRIE BEAM RAILS MAY NEED TO BE FIELD BENT TO FIT THE LOCATION.

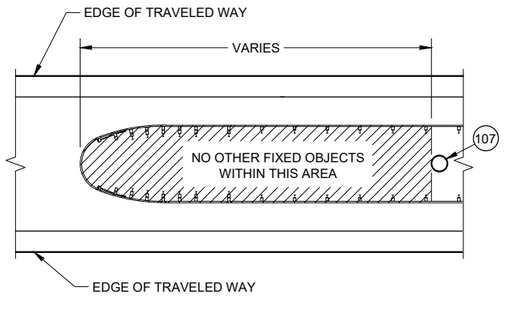
SEE STANDARD DETAIL DRAWINGS 14B26 SHEETS a-h.

IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2 ½". MINIMUM DIAMETER OF THE ROCK REMOVAL IS 12" DIAMETER

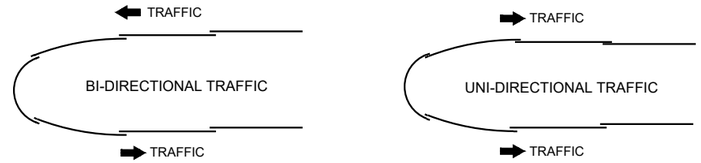
- E1 UNBENT STANDARD THRIE BEAM RAIL B1 (POST 8 TO POST 10 AND POST 10 TO POST 12)
- E2 SLOTTED THRIE BEAM RAIL E1 (POST 1 TO POST 1)
- E3 SLOTTED THRIE BEAM RAIL B3 (POST 5 TO POST 8)
- E4 SLOTTED THRIE BEAM RAIL E4 (POST 1 TO POST 5)
- 5 BEYOND POST 12: CONSTRUCT STEEL THRIE BEAM - USE UNBENT STANDARD THRIE BEAM RAIL NO. 5.
- (100) DIMENSIONS ARE FROM BACK OF RAIL TO BACK OF RAIL WHERE RAIL IS BOLTED TO POST OR BLOCK.
- (101) U-BOLT CABLE CLIPS (3 PER CABLE) SPACED OUT ON NOSE, TO HOLD CABLE TO BACKSIDE OF THE RAIL.
- (102) NOSE CABLE WITH SWAGGED END BUTTONS.
- (103) NOSE CABLE ANCHOR PLATE (BACKSIDE OF SPLICE).
- (104) THE SLACK IN THE NOSE CABLES SHALL BE EVENLY DISTRIBUTED BETWEEN THE CABLE CLIP FASTENERS AND POST NO. 1 ON EITHER SIDE OF THE NOSE.
- (105) MINIMUM WORKING WIDTH 4' - 2".
- (106) MAX. WIDTH OF SYSTEM IS 14' - 2 ½" MEASURED FROM THE BACK OF RAIL TO BACK OF RAIL WHERE RAIL IS BOLTED TO A POST OR BLOCK.
- (107) FIXED OBJECT OR OTHER HAZARD.
- (108) PLAN IS TO PROVIDE STATION OFFSET TO CENTER OF POST 5 IN PLANS.



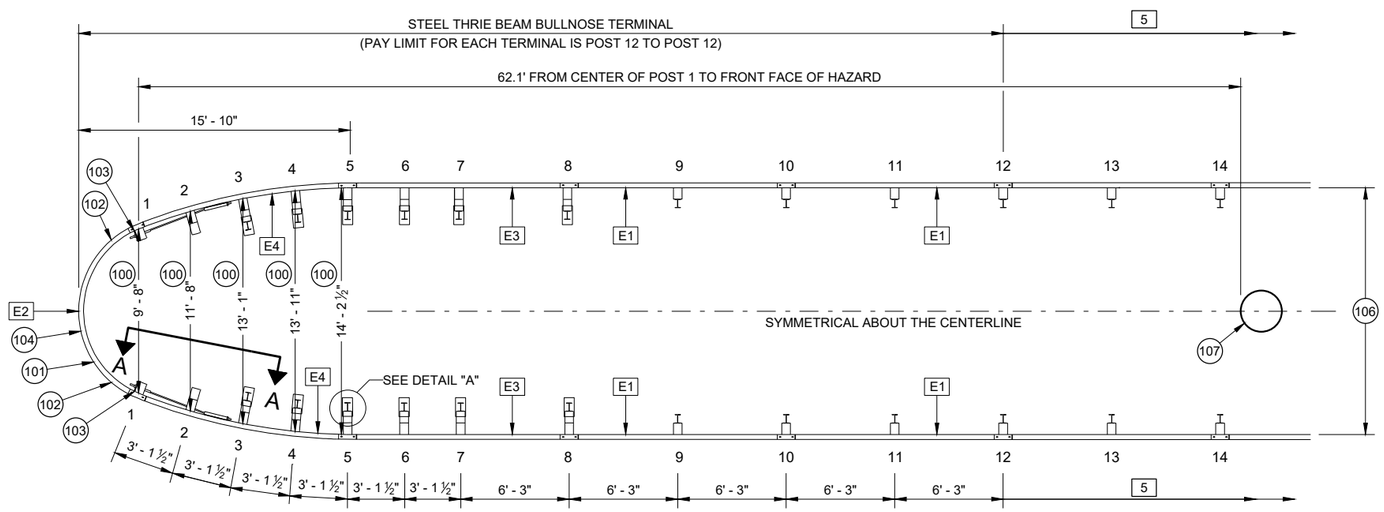
MEDIAN HAZARD PROTECTION PAY LIMITS



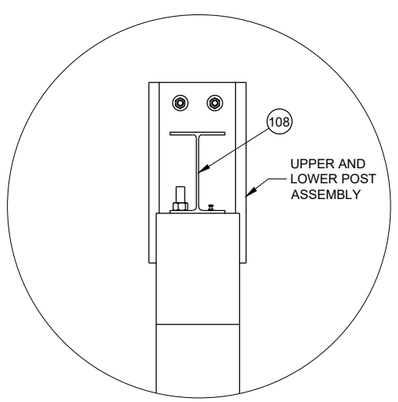
HAZARD FREE AREA
INSIDE BULLNOSE



LAPPING DETAIL



PLAN VIEW
TYPICAL BULLNOSE LAYOUT



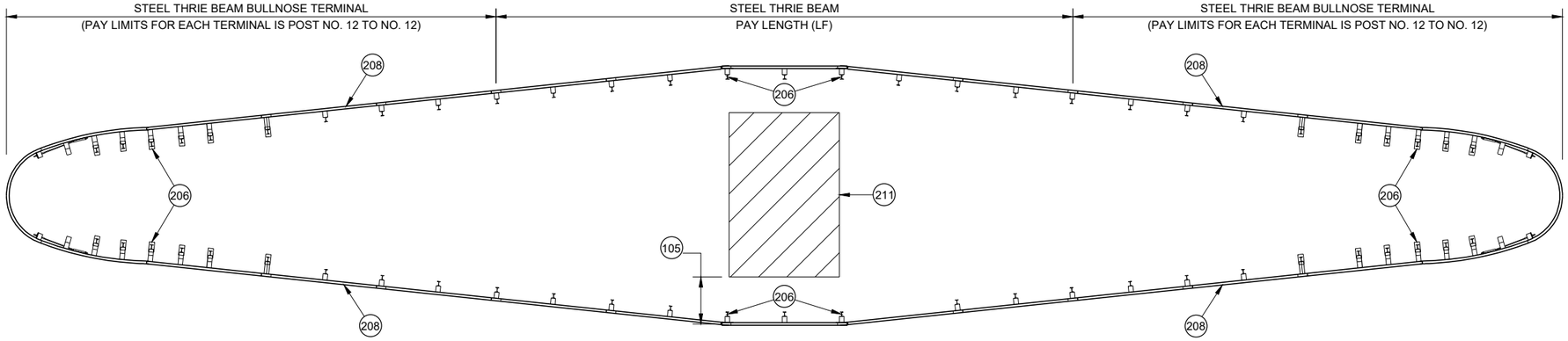
DETAIL "A"

STEEL THRIE BEAM
BULLNOSE TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

SDD 14B26 - 05a

SDD 14B26 - 05a



VARIABLE WIDTH BULLNOSE

GENERAL NOTES

200 6' - 3" ASYMMETRICAL 10-GAUGE W-BEAM TO THRIE BEAM GUARD TRANSITION. SEE SDD 14B45 FOR MORE INFORMATION.

201 W-BEAM RAIL. SEE SDD 14B42 FOR MORE INFORMATION.

202 SEE POST NO. 9 AND ALL STEEL THRIE BEAM POST BEYOND DETAIL.

203 SEE SDD 14B42 FOR INSTALLATION INFORMATION.

204 SEE SDD 14B45 FOR INSTALLATION DETAILS. REPLACE ASYMMETRICAL W-BEAM TO THRIE BEAM TRANSITION AND W-BEAM RAIL WITH E1. PAY FOR MODIFIED THRIE BEAM TRANSITION.

205 CONCRETE BARRIER OR BRIDGE RAIL.

206 SEE PLAN FOR STATION AND OFFSET TO CENTER OF POST.

207 SEE PLAN FOR STATION AND OFFSET TO CENTER OF SPLICE.

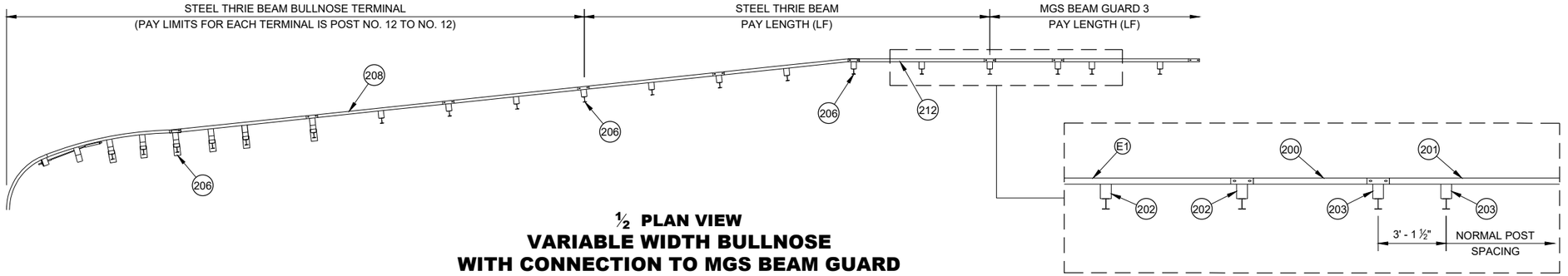
208 SEE PLAN FOR FLARE RATE.

209 A MINIMUM OF 25 FT OF THRIE BEAM TANGENT BEFORE TRANSITIONING TO BEAM GUARD OR THRIE BEAM TRANSITION.

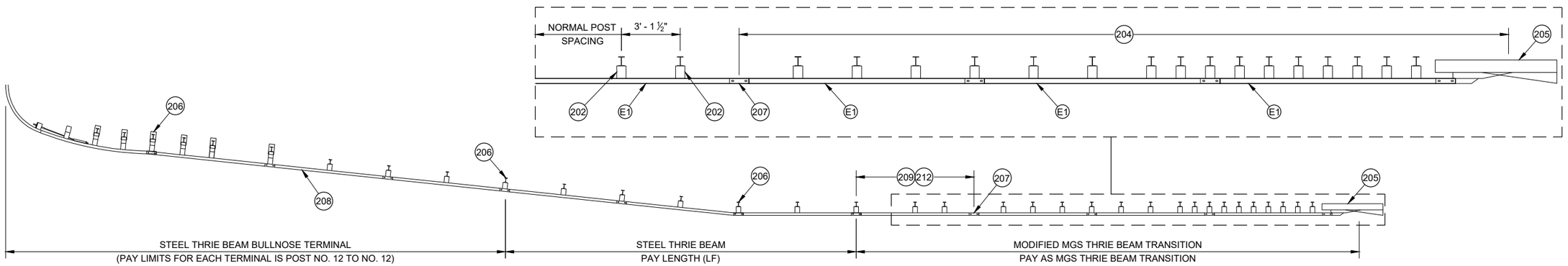
210 NOT ALL BULLNOSE HARDWARE SHOWN. SEE OTHER SHEETS IN 14B26.

211 WIDER HAZARD TO BE SHIELDED.

212 TRANSITION RAIL HEIGHT TO 31" OVER THE LENGTH OF A 12' - 6" BEAM SECTION.



½ PLAN VIEW
VARIABLE WIDTH BULLNOSE
WITH CONNECTION TO MGS BEAM GUARD



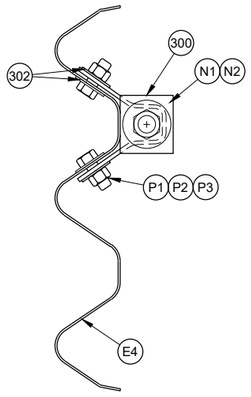
½ PLAN VIEW
VARIABLE WIDTH BULLNOSE
WITH CONNECTION TO RIGID BARRIER

STEEL THRIE BEAM BULLNOSE TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTA

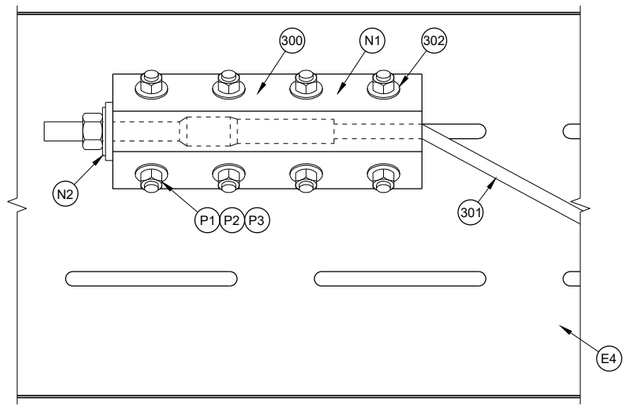
6

SDD 14B26 - 05b

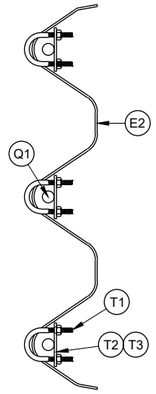


PROFILE VIEW

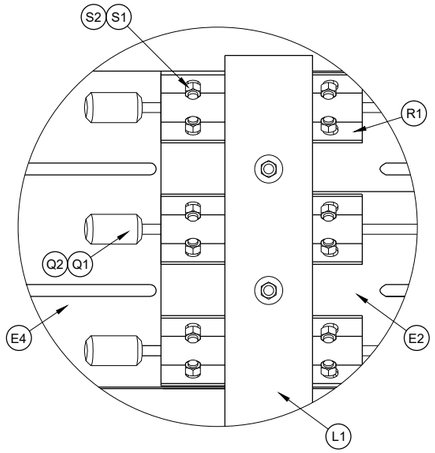
CABLE ANCHOR ASSEMBLY CONNECTION



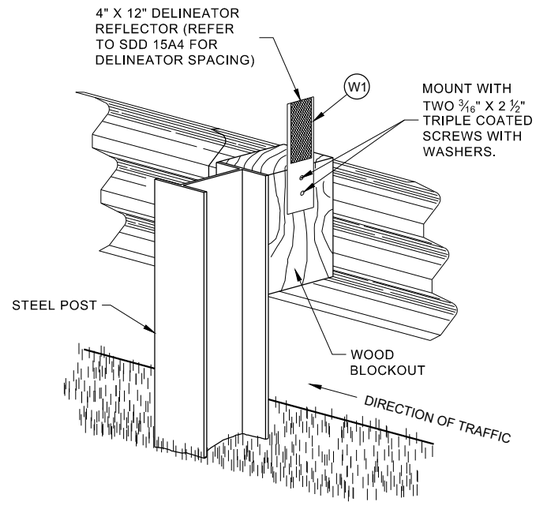
CABLE ANCHOR ASSEMBLY



NOSE CABLE RETAINING CLIP



DETAIL "A"



ONE SIDED REFLECTOR DETAIL AND TYPICAL INSTALLATION

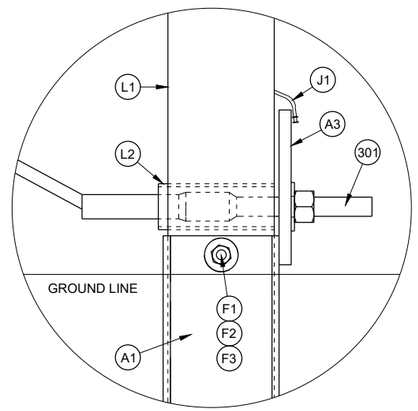
POST 8

POST 3

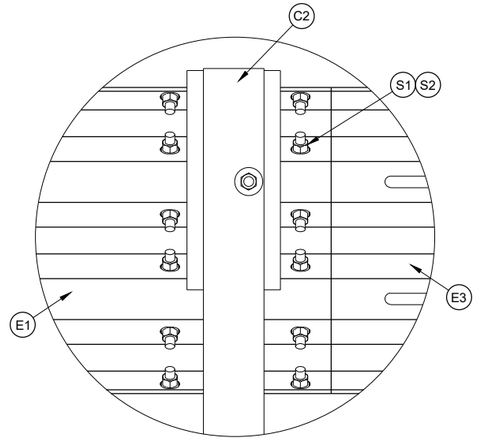
POST 2

POST 1

CROSS SECTION A - A



DETAIL "B"



DETAIL "C" THRIE BEAM SPLICE

GENERAL NOTES

(300) SEE ANCHOR BRACKET ASSEMBLY DETAIL.

(301) SEE ANCHOR CABLE ASSEMBLY DETAIL

(302) ONE WASHER BETWEEN BOLT HEAD AND RAIL AND BETWEEN NUT AND ANCHOR BRACKET ASSEMBLY.

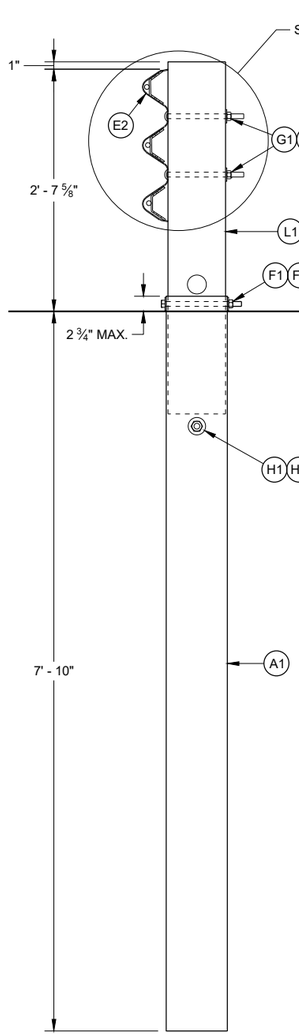
(303) ONE WASHER BETWEEN BOLD HEAD AND FOUNDATION TUBE AND BETWEEN NUT AND FOUNDATION TUBE.

STEEL THRIE BEAM BULLNOSE TERMINAL

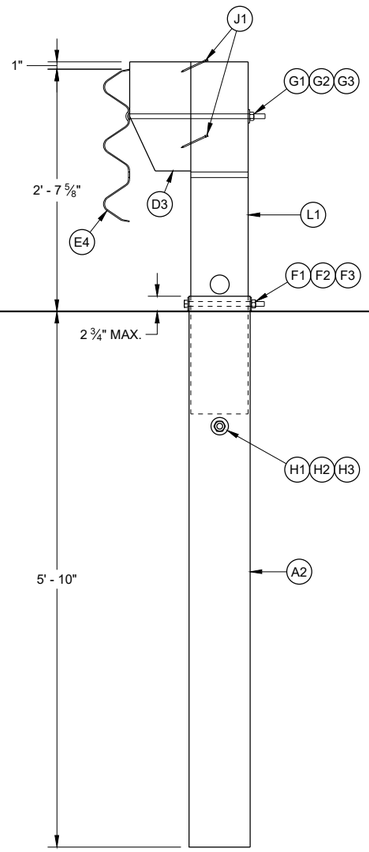
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

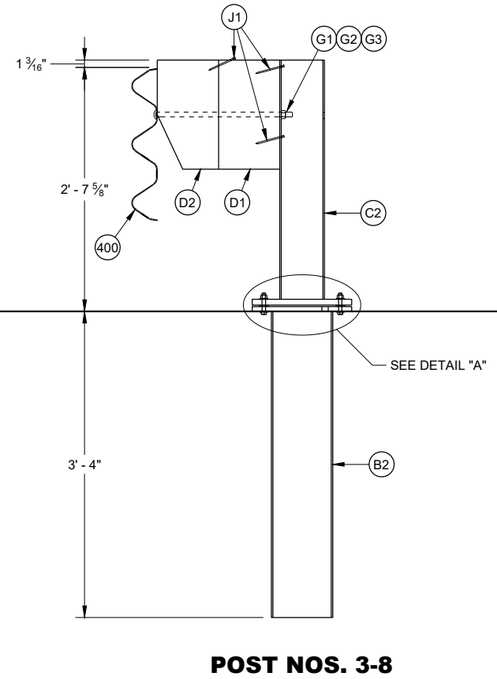
SDD 14B26 - 05c



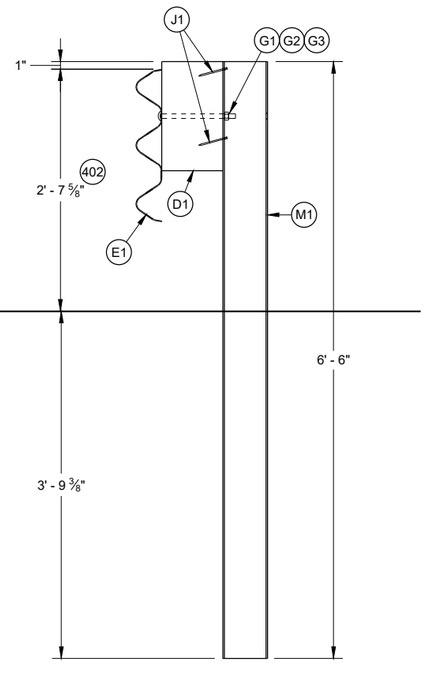
POST NO. 1



POST NO. 2



POST NOS. 3-8



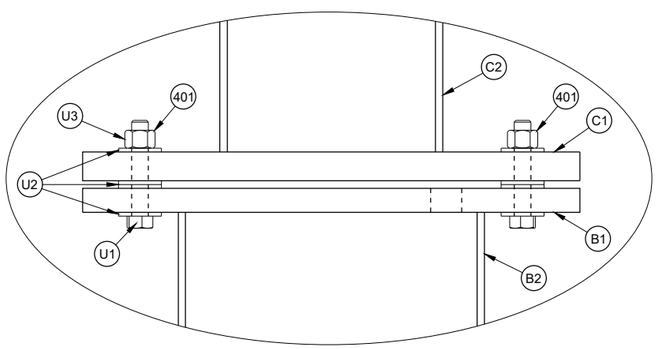
POST NOS. 9 AND ALL STEEL THRIE BEAM POSTS BEYOND

GENERAL NOTES

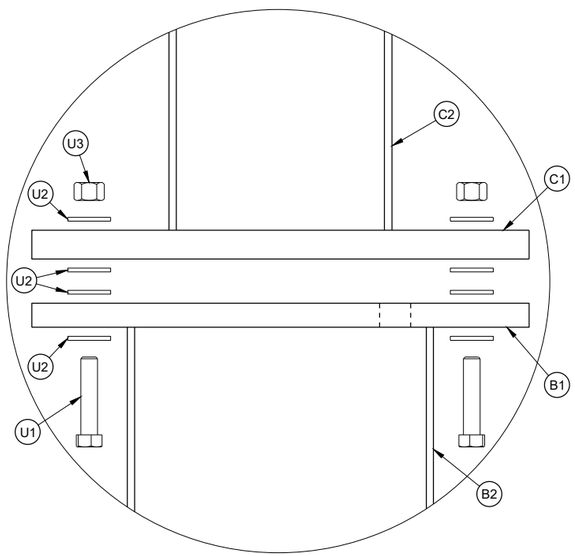
(400) RAIL CAN BE E3 OR E4 DEPENDING ON POST LOCATION.

(401) TORQUE BOLD BETWEEN 60-75 FT-LB

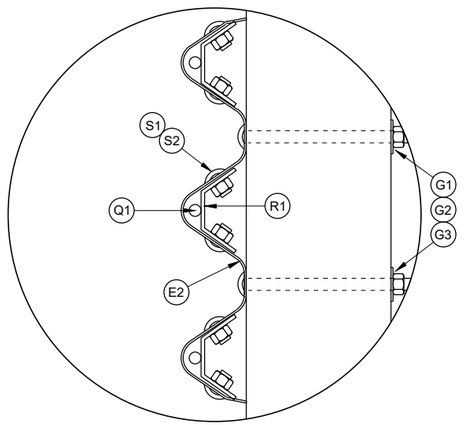
(402) HEIGHT WILL VARY WITHIN HEIGHT TRANSITION TO OTHER HARDWARE. SEE NOTE 213, SHEET "b".



DETAIL "A"



EXPLODED VIEW
DETAIL "A"



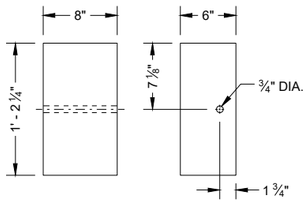
DETAIL "B"

STEEL THRIE BEAM BULLNOSE TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

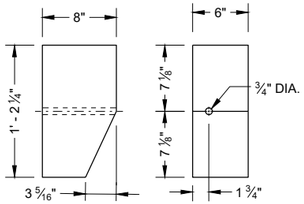
6

SDD 14B26 - 05d



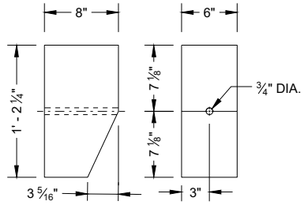
ELEVATION PROFILE

BLOCKOUT (D1)



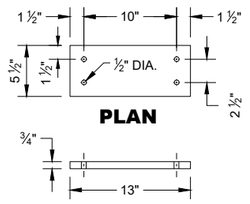
ELEVATION PROFILE

BLOCKOUT (D2)



ELEVATION PROFILE

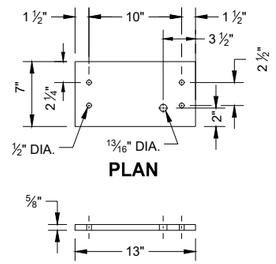
BLOCKOUT (D3)



PLAN

PROFILE

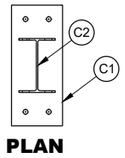
UPPER SHEAR PLATE (C1)



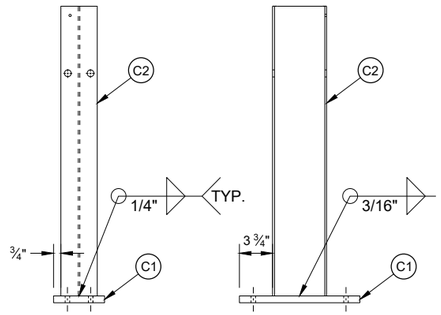
PLAN

PROFILE

LOWER SHEAR PLATE (B1)

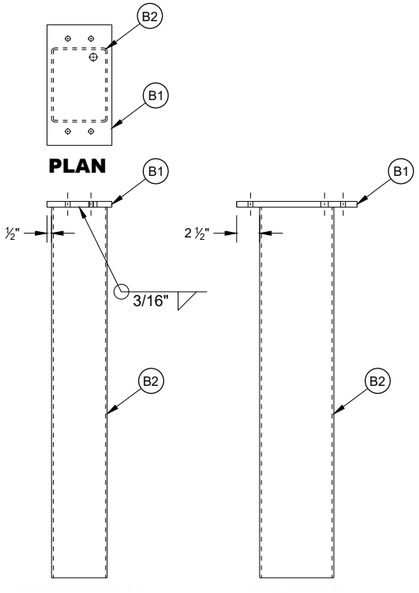


PLAN



ELEVATION PROFILE

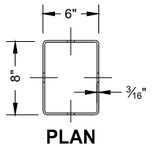
UPPER POST ASSEMBLY



PLAN

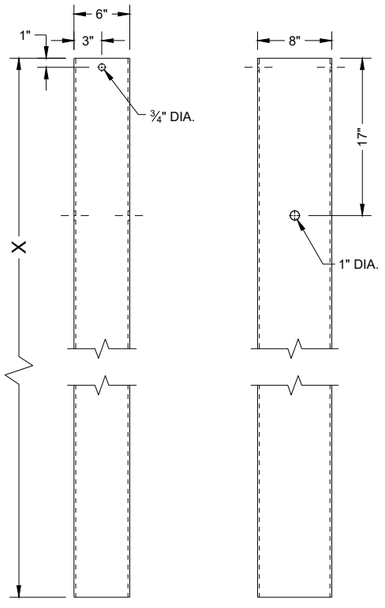
ELEVATION PROFILE

LOWER POST ASSEMBLY



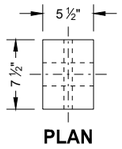
PLAN

PART	LENGTH "X"
A1	8' - 0"
A2	6' - 0"
B2	3' - 4"

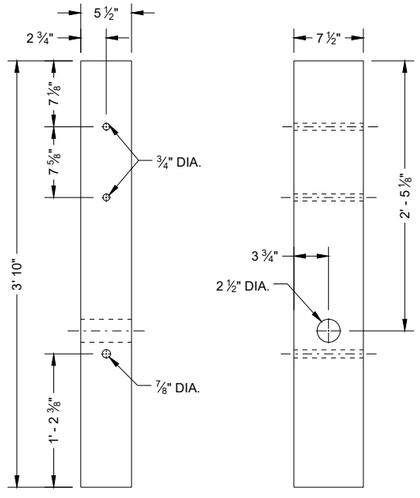


ELEVATION PROFILE

FOUNDATION TUBE

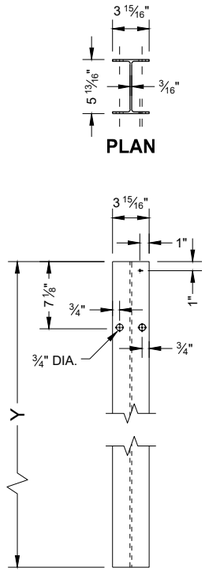


PLAN



ELEVATION PROFILE

BCT POST (L1)



PLAN

ELEVATION

POST

PART	LENGTH "Y"
M1	6' - 6"
M2	5' - 8 5/8"
C2	2' - 7 5/8"

STEEL THRIE BEAM BULLNOSE TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

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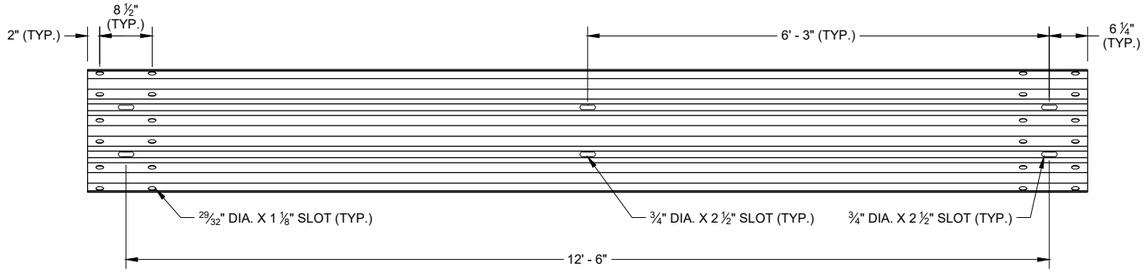
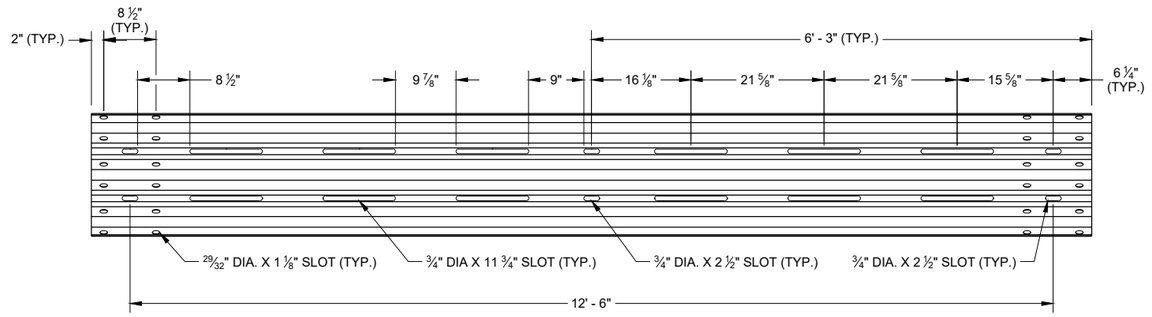
6

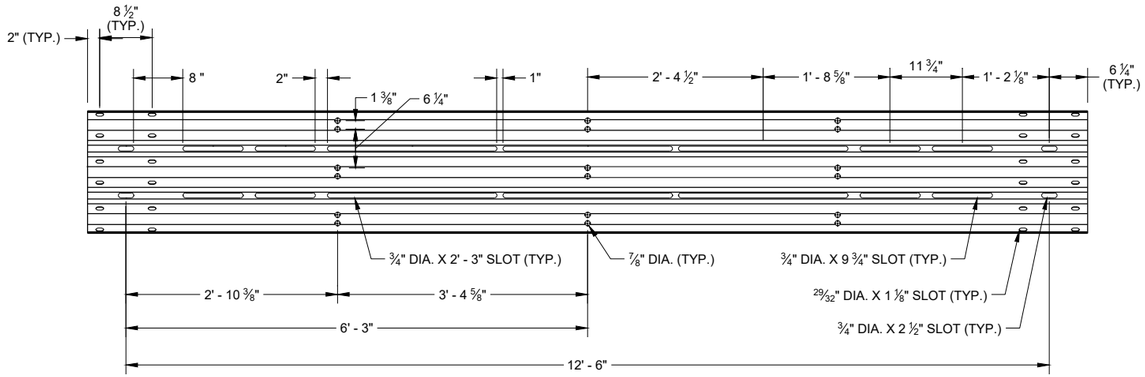
SDD 14B26 - 05e



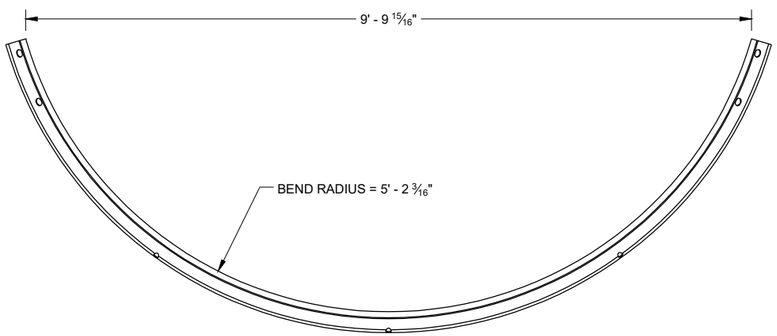
SLOTTED THRIE BEAM RAIL E1



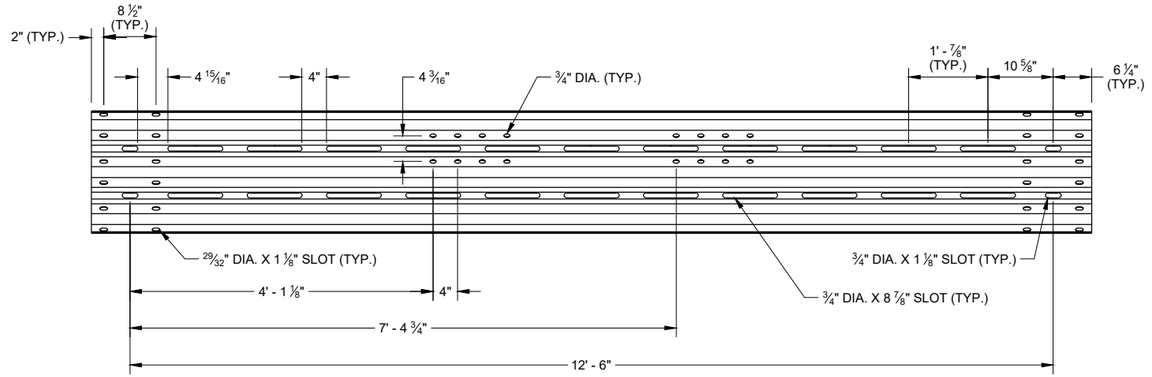
SLOTTED THRIE BEAM RAIL E3



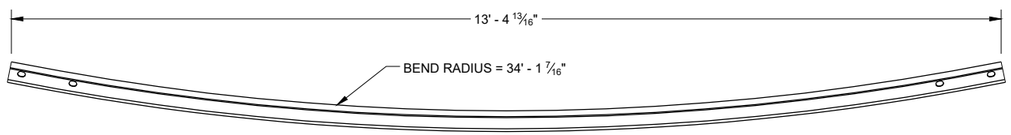
ELEVATION VIEW NON - RADIUSED
SLOTTED THRIE BEAM RAIL E2



PLAN VIEW
SLOTTED THRIE BEAM RAIL E2



ELEVATION VIEW NON - RADIUSED
SLOTTED THRIE BEAM RAIL E4

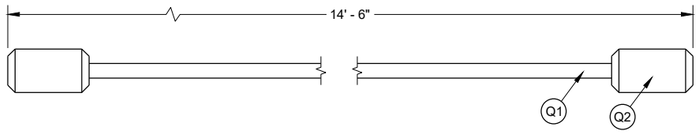


PLAN VIEW
SLOTTED THRIE BEAM RAIL E4

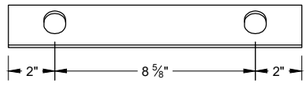
STEEL THRIE BEAM BULLNOSE TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

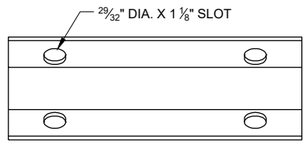
6
SDD 14B26 - 05f



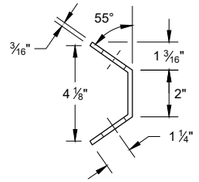
NOSE CABLE AND SWAGE BUTTON



PLAN VIEW

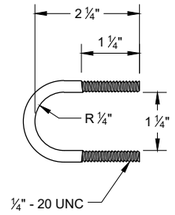


ELEVATION VIEW

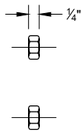


PROFILE VIEW

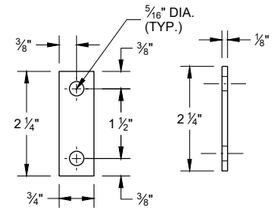
NOSE CABLE ANCHOR (R1)



U - BOLT (T1)

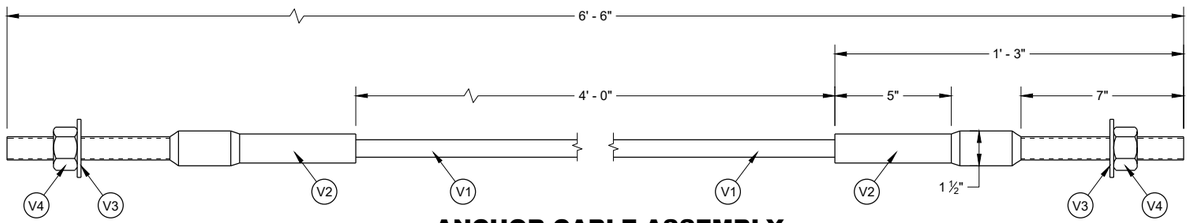


U - BOLT NUT (T3)

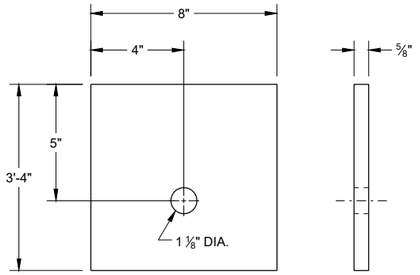


ELEVATION VIEW **PROFILE VIEW**

U - BOLT PLATE WASHER (T2)

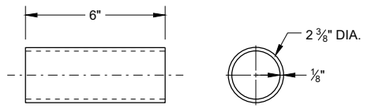


ANCHOR CABLE ASSEMBLY



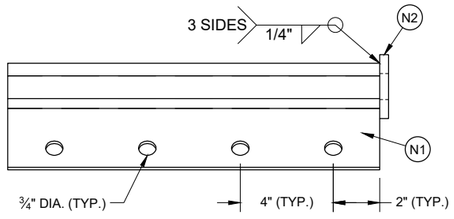
ELEVATION VIEW **PROFILE VIEW**

BCT BEARING PLATE (A3)

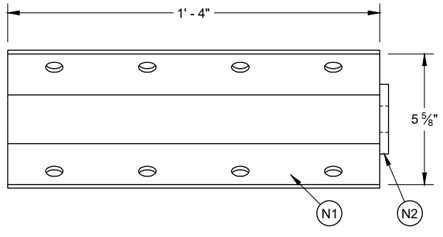


ELEVATION VIEW **PROFILE VIEW**

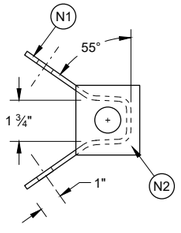
BCT POST SLEEVE (L2)



PLAN VIEW

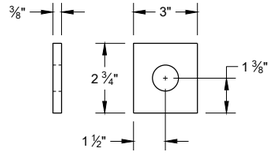


ELEVATION VIEW



PROFILE VIEW

ANCHOR BRACKET ASSEMBLY (N1)



ANCHOR BRACKET END PLATE (N2)

STEEL THRIE BEAM BULLNOSE TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

SDD 14B26 - 05g

6

BILL OF MATERIALS LIST

PART NUMBER	DESCRIPTION	MATERIAL SPECIFICATION
A1	LONG FOUNDATION TUBE	AASHTO M111/ASTM A123 ASTM A500 GRADE B OR ASTM A-501
A2	FOUNDATION TUBE	AASHTO M111/ASTM A123 ASTM A500 GRADE B OR ASTM A-501
A3	BEARING PLATE AT 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
B1	LOWER SLIP POST 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
B2	LOWER SLIP POST ASSEMBLY - TUBE	AASHTO M111/ASTM A123 ASTM A500 GRADE B OR ASTM A-501
C1	UPPER SLIP POST 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
C2	UPPER SLIP POST ASSEMBLY - POST	AASHTO M111/ASTM A123 ASTM A6 W6X9 OR W6X8.5 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
D1	BLOCK FOR STEEL POST - WOOD	WISDOT SPEC. 614
D2	TAPERED BLOCK FOR STEEL POST - WOOD	WISDOT SPEC. 614
D3	TAPERED BLOCK FOR BCT POST - WOOD	WISDOT SPEC. 614
E1	THRIE BEAM RAIL	AASHTO M180 CLASS A TYPE 2 APPROVED PRODUCER
E2	THRIE BEAM RAIL - SHOP BENT AND PUNCHED	AASHTO M180 CLASS A TYPE 2 APPROVED PRODUCER. INDICATE RADIUS BEAM GUARD IS BENT TO ON THE BACKSIDE OF RAIL. FOLLOW AASHTO M180. MARK RADIUS.
E3	THRIE BEAM RAIL - PUNCHED	AASHTO M180 CLASS A TYPE 2 APPROVED PRODUCER
E4	THRIE BEAM RAIL - SHOP BENT AND PUNCHED	AASHTO M180 CLASS A TYPE 2 APPROVED PRODUCER. INDICATE RADIUS BEAM GUARD IS BENT TO ON THE BACKSIDE OF RAIL. FOLLOW AASHTO M180. MARK RADIUS.
F1	5/8" DIA. HEX HEAD GROUND STRUT AND YOKE 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
F2	5/8" DIA. GROUND STRUT AND YOKE 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)
F3	GROUND STRUT AND YOKE 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
G1	5/8 " DIA. 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 F436 TYPE 1 (HARDEN WASHER TYPICALLY USED WITH STEEL POSTS) OR ASTM F844 (UNHARDENED WASHER TYPICALLY USED WITH WOOD)
G2	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 TYPICALLY USED WITH STEEL POSTS) OR ASTM F844 (UNHARDENED WASHER TYPICALLY USED WITH WOOD)
G3	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
H1	7/8" DIA. SOIL 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 7/8" ASTM A563DH OR SAE J995 GRADE 5
H2	SOIL TUBE 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 7/8" ASTM F844 TYPE 1 (HARDEN WASHER ONLY)
H3	SOIL TUBE 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 7/8" ASTM A563DH OR SAE J995 GRADE 5
J1	16D DOUBLE HEAD NAIL	ASTM A153 HOT DIPPED CLASS D DOUBLE HEAD ASTM F1667 TYPE 1 STYLE 12 (16 DOUBLE HEADED)
L1	BCT TIMBER POST	WISDOT SPEC. 614 S4S FINISH ON 4 SIDE
L2	BCT POST SLEEVE	AASHTO M111/ASTM A123 2 3/8" OD ASTM 53 GRADE B
M1	W6X8.5 OR W6X9 STEEL POST	AASHTO M111/ASTM A123 ASTM A6 W6X9 OR W6X8.5 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	W6X8.5 OR W6X9 STEEL POST	AASHTO M111/ASTM A123 ASTM A6 W6X9 OR W6X8.5 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
N1	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
N2	ANCHOR BRACKET - 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

PART NUMBER	DESCRIPTION	MATERIAL SPECIFICATION
P1	5/8" DIA. 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 HEAVY HEX HEAD 5/8" ASTM A307 GRADE B OR SAE J429 GRADE 2 OR ASTM F1554 GRADE 36
P2	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)
P3	SOIL TUBE 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
Q1	5/8" DIA. NOSE CABLE	6X19 AASTHO M30 / ASTM A741 XIPS INDEPENDENT WIRE CORE (IWRC) PR 6X25 XIPS, IWRC NOMINAL BREAKING STRENGTH OF 41.2 KIPS.
Q2	NOSE CABLE-SWAGE BUTTON	COLD TUFF BUTTON, S-409 SIZE NO. 12 STOCK NUMBER 1040395 OR ANY OTHER SIMILAR SIZED WAGED-GRIP-BUTTON FERRULES. ASTM A576 GRADE 1035 SWAGE FITTING ARE TO BE FIELD SWAGED PER MANUFACTURERS RECOMMENDATION. NOMINAL BREAKING STRENGTH OF 41.2 KIPS.
R1	NOSE CABLE 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
S1	5/8" DIA. SPLICE BOLT - 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
S2	SPLICE - 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 5/8" ASTM A563DH OR SAE J995 GRADE 5
T1	1/4" DIA. NOSE CABLE - U 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
T2	U-BOLT - PLATE 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)
T3	U-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
U1	7/16" DIA. SLIP POST ASSEMBLY - BREAKAWAY BOLT	ASTM A153 OR B695 CLASS 55 OR F2329 UNC FULLY THREADED HEX HEAD TAP BOLT ASTM A449 OR SAE J429 GRADE 5
U2	7/16" DIA. SLIP POST ASSEBLY - BREAKAWAY BOLT - WASHER	ASTM F436 TYPE I (HARDEN TYPICALLY USED WITH STEEL) GALV. AASHTO M111/ASTM A 123 OR GALV. HOT DIP. TO POST BOLT CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 55, F2329
U3	SLIP POST ASSEBLY - 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 / STM 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
V1	¾" DIA. BCT CABLE	AASHTO M30 / ASTM A741 6X19 INDEPENDENT WIRE CORE (IWRC) IMPROVED PLOW STEEL (IPS), 6X19 INDEPENDENT WIRE CORE (IWRC) IMPROVED PLOW STEEL (IPS) TYPE II OR IIC, CLASS C ZINC COATED MIN BREAKING STRENGTH OF 42.7 KIPS
V2	ANCHOR CABLE-SWAGE FITTING	UNC ASTM A576 GRADE 1035 SWAGE FITTING ARE TO BE FACTORY SWAGED. 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."
V3	1" DIA. ANCHOR CABLE-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)
V4	1" DIA. ANCHOR CABLE-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
W1	REFLECTOR	SEE SDD 15A4

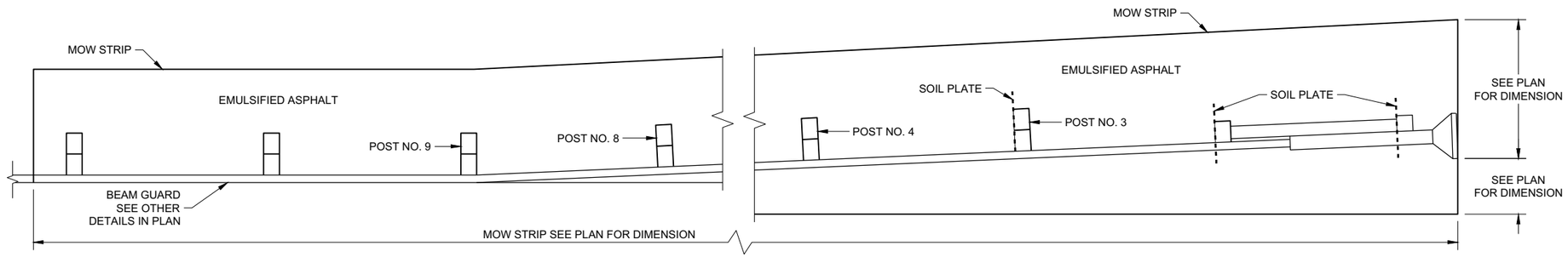
STEEL THRIE BEAM BULLNOSE TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2022 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVE ENGINEER
FHWA

6

SDD 14B26 - 05h



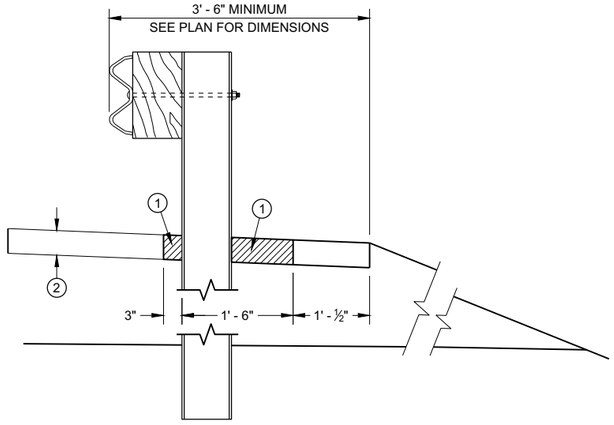
PLAN VIEW

MOW STRIP LAYOUT FOR ENERGY ABSORBING TERMINAL

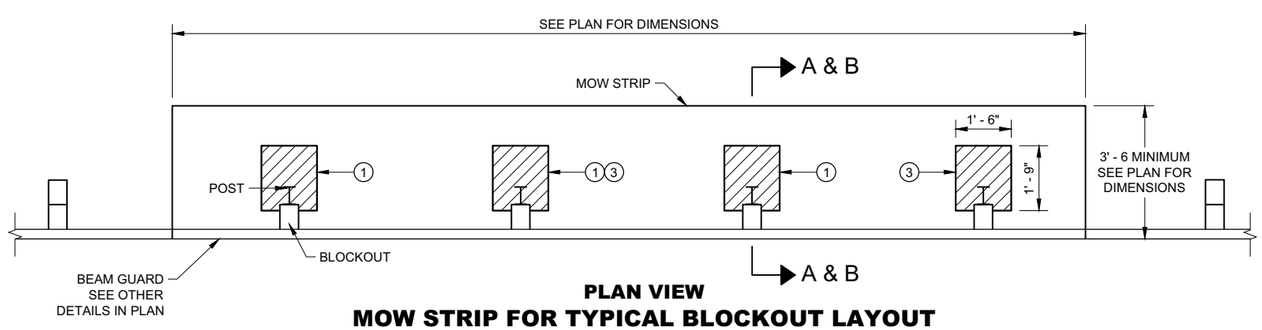
GENERAL NOTES

ONLY USE STEEL POSTS IN CONCRETE AND ASPHALT MOW STRIPS.

1. CONTROLLED LOW-STRENGTH BACKFILL OR EMULSIFIED ASPHALT.
2. DEPTH OF MOW STRIP:
   ASPHALT - 4"
   CONCRETE - 4"
   EMULSIFIED ASPHALT - 1" OR LESS
3. FOR EMULSIFIED ASPHALT, MOW STRIP STRIP LEAVE OUTS NOT REQUIRED. (TYPICAL FOR ALL POSTS)

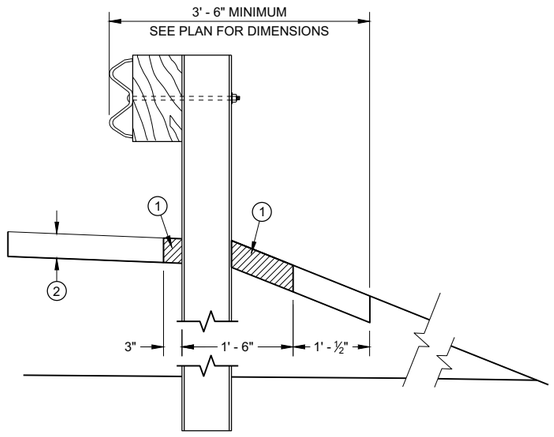


SECTION A - A

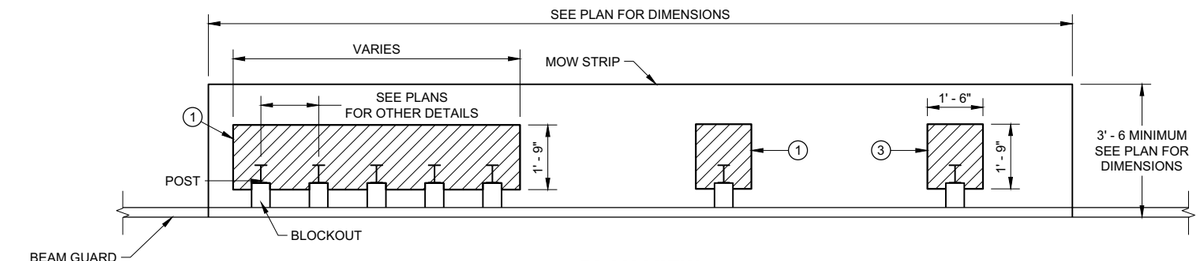


PLAN VIEW

MOW STRIP FOR TYPICAL BLOCKOUT LAYOUT

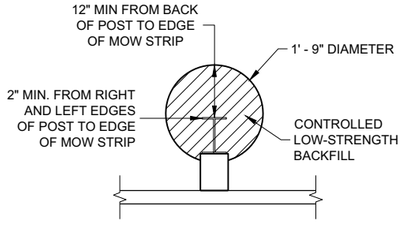


SECTION B - B

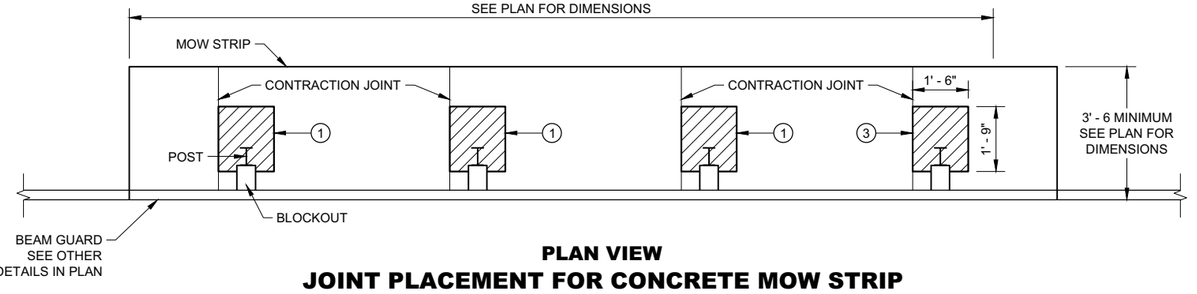


PLAN VIEW

MOW STRIP FOR TIGHT SPACING LAYOUT



ALTERNATIVE HMA MOW STRIP DESIGN



PLAN VIEW

JOINT PLACEMENT FOR CONCRETE MOW STRIP

GUARDRAIL MOW STRIP

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

SDD 14B28 - 04a

SDD 14B28 - 04a

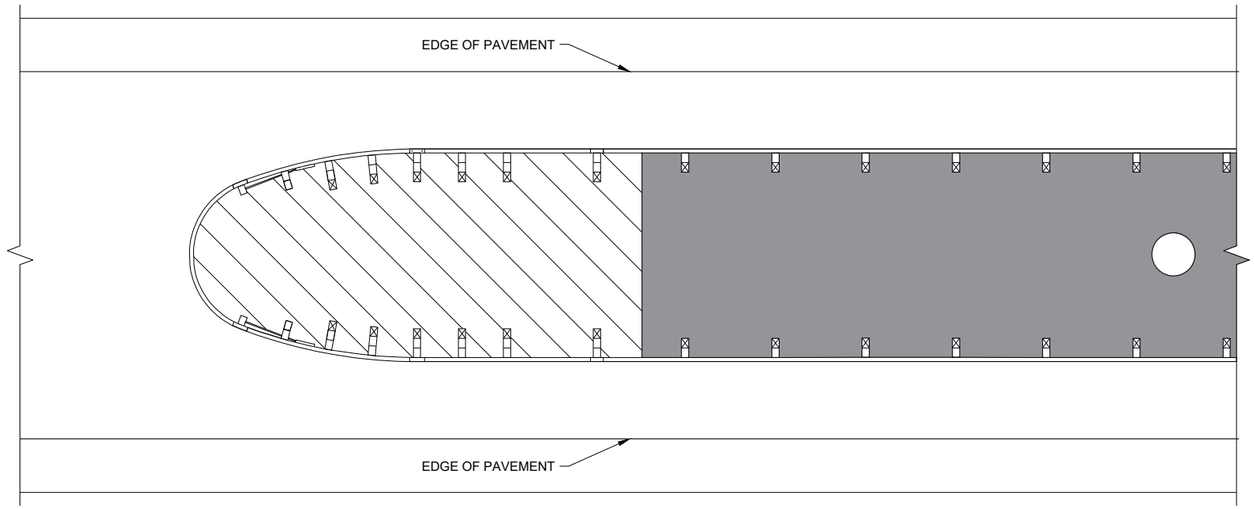
LEGEND

CONCRETE, ASPHALT, OR EMULSIFIED ASPHALT MOW STRIP (SEE OTHER DETAILS)

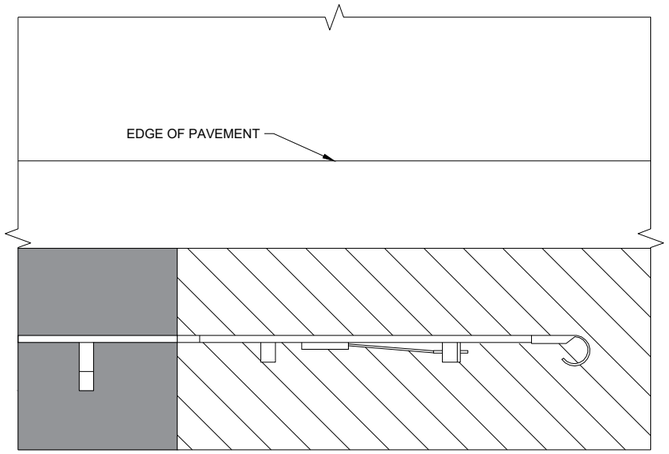
EMULSIFIED ASPHALT MOW STRIP (SEE OTHER DETAILS)

GENERAL NOTES

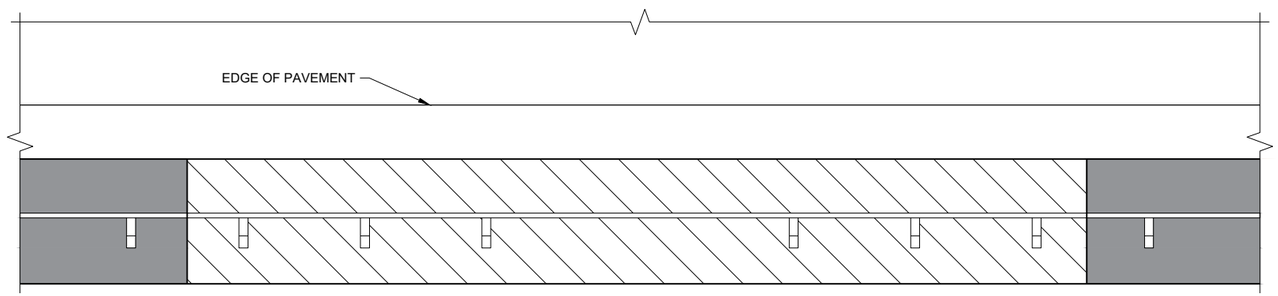
EXISTING THRIE BEAM BULLNOSES MAY HAVE WOOD POSTS. NEW THRIE BEAM BULLNOSE WILL HAVE STEEL POSTS.



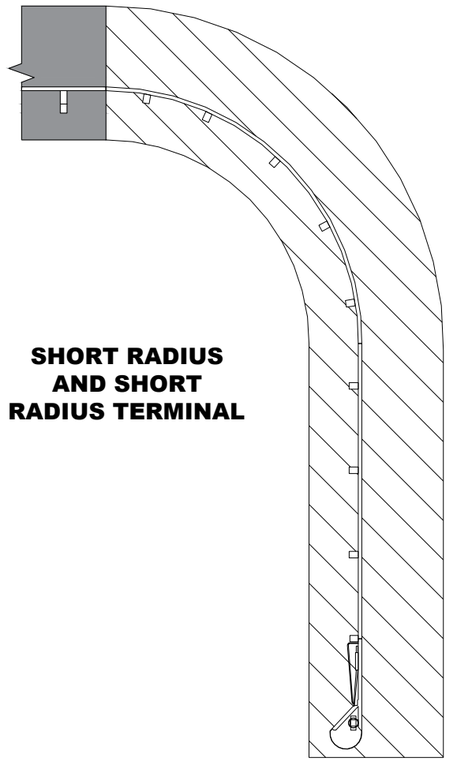
THRIE BEAM BULLNOSE



TYPE 2 TERMINAL



LONG - SPAN



SHORT RADIUS AND SHORT RADIUS TERMINAL

GUARDRAIL MOW STRIP

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
August 2020
DATE

/S/ Rodney Taylor
ROADWAY STANDARDS DEVE
ENGINEER

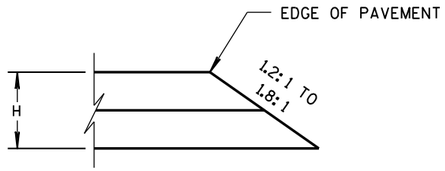
FHWA

6

SDD 14B28 - 04b

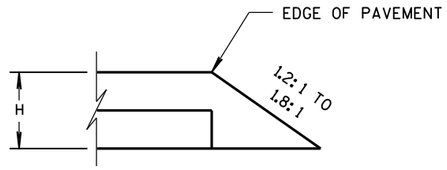
6

SDD 14B28 - 04b



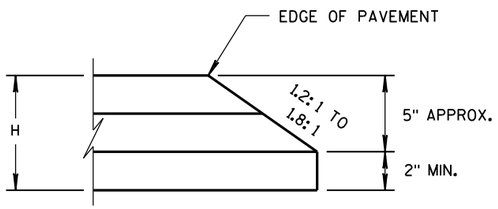
CONSTRUCTED WITH FINAL TWO LAYERS

FOR H 5" OR LESS



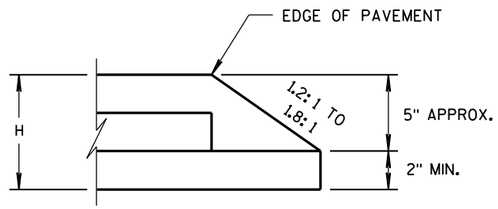
CONSTRUCTED WITH FINAL LAYER

FOR H 5" OR LESS



CONSTRUCTED WITH FINAL TWO LAYERS

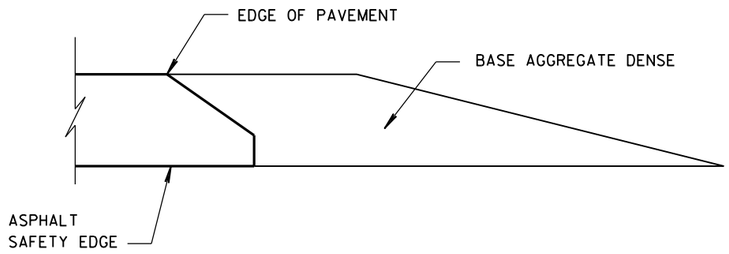
FOR H GREATER THAN 5"



CONSTRUCTED WITH FINAL LAYER

FOR H GREATER THAN 5"

HMA PAVEMENT AND HMA OVERLAYS



FINISHED SHOULDER AGGREGATE PLACEMENT

6

6

S.D.D. 14 B 29-1

S.D.D. 14 B 29-1

SAFETY EDGE SM

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

11/30/2012
DATE

/S/ Jerry H. Zoda
ROADWAY STANDARDS DEVELOPMENT ENGINEER

FHWA

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

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

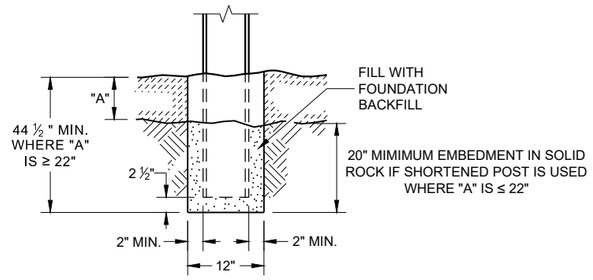
(3) IF ROCK IS ENCOUNTERED DURING EXCAVATION, PROVIDE A HOLE 12 INCHES IN DIAMETER EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2 1/2" INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS THE TO LENGTH AMD INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT. BACKFILL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

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

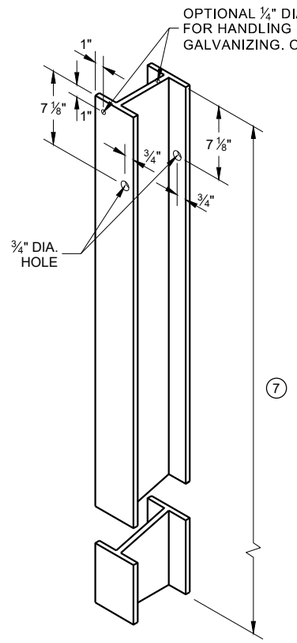
(5) FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS ±1". FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27 ¾" TO 32".

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

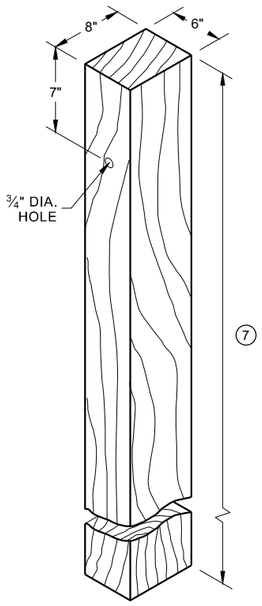
(7) TOTAL POST LENGTH FOR TYPE K IS 7' - 0".
TOTAL POST LENGTH FOR OTHER MGS TYPES IS 6' - 0".



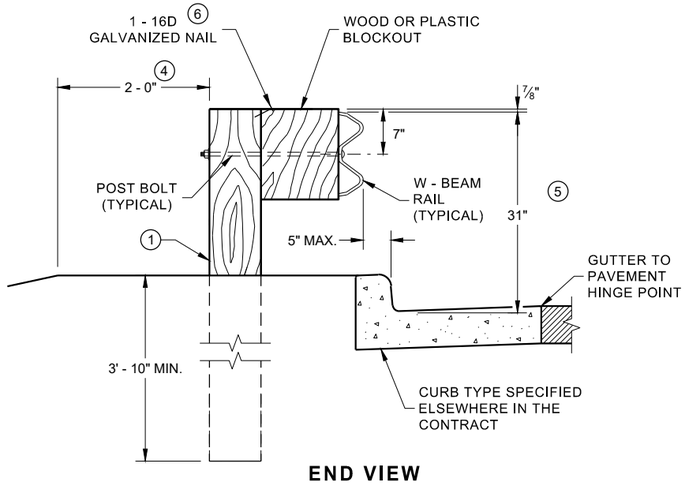
END VIEW
SETTING STEEL OR WOOD POST IN ROCK (3)



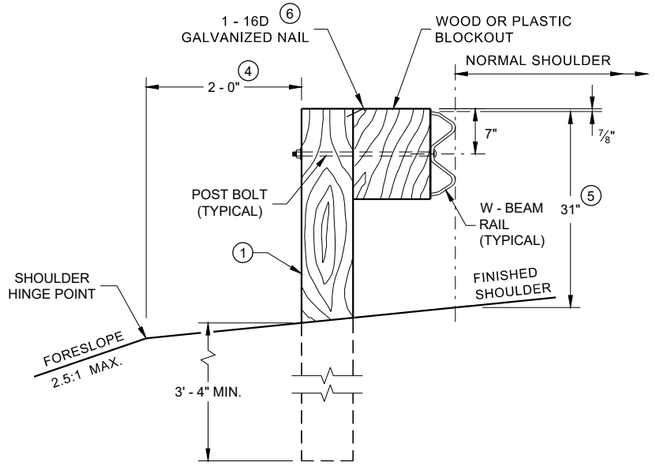
STEEL POST & HOLE PUNCHING DETAIL (W 6 X 9) (1)



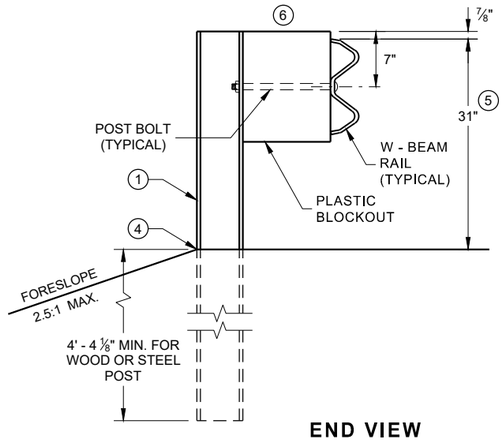
WOOD POST (6" X 8") NOMINAL (1)



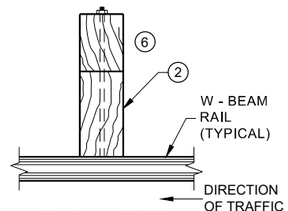
END VIEW
LOCATED ALONG A CURBED ROADWAY



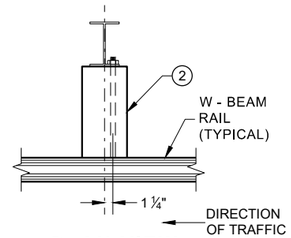
END VIEW
LOCATED ALONG A ROADWAY SHOULDER STANDARD INSTALLATION



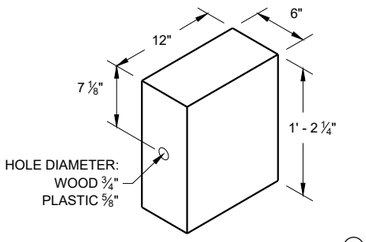
END VIEW
MGS LONGER POST AT HALFPOST SPACING W BEAM (K)



PLAN VIEW
WOOD POST, BLOCKOUT & BEAM



PLAN VIEW
STEEL POST, PLASTIC BLOCKOUT & BEAM



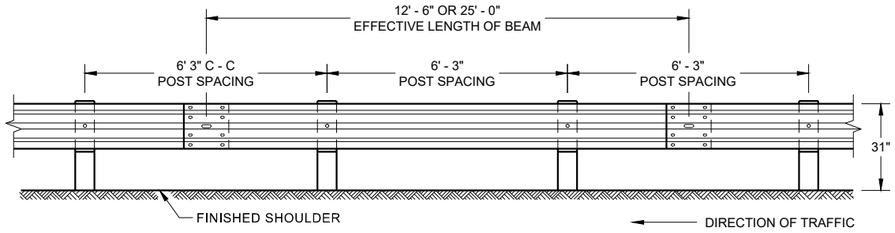
WOOD OR PLASTIC BLOCKOUT (2)

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

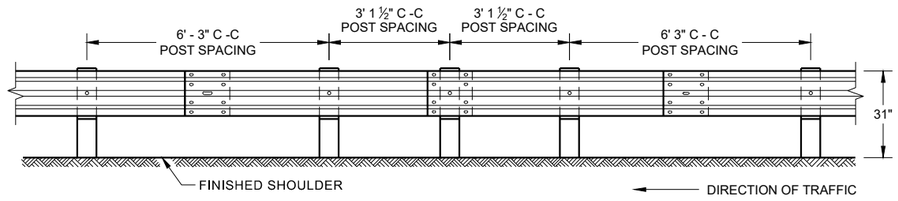
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

SDD 14B42 - 07a

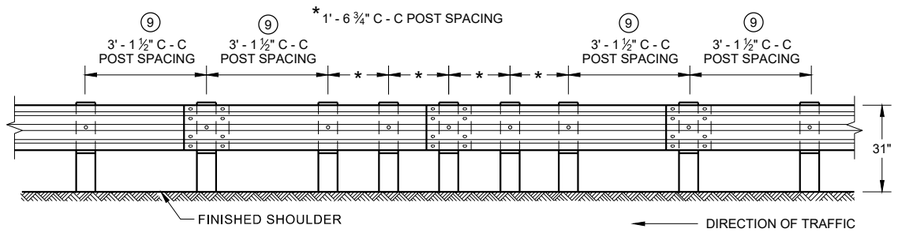
SDD 14B42 - 07a



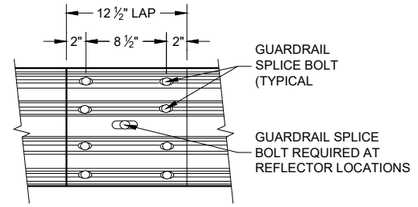
FRONT VIEW
POST SPACING STANDARD INSTALLATION



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



FRONT VIEW
QUARTER POST SPACING (QS)



FRONT VIEW
MID-SPAN BEAM SPLICE

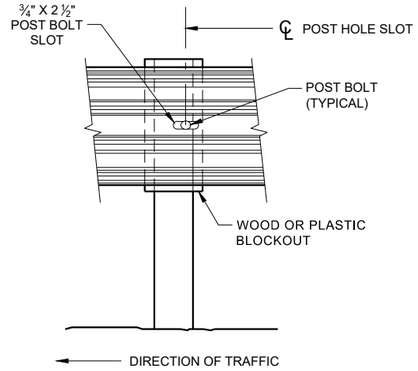
GENERAL NOTES

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

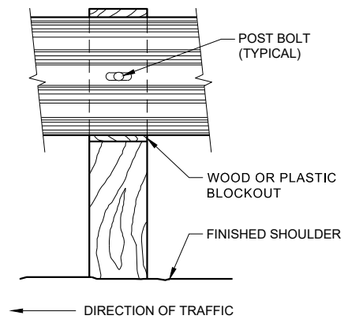
⑨ 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.

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.

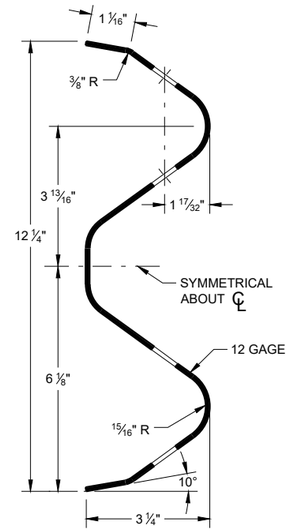
GUARD RAIL SPLICE BOLTS ARE A ⅝" DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES ⅝" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.



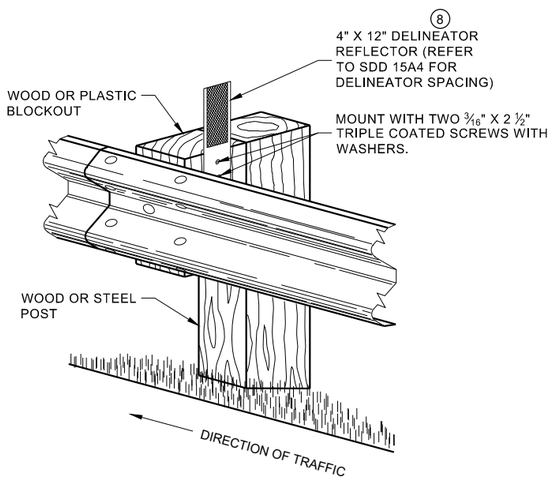
FRONT VIEW AT STEEL POST



FRONT VIEW AT WOOD POST



SECTION THRU W-BEAM RAIL



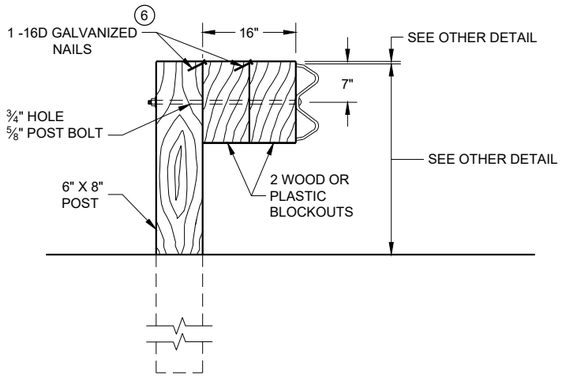
ONE SIDED REFLECTOR DETAIL
AND TYPICAL INSTALLATION

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

SDD 14B42 - 07b

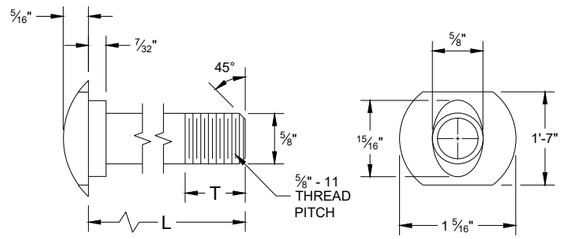


DETAIL FOR 16" BLOCKOUT DEPTH

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.

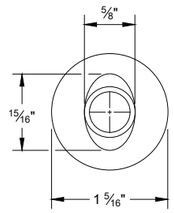
NOTE:

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.

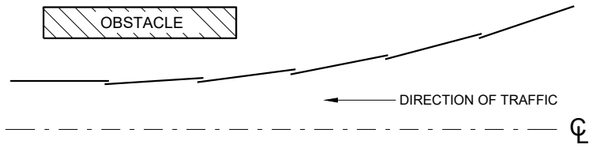


POST BOLT TABLE

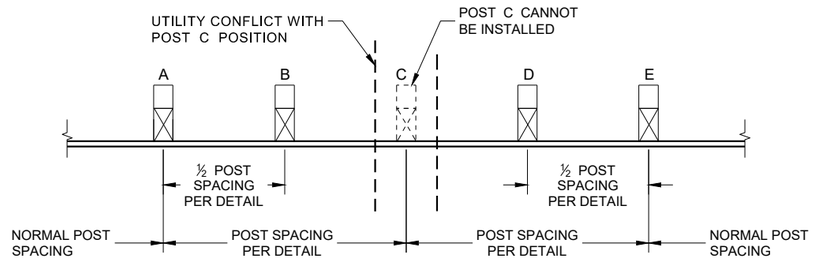
L	T (MIN.)
1 ¼"	1 ⅛"
2"	1 ¾"
10"	4"
14"	4 1/16"
18"	4"
21"	4 1/16"
25"	4"



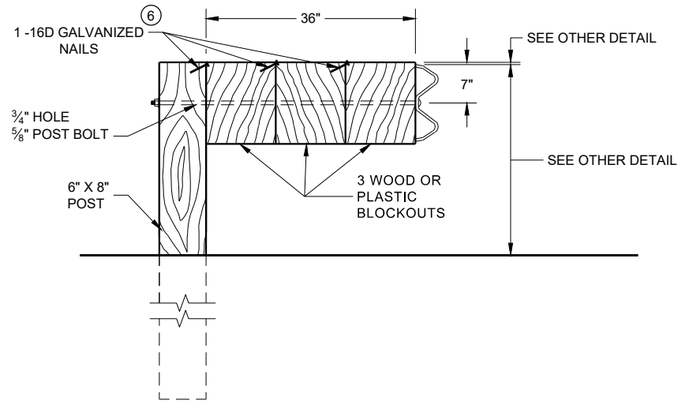
ALTERNATE BOLT HEAD



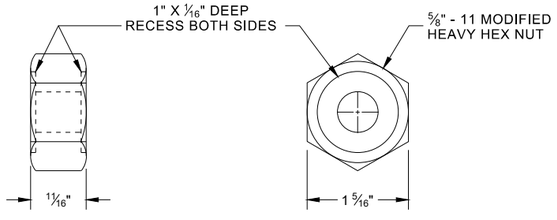
PLAN VIEW
BEAM LAPPING DETAIL



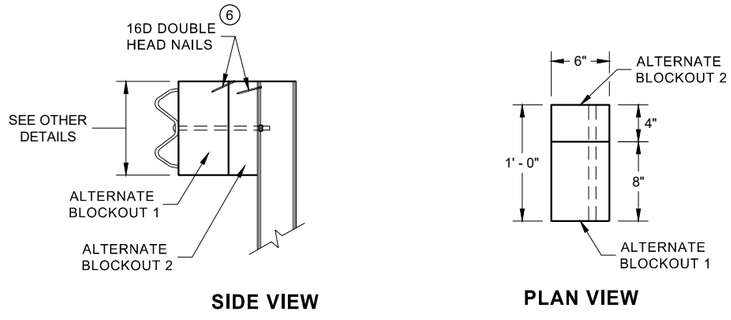
POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION



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.

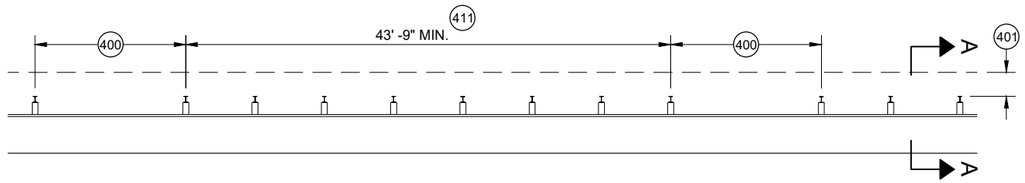
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.

(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.

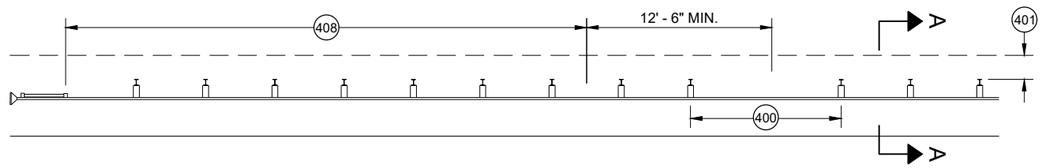
6

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

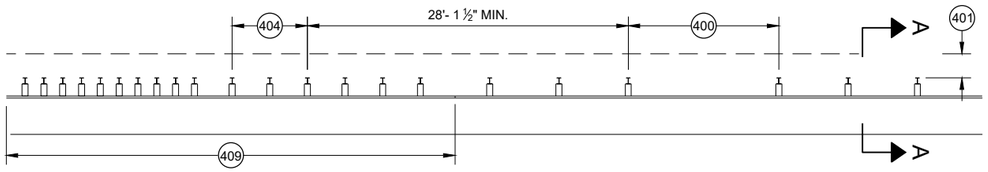
SDD 14B42 - 07c



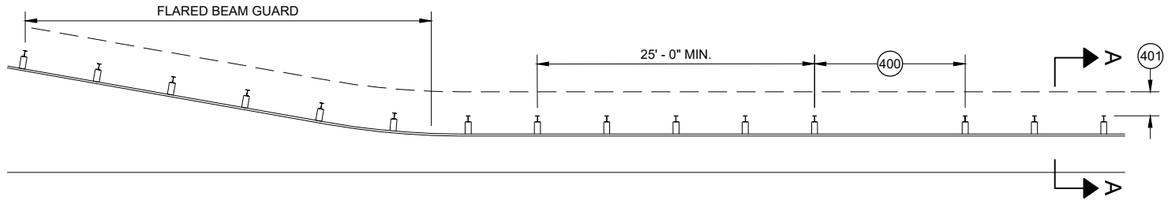
MISSING POST IN MGS GUARDRAIL



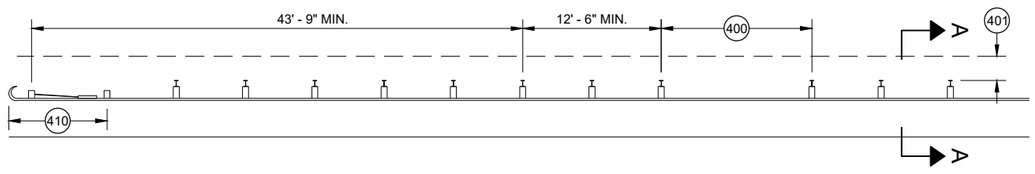
MISSING POST IN MGS GUARDRAIL NEAR EAT



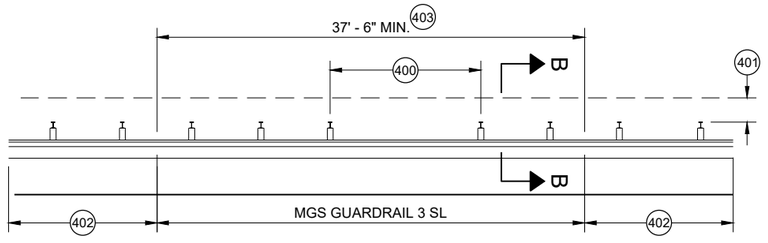
MISSING POST IN MGS GUARDRAIL NEAR AN APPROACH TRANSITION



MISSING POST IN MGS GUARDRAIL NEAR FLARED BEAM GUARD

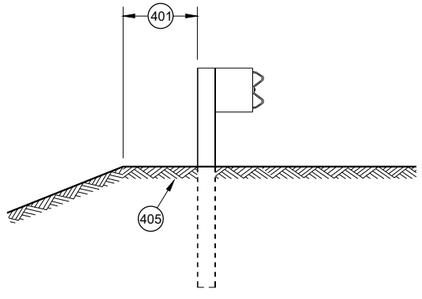


MISSING POST IN MGS GUARDRAIL NEAR A TYPE 2 END TERMINAL

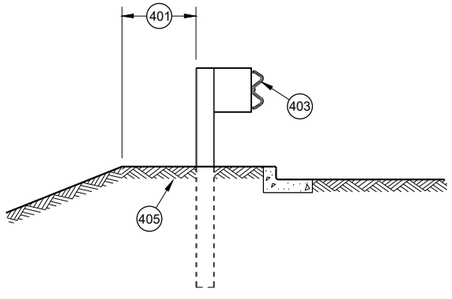


MISSING POST IN SHORT SPAN MGS GUARDRAIL NEAR CURB (SL) 407

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



SECTION A - A 406



SECTION B - B 406

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA

6

SDD 14B42 - 07d

GENERAL NOTES

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

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

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

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

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

DIMENSIONS MAY VARY, MANUFACTURER'S INFORMATION.

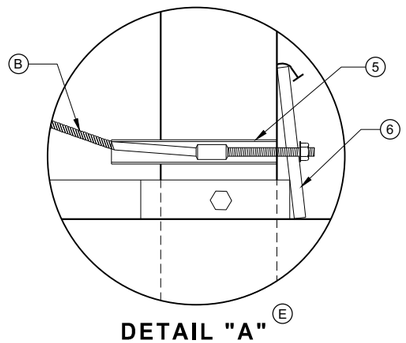
SEE SDD 14B42 FOR MORE INFORMATION.

* DO NOT ATTACH BLOCKOUTS TO POST 1 AND 2.

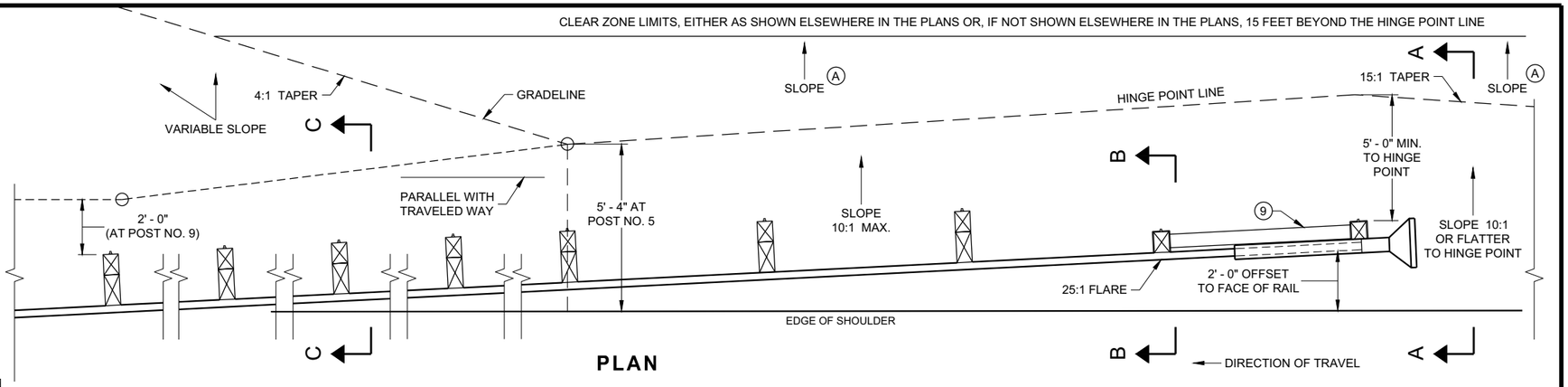
DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

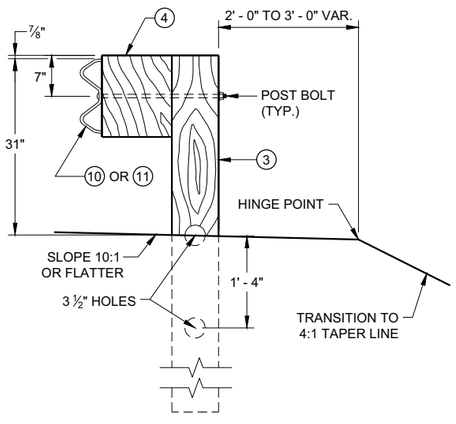
SEE MANUFACTURER'S DRAWING FOR SPLICE LOCATION, HARDWARE DIMENSIONS AND INSTALLATION INSTRUCTIONS.

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

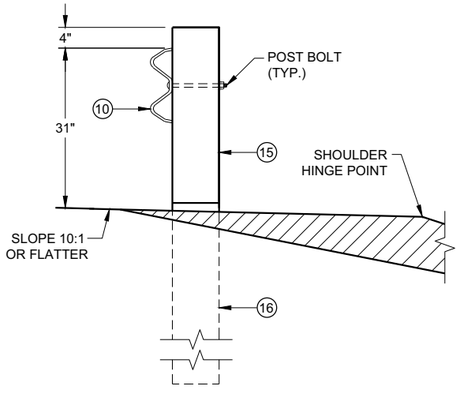


DETAIL "A" (E)

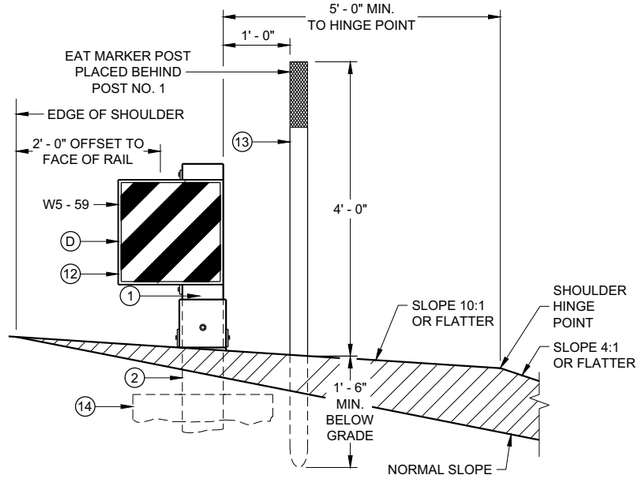




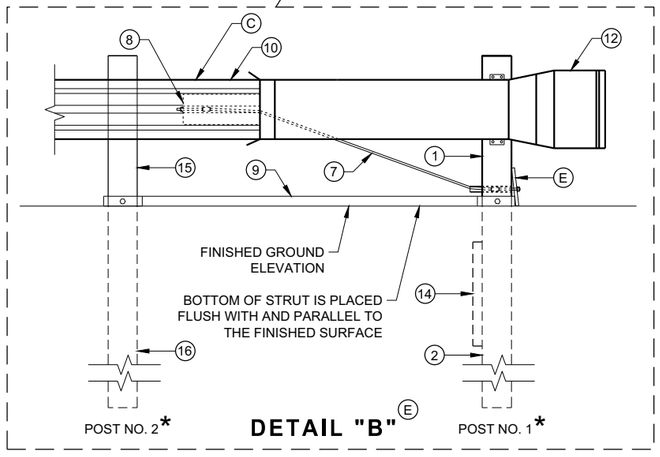
SECTION C - C
TYPICAL AT POST NOS. 3 - 9



SECTION B - B
TYPICAL AT POST NO. 2*



SECTION A - A
TYPICAL AT POST NO. 1*



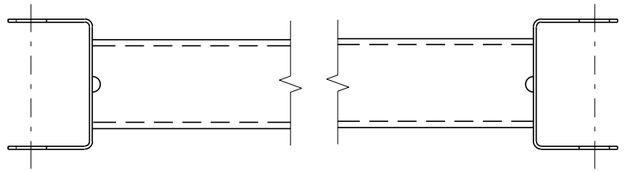
DETAIL "B" (E)

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

SDD 14B44 - 04a

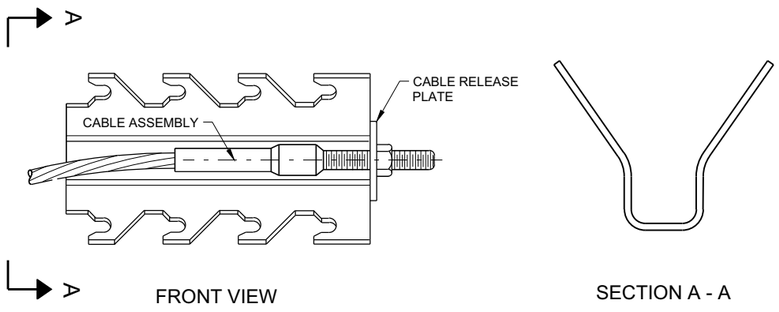
SDD 14B44 - 04a



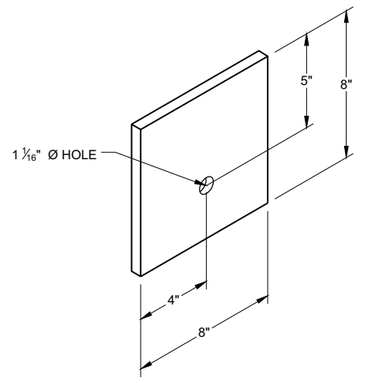
GENERIC GROUND STRUT ⑨ Ⓔ

BILL OF MATERIALS

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



GENERIC ANCHOR CABLE BOX ⑨ Ⓔ



BEARING PLATE ⑥ Ⓔ

6

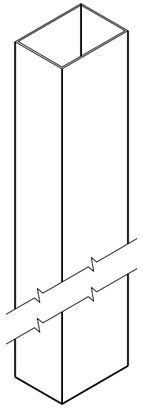
6

SDD 14B44 - 04b

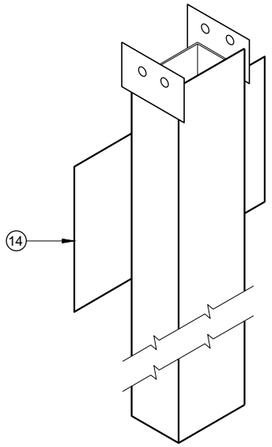
SDD 14B44 - 04b

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



UPPER POST NO. 1 (1) (E)



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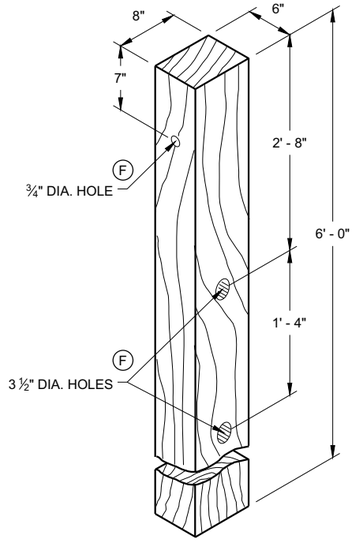
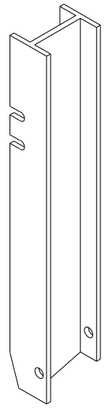


WOOD CRT POST (3) (E)
POSTS NUMBER 3-9



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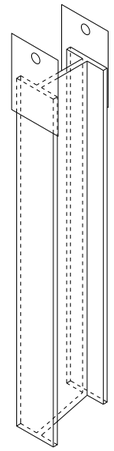
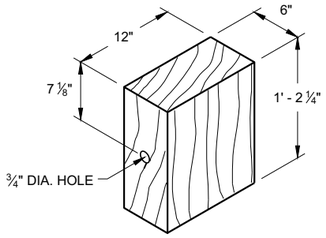
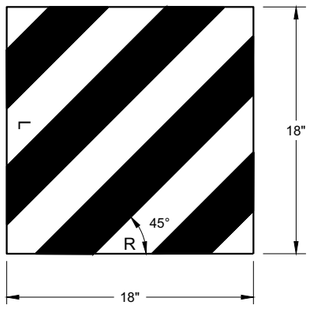


LOWER POST NO. 2 (16) (E)

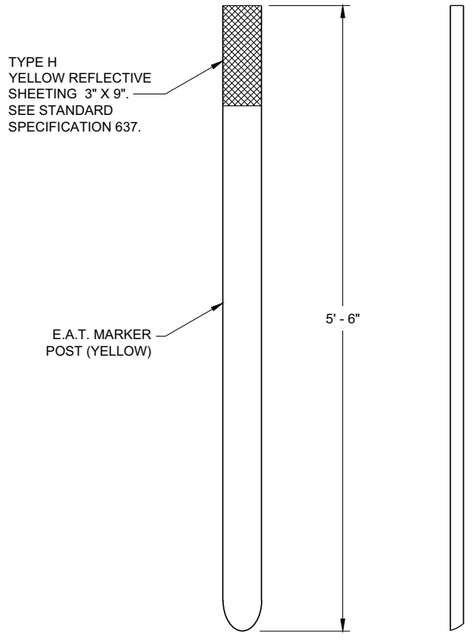


WOOD BLOCKOUT (4)
REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2



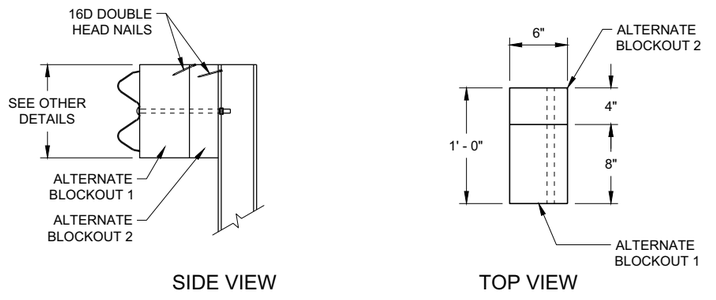
W5 - 59

REFLECTIVE SHEETING DETAIL (E)



FRONT VIEW SIDE VIEW

E.A.T. MARKER POST (13)



SIDE VIEW TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL

MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)

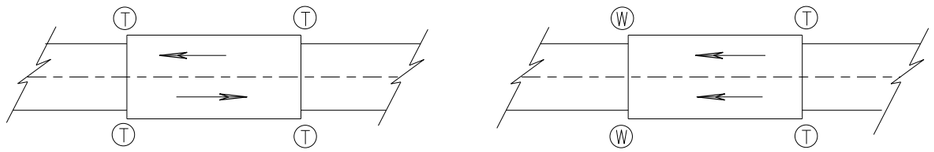
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA

6

SDD 14B44 - 04c



TWO WAY TRAFFIC

ONE WAY TRAFFIC

(T) THRIE BEAM CONNECTION

(W) W-BEAM CONNECTION WHEN REQUIRED

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

GENERAL NOTES

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

TRANSITION USES STEEL POSTS ONLY.

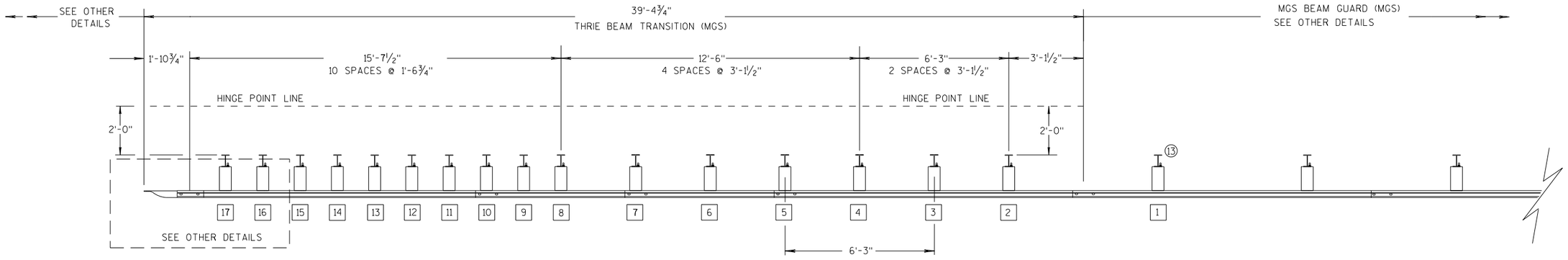
SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

POST 2 THROUGH 17 USES STEEL POST ONLY

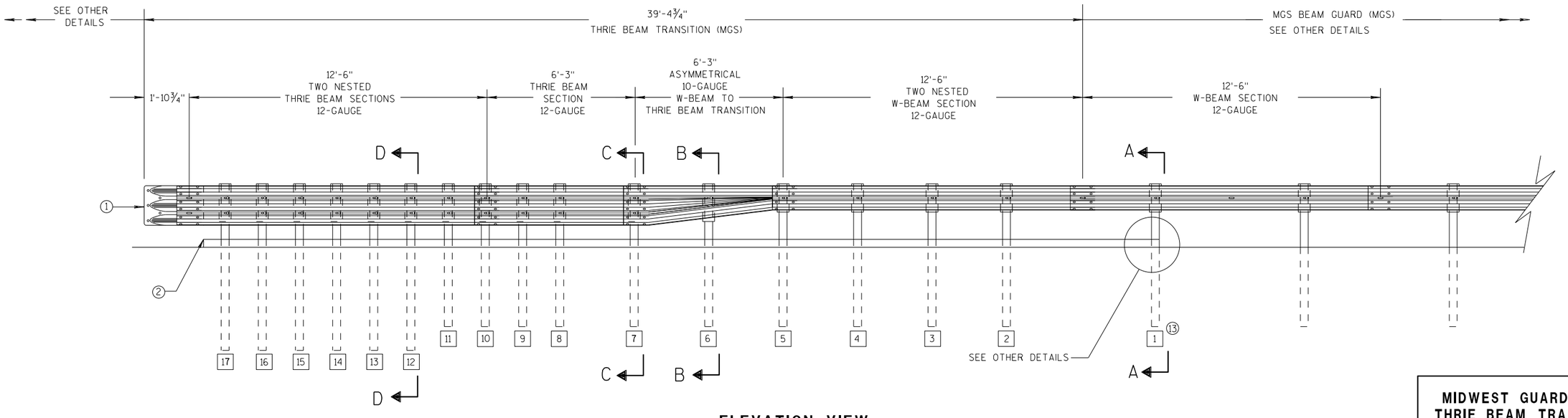
(1) BRIDGE RAILING TYPE "W" DOES NOT REQUIRE A TERMINAL CONNECTOR.

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

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



PLAN VIEW



ELEVATION VIEW

MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

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

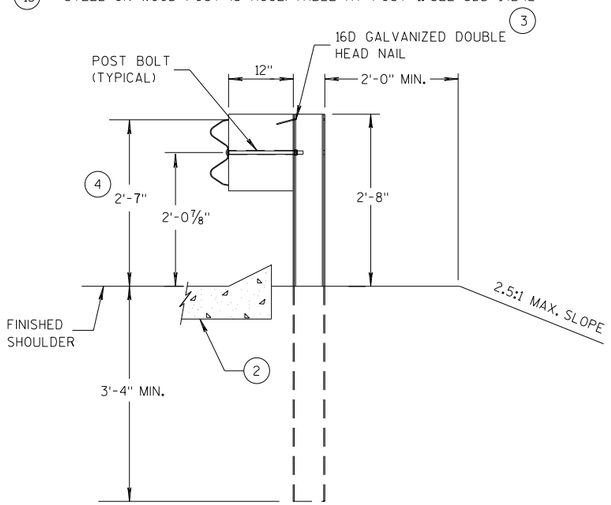
GENERAL NOTES

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

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

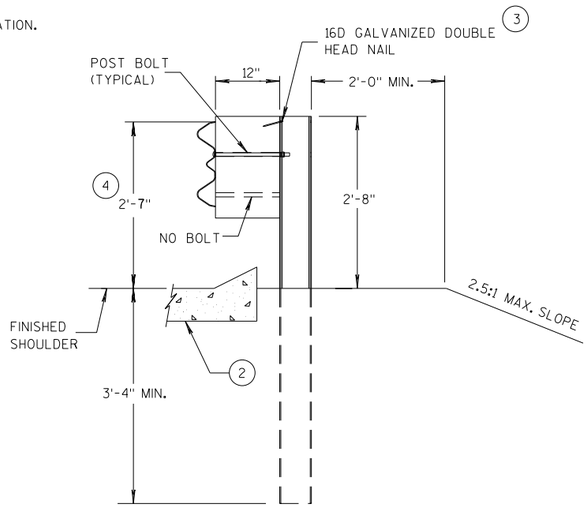
(4) TOLERANCE FOR TOP OF W-BEAM RAIL IS ± 1".

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



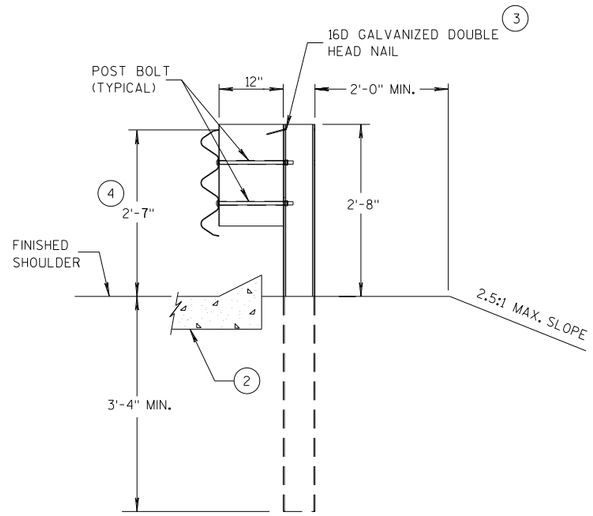
SECTION A-A (13)

POSTS 1-5



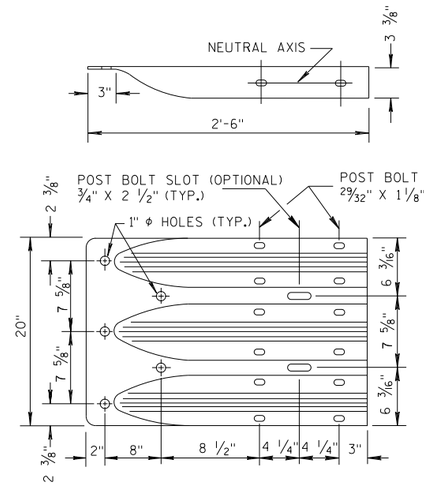
SECTION B-B

POST 6

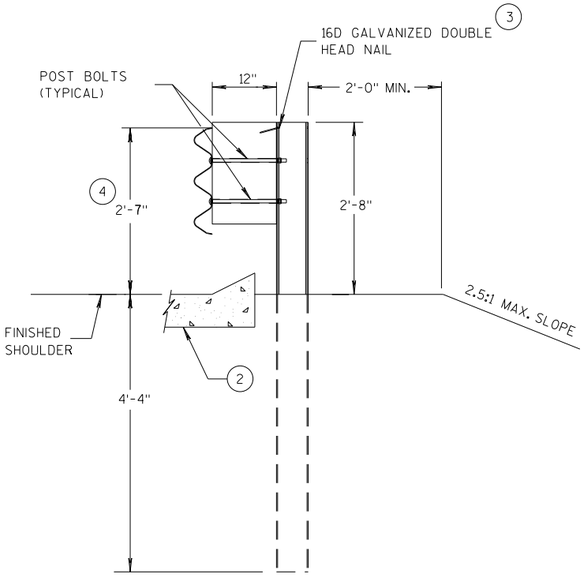


SECTION C-C

POSTS 7-11

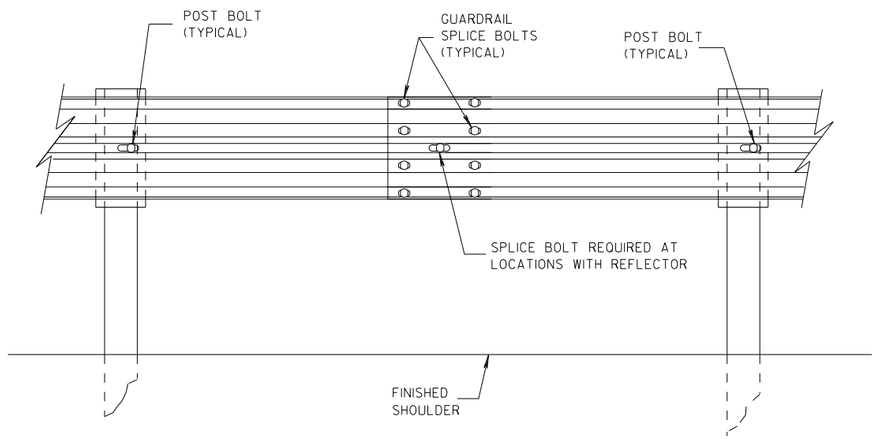


THRIE BEAM TERMINAL CONNECTOR



SECTION D-D

POSTS 12-17



SPLICE DETAIL

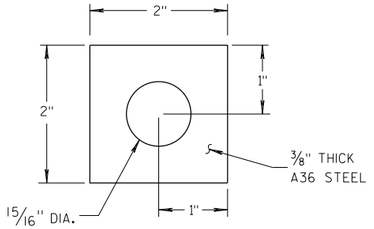
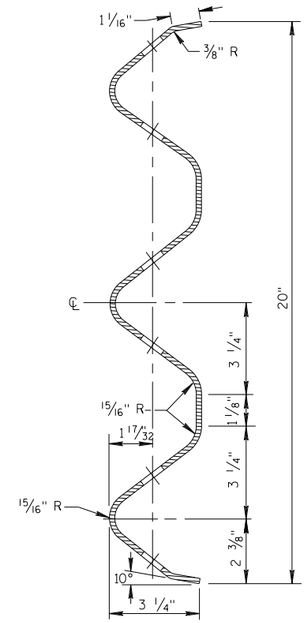


PLATE WASHER DETAIL



SECTION THRU THRIE BEAM RAIL ELEMENT

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

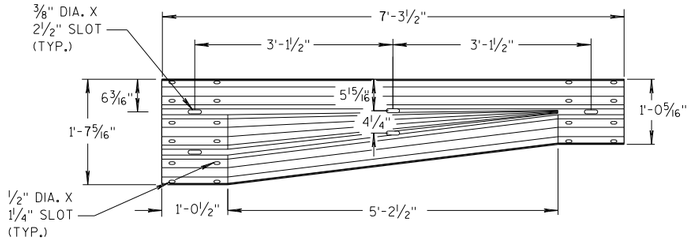
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR 154

6

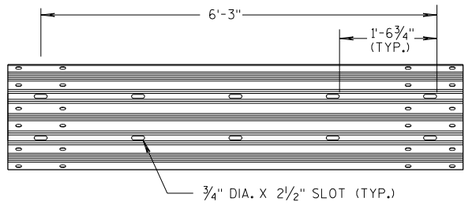
S.D.D. 14 B 45-5b

6

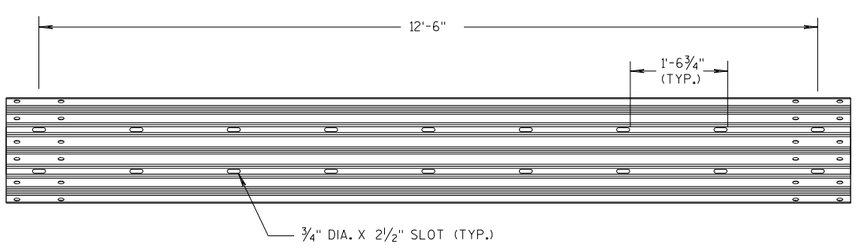
S.D.D. 14 B 45-5b



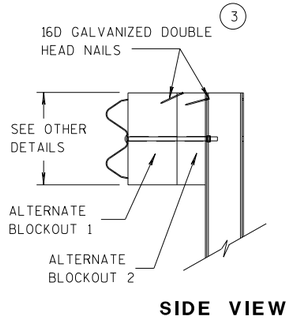
W-BEAM TO THRIE BEAM TRANSITION SECTION



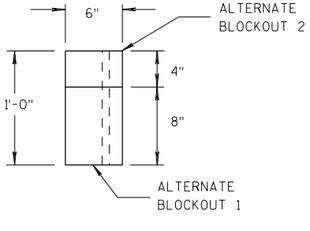
6'-3" THRIE BEAM SECTION



12'-6" THRIE BEAM SECTION

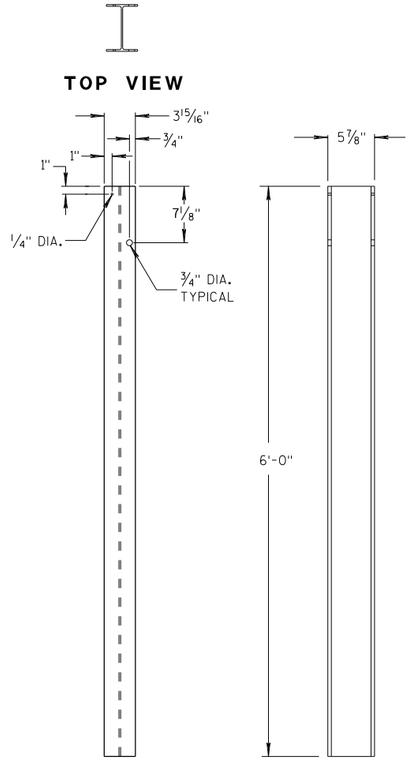


SIDE VIEW



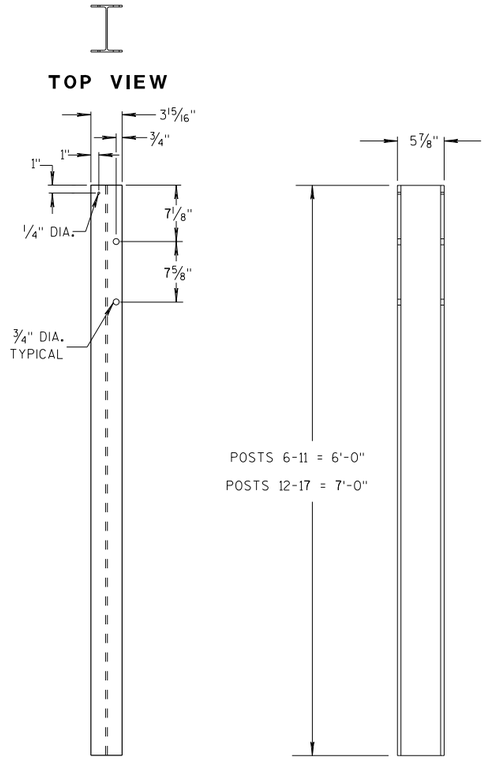
TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL



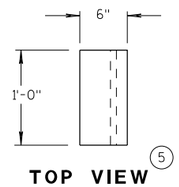
FRONT VIEW SIDE VIEW

STEEL POSTS 1-5 (13)

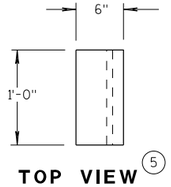


FRONT VIEW SIDE VIEW

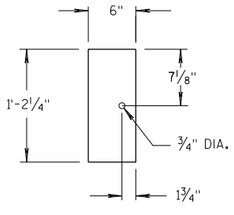
STEEL POSTS 6-17



TOP VIEW (5)

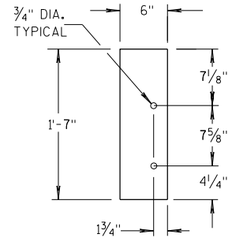


TOP VIEW (5)



FRONT VIEW

BLOCKOUT POSTS 1-5



FRONT VIEW

BLOCKOUT POSTS 6-17

GENERAL NOTES

STEEL POSTS ARE W6X9 OR W6X8.5.

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

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

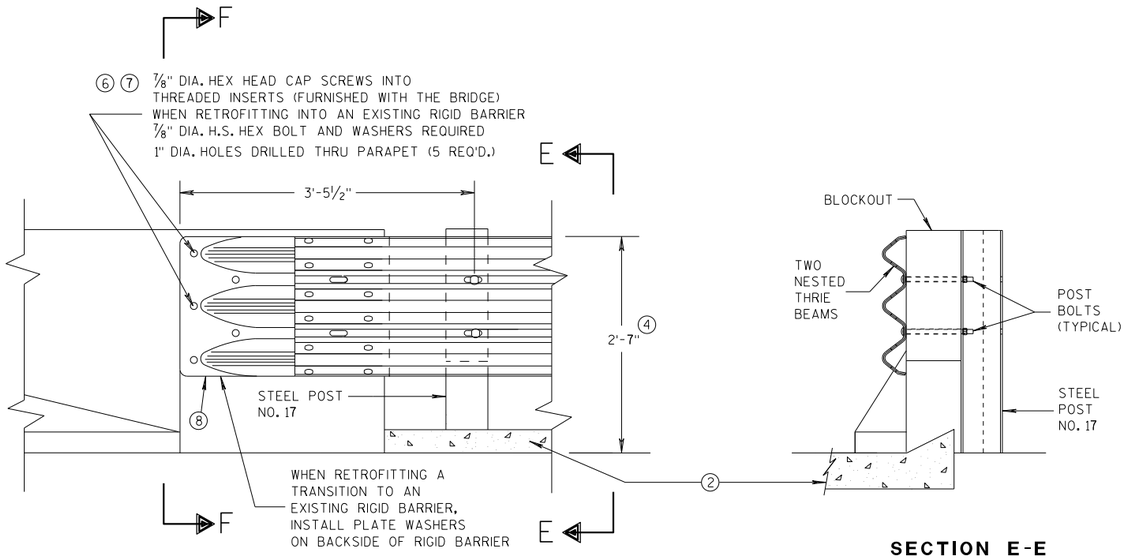
(5) WOOD BLOCKS MAY BE CONSTRUCTED OUT OF 2 WOOD BLOCKS. SEE ALTERNATE WOOD BLOCK DETAIL.

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

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOF

6
S.D.D. 14 B 45-5c



FRONT VIEW

SECTION E-E

THRIE BEAM CONNECTION TO BRIDGE PARAPET WITH SQUARE ENDS

GENERAL NOTES

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

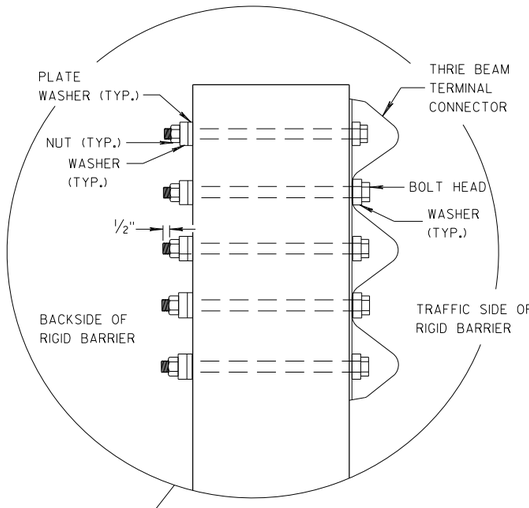
② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

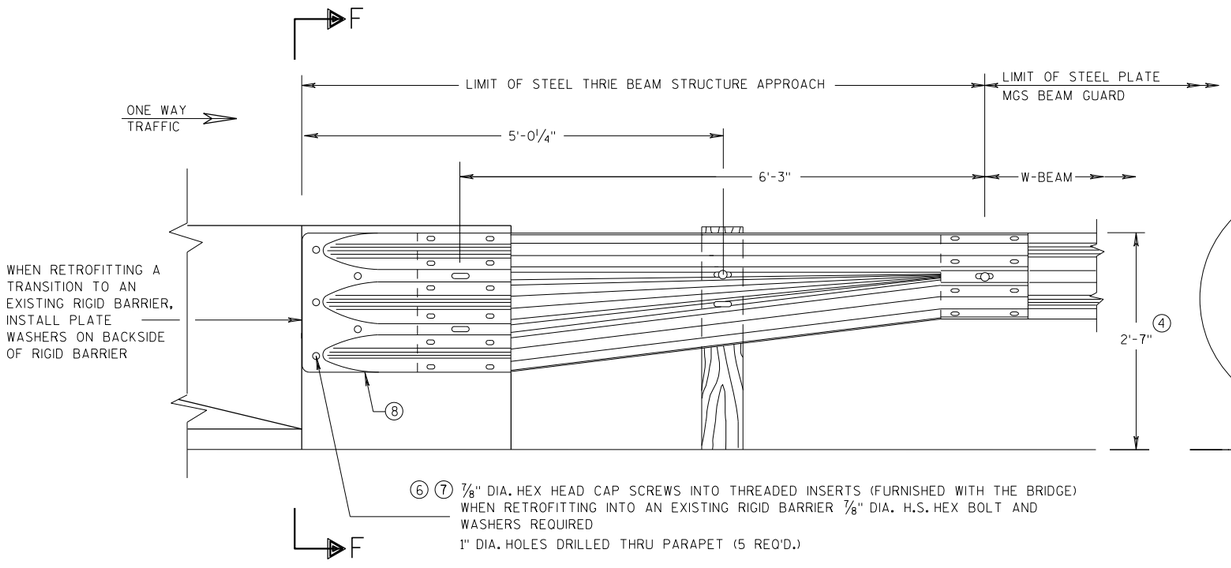
④ TOLERANCE FOR TOP OF BEAM IS ± 1".

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

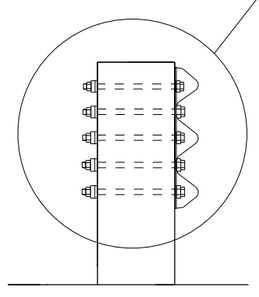
⑦ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE.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

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

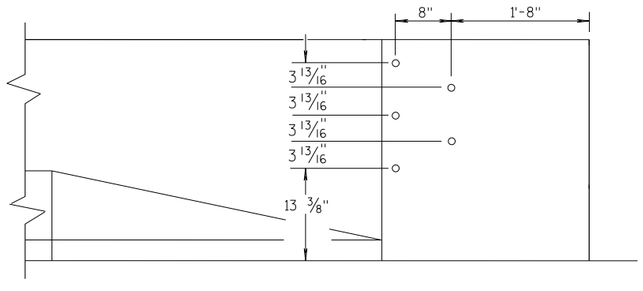




FRONT VIEW



SECTION F-F



DRILL HOLE LOCATION

W BEAM TRANSITION AND CONNECTION TO BRIDGE PARAPETS WITH SQUARE ENDS

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

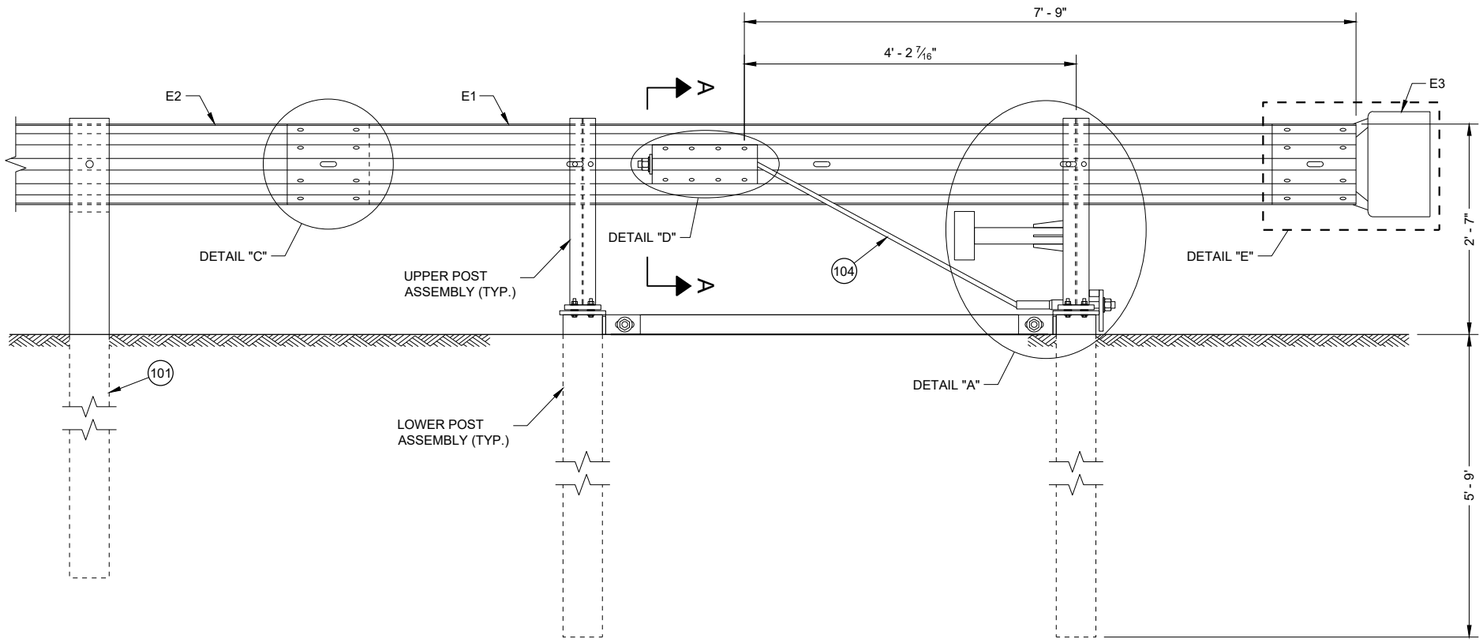
MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

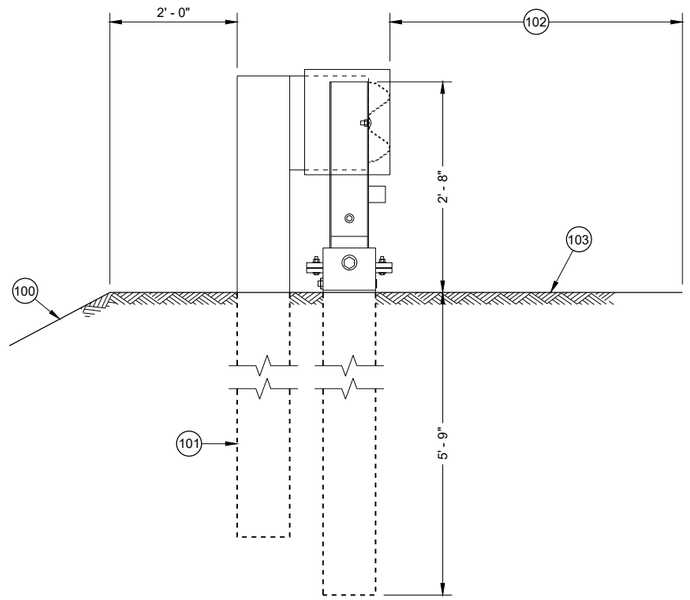
APPROVED
07/2018 DATE
/S/ Rodney Taylor
ROADWAY STANDARDS D UNIT SUPERVIS NT
FHWA

6

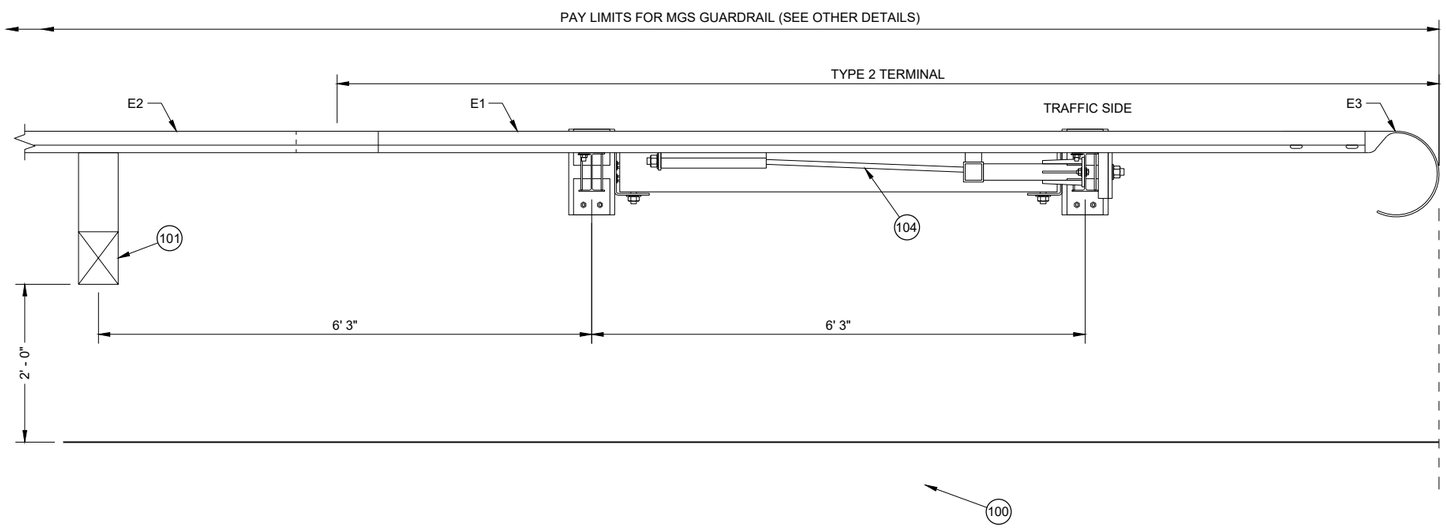
S.D.D. 14 B 45-5d



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.

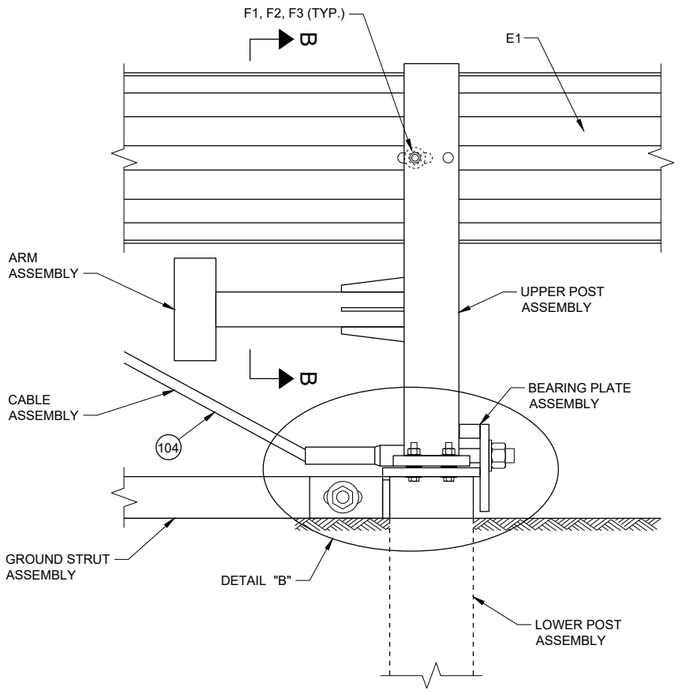
(104) AFTER ASSEMBLY, CABLE IS TO BE TIGHTENED WITHOUT TWISTING THE CABLE.

MIDWEST GUARDRAIL SYSTEM (MGS)
TYPE 2 TERMINAL

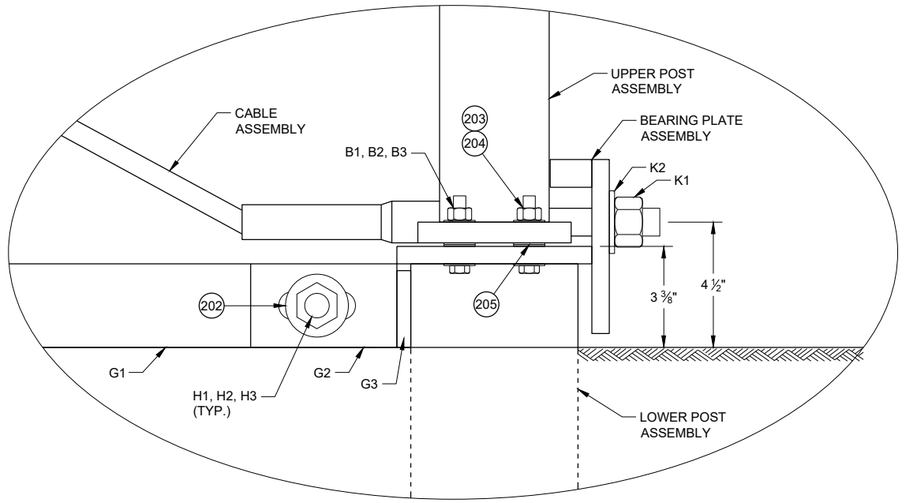
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

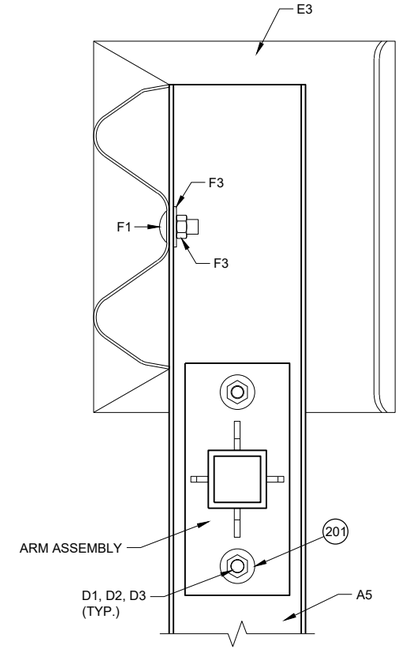
SDD 14B47 - 05a



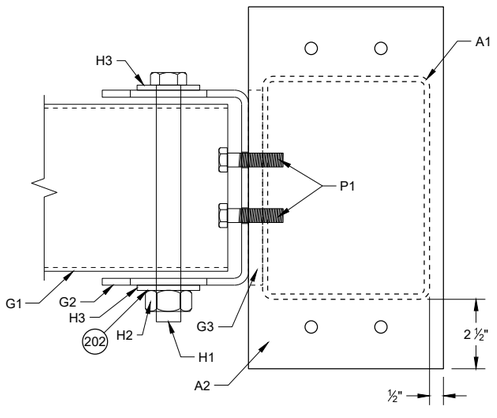
DETAIL "A"



DETAIL "B"

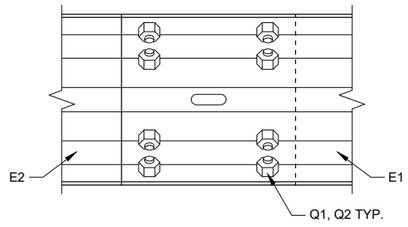


SECTION B - B



TOP VIEW

GROUND STRUT CONNECTION DETAIL



DETAIL "C"

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.

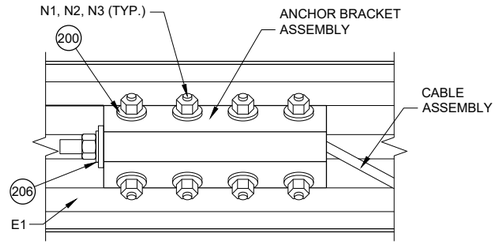
202 INSTALL ONE WASHER UNDER BOLT HEAD AND GROUND STRUT CONNECTOR AND ONE WASHER BETWEEN NUT AND GROUND STRUT CONNECTOR.

203 INSTALL ONE WASHER UNDER BOLT HEAD AND LOWER POST ASSEMBLY AND ONE WASHER BETWEEN NUT AND UPPER POST ASSEMBLY.

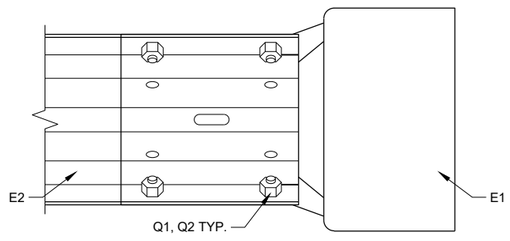
204 TORQUE VALUE IS BETWEEN 60 - 75 FT-LB.

205 TWO WASHERS BETWEEN UPPER AND LOWER POST ASSEMBLY.

206 INSTALL ONE WASHER BETWEEN NUT AND ANCHOR BRACKET ASSEMBLY.



DETAIL "D"



DETAIL "E"

MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL

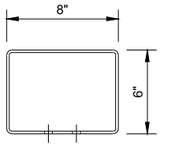
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTA

6

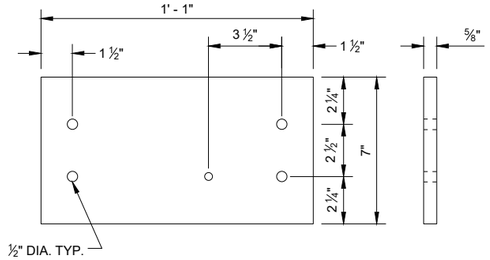
SDD 14B47 - 05b

GENERAL NOTES

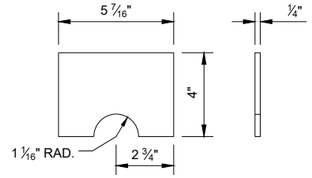
(300) TAP FOR 1/2" AFTER GALVANIZATION



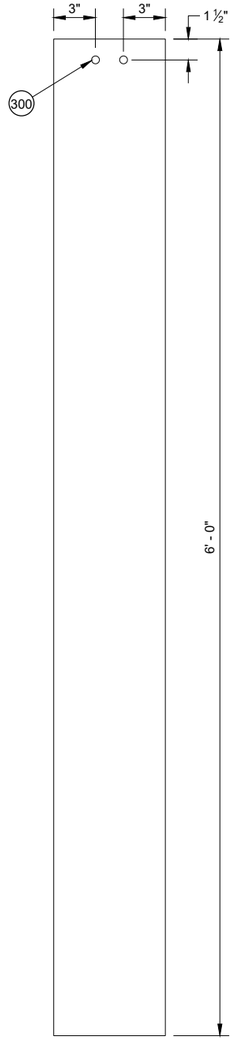
TOP VIEW



LOWER PLATE (A2)

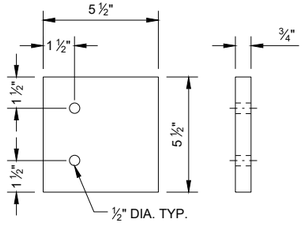


POST GUSSET (A3)

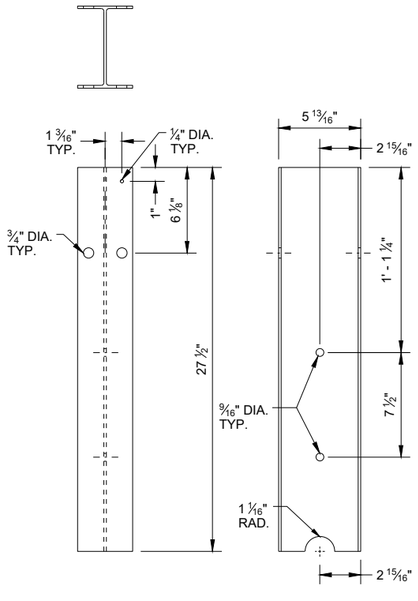


SIDE VIEW

FOUNDATION TUBE (A1)

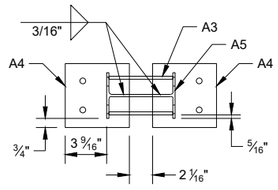


UPPER PLATE (A4)

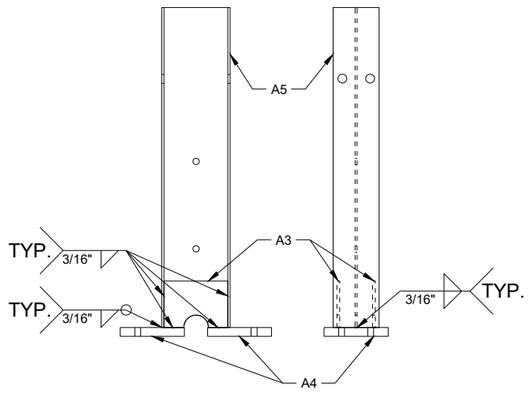


FRONT VIEW SIDE VIEW

TYPE 2 POST (A5)

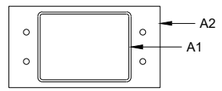


PLAN VIEW

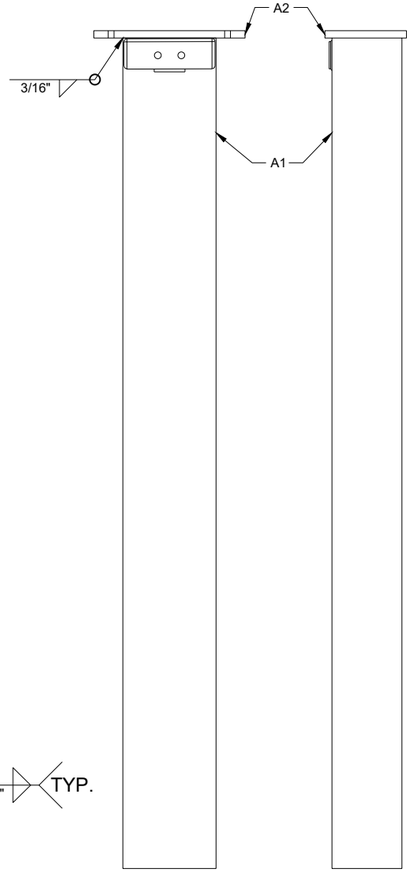


SIDE VIEW FRONT VIEW

UPPER POST ASSEMBLY

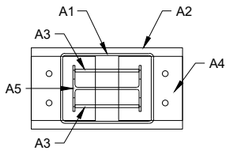


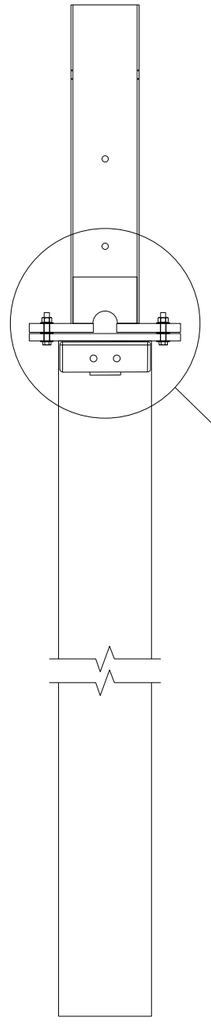
PLAN VIEW



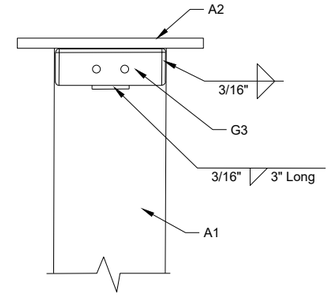
FRONT VIEW SIDE VIEW

LOWER POST ASSEMBLY

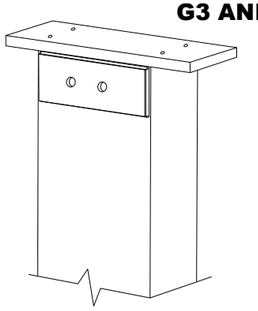




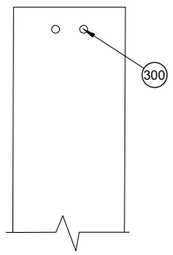
ASSEMBLED POST



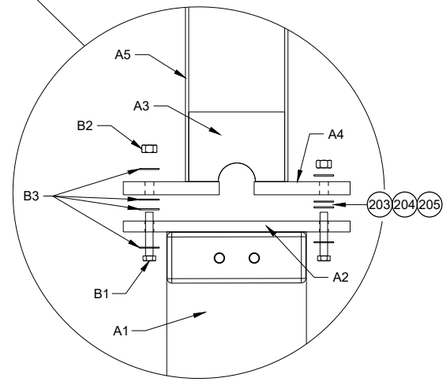
WELDING DETAIL
G3 AND A1



ASSEMBLY DETAIL
ISOMETRIC



A1



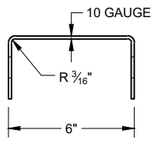
POST CONNECTION DETAIL

MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL

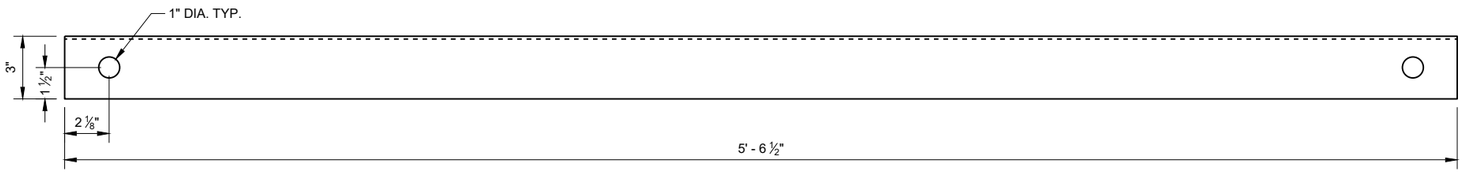
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

SDD14B47 - 05c

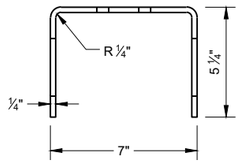


SIDE VIEW

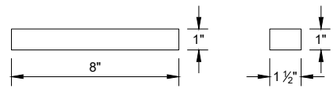


FRONT VIEW

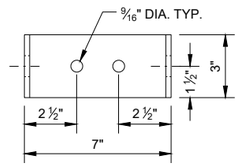
GROUND STRUT CHANNEL (G1)



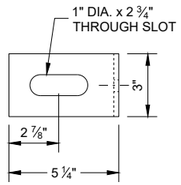
TOP VIEW



BEARING PLATE FLANGE (L2)

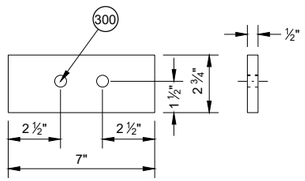


FRONT VIEW

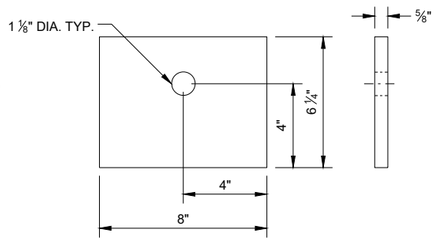


SIDE VIEW

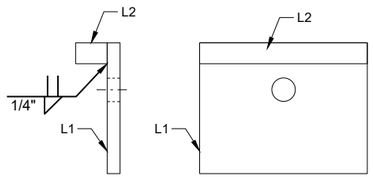
GROUND STRUT CONNECTOR (G2)



GROUND STRUT PLATE (G3)

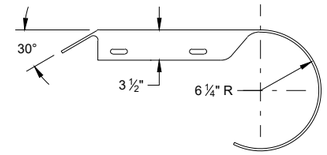


BEARING PLATE (L1)

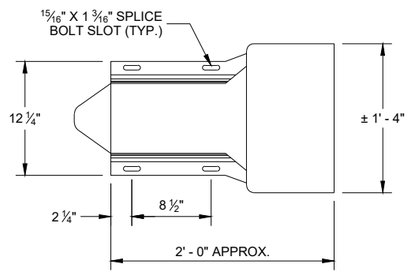


SIDE VIEW FRONT VIEW

BEARING PLATE ASSEMBLY

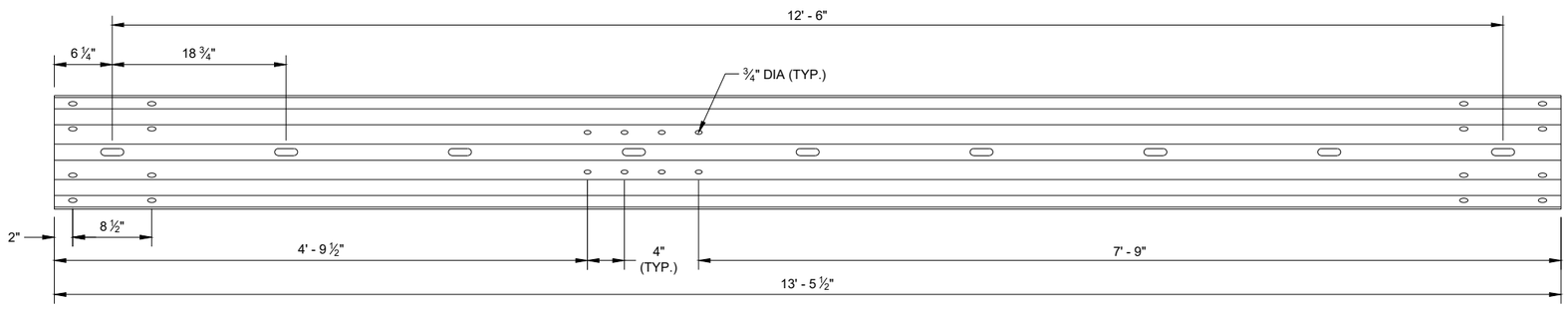


PLAN VIEW

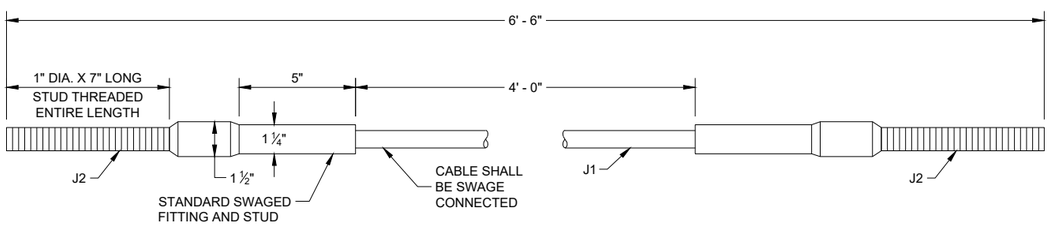


ELEVATION VIEW

ROUNDED BUFFER END (E3)



TYPE 2 GUARDRAIL (E1)



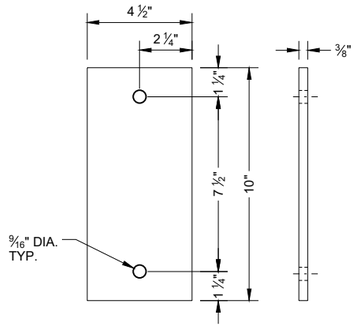
CABLE ASSEMBLY

MIDWEST GUARDRAIL SYSTEM (MGS)
TYPE 2 TERMINAL

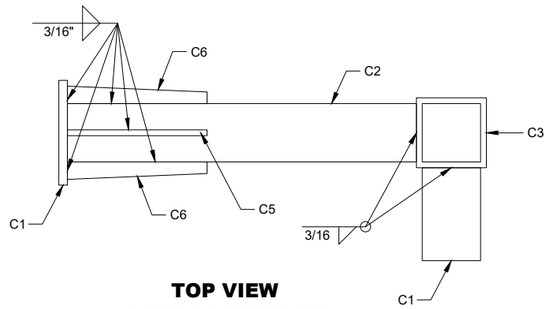
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

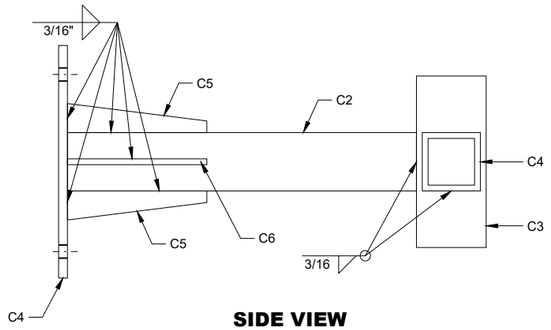
SDD 14B47 - 05d
SDD 14B47 - 05d



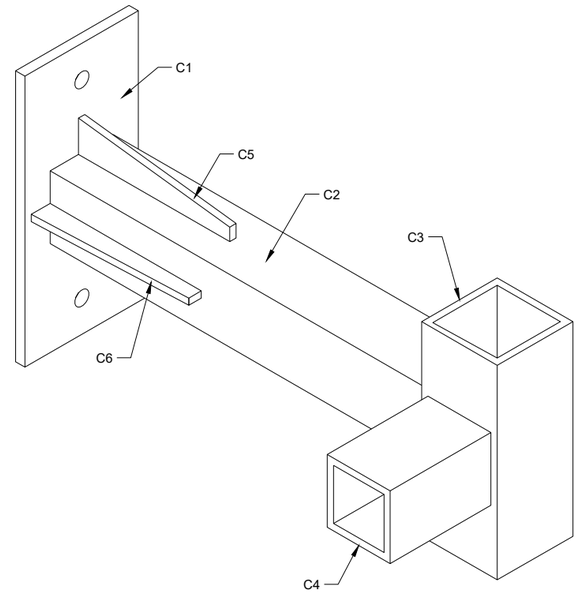
ARM PLATE (C1)



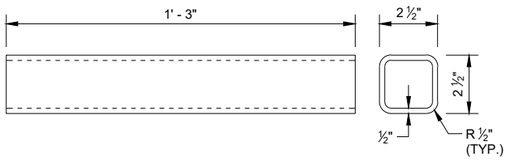
TOP VIEW
ARM ASSEMBLY



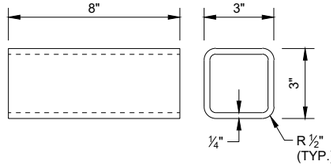
SIDE VIEW
ARM ASSEMBLY



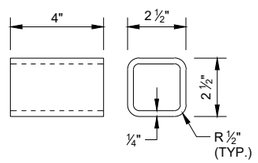
ISOMETRIC VIEW
ARM ASSEMBLY



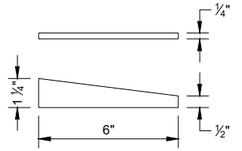
ARM TUBE 1 (C2)



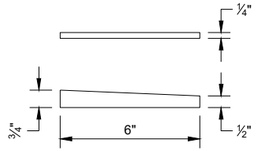
ARM TUBE 2 (C3)



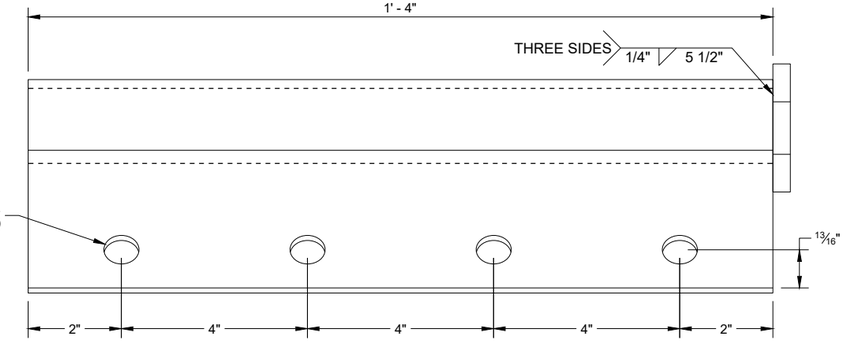
ARM TUBE 3 (C4)

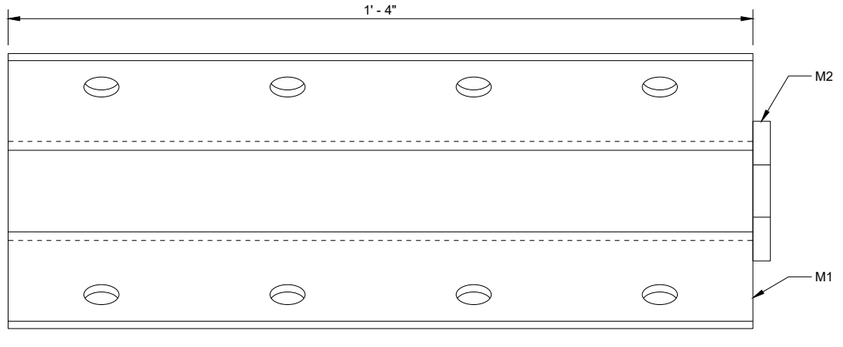


ARM GUSSET PLATE 1 (C5)

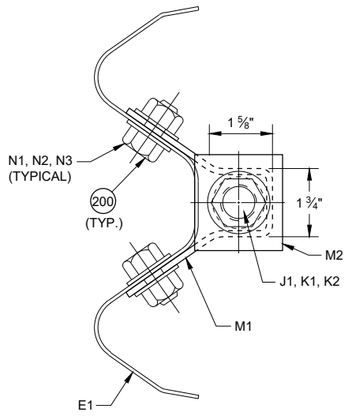


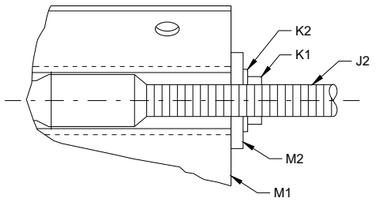
ARM GUSSET PLATE 2 (C6)



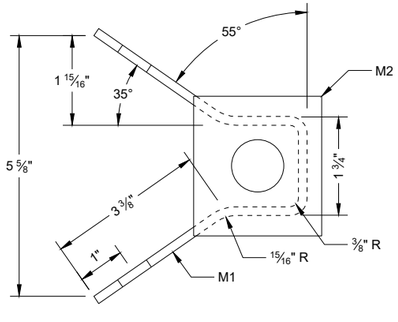


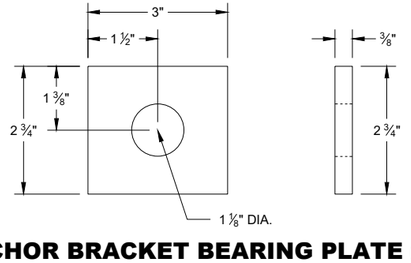
ANCHOR BRACKET (M1, M2)





SECTION A - A





ANCHOR BRACKET BEARING PLATE (M2)

MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL

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

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SDD 14B47 - 05f

MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTA

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SDD 14B47 - 05f

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.

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SDD 14B47 - 05g

MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

May 2023
DATE

/S/ Rodney Taylor
ROADWAY STANDARDS DEVE ENGINEER

FHWA

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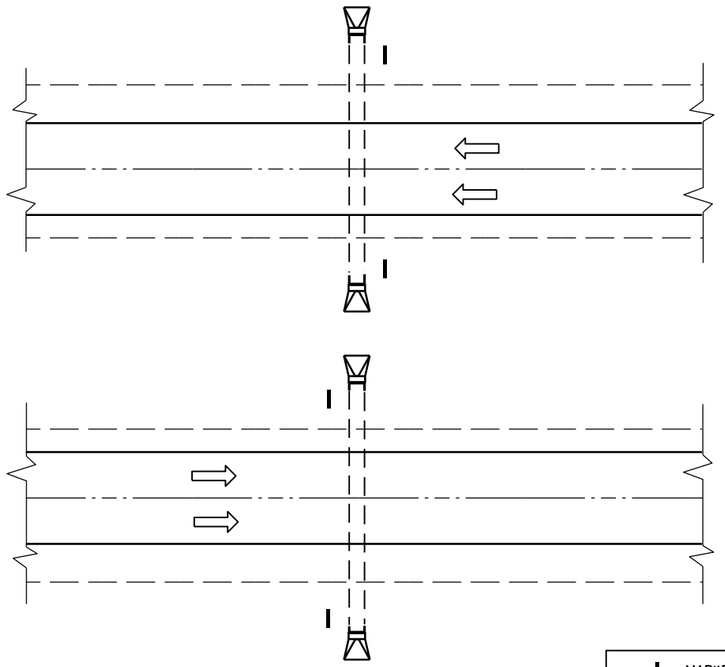
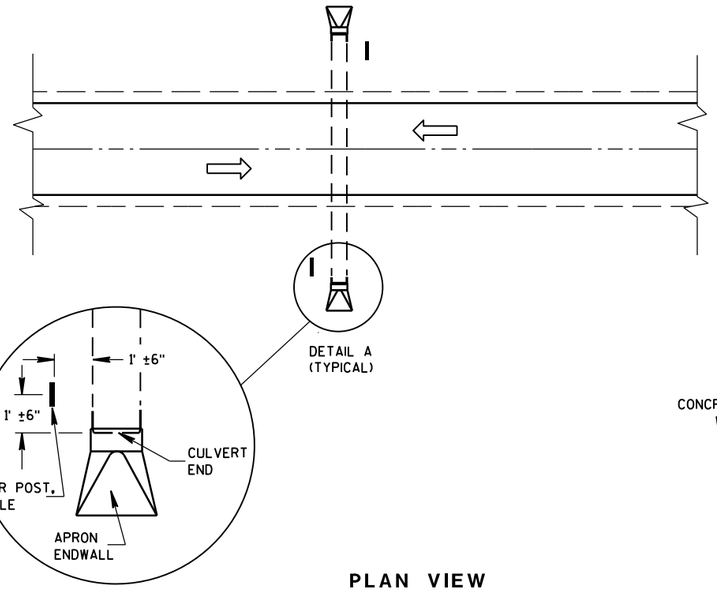
SDD 14B47 - 05g



PLAN VIEW

DIVIDED HIGHWAY



DETAIL A
(TYPICAL)

PLAN VIEW

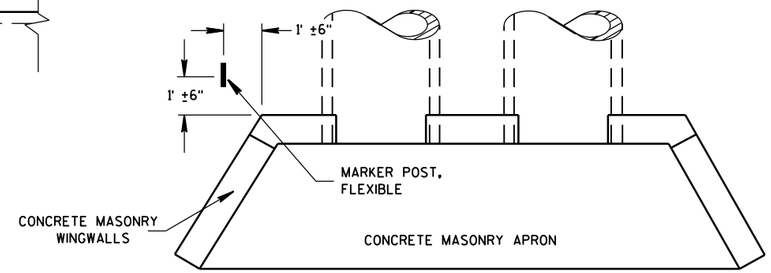
UNDIVIDED HIGHWAY

MARKER POST, FLEXIBLE

DIRECTION OF TRAFFIC FLOW

GENERAL NOTES

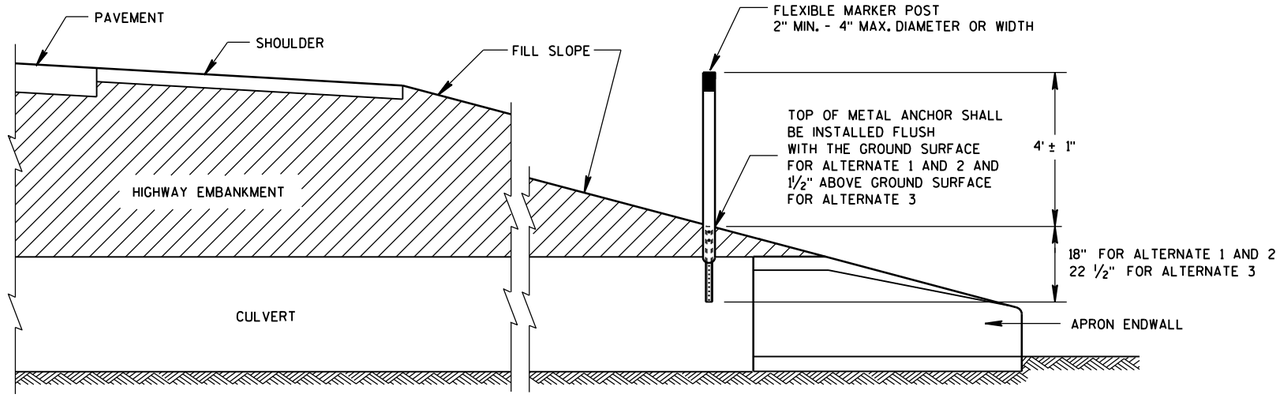
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.



PLAN VIEW

CONCRETE MASONRY ENDWALLS FOR CULVERT PIPE AND PIPE ARCH

FLEXIBLE MARKER POST LOCATION



CROSS SECTION

FLEXIBLE MARKER POST

FLEXIBLE MARKER POST FOR CULVERT END

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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

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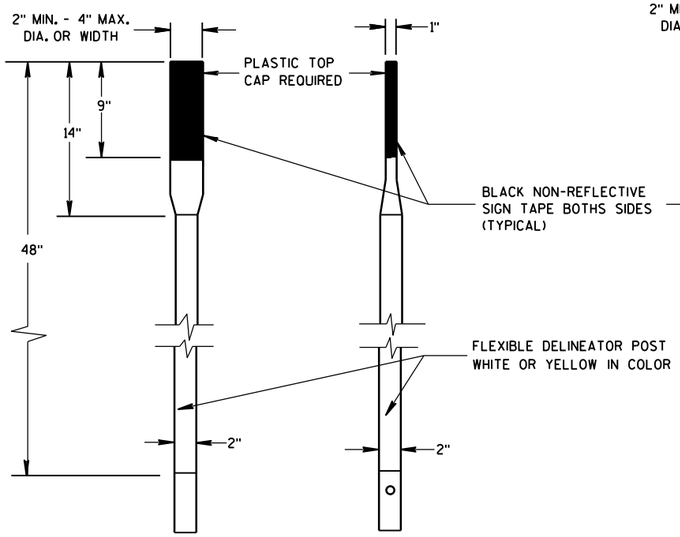
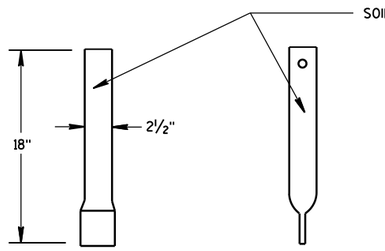
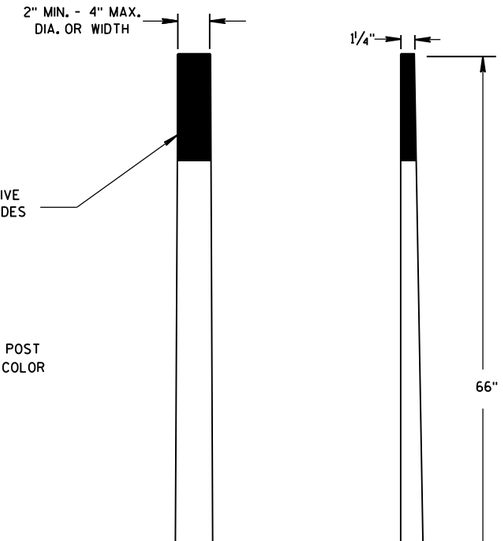
S.D.D. 15 A 3-2a





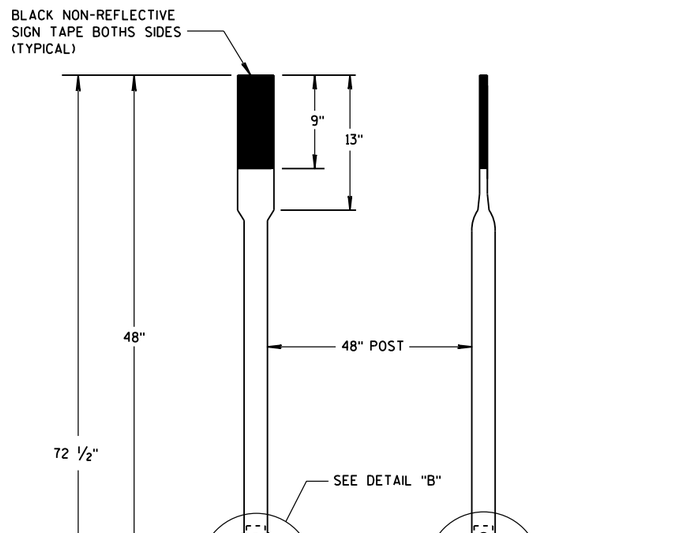
FRONT VIEW SIDE VIEW

ALTERNATE 1



FRONT VIEW SIDE VIEW

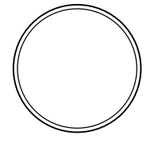
ALTERNATE 2



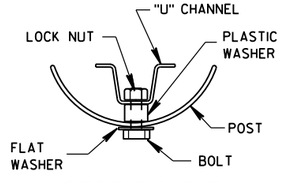
FRONT VIEW SIDE VIEW

ALTERNATE 3

FLEXIBLE MARKER POSTS



SECTION A-A



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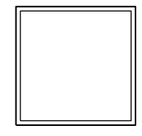
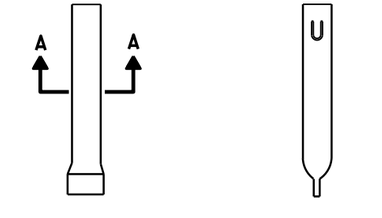
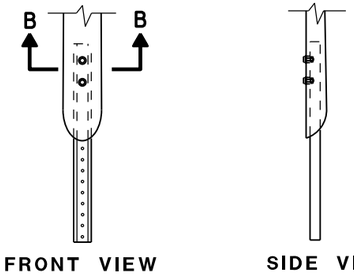


SECTION C-C



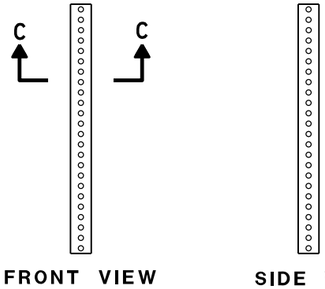
FRONT VIEW SIDE VIEW

ALTERNATE 1



FRONT VIEW SIDE VIEW

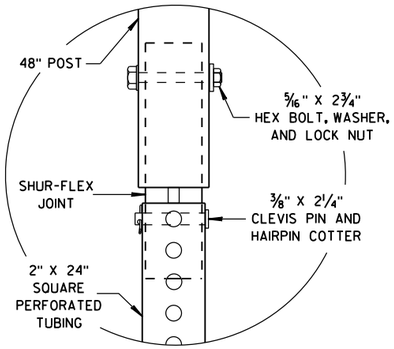
ALTERNATE 2



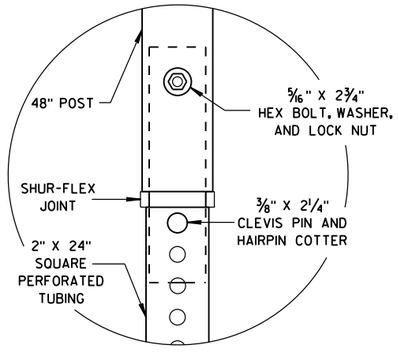
FRONT VIEW SIDE VIEW

ALTERNATE 3

FLEXIBLE MARKER POST ANCHORS



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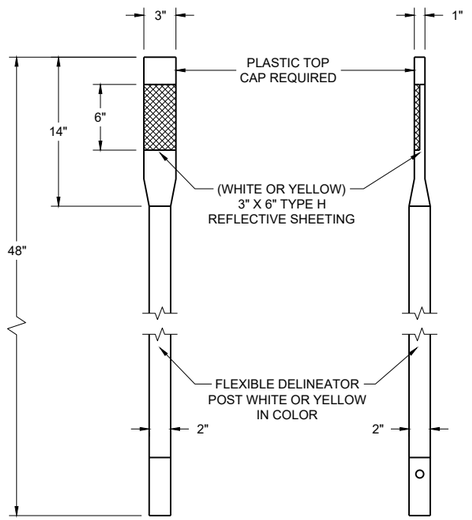
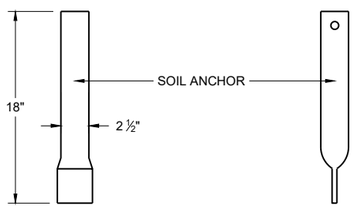
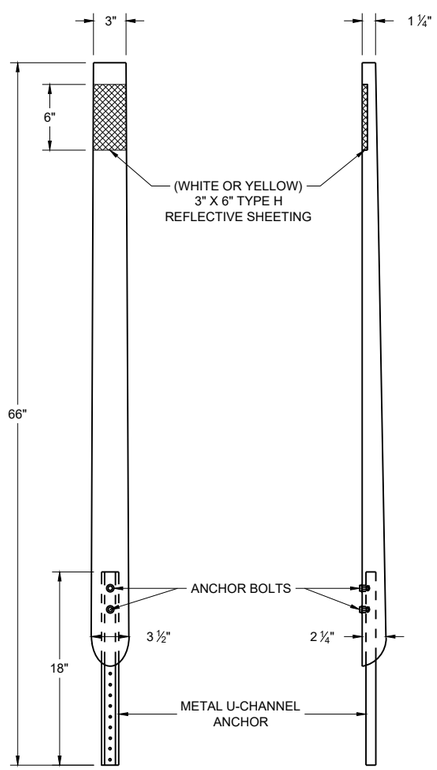
S.D.D. 15 A 3-2b





FRONT VIEW SIDE VIEW

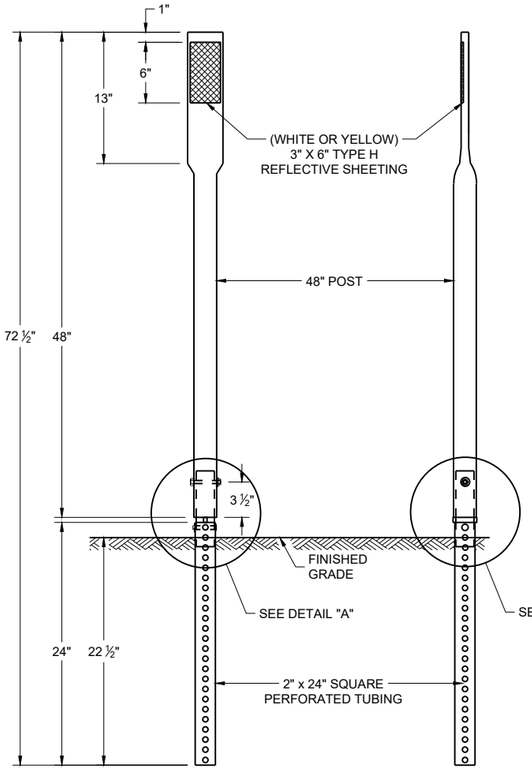
ALTERNATE 1



FRONT VIEW SIDE VIEW

ALTERNATE 2

FLEXIBLE DELINEATOR POSTS

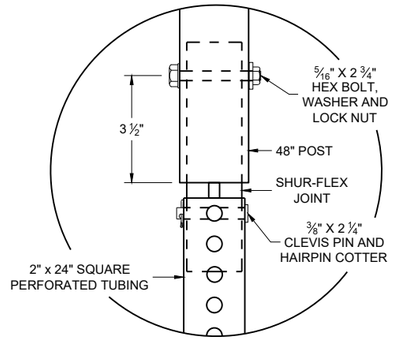


FRONT VIEW SIDE VIEW

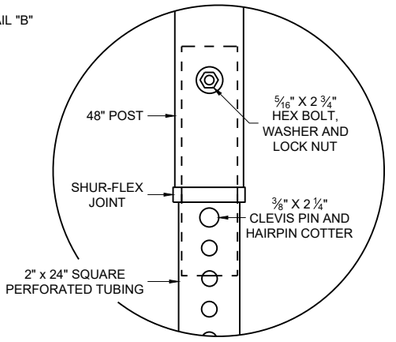
ALTERNATE 3

GENERAL NOTES

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



DETAIL A

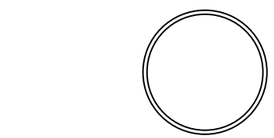


DETAIL B

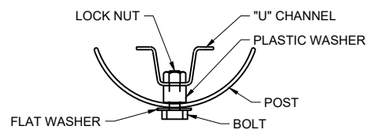
REFLECTOR SPACING TABLE

REFLECTOR SPACING	LOCATION
* 100' C-C	RAMPS
400' C-C	MAINLINE

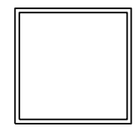
* START AT BEGINNING OF RAMP TAPER AND END AT END OF RAMP TAPER



SECTION A - A



SECTION B - B



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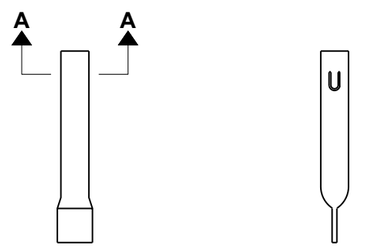
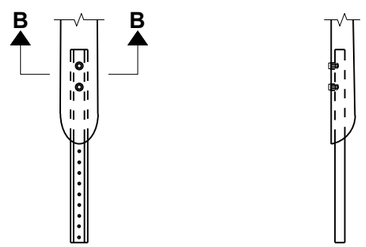


FRONT VIEW SIDE VIEW

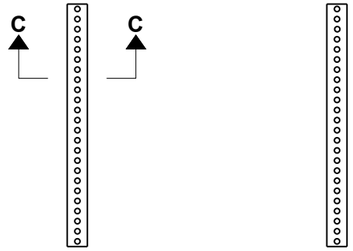
ALTERNATE 1



FRONT VIEW SIDE VIEW

ALTERNATE 2

FLEXIBLE MARKER POST ANCHORS



FRONT VIEW SIDE VIEW

ALTERNATE 3

FLEXIBLE DELINEATOR POST

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
March 2024
DATE

/S/ Jeannie Silver
Statewide Pavement Marking Engineer

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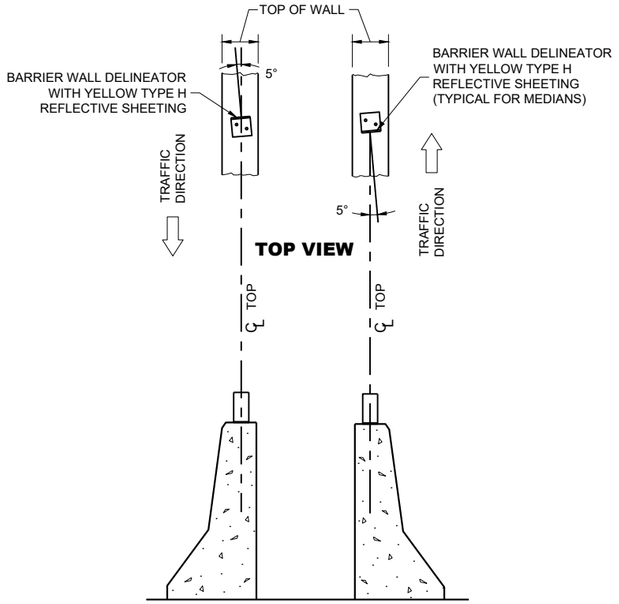
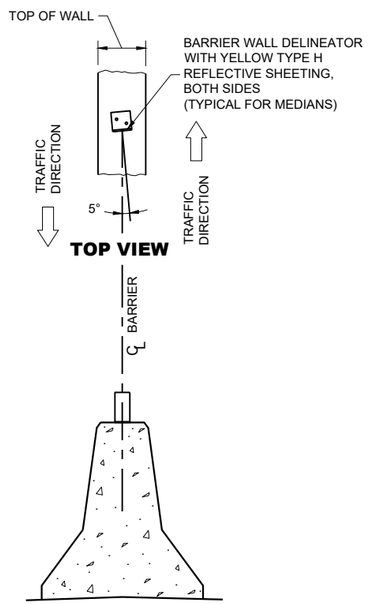
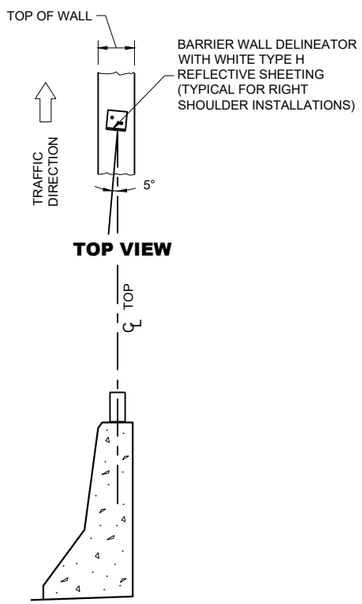


SIDE VIEW
DOUBLE BARRIERS IN MEDIAN

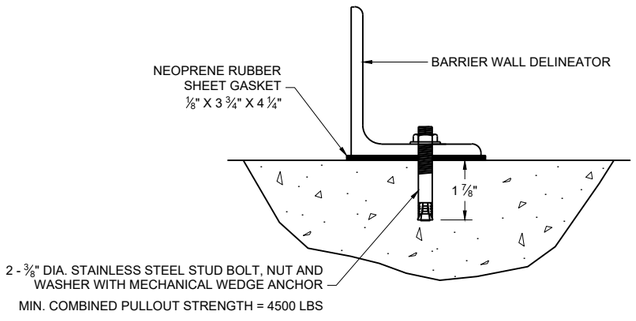


SIDE VIEW
MEDIAN BARRIER

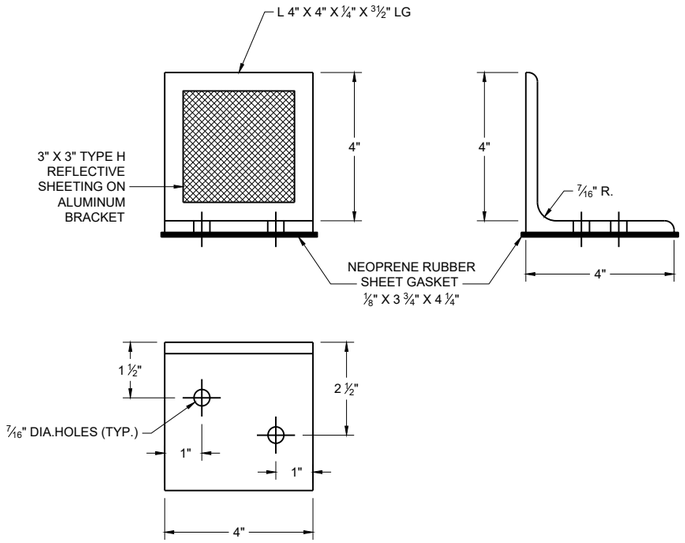


SIDE VIEW
TO RIGHT OF TRAFFIC FLOW

LOCATION AND AIMING DETAILS FOR BARRIER WALL DELINEATOR MOUNTED ON CONCRETE BARRIERS



BARRIER WALL DELINEATOR
MOUNTING DETAIL



BARRIER WALL DELINEATOR

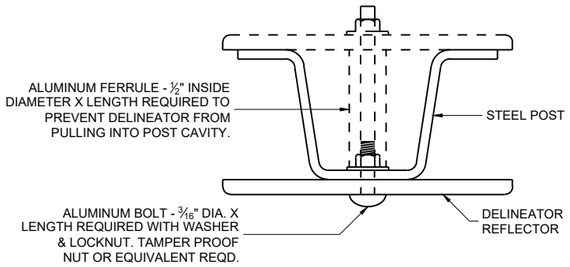
REFLECTOR SPACING TABLE

REFLECTOR SPACING	MINIMUM NUMBER OF REFLECTORS
100' C-C	3

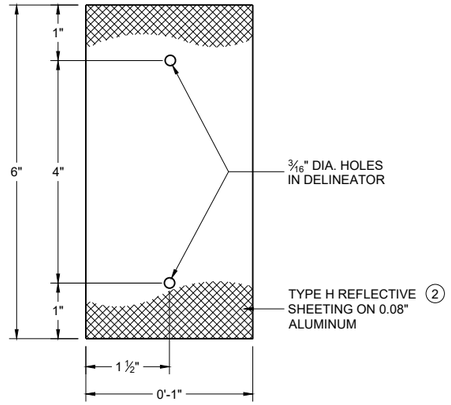
BARRIER WALL DELINEATOR WITH REFLECTIVE SHEETING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

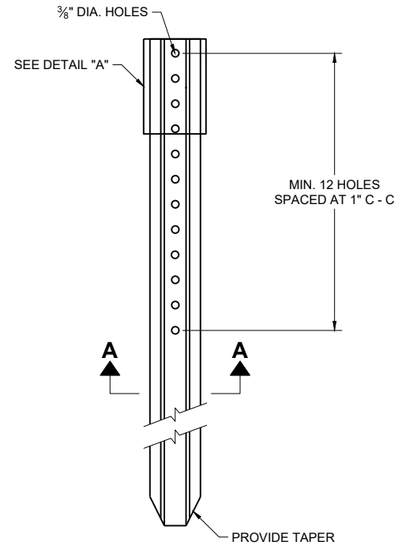
APPROVED
March 2024 — DATE
/S/ Jeannie Silver — Statewide Pavement Marking Engineer
FHWA



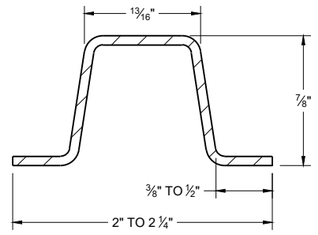
MOUNTING DETAIL FOR DELINEATOR REFLECTOR



DETAIL "A" 3" X 6" DELINEATOR REFLECTOR

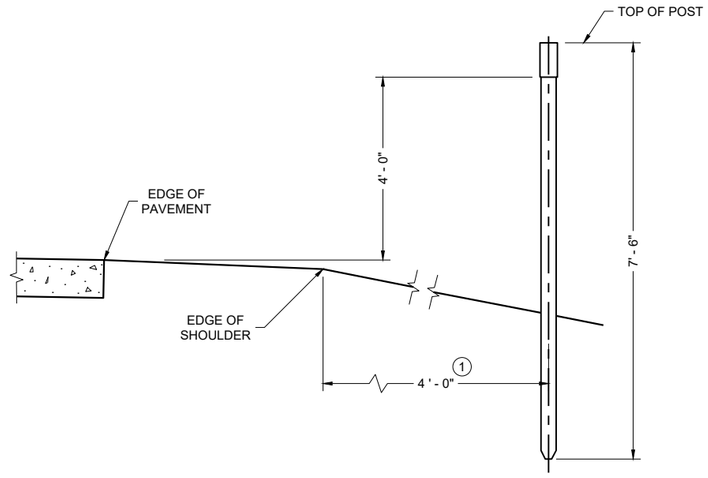


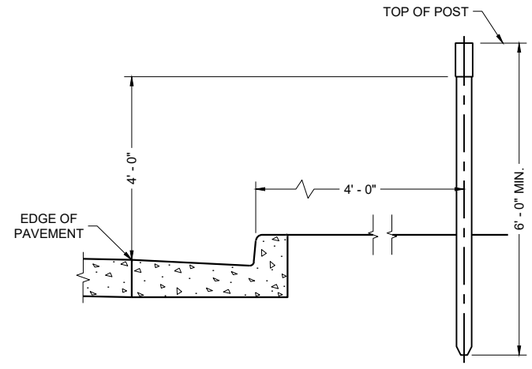
DELINEATOR POST



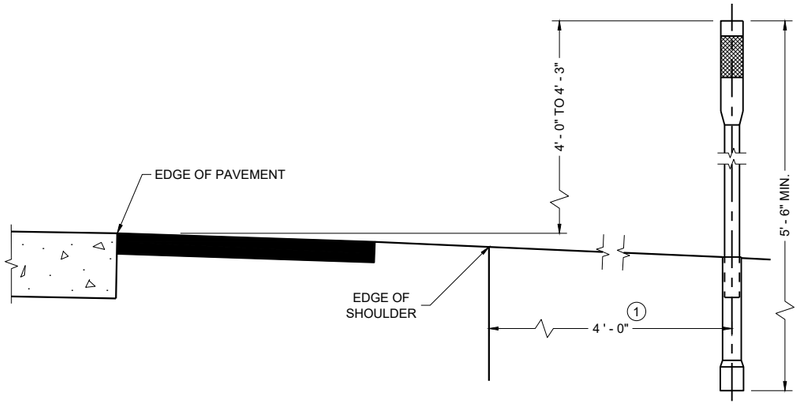
SECTION A - A

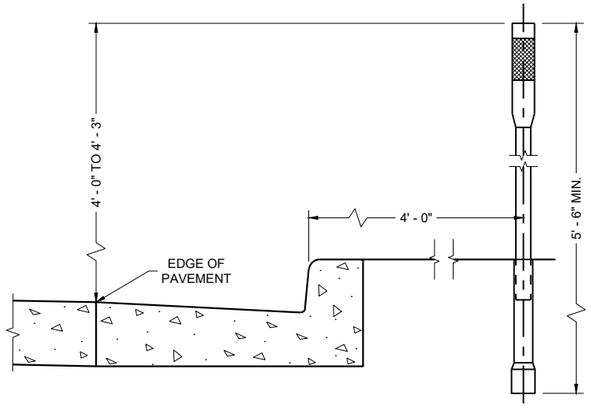
WEIGHT 1.12 LBS PER FT. \ 0.1 LB.





TYPICAL INSTALLATIONS OF DELINEATOR POSTS





TYPICAL INSTALLATIONS OF FLEXIBLE DELINEATOR POSTS

REFLECTOR SPACING TABLE

REFLECTOR SPACING	LOCATION
* 100' C-C	RAMPS
400' C-C	MAINLINE

* START AT BEGINNING OF RAMP TAPER AND END AT END OF RAMP TAPER

GENERAL NOTES

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

(1) DELINEATORS SHALL BE PLACED AT A CONSTANT DISTANCE FROM THE EDGE OF THE SHOULDER FOR THE LENGTH OF THE INSTALLATION.

(2) FURNISH TYPE H SHEETING FROM THE APPROVED PRODUCTS LIST.

DELINEATOR POST WITH REFLECTIVE SHEETING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
March 2024 — DATE
/S/ Jeannie Silver — Statewide Pavement Marking Engineer

FHWA

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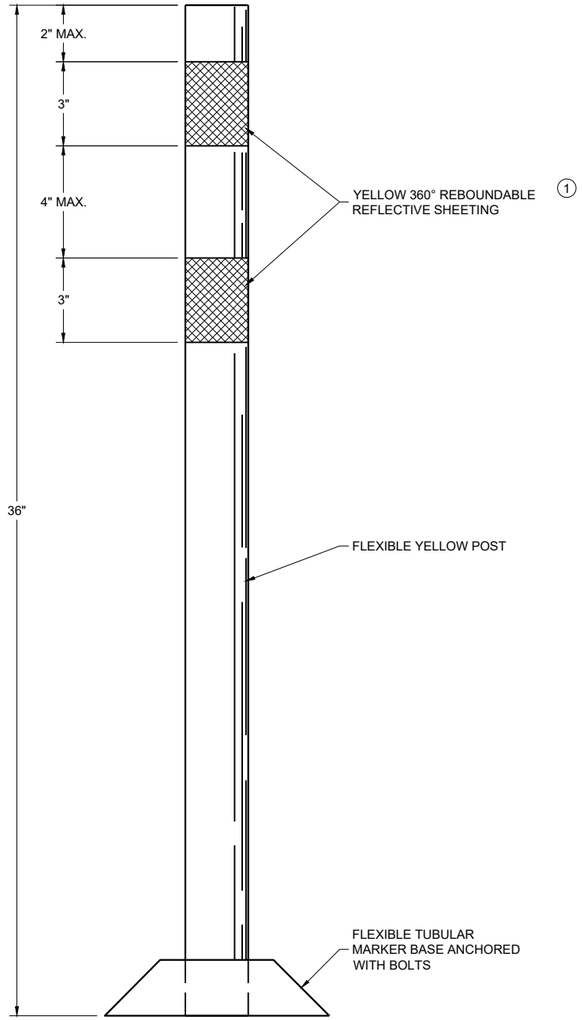

PERMANENT FLEXIBLE TUBULAR MARKER POST

GENERAL NOTES

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

SURFACE MOUNTED BASES SHALL BE FURNISHED IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS TO BE COMPATIBLE WITH FLEXIBLE TUBULAR MARKER POSTS TO A SIZE AND SHAPE THAT WILL PROVIDE A STABLE POST FOUNDATION WHEN SECURED TO THE PAVEMENT.

THE ASPHALTIC ADHESIVE OR BUTYL PAD FURNISHED SHALL BE IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS, UNLESS DIRECTED BY THE ENGINEER TO USE BOLTS.

(1) REFLECTIVE SHEETING SHALL FOLLOW THE REQUIREMENTS IN THE APPROVED PRODUCTS LISTING FOR SIGN SHEETING.

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CHANNELIZING DEVICES
PERMANENT FLEXIBLE
TUBULAR MARKER POST

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
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DATE

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Statewide Pavement Marking Engineer

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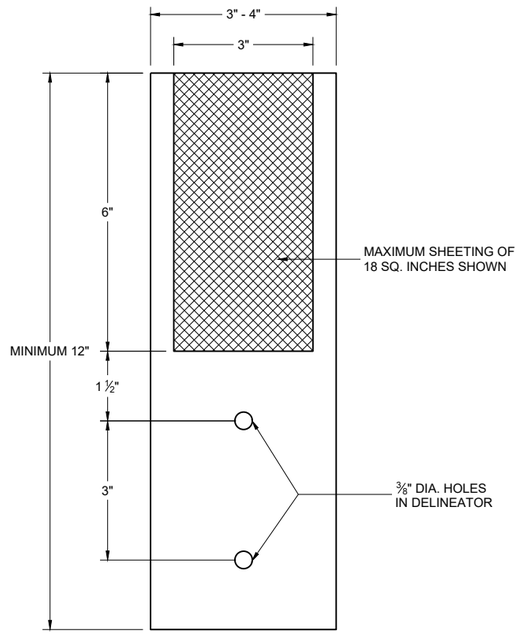
SDD 15A04-08d



4" x 12" DELINEATOR
WITH REFLECTIVE SHEETING

REFLECTOR SPACING TABLE

REFLECTOR SPACING	MINIMUM NUMBER OF REFLECTORS
100' C-C	3

DELINEATOR POST
WITH REFLECTIVE SHEETING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
March 2024
DATE

/S/ Jeannie Silver
Statewide Pavement Marking Engineer

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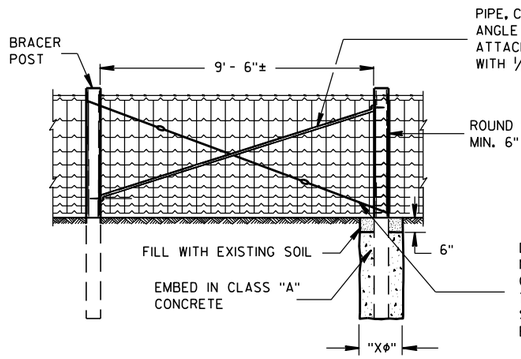
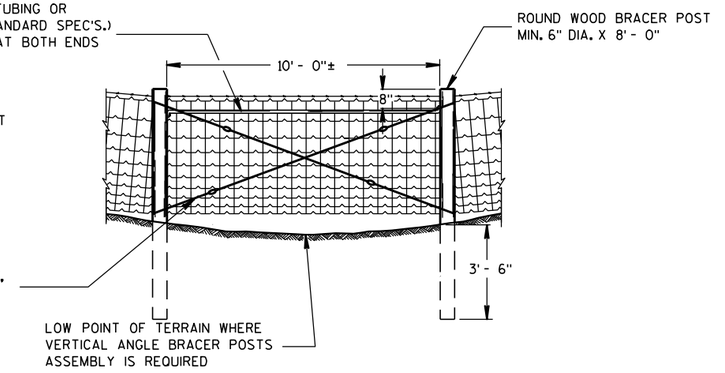
NOTE: PULL OR STRETCHER POST ASSEMBLIES SHALL BE PLACED MIDWAY BETWEEN END POSTS AND CORNER POSTS WHERE A RUN OF FENCE EXCEEDS 660' BUT IS LESS THAN 1,320'. FOR RUNS OF FENCE IN EXCESS OF 1,320' MAXIMUM SPACING OF PULL OR STRETCHER POST ASSEMBLIES SHALL BE 660'± C-C.

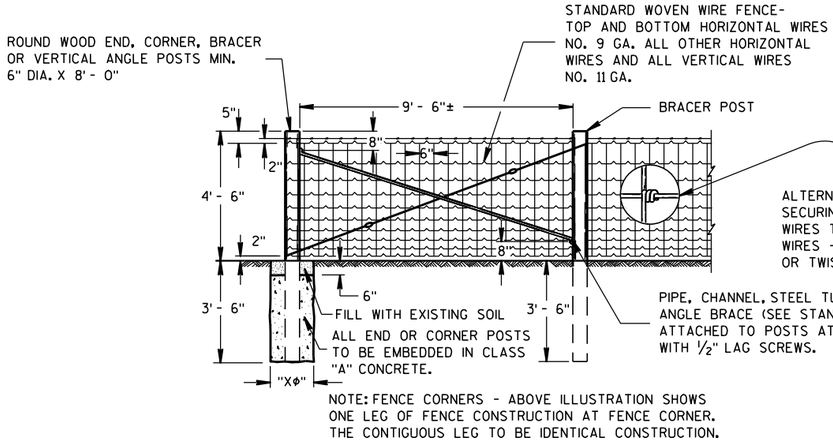
ILLUSTRATION SHOWS POSITION OF STANDARD STEEL BRACE, DOUBLE STRAND GALVANIZED WIRE, AND THE POST TO BE EMBEDDED IN CONCRETE WHEN WIRE FENCE IS INSTALLED FROM LEFT TO RIGHT. THE BRACES SHALL BE POSITIONED ON THE OPPOSITE DIAGONALS AND THE OPPOSITE POST SHALL BE EMBEDDED IN CONCRETE WHEN WIRE FENCE IS INSTALLED FROM RIGHT TO LEFT.



PULL OR STRETCHER POSTS ASSEMBLY

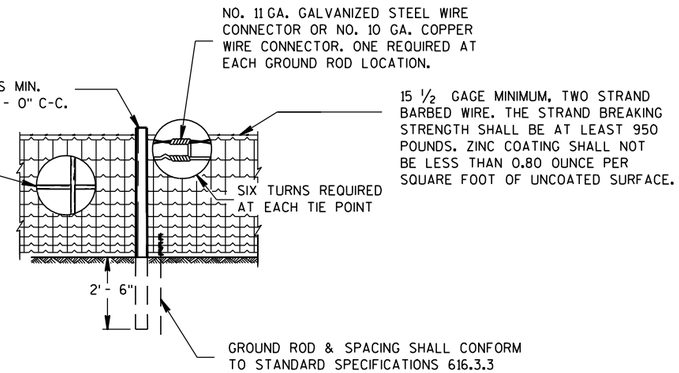


VERTICAL ANGLE BRACER POSTS ASSEMBLY



NOTE: FENCE CORNERS - ABOVE ILLUSTRATION SHOWS ONE LEG OF FENCE CONSTRUCTION AT FENCE CORNER. THE CONTIGUOUS LEG TO BE IDENTICAL CONSTRUCTION.

END OR CORNER POSTS ASSEMBLY



LINE FENCE CONSTRUCTION

GENERAL NOTES

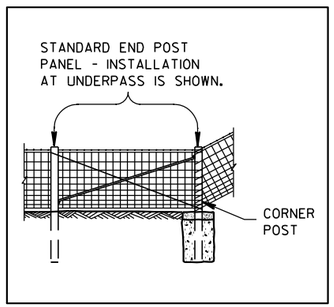
"XΦ" = DIAMETER OF THE POST PLUS 12".

FENCE STAPLES SHOULD NEVER BE DRIVEN VERTICALLY INTO WOOD POSTS (WITH BOTH LEGS PARALLEL WITH THE WOOD GRAIN). DOING SO CAN SEPARATE THE GRAIN AND SIGNIFICANTLY REDUCE THE HOLDING POWER. ROTATING THE STAPLES SLIGHTLY OFF VERTICAL STRADDLES THE GRAIN AND PROVIDES MORE RESISTANCE TO PULL-OUT.

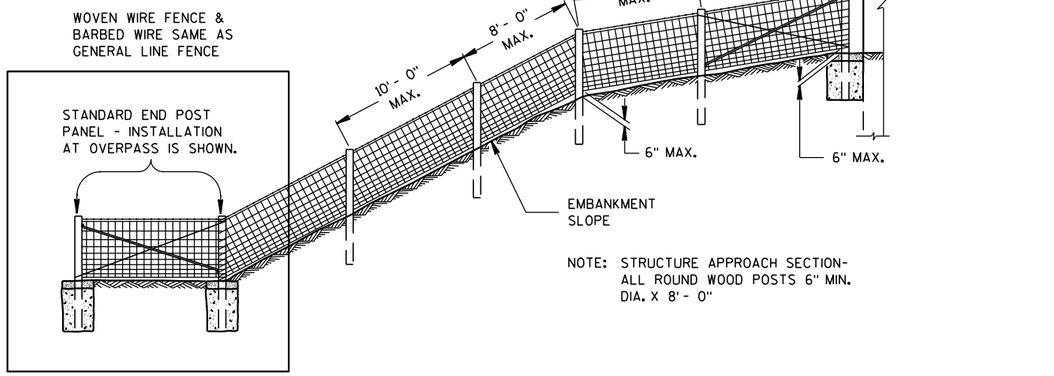
DO NOT STAPLE WIRE TIGHT TO THE LINE POSTS. ALLOW MOVEMENT OF WIRE FOR EXPANSION AND CONTRACTION. STAPLE ARRANGEMENT SHALL BE THE SAME FOR ALL OTHER POSTS EXCEPT THAT THEY SHALL BE DRIVEN TIGHT TO POSTS. ALL STAPLES SHALL BE 2" X 9 GAGE AND SHALL BE MANUFACTURED FROM GALVANIZED WIRE OR HOT DIP GALVANIZED AFTER FORMING. STAPLES SHALL HAVE SLASH-CUT POINTS.

FENCE SHALL BE LOCATED 3'-0" INSIDE THE RIGHT OF WAY LINE UNLESS OTHERWISE INDICATED ON THE PLANS.

GENERAL ROADSIDE VIEW OF WOVEN WIRE FENCE



ALTERNATE FENCE DESIGN AT STRUCTURE



NOTE: STRUCTURE APPROACH SECTION- ALL ROUND WOOD POSTS 6" MIN. DIA. X 8' - 0"

FENCE DESIGN AT STRUCTURE APPROACH

FENCE WOVEN WIRE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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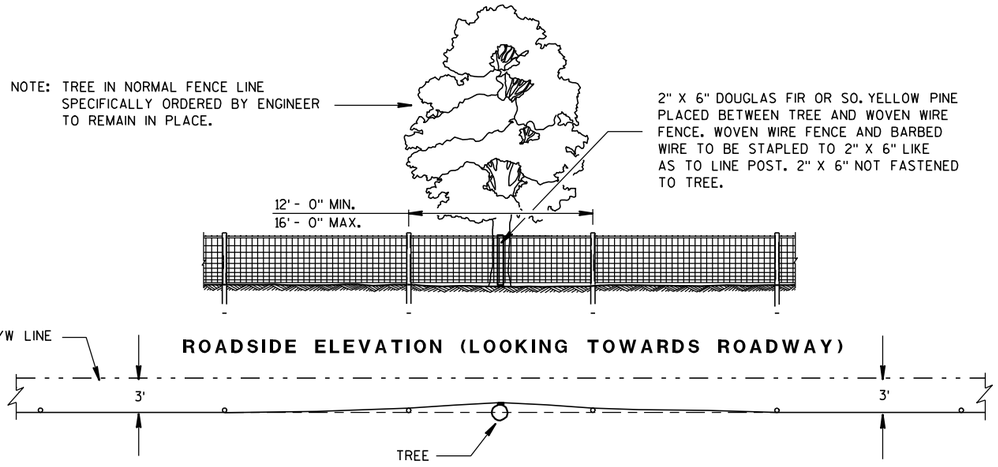
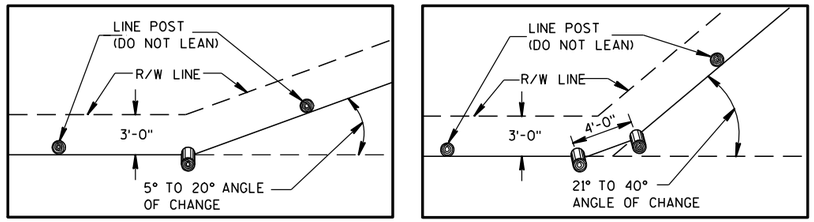


PLAN VIEW

FENCE DESIGN AT TREES REMAINING IN NORMAL FENCE LINE



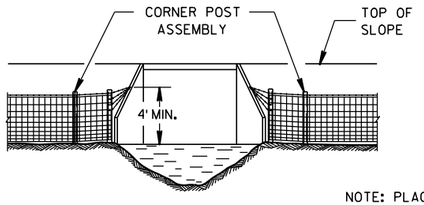
PLAN VIEW
SINGLE POST CORNER

PLAN VIEW
DOUBLE POST CORNER

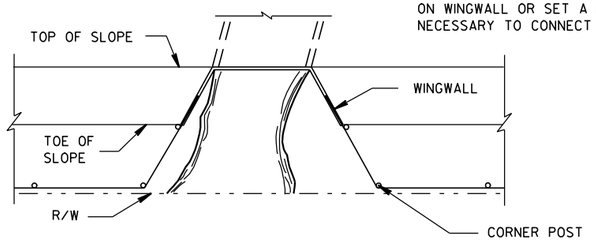
RIGHT OF WAY LINE CHANGE 40° AND LESS

NOTE: SINGLE AND DOUBLE POSTS SHALL BE A MIN. 6" DIA. X 8'-0" WITH A LEAN OF 4" TOWARD THE OUTSIDE OF THE CURVE.

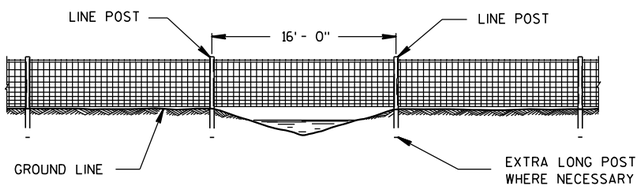
WHEN THE RIGHT OF WAY LINE CHANGE IS MORE THAN 40° USE THE CORNER OR STRETCHER POSTS ASSEMBLY.



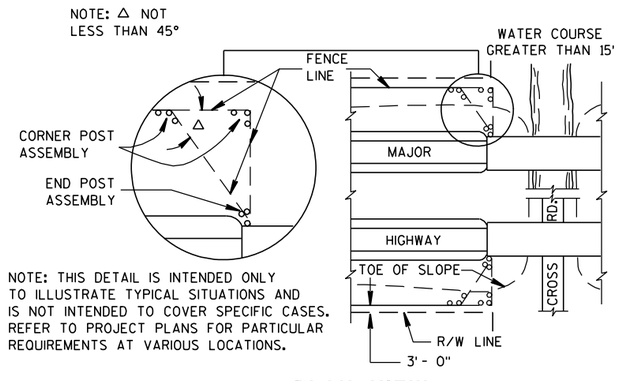
NOTE: PLACE A MINIMUM OF 4 STRANDS OF BARBED WIRE, 6" MAXIMUM CENTERS IN FAN SHAPE CONNECTED TO AN EYE BOLT ON WINGWALL OR SET A LONE POST WHEN NECESSARY TO CONNECT BARBED WIRE.



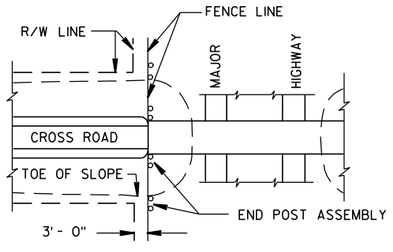
FENCE INSTALLATION TO WINGWALLS



FENCE CONSTRUCTION OVER STREAM COURSES OF 15 FT. OR LESS IN WIDTH



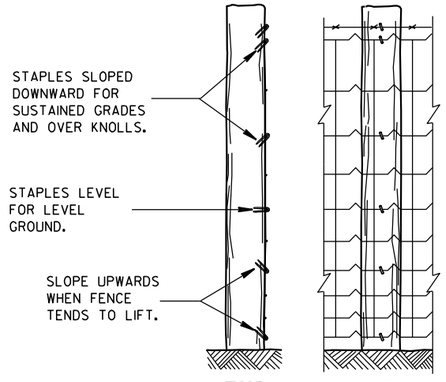
PLAN VIEW
MAJOR HIGHWAY OVERPASS OR STREAM COURSE CROSSING OF GREATER THAN 15 FT. IN WIDTH



PLAN VIEW
MAJOR HIGHWAY UNDERPASS

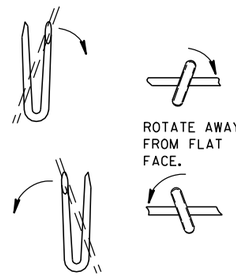
FENCE LOCATION AT STRUCTURES

NOTE: WHEN POSTS ARE DRIVEN THE SMALL END SHALL BE DOWN.



END ELEVATION **FARM SIDE ELEVATION**

FENCE MOUNTING DETAIL



LINE POST

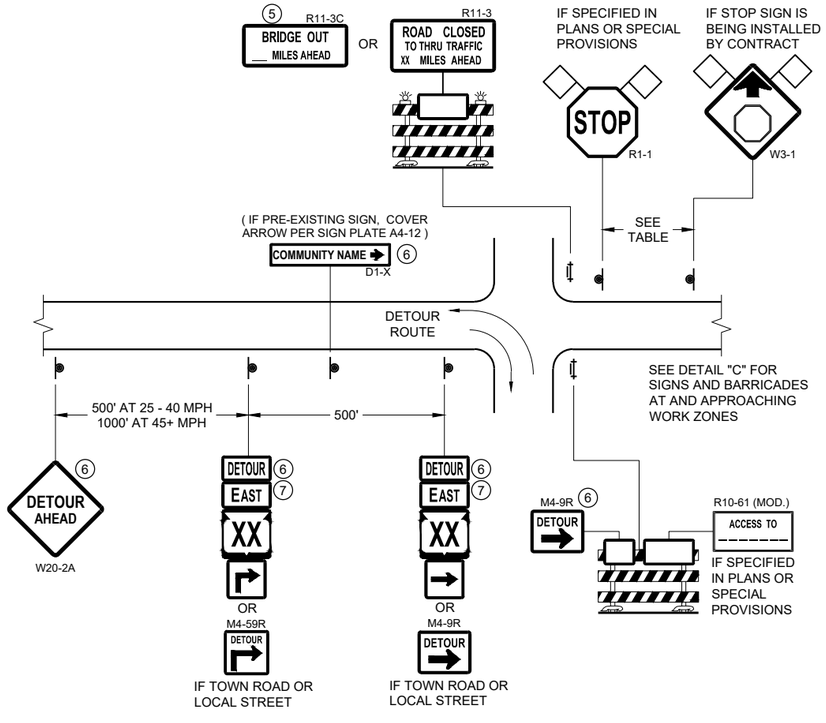
FENCE WOVEN WIRE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
4/4/2008 — DATE
/S/ Jerry H. ---- — ROADWAY STANDARDS ENGINEER
FHWA

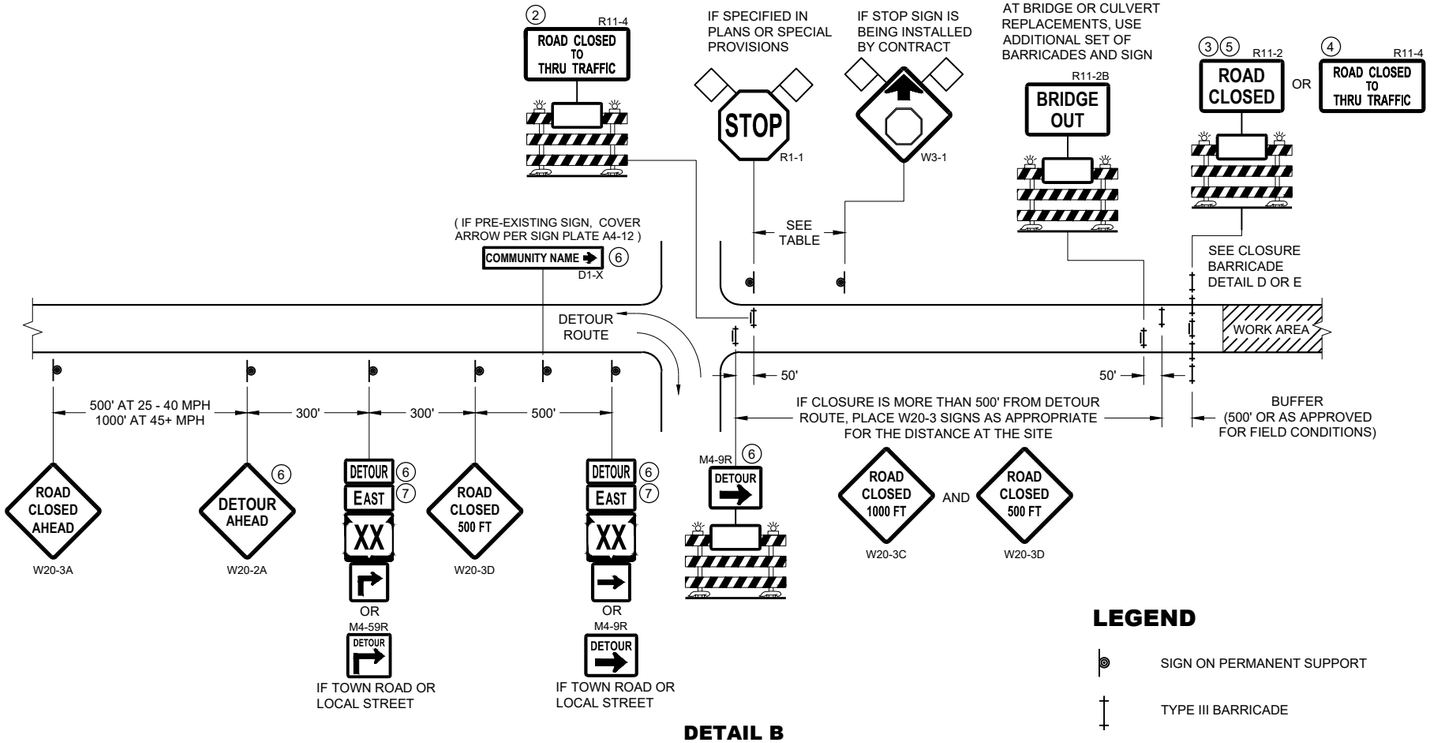
6

S.D.D. 15 B 1-8b



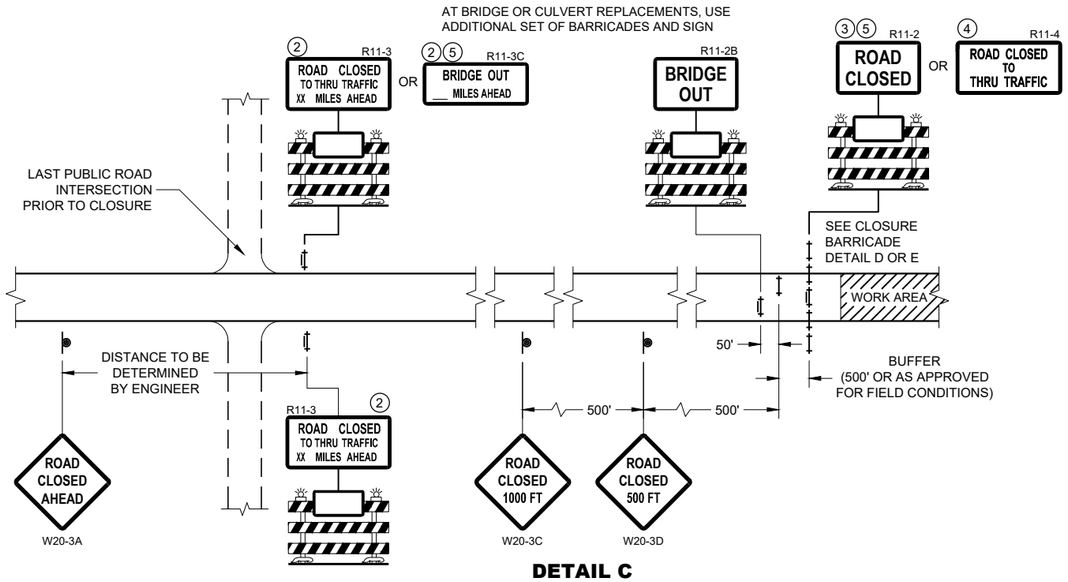
DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR

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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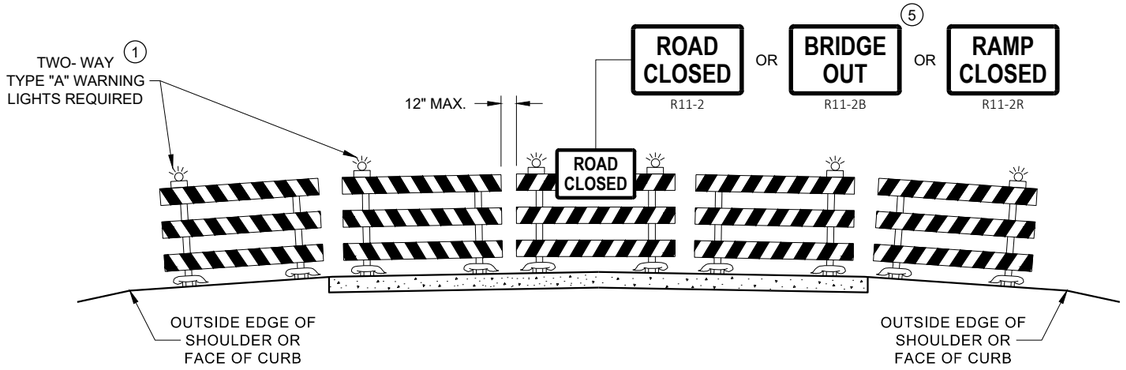
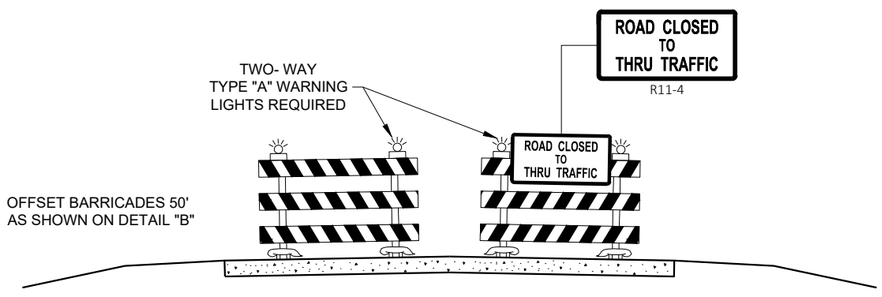
SDD 15C02 - 09a



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

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SDD 15C02 - 09b

6

SDD 15C02 - 09b

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

LEGEND

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

GENERAL NOTES

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

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

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

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

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

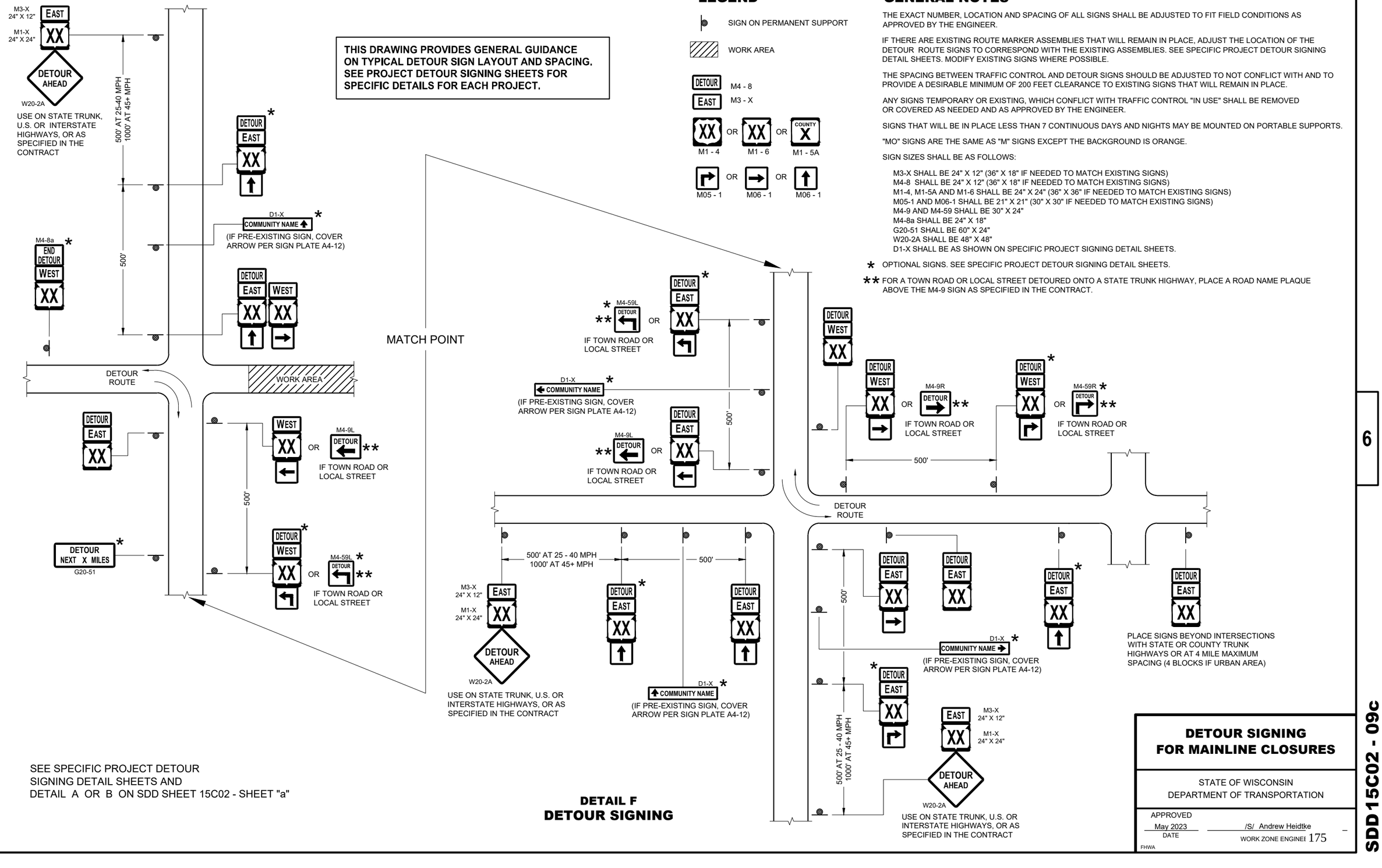
"MO" SIGNS ARE THE SAME AS "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

SIGN SIZES SHALL BE AS FOLLOWS:

- M3-X SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M4-8 SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M1-4, M1-5A AND M1-6 SHALL BE 24" X 24" (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS)
- M05-1 AND M06-1 SHALL BE 21" X 21" (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS)
- M4-9 AND M4-59 SHALL BE 30" X 24"
- M4-8a SHALL BE 24" X 18"
- G20-51 SHALL BE 60" X 24"
- W20-2A SHALL BE 48" X 48"
- D1-X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.

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

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



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

DETAIL F
DETOUR SIGNING

DETOUR SIGNING FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

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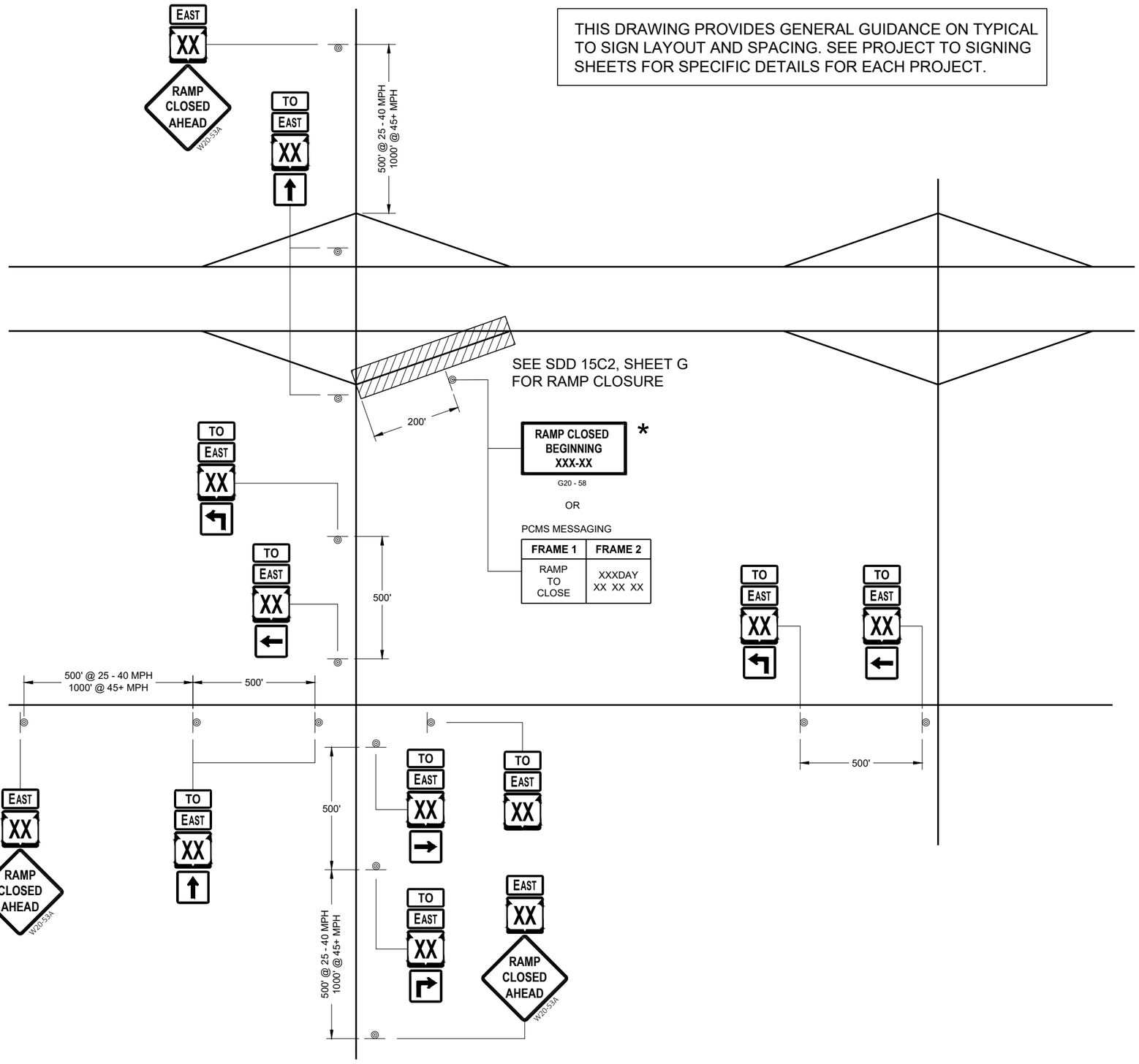
SDD 15C02 - 09c



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

APPROVED
May 2023 — DATE
/S/ Andrew Heidtke — WORK ZONE ENGINEER

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6

SDD 15C02 - 09d

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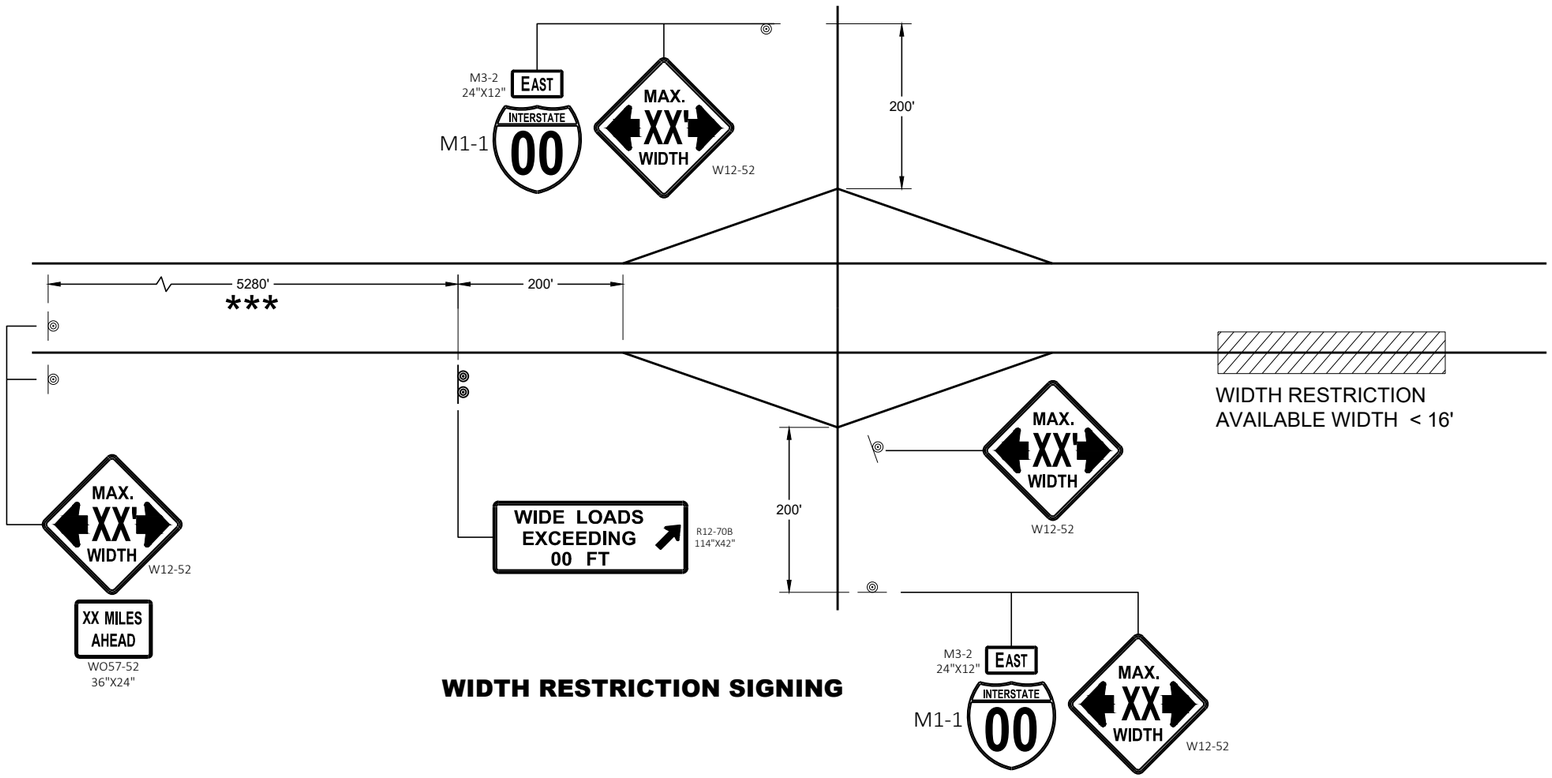
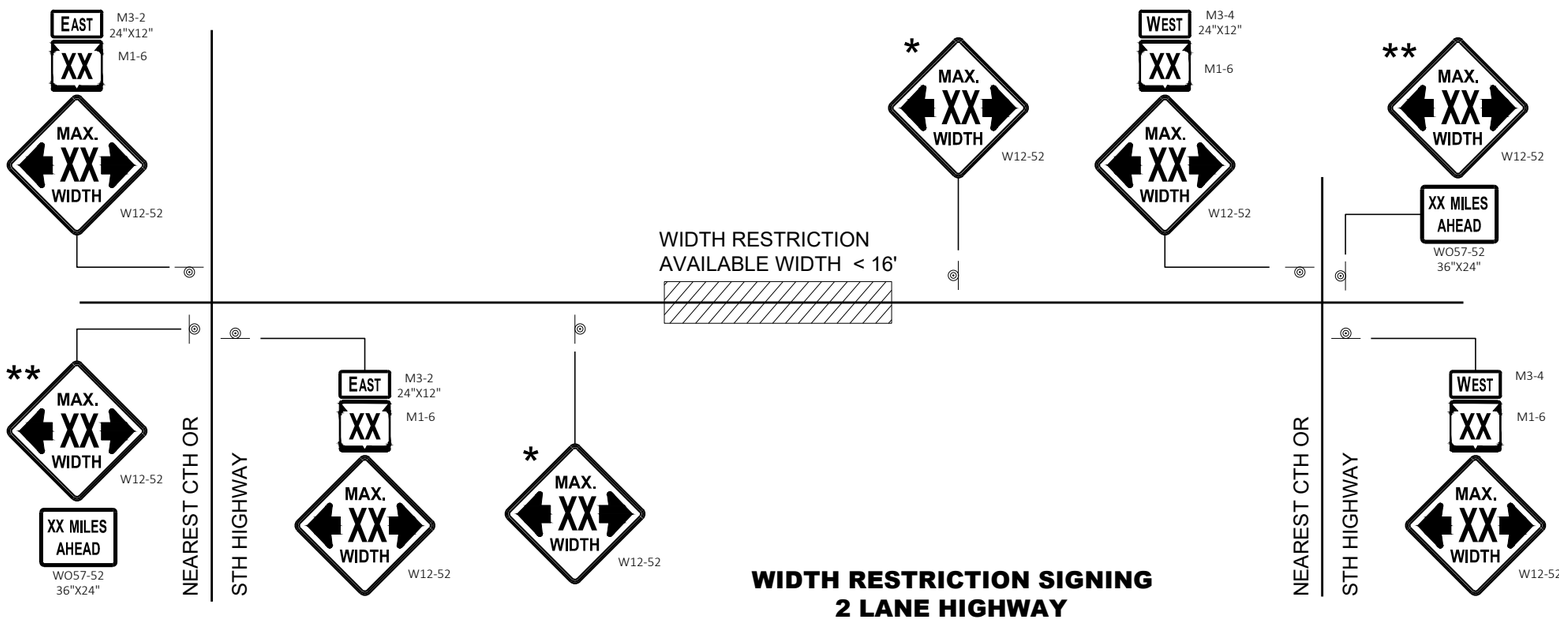


WIDTH RESTRICTION SIGNING



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

6

6

SDD 15C02 - 09f

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ADVANCED WIDTH RESTRICTION SIGNING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

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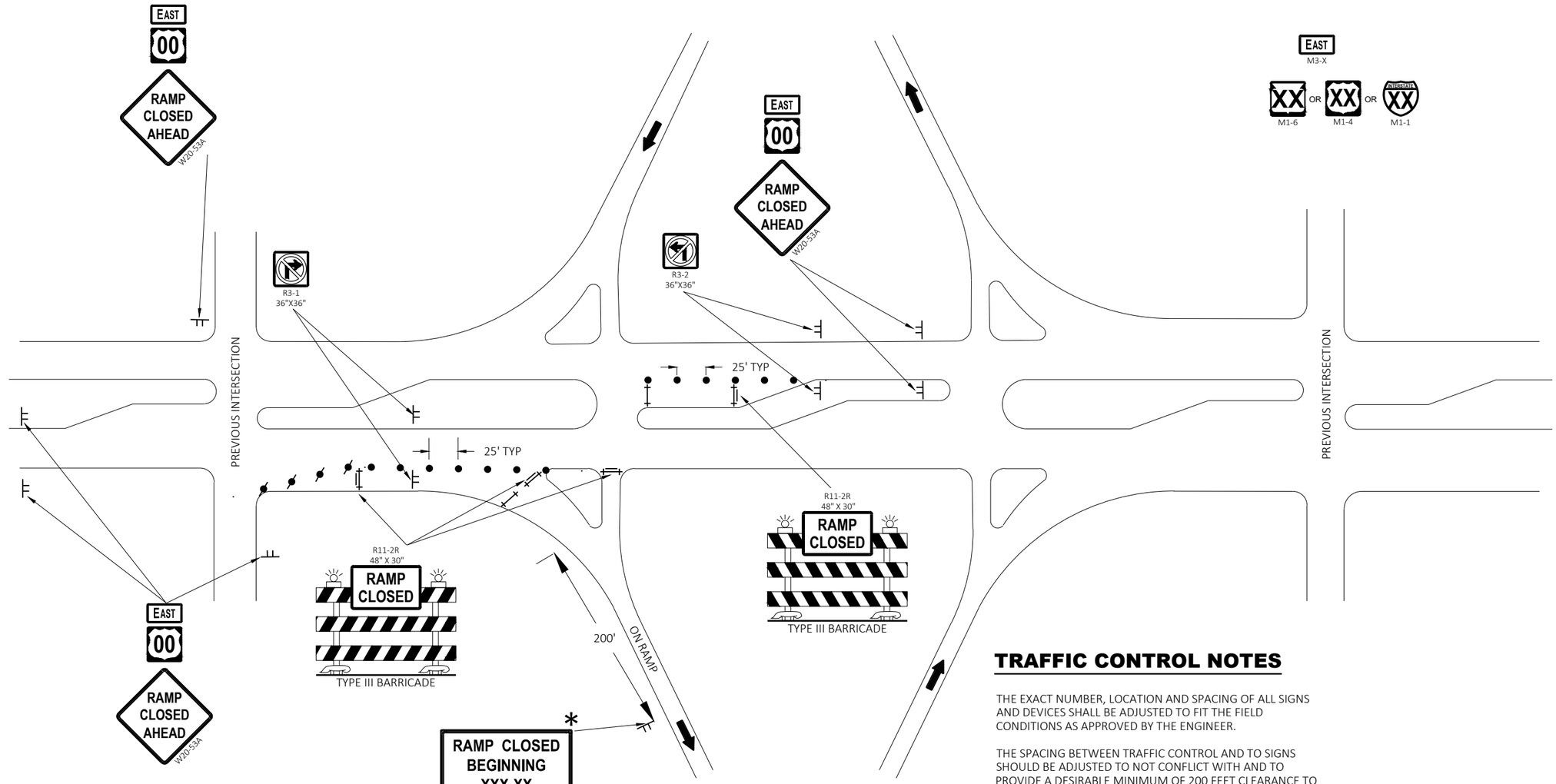

LEGEND

- 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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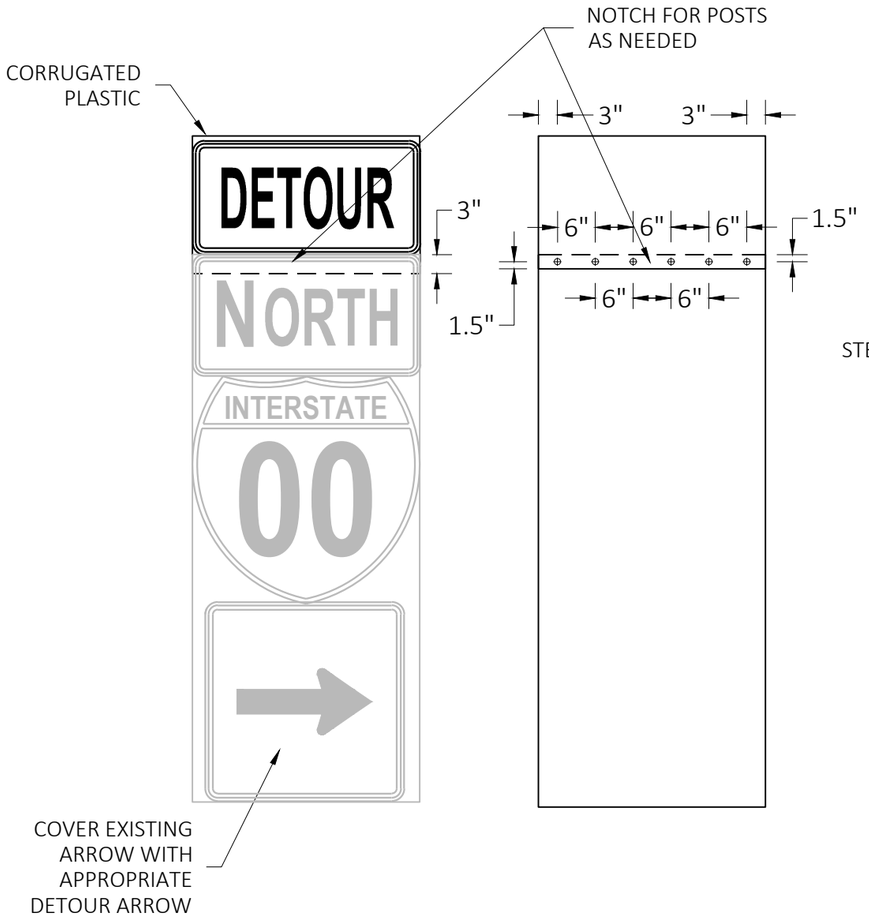
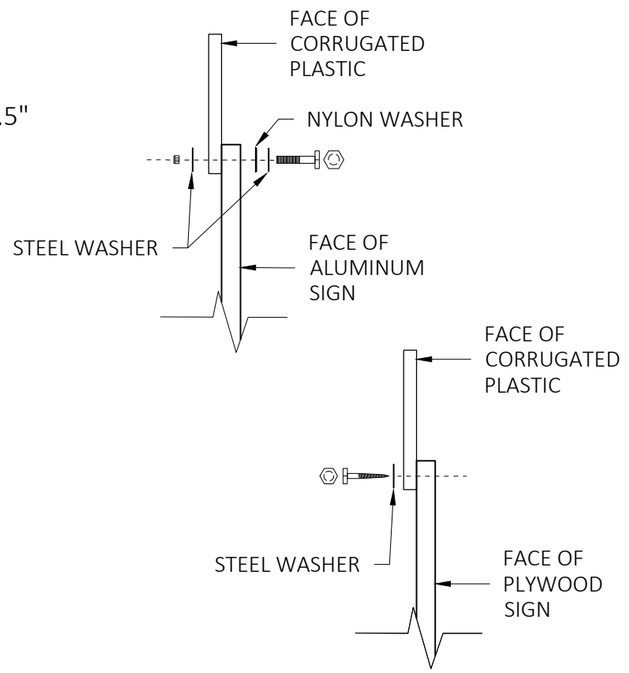
SDD 15C02-09g

FRONT SIDE

BACK SIDE

SIDE VIEW





GENERAL NOTES

CELLS OF CORRUGATED PLASTIC SHALL BE VERTICALLY ORIENTED.

PROVIDE A 0.4-INCH THICK BASE CORRUGATED PLASTIC WITH A 0.035-INCH WALL THICKNESS AND 0.4-INCH CELL SIZE.

FOR 36" WIDE SIGNS: USE 6 FASTENERS AS SHOWN.

FOR 24" WIDE SIGNS: USE 4 FASTENERS WITH EDGE SPACING AS SHOWN AND 6" SPACING BETWEEN FASTENERS.

METAL WASHERS, NUTS, BOLTS AND LAGS 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, SC3

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.

PLYWOOD SIGNS:
LAG SCREWS - 5/16" x 1"
ALUMINUM SIGNS:
MACHINE BOLTS - 5/16" x 1-1/4" LENGTH W/NUTS
WASHERS:
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

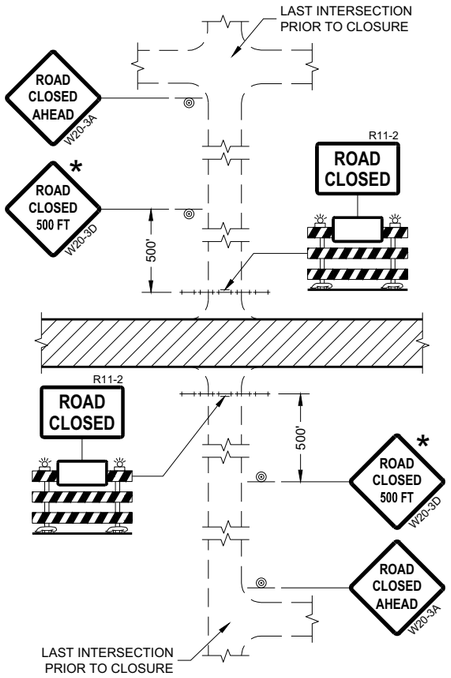
MODIFIED ROUTE ASSEMBLY FOR DETOUR SIGNING

MODIFIED ROUTE ASSEMBLY FOR DETOUR SIGNING

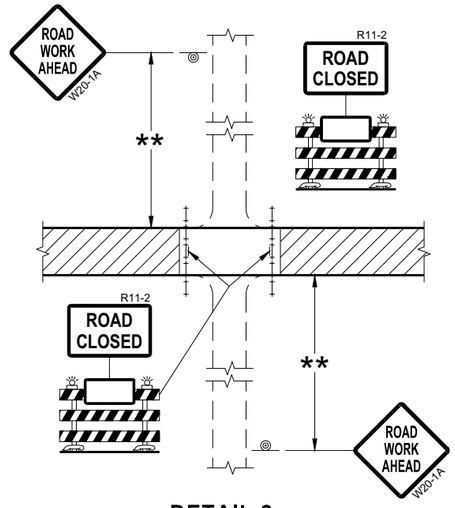
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023 — DATE
/S/ Andrew Heidtke — ROADWAY STANDARDS DEVEL ENGINEER
FHWA

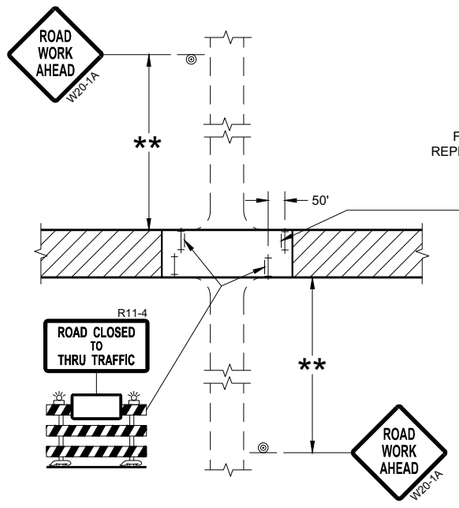
6 SDD 15C02-09h



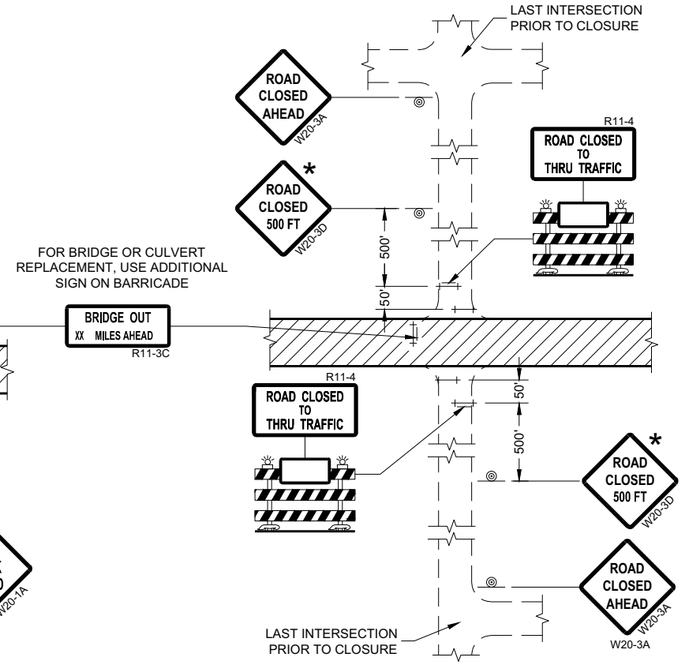
DETAIL 1
(NO ACCESS TO PROJECT)



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



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



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

GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

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

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

LEGEND

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

BARRICADES AND SIGNS FOR SIDEROAD CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
July 2018
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

6
SDD 15C03 - 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.

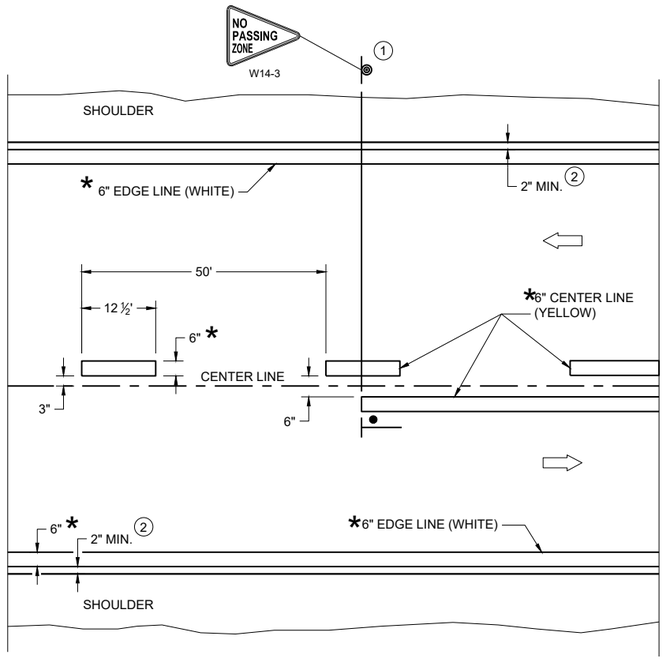
LEGEND

"T" MARKING

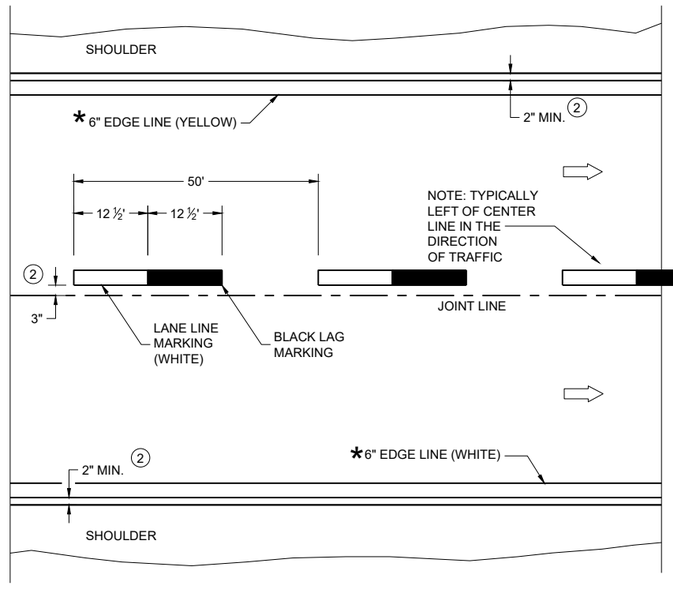
SIGN ON PERMANENT SUPPORT

DIRECTION OF TRAFFIC

*CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES



TWO WAY TRAFFIC



ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING

6

SDD 15C08-23a

PERMANENT LONGITUDINAL PAVEMENT MARKINGS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

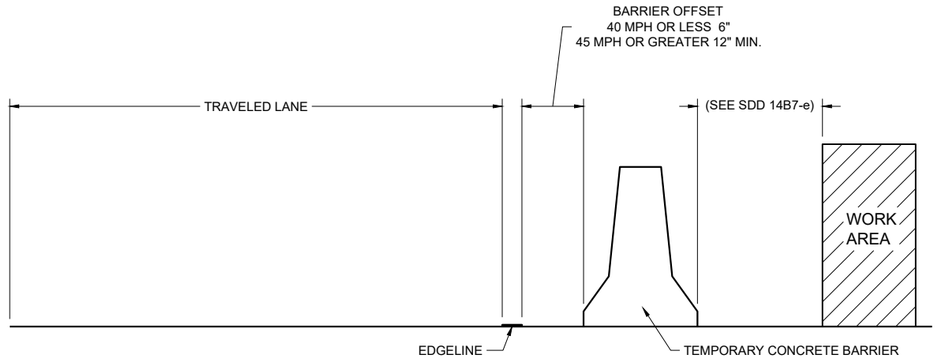
May 2023
DATE

/S/ Jeannie Silver
Statewide Pavement Marking Engineer

FHWA

6

SDD 15C08-23a



TEMPORARY BARRIER OFFSET FROM EDGELINE

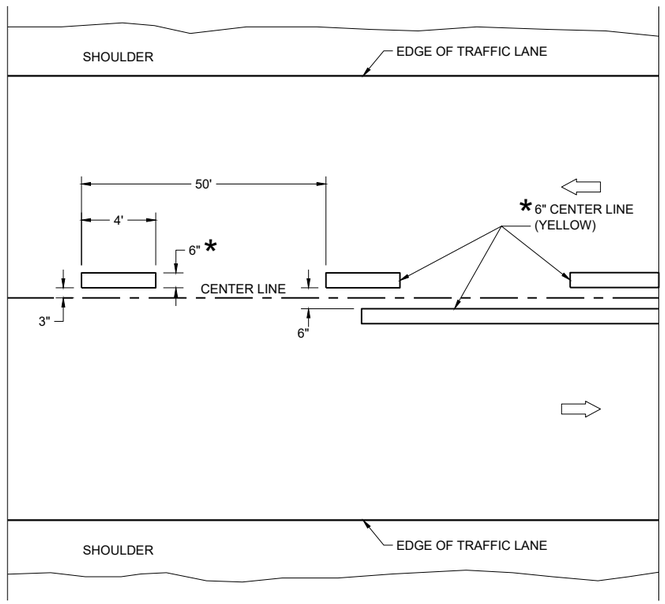
GENERAL NOTES

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

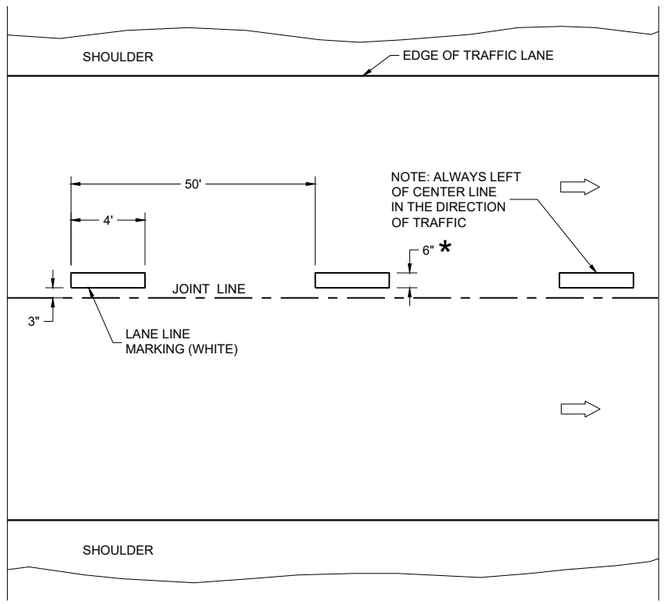
LEGEND

DIRECTION OF TRAFFIC

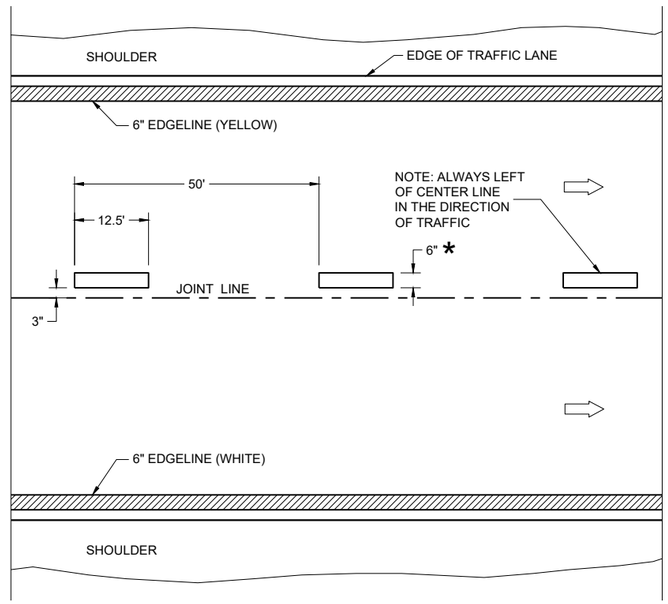
*CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES



TWO WAY TRAFFIC



ONE WAY TRAFFIC



FREEWAYS AND EXPRESSWAYS

TEMPORARY PAVEMENT MARKING

TEMPORARY LONGITUDINAL PAVEMENT MARKING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023
DATE
/S/ Jeannie Silver
Statewide Pavement Marking Engineer

FHWA

6

SDD 15C08-23b

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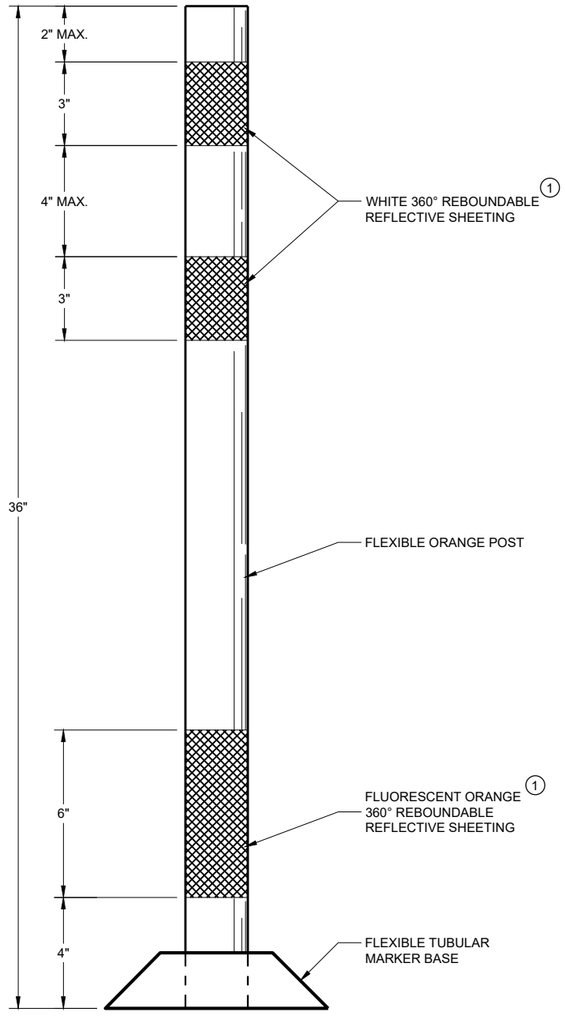
SDD 15C08-23b



FLEXIBLE TUBULAR MARKER POST WORK ZONE

GENERAL NOTES

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

SURFACE MOUNTED BASES SHALL BE FURNISHED IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS TO BE COMPATIBLE WITH FLEXIBLE TUBULAR MARKER POSTS TO A SIZE AND SHAPE THAT WILL PROVIDE A STABLE POST FOUNDATION WHEN SECURED TO THE PAVEMENT.

THE ASPHALTIC ADHESIVE OR BUTYL PAD FURNISHED SHALL BE IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS, UNLESS DIRECTED BY THE ENGINEER TO USE BOLTS.

(1) REFLECTIVE SHEETING SHALL FOLLOW THE REQUIREMENTS IN THE APPROVED PRODUCTS LISTING FOR SIGN SHEETING.

CHANNELIZING DEVICES
FLEXIBLE TUBULAR MARKER POST

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2022
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

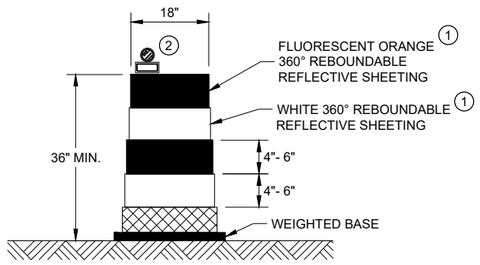
6

SDD 15C11 - 10a

SDD 15C11 - 10a

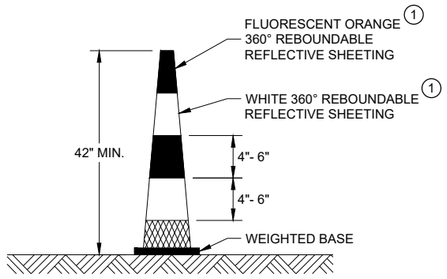
GENERAL NOTES

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

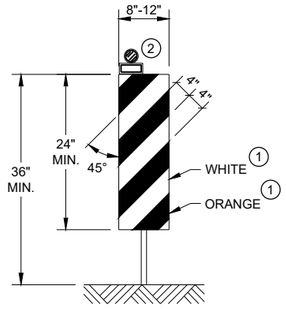
BALLAST WIDTHS
RANGE FROM 24"-36"



42" CONE

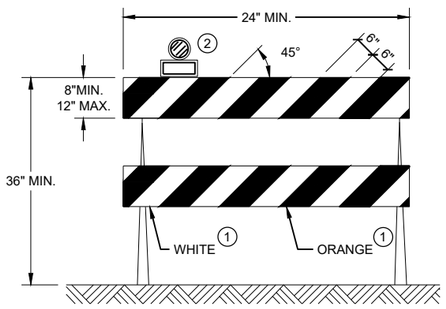
DO NOT USE IN TAPERS
½ SPACING OF DRUMS

BALLAST WIDTHS
RANGE FROM 14"-20"



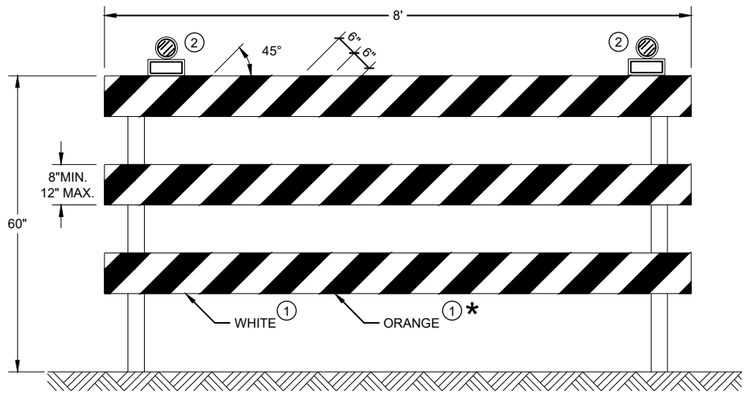
VERTICAL PANEL

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

6

SDD 15C11 - 10b

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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.

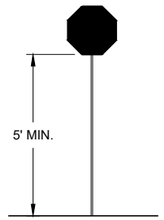
(3) EACH TEMPORARY PORTABLE RUMBLE STRIP ARRAY CONSISTS OF THREE RUMBLE STRIPS PLACED TRANSVERSE ACROSS THE LANE AT THE LOCATIONS SHOWN. WITHIN EACH ARRAY, SPACING BETWEEN RUMBLE STRIPS SHALL BE 15 FEET ON CENTER

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.



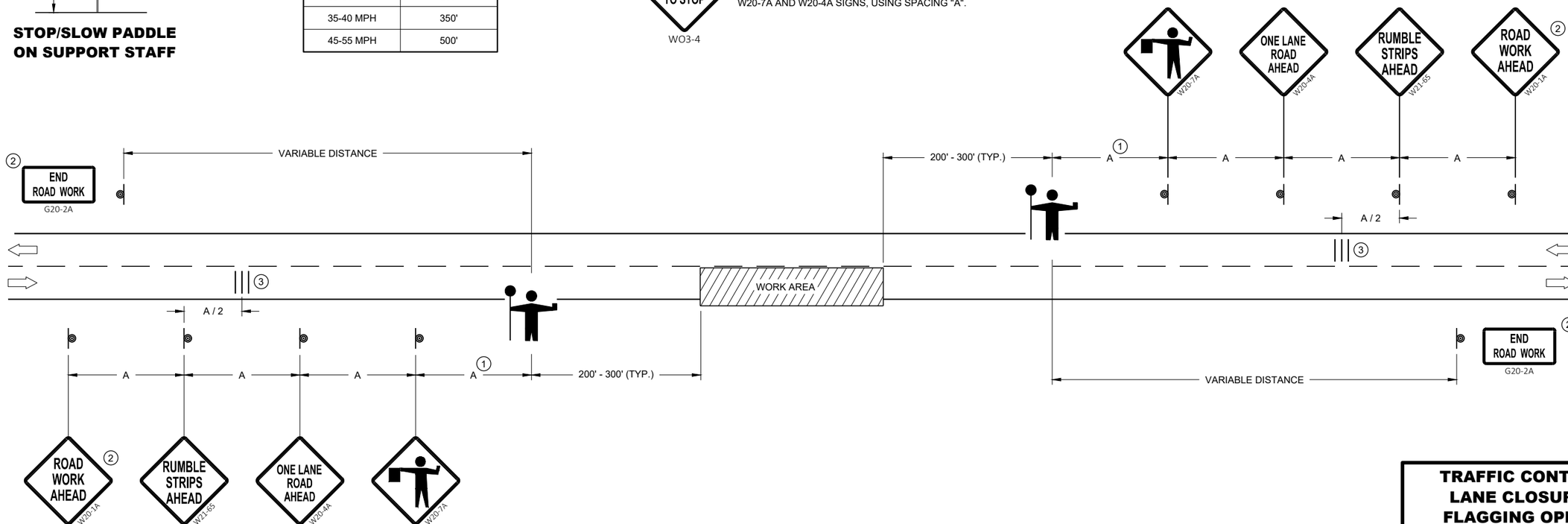
STOP/SLOW PADDLE ON SUPPORT STAFF

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

6

SDD 15C12 - 09a

6

SDD 15C12 - 09a

GENERAL NOTES

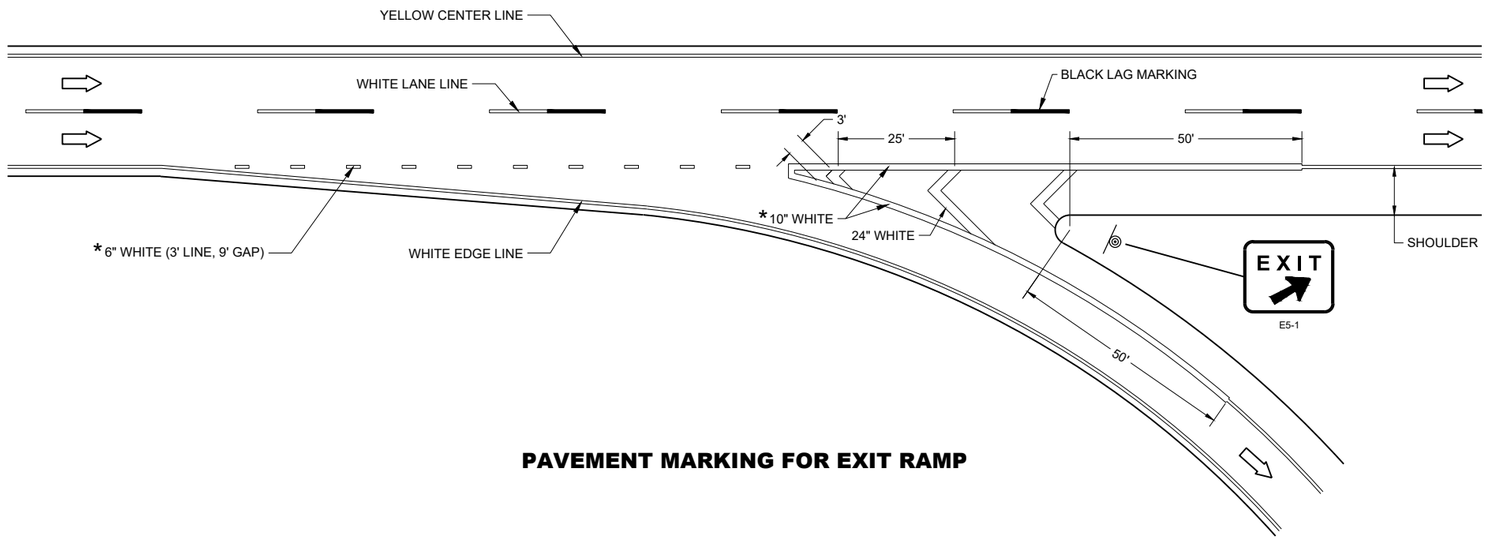
PLACE GROOVE 3 INCHES LEFT OF JOINT.

LEGEND

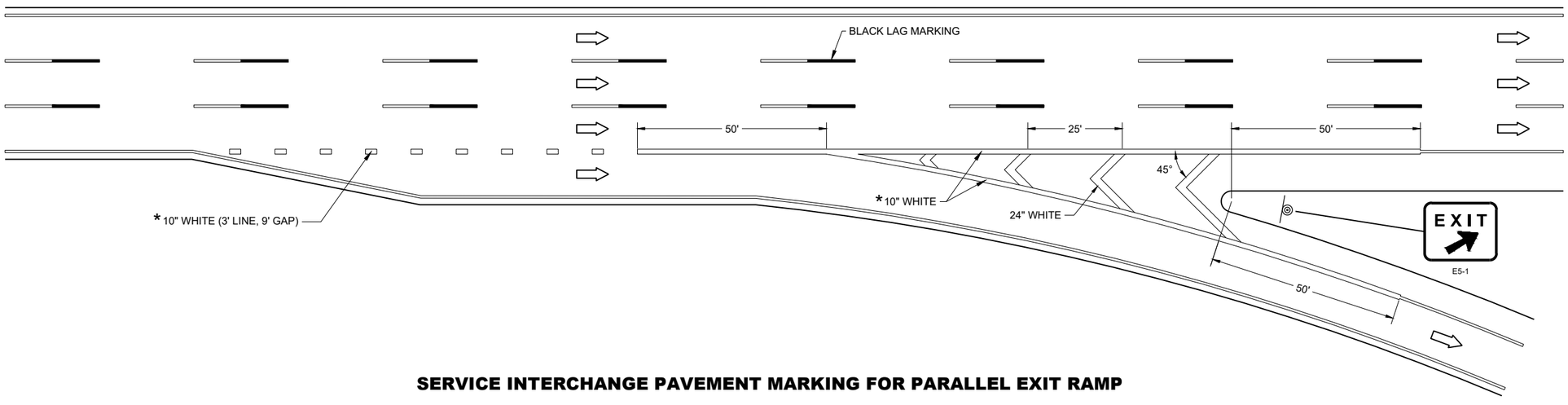
SIGN ON PERMANENT SUPPORT

DIRECTION OF TRAVEL

* CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES



PAVEMENT MARKING FOR EXIT RAMP



SERVICE INTERCHANGE PAVEMENT MARKING FOR PARALLEL EXIT RAMP

PAVEMENT MARKING, EXIT RAMP AND PARALLEL EXIT RAMP

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6
SDD 15C31-06a

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.

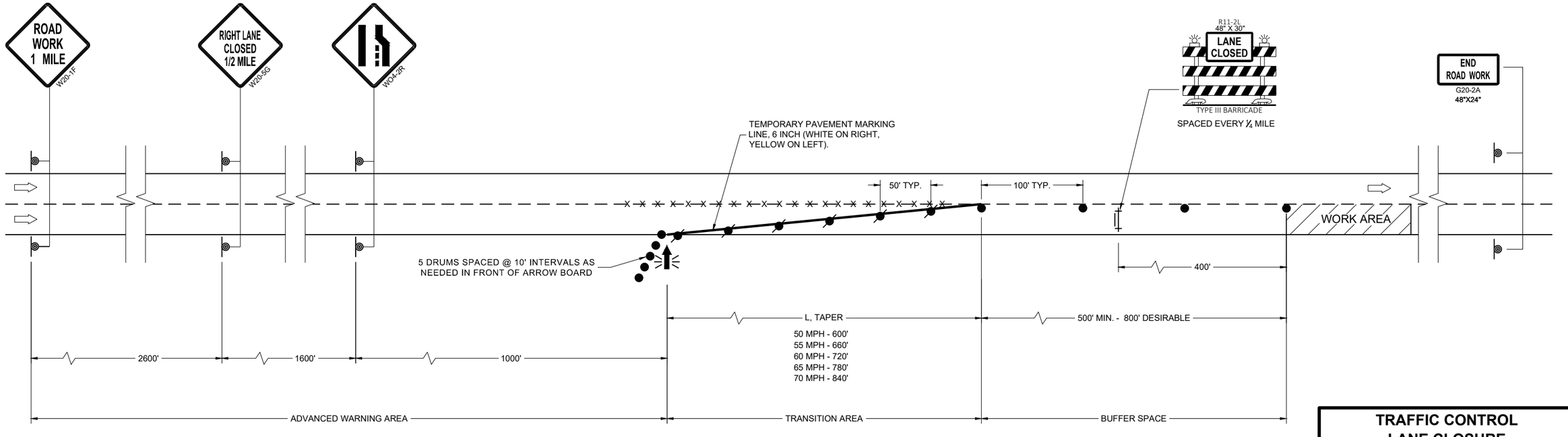
WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

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
- FLASHING ARROW BOARD



TRAFFIC CONTROL LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
March 2024
DATE

/S/ Andrew Heidtke
Work Zone Engineer

FHWA

6

SDD 15D12-13a

6

SDD 15D12-13a

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.

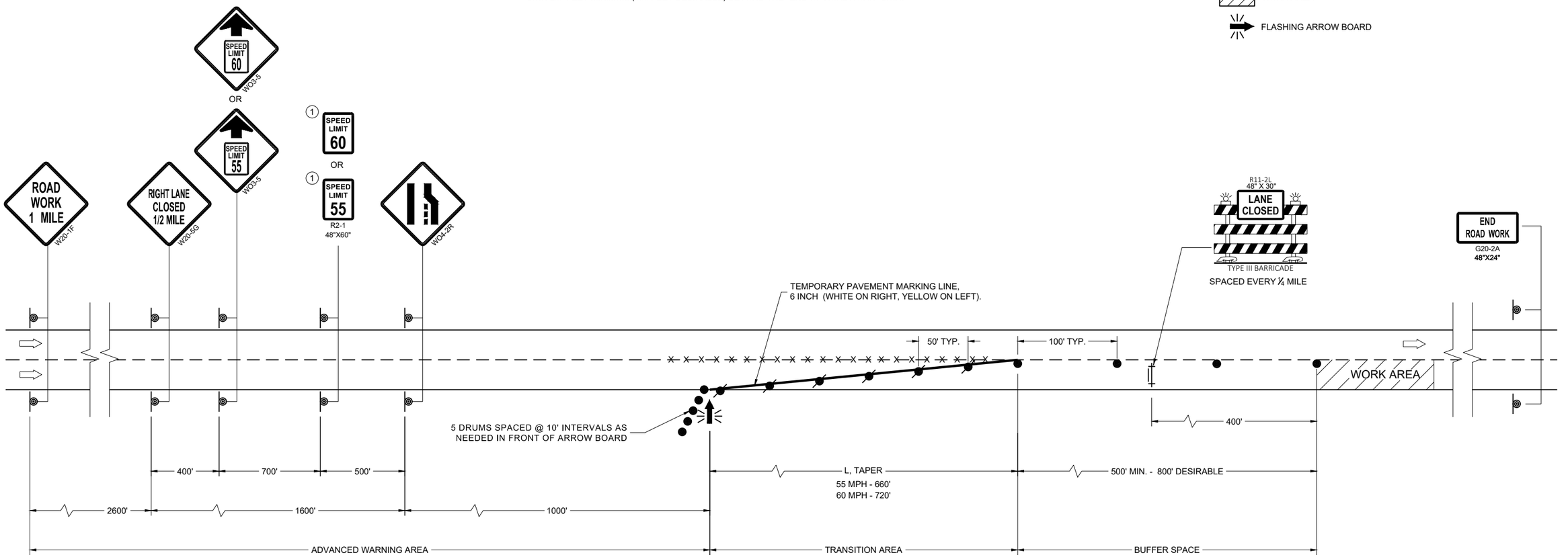
IF THE HORIZONTAL ALIGNMENT IS SUCH THAT A CURVE MAY REQUIRE ADDITIONAL DELINEATION, THE DEVICE SPACING MAY BE DECREASED TO 50 FEET.

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
- FLASHING ARROW BOARD



TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
March 2024
DATE

/S/ Andrew Heidtke
Work Zone Engineer

FHWA

6

SDD 15D12-13b

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. 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.

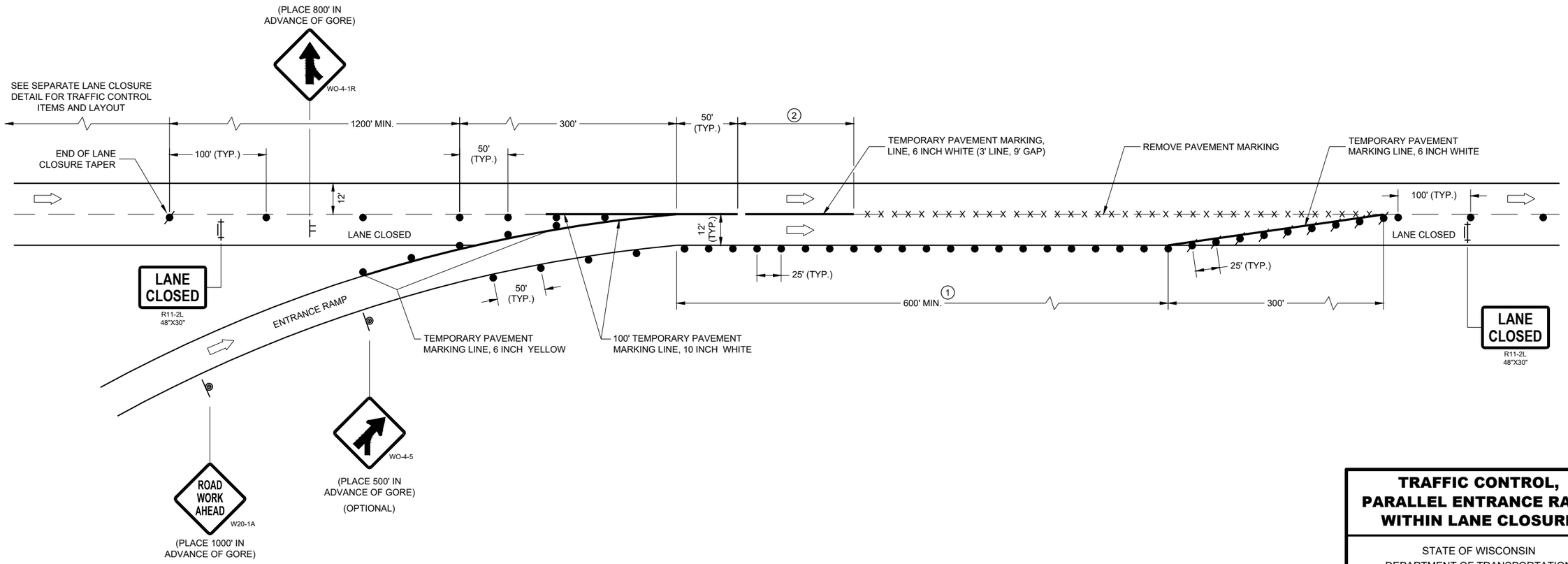
ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

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) EXTEND THE LENGTH OF THE MERGE ARE IF THE ENTERING (DESIGN) SPEED IS LESS THAN 50MPH 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.



TRAFFIC CONTROL, PARALLEL ENTRANCE RAMP WITHIN LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

6
SDD 15D15-07a

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.

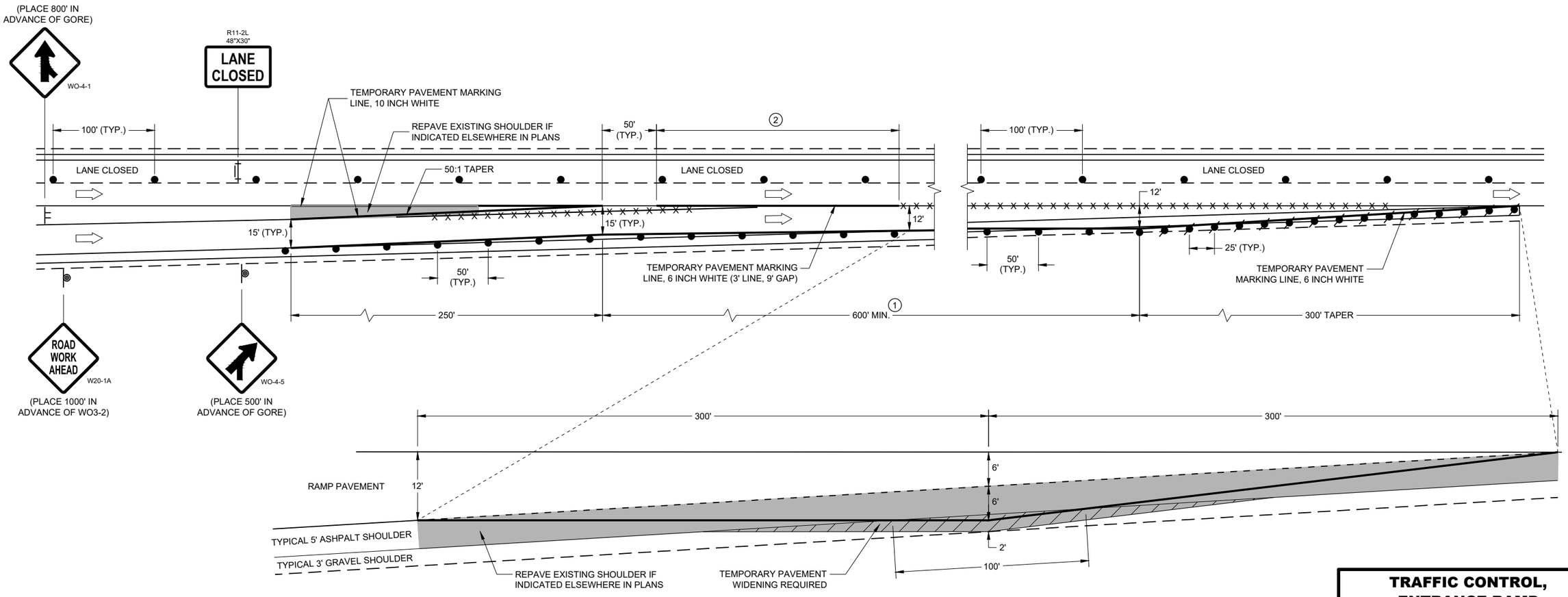
ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

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.

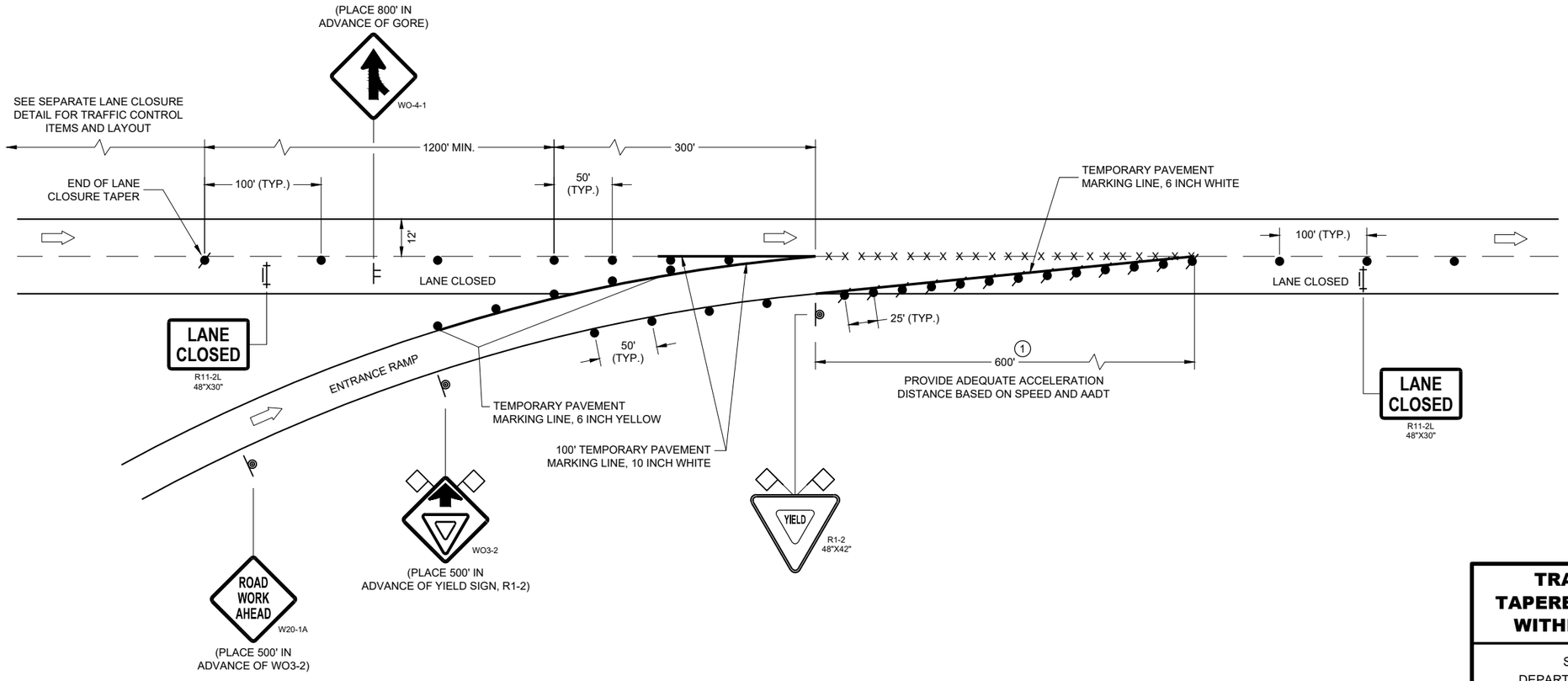
IF INDICATED IN MISCELLANEOUS QUANTITIES, SUBSTITUTE FLEXIBLE TUBULAR MARKERS FOR DRUMS IN THE GORE BETWEEN THE ENTRANCE RAMP AND MAINLINE TRAFFIC.

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

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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.

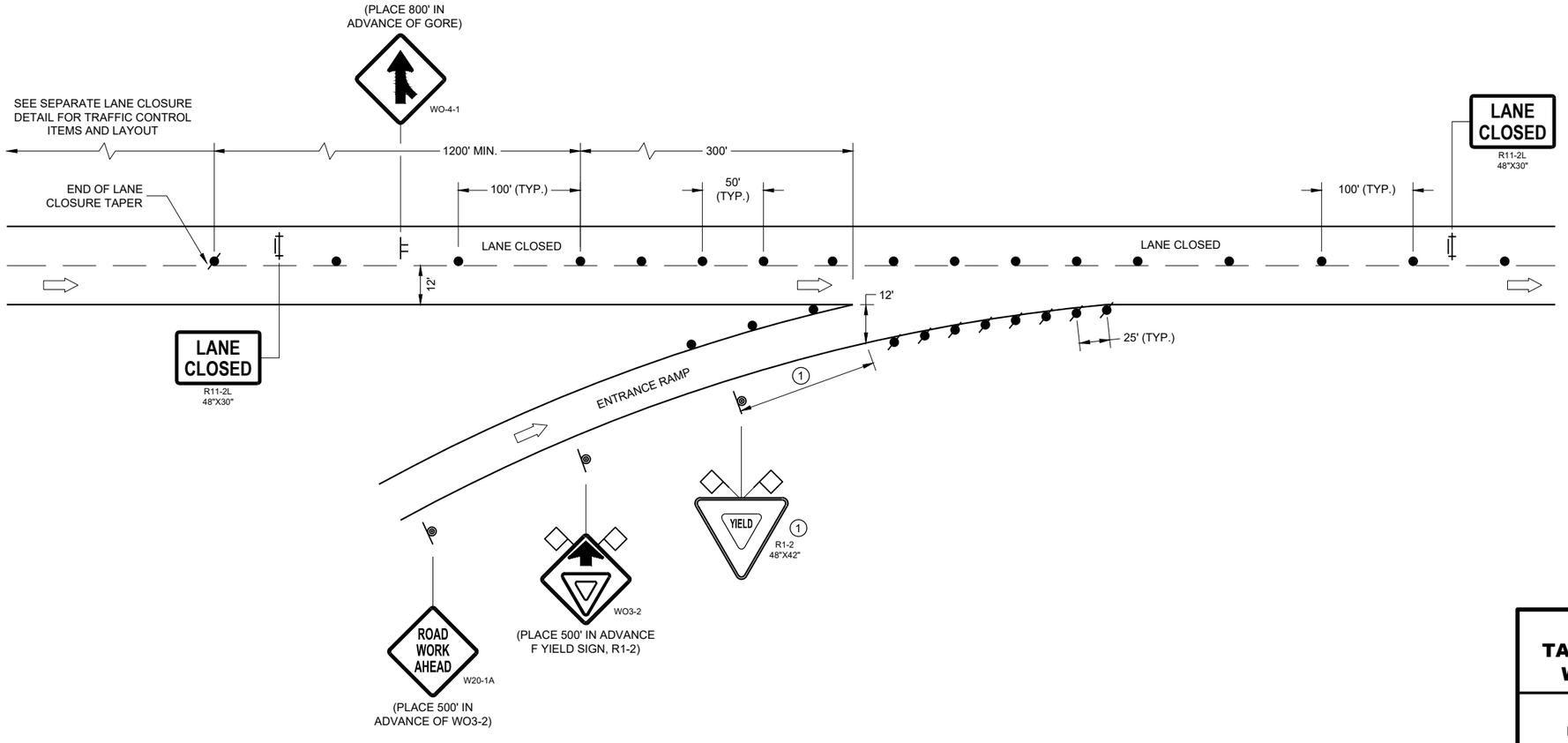
SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONSECUTIVE DAYS AND NIGHTS OR THAT WILL BE PLACED IN A CLOSED LANE, MAY BE MOUNTED ON PORTABLE SUPPORTS. USE SUPPORTS THAT PROVIDE A MINIMUM OF 5 FEET FROM THE BOTTOM OF THE SIGN TO THE PAVEMENT.

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

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.

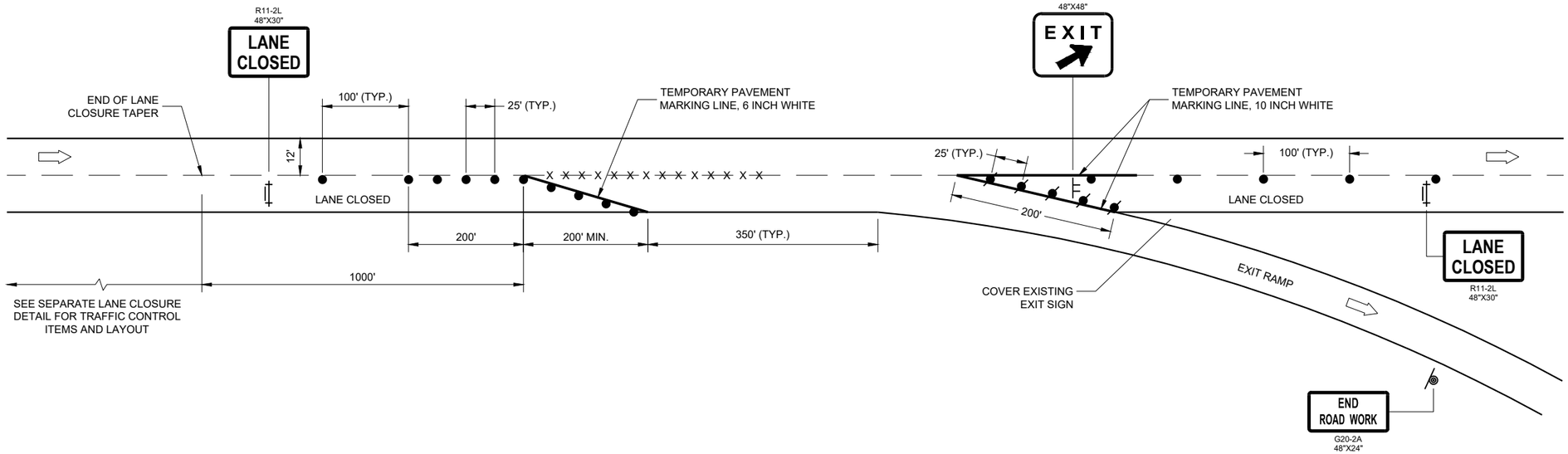
SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONSECUTIVE DAYS AND NIGHTS OR THAT WILL BE PLACED IN A CLOSED LANE, MAY BE MOUNTED ON PORTABLE SUPPORTS.

IF INDICATED IN MISCELLANEOUS QUANTITIES, SUBSTITUTE FLEXIBLE TUBULAR MARKERS FOR 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.



TRAFFIC CONTROL, PARALLEL EXIT 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 15D15-07e

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- SIGN ON PERMANENT SUPPORT
- TYPE "A" WARNING LIGHT (FLASHING)
- DIRECTION OF TRAFFIC

GENERAL NOTES

THIS RAMP CLOSURE DETAIL IS TYPICAL FOR CLOSING A RIGHT SIDE EXIT RAMP. FOR A LEFT SIDE EXIT RAMP, REVERSE THE TRAFFIC CONTROL.

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.

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.

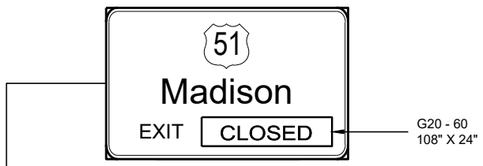
PLACE TEMPORARY PAVEMENT MARKING LINE IF RAMP CLOSURE IS TO BE IN PLACE 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

WORK AREAS WITH A DROP OFF ALONG THE EDGE OF AN OPEN TRAVEL LANE SHALL BE LEVELED WITH TEMPORARY FILL WHEN THE CONTRACTOR IS NOT WORKING ADJACENT TO THE TRAVEL LANE. DRUMS SHALL BE PLACED ENTIRELY OUTSIDE THE TRAVEL LANE, ALLOWING THE FULL UNOBSTRUCTED LANE WIDTH, WHEN WORK IS NOT IN PROGRESS.

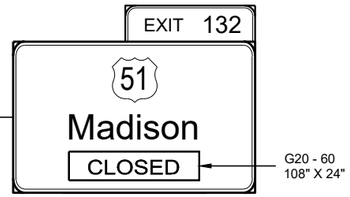
WHERE MEDIAN BARRIER IS IN PLACE, SIGNS SHOWN ON LEFT SIDE OF ROADWAY MAY BE OMITTED FOR RIGHT SIDE RAMP CLOSURES OF LESS THAN 12 - HOUR DURATION.

(1) W20 - 1A AND G20 - 2A SIGNS ARE NOT REQUIRED IF THE RAMP CLOSURE IS WITHIN A LARGER WORK ZONE WHERE THESE SIGNS ARE ALREADY PRESENT.

(2) PLACE "RAMP CLOSED BEGINNING" SIGN OR PCMS 7 CALENDAR DAYS PRIOR TO CLOSURE OR AS DIRECTED BY THE ENGINEER. SEE WISCONSIN STANDARD SIGN PLATES FOR SIGN LAYOUT.



OR



PLACE SIGN G20 - 60 OVER MILEAGE ON EXISTING E1 - 1A SIGN

COVER ARROW ON EXISTING E4 - 1 SIGN (COVERING SIGNS TYPE I)

G20 - 61
120 ' X 30"

OR

PCMS MESSAGING

FRAME 1	FRAME 2
RAMP TO CLOSE	XXXDAY XX XX XX

TRAFFIC CONTROL, EXIT RAMP CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023
DATE

/S/ Andrew Heidtke
ROADWAY STANDARDS DEVE ENGINEER

FHWA

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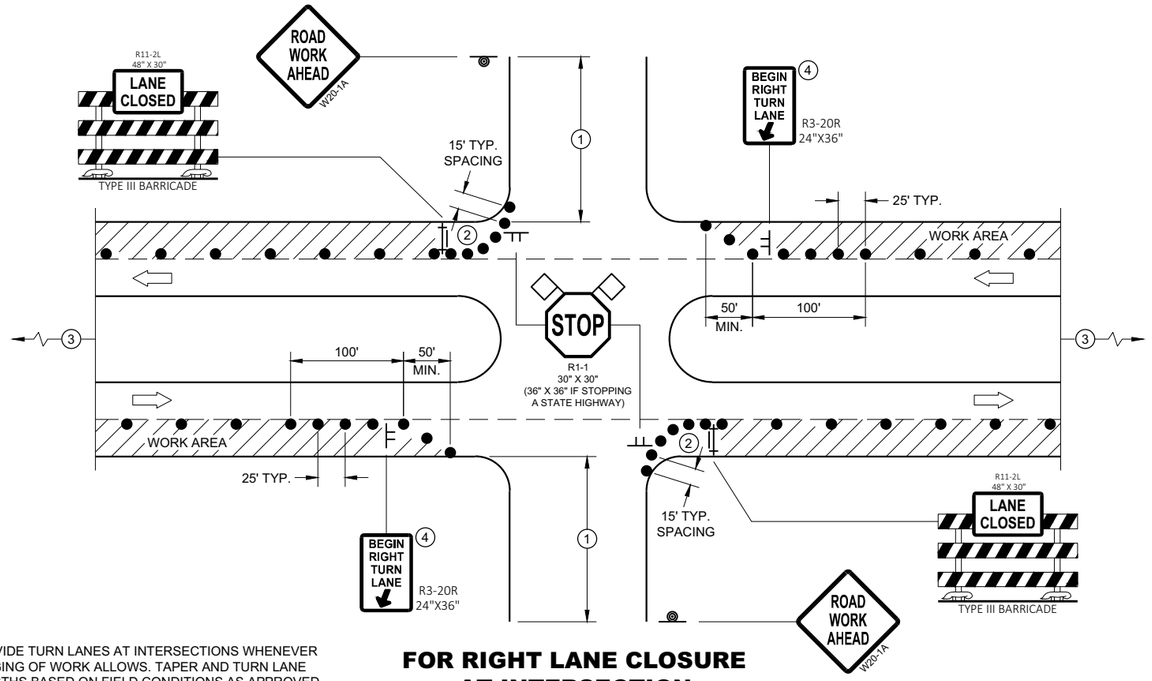
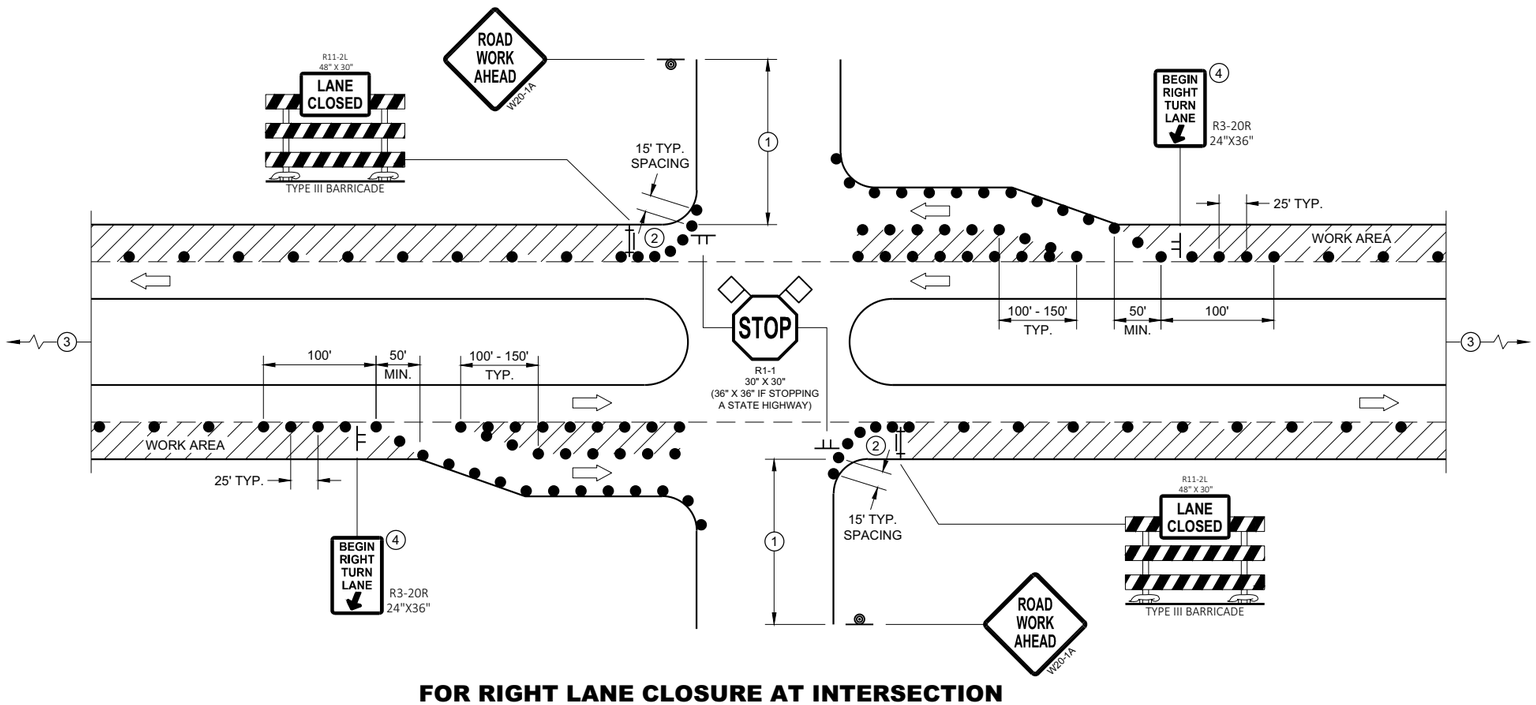
SDD 15D16-06



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



FOR RIGHT LANE CLOSURE AT INTERSECTION (WITH RIGHT TURN BAY OPEN)

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.

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

SDD 15D21 - 07a

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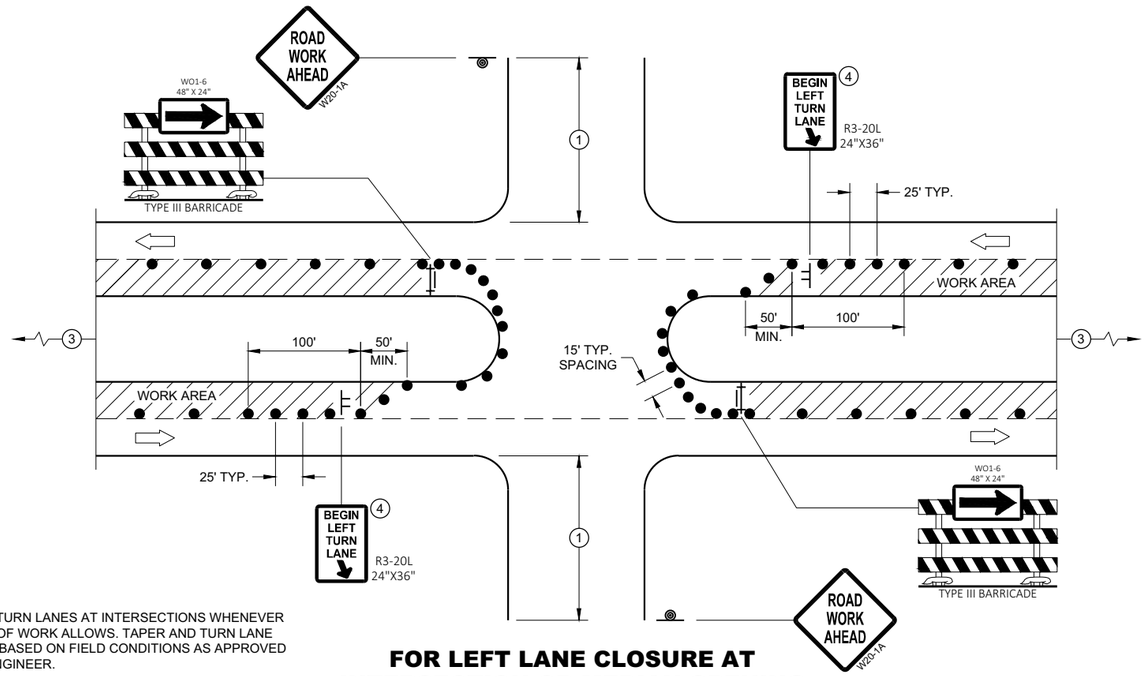
SDD 15D21 - 07a



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.

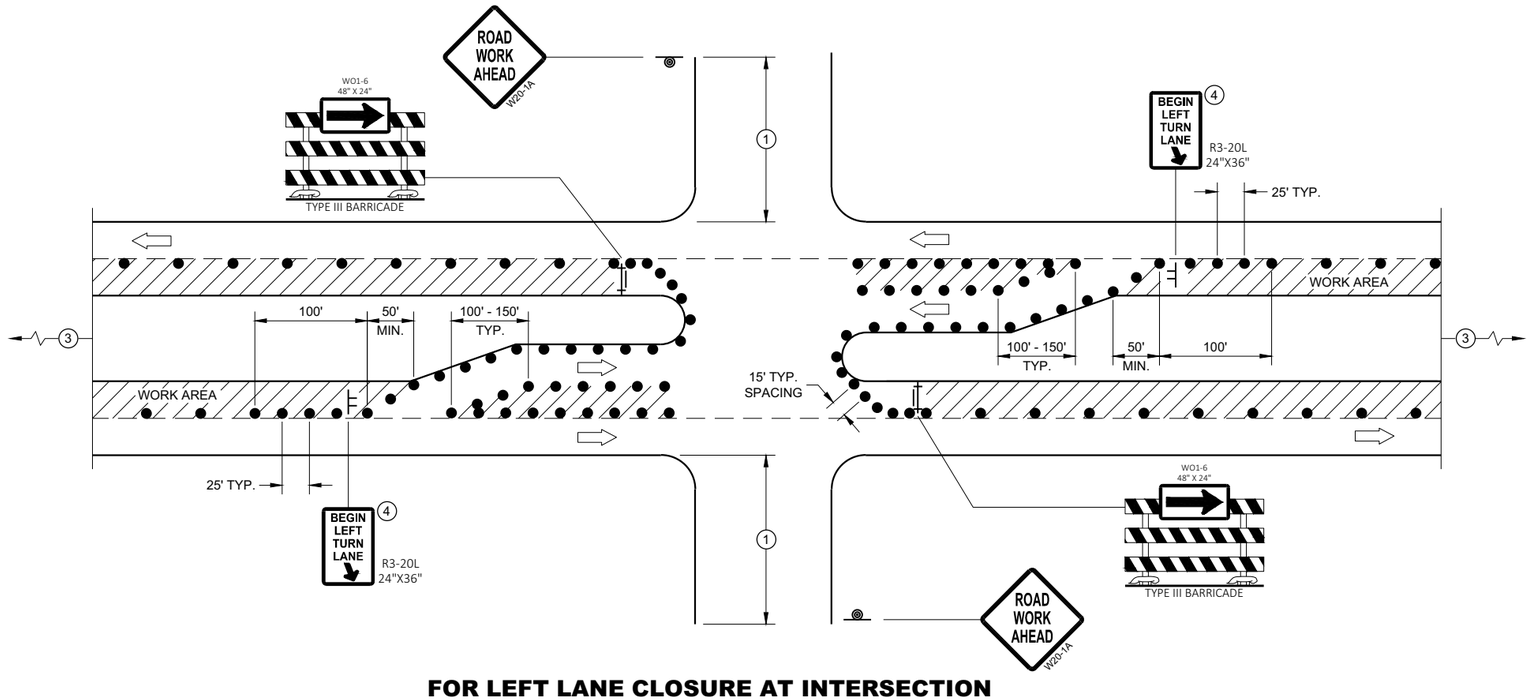
CHANNELIZING DEVICES PLACED ADJACENT TO WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

(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.

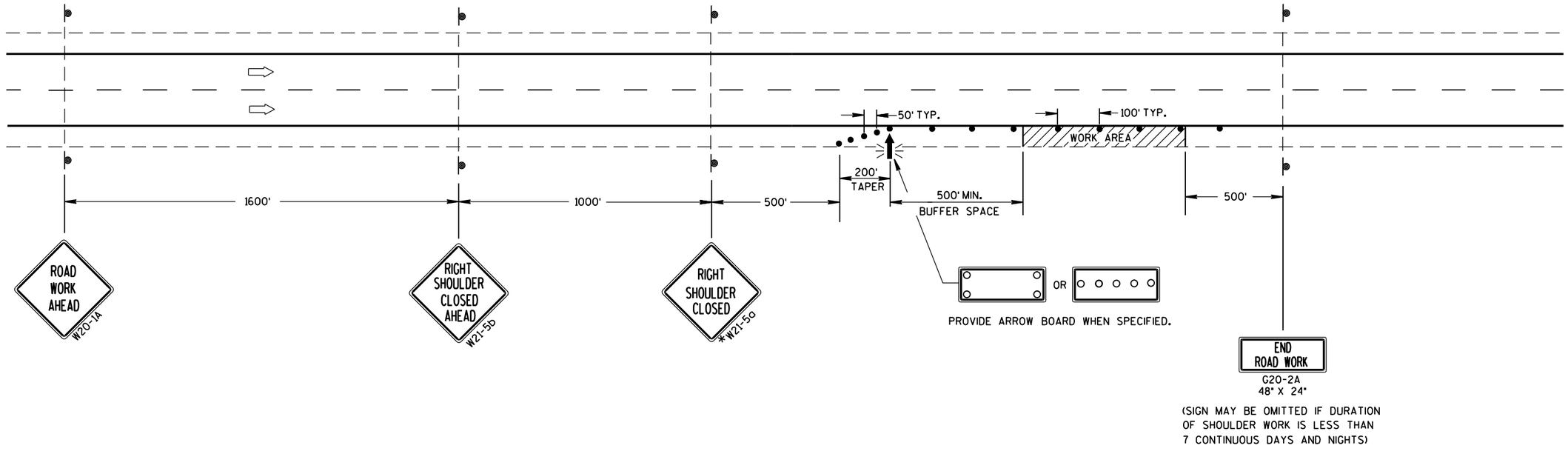
SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

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

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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.

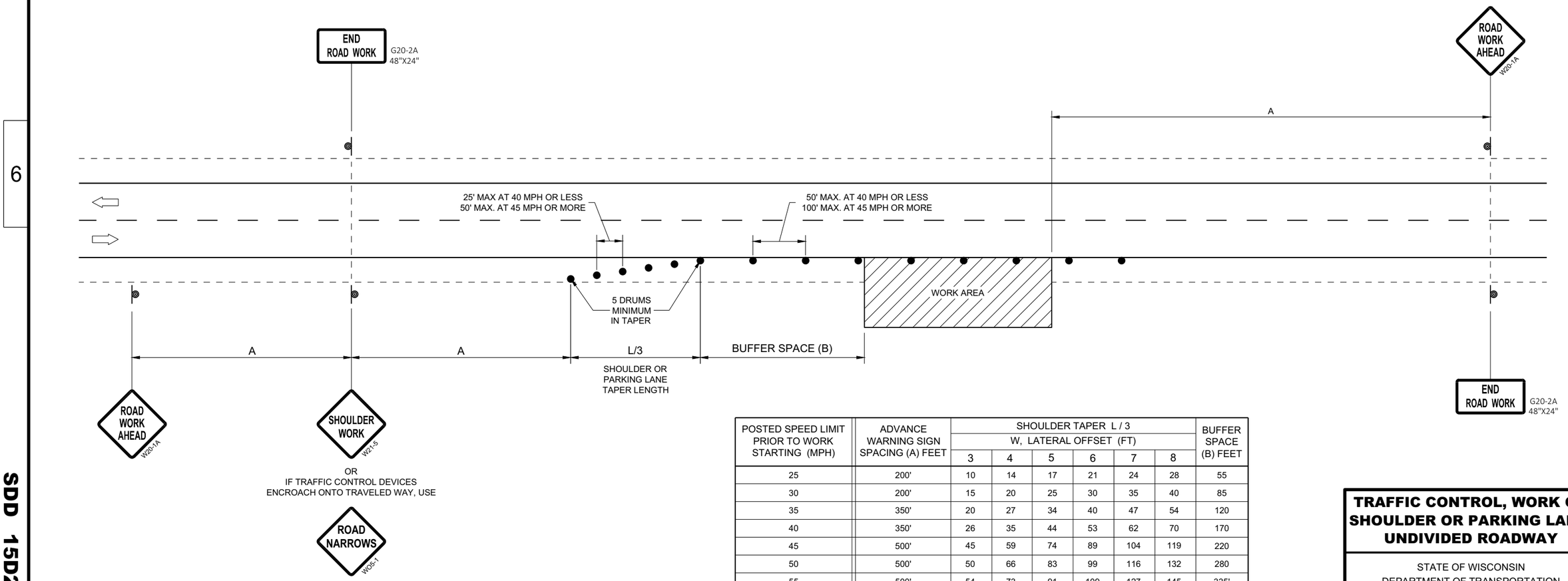
ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH THE TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

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

6

SDD 15D28 - 04

LEGEND

- TYPE III BARRICADE WITH ATTACHED SIGN
- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TYPE "A" WARNING LIGHT (FLASHING)
- DIRECTION OF TRAFFIC
- WORK AREA
- REMOVING PAVEMENT MARKING (SEE GENERAL NOTES)
- CONCRETE BARRIER TEMPORARY PRECAST

POSTED SPEED LIMIT PRIOR TO WORK STARTING (MPH)	SHIFTING TAPER L/2 W, LATERAL OFFSET (FT)								
	1	2	3	4	5	6	7	8	9
50	25	50	75	100	125	150	175	200	225
55	28	55	83	110	138	165	193	220	248
60	30	60	90	120	150	180	210	240	270
65	33	65	98	130	163	195	228	260	293
70	35	70	105	140	175	210	245	280	315

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) DISTANCE TO EXISTING SIGNS.

THIS LANE CLOSURE IS TYPICAL FOR LANE SHIFT LEFT - REVERSE FOR SHIFTING RIGHT.

ALL SIGNS ARE 48"x48" 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 AND AS APPROVED BY THE ENGINEER. NO WARNING LIGHTS SHALL BE WORKING ON ANY "COVERED" OR "DOWNED" SIGNS.

CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARDS SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS FOR A MINIMUM 1500 FEET IN FRONT OF 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.

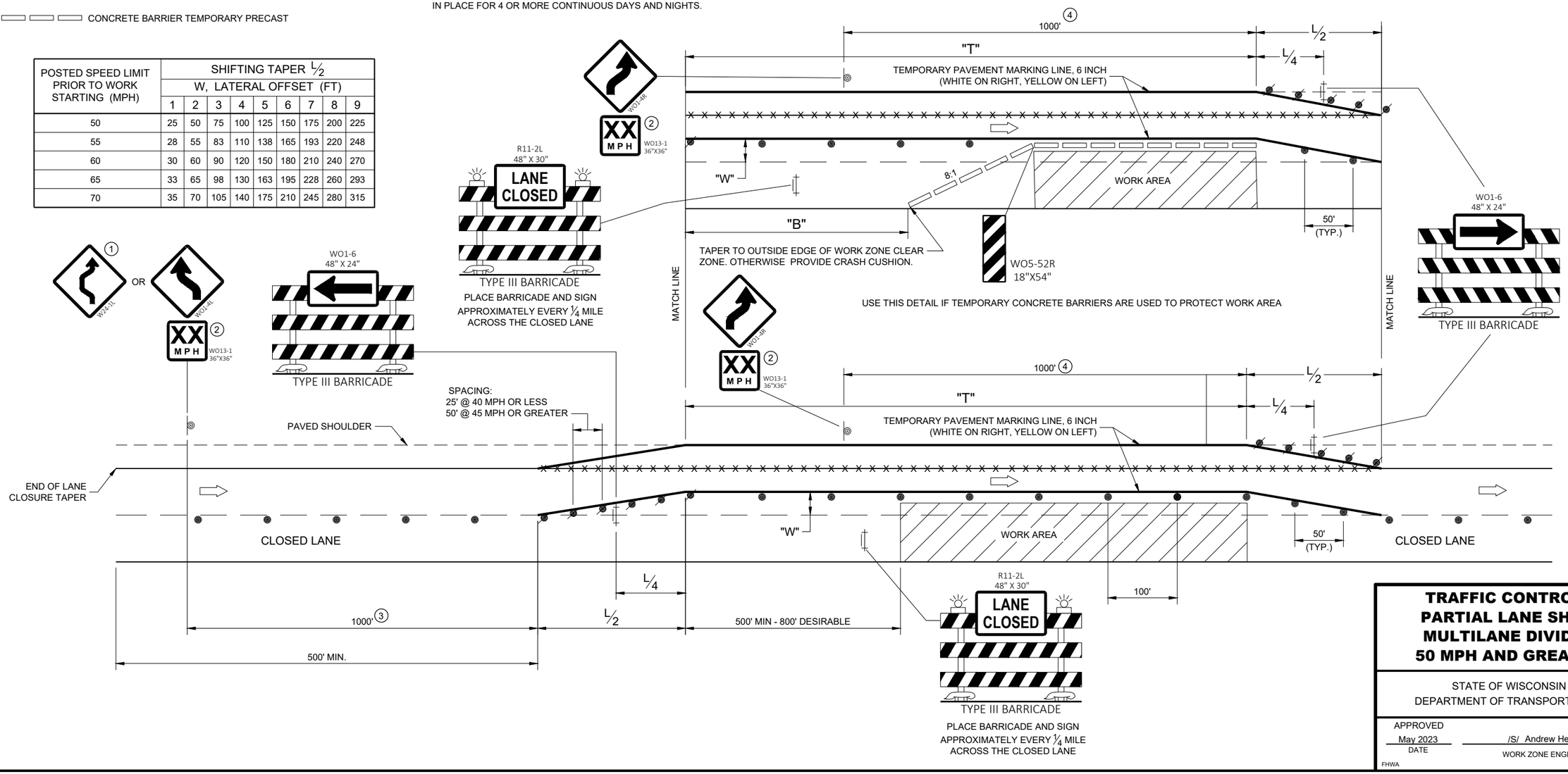
REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING LINES IF LANE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

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 SHIFT OCCURS NEAR AN INTERCHANGE EXIT OR ENTRANCE RAMP. THE LANE SHIFT 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 1/2 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. USE ONLY WHEN T<600', OMIT WO1-4R.
2. IF NEEDED, USE ONLY IF DESIGN SPEED IS 10 MPH BELOW POSTED SPEED.
3. IF THE BEGINNING OF LANE SHIFT TAPER IS 1200 FEET OR LESS FROM END OF LANE CLOSURE TAPER, PLACE THE WO1-4L SIGN 200 FEET AFTER THE END OF THE LANE CLOSURE TAPER.
4. IF THE BEGINNING OF THE SECOND LANE SHIFT TAPER IS 1200 FEET OR LESS FROM END OF THE FIRST LANE CLOSURE TAPER, PLACE THE WO1-4L SIGN 200 FEET AFTER THE END OF THE FIRST LANE CLOSURE TAPER.



TRAFFIC CONTROL, PARTIAL LANE SHIFT MULTILANE DIVIDED 50 MPH AND GREATER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

6

SDD 15D40-05d

6

SDD 15D40-05d

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

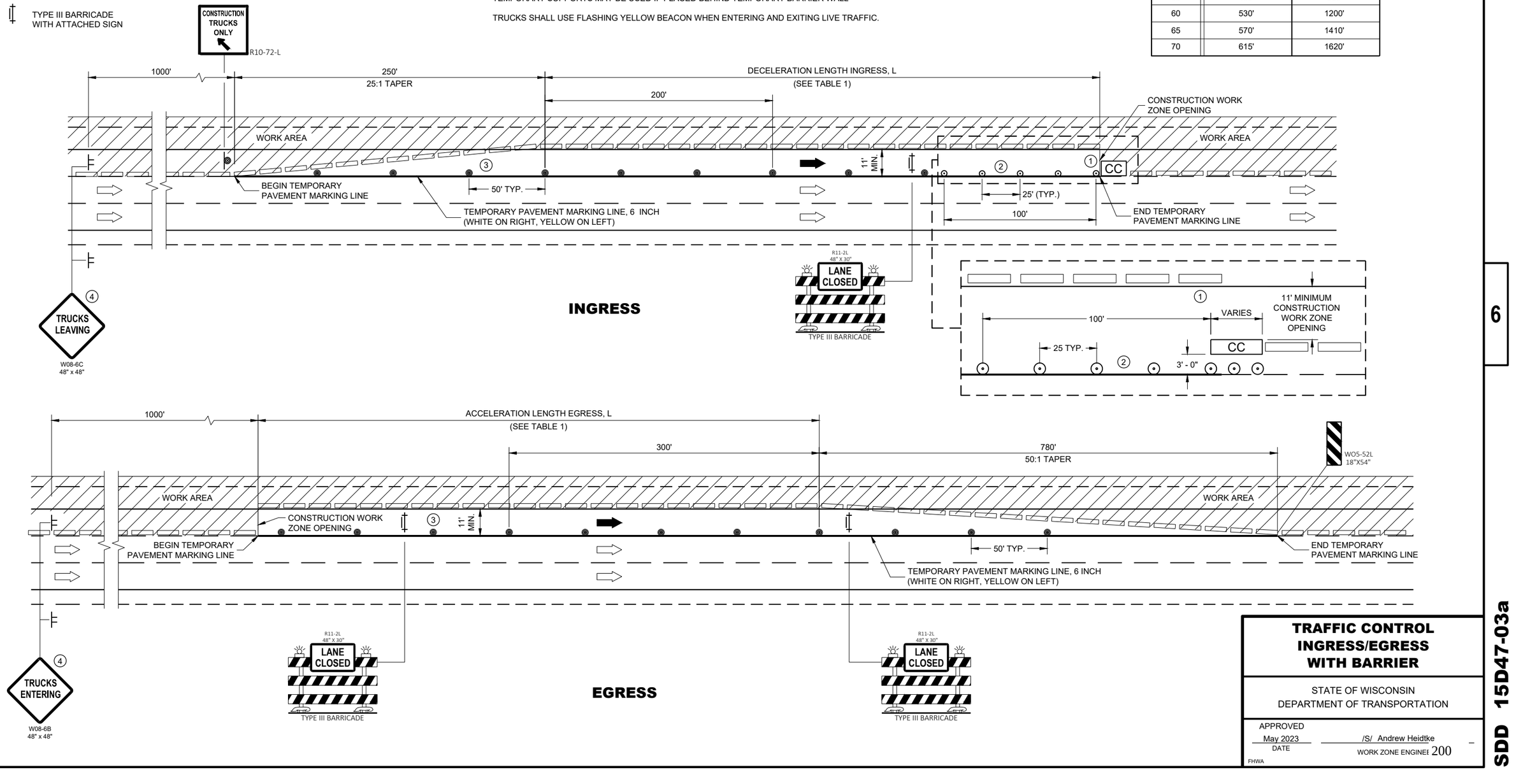
TEMPORARY SUPPORTS MAY BE USED IF PLACED BEHIND TEMPORARY BARRIER WALL

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 ENGINEER
200

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.

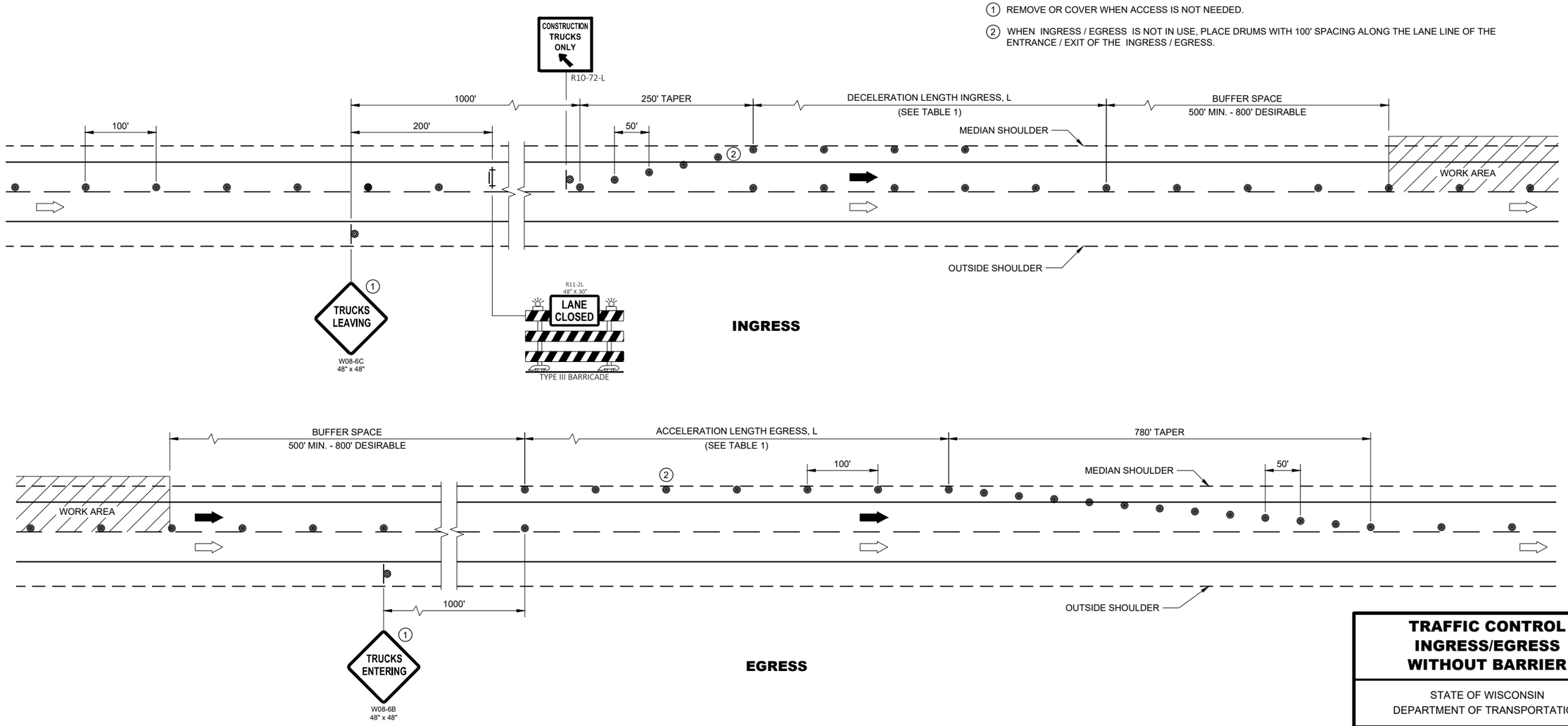
THIS ACCESS DETAIL IS TYPICAL FOR LEFT LANE ACCESS, FOR RIGHT LANE ACCESS, REVERSE THE TRAFFIC CONTROL

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 ENGINEER

FHWA

6

SDD 15D47-03b

6

SDD 15D47-03b

LEGEND

- TYPE III BARRICADE WITH ATTACHED SIGN
- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TYPE "A" WARNING LIGHT (FLASHING)
- DIRECTION OF TRAFFIC
- WORK AREA

POSTED SPEED LIMIT PRIOR TO WORK STARTING (MPH)	ADVANCE WARNING SIGN SPACING (A) FEET	SHIFTING TAPER L/2 W, LATERAL OFFSET (FT)					
		3	4	5	6	7	8
25	200	10	14	17	21	24	28
30	200	15	20	25	30	35	40
35	350	20	27	34	40	47	54
40	350	26	35	44	53	62	70
45	500	45	59	74	89	104	119
50	500	50	66	83	99	116	132
55	500	54	73	91	109	127	145

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.

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36"x36" SIGNS MAY BE USED IF APPROVED BY THE REGIONAL TRAFFIC UNIT.

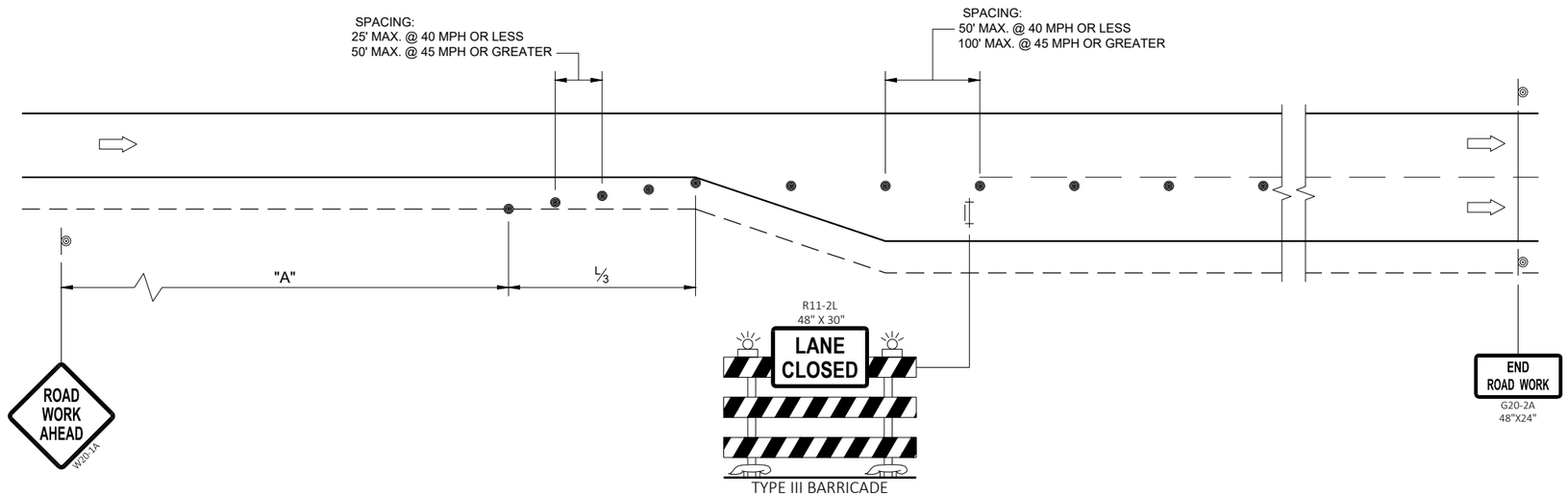
"WO" IS THE SAME AS "W" EXCEPT THE BACKGROUND IS ORANGE.

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

W20-1 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 WORK IS LESS THAN SEVEN CONTINUOUS DAYS AND NIGHTS.



PLACE BARRICADE AND SIGN APPROXIMATELY EVERY 1000' ACROSS THE CLOSED LANE

TRAFFIC CONTROL
ADDED LANE CLOSURE
WITHOUT LANE SHIFT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

6

SDD 15D50-03a

6

SDD 15D50-03a

LEGEND

- TYPE III BARRICADE WITH ATTACHED SIGN
- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TYPE "A" WARNING LIGHT (FLASHING)
- DIRECTION OF TRAFFIC
- WORK AREA

POSTED SPEED LIMIT PRIOR TO WORK STARTING (MPH)	ADVANCE WARNING SIGN SPACING (A) FEET	SHIFTING TAPER (L/2) FEET
25	200	60
30	200	90
35	350	120
40	350	160
45	500	270
50	500	300
55	500	330

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.

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36"x36" SIGNS MAY BE USED IF APPROVED BY THE REGIONAL TRAFFIC UNIT.

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

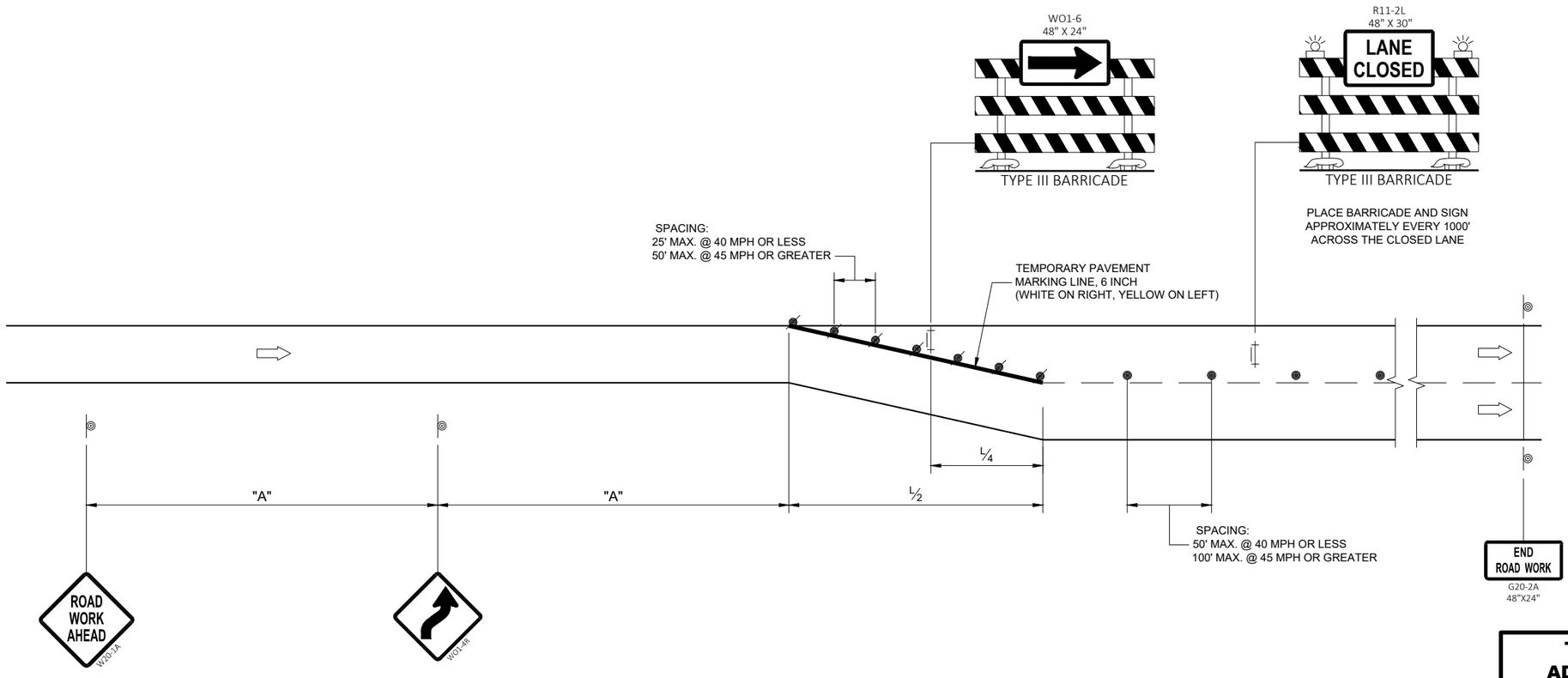
ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

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 SEVEN CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

W20-1 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 WORK IS LESS THAN SEVEN CONTINUOUS DAYS AND NIGHTS.

PLACE TEMPORARY PAVEMENT MARKING AND PLACE TEMPORARY PAVEMENT LINE IF LANE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.



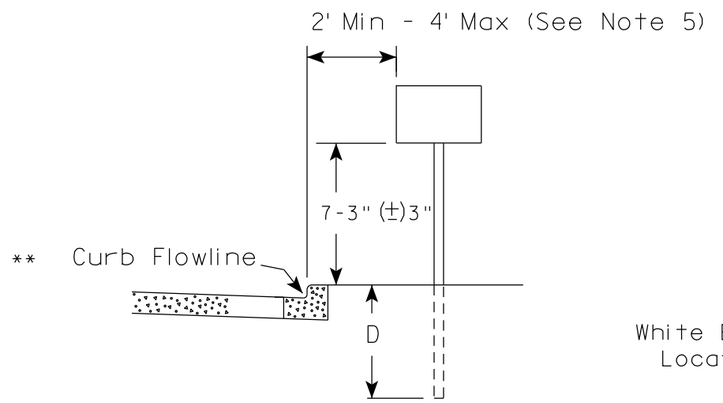
TRAFFIC CONTROL, ADDED LANE CLOSURE WITH LANE SHIFT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

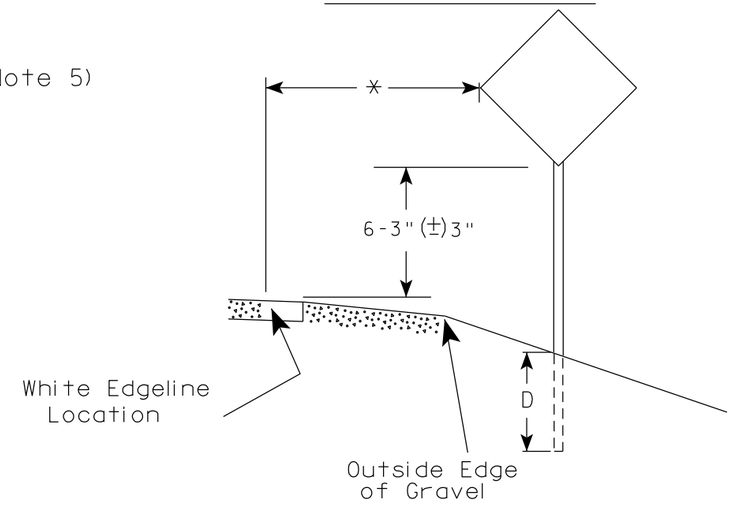
APPROVED
May 2023 — DATE
/S/ Andrew Heidtke — WORK ZONE ENGINEER
FHWA

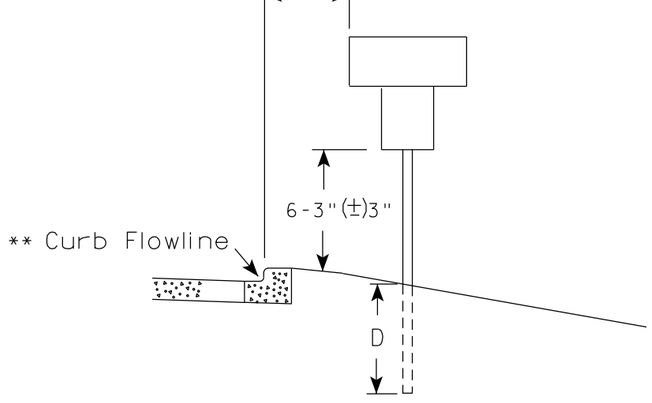
6
SDD 15D50-03b

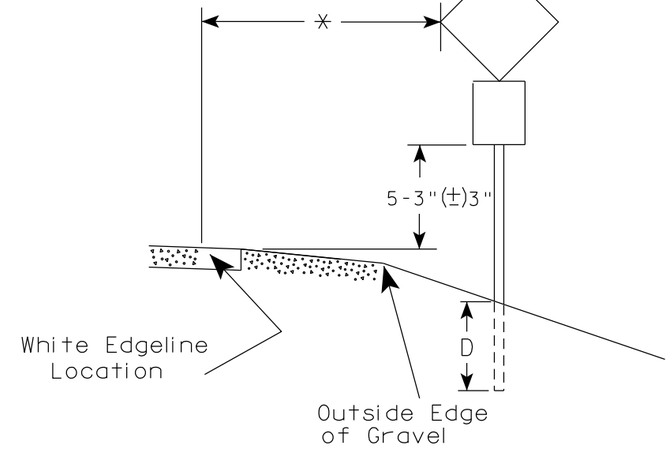
URBAN AREA



RURAL AREA (See Note 2)







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

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

POST EMBEDMENT DEPTH

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

GENERAL NOTES

1. Signs wider than 4 feet or 20 sq.ft or larger, shall be mounted on multiple posts. Refer to plate A4-4.
2. If signs are mounted on or behind barrier wall, see A4-10 sign plate.
   The Double Arrow sign (W12-1D) shall be mounted at a height of 2'-3" (±) 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.

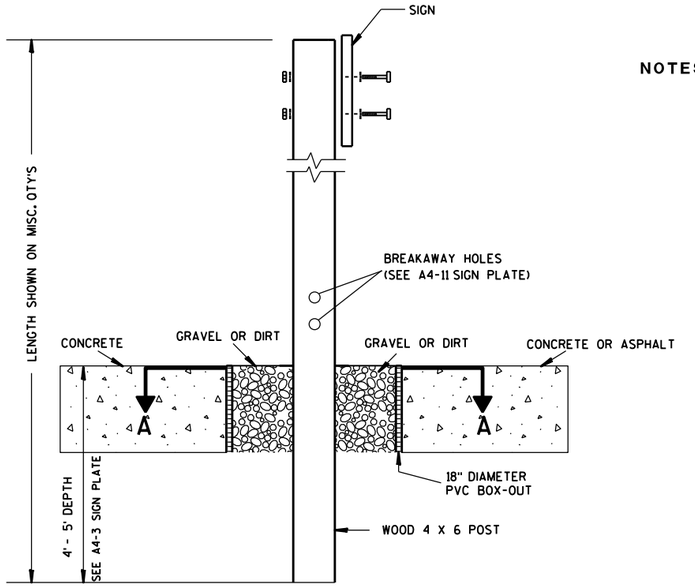
TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/6/23 PLATE NO. A4-3.23

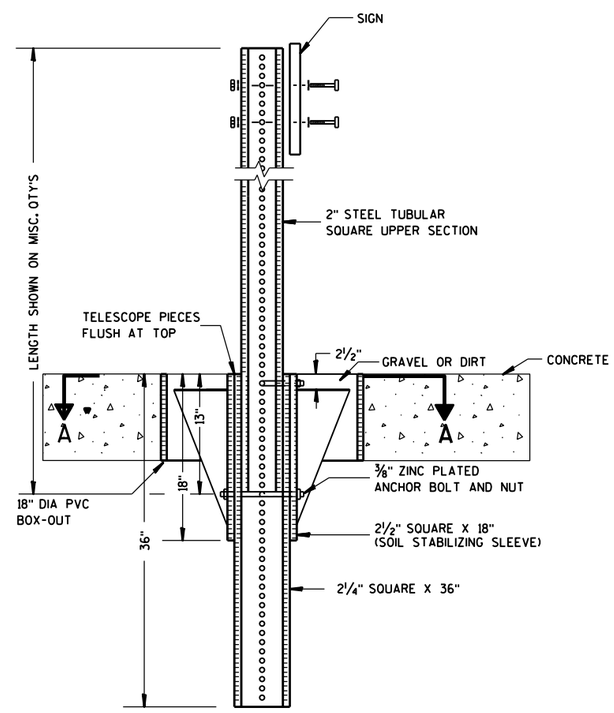
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 204	E



ELEVATION VIEW

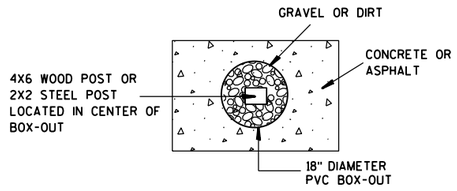
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

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

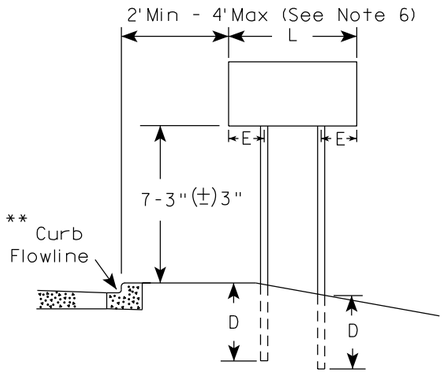
APPROVED Matthew R Rauch
for State Traffic Engineer

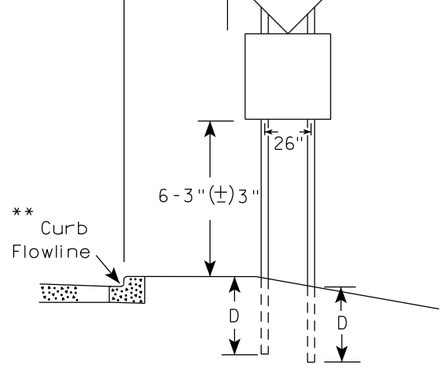
DATE 1/27/14 PLATE NO. A4-3B.1

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

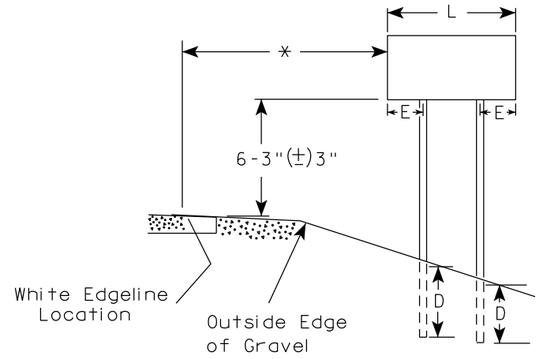
URBAN AREA

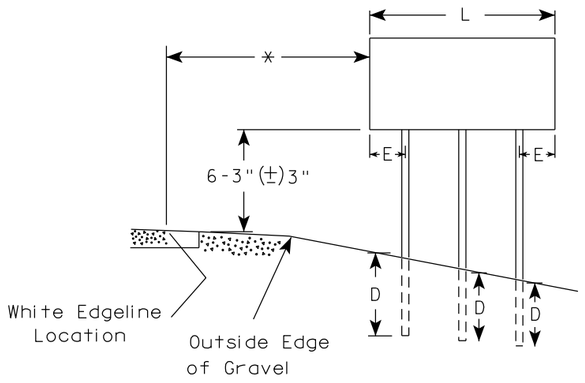


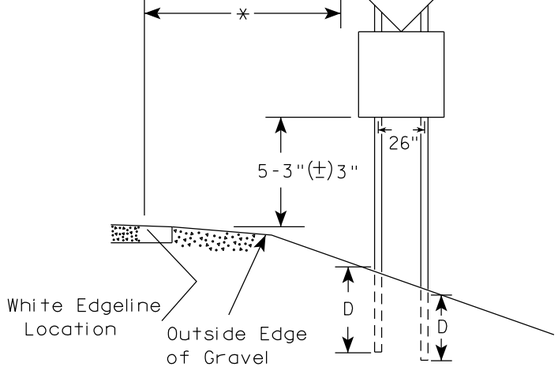


48" DIAMOND WARNING SIGN

RURAL AREA (See Note 3)







48" DIAMOND WARNING SIGN

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

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

GENERAL NOTES

1. For 3 or 4 post installations, individual post spacing shall be greater than 3'-6".
2. See tables below for required number of posts.
3. For expressways and freeways, mounting height is 7'-3" (±) 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.

POST EMBEDMENT DEPTH

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

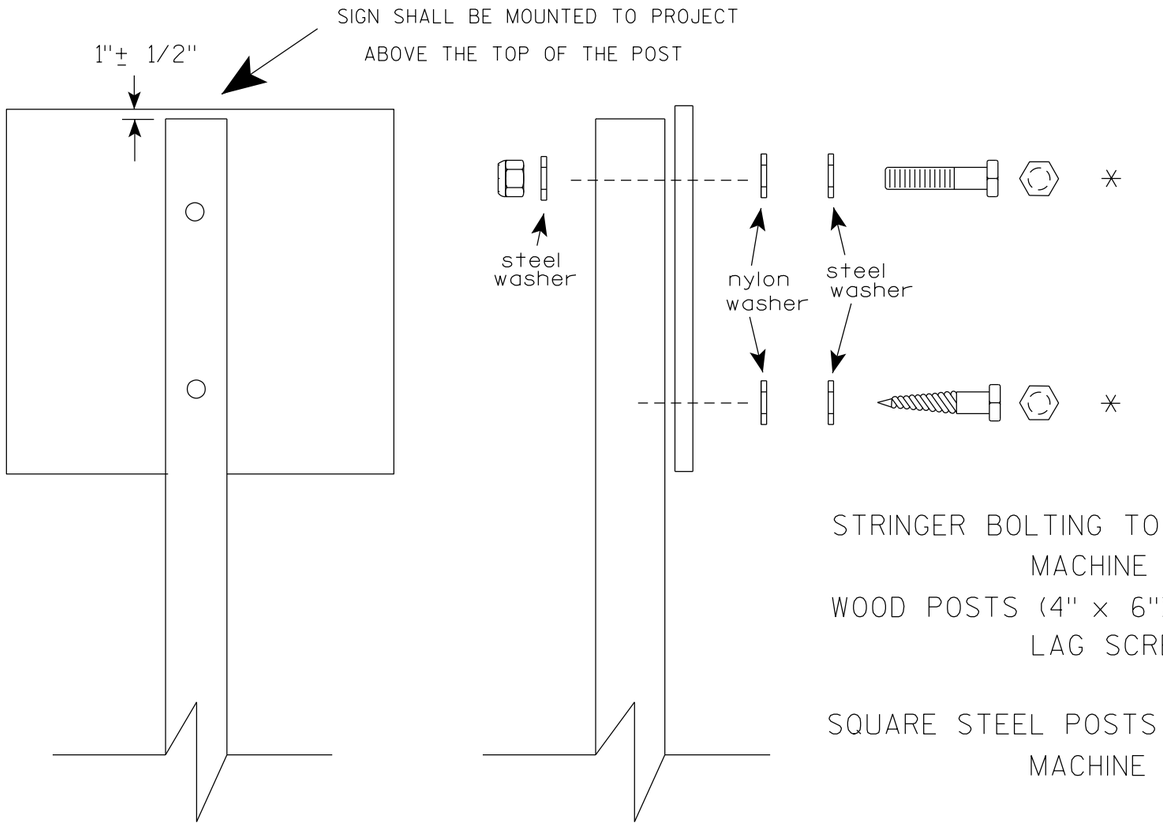
TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

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: 206	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: 207 E

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A48.DGN PLOT DATE : 01-APRIL-2020 PLOT BY : dotc4c

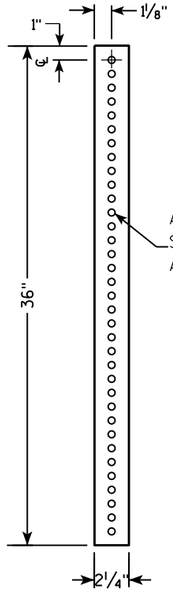
WISDOT/CADDS SHEET 42

7

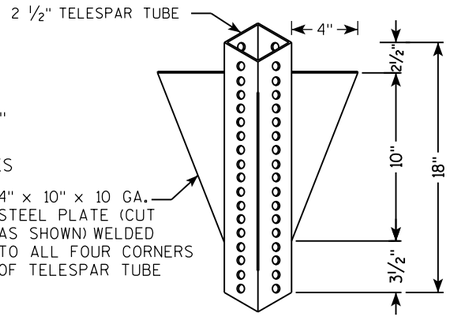
7

TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM

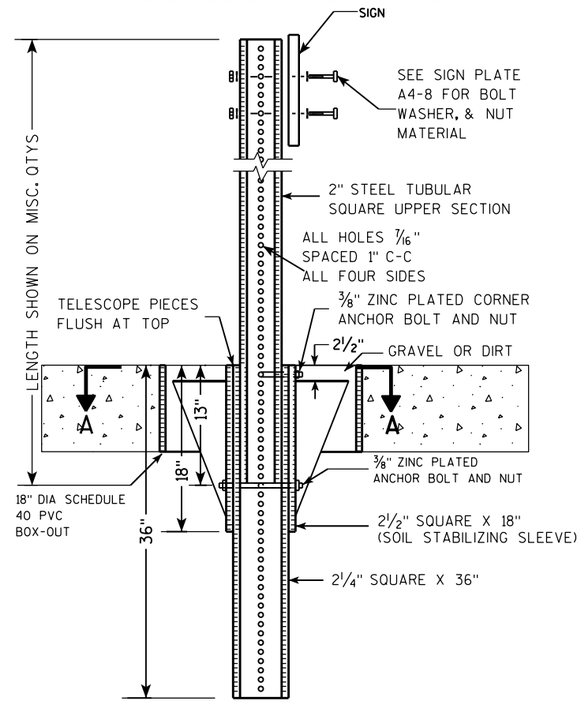
2 1/4 " SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH



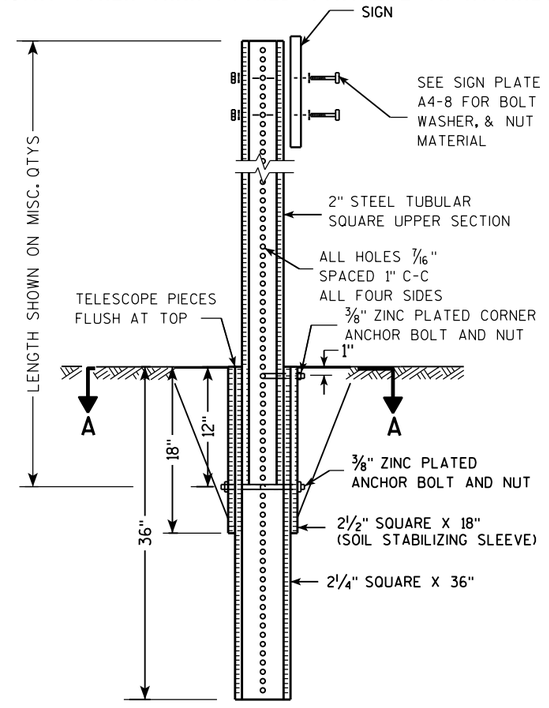
2 1/2 " SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH

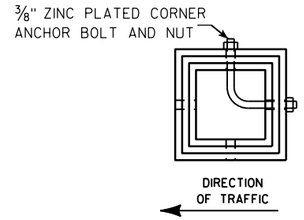


DETAIL OF TUBULAR STEEL SIGN POST
(IN POURED CONCRETE OR ASPHALT)



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).

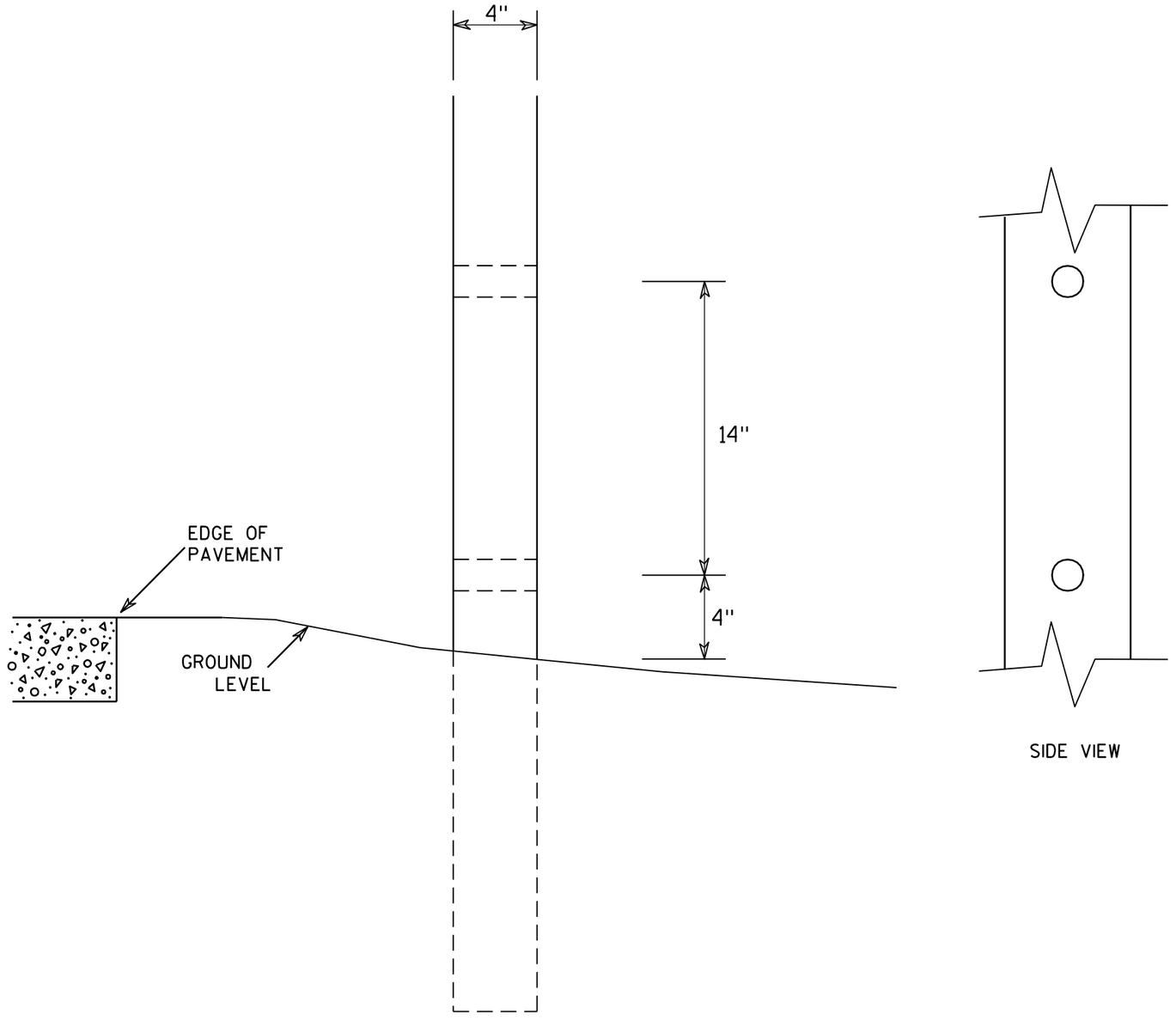
TUBULAR STEEL
SIGN POST
A4-9

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/05/15 PLATE 208 A4-9.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E



SIDE VIEW

GENERAL NOTES

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

4 X 6 WOOD POST MODIFICATIONS

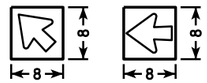
WISCONSIN DEPT OF TRANSPORTATION

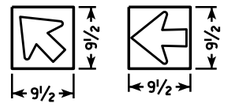
APPROVED Chester J Spang for State Traffic Engineer

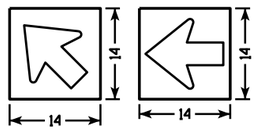
DATE 3/27/97 PLATE NO. A4-11.2

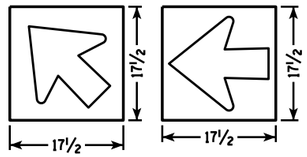
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 209	E

SIGN LAYOUT WITH VARIOUS SIZED MESSAGES







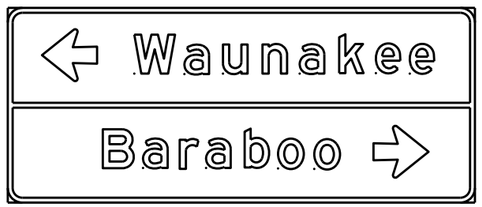


GENERAL NOTES

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

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

BEFORE



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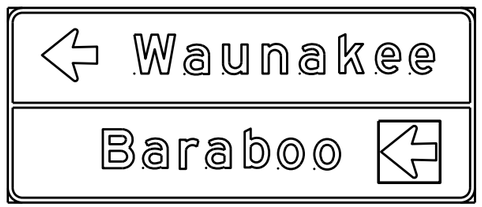
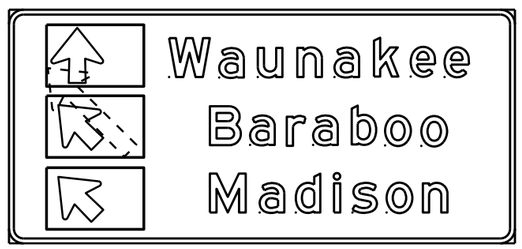




DESTINATION DIRECTIONAL ARROW FOR DETOUR SIGNS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 10/08/14

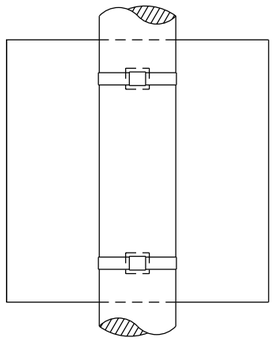
A4-12.2

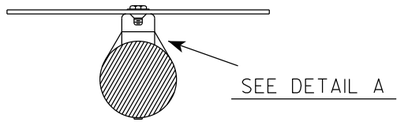
PROJECT NO:

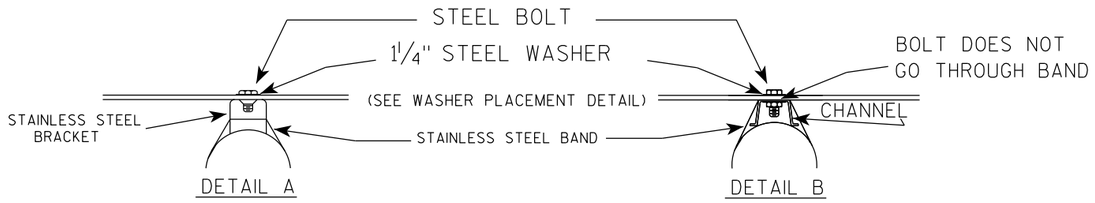
SHEET NO: E

BANDING

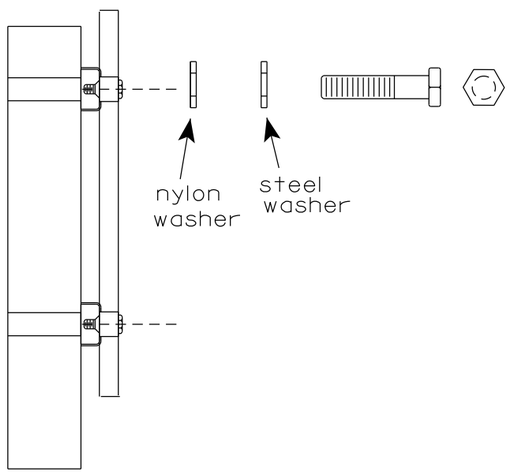
SINGLE SIGN







WASHER PLACEMENT

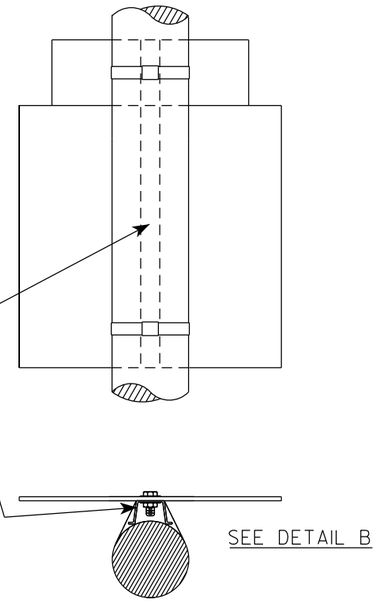


WASHERS (ALL POSTS) -
1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON
FOR ALL TYPE H SIGNS

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



STANDARD SIGN
SIGN BANDING DETAILS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

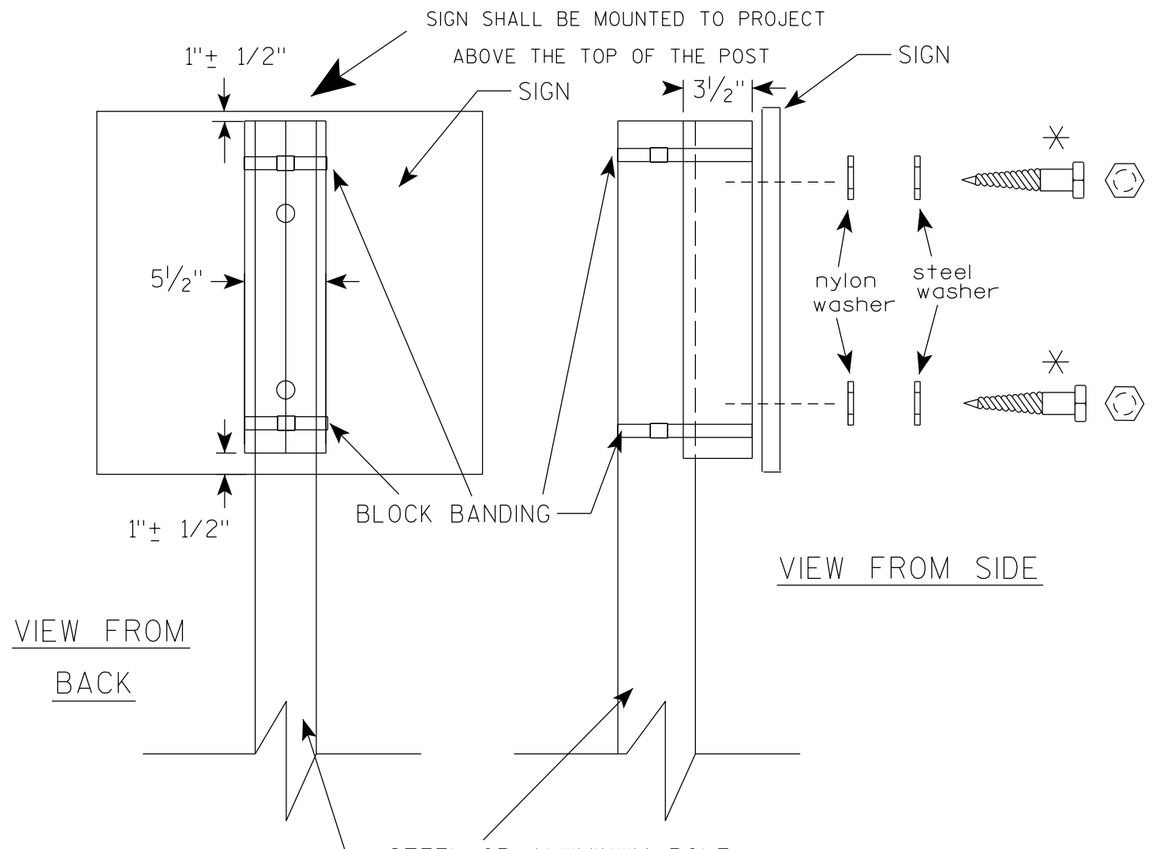
DATE 6/10/19 PLATE NO. A5-9.4

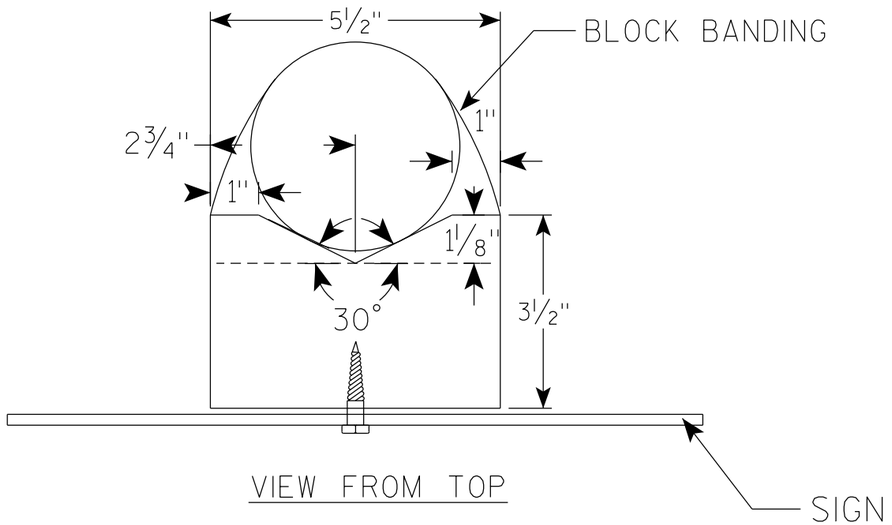
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 211	E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\A59.dgn PLOT DATE : 10-JUN 2019 4:10 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42

7

7





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)

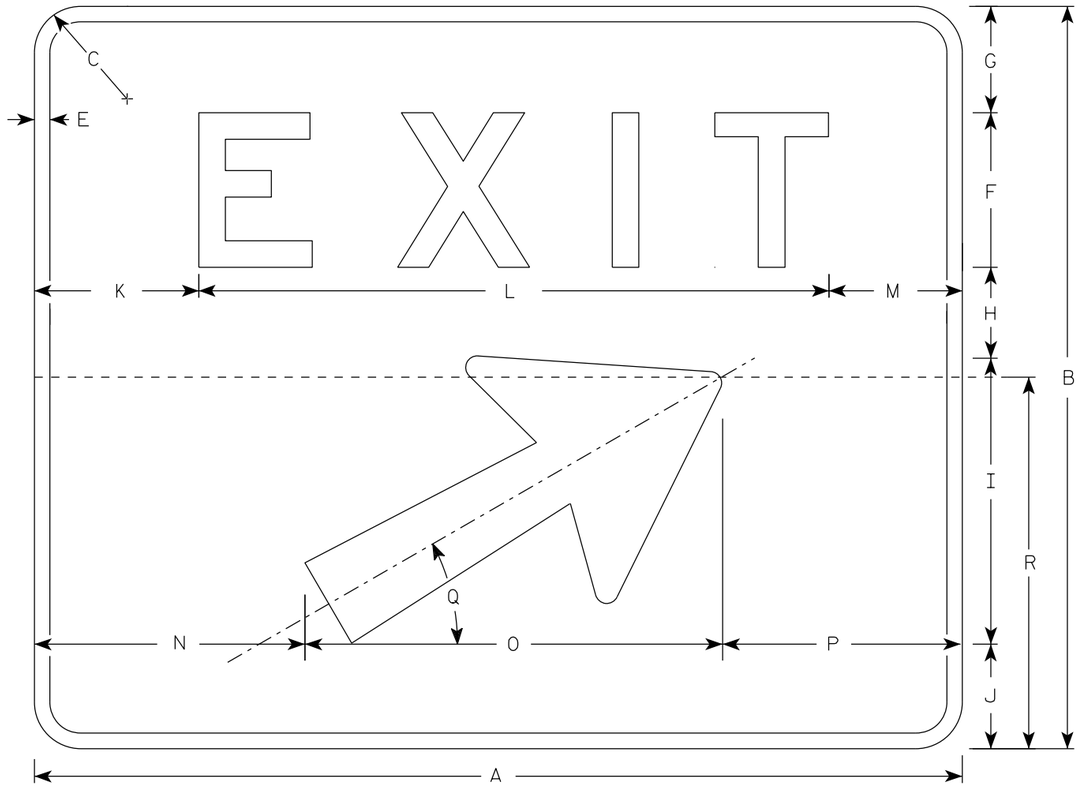
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 4/19/2022 PLATE NO. A5-10.3

PROJECT NO:

SHEET NO: 212 E



E5-1

NOTES

1. Sign is Type II - Type H reflective
2. Color:
   Background - Green
   Message - White
3. Message Series - E
4. Sign shall be split into two seperate pieces as shown on the detail by the dashed line (----------) for sizes 4 & 5.
5. Arrow is Type "A" from sign plate A1-1.
6. As per the Standard Spec's, this sign shall not have a vertical joint.
7. Size 3 E5-1 shall only be used in a Work Zone application with a Temporary Sign Support

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																											
2M																											
3	48	48	3		1	10	6 7/8	5 7/8	18 1/2	6 3/4	8 1/2	31 1/8	8 3/8	11 1/2	27	9 1/2	30°	30									16.0
4	60	48	3		1	10	6 7/8	5 7/8	18 1/2	6 3/4	10 5/8	40 3/4	8 5/8	17 1/2	27	15 1/2	30°	30									20.0
5	72	60	3		1	12	9 3/4	10	18 1/2	9 3/4	13 1/4	48 1/2	10 1/4	23 1/2	27	21 1/2	30°	30									30.0

STANDARD SIGN

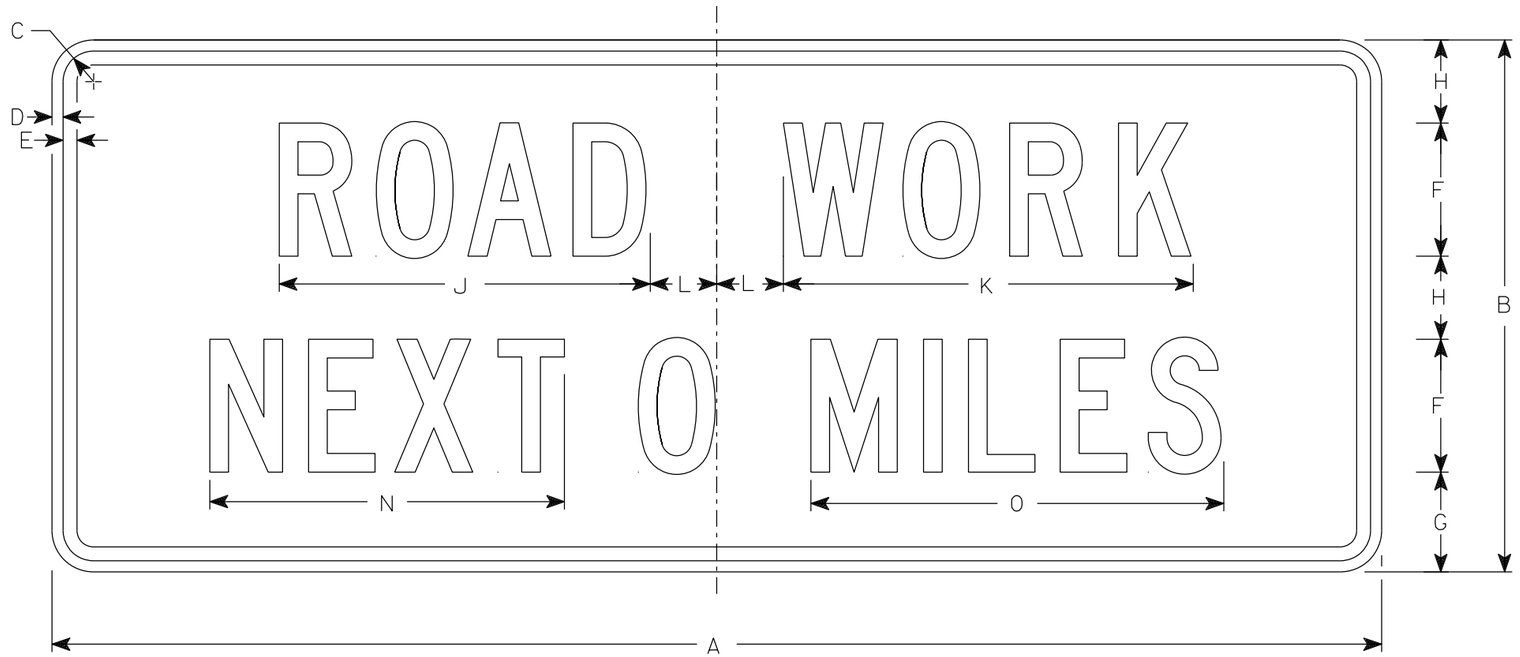
E5-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 1/26/2023 PLATE NO. E5-1.12

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 213 | E



G20-1

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. Round distance to nearest whole Mile and 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																											
2S	60	24	1 7/8	1/2	5/8	6	4 1/2	3 3/4		16 3/4	18 1/2	3		16	18 5/8												10.0
2M	60	24	1 7/8	1/2	5/8	6	4 1/2	3 3/4		16 3/4	18 1/2	3		16	18 5/8												10.0
3	60	24	1 7/8	1/2	5/8	6	4 1/2	3 3/4		16 3/4	18 1/2	3		16	18 5/8												10.0
4	60	24	1 7/8	1/2	5/8	6	4 1/2	3 3/4		16 3/4	18 1/2	3		16	18 5/8												10.0
5	60	24	1 7/8	1/2	5/8	6	4 1/2	3 3/4		16 3/4	18 1/2	3		16	18 5/8												10.0

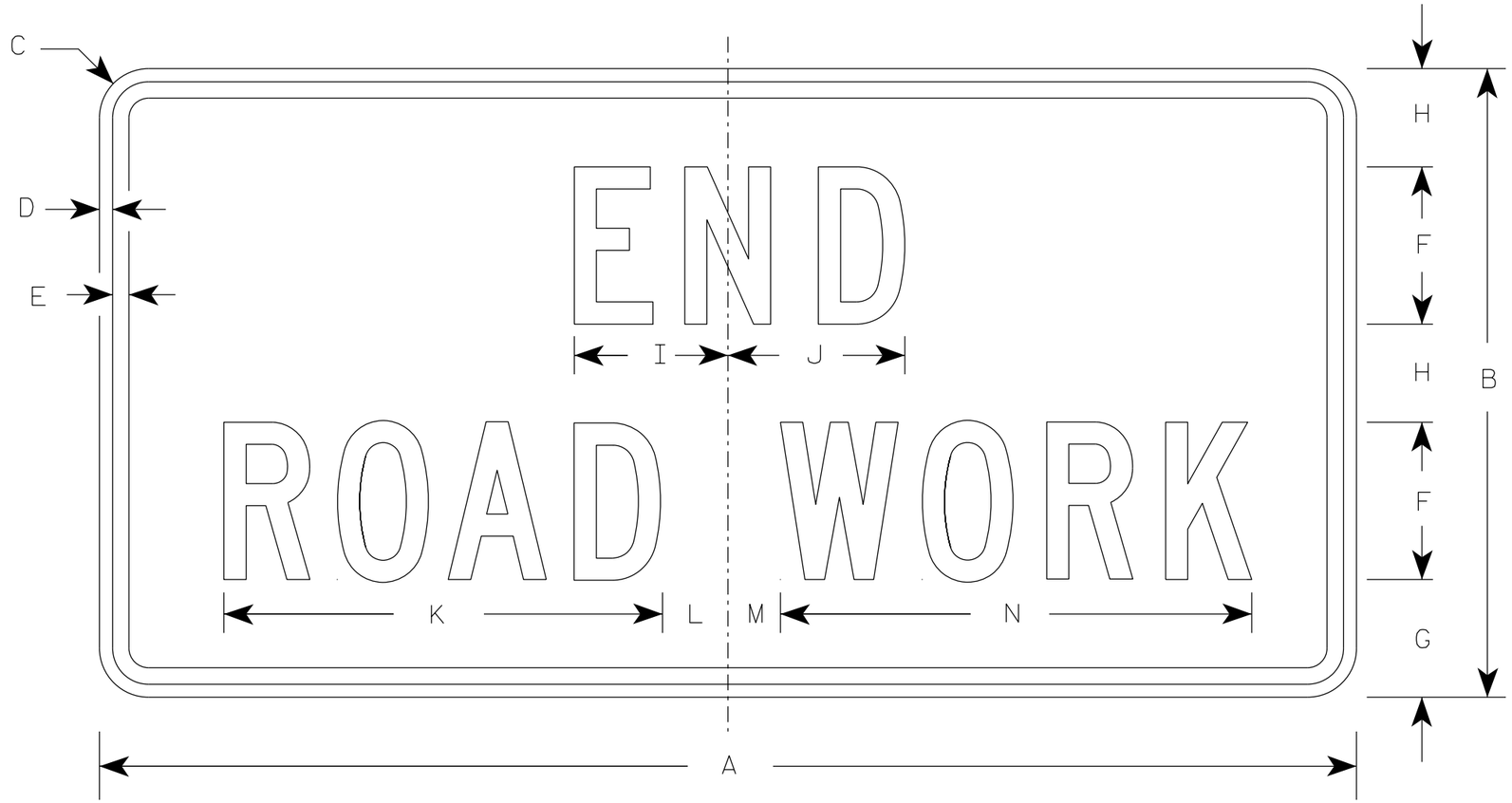
STANDARD SIGN
G20-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 1/26/2023 PLATE NO. G20-1.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 214	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

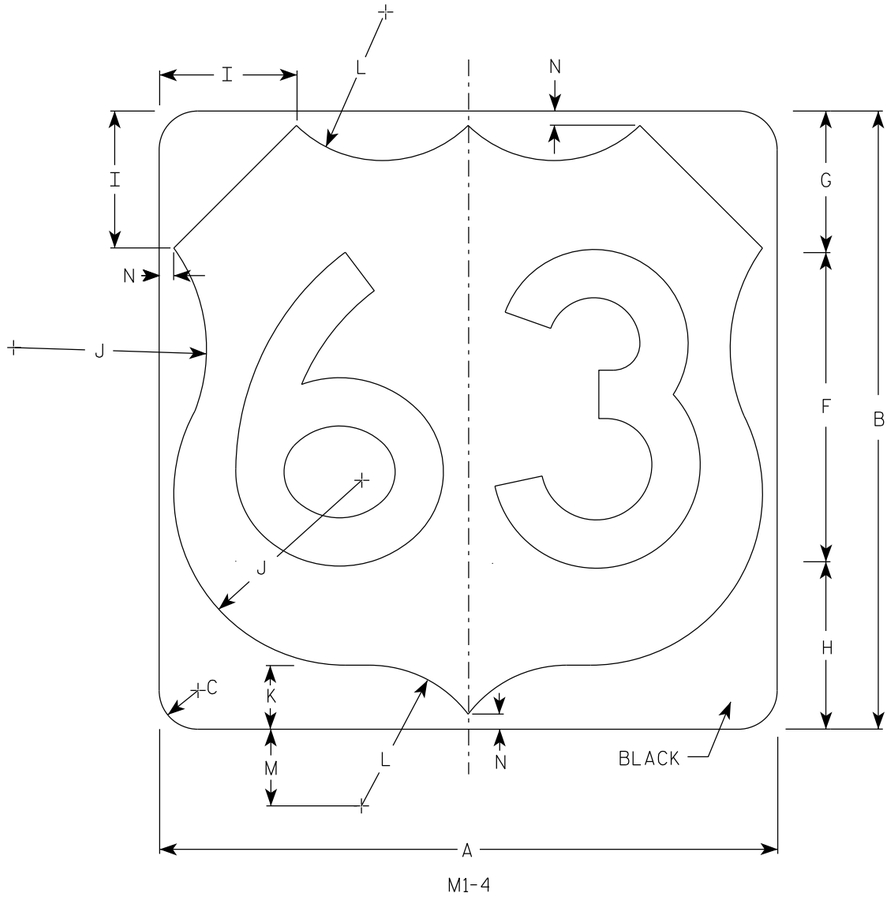
DATE 1/26/2023 PLATE NO. G20-2A.10

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

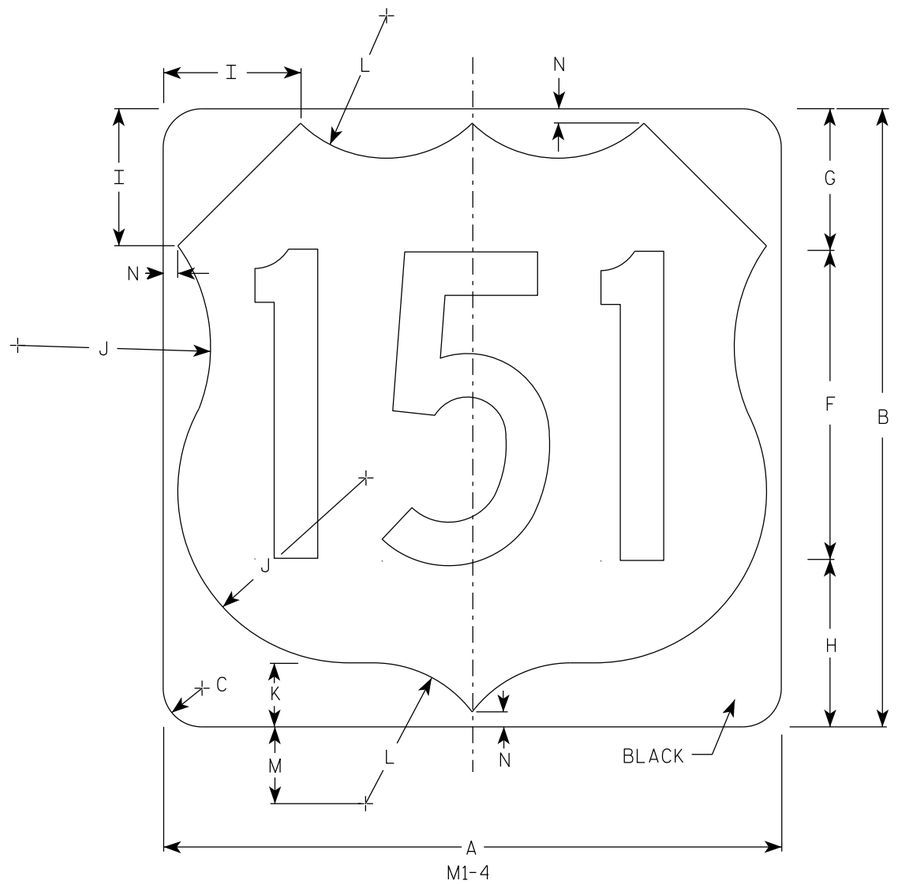
FILE NAME : C:\CAEfiles\Projects\tr_stdplate\G202A.dgn PLOT DATE : 26-JAN 2023 8:27 PLOT BY : dotc4c PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42

NOTES

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



M1-4



M1-4

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24	24	1 ½			12	5 ½	6 ½	5	7 ½	2 ½	5 ½	3	½													4.0
2M	24	24	1 ½			12	5 ½	6 ½	5	7 ½	2 ½	5 ½	3	½													4.0
3	36	36	2 ¼			18	8 ¼	9 ¼	7 ¼	11 ¼	3 ¾	8 ¼	4 ½	¾													9.0
4	36	36	2 ¼			18	8 ¼	9 ¼	7 ¼	11 ¼	3 ¾	8 ¼	4 ½	¾													9.0
5	36	36	2 ¼			18	8 ¼	9 ¼	7 ¼	11 ¼	3 ¾	8 ¼	4 ½	¾													9.0

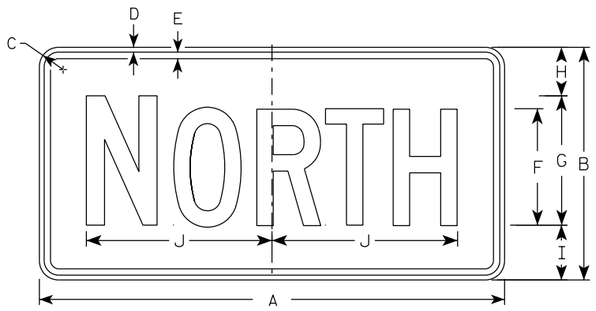
USH MARKER
M1-4 FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

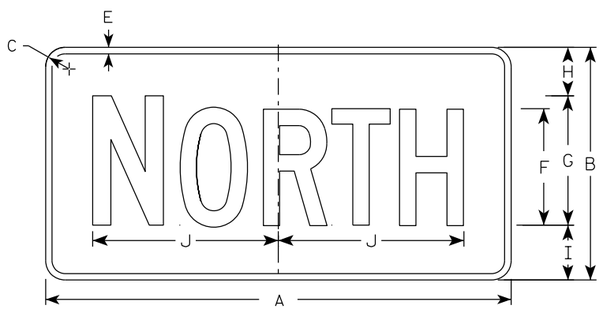
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/20/22 PLATE NO. M1-4.11

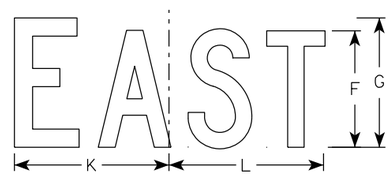
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 216 | E



M3-1
MM3-1
MP3-1

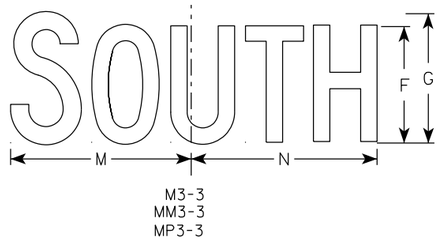


MB3-1
MK3-1
MN3-1

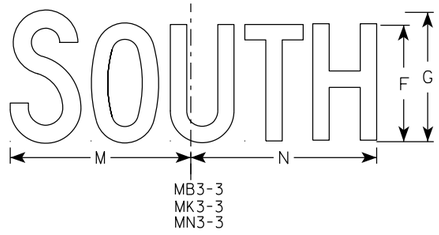


M3-2
MM3-2
MP3-2

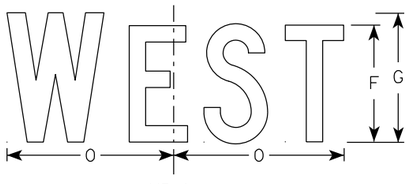
MB3-2
MK3-2
MN3-2



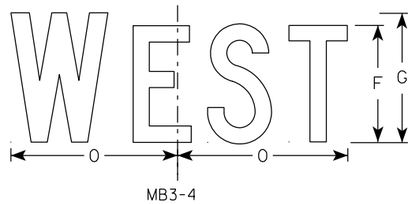
M3-3
MM3-3
MP3-3



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

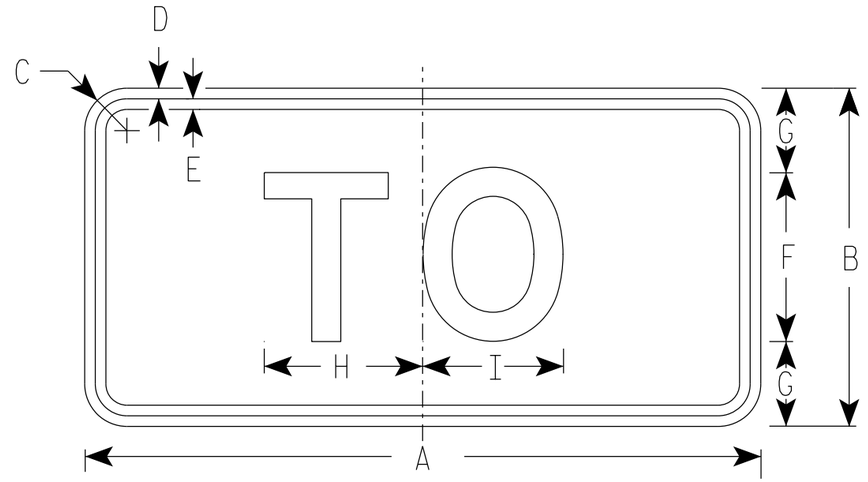
STANDARD SIGNS
M3-1 THRU M3-4
SERIES

WISCONSIN DEPT OF TRANSPORTATION

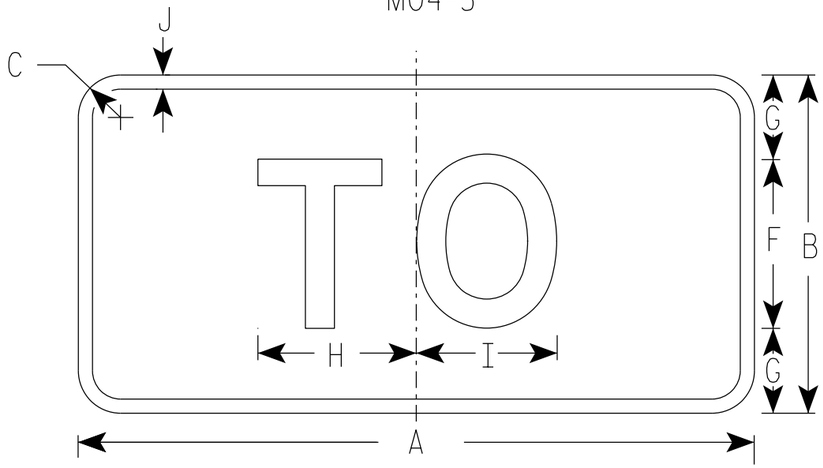
APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 2/8/2023 PLATE NO. M3-1.15

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 217 | E



M4-5
MM4-5
MP4-5
M04-5



MB4-5
MK4-5
MN4-5

NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - See note 5
   Message - See note 5
3. Message Series - E
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. M4-5 Background - White
   Message - Black
   MB4-5 Background - Blue
   Message - White
   MK4-5 Background - Green
   Message - White
   MM4-5 Background - White
   Message - Green
   MN4-5 Background - Brown
   Message - White
   MP4-5 Background - White
   Message - Blue
   M04-5 Background - Orange Type F Reflective
   Message - Black

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24	12	1 ½	⅜	⅜	6	3	5 ⅜	5 ¼	½																	2.00
2M	24	12	1 ½	⅜	⅜	6	3	5 ⅜	5 ¼	½																	2.00
3	36	18	1 ½	⅜	½	9	4 ½	8 ¼	8 ⅜	½																	4.5
4	36	18	1 ½	⅜	½	9	4 ½	8 ¼	8 ⅜	½																	4.5
5	36	18	1 ½	⅜	½	9	4 ½	8 ¼	8 ⅜	½																	4.5

STANDARD SIGN
M4-5

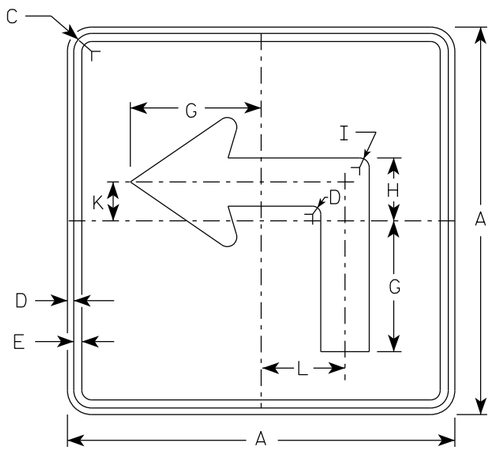
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

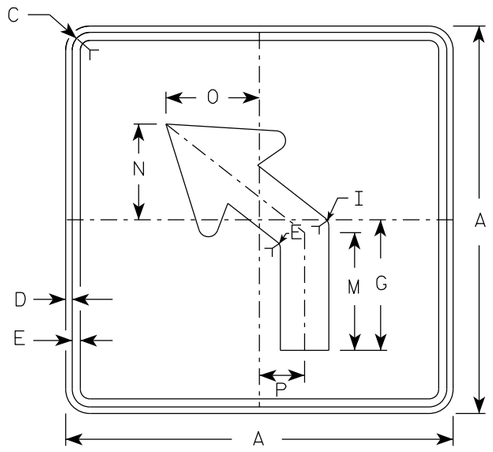
DATE 2/8/2023 PLATE NO. M4-5.11

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 218 E

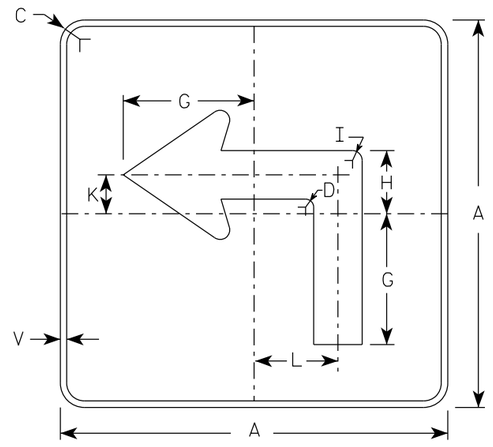
7



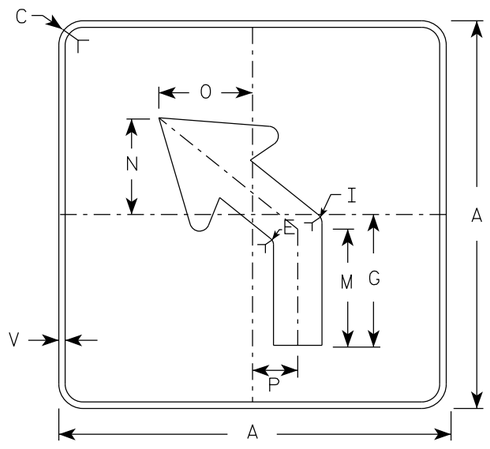
M5-1L
MM5-1L
MO5-1L
MP5-1L



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



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

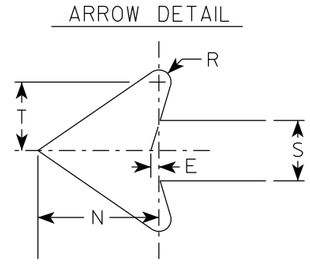


MB5-2L
MK5-2L
MN5-2L
MR5-2L

NOTES

1. Signs are Type II - Type H reflective except as shown
2. Color:
   Background - See note 4
   Message - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. M5-1 and M5-2 Background - White
   Message - Black
   MB5-1 and MB5-2 Background - Blue
   Message - White
   MK5-1 and MK5-2 Background - Green
   Message - White
   MM5-1 and MM5-2 Background - White
   Message - Green
   MN5-1 and MN5-2 Background - Brown
   Message - White
   MO5-1 and MO5-2 Background - Orange - Type F Reflective
   Message - Black
   MP5-1 and MP5-2 Background - White
   Message - Blue
   MR5-1 and MR5-2 Background - Brown
   Message - Yellow
5. M5-1R same as M5-1L except arrow points right.
6. M5-2R same as M5-2L except arrow tilts right.

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	21		1 1/2	3/8	3/8		7	3 3/8	5/8		2 1/8	4 1/2	6 3/8	5 1/4	5	2 1/2		1/2	2 5/8	3		1/2					3.06
2M	21		1 1/2	3/8	3/8		7	3 3/8	5/8		2 1/8	4 1/2	6 3/8	5 1/4	5	2 1/2		1/2	2 5/8	3		1/2					3.06
3	30		1 7/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4		1/2					6.25
4	30		1 7/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4		1/2					6.25
5	30		1 7/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4		1/2					6.25

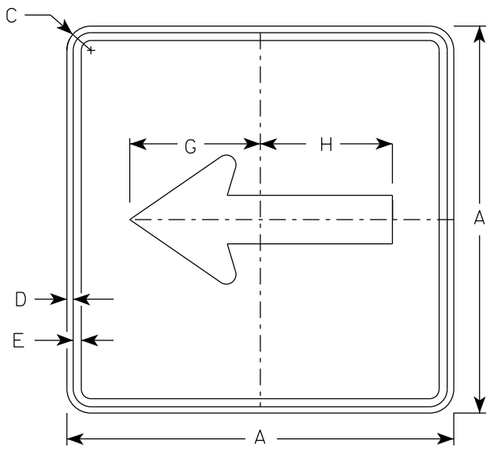
STANDARD SIGN
M5-1 & M5-2

WISCONSIN DEPT OF TRANSPORTATION

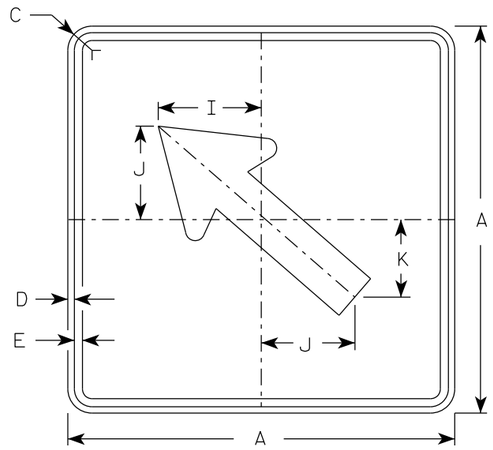
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/13/2023 PLATE NO. M5-1.15

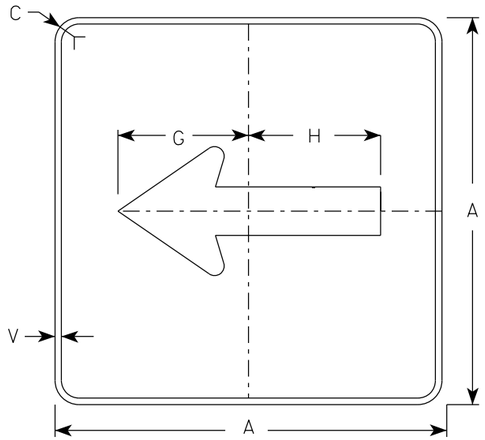
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 219 | E



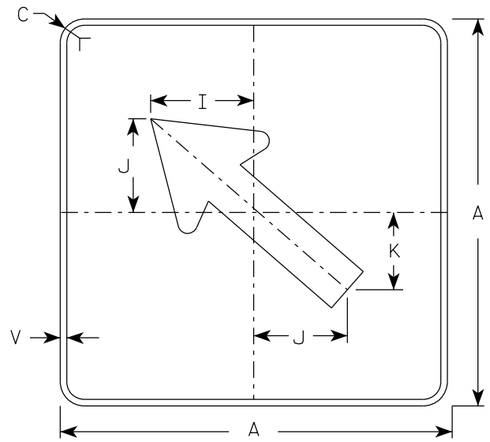
M6-1
MM6-1
MO6-1
MP6-1



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



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

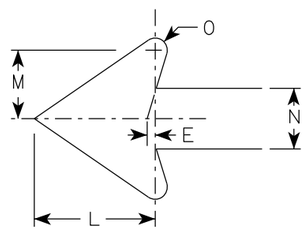


MB6-2
MK6-2
MN6-2
MR6-2

NOTES

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

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	21		1 1/2	3/8	3/8		7 1/2	7 1/8	5 5/8	5	4 1/4	5 1/4	3	2 5/8	1/2							1/2					3.06
2M	21		1 1/2	3/8	3/8		7 1/2	7 1/8	5 5/8	5	4 1/4	5 1/4	3	2 5/8	1/2							1/2					3.06
3	30		1 7/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4							1/2					6.25
4	30		1 7/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4							1/2					6.25
5	30		1 7/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4							1/2					6.25

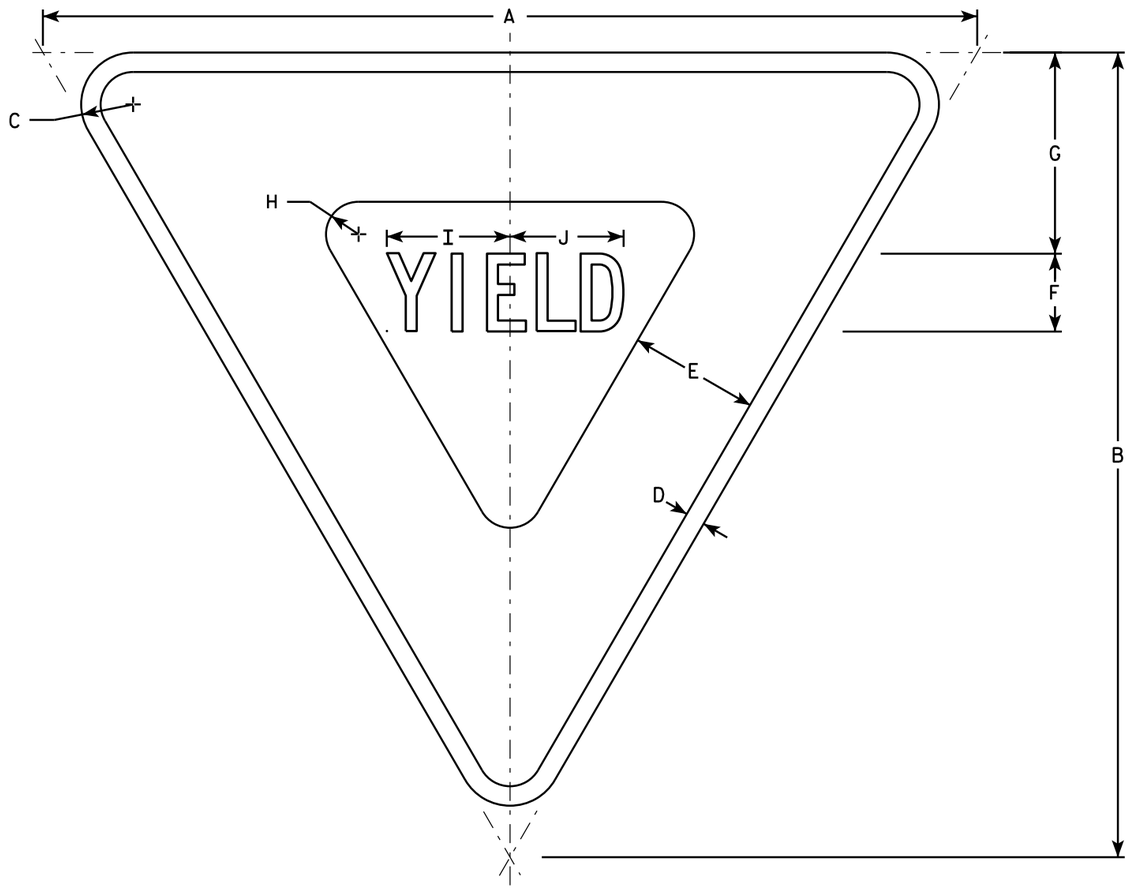
STANDARD SIGN M6-1 & M6-2 SERIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 2/13/2023 PLATE NO. M6-1.16

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 220 | E



R1-2

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - See note 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. 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	1 1/2	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

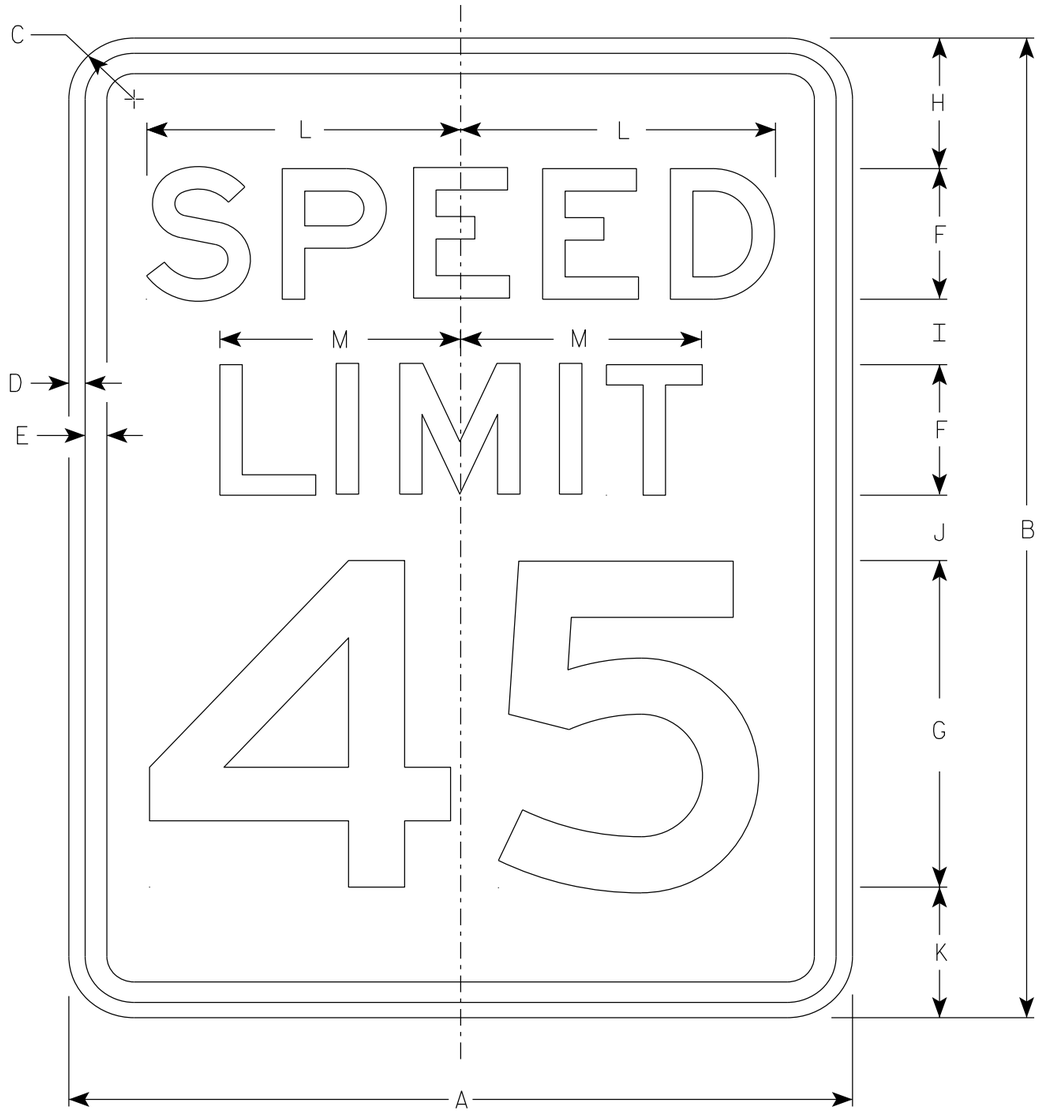
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 10/13/14 PLATE R1-2.12

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

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\R12.DGN PLOT DATE : 13-OCT-2014 15:12 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 5.837526:1.000000
WISDOT/CADDS SHEET 42



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

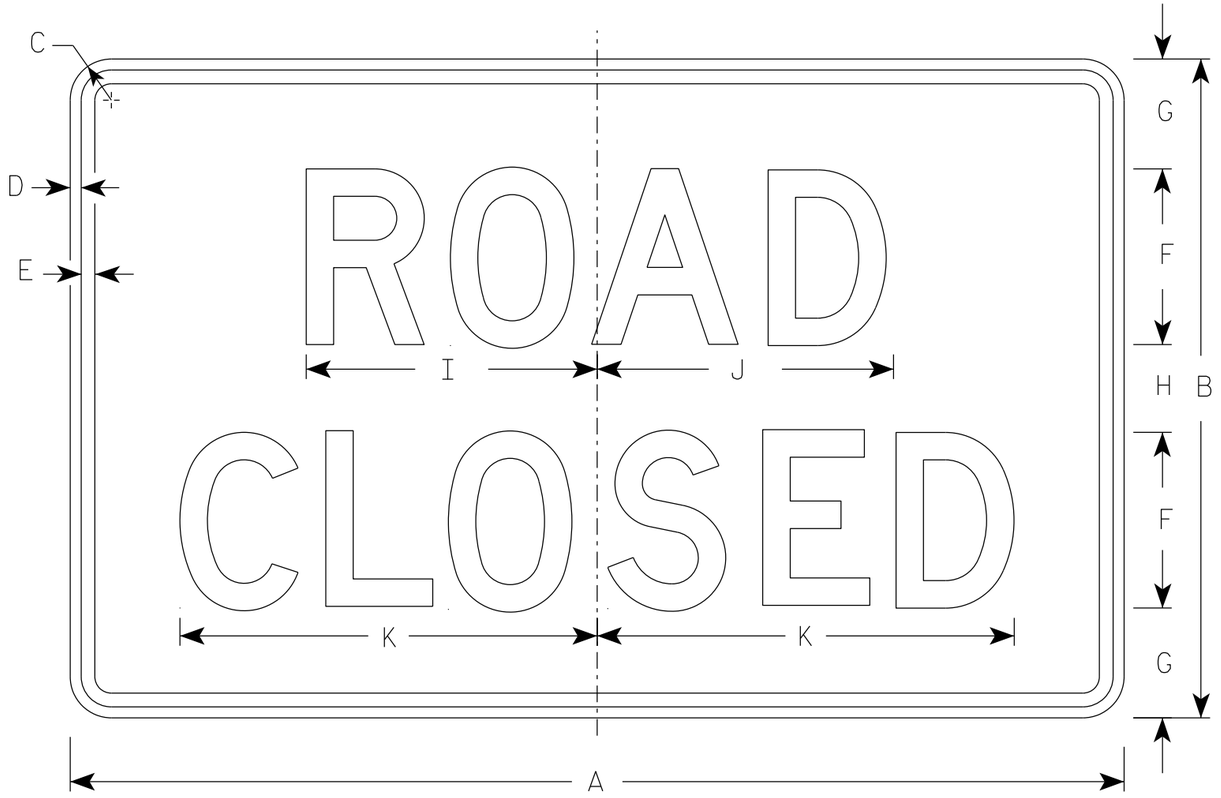
STANDARD SIGN
R2-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/1/23 PLATE NO. R2-1.14

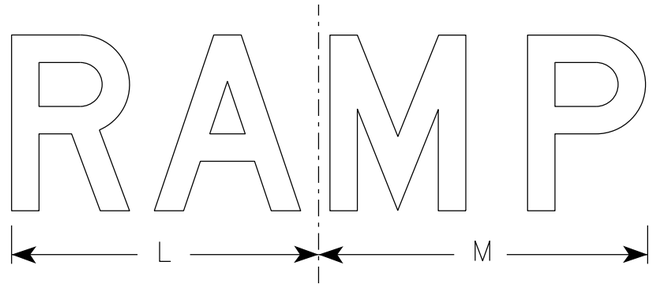
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 222 | E



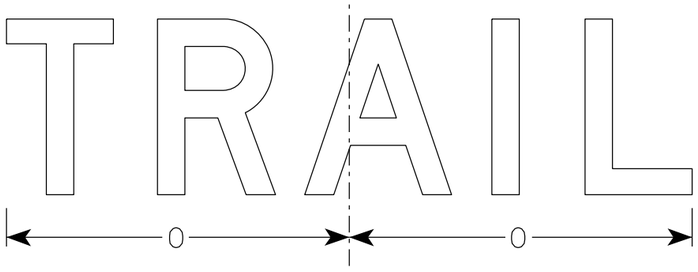
R11-2

NOTES

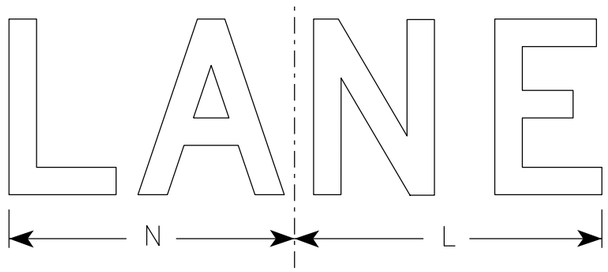
1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - Black
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Modify the 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

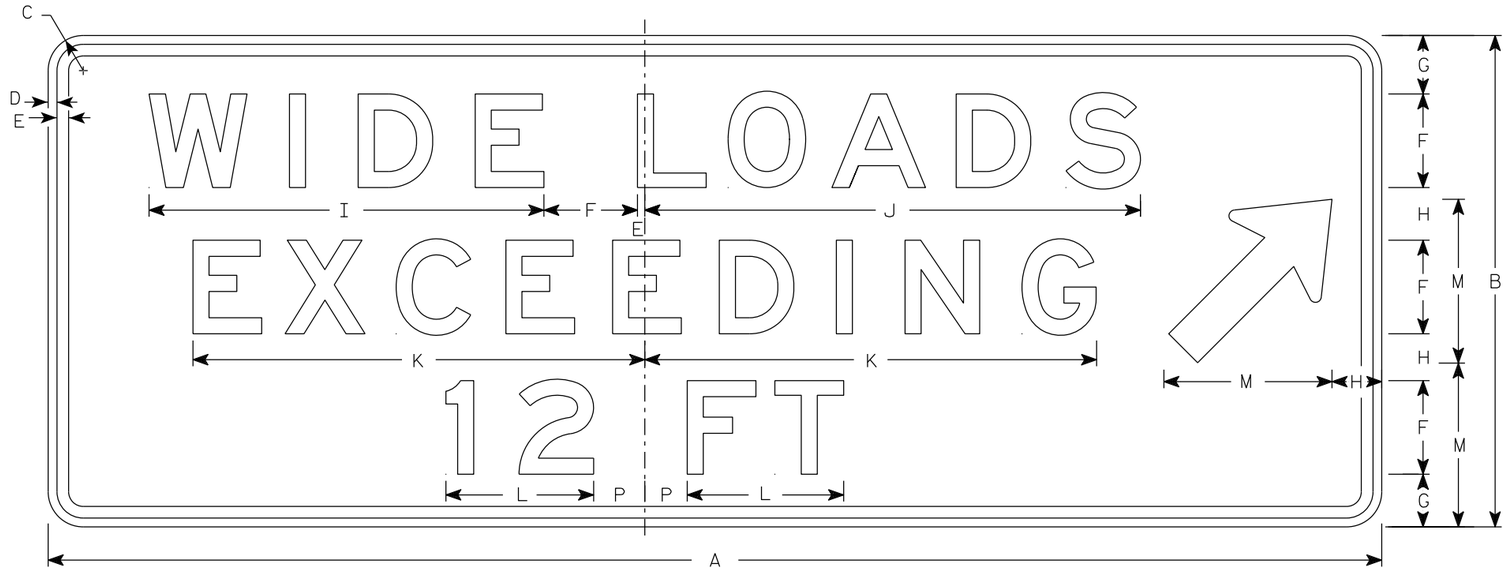
DATE 2/5/24 PLATE NO. R11-2.12

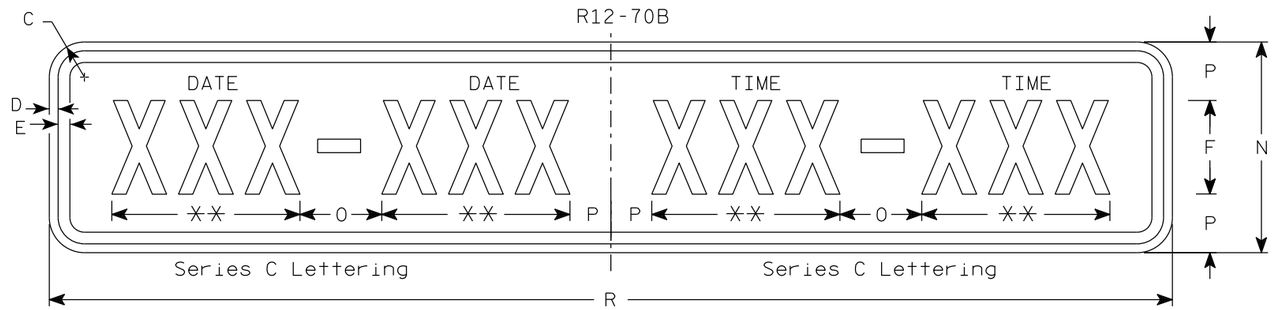
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 223	E

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

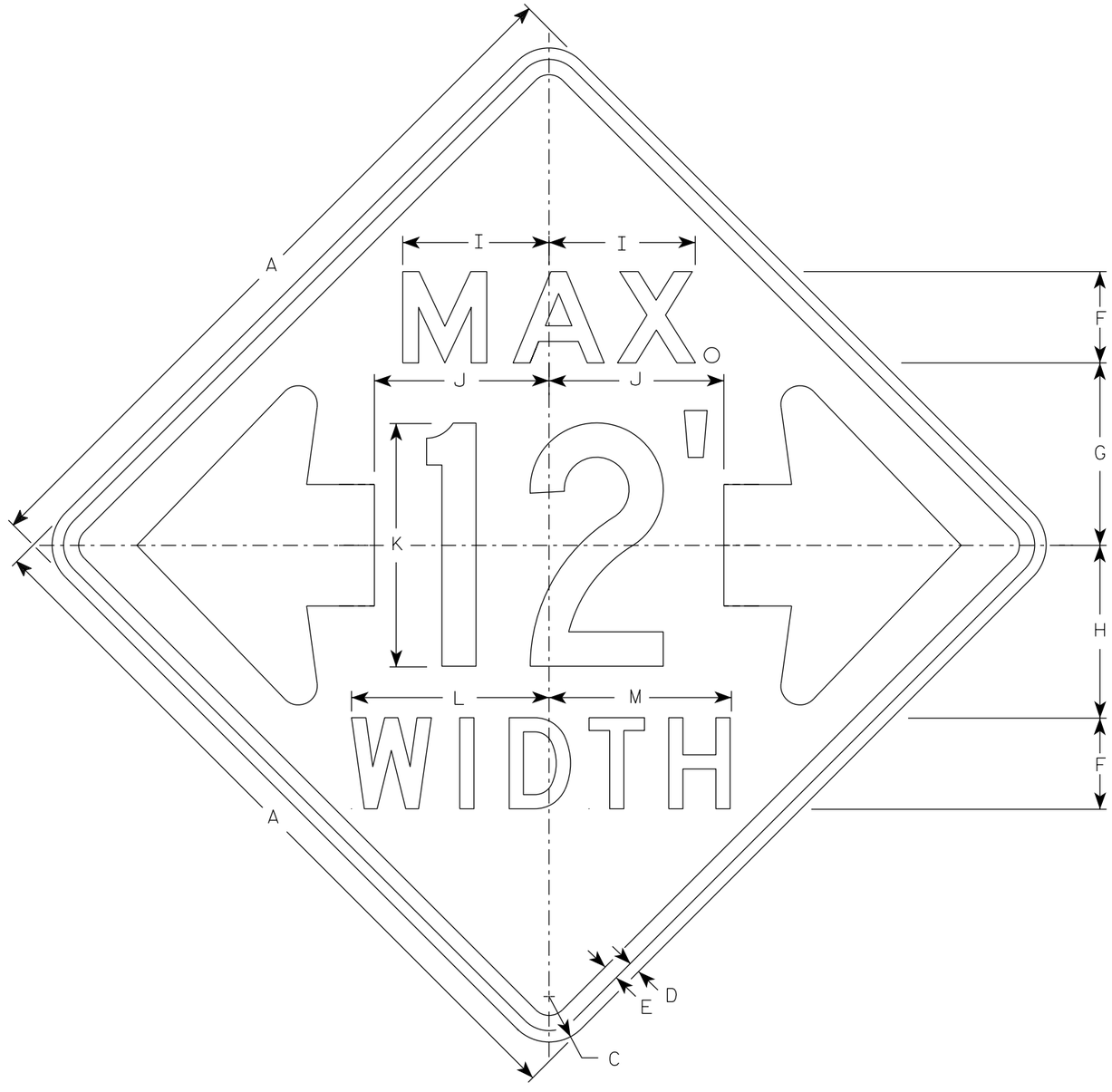
TYPICAL SIGN
R12-70B

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/9/24 PLATE NO. R12-70B.4

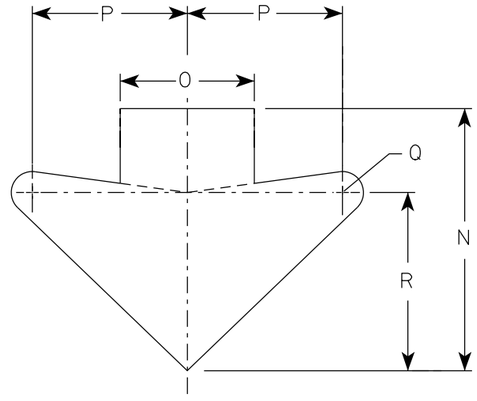
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 224	E



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

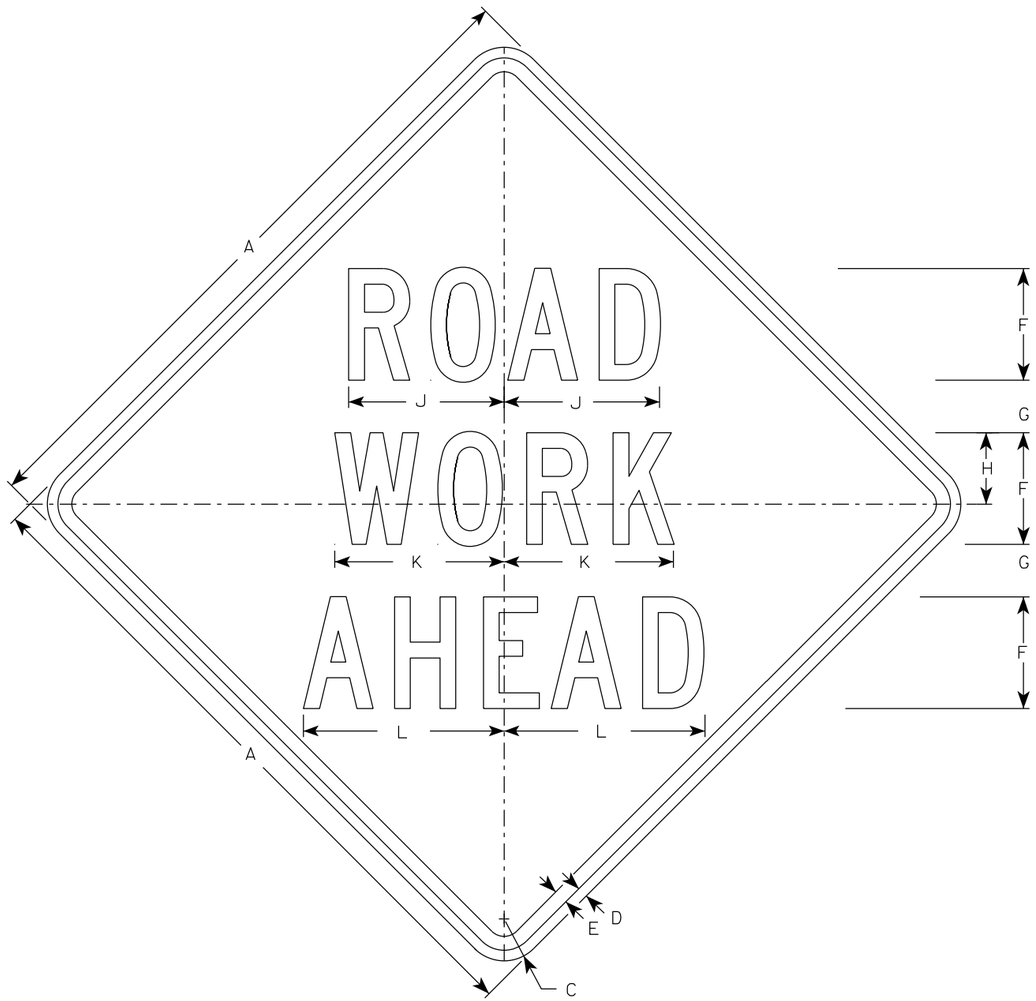
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/10/2024 PLATE NO. W12-52.8

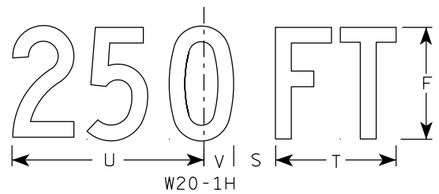
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 225 | E

NOTES

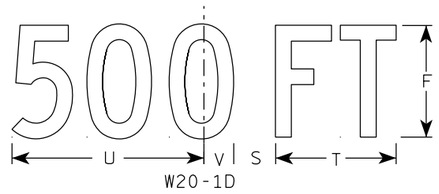
1. Sign is Type II - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.



W20-1A

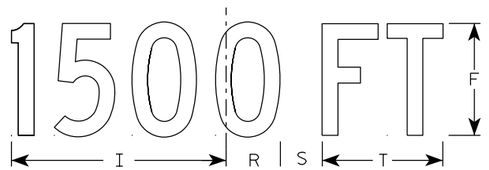


W20-1H

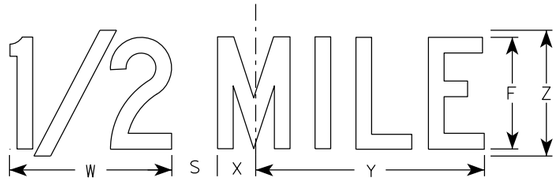


W20-1D

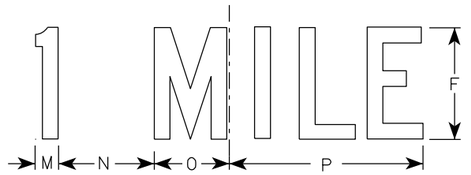
W20-1C



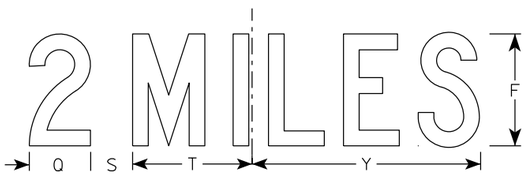
W20-1B



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

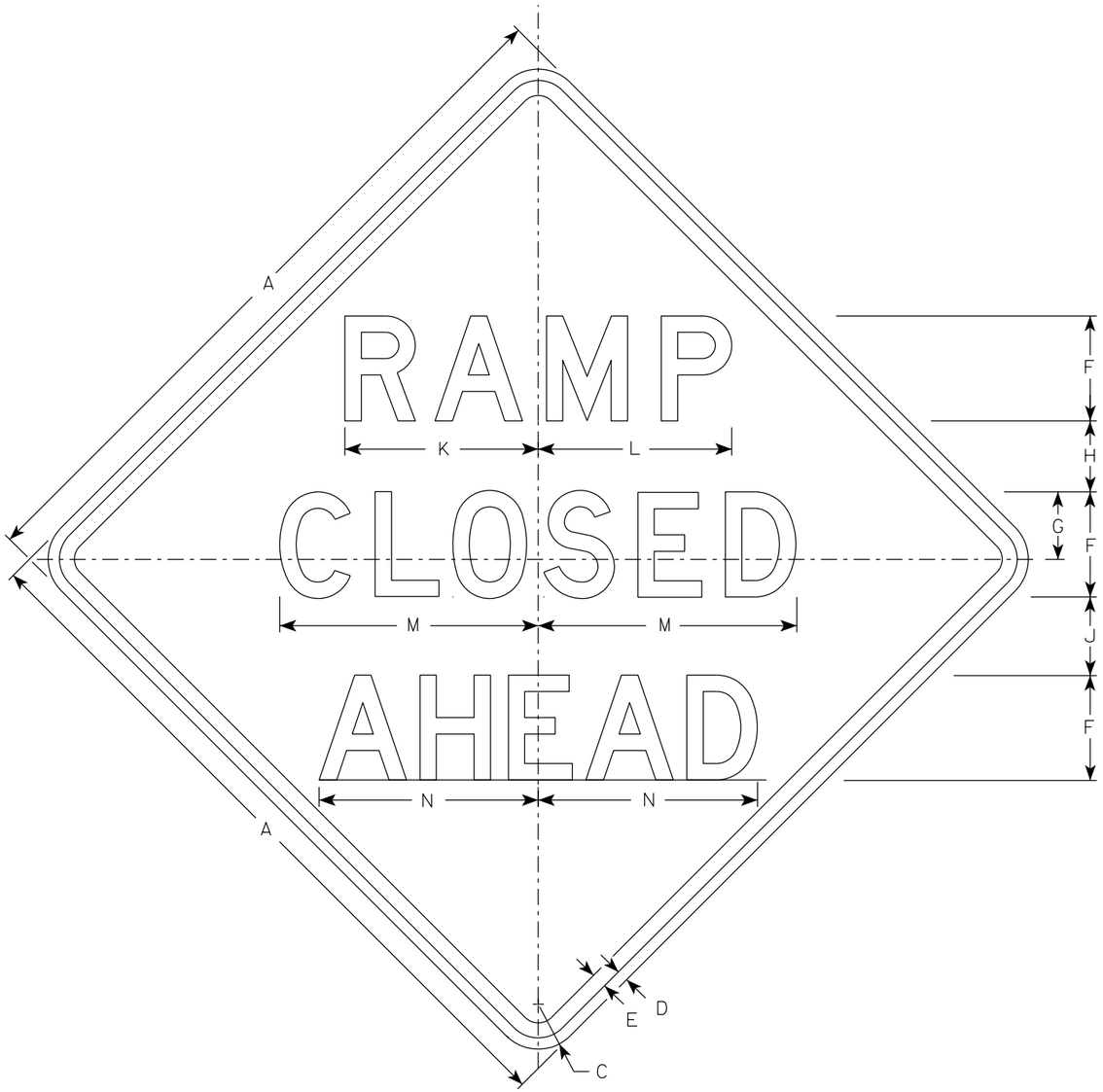
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

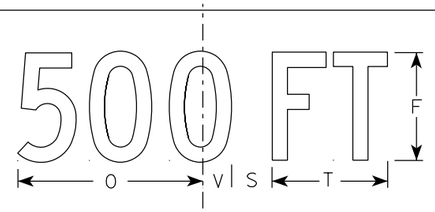
DATE 1/10/2024 PLATE NO. W20-1.12

PROJECT NO:

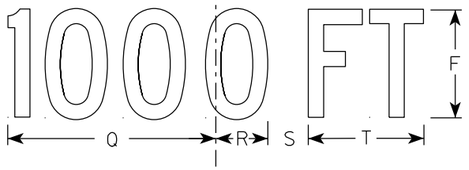
SHEET NO: E



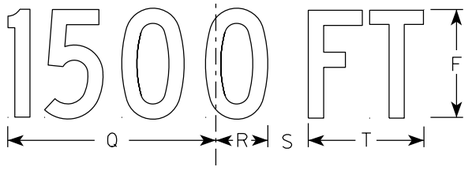
W20-53A



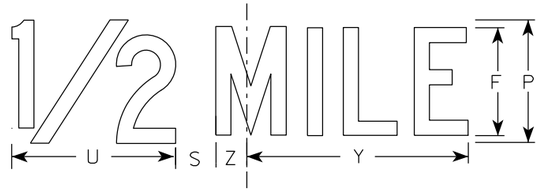
W20-53D



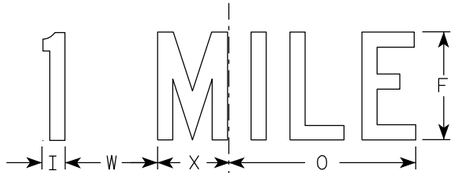
W20-53C



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

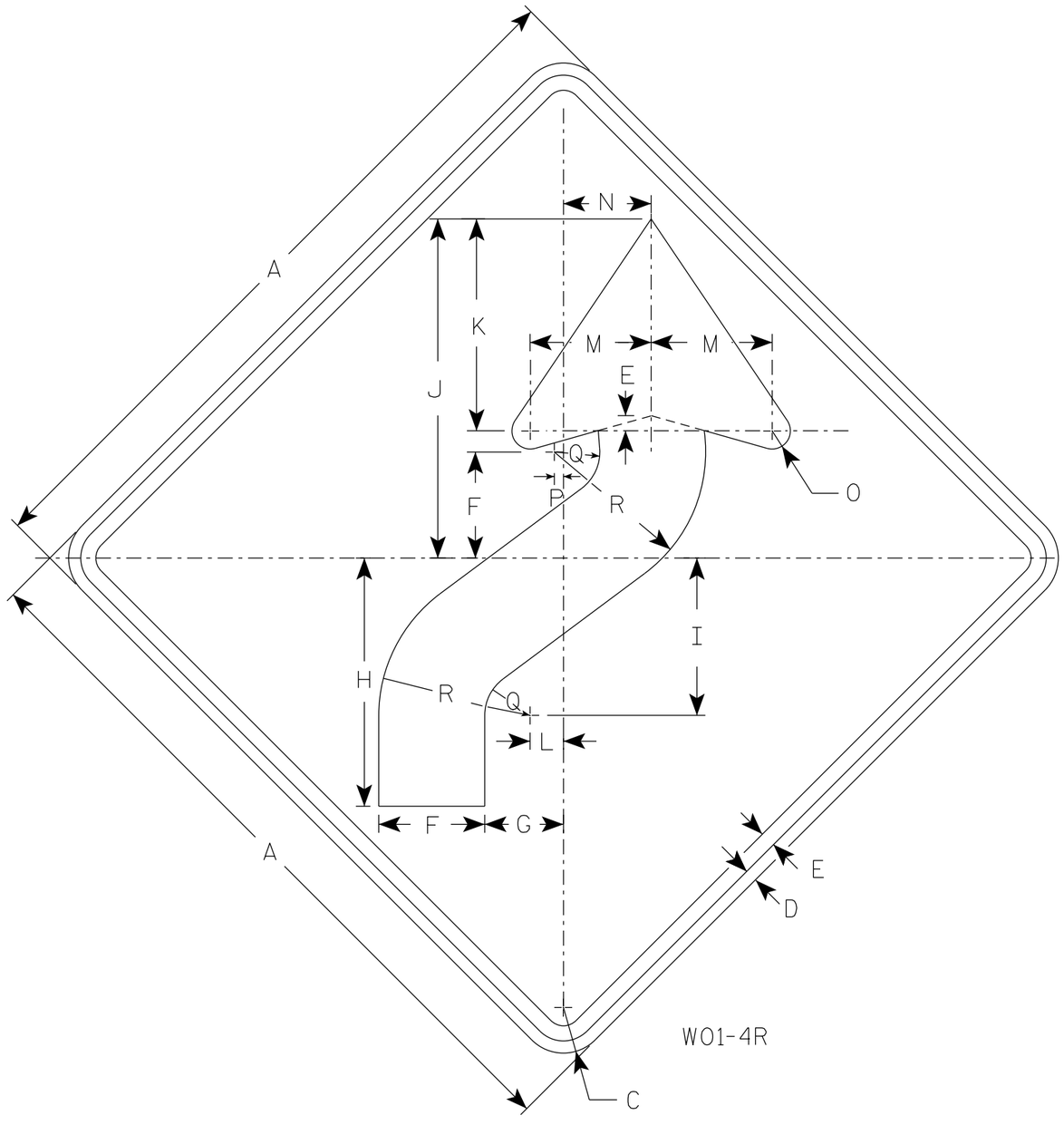
STANDARD SIGN
W20-53A,B,C,D,F,G

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



W01-4R

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. W01-4L is the same as W01-4R 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	5 1/4	4	12 3/8	7 7/8	16 7/8	10 1/2	1 5/8	6	4 1/2	1	1/2	2 1/4	7 1/2									9.0
2S	48		3	3/4	1	7	5 1/4	16 1/2	10 1/2	22 1/2	14	2 1/4	8	6	1 1/4	5/8	3	10									16.0
2M	48		3	3/4	1	7	5 1/4	16 1/2	10 1/2	22 1/2	14	2 1/4	8	6	1 1/4	5/8	3	10									16.0
3	48		3	3/4	1	7	5 1/4	16 1/2	10 1/2	22 1/2	14	2 1/4	8	6	1 1/4	5/8	3	10									16.0
4	48		3	3/4	1	7	5 1/4	16 1/2	10 1/2	22 1/2	14	2 1/4	8	6	1 1/4	5/8	3	10									16.0
5	48		3	3/4	1	7	5 1/4	16 1/2	10 1/2	22 1/2	14	2 1/4	8	6	1 1/4	5/8	3	10									16.0

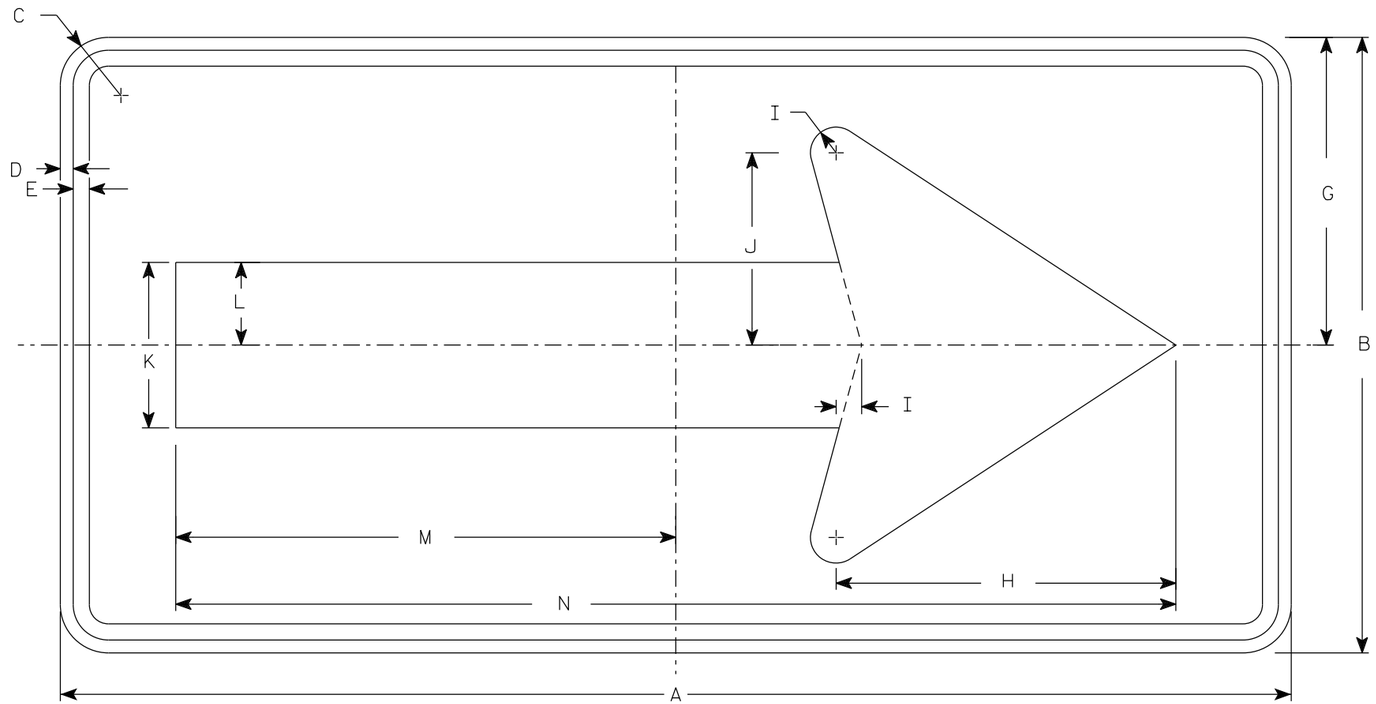
STANDARD SIGN
W01-4

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 1/24/2024 PLATE NO. W01-4.2

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 228 | E



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

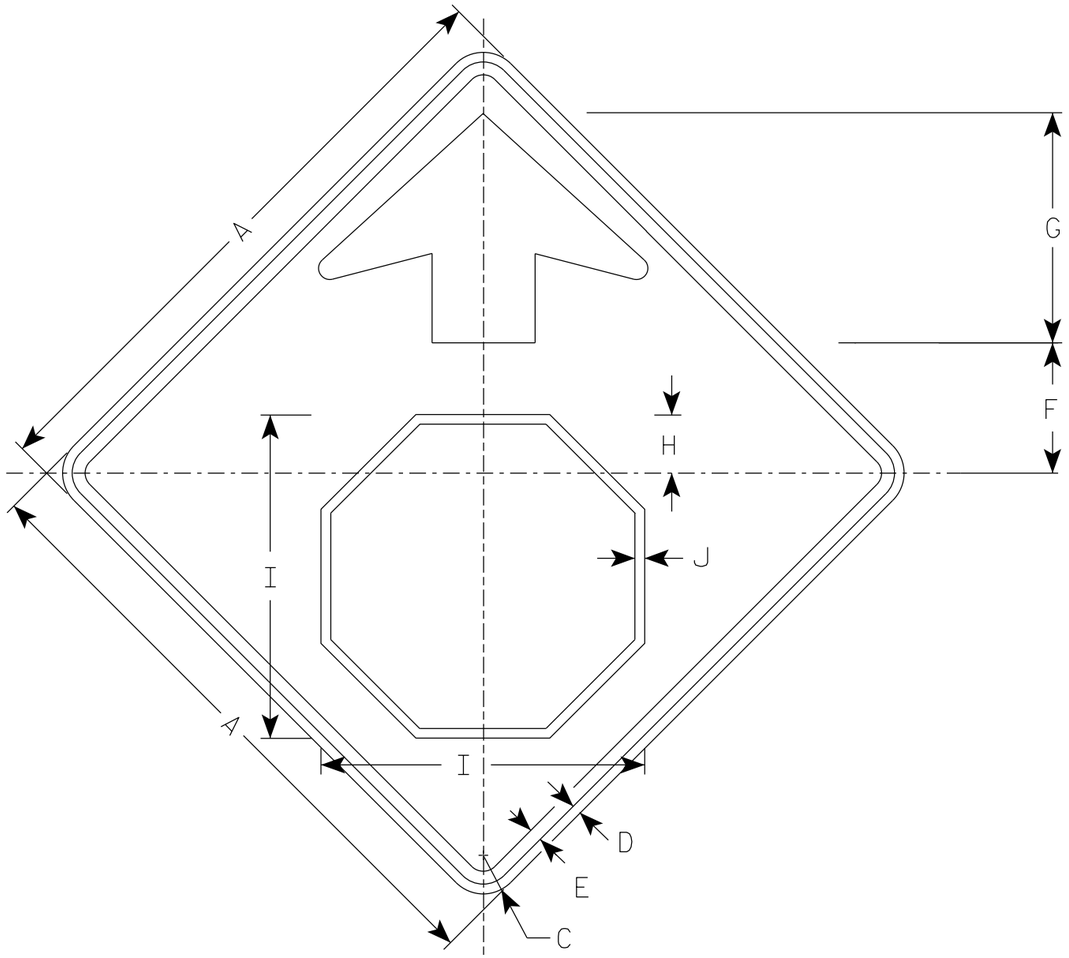
STANDARD SIGN
WO1-6

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 1/24/2024 PLATE NO. WO1-6.2

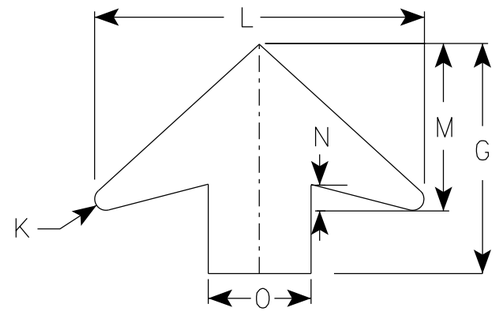
PROJECT NO: | HWY: | COUNTY: | SHEET NO: E



W03-1

NOTES

1. All Signs Type II - Type F Reflective
2. Color:
   Background - ORANGE
   Arrow & Border - BLACK
   Stop Symbol - WHITE BORDER ON RED BACKGROUND



ARROW DETAIL

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

STANDARD SIGN
W03-1

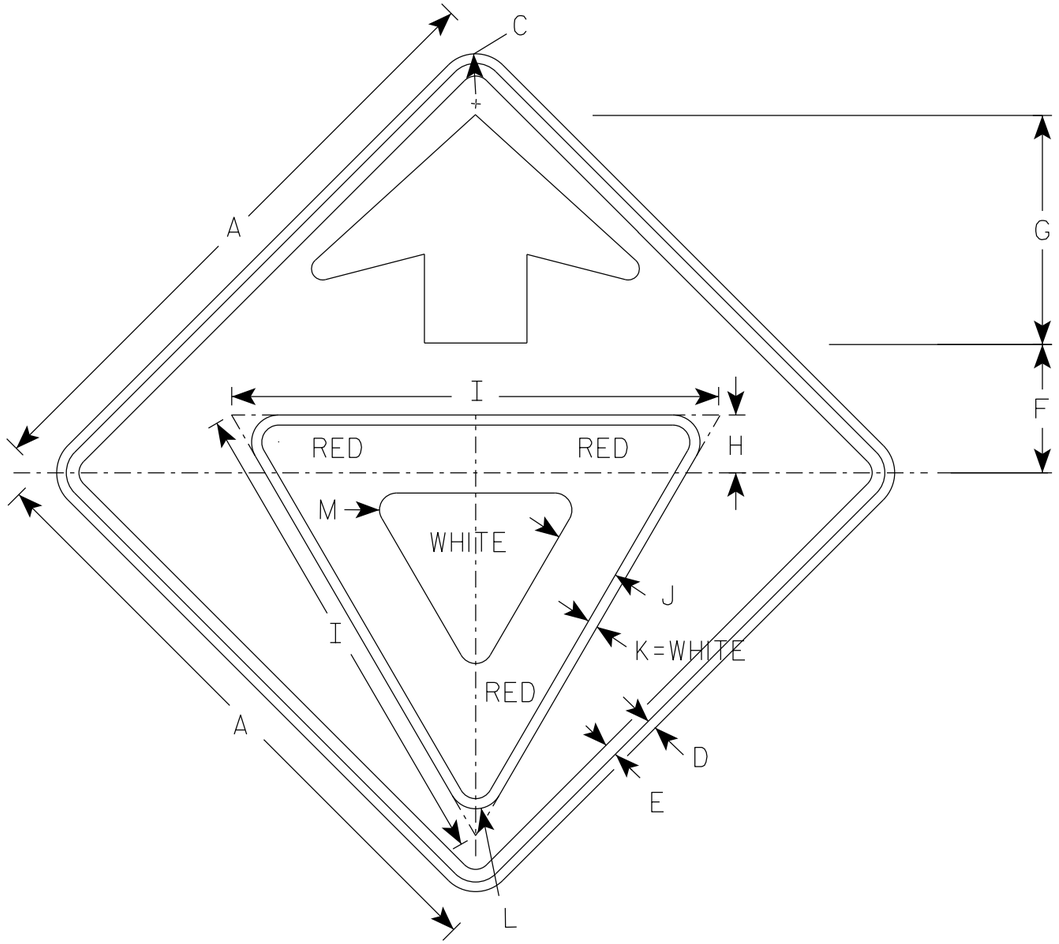
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 1/24/2024 PLATE NO. W03-1.2

PROJECT NO:

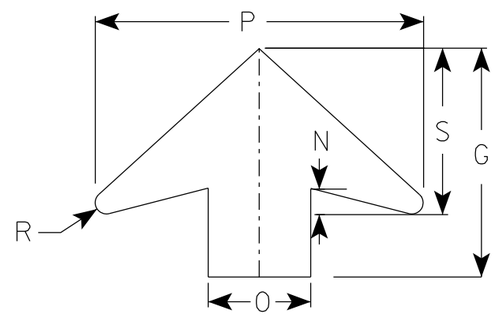
SHEET NO: 230 E



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

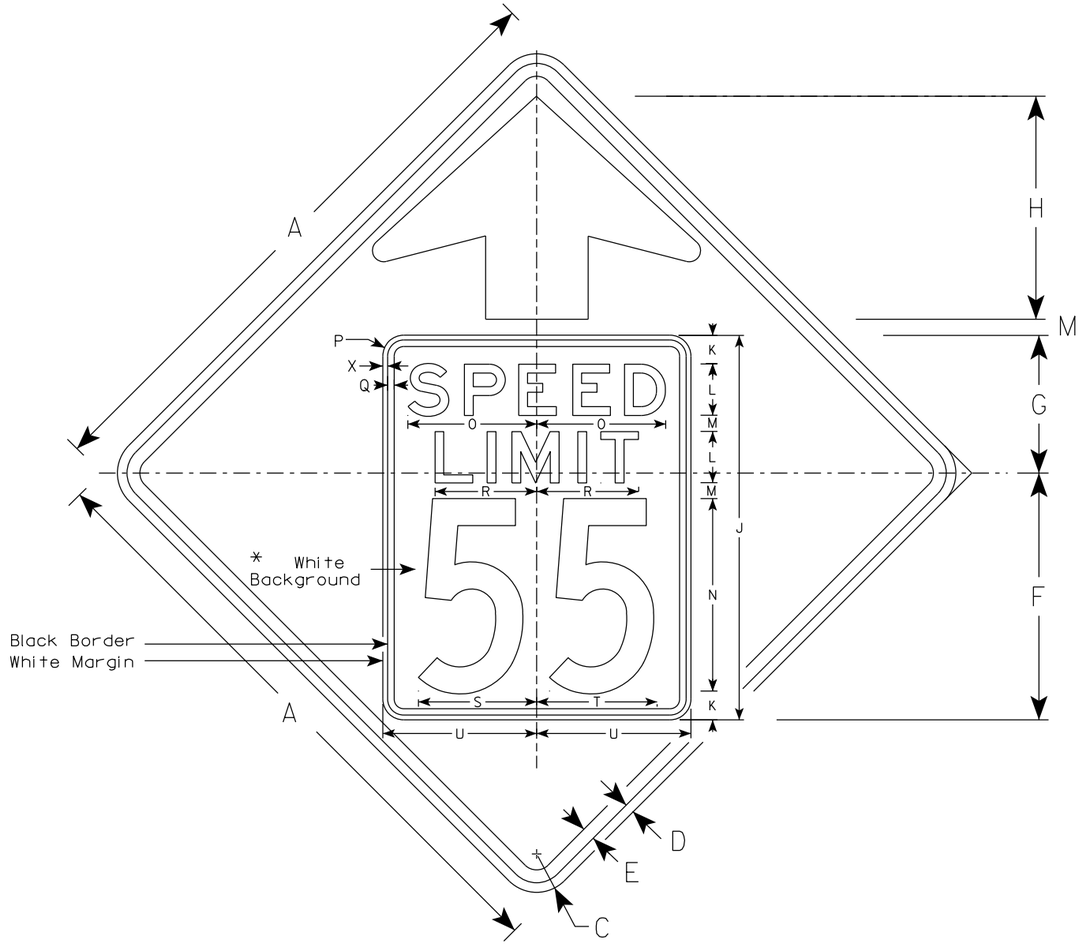
APPROVED Matthew R Rauch
for State Traffic Engineer

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

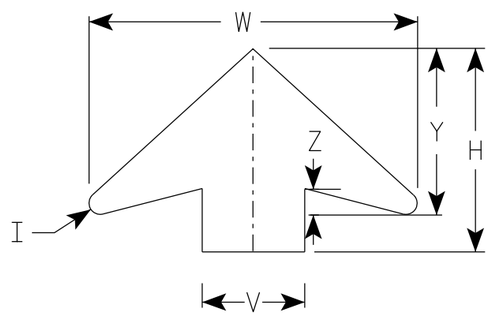


W03-5

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:

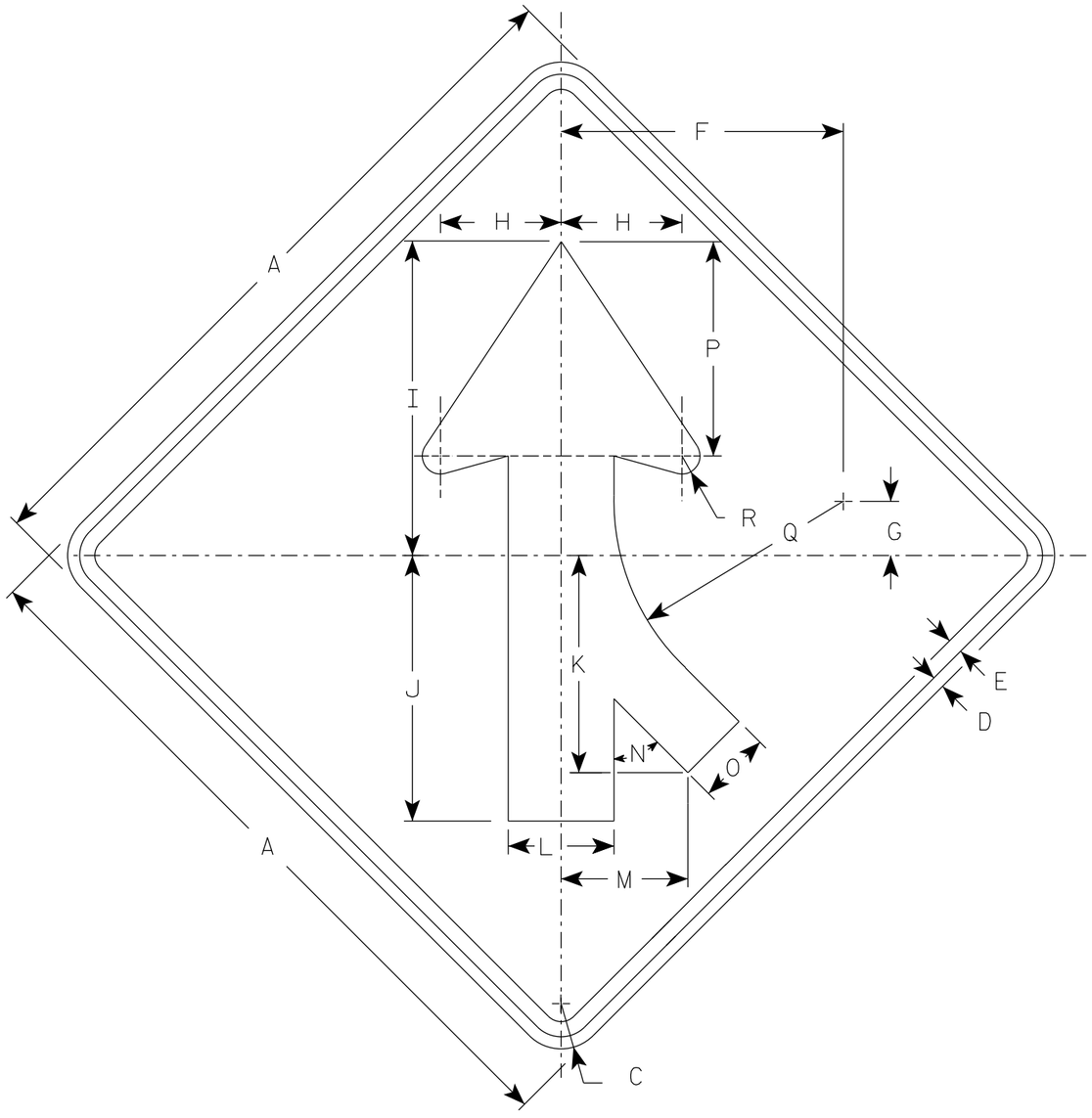
SHEET NO: E

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

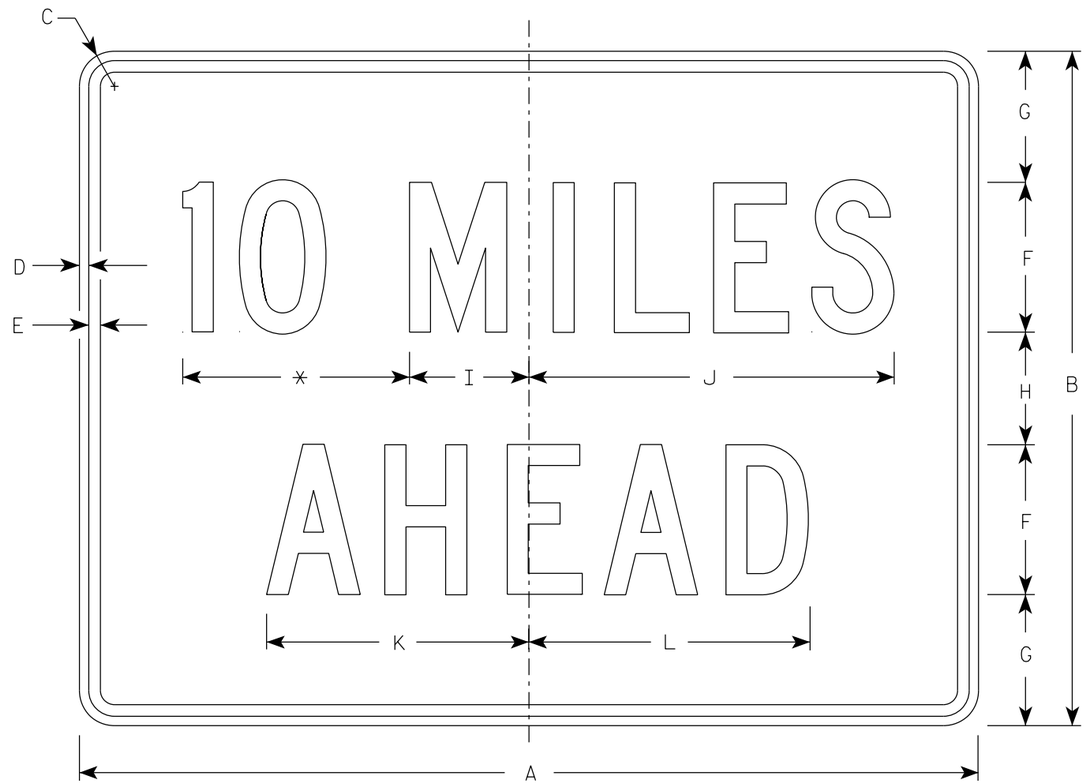
STANDARD SIGN
W04-1

WISCONSIN DEPT OF TRANSPORTATION

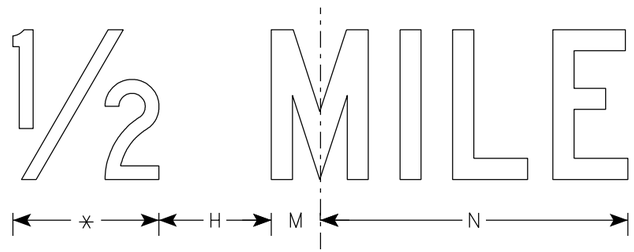
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 1/25/2024 PLATE NO. W04-1.3

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 233 | 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

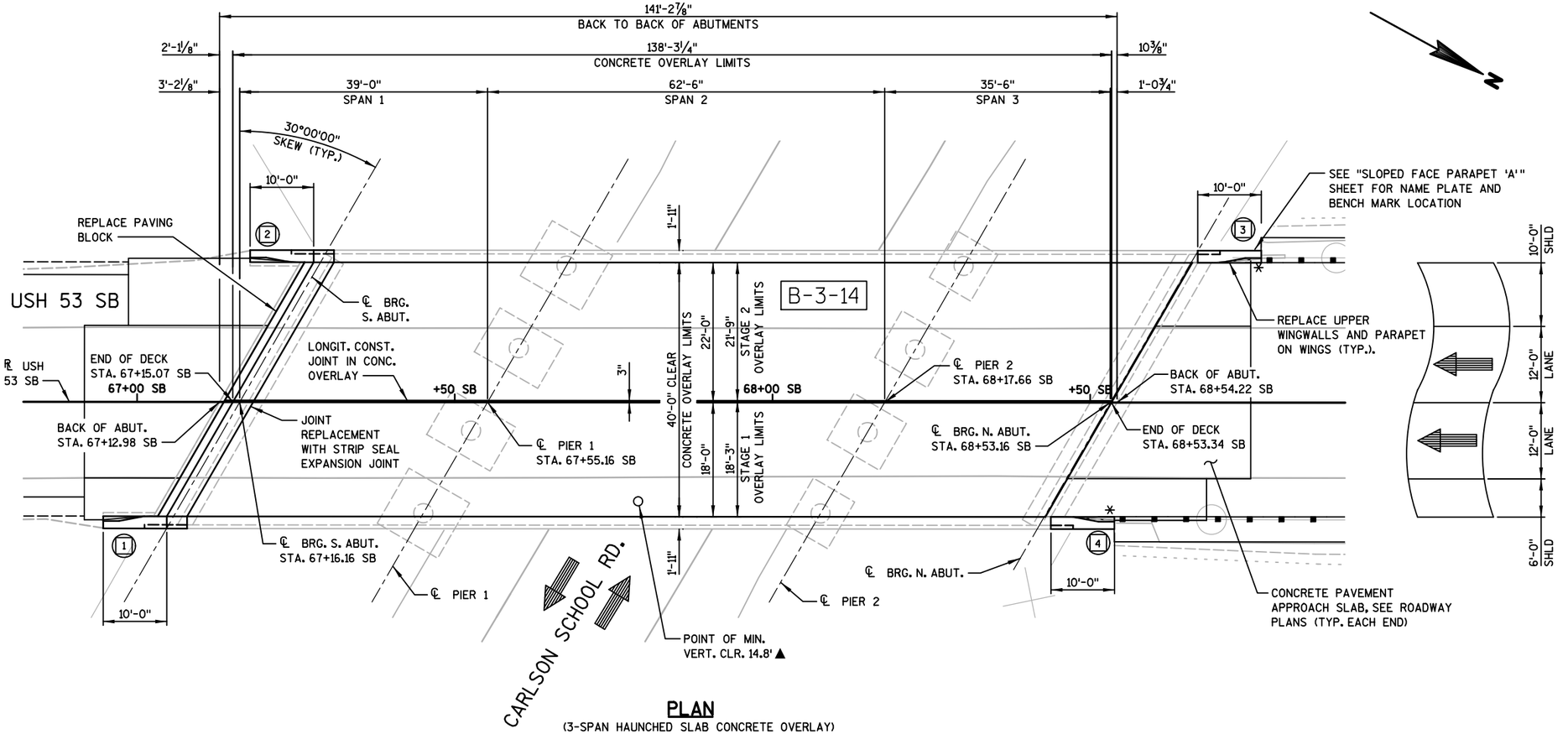
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/1/2024 PLATE NO. W057-52.3

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 234 | E

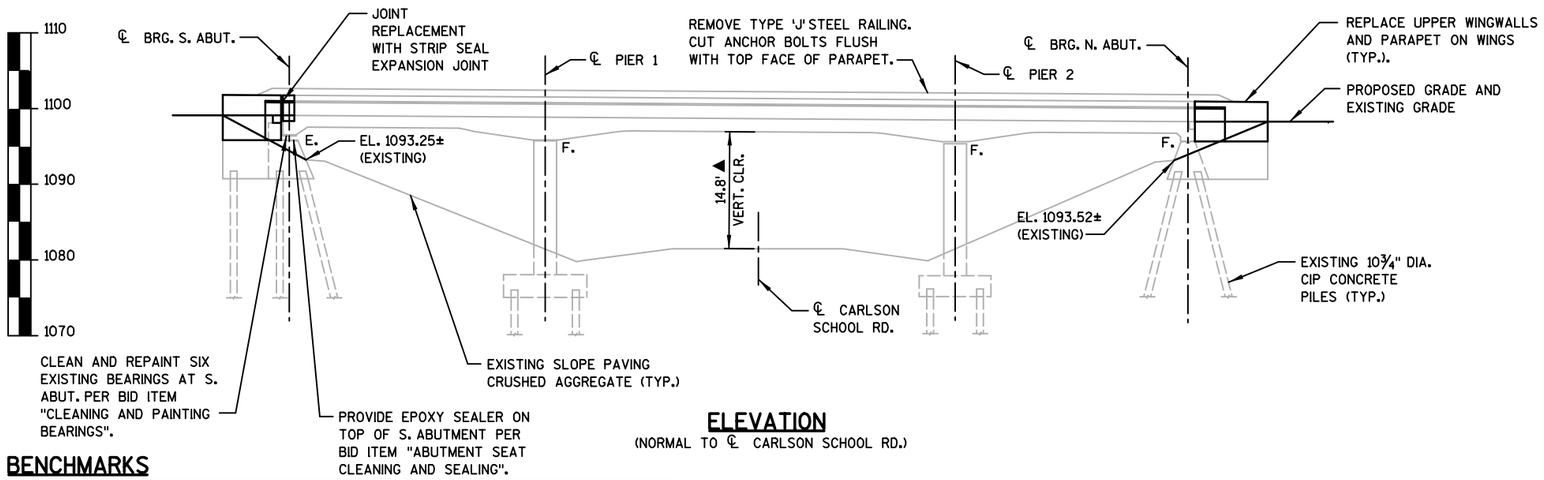
STATE PROJECT NUMBER

1196-04-77



PLAN

(3-SPAN HAUNCHED SLAB CONCRETE OVERLAY)



ELEVATION

(NORMAL TO ℄ CARLSON SCHOOL RD.)

BENCHMARKS

BM NO.	COORDINATES	DESCRIPTION	ELEV.
BM 1	Y: 62,128.59 X: 354,745.03	NW CORNER BRIDGE DECK B-3-24 (CTH I)	1065.33
BM 2	Y: 61,303.85 X: 355,782.67	NW CORNER BRIDGE DECK B-3-20 (CHETEK RIVER)	1043.96
BM 3	Y: 66,181.31 X: 349955.75	NW CORNER BRIDGE DECK B-3-26 (KNAPP STREET)	1077.68

NOTE: BENCH MARKS ARE OUTSIDE OF PLAN EXTENTS. SEE ROADWAY PLANS FOR ADDITIONAL INFORMATION.

DESIGN DATA

LIVE LOAD:

DESIGN LOADING	HS20
INVENTORY RATING	HS17
OPERATING RATING	HS28
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV)	220 KIPS

MATERIAL PROPERTIES:

CONCRETE SUPERSTRUCTURE	f'c = 4,000 PSI
CONCRETE SUBSTRUCTURE	f'c = 3,500 PSI
CONCRETE MASONRY OVERLAY DECKS	f'c = 4,000 PSI
HIGH STRENGTH BAR STEEL REINFORCEMENT (GRADE 60)	fy = 60,000 PSI

TRAFFIC DATA

USH 53 SB
A.D.T. (2025) = 9,660
DESIGN SPEED = 70 MPH

CARLSON SCHOOL RD
A.D.T. (1988) = 3,430
DESIGN SPEED = 60 MPH

LEGEND

* LOCATION OF ANCHOR ASSEMBLIES FOR THRIE BEAM ATTACHMENT.

(X) DENOTES WINGWALL NUMBER.

▲ MIN. VERTICAL CLEARANCE BASED ON INFORMATION OBTAINED FROM WISDOT HIGHWAY STRUCTURES INFORMATION SYSTEM.

LIST OF DRAWINGS

1. GENERAL PLAN
2. CROSS SECTION & QUANTITIES
3. CONSTRUCTION STAGING
4. SOUTH ABUTMENT
5. SOUTH ABUTMENT DETAILS
6. NORTH ABUTMENT
7. NORTH ABUTMENT DETAILS
8. SUPERSTRUCTURE DETAILS
9. STRIP SEAL EXPANSION JOINT
10. COVER PLATE DETAILS
11. SLOPED FACE PARAPET 'A'
12. CATHODIC PROTECTION

STRUCTURE DESIGN CONTACTS

BRIDGE OFFICE CONTACT:
AARON BONK (608) 261-0261

DESIGN CONSULTANT CONTACT:
BRETT OFTEDAHL (608) 251-4843

NO.	DATE	REVISION	BY

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED SDR 01/17/25
CHIEF STRUCTURES DESIGN ENGINEER — DATE

WISCONSIN
BRETT M. OFTEDAHL
E-41123
MADISON
WI
PROFESSIONAL ENGINEER
1-15-2025

STRUCTURE B-3-14

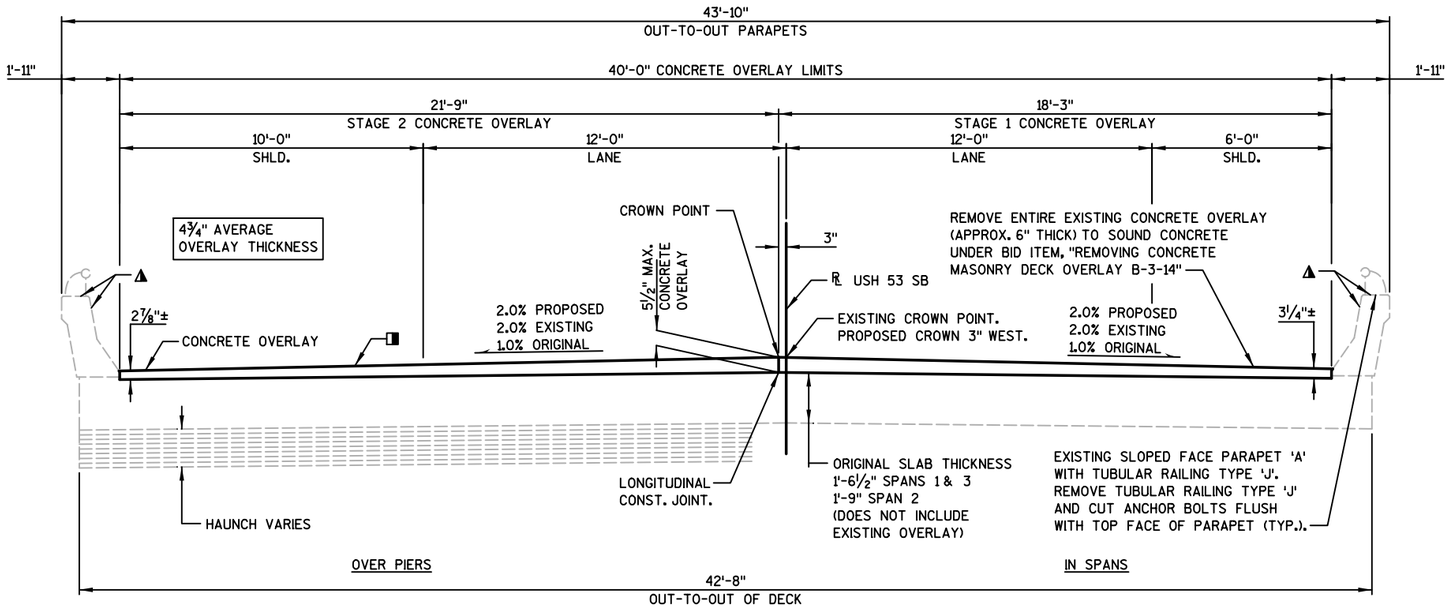
USH 53 SB OVER CARLSON SCHOOL RD.

COUNTY: BARRON	TOWN/~~CITY/VILLAGE~~: DOVRE
DESIGN SPEC.: REHABILITATION N/A	
DESIGNED BY: DLK	DESIGN CK'D.: BMO
DRAWN BY: JFG	PLANS CK'D.: BMO

GENERAL PLAN

SHEET 1 OF 12
235

FILE NAME : S:\MAD\1000--1099\1089\895\Drawings\CAD\Micros\Plan\USH 53\080101_gn.dgn



TYPICAL CROSS SECTION

(LOOKING NORTH)

STATE PROJECT NUMBER

1196-04-77

GENERAL NOTES

THE PROPOSED WORK INCLUDES CLEANING AND REPAINTING S. ABUT. BEARINGS, EPOXY SEALING TOP OF S. ABUT., REMOVING EXISTING CONCRETE OVERLAY, PLACING A NEW CONCRETE OVERLAY, JOINT REPLACEMENT AT S. ABUT., CONCRETE SURFACE REPAIR AT ABUTMENTS AND PARAPETS, CLEANING PARAPETS, INSTALLING EMBEDDED GALVANIC ANODES AT PARAPET REPAIRS, AND REPLACING UPPER WINGWALLS.

DRAWINGS SHALL NOT BE SCALED.

DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS AND SUBSEQUENT REHABILITATION PLANS.

ALL DIMENSIONS ARE IN FEET AND INCHES UNLESS OTHERWISE NOTED. ALL STATIONS ARE IN FEET.

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

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

ALL CONCRETE REMOVAL NOT COVERED WITH A CONCRETE OVERLAY SHALL BE DEFINED BY A 1 INCH DEEP SAW CUT.

UTILIZE EXISTING BAR STEEL REINFORCEMENT WHERE SHOWN AND EXTEND 24 BAR DIAMETERS INTO NEW WORK, UNLESS SPECIFIED OTHERWISE.

PROTECTIVE SURFACE TREATMENT SHALL BE APPLIED TO THE ENTIRE TOP SURFACE OF THE NEW CONCRETE OVERLAY.

PIGMENTED SURFACE SEALER SHALL BE APPLIED TO THE TOP, ENDS, AND ROADWAY FACES OF EXISTING CONCRETE PARAPET AFTER ALL WORK IS COMPLETED FOR "CLEANING PARAPETS" AND "CONCRETE SURFACE REPAIR" BID ITEMS.

PARAPETS SHALL BE CLEANED PER "CLEANING PARAPETS" BID ITEM.

SEAL OVERLAY CONSTRUCTION JOINTS ACCORDING TO SECTION 502.3.13.1 OF THE STANDARD SPECIFICATIONS. COST INCIDENTAL TO BID ITEM "CONCRETE MASONRY OVERLAY DECKS".

THE ORIGINAL CONCRETE OVERLAY SHALL BE REMOVED FROM THE ENTIRE BRIDGE DECK UNDER THE BID ITEM "REMOVING CONCRETE MASONRY DECK OVERLAY B-3-14".

AFTER REMOVAL OF THE EXISTING CONCRETE OVERLAY AND PRIOR TO NEW CONCRETE WORK, THE ENTIRE BRIDGE DECK SHALL BE CLEANED PER BID ITEM, "CLEANING DECKS TO REAPPLY CONCRETE MASONRY OVERLAY".

THE AVERAGE OVERLAY THICKNESS IS BASED ON THE MINIMUM OVERLAY THICKNESS PLUS ½-INCH TO ACCOUNT FOR VARIATIONS IN THE DECK SURFACE.

PREPARATION DECKS TYPE 1, PREPARATION DECKS TYPE 2, AND FULL-DEPTH DECK REPAIR AREAS ARE AS DETERMINED BY THE ENGINEER. DECK PREPARATION AND FULL-DEPTH DECK REPAIRS SHALL BE FILLED WITH "CONCRETE MASONRY OVERLAY DECKS".

PROFILE GRADE LINE SHALL BE DETERMINED IN THE FIELD BASED ON AN OVERLAY THICKNESS OF 2⅞" AT THE WEST PARAPET, 5½" AT THE CROWN, AND 3¼" AT THE EAST PARAPET. EXPECTED AVERAGE OVERLAY THICKNESS IS 4¾". THE OVERLAY THICKNESSES INCLUDE ½" DEPTH ASSUMED TO HAVE BEEN REMOVED AS PART OF THE PREVIOUS CONCRETE OVERLAY PROJECT. IF EXPECTED OVERLAY THICKNESS IS EXCEEDED BY MORE THAN ½", CONTACT THE STRUCTURES DESIGN SECTION.

THE CONTRACTOR SHALL SUPPLY A NEW NAME PLATE IN ACCORDANCE WITH SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS AND THE STANDARD DETAIL DRAWING. NAME PLATE TO SHOW ORIGINAL CONSTRUCTION YEAR, 1972.

PERFORM CONCRETE SURFACE REPAIR AS DIRECTED BY THE FIELD ENGINEER. QUANTITY SHOWN IS APPROXIMATE.

BEVEL ALL EXPOSED EDGES OF CONCRETE ¾" UNLESS OTHERWISE NOTED.

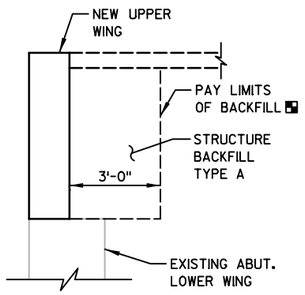
AT ABUTMENTS, ALL EXCAVATED VOLUME NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH STRUCTURE BACKFILL TYPE A.

THE EXISTING GROUNDLINE SHALL BE THE UPPER LIMITS OF EXCAVATION FOR STRUCTURES.

AFTER CLEANING, BEARINGS AT SOUTH ABUTMENT SHALL BE PAINTED AMS STANDARD COLOR NO. 26293 (LIGHT GRAY).

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	S. ABUT	N. ABUT.	SUPERSTRUCTURE	TOTAL	UNIT
203.0220.01	REMOVING STRUCTURE B-3-14	---	---	---	1	EACH
206.1001.01	EXCAVATION FOR STRUCTURES BRIDGES B-3-14	---	---	---	1	EACH
210.1500	BACKFILL STRUCTURE TYPE A	10	10	---	20	TON
502.0100	CONCRETE MASONRY BRIDGES	7	5	1	13	CY
502.3101	EXPANSION DEVICE	---	---	47	47	LF
502.3200	PROTECTIVE SURFACE TREATMENT	---	---	627	627	SY
502.3210	PIGMENTED SURFACE SEALER	9	9	117	135	SY
502.4204	ADHESIVE ANCHORS NO. 4 BAR	13	12	---	25	EACH
502.4205	ADHESIVE ANCHORS NO. 5 BAR	14	14	47	75	EACH
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	---	---	640	640	LB
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	790	860	---	1,650	LB
509.0301	PREPARATION DECKS TYPE 1	---	---	105	105	SY
509.0302	PREPARATION DECKS TYPE 2	---	---	53	53	SY
509.0505.S	CLEANING DECKS TO REAPPLY CONCRETE MASONRY OVERLAY	---	---	615	615	SY
509.1000	JOINT REPAIR	---	---	15	15	SY
509.1500	CONCRETE SURFACE REPAIR	3	3	240	246	SF
509.2000	FULL-DEPTH DECK REPAIR	---	---	2	2	SY
509.2500	CONCRETE MASONRY OVERLAY DECKS	---	---	94.9	95	CY
509.9005.S.01	REMOVING CONCRETE MASONRY DECK OVERLAY B-3-14	---	---	615	615	SY
509.9050.S	CLEANING PARAPETS	---	---	279	279	LF
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	4	4	---	8	SY
614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	---	2	---	2	EACH
SPV.0060.01	CLEANING AND PAINTING BEARINGS	6	---	---	6	EACH
SPV.0060.02	EMBEDDED GALVANIC ANODES	---	---	131	131	EACH
SPV.0180.01	ABUTMENT SEAT CLEANING AND SEALING	12	---	---	12	SY
	NON-BID ITEMS					
	FILLER	---	---	---	1/2", 3/4"	SIZE



STRUCTURE BACKFILL LIMITS

LEGEND

- PROTECTIVE SURFACE TREATMENT SHALL BE APPLIED TO THE TOP OF DECK AND VERTICAL AND HORIZONTAL SURFACES OF THE PAVING NOTCHES.
- PIGMENTED SURFACE SEALER SHALL BE APPLIED TO THE INSIDE, TOP, AND ENDS OF PARAPETS.
- BACKFILL PAY LIMITS. BACKFILL BEYOND BACKFILL PAY LIMITS SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES. LIMITS OF EXCAVATION SHALL BE DETERMINED BY THE CONTRACTOR.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-3-14

DRAWN BY JFG | PLANS CK'D. BMO

CROSS SECTION AND QUANTITIES

SHEET 2 OF 12
236

8

8

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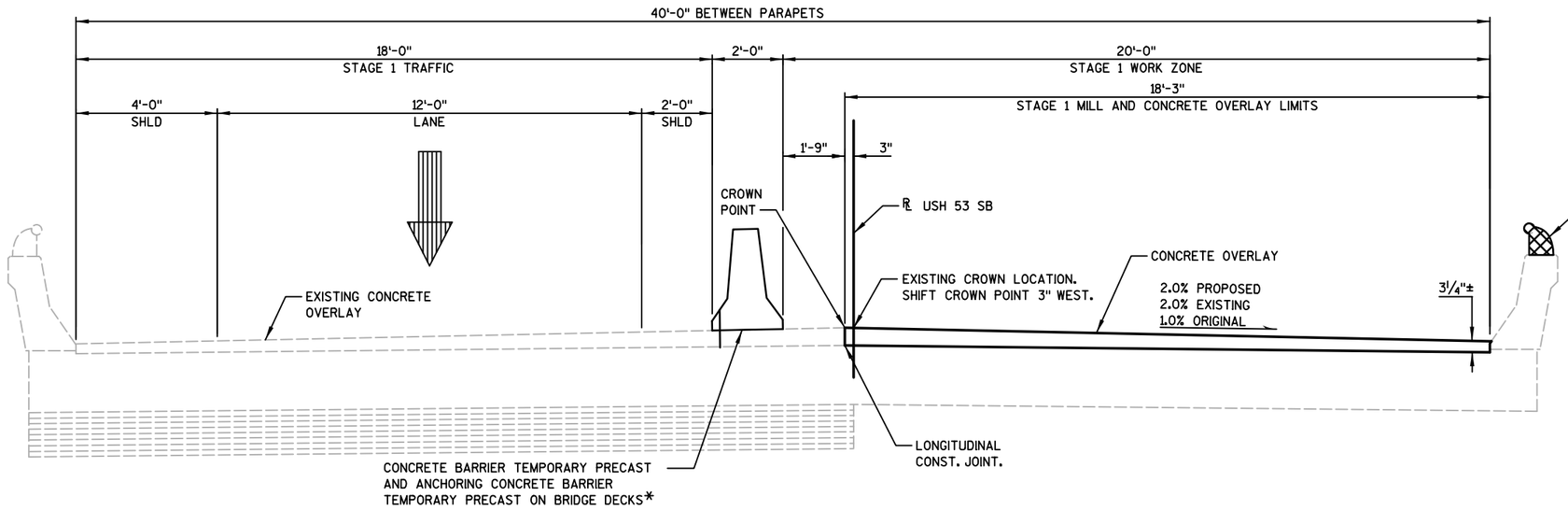
STATE PROJECT NUMBER
1196-04-77

NOTES

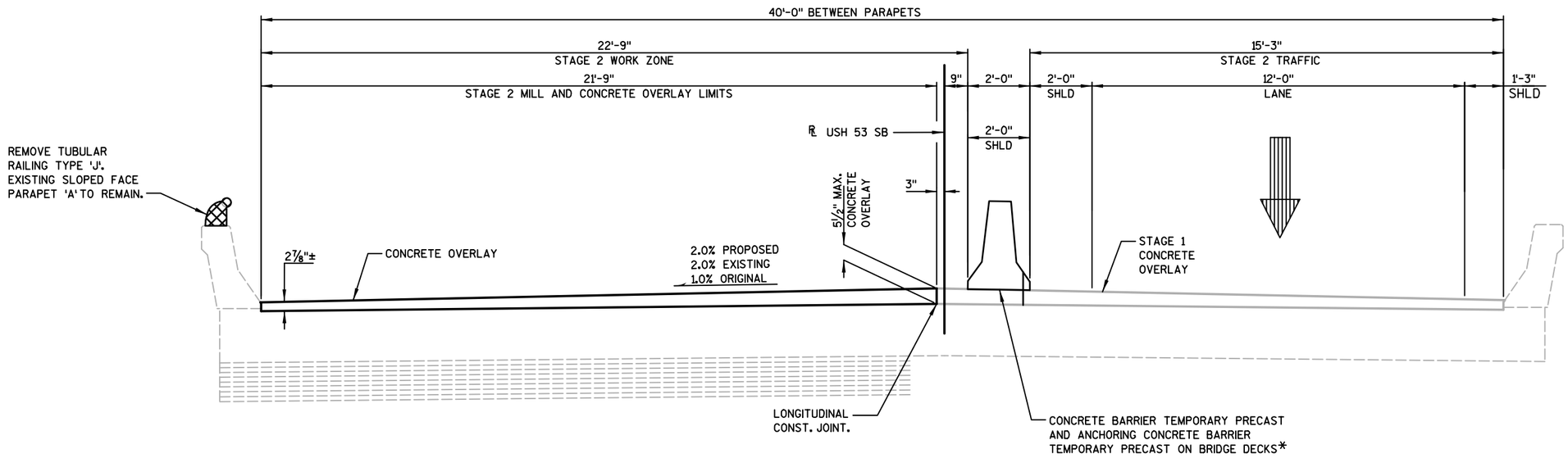
SEE ROADWAY PLANS FOR ADDITIONAL STAGING INFORMATION.

LEGEND

* SEE ROADWAY PLANS FOR ADDITIONAL INFORMATION.



STAGE 1
(LOOKING NORTH)



STAGE 2
(LOOKING NORTH)

8

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NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-3-14

DRAWN BY JFG | PLANS CK'D. BMO

CONSTRUCTION STAGING

SHEET 3 OF 12
237

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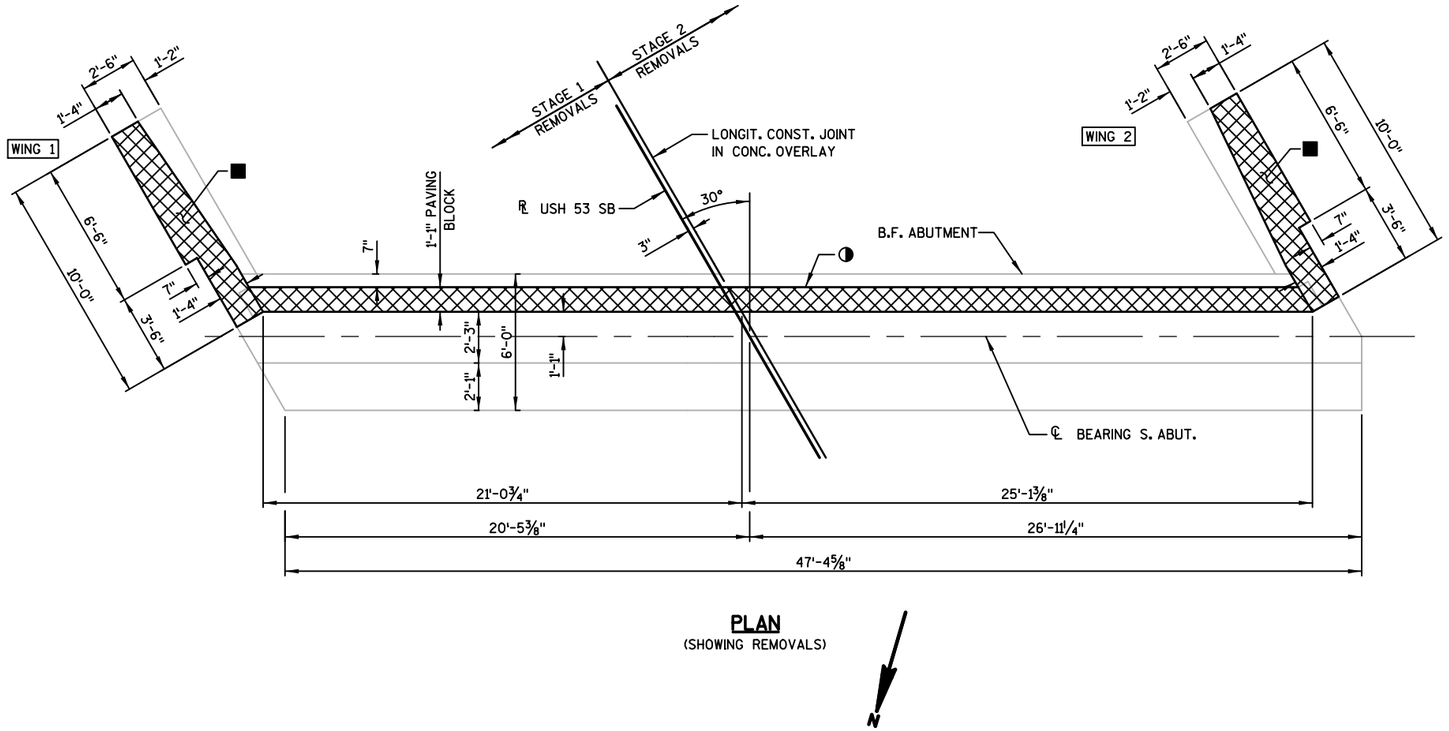
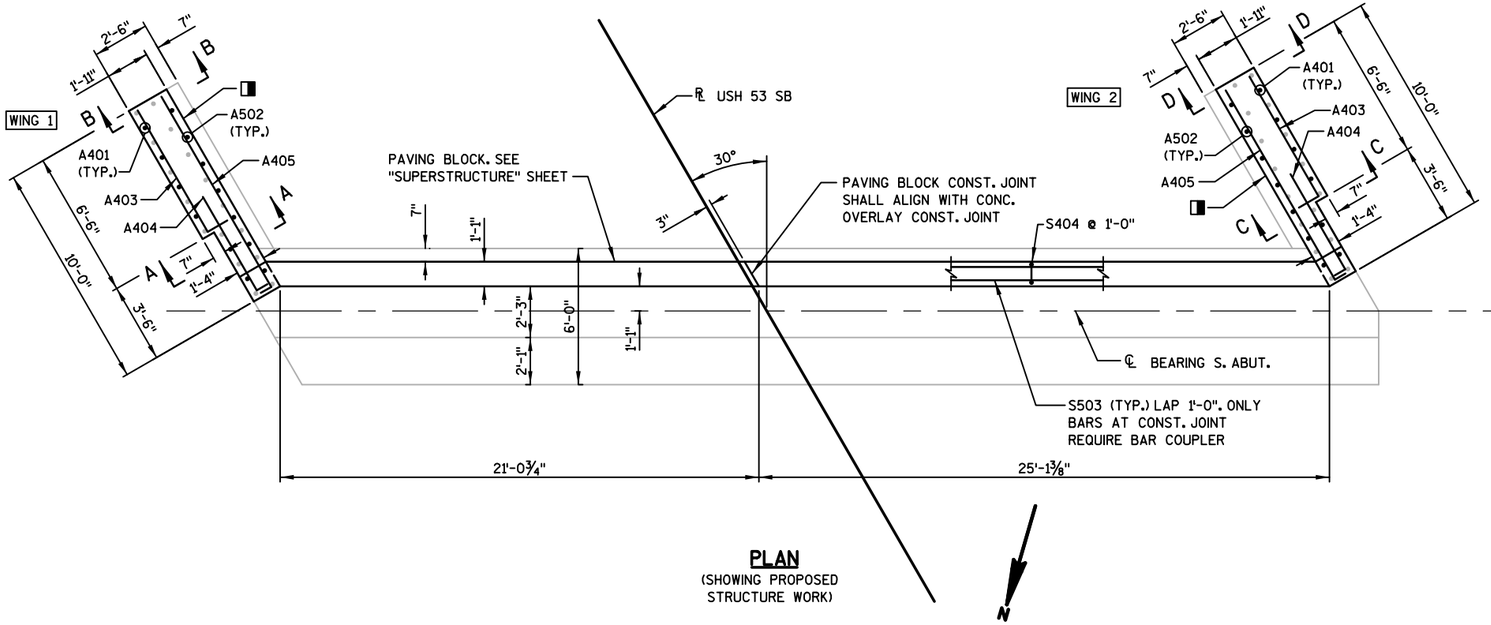
STATE PROJECT NUMBER

1196-04-77



PLAN
(SHOWING REMOVALS)



PLAN
(SHOWING PROPOSED STRUCTURE WORK)

LEGEND

- ■ REMOVE EXISTING UPPER WING AND PARAPET DOWN TO EXISTING ABUTMENT LOWER WINGWALL. SALVAGE AND INCORPORATE EXISTING VERTICAL BAR STEEL INTO NEW WORK.
- ◨ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACK FACE.
- ◑ REMOVE EXISTING PAVING BLOCK. SEE "SUPERSTRUCTURE DETAILS" SHEET.
- ▨ REMOVAL LIMITS.

NOTES

SEE "SOUTH ABUTMENT DETAILS" SHEET FOR SECTION VIEWS AND BAR DETAILS.

8

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NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-3-14

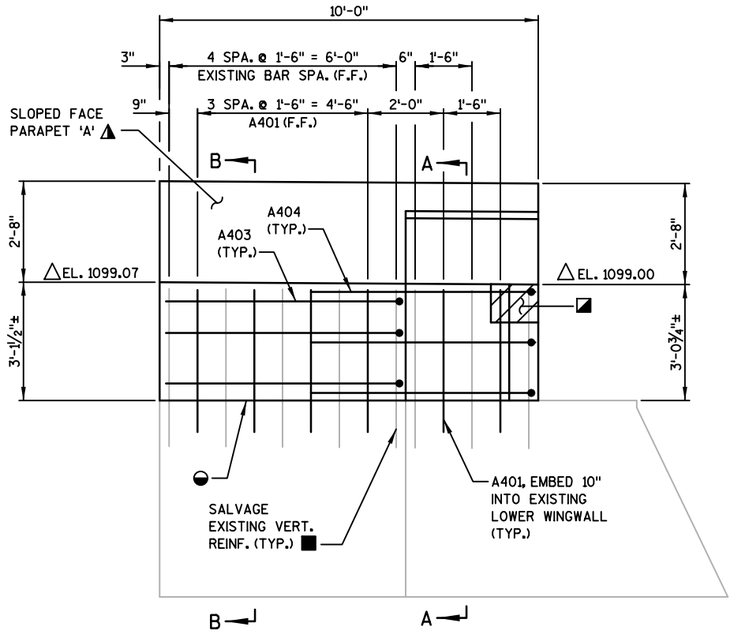
DRAWN BY JFG | PLANS CK'D. BMO

SOUTH ABUTMENT

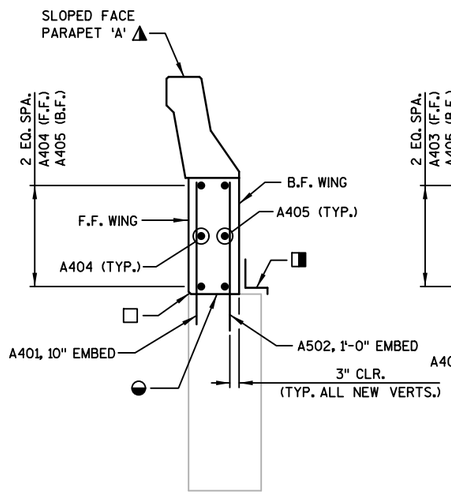
SHEET 4 OF 12
238

FILE NAME : S:\MAD\1000--1099\1089\895\Drawings\CAD\Micros\Plan\USH 53\080104_sa.dgn

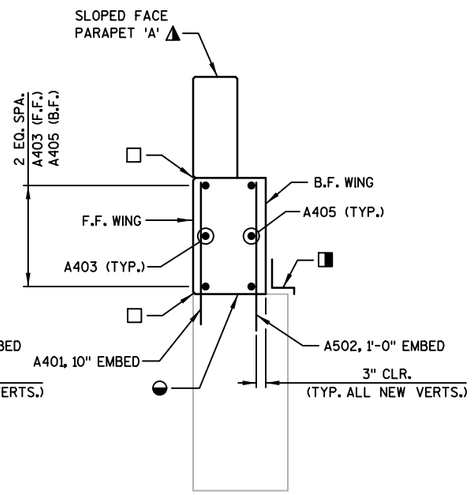
STATE PROJECT NUMBER
1196-04-77



WING 1 ELEVATION
(SHOWING F.F. BAR STEEL REINF.
WING 2 SIMILAR)



SECTION A-A



SECTION B-B

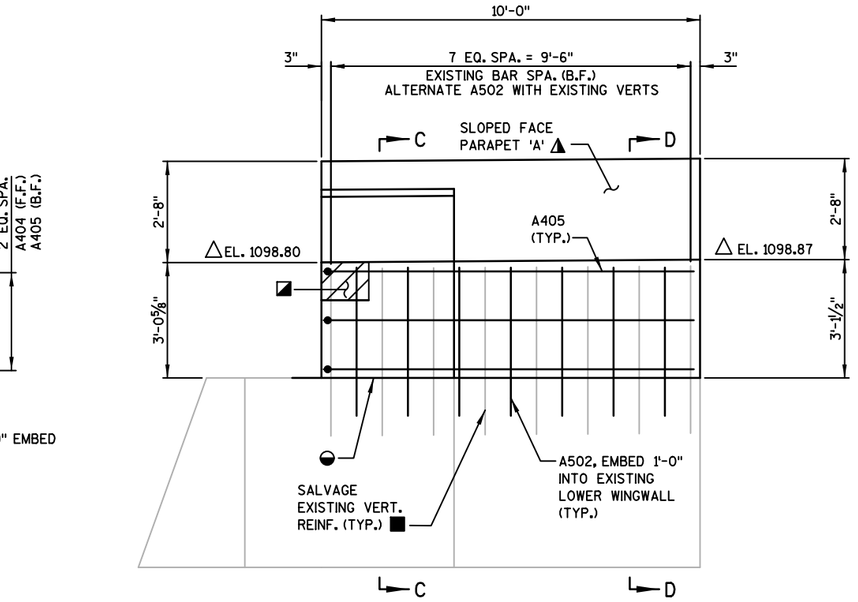
SOUTH ABUTMENT

BILL OF BARS — COATED: 150 LBS

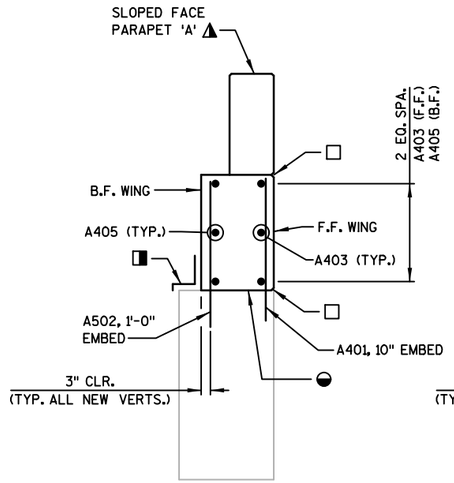
	BAR MARK	NO. REQ'D	LENGTH	BENT	COAT	LOCATION
☆	A401	13	3'-9"		X	F.F. - VERT. - WING 1 & 2
☆	A502	14	3'-11"		X	B.F. - VERT. - WING 1 & 2
	A403	6	7'-1"	X	X	F.F. - HORIZ. - WINGS 1 & 2
	A404	3	5'-6"	X	X	F.F. - HORIZ. - WINGS 1 & 2
	A405	3	10'-5"	X	X	B.F. - HORIZ. - WINGS 1 & 2

LEGEND

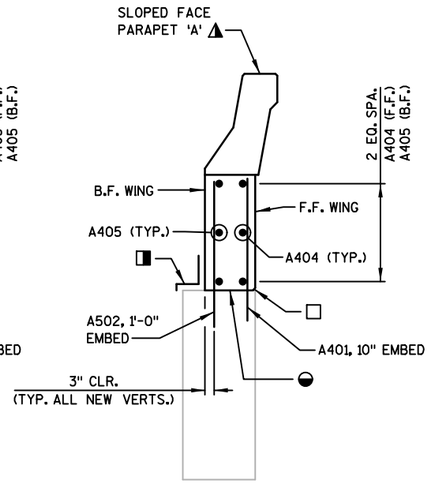
- ■ REMOVE EXISTING UPPER WING AND PARAPET DOWN TO EXISTING ABUTMENT LOWER WINGWALL. SALVAGE AND INCORPORATE EXISTING VERTICAL BAR STEEL INTO NEW WORK.
- ◨ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACK FACE.
- ◒ ROUGHEN SURFACE OF EXISTING CONCRETE TO ¼"± AMPLITUDE (ALL AREAS OF NEW TO EXISTING CONCRETE CONTACT).
- ⚠ SEE "SLOPED FACE PARAPET 'A'" SHEET FOR REINFORCING DETAILS.
- ◪ EXTEND PAVING BLOCK THROUGH WING PERPENDICULAR TO ROADWAY. POUR CONCRETE IN HATCHED REGION AFTER SUPERSTRUCTURE IS IN PLACE.
- □ ¾" V-GROOVE.
- ☆ ADHESIVE ANCHORS NO. 4 BAR, EMBED 10" IN CONCRETE. ADHESIVE ANCHORS NO. 5 BAR, EMBED 1'-0" IN CONCRETE.
- △ ELEVATIONS PROVIDED ARE TAKEN FROM ORIGINAL STRUCTURE PLANS. MATCH EXISTING TOP OF WING ELEVATION.



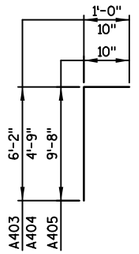
WING 2 ELEVATION
(SHOWING B.F. BAR STEEL REINF.
WING 1 SIMILAR)



SECTION D-D



SECTION C-C



A403, A404, A405

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-3-14

DRAWN BY JFG | PLANS CK'D. BMO

SOUTH ABUTMENT DETAILS

SHEET 5 OF 12
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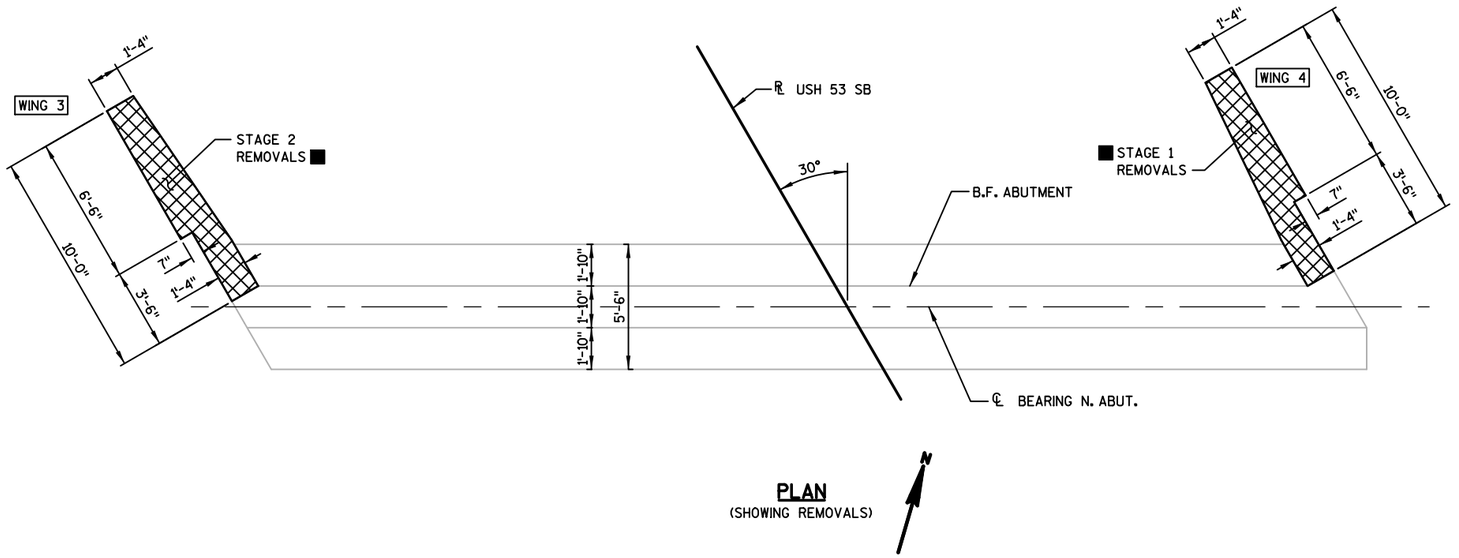
FILE NAME : S:\MAD\1000--1099\1089\895\Drawings\CAD\Micros\Plan\USH 53\080105_sa.dgn

STATE PROJECT NUMBER

1196-04-77



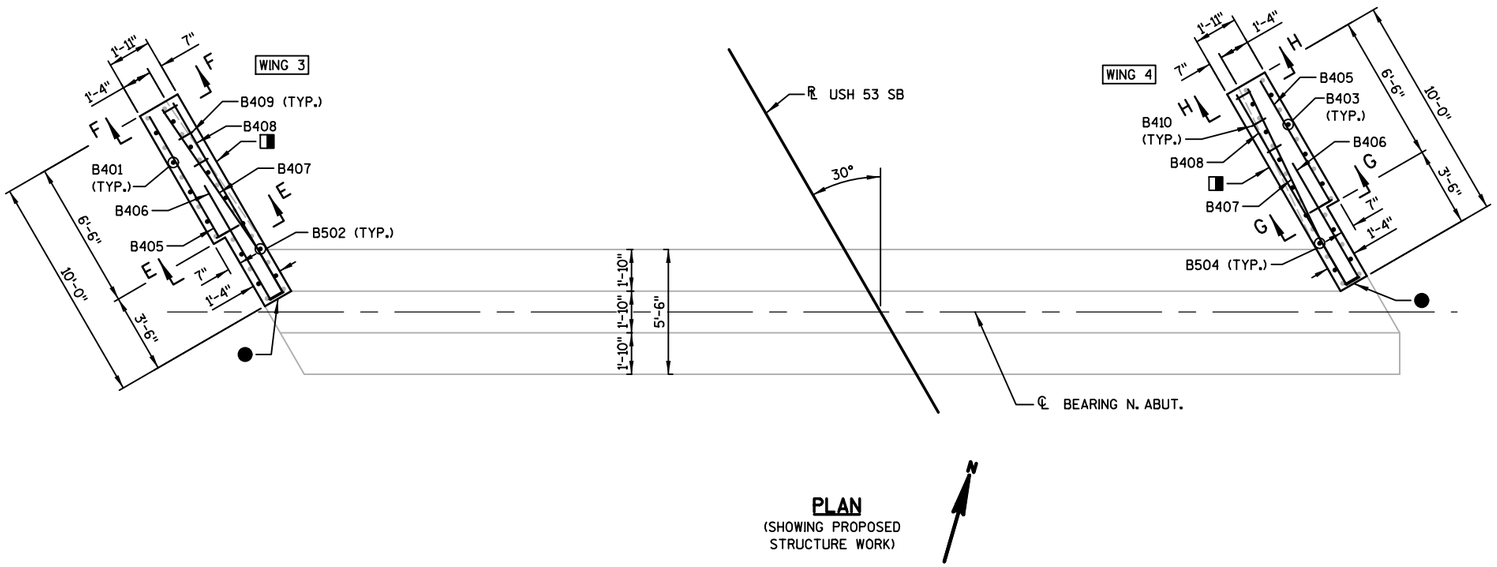
PLAN
(SHOWING REMOVALS)

LEGEND

- ■ REMOVE EXISTING UPPER WING AND PARAPET DOWN TO EXISTING ABUTMENT LOWER WINGWALL. SALVAGE AND INCORPORATE EXISTING VERTICAL BAR STEEL INTO NEW WORK.
- ● ½" FILLER TO EXTEND FROM EXISTING BEAM SEAT TO TOP OF CONCRETE PARAPET. FILLER INCLUDED IN WING LENGTH. SEAL EXPOSED SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER 1" DEEP AND HOLD DOWN ⅛" BELOW SURFACE OF CONCRETE.
- ◨ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACK FACE.
- ▨ REMOVAL LIMITS.

NOTES

SEE "NORTH ABUTMENT DETAILS" SHEET FOR SECTION VIEWS AND BAR DETAILS.



PLAN
(SHOWING PROPOSED STRUCTURE WORK)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-3-14

DRAWN BY JFG | PLANS CK'D. BMO

NORTH ABUTMENT

SHEET 6 OF 12
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FILE NAME : S:\MAD\1000--1099\1089\895\Drawings\CAD\Micros\Plan\USH 53\080106_na.dgn

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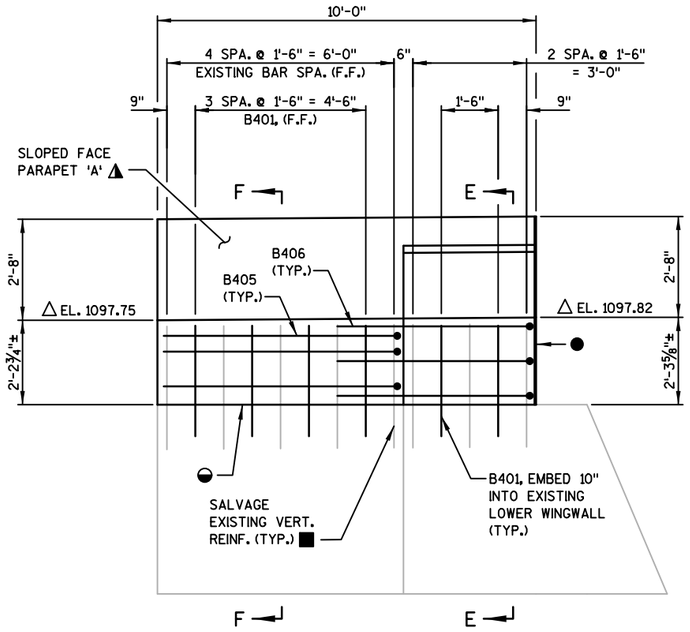
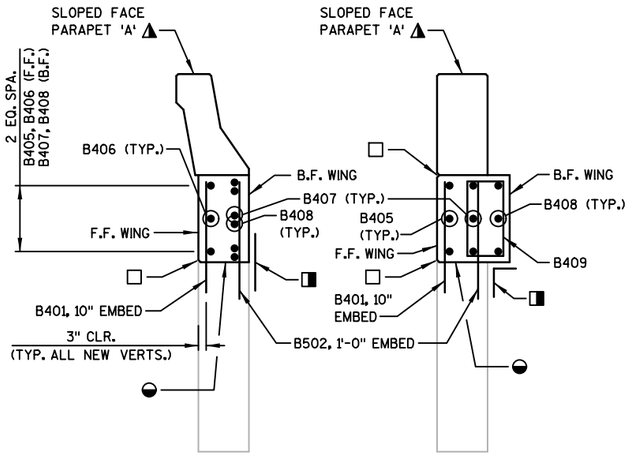


WING 3 ELEVATION
(SHOWING F.F. BAR STEEL REINF.
WING 4 SIMILAR)



SECTION E-E

SECTION F-F

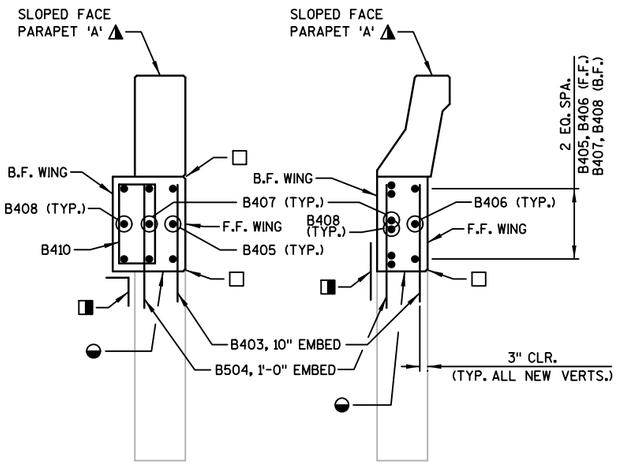
NORTH ABUTMENT
BILL OF BARS

COATED: 220 LBS

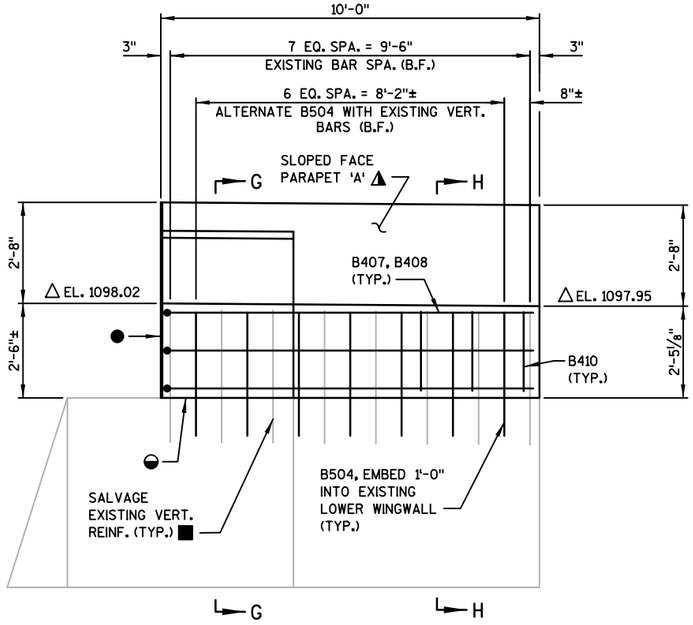
BAR MARK	NO. REQ'D	LENGTH	BENT	COAT	LOCATION
☆ B401	6	2'-11"		X	F.F. - VERT. - WING 3
☆ B502	7	3'-1"		X	B.F. - VERT. - WING 3
☆ B403	6	3'-1"		X	F.F. - VERT. - WING 4
☆ B504	7	3'-3"		X	B.F. - VERT. - WING 4
B405	6	7'-1"	X	X	F.F. - HORIZ. - WING 3 & 4
B406	6	5'-6"	X	X	F.F. - HORIZ. - WING 3 & 4
B407	6	10'-5"	X	X	B.F. - HORIZ. - WING 3 & 4
B408	6	9'-8"		X	B.F. - HORIZ. - WING 3 & 4
B409	3	5'-6"	X	X	B.F. - STIRRUP - WING 3
B410	3	6'-0"	X	X	B.F. - STIRRUP - WING 4

LEGEND

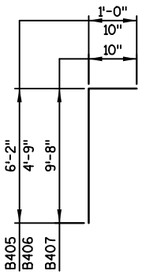
- ■ REMOVE EXISTING UPPER WING AND PARAPET DOWN TO EXISTING ABUTMENT LOWER WINGWALL. SALVAGE AND INCORPORATE EXISTING VERTICAL BAR STEEL INTO NEW WORK.
- ◨ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACK FACE.
- ◒ ROUGHEN SURFACE OF EXISTING CONCRETE TO ¼"± AMPLITUDE (ALL AREAS OF NEW TO EXISTING CONCRETE CONTACT).
- ◭ SEE "SLOPED FACE PARAPET 'A'" SHEET FOR REINFORCING DETAILS.
- ● ½" FILLER TO EXTEND FROM EXISTING BEAM SEAT TO TOP OF CONCRETE PARAPET. FILLER INCLUDED IN WING LENGTH. SEAL EXPOSED SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER 1" DEEP AND HOLD DOWN ⅛" BELOW SURFACE OF CONCRETE.
- □ ¾" V-GROOVE.
- ☆ ADHESIVE ANCHORS NO. 4 BAR, EMBED 10" IN CONCRETE. ADHESIVE ANCHORS NO. 5 BAR, EMBED 1'-0" IN CONCRETE.
- △ ELEVATIONS PROVIDED ARE TAKEN FROM ORIGINAL STRUCTURE PLANS. MATCH EXISTING TOP OF WING ELEVATION.



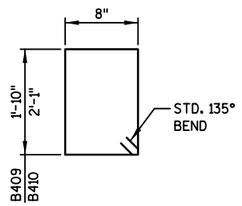
SECTION H-H **SECTION G-G**



WING 4 ELEVATION
(SHOWING B.F. BAR STEEL REINF.
WING 3 SIMILAR)



B405, B406, B407



B409, B410

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-3-14

DRAWN BY JFG | PLANS CK'D. BMO

NORTH ABUTMENT DETAILS

SHEET 7 OF 12
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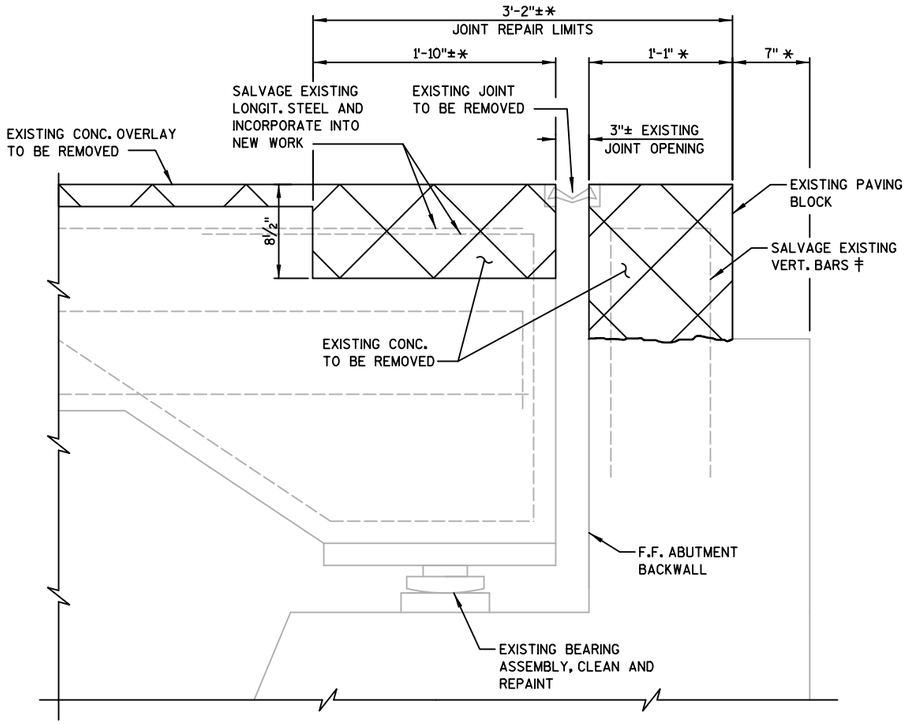
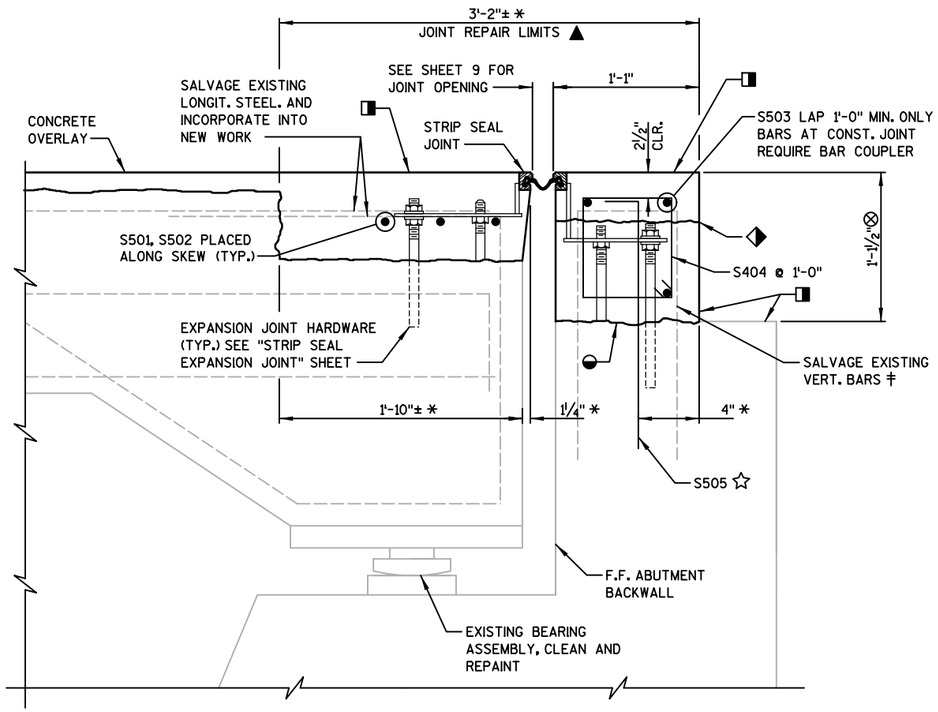
FILE NAME : S:\MAD\1000--1099\1089\895\Drawings\CAD\Micros\Plan\USH 53\080107_na.dgn

STATE PROJECT NUMBER

1196-04-77



JOINT REPAIR - REMOVAL



SECTION THRU PROPOSED JOINT

LEGEND

ǂ EXISTING BARS ARE LIKELY TO BE CORRODED AND/OR DAMAGED DURING CONCRETE REMOVAL. SALVAGE AND INCORPORATE AS MUCH REBAR AS PRACTICAL. SUPPLEMENT WITH THE BARS INDICATED BY ☆

☆ ADHESIVE ANCHORS NO. 5 BAR, EMBED 1'-0" IN CONCRETE. SPACE AT 1'-0". TURN 10" LEG AS NECESSARY TO FIT.

◆ OPT. CONST. JOINT 1" MIN. BELOW EXIST. REINF.

* DIMENSIONS GIVEN ARE NORMAL TO ℄ OF SUBSTRUCTURE UNIT. INCORPORATE EXISTING REINFORCEMENT.

⊗ ADJUST AS NECESSARY FOR CONDITIONS. POUR AFTER SUPERSTRUCTURE IS IN PLACE AND CONFORM TO SUPERSTRUCTURE DECK ELEVATIONS.

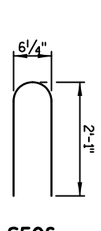
◒ ROUGHEN SURFACE OF EXISTING CONCRETE TO ¼"± AMPLITUDE.

▲ VOLUME OF NEW CONCRETE USED FOR JOINT REPAIR WILL BE PAID FOR UNDER "CONCRETE MASONRY OVERLAY" BID ITEM.

◨ COAT WITH "PROTECTIVE SURFACE TREATMENT" AS PER THE STANDARD SPECIFICATIONS.

NOTES

SEE "SLOPED FACE PARAPET 'A'" SHEET FOR PARAPET REINFORCING DETAILS.



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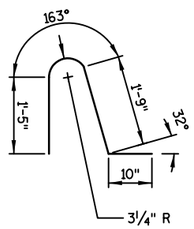

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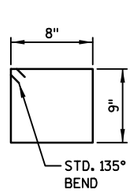

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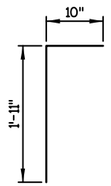

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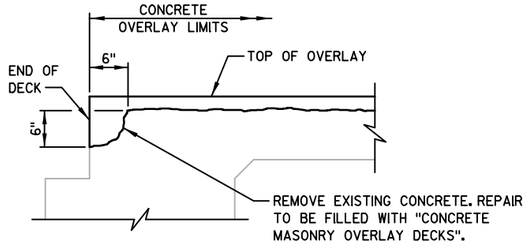
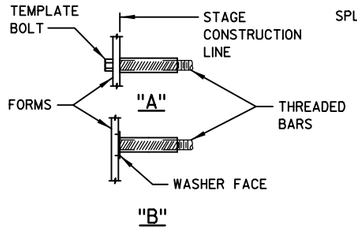


SECTION THRU N. ABUT.

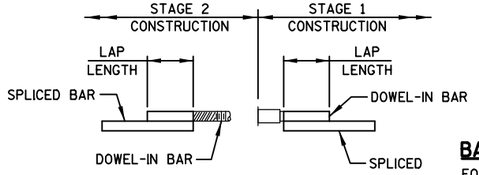
(LOOKING EAST)



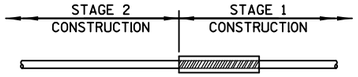
"B"

INSTALLATION AND SETTING METHODS

"A" SET SPLICER BY MEANS OF A TEMPLATE BOLT.
"B" SET SPLICER BY NAILING TO WOOD FORMS OR CEMENTING TO STEEL FORMS.



DOWEL BAR COUPLER
STAGE 2 DOWEL SCREWS INTO COUPLER PLACED IN STAGE 1



ONE-PIECE THREADED COUPLER

BAR COUPLER ALTERNATIVES

BAR COUPLER NOTES

FOR DOWEL BAR COUPLERS, ALL DOWEL BARS SHALL BE LAPPED AND TIED TO THE REINFORCEMENT BARS.

SUPERSTRUCTURE BILL OF BARS

UNCOATED: 640 LBS

	BAR MARK	NO. REQ'D	LENGTH	BENT	COAT	LOCATION
**	S501	3	22'-5"			SLAB - TRANS. - STAGE 1
**	S502	3	26'-5"			SLAB - TRANS. - STAGE 2
***	S503	24	7'-4"			PAVING BLOCK - HORIZ.
	S404	47	3'-4"	X		PAVING BLOCK - VERT.
☆	S505	47	2'-8"	X		PAVING BLOCK - VERT. DOWELS
	S506	6	5'-0"	X		PARAPET - VERT. - S. ABUT.
	S507	6	5'-10"	X		PARAPET - VERT. - S. ABUT.

** BAR WITH COUPLER, SEE DETAIL THIS SHEET.

*** BARS AT CONST. JOINT REQUIRE COUPLER. SEE DETAIL THIS SHEET.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-3-14

DRAWN BY JFG | PLANS CK'D. BMO

SUPERSTRUCTURE DETAILS

SHEET 8 OF 12
242

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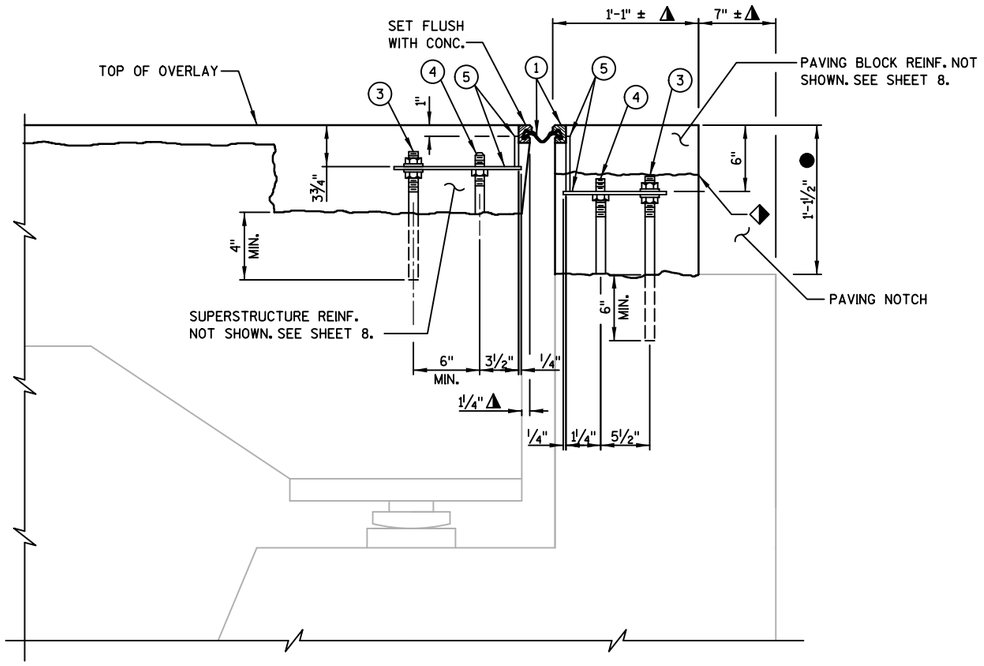
FILE NAME : S:\MAD\1000--1099\1089\895\Drawings\CAD\Micros\Plan\USH 53\080108_ss.dgn



SECTION THRU JOINT AT ABUTMENT
NORMAL TO ℄ SUBSTRUCTURE

NOTES
ONE FIELD SPLICE PERMITTED IN STEEL EXTRUSIONS, UNLESS MORE ARE REQUIRED FOR STAGED CONSTRUCTION, HANDLING OR GALVANIZING REQUIREMENTS. IF USED, DETAILS SHALL BE SUBMITTED FOR APPROVAL. NO SPLICING PERMITTED IN NEOPRENE STRIP SEAL.

AFTER FABRICATION, BUT BEFORE SHIPMENT, STRAIGHTEN STEEL EXTRUSIONS SUCH THAT THEY SHALL BE FREE FROM WARP, TWIST AND SWEEP.

FABRICATOR SHALL PROVIDE MEANS OF KEEPING GALVANIZED EXTRUSIONS CLEAN AND SMOOTH DURING SHIPMENT AND PRIOR TO APPLYING LUBRICANT ADHESIVE FOR NEOPRENE GLAND INSTALLATION.

SANDBLAST PLATES, SUPPORTS AND EXTRUSIONS AFTER FABRICATION IN ACCORDANCE WITH SSPC SP. #6 "COMMERCIAL BLAST CLEANING". AFTER BLAST CLEANING, THE PLATES, SUPPORTS AND EXTRUSIONS SHALL BE HOT DIPPED GALVANIZED.

ANCHOR SYSTEM NO. 8 AND NO. 9 SHALL CONFORM TO ASTM A307 AND SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C AND D.

ALL MATERIAL IN THE EXPANSION JOINT ASSEMBLY, INCLUDING ANCHOR STUDS AND HARDWARE SHALL BE PAID AT THE UNIT PRICE BID FOR "EXPANSION DEVICE", LF.

LEGEND
(1) NEOPRENE STRIP SEAL (4-INCH) AND STEEL EXTRUSIONS. JOINT OPENINGS GIVEN NORMAL TO JOINT.

(2) STUDS ⅝" DIA. X 6⅜" LONG AT 6" ALTERNATE CENTERS. WELD TO EXTRUSIONS AND BEND AS SHOWN AFTER WELDING.

(3) ¾" DIA. THREADED ROD WITH 2 NUTS AND PLATE WASHERS. GROUT THREADED ROD INTO FIELD DRILLED HOLES IN SUPERSTRUCTURE AS SHOWN. ON ABUTMENT SIDE GROUT THREADED ROD INTO FIELD DRILLED HOLES IN ABUTMENT BACKWALL AS SHOWN.

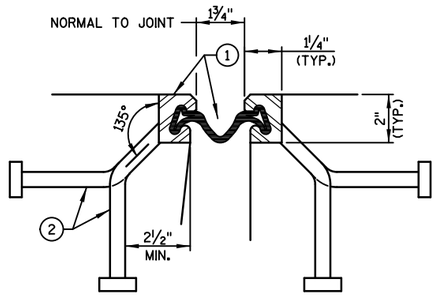
(4) ¾" DIA. THREADED ROD WITH NUT. TACK WELD NUT TO NO. 5.

(5) FABRICATE SUPPORT FROM 3" X ½" BAR AS SHOWN OR EQUIVALENT. SHOP OR FIELD WELD TO NO. 1. IF FIELD WELDED, COVER WELDED AREAS WITH EPOXY-COATING MATERIAL. PROVIDE 1½" DIA. HOLE FOR NO. 3 AND 1" DIA. HOLE FOR NO. 4.

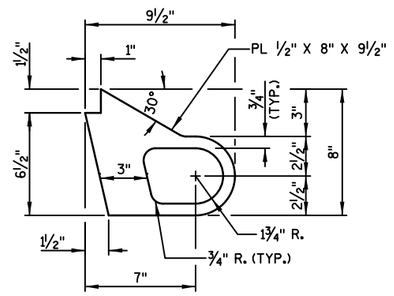
● TOP ELEVATION OF PAVING BLOCK SHALL CONFORM WITH SUPERSTRUCTURE. POUR PAVING BLOCK AFTER SUPERSTRUCTURE OVERLAY IS IN PLACE.

◭ DIMENSIONS ARE GIVEN NORMAL TO ℄ OF SUBSTRUCTURE UNIT.

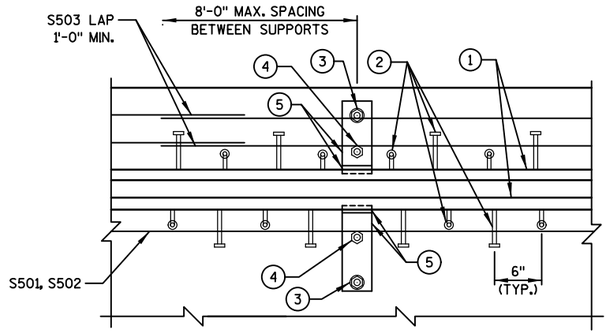
◆ OPT. CONST. JOINT 1" MIN. BELOW EXIST. REINF.



SECTION THRU JOINT



ALTERNATE STRIP SEAL ANCHOR



PART PLAN

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-3-14

DRAWN BY JFG | PLANS CK'D. BMO

STRIP SEAL EXPANSION JOINT

SHEET 9 OF 12
243

8

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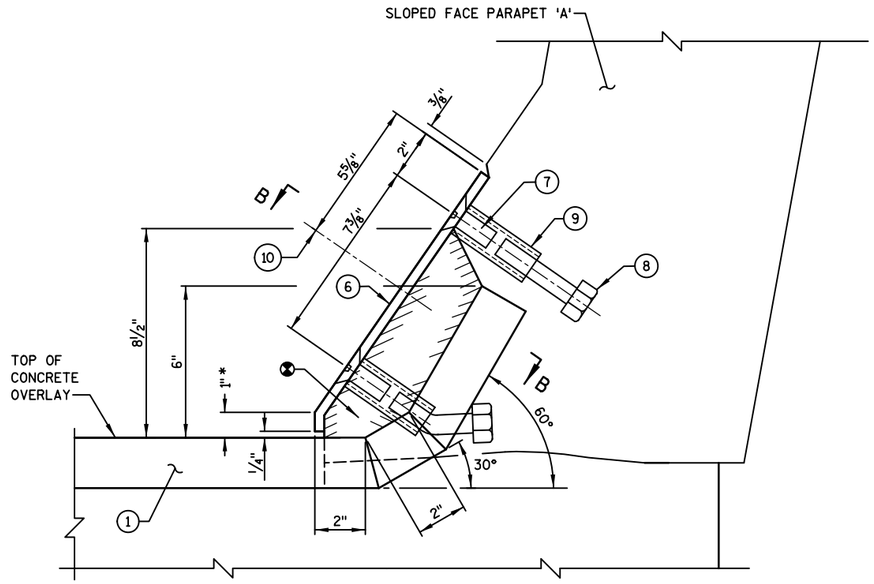
FILE NAME : S:\MAD\1000--1099\1089\895\Drawings\CAD\Micros\Plan\USH 53\080109_ej.dgn

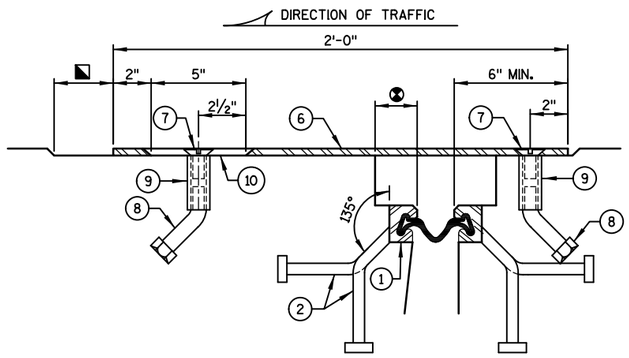
STATE PROJECT NUMBER

1196-04-77

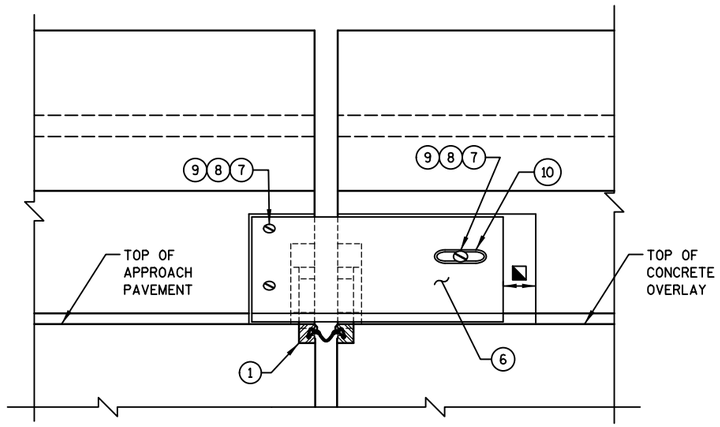


SECTION A-A

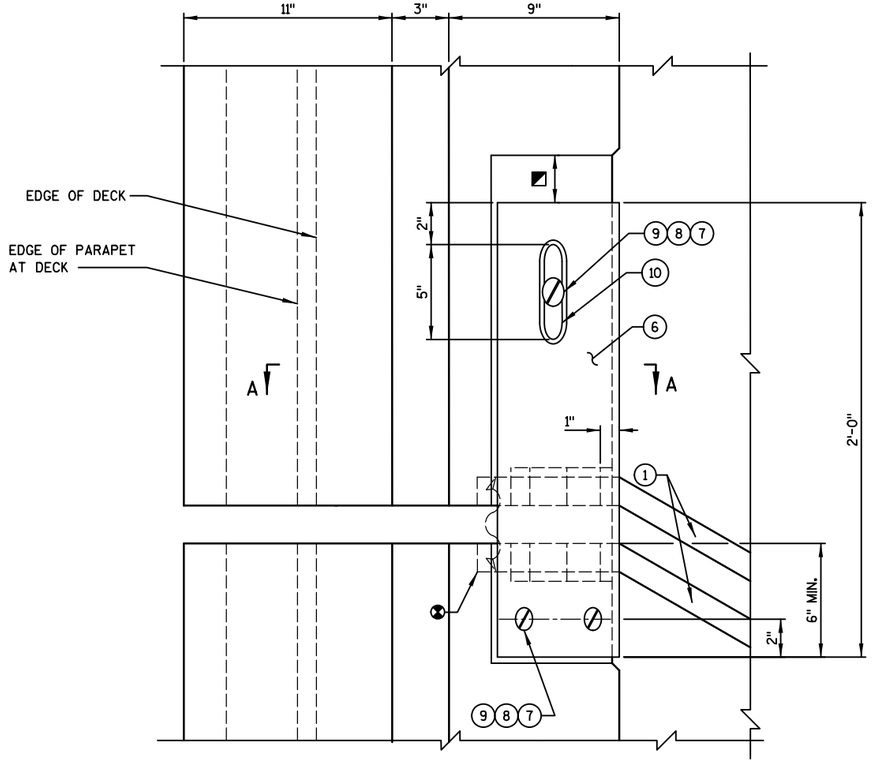
* DIMENSION VARIES BASED ON FINAL OVERLAY SURFACE ELEVATION. FIELD VERIFY AND ADJUST PLATE DIMENSIONS AS NECESSARY TO MAINTAIN 1/4" GAP.



SECTION B-B



VIEW OF PARAPET PLATE FROM ROADWAY



PLAN

LEGEND

1. NEOPRENE STRIP SEAL (4-INCH) AND STEEL EXTRUSIONS.
2. STUDS 5/8" DIA. X 6 3/8" LONG AT 6" ALTERNATE CENTERS. WELD TO EXTRUSIONS AND BEND AS SHOWN AFTER WELDING.
3. 3/4" DIA. THREADED ROD WITH 2 NUTS AND PLATE WASHERS. GROUT THREADED ROD INTO FIELD DRILLED HOLES IN SUPERSTRUCTURE AS SHOWN. ON ABUTMENT SIDE GROUT THREADED ROD INTO FIELD DRILLED HOLES IN ABUTMENT BACKWALL AS SHOWN.
4. 3/4" DIA. THREADED ROD WITH NUT. TACK WELD NUT TO NO. 5.
5. FABRICATE SUPPORT FROM 3" X 1/2" BAR AS SHOWN OR EQUIVALENT. SHOP OR FIELD WELD TO NO. 1. IF FIELD WELDED, COVER WELDED AREAS WITH EPOXY-COATING MATERIAL. PROVIDE 1 1/2" DIA. HOLE FOR NO. 3 AND 1" DIA. HOLE FOR NO. 4.
6. GALVANIZED PLATE 3/8" X 1'-0" WIDE X 2'-0" LONG WITH HOLES FOR NO. 7. BEND AS SHOWN. FIELD MEASURE REQUIRED PLATE WIDTH AFTER CONCRETE OVERLAY IS IN PLACE.
7. 3/4" DIA. X 1 1/2" STAINLESS STEEL SOCKET FLAT HEAD SCREWS WITH ANTI-SEIZE LUBRICANT. PLACE IN COUNTERSUNK HOLE. RECESS 1/16" BELOW PLATE SURFACE.
8. 3/4" DIA. X 4" GALVANIZED HEX HEAD BOLT. BEND 45°.
9. 3/4" DIA. X 2 1/4" GALVANIZED THREADED COUPLING.
10. 1" X 5" SLOTTED COUNTERSUNK HOLE FOR NO. 7. PLACE SLOT PARALLEL TO DIRECTION OF MOVEMENT.

⊗ BLOCK OUT CONCRETE 2" EACH SIDE OF JOINT OPENING.

◪ JOINT OPENING DIMENSION ALONG SKEW PLUS 1/2".

8

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NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-3-14

DRAWN BY JFG | PLANS CK'D. BMO

COVER PLATE DETAILS

SHEET 10 OF 12
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FILE NAME : S:\MAD\1000--1099\1089\895\Drawings\CAD\Micros\Plan\USH 53\080110_cp.dgn

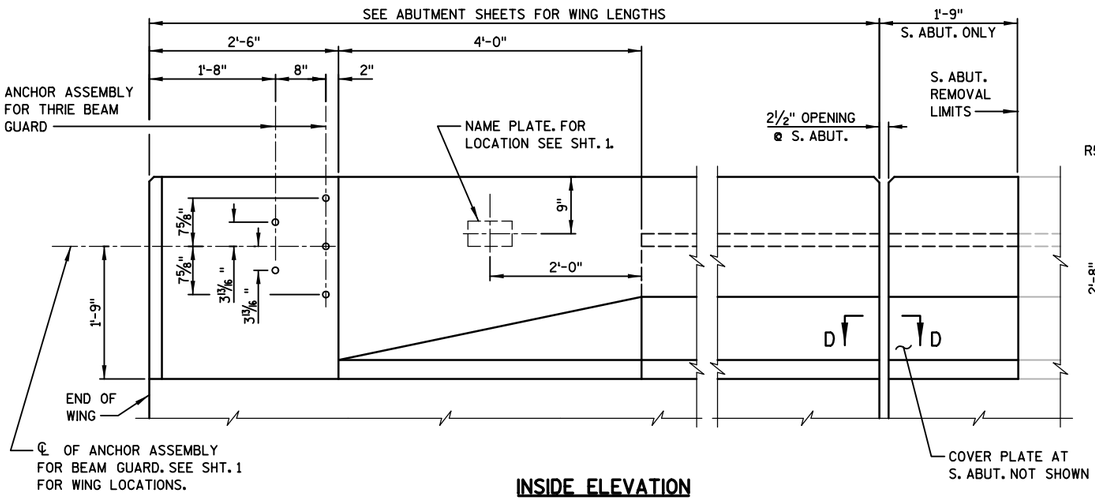
STATE PROJECT NUMBER
1196-04-77

SLOPED FACE PARAPET 'A'

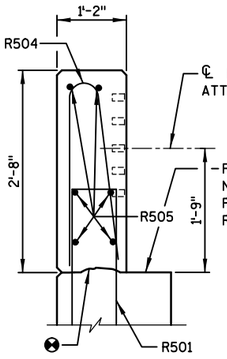
BILL OF BARS

COATED: 1,270 LBS

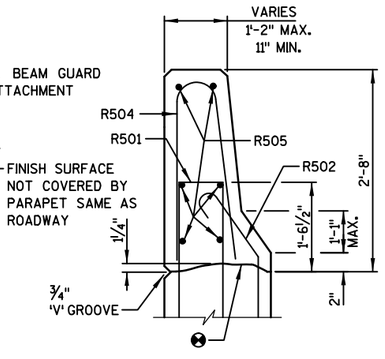
BAR MARK	NO. REQ'D S. ABUT.	NO. REQ'D N. ABUT.	LENGTH	BEND	COAT	LOCATION
R501	30	30	6'-1"	X	X	PARAPET - VERT.
R502	8	8	3'-3"	X	X	PARAPET - VERT.
R503	10	10	5'-10"	X	X	PARAPET - VERT.
R504	30	30	5'-2"	X	X	PARAPET - VERT.
R505	12	12	6'-2"		X	PARAPET - HORIZ.
R506	10	10	5'-0"	X	X	PARAPET - VERT.
R507	8	8	6'-5"		X	PARAPET - HORIZ. - WING
R508	2	2	6'-5"	X	X	PARAPET - HORIZ. - WING



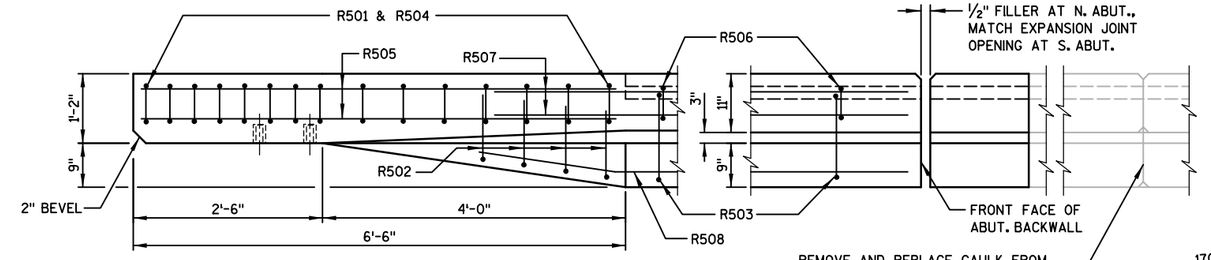
INSIDE ELEVATION



SECTION A



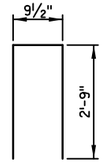
SECTION B



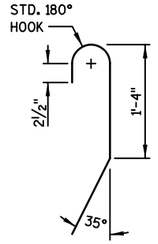
PLAN

(WING 2 SHOWN, OTHERS SIMILAR)

REMOVE AND REPLACE CAULK FROM FRONT FACE AND TOP OF JOINTS ON SLOPED FACE PARAPETS (INCIDENTAL TO CONCRETE MASONRY BRIDGES)



R501



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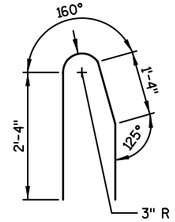

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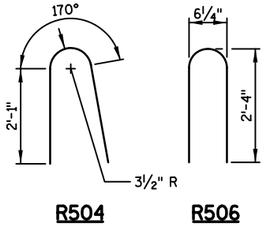
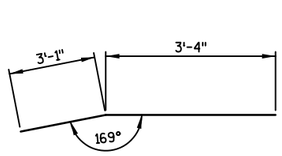


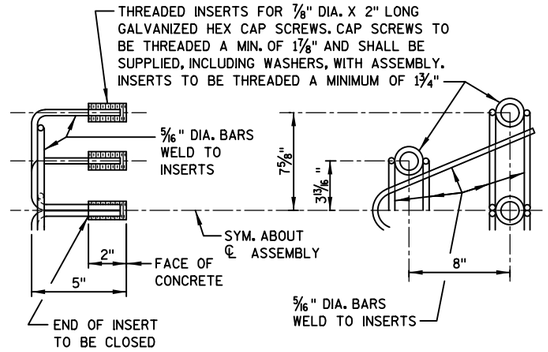
R504 R506



R508

LEGEND

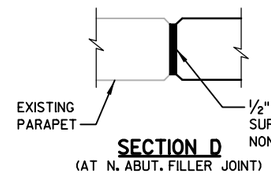
- CONST. JOINT - STRIKE OFF AS SHOWN AND LEAVE ROUGH.
- ROUGHEN SURFACE OF EXISTING CONCRETE TO ±¼" AMPLITUDE.



DETAIL OF ANCHOR ASSEMBLY

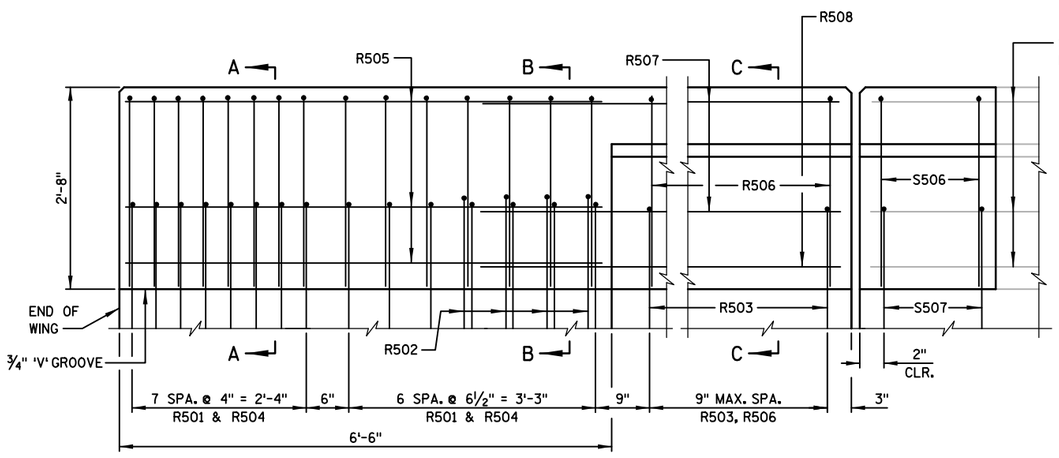
NOTE: HEX HEAD CAP SCREWS & WASHERS TO BE GALVANIZED IN ACCORDANCE WITH AASHTO M232, CLASS C.

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

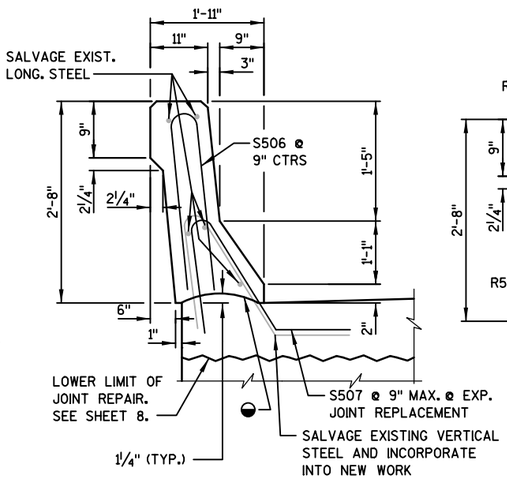


SECTION D

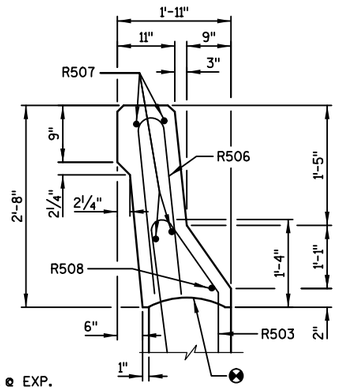
(AT N. ABUT. FILLER JOINT)



OUTSIDE ELEVATION



SECTION THRU PARAPET ON BRIDGE



SECTION C

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-3-14

DRAWN BY JFG | PLANS CK'D. BMO

SLOPED FACE PARAPET 'A'

SHEET 11 OF 12

245

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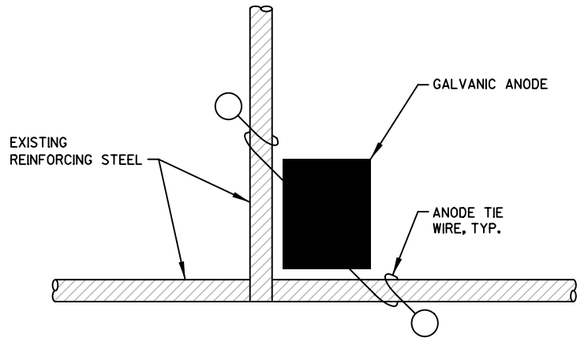
FILE NAME : S:\MAD\1000--1099\1089\895\Drawings\CAD\Micros\Plan\USH 53\080111_sf.dgn

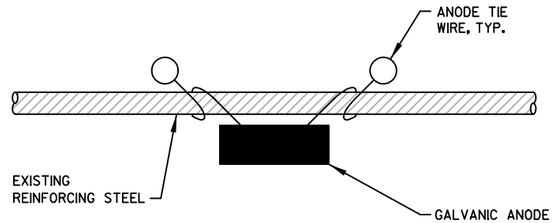
STATE PROJECT NUMBER

1196-04-77



TYPICAL INSTALLATION AT

BAR STEEL INTERSECTION



TYPICAL INSTALLATION FOR BAR STEEL

NOTES

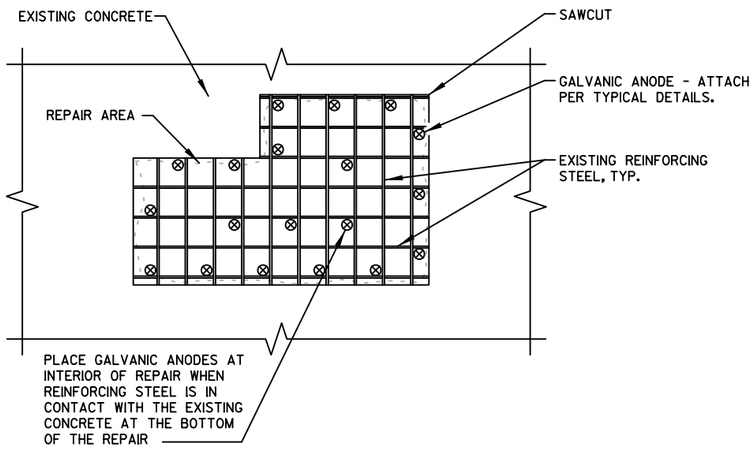
SURFACE REPAIR AREAS WITH CATHODIC PROTECTION ARE BASED ON THE PLANS AND AS DETERMINED BY THE ENGINEER. THE PLAN QUANTITY FOR THE BID ITEM "EMBEDDED GALVANIC ANODES" IS BASED ON A MAXIMUM SPACING OF 24-INCHES AROUND THE SURFACE REPAIR PERIMETER. THE ACTUAL QUANTITY SHALL BE BASED ON THE FIELD CONDITIONS AND AS RECOMMENDED BY THE GALVANIC ANODE SUPPLIER.

SURFACE REPAIRS SHALL BE FILLED WITH REPAIR MATERIALS COMPATIBLE WITH CATHODIC PROTECTION, AS RECOMMENDED BY THE ANODE SUPPLIER.

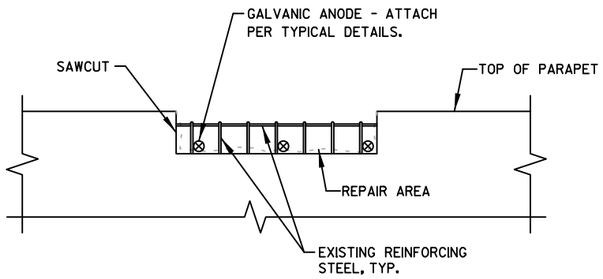
EXISTING REINFORCING STEEL TO BE COMPLETELY CLEANED OF CORRODED MATERIAL AND CONCRETE TO PROVIDE SUFFICIENT ELECTRICAL CONNECTION AND BOND. CATHODIC PROTECTION PREPARATIONS ARE INCLUDED IN THE BID ITEM "EMBEDDED GALVANIC ANODES".

ANODES NEAREST TO EDGE OF REPAIR TO BE WITHIN 6" OF EDGE.

AFTER PLACEMENT, GALVANIC ANODES SHOULD MAINTAIN A MINIMUM TOP COVER OF 1½ AND A MINIMUM BOTTOM COVER OF ¾".



PARTIAL PLAN TYPICAL REPAIR



PARTIAL ELEVATION AT PARAPET

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-3-14

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CATHODIC PROTECTION

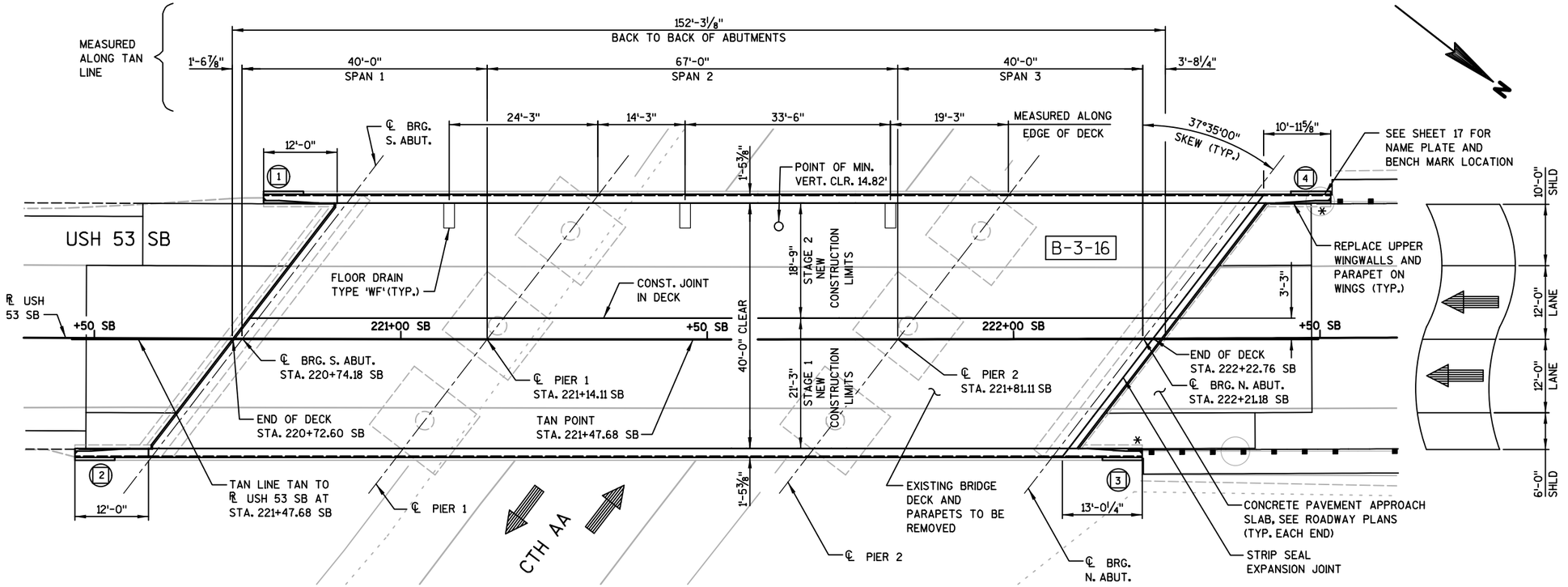
SHEET 12 OF 12

246

FILE NAME : S:\MAD\1000--1099\1089\895\Drawings\CAD\Micros\Plan\USH 53\080112_cp.dgn

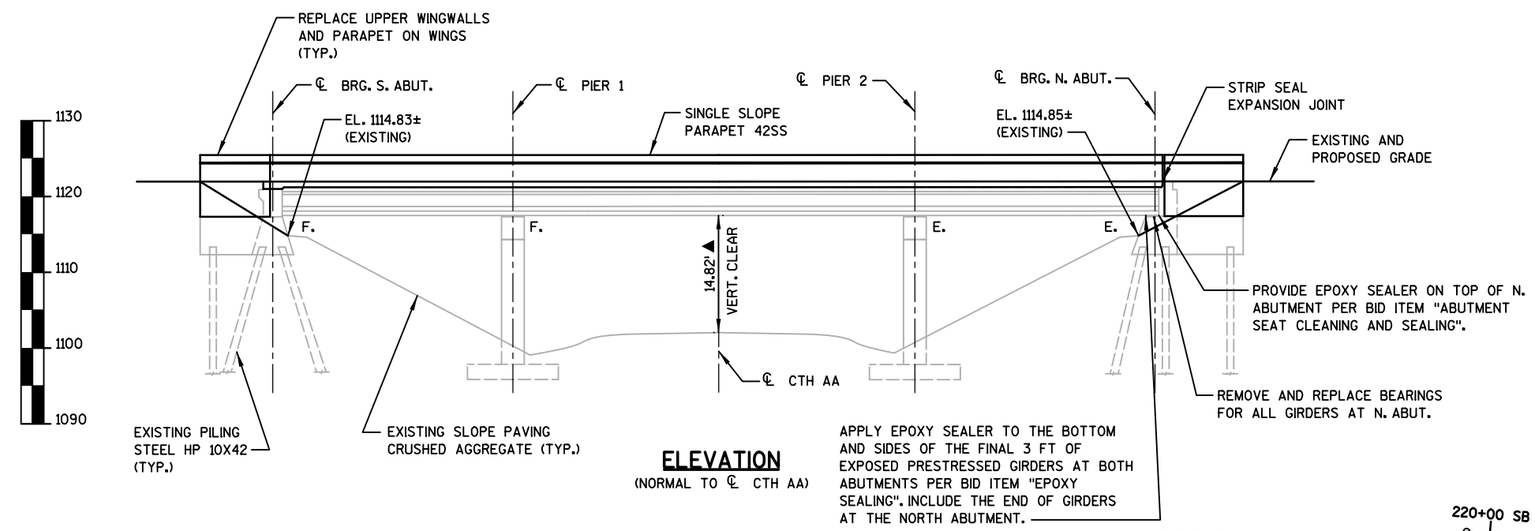
STATE PROJECT NUMBER

1196-04-77



PLAN

(DECK REPLACEMENT - 3 SPAN 45" PRESTRESSED GIRDERS)



ELEVATION

(NORMAL TO ℄ CTH AA)

BENCHMARKS

BM NO.	COORDINATES	DESCRIPTION	ELEV.
BM 1	Y: 62,128.59 X: 354,745.03	NW CORNER BRIDGE DECK B-3-24 (CTH I)	1065.33
BM 2	Y: 61,303.85 X: 355,782.67	NW CORNER BRIDGE DECK B-3-20 (CHETEK RIVER)	1043.96
BM 3	Y: 66,181.31 X: 349955.75	NW CORNER BRIDGE DECK B-3-26 (KNAPP STREET)	1077.68

NOTE: BENCH MARKS ARE OUTSIDE OF PLAN EXTENTS. SEE ROADWAY PLANS FOR ADDITIONAL INFORMATION.

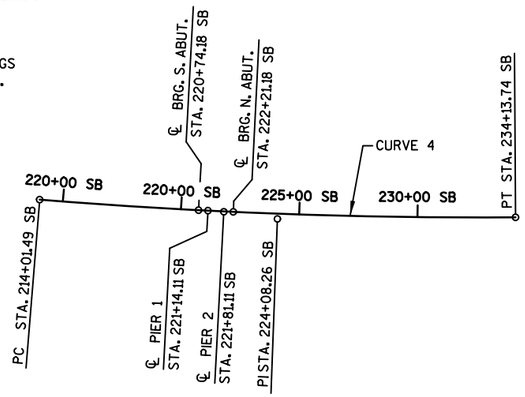
LEGEND

* LOCATION OF ANCHOR ASSEMBLIES FOR THRIE BEAM ATTACHMENT.

(X) DENOTES WINGWALL NUMBER.

▲ MIN. VERTICAL CLEARANCE BASED ON INFORMATION OBTAINED FROM WISDOT HIGHWAY STRUCTURES INFORMATION SYSTEM.

CURVE 4
P.I. = 224+08.26 SB
Y = 45,575.85
X = 366,642.99
Δ = 5°01'39"
D = 0°14'59"
T = 1006.77'
L = 2012.25'
R = 22932.00'
P.C. = 214+01.49 SB
P.T. = 234+13.74 SB
e = 1.2% (MATCH EX. SUPERELEVATION AND SUPERELEVATION TRANSITIONS)



HORIZONTAL CURVE DATA

DESIGN DATA

LIVE LOAD:
DESIGN LOADING _____ HS20
INVENTORY RATING _____ HS17
OPERATING RATING _____ HS29
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV) _____ 250 KIPS

MATERIAL PROPERTIES:
CONCRETE SUPERSTRUCTURE _____ f'c = 4,000 PSI
CONCRETE SUBSTRUCTURE _____ f'c = 3,500 PSI
HIGH STRENGTH BAR STEEL REINFORCEMENT (GRADE 60) _____ fy = 60,000 PSI
45-INCH PRESTRESSED GIRDER:
CONCRETE MASONRY _____ f'c = 8,000 PSI
PRESTRESSING STRANDS = 0.5" DIA. WITH ULTIMATE TENSILE STRENGTH OF 270,000 PSI

TRAFFIC DATA

USH 53 SB
A.D.T. (2025) = 9,660
DESIGN SPEED = 70 MPH

CTH AA
A.D.T. (2000) = 270
DESIGN SPEED = 60 MPH

LIST OF DRAWINGS

1. GENERAL PLAN
2. CROSS SECTION & QUANTITIES
3. CONSTRUCTION STAGING
4. SOUTH ABUTMENT
5. SOUTH ABUTMENT DETAILS
6. NORTH ABUTMENT
7. NORTH ABUTMENT DETAILS
8. BEARING DETAILS
9. STEEL DIAPHRAGM
10. PRESTRESSED GIRDER DETAILS
11. SUPERSTRUCTURE PLAN
12. SUPERSTRUCTURE SECTION
13. SUPERSTRUCTURE DETAIL - 1
14. SUPERSTRUCTURE DETAIL - 2
15. STRIP SEAL EXPANSION JOINT
16. COVER PLATE DETAILS
17. SINGLE SLOPE PARAPET 42SS
18. FLOOR DRAIN TYPE 'WF'
19. DOWNSPOUT DETAILS

STRUCTURE DESIGN CONTACTS

BRIDGE OFFICE CONTACT:
AARON BONK (608) 261-0261

DESIGN CONSULTANT CONTACT:
BRETT OFTEDAHL (608) 251-4843

NO.	DATE	REVISION	BY

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
ACCEPTED _____ SDR 01/17/25
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-3-16

USH 53 SB OVER CTH AA

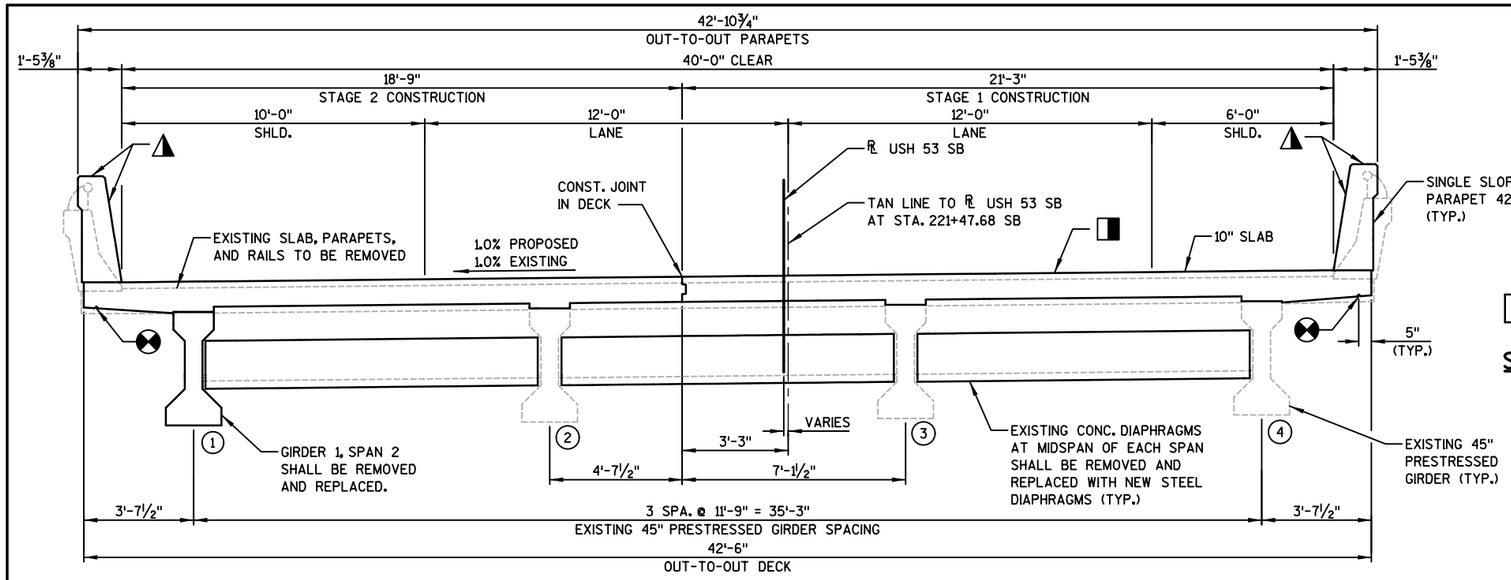
COUNTY BARRON	TOWN/~~CITY/VILLAGE~~ DOVRE
DESIGN SPEC. REHABILITATION N/A	

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
DLK	BMO	JFG	BMO

GENERAL PLAN

SHEET 1 OF 19
247

FILE NAME : S:\MAD\1000--1099\1089\895\Drawings\CAD\Micros\Plan\USH 53\080201_gn.dgn



EXISTING AND PROPOSED TYPICAL CROSS SECTION

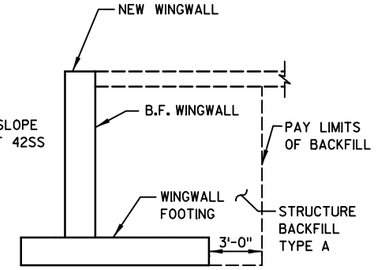
(LOOKING NORTH)

LEGEND

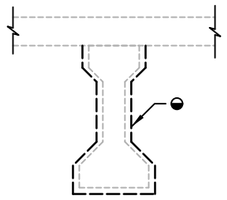
- (X) DENOTES GIRDER NUMBER
- 3/4" V-GROOVE REQ'D. EXTEND TO 6" FROM F.F. OF SOUTH ABUT. DIAPH. AND 2'-0" FROM F.F. OF NORTH ABUT. BODY.
- PROTECTIVE SURFACE TREATMENT SHALL BE APPLIED TO THE TOP OF DECK AND VERTICAL AND HORIZONTAL SURFACES OF THE PAVING NOTCHES.
- PIGMENTED SURFACE SEALER SHALL BE APPLIED TO THE INSIDE, TOP, AND ENDS OF PARAPETS.
- APPLY EPOXY SEALER TO THE BOTTOM AND SIDES OF THE FINAL 3 FT OF EXPOSED PRESTRESSED GIRDERS AT BOTH ABUTMENTS. INCLUDE THE END OF GIRDERS AT THE NORTH ABUTMENT.

TOTAL ESTIMATED QUANTITIES

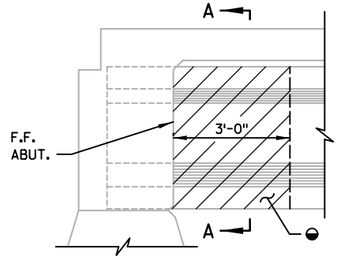
BID ITEM NUMBER	BID ITEMS	S. ABUT	PIER 1	PIER 2	N. ABUT.	SUPERSTRUCTURE	TOTAL	UNIT
203.0220.02	REMOVING STRUCTURE B-3-16	---	---	---	---	---	1	EACH
206.1001.02	EXCAVATION FOR STRUCTURES BRIDGES B-3-16	---	---	---	---	---	1	EACH
210.1500	BACKFILL STRUCTURE TYPE A	23	---	---	24	---	47	TON
502.0100	CONCRETE MASONRY BRIDGES	10.1	---	---	10.5	215.6	236	CY
502.3101	EXPANSION DEVICE	---	---	---	51	---	51	LF
502.3200	PROTECTIVE SURFACE TREATMENT	---	---	---	---	673	673	SY
502.3210	PIGMENTED SURFACE SEALER	13	---	---	13	148	174	SY
502.4204	ADHESIVE ANCHORS NO. 4 BAR	16	---	---	17	---	33	EACH
502.4205	ADHESIVE ANCHORS NO. 5 BAR	16	---	---	65	208	289	EACH
503.0145	PRESTRESSED GIRDER TYPE I 45-INCH	---	---	---	---	67	67	LF
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	1,110	---	---	1,570	57,520	60,200	LB
505.0904	BAR COUPLERS NO. 4	---	---	---	---	12	12	EACH
505.0905	BAR COUPLERS NO. 5	---	---	---	3	549	552	EACH
505.0908	BAR COUPLERS NO. 8	---	---	---	---	6	6	EACH
506.2605	BEARING PADS ELASTOMERIC NON-LAMINATED	---	1	---	---	---	1	EACH
506.2610	BEARING PADS ELASTOMERIC LAMINATED	---	---	---	4	---	4	EACH
506.4000.01	STEEL DIAPHRAGMS B-3-16	---	---	---	---	9	9	EACH
506.6000.01	BEARING ASSEMBLIES EXPANSION B-3-16	---	---	1	---	---	1	EACH
506.7050.S.01	REMOVING BEARINGS B-3-16	---	---	---	4	---	4	EACH
509.1500	CONCRETE SURFACE REPAIR	---	---	---	10	---	10	SF
514.0450	FLOOR DRAINS TYPE WF	---	---	---	---	3	3	EACH
514.2608	DOWNSPOUT 8-INCH	---	---	---	---	113	113	LF
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	6	---	---	6	---	12	SY
606.0100	RIPRAP LIGHT	---	2	2	---	---	4	CY
614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	---	---	---	2	---	2	EACH
645.0120	GEOTEXTILE TYPE HR	---	7	7	---	---	14	SY
SPV.0060.03	TEMPORARY SUPPORT B-3-16	---	---	---	---	---	1	EACH
SPV.0180.01	ABUTMENT SEAT CLEANING AND SEALING	---	---	---	16	---	16	SY
SPV.0180.02	EPOXY SEALER	---	---	---	---	29	29	SY
	NON-BID ITEMS							
	FILLER	---	---	---	---	---	1/2", 3/4"	SIZE



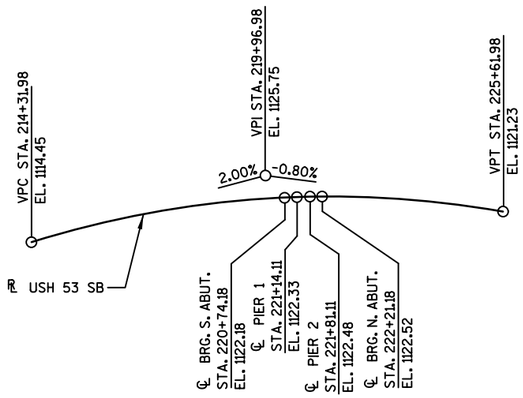
STRUCTURE BACKFILL LIMITS



SECTION A-A



EPOXY SEALING GIRDER ENDS



PROFILE GRADE SOUTHBOUND LANE B-3-16

GENERAL NOTES

THE PROPOSED WORK INCLUDES REMOVING AND REPLACING THE CONCRETE DECK AND PARAPETS, CONCRETE SURFACE REPAIR AT ABUTMENTS, GIRDER 1/SPAN 2 REPLACEMENT, REMOVING AND REPLACING BEARINGS AND EXPANSION JOINT AT NORTH ABUTMENT, REMOVING MIDSPAN CONCRETE DIAPHRAGMS AND REPLACING WITH STEEL DIAPHRAGMS, EPOXY SEALING GIRDER ENDS AND TOP OF N. ABUT., AND REPLACING UPPER WINGWALLS.

DRAWINGS SHALL NOT BE SCALED.

DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS AND SUBSEQUENT REHABILITATION PLANS.

ALL DIMENSIONS ARE IN FEET AND INCHES UNLESS OTHERWISE NOTED. ALL STATIONS ARE IN FEET.

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

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

UTILIZE EXISTING BAR STEEL REINFORCEMENT WHERE SHOWN AND EXTEND 24 BAR DIAMETERS INTO NEW WORK, UNLESS SPECIFIED OTHERWISE.

THE HAUNCH CONCRETE QUANTITY IS BASED ON THE AVERAGE HAUNCH SHOWN ON THE PRESTRESSED GIRDER DETAILS SHEET.

ALL CONCRETE REMOVAL SHALL BE DEFINED BY A 1" DEEP SAW CUT. THE CONTRACTOR SHALL EXERCISE CAUTION WHEN REMOVING OLD DECK AS TO NOT DAMAGE THE EXISTING GIRDERS.

VARIATIONS TO THE NEW GRADE LINE OVER 1/4" MUST BE SUBMITTED BY THE FIELD ENGINEER TO THE STRUCTURES DESIGN SECTION FOR REVIEW.

THE CONTRACTOR SHALL SUPPLY A NEW NAME PLATE IN ACCORDANCE WITH SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS AND THE STANDARD DETAIL DRAWING. NAME PLATE TO SHOW ORIGINAL CONSTRUCTION YEAR, 1972.

CONTRACTOR IS RESPONSIBLE FOR GIRDER STABILITY DURING REMOVAL AND REPLACEMENT OF THE CONCRETE DECK AND GIRDER DIAPHRAGMS.

PERFORM CONCRETE SURFACE REPAIR AS DIRECTED BY THE FIELD ENGINEER. QUANTITY SHOWN IS APPROXIMATE.

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

AT ABUTMENTS, ALL EXCAVATED VOLUME NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH STRUCTURE BACKFILL TYPE A.

THE EXISTING GROUNDLINE SHALL BE THE UPPER LIMITS OF EXCAVATION FOR STRUCTURES.

STATE PROJECT NUMBER

1196-04-77

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-3-16

DRAWN BY JFG | PLANS CK'D. BMO

CROSS SECTION AND QUANTITIES

SHEET 2 OF 19
248

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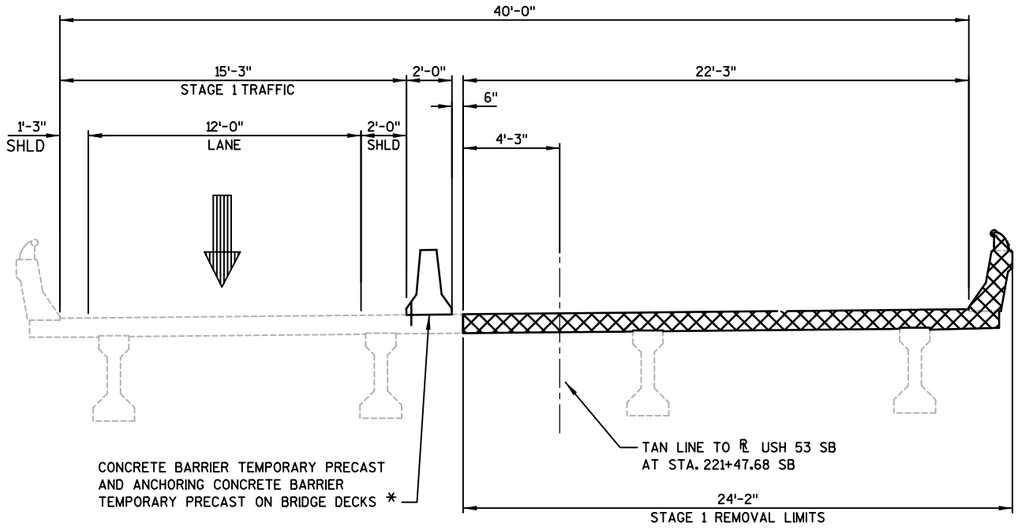
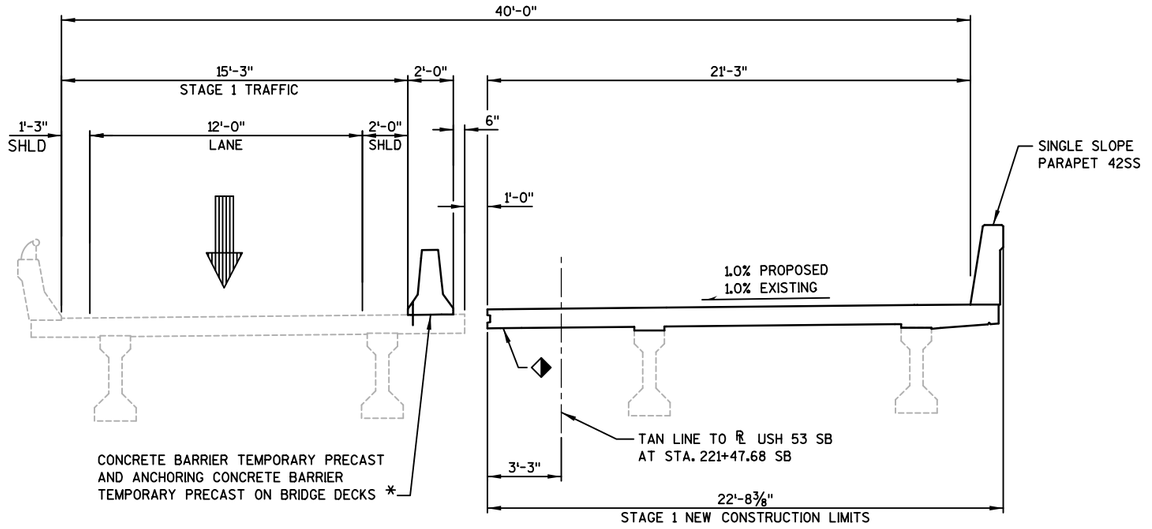
STATE PROJECT NUMBER
1196-04-77



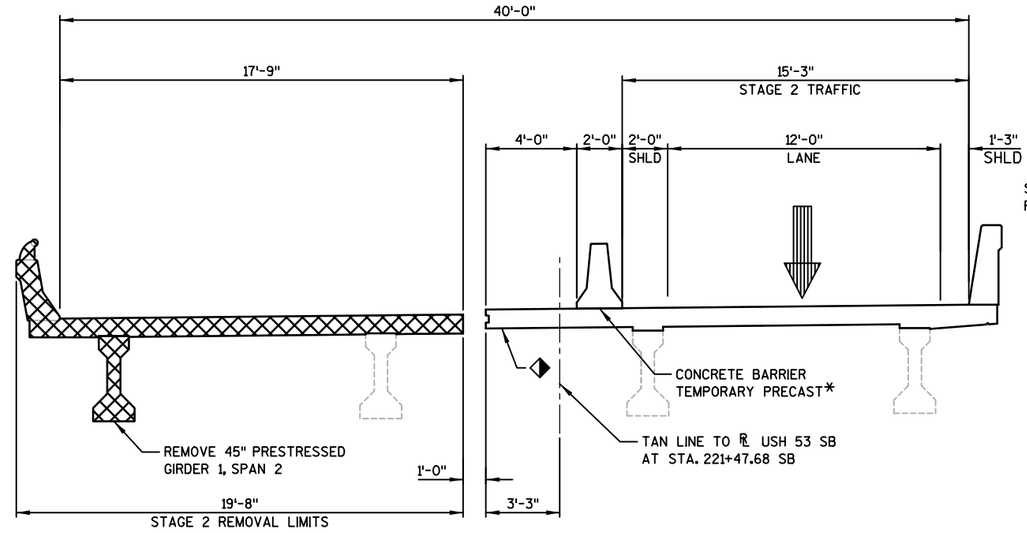
STAGE 1 TRAFFIC AND REMOVAL

(LOOKING NORTH)



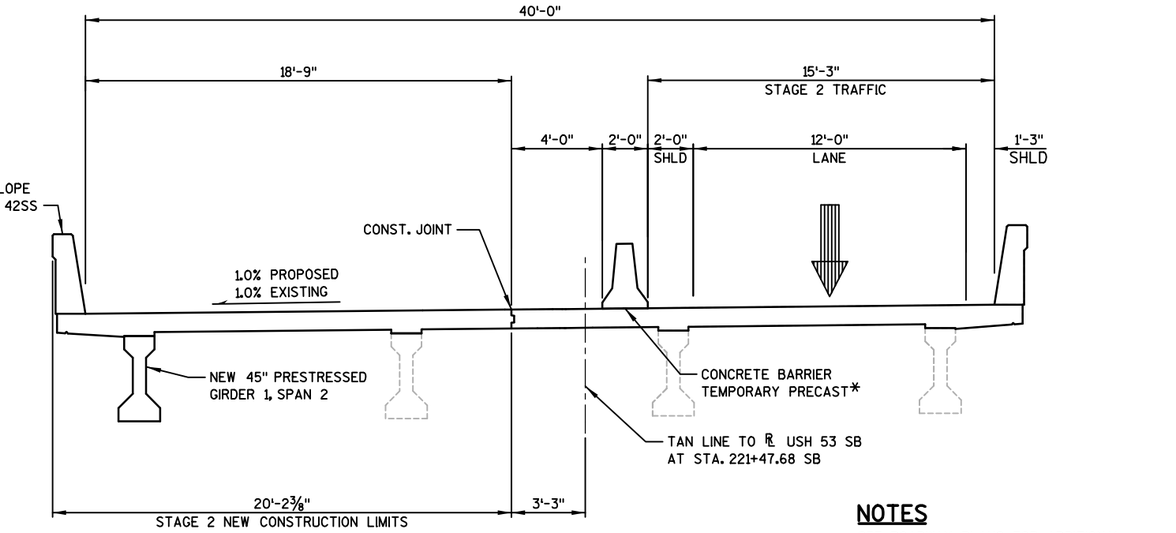
STAGE 1 TRAFFIC AND CONSTRUCTION

(LOOKING NORTH)



STAGE 2 TRAFFIC AND REMOVAL

(LOOKING NORTH)



STAGE 2 TRAFFIC AND CONSTRUCTION

(LOOKING NORTH)

NOTES

SEE ROADWAY PLANS FOR ADDITIONAL STAGING INFORMATION.

LEGEND

* SEE ROADWAY PLANS FOR ADDITIONAL INFORMATION.

◆ PROVIDE TEMPORARY SUPPORT OF THE NEW DECK OVERHANG DURING STAGE 1 AND STAGE 2 CONSTRUCTION IN ACCORDANCE WITH THE SPECIAL PROVISION "TEMPORARY SUPPORT B-3-16".

REMOVAL LIMITS

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-3-16

DRAWN BY JFG | PLANS CK'D. BMO

CONSTRUCTION STAGING

SHEET 3 OF 19
249

8

8

FILE NAME : S:\MAD\1000--1099\1089\895\Drawings\CAD\Micros\Plan\USH 53\080203_st.dgn

STATE PROJECT NUMBER

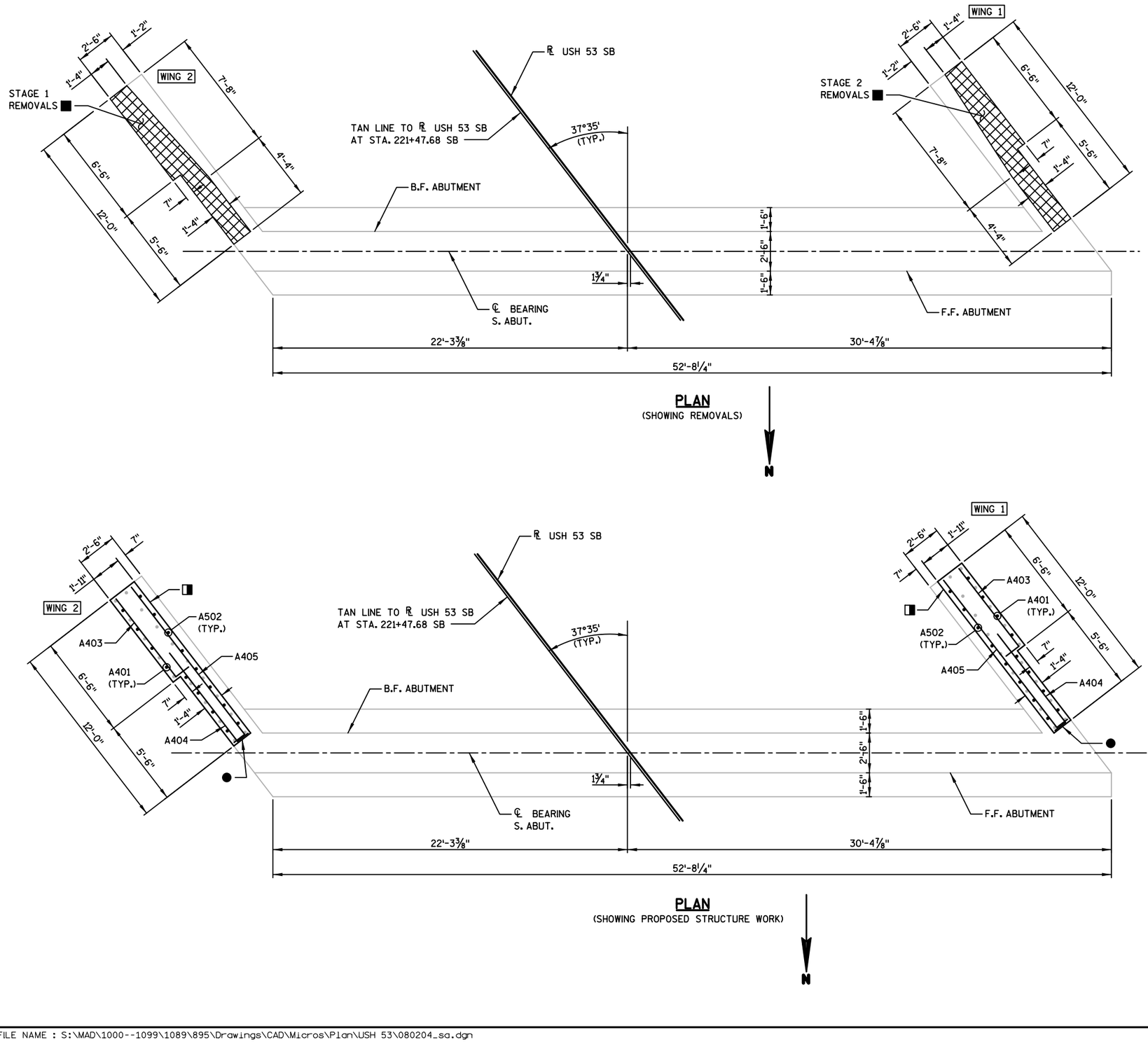
1196-04-77

LEGEND

- ■ REMOVE EXISTING UPPER WING AND PARAPET DOWN TO EXISTING ABUTMENT LOWER WINGWALL. SALVAGE AND INCORPORATE EXISTING VERTICAL BAR STEEL INTO NEW WORK.
- ● ½" FILLER TO EXTEND FROM EXISTING BEAM SEAT TO TOP OF CONCRETE PARAPET. FILLER INCLUDED IN WING LENGTH. SEAL EXPOSED SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER 1" DEEP AND HOLD DOWN ⅛" BELOW SURFACE OF CONCRETE.
- ◨ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACK FACE.
- ▨ REMOVAL LIMITS.

NOTES

SEE SOUTH ABUTMENT DETAILS SHEET.



PLAN
(SHOWING REMOVALS)

PLAN
(SHOWING PROPOSED STRUCTURE WORK)

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-3-16

DRAWN BY JFG | PLANS CK'D. BMO

SOUTH ABUTMENT

SHEET 4 OF 19
250

FILE NAME : S:\MAD\1000--1099\1089\895\Drawings\CAD\Micros\Plan\USH 53\080204_sa.dgn

STATE PROJECT NUMBER
1196-04-77

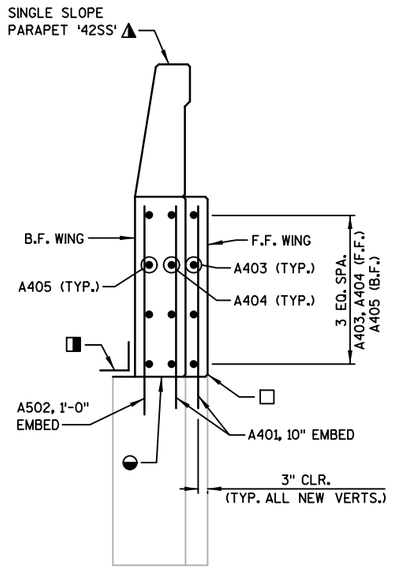
SOUTH ABUTMENT
BILL OF BARS

COATED: 300 LBS

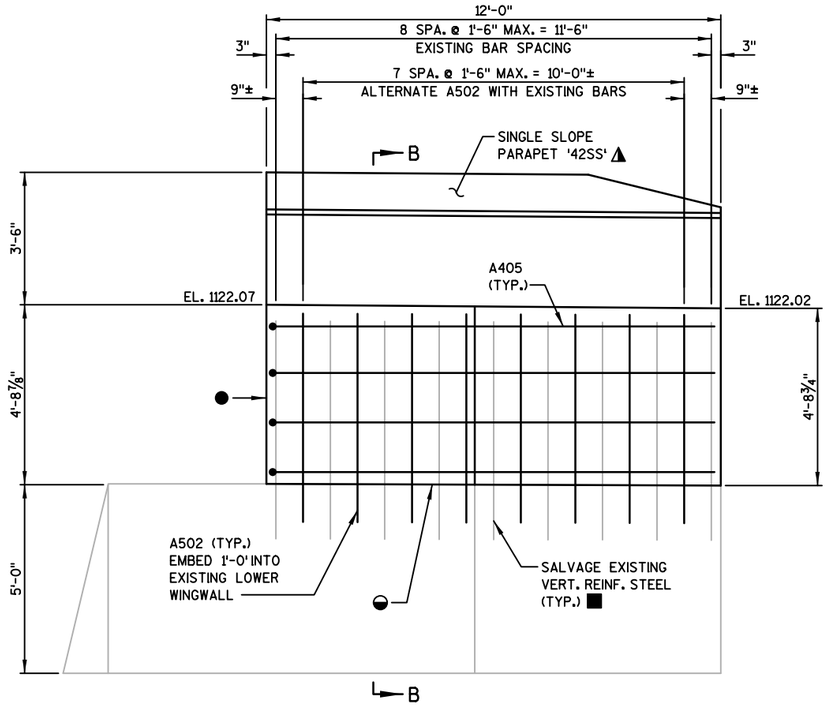
BAR MARK	NO. REQ'D	LENGTH	BENT	COAT	LOCATION
☆ A401	16	5'-4"		X	F.F. - VERT. - WINGS 1 & 2
☆ A502	16	5'-6"		X	B.F. - VERT. - WINGS 1 & 2
A403	8	7'-1"	X	X	F.F. - HORIZ. - WINGS 1 & 2
A404	8	8'-3"	X	X	F.F. - HORIZ. - WINGS 1 & 2
A405	8	12'-4"	X	X	B.F. - HORIZ. - WINGS 1 & 2

LEGEND

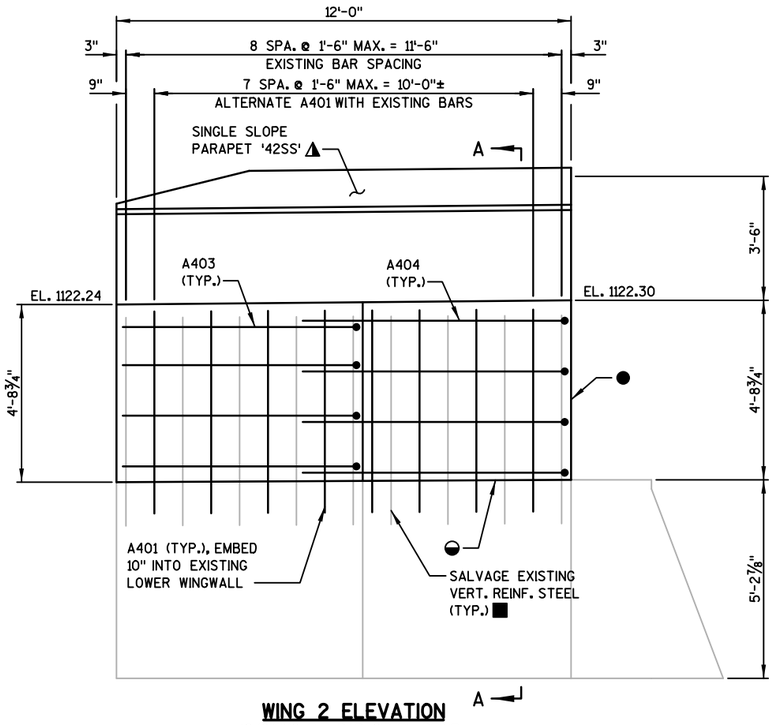
- ■ REMOVE EXISTING UPPER WING AND PARAPET DOWN TO EXISTING ABUTMENT LOWER WINGWALL. SALVAGE AND INCORPORATE EXISTING VERTICAL BAR STEEL INTO NEW WORK.
- ◨ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACK FACE.
- ◒ ROUGHEN SURFACE OF EXISTING CONCRETE TO 1/4"± AMPLITUDE (ALL AREAS OF NEW TO EXISTING CONCRETE CONTACT).
- ◭ SEE "SINGLE SLOPE PARAPET '42SS'" SHEET FOR REINFORCING DETAILS.
- □ 3/4" V-GROOVE.
- ☆ ADHESIVE ANCHOR.



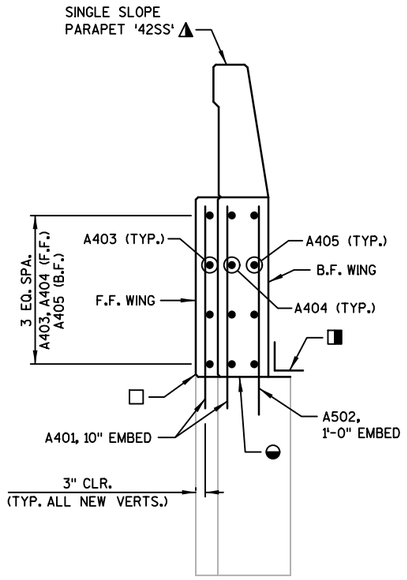
SECTION B-B



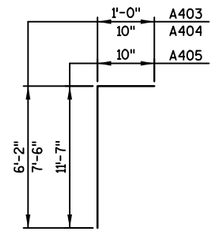
WING 1 ELEVATION
(SHOWING B.F. BAR STEEL REINF., WING 2 B.F. REINF. SIMILAR)



WING 2 ELEVATION
(SHOWING F.F. BAR STEEL REINF., WING 1 F.F. REINF. SIMILAR)



SECTION A-A



A403, A404, A405

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-3-16

DRAWN BY JFG | PLANS CK'D. BMO

SOUTH ABUTMENT DETAILS

SHEET 5 OF 19
251

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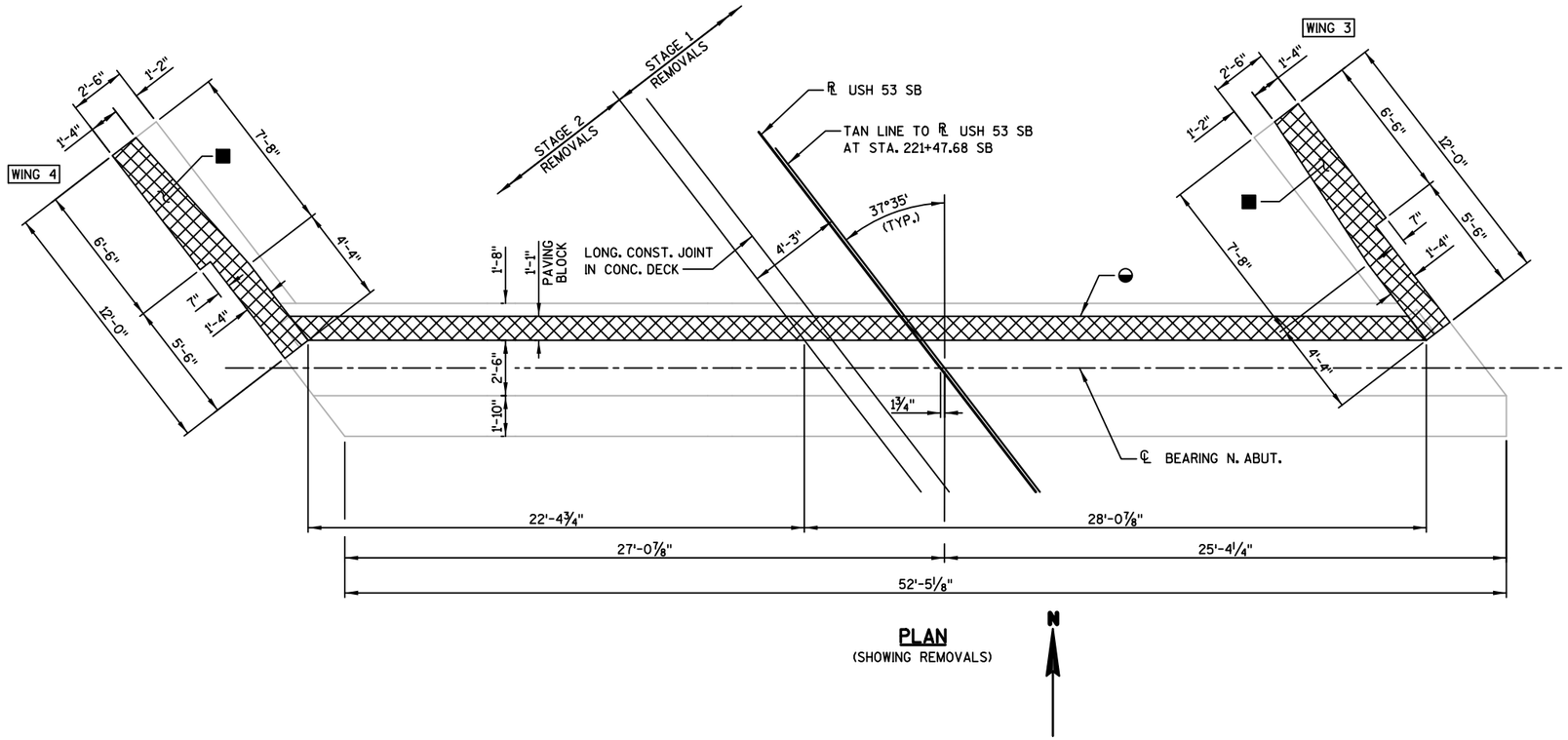
FILE NAME : S:\MAD\1000--1099\1089\895\Drawings\CAD\Micros\Plan\USH 53\080205_sa.dgn

STATE PROJECT NUMBER

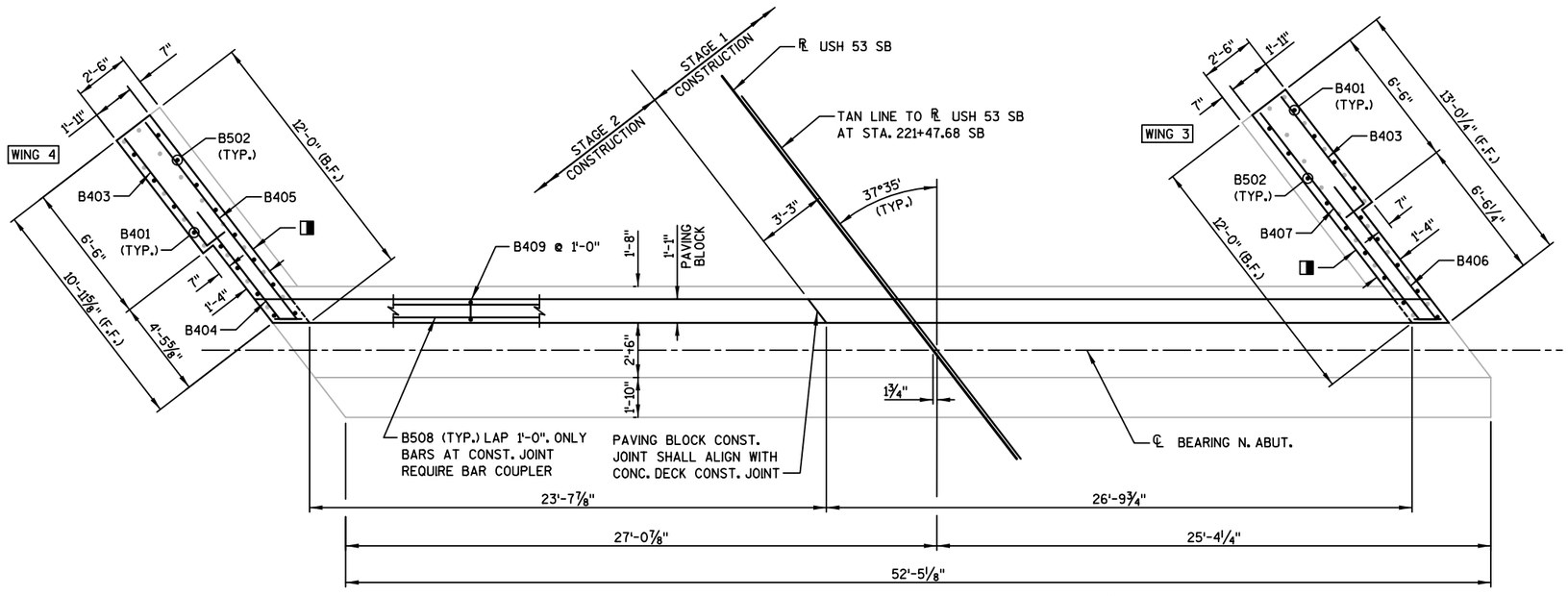
1196-04-77

LEGEND

- ■ REMOVE EXISTING UPPER WING AND PARAPET DOWN TO EXISTING ABUTMENT LOWER WINGWALL. SALVAGE AND INCORPORATE EXISTING VERTICAL BAR STEEL INTO NEW WORK.
- ◨ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACK FACE.
- ◒ REMOVE EXISTING PAVING BLOCK. SEE "SUPERSTRUCTURE DETAILS - 1" SHEET.
- ▨ REMOVAL LIMITS.



PLAN
(SHOWING REMOVALS)



PLAN
(SHOWING PROPOSED STRUCTURE WORK)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-3-16

DRAWN BY JFG | PLANS CK'D. BMO

NORTH ABUTMENT

SHEET 6 OF 19
252

8

8

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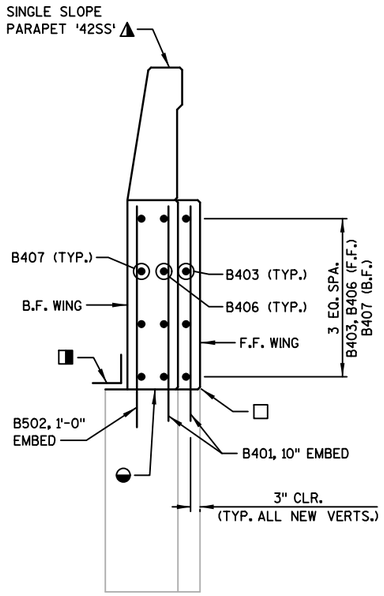
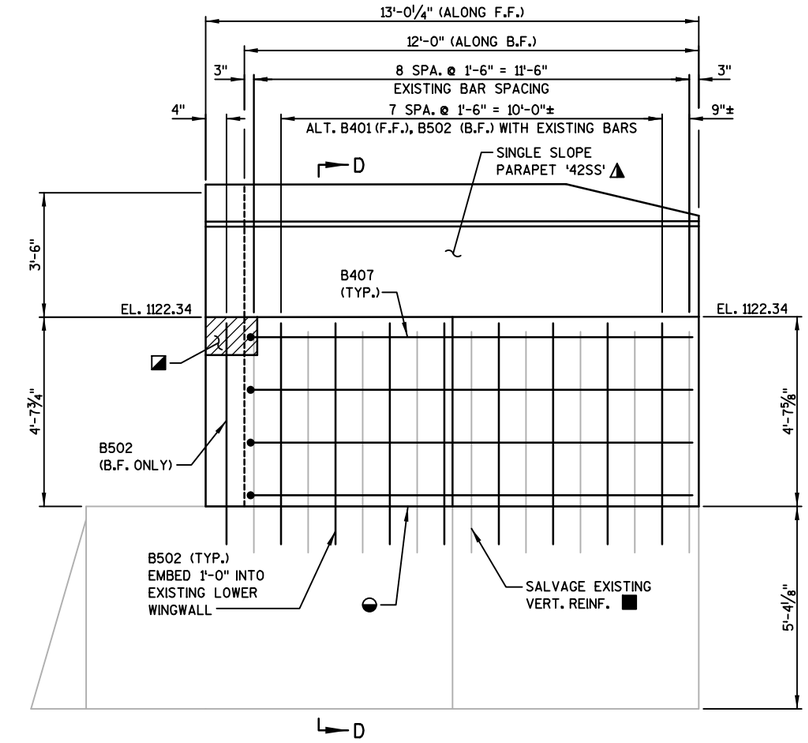


SECTION D-D



WING 3 ELEVATION

(SHOWING B.F. BAR STEEL REINF.,
WING 4 B.F. REING. SIMILAR)

NORTH ABUTMENT

BILL OF BARS

COATED: 750 LBS

	BAR MARK	NO. REQ'D	LENGTH	BENT	COAT	LOCATION
☆	B401	17	5'-8"		X	F.F. - VERT. - WINGS 3 & 4
☆	B502	16	5'-10"		X	B.F. - VERT. - WINGS 3 & 4
	B403	8	7'-1"	X	X	F.F. - HORIZ. - WINGS 3 & 4
	B404	4	7'-1"	X	X	F.F. - HORIZ. - WING 4
	B405	4	12'-2"	X	X	B.F. - HORIZ. - WING 4
	B406	4	9'-2"	X	X	F.F. - HORIZ. - WING 3
	B407	4	12'-9"	X	X	B.F. - HORIZ. - WING 3
*	B508	21	8'-0"		X	PAVING BLOCK - HORIZ.
	B409	49	3'-8"	X	X	PAVING BLOCK - VERT.
☆	B510	49	2'-9"	X	X	PAVING BLOCK - VERT. - DOWELS

* ONLY BARS AT CONST. JOINT REQUIRE COUPLER. SEE DETAIL ON SHEET 14.

LEGEND

■ REMOVE EXISTING UPPER WING AND PARAPET DOWN TO EXISTING ABUTMENT LOWER WINGWALL. SALVAGE AND INCORPORATE EXISTING VERTICAL BAR STEEL INTO NEW WORK.

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

◒ ROUGHEN SURFACE OF EXISTING CONCRETE TO ¼"± AMPLITUDE (ALL AREAS OF NEW TO EXISTING CONCRETE CONTACT).

◭ SEE "SINGLE SLOPE PARAPET '42SS'" SHEET FOR REINFORCING DETAILS.

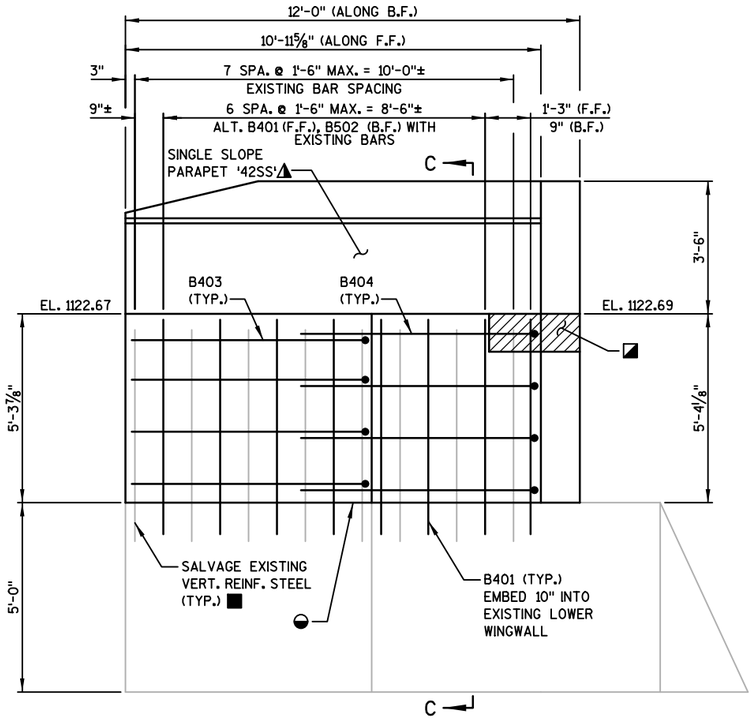
◪ POUR CONCRETE IN HATCHED REGION AFTER SUPERSTRUCTURE IS IN PLACE. SEE "SUPERSTRUCTURE DETAILS - 1" SHEET FOR EXTENTS.

□ ¾" V-GROOVE.

☆ ADHESIVE ANCHOR.

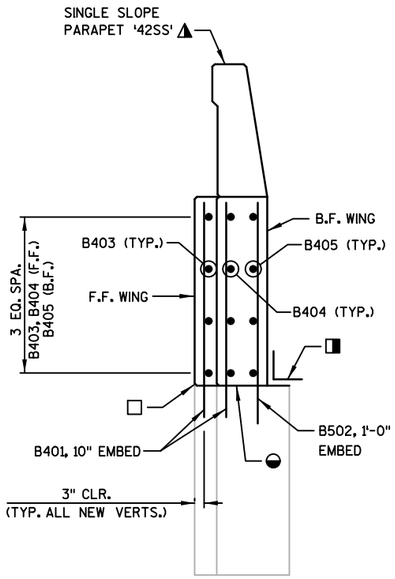
NOTES

SEE SHEET 13 FOR PAVING BLOCK DETAILS.

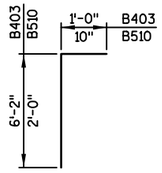


WING 4 ELEVATION

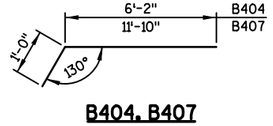
(SHOWING F.F. BAR STEEL REINF.,
WING 3 F.F. REINF. SIMILAR)



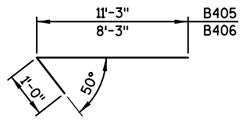
SECTION C-C



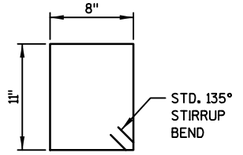
B403, B510



B404, B407



B405, B406



B409

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-3-16

DRAWN BY JFG | PLANS CK'D. BMO

NORTH ABUTMENT DETAILS

SHEET 7 OF 19
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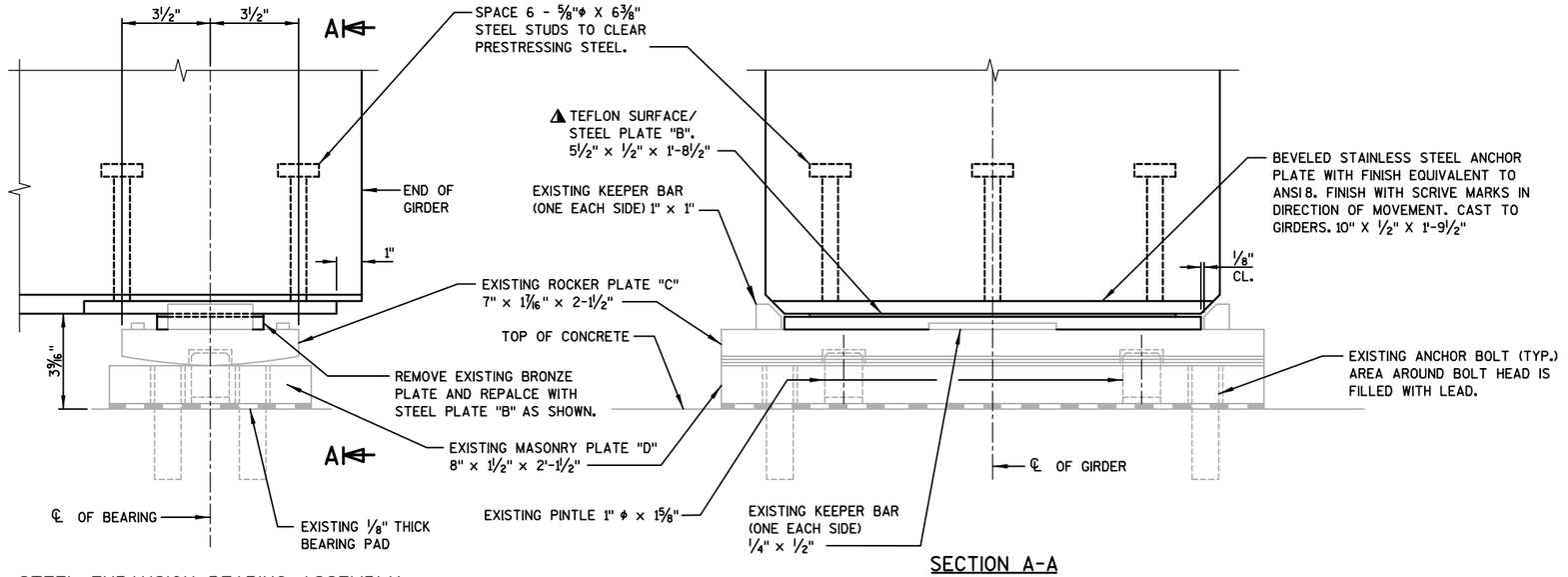
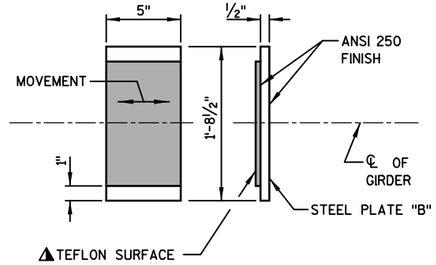
STATE PROJECT NUMBER
1196-04-77



SECTION A-A

STEEL EXPANSION BEARING ASSEMBLY AT PIER 2 FOR NEW GIRDER

(1 REQUIRED FOR GIRDER REPLACEMENT)



TEFLON SURFACE ON PLATE "B"

GIRDER REACTIONS AT BEARINGS	
	C/L BRG. N. ABUT.
INTERIOR GIRDER	11.77 K
EXTERIOR GIRDER	11.77 K

GIRDER REACTION NOTES

THE THEORETICAL SERVICE LOADS SHOWN IN THE TABLE ARE BASED ON THE GIRDER WEIGHT AFTER THE DECK IS REMOVED.

IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE ADEQUACY OF THE GIRDER AT THE JACKING LOCATION.

STEEL EXPANSION BEARING NOTES

ALL BEARINGS ARE SYMMETRICAL ABOUT ℄ OF GIRDER AND ℄ OF BEARING EXCEPT FOR EXISTING OFFSET ANCHOR BOLT LOCATIONS IN EXISTING MASONRY PLATE "D".

ALL MATERIAL IN BEARINGS, BUT EXCLUDING STAINLESS STEEL PLATE AND TEFLON SURFACE SHALL CONFORM TO ASTM A709 GRADE 50W.

STAINLESS STEEL PLATE SHALL CONFORM TO ASTM A240, TYPE 304.

ALL STRUCTURAL STEEL BEARING PLATES SHALL BE FLAT ROLLED STEEL PLATES WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT, AND VERTICAL.

ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUTS.

ALL FINISHED SURFACES SHALL BE MACHINE FINISHED BY AN AUTOMATIC PROCESS.

STEEL PLATE "B" SHALL BE SHOP PAINTED. DO NOT PAINT TEFLON SURFACE.

ALL MATERIAL IN "STEEL BEARINGS FOR PRESTRESSED CONCRETE GIRDERS", SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "BEARING ASSEMBLIES EXPANSION B-3-16", EACH.

▲ TEFLON SURFACE, USE UNFILLED WITH MINIMUM 1/16" THICKNESS. PLACE WITH SCRIVE MARKS IN DIRECTION OF MOVEMENT. BOND STEEL PLATE "B" AND TEFLON WITH ADHESIVE MATERIAL MEETING FEDERAL SPECIFICATION MMM-A-134, FEP FILM OR EQUAL.

AT INSTALLATION, ENSURE STAINLESS STEEL SLIDING FACE OF THE UPPER ELEMENT AND THE TFE SLIDING FACE OF THE LOWER ELEMENT HAVE THE SURFACE FINISH SPECIFIED AND ARE CLEAN AND FREE OF ALL DUST, MOISTURE, AND OTHER FOREIGN MATTER.

◑ REMOVE EXISTING BRONZE PLATE AND REPLACE WITH "B" AS SHOWN.

ELASTOMERIC BEARING NOTES

BEARINGS SHALL NOT BE PLACED AT A TEMPERATURE GREATER THAN 85° F.

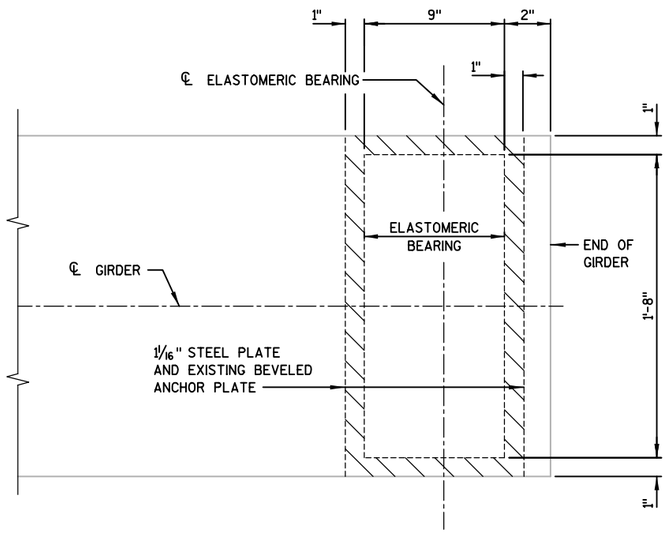
ALL MATERIAL USED FOR ELASTOMERIC BEARINGS SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "BEARING PADS ELASTOMERIC LAMINATED", EACH.

ALL STRUCTURAL STEEL BEARING PLATES SHALL BE FLAT ROLLED WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT AND VERTICAL.

ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUTS.

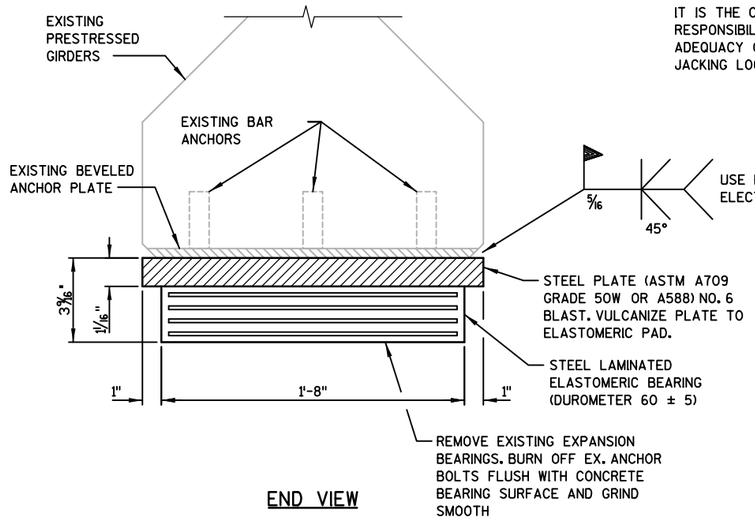
GRIND EXISTING WELD THAT ATTACHED EXISTING TOP PLATE TO EXISTING BOT. FLANGE. GRIND AFFECTED AREAS SMOOTH.

WELDING PROCEDURES SHALL BE ESTABLISHED BY THE CONTRACTOR TO RESTRICT THE MAXIMUM TEMPERATURE REACHED BY SURFACES IN CONTACT WITH ELASTOMER TO 200°F (93°C). TEMPERATURES SHALL BE CONTROLLED BY TEMPERATURE INDICATING WAX PENCILS OR OTHER SUITABLE MEANS APPROVED BY THE ENGINEER.

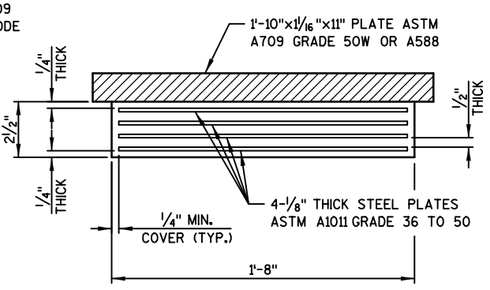


ELASTOMERIC BEARING PLAN VIEW AT N. ABUT.

(4 REQUIRED AT EXISTING GIRDERS)



END VIEW



SECTION THRU ELASTOMERIC BEARING

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-3-16

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BEARING DETAILS

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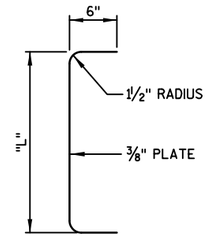
FILE NAME : S:\MAD\1000--1099\1089\895\Drawings\CAD\Micros\Plan\USH 53\080208_bd.dgn

STATE PROJECT NUMBER

1196-04-77

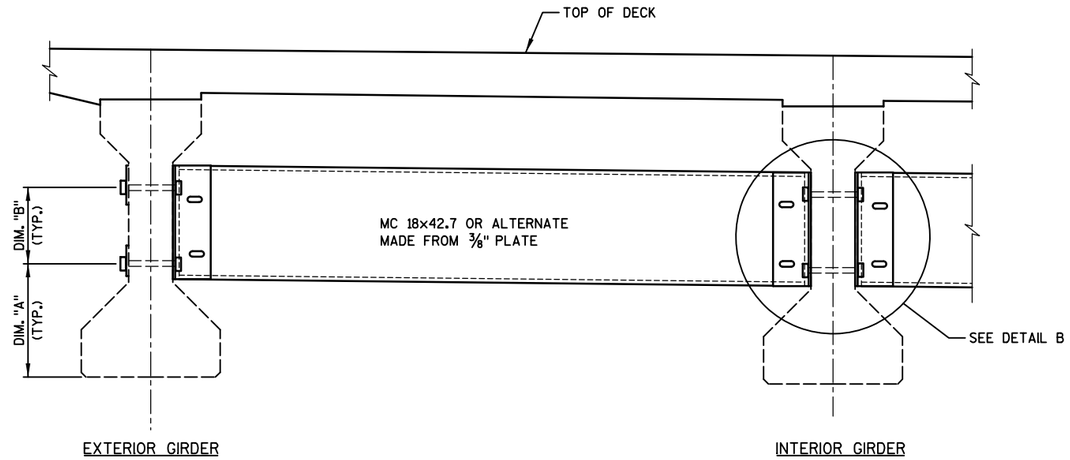
TABLE

GIRDER HEIGHT	DIM. "A"	DIM. "B"	DIM. "L"	DIM. "X"
45"	1'-5 3/8"	1'-1 7/8"	1'-5 1/2"	2 1/4"

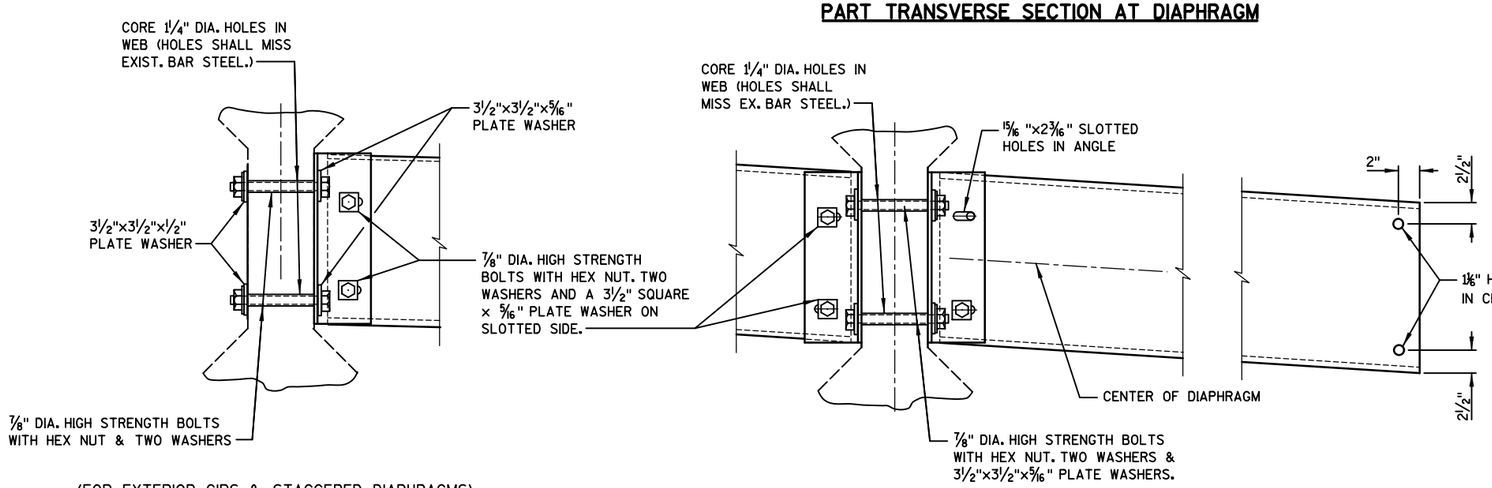


SECTION THRU ALTERNATE DIAPHRAGM

*DIM "X" = 2½" FOR ALTERNATE PLATE DIAPHRAGM

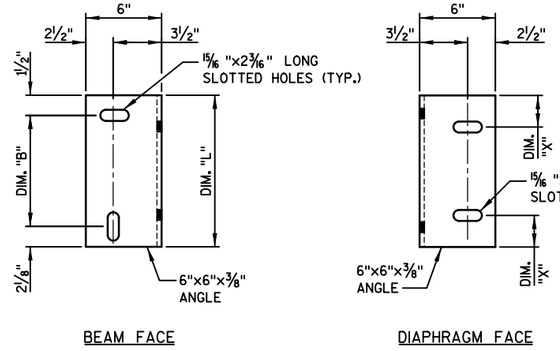


PART TRANSVERSE SECTION AT DIAPHRAGM



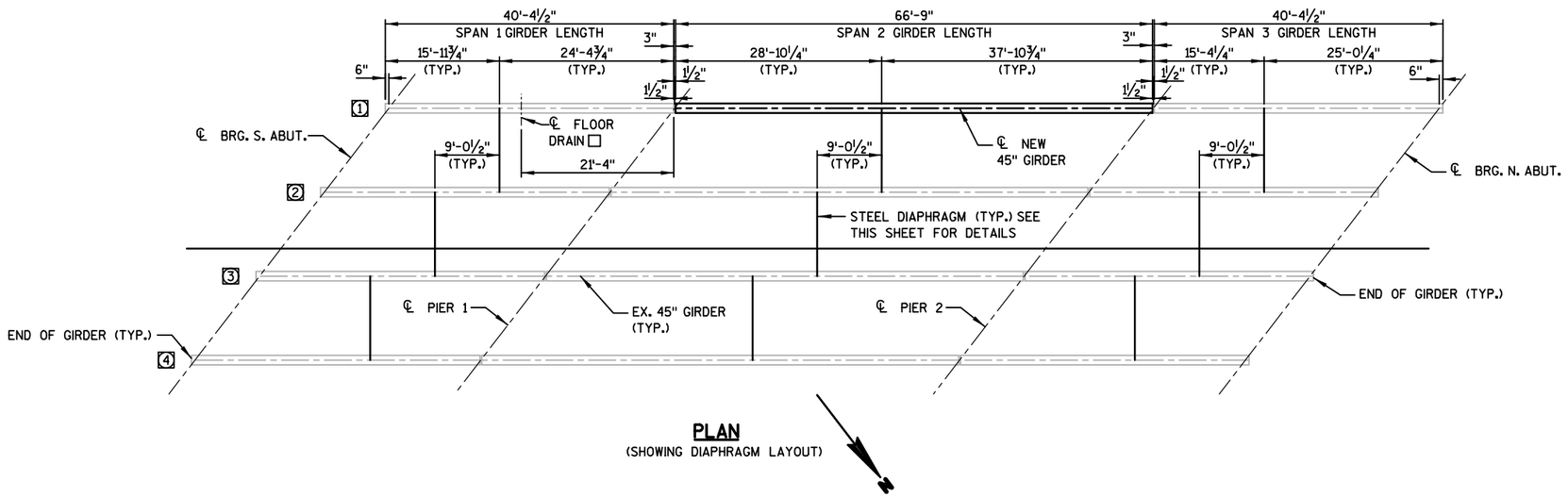
(FOR EXTERIOR GIRS. & STAGGERED DIAPHRAGMS)

(FOR CONTINUOUS LINE OF DIAPHRAGMS)



DIAPHRAGM SUPPORT

DETAIL B



PLAN

(SHOWING DIAPHRAGM LAYOUT)

NOTES

ALL DIAPHRAGM MATERIAL NOT EMBEDDED IN THE CONCRETE GIRDER SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "STEEL DIAPHRAGMS B-3-16", EACH.

EACH DIAPHRAGM BETWEEN GIRDERS SHALL CONSTITUTE ONE UNIT.

ALL DIAPHRAGM STRUCTURAL STEEL SHALL BE ASTM A709 GRADE 36.

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

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

LEGEND

(#) INDICATES GIRDER NUMBER.

☐ CORE 1" DIA. HOLE FOR FLOOR DRAIN BRACKET. HOLES SHALL MISS EXIST. BAR STEEL. SEE SHEET 18 FOR DETAILS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-3-16

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STEEL DIAPHRAGM

SHEET 9 OF 19
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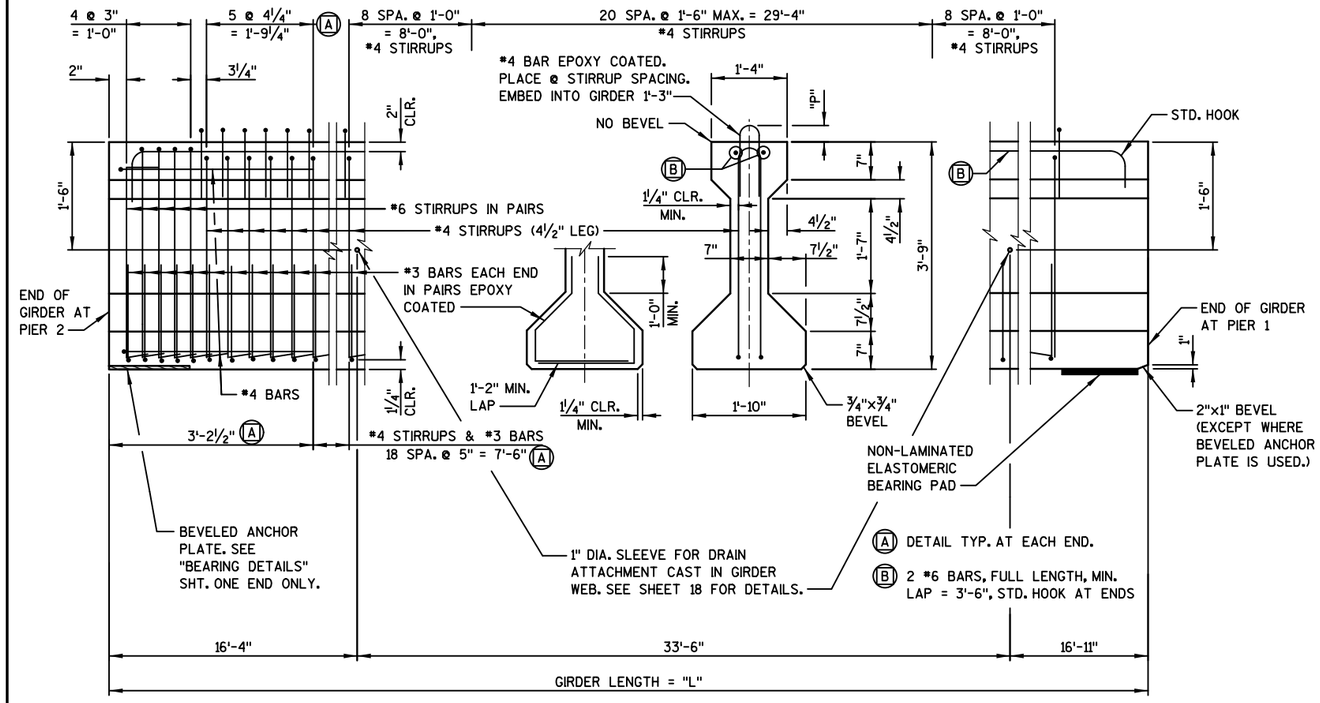
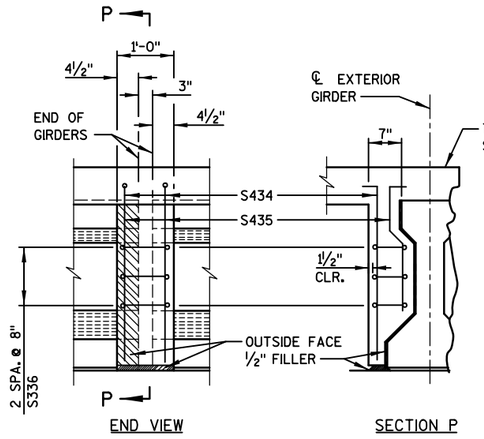
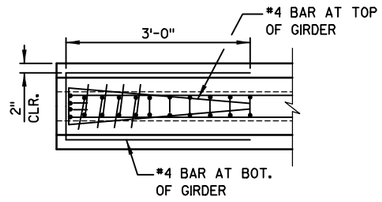
FILE NAME : S:\MAD\1000--1099\1089\895\Drawings\CAD\Micros\Plan\USH 53\080209_sd.dgn



SIDE VIEW & TYP. SECTION SPAN



PILASTER DETAILS AT PIERS



TOP VIEW OF GIRDER ENDS

NOTES

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

DO NOT APPLY CONCRETE SEALER OR EPOXY TO SURFACES RECEIVING APPLICATION OF CONCRETE STAINING. THE GIRDERS SHALL BE PROVIDED WITH A SUITABLE LIFTING DEVICE FOR HANDLING AND ERECTING THE GIRDERS. ALL GIRDERS SHALL BE CAST FULL LENGTH AS SHOWN.

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. FOR GIRDER ENDS THAT ARE FINALLY EXPOSED, COAT THE GIRDER ENDS, EXPOSED STRAND ENDS AND ALL NON-BONDING SURFACES WITHIN 2 FEET OF THE GIRDER ENDS WITH A NON-PIGMENTED EPOXY CONFORMING TO AASHTO M-235 TYPE III, GRADE 2, CLASS B OR C. THE EPOXY SHALL BE APPLIED AT LEAST 3 DAYS AFTER MOIST CURING HAS CEASED AND PRIOR TO THE APPLICATION OF THE SEALER.

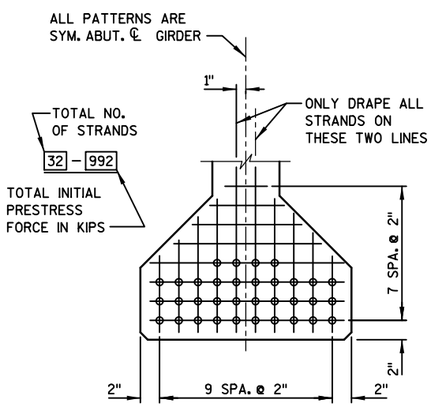
SPACING SHOWN FOR *4 STIRRUPS IS FOR GRADE 60 REINFORCEMENT.

AN ALTERNATE EQUIVALENT OF WELDED WIRE FABRIC (WWF) ASTM A1064 MAY BE SUBSITUTED FOR THE STIRRUP REINFORCEMENT SHOWN, UPON APPROVAL OF THE STRUCTURES DEVELOPMENT SECTION.

PRESTRESSING STRANDS SHALL BE (0.5" DIA.) 7 WIRE LOW-RELAXATION STRANDS WITH AN ULTIMATE STRENGTH OF 270,000 PSI.

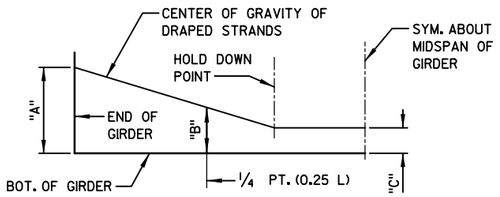
BEND EACH END OF *4 STIRRUPS 4½" AND *6 STIRRUPS 6½".

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

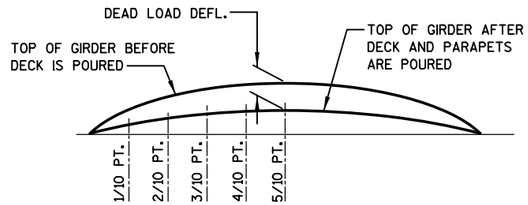


TYP. STRAND PATTERN

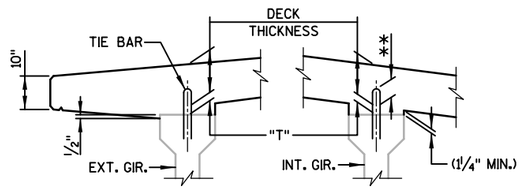
0.5" DIA. STRANDS



DRAPED STRAND PROFILE



DEAD LOAD DEFLECTION DIAGRAM



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 OF ℄ SUBSTRUCTURE UNITS & AT 1/10 POINTS OF EACH SPAN SHALL BE TAKEN. THEN FOLLOW THIS PROCESS:

TOP OF DECK ELEV. AT FINAL GRADE
- TOP OF GIRDER ELEVATION
+ DEAD LOAD DEFLECTION
- DECK THICKNESS
= HAUNCH HEIGHT "T"

NOTE: AN AVERAGE HAUNCH ("T") OF 2.5" WAS USED IN THE QUANTITY "CONCRETE MASONRY BRIDGES".

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

GIRDER DATA

SPAN	GIRDER LENGTH "L" (FEET)	DEAD LOAD DEFL. (IN.) 1/10	2/10	3/10	4/10	5/10	CONC. STRGTH. f'c (P.S.I.)	"P" (IN.)	DIA. OF STRAND (IN.)	DRAPED PATTERN TOTAL NO. OF STRANDS	f'c (P.S.I.) *	(IN.) "A"	"B" MIN.	"B" MAX.	"C"	UNDRAPED PATTERN TOTAL NO. OF STRANDS	f'ci (P.S.I.) *
2	66.75	0.2	0.4	0.5	0.6	0.7	8000	6.5	0.5	32	6800	32	11.75	14.75	5		

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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-3-16

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PRESTRESSED GIRDER DETAILS

SHEET 10 OF 19
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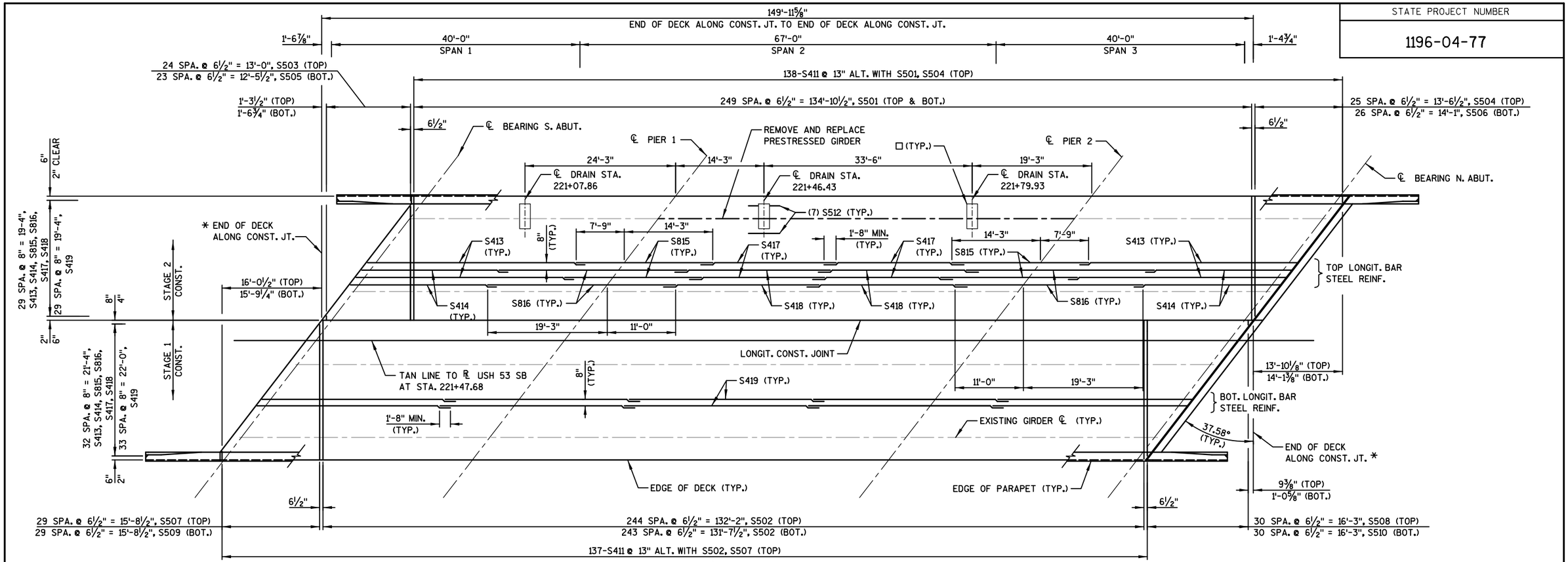
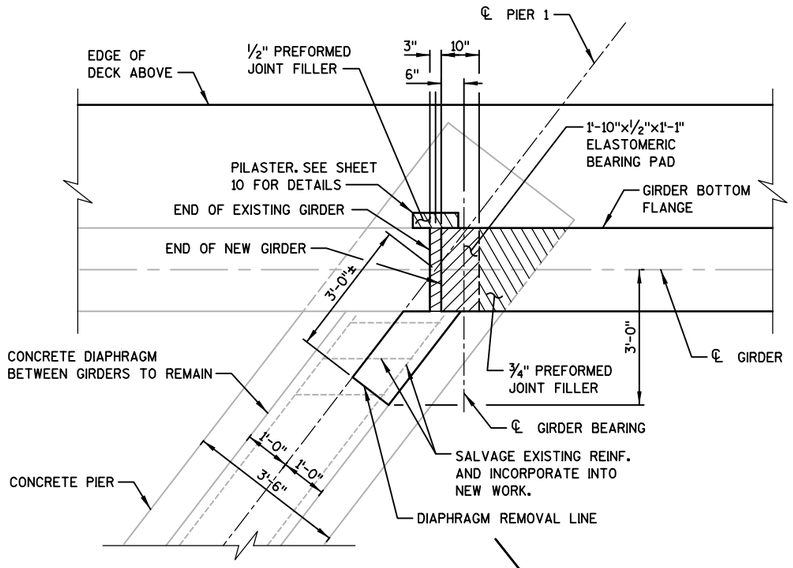
FILE NAME : S:\MAD\1000--1099\1089\895\Drawings\CAD\Micros\Plan\USH 53\080210_gd.dgn

STATE PROJECT NUMBER

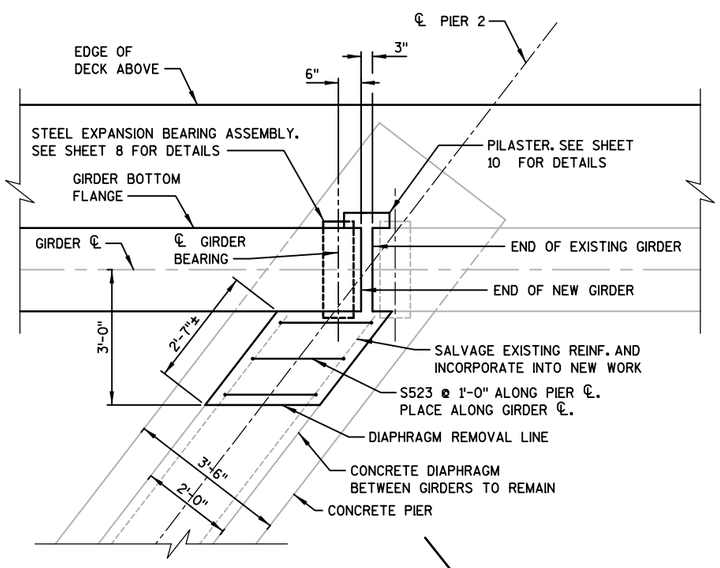
1196-04-77



PLAN



PIER 1 DIAPHRAGM DETAIL



PIER 2 DIAPHRAGM DETAIL

LEGEND

* USE THIS LOCATION AS A REFERENCE POINT WHEN PLACING TRANSVERSE DECK BARS.

□ FLOOR DRAIN TYPE 'WF'. SEE SHEET 18 FOR DETAILS. PLACE S512 BARS SYMMETRICAL ABOUT FLOOR DRAIN.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-3-16

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SUPERSTRUCTURE PLAN

SHEET 11 OF 19
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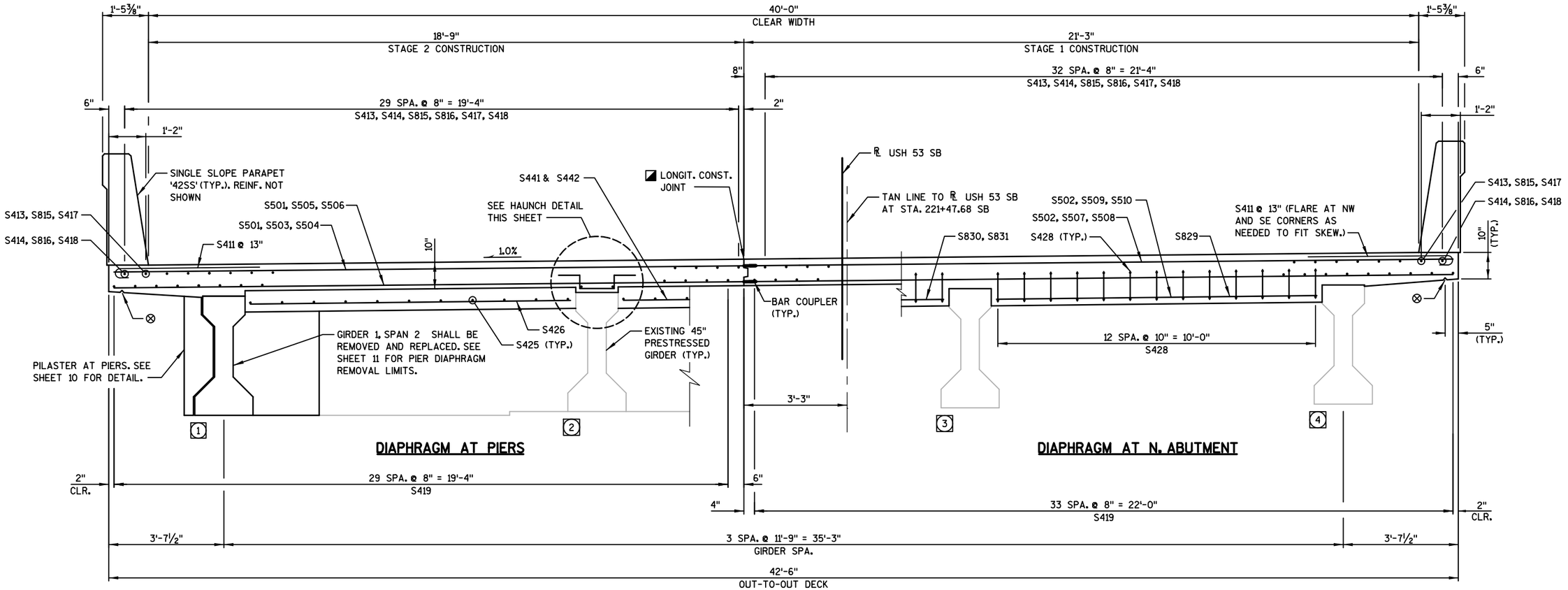
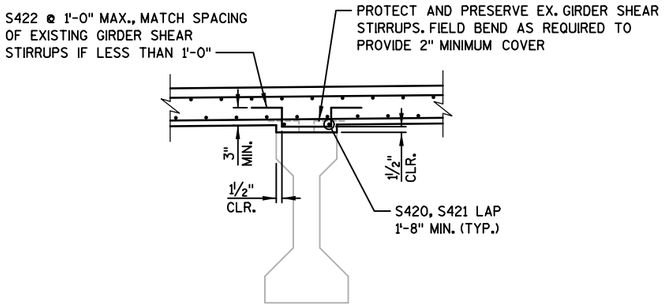
STATE PROJECT NUMBER

1196-04-77



CROSS SECTION THRU BRIDGE

(LOOKING NORTH)



HAUNCH DETAIL

NOTE: TILT HAT BARS AS REQUIRED TO FIT BETWEEN REBAR MATS.

THIS DETAIL IS TYPICAL FOR ALL GIRDERS.

LEGEND

⊗ ¾" V-GROOVE REQ'D. EXTEND TO 2'-0" FROM F.F. OF N. ABUT. BODY AND TO 6" FROM F.F. OF S. ABUT. DIAPH.

(1) GIRDER NUMBER.

◪ LONGIT. CONST. JT. KEYWAY FORMED BY A SURFACED BEVELED 2"x4". CENTER KEYWAY BETWEEN MATS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-3-16

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SUPERSTRUCTURE SECTION

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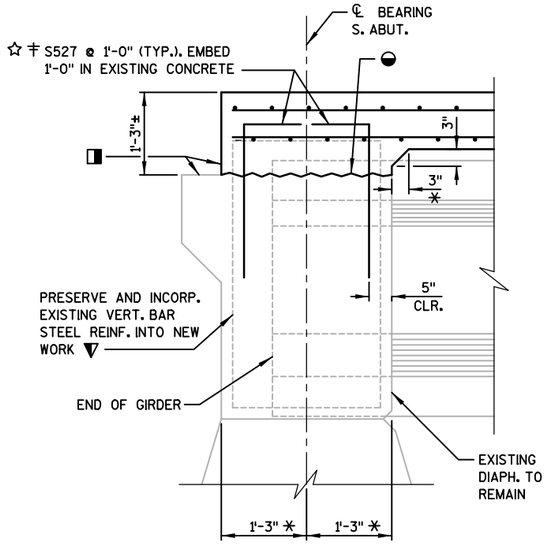
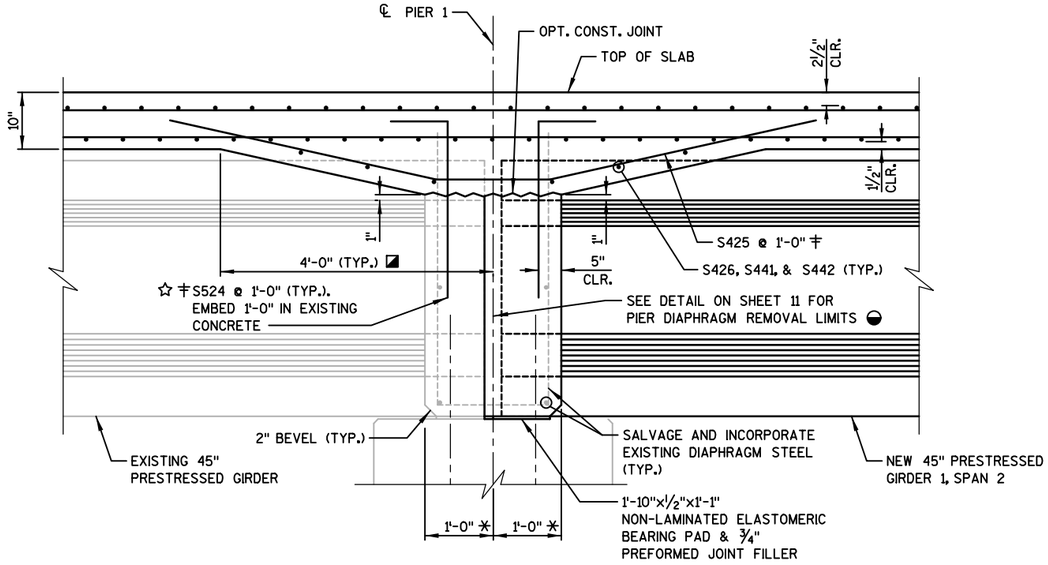
FILE NAME : S:\MAD\1000--1099\1089\895\Drawings\CAD\Micros\Plan\USH 53\080212_ss.dgn

STATE PROJECT NUMBER

1196-04-77



AT SOUTH ABUTMENT



AT PIER 1

LEGEND

◒ ROUGHEN SURFACE OF EXISTING CONCRETE TO ¼"± AMPLITUDE (ALL AREAS OF NEW TO EXISTING CONCRETE CONTACT).

◪ DIMENSION IS TAKEN PARALLEL TO ℄ GIRDER.

✳ DIMENSION IS TAKEN NORMAL TO ℄ SUBSTRUCTURE UNITS.

∓ BARS PLACED PARALLEL TO GIRDERS. SPACING PERPENDICULAR TO ℄ GIRDERS.

▼ EXISTING BARS ARE LIKELY TO BE CORRODED AND/OR DAMAGED DURING CONCRETE REMOVAL. SALVAGE AND INCORPORATE AS MUCH REBAR AS PRACTICAL.

☆ ADHESIVE ANCHOR

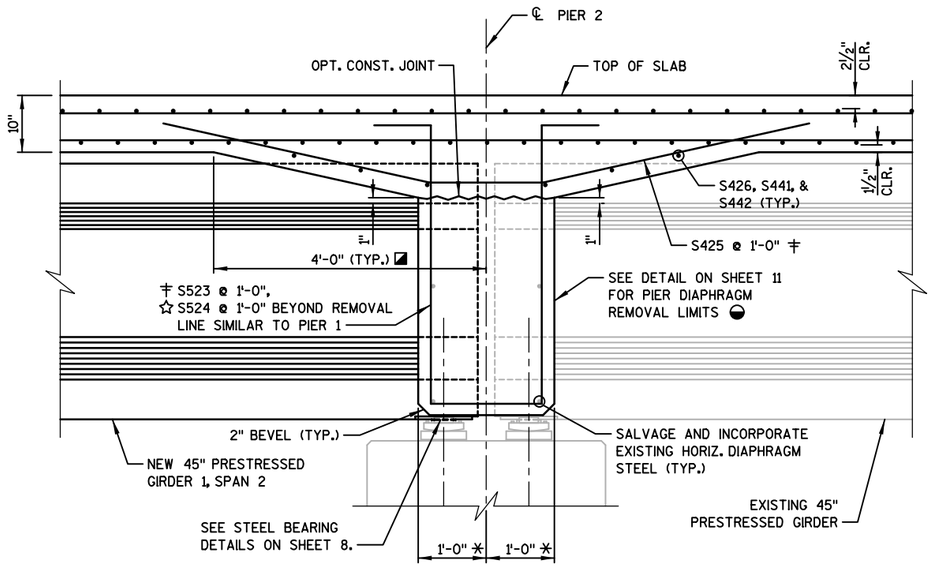
◆ OPT. CONST. JT. 1" MIN. BELOW EXIST. REINF.

⊗ ADJUST AS NECESSARY FOR FIELD CONDITIONS. POUR AFTER SUPERSTRUCTURE IS IN PLACE AND CONFORM TO DECK ELEVATIONS.

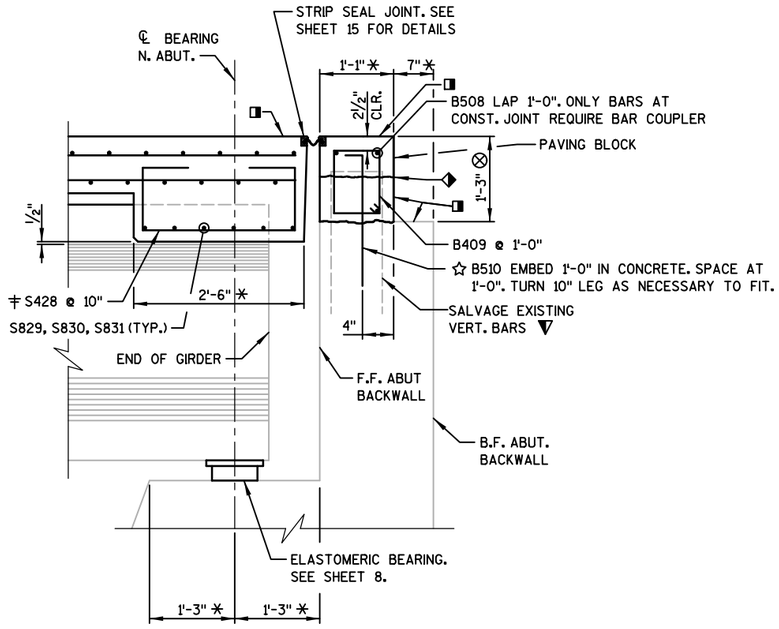
◨ COAT WITH "PROTECTIVE SURFACE TREATMENT" AS PER THE STANDARD SPECIFICATIONS.

NOTES

SEE SHEET 7 FOR PAVING BLOCK BAR DETAILS.



AT PIER 2



AT NORTH ABUTMENT

PART LONGITUDINAL SECTION

(BETWEEN GIRDER 1 AND GIRDER 2)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-3-16

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SUPERSTRUCTURE DETAILS - 1

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FILE NAME : S:\MAD\1000--1099\1089\895\Drawings\CAD\Micros\Plan\USH 53\080213_sd.dgn

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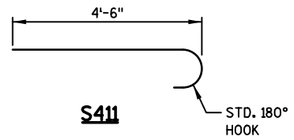
TOP OF DECK ELEVATIONS

		SPAN 1										SPAN 2									
	CL BRG. S. ABUT.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	CL PIER 1	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	CL PIER 2
W. DECK EDGE	1122.03	1122.05	1122.06	1122.08	1122.09	1122.10	1122.11	1122.13	1122.14	1122.15	1122.16	1122.18	1122.19	1122.21	1122.22	1122.23	1122.25	1122.26	1122.27	1122.27	1122.28
GIRDER 1	1122.05	1122.06	1122.08	1122.09	1122.10	1122.12	1122.13	1122.14	1122.15	1122.16	1122.18	1122.19	1122.21	1122.23	1122.24	1122.25	1122.27	1122.28	1122.29	1122.29	1122.30
GIRDER 2	1122.13	1122.15	1122.16	1122.18	1122.19	1122.20	1122.22	1122.23	1122.24	1122.26	1122.27	1122.29	1122.30	1122.32	1122.34	1122.35	1122.37	1122.38	1122.39	1122.40	1122.41
LONGIT. C.J.	1122.16	1122.18	1122.19	1122.21	1122.22	1122.24	1122.25	1122.26	1122.28	1122.29	1122.30	1122.32	1122.34	1122.36	1122.38	1122.39	1122.41	1122.42	1122.43	1122.44	1122.45
GIRDER 3	1122.21	1122.23	1122.24	1122.26	1122.27	1122.29	1122.30	1122.32	1122.33	1122.34	1122.36	1122.38	1122.40	1122.42	1122.43	1122.45	1122.46	1122.48	1122.49	1122.50	1122.51
GIRDER 4	1122.29	1122.31	1122.32	1122.34	1122.36	1122.37	1122.39	1122.40	1122.42	1122.43	1122.45	1122.47	1122.49	1122.51	1122.53	1122.55	1122.56	1122.58	1122.59	1122.60	1122.62
E. DECK EDGE	1122.30	1122.32	1122.34	1122.35	1122.37	1122.39	1122.40	1122.42	1122.43	1122.45	1122.46	1122.48	1122.50	1122.52	1122.54	1122.56	1122.58	1122.59	1122.61	1122.62	1122.64

	CL PIER 2	SPAN 3									CL BRG. N. ABUT.
		0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	
W. DECK EDGE	1122.28	1122.29	1122.29	1122.29	1122.29	1122.30	1122.30	1122.30	1122.30	1122.30	1122.30
GIRDER 1	1122.30	1122.31	1122.31	1122.31	1122.32	1122.32	1122.32	1122.32	1122.32	1122.32	1122.33
GIRDER 2	1122.41	1122.41	1122.42	1122.42	1122.43	1122.43	1122.43	1122.44	1122.44	1122.44	1122.44
LONGIT. C.J.	1122.45	1122.46	1122.46	1122.47	1122.47	1122.47	1122.48	1122.48	1122.48	1122.48	1122.49
GIRDER 3	1122.51	1122.52	1122.53	1122.53	1122.54	1122.54	1122.54	1122.55	1122.55	1122.55	1122.55
GIRDER 4	1122.62	1122.62	1122.63	1122.64	1122.64	1122.65	1122.65	1122.66	1122.66	1122.66	1122.67
E. DECK EDGE	1122.64	1122.64	1122.65	1122.66	1122.66	1122.67	1122.67	1122.68	1122.68	1122.68	1122.69

DEAD LOAD DEFLECTIONS (UNITS ARE IN INCHES)

SPAN	GIRDER	0.1 PT.	0.2 PT.	0.3 PT.	0.4 PT.	0.5 PT.	0.6 PT	0.7 PT.	0.8 PT.	0.9 PT.
1 & 3	1 & 4	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0
1 & 3	2 & 3	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0
2	1	0.2	0.4	0.5	0.6	0.7	0.6	0.5	0.4	0.2
2	2 & 3	0.3	0.6	0.8	0.9	0.9	0.9	0.8	0.6	0.3
2	4	0.2	0.4	0.6	0.7	0.8	0.7	0.6	0.4	0.2



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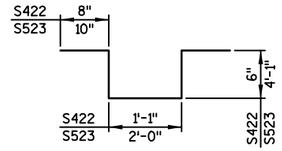

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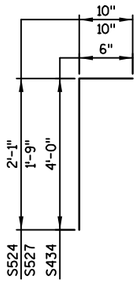

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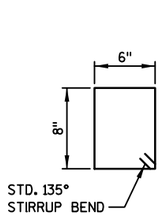

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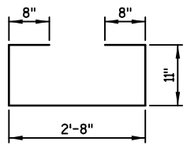

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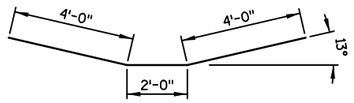

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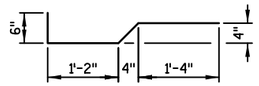

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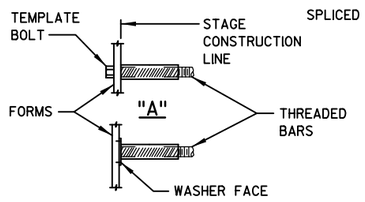
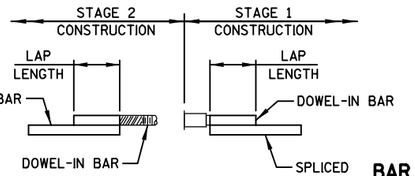


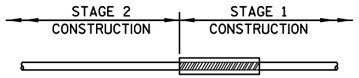
"B"

INSTALLATION AND SETTING METHODS

"A" SET COUPLER BY MEANS OF A TEMPLATE BOLT.
"B" SET COUPLER BY NAILING TO WOOD FORMS OR CEMENTING TO STEEL FORMS.



DOWEL BAR COUPLER
STAGE 2 DOWEL SCREWS INTO COUPLER PLACED IN STAGE 1



ONE-PIECE THREADED COUPLER

BAR COUPLER ALTERNATIVES

BAR COUPLER NOTES

FOR DOWEL BAR COUPLERS, ALL DOWEL BARS SHALL BE LAPPED AND TIED TO THE REINFORCEMENT BARS.

SUPERSTRUCTURE BILL OF BARS

COATED: 57,520 LBS

	BAR MARK	NO. REQ'D	LENGTH	BENT	SERIES	COAT	LOCATION
**	S501	500	19'-10"			X	SLAB - TRANS. - TOP & BOT. - STAGE 2
**	S502	489	22'-2"			X	SLAB - TRANS. - TOP & BOT. - STAGE 1
**	S503	25	9'-10"		X	X	SLAB - TRANS. - TOP - STAGE 2
	S504	26	10'-4"		X	X	SLAB - TRANS. - TOP - STAGE 2
**	S505	24	9'-10"		X	X	SLAB - TRANS. - BOT. - STAGE 2
	S506	27	10'-4"		X	X	SLAB - TRANS. - BOT. - STAGE 2
	S507	30	11'-5"		X	X	SLAB - TRANS. - TOP - STAGE 1
**	S508	31	11'-4"		X	X	SLAB - TRANS. - TOP - STAGE 1
	S509	30	11'-9"		X	X	SLAB - TRANS. - BOT. - STAGE 1
**	S510	31	11'-8"		X	X	SLAB - TRANS. - BOT. - STAGE 1
	S411	275	5'-0"	X		X	SLAB - TRANS. - OVERHANG - TOP
	S512	21	5'-0"			X	SLAB - LONG. - FLOOR DRAIN
	S413	62	35'-3"			X	SLAB - LONG. - TOP - SPAN 1 & 3
	S414	64	23'-9"			X	SLAB - LONG. - TOP - SPAN 1 & 3
	S815	62	22'-0"			X	SLAB - LONG. - TOP - PIER 1 & 2
	S816	64	30'-3"			X	SLAB - LONG. - TOP - PIER 1 & 2
	S417	62	21'-9"			X	SLAB - LONG. - TOP - SPAN 2
	S418	64	25'-0"			X	SLAB - LONG. - TOP - SPAN 2
	S419	320	31'-4"			X	SLAB - LONG. - BOT.
	S420	16	39'-11"			X	HAUNCH - LONG. - SPAN 1 & 3
	S421	12	36'-0"			X	HAUNCH - LONG. - SPAN 2
	S422	760	3'-1"	X		X	HAUNCH - VERT.
	S523	3	11'-4"	X		X	PIER 2 DIAPH. - VERT.
☆	S524	126	2'-10"	X		X	PIERS 1 & 2 DIAPH. - DOWEL
	S425	66	10'-0"	X		X	PIERS 1 & 2 DIAPH. - VERT.
	S426	24	12'-8"			X	PIERS 1 & 2 DIAPH. - HORIZ. - TYPICAL
☆	S527	106	2'-6"	X		X	SOUTH ABUTMENT - DOWEL
	S428	39	5'-6"	X		X	END DIAPH. - STIRRUP
	S829	12	12'-8"			X	END DIAPH. - TRANS. - BETWEEN GIRDERS - TYPICAL
**	S830	6	7'-11"			X	END DIAPH. - TRANS. - BETWEEN GIRDERS - STAGE 1
**	S831	6	4'-9"			X	END DIAPH. - TRANS. - BETWEEN GIRDERS - STAGE 2
	S432	4	14'-0"			X	EXPANSION JOINT - TRANS. - STAGE 1 & 2
	S433	2	9'-0"			X	EXPANSION JOINT - TRANS. - STAGE 1
	S434	4	4'-5"	X		X	PILASTER - L-BAR
	S435	4	3'-4"	X		X	PILASTER - SHAPE BAR
	S336	6	2'-9"	X		X	PILASTER - BOX BAR
	S537	452	4'-5"	X		X	PARAPET - VERT.
	S538	452	6'-8"	X		X	PARAPET - VERT.
	S539	48	51'-6"			X	PARAPET - HORIZ.
	S440	2	5'-0"			X	EXPANSION JOINT - TRANS. - STAGE 2
**	S441	12	7'-11"			X	PIERS 1 & 2 DIAPH. - HORIZ. - STAGE 1
**	S442	12	4'-9"			X	PIERS 1 & 2 DIAPH. - HORIZ. - STAGE 2

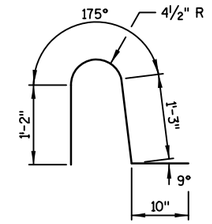
LENGTH SHOWN FOR BAR SERIES IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

**BAR WITH COUPLER, SEE DETAILS THIS SHEET. BAR LENGTH COMPUTED TO ℄ LONGIT. JOINT AND SHALL BE MODIFIED IF REQUIRED TO BAR COUPLER MANUFACTURER RECOMMENDATIONS.

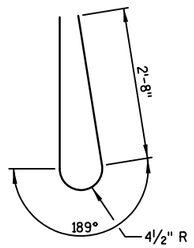
BAR SERIES TABLE

BAR MARK	NO. REQ'D	LENGTH
S503	25	1'-4" TO 18'-4"
S504	26	1'-6" TO 19'-2"
S505	24	1'-8" TO 17'-11"
S506	27	1'-2" TO 19'-6"
S507	30	1'-2" TO 21'-7"
S508	31	9" TO 21'-10"
S509	30	1'-6" TO 21'-11"
S510	31	1'-1" TO 22'-2"

BUNDLE AND TAG EACH SERIES SEPARATELY.



S537



S538

LEGEND

☆ ADHESIVE ANCHOR.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-3-16

DRAWN BY JFG | PLANS CK'D. BMO

SUPERSTRUCTURE DETAILS - 2

SHEET 14 OF 19
260

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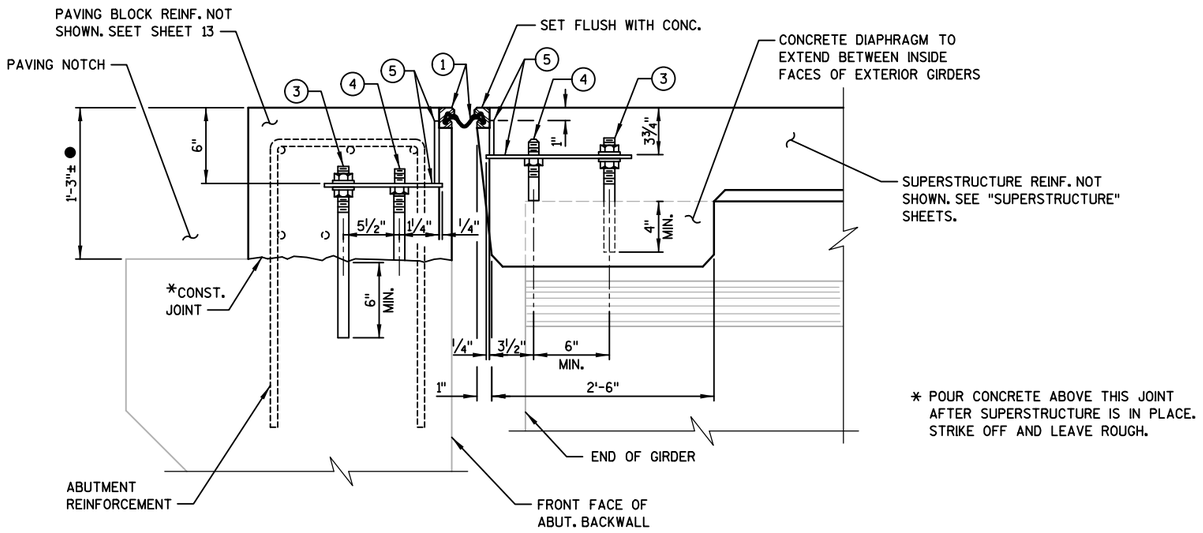
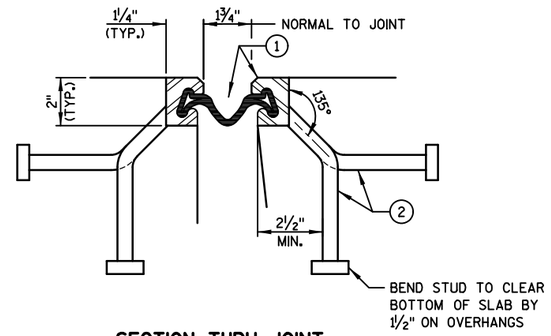
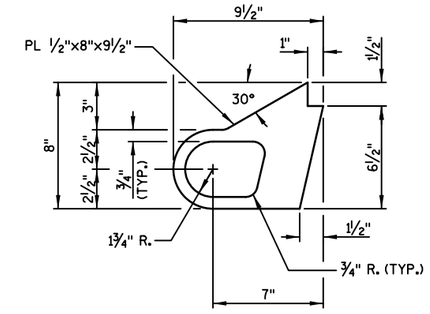


* POUR CONCRETE ABOVE THIS JOINT AFTER SUPERSTRUCTURE IS IN PLACE. STRIKE OFF AND LEAVE ROUGH.

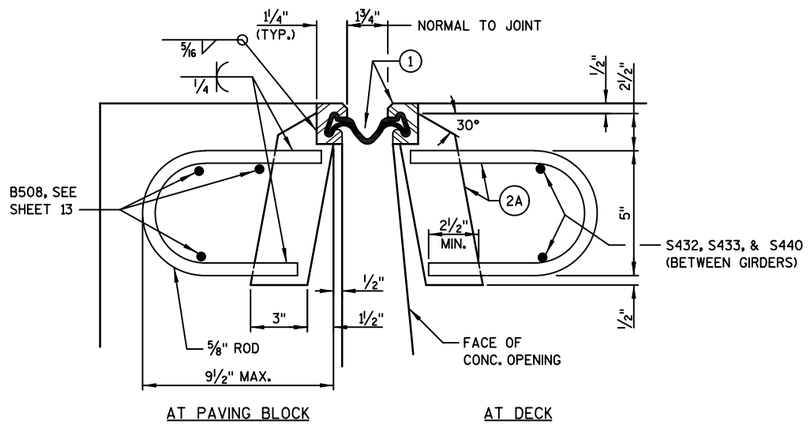
SECTION THRU JOINT AT ABUTMENT
NORMAL TO SUBSTRUCTURE



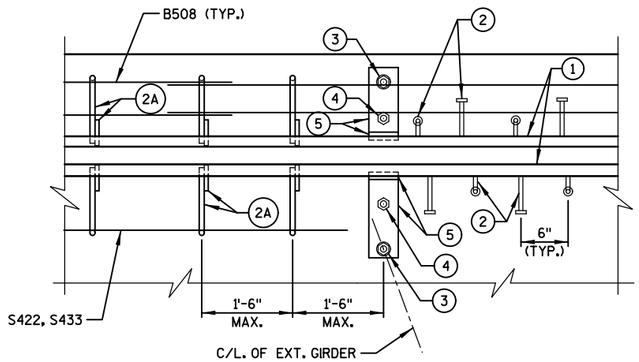
SECTION THRU JOINT
EXTERIOR GIRDER TO EDGE OF DECK AND AT PARAPETS



ALTERNATE STRIP SEAL ANCHOR



SECTION THRU JOINT
ROADWAY TRAFFIC AREA BETWEEN EXTERIOR GIRDERS



PART PLAN

STATE PROJECT NUMBER

1196-04-77

LEGEND

(1) NEOPRENE STRIP SEAL (4–INCHES) AND STEEL EXTRUSIONS. JOINT OPENINGS GIVEN NORMAL TO JOINT.

(2) STUDS 5/8" DIA.x6 3/8" LONG AT 6" ALTERNATE CENTERS. WELD TO EXTRUSIONS AND BEND AS SHOWN AFTER WELDING.

(2A) ½" THICK ANCHOR PLATE WITH 5/8" DIA. ROD (OR ALTERNATE STRIP SEAL ANCHOR). WELD ROD TO ANCHOR PLATE, WELD ANCHOR PLATE TO NO. 1 AT 1'–6" CENTERS BETWEEN GIRDERS.

(3) ¾" DIA. THREADED ROD WITH 2 NUTS AND PLATE WASHERS. GROUT THREADED ROD INTO FIELD DRILLED HOLES ON ' GIRDER. ON ABUTMENT SIDE GROUT THREADED ROD INTO FIELD DRILLED HOLES IN ABUTMENT BACKWALL AS SHOWN.

(4) ¾" DIA. THREADED ROD WITH NUT. TACK WELD NUT TO NO. 5.

(5) FABRICATE SUPPORT FROM 3"x½" BAR AS SHOWN OR EQUIVALENT, ONE PER GIRDER PER SIDE. SHOP OR FIELD WELD TO NO. 1. IF FIELD WELDED, COVER WELDED AREAS WITH EPOXY COATING MATERIAL. PROVIDE 1½" DIA. HOLE FOR NO. 3 AND 1" DIA. HOLE FOR NO. 4.

(6) GALVANIZED PLATE 3/8"x10"x2'–2" LONG WITH HOLES FOR NO. 7.

(7) ¾" DIA.x1½" STAINLESS STEEL SOCKET FLAT HEAD SCREWS WITH ANTI–SEIZE LUBRICANT. PLACE IN COUNTERSUNK HOLE. RECESS 1/16" BELOW PLATE SURFACE.

(8) ¾" DIA.x4" GALVANIZED HEX HEAD BOLT. BEND 45°.

(9) ¾" DIA.x2¼" GALVANIZED THREADED COUPLING.

(11) 1"x5" SLOTTED COUNTERSUNK HOLE FOR NO. 7. PLACE SLOT PARALLEL TO DIRECTION OF MOVEMENT.

● TOP ELEVATION OF PAVING BLOCK SHALL CONFORM WITH SUPERSTRUCTURE.

NOTES

ONE FIELD SPLICE PERMITTED IN STEEL EXTRUSIONS, UNLESS MORE ARE REQUIRED FOR STAGED CONSTRUCTION, HANDLING OR GALVANIZING REQUIREMENTS. IF USED, DETAILS SHALL BE SUBMITTED FOR APPROVAL. NO SPLICING PERMITTED IN NEOPRENE STRIP SEAL.

AFTER FABRICATION BUT BEFORE SHIPMENT, STRAIGHTEN STEEL EXTRUSIONS SUCH THAT THEY SHALL BE FREE FROM WARP, TWIST AND SWEEP.

FABRICATOR SHALL PROVIDE MEANS OF KEEPING GALVANIZED EXTRUSIONS CLEAN AND SMOOTH DURING SHIPMENT AND PRIOR TO APPLYING LUBRICANT ADHESIVE FOR NEOPRENE GLAND INSTALLATION.

SAND BLAST PLATES, SUPPORTS AND EXTRUSIONS AFTER FABRICATION IN ACCORDANCE WITH SSPC SP. *6 "COMMERCIAL BLAST CLEANING". AFTER BLAST CLEANING, THE PLATES, SUPPORTS AND EXTRUSIONS SHALL BE HOT DIPPED GALVANIZED.

ANCHOR SYSTEM NO. 8 AND NO. 9 SHALL CONFORM TO ASTM A307 AND SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C AND D.

ALL MATERIAL IN THE EXPANSION JOINT ASSEMBLY, INCLUDING ANCHOR STUDS AND HARDWARE SHALL BE PAID AT THE UNIT PRICE BID FOR "EXPANSION DEVICE B-3-16", LF.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-3-16

DRAWN BY JFG | PLANS CK'D. BMO

STRIP SEAL EXPANSION JOINT

SHEET 15 OF 19
261

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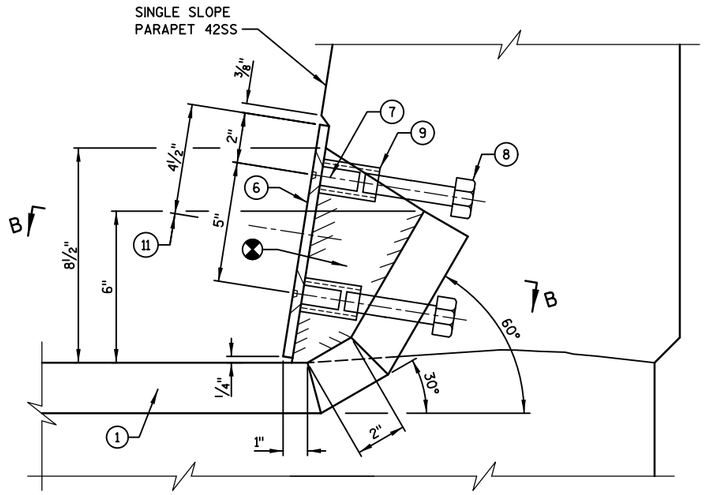
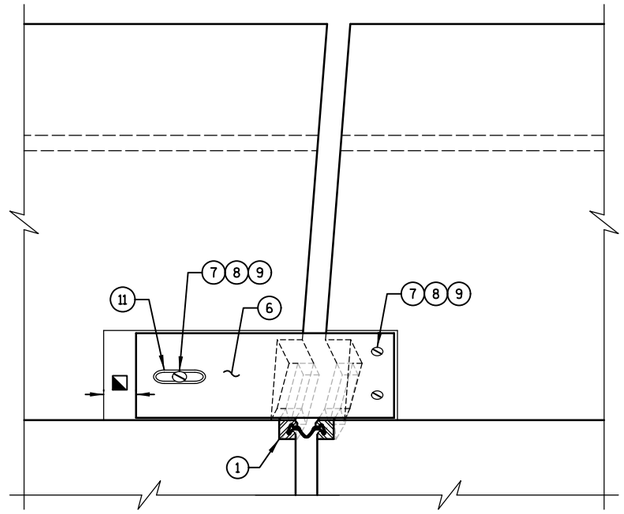
STATE PROJECT NUMBER

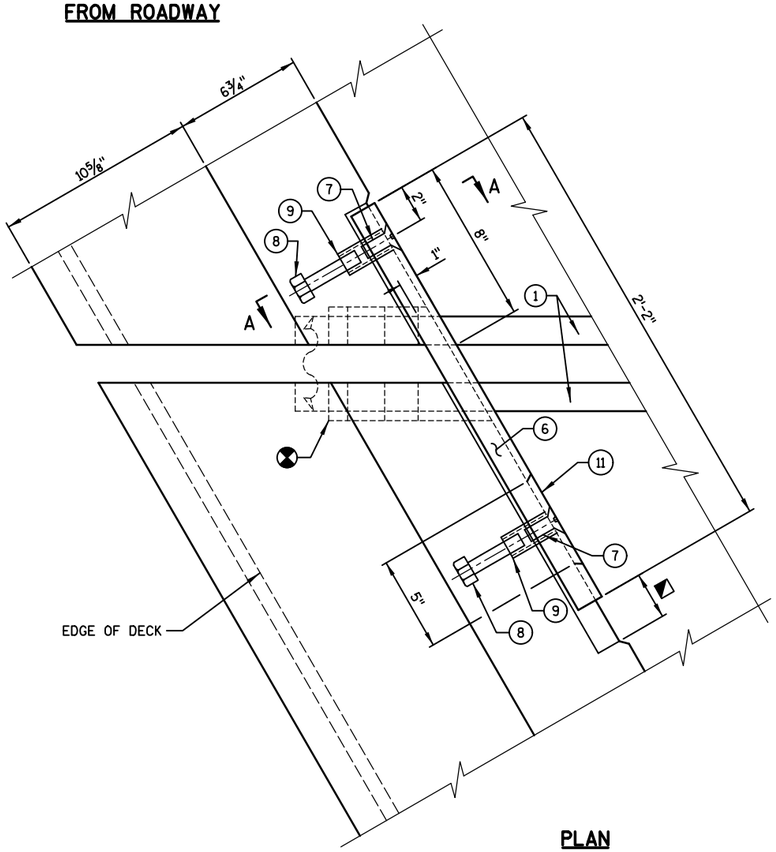
1196-04-77



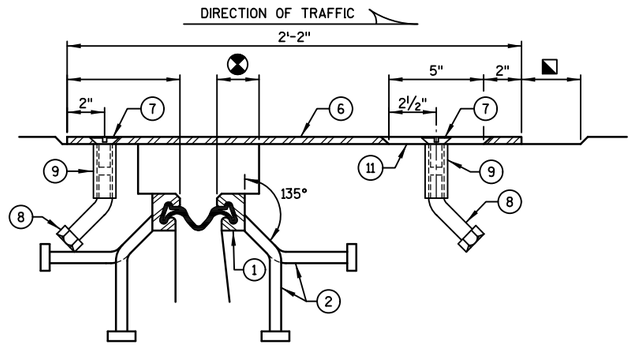
SECTION A-A



VIEW OF PARAPET PLATE FROM ROADWAY



PLAN



SECTION B-B

LEGEND

(1) NEOPRENE STRIP SEAL (4-INCHES) AND STEEL EXTRUSIONS.

(2) STUDS 5/8" DIA.x6 3/8" LONG AT 6" ALTERNATE CENTERS. WELD TO EXTRUSIONS AND BEND AS SHOWN AFTER WELDING.

(2A) 1/2" THICK ANCHOR PLATE WITH 5/8" DIA. ROD (OR ALTERNATE STRIP SEAL ANCHOR). WELD ROD TO ANCHOR PLATE, WELD ANCHOR PLATE TO NO. 1 AT 1'-6" CENTERS BETWEEN GIRDERS.

(3) 3/4" DIA. THREADED ROD WITH 2 NUTS AND PLATE WASHERS. GROUT THREADED TOD INTO FIELD DRILLED HOLES ON OF GIRDER. ON ABOUTMENT SIDE GROUT THREADED ROD INTO FIELD DRILLED HOLES IN ABUTMENT BACKWALL AS SHOWN.

(4) 3/4" DIA. THREADED ROD WITH NUT. TACK WELD NUT TO NO. 5.

(5) FABRICATE SUPPORT FROM 3"x1/2" BAR AS SHOWN OR EQUIVALENT, ONE PER GIRDER PER SIDE. SHOP OR FIELD WELD TO NO. 1. IF FIELD WELDED. COVER WELDED AREAS WITH EPOXY COATING MATERIAL. PROVIDE 1 1/2" DIA. HOLE FOR NO. 3 AND 1" DIA. HOLE FOR NO. 4.

(6) GALVANIZED PLATE 3/8"x10"x2'-2" LONG WITH HOLES FOR NO. 7.

(7) 3/4" DIA.x1 1/2" STAINLESS STEEL SOCKET FLAT HEAD SCREWS WITH ANTI-SEIZE LUBRICANT. PLACE IN COUNTERSUNK HOLE. RECESS 1/16" BELOW PLATE SURFACE.

(8) 3/4" DIA.x4" GALVANIZED HEX HEAD BOLT. BEND 45°.

(9) 3/4" DIA.x2 1/4" GALVANIZED THREADED COUPLING.

(11) 1"x5" SLOTTED COUNTERSUNK HOLE FOR NO. 7. PLACE SLOT PARALLEL TO DIRECTION OF MOVEMENT.

BLOCK OUT CONCRETE 2" EACH SIDE OF JOINT OPENING.

JOINT OPENING DIMENSION ALONG SKEW PLUS 1/2".

NOTES

SEE NOTES ON SHEET 15.

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-3-16

DRAWN BY JFG | PLANS CK'D. BMO

COVER PLATE DETAILS

SHEET 16 OF 19
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FILE NAME : S:\MAD\1000--1099\1089\895\Drawings\CAD\Micros\Plan\USH 53\080216_cp.dgn

STATE PROJECT NUMBER

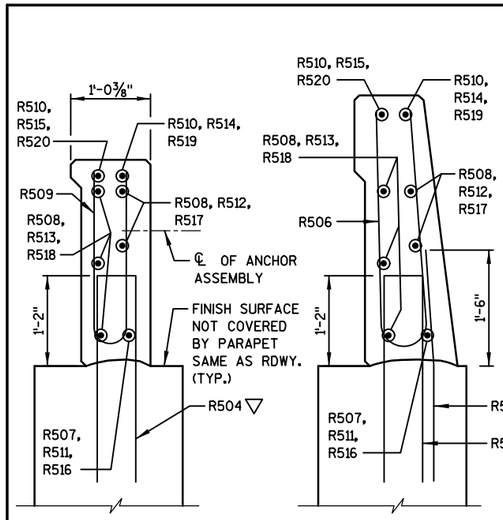
1196-04-77

SINGLE SLOPE PARAPET 42SS

BILL OF BARS S. ABUT. COATED: 810 LBS. N. ABUT. COATED: 820 LBS

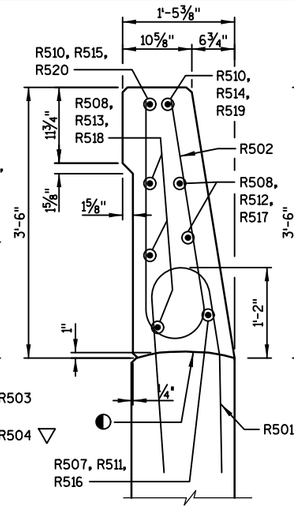
BAR MARK	NO. REQ'D S. ABUT.	NO. REQ'D N. ABUT.	LENGTH	BENT	SERIES	COAT	LOCATION
R501	10	11	5'-10"	X		X	PARAPET - VERT.
R502	10	11	6'-8"	X		X	PARAPET - VERT.
R503	24	24	3'-0"	X		X	PARAPET - VERT.
R504	34	34	5'-7"	X		X	PARAPET - VERT.
R505	10	10	6'-5"	X		X	PARAPET - VERT.
R506	12	12	6'-6"	X		X	PARAPET - VERT.
R507	2	0	11'-7"	X		X	PARAPET - HORIZ. - WINGS 1& 2
R508	10	0	11'-6"			X	PARAPET - HORIZ. - WINGS 1& 2
R509	12	12	5'-5"	X	X	X	PARAPET - VERT.
R510	4	0	11'-6"	X		X	PARAPET - HORIZ. - WINGS 1& 2
R511	0	1	11'-9"	X		X	PARAPET - HORIZ. - WING 3
R512	0	2	11'-7"			X	PARAPET - HORIZ. - WING 3
R513	0	3	12'-5"			X	PARAPET - HORIZ. - WING 3
R514	0	1	12'-0"	X		X	PARAPET - HORIZ. - WING 3
R515	0	1	12'-4"	X		X	PARAPET - HORIZ. - WING 3
R516	0	1	11'-5"	X		X	PARAPET - HORIZ. - WING 4
R517	0	2	10'-11"			X	PARAPET - HORIZ. - WING 4
R518	0	3	10'-9"			X	PARAPET - HORIZ. - WING 4
R519	0	1	11'-0"	X		X	PARAPET - HORIZ. - WING 4
R520	0	1	10'-8"	X		X	PARAPET - HORIZ. - WING 4

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

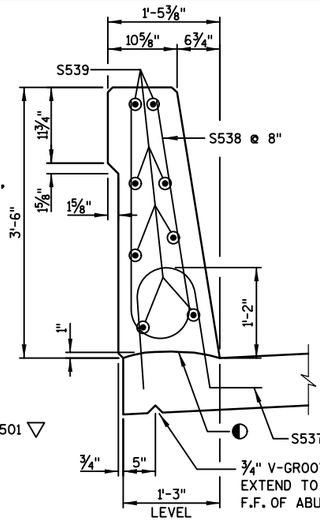


SECTION A-A

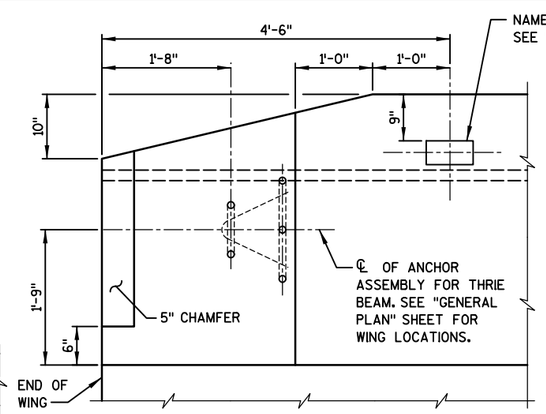
SECTION B-B



SECTION C-C



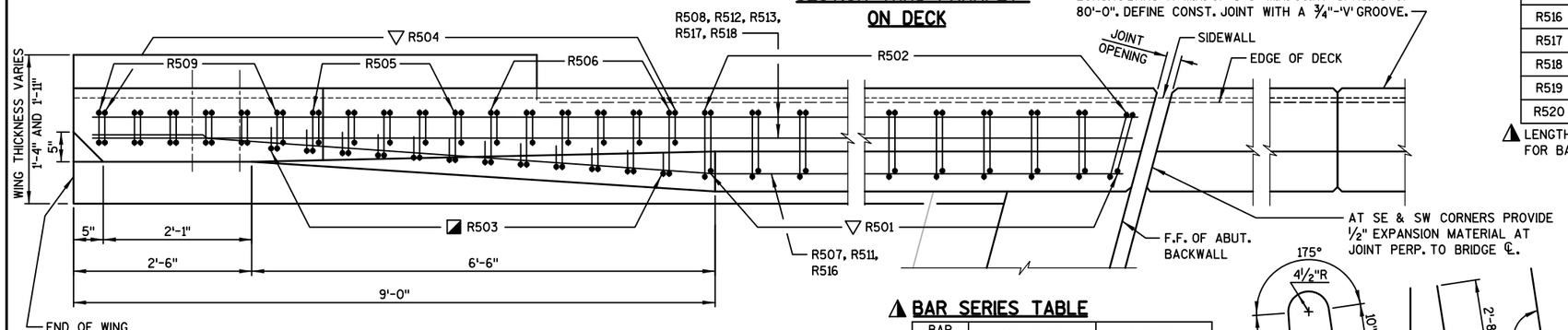
SECTION THRU PARAPET ON DECK



PARAPET END TREATMENT DETAIL

LOOKING AT INSIDE FACE OF PARAPET

OPTIONAL CONSTRUCTION JOINTS IN THE PARAPETS MAY BE USED. RUN BAR REINF. THRU THE JOINT. LAP LONGIT. BARS A MIN. OF 1'-9" MIN. JOINT SPACING OF 80'-0". DEFINE CONST. JOINT WITH A 3/4"-'V' GROOVE.



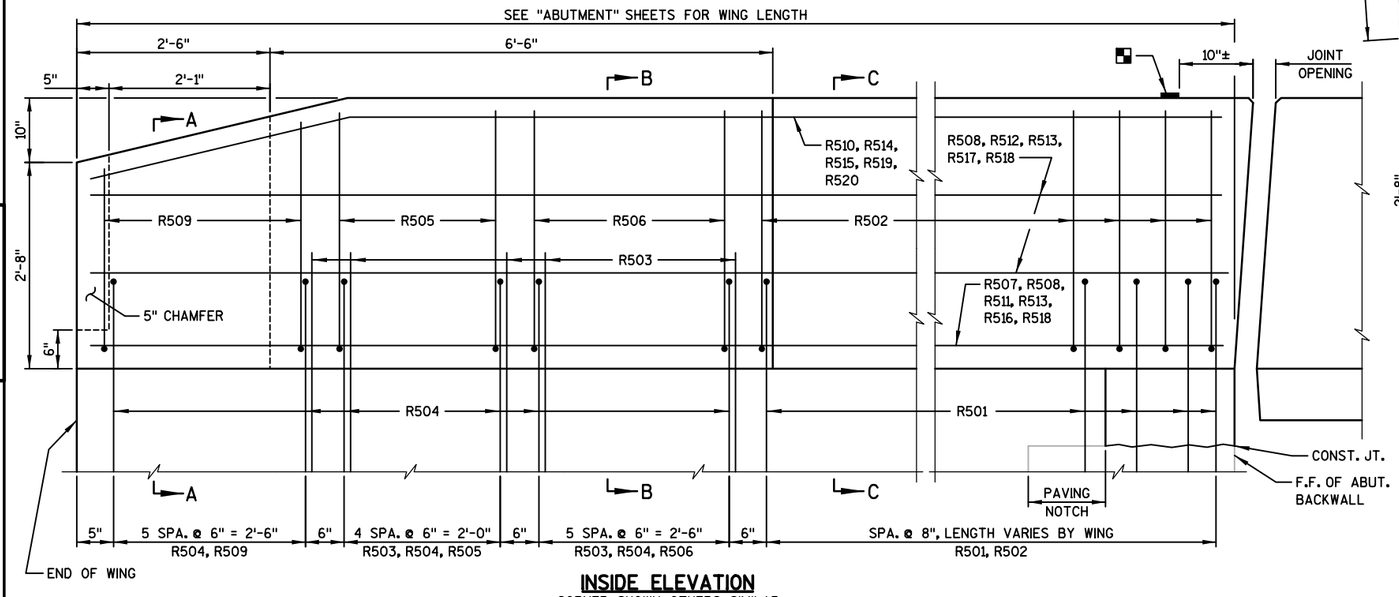
PLAN

(NE CORNER SHOWN, OTHERS SIMILAR)

⚠ BAR SERIES TABLE

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

BUNDLE AND TAG EACH SERIES SEPARATELY.



INSIDE ELEVATION

CORNER SHOWN, OTHERS SIMILAR

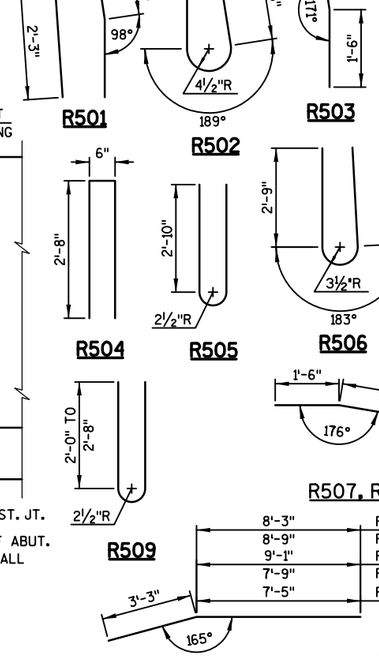
LEGEND

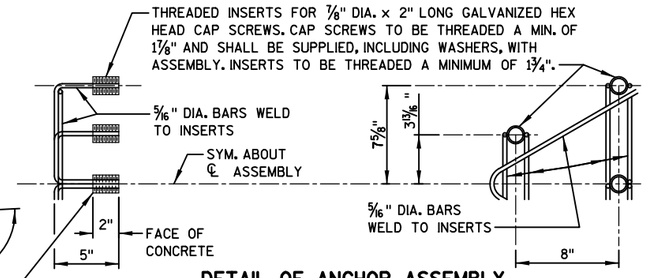
◐ CONST. JOINT - STRIKE OFF AS SHOWN.

◪ R503 BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. USE CARE TO PLACE R503 BARS CORRECTLY ALONG TRANSITION OF PARAPET.

▽ R501 AND R504 BARS TO BE TIED TO WING STEEL BEFORE WING IS POURED.

◪ BENCH MARK CAP (WHEN SUPPLIED).





DETAIL OF ANCHOR ASSEMBLY

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

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

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-3-16

DRAWN BY JFG | PLANS CK'D. BMO

SINGLE SLOPE PARAPET 42SS

SHEET 17 OF 19
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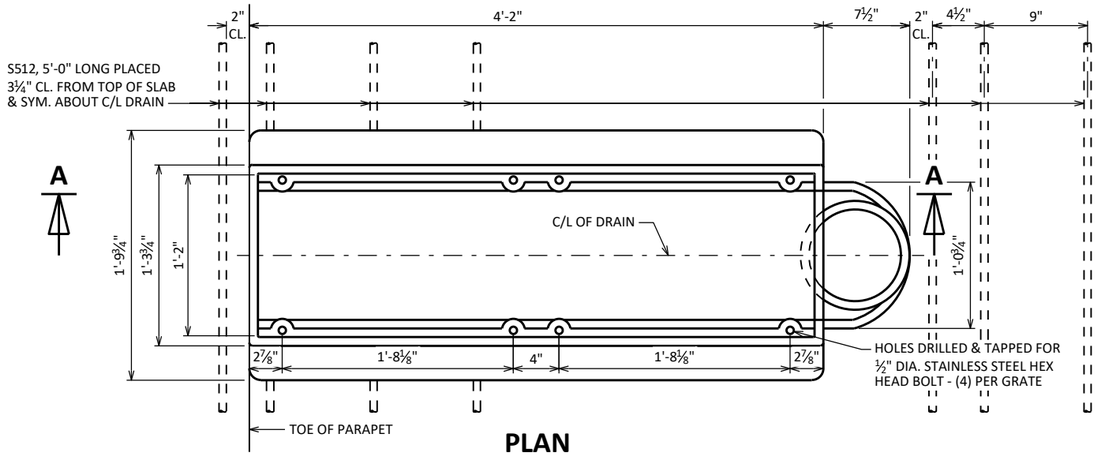
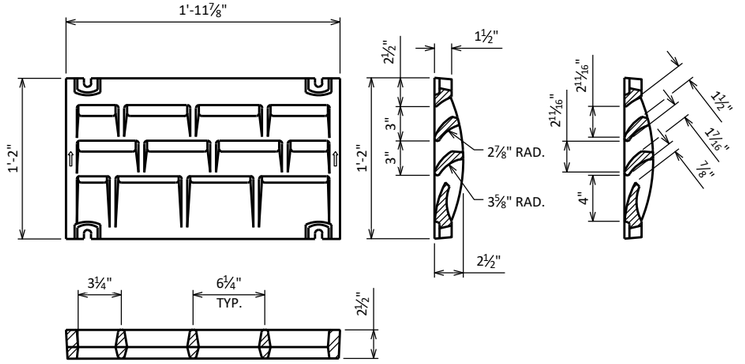
FILE NAME : S:\MAD\1000--1099\1089\895\Drawings\CAD\Micros\Plan\USH 53\080217_sp.dgn

STATE PROJECT NUMBER

1196-04-77



PLAN



GRATE CASTING DETAILS

ATTACH GRATES TO FRAME FOR SHIPMENT

NOTES

ALL MATERIAL FOR TYPE "WF" CASTING AND 8" DIA. CONNECTION PIPE, EXCLUDING GRATE HOLD DOWN SCREWS, SHALL BE GRAY IRON CONFORMING TO ASTM A48, CLASS 30.

MATERIAL FOR BRACKETS SHALL CONFORM TO ASTM A36.

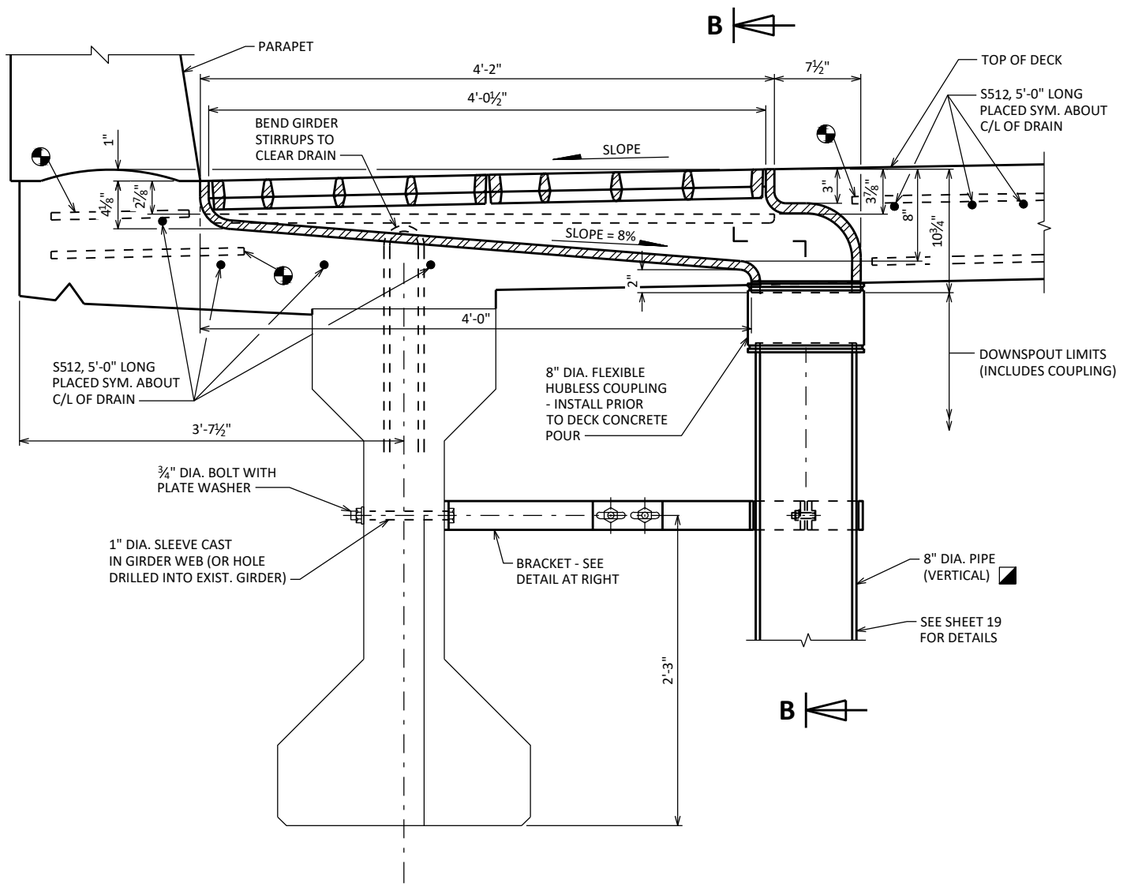
ALTERNATE BRACKETS ARE NOT ALLOWED.

ALL MATERIAL FOR FLOOR DRAINS TO BE INCLUDED IN THE BID ITEM "FLOOR DRAINS TYPE WF".

ALL MATERIAL FOR DOWNSPOUTS, DOWNSPOUT CONNECTIONS, AND BRACKETS TO BE INCLUDED IN THE BID ITEM "DOWNSPOUT 8-INCH".

◪ 8" DIA. DOWNSPOUTS SHALL BE REINFORCED THERMOSETTING RESIN PIPE (RTRP).

◓ TRANSVERSE & LONGITUDINAL SLAB BAR REINFORCEMENT TO BE CUT A MAXIMUM OF 1" CLEAR FROM DRAIN FRAME. DISPLACE BARS WHERE POSSIBLE.



SECTION A-A

SECTION B-B

BRACKET DETAIL

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-3-16

DRAWN BY JFG | PLANS CK'D BMO

FLOOR DRAIN TYPE "WF"

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SCALE =

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STATE PROJECT NUMBER

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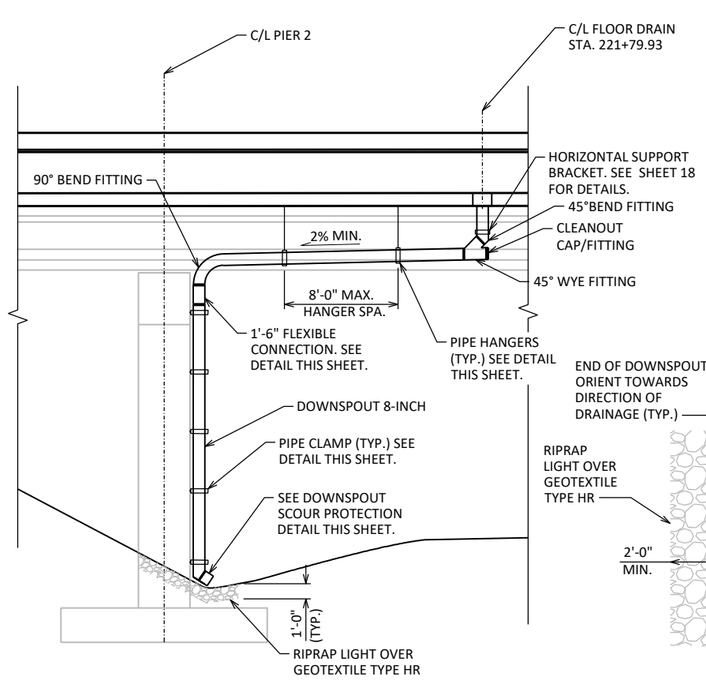
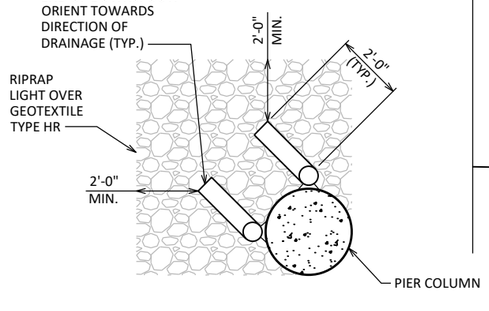


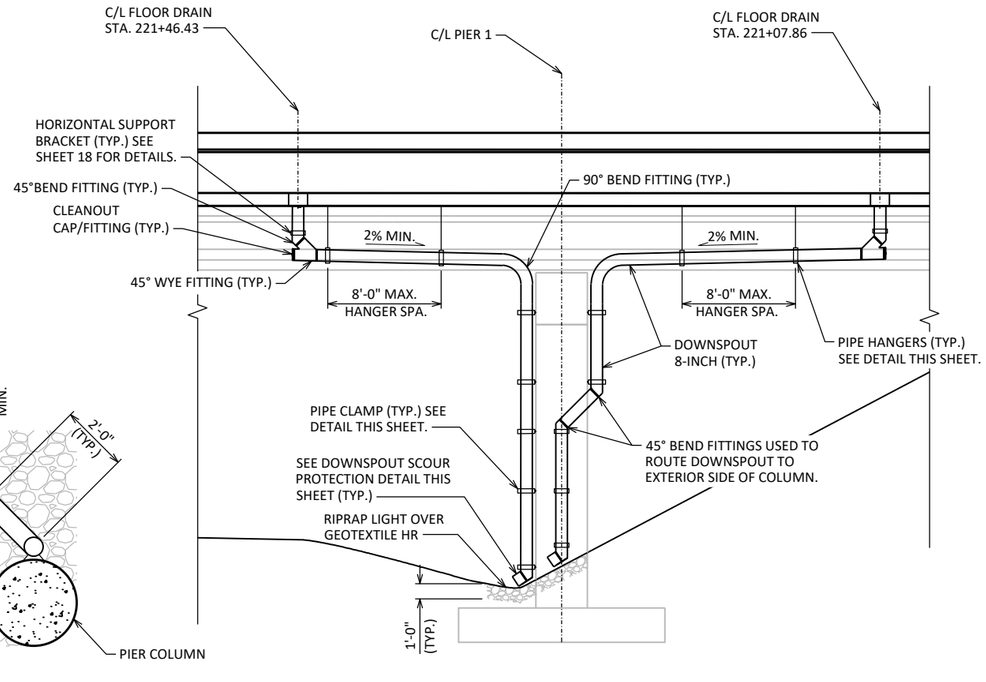
PIER 2 - DOWNSPOUT ELEVATION

(LOOKING EAST AT WEST SIDE OF BRIDGE)



DOWNSPOUT SCOUR PROTECTION

(PLAN AT PIER 1, PIER 2 IS SIMILAR)



PIER 1 - DOWNSPOUT ELEVATION

(LOOKING EAST AT WEST SIDE OF BRIDGE)

LEGEND

1. FLEXIBLE RUBBER HOSE, MIN. 3/16" THICK WALL TO SUIT DOWNSPOUT.
2. 10 GAGE STAINLESS STEEL CLAMP GRADE 304.
3. NEW 8" DIA. DOWNSPOUT PIPING SHALL BE REINFORCED THERMOSETTING RESIN PIPING (RTRP) CONFORMING TO ASTM D2996 & 2310.
4. 10 GAGE GALV. STEEL SADDLE.
5. 5/8" DIA. STAINLESS STEEL OR GALVANIZED THREADED ROD (GRADE 304) WITH STAINLESS STEEL HEX. NUTS & WASHERS.
6. 1/2" DIA. X 8" LONG STAINLESS STEEL THREADED ROD (GRADE 304) WITH STAINLESS STEEL HEX. NUTS & WASHERS.
7. 6" LONG SPLIT RTRP STRIP. BOND TO #3, PLACE AT ALL CLAMP LOCATIONS.
8. BENT ANCHOR PLATE-7 GAGE STAINLESS STEEL GRADE 304.
9. 1/2" DIA. ADHESIVE ANCHOR BOLTS. (STAINLESS STEEL BOLT & WASHER, TYP.).
10. HI-TORQUE 304 STAINLESS STEEL CLAMPS. (4 REQ'D PER EACH #1).
11. 7 GAGE STAINLESS STEEL GUSSET PLATE. WELD TO #2 & 8.
12. 3/8" X 1" LG. STAINLESS STEEL HEX HEAD BOLT WITH NUT & LOCK WASHER.

NOTES

CLEVIS, PIPE CLAMPS, HANGERS, FITTINGS, ELBOWS, CLEANOUTS, FLEXIBLE CONNECTIONS, & MISCELLANEOUS ITEMS ARE INCLUDED IN BID ITEM "DOWNSPOUT 8-INCH".

TIGHTEN CLAMPS TO A TIGHT SLIP FIT (FOR TEMP. EXPANSION).

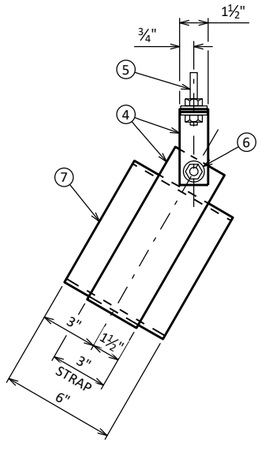
ALL ELBOWS TO BE LONG RADIUS TYPE.

A CLAMP OF EQUAL STRENGTH MAY BE USED AS AN ALTERNATE.

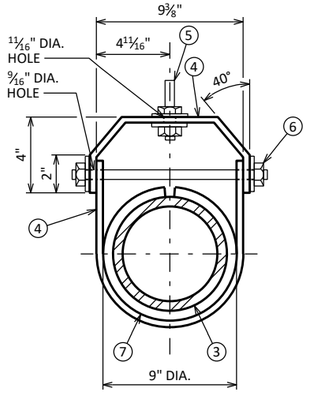
RTRP DOWNSPOUT TO BE SUPPORTED AT 8'-0" MAX. SPACING USING ONE OF THE SHOWN BRACKETS.

INSTALL CLEAN-OUTS AT ELBOWS AS SHOWN.

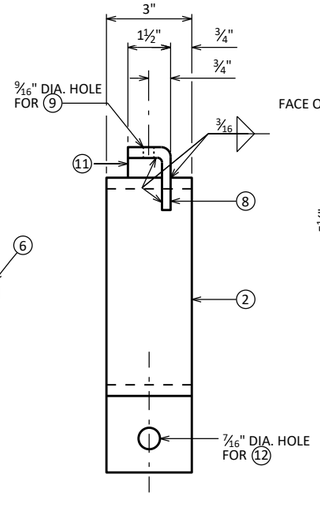
DRAIN WORK TO BE COMPLETED AS DIRECTED BY THE ENGINEER.



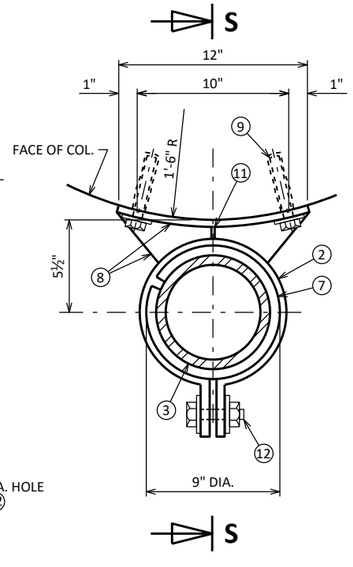
ADJUSTABLE CLEVIS DETAIL & PIPE HANGER DETAILS



SADDLE

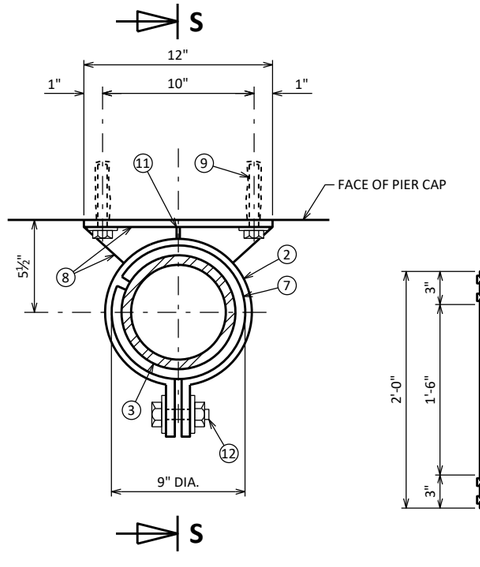


SECTION S-S



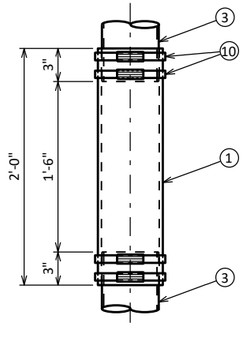
PIPE CLAMP DETAILS

(AT COLUMN)



PIPE CLAMP DETAILS

(AT PIER CAP)



FLEXIBLE CONNECTION

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-3-16

DRAWN BY JFG | PLANS CK'D BMO

DOWNSPOUT DETAILS

SHEET 19 OF 19

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SCALE =

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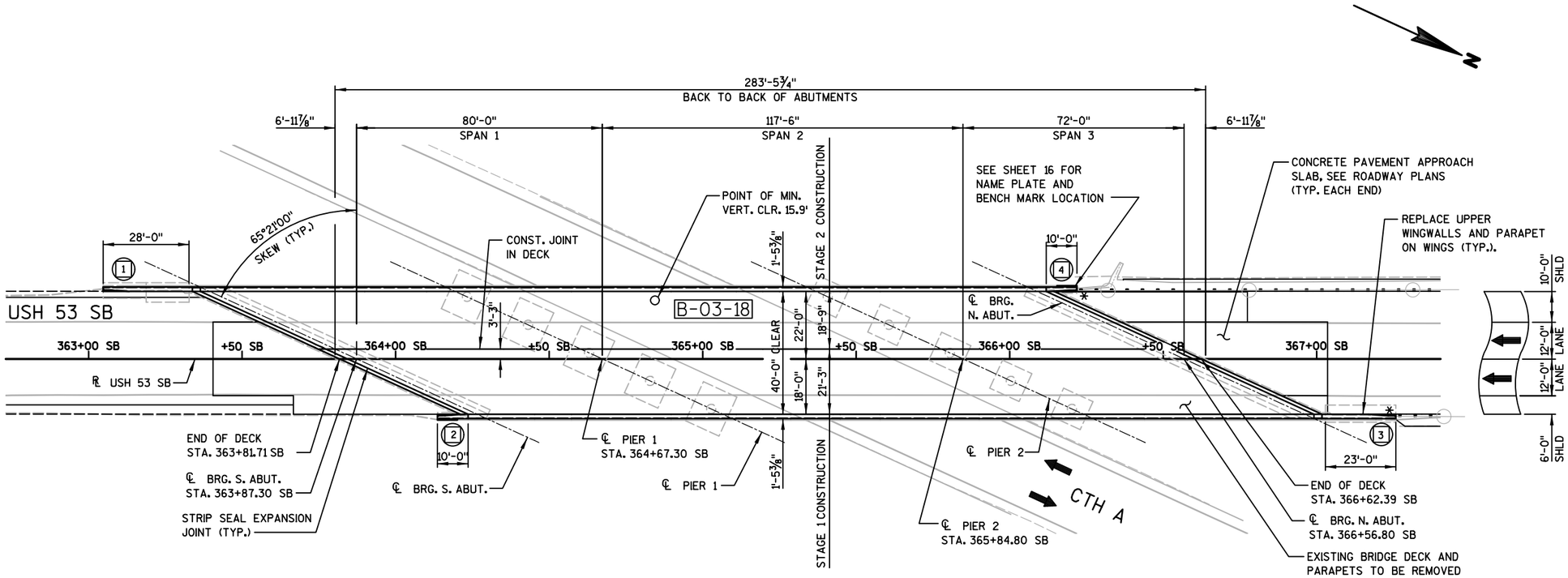
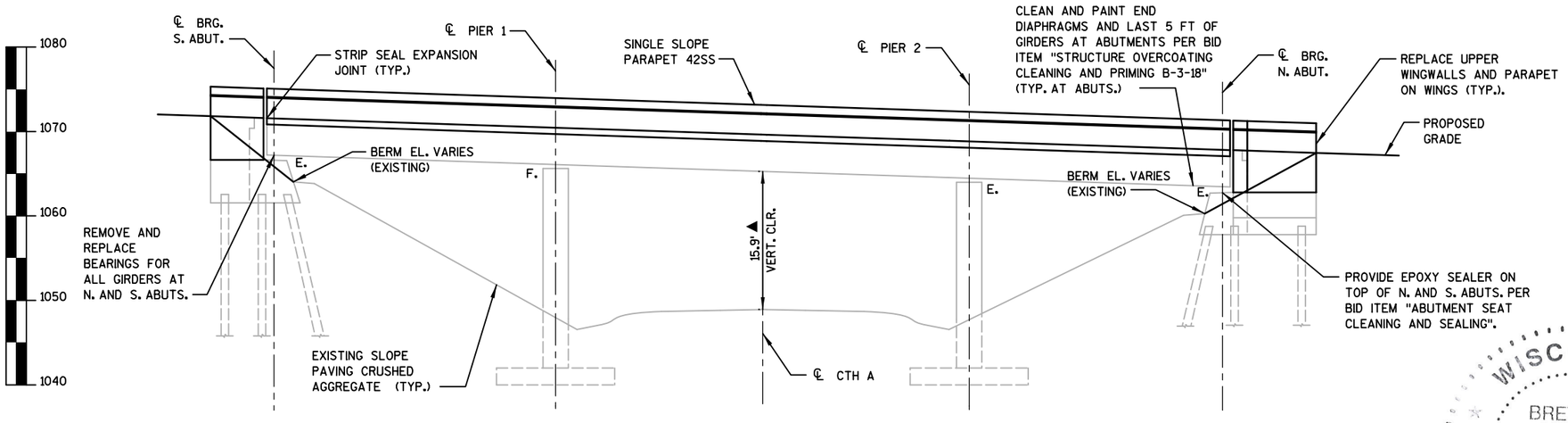
STATE PROJECT NUMBER

1196-04-77



PLAN

(DECK REPLACEMENT - 3 SPAN STEEL PLATE GIRDERS)



ELEVATION

(NORMAL TO ℄ CTH A)

BENCHMARKS

BM NO.	COORDINATES	DESCRIPTION	ELEV.
BM 1	Y: 62,128.59 X: 354,745.03	NW CORNER BRIDGE DECK B-3-24 (CTH I)	1065.33
BM 2	Y: 61,303.85 X: 355,782.67	NW CORNER BRIDGE DECK B-3-20 (CHETEK RIVER)	1043.96
BM 3	Y: 66,181.31 X: 349955.75	NW CORNER BRIDGE DECK B-3-26 (KNAPP STREET)	1077.68

NOTE: BENCH MARKS ARE OUTSIDE OF PLAN EXTENTS. SEE ROADWAY PLANS FOR ADDITIONAL INFORMATION.

DESIGN DATA

LIVE LOAD:

DESIGN LOADING _____ HS20
INVENTORY RATING _____ HS17
OPERATING RATING _____ HS28
WISCONSIN STANDARD PERMIT
VEHICLE (WIS-SPV) _____ 190 KIPS

MATERIAL PROPERTIES:

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

TRAFFIC DATA

USH 53 SB
A.D.T. (2025) = 9,660
DESIGN SPEED = 70 MPH (FROM AS-BUILT PLANS)

CTH A
A.D.T. (2011) = 450
DESIGN SPEED = 60 MPH

LEGEND

* LOCATION OF ANCHOR ASSEMBLIES FOR THRIE BEAM ATTACHMENT.

(X) DENOTES WINGWALL NUMBER.

▲ MIN. VERTICAL CLEARANCE BASED ON INFORMATION OBTAINED FROM WISDOT HIGHWAY STRUCTURES INFORMATION SYSTEM.

LIST OF DRAWINGS

1. GENERAL PLAN
2. CROSS SECTION & QUANTITIES
3. CONSTRUCTION STAGING
4. SOUTH ABUTMENT
5. SOUTH ABUTMENT DETAILS
6. NORTH ABUTMENT
7. NORTH ABUTMENT DETAILS
8. BEARING DETAILS
9. FRAMING PLAN
10. SUPERSTRUCTURE PLAN
11. SUPERSTRUCTURE SECTION
12. SUPERSTRUCTURE DETAILS-1
13. SUPERSTRUCTURE DETAILS-2
14. STRIP SEAL EXPANSION JOINT
15. COVER PLATE DETAILS
16. SINGLE SLOPE PARAPET 42SS WINGS 1& 3
17. SINGLE SLOPE PARAPET 42SS WINGS 2 & 4

STRUCTURE DESIGN CONTACTS

BRIDGE OFFICE CONTACT:
AARON BONK (608) 261-0261

DESIGN CONSULTANT CONTACT:
BRETT OFTEDAHL (608) 251-4843

NO.	DATE	REVISION	BY

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED SDR 01/27/25
CHIEF STRUCTURES DESIGN ENGINEER DATE

WISCONSIN BRETT M. OFTEDAHL E-41123 MADISON WI PROFESSIONAL ENGINEER
1/21/2025

STRUCTURE B-3-18

USH 53 SB OVER CTH A

COUNTY	TOWN/~~CITY/VILLAGE~~
BARRON	DOVRE

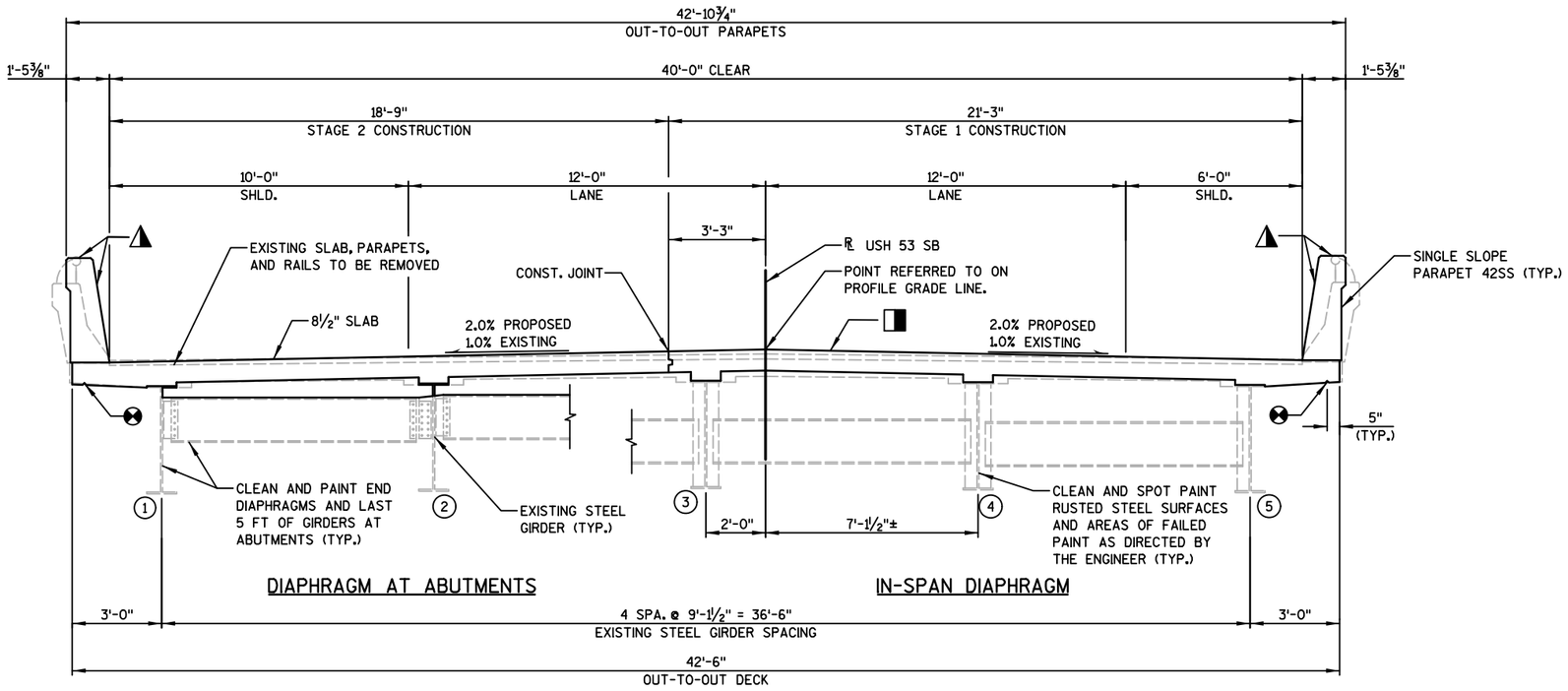
DESIGN SPEC.
REHABILITATION N/A

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
DLK	BMO	JFG	BMO

GENERAL PLAN

SHEET 1 OF 17
266

FILE NAME : S:\MAD\1000--1099\1089\895\Drawings\CAD\Micros\Plan\USH 53\080301_gn.dgn

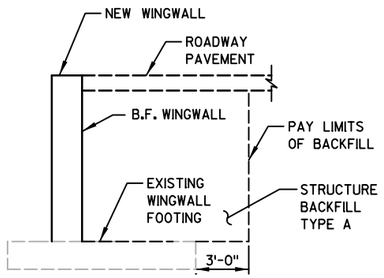


EXISTING AND PROPOSED TYPICAL CROSS SECTION

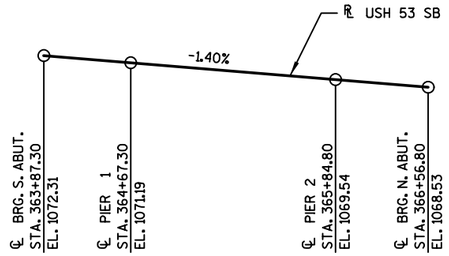
(LOOKING NORTH)

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	S. ABUT	N. ABUT.	SUPERSTRUCTURE	TOTAL	UNIT
203.0211.S.01	ABATEMENT OF ASBESTOS CONTAINING MATERIALS B-3-18	---	---	---	1	EACH
203.0220.03	REMOVING STRUCTURE B-3-18	---	---	---	1	EACH
206.1001.03	EXCAVATION FOR STRUCTURES BRIDGES B-3-18	---	---	---	1	EACH
210.1500	BACKFILL STRUCTURE TYPE A	95	91	---	186	TON
502.0100	CONCRETE MASONRY BRIDGES	26.5	25.5	421.4	474	CY
502.3101	EXPANSION DEVICE	96	96	---	192	LF
502.3200	PROTECTIVE SURFACE TREATMENT	---	---	1,290	1,290	SY
502.3210	PIGMENTED SURFACE SEALER	21	19	271	311	SY
502.4106	ADHESIVE ANCHORS 3/4-INCH	5	---	---	5	EACH
502.4204	ADHESIVE ANCHORS NO. 4 BAR	29	41	---	70	EACH
502.4205	ADHESIVE ANCHORS NO. 5 BAR	158	136	---	294	EACH
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	3,350	3,140	91,280	97,770	LB
505.0904	BAR COUPLERS NO. 4	---	---	4	4	EACH
505.0905	BAR COUPLERS NO. 5	3	3	928	934	EACH
505.0907	BAR COUPLERS NO. 7	---	---	10	10	EACH
506.2610	BEARING PADS ELASTOMERIC LAMINATED	5	5	---	10	EACH
506.7050.S.02	REMOVING BEARINGS B-3-18	5	5	---	10	EACH
509.1500	CONCRETE SURFACE REPAIR	50	50	---	100	SF
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	8	10	---	18	SY
517.0901.S.01	PREPARATION AND COATING OF TOP FLANGES B-3-18	---	---	---	1	EACH
517.3001.S.01	STRUCTURE OVERCOATING CLEANING AND PRIMING B-3-18	---	---	---	1	EACH
517.4001.S.01	CONTAINMENT AND COLLECTION OF WASTE MATERIALS B-3-18	---	---	---	1	EACH
614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	---	---	2	2	EACH
SPV.0060.04	TEMPORARY SUPPORT B-3-18	---	---	---	1	EACH
SPV.0180.01	ABUTMENT SEAT CLEANING AND SEALING	31	31	---	62	SY
	NON-BID ITEMS					
	FILLER	---	---	---	1/2", 3/4"	SIZE



STRUCTURE BACKFILL LIMITS



PROFILE GRADE USH 53 SOUTHBOUND B-3-18

STATE PROJECT NUMBER

1196-04-77

GENERAL NOTES

THE PROPOSED WORK INCLUDES REMOVING AND REPLACING THE CONCRETE DECK AND PARAPETS, CONCRETE SURFACE REPAIR AT ABUTMENTS, CLEANING AND REPAINTING END DIAPHRAGMS AND LAST 5 FT OF GIRDERS AT ABUTMENTS, SPOT PAINTING GIRDERS AS DIRECTED BY THE ENGINEER, REMOVING AND REPLACING BEARINGS AND EXPANSION JOINTS AT ABUTMENTS, EPOXY SEALING TOP OF ABUTS., AND REPLACING UPPER WINGWALLS.

DRAWINGS SHALL NOT BE SCALED.

DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS AND SUBSEQUENT REHABILITATION PLANS.

ALL DIMENSIONS ARE IN FEET AND INCHES UNLESS OTHERWISE NOTED. ALL STATIONS ARE IN FEET.

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

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

UTILIZE EXISTING BAR STEEL REINFORCEMENT WHERE SHOWN AND EXTEND 24 BAR DIAMETERS INTO NEW WORK, UNLESS SPECIFIED OTHERWISE.

ALL CONCRETE REMOVAL SHALL BE DEFINED BY A 1" DEEP SAW CUT. THE CONTRACTOR SHALL EXERCISE CAUTION WHEN REMOVING OLD DECK AS TO NOT DAMAGE THE EXISTING GIRDERS.

VARIATIONS TO THE NEW GRADE LINE OVER ¼" MUST BE SUBMITTED BY THE FIELD ENGINEER TO THE STRUCTURES DESIGN SECTION FOR REVIEW.

THE CONTRACTOR SHALL SUPPLY A NEW NAME PLATE IN ACCORDANCE WITH SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS AND THE STANDARD DETAIL DRAWING. NAME PLATE TO SHOW ORIGINAL CONSTRUCTION YEAR, 1972.

CONTRACTOR IS RESPONSIBLE FOR GIRDER STABILITY DURING REMOVAL AND REPLACEMENT OF THE CONCRETE DECK.

PERFORM CONCRETE SURFACE REPAIR AS DIRECTED BY THE FIELD ENGINEER. QUANTITY SHOWN IS APPROXIMATE.

THE GRAY GASKET MATERIAL LOCATED BETWEEN BRIDGE PARAPET RAIL MOUNTING PLATES AND THE PARAPET TESTED POSITIVE FOR ASBESTOS GREATER THAN 1% AND IS THEREFORE REGULATED ACM. SEE TESTING REPORT COMPLETED BY GEI CONSULTANTS INC. FOR ADDITIONAL DETAILS.

BEVEL ALL EXPOSED EDGES OF CONCRETE ¾" UNLESS OTHERWISE NOTED.

AT ABUTMENTS, ALL EXCAVATED VOLUME NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH STRUCTURE BACKFILL TYPE A.

THE EXISTING GROUNDLINE SHALL BE THE UPPER LIMITS OF EXCAVATION FOR STRUCTURES.

ALL STRUCTURAL STEEL WITHIN 5 FEET OF END OF BRIDGE SHALL BE PAINTED. CLEAN AND SPOT PAINT OTHER AREAS AS DIRECTED BY ENGINEER. THE COLOR OF THE FINISH TOP COAT ON THE STEEL GIRDERS SHALL BE AMS STANDARD COLOR NO. 26293 (LIGHT GRAY). ESTIMATED STEEL SURFACE AREA TO BE PAINTED IS 1,480 SF.

CONCRETE FOR DECK SHALL BE PLACED ALONG THE SKEW.

LEGEND

(X) DENOTES GIRDER NUMBER

3/4" V-GROOVE REQ'D. EXTEND TO 2'-0" FROM F.F. OF ABUT. BODY.

PROTECTIVE SURFACE TREATMENT SHALL BE APPLIED TO THE TOP OF DECK AND VERTICAL AND HORIZONTAL SURFACES OF THE PAVING NOTCHES.

PIGMENTED SURFACE SEALER SHALL BE APPLIED TO THE INSIDE, TOP, AND ENDS OF PARAPETS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-3-18

DRAWN BY JFG | PLANS CK'D. BMO

CROSS SECTION AND QUANTITIES

SHEET 2 OF 17
267

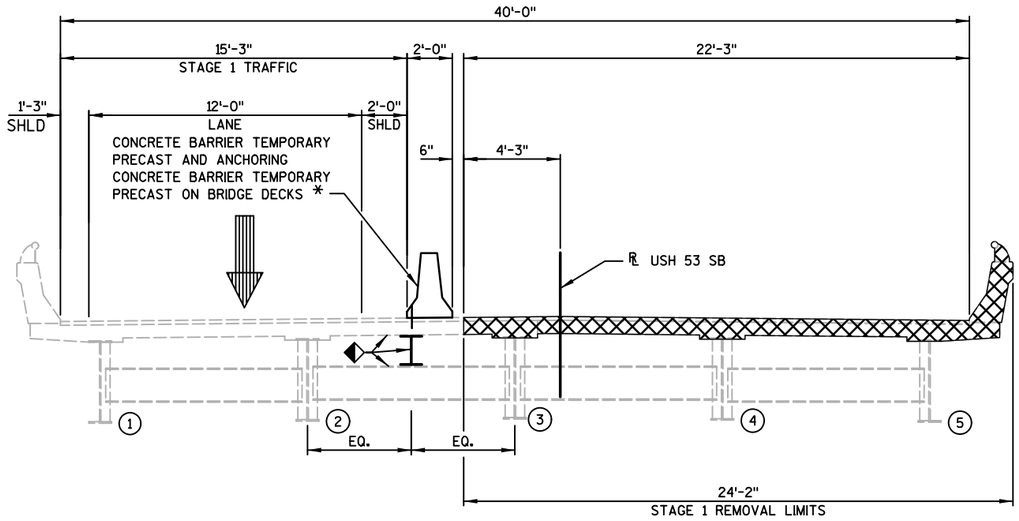
8

8

FILE NAME : S:\MAD\1000--1099\1089\895\Drawings\CAD\Micros\Plan\USH 53\080302_cs.dgn

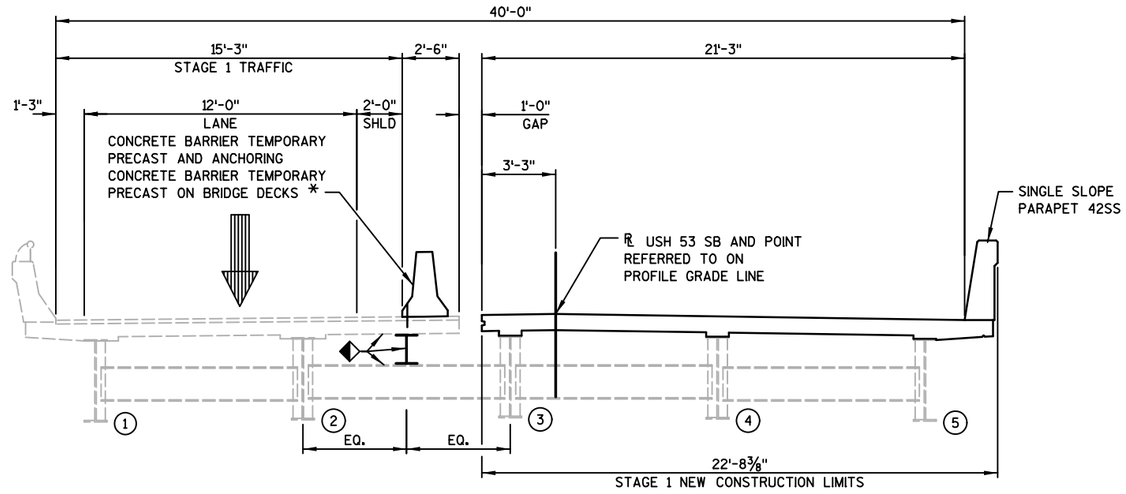
STATE PROJECT NUMBER

1196-04-77



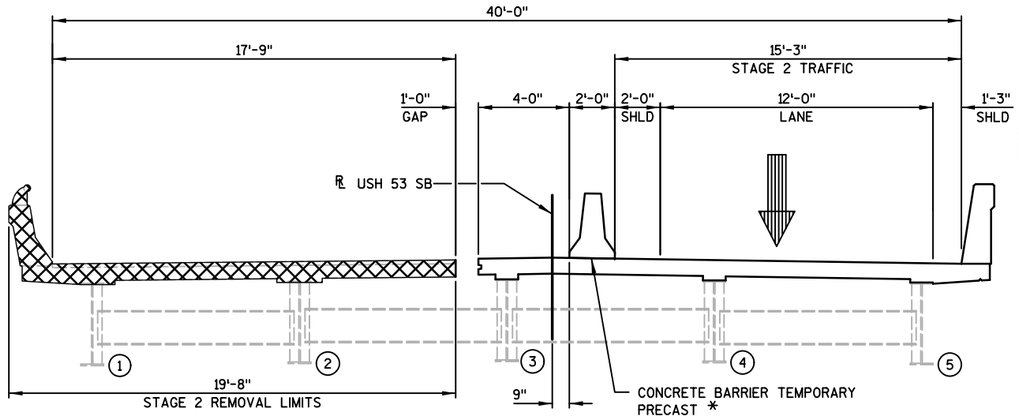
STAGE 1 TRAFFIC AND REMOVAL

(LOOKING NORTH)



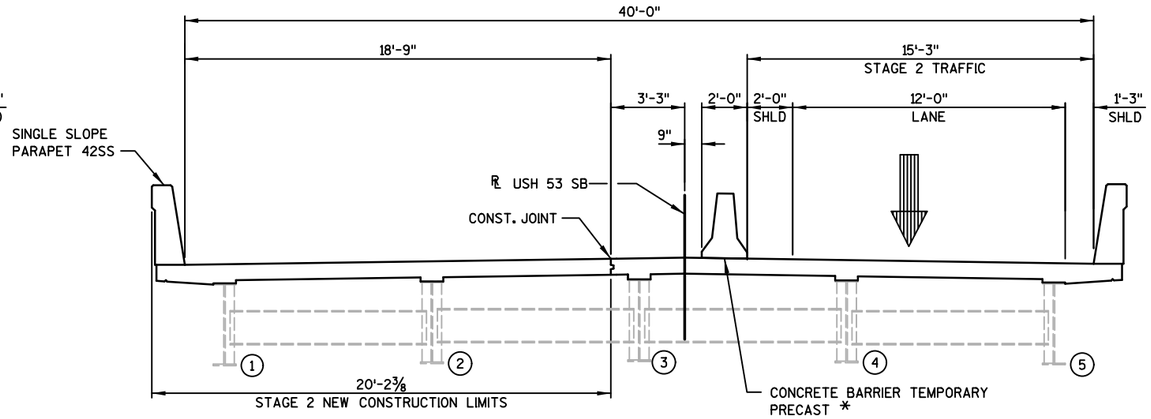
STAGE 1 TRAFFIC AND CONSTRUCTION

(LOOKING NORTH)



STAGE 2 TRAFFIC AND REMOVAL

(LOOKING NORTH)



STAGE 2 TRAFFIC AND CONSTRUCTION

(LOOKING NORTH)

LEGEND

* SEE ROADWAY PLANS FOR ADDITIONAL INFORMATION.

REMOVAL LIMITS

(X) DENOTES GIRDER NUMBER

PROVIDE TEMPORARY SUPPORT OF THE FULL LENGTH OF DECK OVERHANG DURING STAGE 1 CONSTRUCTION IN ACCORDANCE WITH THE SPECIAL PROVISION "TEMPORARY SUPPORT B-3-18". TEMPORARY SUPPORT SHALL PROVIDE EQUAL DISTRIBUTION OF SUPPORT LOADS TO GIRDERS 2 & 3. DESIGN SPACING AND BLOCKING OF TEMPORARY SUPPORT WITH CONSIDERATION TO LOCAL STRESSES ON THE EXISTING DIAPHRAGM AND GIRDER. PROVIDE ADDITIONAL LATERAL BRACING AS REQUIRED FOR TEMPORARY SUPPORT CONDITIONS.

NOTES

SEE ROADWAY PLANS FOR ADDITIONAL STAGING INFORMATION.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-3-18

DRAWN BY JFG | PLANS CK'D. BMO

CONSTRUCTION STAGING

SHEET 3 OF 17
268

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FILE NAME : S:\MAD\1000--1099\1089\895\Drawings\CAD\Micros\Plan\USH 53\080303_st.dgn

STATE PROJECT NUMBER

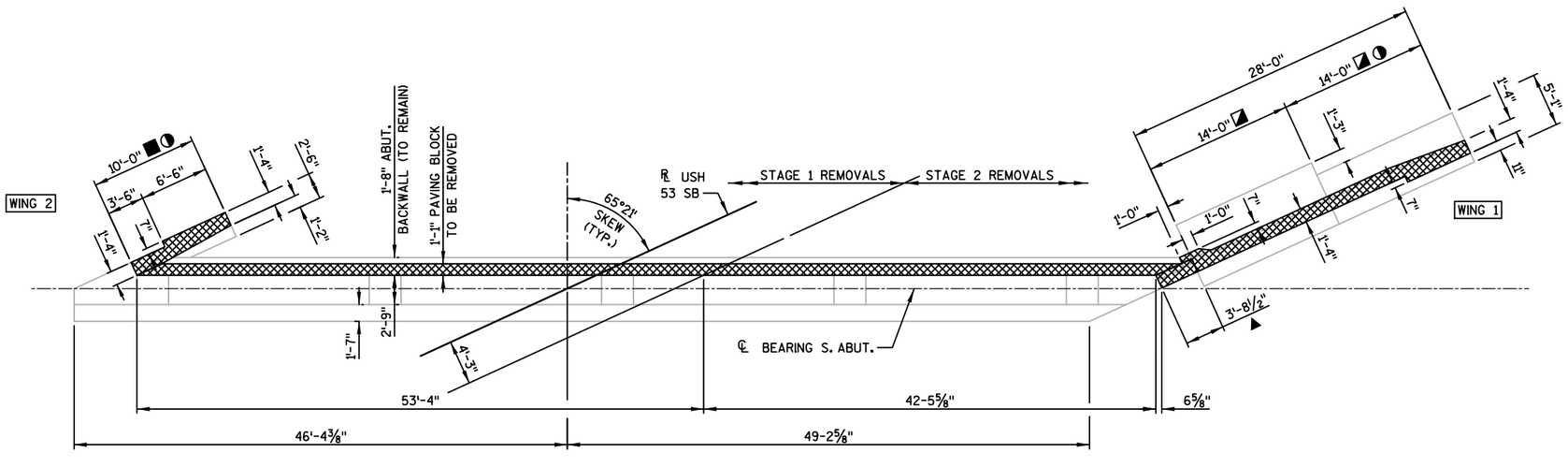
1196-04-77

LEGEND

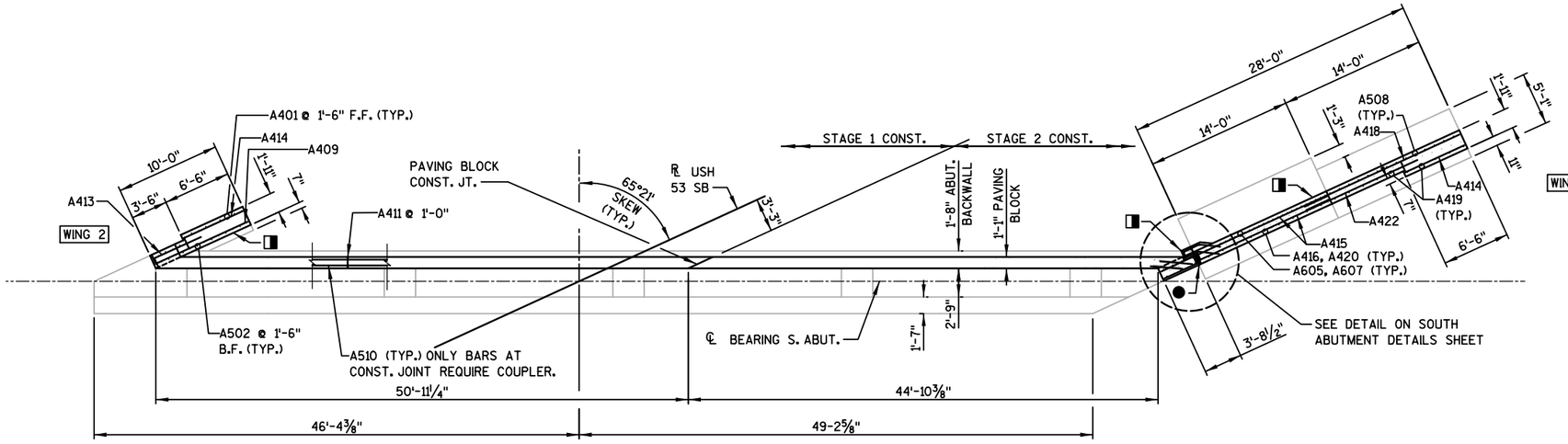
- ■ REMOVE EXISTING UPPER WING DOWN TO EXISTING ABUTMENT AND LOWER WING.
- ◪ REMOVE EXISTING WING DOWN TO FOOTING.
- ◑ SALVAGE AND INCORPORATE EXISTING VERTICAL BAR STEEL INTO NEW WORK.
- ◨ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACK FACE.
- ▲ REMOVE END OF ABUTMENT BACKWALL TO THE LIMIT SHOWN. SALVAGE EXISTING HORIZ. AND VERT. REINF. AND INCORPORATE INTO NEW WORK.
- ● ¾" JOINT FILLER, SEAL WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONC.)
- ◇ SALVAGE AND INCORPORATE AS MUCH REBAR AS PRACTICAL.
- ▨ REMOVAL LIMITS.

NOTES

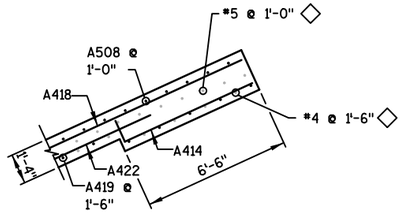
SEE SOUTH ABUTMENT DETAILS SHEET.



PLAN
(SHOWING REMOVALS)



PLAN
(SHOWING PROPOSED STRUCTURE WORK)



END OF WING ENLARGEMENT

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-3-18

DRAWN BY JFG | PLANS CK'D. BMO

SOUTH ABUTMENT

SHEET 4 OF 17
269

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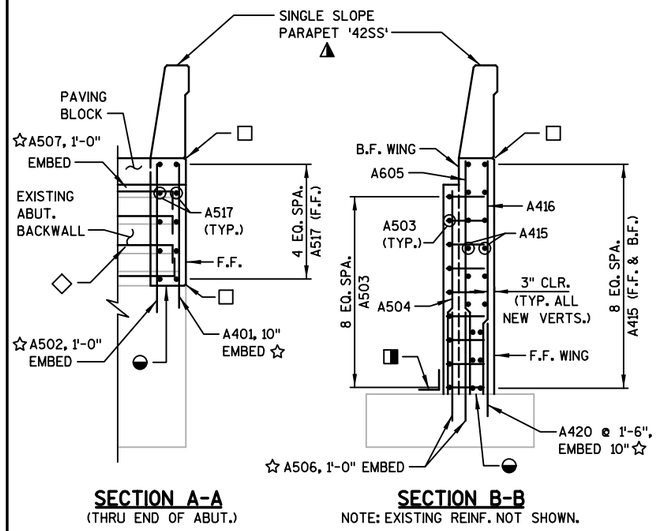
FILE NAME : S:\MAD\1000--1099\1089\895\Drawings\CAD\Micros\Plan\USH 53\080304_sa.dgn

STATE PROJECT NUMBER

1196-04-77

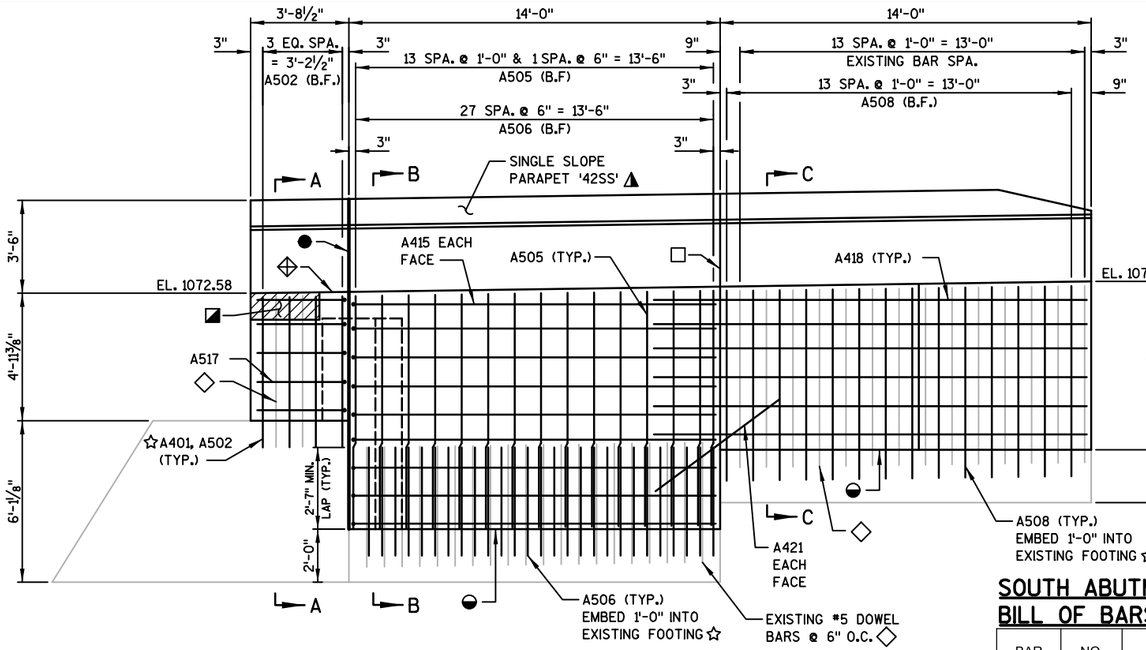
LEGEND

- 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACK FACE.
- ROUGHEN SURFACE OF EXISTING CONCRETE TO 1/4 "± AMPLITUDE (ALL AREAS OF NEW TO EXISTING CONCRETE CONTACT).
- SEE "SINGLE SLOPE PARAPET '42SS'" SHEETS FOR REINFORCING DETAILS.
- 3/4" V-GROOVE.
- POUR CONCRETE IN HATCHED REGION AFTER SUPERSTRUCTURE IS IN PLACE. SEE "SUPERSTRUCTURE DETAILS - 1" SHEET FOR EXTENTS.
- 3/4" JOINT FILLER, SEAL WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONC.)
- SALVAGE AND INCORPORATE AS MUCH EXISTING REBAR AS PRACTICAL.
- APPLY BOND BREAKER TO AREA AT TOP OF WING WALL PRIOR TO POURING PARAPET OVER ABUTMENT BACKWALL.



SECTION A-A
(THRU END OF ABUT.)

SECTION B-B
NOTE: EXISTING REINF. NOT SHOWN.



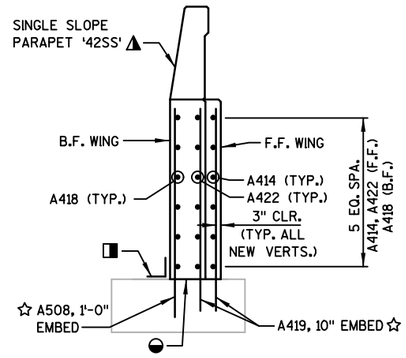
WING 1 ELEVATION
(SHOWING B.F. BAR STEEL REINFORCEMENT.
SEE SECTIONS & SHEET 4 FOR F.F. REINF.)

SOUTH ABUTMENT BILL OF BARS

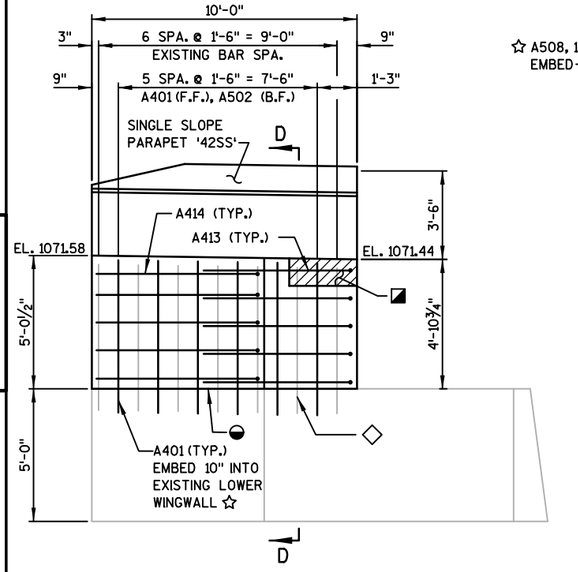
COATED: 2.030 LBS

	BAR MARK	NO. REQ'D	LENGTH	BENT	COAT	LOCATION
☆	A401	9	5'-7"		X	F.F. - VERT. - DOWELS - WINGS 1 & 2
☆	A502	10	5'-9"		X	B.F. - VERT. - DOWELS - WINGS 1 & 2
	A503	9	7'-10"	X	X	B.F. - HORIZ. - WING 1
	A504	4	7'-7"		X	B.F. - VERT. - WING 1
	A505	15	8'-10"		X	B.F. - VERT. - WING 1
☆	A506	29	3'-10"		X	B.F. - VERT. - DOWELS - WING 1
☆	A507	8	4'-8"	X	X	F.F. & B.F. - HORIZ. - ABUT. BACKWALL
☆	A508	14	7'-2"		X	B.F. - VERT. - DOWELS - WING 1
	A409	5	10'-3"	X	X	B.F. - HORIZ. - WING 2
**	A510	39	8'-4"		X	PAVING BLOCK - HORIZ.
	A411	97	3'-8"	X	X	PAVING BLOCK - VERT.
☆	A512	97	2'-10"	X	X	PAVING BLOCK - VERT. - DOWELS
	A413	5	6'-3"	X	X	F.F. - HORIZ. - WING 2
	A414	11	7'-1"	X	X	F.F. - HORIZ. - WINGS 1 & 2
	A415	18	14'-2"	X	X	F.F. & B.F. - HORIZ. - WING 1
	A416	10	8'-10"		X	F.F. - VERT. - WING 1
	A517	5	7'-1"	X	X	HORIZ. - ABUT. BACKWALL
	A418	7	16'-5"		X	B.F. - HORIZ. - WING 1
☆	A419	10	7'-0"		X	F.F. - VERT. - DOWELS - WING 1
☆	A420	10	2'-6"		X	F.F. - VERT. - DOWELS - WING 1
	A421	2	6'-0"		X	F.F. & B.F. - DIAGONAL - WING 1
	A422	6	12'-4"		X	F.F. - HORIZ. - WING 1

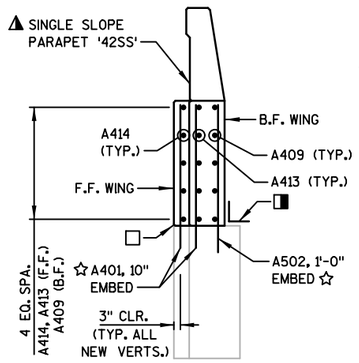
**BAR WITH COUPLER, SEE DETAILS ON SHEET 12. BAR LENGTH COMPUTED TO ℄ LONGIT. JOINT AND SHALL BE MODIFIED IF REQUIRED TO BAR COUPLER MANUFACTURER RECOMMENDATIONS.



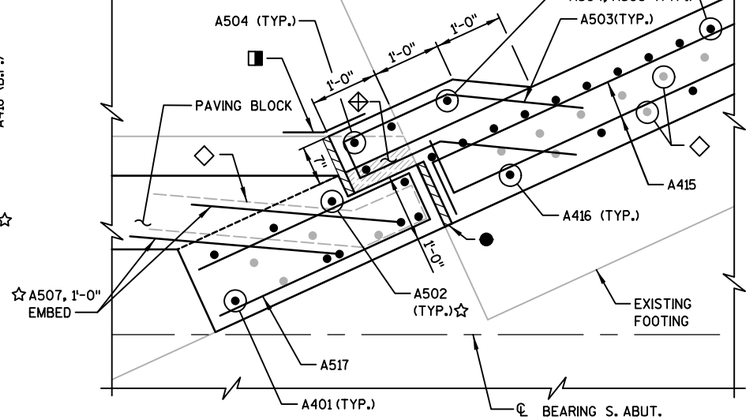
SECTION C-C



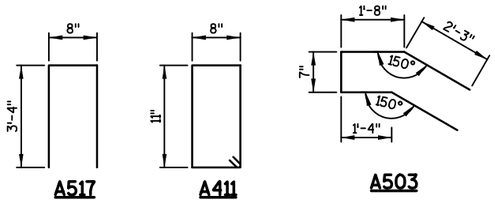
WING 2 ELEVATION
(SHOWING F.F. BAR STEEL REINF.)



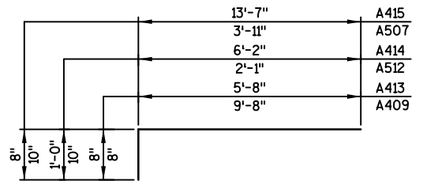
SECTION D-D



WING 1 AT ABUTMENT DETAIL



☆ ADHESIVE ANCHOR



A507, A409, A512, A413, A414, A415

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-3-18

DRAWN BY JFG | PLANS CK'D. BMO

SOUTH ABUTMENT DETAILS

SHEET 5 OF 17
270

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FILE NAME : S:\MAD\1000--1099\1089\895\Drawings\CAD\Micros\Plan\USH 53\080305_sa.dgn

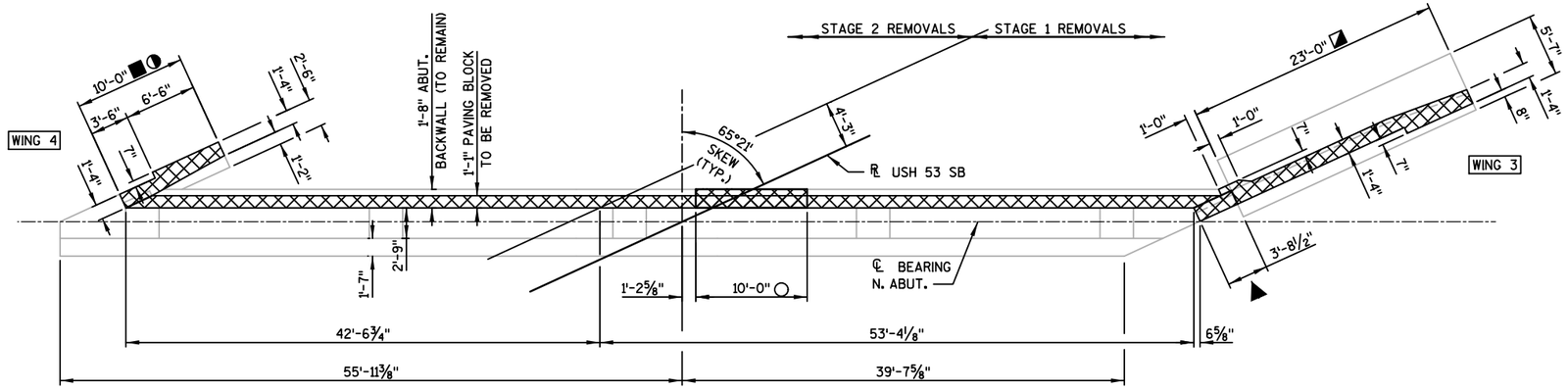
STATE PROJECT NUMBER

1196-04-77

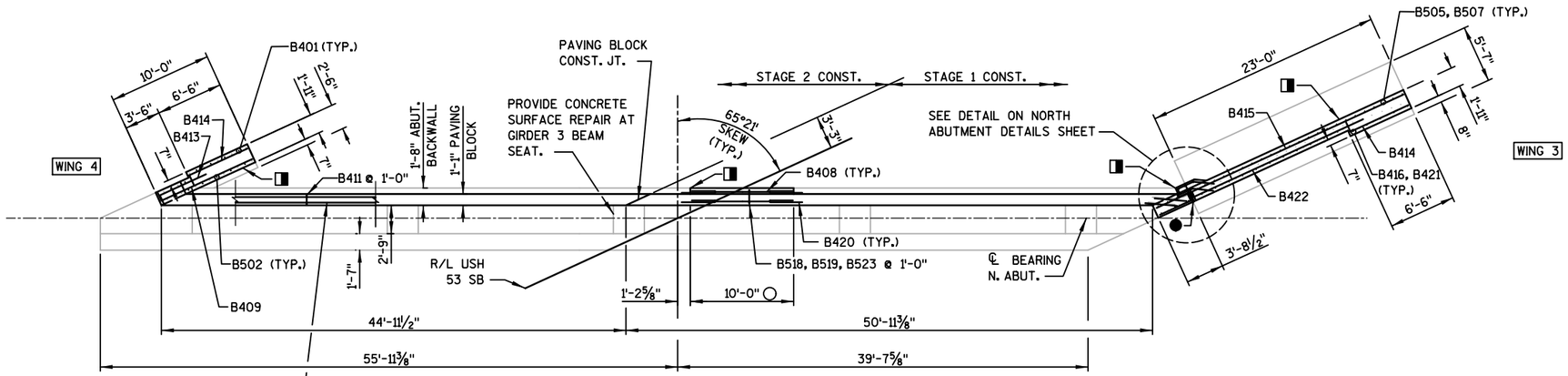
LEGEND

- ■ REMOVE EXISTING UPPER WING DOWN TO EXISTING ABUTMENT AND LOWER WING.
- ◪ REMOVE EXISTING WING DOWN TO FOOTING.
- ◑ SALVAGE AND INCORPORATE EXISTING VERTICAL BAR STEEL INTO NEW WORK.
- ◨ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACK FACE.
- ○ LIMITS FOR REMOVAL AND REPLACEMENT OF ABUTMENT BACKWALL.
- ☆ ADHESIVE ANCHOR
- ▲ REMOVE END OF ABUTMENT BACKWALL TO THE LIMIT SHOWN. SALVAGE EXISTING HORIZ. AND VERT. REINF. AND INCORPORATE INTO NEW WORK.
- ● 3/4" JOINT FILLER, SEAL WITH NON STAINING GRAY NON-BITUMINOUS JOINT SEALER (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONC.)

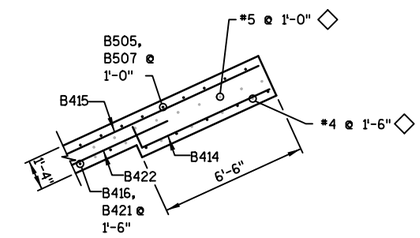
REMOVAL LIMITS.



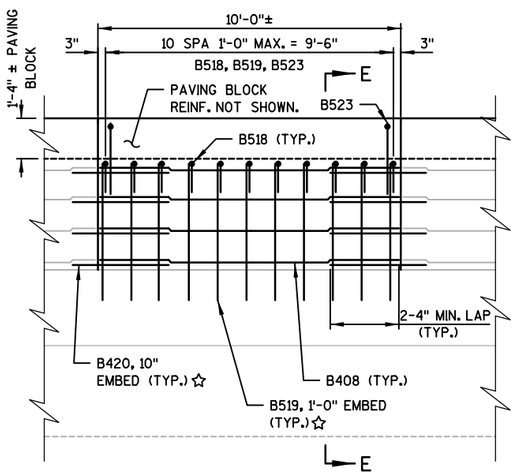
PLAN
(SHOWING REMOVALS)



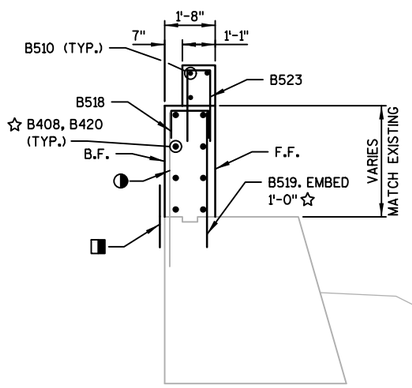
PLAN
(SHOWING PROPOSED STRUCTURE WORK)



END OF WING ENLARGEMENT



BACKWALL REPLACEMENT ELEVATION
(SEE PLAN VIEW ON THIS SHEET FOR LOCATION)



SECTION E-E

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-3-18

DRAWN BY JFG | PLANS CK'D. BMO

NORTH ABUTMENT

SHEET 6 OF 17
271

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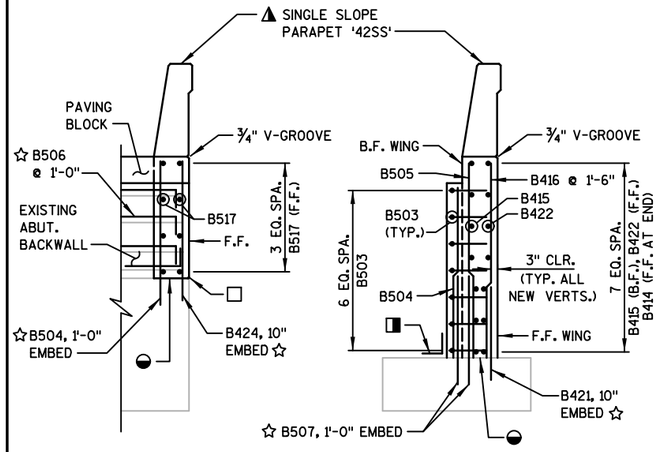
FILE NAME : S:\MAD\1000--1099\1089\895\Drawings\CAD\Micros\Plan\USH 53\080306_na.dgn

STATE PROJECT NUMBER

1196-04-77

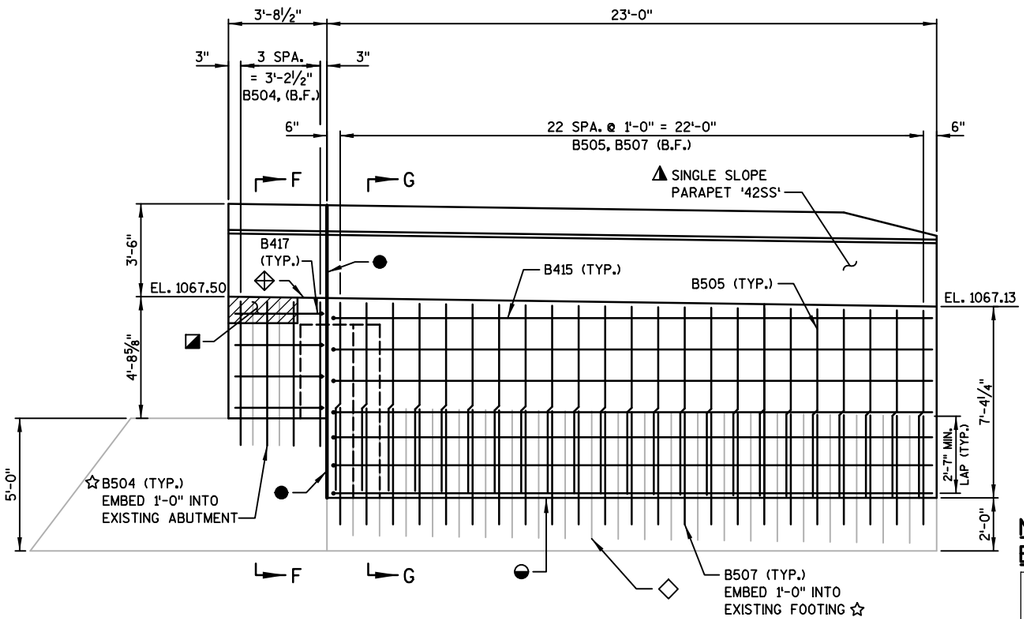
LEGEND

- 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACK FACE.
- ROUGHEN SURFACE OF EXISTING CONCRETE TO 1/4"± AMPLITUDE (ALL AREAS OF NEW TO EXISTING CONCRETE CONTACT).
- SEE "SINGLE SLOPE PARAPET '42SS'" SHEETS FOR REINFORCING DETAILS.
- 3/4" CHAMFER AT BASE OF NEW WING.
- POUR CONCRETE IN HATCHED REGION AFTER SUPERSTRUCTURE IS IN PLACE. SEE "SUPERSTRUCTURE DETAILS - 1" SHEET FOR EXTENTS.
- SALVAGE AND INCORPORATE AS MUCH EXISTING REBAR AS PRACTICAL.
- 3/4" JOINT FILLER, SEAL WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE.
- APPLY BOND BREAKER TO AREA AT TOP OF WING WALL PRIOR TO POURING PARAPET OVER ABUTMENT BACKWALL.



SECTION F-F
(THRU END OF ABUT.)

SECTION G-G
(EXISTING REINF. NOT SHOWN)



WING 3 ELEVATION
(SHOWING B.F. BAR STEEL REINF.)

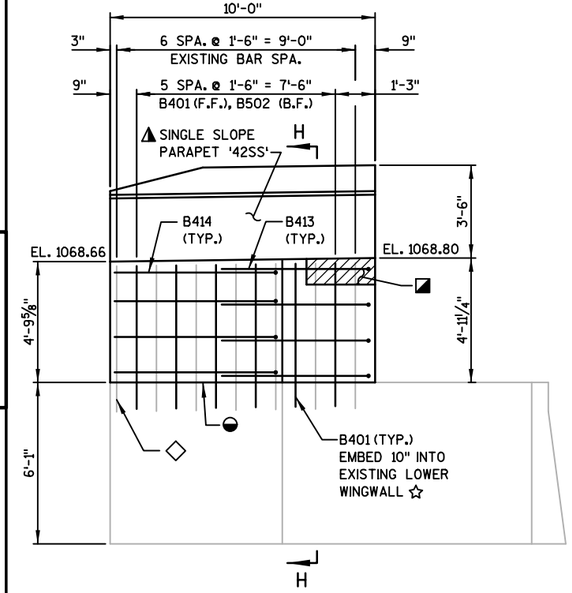
NORTH ABUTMENT BILL OF BARS

COATED: 1,950 LBS

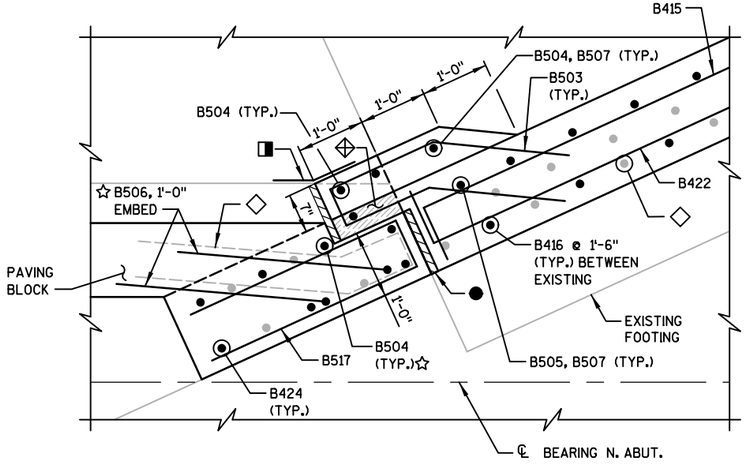
	BAR MARK	NO. REQ'D	LENGTH	BENT	COAT	LOCATION
☆	B401	6	5'-7"		X	F.F. - VERT. - DOWELS - WING 4
☆	B502	6	5'-9"		X	B.F. - VERT. - DOWELS - WING 4
	B503	7	7'-10"	X	X	B.F. - HORIZ. - WING 3
	B504	4	4'-6"		X	B.F. - VERT. - ABUT. BACKWALL
	B505	23	7'-2"		X	B.F. - VERT. - WING 3
☆	B506	8	4'-8"	X	X	ABUT. BACKWALL - HORIZ.
☆	B507	24	3'-11"		X	B.F. - VERT. - DOWELS - WING 3
	B408	8	9'-10"		X	ABUT. BACKWALL - HORIZ.
	B409	4	10'-3"	X	X	B.F. - HORIZ. - WING 4
**	B510	39	8'-4"		X	PAVING BLOCK - HORIZ.
	B411	87	3'-8"	X	X	PAVING BLOCK - VERT.
☆	B512	87	2'-10"	X	X	PAVING BLOCK - VERT. - DOWELS
	B413	4	6'-3"	X	X	F.F. - HORIZ. - WING 4
	B414	12	7'-1"	X	X	F.F. - HORIZ. - WINGS 3 & 4
	B415	8	23'-2"	X	X	B.F. - HORIZ. - WING 3
	B416	16	7'-2"		X	F.F. - VERT. - WING 3
	B517	4	7'-1"	X	X	HORIZ. - ABUT. BACKWALL
	B518	11	2'-9"	X	X	ABUT. BACKWALL - STIRRUPS
☆	B519	11	4'-6"		X	ABUT. BACKWALL - VERT. - DOWELS
☆	B420	16	3'-2"		X	ABUT. BACKWALL - HORIZ. - DOWELS
☆	B421	16	2'-10"		X	F.F. - VERT. - DOWELS - WING 3
	B422	8	19'-3"	X	X	F.F. - HORIZ. - WING 3
	B523	11	5'-1"	X	X	ABUT. BACKWALL - VERT.
☆	B424	3	5'-4"		X	ABUT. BACKWALL - VERT.

**BAR WITH COUPLER, SEE DETAILS ON SHEET 12. BAR LENGTH COMPUTED TO ℄ LONGIT. JOINT AND SHALL BE MODIFIED IF REQUIRED TO BAR COUPLER MANUFACTURER RECOMMENDATIONS.

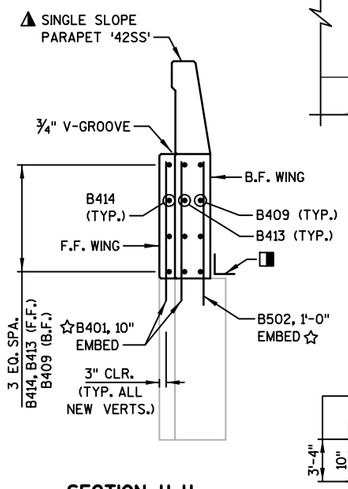
☆ ADHESIVE ANCHOR



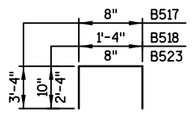
WING 4 ELEVATION
(SHOWING F.F. BAR STEEL REINF.)



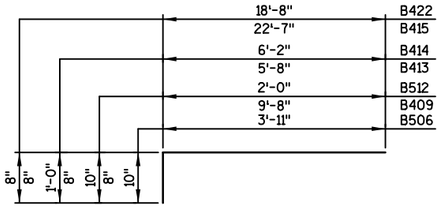
WING 3 AT ABUTMENT DETAIL



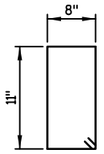
SECTION H-H



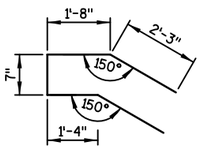
B517, B518, B523



B506, B409, B512, B413, B414, B415, B422



B411



B503

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-3-18

DRAWN BY JFG | PLANS CK'D. BMO

NORTH ABUTMENT DETAILS

SHEET 7 OF 17
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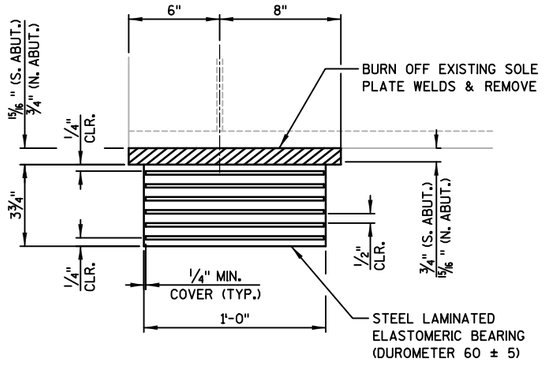
8

8

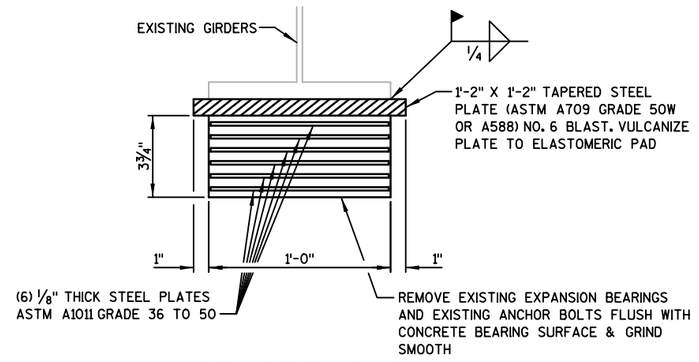
FILE NAME : S:\MAD\1000--1099\1089\895\Drawings\CAD\Micros\Plan\USH 53\080307_na.dgn

STATE PROJECT NUMBER

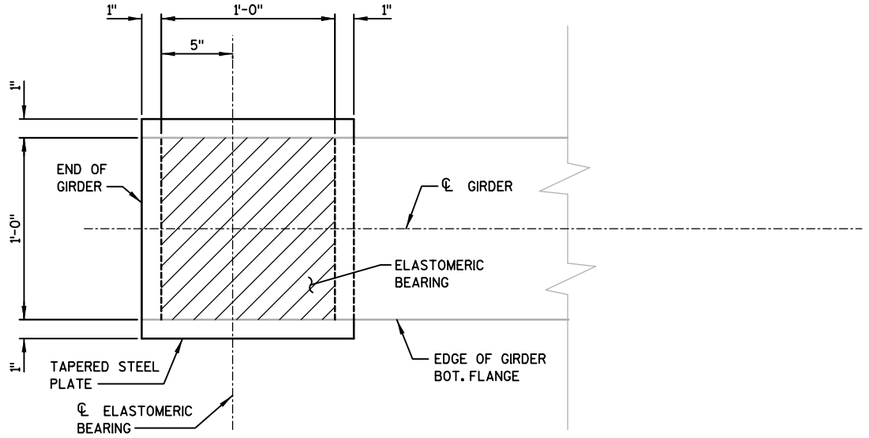
1196-04-77



SECTION THRU ELASTOMERIC BEARING



FRONT ELEVATION



PLAN VIEW

NOTES

BEARINGS SHALL NOT BE PLACED AT A TEMPERATURE GREATER THAN 85° F.

ALL MATERIAL USED FOR BEARINGS SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "BEARING PADS ELASTOMERIC LAMINATED", EACH.

ALL STRUCTURAL STEEL PLATES SHALL BE FLAT ROLLED WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT, AND VERTICAL.

ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUTS.

GRIND EXIST. WELD THAT ATTACHED EXIST. TOP PLATE TO EXIST. BOT. FLANGE. GRIND AFFECTED AREAS SMOOTH.

WELDING PROCEDURES SHALL BE ESTABLISHED BY THE CONTRACTOR TO RESTRICT THE MAXIMUM TEMPERATURE REACHED BY SURFACES IN CONTACT WITH ELASTOMER TO 200°F (93°C). TEMPERATURES SHALL BE CONTROLLED BY TEMPERATURE INDICATING WAX PENCILS OR OTHER SUITABLE MEANS APPROVED BY THE ENGINEER.

GIRDER REACTIONS AT BEARINGS (KIPS)		
	C/L BRG. S. ABUT.	C/L BRG. N. ABUT.
INTERIOR GIRDER	3.7 K	2.8 K
EXTERIOR GIRDER	3.7 K	2.8 K

GIRDER REACTION NOTES

THE THEORETICAL SERVICE LOADS SHOWN IN THE TABLE ARE BASED ON THE GIRDER WEIGHT AFTER THE DECK IS REMOVED.

IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE ADEQUACY OF THE GIRDER AT THE JACKING LOCATION.

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NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-3-18

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BEARING DETAILS

SHEET 8 OF 17
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FILE NAME : S:\MAD\1000--1099\1089\895\Drawings\CAD\Micros\Plan\USH 53\080308_bd.dgn

STATE PROJECT NUMBER
1196-04-77

NOTES

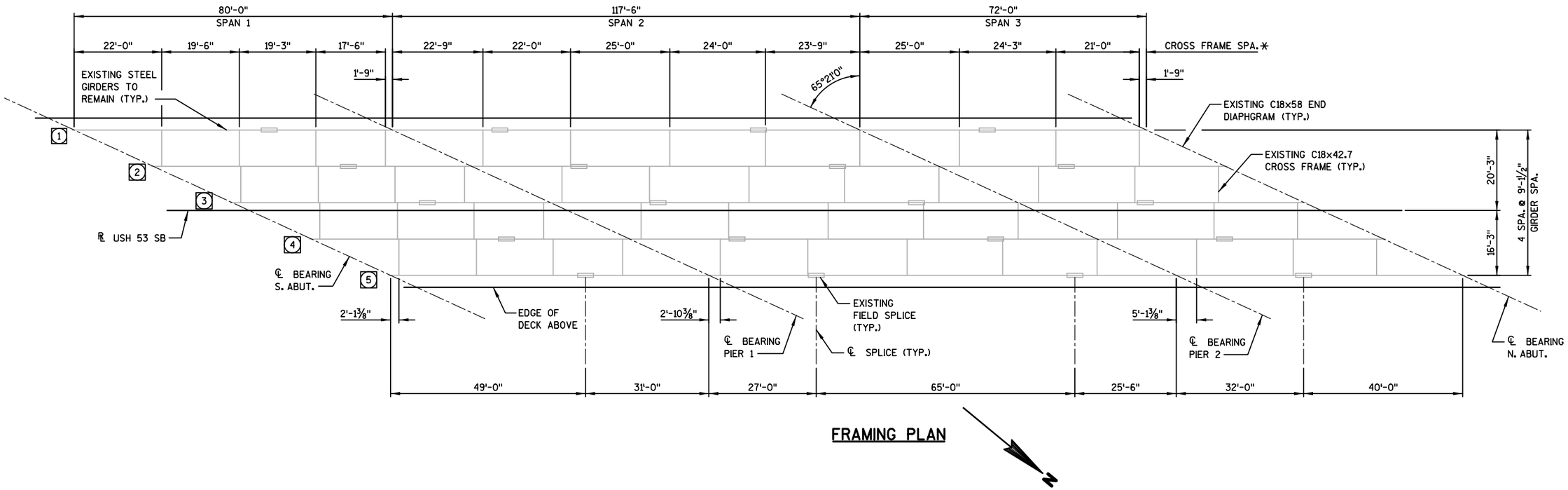
THE CONTRACTOR SHALL MAINTAIN THE STABILITY OF THE GIRDERS UNTIL THE DECK HAS BEEN CONSTRUCTED.

DIMENSIONS GIVEN ARE HORIZONTAL DIMENSIONS ALONG THE ℄ OF THE GIRDER.

LEGEND

✳ CROSS FRAME SPACING IS DIMENSIONED ON NORTH FACE OF GIRDERS 1 THRU 4.

(#) INDICATES GIRDER NUMBER.



FRAMING PLAN

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-3-18

DRAWN BY JFG | PLANS CK'D. BMO

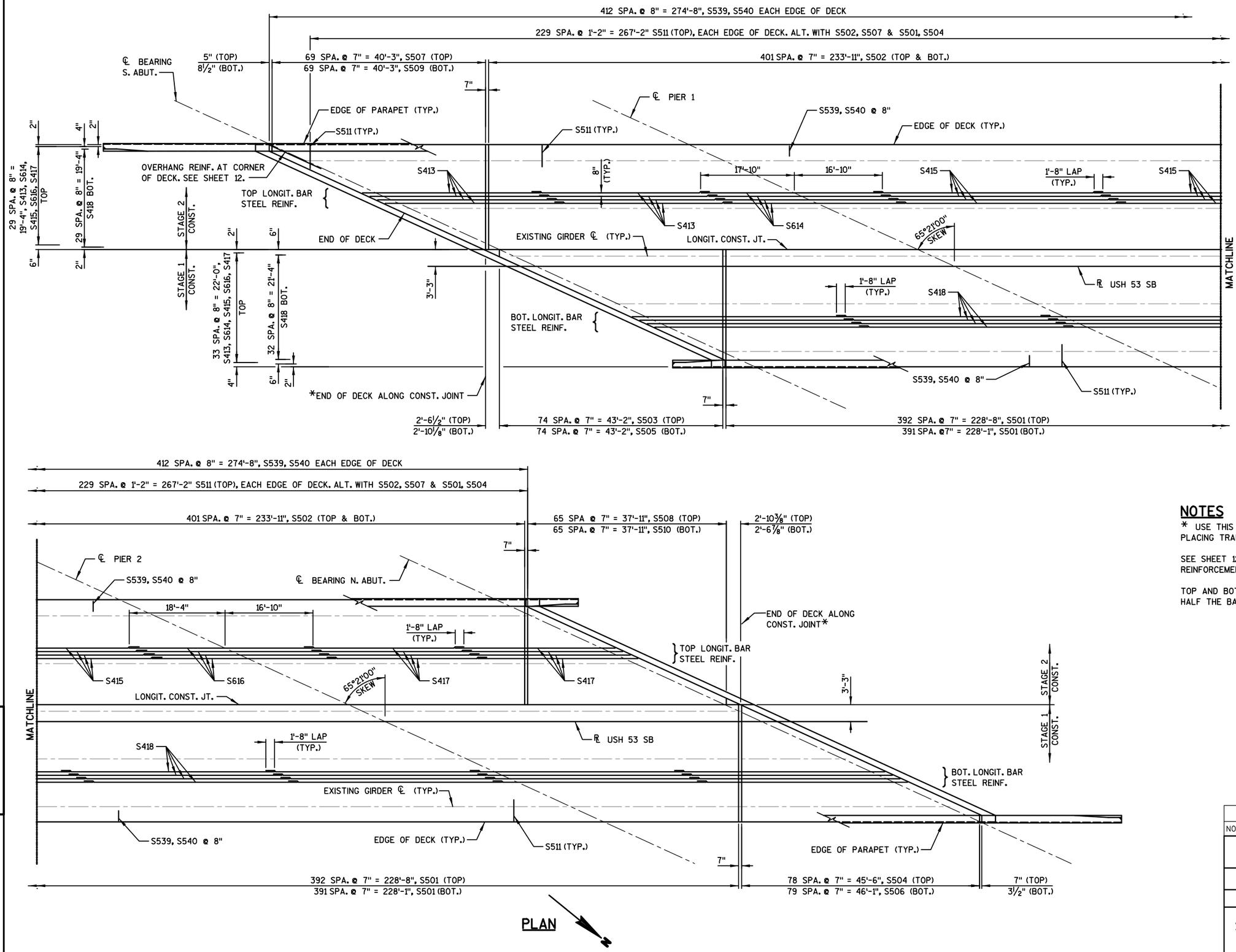
FRAMING PLAN

SHEET 9 OF 17
274

FILE NAME : S:\MAD\1000--1099\1089\895\Drawings\CAD\Micros\Plan\USH 53\080309_fp.dgn

STATE PROJECT NUMBER

1196-04-77



PLAN

NOTES

* USE THIS LOCATION AS A REFERENCE POINT WHEN PLACING TRANSVERSE DECK BARS.

SEE SHEET 12 FOR ADDITIONAL OVERHANG BAR REINFORCEMENT DETAILS.

TOP AND BOTTOM BARS SHALL BE STAGGERED ONE HALF THE BAR SPACING. SEE SHEET 12.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-3-18

DRAWN BY JFG | PLANS CK'D. BMO

SUPERSTRUCTURE PLAN

SHEET 10 OF 17
275

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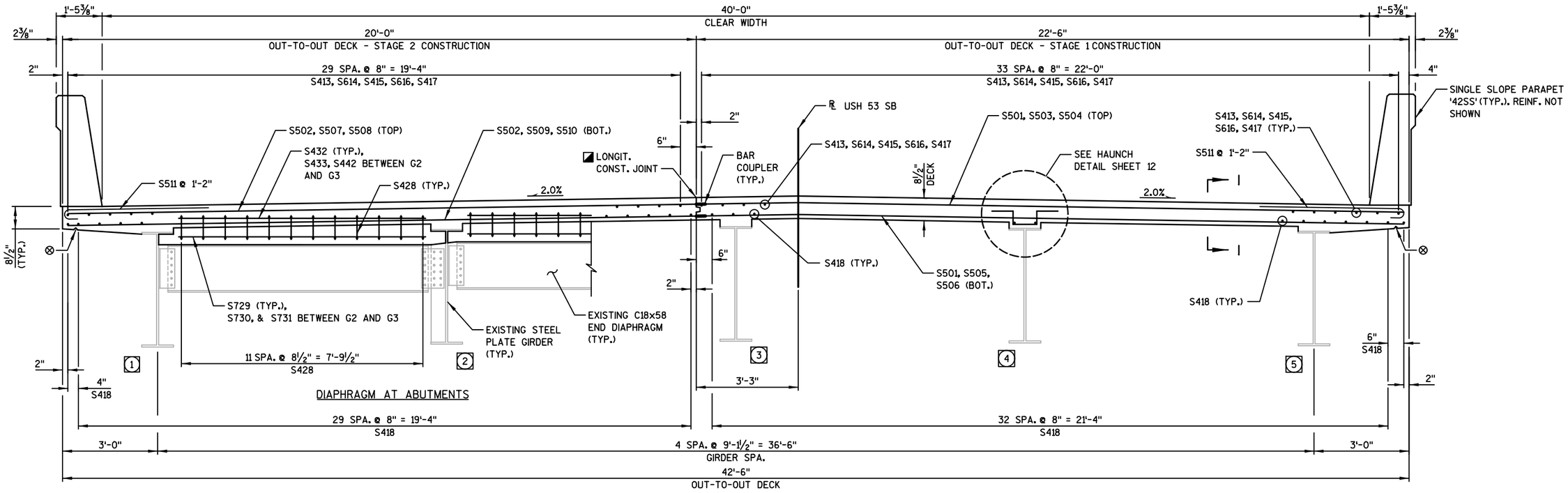
FILE NAME : S:\MAD\1000--1099\1089\895\Drawings\CAD\Micros\Plan\USH 53\080310_sp.dgn

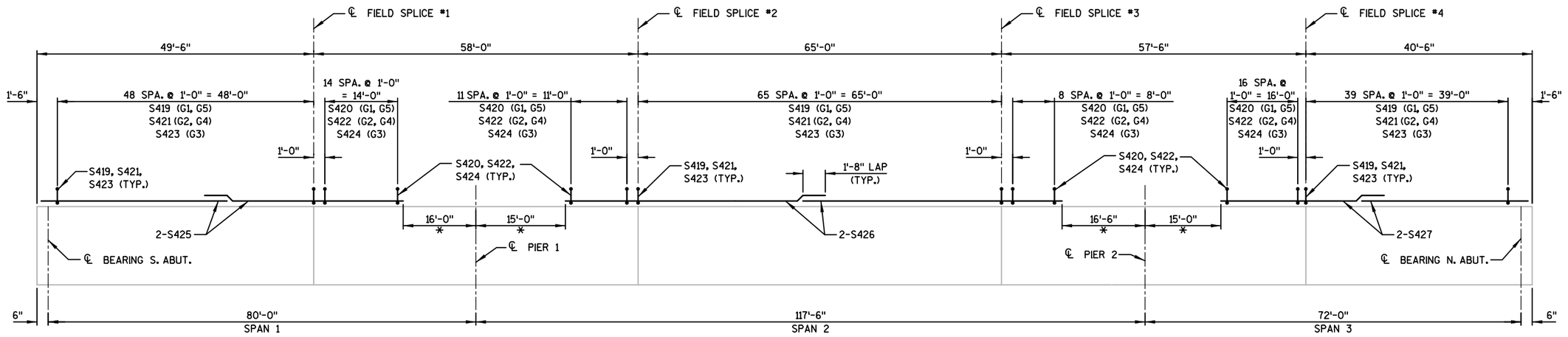
STATE PROJECT NUMBER

1196-04-77



CROSS SECTION THRU BRIDGE

(LOOKING NORTH)



EXISTING GIRDER ELEVATION

(SHOWING PROPOSED HAUNCH REINF.)

LEGEND

- ⊗ ¾" V-GROOVE REQUIRED. EXTEND TO 2'-0" FROM F.F. OF ABUT. BODY.
- (1) GIRDER NUMBER
- ◪ LONGIT. CONST. JT. KEYWAY. CENTER KEYWAY BETWEEN MATS. SEE DETAIL ON SHEET 12.
- * NO SHEAR CONNECTORS ON EXISTING GIRDER IN THIS REGION.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-3-18

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SUPERSTRUCTURE SECTION

SHEET 11 OF 17
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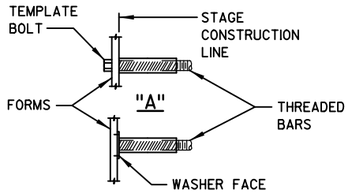
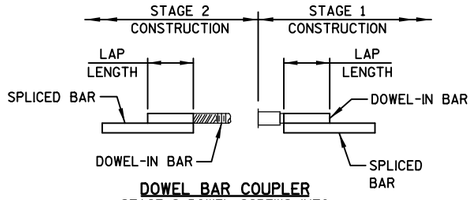
FILE NAME : S:\MAD\1000--1099\1089\895\Drawings\CAD\Micros\Plan\USH 53\080311_ss.dgn

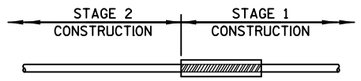


INSTALLATION AND SETTING METHODS

"A" SET COUPLER BY MEANS OF A TEMPLATE BOLT.
"B" SET COUPLER BY NAILING TO WOOD FORMS OR CEMENTING TO STEEL FORMS.



DOWEL BAR COUPLER
STAGE 2 DOWEL SCREWS INTO COUPLER PLACED IN STAGE 1

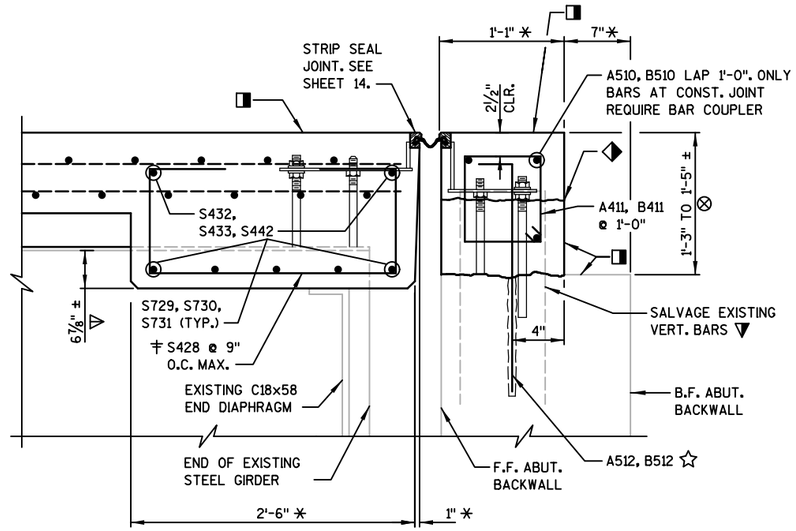


ONE-PIECE THREADED COUPLER

BAR COUPLER ALTERNATIVES

BAR COUPLER NOTES

FOR DOWEL BAR COUPLERS, ALL DOWEL BARS SHALL BE LAPPED AND TIED TO THE REINFORCEMENT BARS.



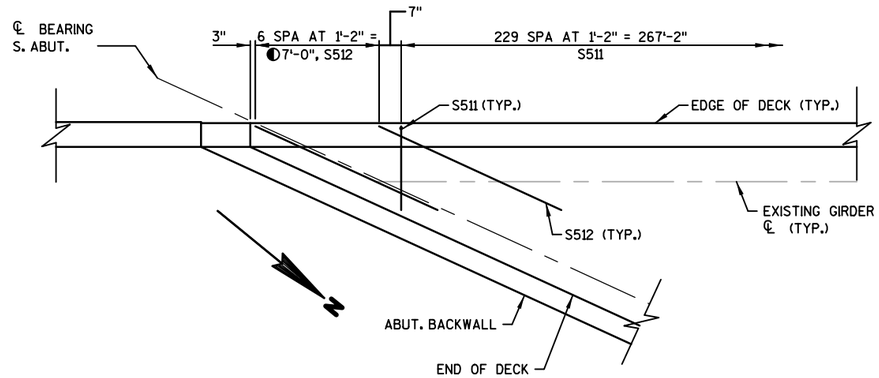
SECTION THRU PROPOSED JOINT

STATE PROJECT NUMBER

1196-04-77

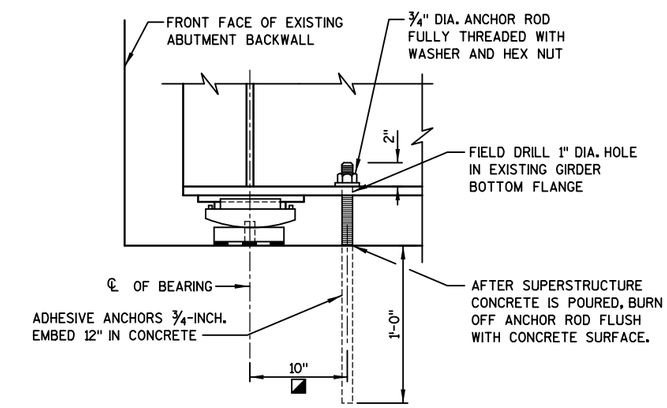
LEGEND

- DIMENSION IS TAKEN PARALLEL TO ℄ GIRDER.
- * DIMENSION IS TAKEN NORMAL TO ℄ ABUTMENT.
- ∓ BARS PLACED PARALLEL TO GIRDERS. SPACING PERPENDICULAR TO ℄ GIRDERS.
- ▼ EXISTING BARS ARE LIKELY TO BE CORRODED AND/OR DAMAGED DURING CONCRETE REMOVAL. SALVAGE AND INCORPORATE AS MUCH REBAR AS PRACTICAL.
- ☆ ADHESIVE ANCHORS NO. 5 BAR, EMBED 1'-0" IN CONCRETE. SPACE AT 1'-0". TURN 10" LEG AS NECESSARY TO FIT.
- ◆ OPT. CONST. JT. 1" MIN. BELOW EXISTING REINF.
- ⊗ ADJUST AS NECESSARY FOR FIELD CONDITIONS. POUR AFTER SUPERSTRUCTURE IS IN PLACE AND CONFORM TO DECK ELEVATIONS.
- ▽ DIMENSION TO EXISTING END DIAPHRAGMS BASED ON ORIGINAL SHOP DRAWINGS.
- ◨ COAT WITH "PROTECTIVE SURFACE TREATMENT"
- ◐ BARS PLACED ALONG SKEW. SPACING PARALLEL TO ℄ GIRDERS.



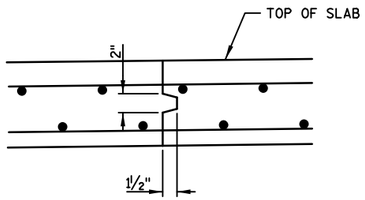
DECK CORNER OVERHANG REINFORCEMENT DETAIL

(SW CORNER SHOWN, NE CORNER SIMILAR)

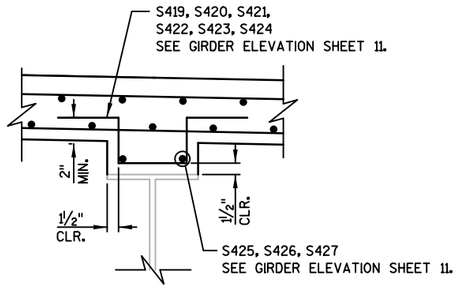


TEMPORARY HOLD DOWN DEVICE

PLACE ONE ANCHOR ROD PER GIRDER AT ABUTMENT WHERE SLAB POUR TERMINATES. LOCATE 4" (NORMAL) OFF ℄ OF GIRDER. ANCHOR ROD, NUT, WASHER, AND DRILLED HOLE IN GIRDER FLANGE SHALL BE PAID FOR AS "ADHESIVE ANCHORS ¾-INCH".

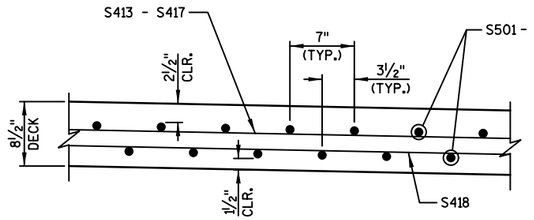


CONSTRUCTION JOINT KEYWAY DETAIL



HAUNCH DETAIL

NOTE: TILT HAT BARS AS REQUIRED TO FIT BETWEEN REBAR MATS. SPACE BARS TO MISS EXISTING SHEAR LUGS.



SECTION I-I

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-3-18

DRAWN BY JFG | PLANS CK'D. BMO

SUPERSTRUCTURE DETAILS - 1

SHEET 12 OF 17
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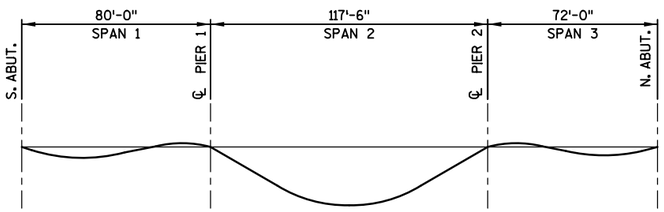
FILE NAME : S:\MAD\1000--1099\1089\895\Drawings\CAD\Micros\Plan\USH 53\080312_ss.dgn

TOP OF DECK ELEVATIONS

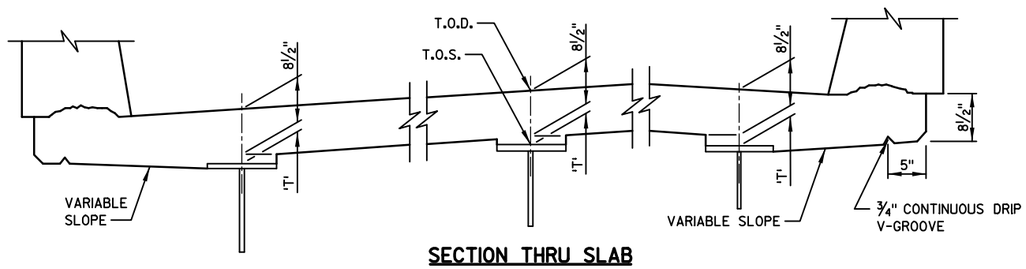
		SPAN 1										SPAN 2									
	CL BRG. S. ABUT.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	CL PIER 1	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	CL PIER 2
W. DECK EDGE	1072.58	1072.47	1072.35	1072.24	1072.13	1072.02	1071.91	1071.79	1071.68	1071.57	1071.46	1071.29	1071.13	1070.96	1070.80	1070.63	1070.47	1070.31	1070.14	1069.98	1069.81
GIRDER 1	1072.52	1072.41	1072.30	1072.18	1072.07	1071.96	1071.85	1071.74	1071.62	1071.51	1071.40	1071.24	1071.07	1070.91	1070.74	1070.58	1070.41	1070.25	1070.08	1069.92	1069.76
GIRDER 2	1072.42	1072.31	1072.20	1072.09	1071.98	1071.86	1071.75	1071.64	1071.53	1071.42	1071.30	1071.14	1070.98	1070.81	1070.65	1070.48	1070.32	1070.15	1069.99	1069.82	1069.66
GIRDER 3	1072.33	1072.22	1072.10	1071.99	1071.88	1071.77	1071.66	1071.54	1071.43	1071.32	1071.21	1071.04	1070.88	1070.72	1070.55	1070.39	1070.22	1070.06	1069.89	1069.73	1069.56
LONGIT. C.J.	1072.34	1072.23	1072.12	1072.01	1071.89	1071.78	1071.67	1071.56	1071.45	1071.33	1071.22	1071.06	1070.89	1070.73	1070.56	1070.40	1070.23	1070.07	1069.91	1069.74	1069.58
REF. LINE	1072.31	1072.20	1072.08	1071.97	1071.86	1071.75	1071.64	1071.52	1071.41	1071.30	1071.19	1071.02	1070.86	1070.69	1070.53	1070.37	1070.20	1070.04	1069.87	1069.71	1069.54
GIRDER 4	1071.95	1071.84	1071.72	1071.61	1071.50	1071.39	1071.28	1071.16	1071.05	1070.94	1070.83	1070.66	1070.50	1070.33	1070.17	1070.01	1069.84	1069.68	1069.51	1069.35	1069.18
GIRDER 5	1071.49	1071.38	1071.26	1071.15	1071.04	1070.93	1070.82	1070.70	1070.59	1070.48	1070.37	1070.20	1070.04	1069.87	1069.71	1069.54	1069.38	1069.22	1069.05	1068.89	1068.72
E. DECK EDGE	1071.36	1071.25	1071.14	1071.02	1070.91	1070.80	1070.69	1070.58	1070.46	1070.35	1070.24	1070.08	1069.91	1069.75	1069.58	1069.42	1069.25	1069.09	1068.92	1068.76	1068.60
DEAD LOAD DEFLECTION (CONC. ONLY) INTERIOR GIRDER	0.00"	0.29"	0.52"	0.65"	0.66"	0.56"	0.38"	0.18"	0.02"	-0.07"	0.0"	0.46"	1.15"	1.87"	2.41"	2.62"	2.44"	1.93"	1.21"	0.50"	0.00"
DEAD LOAD DEFLECTION (CONC. ONLY) EXTERIOR GIRDER	0.00"	0.26"	0.46"	0.57"	0.58"	0.49"	0.34"	0.16"	0.01"	-0.06"	0.00"	0.40"	1.01"	1.64"	2.11"	2.29"	2.14"	1.69"	1.07"	0.44"	0.00"

	SPAN 3										
	CL PIER 2	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	CL BRG. N. ABUT.
W. DECK EDGE	1069.81	1069.71	1069.61	1069.51	1069.41	1069.31	1069.21	1069.11	1069.01	1068.90	1068.80
GIRDER 1	1069.76	1069.65	1069.55	1069.45	1069.35	1069.25	1069.15	1069.05	1068.95	1068.85	1068.75
GIRDER 2	1069.66	1069.56	1069.46	1069.36	1069.26	1069.16	1069.05	1068.95	1068.85	1068.75	1068.65
GIRDER 3	1069.56	1069.46	1069.36	1069.26	1069.16	1069.06	1068.96	1068.86	1068.76	1068.66	1068.56
LONGIT. C.J.	1069.58	1069.48	1069.38	1069.27	1069.17	1069.07	1068.97	1068.87	1068.77	1068.67	1068.57
REF. LINE	1069.54	1069.44	1069.34	1069.24	1069.14	1069.04	1068.94	1068.84	1068.74	1068.64	1068.53
GIRDER 4	1069.18	1069.08	1068.98	1068.88	1068.78	1068.68	1068.58	1068.48	1068.38	1068.28	1068.17
GIRDER 5	1068.72	1068.62	1068.52	1068.42	1068.32	1068.22	1068.12	1068.02	1067.92	1067.81	1067.71
E. DECK EDGE	1068.60	1068.49	1068.39	1068.29	1068.19	1068.09	1067.99	1067.89	1067.79	1067.69	1067.59
DEAD LOAD DEFLECTION (CONC. ONLY) INTERIOR GIRDER	0.00"	-0.11"	-0.10"	-0.02"	0.10"	0.22"	0.31"	0.33"	0.28"	0.16"	0.00"
DEAD LOAD DEFLECTION (CONC. ONLY) EXTERIOR GIRDER	0.00"	-0.10"	-0.09"	-0.02"	0.09"	0.19"	0.27"	0.29"	0.25"	0.14"	0.00"

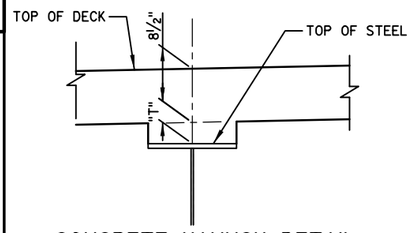


GIRDER DEFLECTION DIAGRAM

SEE "TOP OF DECK ELEVATIONS" TABLE FOR ESTIMATED DEFLECTION VALUES AT THE TENTH POINTS OF EACH SPAN.



SECTION THRU SLAB



CONCRETE HAUNCH DETAIL

CONCRETE HAUNCH NOTES

'T' = HAUNCH HEIGHT AT CENTERLINE OF GIRDER.

TO DETERMINE 'T': AFTER EXISTING DECK HAS BEEN REMOVED, ELEVATIONS OF THE TOP FLANGES SHALL BE TAKEN AT CENTELINE OF BEARINGS AND AT 0.1 POINTS.

TOP OF DECK ELEVATION AT FINAL GRADE
\- TOP OF STEEL ELEVATION
\+ CONC. ONLY DEFLECTION; DOWNWARD DEFLECTION IS ADDED, UPWARD DEFLECTION IS SUBTRACTED
\- SLAB THICKNESS

= 'T' VALUE FOR SETTING HAUNCH

AVERAGE 'T' USED FOR ESTIMATING CONCRETE QUANTITIES IS 3¾".

SUPERSTRUCTURE BILL OF BARS

COATED: 91,280 LBS

	BAR MARK	NO. REQ'D	LENGTH	BENT	SERIES	COAT	LOCATION
**	S501	785	22'-4"			X	SLAB - TRANS. - TOP & BOT. - STAGE 1
**	S502	804	19'-10"			X	SLAB - TRANS. - TOP & BOT. - STAGE 2
**	S503	75	10'-11"		X	X	SLAB - TRANS. - TOP - STAGE 1
	S504	79	11'-7"		X	X	SLAB - TRANS. - TOP - STAGE 1
**	S505	75	11'-1"		X	X	SLAB - TRANS. - BOT. - STAGE 1
	S506	80	11'-7"		X	X	SLAB - TRANS. - BOT. - STAGE 1
	S507	70	10'-4"		X	X	SLAB - TRANS. - TOP - STAGE 2
**	S508	66	9'-9"		X	X	SLAB - TRANS. - TOP - STAGE 2
	S509	70	10'-5"		X	X	SLAB - TRANS. - BOT. - STAGE 2
**	S510	66	9'-7"		X	X	SLAB - TRANS. - BOT. - STAGE 2
	S511	460	5'-0"	X		X	SLAB - TRANS. - OVERHANG - TOP - STAGE 1 & 2
	S512	14	11'-1"	X		X	SLAB - TRANS. - OVERHANG - TOP - SW & NE CORNERS
	S413	128	34'-1"			X	SLAB - LONGIT. - TOP - SPAN 1
	S614	64	34'-8"			X	SLAB - LONGIT. - TOP - PIER 1
	S415	128	43'-8"			X	SLAB - LONGIT. - TOP - SPAN 2
	S616	64	35'-2"			X	SLAB - LONGIT. - TOP - PIER 2
	S417	128	30'-6"			X	SLAB - LONGIT. - TOP - SPAN 3
	S418	455	37'-10"			X	SLAB - LONGIT. - BOT.
	S419	310	2'-11"	X		X	SLAB - HAUNCH - VERT. - G1/G5 - 12" FLANGE
	S420	106	3'-5"	X		X	SLAB - HAUNCH - VERT. - G1/G5 - 18" FLANGE
	S421	310	3'-1"	X		X	SLAB - HAUNCH - VERT. - G2/G4 - 12" FLANGE
	S422	106	3'-7"	X		X	SLAB - HAUNCH - VERT. - G2/G4 - 18" FLANGE
	S423	155	3'-3"	X		X	SLAB - HAUNCH - VERT. - G3 - 12" FLANGE
	S424	53	3'-9"	X		X	SLAB - HAUNCH - VERT. - G3 - 18" FLANGE
	S425	20	32'-7"			X	SLAB - HAUNCH - LONGIT. - SPAN 1
	S426	20	43'-10"			X	SLAB - HAUNCH - LONGIT. - SPAN 2
	S427	20	29'-1"			X	SLAB - HAUNCH - LONGIT. - SPAN 3
	S428	96	5'-4"	X		X	DIAPH. - STIRRUP
	S729	30	18'-8"			X	DIAPH. - TRANS. - BETWEEN GIRDERS - TYPICAL
**	S730	10	17'-3"			X	DIAPH. - TRANS. - BETWEEN GIRDERS - STAGE 2
**	S731	10	1'-5"			X	DIAPH. - TRANS. - BETWEEN GIRDERS - STAGE 1
	S432	12	18'-8"			X	DIAPH. - TRANS. - BETWEEN GIRDERS - TYPICAL
**	S433	4	17'-3"			X	DIAPH. - TRANS. - BETWEEN GIRDERS - STAGE 2
	S434	12	19'-6"			X	EXP. JOINT - BETWEEN GIRDERS - TYPICAL
	S435	4	17'-8"			X	EXP. JOINT - BETWEEN GIRDERS - STAGE 2
							BAR MARK NOT USED
	S437	4	1'-10"			X	EXP. JOINT - BETWEEN GIRDERS - STAGE 1
							BAR MARK NOT USED
	S539	826	4'-5"	X		X	PARAPET - VERT.
	S540	826	6'-8"	X		X	PARAPET - VERT.
	S541	80	52'-9"			X	PARAPET - HORIZ.
**	S442	4	1'-5"			X	DIAPH. - TRANS. - BETWEEN GIRDERS - STAGE 1

LENGTH SHOWN FOR BAR SERIES IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.
**BAR WITH COUPLER, SEE DETAILS ON SHEET 12. BAR LENGTH COMPUTED TO ℄ LONGIT. JOINT AND SHALL BE MODIFIED IF REQUIRED TO BAR COUPLER MANUFACTURER RECOMMENDATIONS.

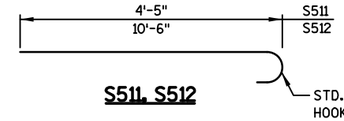
STATE PROJECT NUMBER

1196-04-77

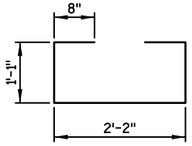
BAR SERIES TABLE

BAR MARK	NO. REQ'D	LENGTH
S503	75	1'-0" TO 20'-10"
S504	79	1'-2" TO 22'-0"
S505	75	1'-2" TO 21'-0""
S506	80	1'-0" TO 22'-2"
S507	70	1'-1" TO 19'-6"
S508	66	1'-0" TO 18'-5"
S509	70	1'-2" TO 19'-8"
S510	66	11" TO 18'-3"

BUNDLE AND TAG EACH SERIES SEPARATELY.



S511, S512



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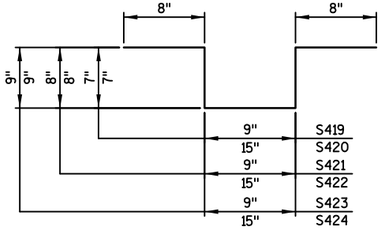
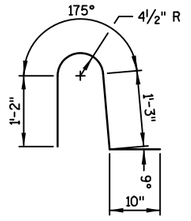


S419, S420, S421, S422, S423, S424



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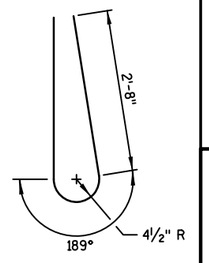

S540

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-3-18

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SUPERSTRUCTURE DETAILS - 2

SHEET 13 OF 17
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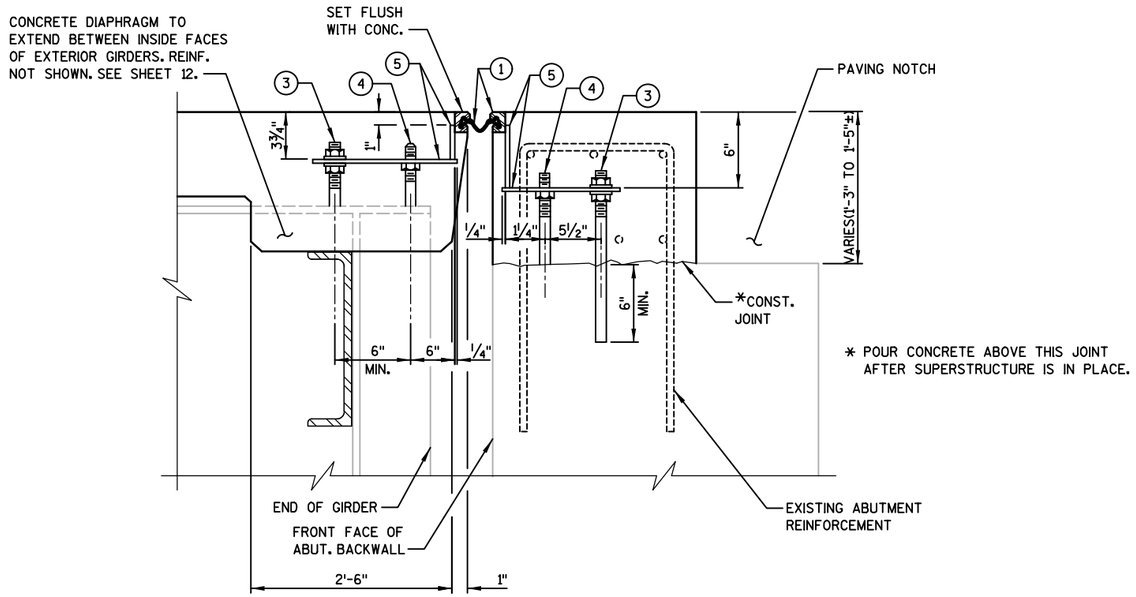
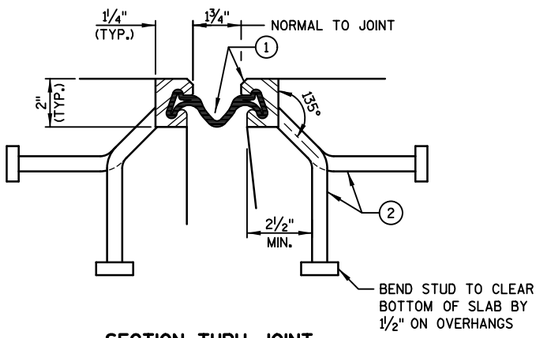
STATE PROJECT NUMBER

1196-04-77

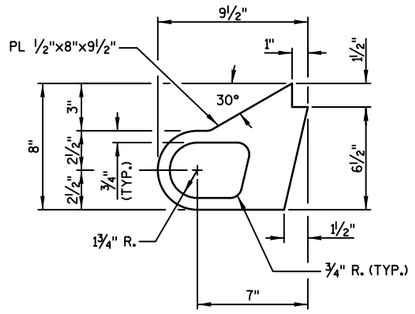


* POUR CONCRETE ABOVE THIS JOINT AFTER SUPERSTRUCTURE IS IN PLACE.

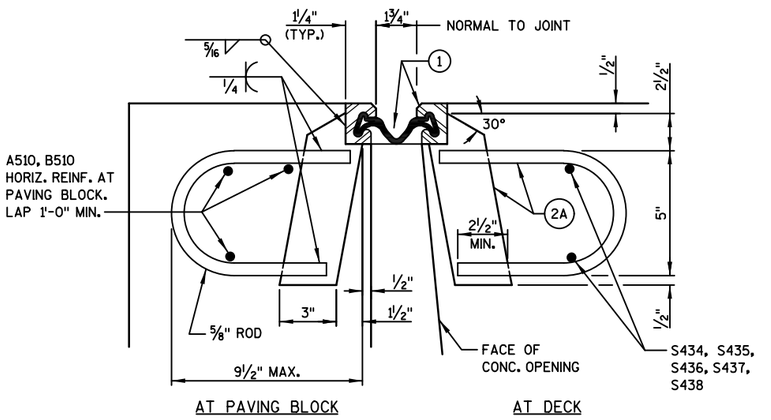
SECTION THRU JOINT AT ABUTMENT
NORMAL TO SUBSTRUCTURE



SECTION THRU JOINT
EXTERIOR GIRDER TO EDGE OF DECK AND AT PARAPETS

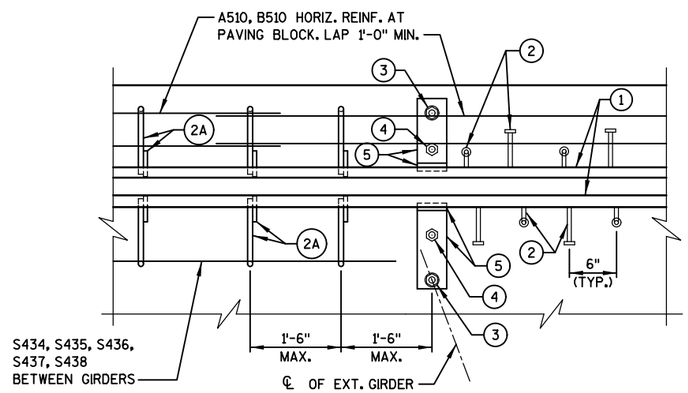


ALTERNATE STRIP SEAL ANCHOR



SECTION THRU JOINT
ROADWAY TRAFFIC AREA BETWEEN EXTERIOR GIRDERS

SYM. ABOUT ℄ JOINT UNLESS OTHERWISE SHOWN OR NOTED.



PART PLAN

LEGEND

1. NEOPRENE STRIP SEAL (4-INCHES) AND STEEL EXTRUSIONS.
2. STUDS ⅝"x6⅜" LONG AT 6" ALTERNATE CENTERS. WELD TO EXTRUSIONS AND BEND AS SHOWN AFTER WELDING.
2A. ½" THICK ANCHOR PLATE WITH ⅝" ROD (OR ALTERNATE STRIP SEAL ANCHOR). WELD ROD TO ANCHOR PLATE, WELD ANCHOR PLATE TO NO. 1 AT 1'-6" CENTERS BETWEEN GIRDERS.
3. ¾" THREADED ROD WITH 2 NUTS AND PLATE WASHERS. WELD THREADED ROD TO TOP FLANGE OR ATTACH BY BOLTING THRU FLANGE. ON ABUTMENT SIDE GROUT THREADED ROD INTO FIELD DRILLED HOLES IN ABUTMENT BACKWALL AS SHOWN.
4. ¾" THREADED ROD WITH NUT. TACK WELD NUT TO NO. 5.
5. FABRICATE SUPPORT FROM 3"x½" BAR AS SHOWN OR EQUIVALENT, ONE PER GIRDER PER SIDE. SHOP OR FIELD WELD TO NO. 1. IF FIELD WELDED. COVER WELDED AREAS WITH EPOXY COATING MATERIAL. PROVIDE 1½" DIA. HOLE FOR NO. 3 AND 1" DIA. HOLE FOR NO. 4.
6. GALVANIZED PLATE ⅜"x10"x3'-0" LONG WITH HOLES FOR NO. 7.
7. ¾"x1½" STAINLESS STEEL SOCKET FLAT HEAD SCREWS WITH ANTI-SEIZE LUBRICANT. PLACE IN COUNTERSUNK HOLE. RECESS 1/16" BELOW PLATE SURFACE.
8. ¾"x4" GALVANIZED HEX HEAD BOLT. BEND 45°.
9. ¾"x2¼" GALVANIZED THREADED COUPLING.
11. 1"x5" SLOTTED COUNTERSUNK HOLE FOR NO. 7. PLACE SLOT PARALLEL TO DIRECTION OF MOVEMENT.

NOTES

ONE FIELD SPLICE PERMITTED IN STEEL EXTRUSIONS, UNLESS MORE ARE REQUIRED FOR STAGED CONSTRUCTION, HANDLING OR GALVANIZING REQUIREMENTS. IF USED, DETAILS SHALL BE SUBMITTED FOR APPROVAL. NO SPLICING PERMITTED IN NEOPRENE STRIP SEAL.

AFTER FABRICATION BUT BEFORE SHIPMENT, STRAIGHTEN STEEL EXTRUSIONS SUCH THAT THEY SHALL BE FREE FROM WARP, TWIST AND SWEEP.

FABRICATOR SHALL PROVIDE MEANS OF KEEPING GALVANIZED EXTRUSIONS CLEAN AND SMOOTH DURING SHIPMENT AND PRIOR TO APPLYING LUBRICANT ADHESIVE FOR NEOPRENE GLAND INSTALLATION.

SAND BLAST PLATES, SUPPORTS AND EXTRUSIONS AFTER FABRICATION IN ACCORDANCE WITH SSPC SP. *6 "COMMERCIAL BLAST CLEANING". AFTER BLAST CLEANING, THE PLATES, SUPPORTS AND EXTRUSIONS SHALL BE HOT DIPPED GALVANIZED.

ANCHOR SYSTEM NO. 8 AND NO. 9 SHALL CONFORM TO ASTM A307 AND SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C AND D.

ALL MATERIAL IN THE EXPANSION JOINT ASSEMBY, INCLUDING ANCHOR STUDS AND HARDWARE SHALL BE PAID AT THE UNIT PRICE BID FOR EXPANSION DEVICE, LF.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-3-18

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STRIP SEAL EXPANSION JOINT

SHEET 14 OF 17
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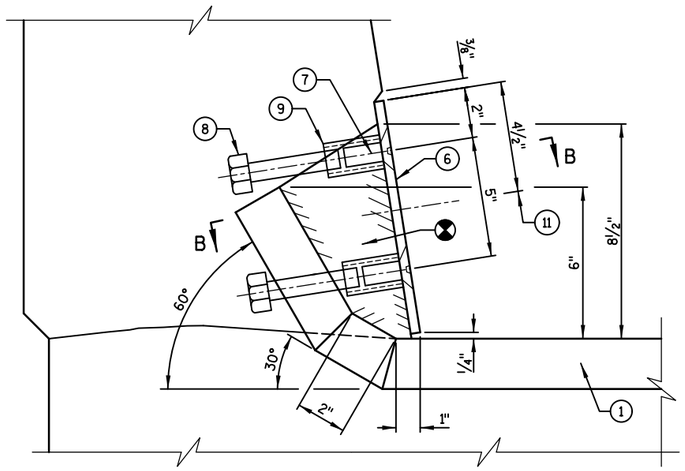
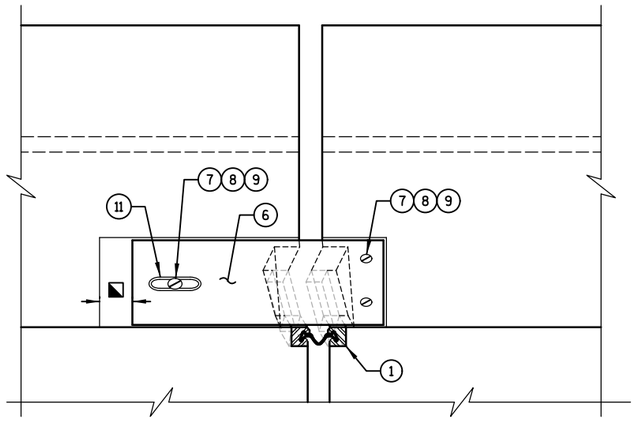
STATE PROJECT NUMBER

1196-04-77



SECTION A-A



VIEW OF PARAPET PLATE FROM ROADWAY

LEGEND

(6) GALVANIZED PLATE ⅜"x10"x3'-0" LONG WITH HOLES FOR NO. 7.

(7) ¾"x1½" STAINLESS STEEL SOCKET FLAT HEAD SCREWS WITH ANTI-SEIZE LUBRICANT. PLACE IN COUNTERSUNK HOLE. RECESS 1/16" BELOW PLATE SURFACE.

(8) ¾"x4" GALVANIZED HEX HEAD BOLT. BEND 45°.

(9) ¾"x2¼" GALVANIZED THREADED COUPLING.

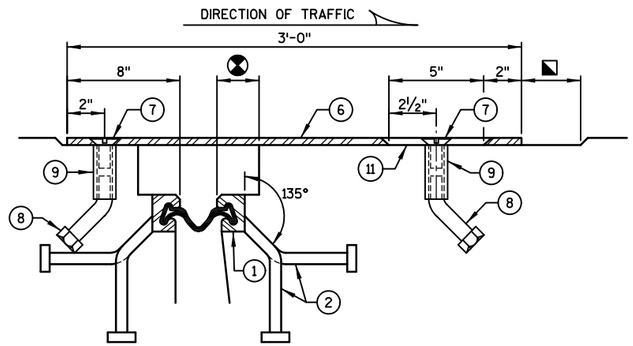
(11) 1"x5" SLOTTED COUNTERSUNK HOLE FOR NO. 7. PLACE SLOT PARALLEL TO DIRECTION OF MOVEMENT.

⊗ BLOCK OUT CONCRETE 2" EACH SIDE OF JOINT OPENING.

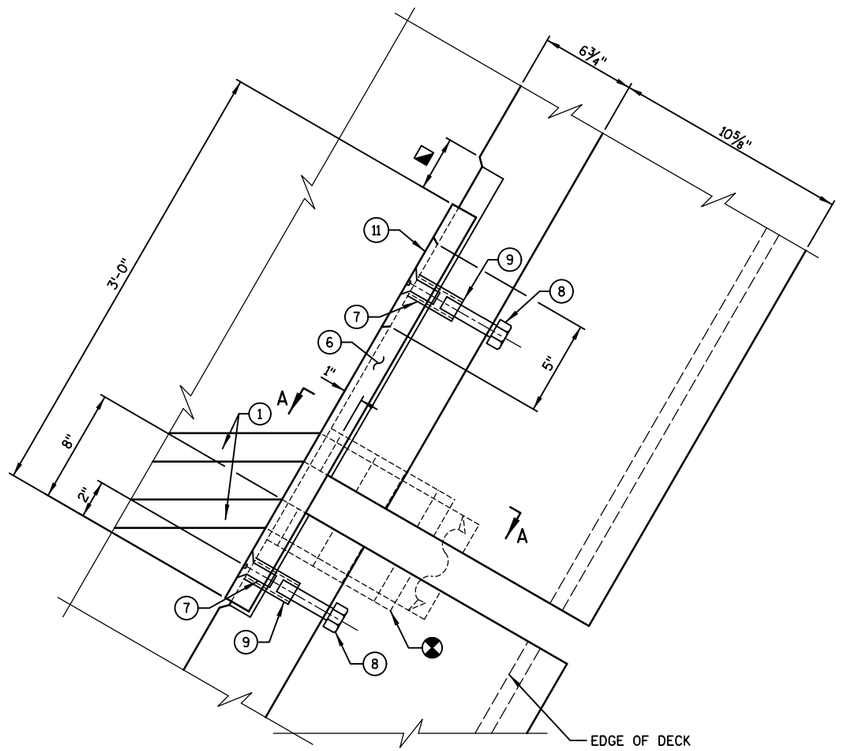
◥ JOINT OPENING DIMENSION ALONG SKEW PLUS ½".

NOTES

SEE NOTES ON SHEET 14.



SECTION B-B



PLAN

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-3-18

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COVER PLATE DETAILS

SHEET 15 OF 17
280

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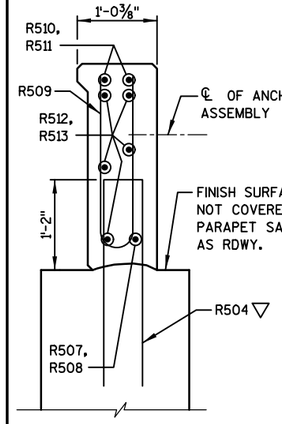
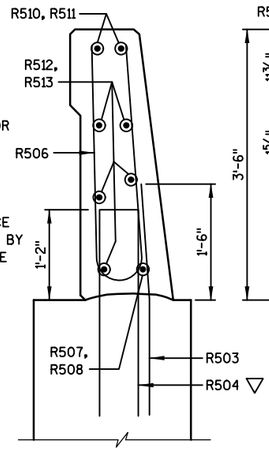
FILE NAME : S:\MAD\1000--1099\1089\895\Drawings\CAD\Micros\Plan\USH 53\080315_cp.dgn

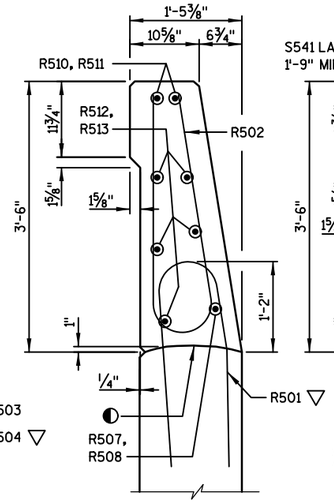
STATE PROJECT NUMBER
1196-04-77



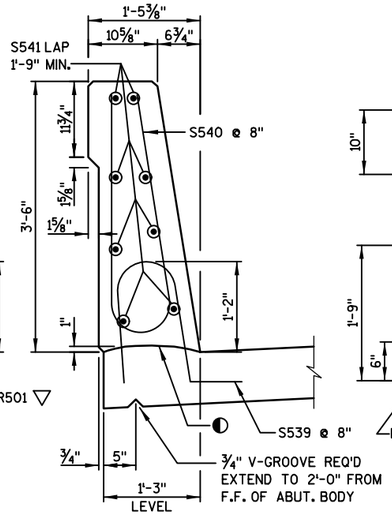
SECTION A-A



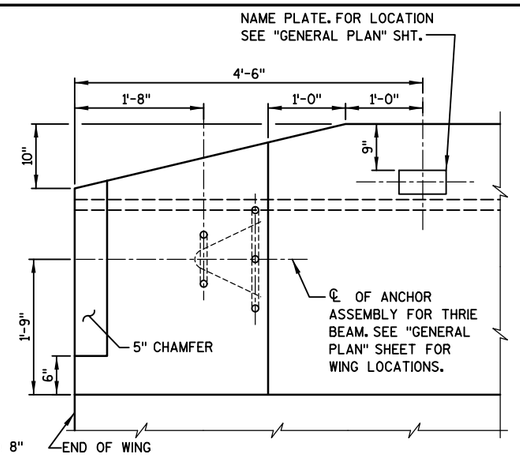
SECTION B-B



SECTION C-C



SECTION THRU PARAPET ON DECK



PARAPET END TREATMENT DETAIL

LOOKING AT INSIDE FACE OF PARAPET

SINGLE SLOPE PARAPET 42SS

BILL OF BARS

COATED: S. ABUT. = 960 LBS; N. ABUT. = 830 LBS

BAR MARK	NO. REQ'D S. ABUT.	NO. REQ'D N. ABUT.	LENGTH	SERIES	BENT	COAT	LOCATION
R501	35	28	5'-10"		X	X	PARAPET - VERT.
R502	35	28	6'-8"		X	X	PARAPET - VERT.
R503	12	12	3'-0"		X	X	PARAPET - VERT.
R504	17	17	5'-7"		X	X	PARAPET - VERT.
R505	5	5	6'-5"		X	X	PARAPET - VERT.
R506	6	6	6'-6"		X	X	PARAPET - VERT.
R507	1	0	27'-7"		X	X	PARAPET - HORIZ. - WING 1
R508	0	1	22'-7"		X	X	PARAPET - HORIZ. - WING 3
▲ R509	6	6	5'-5"	X	X	X	PARAPET - VERT.
R510	2	0	27'-7"		X	X	PARAPET - HORIZ. - WING 1
R511	0	2	22'-7"		X	X	PARAPET - HORIZ. - WING 3
R512	5	0	27'-7"			X	PARAPET - HORIZ. - WING 1
R513	0	5	22'-7"			X	PARAPET - HORIZ. - WING 3
R514	8	8	3'-4"			X	PARAPET - HORIZ. - WINGS 1 & 3

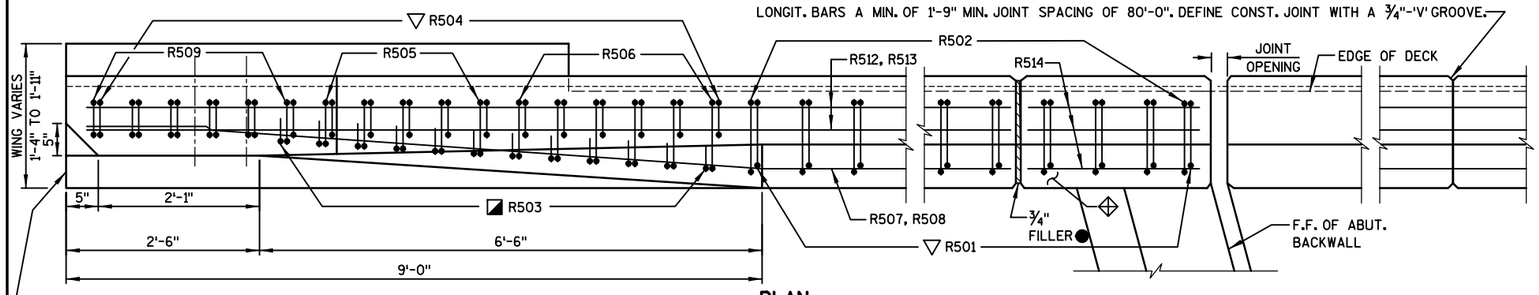
▲ LENGTH SHOWN FOR BAR SERIES IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

▲ BAR SERIES TABLE

BAR MARK	NO. REQ'D	LENGTH
R509	2 SERIES OF 6	4'-9" TO 6'-1"

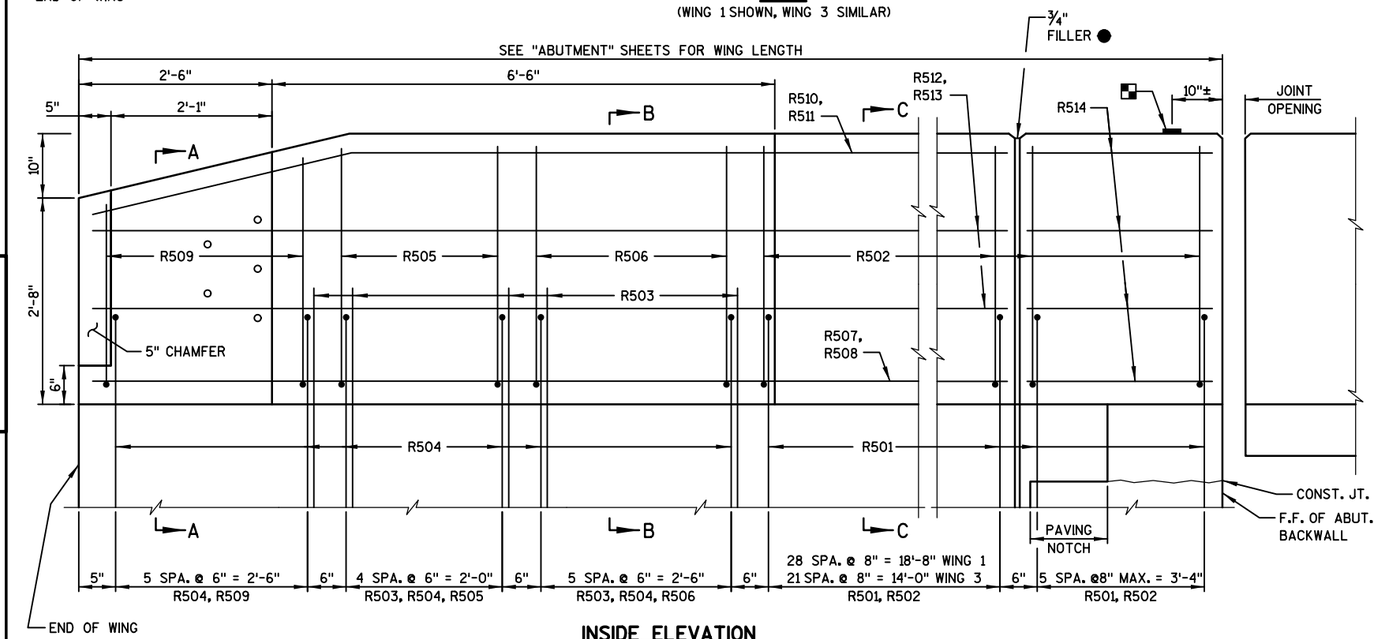
BUNDLE AND TAG EACH SERIES SEPARATELY.

OPTIONAL CONSTRUCTION JOINTS IN THE PARAPETS MAY BE USED. RUN BAR REINF. THRU THE JOINT. LAP LONGIT. BARS A MIN. OF 1'-9" MIN. JOINT SPACING OF 80'-0". DEFINE CONST. JOINT WITH A ¾"-'V' GROOVE.



PLAN

(WING 1 SHOWN, WING 3 SIMILAR)

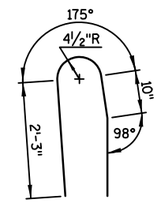


INSIDE ELEVATION

(WING 1 SHOWN, WING 3 SIMILAR)

LEGEND

- ◐ CONST. JOINT - STRIKE OFF AS SHOWN.
- ◪ R503 BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. USE CARE TO PLACE R503 BARS CORRECTLY ALONG TRANSITION OF PARAPET.
- ▽ R501 AND R504 BARS TO BE TIED TO WING STEEL BEFORE WING IS POURED.
- ◘ BENCH MARK CAP (WHEN SUPPLIED).
- ● 3*4" JOINT FILLER, SEAL WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER (1" DEEP AND HOLD 1*8" BELOW SURFACE OF CONC.)
- ⌖ APPLY BOND BREAKER TO AREA AT TOP OF WING WALL PRIOR TO POURING PARAPET OVER ABUTMENT BACKWALL. SEE SHEETS 5 AND 7 FOR SPECIFIC ORIENTATION OF WING WALL "NOTCH" BELOW PARAPET ON END OF ABUTMENT BACK WALL.



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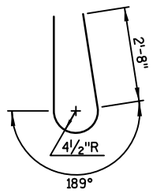

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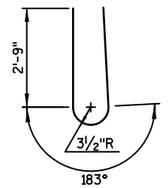

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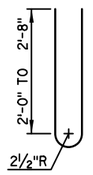
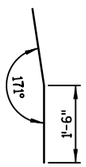


R509



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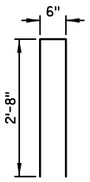

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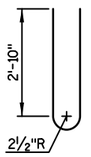

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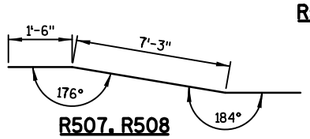
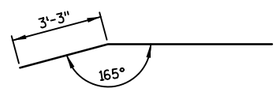


R507, R508



R510, R511

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-3-18

DRAWN BY JFG | PLANS CK'D. BMO

SINGLE SLOPE PARAPET 42SS WINGS 1 & 3

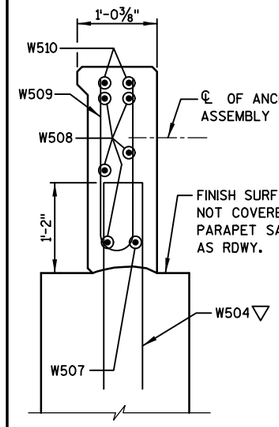
SHEET 16 OF 17
281

8

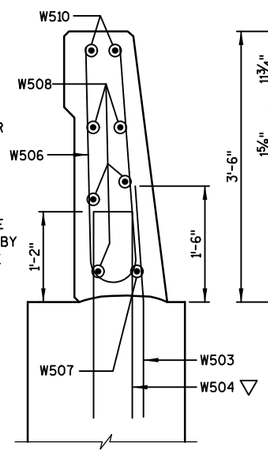
8

FILE NAME : S:\MAD\1000--1099\1089\895\Drawings\CAD\Micros\Plan\USH 53\080316_sp.dgn

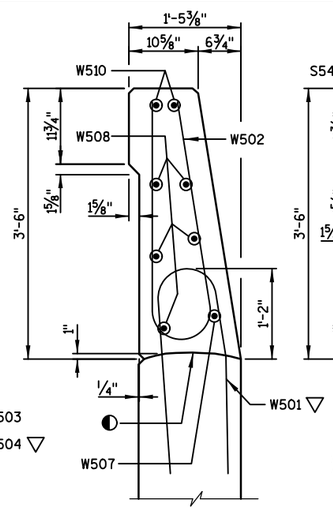
STATE PROJECT NUMBER
1196-04-77



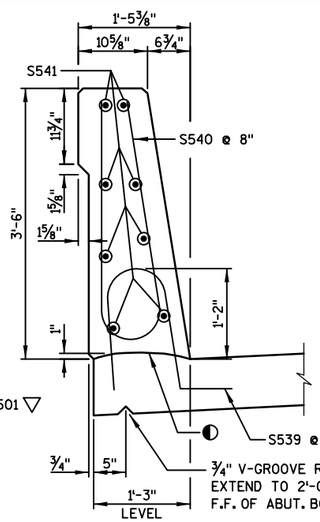
SECTION A-A



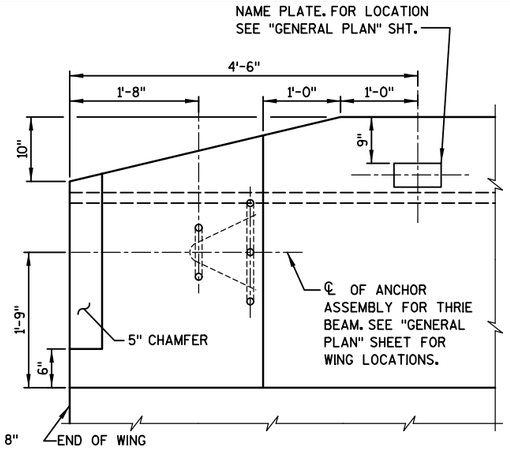
SECTION B-B



SECTION C-C



SECTION THRU PARAPET ON DECK



PARAPET END TREATMENT DETAIL

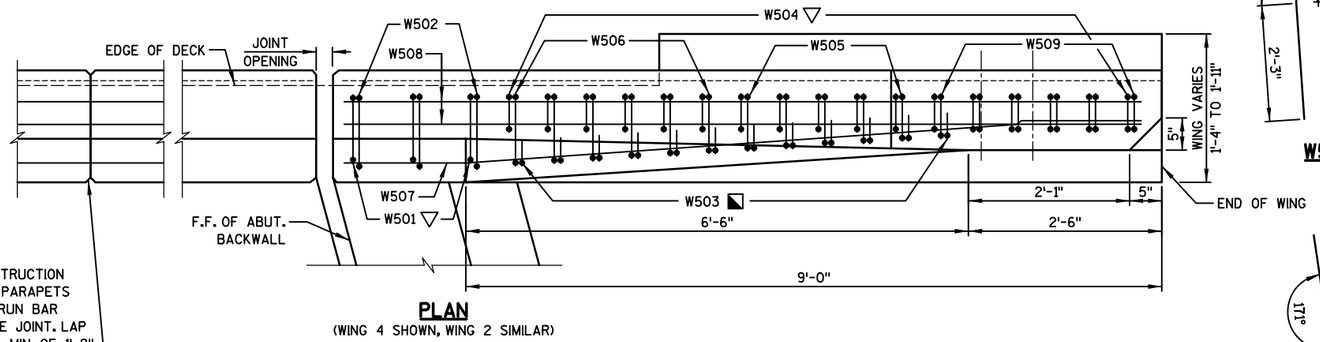
LOOKING AT INSIDE FACE OF PARAPET

SINGLE SLOPE PARAPET 42SS

BILL OF BARS — COATED: S. ABUT. = 360 LBS; N. ABUT. = 360 LBS

BAR MARK	NO. REQ'D S. ABUT.	NO. REQ'D N. ABUT.	LENGTH	SERIES	BENT	COAT	LOCATION
W501	3	3	5'-10"		X	X	PARAPET - VERT.
W502	3	3	6'-8"		X	X	PARAPET - VERT.
W503	12	12	3'-0"		X	X	PARAPET - VERT.
W504	17	17	5'-7"		X	X	PARAPET - VERT.
W505	5	5	6'-5"		X	X	PARAPET - VERT.
W506	6	6	6'-6"		X	X	PARAPET - VERT.
W507	1	1	9'-7"		X	X	PARAPET - HORIZ.
W508	5	5	9'-7"			X	PARAPET - HORIZ.
⚠ W509	6	6	5'-5"	X	X	X	PARAPET - VERT.
W510	2	2	9'-7"			X	PARAPET - HORIZ.

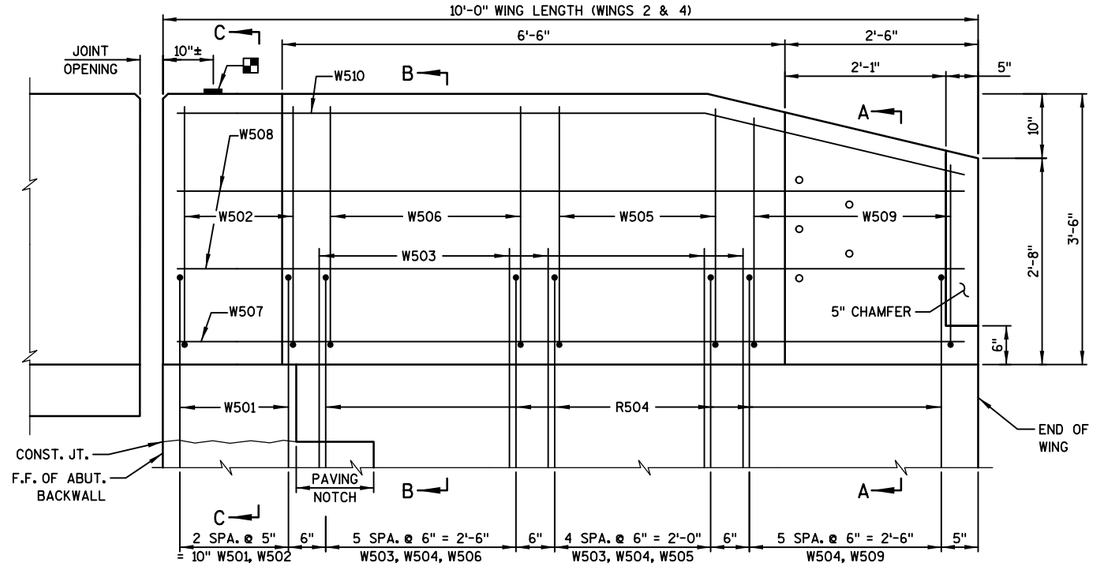
⚠ LENGTH SHOWN FOR BAR SERIES IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.



PLAN

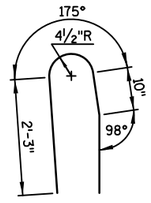
(WING 4 SHOWN, WING 2 SIMILAR)

OPTIONAL CONSTRUCTION JOINTS IN THE PARAPETS MAY BE USED. RUN BAR REINF. THRU THE JOINT. LAP LONGIT. BARS A MIN. OF 1'-9" MIN. JOINT SPACING OF 80'-0". DEFINE CONST. JOINT WITH A ¾"-'V' GROOVE.



INSIDE ELEVATION

(WING 4 SHOWN, WING 2 SIMILAR)



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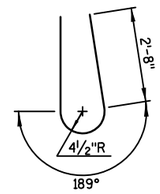


W502

⚠ BAR SERIES TABLE

BAR MARK	NO. REQ'D	LENGTH
W509	2 SERIES OF 6	4'-9" TO 6'-1"

BUNDLE AND TAG EACH SERIES SEPARATELY.

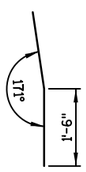
LEGEND

◐ CONST. JOINT - STRIKE OFF AS SHOWN.

◪ W503 BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. USE CARE TO PLACE R503 BARS CORRECTLY ALONG TRANSITION OF PARAPET.

▽ W501 AND W504 BARS TO BE TIED TO WING STEEL BEFORE WING IS POURED.

◪ BENCH MARK CAP (WHEN SUPPLIED).



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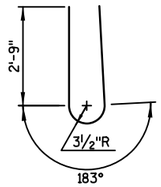

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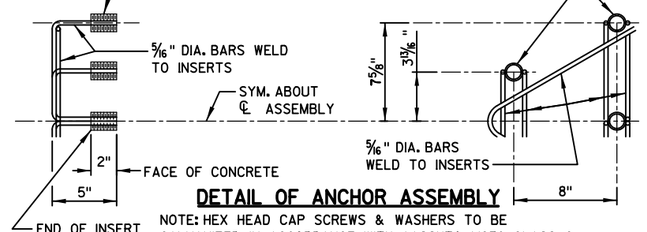
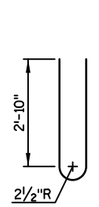


DETAIL OF ANCHOR ASSEMBLY

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

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



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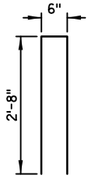

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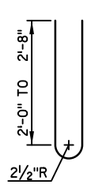

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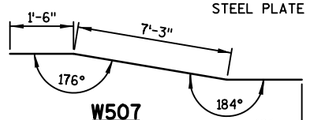

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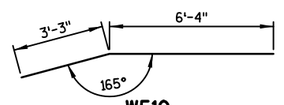

W510

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-3-18

DRAWN BY	JFG	PLANS CK'D.	BMO

SINGLE SLOPE PARAPET 42SS WINGS 2 & 4

SHEET 17 OF 17
282

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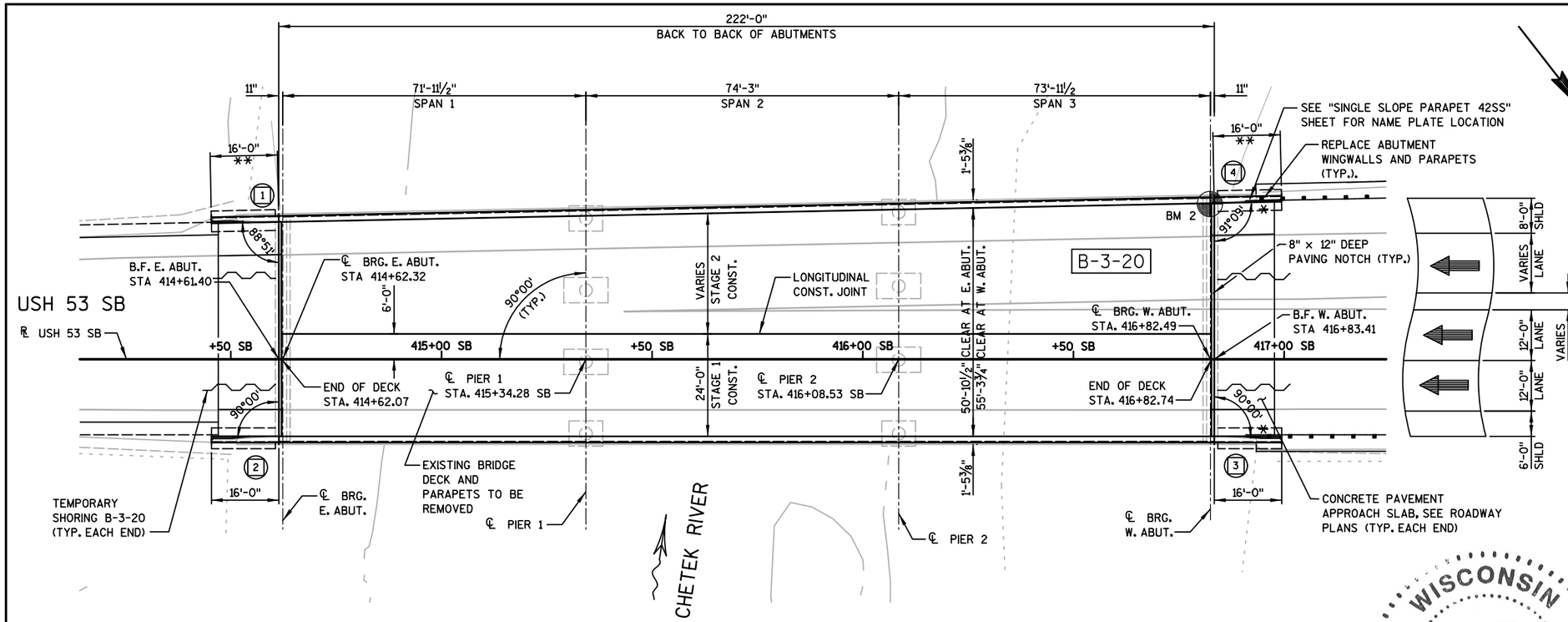
FILE NAME : S:\MAD\1000--1099\1089\895\Drawings\CAD\Micros\Plan\USH 53\080317_sp.dgn

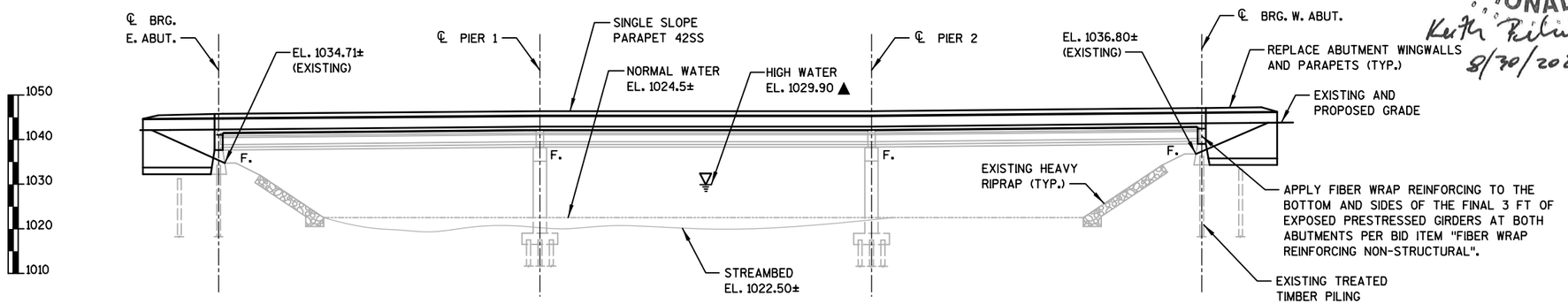
STATE PROJECT NUMBER

1196-04-77



PLAN

(DECK REPLACEMENT - 3 SPAN 45" PRESTRESSED GIRDERS)



ELEVATION

(NORMAL TO SUBSTRUCTURE UNITS)

DESIGN DATA

LIVE LOAD:

DESIGN LOADING	HS20
INVENTORY RATING	HS15
OPERATING RATING	HS25
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV)	140 KIPS

MATERIAL PROPERTIES:

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

TRAFFIC DATA

USH 53 SB
A.D.T. (2025) = 9,660
DESIGN SPEED = 70 MPH

LEGEND

* LOCATION OF ANCHOR ASSEMBLIES FOR THRIE BEAM ATTACHMENT.

(X) DENOTES WINGWALL NUMBER.

▲ HIGH WATER ELEVATION BASED ON INFORMATION OBTAINED FROM WISDOT HIGHWAY STRUCTURES INFORMATION SYSTEM.

** WINGWALL DIMENSION MEASURED PARALLEL TO WINGWALL.

WISCONSIN
KEITH R. BEHREND
E-42073
MADISON
WI
PROFESSIONAL ENGINEER

Keith Behrend 8/30/2024

LIST OF DRAWINGS

1. GENERAL PLAN
2. CROSS SECTIONS, QUANTITIES, NOTES & DETAILS
3. CONSTRUCTION STAGING - 1
4. CONSTRUCTION STAGING - 2
5. EAST ABUTMENT
6. WEST ABUTMENT
7. STEEL DIAPHRAGM
8. SUPERSTRUCTURE PLAN - 1
9. SUPERSTRUCTURE PLAN - 2
10. SUPERSTRUCTURE SECTION
11. SUPERSTRUCTURE DETAILS - 1
12. SUPERSTRUCTURE DETAILS - 2
13. SINGLE SLOPE PARAPETS 42SS

STRUCTURE DESIGN CONTACTS

BRIDGE OFFICE CONTACT:
AARON BONK (608) 261-0261

DESIGN CONSULTANT CONTACT:
BRETT OFTEDAHL (608) 251-4843

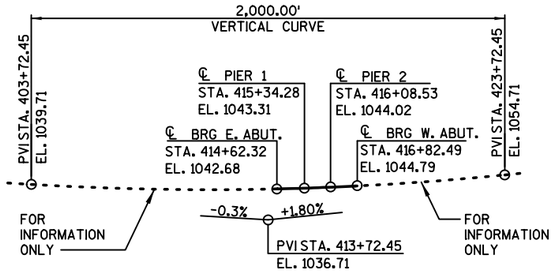
BENCHMARKS

BM NO.	COORDINATES	DESCRIPTION	ELEV.
BM 1	Y: 62,128.59 X: 354,745.03	NW CORNER BRIDGE DECK B-3-24 (CTH I)	1065.33
BM 2	Y: 61,303.85 X: 355,782.67	NW CORNER BRIDGE DECK B-3-20 (CHETEK RIVER)	1043.96
BM 3	Y: 66,181.31 X: 349955.75	NW CORNER BRIDGE DECK B-3-26 (KNAPP STREET)	1077.68

NOTE: BM 1 AND BM 3 ARE OUTSIDE OF PLAN EXTENTS. SEE ROADWAY PLANS FOR ADDITIONAL INFORMATION.

FOUNDATION DATA

ABUTMENT WINGWALLS WITH SPREAD FOOTINGS ARE DESIGNED TO PLACE A MAXIMUM LOAD OF 2,000 PSF ON THE UNDERLYING SOILS. SOILS AT THE FOOTING ELEVATIONS REQUIRE A FACTORED BEARING RESISTANCE OF 2,000 PSF. THE REGIONAL GEOTECHNICAL ENGINEER, WITH 3 DAYS NOTICE, WILL DETERMINE THE FACTORED BEARING RESISTANCE BY VISUAL INSPECTION PRIOR TO CONSTRUCTION OF THE FOOTING.



USH 53 SB PROFILE GRADE LINE

NO.	DATE	REVISION	BY

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED SDR 11/25/24
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-3-20

USH 53 SB OVER CHETEK RIVER

COUNTY: BARRON	TOWN/~~CITY/VILLAGE~~: CHETEK
DESIGN SPEC. REHABILITATION N/A	

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
JFG	KRB	JFG	KRB

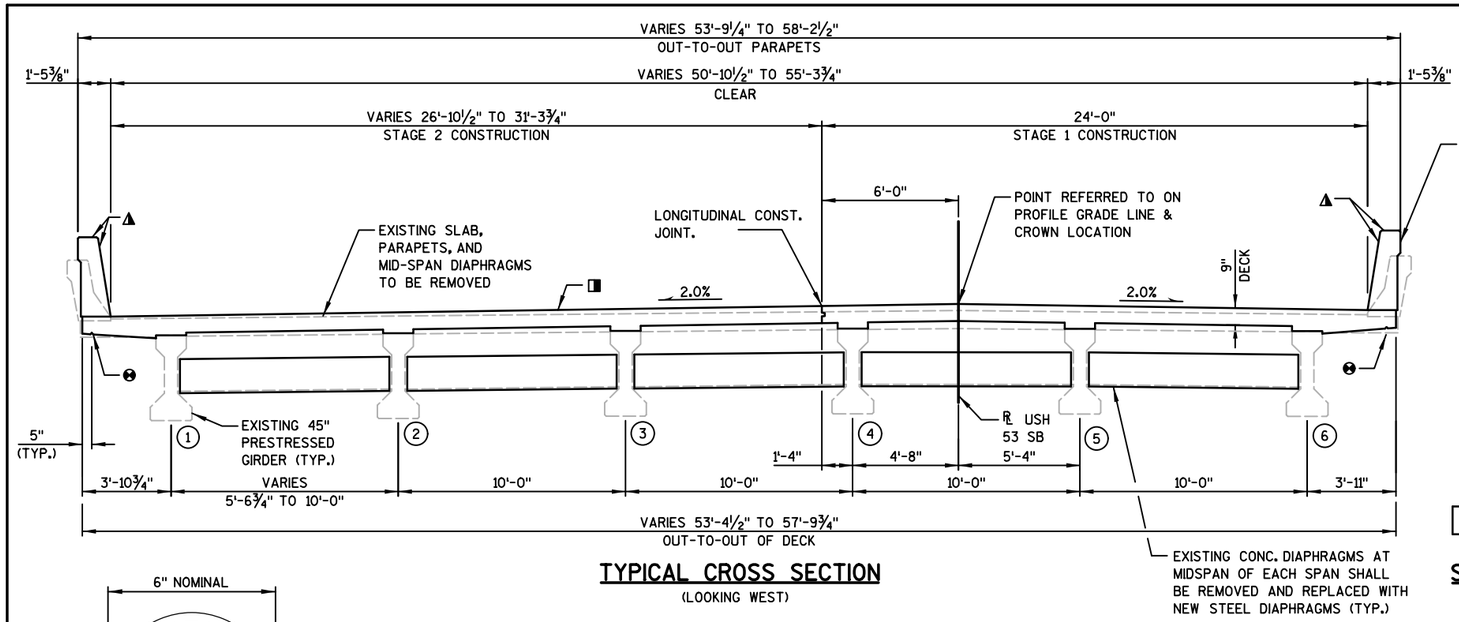
GENERAL PLAN

SHEET 1 OF 13
283

FILE NAME : S:\MAD\1000--1099\1089\895\Drawings\CAD\Micros\Plan\USH 53\080401_gn.dgn

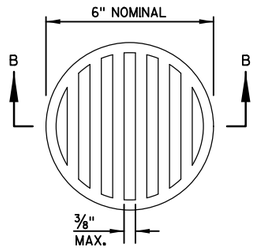
STATE PROJECT NUMBER

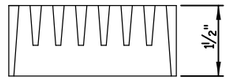
1196-04-77



TYPICAL CROSS SECTION

(LOOKING WEST)





SECTION B-B

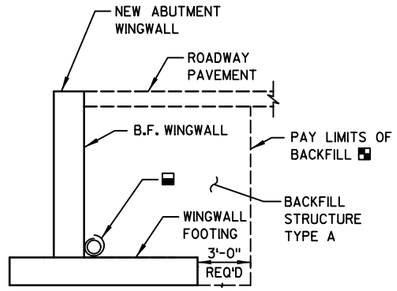
NOTES:

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

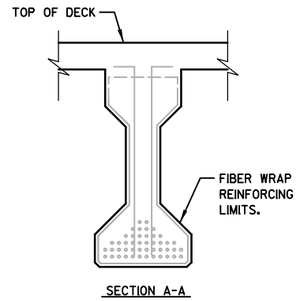
THE RODENT SHIELD, PIPE COUPLING AND ATTACHMENT SCREWS SHALL BE INCLUDED WITH BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH."

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

RODENT SHIELD DETAIL



STRUCTURE BACKFILL LIMITS



SECTION A-A

GENERAL NOTES

THE PROPOSED WORK INCLUDES REMOVING AND REPLACING THE CONCRETE DECK AND PARAPETS, CONCRETE SURFACE REPAIR AT ABUTMENTS, REMOVING MIDSPAN CONCRETE DIAPHRAGMS AND REPLACING WITH STEEL DIAPHRAGMS, FIBER WRAP REPAIR AT GIRDER ENDS, AND REPLACING ABUTMENT WINGWALLS.

DRAWINGS SHALL NOT BE SCALED.

DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS AND SUBSEQUENT REHABILITATION PLANS. CONSTRUCT NEW BRIDGE DECK BASED ON DIMENSIONS SHOWN FROM EXISTING GIRDERS. THE ROADWAY REFERENCE LINE IS PROVIDED FOR THE PROFILE GRADE LINE.

ALL DIMENSIONS ARE IN FEET AND INCHES UNLESS OTHERWISE NOTED. ALL STATIONS ARE IN FEET.

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

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

UTILIZE EXISTING BAR STEEL REINFORCEMENT WHERE SHOWN AND EXTEND 24 BAR DIAMETERS INTO NEW WORK, UNLESS SPECIFIED OTHERWISE.

THE HAUNCH CONCRETE QUANTITY IS BASED ON AN AVERAGE HAUNCH HEIGHT OF 4¾".

ALL CONCRETE REMOVAL SHALL BE DEFINED BY A 1" DEEP SAW CUT.

VARIATIONS TO THE NEW GRADE LINE OVER ¼" MUST BE SUBMITTED BY THE FIELD ENGINEER TO THE STRUCTURES DESIGN SECTION FOR REVIEW.

THE CONTRACTOR SHALL SUPPLY A NEW NAME PLATE IN ACCORDANCE WITH SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS AND THE STANDARD DETAIL DRAWING. NAME PLATE TO SHOW ORIGINAL CONSTRUCTION YEAR, 1972.

CONTRACTOR IS RESPONSIBLE FOR GIRDER STABILITY DURING REMOVAL AND REPLACEMENT OF THE CONCRETE DECK AND GIRDER DIAPHRAGMS.

PERFORM CONCRETE SURFACE REPAIR AS DIRECTED BY THE FIELD ENGINEER. QUANTITY SHOWN IS APPROXIMATE.

BEVEL ALL EXPOSED EDGES OF CONCRETE ¾" UNLESS OTHERWISE NOTED.

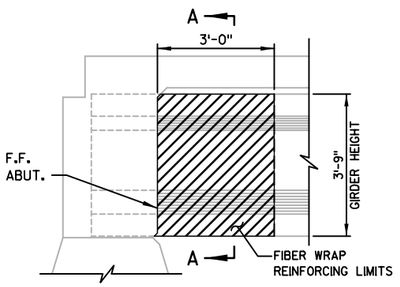
AT ABUTMENTS, ALL EXCAVATED VOLUME NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH STRUCTURE BACKFILL TYPE A.

THE EXISTING GROUNDLINE SHALL BE THE UPPER LIMITS OF EXCAVATION FOR STRUCTURES.

CARE SHALL BE TAKEN TO AVOID DAMAGE TO THE EXISTING GIRDERS, INCLUDING SHEAR STIRRUPS. SAWCUTTING OF THE EXISTING SHEAR STIRRUPS IS NOT ALLOWED.

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	E. ABUT	W. ABUT.	SUPERSTRUCTURE	TOTAL	UNIT
203.0270.01	REMOVING STRUCTURE OVER WATERWAY DEBRIS CAPTURE B-3-20	---	---	---	1	EACH
206.1001.04	EXCAVATION FOR STRUCTURES BRIDGES B-3-20	---	---	---	1	EACH
210.1500	BACKFILL STRUCTURE TYPE A	162	164	---	326	TON
502.0100	CONCRETE MASONRY BRIDGES	32.1	32.3	455.0	519	CY
502.2000.01	COMPRESSION JOINT SEALER PREFORMED ELASTOMERIC 2-1/4 INCH	51	55	---	106	LF
502.3200	PROTECTIVE SURFACE TREATMENT	---	---	1,323	1,323	SY
502.3210	PIGMENTED SURFACE SEALER	16	16	218	250	SY
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	970	970	---	1,940	LB
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	2,180	2,180	105,480	109,840	LB
506.4000.02	STEEL DIAPHRAGMS B-3-20	---	---	15	15	EACH
509.1500	CONCRETE SURFACE REPAIR	35	25	---	60	SF
511.1200.01	TEMPORARY SHORING B-3-20	360	360	---	720	SF
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	3	3	---	6	SY
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	70	70	---	140	LF
614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	---	2	---	2	EACH
SPV.0090.01	PVC WATERSTOP	17	17	---	34	LF
SPV.0165.01	FIBER WRAP REINFORCING NON-STRUCTURAL	180	180	---	360	SF
	NON-BID ITEMS					
	FILLER	---	---	---	1/2", 3/4"	SIZE



TYPICAL PRESTRESSED GIRDER FIBER WRAP REINFORCING REPAIR

EACH GIRDER END REPAIRED IS PAID PER SQUARE FOOT.

REPAIR AREA SHOWN IS FOR REFERENCE ONLY. LIMITS OF "REPAIR AREA" AT EACH GIRDER ARE TO BE COORDINATED WITH THE FIELD ENGINEER.

LEGEND

(X) DENOTES GIRDER NUMBER.

PROTECTIVE SURFACE TREATMENT SHALL BE APPLIED TO THE TOP OF DECK AND VERTICAL AND HORIZONTAL SURFACES OF THE PAVING NOTCHES.

PIGMENTED SURFACE SEALER SHALL BE APPLIED TO THE INSIDE, TOP, AND ENDS OF PARAPETS.

BACKFILL PAY LIMITS. BACKFILL BEYOND BACKFILL PAY LIMITS SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES. LIMITS OF EXCAVATION SHALL BE DETERMINED BY THE CONTRACTOR.

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

PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN. SEE DETAIL ON THIS SHEET.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-3-20

DRAWN BY JFG | PLANS CK'D. KRB

CROSS SECTION, QUANTITIES, NOTES & DETAILS

SHEET 2
284

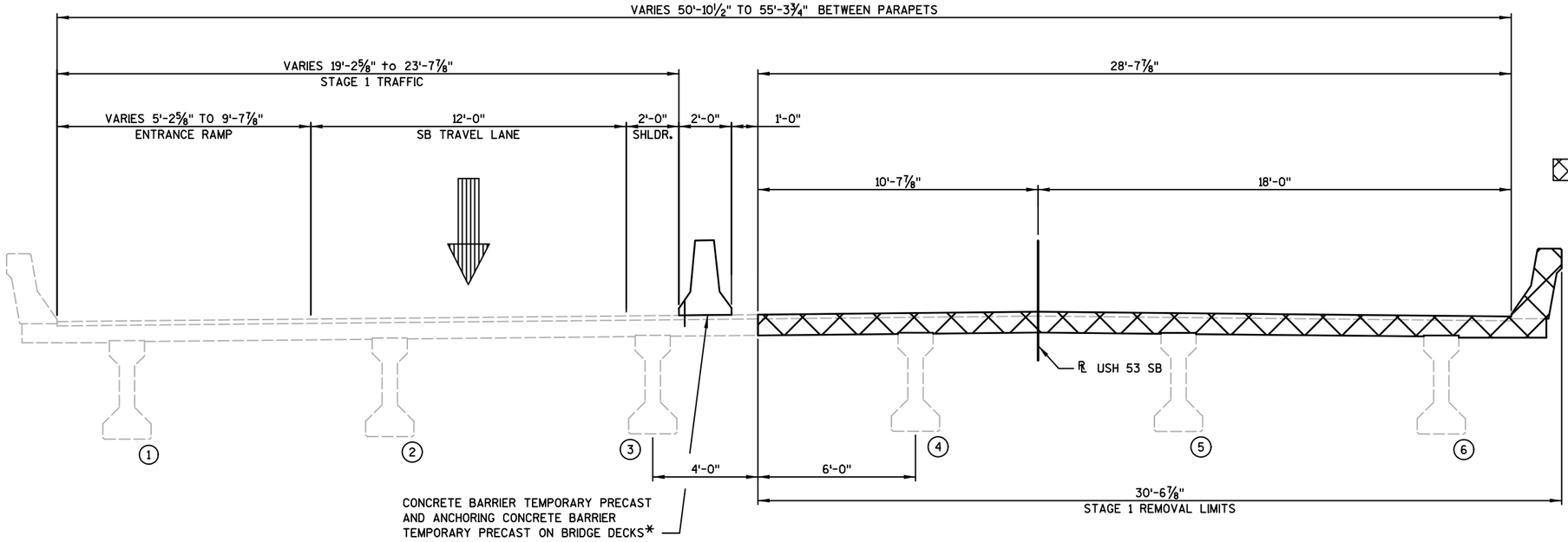
8

8

FILE NAME : S:\MAD\1000--1099\1089\895\Drawings\CAD\Micros\Plan\USH 53\080402_cs.dgn

STATE PROJECT NUMBER

1196-04-77



STAGE 1 - TRAFFIC & REMOVAL

(LOOKING WEST)

NOTES

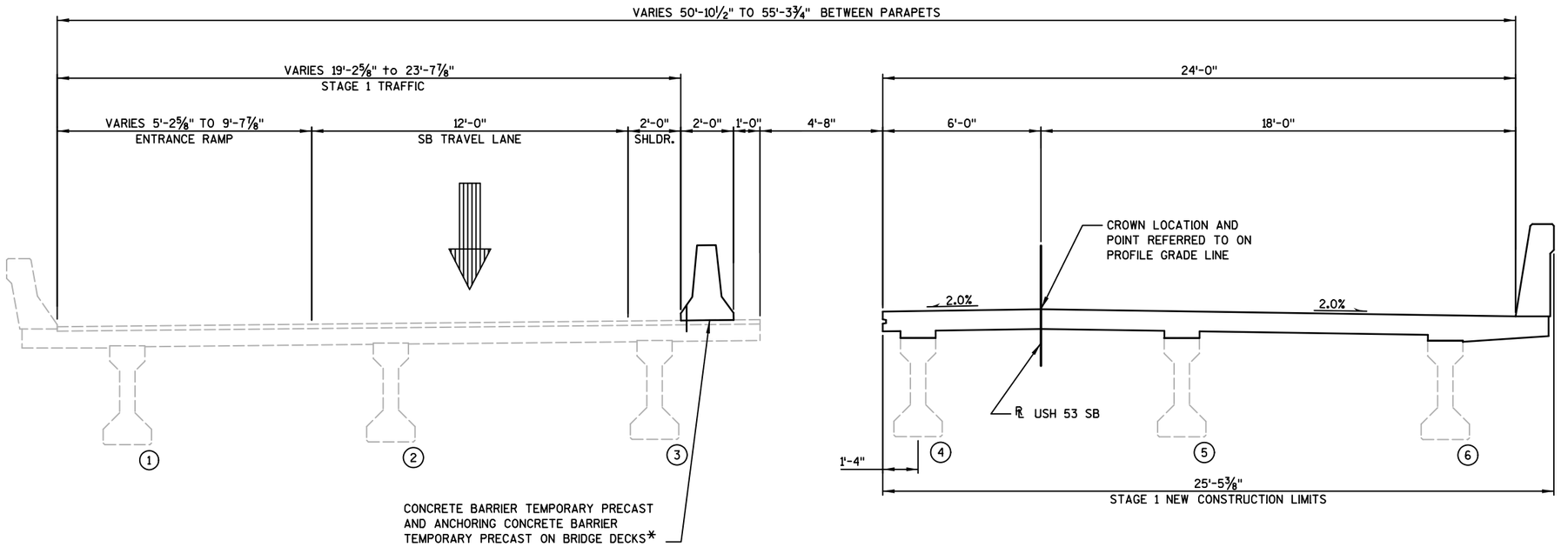
SEE ROADWAY PLANS FOR ADDITIONAL STAGING INFORMATION.

LEGEND

* SEE ROADWAY PLANS FOR ADDITIONAL INFORMATION.

REMOVAL LIMITS

(X) DENOTES GIRDER NUMBER



STAGE 1 - TRAFFIC & CONSTRUCTION

(LOOKING WEST)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-3-20

DRAWN BY JFG | PLANS CK'D. KRB

CONSTRUCTION STAGING - 1

SHEET 3
285

8

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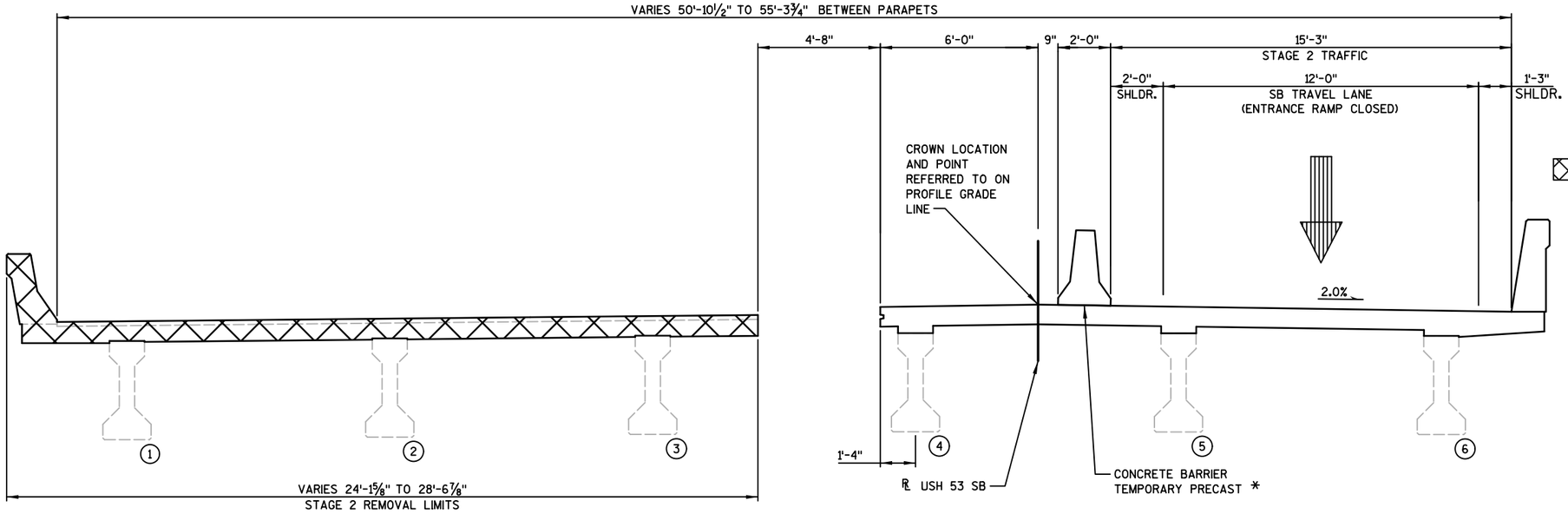
FILE NAME : S:\MAD\1000--1099\1089\895\Drawings\CAD\Micros\Plan\USH 53\080403_st.dgn

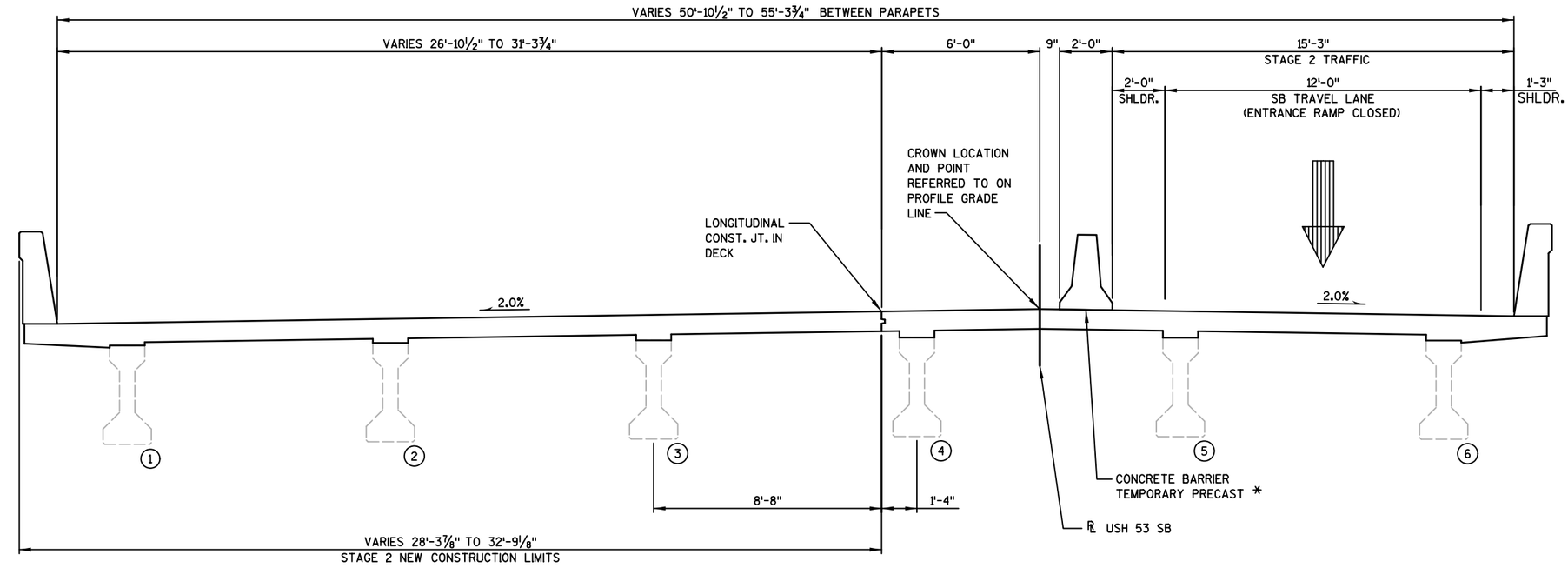
STATE PROJECT NUMBER

1196-04-77



STAGE 2 - TRAFFIC & REMOVAL

(LOOKING WEST)



STAGE 2 - TRAFFIC & CONSTRUCTION

(LOOKING WEST)

NOTES

SEE ROADWAY PLANS FOR ADDITIONAL STAGING INFORMATION.

LEGEND

* SEE ROADWAY PLANS FOR ADDITIONAL INFORMATION.

REMOVAL LIMITS

(X) DENOTES GIRDER NUMBER

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-3-20

DRAWN BY JFG | PLANS CK'D. KRB

CONSTRUCTION STAGING - 2

SHEET 4
286

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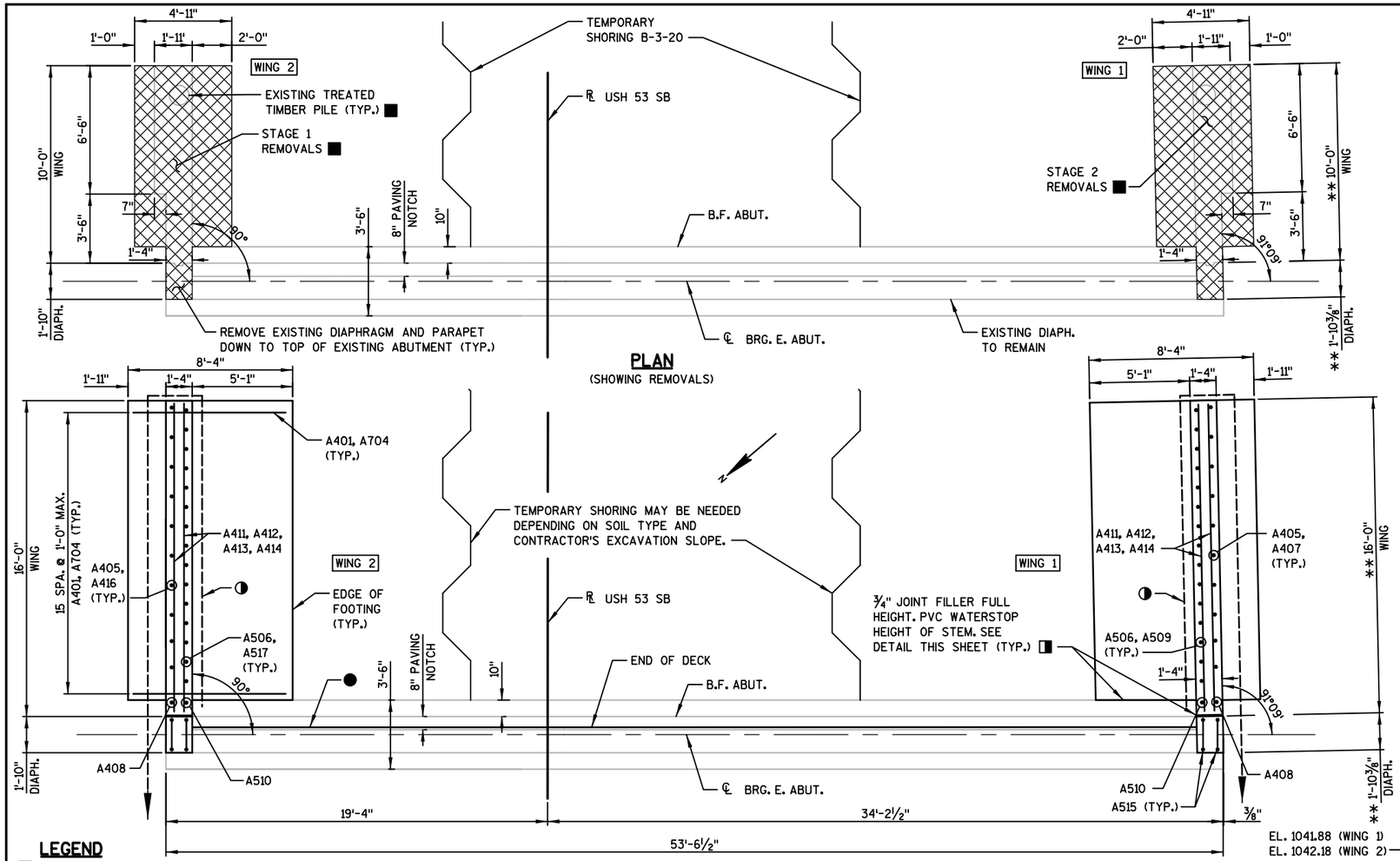


PLAN
(SHOWING REMOVALS)

EL. 1041.88 (WING 1)
EL. 1042.18 (WING 2)

EAST ABUTMENT BILL OF BARS

UNCOATED: 970 LBS. COATED: 1150 LBS

BAR MARK	NO. REQ'D	LENGTH	BENT	COAT	LOCATION
A401	32	8'-0"			FTG. - BOT. - TRANS.
A402	14	14'-10"			FTG. - BOT. - LONGITUDINAL
A403	14	14'-10"			FTG. - TOP - LONGITUDINAL
A704	32	8'-0"			FTG. - TOP - TRANS.
A405	28	3'-6"	X	X	FTG. - DOWEL - F.F.
A506	32	6'-7"	X	X	FTG. - DOWEL - B.F.
A407	14	8'-0"		X	F.F. - VERT. - WING 1
A408	2	4'-10"		X	F.F. - VERT. - WINGS 1 & 2
A509	16	8'-0"		X	B.F. - VERT. - WING 1
A510	2	4'-10"		X	B.F. - VERT. - WINGS 1 & 2
A411	4	15'-1"		X	E.F. - HORIZ. - WINGS 1 & 2
A412	4	15'-3"		X	E.F. - HORIZ. - WINGS 1 & 2
A413	4	15'-5"		X	E.F. - HORIZ. - WINGS 1 & 2
A414	24	15'-7"		X	E.F. - HORIZ. - WINGS 1 & 2
A515	4	11'-8"	X	X	DIAPH. - VERT. - WINGS 1 & 2
A416	14	8'-4"		X	F.F. - VERT. - WING 2
A517	16	8'-4"		X	B.F. - VERT. - WING 2

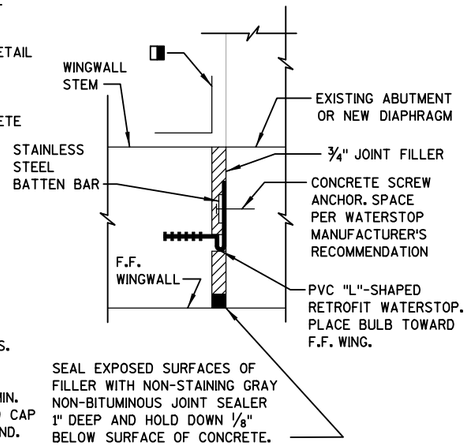
NOTE: PARAPET BARS NOT INCLUDED. SEE SHEET 13 FOR PARAPET REINFORCING QUANTITY.

LEGEND

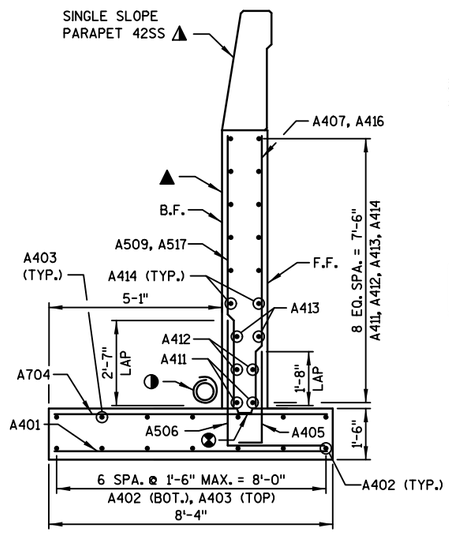
- ■ REMOVE EXISTING WINGWALL AND PARAPET. REMOVE A PORTION OF EXISTING ABUTMENT DIAPHRAGM AND PARAPET ABOVE AS SHOWN, SALVAGE AND INCORPORATE EXISTING BAR STEEL INTO NEW WORK. REMOVE TREATED TIMBER PILES DOWN TO 1'-0" BELOW NEW FOOTING.
- ◨ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL VERTICAL JOINTS ON BACK FACE.
- ● PREFORMED ELASTOMERIC COMPRESSION SEAL. SEE DETAIL ON "SUPERSTRUCTURE DETAILS - 1" SHEET.
- ◒ ROUGHEN SURFACE OF EXISTING CONCRETE TO 1/4"± AMPLITUDE (ALL AREAS OF NEW TO EXISTING CONCRETE CONTACT).
- ⚠ SEE "SINGLE SLOPE PARAPET 42SS" SHEET FOR REINFORCING DETAILS.
- ▲ BACKFILL WALL TO BOTTOM OF CONC. PAVEMENT APPROACH SLAB BEFORE POURING WING PARAPET.
- ⊠ KEYWAY FORMED BY SURFACED BEVELED 2"X6".
- ** DIMENSIONS MEASURED ALONG F.F. WING.
- * ELEVATION PROVIDED IS TAKEN FROM ORIGINAL PLANS. MATCH EXISTING BOTTOM OF WING ELEVATION.
- ◑ PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE AT 0.5% MIN. TO DAYLIGHT IN FRONT OF ABUTMENT. ATTACH SOLID CAP AT BURIED END AND RODENT SHIELD AT DAYLIGHT END.

REMOVAL LIMITS.

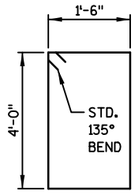
PLAN
(SHOWING PROPOSED STRUCTURE WORK)



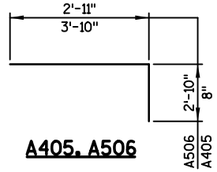
PVC WATERSTOP PLAN VIEW



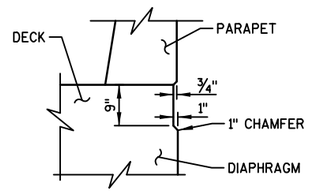
TYPICAL SECTION THRU WINGWALL



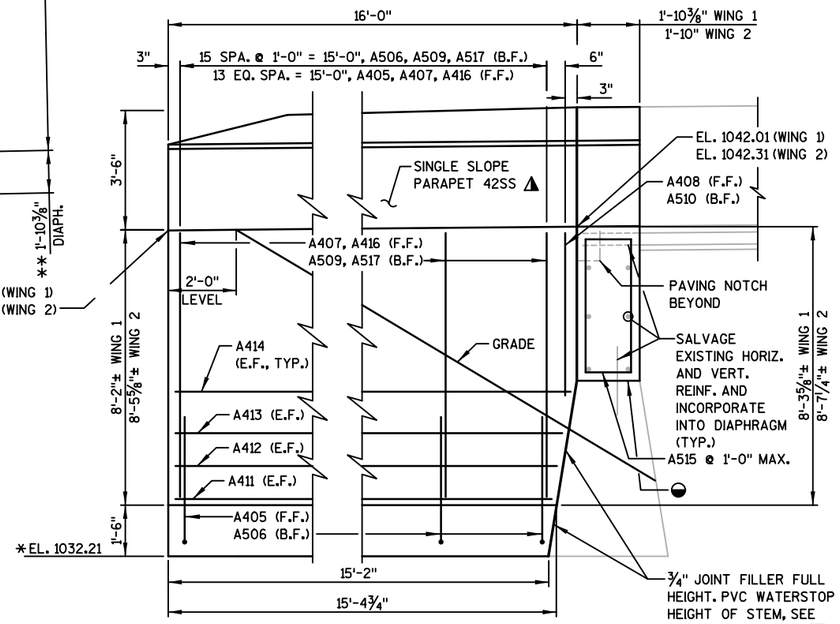
A515



A405, A506



SECTION THRU DIAPHRAGM



TYPICAL OUTSIDE ELEVATION
(WING 2 SHOWN, WING 1 SIMILAR)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-3-20

DRAWN BY JFG | PLANS CK'D. KRB

EAST ABUTMENT

SHEET 5
287

STATE PROJECT NUMBER
1196-04-77

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FILE NAME : S:\MAD\1000--1099\1089\895\Drawings\CAD\Micros\Plan\USH 53\080404_ea.dgn

STATE PROJECT NUMBER

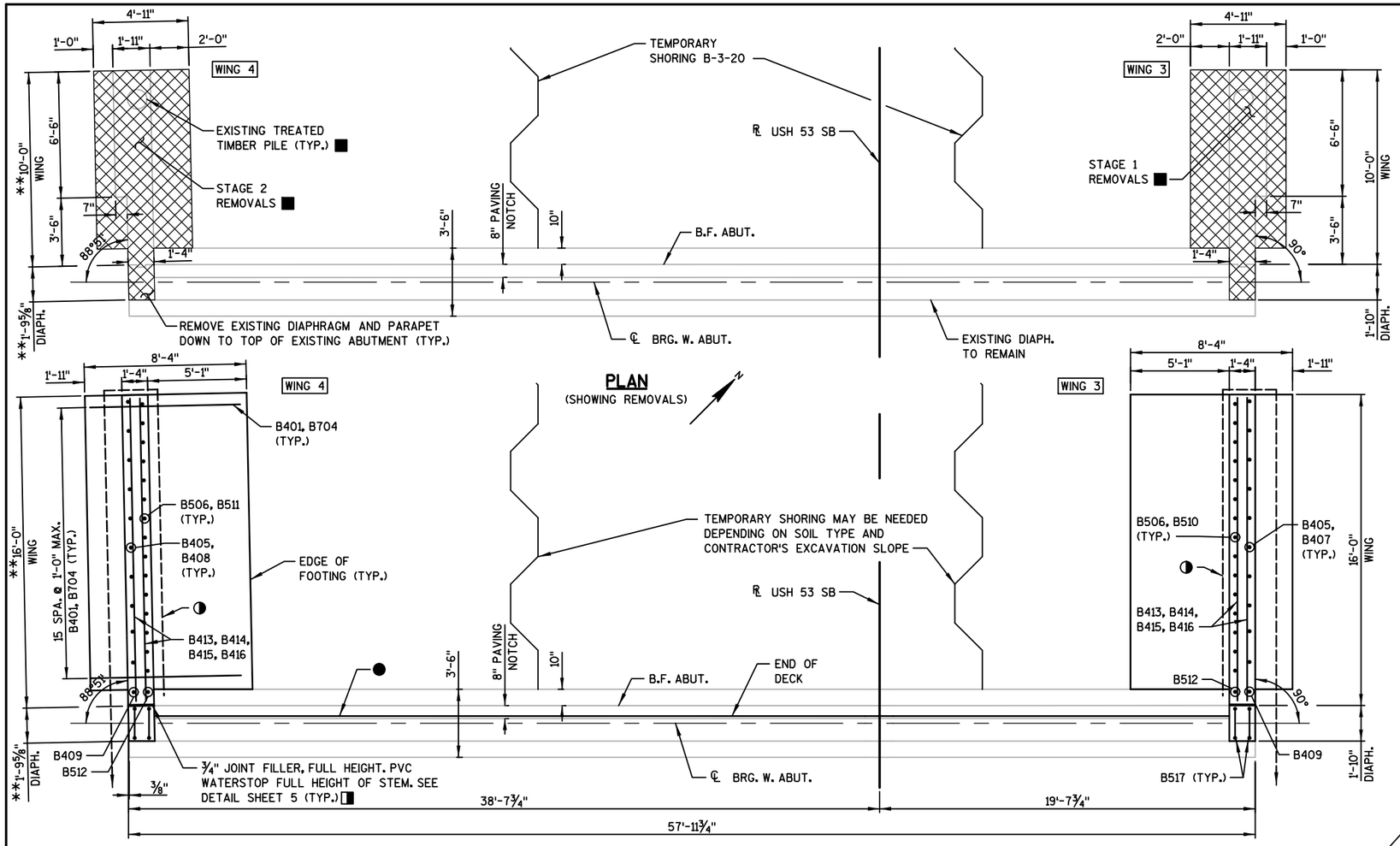
1196-04-77

WEST ABUTMENT BILL OF BARS

UNCOATED: 970 LBS. COATED: 1150 LBS

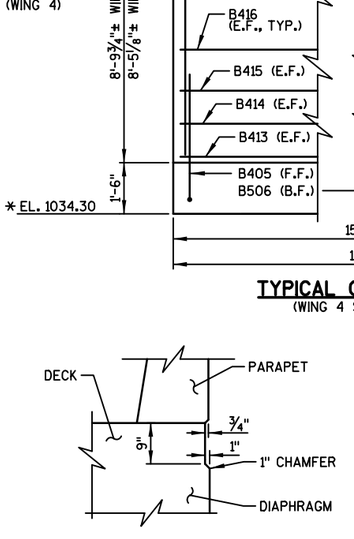
BAR MARK	NO. REQ'D	LENGTH	BENT	COAT	LOCATION
B401	32	8'-0"			FTG. - BOT. - TRANS.
B402	14	14'-10"			FTG. - BOT. - LONGITUDINAL
B403	14	14'-10"			FTG. - TOP - LONGITUDINAL
B704	32	8'-0"			FTG. - TOP - TRANS.
B405	28	3'-6"	X	X	FTG. - DOWEL - F.F.
B506	32	6'-7"	X	X	FTG. - DOWEL - B.F.
B407	14	8'-5"		X	F.F. - VERT. - WING 3
B408	14	8'-1"		X	F.F. - VERT. - WING 4
B409	2	4'-10"		X	F.F. - VERT. - WINGS 3 & 4
B510	16	8'-5"		X	B.F. - VERT. - WING 3
B511	16	8'-1"		X	B.F. - VERT. - WING 4
B512	2	4'-10"		X	B.F. - VERT. - WINGS 3 & 4
B413	4	15'-1"		X	E.F. - HORIZ. - WINGS 3 & 4
B414	4	15'-3"		X	E.F. - HORIZ. - WINGS 3 & 4
B415	4	15'-5"		X	E.F. - HORIZ. - WINGS 3 & 4
B416	24	15'-7"		X	E.F. - HORIZ. - WINGS 3 & 4
B517	4	11'-8"	X	X	DIAPH. - VERT. - WINGS 3 & 4

NOTE: PARAPET BARS NOT INCLUDED. SEE SHEET 13 FOR PARAPET REINFORCING QUANTITY.

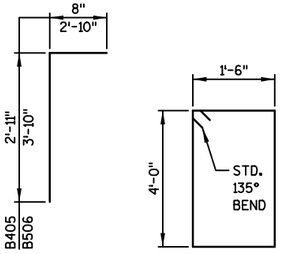


PLAN
(SHOWING REMOVALS)

PLAN
(SHOWING PROPOSED STRUCTURE WORK)



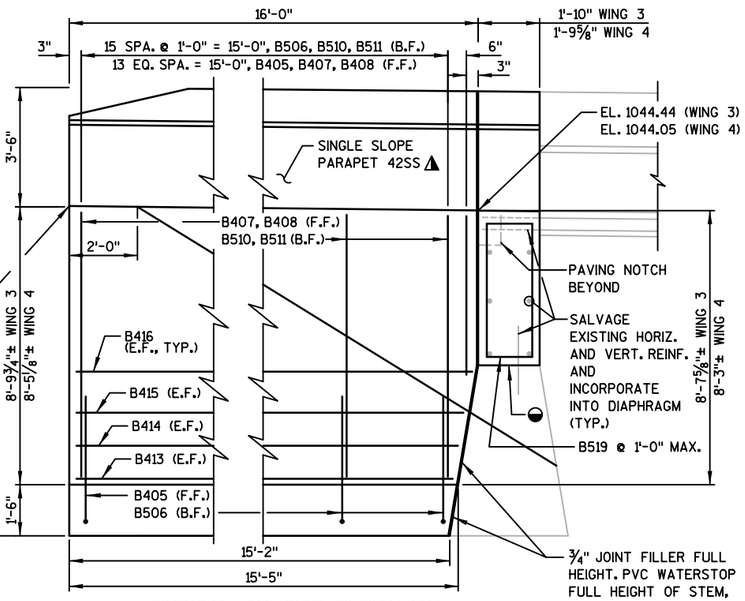
TYPICAL SECTION THRU WINGWALL



B405, B506

B517

SECTION THRU DIAPHRAGM



TYPICAL OUTSIDE ELEVATION
(WING 4 SHOWN, WING 3 SIMILAR)

LEGEND

■ REMOVE EXISTING WINGWALL AND PARAPET. REMOVE A PORTION OF EXISTING ABUTMENT DIAPHRAGM AND PARAPET ABOVE AS SHOWN, SALVAGE AND INCORPORATE EXISTING BAR STEEL INTO NEW WORK. REMOVE TREATED TIMBER PILES DOWN TO 1'-0" BELOW NEW FOOTING.

◨ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL VERTICAL JOINTS ON BACK FACE.

● PREFORMED ELASTOMERIC COMPRESSION SEAL. SEE DETAIL ON "SUPERSTRUCTURE DETAILS - 1" SHEET.

◒ ROUGHEN SURFACE OF EXISTING CONCRETE TO ¼"± AMPLITUDE (ALL AREAS OF NEW TO EXISTING CONCRETE CONTACT).

▲ SEE "SINGLE SLOPE PARAPET 42SS" SHEET FOR REINFORCING DETAILS.

▲ BACKFILL WALL TO BOTTOM OF CONC. PAVEMENT APPROACH SLAB BEFORE POURING WING PARAPET.

⊠ KEYWAY FORMED BY SURFACED BEVELED 2"X6".

** DIMENSIONS MEASURED ALONG F.F. WING.

* ELEVATION PROVIDED IS TAKEN FROM ORIGINAL PLANS. MATCH EXISTING BOTTOM OF WING ELEVATION.

◑ PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE AT 0.5% MIN. TO DAYLIGHT IN FRONT OF ABUTMENT. ATTACH SOLID CAP AT BURIED END AND RODENT SHIELD AT DAYLIGHTED END.

▨ REMOVAL LIMITS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-3-20

DRAWN BY JFG | PLANS CK'D. KRB

WEST ABUTMENT

SHEET 6
288

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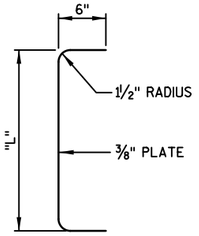
FILE NAME : S:\MAD\1000--1099\1089\895\Drawings\CAD\Micros\Plan\USH 53\080405_wa.dgn

STATE PROJECT NUMBER

1196-04-77

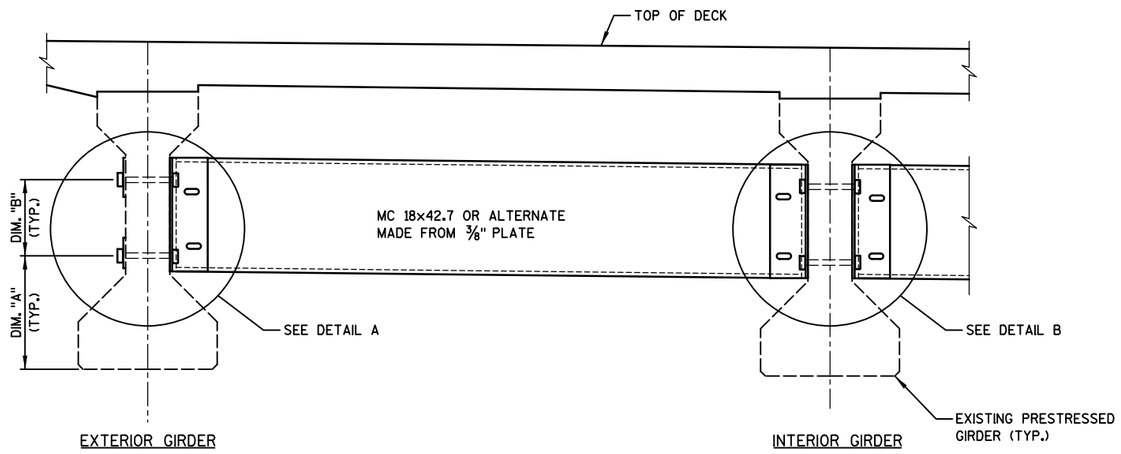
TABLE

GIRDER HEIGHT	DIM. "A"	DIM. "B"	DIM. "L"	DIM. "X"
45"	1'-5 3/8"	1'-1 7/8"	1'-5 1/2"	2 1/4"



SECTION THRU ALTERNATE DIAPHRAGM

*DIM "X" = 2½" FOR ALTERNATE PLATE DIAPHRAGM



NOTES

ALL DIAPHRAGM MATERIAL SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "STEEL DIAPHRAGMS B-3-20", 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, WASHERS, AND SHIMS SHALL BE GALVANIZED AFTER FABRICATION.

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

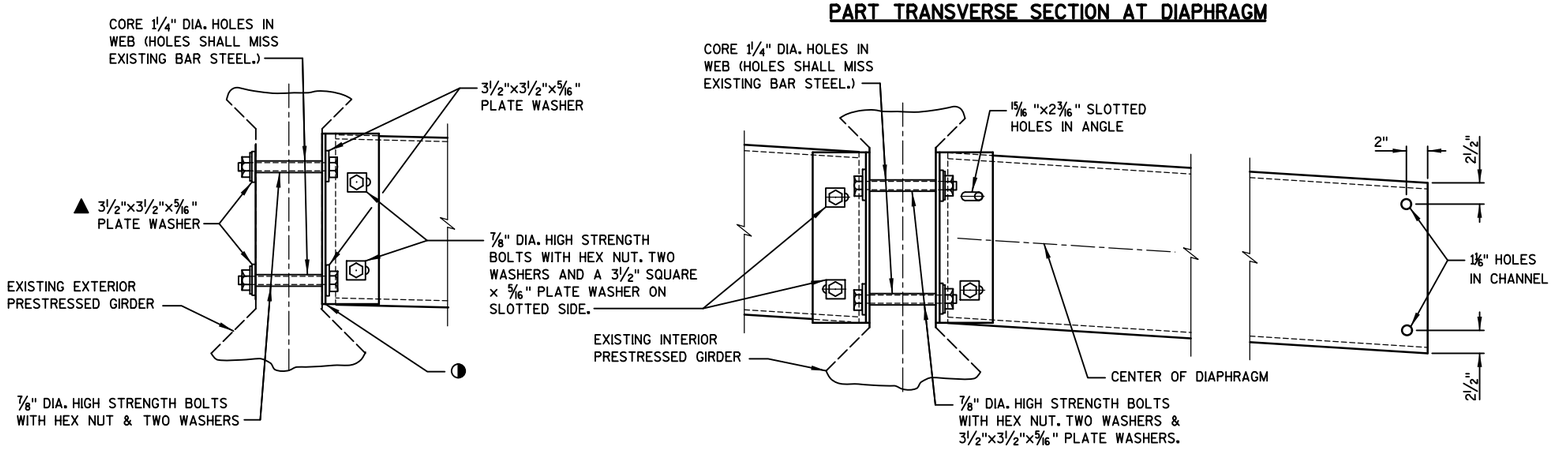
LEGEND

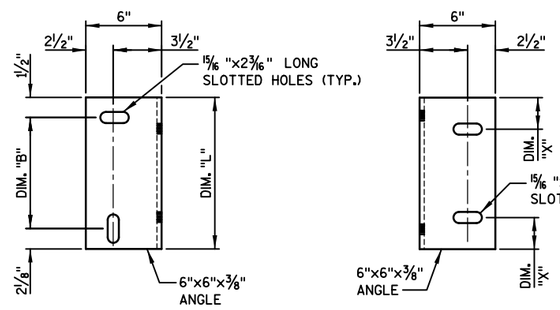
(#) INDICATES GIRDER NUMBER.

▲ PROVIDE PLATE WASHER WITH TAPERED THICKNESS AT GIRDER NO. 1 TO ACCOMMODATE SKEWED GIRDER.

◑ PROVIDE TAPERED SHIM PLATE BETWEEN EXISTING GIRDER NO. 1 AND DIAPHRAGM SUPPORT ANGLE TO ACCOMMODATE SKEWED GIRDER.

PART TRANSVERSE SECTION AT DIAPHRAGM

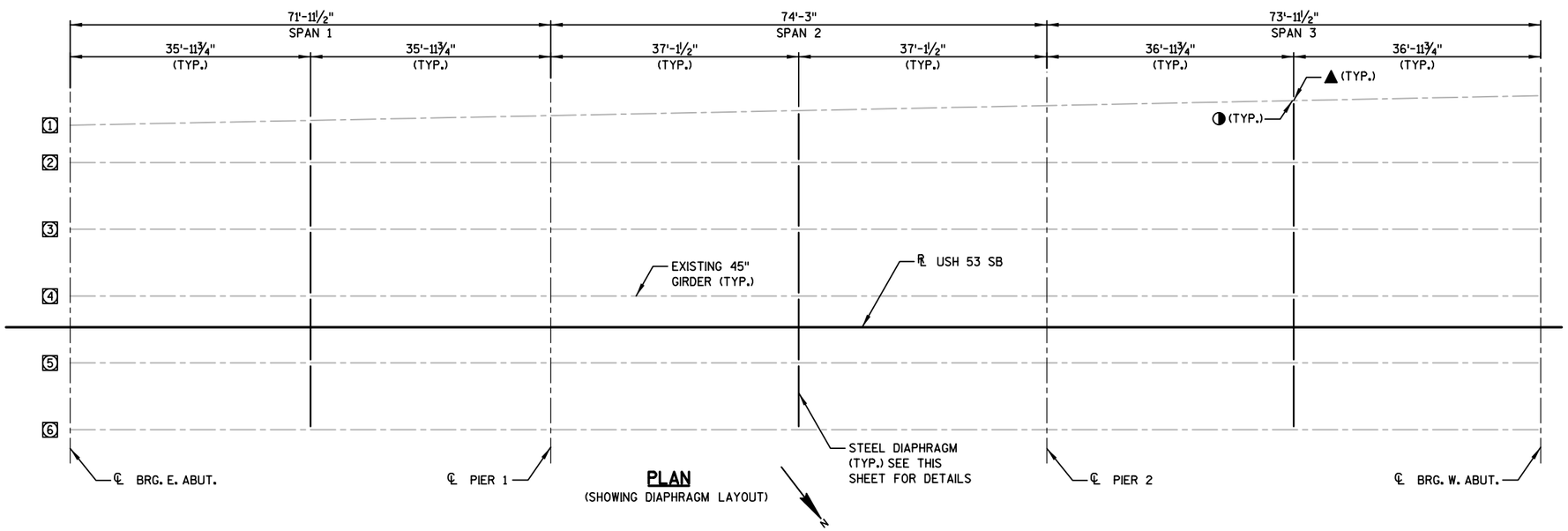




DETAIL A

DETAIL B

DIAPHRAGM SUPPORT



PLAN

(SHOWING DIAPHRAGM LAYOUT)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-3-20

DRAWN BY JFG | PLANS CK'D. KRB

STEEL DIAPHRAGM

SHEET 7
289

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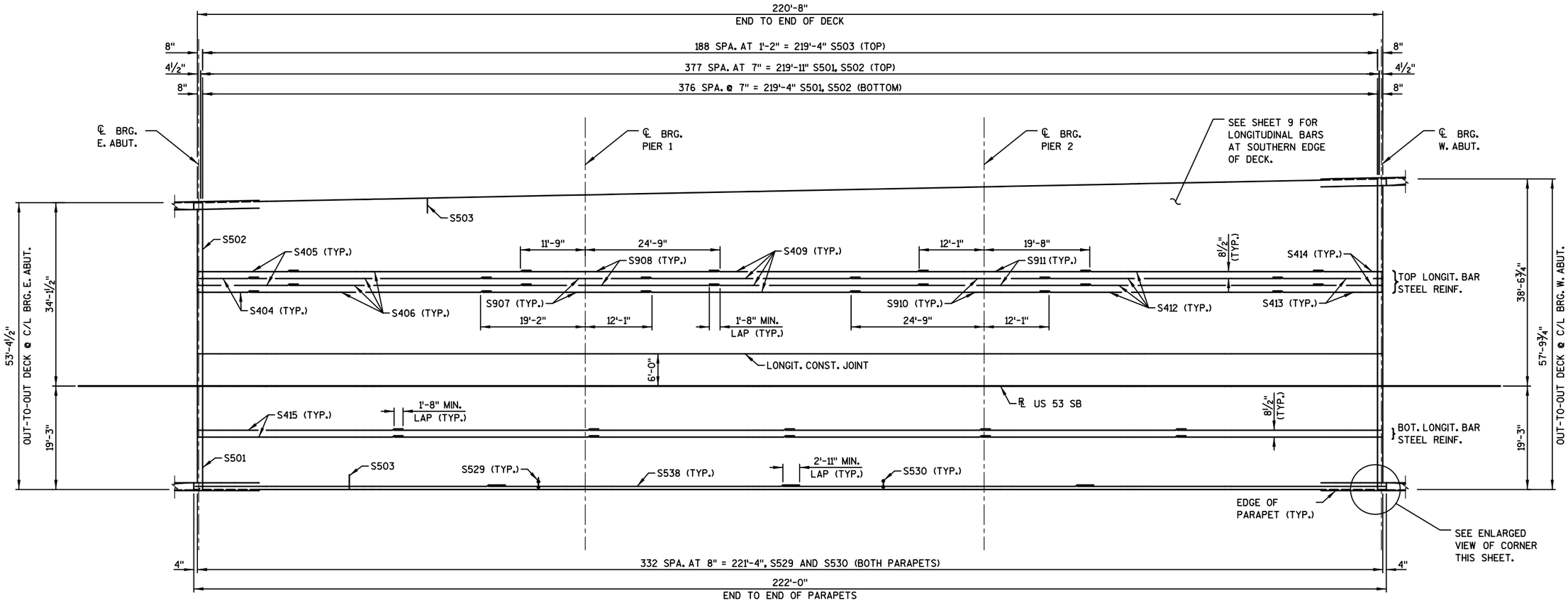
FILE NAME : S:\MAD\1000--1099\1089\895\Drawings\CAD\Micros\Plan\USH 53\080406_sd.dgn

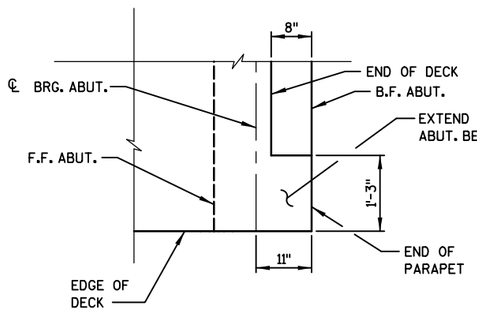
STATE PROJECT NUMBER
1196-04-77

NOTES

ALL DIMENSIONS MEASURED PARALLEL OR PERPENDICULAR TO R/L USH 53 SB.



PLAN



ENLARGED VIEW AT NE CORNER
(OTHER CORNERS SIMILAR)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-3-20

DRAWN BY JFG | PLANS CK'D. KRB

SUPERSTRUCTURE PLAN - 1

SHEET 8
290

8

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FILE NAME : S:\MAD\1000--1099\1089\895\Drawings\CAD\Micros\Plan\USH 53\080407_ss.dgn

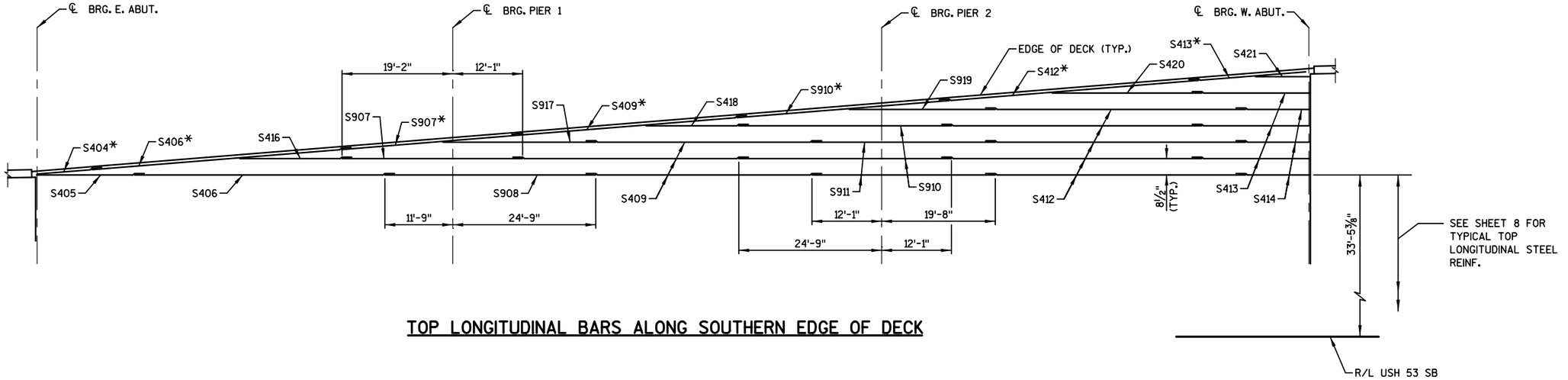
STATE PROJECT NUMBER
1196-04-77

NOTES

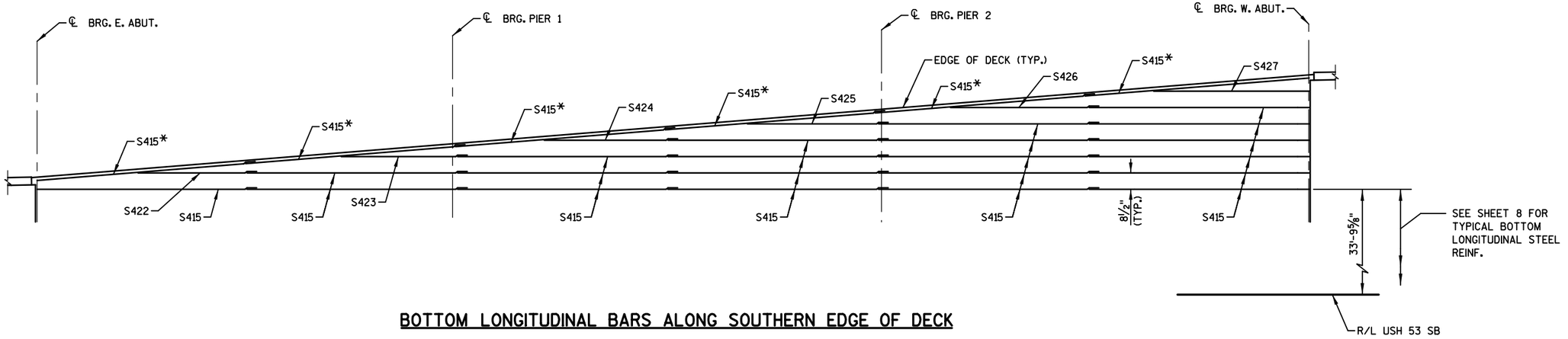
DECK TAPER EXAGGERATED ON THIS SHEET TO SHOW REBAR LAYOUT.

LEGEND

* PLACE BAR PARALLEL TO SOUTH EDGE OF DECK.



TOP LONGITUDINAL BARS ALONG SOUTHERN EDGE OF DECK



BOTTOM LONGITUDINAL BARS ALONG SOUTHERN EDGE OF DECK

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-3-20

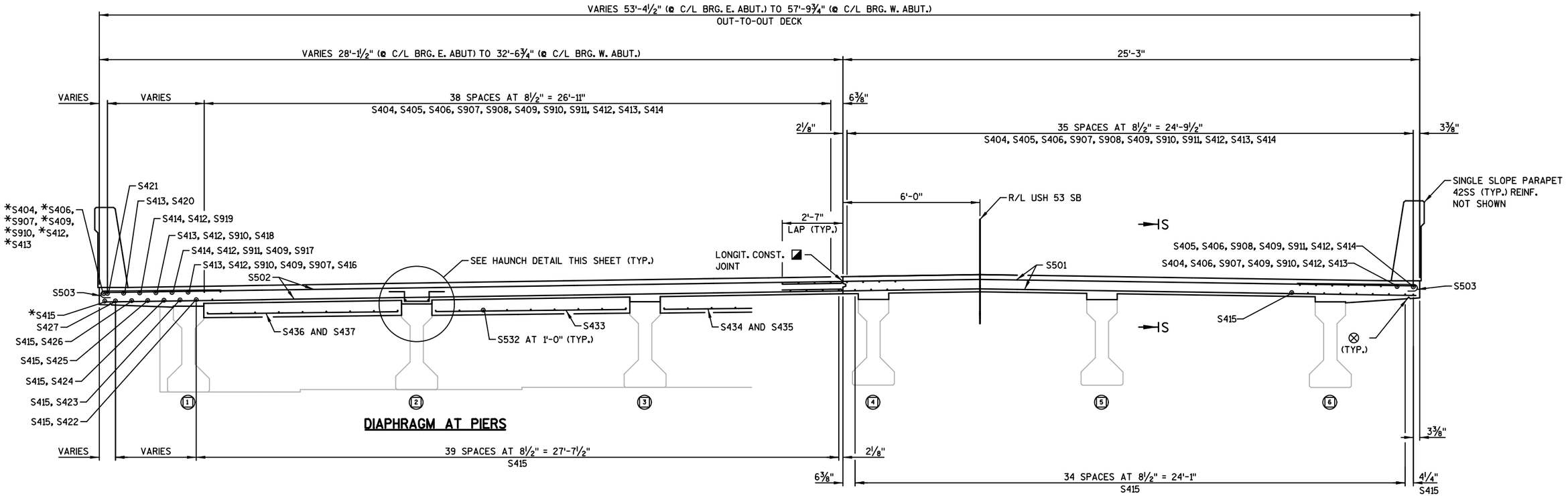
DRAWN BY JFG | PLANS CK'D. KRB

SUPERSTRUCTURE PLAN - 2

SHEET 9
291

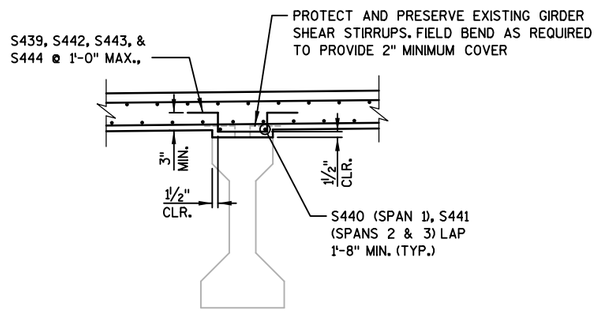
FILE NAME : S:\MAD\1000--1099\1089\895\Drawings\CAD\Micros\Plan\USH 53\080407a_sp.dgn

STATE PROJECT NUMBER
1196-04-77



CROSS SECTION THRU BRIDGE

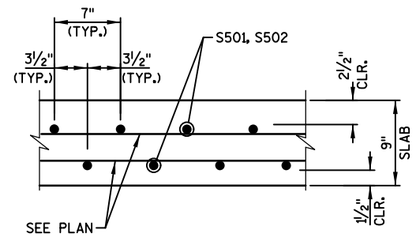
(LOOKING NORTH)



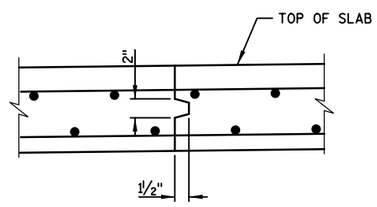
HAUNCH DETAIL

NOTE: TILT HAT BARS AS REQUIRED TO FIT BETWEEN REBAR MATS.

SEE HAUNCH REINFORCEMENT PLAN ON SHEET 11 FOR MORE DETAILS.



SECTION S-S



CONSTRUCTION JOINT KEYWAY DETAIL

LEGEND

⊗ ¾" V-GROOVE REQ'D. EXTEND TO 6" FROM F.F. OF ABUT. DIAPHRAGMS. LOCATE 5" FROM EDGES OF DECK.

(1) GIRDER NUMBER.

◪ LONGIT. CONST. JT. KEYWAY. CENTER KEYWAY BETWEEN MATS. SEE DETAIL THIS SHEET.

✳ PLACE BARS PARALLEL TO SOUTH EDGE OF DECK.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-3-20

DRAWN BY JFG | PLANS CK'D. KRB

SUPERSTRUCTURE SECTION

SHEET 10
292

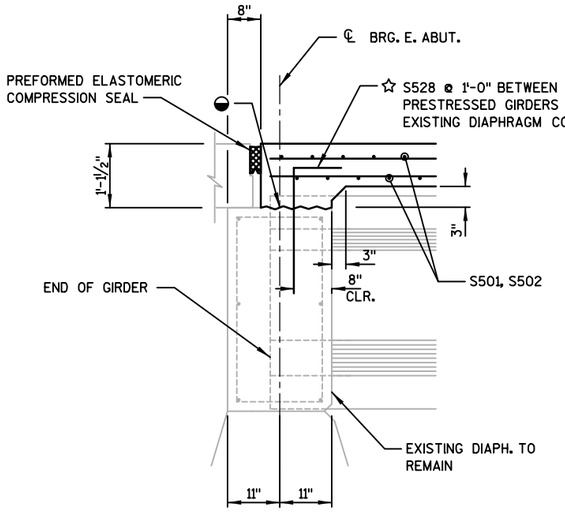
8

8

FILE NAME : S:\MAD\1000--1099\1089\895\Drawings\CAD\Micros\Plan\USH 53\080408_ss.dgn

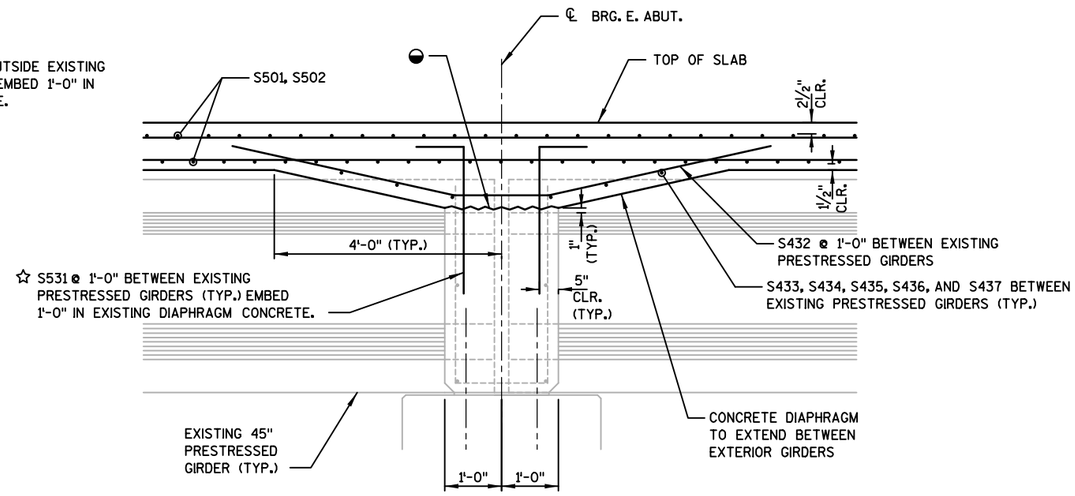
STATE PROJECT NUMBER

1196-04-77



DIAPHRAGM AT ABUTMENTS

(EAST SHOWN, WEST SIMILAR)

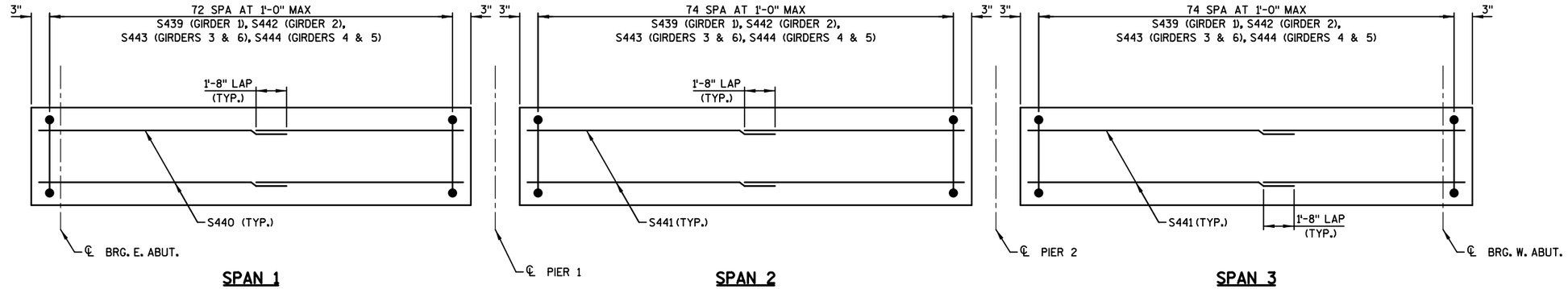


DIAPHRAGM AT PIERS

(PIER 1 SHOWN, PIER 2 SIMILAR)

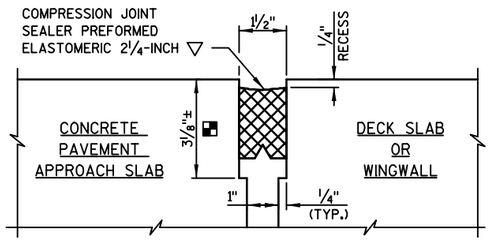
LEGEND

- ◒ ROUGHEN SURFACE OF EXISTING CONCRETE TO ¼"± AMPLITUDE (ALL AREAS OF NEW TO EXISTING CONCRETE CONTACT).
- ☆ ADHESIVE ANCHOR
- ◘ VARIES BASED ON JOINT MANUFACTURER
- ▽ MANUFACTURER SHALL LABEL TOP OF SEAL

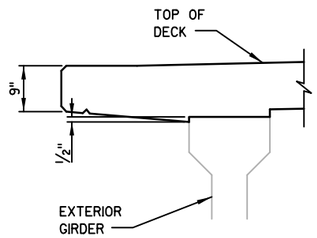


SPAN 1 **SPAN 2** **SPAN 3**

HAUNCH REINFORCEMENT PLAN



ELASTOMERIC COMPRESSION SEAL DETAIL



EXTERIOR HAUNCH DETAIL

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-3-20

DRAWN BY JFG | PLANS CK'D. KRB

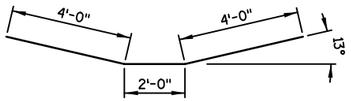
SUPERSTRUCTURE DETAILS - 1

SHEET 11
293

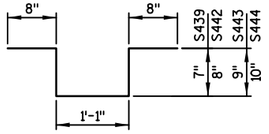
FILE NAME : S:\MAD\1000--1099\1089\895\Drawings\CAD\Micros\Plan\USH 53\080409_ss.dgn

DECK ELEVATION TABLE

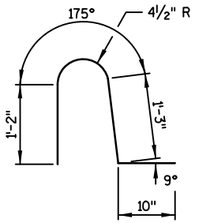
LOCATION	STATION	S. DECK EDGE		GIRDER 1		GIRDER 2	GIRDER 3	LONGIT. C.J.	GIRDER 4	R/L USH 53 SB	GIRDER 5	GIRDER 6	N. EDGE OF DECK
						24.66' LT	14.66' LT	6.00' LT	4.66' LT	0.00'	5.34' RT	15.34' RT	19.25' RT
		OFFSET (LT)	ELEVATION	OFFSET (LT)	ELEVATION	ELEVATION	ELEVATION	ELEVATION	ELEVATION	ELEVATION	ELEVATION	ELEVATION	ELEVATION
CL BRG. E. ABUT	414+62.32	34.13	1042.02	30.22	1042.07	1042.18	1042.38	1042.56	1042.58	1042.68	1042.57	1042.37	1042.32
0.1	414+69.52	34.27	1042.08	30.37	1042.13	1042.24	1042.44	1042.62	1042.64	1042.74	1042.63	1042.43	1042.38
0.2	414+76.71	34.42	1042.14	30.51	1042.19	1042.31	1042.51	1042.68	1042.71	1042.80	1042.69	1042.49	1042.44
0.3	414+83.91	34.57	1042.19	30.66	1042.25	1042.37	1042.57	1042.74	1042.77	1042.86	1042.75	1042.55	1042.50
0.4	414+91.10	34.72	1042.25	30.81	1042.31	1042.43	1042.63	1042.80	1042.83	1042.92	1042.82	1042.62	1042.56
0.5	414+98.30	34.86	1042.31	30.96	1042.37	1042.49	1042.69	1042.87	1042.89	1042.99	1042.88	1042.68	1042.63
0.6	415+05.50	35.01	1042.38	31.11	1042.43	1042.56	1042.76	1042.93	1042.96	1043.05	1042.94	1042.74	1042.69
0.7	415+12.69	35.16	1042.44	31.25	1042.49	1042.62	1042.82	1043.00	1043.02	1043.12	1043.01	1042.81	1042.76
0.8	415+19.89	35.31	1042.50	31.40	1042.55	1042.69	1042.89	1043.06	1043.09	1043.18	1043.07	1042.87	1042.82
0.9	415+27.08	35.46	1042.56	31.55	1042.61	1042.75	1042.95	1043.13	1043.15	1043.25	1043.14	1042.94	1042.89
CL PIER 1	415+34.28	35.60	1042.62	31.70	1042.68	1042.82	1043.02	1043.19	1043.22	1043.31	1043.20	1043.00	1042.95
0.1	415+41.70	35.75	1042.69	31.85	1042.74	1042.89	1043.09	1043.26	1043.29	1043.38	1043.27	1043.07	1043.02
0.2	415+49.13	35.90	1042.76	31.99	1042.81	1042.96	1043.16	1043.33	1043.36	1043.45	1043.34	1043.14	1043.09
0.3	415+56.55	36.05	1042.82	32.14	1042.88	1043.03	1043.23	1043.40	1043.43	1043.52	1043.41	1043.21	1043.16
0.4	415+63.98	36.20	1042.89	32.29	1042.94	1043.10	1043.30	1043.47	1043.50	1043.59	1043.48	1043.28	1043.23
0.5	415+71.40	36.34	1042.96	32.44	1043.01	1043.17	1043.37	1043.54	1043.57	1043.66	1043.55	1043.35	1043.30
0.6	415+78.83	36.49	1043.03	32.59	1043.08	1043.24	1043.44	1043.61	1043.64	1043.73	1043.62	1043.42	1043.37
0.7	415+86.25	36.64	1043.10	32.73	1043.15	1043.31	1043.51	1043.68	1043.71	1043.80	1043.70	1043.50	1043.44
0.8	415+93.68	36.79	1043.17	32.88	1043.22	1043.38	1043.58	1043.76	1043.78	1043.88	1043.77	1043.57	1043.52
0.9	416+01.10	36.94	1043.24	33.03	1043.29	1043.46	1043.66	1043.83	1043.86	1043.95	1043.84	1043.64	1043.59
CL PIER 2	416+08.53	37.08	1043.31	33.18	1043.36	1043.53	1043.73	1043.90	1043.93	1044.02	1043.92	1043.72	1043.66
0.1	416+15.92	37.23	1043.38	33.33	1043.43	1043.60	1043.80	1043.98	1044.00	1044.10	1043.99	1043.79	1043.74
0.2	416+23.32	37.38	1043.45	33.47	1043.50	1043.68	1043.88	1044.05	1044.08	1044.17	1044.07	1043.87	1043.81
0.3	416+30.72	37.53	1043.52	33.62	1043.57	1043.75	1043.95	1044.13	1044.15	1044.25	1044.14	1043.94	1043.89
0.4	416+38.11	37.68	1043.59	33.77	1043.65	1043.83	1044.03	1044.20	1044.23	1044.32	1044.22	1044.02	1043.96
0.5	416+45.51	37.82	1043.67	33.92	1043.72	1043.91	1044.11	1044.28	1044.31	1044.40	1044.29	1044.09	1044.04
0.6	416+52.90	37.97	1043.74	34.06	1043.80	1043.98	1044.18	1044.36	1044.38	1044.48	1044.37	1044.17	1044.12
0.7	416+60.30	38.12	1043.82	34.21	1043.87	1044.06	1044.26	1044.43	1044.46	1044.55	1044.45	1044.25	1044.19
0.8	416+67.70	38.27	1043.89	34.36	1043.94	1044.14	1044.34	1044.51	1044.54	1044.63	1044.53	1044.33	1044.27
0.9	416+75.09	38.41	1043.97	34.51	1044.02	1044.22	1044.42	1044.59	1044.62	1044.71	1044.60	1044.40	1044.35
CL BRG. W. ABUT	416+82.49	38.56	1044.04	34.66	1044.10	1044.30	1044.50	1044.67	1044.70	1044.79	1044.68	1044.48	1044.43



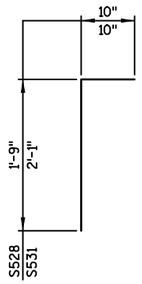
S432



S439, S442, S443, S444



S529



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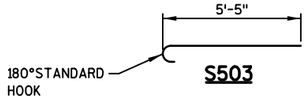
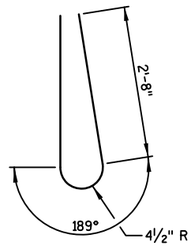


S503



S530

STATE PROJECT NUMBER

1196-04-77

SUPERSTRUCTURE BILL OF BARS

COATED: 105.480

BAR MARK	NO. REQ'D	BAR SERIES	LENGTH	BENT	COAT	LOCATION
S501	755		27'-9"		X	SLAB - TRANS. - TOP & BOT. - STAGE 1
S502	755	X	30'-2"		X	SLAB - TRANS. - TOP & BOT. - STAGE 2
S503	378		6'-0"	X	X	SLAB - TRANS - TOP - OVERHANG
S404	38		11'-3"		X	SLAB - TOP - LONG. - SPAN 1
S405	38		18'-8"		X	SLAB - TOP - LONG. - SPAN 1
S406	76		45'-0"		X	SLAB - TOP - LONG. - SPAN 1
S907	39		31'-3"		X	SLAB - TOP - LONG. - PIER 1
S908	38		36'-6"		X	SLAB - TOP - LONG. - PIER 1
S409	78		40'-9"		X	SLAB - TOP - LONG. - SPAN 2
S910	40		36'-10"		X	SLAB - TOP - LONG. - PIER 2
S911	39		31'-9"		X	SLAB - TOP - LONG. - PIER 2
S412	80		45'-0"		X	SLAB - TOP - LONG. - SPAN 3
S413	41		20'-4"		X	SLAB - TOP - LONG. - SPAN 3
S414	40		12'-9"		X	SLAB - TOP - LONG. - SPAN 3
S415	477		38'-2"		X	SLAB - BOT. - LONG.
S416	1		44'-6"		X	SLAB - TOP - LONG. - SPAN 1 - EDGE
S917	1		51'-9"		X	SLAB - TOP - LONG. - PIER 1 - EDGE
S418	1		43'-0"		X	SLAB - TOP - LONG. - SPAN 2 - EDGE
S919	1		50'-8"		X	SLAB - TOP - LONG. - PIER 2 - EDGE
S420	1		51'-2"		X	SLAB - TOP - LONG. - SPAN 3 - EDGE
S421	1		34'-8"		X	SLAB - TOP - LONG. - SPAN 3 - EDGE
S422	1		10'-5"		X	SLAB - BOT. - LONG. - SPAN 1 - EDGE
S423	1		11'-9"		X	SLAB - BOT. - LONG. - PIER 1 - EDGE
S424	1		13'-1"		X	SLAB - BOT. - LONG. - SPAN 2 - EDGE
S425	1		14'-5"		X	SLAB - BOT. - LONG. - PIER 2 - EDGE
S426	1		15'-9"		X	SLAB - BOT. - LONG. - SPAN 3 - EDGE
S427	1		17'-2"		X	SLAB - BOT. - LONG. - SPAN 3 - EDGE
☆ S528	102		2'-6"	X	X	ABUTMENTS - DOWEL
S529	666		4'-5"	X	X	PARAPET - VERT.
S530	666		6'-8"	X	X	PARAPET - VERT.
☆ S531	172		2'-10"	X	X	PIERS 1 & 2 - DOWEL
S432	86		10'-0"	X	X	PIERS 1 & 2 DIAPH. - VERT.
S433	48		8'-4"		X	PIERS 1 & 2 DIAPH. - HORIZ. - TYPICAL
S434	12		2'-4"		X	PIERS 1 & 2 DIAPH. - HORIZ. - STAGE 1
S435	12		7'-10"		X	PIERS 1 & 2 DIAPH. - HORIZ. - STAGE 2
S436	6		5'-4"		X	PIER 1 - DIAPH. GIRDERS 1 & 2
S437	6		6'-10"		X	PIER 2 - DIAPH. GIRDERS 1 & 2
S538	64		57'-8"		X	PARAPET - HORIZ.
S439	223		3'-3"	X	X	HAUNCH - VERT. - G1
S440	24		36'-10"		X	HAUNCH - LONG. - SPAN 1
S441	48		37'-10"		X	HAUNCH - LONG. - SPANS 2 & 3
S442	223		3'-5"	X	X	HAUNCH - VERT. - G2
S443	446		3'-7"	X	X	HAUNCH - VERT. - G3, G6
S444	446		3'-9"	X	X	HAUNCH - VERT. - G4,G5

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

BAR SERIES TABLE

BAR MARK	NO. REQ'D	LENGTH
S502	755	27'-11" TO 32'-4"

LEGEND

☆ ADHESIVE ANCHOR

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-3-20

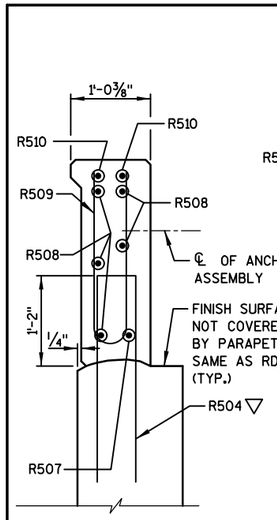
DRAWN BY JFG | PLANS CK'D. KRB

SUPERSTRUCTURE DETAILS - 2

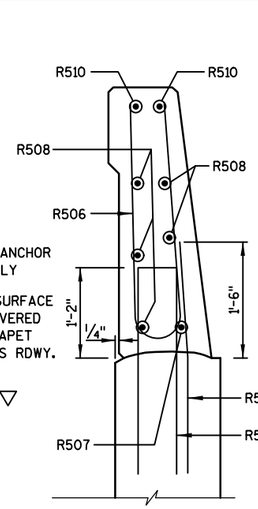
SHEET 12
294

FILE NAME : S:\MAD\1000--1099\1089\895\Drawings\CAD\Micros\Plan\USH 53\080410_ss.dgn

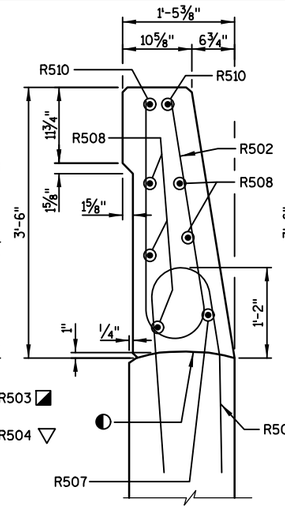
STATE PROJECT NUMBER
1196-04-77



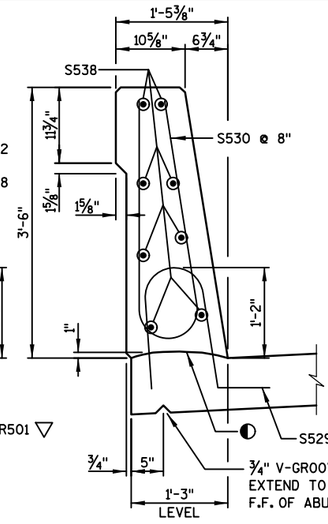
SECTION A-A



SECTION B-B

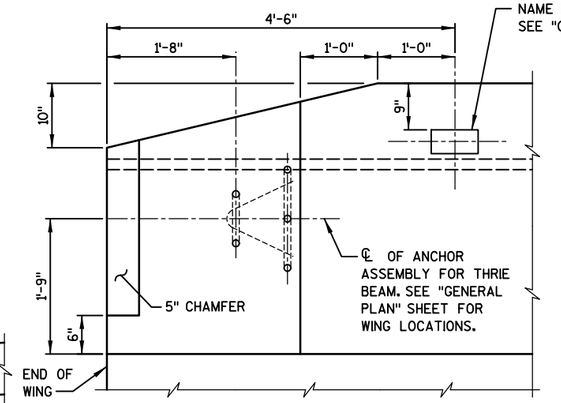


SECTION C-C



3/4" V-GROOVE REQ'D EXTEND TO 6" FROM F.F. OF ABUT. DIAPH.

SECTION THRU PARAPET ON DECK



PARAPET END TREATMENT DETAIL

LOOKING AT INSIDE FACE OF PARAPET

SINGLE SLOPE PARAPET 42SS BILL OF BARS

S. ABUT. COATED: 1,030 LBS.
N. ABUT. COATED: 1,030 LBS

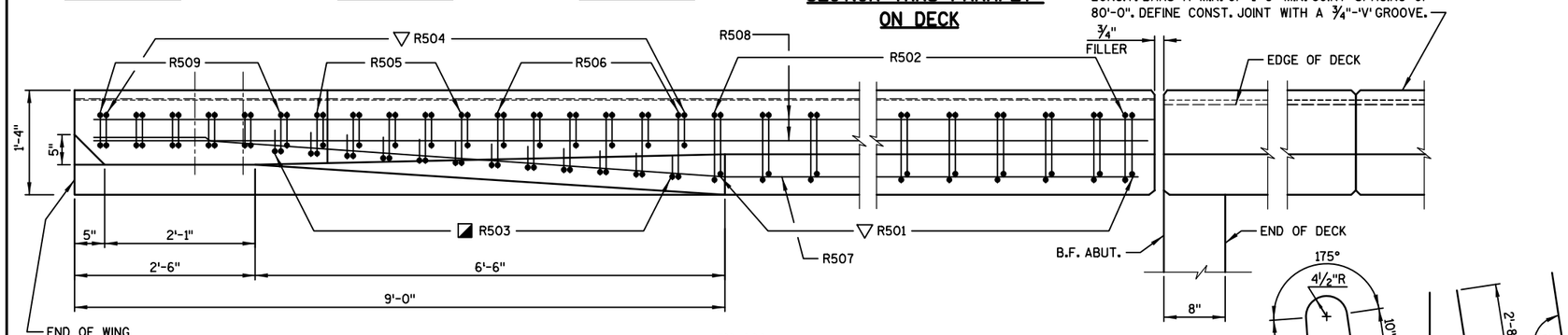
BAR MARK	NO. REQ'D E. ABUT.	NO. REQ'D W. ABUT.	LENGTH	BENT	SERIES	COAT	LOCATION
R501	22	22	5'-10"	X		X	PARAPET - VERT.
R502	22	22	6'-8"	X		X	PARAPET - VERT.
R503	24	24	3'-0"	X		X	PARAPET - VERT.
R504	34	34	5'-7"	X		X	PARAPET - VERT.
R505	10	10	6'-5"	X		X	PARAPET - VERT.
R506	12	12	6'-6"	X		X	PARAPET - VERT.
R507	2	2	15'-7"	X		X	PARAPET - HORIZ.
R508	10	10	15'-6"			X	PARAPET - HORIZ.
R509	12	12	5'-5"	X	X	X	PARAPET - VERT.
R510	4	4	15'-6"	X		X	PARAPET - HORIZ.

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

BAR SERIES TABLE

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

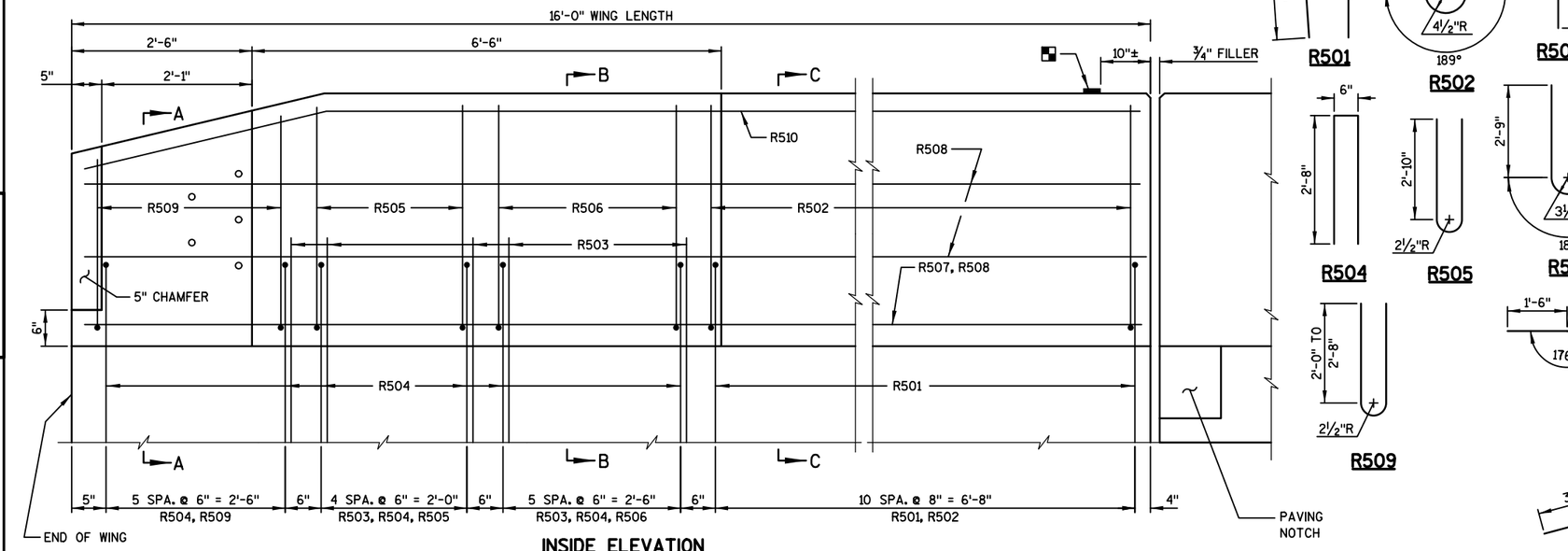
BUNDLE AND TAG EACH SERIES SEPARATELY.



PLAN

(SW CORNER SHOWN, OTHERS SIMILAR)

OPTIONAL CONSTRUCTION JOINTS IN THE PARAPETS MAY BE USED. RUN BAR REINF. THRU THE JOINT. LAP LONGIT. BARS A MIN. OF 1'-9" MIN. JOINT SPACING OF 80'-0". DEFINE CONST. JOINT WITH A 3/4"-'V' GROOVE.

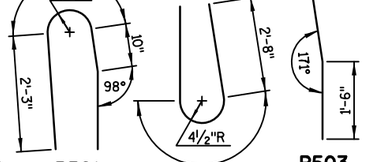


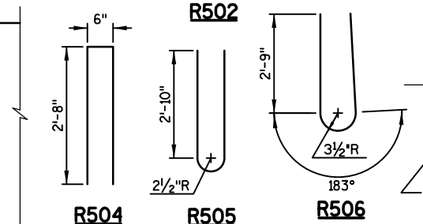
INSIDE ELEVATION

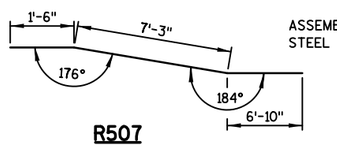
SW CORNER SHOWN, OTHERS SIMILAR

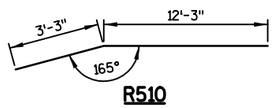
LEGEND

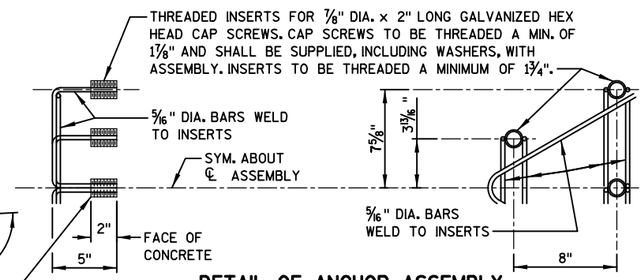
- ◐ CONST. JOINT - STRIKE OFF AS SHOWN.
- ◪ R503 BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. USE CARE TO PLACE R503 BARS CORRECTLY ALONG TRANSITION OF PARAPET.
- ▽ R501 AND R504 BARS TO BE TIED TO WING STEEL BEFORE WING IS POURED.
- ◾ BENCH MARK CAP (WHEN SUPPLIED).











DETAIL OF ANCHOR ASSEMBLY

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

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

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-3-20

DRAWN BY JFG | PLANS CK'D. KRB

SINGLE SLOPE PARAPETS 42SS

SHEET 13
295

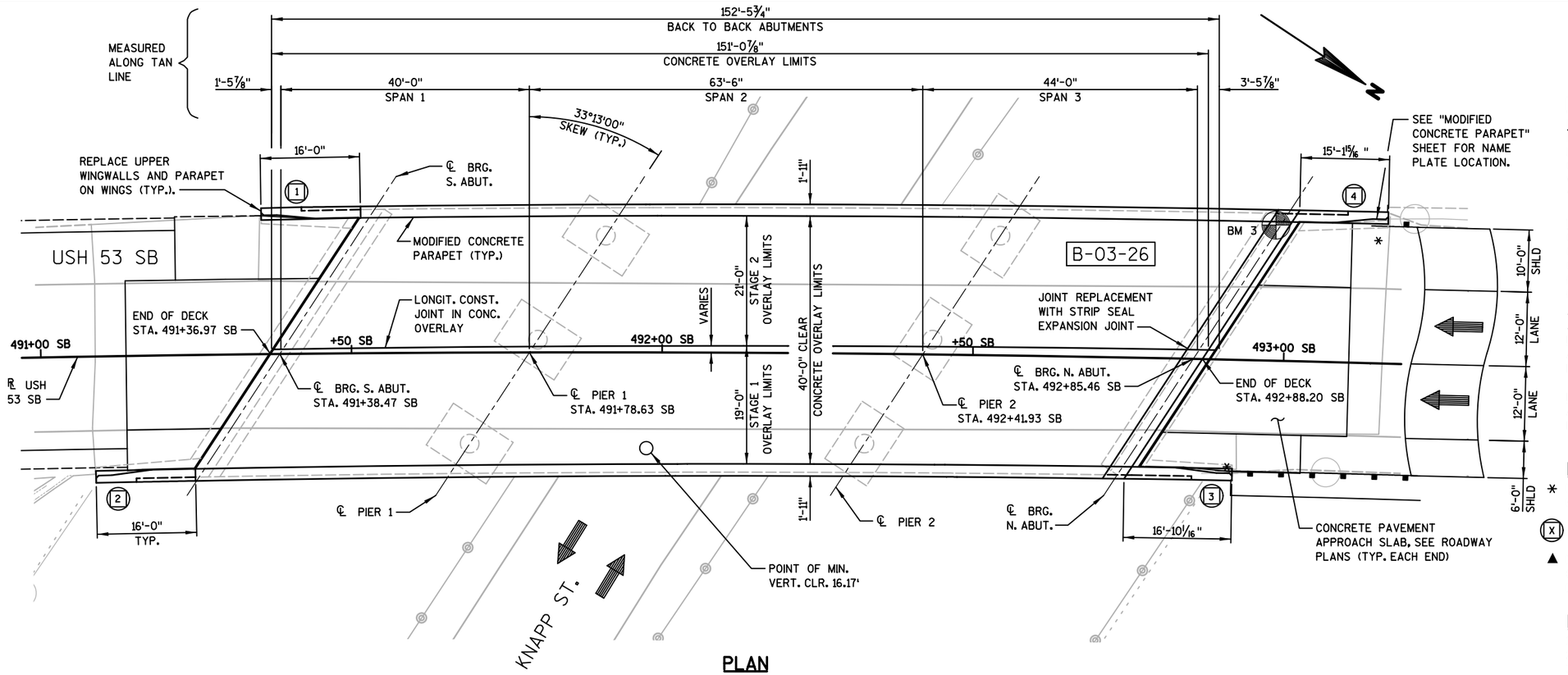
8

8

FILE NAME : S:\MAD\1000--1099\1089\895\Drawings\CAD\Micros\Plan\USH 53\080411_sp.dgn

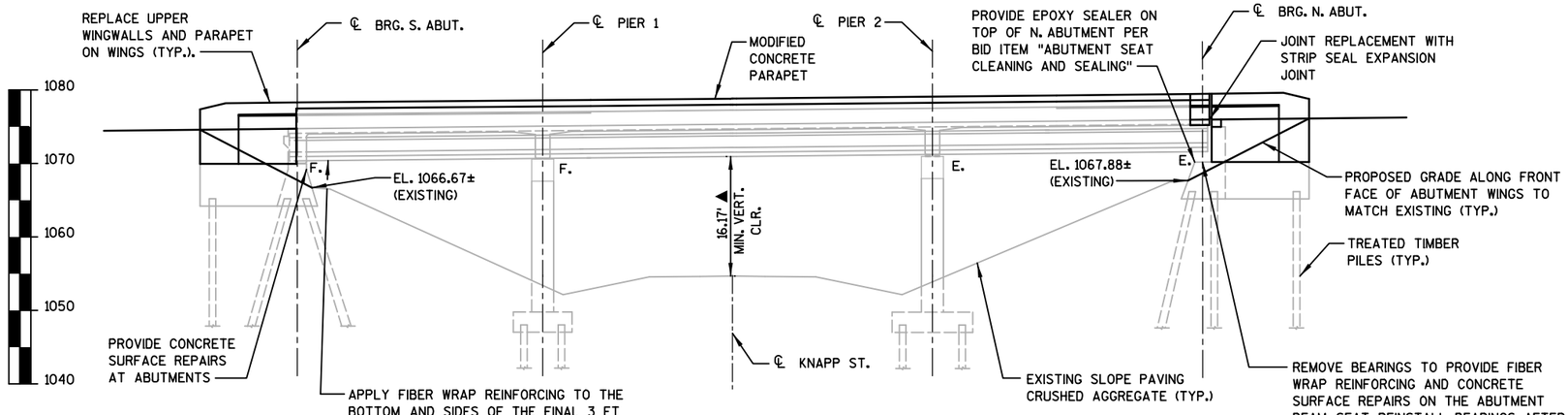
STATE PROJECT NUMBER

1196-04-77



PLAN

(CONCRETE OVERLAY - 3 SPAN 45" PRESTRESSED GIRDERS)



ELEVATION

(NORMAL TO ℄ KNAPP ST.)

BENCHMARKS

BM NO.	COORDINATES	DESCRIPTION	ELEV.
BM 1	Y: 62,128.59 X: 354,745.03	NW CORNER BRIDGE DECK B-3-24 (CTH I)	1065.33
BM 2	Y: 61,303.85 X: 355,782.67	NW CORNER BRIDGE DECK B-3-20 (CHETEK RIVER)	1043.96
BM 3	Y: 66,181.31 X: 349955.75	NW CORNER BRIDGE DECK B-3-26 (KNAPP STREET)	1077.68

NOTE: BM 1 AND BM 2 ARE OUTSIDE OF PLAN EXTENTS. SEE ROADWAY PLANS FOR ADDITIONAL INFORMATION.

DESIGN DATA

LIVE LOAD:

DESIGN LOADING	HS20
INVENTORY RATING	HS15
OPERATING RATING	HS24
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV)	160 KIPS

MATERIAL PROPERTIES:

CONCRETE SUPERSTRUCTURE	f'c = 4,000 PSI
CONCRETE SUBSTRUCTURE	f'c = 3,500 PSI
CONCRETE MASONRY OVERLAY DECKS	f'c = 4,000 PSI
HIGH STRENGTH BAR STEEL REINFORCEMENT (GRADE 60)	fy = 60,000 PSI

TRAFFIC DATA

USH 53 SB
A.D.T. (2025) = 9,660
DESIGN SPEED = 70 MPH

KNAPP ST.
A.D.T. (2008) = 2,500
DESIGN SPEED = 60 MPH

LEGEND

* LOCATION OF ANCHOR ASSEMBLIES FOR THRIE BEAM ATTACHMENT.

(X) DENOTES WINGWALL NUMBER.

▲ MIN. VERTICAL CLEARANCE BASED ON INFORMATION OBTAINED FROM WISDOT HIGHWAY STRUCTURES INFORMATION SYSTEM.

LIST OF DRAWINGS

1. GENERAL PLAN
2. CROSS SECTION & QUANTITIES
3. CONSTRUCTION STAGING
4. SOUTH ABUTMENT
5. SOUTH ABUTMENT DETAILS
6. NORTH ABUTMENT
7. NORTH ABUTMENT DETAILS
8. SUPERSTRUCTURE DETAILS
9. STRIP SEAL EXPANSION JOINT
10. COVER PLATE DETAILS
11. MODIFIED CONCRETE PARAPET - 1
12. MODIFIED CONCRETE PARAPET - 2
13. CATHODIC PROTECTION

STRUCTURE DESIGN CONTACTS

BRIDGE OFFICE CONTACT:
AARON BONK (608) 261-0261

DESIGN CONSULTANT CONTACT:
BRETT OFTEDAHL (608) 251-4843

NO.	DATE	REVISION	BY

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED _____ SDR 01/17/25
CHIEF STRUCTURES DESIGN ENGINEER DATE

WISCONSIN
BRETT M. OFTEDAHL
E-41123
MADISON
WI
PROFESSIONAL ENGINEER
1-15-2025

STRUCTURE B-3-26

USH 53 SB OVER KNAPP ST.

COUNTY: BARRON	TOWN/~~CITY/VILLAGE~~: PRAIRIE LAKE
DESIGN SPEC.: REHABILITATION N/A	
DESIGNED BY: JFG	DESIGN CK'D.: BMO
DRAWN BY: JFG	PLANS CK'D.: BMO

GENERAL PLAN

SHEET 1 OF 13
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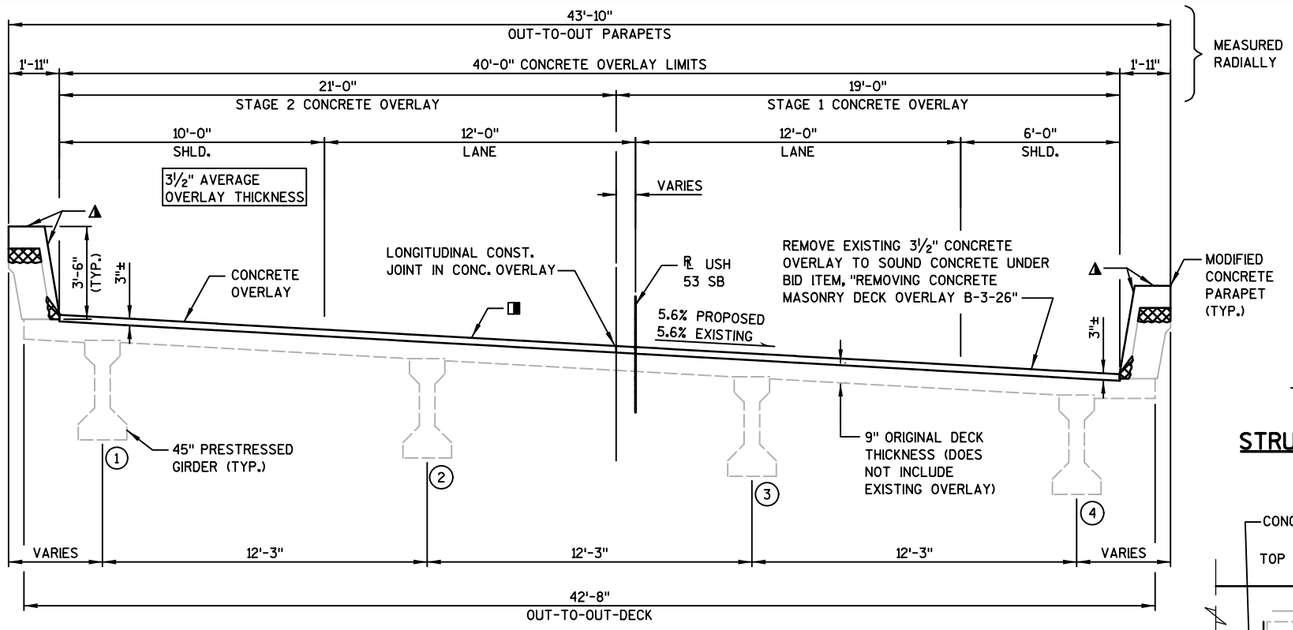
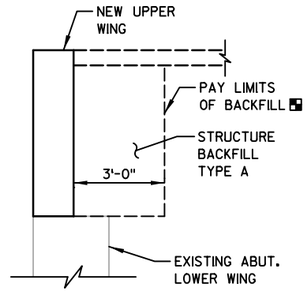


TYPICAL CROSS SECTION

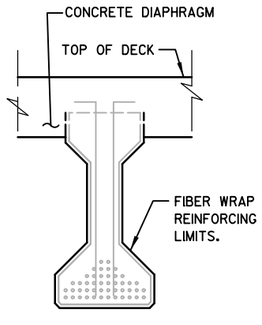
(LOOKING NORTH)

TOTAL ESTIMATED QUANTITIES

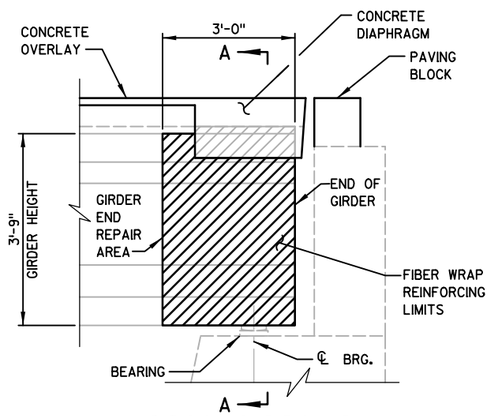
BID ITEM NUMBER	BID ITEMS	S. ABUT	N. ABUT.	SUPERSTRUCTURE	TOTAL	UNIT
203.0211.S.02	ABATEMENT OF ASBESTOS CONTAINING MATERIAL B-3-26	---	---	---	1	EACH
203.0220.05	REMOVING STRUCTURE B-3-26	---	---	---	1	EACH
206.1001.06	EXCAVATION FOR STRUCTURES BRIDGES B-3-26	---	---	---	1	EACH
210.1500	BACKFILL STRUCTURE TYPE A	28	29	---	57	TON
502.0100	CONCRETE MASONRY BRIDGES	14.0	14.8	29.6	58	CY
502.3101	EXPANSION DEVICE	---	---	48	48	LF
502.3200	PROTECTIVE SURFACE TREATMENT	---	---	690	690	SY
502.3210	PIGMENTED SURFACE SEALER	15	15	128	158	SY
502.4204	ADHESIVE ANCHORS NO. 4 BAR	20	21	---	41	EACH
502.4205	ADHESIVE ANCHORS NO. 5 BAR	20	21	42	83	EACH
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	---	---	6,500	6,500	LB
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	1,460	1,490	0	2,950	LB
505.0904	BAR COUPLERS NO. 4	---	---	2	2	EACH
505.0905	BAR COUPLERS NO. 5	---	---	3	3	EACH
505.0906	BAR COUPLERS NO. 6	---	---	11	11	EACH
505.0908	BAR COUPLERS NO. 8	---	---	6	6	EACH
506.7050.S.03	REMOVING BEARINGS B-3-26	---	4	---	4	EACH
509.0301	PREPARATION DECKS TYPE 1	---	---	30	30	SY
509.0302	PREPARATION DECKS TYPE 2	---	---	15	15	SY
509.0505.S	CLEANING DECKS TO REAPPLY CONCRETE MASONRY OVERLAY	---	---	671	671	SY
509.1000	JOINT REPAIR	---	---	24	24	SY
509.1500	CONCRETE SURFACE REPAIR	10	30	155	195	SF
509.2000	FULL-DEPTH DECK REPAIR	---	---	1	1	SY
509.2500	CONCRETE MASONRY OVERLAY DECKS	---	---	74.5	75	CY
509.9005.S.02	REMOVING CONCRETE MASONRY DECK OVERLAY B-3-26	---	---	671	671	SY
509.9050.S	CLEANING PARAPETS	---	---	303	303	LF
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	7	6	---	13	SY
614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	---	2	---	2	EACH
SPV.0060.02	EMBEDDED GALVANIC ANODES	6	16	302	324	EACH
SPV.0165.01	FIBER WRAP REINFORCING NON-STRUCTURAL	120	120	---	240	SF
SPV.0180.01	ABUTMENT SEAT CLEANING AND SEALING	---	14	---	14	SY
	NON-BID ITEMS					
	FILLER	---	---	---	1/2", 3/4"	SIZE



STRUCTURE BACKFILL LIMITS



SECTION A-A



(N. ABUT. SHOWN, S. ABUT. SIMILAR)

TYPICAL PRESTRESSED GIRDER FIBER WRAP REINFORCING REPAIR

EACH GIRDER END REPAIRED IS PAID PER SQUARE FOOT.

REPAIR AREA SHOWN IS FOR REFERENCE ONLY. LIMITS OF "REPAIR AREA" AT EACH GIRDER ARE TO BE COORDINATED WITH THE FIELD ENGINEER.

PERFORM BEARING REMOVAL PRIOR TO CONCRETE GIRDER END REPAIR WORK PER BID ITEM "REMOVING BEARINGS".

REINSTALL BEARINGS AFTER "FIBER WRAP REINFORCING NON-STRUCTURAL" WORK HAS BEEN COMPLETED. REINSTALLING EXISTING BEARINGS IS INCLUDED IN BID ITEM "REMOVING BEARINGS".

GENERAL NOTES

THE PROPOSED WORK INCLUDES REMOVING EXISTING CONCRETE OVERLAY, PLACING A NEW CONCRETE OVERLAY, JOINT REPLACEMENT AT NORTH ABUTMENT, CONCRETE SURFACE REPAIR AT ABUTMENTS AND PARAPETS, INSTALLING EMBEDDED GALVANIC ANODES IN CONCRETE SURFACE REPAIR AT ABUTMENTS AND PARAPETS, FIBER WRAP REPAIR AT GIRDER ENDS, EPOXY SEALING TOP OF N. ABUT., MODIFYING PARAPETS, AND REPLACING UPPER WINGWALLS.

DRAWINGS SHALL NOT BE SCALED.

DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS AND SUBSEQUENT REHABILITATION PLANS.

ALL DIMENSIONS ARE IN FEET AND INCHES UNLESS OTHERWISE NOTED. ALL STATIONS ARE IN FEET.

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

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

ALL CONCRETE REMOVAL NOT COVERED WITH A CONCRETE OVERLAY SHALL BE DEFINED BY A 1 INCH DEEP SAW CUT.

UTILIZE EXISTING BAR STEEL REINFORCEMENT WHERE SHOWN AND EXTEND 24 BAR DIAMETERS INTO NEW WORK, UNLESS SPECIFIED OTHERWISE.

PARAPETS SHALL BE CLEANED PER "CLEANING PARAPETS" BID ITEM PRIOR TO MODIFICATIONS SHOWN.

SEAL OVERLAY CONSTRUCTION JOINTS ACCORDING TO SECTION 502.3.13.1 OF THE STANDARD SPECIFICATIONS. COST INCIDENTAL TO BID ITEM "CONCRETE MASONRY OVERLAY DECKS".

THE ORIGINAL CONCRETE OVERLAY SHALL BE REMOVED FROM THE ENTIRE BRIDGE DECK UNDER THE BID ITEM "REMOVING CONCRETE MASONRY DECK OVERLAY B-3-26".

AFTER REMOVAL OF THE EXISTING CONCRETE OVERLAY AND PRIOR TO NEW CONCRETE WORK, THE ENTIRE BRIDGE DECK SHALL BE CLEANED PER BID ITEM, "CLEANING DECKS TO REAPPLY CONCRETE MASONRY OVERLAY".

THE AVERAGE OVERLAY THICKNESS IS BASED ON THE MINIMUM OVERLAY THICKNESS PLUS ½-INCH TO ACCOUNT FOR VARIATIONS IN THE DECK SURFACE.

PREPARATION DECKS TYPE 1, PREPARATION DECKS TYPE 2, AND FULL-DEPTH DECK REPAIR AREAS ARE AS DETERMINED BY THE ENGINEER. DECK PREPARATION AND FULL-DEPTH DECK REPAIRS SHALL BE FILLED WITH "CONCRETE MASONRY OVERLAY DECKS".

PROFILE GRADE LINE SHALL BE DETERMINED IN THE FIELD TO MATCH EXISTING PROFILE. OVERLAY THICKNESS IS APPROXIMATELY 3" ABOVE THE DECK SURFACE AFTER SURFACE PREPARATION. EXPECTED AVERAGE OVERLAY THICKNESS IS 3½". THE OVERLAY THICKNESSES INCLUDE ½" DEPTH ASSUMED TO HAVE BEEN REMOVED AS PART OF THE PREVIOUS CONCRETE OVERLAY PROJECT. IF EXPECTED AVERAGE OVERLAY THICKNESS IS EXCEEDED BY MORE THAN ½", CONTACT THE STRUCTURES DESIGN SECTION.

THE GRAY CAULK LOCATED IN BRIDGE DECK PARAPET JOINTS AND DECK TO ABUTMENT JOINTS TESTED POSITIVE FOR ASBESTOS GREATER THAN 1% AND IS THEREFORE REGULATED ACM. SEE TESTING REPORT COMPLETED BY GEI CONSULTANTS INC. FOR ADDITIONAL INFORMATION.

THE CONTRACTOR SHALL SUPPLY A NEW NAME PLATE IN ACCORDANCE WITH SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS AND THE STANDARD DETAIL DRAWING. NAME PLATE TO SHOW ORIGINAL CONSTRUCTION YEAR, 1972.

PERFORM CONCRETE SURFACE REPAIR AS DIRECTED BY THE FIELD ENGINEER. QUANTITY SHOWN IS APPROXIMATE. CONCRETE SURFACE REPAIR AT N. ABUT. REQUIRES REMOVAL OF BEARING UNDER GIRDER 4. REINSTALL BEARING AFTER REPAIR IS COMPLETE.

BEVEL ALL EXPOSED EDGES OF CONCRETE ¾" UNLESS OTHERWISE NOTED.

AT ABUTMENTS, ALL EXCAVATED VOLUME NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH STRUCTURE BACKFILL TYPE A.

THE EXISTING GROUNDLINE SHALL BE THE UPPER LIMITS OF EXCAVATION FOR STRUCTURES.

LEGEND

(X) DENOTES GIRDER NUMBER.

◨ PROTECTIVE SURFACE TREATMENT SHALL BE APPLIED TO THE TOP OF DECK, AND THE VERTICAL AND HORIZONTAL SURFACES OF PAVING NOTCHES.

◭ PIGMENTED SURFACE SEALER SHALL BE APPLIED TO THE INSIDE, TOP, AND ENDS OF PARAPETS.

◪ BACKFILL PAY LIMITS. BACKFILL BEYOND BACKFILL PAY LIMITS SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES. LIMITS OF EXCAVATION SHALL BE DETERMINED BY THE CONTRACTOR.

STATE PROJECT NUMBER

1196-04-77

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-3-26

DRAWN BY JFG | PLANS CK'D. BMO

CROSS SECTION AND QUANTITIES

SHEET 2 OF 13
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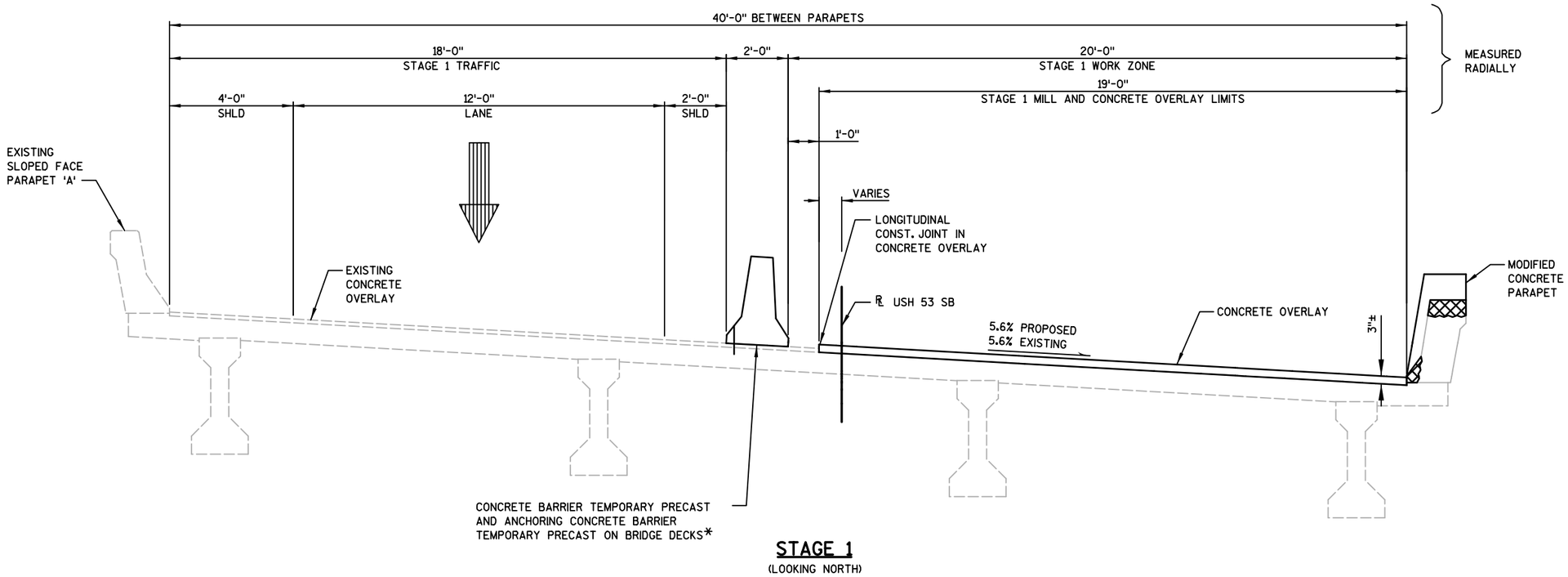
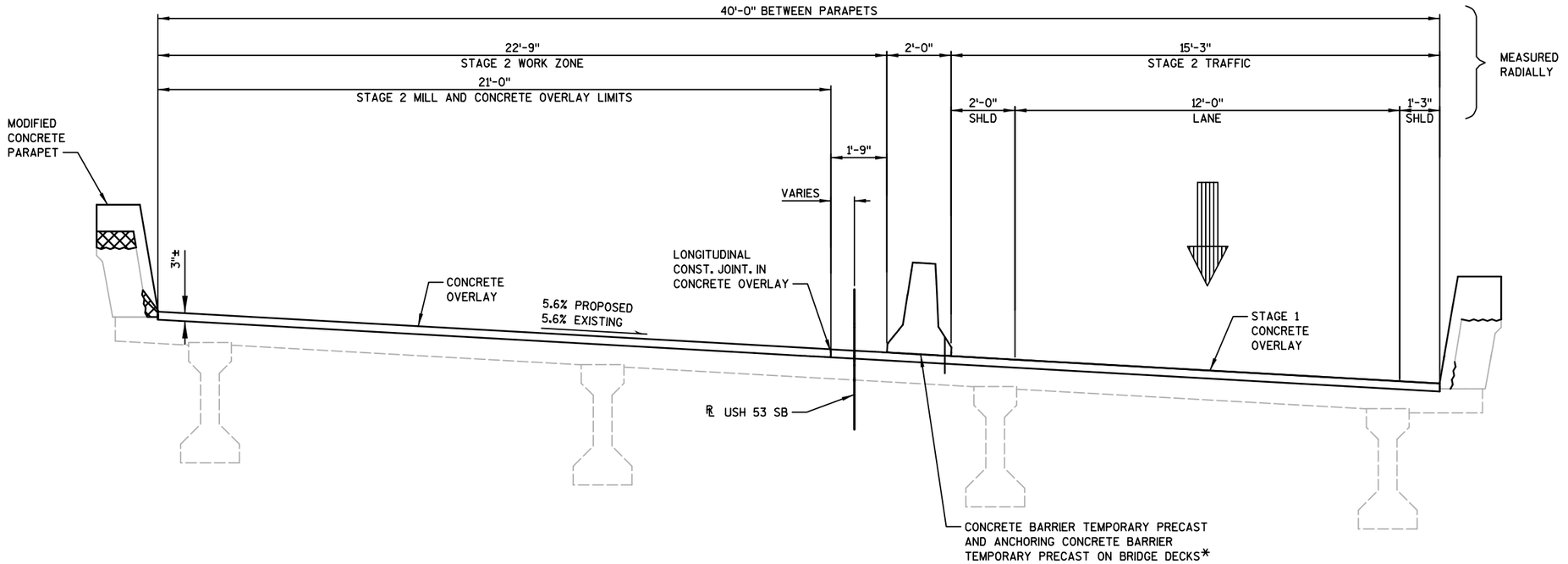
STATE PROJECT NUMBER

1196-04-77



STAGE 1
(LOOKING NORTH)



STAGE 2
(LOOKING NORTH)

NOTES

SEE ROADWAY PLANS FOR ADDITIONAL STAGING INFORMATION.

LEGEND

* SEE ROADWAY PLANS FOR ADDITIONAL INFORMATION.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-3-26

DRAWN BY JFG | PLANS CK'D. BMO

CONSTRUCTION STAGING

SHEET 3 OF 13
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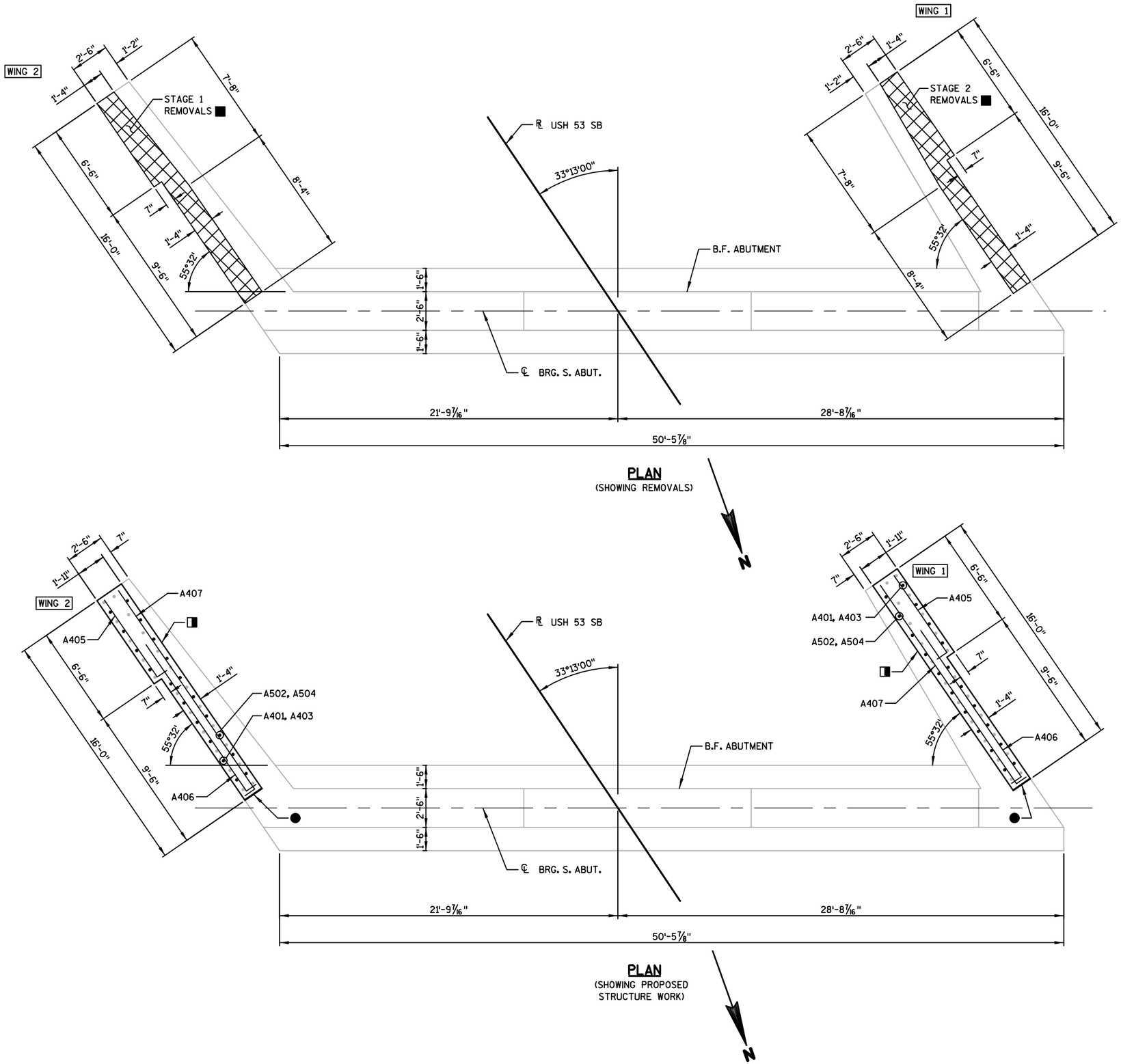
STATE PROJECT NUMBER

1196-04-77



PLAN
(SHOWING REMOVALS)

PLAN
(SHOWING PROPOSED
STRUCTURE WORK)

LEGEND

■ REMOVE EXISTING UPPER WING AND PARAPET DOWN TO EXISTING ABUTMENT LOWER WINGWALL. SALVAGE AND INCORPORATE EXISTING VERTICAL BAR STEEL INTO NEW WORK.

● ½" FILLER TO EXTEND FROM EXISTING BEAM SEAT TO TOP OF CONCRETE PARAPET. FILLER INCLUDED IN WING LENGTH. SEAL EXPOSED SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER 1" DEEP AND HOLD DOWN ⅛" BELOW SURFACE OF CONCRETE.

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

REMOVAL LIMITS.

NOTES

SEE "SOUTH ABUTMENT DETAILS" SHEET FOR SECTION VIEWS AND BAR DETAILS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-3-26

DRAWN BY JFG | PLANS CK'D. BMO

SOUTH ABUTMENT

SHEET 4 OF 13
299

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8

FILE NAME : S:\MAD\1000--1099\1089\895\Drawings\CAD\Micros\Plan\USH 53\080604_sa.dgn

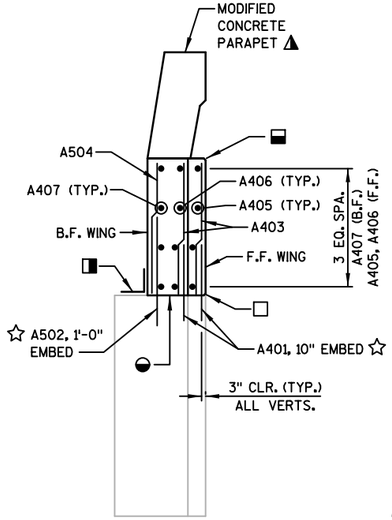
STATE PROJECT NUMBER

1196-04-77

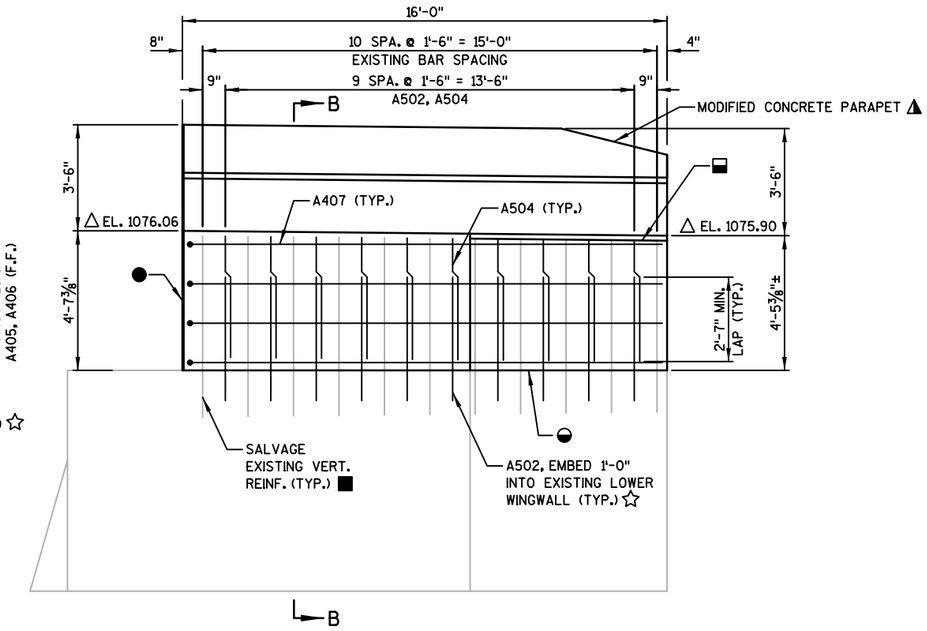
SOUTH ABUTMENT
BILL OF BARS

COATED: 450 LBS

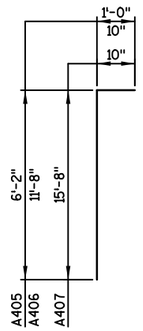
BAR MARK	NO. REQ'D	LENGTH	BENT	COAT	LOCATION
☆ A401	20	2'-11"		X	F.F. - VERT. - DOWELS - WINGS 1 & 2
☆ A502	20	4'-1"		X	B.F. - VERT. - DOWELS - WINGS 1 & 2
A403	20	4'-0"		X	F.F. - VERT. - WINGS 1 & 2
A504	20	4'-0"		X	B.F. - VERT. - WINGS 1 & 2
A405	8	7'-1"	X	X	F.F. - HORIZ. - WINGS 1 & 2
A406	8	12'-5"	X	X	F.F. - HORIZ. - WINGS 1 & 2
A407	8	16'-5"	X	X	B.F. - HORIZ. - WINGS 1 & 2



SECTION B-B



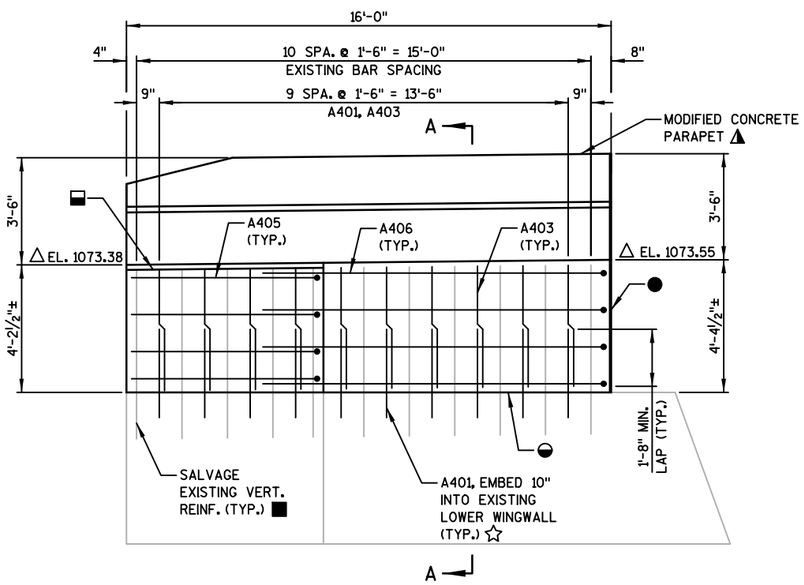
WING 1 ELEVATION
(SHOWING B.F. BAR STEEL REINF., WING 2 B.F. REINF. SIMILAR)



A405, A406, A407

LEGEND

- ◒ ROUGHEN SURFACE OF EXISTING CONCRETE TO ±¼" AMPLITUDE (ALL AREAS OF NEW TO EXISTING CONCRETE CONTACT).
- □ ¾" V-GROOVE.
- △ ELEVATIONS PROVIDED ARE TAKEN FROM ORIGINAL STRUCTURE PLANS. MATCH EXISTING TOP OF WING ELEVATIONS.
- ⚠ SEE "MODIFIED CONCRETE PARAPET" SHEETS FOR REINFORCING DETAILS.
- ■ REMOVE EXISTING UPPER WING AND PARAPET DOWN TO EXISTING ABUTMENT LOWER WINGWALL. SALVAGE AND INCORPORATE EXISTING VERTICAL BAR STEEL INTO NEW WORK.
- ● ½" FILLER TO EXTEND FROM EXISTING BEAM SEAT TO TOP OF CONCRETE PARAPET. FILLER INCLUDED IN WING LENGTH. SEAL EXPOSED SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER 1" DEEP AND HOLD DOWN ⅛" BELOW SURFACE OF CONCRETE.
- ◨ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACK FACE.
- ☆ ADHESIVE ANCHOR.
- ⬓ SLOPE TOP OF WING ½" AWAY FROM OUTSIDE FACE OF PARAPET



WING 2 ELEVATION
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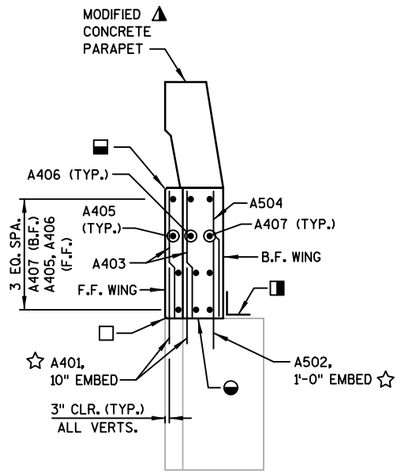

SECTION A-A

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-3-26

DRAWN BY JFG | PLANS CK'D. BMO

SOUTH ABUTMENT DETAILS

SHEET 5 OF 13
300

8

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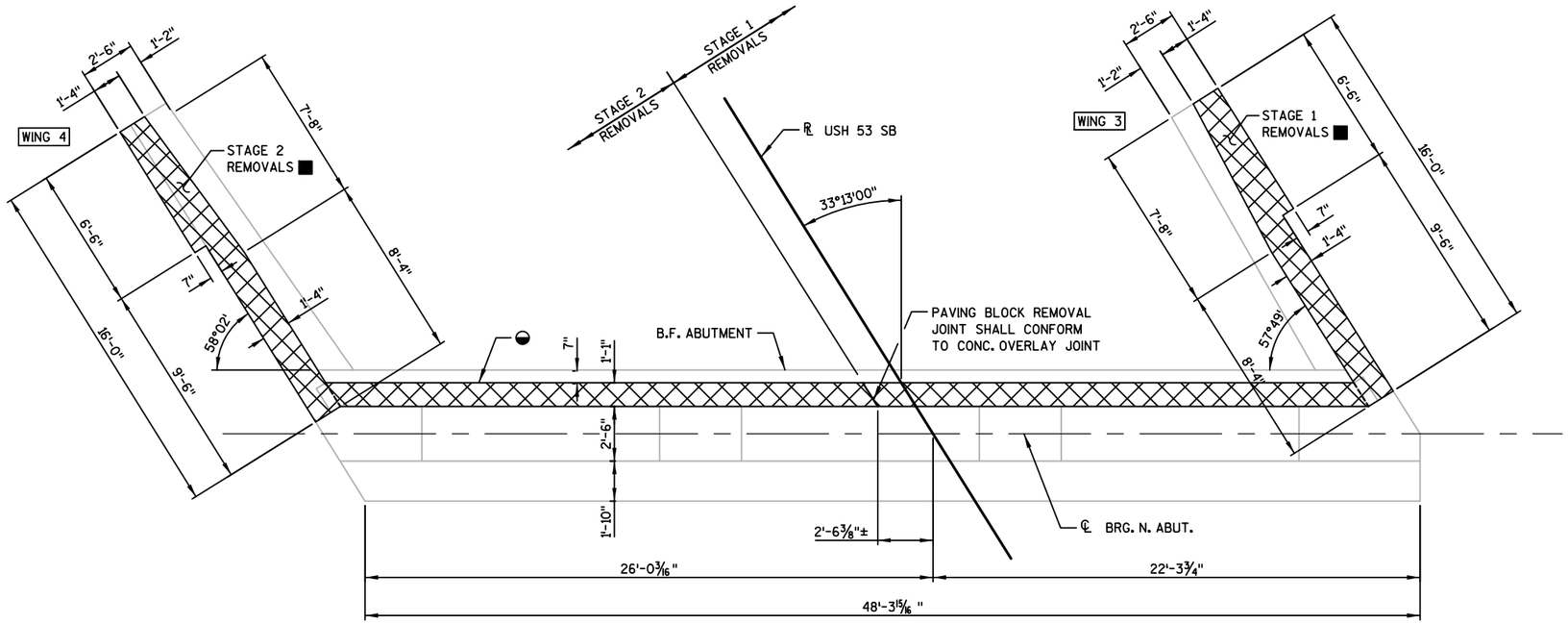
FILE NAME : S:\MAD\1000--1099\1089\895\Drawings\CAD\Micros\Plan\USH 53\080605_sa.dgn

STATE PROJECT NUMBER

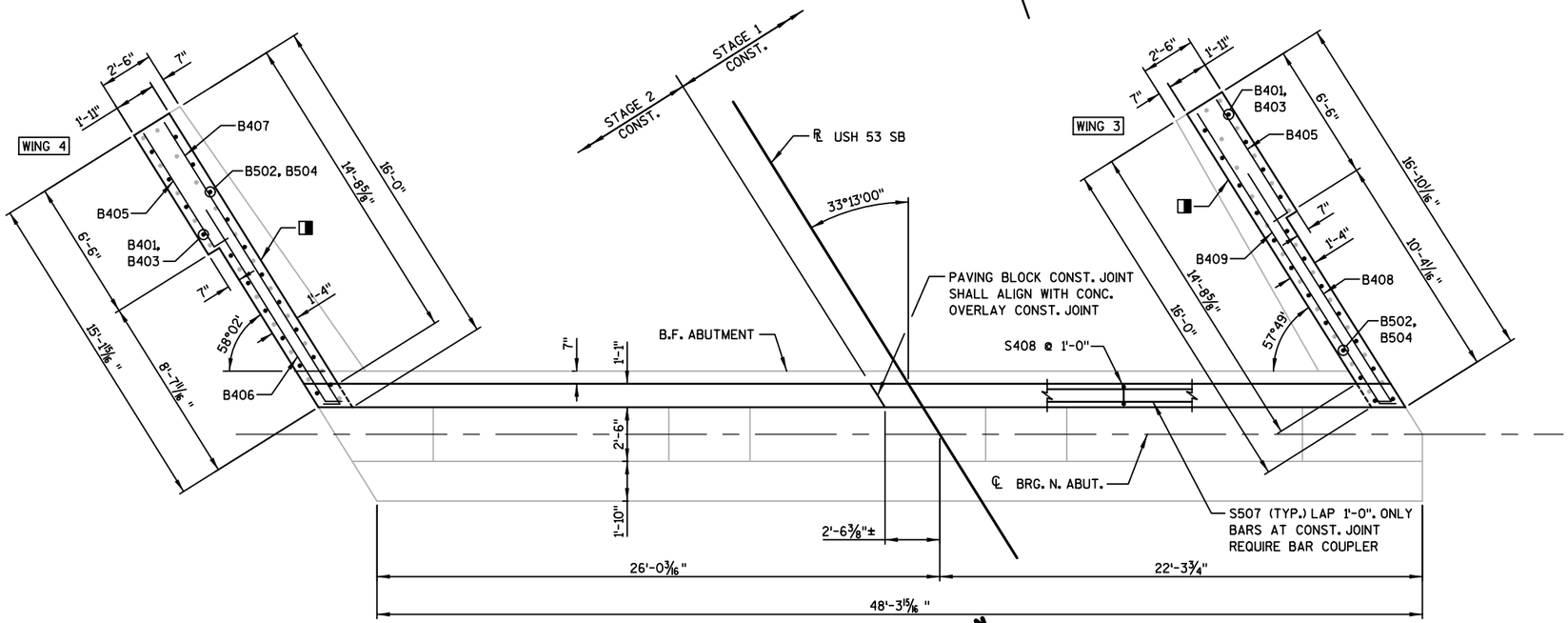
1196-04-77

LEGEND

- ■ REMOVE EXISTING UPPER WING AND PARAPET DOWN TO EXISTING ABUTMENT LOWER WINGWALL. SALVAGE AND INCORPORATE EXISTING VERTICAL BAR STEEL INTO NEW WORK.
- ◨ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACK FACE.
- ◒ REMOVE EXISTING PAVING BLOCK. SEE "SUPERSTRUCTURE DETAILS" SHEET.
- ▨ REMOVAL LIMITS.



PLAN
(SHOWING REMOVALS)



PLAN
(SHOWING PROPOSED STRUCTURE WORK)

GIRDER REACTIONS AT BEARINGS (KIPS)		
		C/L BRG. N. ABUT.
INTERIOR GIRDER	DL	54.9
	LL	57.7
EXTERIOR GIRDER	DL	51.8
	LL	62.6

GIRDER REACTION NOTES

THE THEORETICAL SERVICE LOADS SHOWN IN THE TABLE ARE BASED ON THE BRIDGE IN ITS FINAL CONFIGURATION. ADDITIONAL LOAD RESULTING FROM STAGING AND/OR CONTRACTOR OPERATIONS, SUCH AS UNEVEN JACKING OF ADJACENT GIRDERS OR ADJACENT SUBSTRUCTURE UNITS, IS NOT INCLUDED.

THE LL REACTIONS ARE BASED ON (HS-20/HL-93) AND INCLUDE IMPACT.

EXTERIOR GIRDER DEAD LOAD REACTIONS WERE INCREASED 10% TO ACCOUNT FOR VARIABILITY IN COMPOSITE DL DISTRIBUTION METHODS.

IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE ADEQUACY OF THE GIRDER AT THE JACKING LOCATION.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-3-26

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NORTH ABUTMENT

SHEET 6 OF 13
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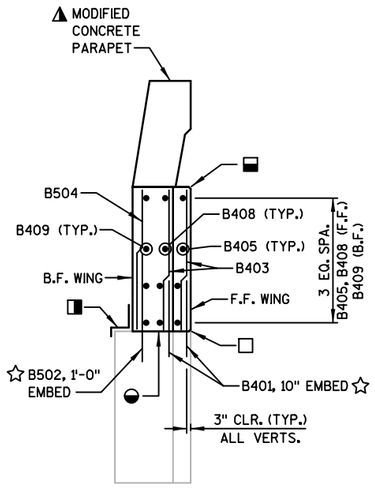
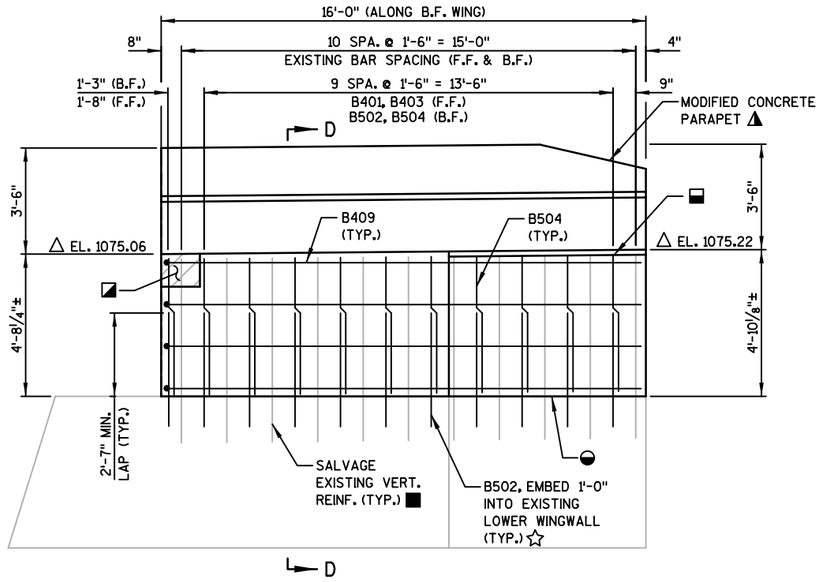
STATE PROJECT NUMBER
1196-04-77



SECTION D-D



WING 3 ELEVATION
(SHOWING B.F. BAR STEEL REINF., WING 4 B.F. REINF. SIMILAR)

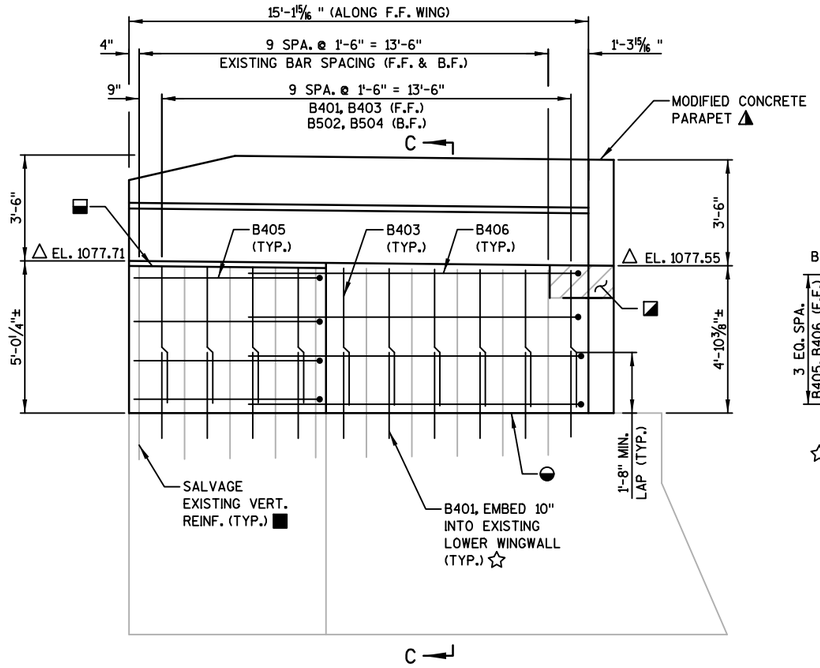
NORTH ABUTMENT
BILL OF BARS

COATED: 580 LBS

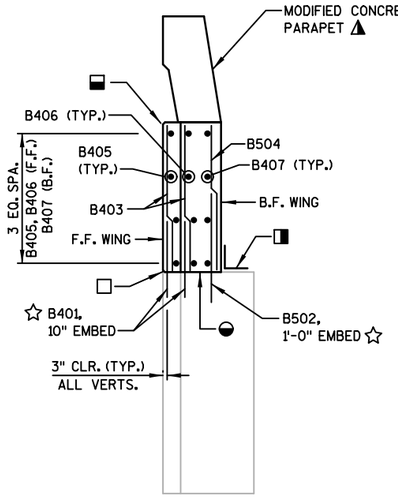
	BAR MARK	NO. REQ'D	LENGTH	BENT	COAT	LOCATION
☆	B401	21	2'-10"		X	F.F. - VERT. - DOWELS - WINGS 3 & 4
☆	B502	21	3'-11"		X	B.F. - VERT. - DOWELS - WINGS 3 & 4
	B403	21	4'-6"		X	F.F. - VERT. - WINGS 3 & 4
	B504	21	4'-6"		X	B.F. - VERT. - WINGS 3 & 4
	B405	8	7'-1"	X	X	F.F. - HORIZ. - WINGS 3 & 4
	B406	4	11'-3"	X	X	F.F. - HORIZ. - WING 4
	B407	4	15'-8"	X	X	B.F. - HORIZ. - WING 4
	B408	4	13'-2"	X	X	F.F. - HORIZ. - WING 3
	B409	4	16'-8"	X	X	B.F. - HORIZ. - WING 3

LEGEND

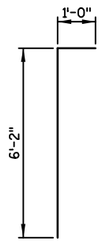
- ◒ ROUGHEN SURFACE OF EXISTING CONCRETE TO ±¼" AMPLITUDE (ALL AREAS OF NEW TO EXISTING CONCRETE CONTACT).
- □ ¾" V-GROOVE.
- △ ELEVATIONS PROVIDED ARE TAKEN FROM ORIGINAL STRUCTURE PLANS. MATCH EXISTING TOP OF WING ELEVATIONS.
- ⚠ SEE "MODIFIED CONCRETE PARAPET" SHEETS FOR REINFORCING DETAILS.
- ■ REMOVE EXISTING UPPER WING AND PARAPET DOWN TO EXISTING ABUTMENT LOWER WINGWALL. SALVAGE AND INCORPORATE EXISTING VERTICAL BAR STEEL INTO NEW WORK.
- ◨ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACK FACE.
- ◪ POUR CONCRETE IN HATCHED REGION AFTER SUPERSTRUCTURE IS IN PLACE. SEE "SUPERSTRUCTURE DETAILS" SHEET FOR EXTENTS.
- ☆ ADHESIVE ANCHOR.
- ⬓ SLOPE TOP OF WING ½" AWAY FROM OUTSIDE FACE OF PARAPET.



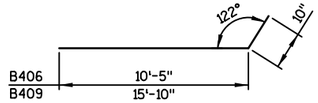
WING 4 ELEVATION
(SHOWING F.F. BAR STEEL REINF., WING 3 F.F. REINF. SIMILAR)



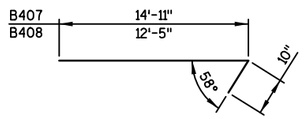
SECTION C-C



B405



B406, B409



B407, B408

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-3-26

DRAWN BY JFG | PLANS CK'D. BMO

NORTH ABUTMENT DETAILS

SHEET 7 OF 13
302

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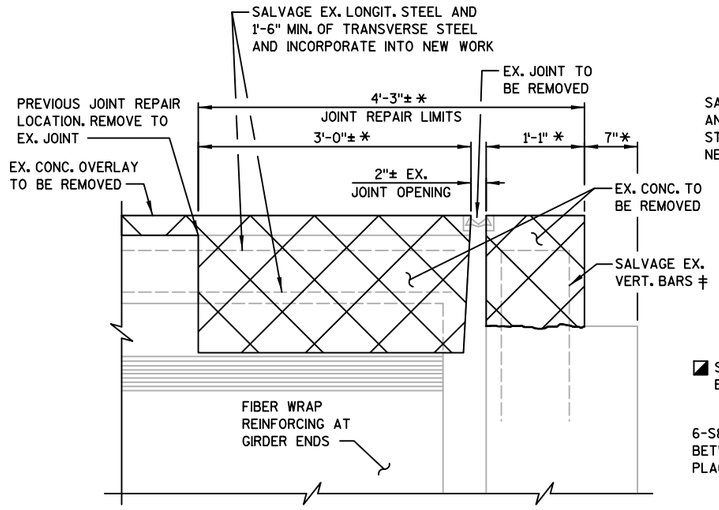
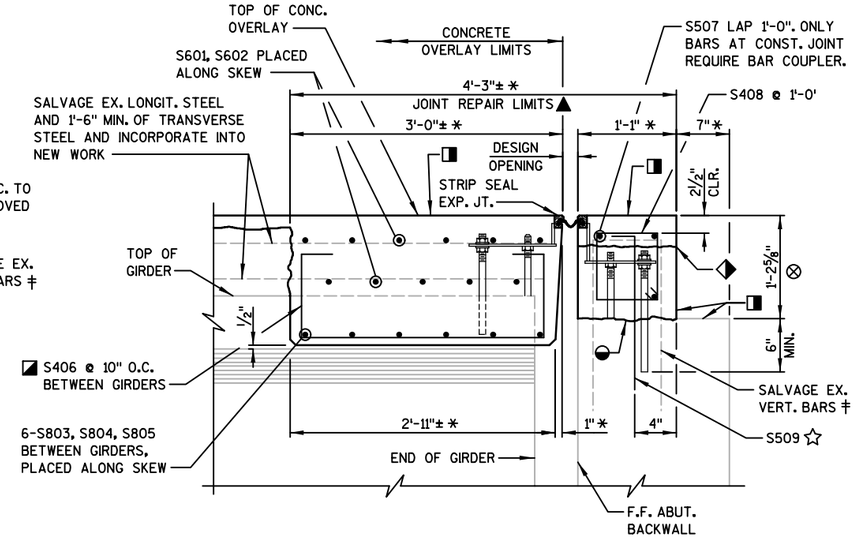
FILE NAME : S:\MAD\1000--1099\1089\895\Drawings\CAD\Micros\Plan\USH 53\080607_na.dgn

STATE PROJECT NUMBER

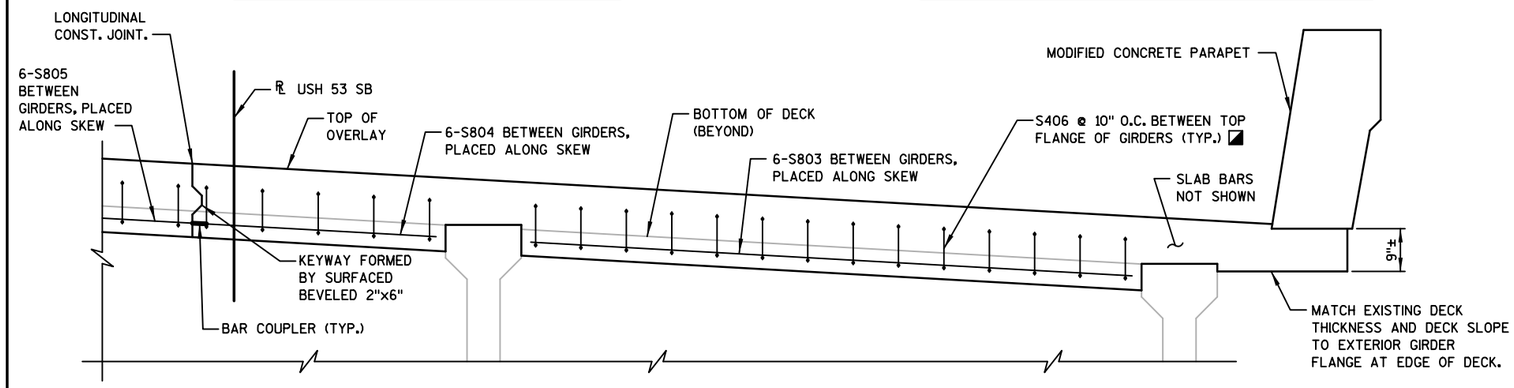
1196-04-77



JOINT REPAIR - REMOVAL AT N. ABUT.



SECTION THRU PROPOSED JOINT AT N. ABUT.



PART TRANSVERSE SECTION AT DIAPHRAGM EXPANSION END

(LOOKING NORTH)

SUPERSTRUCTURE BILL OF BARS

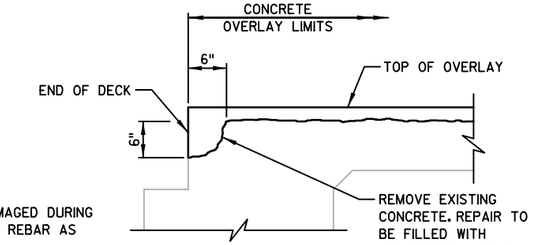
COATED: 6,500 LBS

	BAR MARK	NO. REQ'D	LENGTH	BENT	COAT	LOCATION
**	S601	11	23'-10"			SLAB - TRANS. - STAGE 1
**	S602	11	26'-0"			SLAB - TRANS. - STAGE 2
	S803	12	12'-7"			DIAPH. - TRANS. - BETWEEN GIRDERS
**	S804	6	4'-2"			DIAPH. - TRANS. - BETWEEN GIRDERS - STAGE 1
**	S805	6	8'-3"			DIAPH. - TRANS. - BETWEEN GIRDERS - STAGE 2
	S406	42	5'-1"	X		DIAPH. - VERT. - STIRRUPS
***	S507	24	7'-6"			PAVING BLOCK - HORIZ.
	S408	49	3'-4"	X		PAVING BLOCK - VERT.
☆	S509	49	2'-8"	X		PAVING BLOCK - VERT. - DOWELS
	S510	10	5'-8"	X		PARAPET - VERT.
	S511	10	5'-6"	X		PARAPET - VERT.
	S412	4	12'-7"			DIAPH. - TRANS.- EXP. JOINT - BETWEEN GIRDERS
**	S413	2	4'-2"			DIAPH. - TRANS.- EXP. JOINT - BETWEEN GIRDERS - STAGE 1
**	S414	2	8'-3"			DIAPH. - TRANS.- EXP. JOINT - BETWEEN GIRDERS - STAGE 2
	S515	12	17'-5"			PARAPET - HORIZ.
	S516	12	23'-1"			PARAPET - HORIZ.
	S517	12	21'-2"			PARAPET - HORIZ.
	S518	12	22'-3"			PARAPET - HORIZ.
	S519	12	18'-7"			PARAPET - HORIZ.
	S520	12	26'-0"			PARAPET - HORIZ.
	S521	6	19'-4"			PARAPET - HORIZ.
	S522	6	17'-8"			PARAPET - HORIZ.
****	S523	455	3'-9"			PARAPET - VERT. - DOWELS
****	S524	455	1'-6"			PARAPET - VERT. - DOWELS

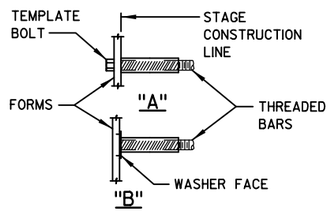
** BAR WITH COUPLER, SEE DETAILS THIS SHEET. BAR LENGTH COMPUTED TO ℄ LONGIT. JOINT AND SHALL BE MODIFIED IF REQUIRED TO BAR COUPLER MANUFACTURER RECOMMENDATIONS.

*** S507 BARS AT CONST. JOINT REQUIRE COUPLER. SEE DETAILS THIS SHEET.

**** ADHESIVE ANCHORS NO. 5 BAR. SEE SHEET 12.



SECTION THRU S. ABUT.

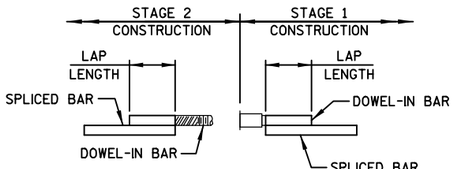


INSTALLATION AND SETTING METHODS

"A" SET COUPLER BY MEANS OF A TEMPLATE BOLT. "B" SET COUPLER BY NAILING TO WOOD FORMS OR CEMENTING TO STEEL FORMS.

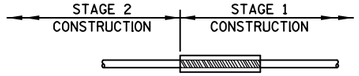
BAR COUPLER NOTES

FOR DOWEL BAR COUPLERS, ALL DOWEL BARS SHALL BE LAPPED AND TIED TO THE REINFORCEMENT BARS.



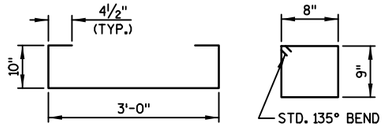
DOWEL BAR COUPLER

STAGE 2 DOWEL SCREWS INTO COUPLER PLACED IN STAGE 1

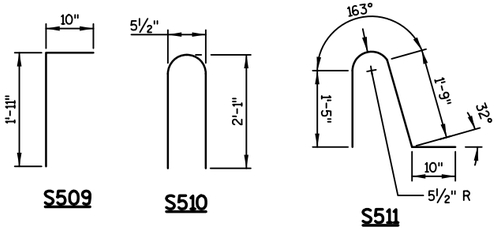


ONE-PIECE THREADED COUPLER

BAR COUPLER ALTERNATIVES



S406 S408



S509 S510 S511

LEGEND

‡ EXISTING BARS ARE LIKELY TO BE CORRODED AND/OR DAMAGED DURING CONCRETE REMOVAL. SALVAGE AND INCORPORATE AS MUCH REBAR AS PRACTICAL. SUPPLEMENT WITH S509 BARS.

☆ ADHESIVE ANCHORS NO. 5 BAR, EMBED 1'-0" IN CONCRETE. SPACE AT 1'-0". TURN 10" LEG AS NECESSARY TO FIT.

◆ OPT. CONST. JT. 1" MIN. BELOW EXIST. REINF.

* DIMENSIONS GIVEN ARE NORMAL TO ℄ OF SUBSTRUCTURE UNIT. INCORPORATE EXISTING REINFORCEMENT.

◪ BARS PLACED PARALLEL TO ℄ GIRDERS. SPACING PERPENDICULAR TO ℄ GIRDERS.

⊗ HEIGHT OF PAVING BLOCK INDICATED ASSUMES REMOVAL OF EXIST. CONC. OVERLAY AND NEW 3" CONC. OVERLAY. ADJUST AS NECESSARY FOR FIELD CONDITIONS. POUR AFTER SUPERSTRUCTURE IS IN PLACE AND CONFORM TO SUPERSTRUCTURE DECK ELEVATIONS.

▲ VOLUME OF NEW CONCRETE USED FOR JOINT REPAIR WILL BE PAID FOR UNDER "CONCRETE MASONRY OVERLAY" BID ITEM.

◒ ROUGHEN SURFACE OF EXISTING CONCRETE TO ±¼" AMPLITUDE.

◨ COAT WITH "PROTECTIVE SURFACE TREATMENT" AS PER THE STANDARD SPECIFICATION.

NOTES

SEE "MODIFIED CONCRETE PARAPET" SHEETS FOR PARAPET REINFORCING DETAILS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-3-26

DRAWN BY JFG | PLANS CK'D. BMO

SUPERSTRUCTURE DETAILS

SHEET 8 OF 13
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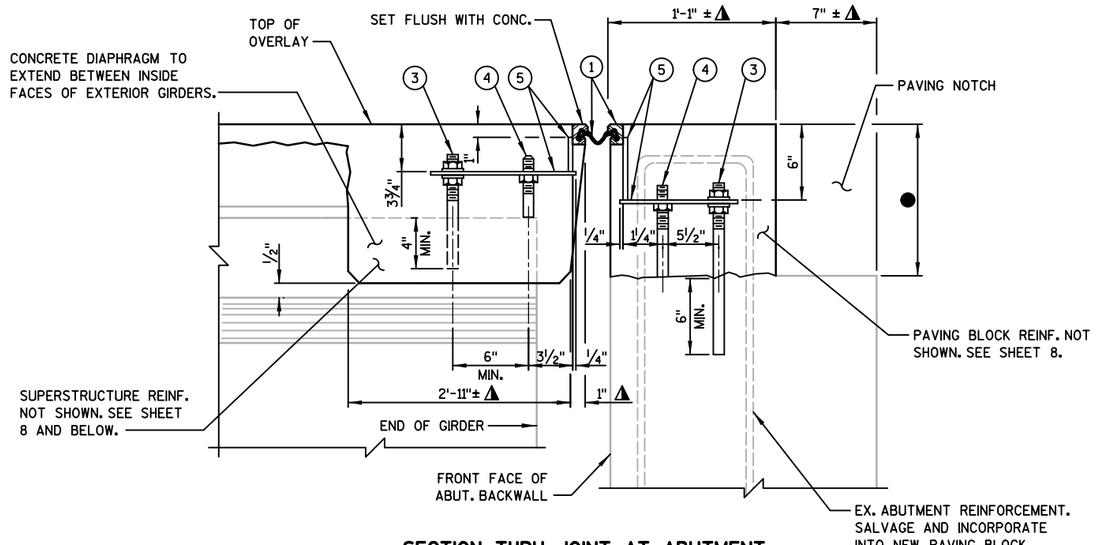
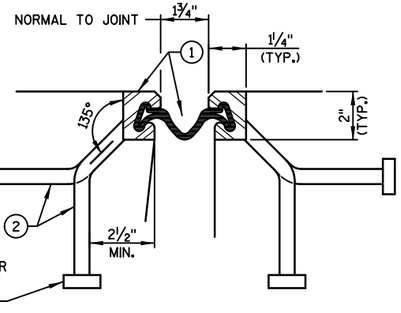


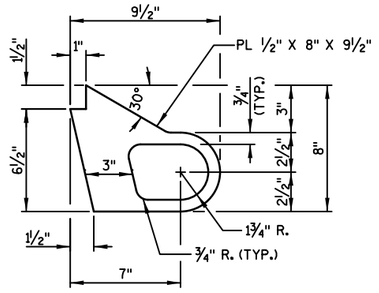
SECTION THRU JOINT AT ABUTMENT

NORMAL TO ℄ SUBSTRUCTURE

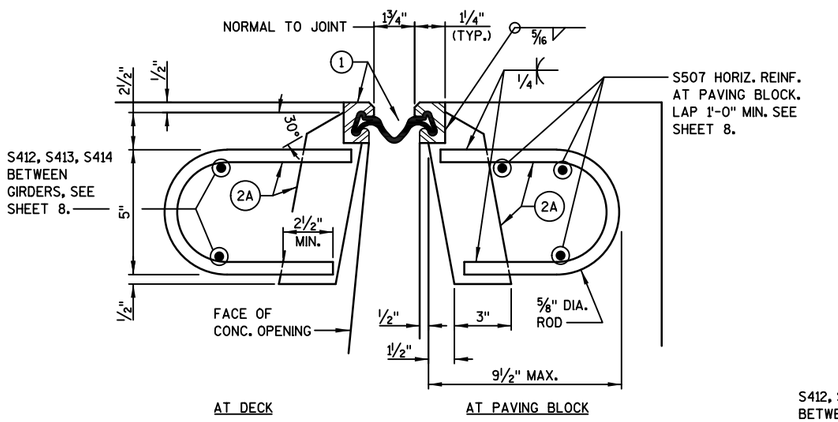


SECTION THRU JOINT

EXTERIOR GIRDER TO EDGE OF DECK AND AT PARAPETS, MEDIANS AND SIDEWALKS

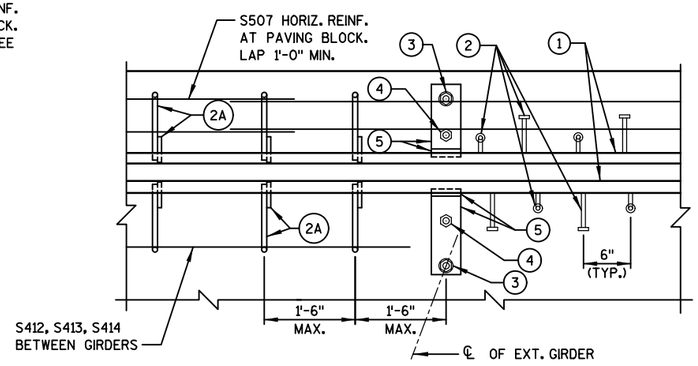


ALTERNATE STRIP SEAL ANCHOR



SECTION THRU JOINT

ROADWAY TRAFFIC AREA BETWEEN EXTERIOR GIRDERS.



PART PLAN

STATE PROJECT NUMBER

1196-04-77

NOTES

ONE FIELD SPLICE PERMITTED IN STEEL EXTRUSIONS, UNLESS MORE ARE REQUIRED FOR STAGED CONSTRUCTION, HANDLING OR GALVANIZING REQUIREMENTS. IF USED, DETAILS SHALL BE SUBMITTED FOR APPROVAL. NO SPLICING PERMITTED IN NEOPRENE STRIP SEAL.

AFTER FABRICATION, BUT BEFORE SHIPMENT, STRAIGHTEN STEEL EXTRUSIONS SUCH THAT THEY SHALL BE FREE FROM WARP, TWIST AND SWEEP.

FABRICATOR SHALL PROVIDE MEANS OF KEEPING GALVANIZED EXTRUSIONS CLEAN AND SMOOTH DURING SHIPMENT AND PRIOR TO APPLYING LUBRICANT ADHESIVE FOR NEOPRENE GLAND INSTALLATION.

SANDBLAST PLATES, SUPPORTS AND EXTRUSIONS AFTER FABRICATION IN ACCORDANCE WITH SSPC SP. #6 "COMMERCIAL BLAST CLEANING". AFTER BLAST CLEANING, THE PLATES, SUPPORTS AND EXTRUSIONS SHALL BE HOT DIPPED GALVANIZED.

ANCHOR SYSTEM NO. 8 AND NO. 9 SHALL CONFORM TO ASTM A307 AND SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C AND D.

ALL MATERIAL IN THE EXPANSION JOINT ASSEMBLY, INCLUDING ANCHOR STUDS AND HARDWARE SHALL BE PAID AT THE UNIT PRICE BID FOR "EXPANSION DEVICE", LF.

LEGEND

(1) NEOPRENE STRIP SEAL (4-INCH) AND STEEL EXTRUSIONS. JOINT OPENINGS GIVEN NORMAL TO JOINT.

(2) STUDS ⅝" DIA. X 6⅜" LONG AT 6" ALTERNATE CENTERS. WELD TO EXTRUSIONS AND BEND AS SHOWN AFTER WELDING.

(2A) ½" THICK ANCHOR PLATE WITH ⅝" DIA. ROD (OR ALTERNATE STRIP SEAL ANCHOR). WELD ROD TO ANCHOR PLATE, WELD ANCHOR PLATE TO NO. 1 AT 1'-6" CENTERS BETWEEN GIRDERS.

(3) ¾" DIA. THREADED ROD WITH 2 NUTS AND PLATE WASHERS. GROUT THREADED ROD INTO FIELD DRILLED HOLES ON ℄ OF GIRDER. ON ABUTMENT SIDE GROUT THREADED ROD INTO FIELD DRILLED HOLES IN ABUTMENT BACKWALL AS SHOWN.

(4) ¾" DIA. THREADED ROD WITH NUT. TACK WELD NUT TO NO. 5.

(5) FABRICATE SUPPORT FROM 3" X ½" BAR AS SHOWN OR EQUIVALENT, ONE PER GIRDER PER SIDE. SHOP OR FIELD WELD TO NO. 1. IF FIELD WELDED, COVER WELDED AREAS WITH EPOXY-COATING MATERIAL. PROVIDE 1½" DIA. HOLE FOR NO. 3 AND 1" DIA. HOLE FOR NO. 4.

● TOP ELEVATION OF PAVING BLOCK SHALL CONFORM WITH SUPERSTRUCTURE. POUR PAVING BLOCK AFTER SUPERSTRUCTURE IS IN PLACE.

▲ DIMENSIONS ARE GIVEN NORMAL TO ℄ OF SUBSTRUCTURE UNIT.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-3-26

DRAWN BY JFG | PLANS CK'D. BMO

STRIP SEAL EXPANSION JOINT

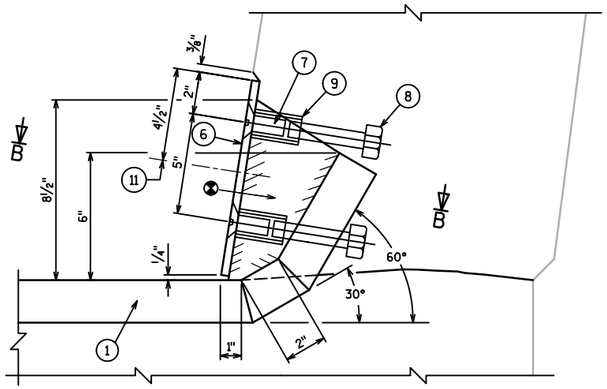
SHEET 9 OF 13
304

8

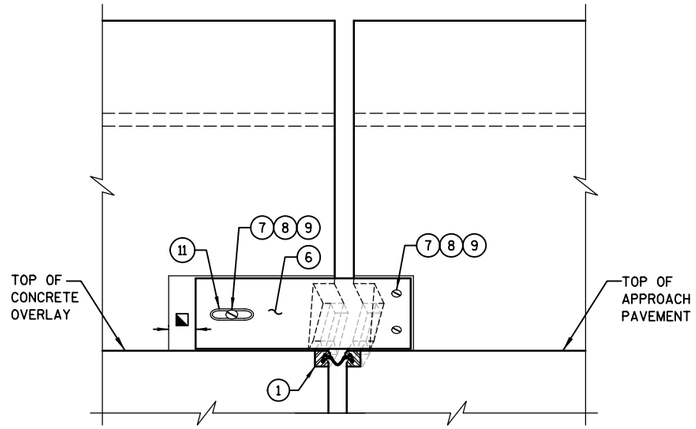
8

FILE NAME : S:\MAD\1000--1099\1089\895\Drawings\CAD\Micros\Plan\USH 53\080609_ej.dgn

STATE PROJECT NUMBER
1196-04-77



SECTION A-A



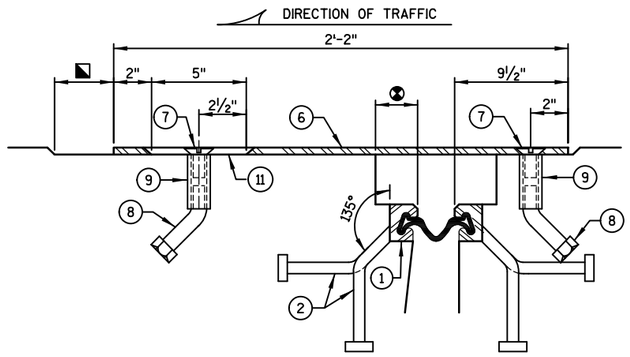
VIEW OF PARAPET PLATE FROM ROADWAY

LEGEND

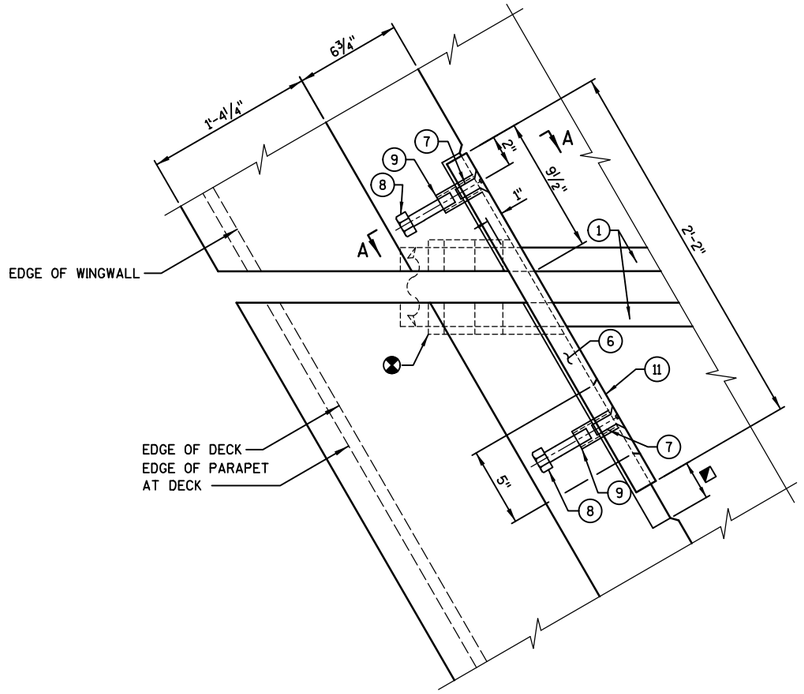
1. NEOPRENE STRIP SEAL (4-INCHES) AND STEEL EXTRUSIONS.
2. STUDS 5/8" DIA.x6 3/8" LONG AT 6" ALTERNATE CENTERS. WELD TO EXTRUSIONS AND BEND AS SHOWN AFTER WELDING.
6. GALVANIZED PLATE 3/8"x10"x2'-2" LONG WITH HOLES FOR NO. 7.
7. 3/4" DIA.x1 1/2" STAINLESS STEEL SOCKET FLAT HEAD SCREWS WITH ANTI-SEIZE LUBRICANT. PLACE IN COUNTERSUNK HOLE. RECESS 1/16" BELOW PLATE SURFACE.
8. 3/4" DIA.x4" GALVANIZED HEX HEAD BOLT. BEND 45°.
9. 3/4" DIA.x2 1/4" GALVANIZED THREADED COUPLING.
11. 1"x5" SLOTTED COUNTERSUNK HOLE FOR NO. 7. PLACE SLOT PARALLEL TO DIRECTION OF MOVEMENT.

BLOCK OUT CONCRETE 2" EACH SIDE OF JOINT OPENING.

JOINT OPENING DIMENSION ALONG SKEW PLUS 1/2".



SECTION B-B



PLAN AT PARAPET

NOTES

ONE FIELD SPLICE PERMITTED IN STEEL EXTRUSIONS, UNLESS MORE ARE REQUIRED FOR STAGED CONSTRUCTION, HANDLING OR GALVANIZING REQUIREMENTS. IF USED, ANCHOR PLATES SHALL BE PROVIDED 3" FROM EACH SIDE OF THE FIELD SPLICE. DETAILS SHALL BE SUBMITTED FOR APPROVAL. NO SPLICING PERMITTED IN NEOPRENE STRIP SEAL.

AFTER FABRICATION BUT BEFORE SHIPMENT, STRAIGHTEN STEEL EXTRUSIONS SUCH THAT THEY SHALL BE FREE FROM WARP, TWIST AND SWEEP.

FABRICATOR SHALL PROVIDE MEANS OF KEEPING GALVANIZED EXTRUSIONS CLEAN AND SMOOTH DURING SHIPMENT AND PRIOR TO APPLYING LUBRICANT ADHESIVE FOR NEOPRENE GLAND INSTALLATION.

SAND BLAST PLATES, SUPPORTS AND EXTRUSIONS AFTER FABRICATION IN ACCORDANCE WITH SSPC SP. #6 "COMMERCIAL BLAST CLEANING". AFTER BLAST CLEANING, THE PLATES, SUPPORTS AND EXTRUSIONS SHALL BE HOT DIPPED GALVANIZED.

ANCHOR SYSTEM NO. 8 AND NO. 9 SHALL CONFORM TO ASTM A307 AND SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C AND D.

ALL MATERIAL IN THE EXPANSION JOINT ASSEMBLY, INCLUDING ANCHOR STUDS AND HARDWARE SHALL BE PAID AT THE UNIT PRICE BID FOR "EXPANSION DEVICE B-3-26", LF.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-3-26

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COVER PLATE DETAILS

SHEET 10 OF 13
305

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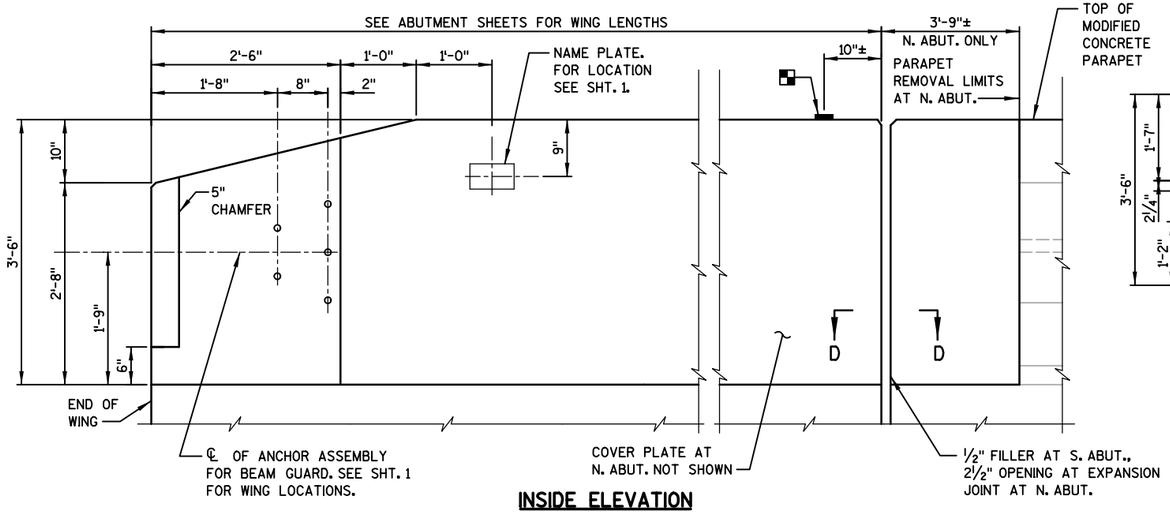
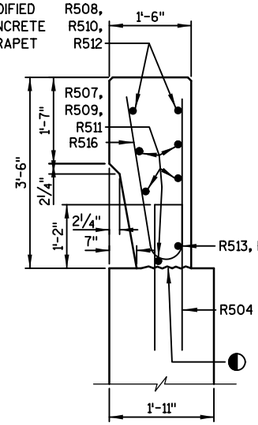
FILE NAME : S:\MAD\1000--1099\1089\895\Drawings\CAD\Micros\Plan\USH 53\080610_cp.dgn

STATE PROJECT NUMBER

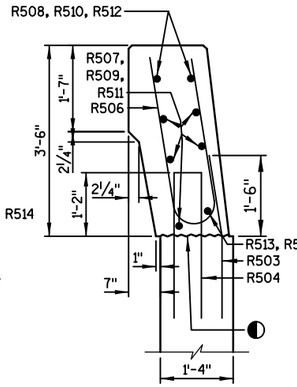
1196-04-77



INSIDE ELEVATION



SECTION A



SECTION B

MODIFIED CONCRETE PARAPET BILL OF BARS

COATED: 2.120 LBS

BAR MARK	NO. REQ'D S. ABUT.	NO. REQ'D N. ABUT.	LENGTH	BENT	COAT	LOCATION
R501	24	24	6'-1"	X	X	PARAPET - VERT.
R502	24	24	6'-11"	X	X	PARAPET - VERT.
R503	24	24	3'-0"	X	X	PARAPET - VERT.
R504	34	34	5'-7"	X	X	PARAPET - VERT.
R505	10	10	6'-6"		X	PARAPET - VERT.
R506	12	12	6'-8"	X	X	PARAPET - VERT.
R507	10	0	15'-7"		X	PARAPET - HORIZ. - WINGS 1 & 2
R508	2	0	15'-8"	X	X	PARAPET - HORIZ. - WINGS 1 & 2
R509	0	5	15'-7"		X	PAPAPET - HORIZ. - WING 3
R510	0	2	15'-8"	X	X	PAPAPET - HORIZ. - WING 3
R511	0	5	14'-9"		X	PAPAPET - HORIZ. - WING 4
R512	0	2	14'-10"	X	X	PAPAPET - HORIZ. - WING 4
R513	2	1	15'-7"	X	X	PARAPET - HORIZ. - WINGS 1, 2, 3
R514	0	1	15'-5"	X	X	PARAPET - HORIZ. - WING 4
⚠ R515	12	12	5'-7"	X	X	PARAPET - VERT.

⚠ BAR SERIES TABLE

BAR MARK	NO. REQ'D	LENGTH
R515	4 SERIES OF 6	4'-11" TO 6'-3"

BUNDLE AND TAG EACH SERIES SEPARATELY.

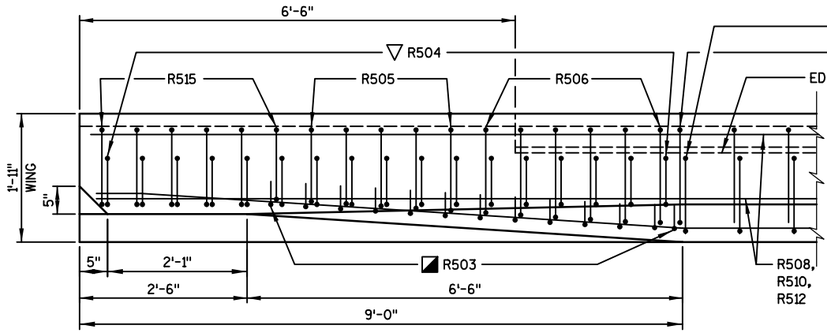
LEGEND

◐ CONST. JOINT - STRIKE OFF AS SHOWN.

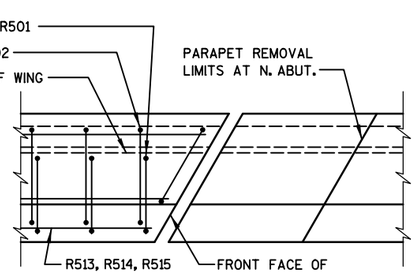
◪ R503 BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. USE CARE TO PLACE R503 BARS CORRECTLY ALONG TRANSITION OF PARAPET.

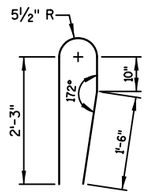
▽ R501 AND R504 BARS TO BE TIED TO WING STEEL BEFORE WING IS POURED.

◪ BENCH MARK CAP (WHEN SUPPLIED).

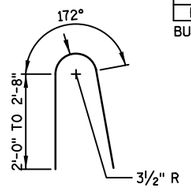


PLAN





R501



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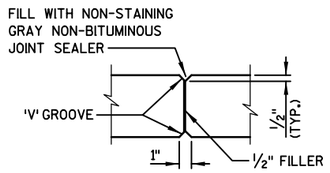
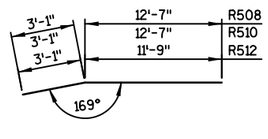
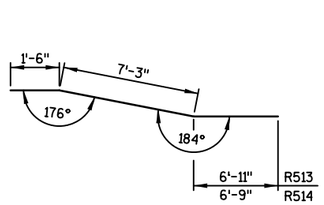


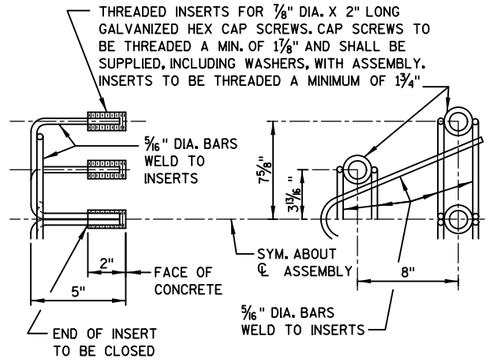
SECTION D
(AT S. ABUT. FILLER JOINT)



R508, R510, R512



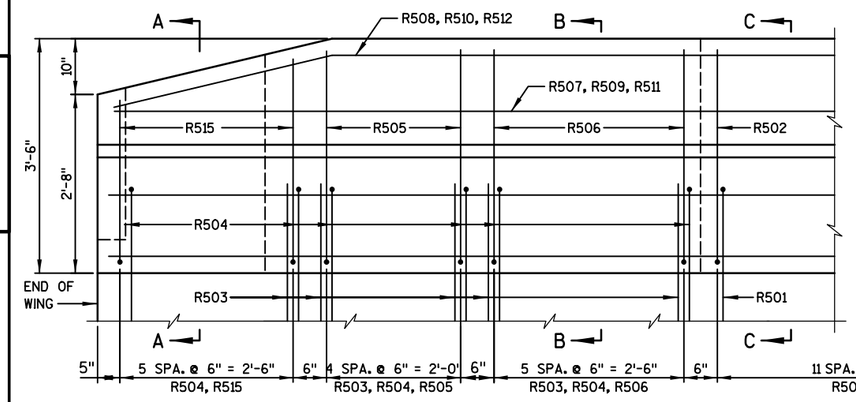
R513, R514



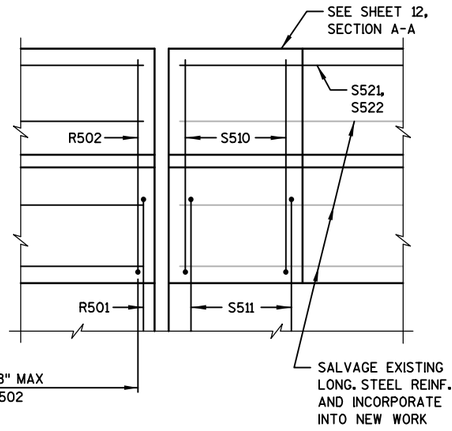
DETAIL OF ANCHOR ASSEMBLY

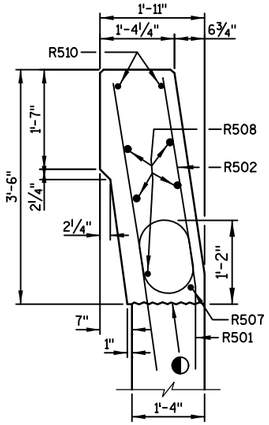
NOTE: HEX HEAD CAP SCREWS & WASHERS TO BE GALVANIZED IN ACCORDANCE WITH AASHTO M232, CLASS C.

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

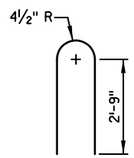


OUTSIDE ELEVATION

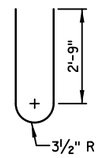




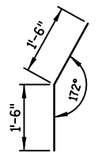
SECTION C



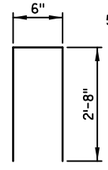
R506



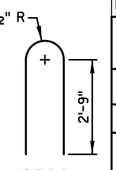
R505



R503



R504



R502

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-3-26

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MODIFIED CONCRETE PARAPET - 1

SHEET 11 OF 13
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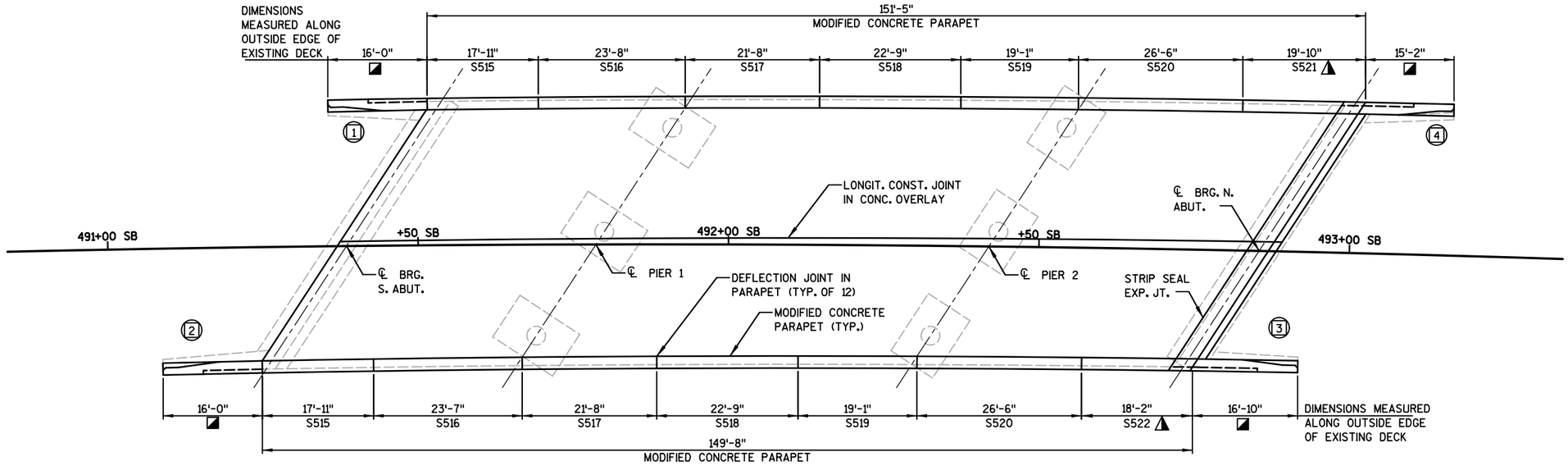
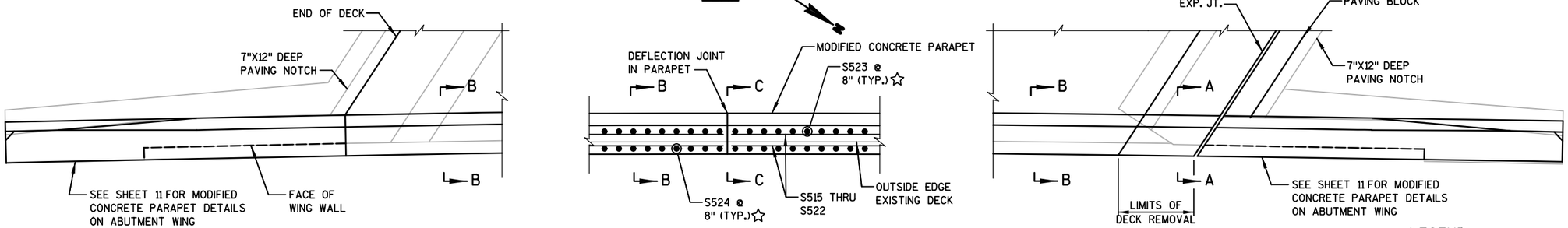


PLAN

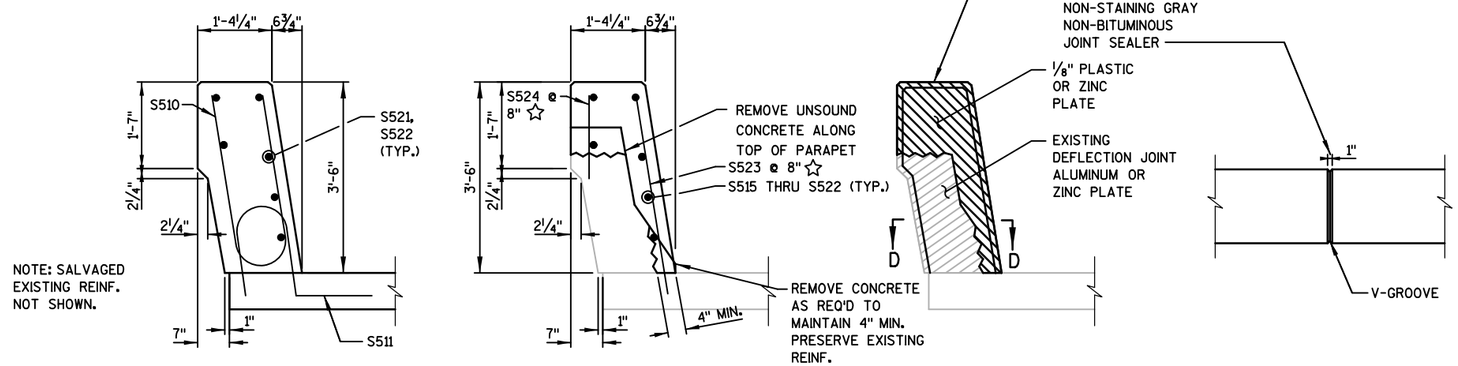


WING 2
(WING 1 SIMILAR)

SUPERSTRUCTURE DEFLECTION JOINT

WING 3
(WING 4 SIMILAR)

ENLARGED PLAN AT EAST PARAPET



SECTION A-A
(AT NORTH ABUT. JOINT REPLACEMENT)

SECTION B-B
(TYP. PARAPET SECTION)

SECTION C-C
(AT DEFLECTION JOINT)

SECTION D-D
(AT DEFLECTION JOINT)

LEGEND

- ◒ ROUGHEN SURFACE OF EXISTING CONCRETE TO ±¼" AMPLITUDE (ALL AREAS OF NEW TO EXISTING CONCRETE CONTACT).
- ☆ ADHESIVE ANCHORS NO. 5 BAR, EMBED 5" IN CONCRETE. SPACE AT 8".
- ◭ EXTEND INTO NEW PARAPET AT JOINT REPAIR.
- ◪ SEE SHEET 11 FOR PARAPET REINF. ON WING WALLS.

NOTES

EXISTING DEFLECTION JOINT LOCATIONS SHALL BE MATCHED WITH THE PROPOSED PARAPET MODIFICATION WORK. DEFLECTION JOINTS SHALL CONSIST OF ⅛" ZINC OR PLASTIC PLATE CUT AS SHOWN IN SECTION C-C BY HATCHED AREA. IF CONSTRUCTION JOINTS ARE USED AT DEFLECTION JOINTS, ONE SIDE OF JOINT SHALL BE COATED WITH AN APPROVED LIQUID BOND BREAKER AND PLATE SEPARATORS OMITTED.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-3-26

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JFG	BMO

MODIFIED CONCRETE PARAPET - 2

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FILE NAME : S:\MAD\1000--1099\1089\895\Drawings\CAD\Micros\Plan\USH 53\080612_sf.dgn

STATE PROJECT NUMBER
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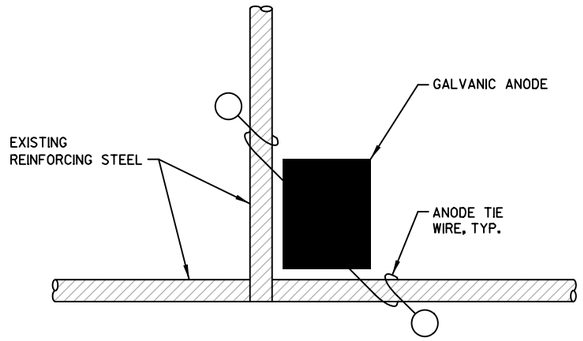
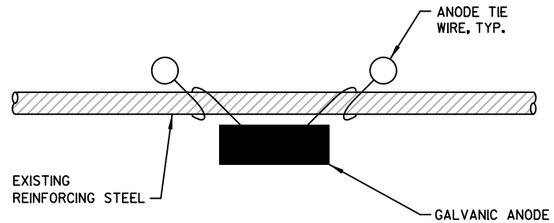


TYPICAL INSTALLATION AT

BAR STEEL INTERSECTION



TYPICAL INSTALLATION FOR BAR STEEL

NOTES

SURFACE REPAIR AREAS WITH CATHODIC PROTECTION ARE BASED ON THE PLANS AND AS DETERMINED BY THE ENGINEER. THE PLAN QUANTITY FOR THE BID ITEM "EMBEDDED GALVANIC ANODES" IS BASED ON A MAXIMUM SPACING OF 24-INCHES AROUND THE SURFACE REPAIR PERIMETER. THE ACTUAL QUANTITY SHALL BE BASED ON THE FIELD CONDITIONS AND AS RECOMMENDED BY THE GALVANIC ANODE SUPPLIER.

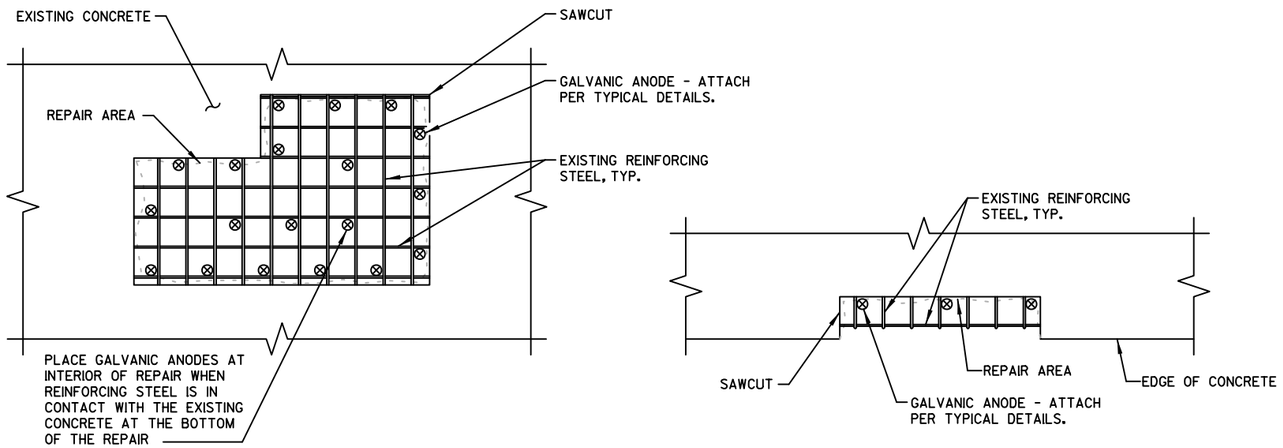
SURFACE REPAIRS SHALL BE FILLED WITH REPAIR MATERIALS COMPATIBLE WITH CATHODIC PROTECTION, AS RECOMMENDED BY THE ANODE SUPPLIER.

EXISTING REINFORCING STEEL TO BE COMPLETELY CLEANED OF CORRODED MATERIAL AND CONCRETE TO PROVIDE SUFFICIENT ELECTRICAL CONNECTION AND BOND. CATHODIC PROTECTION PREPARATIONS ARE INCLUDED IN THE BID ITEM "EMBEDDED GALVANIC ANODES".

ANODES NEAREST TO EDGE OF REPAIR TO BE WITHIN 6" OF EDGE.

AFTER PLACEMENT, GALVANIC ANODES SHOULD MAINTAIN A MINIMUM TOP COVER OF 1½ AND A MINIMUM BOTTOM COVER OF ¾".

PLACE GALVANIC ANODES AT THE ABUTMENT SURFACE REPAIR AND ALONG THE PARAPET REPAIR WHERE EXISTING REINFORCING IS CORRODED AS DIRECTED BY ENGINEER.



PARTIAL PLAN TYPICAL REPAIR DETAIL

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-3-26

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CATHODIC PROTECTION

SHEET 13 OF 13

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STATE PROJECT NUMBER

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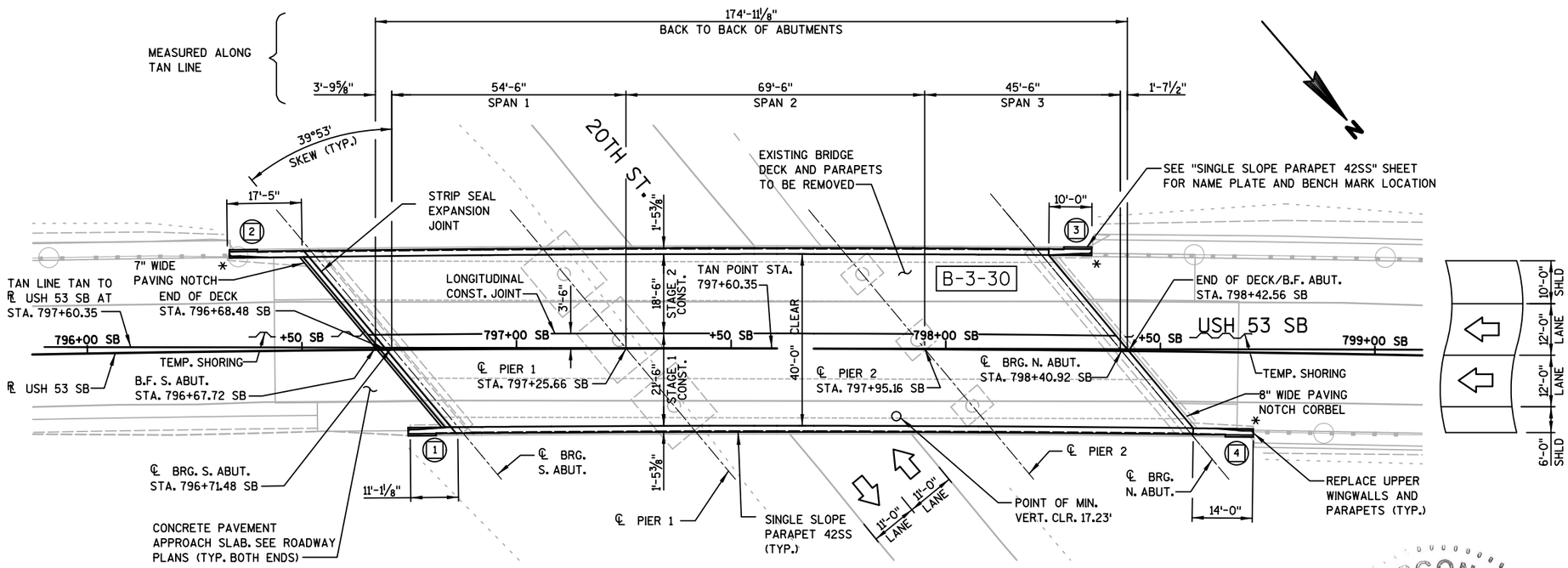
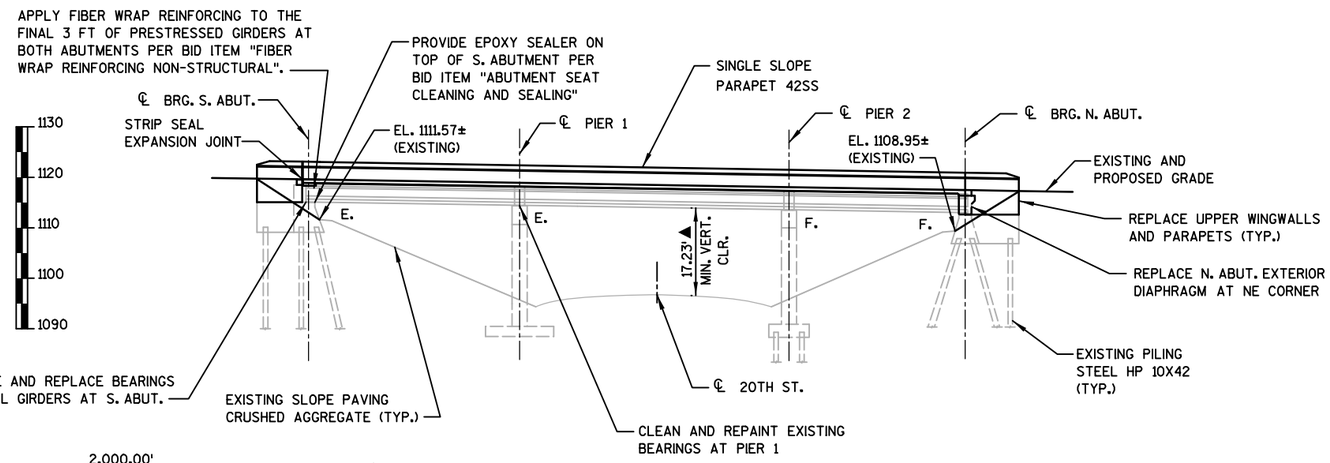


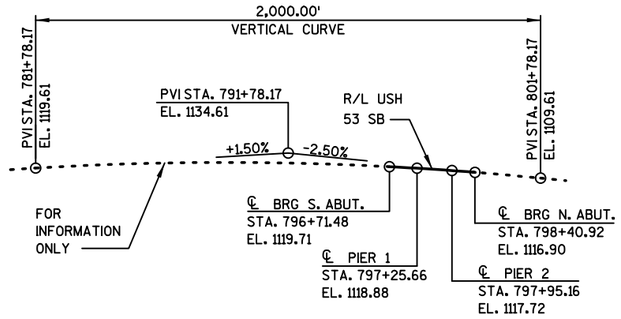
PLAN

(DECK REPLACEMENT - 3 SPAN 45" PRESTRESSED GIRDERS)



ELEVATION

(NORMAL TO ℄ 20TH ST.)



USH 53 SB PROFILE GRADE LINE

BENCHMARKS

BM NO.	COORDINATES	DESCRIPTION	ELEV.
BM 1	Y: 62,128.59 X: 354,745.03	NW CORNER BRIDGE DECK B-3-24 (CTH I)	1065.33
BM 2	Y: 61,303.85 X: 355,782.67	NW CORNER BRIDGE DECK B-3-20 (CHETEK RIVER)	1043.96
BM 3	Y: 66,181.31 X: 349955.75	NW CORNER BRIDGE DECK B-3-26 (KNAPP STREET)	1077.68

NOTE: BENCH MARKS ARE OUTSIDE OF PLAN EXTENTS. SEE ROADWAY PLANS FOR ADDITIONAL INFORMATION.

DESIGN DATA

LIVE LOAD:

DESIGN LOADING	HS20
INVENTORY RATING	HS18
OPERATING RATING	HS30
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV)	240 KIPS

MATERIAL PROPERTIES:

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

TRAFFIC DATA

USH 53 SB
A.D.T. (2025) = 9,660
DESIGN SPEED = 70 MPH

20TH ST.
A.D.T. (2025) = 300
DESIGN SPEED = 60 MPH

LEGEND

* LOCATION OF ANCHOR ASSEMBLIES FOR THRIE BEAM ATTACHMENT.

(X) DENOTES WINGWALL NUMBER.

▲ MIN. VERTICAL CLEARANCE BASED ON INFORMATION OBTAINED FROM WISDOT HIGHWAY STRUCTURES INFORMATION SYSTEM.

LIST OF DRAWINGS

1. GENERAL PLAN
2. CROSS SECTIONS, QUANTITIES, NOTES & DETAILS
3. CONSTRUCTION STAGING - 1
4. CONSTRUCTION STAGING - 2
5. SOUTH ABUTMENT
6. SOUTH ABUTMENT DETAILS
7. NORTH ABUTMENT
8. NORTH ABUTMENT DETAILS
9. BEARING DETAILS
10. STEEL DIAPHRAGMS
11. SUPERSTRUCTURE PLAN
12. SUPERSTRUCTURE REINFORCING PLAN
13. SUPERSTRUCTURE SECTION
14. SUPERSTRUCTURE DETAILS - 1
15. SUPERSTRUCTURE DETAILS - 2
16. STRIP SEAL EXPANSION JOINT
17. COVER PLATE DETAILS
18. SINGLE SLOPE PARAPET 42SS
19. CATHODIC PROTECTION

WISCONSIN
KEITH R. BEHREND
E-42073
MADISON
WI
PROFESSIONAL ENGINEER
1/15/2024

HORIZONTAL CURVE DATA

℄ USH 53 SB
P.I. STA. 816+78.54
R = 8594.37 FT
L = 6796.20 FT
T = 3586.99 FT
D = 0°40'0"
△ = 45°18'29"
SE = 0.032 FT/FT

STRUCTURE DESIGN CONTACTS

BRIDGE OFFICE CONTACT:
AARON BONK (608) 261-0261

DESIGN CONSULTANT CONTACT:
BRETT OFTEDAHL (608) 251-4843

NO.	DATE	REVISION	BY

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED SDR 01/17/25
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE B-3-30

USH 53 SB OVER 20TH ST.

COUNTY	TOWN/~~CITY/VILLAGE~~
BARRON	PRAIRIE LAKE

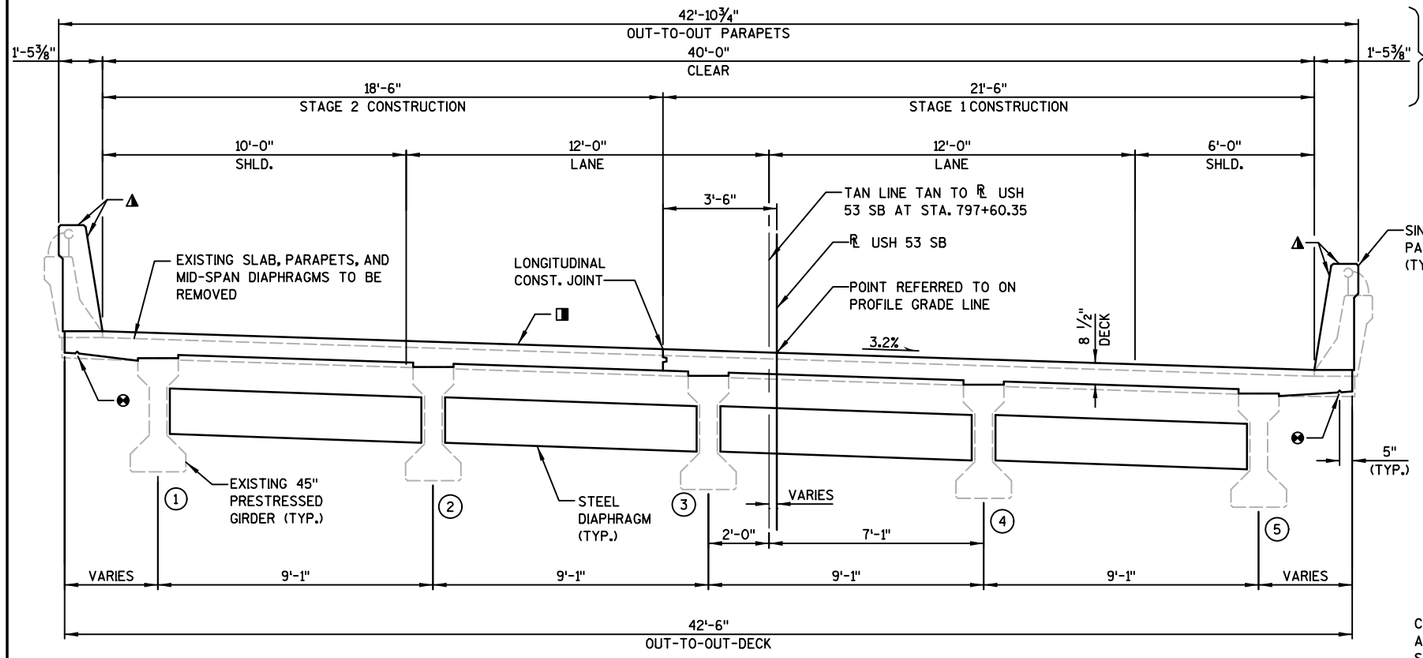
DESIGN SPEC. REHABILITATION N/A

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
JFG	KRB	JFG	KRB

GENERAL PLAN

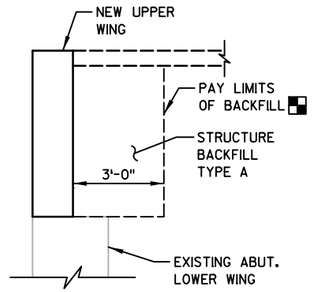
SHEET 1 OF 19
309

FILE NAME : S:\MAD\1000--1099\1089\895\Drawings\CAD\Micros\Plan\USH 53\080701_gn.dgn

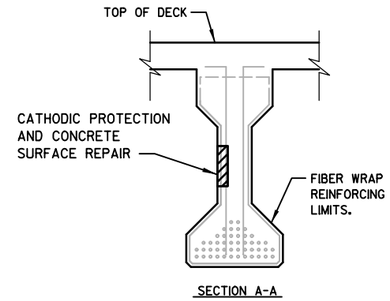


TYPICAL CROSS SECTION

(LOOKING NORTH)



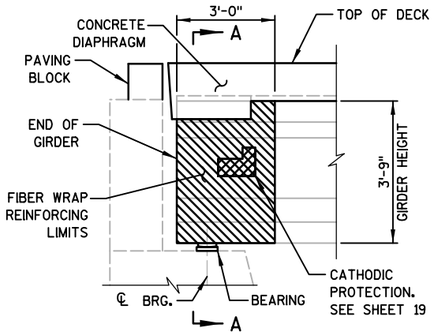
STRUCTURE BACKFILL LIMITS



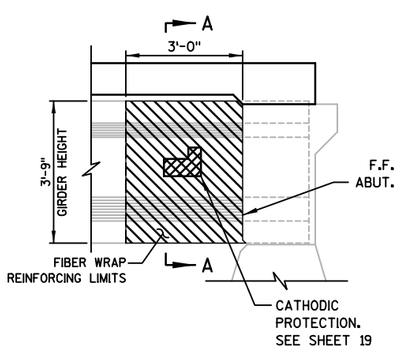
SECTION A-A

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	S. ABUT	N. ABUT.	SUPERSTRUCTURE	TOTAL	UNIT
203.0211.S.03	ABATEMENT OF ASBESTOS CONTAINING MATERIAL B-3-30	---	---	---	1	EACH
203.0220.06	REMOVING STRUCTURE B-3-30	---	---	---	1	EACH
203.0330.03	DEBRIS CONTAINMENT B-3-30	---	---	---	1	EACH
206.1001.07	EXCAVATION FOR STRUCTURES BRIDGES B-3-30	---	---	---	1	EACH
210.1500	BACKFILL STRUCTURE TYPE A	26	21	---	47	TON
502.0100	CONCRETE MASONRY BRIDGES	15.1	10.1	274.2	299	CY
502.3101	EXPANSION DEVICE	---	---	52	52	LF
502.3200	PROTECTIVE SURFACE TREATMENT	---	---	795	795	SY
502.3210	PIGMENTED SURFACE SEALER	15	13	170	198	SY
502.4204	ADHESIVE ANCHORS NO. 4 BAR	19	15	5	39	EACH
502.4205	ADHESIVE ANCHORS NO. 5 BAR	72	15	210	297	EACH
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	1,980	1,290	63,770	67,040	LB
505.0904	BAR COUPLERS NO. 4	---	---	14	14	EACH
505.0905	BAR COUPLERS NO. 5	3	---	587	590	EACH
506.2610	BEARING PADS ELASTOMERIC LAMINATED	5	---	---	5	EACH
506.4000.04	STEEL DIAPHRAGMS B-3-30	---	---	12	12	EACH
506.7050.S.04	REMOVING BEARINGS B-3-30	5	---	---	5	EACH
509.1500	CONCRETE SURFACE REPAIR	5	5	---	10	SF
511.1200.03	TEMPORARY SHORING B-3-30	132	132	---	264	SF
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	6	5	---	11	SY
614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	1	2	---	3	EACH
SPV.0060.01	CLEANING AND PAINTING BEARINGS	---	---	5	5	EACH
SPV.0060.02	EMBEDDED GALVANIC ANODES	---	---	40	40	EACH
SPV.0060.06	TEMPORARY SUPPORT B-3-30	---	---	---	1	EACH
SPV.0165.01	FIBER WRAP REINFORCING NON-STRUCTURAL	150	150	---	300	SF
SPV.0180.01	ABUTMENT SEAT CLEANING AND SEALING	15	---	---	15	SY
	NON-BID ITEMS					
	FILLER	---	---	---	1/2", 3/4"	SIZE



(AT SOUTH ABUTMENT)



(AT NORTH ABUTMENT)

TYPICAL PRESTRESSED GIRDER FIBER WRAP REINFORCING REPAIR

EACH GIRDER END REPAIRED IS PAID PER SQUARE FOOT.

REPAIR AREA SHOWN IS FOR REFERENCE ONLY. LIMITS OF "REPAIR AREA" AT EACH GIRDER ARE TO BE COORDINATED WITH THE FIELD ENGINEER.

PERFORM BEARING REMOVAL PRIOR TO CONCRETE GIRDER END REPAIR WORK.

REINSTALL BEARINGS AFTER "FIBER WRAP REINFORCING NON-STRUCTURAL" WORK HAS BEEN COMPLETED.

LEGEND

(X) INDICATES GIRDER NUMBER.

PROTECTIVE SURFACE TREATMENT SHALL BE APPLIED TO THE TOP OF DECK, TOP OF PAVING BLOCK, AND HORIZONTAL AND VERTICAL SURFACES OF PAVING NOTCH.

PIGMENTED SURFACE SEALER SHALL BE APPLIED TO THE INSIDE FACE, TOP AND ENDS OF THE SINGLE SLOPE PARAPET 42SS.

¾" V-GROOVE REQ'D. EXTEND TO 2'-0" FROM F.F. OF SOUTH ABUT. BODY AND 6" FROM F.F. OF NORTH ABUT. DIAPHRAGM.

BACKFILL PAY LIMITS. BACKFILL BEYOND BACKFILL PAY LIMITS SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES. LIMITS OF EXCAVATION SHALL BE DETERMINED BY THE CONTRACTOR.

STATE PROJECT NUMBER

1196-04-77

GENERAL NOTES

THE PROPOSED WORK INCLUDES REMOVING AND REPLACING THE CONCRETE DECK AND PARAPETS, CONCRETE SURFACE REPAIR AT ABUTMENTS, REMOVING MIDSPAN CONCRETE DIAPHRAGMS AND REPLACING WITH STEEL DIAPHRAGMS, REMOVING AND REPLACING STRIP SEAL EXP. JOINT AT SOUTH ABUTMENT, FIBER WRAP REPAIR AT GIRDER ENDS WITH INSTALLATION OF EMBEDDED GALVANIC ANODES, EPOXY SEALING TOP OF S. ABUT., CLEANING/REPAINTING PIER 1 BEARINGS, REPLACING S. ABUT. BEARINGS, AND REPLACING UPPER WINGWALLS.

DRAWINGS SHALL NOT BE SCALED.

DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS AND SUBSEQUENT REHABILITATION PLANS.

ALL DIMENSIONS ARE IN FEET AND INCHES UNLESS OTHERWISE NOTED. ALL STATIONS ARE IN FEET.

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

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

UTILIZE EXISTING BAR STEEL REINFORCEMENT WHERE SHOWN AND EXTEND 24 BAR DIAMETERS INTO NEW WORK, UNLESS SHOWN OR SPECIFIED OTHERWISE.

THE HAUNCH CONCRETE QUANTITY IS BASED ON AN AVERAGE HAUNCH HEIGHT OF 3¼".

ALL CONCRETE REMOVAL SHALL BE DEFINED BY A 1" DEEP SAW CUT. CARE SHALL BE TAKEN TO AVOID DAMAGE TO THE EXISTING GIRDERS, INCLUDING SHEAR STIRRUPS. SAWCUTTING OF THE EXISTING SHEAR STIRRUPS IS NOT ALLOWED.

VARIATIONS TO THE NEW GRADE LINE OVER ¼" MUST BE SUBMITTED BY THE FIELD ENGINEER TO THE STRUCTURES DESIGN SECTION FOR REVIEW.

EXPANSION JOINT ASSEMBLY, INCLUDING ANCHOR STUDS AND HARDWARE SHALL BE INCLUDED WITH BID ITEM "EXPANSION DEVICE B-3-30".

THE CONTRACTOR SHALL SUPPLY A NEW NAME PLATE IN ACCORDANCE WITH SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS AND THE STANDARD DETAIL DRAWING. NAME PLATE TO SHOW ORIGINAL CONSTRUCTION YEAR, 1972.

CONTRACTOR IS RESPONSIBLE FOR GIRDER STABILITY DURING REMOVAL AND REPLACEMENT OF THE CONCRETE DECK AND GIRDER DIAPHRAGMS.

PERFORM CONCRETE SURFACE REPAIR AS DIRECTED BY THE FIELD ENGINEER. QUANTITY SHOWN IS APPROXIMATE.

BEVEL ALL EXPOSED EDGES OF CONCRETE ¾" UNLESS OTHERWISE NOTED.

AT ABUTMENTS, ALL EXCAVATED VOLUME NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH STRUCTURE BACKFILL TYPE A.

THE EXISTING GROUNDLINE SHALL BE THE UPPER LIMITS OF EXCAVATION FOR STRUCTURES.

THE GRAY CAULK LOCATED IN PARAPET JOINTS AND PARAPET TO ABUTMENT JOINTS TESTED POSITIVE FOR ASBESTOS GREATER THAN 1% AND IS THEREFORE REGULATED ASBESTOS-CONTAINING MATERIAL. SEE TESTING REPORT COMPLETED BY GEI CONSULTANTS INC. FOR ADDITIONAL DETAILS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-3-30

DRAWN BY JFG | PLANS CK'D. KRB

CROSS SECTION, QUANTITIES, NOTES & DETAILS

SHEET 2
310

8

8

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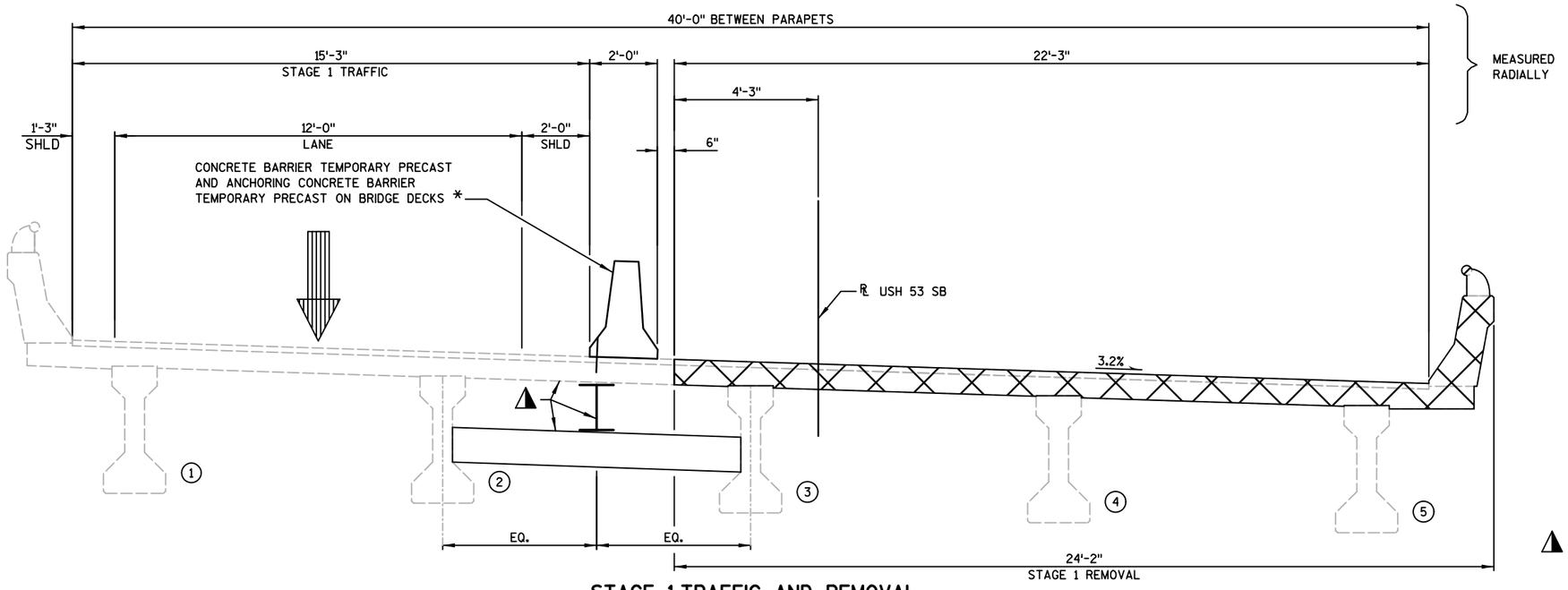
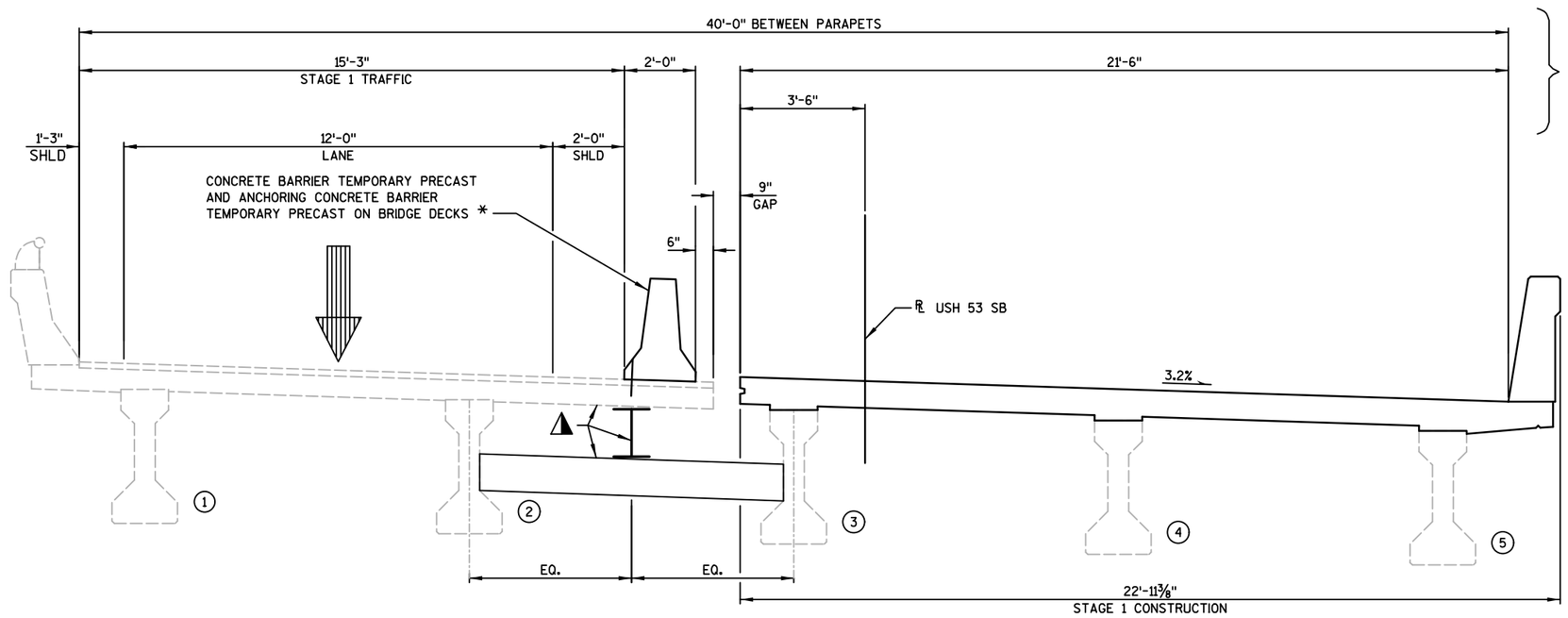
STATE PROJECT NUMBER

1196-04-77



STAGE 1 TRAFFIC AND REMOVAL

(LOOKING NORTH)



STAGE 1 TRAFFIC AND CONSTRUCTION

(LOOKING NORTH)

NOTES

SEE ROADWAY PLANS FOR ADDITIONAL STAGING INFORMATION.

LEGEND

* SEE ROADWAY PLANS FOR ADDITIONAL INFORMATION.

REMOVAL LIMITS

(X) DENOTES GIRDER NUMBER

⚠ CONTRACTOR SHALL PROVIDE TEMPORARY SUPPORT OF EXISTING DECK OVERHANGS DURING TRAFFIC, REMOVAL, AND CONSTRUCTION ACTIVITIES. TEMPORARY SUPPORT SHALL BE DESIGNED SUCH THAT LOAD IS DISTRIBUTED EQUALLY TO EXISTING GIRDERS 2 & 3.

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-3-30

DRAWN BY JFG | PLANS CK'D. KRB

CONSTRUCTION STAGING - 1

SHEET 3
311

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STATE PROJECT NUMBER

1196-04-77

NOTES

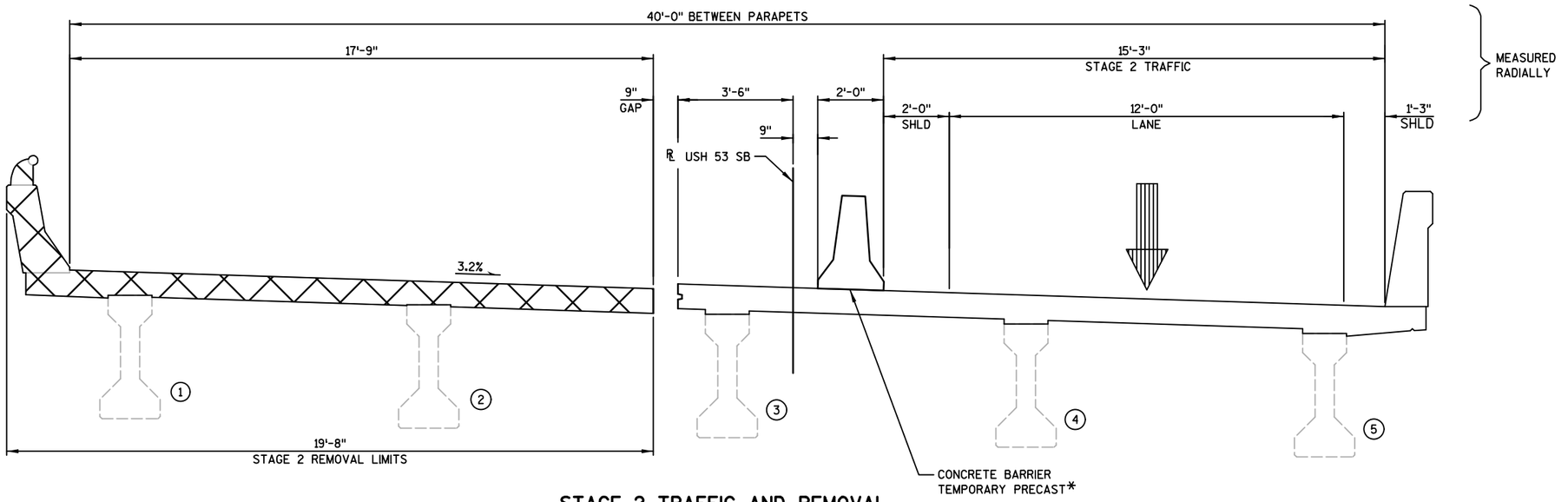
SEE ROADWAY PLANS FOR ADDITIONAL STAGING INFORMATION.

LEGEND

* SEE ROADWAY PLANS FOR ADDITIONAL INFORMATION.

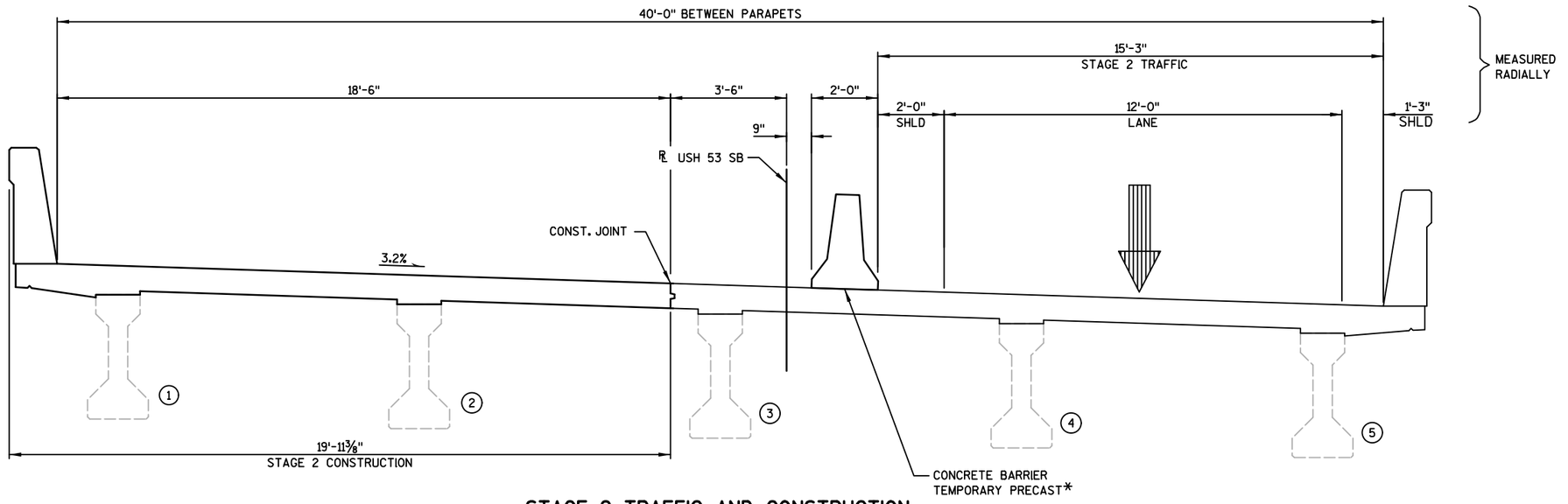
REMOVAL LIMITS

(X) DENOTES GIRDER NUMBER



STAGE 2 TRAFFIC AND REMOVAL

(LOOKING NORTH)



STAGE 2 TRAFFIC AND CONSTRUCTION

(LOOKING NORTH)

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-3-30

DRAWN BY JFG | PLANS CK'D. KRB

CONSTRUCTION STAGING - 2

SHEET 4
312

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STATE PROJECT NUMBER

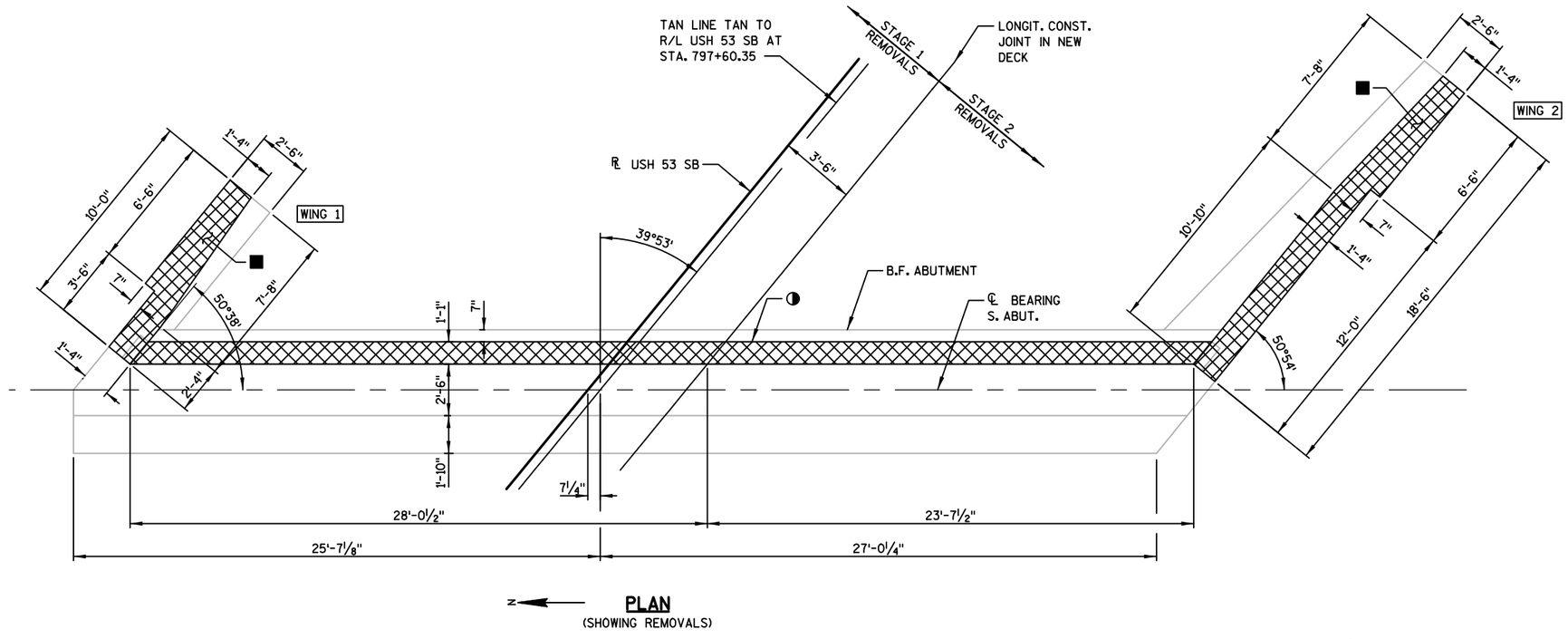
1196-04-77

LEGEND

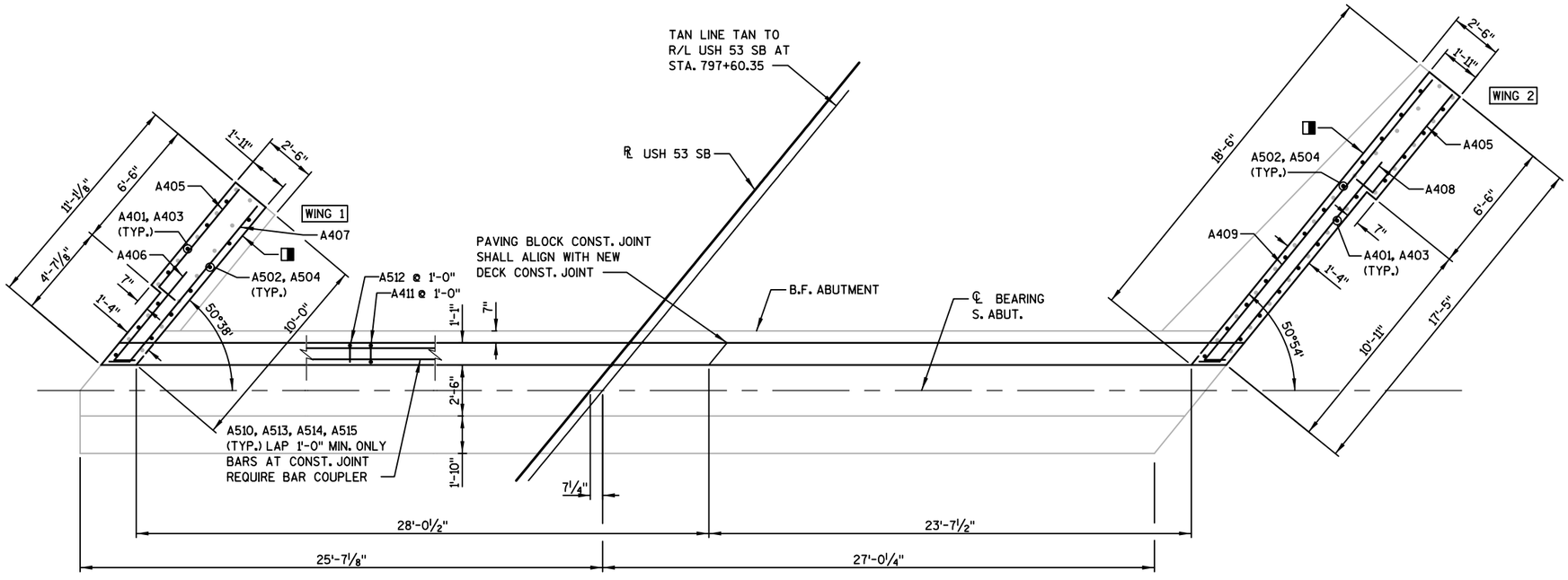
- REMOVE EXISTING UPPER WING AND PARAPET DOWN TO EXISTING ABUTMENT LOWER WINGWALL. SALVAGE AND INCORPORATE EXISTING VERTICAL BAR STEEL INTO NEW WORK.
- 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACK FACE.
- REMOVE EXISTING PAVING BLOCK. SEE "SUPERSTRUCTURE DETAILS - 1" SHEET.
- REMOVAL LIMITS.

NOTES

SEE SOUTH ABUTMENT DETAILS SHEET.



PLAN
(SHOWING REMOVALS)



PLAN
(SHOWING PROPOSED STRUCTURE WORK)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-3-30

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SOUTH ABUTMENT

SHEET 5
313

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STATE PROJECT NUMBER

1196-04-77

SOUTH ABUTMENT
BILL OF BARS

COATED: 1,050 LBS

	BAR MARK	NO. REQ'D	LENGTH	BENT	COAT	LOCATION
☆	A401	19	3'-0"		X	F.F. - VERT. - DOWELS - WINGS 1 & 2
☆	A502	19	4'-1"		X	B.F. - VERT. - DOWELS - WINGS 1 & 2
	A403	19	4'-8"		X	F.F. - VERT. - WINGS 1 & 2
	A504	19	4'-8"		X	B.F. - VERT. - WINGS 1 & 2
	A405	12	7'-1"	X	X	F.F. - HORIZ. - WINGS 1 & 2
	A406	6	7'-2"	X	X	F.F. - HORIZ. - WING 1
	A407	8	10'-9"	X	X	B.F. - HORIZ. - WING 1
	A408	6	13'-6"	X	X	F.F. - HORIZ. - WING 2
	A409	8	18'-8"	X	X	B.F. - HORIZ. - WING 2
	A510	12	7'-0"		X	PAVING BLOCK - HORIZ. - STAGE 1
	A411	53	3'-8"	X	X	PAVING BLOCK - VERT.
☆	A512	53	2'-9"	X	X	PAVING BLOCK - VERT. - DOWELS
	A513	9	7'-6"		X	PAVING BLOCK - HORIZ. - STAGE 2
✶✶	A514	3	7'-0"		X	PAVING BLOCK - HORIZ. - STAGE CONST. LINE - STAGE 1
✶✶	A515	3	7'-6"	X	X	PAVING BLOCK - HORIZ. - STAGE CONST. LINE - STAGE 2

LEGEND

◒ ROUGHEN SURFACE OF EXISTING CONCRETE TO ±¼" AMPLITUDE (ALL AREAS OF NEW TO EXISTING CONCRETE CONTACT).

□ ¾" V-GROOVE.

◭ SEE "SINGLE SLOPE PARAPET 42SS" SHEET FOR REINFORCING DETAILS.

■ REMOVE EXISTING UPPER WING AND PARAPET DOWN TO EXISTING ABUTMENT LOWER WINGWALL. SALVAGE AND INCORPORATE EXISTING VERTICAL BAR STEEL INTO NEW WORK.

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

◪ POUR CONCRETE IN HATCHED REGION AFTER SUPERSTRUCTURE IS IN PLACE. SEE "SUPERSTRUCTURE DETAILS - 1" SHEET FOR EXTENTS.

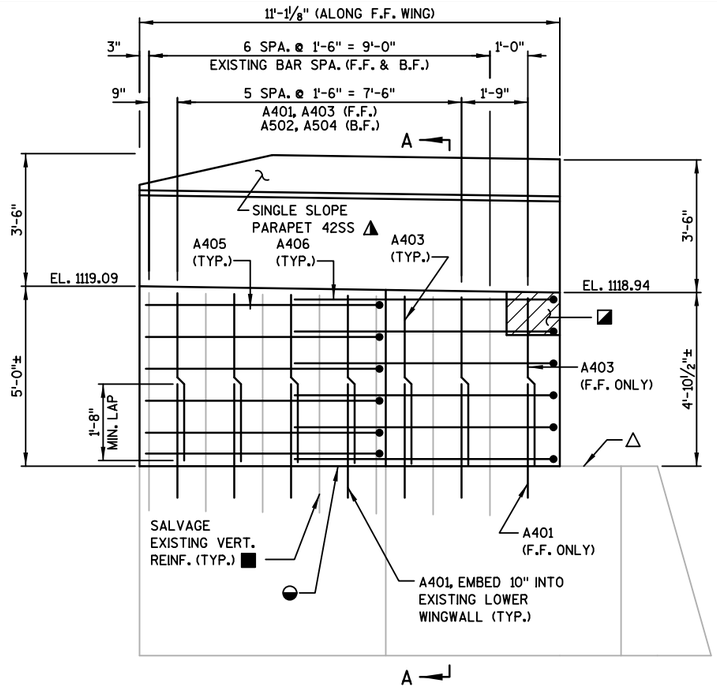
☆ ADHESIVE ANCHOR.

△ PROVIDE EPOXY SEALER ON TOP OF S. ABUT.

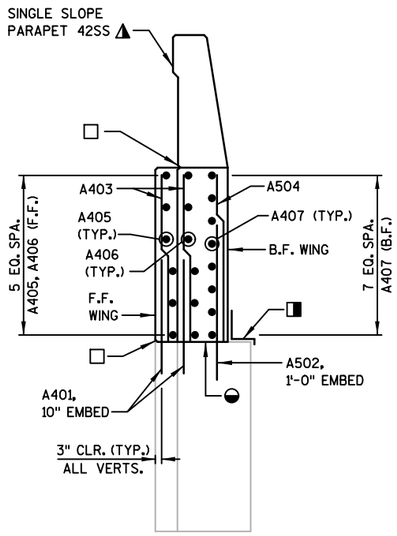
✶✶ BAR WITH COUPLER. SEE COUPLER DETAILS ON "SUPERSTRUCTURE DETAILS - 2" SHEET.

NOTES

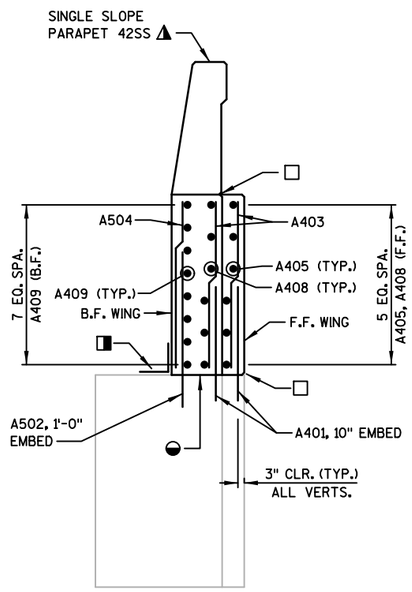
SEE "SUPERSTRUCTURE DETAILS - 1" SHEET FOR PAVING BLOCK DETAILS.



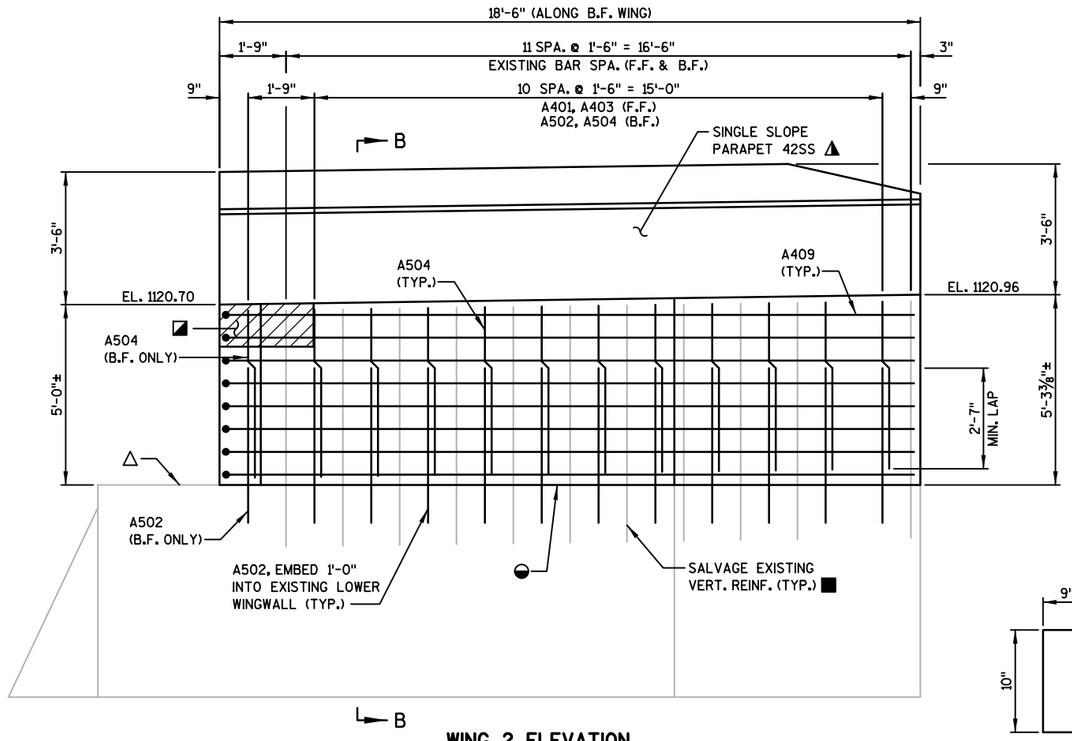
WING 1 ELEVATION
(SHOWING F.F. BAR STEEL REINF., WING 2 F.F. REINF. SIMILAR)



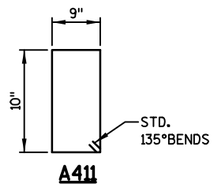
SECTION A-A



SECTION B-B



WING 2 ELEVATION
(SHOWING B.F. BAR STEEL REINF., WING 1 B.F. REINF. SIMILAR)



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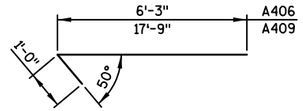

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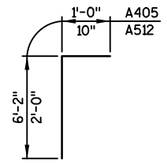

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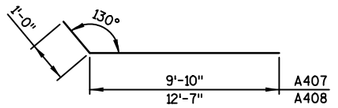

A407, A408

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-3-30

DRAWN BY JFG | PLANS CK'D. KRB

SOUTH ABUTMENT DETAILS

SHEET 6
314

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STATE PROJECT NUMBER

1196-04-77

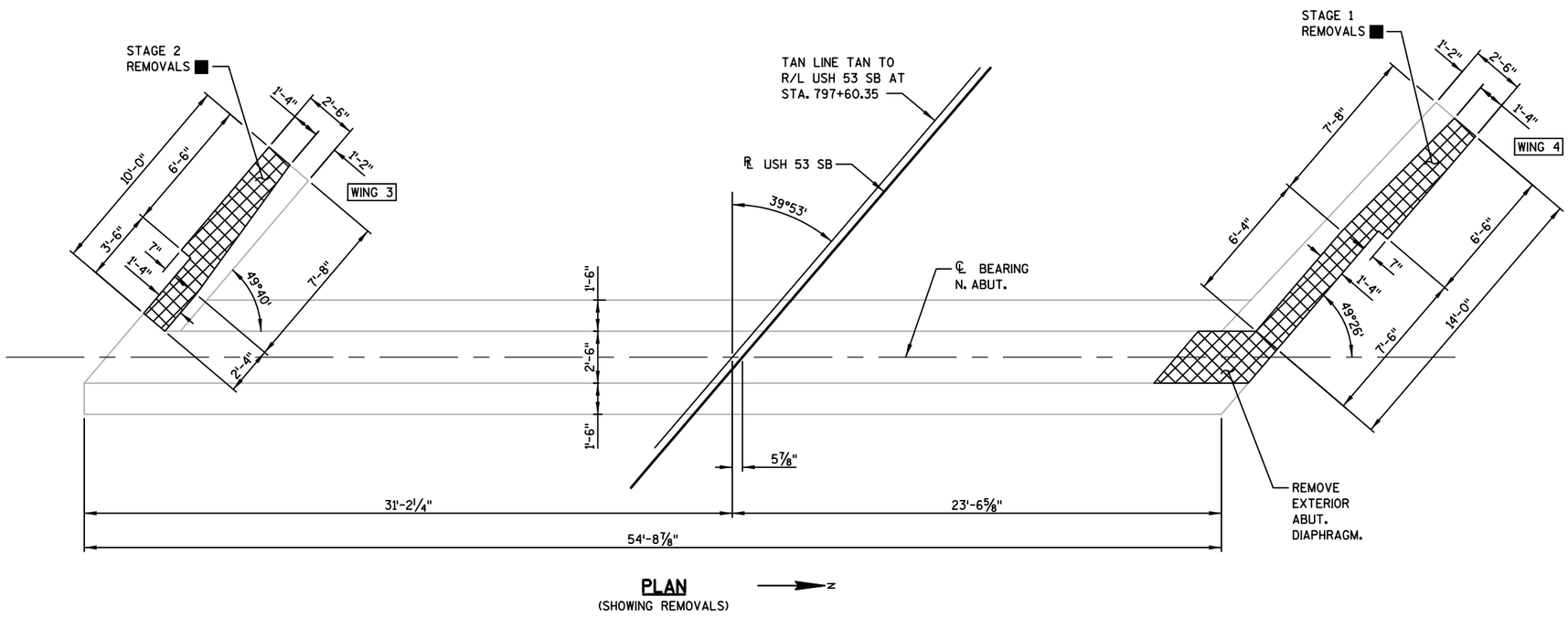
LEGEND

- ■ REMOVE EXISTING UPPER WING AND PARAPET DOWN TO EXISTING ABUTMENT LOWER WINGWALL. SALVAGE AND INCORPORATE EXISTING VERTICAL BAR STEEL INTO NEW WORK.
- ● ½" FILLER TO EXTEND FROM TOP OF EXISTING DIAPHRAGM TO TOP OF CONCRETE PARAPET. FILLER INCLUDED IN WING LENGTH. SEAL EXPOSED SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER 1" DEEP AND HOLD DOWN ⅛" BELOW SURFACE OF CONCRETE.
- ◨ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACK FACE.

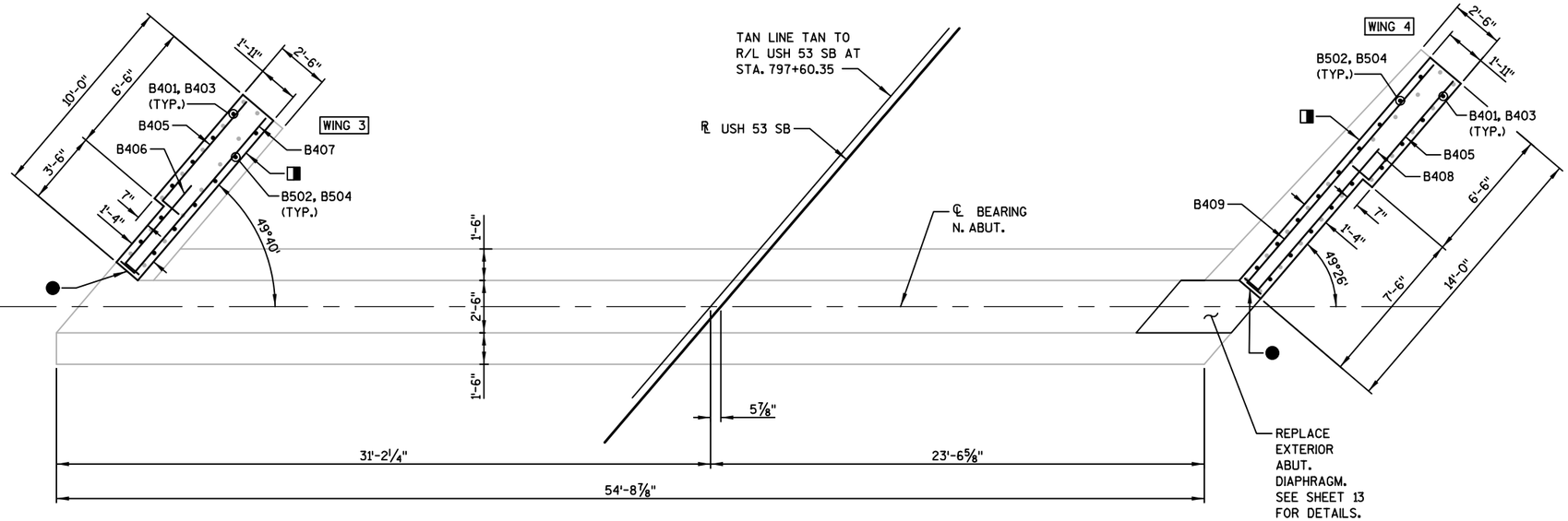
REMOVAL LIMITS.

NOTES

SEE NORTH ABUTMENT DETAILS SHEET.



PLAN
(SHOWING REMOVALS)



PLAN
(SHOWING PROPOSED STRUCTURE WORK)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-3-30

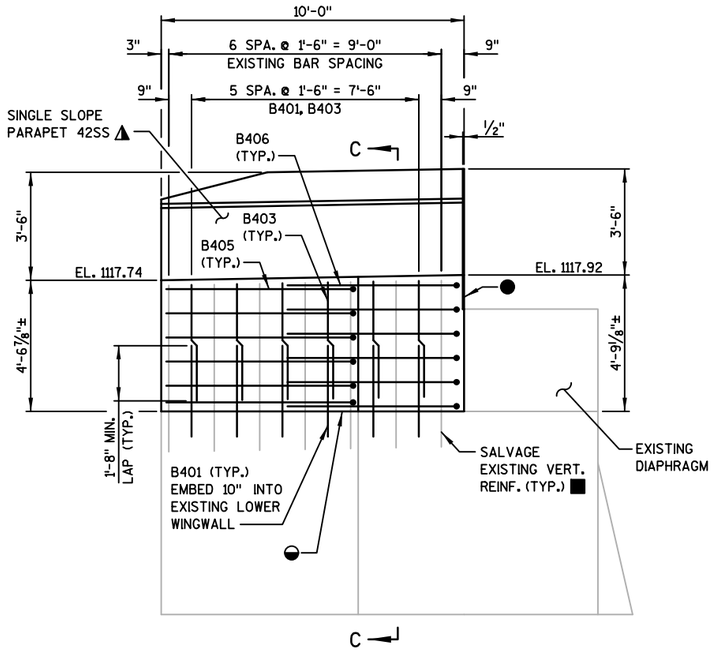
DRAWN BY JFG | PLANS CK'D. KRB

NORTH ABUTMENT

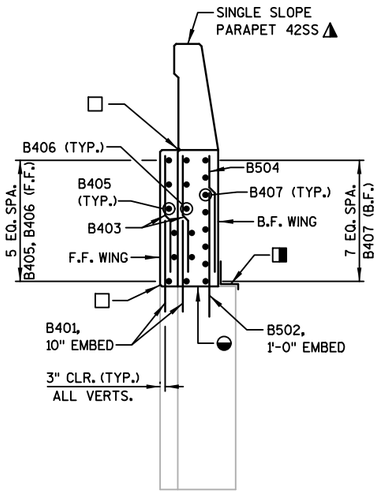
SHEET 7
315

FILE NAME : S:\MAD\1000--1099\1089\895\Drawings\CAD\Micros\Plan\USH 53\080706_na.dgn

STATE PROJECT NUMBER
1196-04-77



WING 3 ELEVATION
(SHOWING F.F. BAR STEEL REINF.,
WING 4 F.F. REINF. SIMILAR)



SECTION C-C

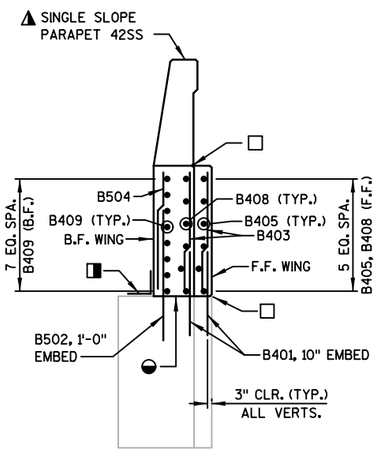
NORTH ABUTMENT
BILL OF BARS

COATED: 450 LBS

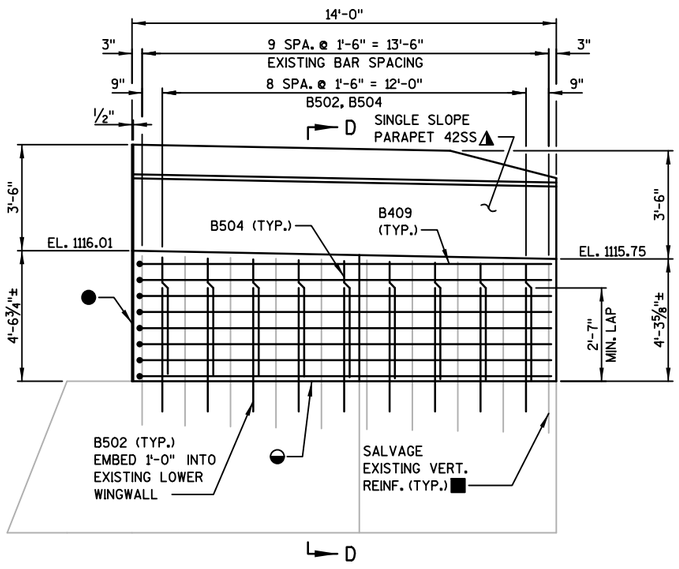
	BAR MARK	NO. REQ'D	LENGTH	BENT	COAT	LOCATION
☆	B401	15	3'-0"		X	F.F. - VERT. - DOWELS - WINGS 3 & 4
☆	B502	15	4'-1"		X	B.F. - VERT. - DOWELS - WINGS 3 & 4
	B403	15	4'-1"		X	F.F. - VERT. - WINGS 3 & 4
	B504	15	4'-1"		X	B.F. - VERT. - WINGS 3 & 4
	B405	12	7'-1"	X	X	F.F. - HORIZ. - WINGS 3 & 4
	B406	6	5'-6"	X	X	F.F. - HORIZ. - WING 3
	B407	8	10'-5"	X	X	B.F. - HORIZ. - WING 3
	B408	6	9'-6"	X	X	F.F. - HORIZ. - WING 4
	B409	8	14'-5"	X	X	B.F. - HORIZ. - WING 4

LEGEND

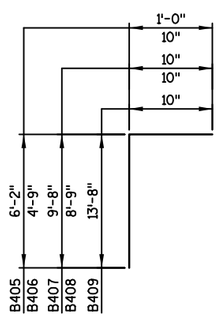
- ◒ ROUGHEN SURFACE OF EXISTING CONCRETE TO ±¼" AMPLITUDE (ALL AREAS OF NEW TO EXISTING CONCRETE CONTACT).
- □ ¾" V-GROOVE.
- ⚠ SEE "SINGLE SLOPE PARAPET 42SS" SHEET FOR REINFORCING DETAILS.
- ■ REMOVE EXISTING UPPER WING AND PARAPET DOWN TO EXISTING ABUTMENT LOWER WINGWALL. SALVAGE AND INCORPORATE EXISTING VERTICAL BAR STEEL INTO NEW WORK.
- ● ½" FILLER TO EXTEND FROM TOP OF EXISTING DIAPHRAGM TO TOP OF CONCRETE PARAPET. FILLER INCLUDED IN WING LENGTH. SEAL EXPOSED SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER 1" DEEP AND HOLD DOWN ⅛" BELOW SURFACE OF CONCRETE.
- ◨ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACK FACE.
- ☆ ADHESIVE ANCHOR.



SECTION D-D



WING 4 ELEVATION
(SHOWING B.F. BAR STEEL REINF.,
WING 3 B.F. REINF. SIMILAR)



B405, B406, B407,
B408, B409

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-3-30

DRAWN BY JFG | PLANS CK'D. KRB

NORTH ABUTMENT DETAILS

SHEET 8
316

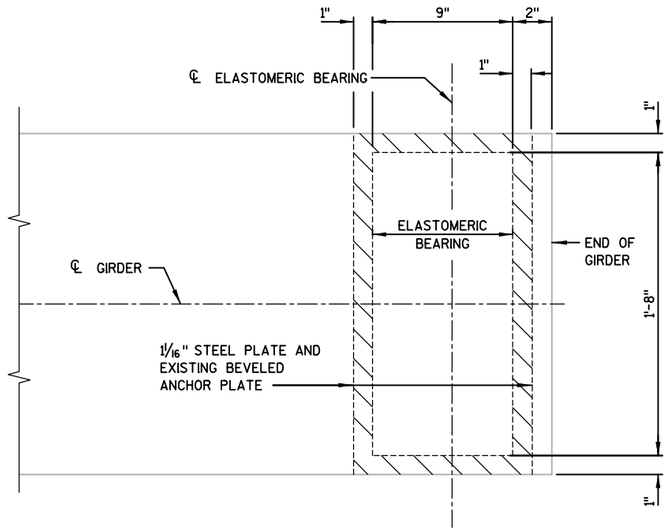
8

8

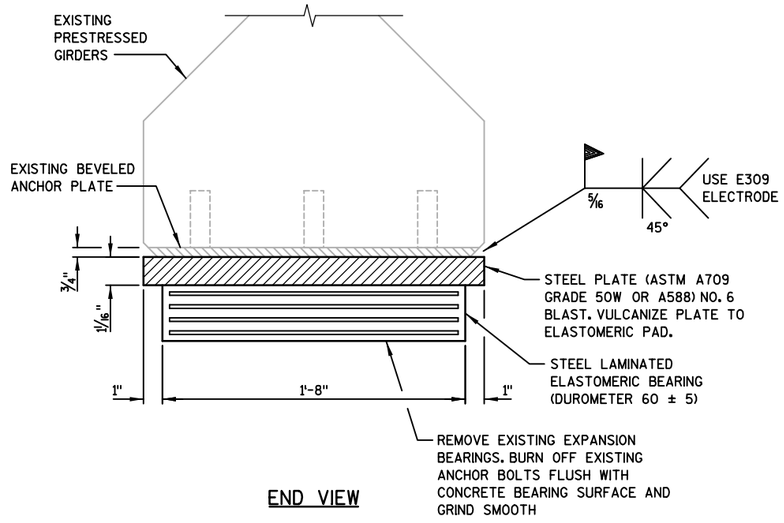
FILE NAME : S:\MAD\1000--1099\1089\895\Drawings\CAD\Micros\Plan\USH 53\080707_na.dgn

STATE PROJECT NUMBER

1196-04-77



ELASTOMERIC BEARING PLAN VIEW AT S. ABUT.



END VIEW

ELASTOMERIC BEARING NOTES

BEARINGS SHALL NOT BE PLACED AT A TEMPERATURE GREATER THAN 85° F.

ALL MATERIAL USED FOR BEARINGS SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "BEARING PADS ELASTOMERIC LAMINATED", EACH.

ALL STRUCTURAL STEEL BEARING PLATES SHALL BE FLAT ROLLED WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT AND VERTICAL.

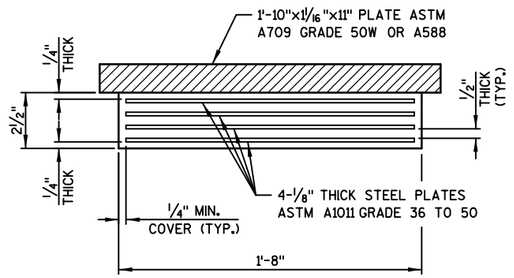
ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUTS.

GRIND EXISTING WELD THAT ATTACHED EXISTING TOP PLATE TO EXISTING BEVELLED ANCHOR PLATE. GRIND AFFECTED AREAS SMOOTH.

WELDING PROCEDURES SHALL BE ESTABLISHED BY THE CONTRACTOR TO RESTRICT THE MAXIMUM TEMPERATURE REACHED BY SURFACES IN CONTACT WITH ELASTOMER TO 200°F (93°C). TEMPERATURES SHALL BE CONTROLLED BY TEMPERATURE INDICATING WAX PENCILS OR OTHER SUITABLE MEANS APPROVED BY THE ENGINEER.

TOP PLATE SHALL CONFORM TO ASTM A709 GRADE 50W OR A588 AND SHALL BE PAINTED IN ACCORDANCE WITH SECTION 506.2.8.1 OF THE STANDARD SPECIFICATION.

REMOVE THE PAINT FROM TOP PLATE SURFACES THAT REQUIRE FIELD WELDING, PROVIDE ONE COAT OF ORGANIC ZINC-RICH PRIMER AND ONE COAT OF HIGH-BUILD BROWN EPOXY PAINT IN ACCORDANCE WITH SECTION 517.3.1.8.2 OF THE STANDARD SPECIFICATIONS. FIELD APPLIED PAINT SHALL EXTEND BEYOND THE DAMAGED PAINTED SURFACES.



SECTION THRU ELASTOMERIC BEARING

GIRDER REACTIONS AT BEARINGS	
	C/L BRG. S. ABUT.
INTERIOR GIRDER	16.00 K
EXTERIOR GIRDER	16.00 K

GIRDER REACTION NOTES

THE THEORETICAL SERVICE LOADS SHOWN IN THE TABLE ARE BASED ON THE GIRDER WEIGHT AFTER THE DECK IS REMOVED.

IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE ADEQUACY OF THE GIRDER AT THE JACKING LOCATION.

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-3-30

DRAWN BY JFG | PLANS CK'D. KRB

BEARING DETAILS

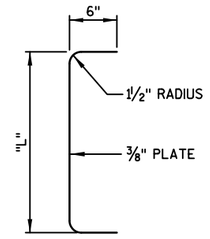
SHEET 9
317

FILE NAME : S:\MAD\1000--1099\1089\895\Drawings\CAD\Micros\Plan\USH 53\080708_bd.dgn

STATE PROJECT NUMBER
1196-04-77

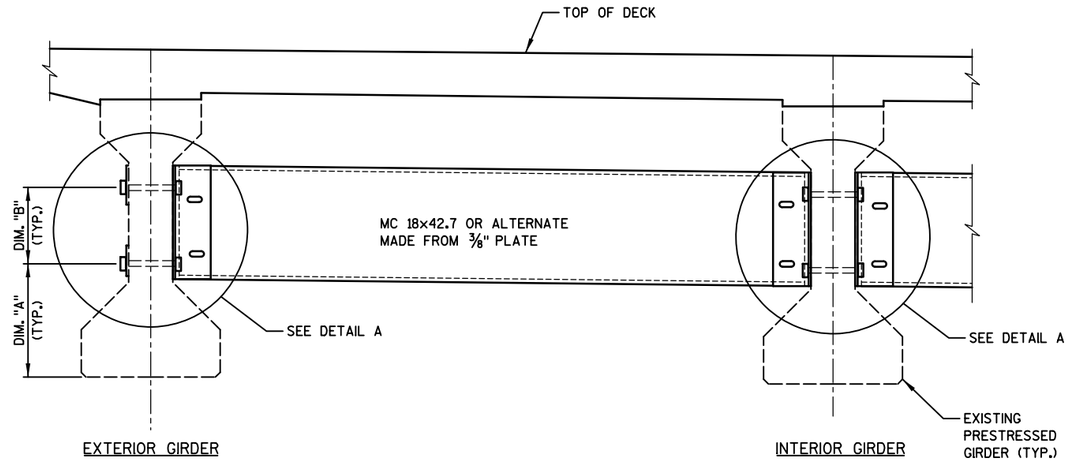
TABLE

GIRDER HEIGHT	DIM. "A"	DIM. "B"	DIM. "L"	DIM. "X"
45"	1'-5 3/8"	1'-1 7/8"	1'-5 1/2"	2 1/4"



SECTION THRU ALTERNATE DIAPHRAGM

*DIM "X" = 2½" FOR ALTERNATE PLATE DIAPHRAGM



PART TRANSVERSE SECTION AT DIAPHRAGM

NOTES

ALL DIAPHRAGM MATERIAL SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "STEEL DIAPHRAGMS B-3-30", EACH.

EACH DIAPHRAGM BETWEEN GIRDERS SHALL CONSTITUTE ONE UNIT.

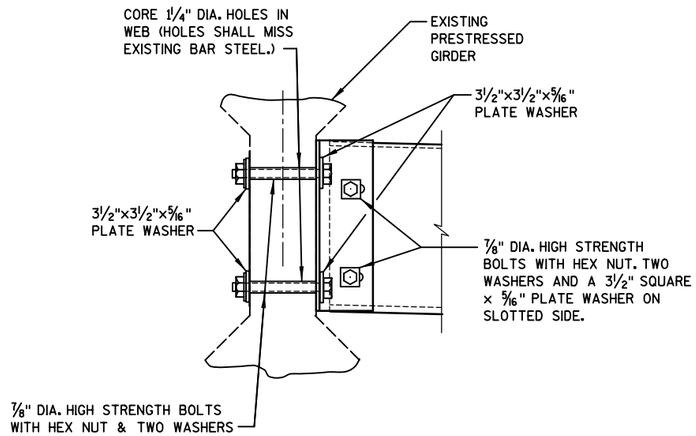
ALL DIAPHRAGM STRUCTURAL STEEL SHALL BE ASTM A709 GRADE 36.

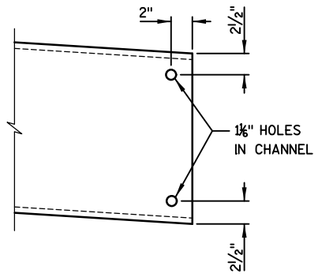
ALL DIAPHRAGM MATERIAL INCLUDING BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED AFTER FABRICATION.

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

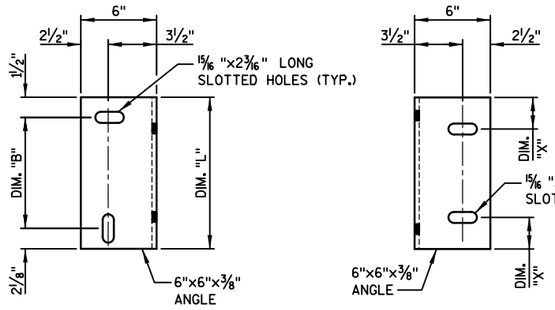
LEGEND

(#) INDICATES GIRDER NUMBER.

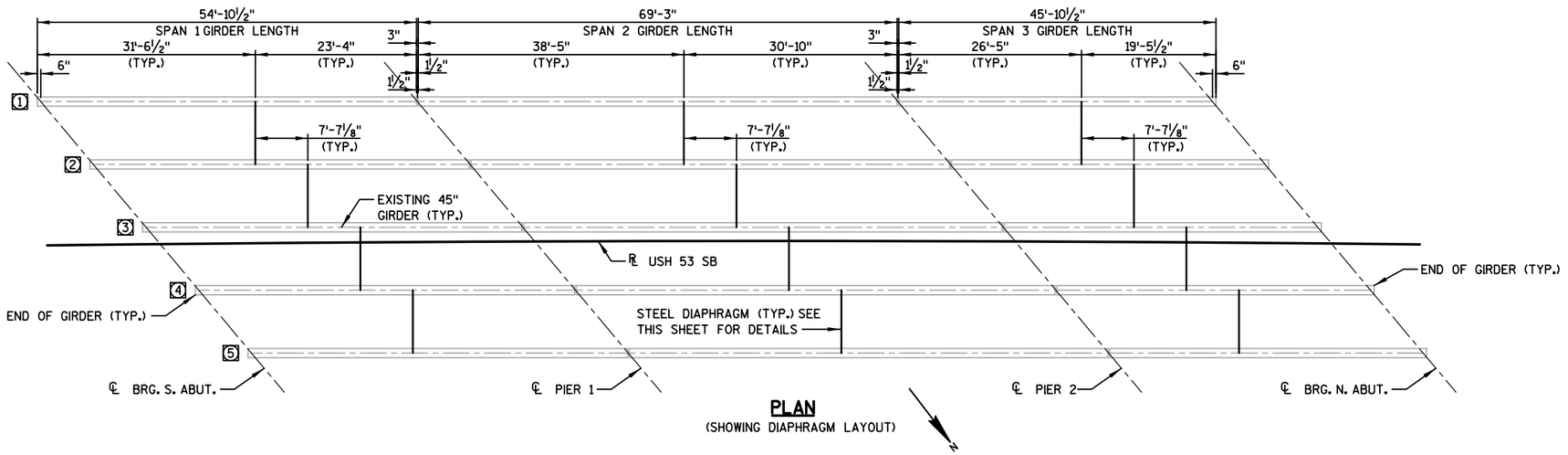




DETAIL A



DIAPHRAGM SUPPORT



PLAN

(SHOWING DIAPHRAGM LAYOUT)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-3-30

DRAWN BY JFG | PLANS CK'D. KRB

STEEL DIAPHRAGMS

SHEET 10
318

8

8

FILE NAME : S:\MAD\1000--1099\1089\895\Drawings\CAD\Micros\Plan\USH 53\080709_sd.dgn

STATE PROJECT NUMBER

1196-04-77

OFFSET & ELEVATION TABLE

	DISTANCE:	-100	-90	-80	-70	-60	-50	-40	-30	-20	-10	0	10	20	30	40	50	60	70	80	90
	OFFSET 'A'				19.53'	19.46'	19.40'	19.34'	19.30'	19.27'	19.26'	19.25'	19.26'	19.27'	19.30'	19.34'	19.40'	19.46'	19.53'	19.62'	19.72'
✳	EL. 'A'				1118.85	1118.69	1118.54	1118.38	1118.22	1118.06	1117.90	1117.73	1117.56	1117.39	1117.22	1117.05	1116.87	1116.70	1116.52	1116.33	1116.15
	OFFSET 'B'	22.67'	22.78'	22.88'	22.97'	23.04'	23.10'	23.16'	23.20'	23.23'	23.24'	23.25'	23.24'	23.23'	23.20'	23.16'	23.10'	23.04'			
✳	EL. 'B'	1120.58	1120.43	1120.28	1120.13	1119.97	1119.82	1119.66	1119.50	1119.34	1119.18	1119.01	1118.84	1118.67	1118.50	1118.33	1118.15	1117.98			
	OFFSET 'C'		0.47'	0.37'	0.28'	0.21'	0.15'	0.09'	0.05'	0.02'	0.01'	0.00'	0.01'	0.02'	0.05'	0.09'	0.15'	0.21'	0.28'	0.37'	
	EL. 'C'		1119.74	1119.59	1119.43	1119.28	1119.12	1118.96	1118.80	1118.64	1118.47	1118.31	1118.14	1117.97	1117.80	1117.63	1117.45	1117.28	1117.10	1116.92	
	OFFSET 'D'		3.03'	3.13'	3.22'	3.29'	3.36'	3.41'	3.45'	3.48'	3.50'	3.50'	3.50'	3.48'	3.45'	3.41'	3.36'	3.29'	3.22'		
	EL. 'D'		1119.84	1119.69	1119.53	1119.38	1119.23	1119.07	1118.91	1118.75	1118.58	1118.42	1118.25	1118.08	1117.91	1117.74	1117.56	1117.38	1117.20		

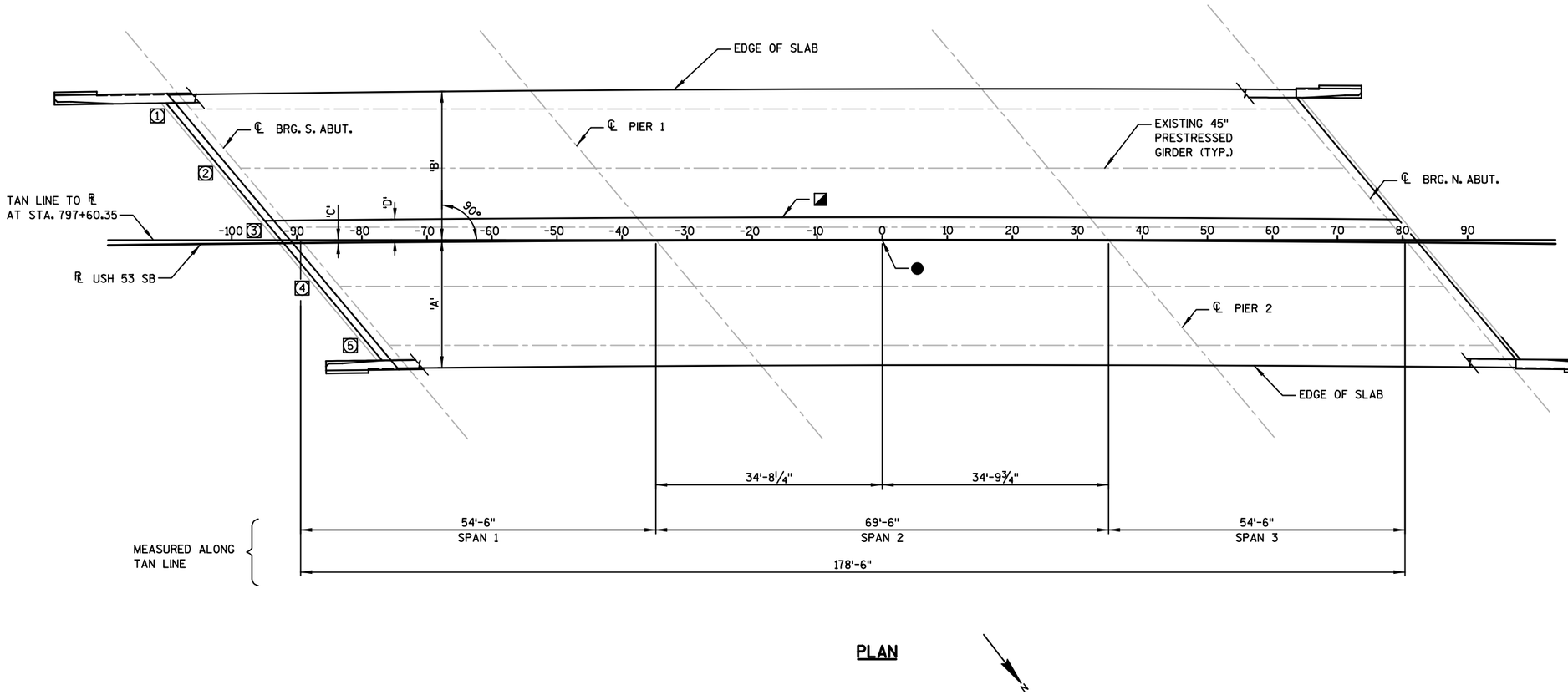
✳ ELEVATION GIVEN AT EDGE OF SLAB = ELEVATION AT F.F. OF PARAPET
'A' = DISTANCE FROM TAN LINE TO EAST EDGE OF SLAB.
'B' = DISTANCE FROM TAN LINE TO WEST EDGE OF SLAB.
'C' = DISTANCE FROM TAN LINE TO ℄
'D' = DISTANCE FROM TAN LINE TO LONGITUDINAL CONSTRUCTION JOINT.

LEGEND

(#) INDICATES GIRDER NUMBER

LONGITUDINAL CONSTRUCTION JOINT KEYWAY. CENTER KEYWAY BETWEEN MATS. SEE DETAIL ON "SUPERSTRUCTURE SECTION" SHEET.

WORKING POINT STA. 797+60.35



PLAN

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-3-30

DRAWN BY JFG | PLANS CK'D. KRB

SUPERSTRUCTURE PLAN

SHEET 11
319

8

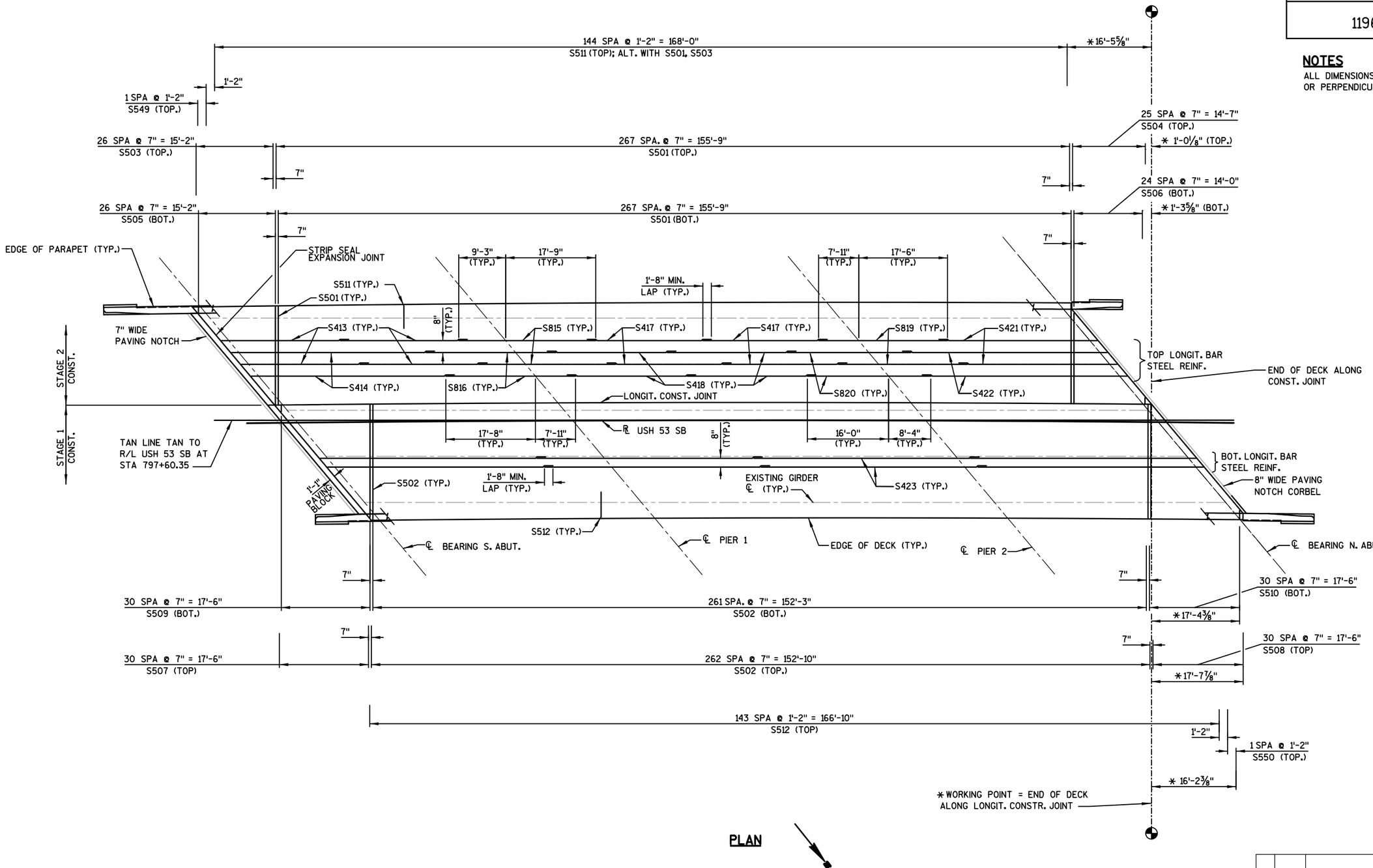
8

FILE NAME : S:\MAD\1000--1099\1089\895\Drawings\CAD\Micros\Plan\USH 53\080710_ss_a.dgn

STATE PROJECT NUMBER
1196-04-77

NOTES

ALL DIMENSIONS MEASURED PARALLEL OR PERPENDICULAR TO TAN LINE.



PLAN

LEGEND

* USE THIS LOCATION AS A REFERENCE POINT WHEN PLACING TRANSVERSE DECK BARS.

WORKING POINT

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-3-30

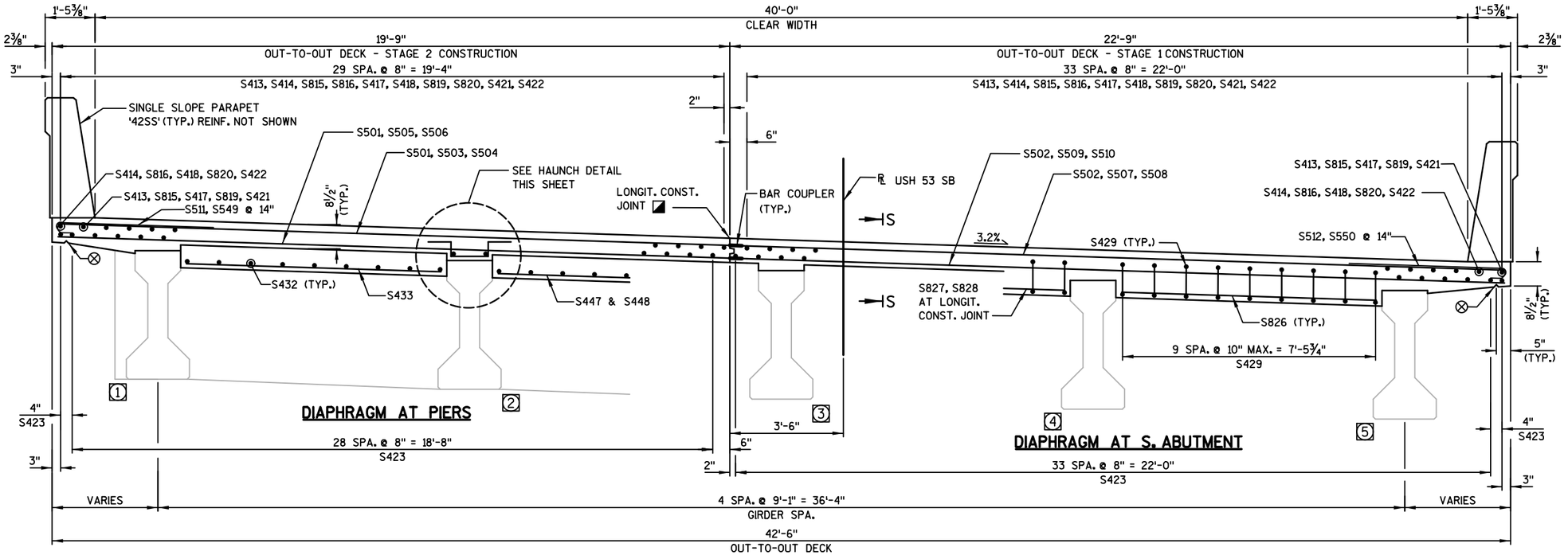
DRAWN BY JFG | PLANS CK'D. KRB

SUPERSTRUCTURE REINFORCING PLAN

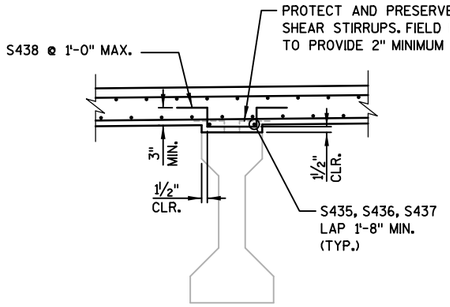
SHEET 12
320

FILE NAME : S:\MAD\1000--1099\1089\895\Drawings\CAD\Micros\Plan\USH 53\080710_ss.dgn

STATE PROJECT NUMBER
1196-04-77

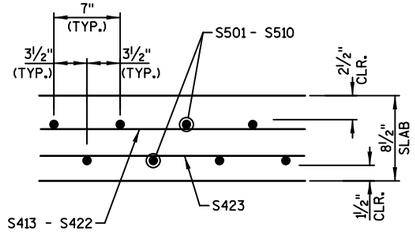


CROSS SECTION THRU BRIDGE
(LOOKING NORTH)

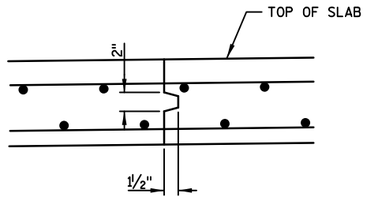


HAUNCH DETAIL
NOTE: TILT HAT BARS AS REQUIRED TO FIT BETWEEN REBAR MATS.

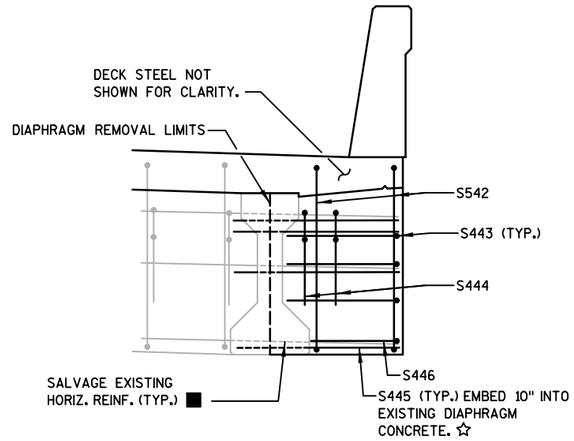
THIS DETAIL IS TYPICAL FOR ALL GIRDERS.



SECTION S-S



CONSTRUCTION JOINT KEYWAY DETAIL



EXTERIOR DIAPHRAGM AT N. ABUT.

LEGEND
- ⊗ 3/4" V-GROOVE REQ'D. EXTEND TO 2'-0" FROM F.F. OF N. ABUT. BODY AND TO 6" FROM F.F. OF S. ABUT. DIAPH.
- (1) GIRDER NUMBER.
- ◪ LONGIT. CONST. JT. KEYWAY. CENTER KEYWAY BETWEEN MATS. SEE DETAIL THIS SHEET.
- ■ REMOVE EXISTING DIAPHRAGM TO C/L GIRDER 5. SALVAGE AND INCORPORATE EXISTING HORIZONTAL BAR STEEL INTO NEW WORK.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-3-30

DRAWN BY JFG | PLANS CK'D. KRB

SUPERSTRUCTURE SECTION

SHEET 13
321

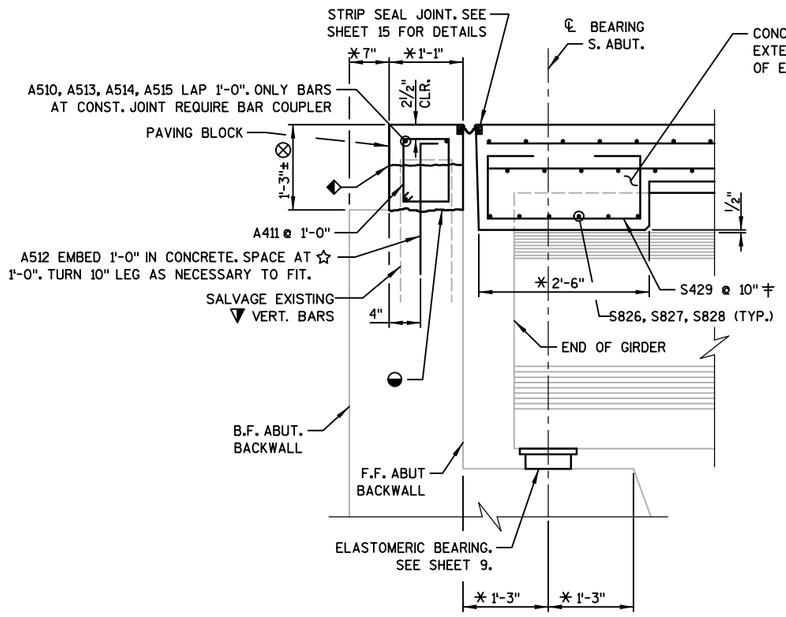
8

8

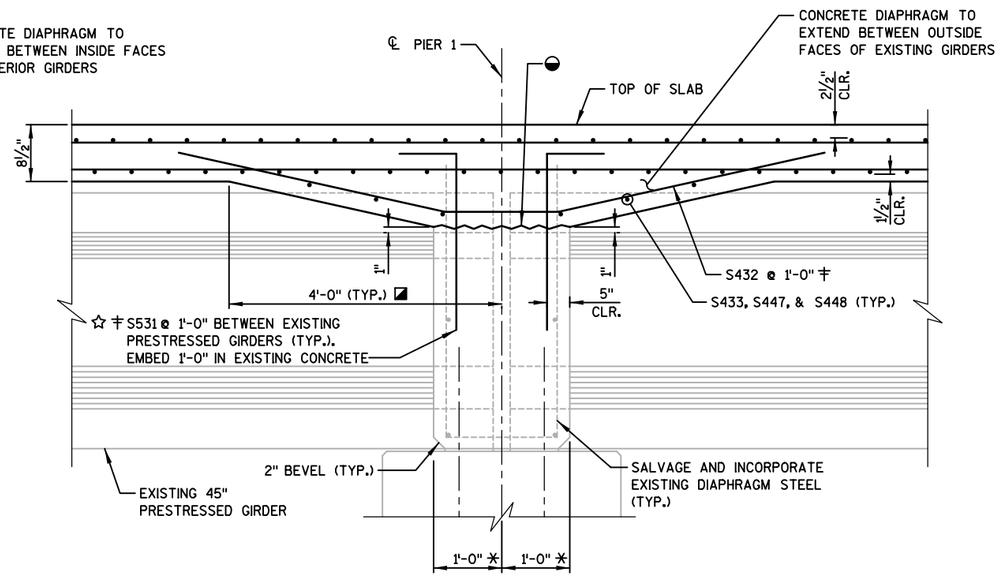
FILE NAME : S:\MAD\1000--1099\1089\895\Drawings\CAD\Micros\Plan\USH 53\080711_ss.dgn

STATE PROJECT NUMBER

1196-04-77



AT SOUTH ABUTMENT



AT PIER 1

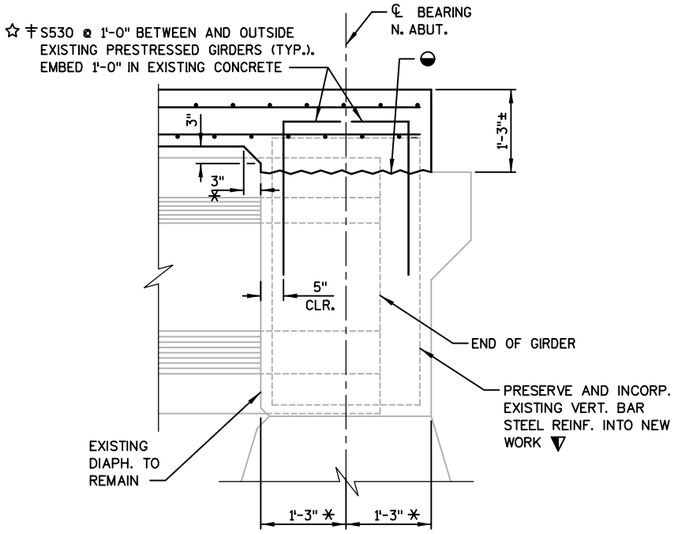
(PIER 1 SHOWN, PIER 2 SIMILAR)

LEGEND

- ◒ ROUGHEN SURFACE OF EXISTING CONCRETE TO ¼"± AMPLITUDE (ALL AREAS OF NEW TO EXISTING CONCRETE CONTACT).
- ◪ DIMENSION IS TAKEN PARALLEL TO ℄ GIRDER.
- ✳ DIMENSION IS TAKEN NORMAL TO ℄ SUBSTRUCTURE UNITS.
- ∓ BARS PLACED PARALLEL TO GIRDERS. SPACING PERPENDICULAR TO ℄ GIRDERS.
- ▼ EXISTING BARS ARE LIKELY TO BE CORRODED AND/OR DAMAGED DURING CONCRETE REMOVAL. SALVAGE AND INCORPORATE AS MUCH REBAR AS PRACTICAL.
- ☆ ADHESIVE ANCHOR
- ◆ OPT. CONST. JT. 1" MIN. BELOW EXISTING REINF.
- ⊗ ADJUST AS NECESSARY FOR FIELD CONDITIONS. POUR AFTER SUPERSTRUCTURE IS IN PLACE AND CONFORM TO DECK ELEVATIONS.

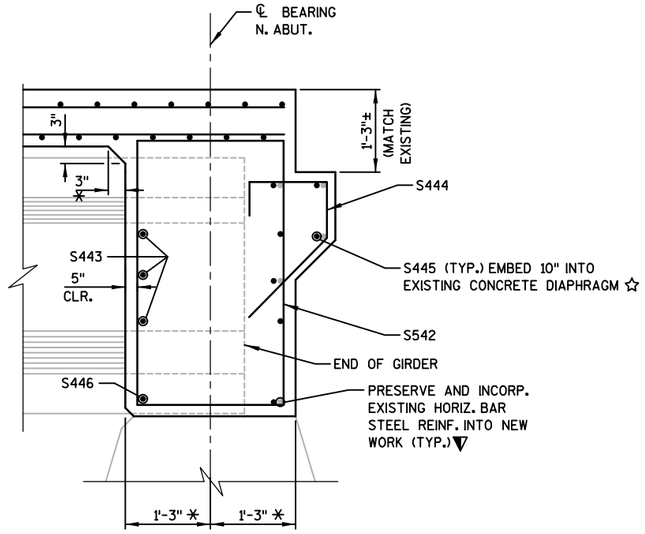
NOTES

SEE SHEETS 5 AND 6 FOR PAVING BLOCK BAR DETAILS.



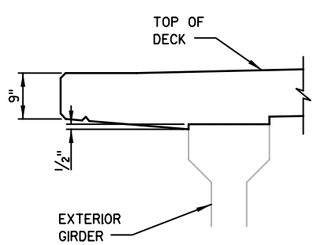
AT NORTH ABUTMENT

(TYP.)



AT NORTH ABUTMENT

(EXTERIOR DIAPHRAGM ON NE CORNER. SEE SHEET 7 FOR LIMITS)



EXTERIOR HAUNCH DETAIL

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-3-30

DRAWN BY JFG | PLANS CK'D. KRB

SUPERSTRUCTURE DETAILS - 1

SHEET 14
322

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FILE NAME : S:\MAD\1000--1099\1089\895\Drawings\CAD\Micros\Plan\USH 53\080712_ss.dgn

STATE PROJECT NUMBER

1196-04-77

SUPERSTRUCTURE

BILL OF BARS

COATED: 63,770 LBS

	BAR MARK	NO. REQ'D	LENGTH	BENT	SERIES	COAT	LOCATION
**	S501	536	19'-7"			X	SLAB - TRANS. - TOP AND BOT. - STAGE 2
**	S502	525	22'-7"			X	SLAB - TRANS. - TOP AND BOT. STAGE 1
	S503	27	10'-0"		X	X	SLAB - TRANS. - TOP - STAGE 2 - SPAN 1
**	S504	26	9'-7"		X	X	SLAB - TRANS. - TOP - STAGE 2 - SPAN 3
	S505	27	10'-5"		X	X	SLAB - TRANS. - BOT. - STAGE 2 - SPAN 1
**	S506	25	9'-7"		X	X	SLAB - TRANS. - BOT. - STAGE 2 - SPAN 3
**	S507	31	11'-7"		X	X	SLAB - TRANS. - TOP - STAGE 1 - SPAN 1
	S508	31	11'-9"		X	X	SLAB - TRANS. - TOP - STAGE 1 - SPAN 3
**	S509	31	11'-11"		X	X	SLAB - TRANS. - BOT. - STAGE 1 - SPAN 1
	S510	31	12'-1"		X	X	SLAB - TRANS. - BOT. - STAGE 1 - SPAN 3
	S511	145	5'-0"	X		X	SLAB - TRANS. - OVERHANG - TOP WEST
	S512	144	5'-6"	X		X	SLAB - TRANS. - OVERHANG - TOP EAST
	S413	64	25'-1"			X	SLAB - LONG. - TOP - SPAN 1
	S414	32	40'-0"			X	SLAB - LONG. - TOP - SPAN 1
	S815	32	27'-0"			X	SLAB - LONG. - TOP - PIER 1
	S816	32	25'-7"			X	SLAB - LONG. - TOP - PIER 1
	S417	64	24'-6"			X	SLAB - LONG. - TOP - SPAN 2
	S418	64	25'-4"			X	SLAB - LONG. - TOP - SPAN 2
	S819	32	25'-5"			X	SLAB - LONG. - TOP - PIER 2
	S820	32	24'-4"			X	SLAB - LONG. - TOP - PIER 2
	S421	32	31'-2"			X	SLAB - LONG. - TOP - SPAN 3
	S422	32	40'-4"			X	SLAB - LONG. - TOP - SPAN 3
	S423	260	44'-5"			X	SLAB - LONG. - BOT.
	S424	6	10'-11"			X	EXPANSION JOINT - TRANS. - STAGE 1 & 2
**	S425	2	1'-5"			X	EXPANSION JOINT - TRANS. - STAGE 1
	S826	18	9'-8"			X	END DIAPH. - TRANS. - BETWEEN GIRDERS STAGE 1 & 2
	BAR MARK NOT USED						
	S828	6	9'-4"			X	END DIAPH. - TRANS. - BETWEEN GIRDERS STAGE 2
	S429	40	5'-6"	X		X	END DIAPH. - STIRRUP
☆	S530	82	2'-6"	X		X	NORTH ABUTMENT - DOWEL
☆	S531	128	2'-10"	X		X	PIERS 1 & 2 DIAPH. - DOWEL
	S432	64	10'-0"	X		X	PIERS 1 & 2 DIAPH. - VERT.
	S433	36	9'-8"			X	PIERS 1 & 2 DIAPH. - HORIZ. - TYPICAL
**	S434	2	9'-5"			X	EXPANSION JOINT - TRANS. - STAGE 2
	S435	20	28'-1"			X	HAUNCH - LONG. - SPAN 1
	S436	20	35'-7"			X	HAUNCH - LONG. - SPAN 2
	S437	20	23'-7"			X	HAUNCH - LONG. - SPAN 3
	S438	855	3'-3"	X		X	HAUNCH - VERT.
	S539	516	4'-5"	X		X	PARAPET - VERT.
	S540	516	6'-8"	X		X	PARAPET - VERT.
	S541	48	59'-8"			X	PARAPET - HORIZ.
	S542	2	14'-2"	X		X	NORTH ABUTMENT - EXTERIOR DIAPH. - STIRRUP
	S443	3	9'-1"	X		X	NORTH ABUTMENT - EXTERIOR DIAPH. - HORIZ.
	S444	2	5'-6"	X		X	NORTH ABUTMENT - EXTERIOR DIAPH. - PAVING NOTCH
☆	S445	5	3'-8"			X	NORTH ABUTMENT - EXTERIOR DIAPH - HORIZ. - DOWEL
	S446	1	8'-3"	X		X	NORTH ABUTMENT - EXTERIOR DIAPH. - HORIZ.
**	S447	12	9"			X	PIERS 1 & 2 DIAPH. - HORIZ. - STAGE 1
**	S448	12	8'-11"			X	PIERS 1 & 2 DIAPH. - HORIZ. - STAGE 2
	S549	2	3'-4"	X	X	X	SLAB - TRANS. - OVERHANG - TOP WEST
	S550	2	4'-4"	X	X	X	SLAB - TRANS. - OVERHANG - TOP EAST

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

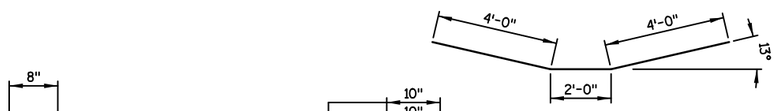
LEGEND

☆ ADHESIVE ANCHOR

** BAR WITH COUPLER, SEE DETAILS THIS SHEET. BAR LENGTH COMPUTED TO ℄ LONGIT. JOINT AND SHALL BE MODIFIED TO BAR COUPLER MANUFACTURER RECOMMENDATIONS, IF REQUIRED.

TABLE OF DECK ELEVATIONS

	W. DECK EDGE (23.25' LT.)	GIRDER 1		GIRDER 2		CONST. JT. (3.50' LT)	GIRDER 3		R/L (0.00')	GIRDER 4		GIRDER 5		E. DECK EDGE (19.25' RT)
	EL.	EL.	OFFSET (LT)	EL.	OFFSET (LT)	EL.	EL.	OFFSET (LT)	EL.	EL.	OFFSET (RT)	EL.	OFFSET (RT)	EL.
C/L BRG. S. ABUT.	1120.70	1120.63	20.82'	1120.23	11.65'	1119.86	1119.82	2.48'	1119.71	1119.42	6.68'	1119.01	15.83'	1118.90
0.1	1120.62	1120.55	20.76'	1120.15	11.59'	1119.78	1119.74	2.43'	1119.63	1119.33	6.73'	1118.92	15.88'	1118.81
0.2	1120.54	1120.47	20.70'	1120.06	11.53'	1119.69	1119.66	2.37'	1119.55	1119.25	6.78'	1118.84	15.92'	1118.73
0.3	1120.46	1120.39	20.64'	1119.98	11.48'	1119.61	1119.57	2.32'	1119.47	1119.16	6.82'	1118.75	15.96'	1118.64
0.4	1120.38	1120.30	20.58'	1119.90	11.43'	1119.53	1119.49	2.28'	1119.39	1119.08	6.86'	1118.67	16.00'	1118.56
0.5	1120.30	1120.22	20.53'	1119.81	11.38'	1119.45	1119.40	2.24'	1119.30	1118.99	6.90'	1118.58	16.03'	1118.47
0.6	1120.22	1120.13	20.48'	1119.73	11.34'	1119.36	1119.32	2.20'	1119.22	1118.90	6.93'	1118.49	16.06'	1118.39
0.7	1120.14	1120.05	20.44'	1119.64	11.30'	1119.28	1119.23	2.16'	1119.13	1118.82	6.96'	1118.41	16.08'	1118.30
0.8	1120.05	1119.96	20.40'	1119.55	11.26'	1119.19	1119.14	2.13'	1119.05	1118.73	6.99'	1118.32	16.11'	1118.21
0.9	1119.97	1119.88	20.36'	1119.47	11.23'	1119.11	1119.05	2.10'	1118.96	1118.64	7.01'	1118.23	16.13'	1118.13
C/L PIER 1	1119.88	1119.79	20.32'	1119.38	11.20'	1119.02	1118.97	2.08'	1118.88	1118.55	7.03'	1118.14	16.14'	1118.04
0.1	1119.77	1119.68	20.28'	1119.27	11.16'	1118.91	1118.85	2.05'	1118.77	1118.44	7.06'	1118.03	16.15'	1117.92
0.2	1119.67	1119.57	20.25'	1119.16	11.14'	1118.80	1118.74	2.03'	1118.65	1118.33	7.07'	1117.91	16.16'	1117.81
0.3	1119.55	1119.46	20.22'	1119.04	11.11'	1118.68	1118.63	2.01'	1118.54	1118.21	7.08'	1117.80	16.17'	1117.69
0.4	1119.44	1119.34	20.20'	1118.93	11.10'	1118.57	1118.51	2.00'	1118.43	1118.10	7.08'	1117.68	16.16'	1117.58
0.5	1119.33	1119.23	20.18'	1118.82	11.09'	1118.46	1118.40	2.00'	1118.31	1117.98	7.08'	1117.56	16.16'	1117.46
0.6	1119.22	1119.12	20.17'	1118.70	11.08'	1118.34	1118.28	2.00'	1118.19	1117.86	7.07'	1117.45	16.14'	1117.34
0.7	1119.10	1119.00	20.17'	1118.58	11.08'	1118.22	1118.17	2.01'	1118.08	1117.75	7.06'	1117.33	16.12'	1117.22
0.8	1118.99	1118.89	20.17'	1118.47	11.09'	1118.11	1118.05	2.02'	1117.96	1117.63	7.04'	1117.21	16.10'	1117.10
0.9	1118.87	1118.77	20.17'	1118.35	11.10'	1117.99	1117.93	2.04'	1117.84	1117.51	7.02'	1117.09	16.07'	1116.98
C/L PIER 2	1118.75	1118.65	20.18'	1118.23	11.12'	1117.87	1117.81	2.06'	1117.72	1117.39	6.98'	1116.97	16.03'	1116.86
0.1	1118.68	1118.57	20.20'	1118.15	11.14'	1117.79	1117.73	2.08'	1117.64	1117.31	6.96'	1116.89	16.00'	1116.78
0.2	1118.60	1118.50	20.21'	1118.08	11.15'	1117.71	1117.66	2.10'	1117.56	1117.23	6.94'	1116.81	15.97'	1116.70
0.3	1118.52	1118.42	20.22'	1118.00	11.17'	1117.63	1117.58	2.13'	1117.48	1117.15	6.91'	1116.73	15.94'	1116.62
0.4	1118.44	1118.34	20.24'	1117.92	11.19'	1117.55	1117.50	2.15'	1117.40	1117.07	6.88'	1116.65	15.91'	1116.53
0.5	1118.36	1118.26	20.26'	1117.84	11.22'	1117.47	1117.42	2.18'	1117.32	1117.00	6.85'	1116.57	15.87'	1116.45
0.6	1118.28	1118.19	20.29'	1117.76	11.25'	1117.39	1117.34	2.21'	1117.23	1116.92	6.81'	1116.49	15.83'	1116.37
0.7	1118.20	1118.11	20.31'	1117.68	11.27'	1117.31	1117.26	2.25'	1117.15	1116.83	6.78'	1116.41	15.79'	1116.29
0.8	1118.12	1118.03	20.34'	1117.60	11.31'	1117.22	1117.18	2.28'	1117.07	1116.75	6.74'	1116.33	15.75'	1116.20
0.9	1118.04	1117.95	20.37'	1117.52	11.34'	1117.14	1117.10	2.32'	1116.99	1116.67	6.70'	1116.25	15.70'	1116.12
C/L BRG. N. ABUT.	1117.96	1117.87	20.40'	1117.44	11.38'	1117.06	1117.02	2.36'	1116.90	1116.59	6.65'	1116.17	15.65'	1116.03



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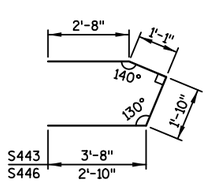

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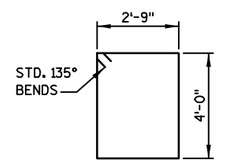

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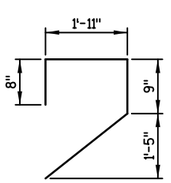

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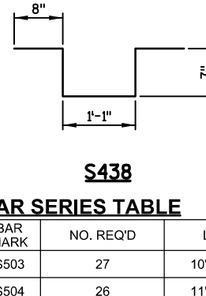

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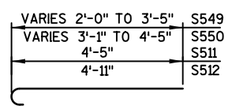

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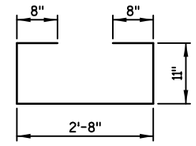

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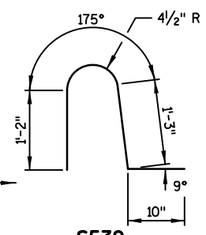

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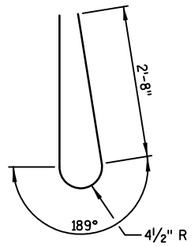

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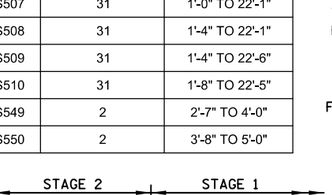

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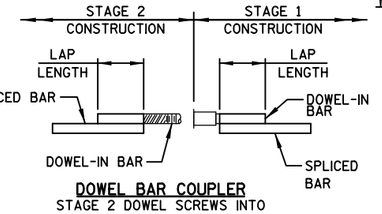
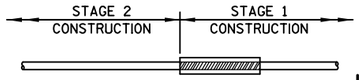


DOWEL BAR COUPLER

STAGE 2 DOWEL SCREWS INTO COUPLER PLACED IN STAGE 1



ONE-PIECE THREADED COUPLER

SPLICER ALTERNATIVES

INSTALLATION AND SETTING METHODS

"A" SET SPLICER BY MEANS OF A TEMPLATE BOLT.
"B" SET SPLICER BY NAILING TO WOOD FORMS OR CEMENTING TO STEEL FORMS.

BAR COUPLER NOTES

FOR DOWEL BAR COUPLERS, ALL DOWEL BARS SHALL BE LAPPED AND TIED TO THE REINFORCEMENT BARS.

BAR SERIES TABLE

BAR MARK	NO. REQ'D	LENGTH
S503	27	10" TO 19'-2"
S504	26	11" TO 18'-3"
S505	27	1'-3" TO 19'-6"
S506	25	1'-3" TO 17'-11"
S507	31	1'-0" TO 22'-1"
S508	31	1'-4" TO 22'-1"
S509	31	1'-4" TO 22'-6"
S510	31	1'-8" TO 22'-5"
S549	2	2'-7" TO 4'-0"
S550	2	3'-8" TO 5'-0"

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-3-30

DRAWN BY JFG | PLANS CK'D. KRB

SUPERSTRUCTURE DETAILS - 2

SHEET 15
323

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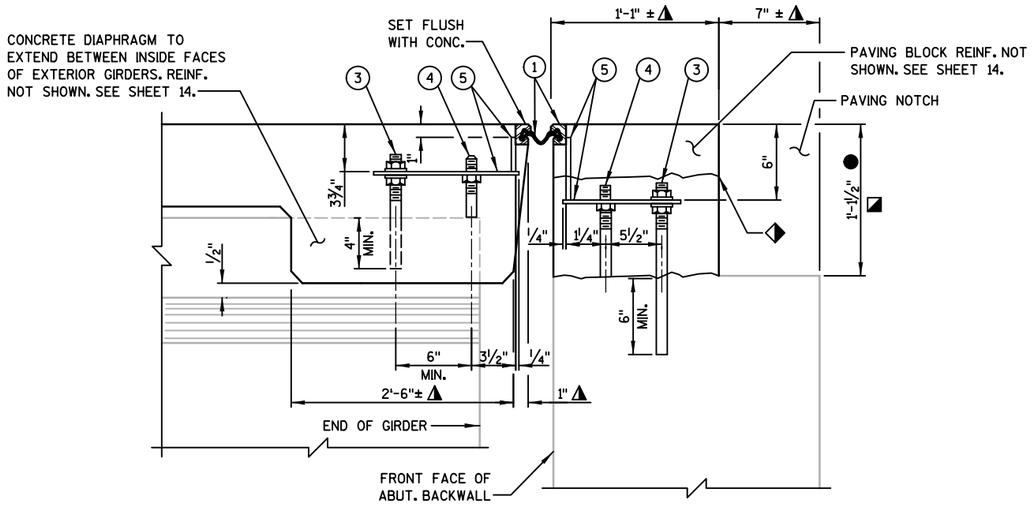
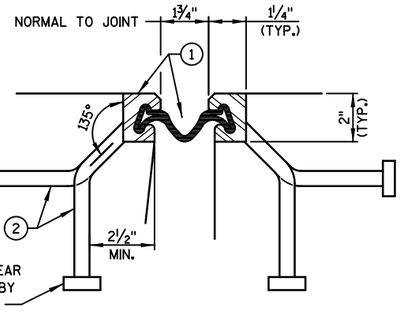
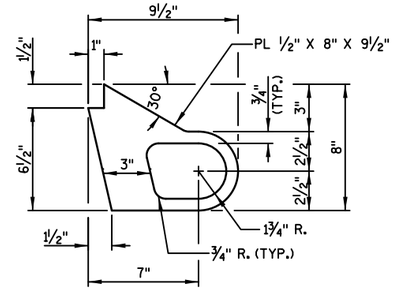


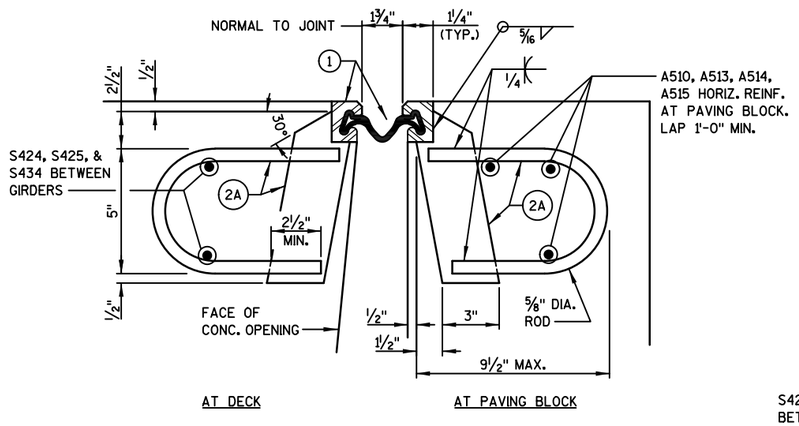
SECTION THRU JOINT AT ABUTMENT
NORMAL TO ℄ SUBSTRUCTURE



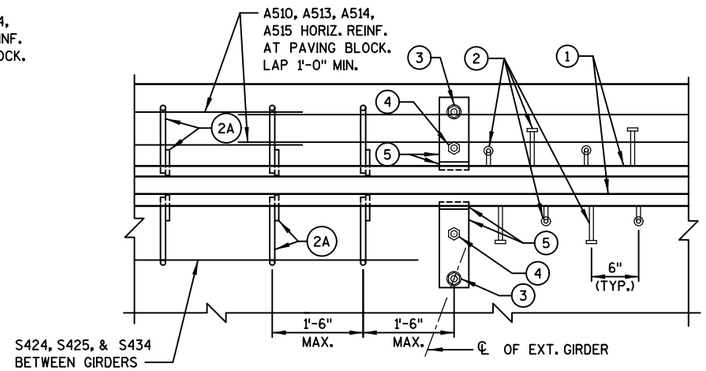
SECTION THRU JOINT
EXTERIOR GIRDER TO EDGE OF DECK AND AT PARAPETS



ALTERNATE STRIP SEAL ANCHOR



SECTION THRU JOINT
ROADWAY TRAFFIC AREA BETWEEN EXTERIOR GIRDERS.



PART PLAN

STATE PROJECT NUMBER

1196-04-77

NOTES

ONE FIELD SPLICE PERMITTED IN STEEL EXTRUSIONS, UNLESS MORE ARE REQUIRED FOR STAGED CONSTRUCTION, HANDLING OR GALVANIZING REQUIREMENTS. IF USED, DETAILS SHALL BE SUBMITTED FOR APPROVAL. NO SPLICING PERMITTED IN NEOPRENE STRIP SEAL.

AFTER FABRICATION, BUT BEFORE SHIPMENT, STRAIGHTEN STEEL EXTRUSIONS SUCH THAT THEY SHALL BE FREE FROM WARP, TWIST AND SWEEP.

FABRICATOR SHALL PROVIDE MEANS OF KEEPING GALVANIZED EXTRUSIONS CLEAN AND SMOOTH DURING SHIPMENT AND PRIOR TO APPLYING LUBRICANT ADHESIVE FOR NEOPRENE GLAND INSTALLATION.

SANDBLAST PLATES, SUPPORTS AND EXTRUSIONS AFTER FABRICATION IN ACCORDANCE WITH SSPC SP. #6 "COMMERCIAL BLAST CLEANING". AFTER BLAST CLEANING, THE PLATES, SUPPORTS AND EXTRUSIONS SHALL BE HOT DIPPED GALVANIZED.

ANCHOR SYSTEM NO. 8 AND NO. 9 SHALL CONFORM TO ASTM A307 AND SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C AND D.

ALL MATERIAL IN THE EXPANSION JOINT ASSEMBLY, INCLUDING ANCHOR STUDS AND HARDWARE SHALL BE PAID AT THE UNIT PRICE BID FOR "EXPANSION DEVICE", LF.

LEGEND

(1) NEOPRENE STRIP SEAL (4-INCH) AND STEEL EXTRUSIONS.

(2) STUDS ⅝" DIA. X 6⅜" LONG AT 6" ALTERNATE CENTERS. WELD TO EXTRUSIONS AND BEND AS SHOWN AFTER WELDING.

(2A) ½" THICK ANCHOR PLATE WITH ⅝" DIA. ROD (OR ALTERNATE STRIP SEAL ANCHOR). WELD ROD TO ANCHOR PLATE, WELD ANCHOR PLATE TO NO. 1 AT 1'-6" CENTERS BETWEEN GIRDERS.

(3) ¾" DIA. THREADED ROD WITH 2 NUTS AND PLATE WASHERS. GROUT THREADED ROD INTO FIELD DRILLED HOLES ON ℄ OF GIRDER. ON ABUTMENT SIDE GROUT THREADED ROD INTO FIELD DRILLED HOLES IN ABUTMENT BACKWALL AS SHOWN.

(4) ¾" DIA. THREADED ROD WITH NUT. TACK WELD NUT TO NO. 5.

(5) FABRICATE SUPPORT FROM 3" X ½" BAR AS SHOWN OR EQUIVALENT, ONE PER GIRDER PER SIDE. SHOP OR FIELD WELD TO NO. 1. IF FIELD WELDED, COVER WELDED AREAS WITH EPOXY-COATING MATERIAL. PROVIDE 1½" DIA. HOLE FOR NO. 3 AND 1" DIA. HOLE FOR NO. 4.

◪ POUR PAVING BLOCK AFTER SUPERSTRUCTURE IS IN PLACE.

● TOP ELEVATION OF PAVING BLOCK SHALL CONFORM WITH SUPERSTRUCTURE.

◭ DIMENSIONS ARE GIVEN NORMAL TO ℄ OF SUBSTRUCTURE UNIT.

◆ OPT. CONST. JOINT 1" MIN. BELOW EXISTING REINF.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-3-30

DRAWN BY JFG | PLANS CK'D. KRB

STRIP SEAL EXPANSION JOINT

SHEET 16
324

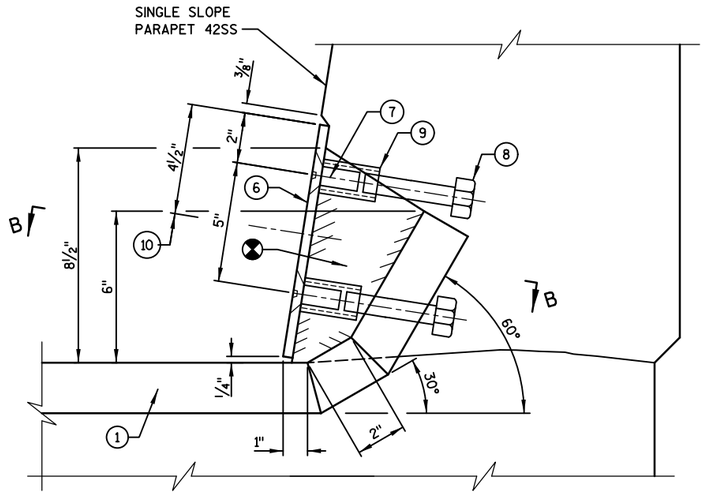
8

8

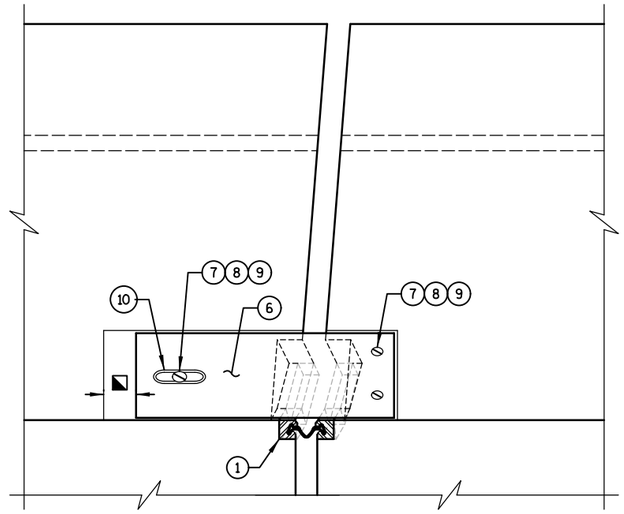
FILE NAME : S:\MAD\1000--1099\1089\895\Drawings\CAD\Micros\Plan\USH 53\080714_ej.dgn

STATE PROJECT NUMBER

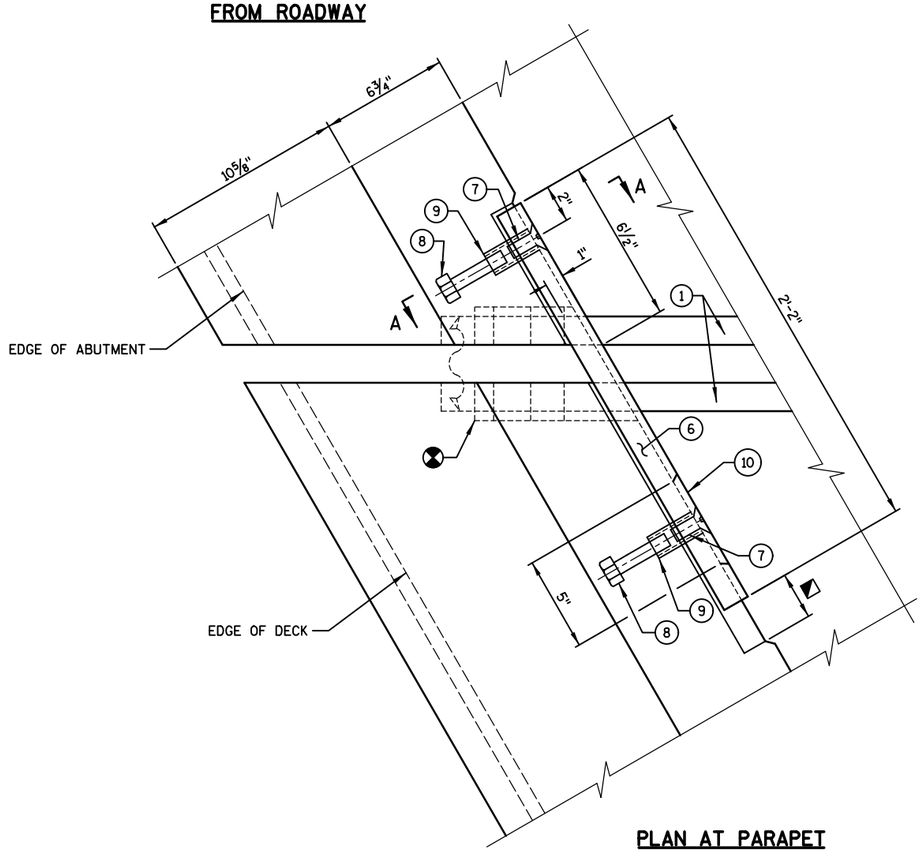
1196-04-77



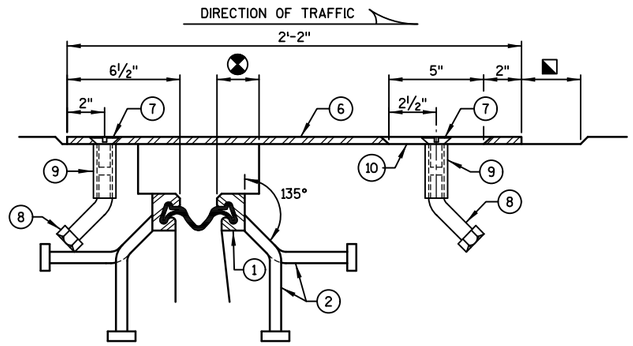
SECTION A-A



VIEW OF PARAPET PLATE FROM ROADWAY



PLAN AT PARAPET



SECTION B-B

LEGEND

1. NEOPRENE STRIP SEAL (4-INCHES) AND STEEL EXTRUSIONS.
2. STUDS 5/8" DIA.x6 3/8" LONG AT 6" ALTERNATE CENTERS. WELD TO EXTRUSIONS AND BEND AS SHOWN AFTER WELDING.
2A. 1/2" THICK ANCHOR PLATE WITH 5/8" DIA. ROD (OR ALTERNATE STRIP SEAL ANCHOR). WELD ROD TO ANCHOR PLATE, WELD ANCHOR PLATE TO NO. 1 AT 1'-6" CENTERS BETWEEN GIRDERS.
3. 3/4" DIA. THREADED ROD WITH 2 NUTS AND PLATE WASHERS. GROUT THREADED TOD INTO FIELD DRILLED HOLES ON OF GIRDER. ON ABOUTMENT SIDE GROUT THREADED ROD INTO FIELD DRILLED HOLES IN ABUTMENT BACKWALL AS SHOWN.
4. 3/4" DIA. THREADED ROD WITH NUT. TACK WELD NUT TO NO. 5.
5. FABRICATE SUPPORT FROM 3"x1/2" BAR AS SHOWN OR EQUIVALENT, ONE PER GIRDER PER SIDE. SHOP OR FIELD WELD TO NO. 1. IF FIELD WELDED. COVER WELDED AREAS WITH EPOXY COATING MATERIAL. PROVIDE 1 1/2" DIA. HOLE FOR NO. 3 AND 1" DIA. HOLE FOR NO. 4.
6. GALVANIZED PLATE 3/8"x10"x2'-2" LONG WITH HOLES FOR NO. 7.
7. 3/4" DIA.x1 1/2" STAINLESS STEEL SOCKET FLAT HEAD SCREWS WITH ANTI-SEIZE LUBRICANT. PLACE IN COUNTERSUNK HOLE. RECESS 1/16" BELOW PLATE SURFACE.
8. 3/4" DIA.x4" GALVANIZED HEX HEAD BOLT. BEND 45°.
9. 3/4" DIA.x2 1/4" GALVANIZED THREADED COUPLING.
10. 1"x5" SLOTTED COUNTERSUNK HOLE FOR NO. 7. PLACE SLOT PARALLEL TO DIRECTION OF MOVEMENT.

BLOCK OUT CONCRETE 2" EACH SIDE OF JOINT OPENING.

JOINT OPENING DIMENSION ALONG SKEW PLUS 1/2".

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-3-30

DRAWN BY JFG | PLANS CK'D. KRB

COVER PLATE DETAILS

SHEET 17
325

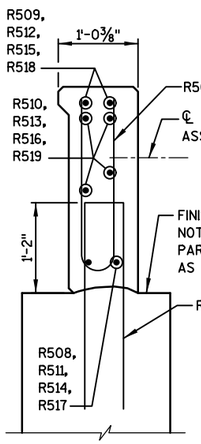
8

8

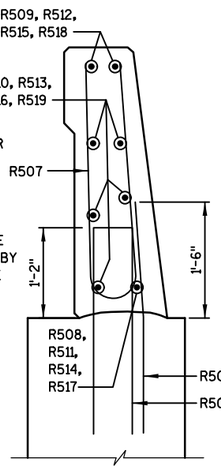
FILE NAME : S:\MAD\1000--1099\1089\895\Drawings\CAD\Micros\Plan\USH 53\080715_cp.dgn

STATE PROJECT NUMBER

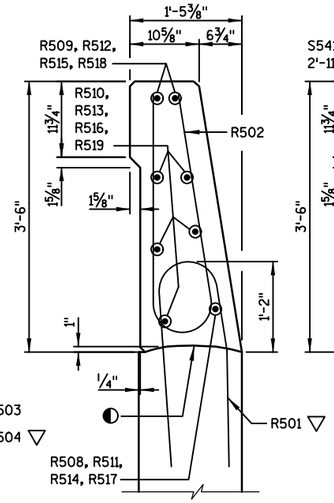
1196-04-77



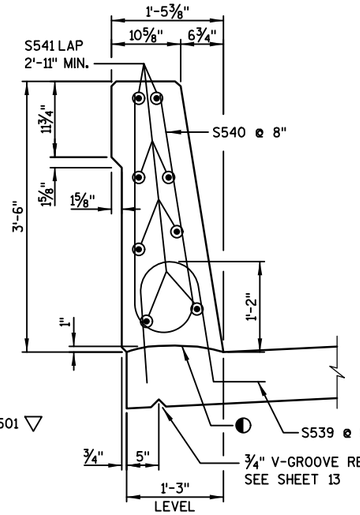
SECTION A-A



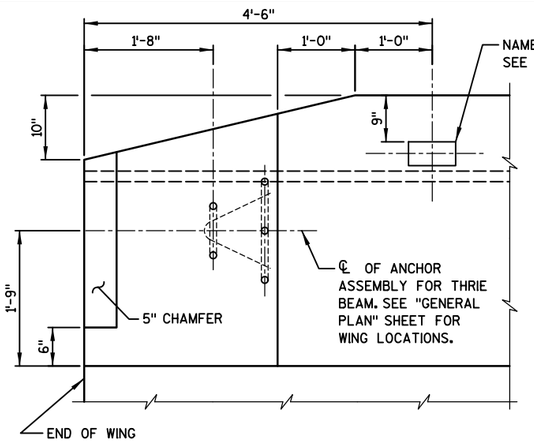
SECTION B-B



SECTION C-C



SECTION THRU PARAPET ON DECK



PARAPET END TREATMENT DETAIL

LOOKING AT INSIDE FACE OF PARAPET

SINGLE SLOPE PARAPET 42SS

BILL OF BARS

COATED: 1,770 LBS

BAR MARK	NO. REQ'D S. ABUT.	NO. REQ'D N. ABUT.	LENGTH	BENT	COAT	LOCATION
R501	17	12	5'-10"	X	X	PARAPET - VERT.
R502	17	12	6'-8"	X	X	PARAPET - VERT.
R503	24	24	3'-0"	X	X	PARAPET - VERT.
R504	34	34	5'-7"	X	X	PARAPET - VERT.
R505	12	12	5'-5"	X	X	PARAPET - VERT.
R506	10	10	6'-5"	X	X	PARAPET - VERT.
R507	12	12	6'-6"	X	X	PARAPET - VERT.
R508	1	0	9'-7"	X	X	PARAPET - HORIZ. - WING 1
R509	2	0	9'-8"	X	X	PARAPET - HORIZ. - WING 1
R510	5	0	9'-8"		X	PARAPET - HORIZ. - WING 1
R511	1	0	18'-1"	X	X	PAPAPET - HORIZ. - WING 2
R512	2	0	16'-11"	X	X	PAPAPET - HORIZ. - WING 2
R513	5	0	17'-1"		X	PAPAPET - HORIZ. - WING 2
R514	0	1	9'-7"	X	X	PAPAPET - HORIZ. - WING 3
R515	0	2	9'-6"	X	X	PAPAPET - HORIZ. - WING 3
R516	0	5	9'-6"		X	PAPAPET - HORIZ. - WING 3
R517	0	1	13'-7"	X	X	PAPAPET - HORIZ. - WING 4
R518	0	2	13'-6"	X	X	PAPAPET - HORIZ. - WING 4
R519	0	5	13'-6"		X	PAPAPET - HORIZ. - WING 4

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

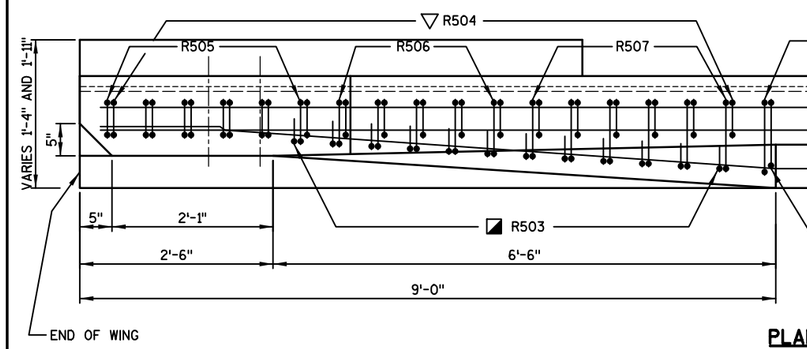
LEGEND

◐ CONST. JOINT - STRIKE OFF AS SHOWN.

◪ R503 BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. USE CARE TO PLACE R503 BARS CORRECTLY ALONG TRANSITION OF PARAPET.

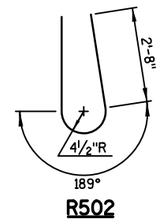
▽ R501 AND R504 BARS TO BE TIED TO WING STEEL BEFORE WING IS POURED.

◩ BENCH MARK CAP (WHEN SUPPLIED).



PLAN

SW CORNER SHOWN, OTHERS SIMILAR

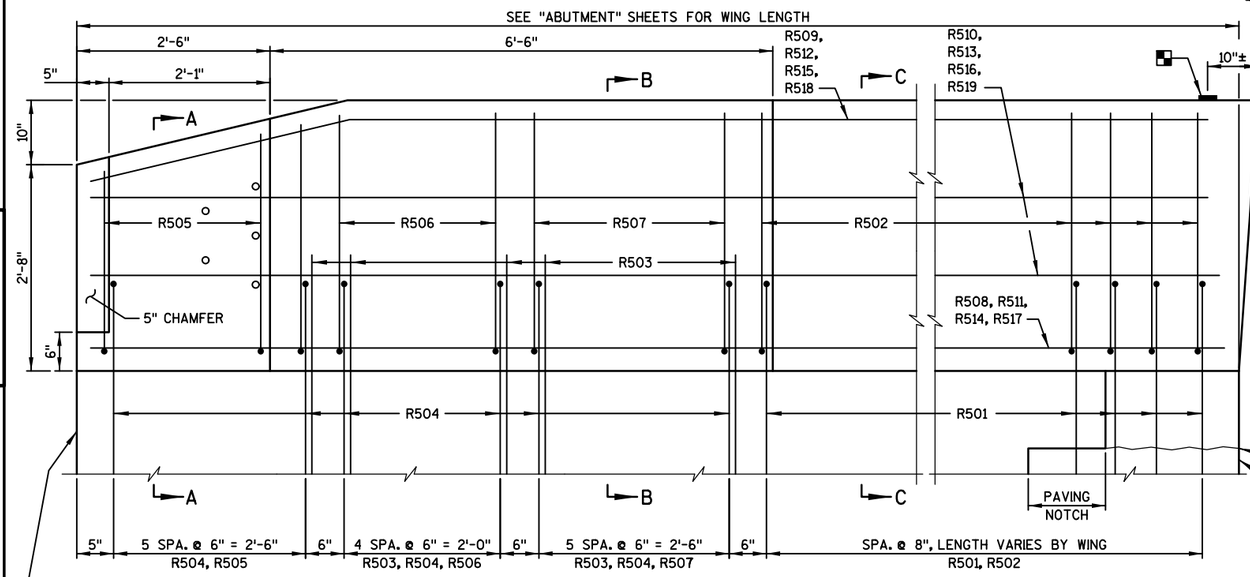


R502

⚠ BAR SERIES TABLE

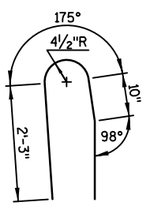
BAR MARK	NO. REQ'D	LENGTH
R505	4 SERIES OF 6	4'-9" TO 6'-1"

BUNDLE AND TAG EACH SERIES SEPARATELY.

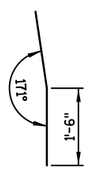


INSIDE ELEVATION

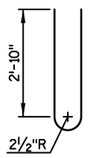
SW CORNER SHOWN, OTHERS SIMILAR



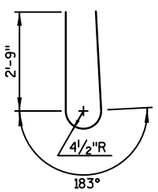
R501



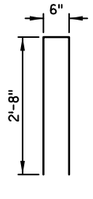
R503



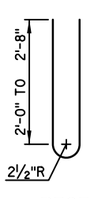
R506



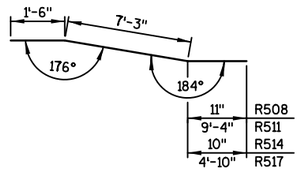
R507



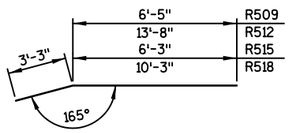
R504



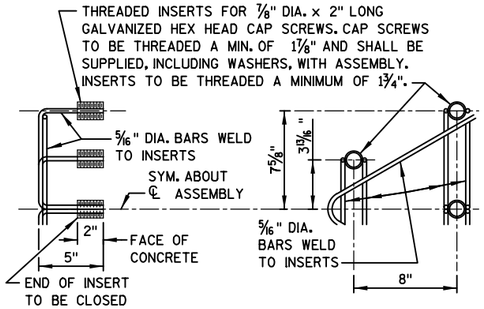
R505



R508, R511, R514, R517



R509, R512, R515, R518



DETAIL OF ANCHOR ASSEMBLY

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

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

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-3-30

DRAWN BY JFG | PLANS CK'D. KRB

SINGLE SLOPE PARAPET 42SS

SHEET 18
326

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FILE NAME : S:\MAD\1000--1099\1089\895\Drawings\CAD\Micros\Plan\USH 53\080716_sp.dgn

STATE PROJECT NUMBER
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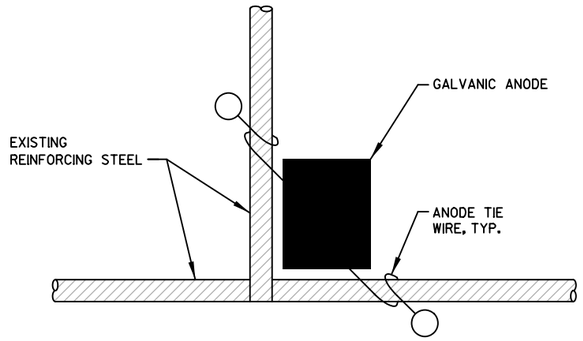
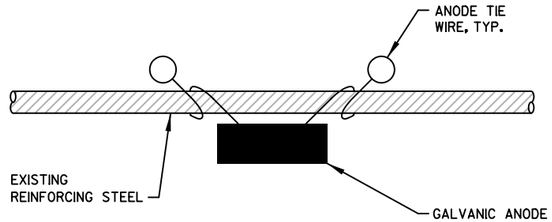


TYPICAL INSTALLATION AT

BAR STEEL INTERSECTION



TYPICAL INSTALLATION FOR BAR STEEL

NOTES

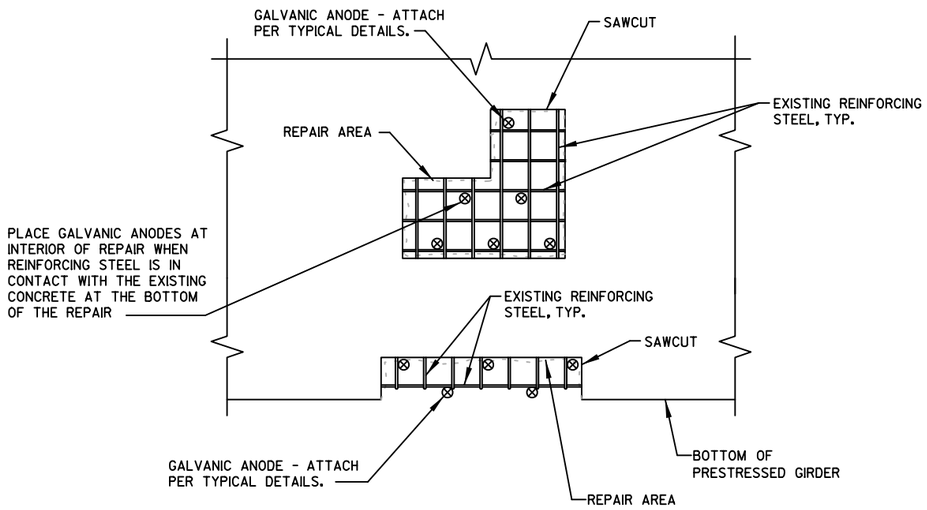
SURFACE REPAIR AREAS WITH CATHODIC PROTECTION ARE BASED ON THE PLANS AND AS DETERMINED BY THE ENGINEER IN THE FIELD. THE PLAN QUANTITY FOR THE BID ITEM "EMBEDDED GALVANIC ANODES" IS BASED ON A MAXIMUM SPACING OF 24-INCHES AROUND THE SURFACE REPAIR PERIMETER. THE ACTUAL QUANTITY SHALL BE BASED ON THE FIELD CONDITIONS AND AS RECOMMENDED BY THE GALVANIC ANODE SUPPLIER.

SURFACE REPAIRS SHALL BE FILLED WITH REPAIR MATERIALS COMPATIBLE WITH CATHODIC PROTECTION, AS RECOMMENDED BY THE ANODE SUPPLIER.

EXISTING REINFORCING STEEL TO BE COMPLETELY CLEANED OF CORRODED MATERIAL AND CONCRETE TO PROVIDE SUFFICIENT ELECTRICAL CONNECTION AND BOND. CATHODIC PROTECTION PREPARATIONS ARE INCLUDED IN THE BID ITEM "EMBEDDED GALVANIC ANODES".

ANODES NEAREST TO EDGE OF REPAIR TO BE WITHIN 6" OF EDGE.

AFTER PLACEMENT, GALVANIC ANODES SHOULD MAINTAIN A MINIMUM TOP COVER OF 1½" AND A MINIMUM BOTTOM COVER OF ¾"



PARTIAL ELEVATION VIEW OF GIRDER END

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-3-30

DRAWN BY JFG | PLANS CK'D. BMO

CATHODIC PROTECTION

SHEET 19
327

FILE NAME : S:\MAD\1000--1099\1089\895\Drawings\CAD\Micros\Plan\USH 53\080717_cp.dgn

STATE PROJECT NUMBER

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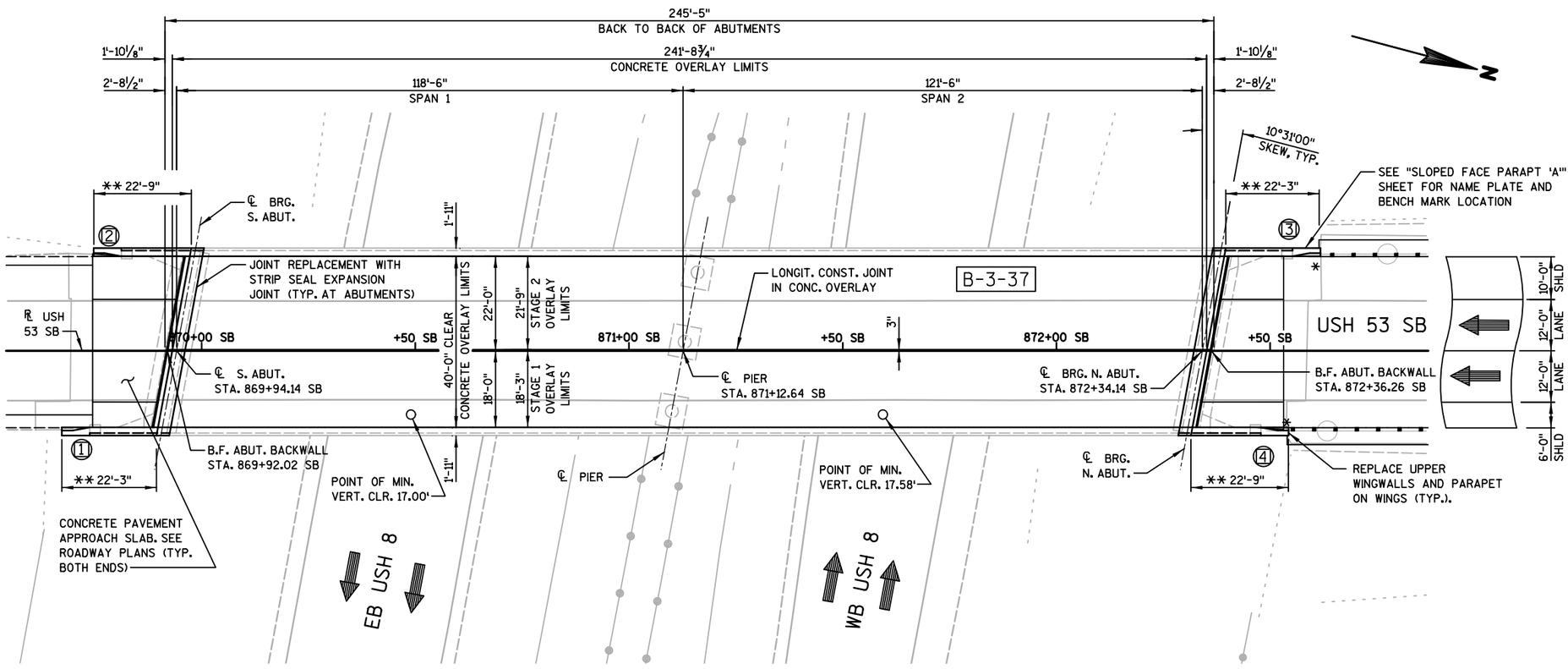
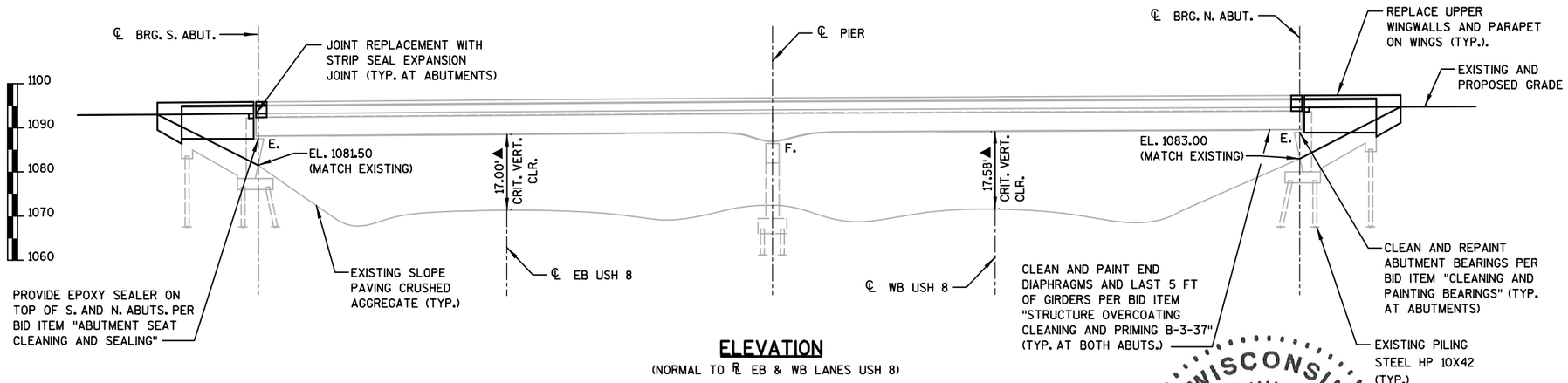


PLAN

(CONCRETE OVERLAY - 2 SPAN STEEL GIRDERS)



ELEVATION

(NORMAL TO ℄ EB & WB LANES USH 8)

BENCHMARKS

BM NO.	COORDINATES	DESCRIPTION	ELEV.
BM 1	Y: 62,128.59 X: 354,745.03	NW CORNER BRIDGE DECK B-3-24 (CTH I)	1065.33
BM 2	Y: 61,303.85 X: 355,782.67	NW CORNER BRIDGE DECK B-3-20 (CHETEK RIVER)	1043.96
BM 3	Y: 66,181.31 X: 349955.75	NW CORNER BRIDGE DECK B-3-26 (KNAPP STREET)	1077.68

NOTE: BENCH MARKS ARE LOCATED OUTSIDE OF PLAN EXTENTS. SEE ROADWAY PLANS FOR ADDITIONAL INFORMATION.

DESIGN DATA

LIVE LOAD:

DESIGN LOADING	HS20
INVENTORY RATING	HS19
OPERATING RATING	HS32
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV)	190 KIPS

MATERIAL PROPERTIES:

CONCRETE SUPERSTRUCTURE	f'c = 4,000 PSI
CONCRETE SUBSTRUCTURE	f'c = 3,500 PSI
CONCRETE MASONRY OVERLAY DECKS	f'c = 4,000 PSI
HIGH STRENGTH BAR STEEL REINFORCEMENT (GRADE 60)	fy = 60,000 PSI

TRAFFIC DATA

USH 53 SB
A.D.T. (2025) = 9,660
DESIGN SPEED = 70 MPH

USH 8
A.D.T. (2016) = 8,600
DESIGN SPEED = 60 MPH

LEGEND

* LOCATION OF ANCHOR ASSEMBLIES FOR THRIE BEAM ATTACHMENT.

(X) DENOTES WINGWALL NUMBER.

▲ MIN. VERTICAL CLEARANCE BASED ON INFORMATION OBTAINED FROM WISDOT HIGHWAY STRUCTURES INFORMATION SYSTEM.

** WINGS MEASURED ALONG F.F. WING.

LIST OF DRAWINGS

1. GENERAL PLAN
2. CROSS SECTION & QUANTITIES
3. CONSTRUCTION STAGING
4. SOUTH ABUTMENT
5. SOUTH ABUTMENT DETAILS
6. NORTH ABUTMENT
7. NORTH ABUTMENT DETAILS
8. SUPERSTRUCTURE DETAILS
9. STRIP SEAL EXPANSION JOINT
10. COVER PLATE DETAILS
11. SLOPED FACE PARAPET 'A'

STRUCTURE DESIGN CONTACTS

BRIDGE OFFICE CONTACT:
AARON BONK (608) 261-0261

DESIGN CONSULTANT CONTACT:
BRETT OFTEDAHL (608) 251-4843

NO.	DATE	REVISION	BY

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED SDR 11/25/24
CHIEF STRUCTURES DESIGN ENGINEER — DATE

WISCONSIN
BRETT M. OFTEDAHL
E-41123
MADISON
WI
PROFESSIONAL ENGINEER
8/31/24

STRUCTURE B-3-37

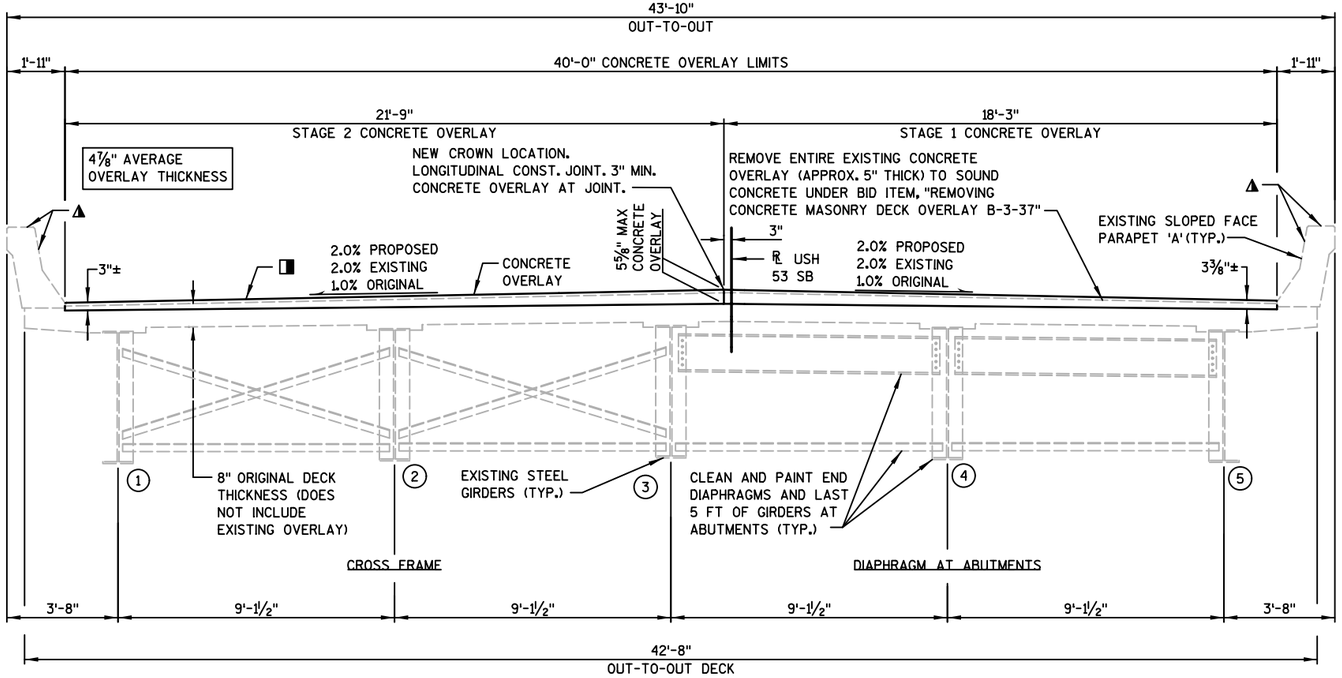
USH 53 SB OVER USH 8

COUNTY: BARRON	TOWN/~~CITY/VILLAGE~~: STANLEY
DESIGN SPEC.: REHABILITATION N/A	
DESIGNED BY: DLK	DESIGN CK'D.: BMO
DRAWN BY: JFG	PLANS CK'D.: BMO

GENERAL PLAN

SHEET 1 OF 11
328

FILE NAME : FILE NAME: S:\MAD\1000--1099\DRAWINGS\CAD\MICROS\PLAN\USH 53\080801_gn.dgn

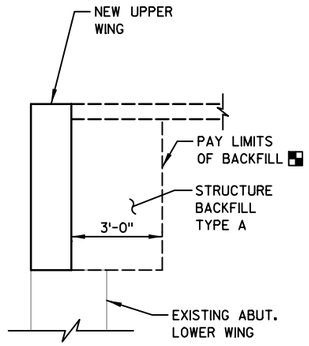


TYPICAL CROSS SECTION

(LOOKING NORTH)

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	S. ABUT	N. ABUT.	SUPERSTRUCTURE	TOTAL	UNIT
203.0220.07	REMOVING STRUCTURE B-3-37	---	---	---	1	EACH
206.1001.08	EXCAVATION FOR STRUCTURES BRIDGES B-3-37	---	---	---	1	EACH
210.1500	BACKFILL STRUCTURE TYPE A	46	46	---	92	TON
502.0100	CONCRETE MASONRY BRIDGES	18	18	1	37	CY
502.3101	EXPANSION DEVICE	---	---	82	82	LF
502.3200	PROTECTIVE SURFACE TREATMENT	---	---	1,101	1,101	SY
502.3210	PIGMENTED SURFACE SEALER	20	20	204	244	SY
502.4204	ADHESIVE ANCHORS NO. 4 BAR	44	44	---	88	EACH
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	---	---	2,980	2,980	LB
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	1,950	1,950	0	3,900	LB
505.0905	BAR COUPLERS NO. 5	3	3	---	6	EACH
505.0906	BAR COUPLERS NO. 6	---	---	18	18	EACH
509.0301	PREPARATION DECKS TYPE 1	---	---	140	140	SY
509.0302	PREPARATION DECKS TYPE 2	---	---	70	70	SY
509.0505.S	CLEANING DECKS TO REAPPLY CONCRETE MASONRY OVERLAY	---	---	1,074	1,074	SY
509.1000	JOINT REPAIR	---	---	37	37	SY
509.1500	CONCRETE SURFACE REPAIR	10	---	20	30	SF
509.2000	FULL-DEPTH DECK REPAIR	---	---	5	5	SY
509.2500	CONCRETE MASONRY OVERLAY DECKS	---	---	169	169	CY
509.9005.S.03	REMOVING CONCRETE MASONRY DECK OVERLAY B-3-37	---	---	1,074	1,074	SY
509.9020.S	EPOXY CRACK SEALING	33	33	---	66	LF
509.9050.S	CLEANING PARAPETS	---	---	484	484	LF
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	9	9	---	18	SY
517.3001.S.02	STRUCTURE OVERCOATING CLEANING AND PRIMING B-3-37	---	---	---	1	EACH
517.4001.S.02	CONTAINMENT AND COLLECTION OF WASTE MATERIALS B-3-37	---	---	---	1	EACH
614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	---	2	---	2	EACH
SPV.0060.01	CLEANING AND PAINTING BEARINGS	5	5	---	10	EACH
SPV.0180.01	ABUTMENT SEAT CLEANING AND SEALING	11	11	---	22	SY
	NON-BID ITEMS					
	FILLER	---	---	---	1/2", 3/4"	SIZE



STRUCTURE BACKFILL LIMITS

STATE PROJECT NUMBER

1196-04-77

GENERAL NOTES

THE PROPOSED WORK INCLUDES REMOVING EXISTING CONCRETE OVERLAY, PLACING A NEW CONCRETE OVERLAY, JOINT REPLACEMENT AT BOTH ABUTMENTS, CLEANING AND PAINTING BEARINGS AT BOTH ABUTMENTS, CONCRETE SURFACE REPAIR AT ABUTMENTS AND PARAPETS, EPOXY CRACK SEALING VERTICAL CRACKS AT ABUTMENTS, CLEANING PARAPETS, CLEANING AND REPAINTING LAST 5 FT OF GIRDERS AT ABUTMENTS, EPOXY SEALING TOP OF BOTH ABUTS., AND REPLACING UPPER WINGWALLS.

DRAWINGS SHALL NOT BE SCALED.

DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS AND SUBSEQUENT REHABILITATION PLANS.

ALL DIMENSIONS ARE IN FEET AND INCHES UNLESS OTHERWISE NOTED. ALL STATIONS ARE IN FEET.

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

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

ALL CONCRETE REMOVAL NOT COVERED WITH A CONCRETE OVERLAY SHALL BE DEFINED BY A 1 INCH DEEP SAW CUT.

UTILIZE EXISTING BAR STEEL REINFORCEMENT WHERE SHOWN AND EXTEND 24 BAR DIAMETERS INTO NEW WORK, UNLESS SPECIFIED OTHERWISE.

SUPERSTRUCTURE PARAPETS SHALL BE CLEANED PER "CLEANING PARAPETS" BID ITEM.

SEAL OVERLAY CONSTRUCTION JOINTS ACCORDING TO SECTION 502.3.13.1 OF THE STANDARD SPECIFICATIONS. COST INCIDENTAL TO BID ITEM "CONCRETE MASONRY OVERLAY DECKS".

THE ORIGINAL CONCRETE OVERLAY SHALL BE REMOVED FROM THE ENTIRE BRIDGE DECK UNDER THE BID ITEM "REMOVING CONCRETE MASONRY DECK OVERLAY B-3-37".

AFTER REMOVAL OF THE EXISTING CONCRETE OVERLAY AND PRIOR TO NEW CONCRETE WORK, THE ENTIRE BRIDGE DECK SHALL BE CLEANED PER BID ITEM, "CLEANING DECKS TO REAPPLY CONCRETE MASONRY OVERLAY".

THE AVERAGE OVERLAY THICKNESS IS BASED ON THE MINIMUM OVERLAY THICKNESS PLUS ½-INCH TO ACCOUNT FOR VARIATIONS IN THE DECK SURFACE.

PREPARATION DECKS TYPE 1, PREPARATION DECKS TYPE 2, AND FULL-DEPTH DECK REPAIR AREAS ARE AS DETERMINED BY THE ENGINEER. DECK PREPARATION AND FULL-DEPTH DECK REPAIRS SHALL BE FILLED WITH "CONCRETE MASONRY OVERLAY DECKS".

PROFILE GRADE LINE SHALL BE DETERMINED IN THE FIELD BASED ON A OVERLAY THICKNESS OF 3" AT THE WEST PARAPET, 3⅜" AT THE EAST PARAPET, AND 5⅝" AT THE CONSTRUCTION JOINT PLACED ABOVE THE DECK SURFACE AFTER SURFACE PREPARATION. EXPECTED AVERAGE OVERLAY THICKNESS IS 4⅞". THE OVERLAY THICKNESSES INCLUDE ½" DEPTH ASSUMED TO HAVE BEEN REMOVED AS PART OF THE PREVIOUS CONCRETE OVERLAY PROJECT. IF EXPECTED OVERLAY THICKNESS IS EXCEEDED BY MORE THAN ½", CONTACT THE STRUCTURES DESIGN SECTION.

THE CONTRACTOR SHALL SUPPLY A NEW NAME PLATE IN ACCORDANCE WITH SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS AND THE STANDARD DETAIL DRAWING. NAME PLATE TO SHOW ORIGINAL CONSTRUCTION YEAR, 1972.

PERFORM CONCRETE SURFACE REPAIR AS DIRECTED BY THE FIELD ENGINEER. QUANTITY SHOWN IS APPROXIMATE.

BEVEL ALL EXPOSED EDGES OF CONCRETE ¾" UNLESS OTHERWISE NOTED.

AT ABUTMENTS, ALL EXCAVATED VOLUME NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH STRUCTURE BACKFILL TYPE A.

THE EXISTING GROUNDLINE SHALL BE THE UPPER LIMITS OF EXCAVATION FOR STRUCTURES.

CLEAN AND PAINT GIRDER ENDS (5 FT.), DIAPHRAGMS, AND STIFFENERS AT BOTH ABUTMENTS. CLEAN METAL SURFACES TO MEET CLEANLINESS STANDARD SSPC-SP3. THE COLOR OF THE FINISH TOP COAT ON THE STEEL GIRDERS SHALL BE AMS STANDARD COLOR NO. 26293 (LIGHT GRAY) TO MATCH EXISTING. TOTAL ESTIMATED PAINTING AREA IS 980 SF.

LEGEND

(X) DENOTES GIRDER NUMBER

◨ PROTECTIVE SURFACE TREATMENT SHALL BE APPLIED TO THE TOP OF DECK AND VERTICAL AND HORIZONTAL SURFACES OF THE PAVING NOTCHES.

◭ PIGMENTED SURFACE SEALER SHALL BE APPLIED TO THE INSIDE, TOP, AND ENDS OF PARAPETS.

◩ BACKFILL PAY LIMITS. BACKFILL BEYOND BACKFILL PAY LIMITS SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES. LIMITS OF EXCAVATION SHALL BE DETERMINED BY THE CONTRACTOR.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-3-37

DRAWN BY JFG | PLANS CK'D. BMO

CROSS SECTION AND QUANTITIES

SHEET 2 OF 11

329

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STATE PROJECT NUMBER

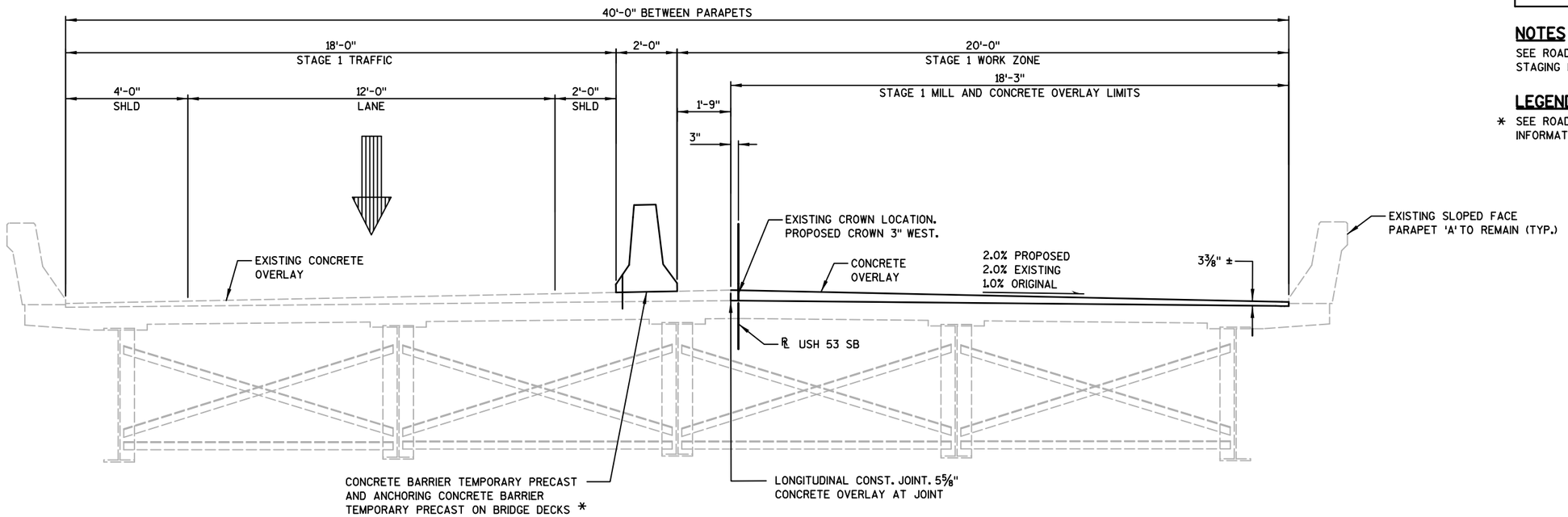
1196-04-77

NOTES

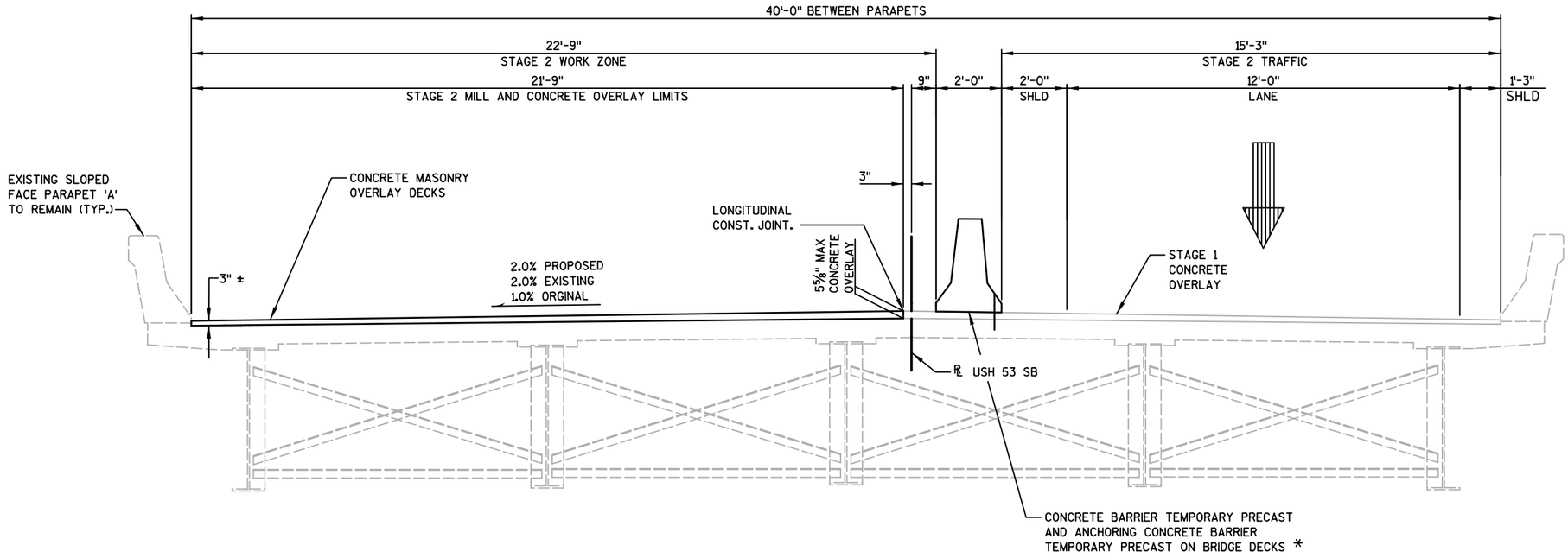
SEE ROADWAY PLANS FOR ADDITIONAL STAGING INFORMATION.

LEGEND

* SEE ROADWAY PLANS FOR ADDITIONAL INFORMATION.



STAGE 1
(LOOKING NORTH)



STAGE 2
(LOOKING NORTH)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-3-37

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CONSTRUCTION STAGING

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STATE PROJECT NUMBER

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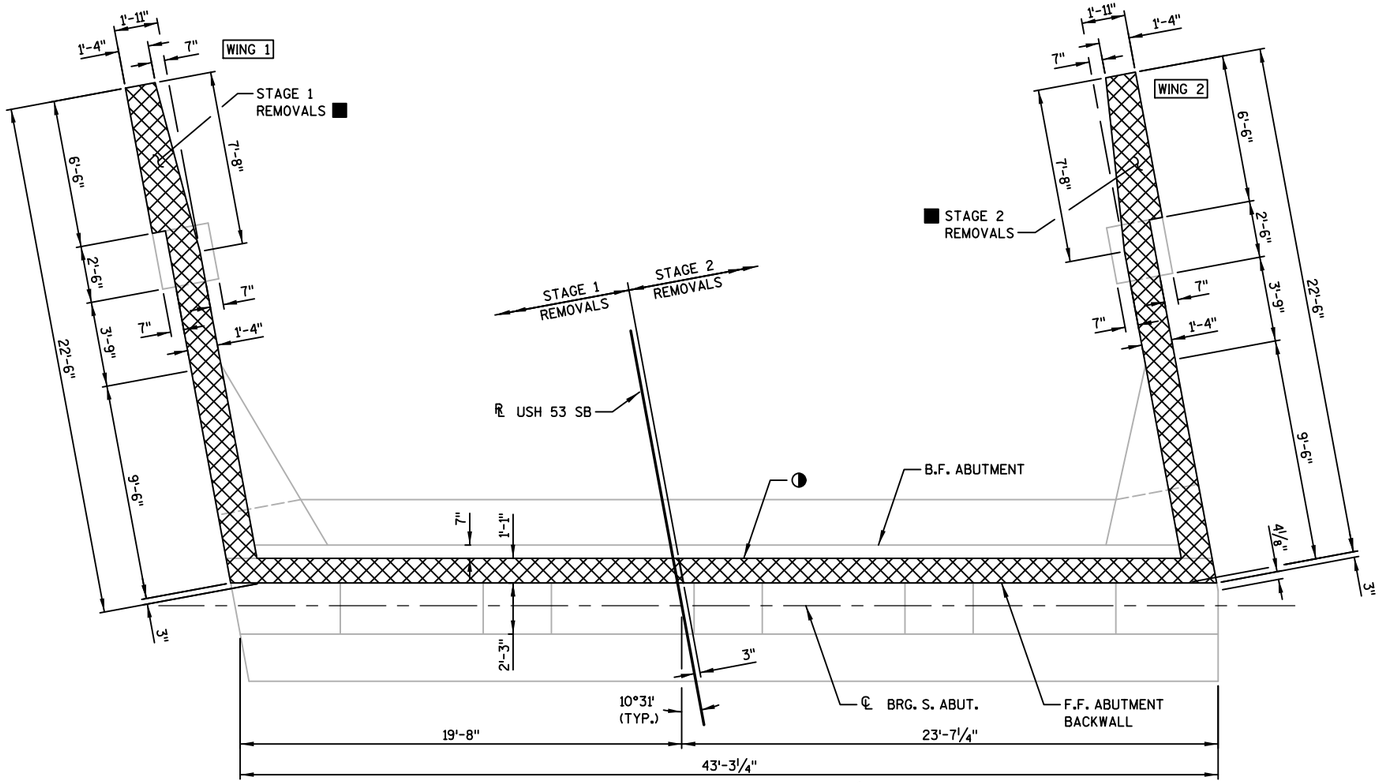
LEGEND

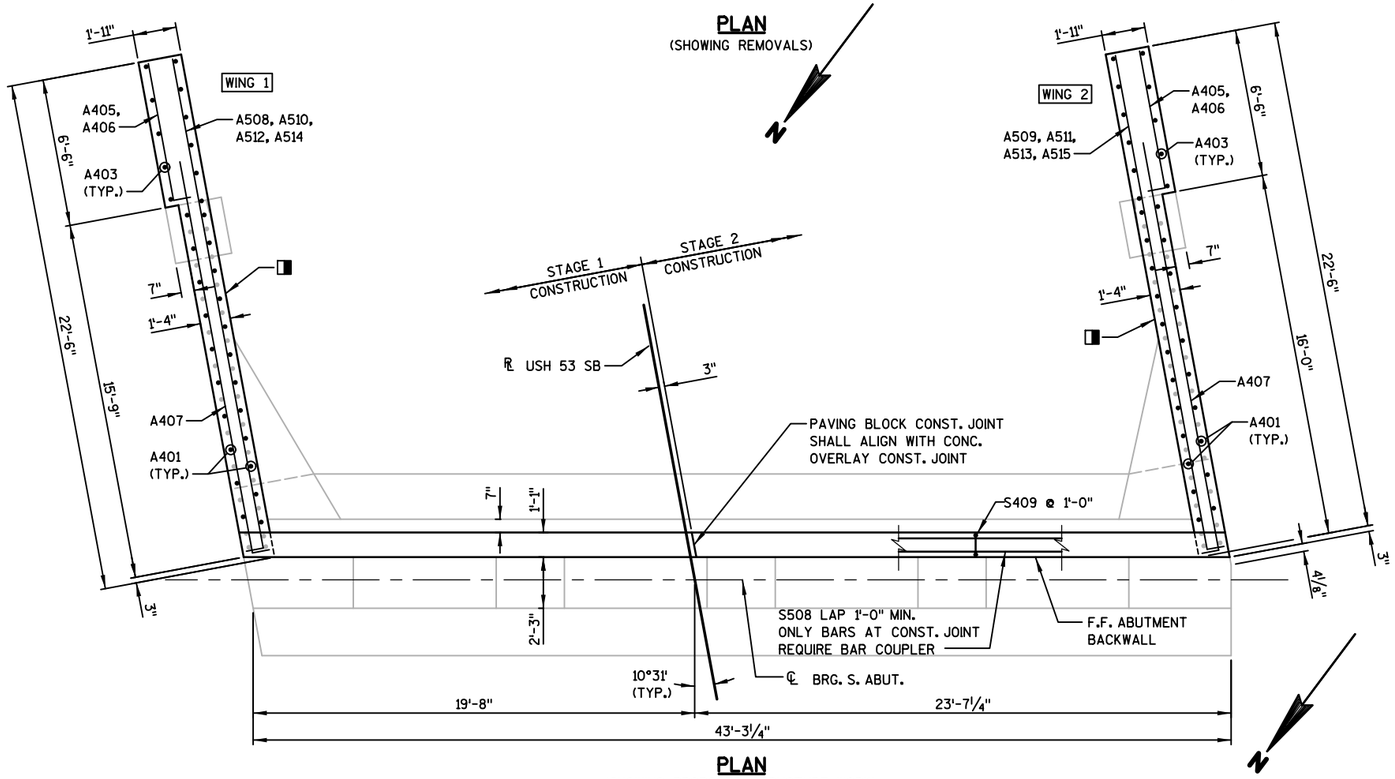
- ■ REMOVE EXISTING UPPER WING AND PARAPET DOWN TO EXISTING ABUTMENT LOWER WINGWALL. SALVAGE AND INCORPORATE EXISTING VERTICAL BAR STEEL INTO NEW WORK.
- ◨ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACK FACE.
- ◑ REMOVE EXISTING PAVING BLOCK. SEE "SUPERSTRUCTURE DETAILS" SHEET.
- ⊠ REMOVAL LIMITS.

NOTES

SEE SOUTH ABUTMENT DETAILS SHEET.



PLAN
(SHOWING REMOVALS)



PLAN
(SHOWING PROPOSED STRUCTURE WORK)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-3-37

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SOUTH ABUTMENT

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STATE PROJECT NUMBER

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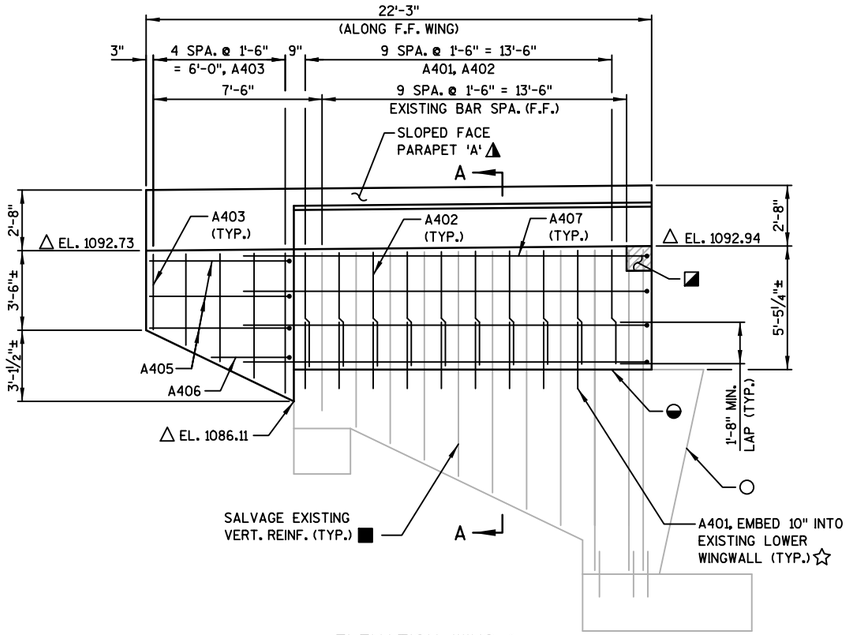
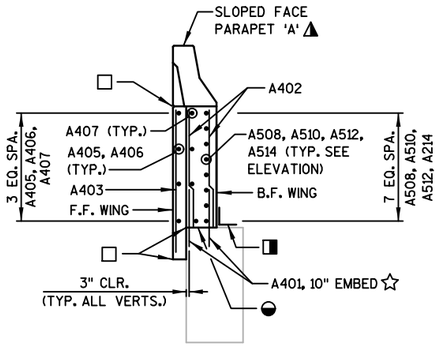


ELEVATION WING 1

(SHOWING F.F. BAR STEEL REINF., WING 2 SIMILAR)



SECTION A-A

SOUTH ABUTMENT BILL OF BARS

COATED: 800 LBS

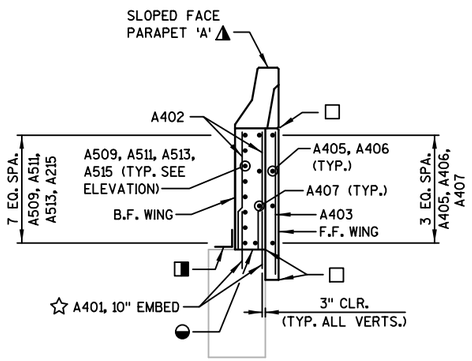
	BAR MARK	NO. REQ'D	LENGTH	BENT	SERIES	COAT	LOCATION
☆	A401	44	2'-10"			X	F.F. & B.F. - VERT. - DOWELS - WINGS 1 & 2
	A402	46	5'-2"			X	F.F. & B.F. - VERT. - WINGS 1 & 2
◇	A403	10	4'-8"		X	X	F.F. - VERT. - WINGS 1 & 2
◇	A404	10	4'-6"		X	X	B.F. - VERT. - WINGS 1 & 2
	A405	6	7'-1"	X		X	F.F. - HORIZ. - WINGS 1 & 2
	A406	2	4'-2"	X		X	F.F. - HORIZ. - WINGS 1 & 2
	A407	8	18'-5"	X		X	F.F. - HORIZ. - WINGS 1 & 2
	A508	5	22'-9"	X		X	B.F. - HORIZ. - WING 1
	A509	5	22'-11"	X		X	B.F. - HORIZ. - WING 2
	A510	1	21'-6"	X		X	B.F. - HORIZ. - WING 1
	A511	1	21'-8"	X		X	B.F. - HORIZ. - WING 2
	A512	1	20'-0"	X		X	B.F. - HORIZ. - WING 1
	A513	1	20'-2"	X		X	B.F. - HORIZ. - WING 2
	A514	1	18'-9"	X		X	B.F. - HORIZ. - WING 1
	A515	1	18'-11"	X		X	B.F. - HORIZ. - WING 2

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

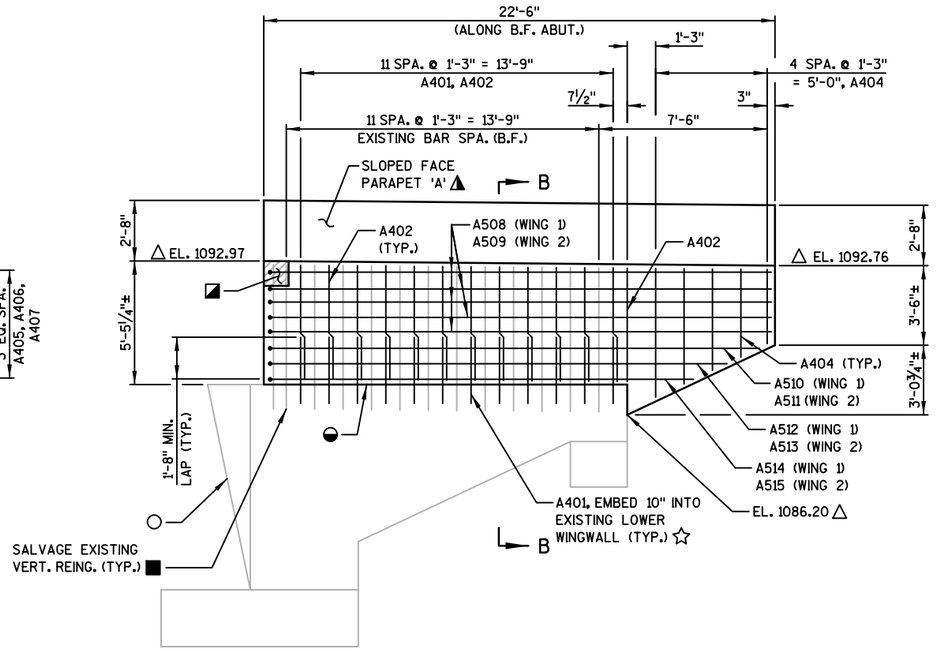
BAR SERIES TABLE

BAR MARK	NO. REQ'D	LENGTH
A403	2 SERIES OF 5	3'-3" TO 6'-1"
A404	2 SERIES OF 5	3'-3" TO 5'-8"

BUNDLE AND TAG EACH SERIES SEPARATELY

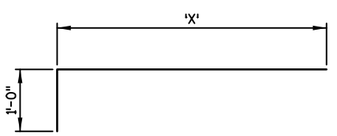


SECTION B-B



ELEVATION WING 2

(SHOWING B.F. BAR STEEL REINF., WING 1 SIMILAR)



A405, A406, A407, A508, A509, A510, A511, A512, A513, A514, A515

BAR MARK	'X'
A405	6'-2"
A406	3'-3"
A407	17'-6"
A508	21'-10"
A509	22'-0"
A510	20'-7"
A511	20'-9"
A512	19'-1"
A513	19'-3"
A514	17'-10"
A515	18'-0"

LEGEND

- ◒ ROUGHEN SURFACE OF EXISTING CONCRETE TO ¼"± AMPLITUDE (ALL AREAS OF NEW TO EXISTING CONCRETE CONTACT.)
- □ ¾" V-GROOVE.
- △ ELEVATIONS PROVIDED ARE TAKEN FROM ORIGINAL STRUCTURE PLANS. MATCH EXISTING TOP OF WING ELEVATION.
- ◭ SEE "SLOPED FACE PARAPET 'A' SHEET FOR REINFORCING DETAILS.
- ■ REMOVE EXISTING UPPER WING AND PARAPET DOWN TO EXISTING ABUTMENT LOWER WINGWALL. SALVAGE AND INCORPORATE EXISTING VERTICAL BAR STEEL INTO NEW WORK.
- ◨ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE.
- ◪ POUR CONCRETE IN HATCHED REGION AFTER SUPERSTRUCTURE IS IN PLACE. SEE SUPERSTRUCTURE SHEET FOR EXTENTS.
- ☆ ADHESIVE ANCHOR.
- ○ SEAL VERTICAL CRACKS IN ABUTMENT BODY WITH EPOXY.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-3-37

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SOUTH ABUTMENT DETAILS

SHEET 5 OF 11
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STATE PROJECT NUMBER

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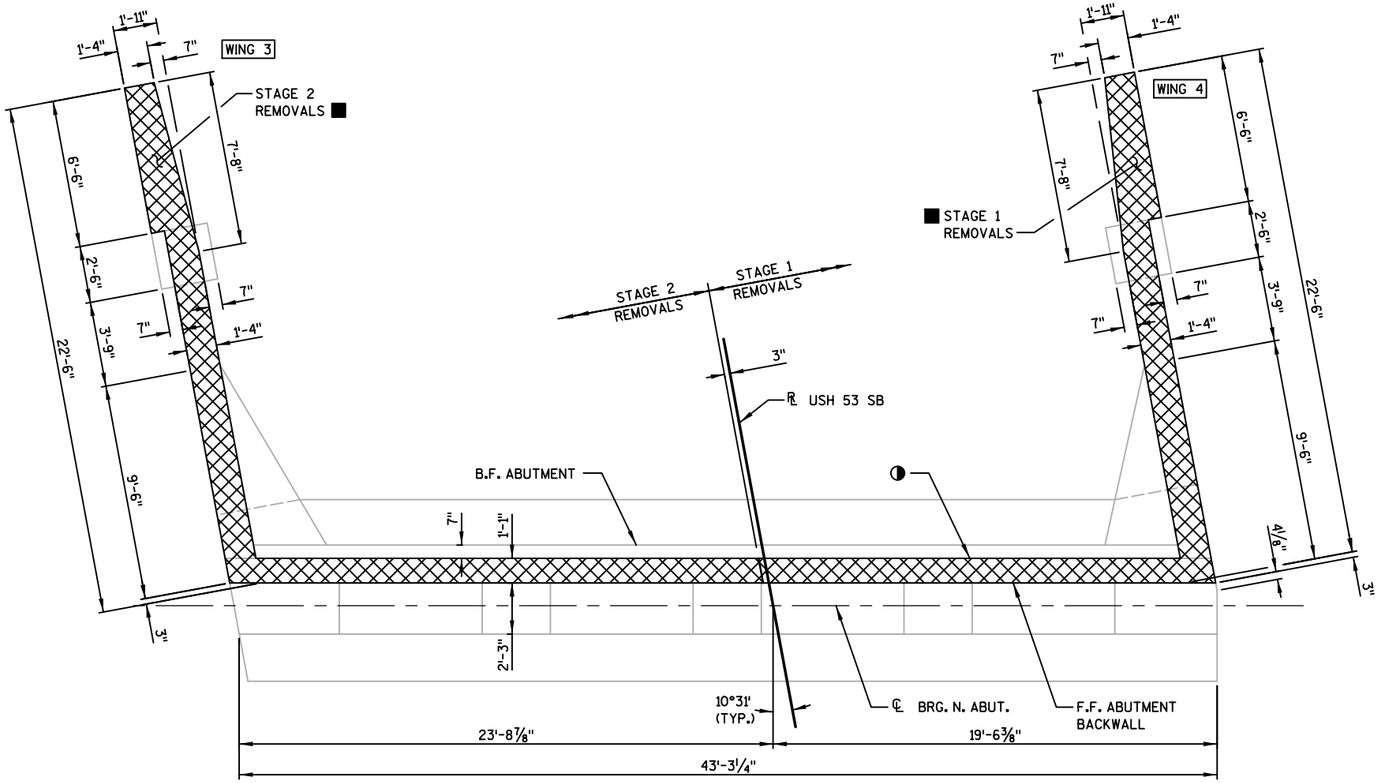
LEGEND

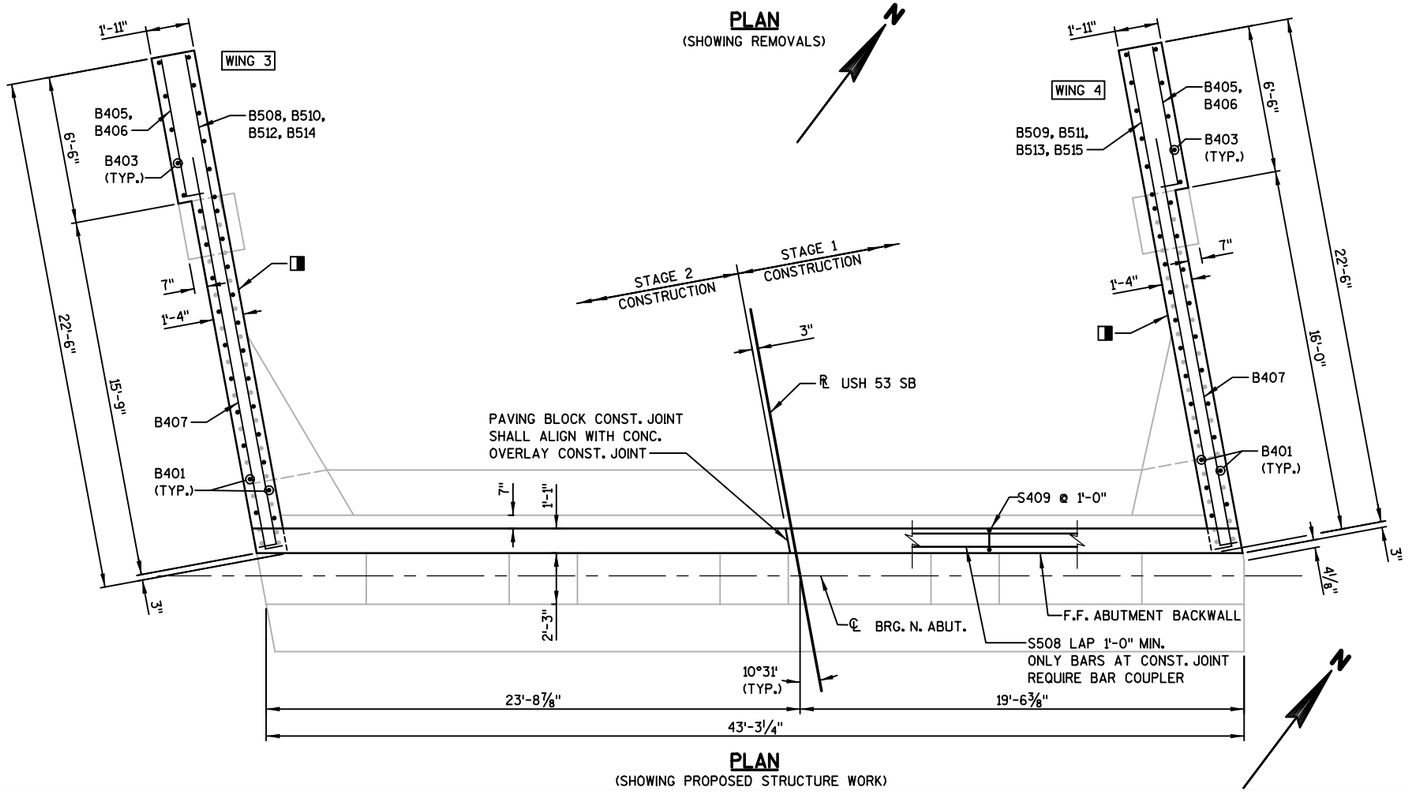
- ■ REMOVE EXISTING UPPER WING AND PARAPET DOWN TO EXISTING ABUTMENT LOWER WINGWALL. SALVAGE AND INCORPORATE EXISTING VERTICAL BAR STEEL INTO NEW WORK.
- ◨ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACK FACE.
- ◑ REMOVE EXISTING PAVING BLOCK. SEE "SUPERSTRUCTURE DETAILS" SHEET.
- ⊠ REMOVAL LIMITS.

NOTES

SEE NORTH ABUTMENT DETAILS SHEET.



PLAN
(SHOWING REMOVALS)



PLAN
(SHOWING PROPOSED STRUCTURE WORK)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-3-37

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NORTH ABUTMENT

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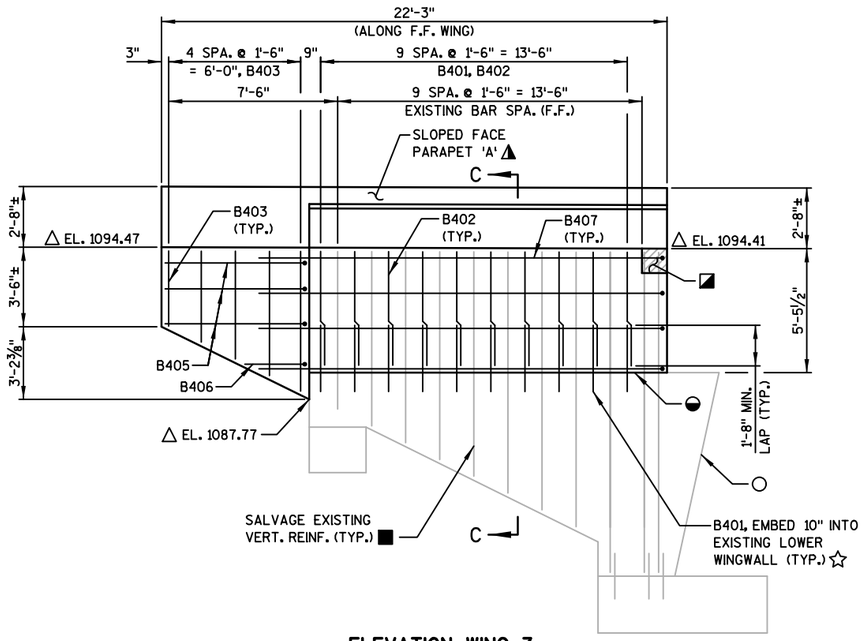
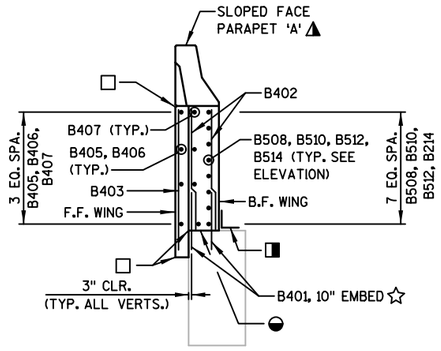
STATE PROJECT NUMBER

1196-04-77



ELEVATION WING 3
(SHOWING F.F. BAR STEEL REINF., WING 4 SIMILAR)



SECTION C-C

NORTH ABUTMENT

BILL OF BARS

COATED: 800 LBS

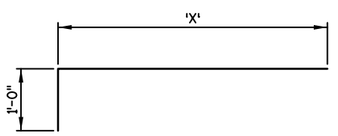
	BAR MARK	NO. REQ'D	LENGTH	BENT	SERIES	COAT	LOCATION
☆	B401	44	2'-10"			X	F.F. & B.F. - VERT. - DOWELS - WINGS 3 & 4
	B402	46	5'-2"			X	F.F. & B.F. - VERT. - WINGS 3 & 4
◇	B403	10	4'-8"		X	X	F.F. - VERT. - WINGS 3 & 4
◇	B404	10	4'-6"		X	X	B.F. - VERT. - WINGS 3 & 4
	B405	6	7'-1"	X		X	F.F. - HORIZ. - WINGS 3 & 4
	B406	2	4'-2"	X		X	F.F. - HORIZ. - WINGS 3 & 4
	B407	8	18'-5"	X		X	F.F. - HORIZ. - WINGS 3 & 4
	B508	5	22'-9"	X		X	B.F. - HORIZ. - WING 3
	B509	5	22'-11"	X		X	B.F. - HORIZ. - WING 4
	B510	1	21'-6"	X		X	B.F. - HORIZ. - WING 3
	B511	1	21'-8"	X		X	B.F. - HORIZ. - WING 4
	B512	1	20'-0"	X		X	B.F. - HORIZ. - WING 3
	B513	1	20'-2"	X		X	B.F. - HORIZ. - WING 4
	B514	1	18'-9"	X		X	B.F. - HORIZ. - WING 3
	B515	1	18'-11"	X		X	B.F. - HORIZ. - WING 4

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

BAR SERIES TABLE

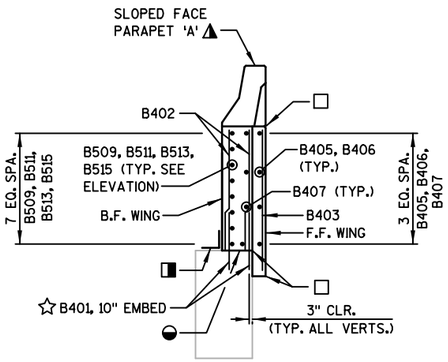
BAR MARK	NO. REQ'D	LENGTH
B403	2 SERIES OF 5	3'-3" TO 6'-1"
B404	2 SERIES OF 5	3'-3" TO 5'-8"

BUNDLE AND TAG EACH SERIES SEPARATELY

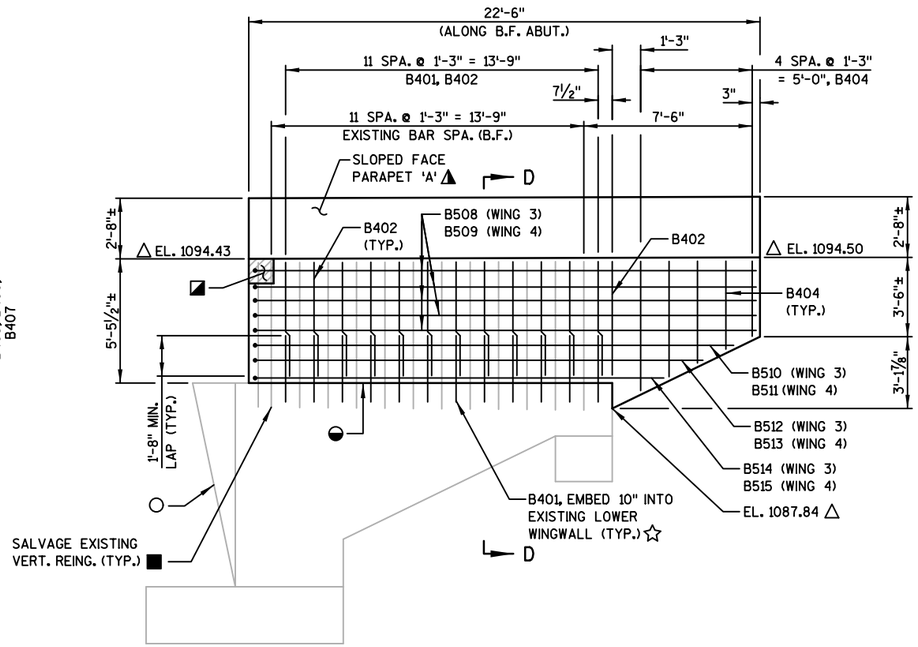


B405, B406, B407, B508, B509, B510, B511, B512, B513, B514, B515

BAR MARK	'X'
B405	6'-2"
B406	3'-3"
B407	17'-6"
B508	21'-10"
B509	22'-0"
B510	20'-7"
B511	20'-9"
B512	19'-1"
B513	19'-3"
B514	17'-10"
B515	18'-0"



SECTION D-D



ELEVATION WING 4
(SHOWING B.F. BAR STEEL REINF., WING 3 SIMILAR)

LEGEND

- ◒ ROUGHEN SURFACE OF EXISTING CONCRETE TO ¼"± AMPLITUDE (ALL AREAS OF NEW TO EXISTING CONCRETE CONTACT.)
- □ ¾" V-GROOVE.
- △ ELEVATIONS PROVIDED ARE TAKEN FROM ORIGINAL STRUCTURE PLANS. MATCH EXISTING TOP OF WING ELEVATION.
- ◭ SEE "SLOPED FACE PARAPET 'A' SHEET FOR REINFORCING DETAILS.
- ■ REMOVE EXISTING UPPER WING AND PARAPET DOWN TO EXISTING ABUTMENT LOWER WINGWALL. SALVAGE AND INCORPORATE EXISTING VERTICAL BAR STEEL INTO NEW WORK.
- ◨ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE.
- ◪ POUR CONCRETE IN HATCHED REGION AFTER SUPERSTRUCTURE IS IN PLACE. SEE SUPERSTRUCTURE SHEET FOR EXTENTS.
- ☆ ADHESIVE ANCHOR.
- ○ SEAL VERTICAL CRACKS IN ABUTMENT BODY WITH EPOXY.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-3-37

DRAWN BY JFG | PLANS CK'D. BMO

NORTH ABUTMENT DETAILS

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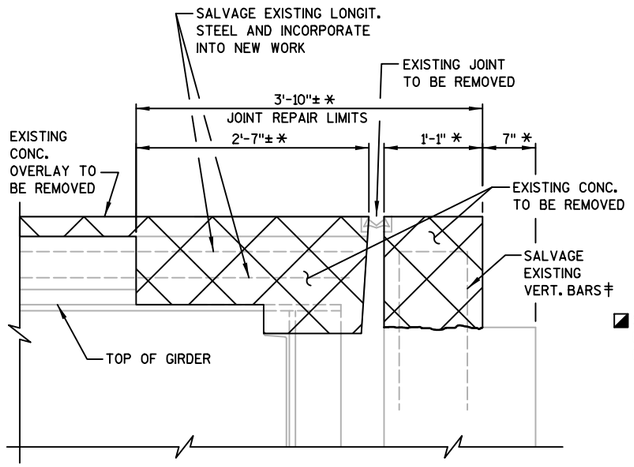
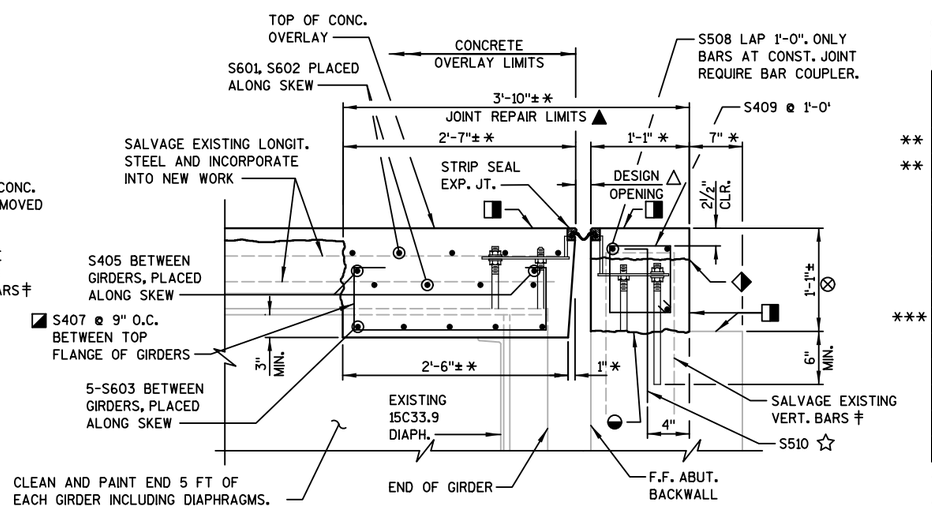
STATE PROJECT NUMBER
1196-04-77



JOINT REPAIR - REMOVAL AT ABUTS.



SECTION THRU PROPOSED JOINT ABUTS.

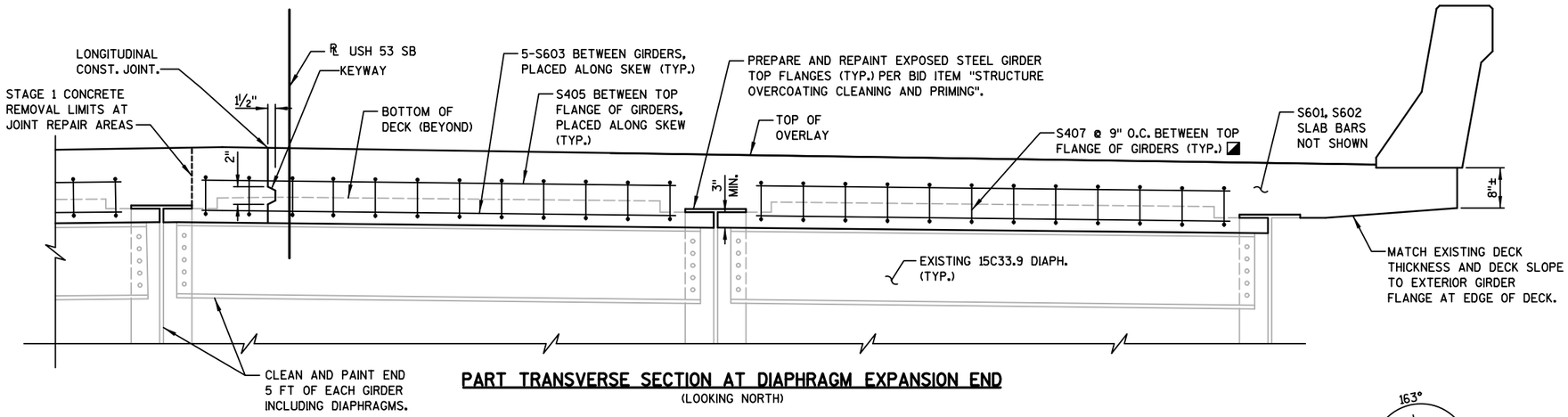
SUPERSTRUCTURE BILL OF BARS

UNCOATED: 2,980 LBS

	BAR MARK	NO. REQ'D	LENGTH	BENT	COAT	LOCATION
**	S601	18	19'-9"			SLAB - TRANS. - STAGE 1 - N. &. S. JT. REPAIR
**	S602	18	23'-3"			SLAB - TRANS. - STAGE 2 - N. &. S. JT. REPAIR
	S603	40	7'-9"			DIAPH. - TRANS. - BTWN GIRD. - N. &. S. JT. REPAIR
	BAR MARK NOT USED					
	S405	16	7'-9"			DIAPH. - TRANS. - BTWN GIRD. - N. &. S. JT. REPAIR
	BAR MARK NOT USED					
	S407	96	3'-9"	X		DIAPH. - VERT. - STIRRUPS
***	S508	42	7'-3"			PAVING BLOCK - HORIZ. - S. AND N. ABUT.
	S409	84	3'-6"	X		PAVING BLOCK - VERT. - S. AND N. ABUT.
	S510	84	2'-7"	X		PAVING BLOCK - VERT. - DOWELS - S. AND N. ABUT.
	S511	20	5'-0"	X		PARAPET - VERT.
	S512	20	4'-9"	X		PARAPET - VERT.
	S413	16	7'-9"			DIAPH. - TRANS.- EXP. JT. - BTWN GIRD. - N. &. S. JT. REPAIR

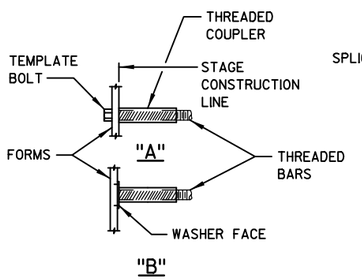
** BAR WITH COUPLER, SEE DETAILS THIS SHEET. BAR LENGTH COMPUTED TO ℄ LONGIT. JOINT AND SHALL BE MODIFIED IF REQUIRED TO BAR COUPLER MANUFACTURER RECOMMENDATIONS.

*** S508 BARS AT CONSTRUCTION JOINT REQUIRE COUPLER. SEE DETAIL THIS SHEET.



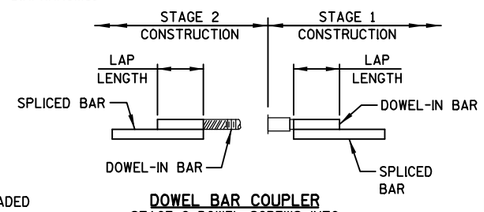
PART TRANSVERSE SECTION AT DIAPHRAGM EXPANSION END

(LOOKING NORTH)

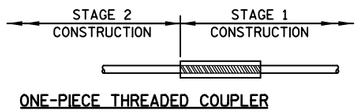


INSTALLATION AND SETTING METHODS

"A" SET SPLICER BY MEANS OF A TEMPLATE BOLT.
"B" SET SPLICER BY NAILING TO WOOD FORMS OR CEMENTING TO STEEL FORMS.



DOWEL BAR COUPLER
STAGE 2 DOWEL SCREWS INTO COUPLER PLACED IN STAGE 1

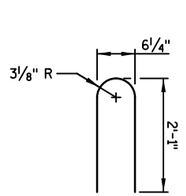


ONE-PIECE THREADED COUPLER

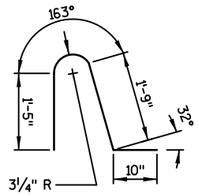
BAR COUPLER ALTERNATIVES

BAR COUPLER NOTES

FOR DOWEL BAR COUPLERS, ALL DOWEL BARS SHALL BE LAPPED AND TIED TO THE REINFORCEMENT BARS.



S511



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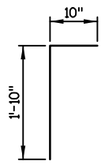

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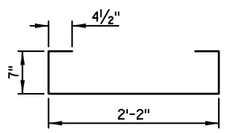
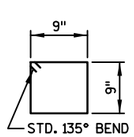


S407



S409

LEGEND

△ SEE SHEET 9 FOR STRIP SEAL OPENING.

ǂ EXISTING BARS ARE LIKELY TO BE CORRODED AND/OR DAMAGED DURING CONCRETE REMOVAL. SALVAGE AND INCORPORATE AS MUCH REBAR AS PRACTICAL. SUPPLEMENT WITH THE BARS INDICATED BY ☆

☆ ADHESIVE ANCHORS NO. 5 BAR, EMBED 1'-0" IN CONCRETE. SPACE AT 1'-0". TURN 10" LEG AS NECESSARY TO FIT.

◆ OPT. CONST. JT. 1" MIN. BELOW EXIST. REINF.

* DIMENSIONS GIVEN ARE NORMAL TO ℄ OF SUBSTRUCTURE UNIT. INCORPORATE EXISTING REINFORCEMENT.

◪ BARS PLACED PARALLEL TO ℄ GIRDERS. SPACING PERPENDICULAR TO ℄ GIRDERS.

⊗ HEIGHT OF PAVING BLOCK INDICATED ASSUMES REMOVAL OF EXIST. 2" CONC. OVERLAY AND NEW 2" CONC. OVERLAY. ADJUST AS NECESSARY FOR FIELD CONDITIONS. POUR AFTER SUPERSTRUCTURE IS IN PLACE AND CONFORM TO SUPERSTRUCTURE DECK ELEVATIONS.

▲ VOLUME OF NEW CONCRETE USED FOR JOINT REPAIR WILL BE PAID FOR UNDER "CONCRETE MASONRY OVERLAY" BID ITEM.

◒ ROUGHEN SURFACE OF EXISTING CONCRETE TO ±¼" AMPLITUDE.

◨ COAT WITH "PROTECTIVE SURFACE TREATMENT" AS PER THE STANDARD SPECIFICATIONS.

CONCRETE REMOVAL LIMITS.

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STRUCTURE B-3-37

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SUPERSTRUCTURE DETAILS

SHEET 8 OF 11
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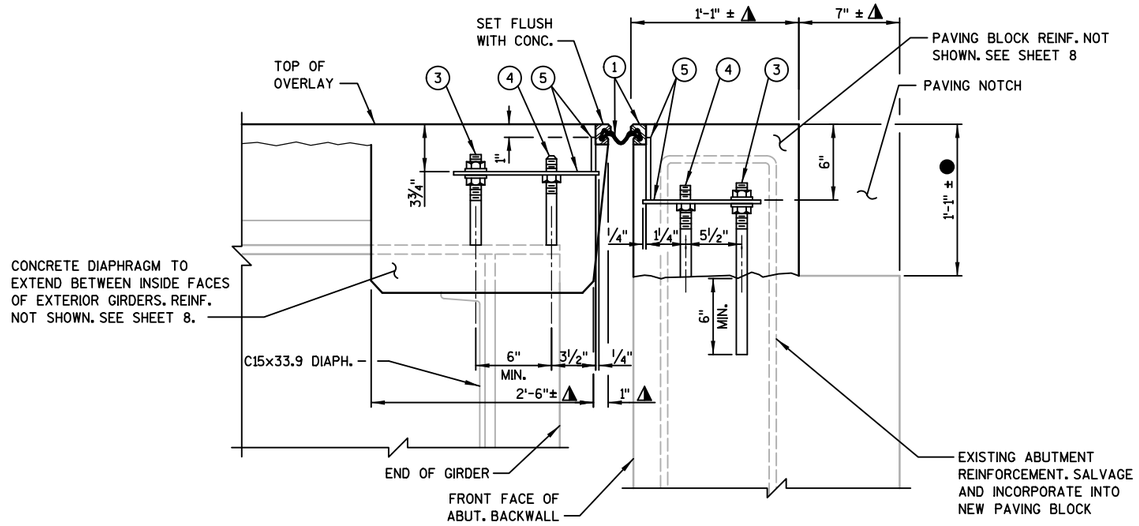
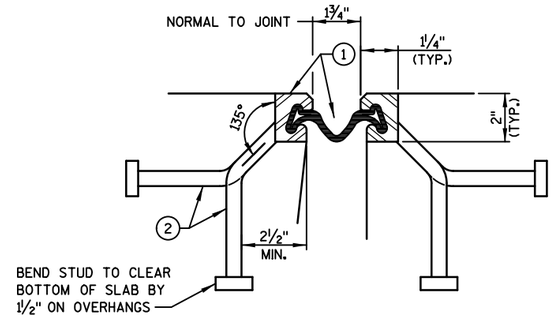
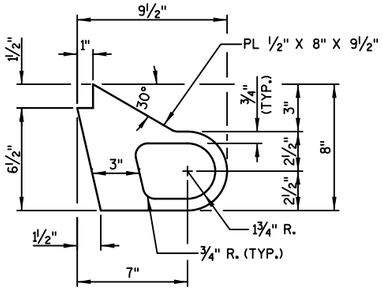


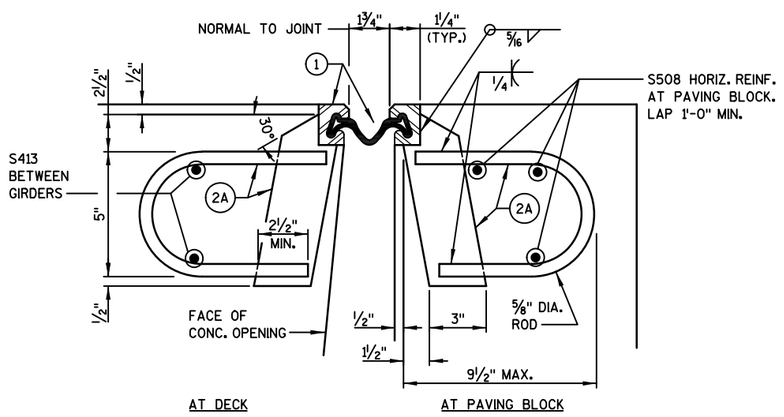
SECTION THRU JOINT AT ABUTMENT
NORMAL TO ℄ SUBSTRUCTURE



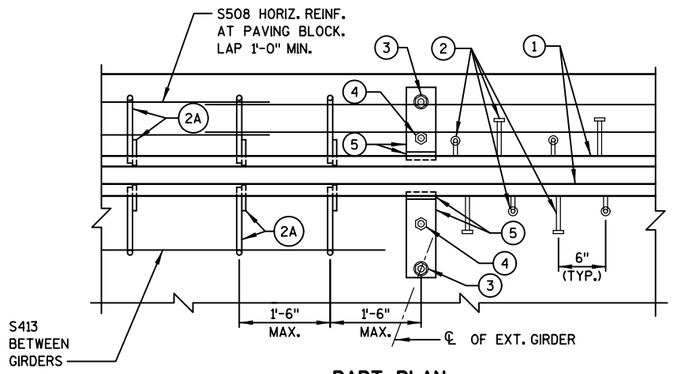
SECTION THRU JOINT
EXTERIOR GIRDER TO EDGE OF DECK AND AT PARAPETS



ALTERNATE STRIP SEAL ANCHOR



SECTION THRU JOINT
ROADWAY TRAFFIC AREA BETWEEN EXTERIOR GIRDERS.



PART PLAN

STATE PROJECT NUMBER

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NOTES

ONE FIELD SPLICE PERMITTED IN STEEL EXTRUSIONS, UNLESS MORE ARE REQUIRED FOR STAGED CONSTRUCTION, HANDLING OR GALVANIZING REQUIREMENTS. ANCHOR PLATES SHALL BE PROVIDED 3" FROM EACH SIDE OF FIELD SPLICE. IF USED, DETAILS SHALL BE SUBMITTED FOR APPROVAL. NO SPLICING PERMITTED IN NEOPRENE STRIP SEAL.

AFTER FABRICATION, BUT BEFORE SHIPMENT, STRAIGHTEN STEEL EXTRUSIONS SUCH THAT THEY SHALL BE FREE FROM WARP, TWIST AND SWEEP.

FABRICATOR SHALL PROVIDE MEANS OF KEEPING GALVANIZED EXTRUSIONS CLEAN AND SMOOTH DURING SHIPMENT AND PRIOR TO APPLYING LUBRICANT ADHESIVE FOR NEOPRENE GLAND INSTALLATION.

SANDBLAST PLATES, SUPPORTS AND EXTRUSIONS AFTER FABRICATION IN ACCORDANCE WITH SSPC SP. #6 "COMMERCIAL BLAST CLEANING". AFTER BLAST CLEANING, THE PLATES, SUPPORTS AND EXTRUSIONS SHALL BE HOT DIPPED GALVANIZED.

ANCHOR SYSTEM NO. 8 AND NO. 9 SHALL CONFORM TO ASTM A307 AND SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C AND D.

ALL MATERIAL IN THE EXPANSION JOINT ASSEMBLY, INCLUDING ANCHOR STUDS AND HARDWARE SHALL BE PAID AT THE UNIT PRICE BID FOR "EXPANSION DEVICE", LF.

LEGEND

(1) NEOPRENE STRIP SEAL (4-INCH) AND STEEL EXTRUSIONS. JOINT OPENINGS GIVEN NORMAL TO JOINT.

(2) STUDS ⅝" DIA. X 6⅜" LONG AT 6" ALTERNATE CENTERS. WELD TO EXTRUSIONS AND BEND AS SHOWN AFTER WELDING.

(2A) ½" THICK ANCHOR PLATE WITH ⅝" DIA. ROD (OR ALTERNATE STRIP SEAL ANCHOR). WELD ROD TO ANCHOR PLATE, WELD ANCHOR PLATE TO NO. 1 AT 1'-6" CENTERS BETWEEN GIRDERS.

(3) ¾" DIA. THREADED ROD WITH 2 NUTS AND PLATE WASHERS. WELD THREADED ROD TO TOP FLANGE OR ATTACH BY BOLTING THRU FLANGE. ON ABUTMENT SIDE GROUT THREADED ROD INTO FIELD DRILLED HOLES IN ABUTMENT BACKWALL AS SHOWN.

(4) ¾" DIA. THREADED ROD WITH NUT. TACK WELD NUT TO NO. 5.

(5) FABRICATE SUPPORT FROM 3" X ½" BAR AS SHOWN OR EQUIVALENT, ONE PER GIRDER PER SIDE. SHOP OR FIELD WELD TO NO. 1. IF FIELD WELDED, COVER WELDED AREAS WITH EPOXY-COATING MATERIAL. PROVIDE 1½" DIA. HOLE FOR NO. 3 AND 1" DIA. HOLE FOR NO. 4.

● TOP ELEVATION OF PAVING BLOCK SHALL CONFORM WITH SUPERSTRUCTURE. POUR PAVING BLOCK AFTER SUPERSTRUCTURE IS IN PLACE.

⚠ DIMENSIONS ARE GIVEN NORMAL TO ℄ OF SUBSTRUCTURE UNIT.

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STRUCTURE B-3-37

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STRIP SEAL EXPANSION JOINT

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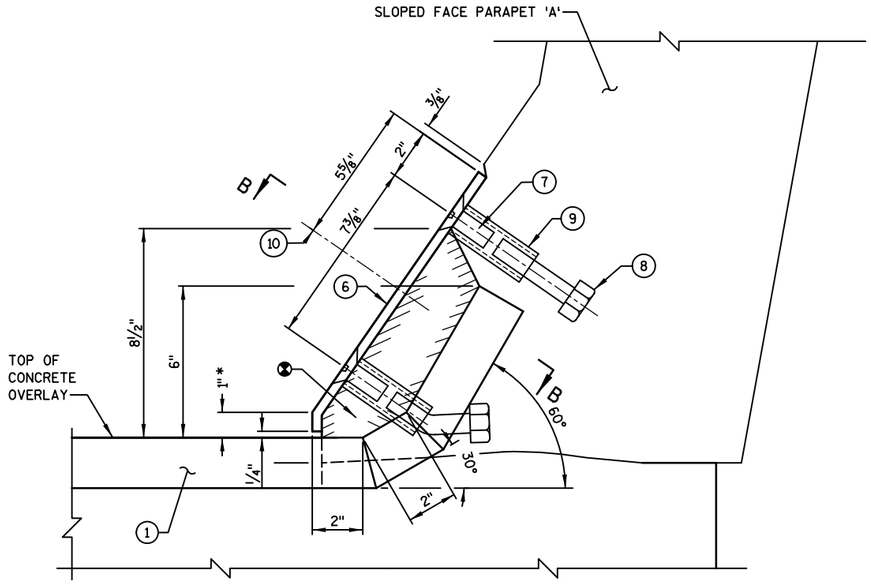
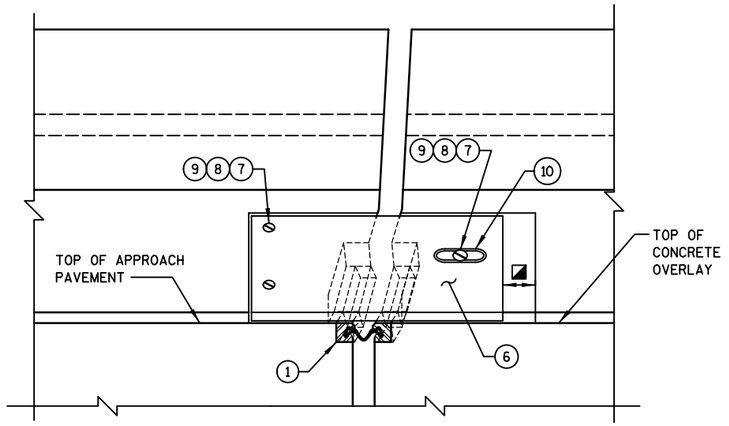
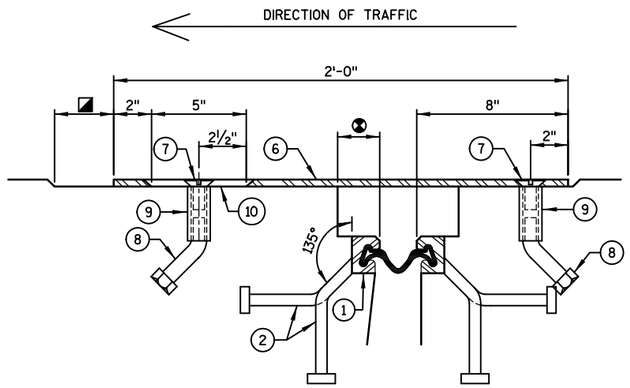


SECTION A-A

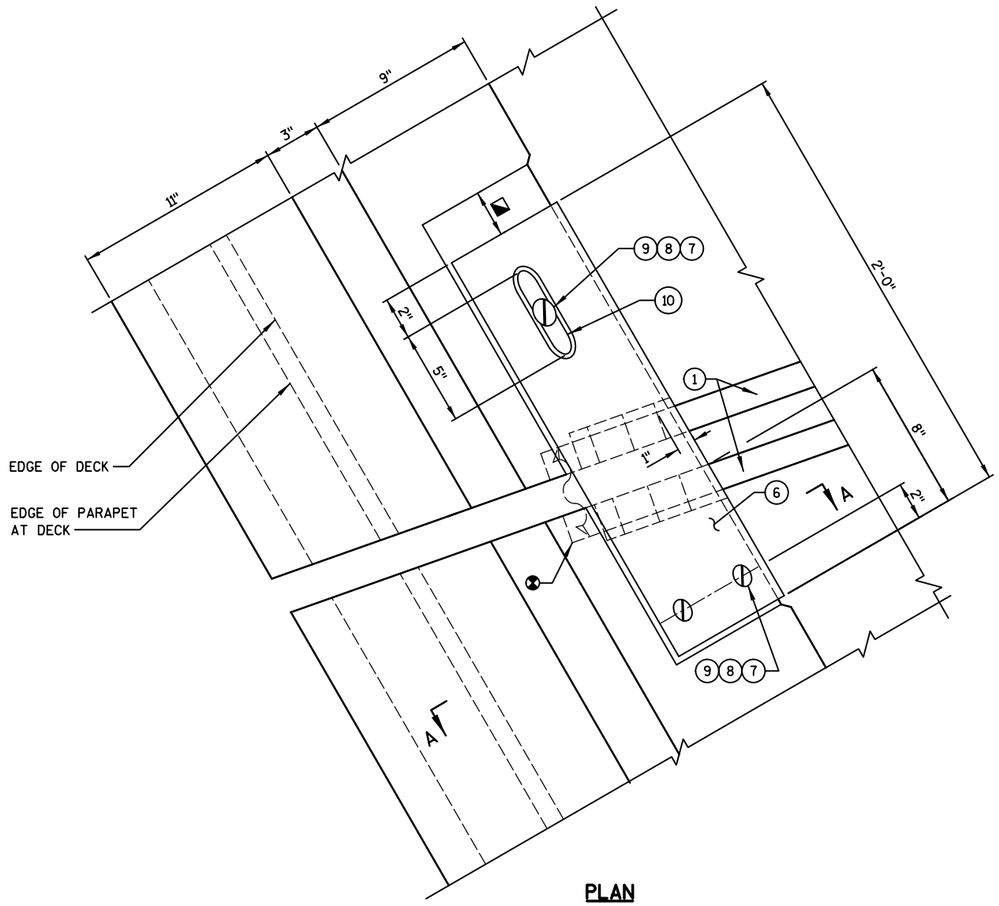
* DIMENSION VARIES BASED ON FINAL OVERLAY SURFACE ELEVATION. FIELD VERIFY AND ADJUST PLATE DIMENSIONS AS NECESSARY TO MAINTAIN ¼" GAP.



VIEW OF PARAPET PLATE FROM ROADWAY



SECTION B-B



PLAN

NOTES

SEE NOTES ON SHEET 9.

LEGEND

(1) NEOPRENE STRIP SEAL (4-INCH) AND STEEL EXTRUSIONS.

(2) STUDS ⅝" DIA. X 6⅜" LONG AT 6" ALTERNATE CENTERS. WELD TO EXTRUSIONS AND BEND AS SHOWN AFTER WELDING.

(2A) ½" THICK ANCHOR PLATE WITH ⅝" DIA. ROD (OR ALTERNATE STRIP SEAL ANCHOR). WELD ROD TO ANCHOR PLATE, WELD ANCHOR PLATE TO NO. 1 AT 1'-6" CENTERS BETWEEN GIRDERS.

(3) ¾" DIA. THREADED ROD WITH 2 NUTS AND PLATE WASHERS. WELD THREADED ROD TO TOP FLANGE OR ATTACH BY BOLTING THRU FLANGE. ON ABUTMENT SIDE GROUT THREADED ROD INTO FIELD DRILLED HOLES IN ABUTMENT BACKWALL AS SHOWN.

(4) ¾" DIA. THREADED ROD WITH NUT. TACK WELD NUT TO NO. 5.

(5) FABRICATE SUPPORT FROM 3" X ½" BAR AS SHOWN OR EQUIVALENT, ONE PER GIRDER PER SIDE. SHOP OR FIELD WELD TO NO. 1. IF FIELD WELDED, COVER WELDED AREAS WITH EPOXY-COATING MATERIAL. PROVIDE 1½" DIA. HOLE FOR NO. 3 AND 1" DIA. HOLE FOR NO. 4.

(6) GALVANIZED PLATE ⅜" X 1'-0" WIDE X 2'-0" LONG WITH HOLES FOR NO. 7. BEND AS SHOWN. FIELD MEASURE REQUIRED PLATE WIDTH AFTER CONCRETE OVERLAY IS IN PLACE.

(7) ¾" DIA. X 1½" STAINLESS STEEL SOCKET FLAT HEAD SCREWS WITH ANTI-SEIZE LUBRICANT. PLACE IN COUNTERSUNK HOLE. RECESS 1/16" BELOW PLATE SURFACE.

(8) ¾" DIA. X 4" GALVANIZED HEX HEAD BOLT. BEND 45°.

(9) ¾" DIA. X 2¼" GALVANIZED THREADED COUPLING.

(10) 1" X 5" SLOTTED COUNTERSUNK HOLE FOR NO. 7. PLACE SLOT PARALLEL TO DIRECTION OF MOVEMENT.

⊗ BLOCK OUT CONCRETE 2" EACH SIDE OF JOINT OPENING.

◪ JOINT OPENING DIMENSION ALONG SKEW PLUS ½".

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STRUCTURE B-3-37

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COVER PLATE DETAILS

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STATE PROJECT NUMBER

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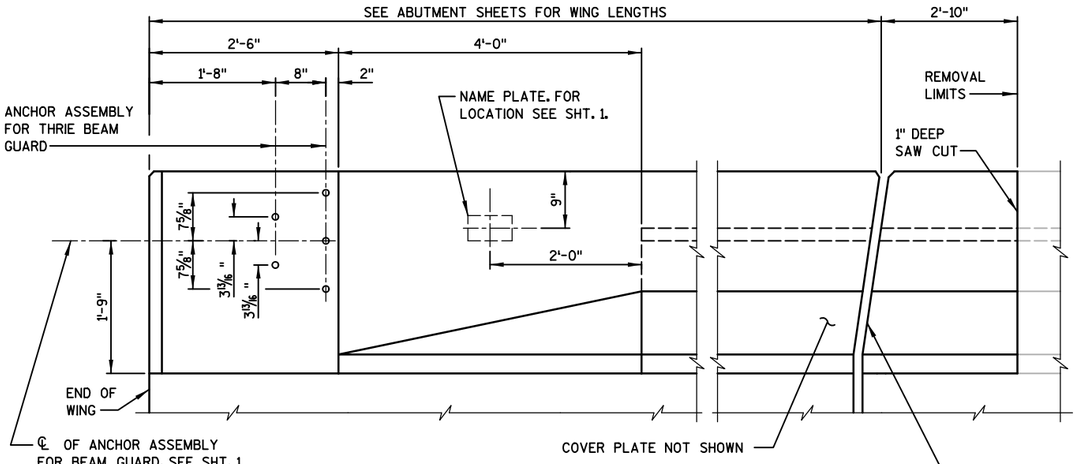
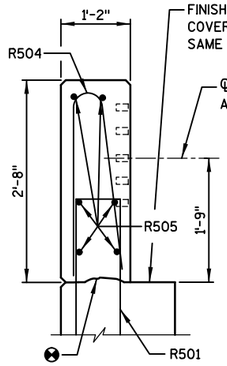
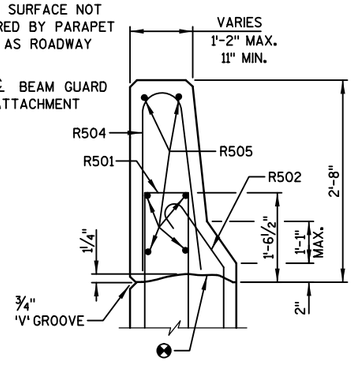


INSIDE ELEVATION



SECTION A

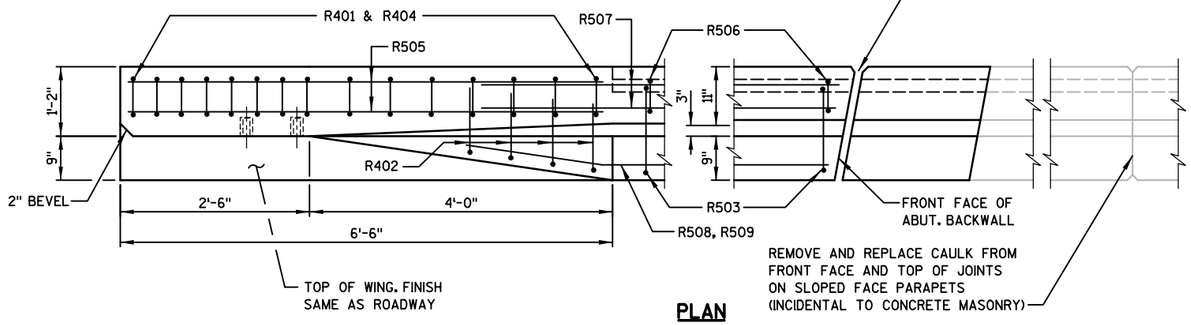


SECTION B

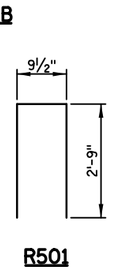
SLOPED FACE PARAPET 'A' BILL OF BARS

S. ABUT. COATED: 1,150 LBS
N. ABUT. COATED: 1,150 LBS

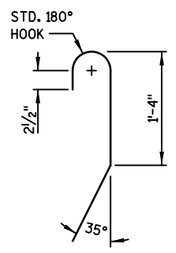
BAR MARK	NO. REQ'D S. ABUT.	NO. REQ'D N. ABUT.	LENGTH	BENT	COAT	LOCATION
R501	30	30	6'-1"	X	X	PARAPET - VERT.
R502	8	8	3'-3"	X	X	PARAPET - VERT.
R503	44	44	5'-10"	X	X	PARAPET - VERT.
R504	30	30	5'-2"	X	X	PARAPET - VERT.
R505	12	12	6'-2"		X	PARAPET - HORIZ.
R506	44	44	5'-0"	X	X	PARAPET - VERT.
R507	8	8	18'-6"		X	PARAPET - HORIZ.
R508	1	1	18'-3"	X	X	PARAPET - HORIZ. - WINGS 1 & 3
R509	1	1	18'-4"	X	X	PAPAPET - HORIZ. - WING 2 & 4



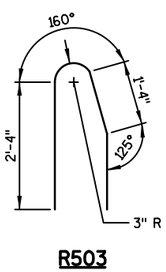
PLAN



R501



R502



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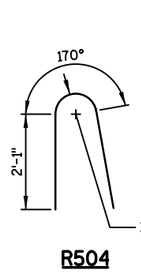

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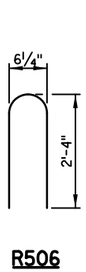

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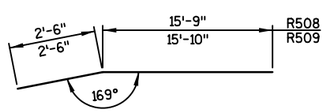
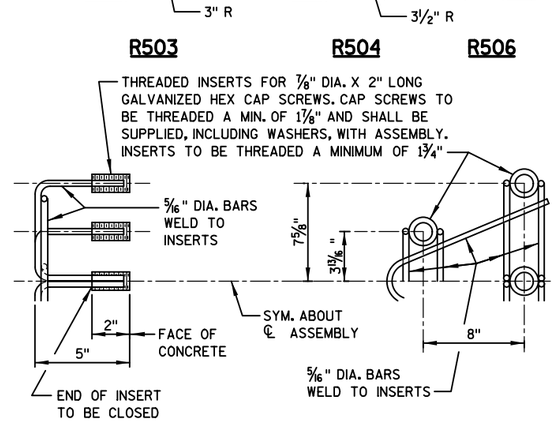


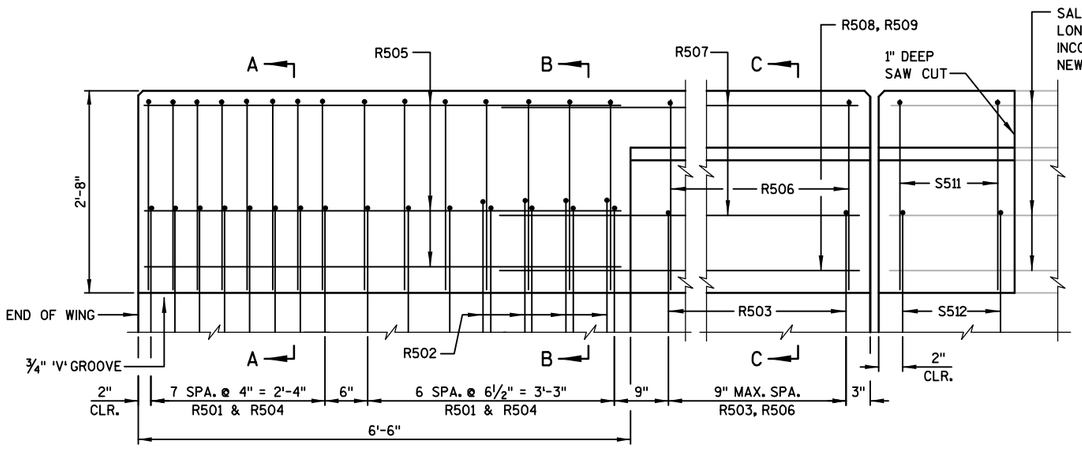
R508, R509



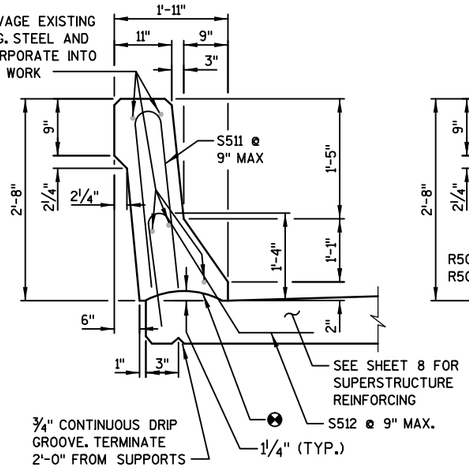
DETAIL OF ANCHOR ASSEMBLY

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

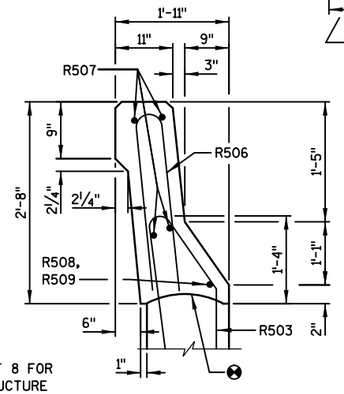
ASSEMBLY SHALL BE BID ITEM "ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD" EACH.



OUTSIDE ELEVATION



SECTION THRU PARAPET ON BRIDGE



SECTION C

LEGEND

⊗ CONST. JOINT - STRIKE OFF AS SHOWN AND LEAVE ROUGH.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-3-37

DRAWN BY JFG | PLANS CK'D. BMO

SLOPED FACE PARAPET 'A'

SHEET 11 OF 11
338

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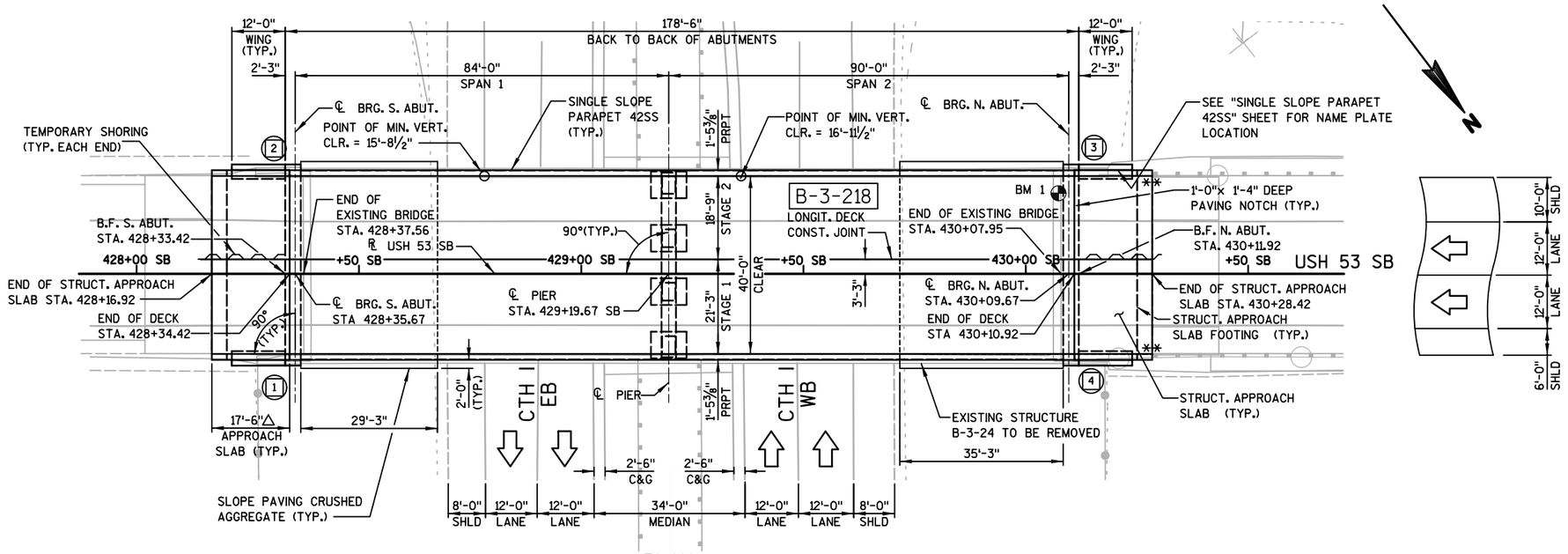
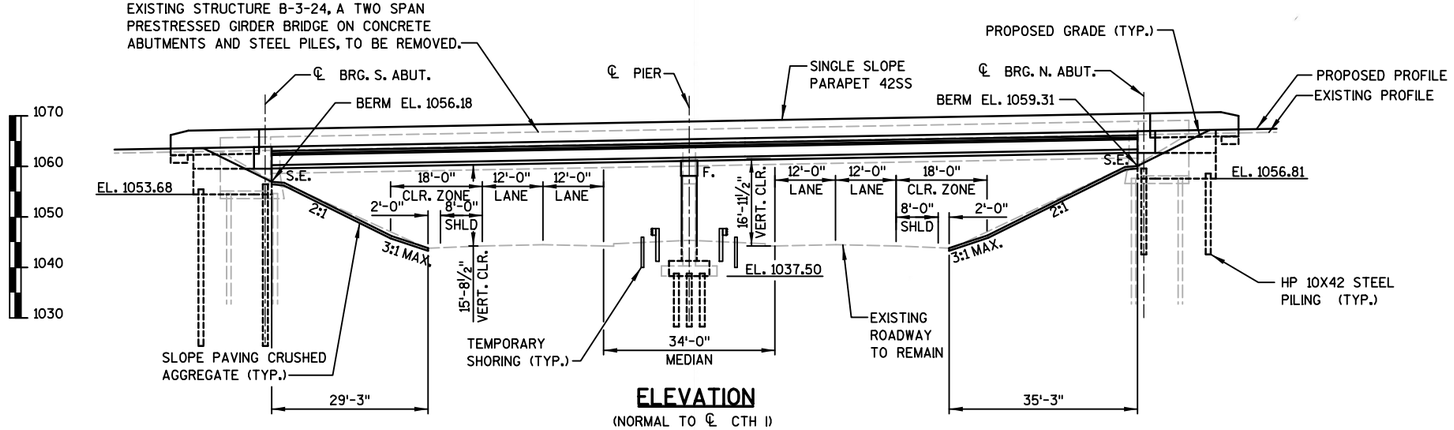


PLAN

(TWO-SPAN 36W-INCH PRESTRESSED GIRDERS)



ELEVATION

(NORMAL TO ℄ CTH I)

BENCHMARKS

BM NO.	COORDINATES	DESCRIPTION	ELEV.
BM 1	Y: 62,128.59 X: 354,745.03	NW CORNER BRIDGE DECK B-3-24 (CTH I) STA: 430+07.36 USH 53 SB 18.14' LT	1065.33
BM 2	Y: 61,303.85 X: 355,782.67	NW CORNER BRIDGE DECK B-3-20 (CHETEK RIVER)	1043.96
BM 3	Y: 66,181.31 X: 349955.75	NW CORNER BRIDGE DECK B-3-26 (KNAPP STREET)	1077.68

NOTE: BM 2 AND BM 3 ARE OUTSIDE OF PLAN EXTENTS. SEE ROADWAY PLANS FOR ADDITIONAL INFORMATION.

STATE PROJECT NUMBER

1196-04-77

DESIGN DATA

LIVE LOAD:

DESIGN LOADING: HL-93
INVENTORY RATING: RF = 1.17
OPERATING RATING: RF = 1.76
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV): 250 KIPS

STRUCTURE DESIGNED FOR A FUTURE WEARING SURFACE OF 20 PSF.

MATERIAL PROPERTIES:

CONCRETE MASONRY:
SUPERSTRUCTURE & STRUCTURAL APPROACH SLAB AND FOOTING —— f'c = 4,000 PSI
ALL OTHER —— f'c = 3,500 PSI
BAR STEEL REINFORCEMENT
GRADE 60 —— f'c = 60,000 PSI
STAINLESS, GRADE 60 —— f'c = 60,000 PSI
36W" PRESTRESSED GIRDERS:
CONCRETE MASONRY —— f'c = 8,000 PSI
STRANDS: 0.6" DIA. WITH ULTIMATE TENSILE STRENGTH OF 270,000 P.S.I.

TRAFFIC DATA

USH 53 SB
A.D.T. (2025) = 9,660
DESIGN SPEED = 70 MPH

CTH I
A.D.T. (2014) = 4,400
DESIGN SPEED = 60 MPH

FOUNDATION DATA

PIER AND ABUTMENTS TO BE SUPPORTED ON PILING STEEL HP 10-INCH X 42 LB INSTALLED IN PREBORED HOLES EXTENDING A MINIMUM OF 3 FEET INTO SOUND BEDROCK. PILING BEARING ON SOUND BEDROCK DESIGNED FOR A FACTORED AXIAL COMPRESSION LOAD OF 180 KIPS. PILE DRIVING IS NOT REQUIRED. FIRMLY SEAT THE PILE IN THE BOTTOM OF THE PRE-BORED HOLE AFTER IT IS CLEANED OUT.

ESTIMATED PILE LENGTHS:
SOUTH ABUTMENT —— 30 FEET EACH
PIER —— 12 FEET EACH
NORTH ABUTMENT —— 15 FEET EACH

TEMP. PIER SUPPORT:
FACTORED BEARING RESISTANCE —— 7,000 PSF

LEGEND

⊕ = INDICATES WING NUMBER
** = PROVIDE FOR THRIE BEAM TRANSITION ATTACHMENT
△ = DIMENSION IS APPROXIMATE. CONTRACTOR SHALL ADJUST STRUCTURAL APPROACH SLAB LENGTH AS NECESSARY BASED ON THE LOCATION OF THE BURIED PAVEMENT TERMINAL ANCHOR.

LIST OF DRAWINGS

1. GENERAL PLAN
2. CROSS SECTION, QUANTITIES, NOTES, & DETAILS
3. CONSTRUCTION STAGING - 1
4. CONSTRUCTION STAGING - 2
5. SUBSURFACE EXPLORATION
6. SOUTH ABUTMENT
7. SOUTH ABUTMENT DETAILS
8. NORTH ABUTMENT
9. NORTH ABUTMENT DETAILS
10. ABUTMENT DETAILS
11. PIER
12. PIER DETAILS
13. TEMPORARY PIER SUPPORT
14. 36W" PRESTRESSED GIRDER DETAILS - 1
15. 36W" PRESTRESSED GIRDER DETAILS - 2
16. STEEL DIAPHRAGMS
17. SUPERSTRUCTURE PLAN
18. SUPERSTRUCTURE SECTION
19. SUPERSTRUCTURE DETAILS - 1
20. SUPERSTRUCTURE DETAILS - 2
21. SINGLE SLOPE PARAPET 42SS
22. STRUCTURAL APPROACH SLAB

STRUCTURE DESIGN CONTACTS

DESIGN CONSULTANT CONTACT:
BRETT OFTEDAHL (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 TRANSPORTATION
ACCEPTED SDR 01/17/25
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-3-218

USH 53 SB OVER CTH "I"

COUNTY: BARRON
TOWN/~~CITY/VILLAGE~~: CHETEK
DESIGN SPEC.: AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
JFG	EJC	ZHC	EJC

GENERAL PLAN

SHEET 1 OF 22
339

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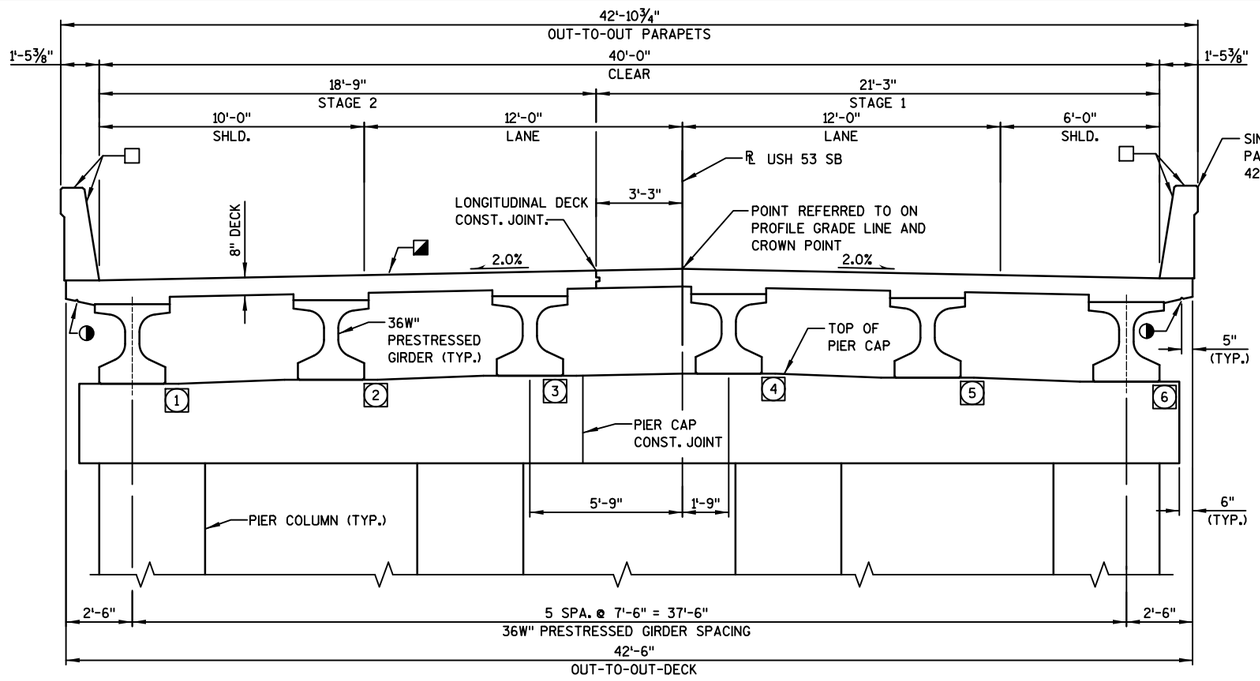
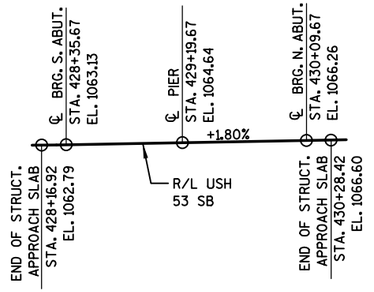
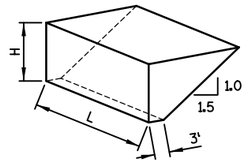


CROSS SECTION THRU SUPERSTRUCTURE

(LOOKING NORTH)



PROFILE GRADE LINE - USH 53 SB

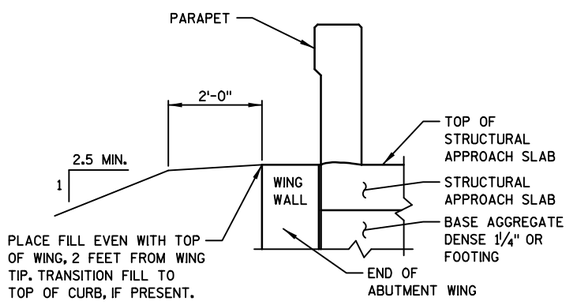


ABUTMENT BACKFILL DIAGRAM

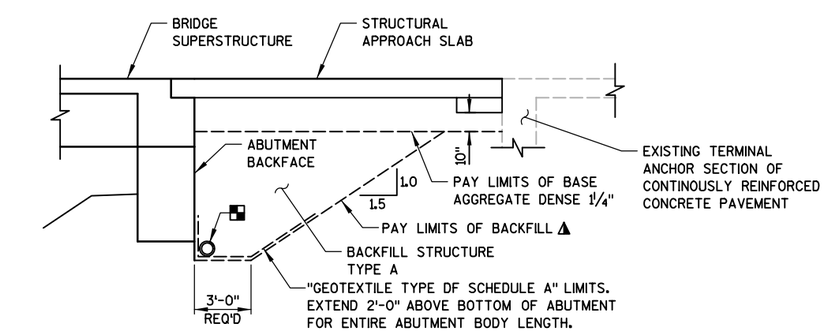
L = OUT TO OUT OF ABUTMENT BODY, INCLUDING WINGS (FT)
H = AVERAGE ABUTMENT FILL HEIGHT (FT)
EF = EXPANSION FACTOR (1.00 FOR TON BID ITEMS)
V_{CF} = (L)(3.0')(H) + (L)(0.5)(1.5H)(H)
V_{CY} = V_{CF} (EF)/27
V_{TON} = V_{CY} (2.0)

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	SOUTH ABUTMENT	PIER	NORTH ABUTMENT	SUPER.	SOUTH APPROACH	NORTH APPROACH	TOTAL
203.0220.04	REMOVING STRUCTURE B-3-24	EACH	---	---	---	---	---	---	1
203.033.02	DEBRIS CONTAINMENT B-3-24	EACH	---	---	---	---	---	---	1
206.1001.05	EXCAVATION FOR STRUCTURES BRIDGES B-3-218	EACH	---	---	---	---	---	---	1
210.1500	BACKFILL STRUCTURE TYPE A	TON	133	---	133	---	---	---	266
305.0120	BASE AGGREGATE DENSE 1 1/4-INCH	TON	---	---	---	---	117	117	234
502.0100	CONCRETE MASONRY BRIDGES	CY	49.0	66.9	49.4	310.1	49.5	49.5	575
502.3200	PROTECTIVE SURFACE TREATMENT	SY	---	---	---	807	78	78	963
502.3210	PIGMENTED SURFACE SEALER	SY	---	---	---	172	19	19	210
503.0137	PRESTRESSED GIRDER TYPE I 36W-INCH	LF	---	---	---	1,049	---	---	1,049
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	2,610	1,450	2,630	---	---	---	6,690
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	1,570	13,500	1,570	64,040	8,540	8,540	97,760
505.0800.S	BAR STEEL REINFORCEMENT HS STAINLESS STRUCTURES	LB	---	---	---	---	750	750	1,500
505.0904	BAR COUPLERS NO. 4	EACH	---	---	---	10	---	---	10
505.0905	BAR COUPLERS NO. 5	EACH	---	6	---	499	36	36	577
505.0906	BAR COUPLERS NO. 6	EACH	11	---	11	16	---	---	38
505.0907	BAR COUPLERS NO. 7	EACH	6	---	6	---	---	---	12
505.0908	BAR COUPLERS NO. 8	EACH	---	14	---	---	8	8	30
506.2605	BEARING PADS ELASTOMERIC NON-LAMINATED	EACH	6	12	6	---	---	---	24
506.4000.03	STEEL DIAPHRAGMS B-3-218	EACH	---	---	---	20	---	---	20
511.1200.02	TEMPORARY SHORING B-3-218	SF	260	500	260	---	---	---	1,020
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	14	---	14	---	---	---	28
550.0010	PRE-BORING UNCONSOLIDATED MATERIALS	LF	270	216	132	---	---	---	618
550.0020	PRE-BORING ROCK OR CONSOLIDATED MATERIALS	LF	30	72	33	---	---	---	135
550.1100	PILING STEEL HP 10-INCH X 42 LB	LF	300	288	165	---	---	---	753
604.0500	SLOPE PAVING CRUSHED AGGREGATE	SY	165	---	200	---	---	---	365
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	115	---	115	---	---	---	230
614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	EACH	---	---	2	---	---	---	2
645.0111	GEOTEXTILE TYPE DF SCHEDULE A	SY	39	---	39	---	---	---	78
SPV.0060.05	TEMPORARY SUPPORT B-3-218 (EXISTING DECK)	EACH	---	---	---	---	---	---	1
SPV.0060.07	TEMPORARY SUPPORT B-3-218 (NEW DECK)	EACH	---	---	---	---	---	---	1
SPV.0060.08	TEMPORARY PIER SUPPORT B-3-218	EACH	---	---	---	---	---	---	1
	NON-BID ITEMS								
	NAME PLATE	EACH							1
	FILLER	SIZE	---		---	---			1/2", 3/4"



TYPICAL FILL SECTION AT WING TIPS



TYPICAL SECTION THRU ABUTMENT

STATE PROJECT NUMBER

1196-04-77

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 3/4" UNLESS OTHERWISE NOTED.

THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES BRIDGES B-3-218" SHALL BE THE EXISTING GROUNDLINE.

AT THE BACK FACE OF ABUTMENTS, 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. ALSO EXCLUDED IS THE "BASE AGGREGATE DENSE 1 1/4-INCH" AS DETAILED ON THIS SHEET.

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 PRESTRESSED GIRDERS DETAIL 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-3-24, A 2-SPAN PRESTRESSED GIRDER BRIDGE 172' LONG BY 44' WIDE, IS TO BE REMOVED.

LEGEND

(X) INDICATES GIRDER NUMBER.

◪ PROTECTIVE SURFACE TREATMENT TO BE APPLIED TO THE ENTIRE TOP OF DECK, TOP OF STRUCTURAL APPROACH SLAB, AND HORIZONTAL AND VERTICAL SURFACES OF PAVING NOTCH.

☐ PIGMENTED SURFACE SEALER TO BE APPLIED TO THE FRONT FACE, TOP AND ENDS OF THE SINGLE SLOPE PARAPET 42SS, INCLUDING PARAPETS ON APPROACH SLABS.

⚠ 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.

◑ 3/4" V-GROOVE REQ'D. EXTEND TO 6" FROM F.F. OF ABUTMENT DIAPHRAGMS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-3-218

DRAWN BY ZHC | PLANS CK'D. EJC

CROSS SECTION, QUANTITIES, NOTES, & DETAILS

SHEET 2
340

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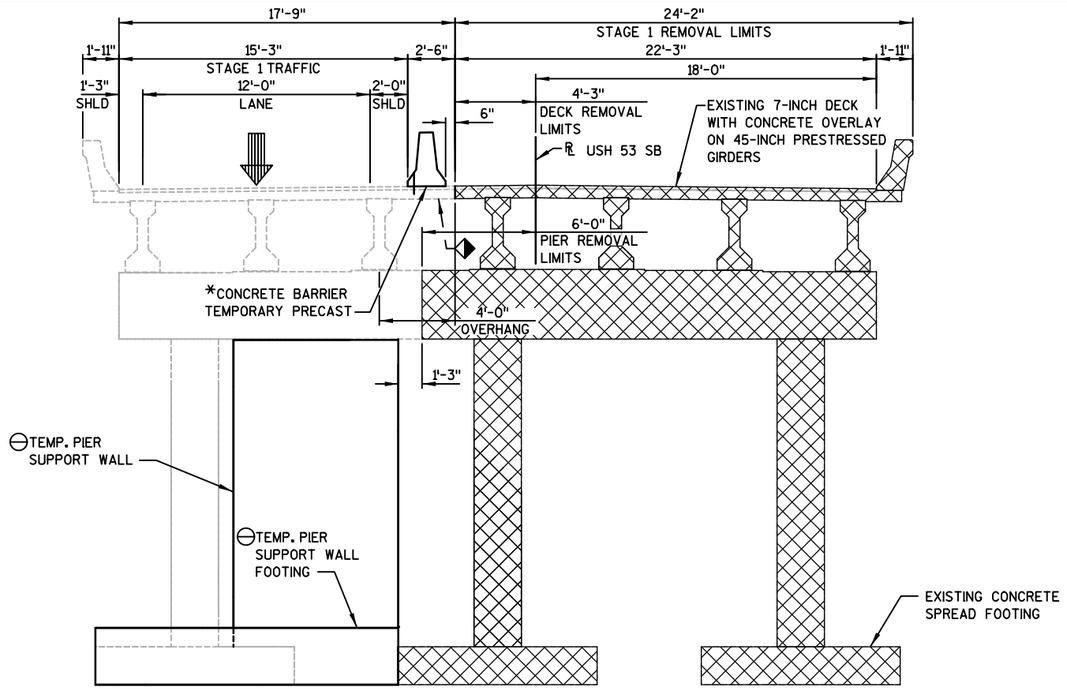
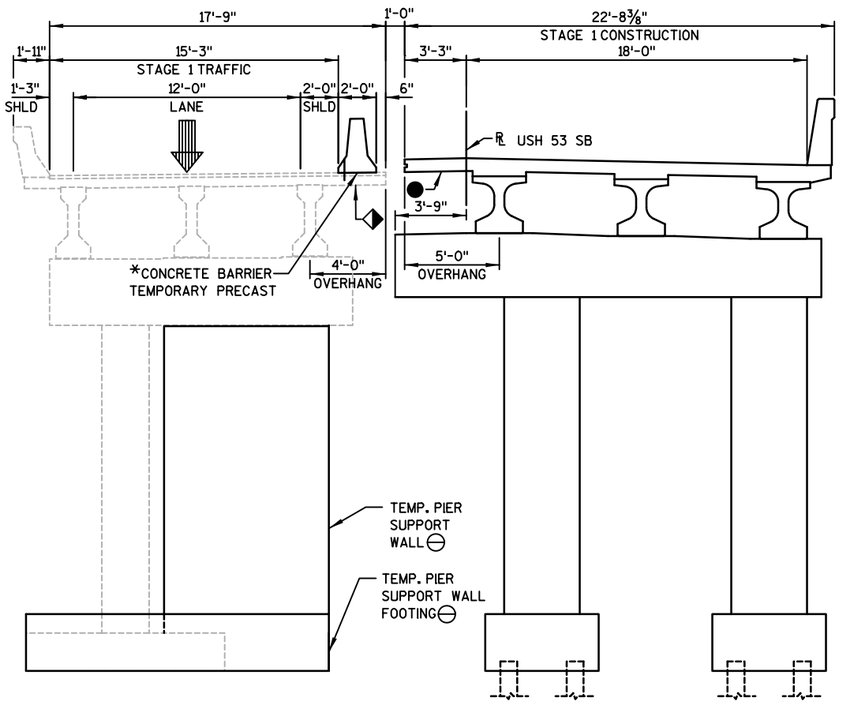


STAGE 1 - TRAFFIC AND REMOVAL

(LOOKING NORTH)



STAGE 1 TRAFFIC AND CONSTRUCTION

(LOOKING NORTH)

STATE PROJECT NUMBER

1196-04-77

NOTES

SEE ROADWAY PLANS FOR ADDITIONAL STAGING INFORMATION.

LEGEND

- PROVIDE TEMPORARY SUPPORT OF THE FULL LENGTH OF DECK OVERHANG DURING STAGE 1 CONSTRUCTION IN ACCORDANCE WITH THE SPECIAL PROVISION "TEMPORARY SUPPORT B-3-218 (EXISTING DECK)"
- CONCRETE BARRIER TEMPORARY PRECAST AND ANCHORING CONCRETE BARRIER TEMPORARY PRECAST ON BRIDGE DECKS. SEE ROADWAY PLANS FOR ADDITIONAL INFORMATION.
- INDICATES REMOVAL
- PROVIDE TEMPORARY SUPPORT OF THE NEW DECK OVERHANG DURING STAGE 1 AND STAGE 2 CONSTRUCTION IN ACCORDANCE WITH THE SPECIAL PROVISION "TEMPORARY SUPPORT B-3-218 (NEW DECK)"
- CONSTRUCT TEMP. PIER SUPPORT WALL AND FOOTING PRIOR TO STAGE 1 REMOVALS. SEE "TEMPORARY PIER SUPPORT" SHEET FOR DETAILS. TEMPORARY SUPPORT OF PIER IS INCLUDED WITH BID ITEM "TEMPORARY PIER SUPPORT B-3-218."

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-3-218

DRAWN BY ZHC | PLANS CK'D. EJC

CONSTRUCTION STAGING - 1

SHEET 3
341

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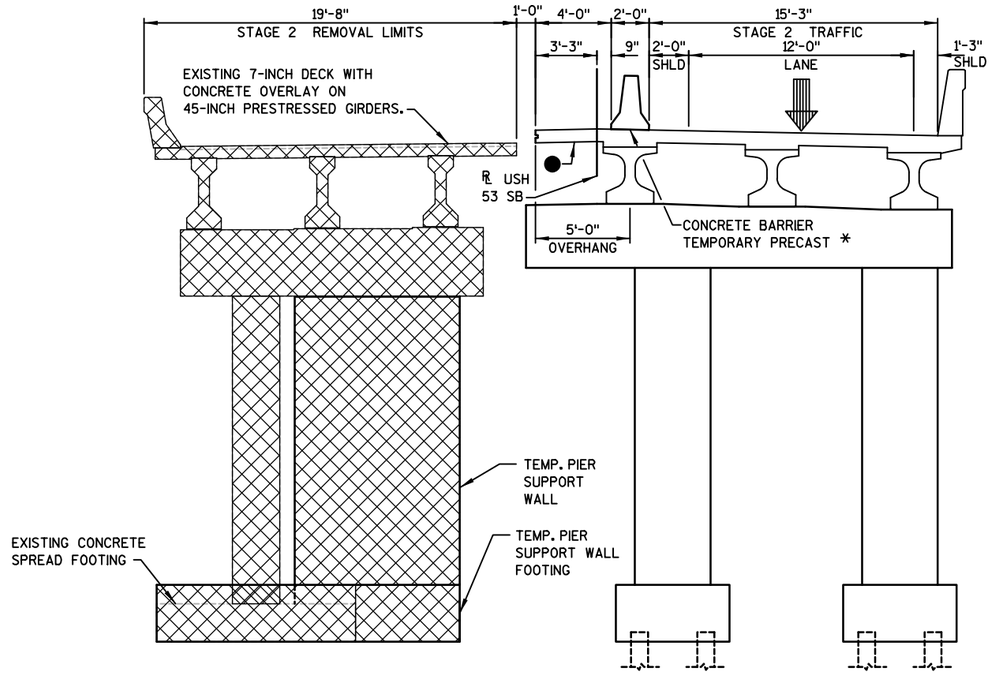
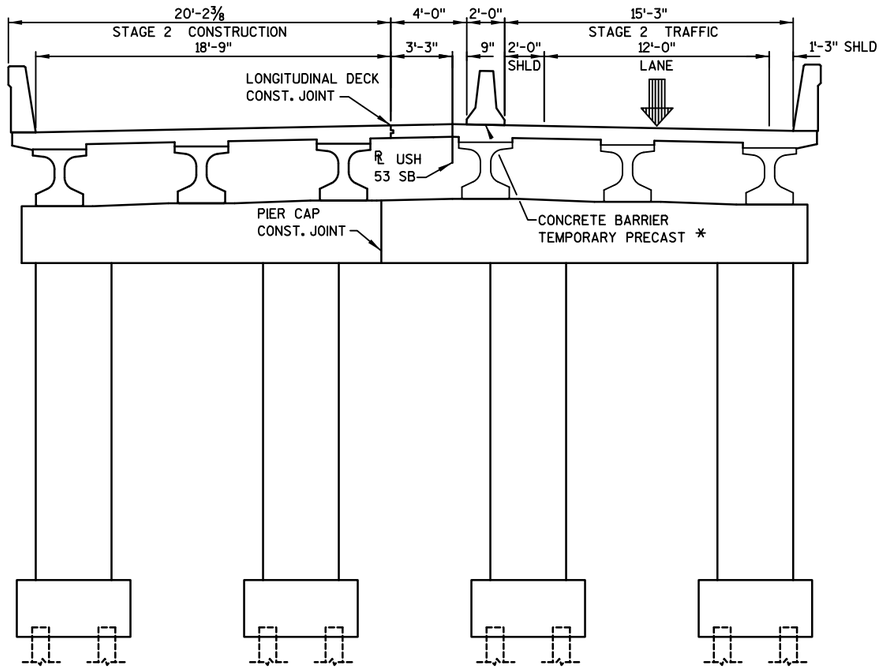


STAGE 2 - TRAFFIC AND REMOVAL

(LOOKING NORTH)



STAGE 2 TRAFFIC AND CONSTRUCTION

(LOOKING NORTH)

STATE PROJECT NUMBER

1196-04-77

NOTES

SEE ROADWAY PLANS FOR ADDITIONAL STAGING INFORMATION.

LEGEND

- INDICATES REMOVAL
- PROVIDE TEMPORARY SUPPORT OF THE NEW DECK OVERHANG DURING STAGE 1 AND STAGE 2 CONSTRUCTION IN ACCORDANCE WITH THE SPECIAL PROVISION "TEMPORARY SUPPORT B-3-218 (NEW DECK)".
- CONCRETE BARRIER TEMPORARY PRECAST AND ANCHORING CONCRETE BARRIER TEMPORARY PRECAST ON BRIDGE DECKS. SEE ROADWAY PLANS FOR ADDITIONAL INFORMATION.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-3-218

DRAWN BY ZHC | PLANS CK'D. EJC

CONSTRUCTION STAGING - 2

SHEET 4
342

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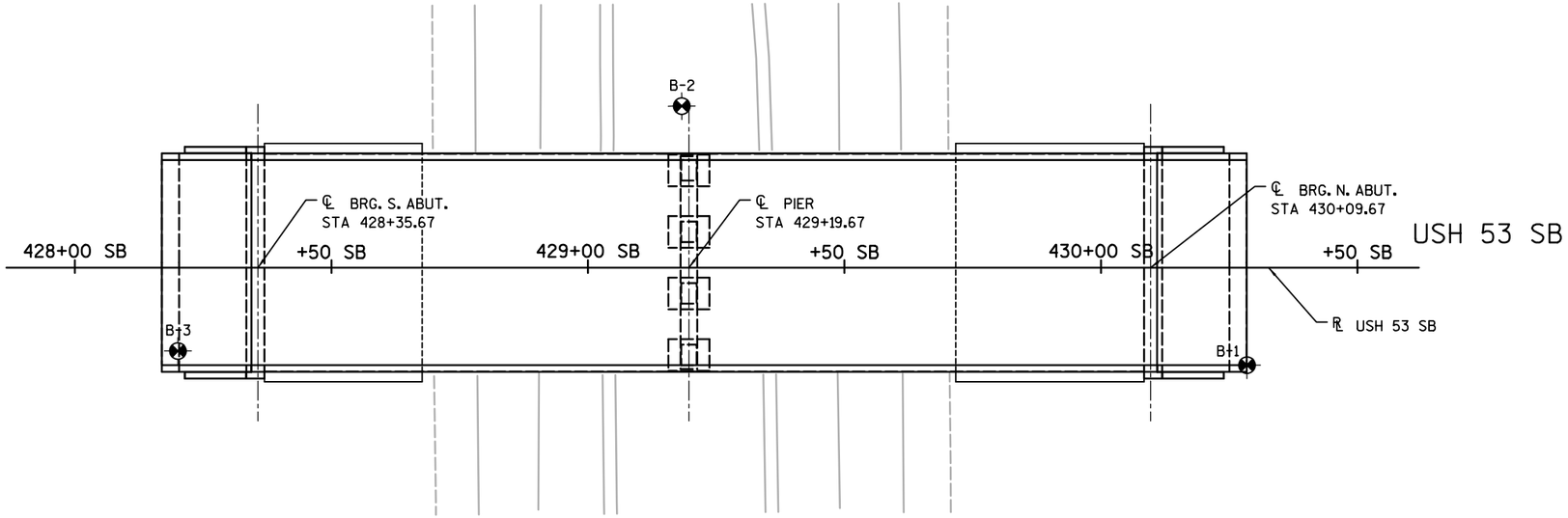
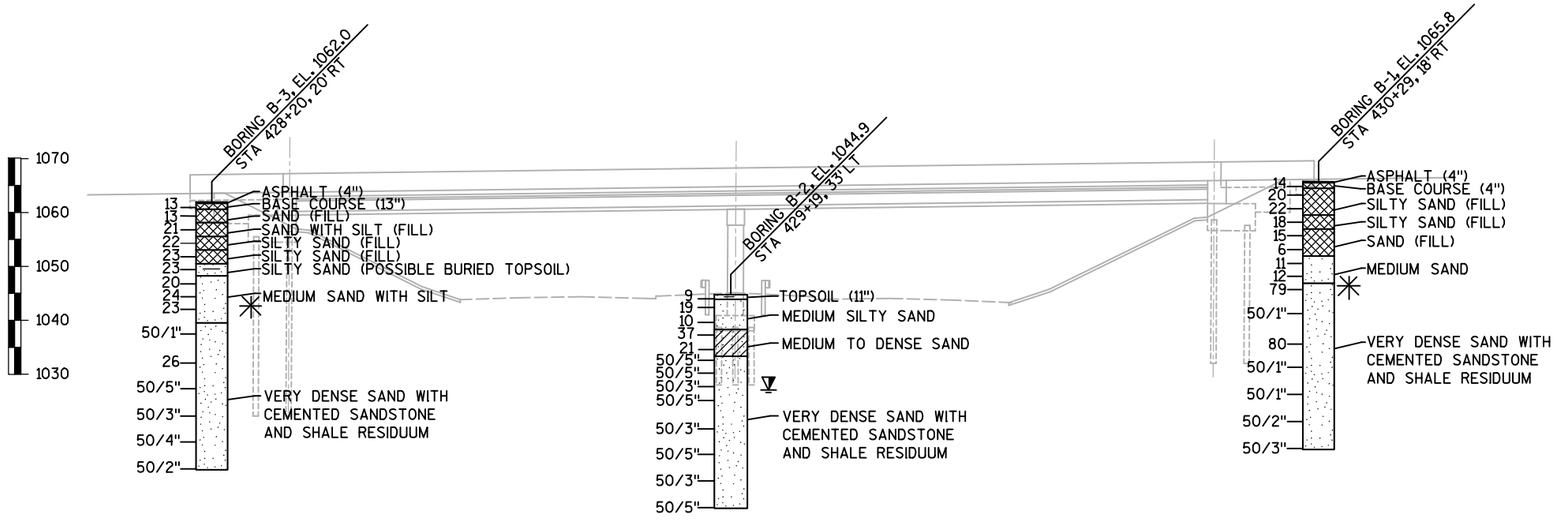
BORING #	DATE COMPLETED	NORTHING (Y)	EASTING (X)
B-1	10/17/2023	62170	354750
B-2	10/16/2023	62064	354807
B-3	10/17/2023	62043	354915
BORINGS COMPLETED BY: GESTRA ENGINEERING, INC.			
REPORT COMPLETED BY: GESTRA ENGINEERING, INC.			
ALL COORDINATES REFERENCED TO WCCS NAD 83(2011) BARRON COUNTY			





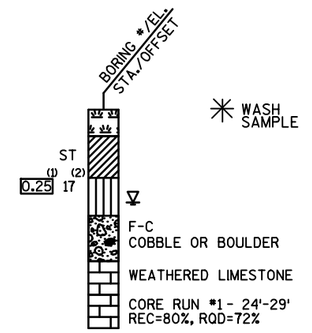
STATE PROJECT NUMBER

1196-04-77

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-3-218

DRAWN BY	ZHC	PLANS CK'D.	EJC

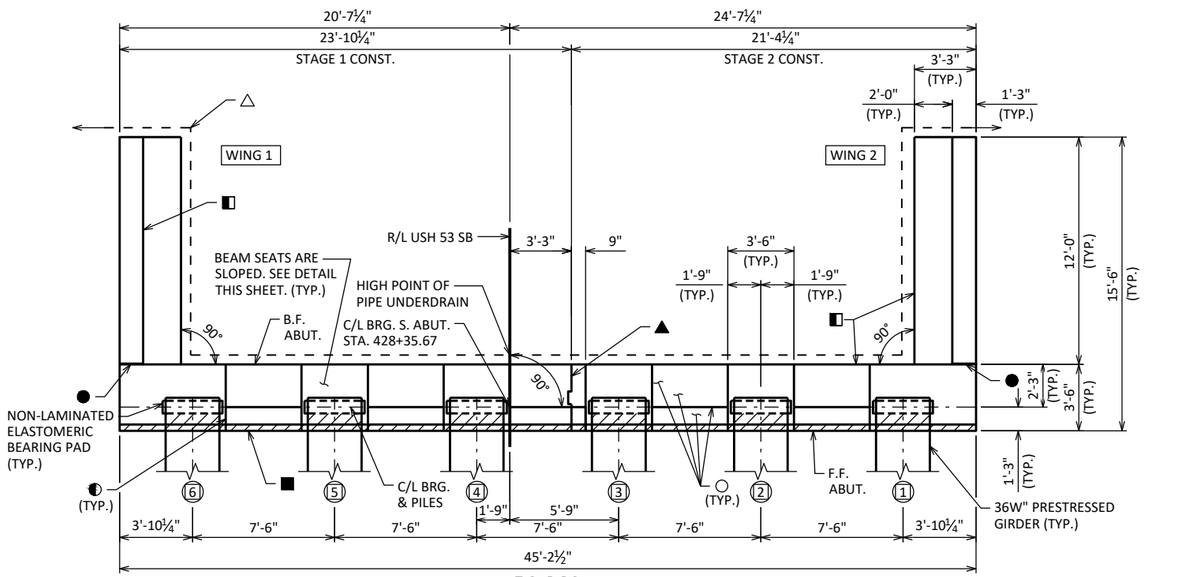
SUBSURFACE EXPLORATION

SHEET 5
343

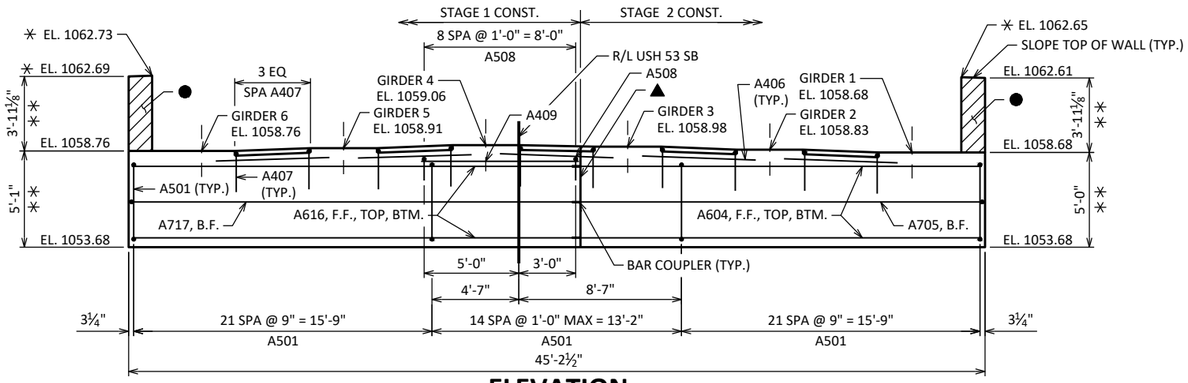
8

8

FILE NAME : S:\MAD\1000--1099\1089\895\Drawings\CAD\Micros\Plan\USH 53\080504a_sx.dgn

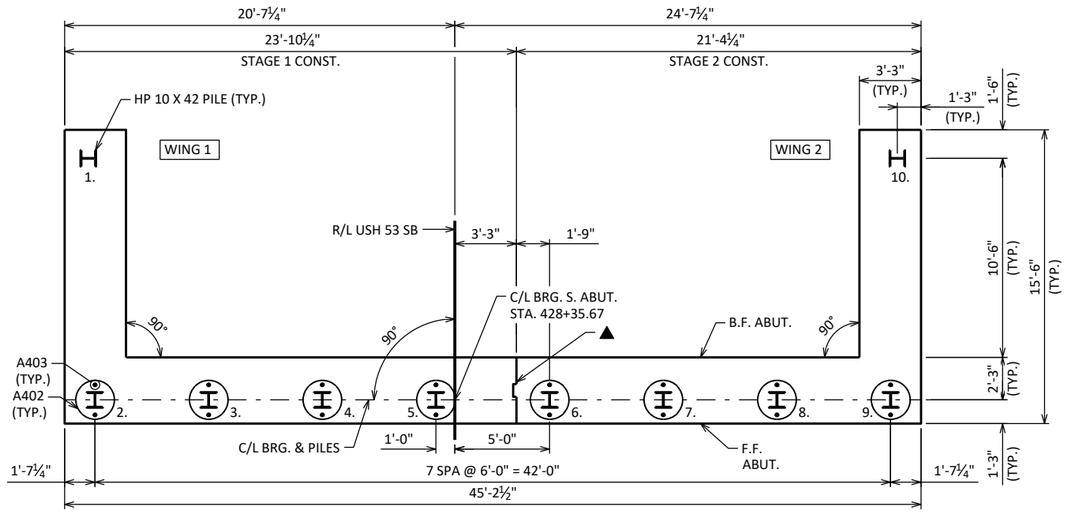


PLAN



ELEVATION

(LOOKING SOUTH)



PILE PLAN

STATE PROJECT NUMBER

1196-04-77

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 10 FOR PILE SPLICE DETAILS.

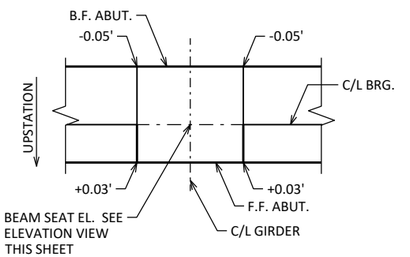
SEE SHEET 7 FOR REINFORCING DETAILS.

SOUTH ABUTMENT TO BE SUPPORTED ON PILING STEEL HP 10-INCH X 42 LB WITH A FACTORED AXIAL COMPRESSION LOAD OF 180 KIPS PER PILE. PILING TO BE INSTALLED IN PRE-BORED HOLES EXTENDING A MINIMUM OF 3 FEET INTO SOUND BEDROCK. BACKFILL WITHIN THE PRE-BORED HOLE INTO BEDROCK SHALL BE GROUT. ESTIMATED PILE LENGTH IS 30 FEET. PILE DRIVING IS NOT REQUIRED. FIRMLY SEAT THE PILE IN THE BOTTOM OF THE PRE-BORED HOLE AFTER IT IS CLEANED OUT.

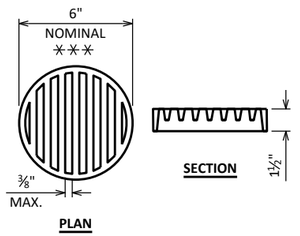
SEE SHEET 2 FOR TYPICAL FILL SECTION AT WING TIPS.

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"x ½" 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.
- ✳✳ DIMENSION MEASURED TO BEAM SEAT ELEVATION AT C/L BRG.



SLOPED BEAM SEAT DETAIL



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 B-3-218

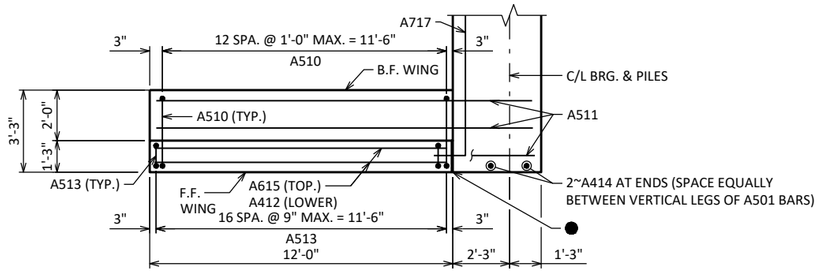
DRAWN BY	ZHC	PLANS CK'D	EJC

SOUTH ABUTMENT

SHEET 6
344

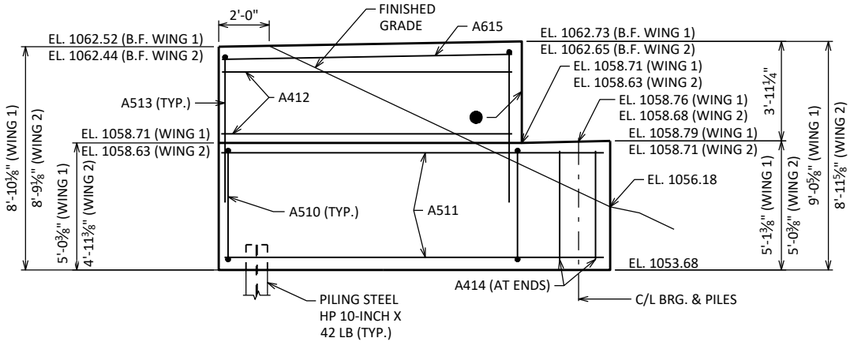
8

8

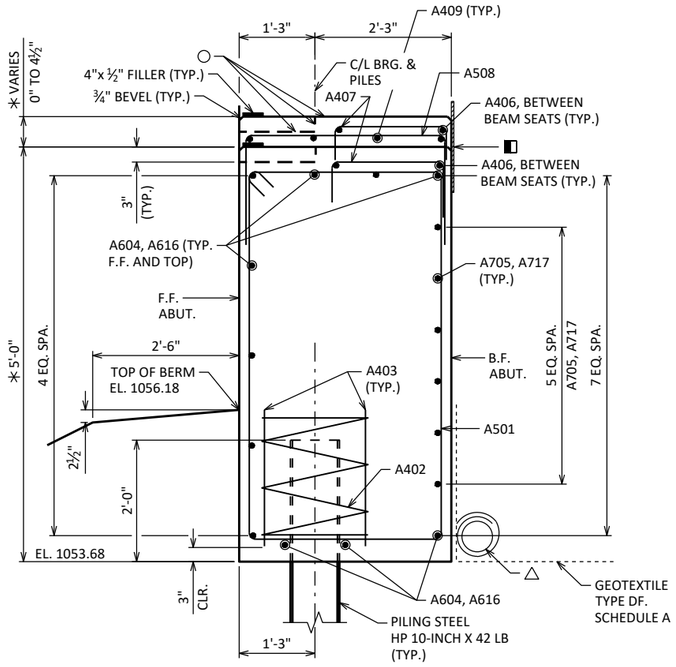


WING 1 PLAN

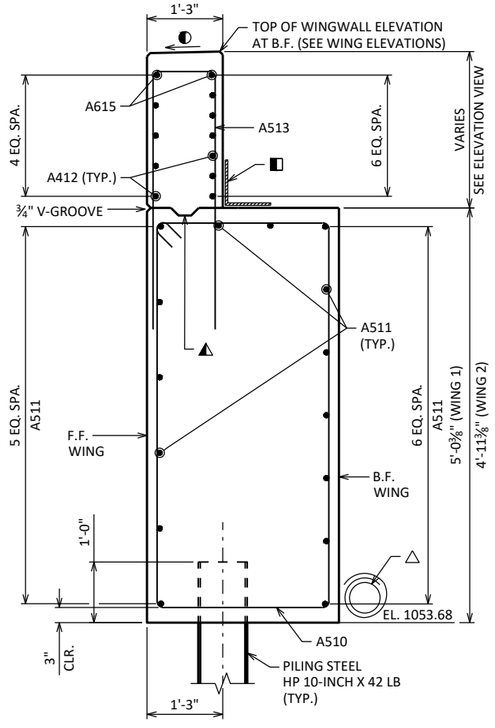
(WING 2 SIMILAR)



WING ELEVATION

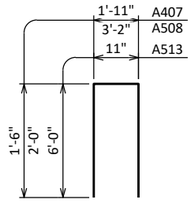


BODY SECTION

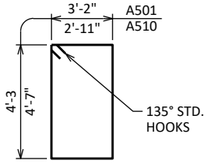


WING 1 SECTION

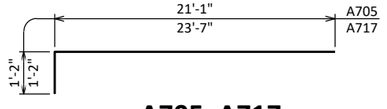
(WING 2 SIMILAR)



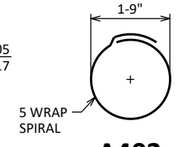
A407, A508, A513



A501, A510



A705, A717



A402

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 6.
- ◭ OPTIONAL CONSTRUCTION JOINT FORMED BY BEVELED 2"x6" KEYWAY WITH MEMBRANE ON BACKFACE.
- ○ 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. EXTEND FROM ABUT. SEAT TO TOP OF PARAPET. FILLER INCLUDED IN WING LENGTH.
- ✳ DIMENSION MEASURED TO BEAM SEAT ELEVATION AT C/L BRG.
- ◐ SLOPE TOP OF WALL ½".

STATE PROJECT NUMBER

1196-04-77

SOUTH ABUTMENT BILL OF BARS

UNCOATED: 2,610 LBS.
COATED: 1,570 LBS.

	BAR MARK	NO. REQ'D	LENGTH	BENT	COAT	LOCATION
	A501	57	15'-6"	X		LOWER BODY - VERT. STIRRUPS
	A402	8	28'-0"	X		LOWER BODY - PILES - SPIRAL
	A403	16	2'-3"			LOWER BODY - PILES - VERT.
✳✳	A604	11	21'-2"			BODY - F.F., TOP, BTM. - HORIZ. - STAGE 2
✳✳	A705	6	22'-1"	X		BODY - B.F. - HORIZ. - STAGE 2
	A406	10	6'-0"			BODY - TOP - HORIZ.
	A407	20	4'-9"	X		BODY - TOP - VERT.
	A508	9	6'-11"	X		BODY - TOP - VERT.
	A409	4	8'-0"			BODY - TOP - HORIZ.
	A510	26	15'-8"	X	X	WINGS - LOWER STIRRUPS
	A511	30	15'-2"		X	WINGS - LOWER - F.F., B.F., TOP, - HORIZ.
	A412	20	11'-7"		X	WINGS - UPPER - F.F., B.F. - HORIZ.
	A513	34	12'-8"	X	X	WINGS - UPPER - VERT.
	A414	4	4'-6"			BODY - ENDS - VERT.
	A615	4	11'-7"		X	WINGS - UPPER - TOP - HORIZ.
✳✳	A616	11	23'-8"			BODY - F.F., TOP, BTM. - HORIZ. - STAGE 1
✳✳	A717	6	24'-7"	X		BODY - B.F. - HORIZ. - STAGE 1

✳✳ BAR WITH COUPLER. SEE SHEET 20 FOR DETAILS AND NOTES.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-3-218

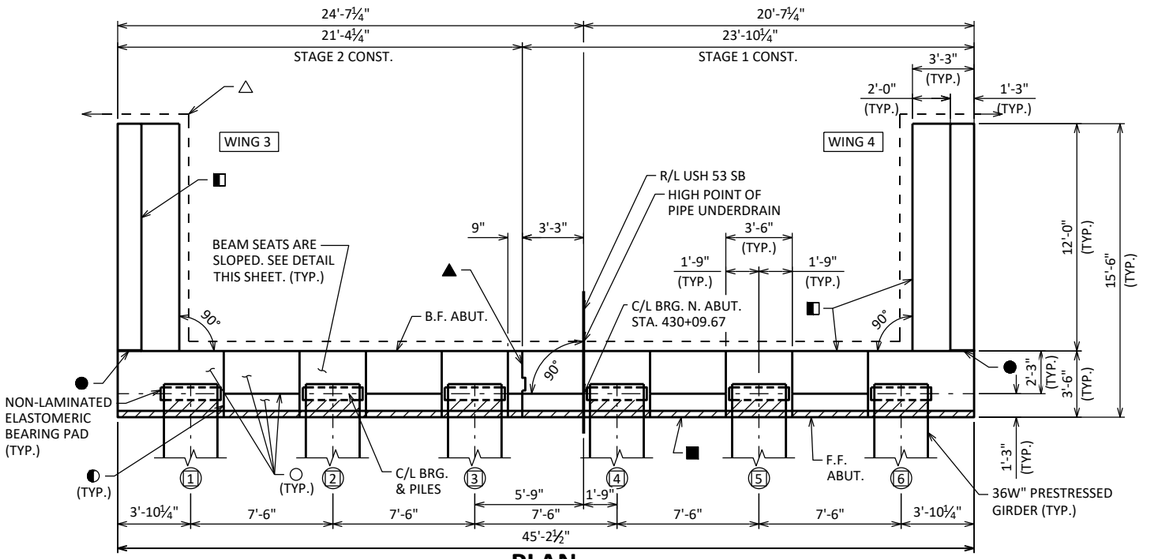
DRAWN BY ZHC | PLANS CK'D EJC

SOUTH ABUTMENT DETAILS

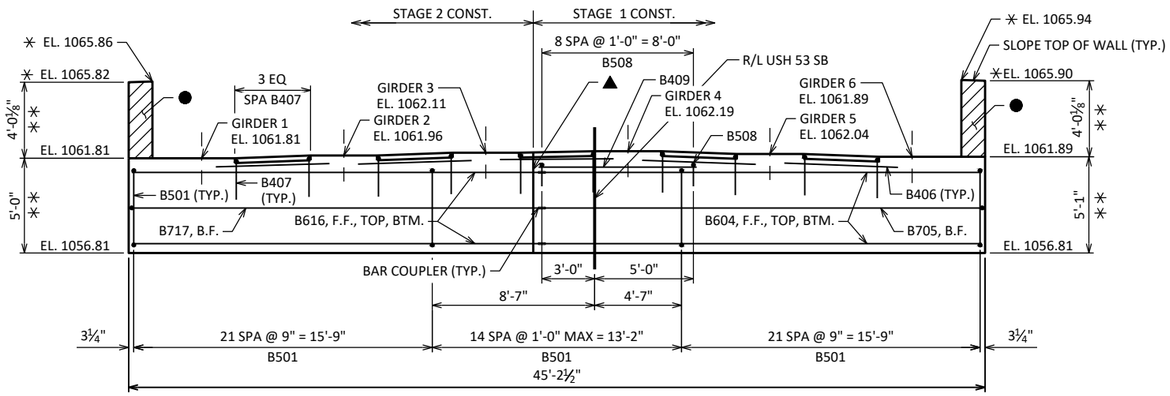
SHEET 7
345

8

8

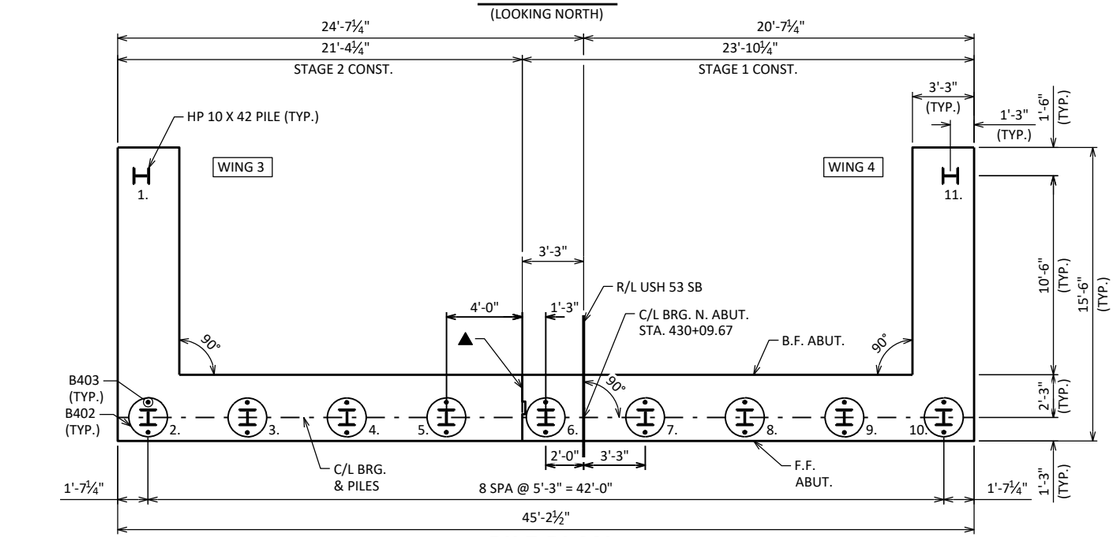


PLAN

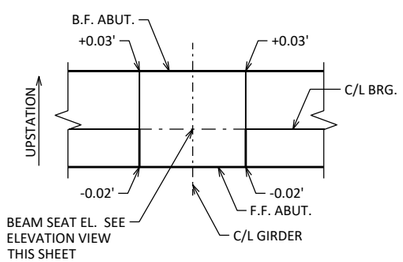


ELEVATION

(LOOKING NORTH)



PILE PLAN



SLOPED BEAM SEAT DETAIL

STATE PROJECT NUMBER

1196-04-77

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 10 FOR PILE SPLICE DETAILS.

SEE SHEET 9 FOR REINFORCING DETAILS.

NORTH ABUTMENT TO BE SUPPORTED ON PILING STEEL HP 10-INCH X 42 LB WITH A FACTORED AXIAL COMPRESSION LOAD OF 180 KIPS PER PILE. PILING TO BE INSTALLED IN PRE-BORED HOLES EXTENDING A MINIMUM OF 3 FEET INTO SOUND BEDROCK. BACKFILL WITHIN THE PRE-BORED HOLE INTO BEDROCK SHALL BE GROUT. ESTIMATED PILE LENGTH IS 15 FEET. PILE DRIVING IS NOT REQUIRED. FIRMLY SEAT THE PILE IN THE BOTTOM OF THE PRE-BORED HOLE AFTER IT IS CLEANED OUT.

SEE SHEET 2 FOR TYPICAL FILL SECTION AT WING TIPS.

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"x ½" 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.
- ⚹⚹ DIMENSION MEASURED TO BEAM SEAT ELEVATION AT C/L BRG.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-3-218

DRAWN BY ZHC | PLANS CK'D EJC

NORTH ABUTMENT

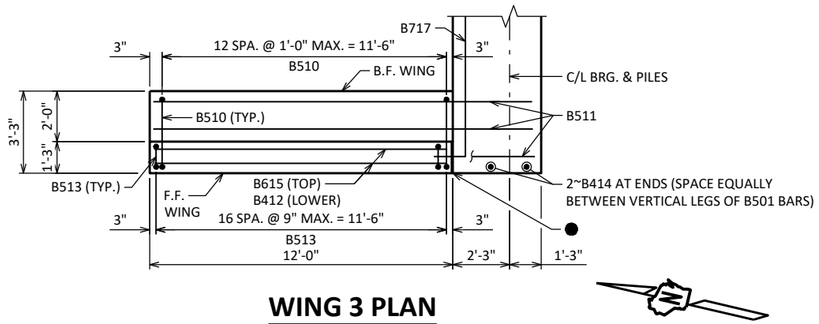
SHEET 8
346

8

8

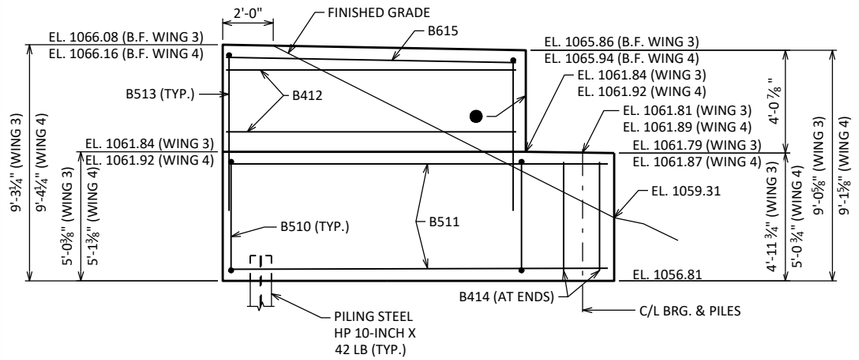
STATE PROJECT NUMBER

1196-04-77



WING 3 PLAN

(WING 4 SIMILAR)



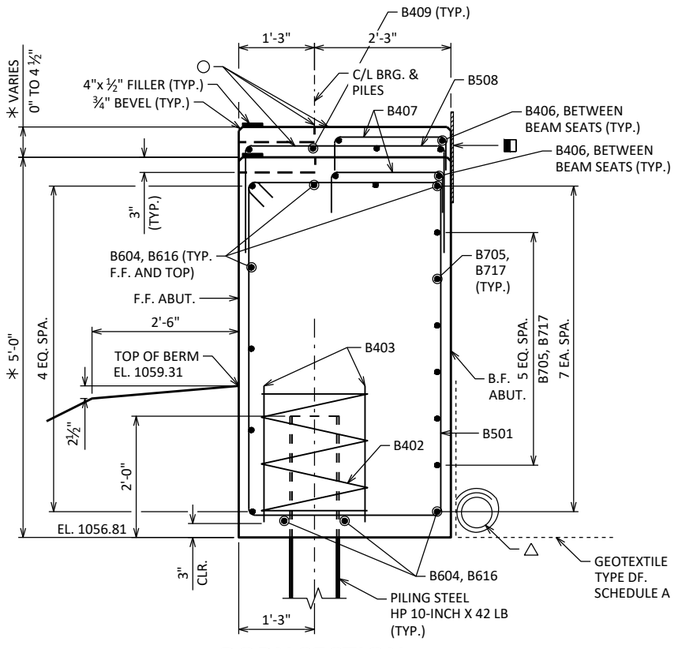
WING ELEVATION

NORTH ABUTMENT BILL OF BARS

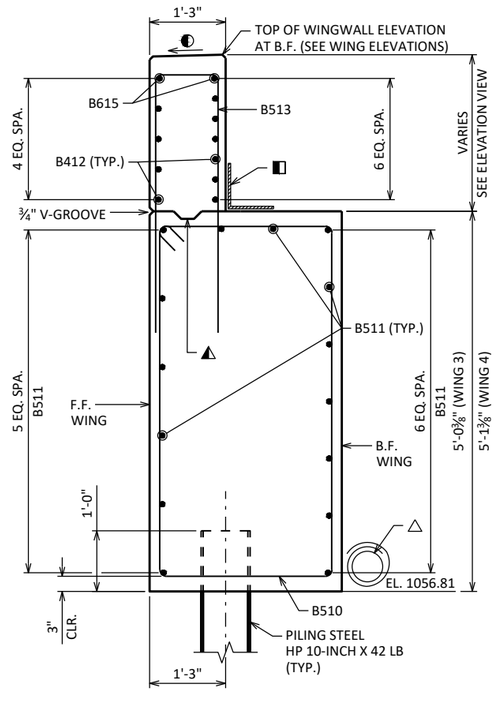
UNCOATED: 2,630 LBS.
COATED: 1,570 LBS.

BAR MARK	NO. REQ'D	LENGTH	BENT	COAT	LOCATION
B501	57	15'-6"	X		LOWER BODY - VERT. STIRRUPS
B402	9	28'-0"	X		LOWER BODY - PILES - SPIRAL
B403	18	2'-3"			LOWER BODY - PILES - VERT.
⚹⚹ B604	11	23'-8"			BODY - F.F., TOP, BTM. - HORIZ. - STAGE 1
⚹⚹ B705	6	24'-7"	X		BODY - B.F. - HORIZ. - STAGE 1
B406	10	6'-0"			BODY - TOP - HORIZ.
B407	20	4'-9"	X		BODY - TOP - VERT.
B508	9	6'-11"	X		BODY - TOP - VERT.
B409	4	8'-0"			BODY - TOP - HORIZ.
B510	26	15'-8"	X	X	WINGS - LOWER STIRRUPS
B511	30	15'-2"		X	WINGS - LOWER - F.F., B.F., TOP, - HORIZ.
B412	20	11'-7"		X	WINGS - UPPER - F.F., B.F. - HORIZ.
B513	34	12'-8"	X	X	WINGS - UPPER - VERT.
B414	4	4'-6"			BODY - ENDS - VERT.
B615	4	11'-7"		X	WINGS - UPPER - TOP - HORIZ.
⚹⚹ B616	11	21'-2"			BODY - F.F., TOP, BTM. - HORIZ. - STAGE 2
⚹⚹ B717	6	22'-1"	X		BODY - B.F. - HORIZ. - STAGE 2

⚹⚹ BAR WITH COUPLER. SEE SHEET 20 FOR DETAILS AND NOTES.

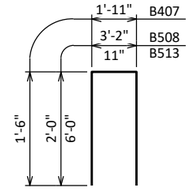


BODY SECTION

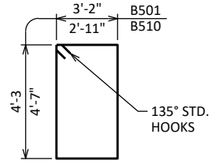


WING 3 SECTION

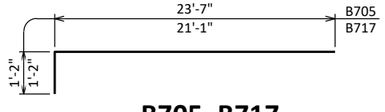
(WING 4 SIMILAR)



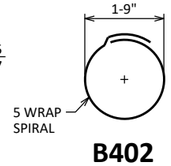
B407, B508, B513



B501, B510



B705, B717



B402

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 6.
- ◭ OPTIONAL CONSTRUCTION JOINT FORMED BY BEVELED 2"x6" KEYWAY WITH MEMBRANE ON BACKFACE.
- ○ 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. EXTEND FROM ABUT. SEAT TO TOP OF PARAPET. FILLER INCLUDED IN WING LENGTH.
- ◐ SLOPE TOP OF WALL ½".
- ⚹ DIMENSIONS MEASURED TO BEAM SEAT ELEVATION AT C/L BRG.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-3-218

DRAWN BY ZHC | PLANS CK'D EJC

NORTH ABUTMENT DETAILS

SHEET 9
347

8

8

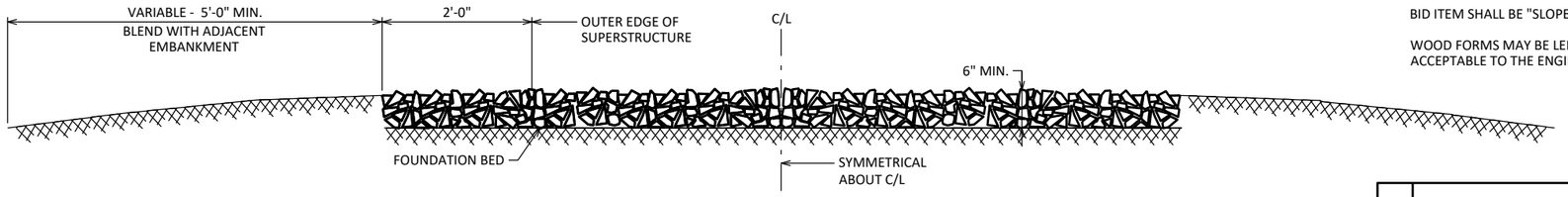
STATE PROJECT NUMBER

1196-04-77

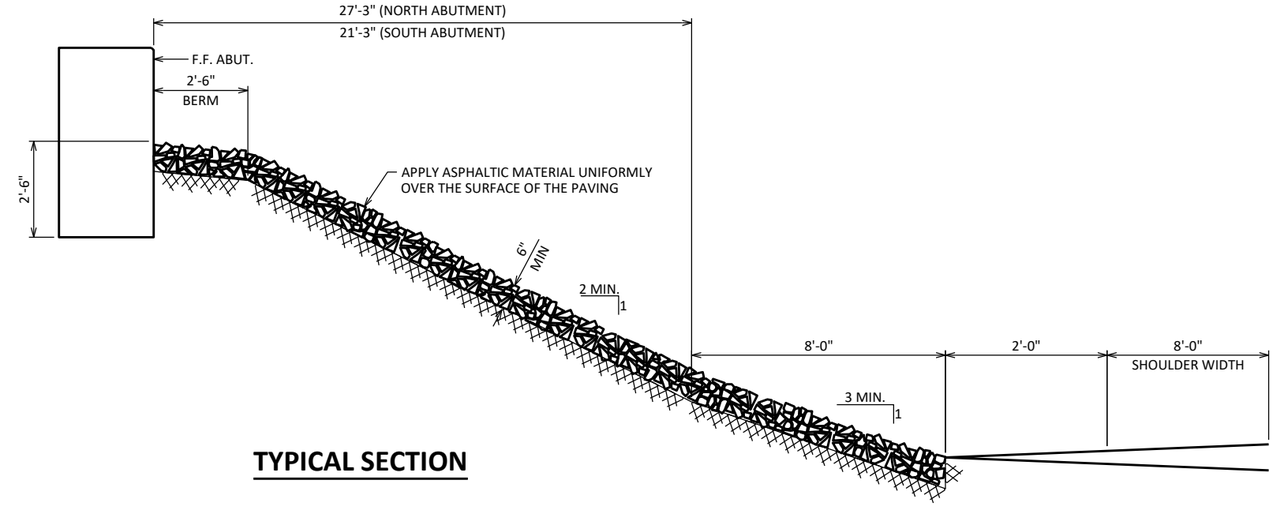
NOTES

BID ITEM SHALL BE "SLOPE PAVING CRUSHED AGGREGATE".

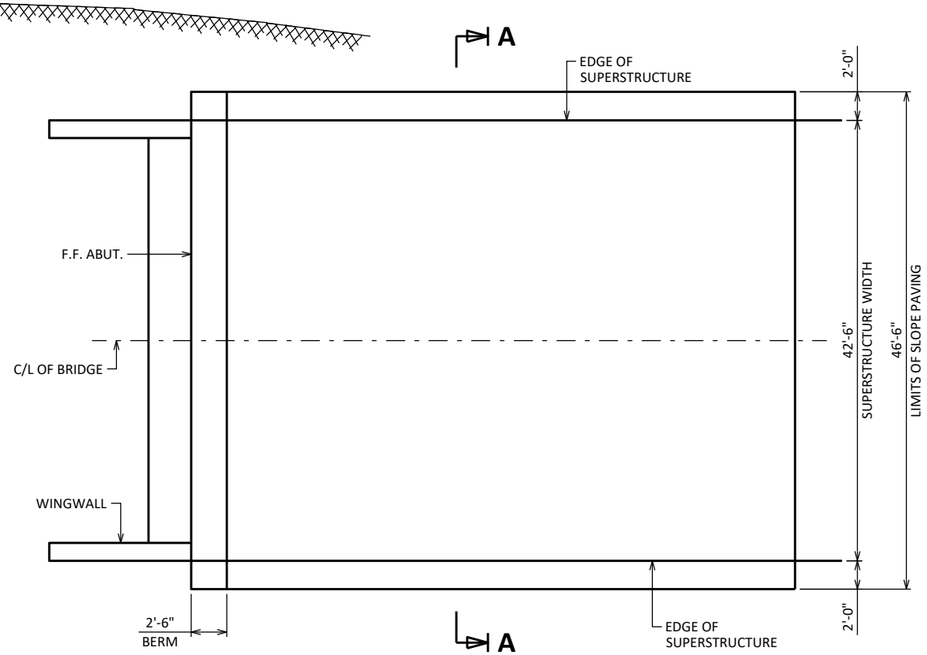
WOOD FORMS MAY BE LEFT IN PLACE WHEN OF A QUALITY ACCEPTABLE TO THE ENGINEER.



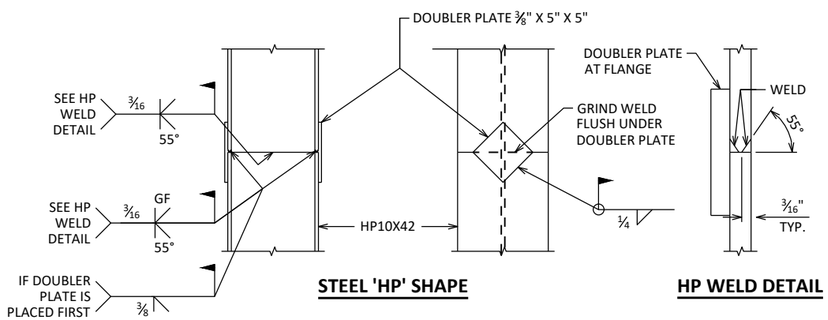
SECTION A-A



TYPICAL SECTION



PLAN



STEEL 'HP' SHAPE **HP WELD DETAIL**

'HP' PILE DETAILS

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-3-218

DRAWN BY ZHC | PLANS CK'D EJC

ABUTMENT DETAILS

SHEET 10
348

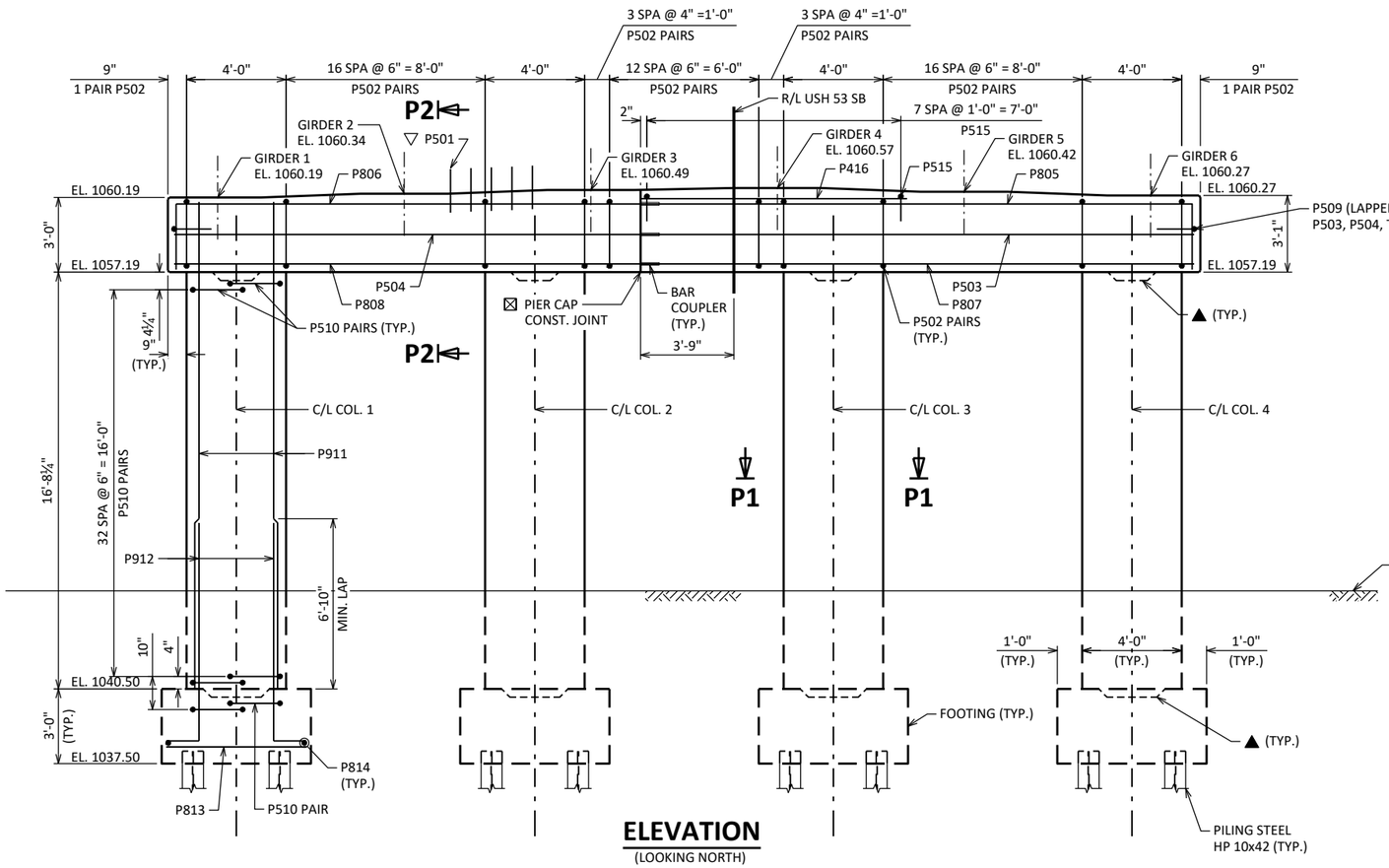
SCALE =

8

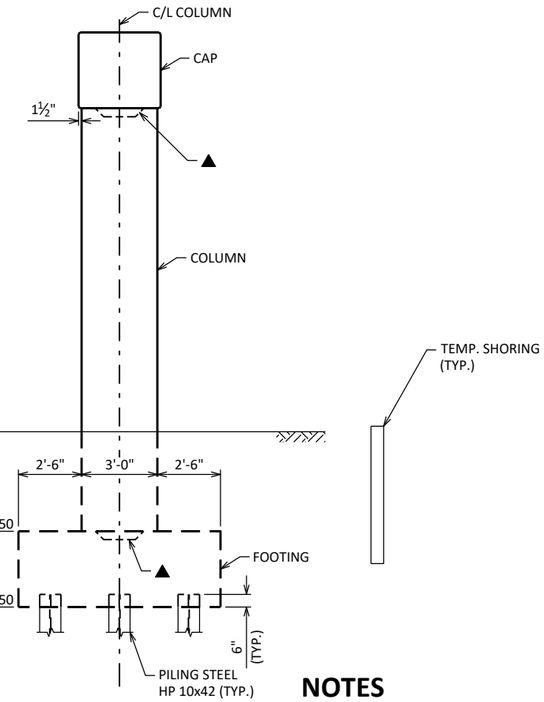
8

STATE PROJECT NUMBER

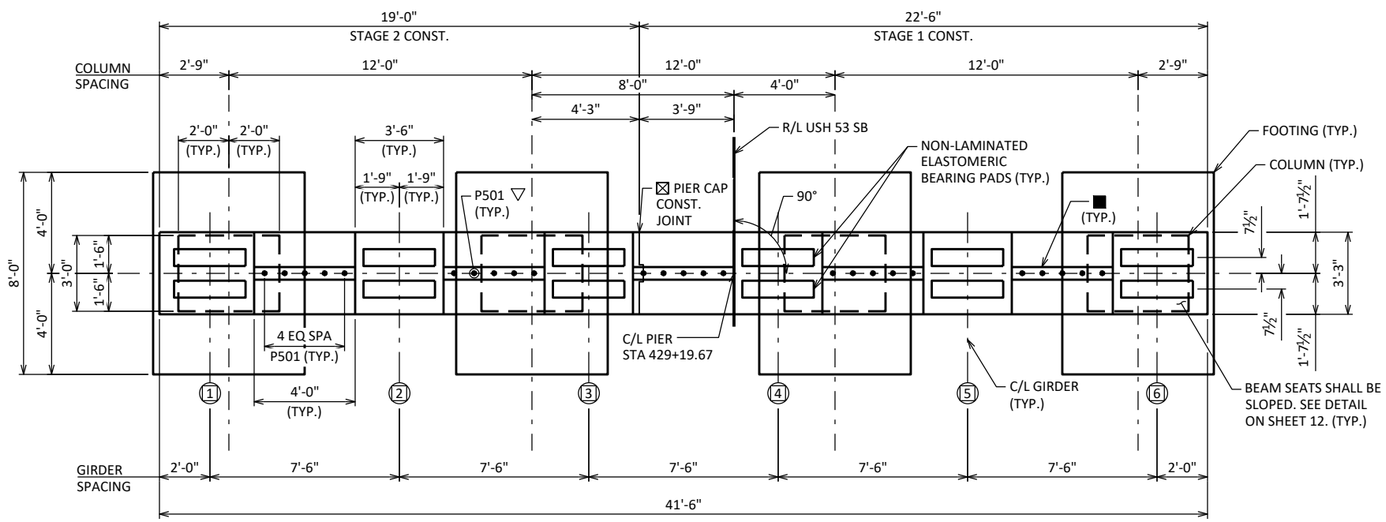
1196-04-77



ELEVATION
(LOOKING NORTH)



END VIEW



PLAN

NOTES

SEE SHEET 12 FOR PIER DETAILS.

PIER TO BE SUPPORTED ON PILING STEEL HP 10-INCH X 42 LB WITH A FACTORED AXIAL COMPRESSION LOAD OF 180 KIPS PER PILE. PILING TO BE INSTALLED IN PRE-BORED HOLES EXTENDING A MINIMUM 3-FEET INTO SOUND BEDROCK. BACKFILL WITHIN THE PRE-BORED HOLE INTO BEDROCK SHALL BE GROUT. ESTIMATED PILE LENGTH IS 12 FEET. PILE DRIVING IS NOT REQUIRED. FIRMLY SEAT THE PILE IN THE BOTTOM OF THE PRE-BORED HOLE AFTER IT IS CLEANED OUT.

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.

■ 2" x 6" BEVELED KEYWAY BETWEEN BEAM SEATS. (TYP.)

⊠ VERTICAL CONSTRUCTION JOINT KEYWAY FORMED BY BEVELED 2" x 8".

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-3-218

DRAWN BY ZHC | PLANS CK'D EJC

PIER

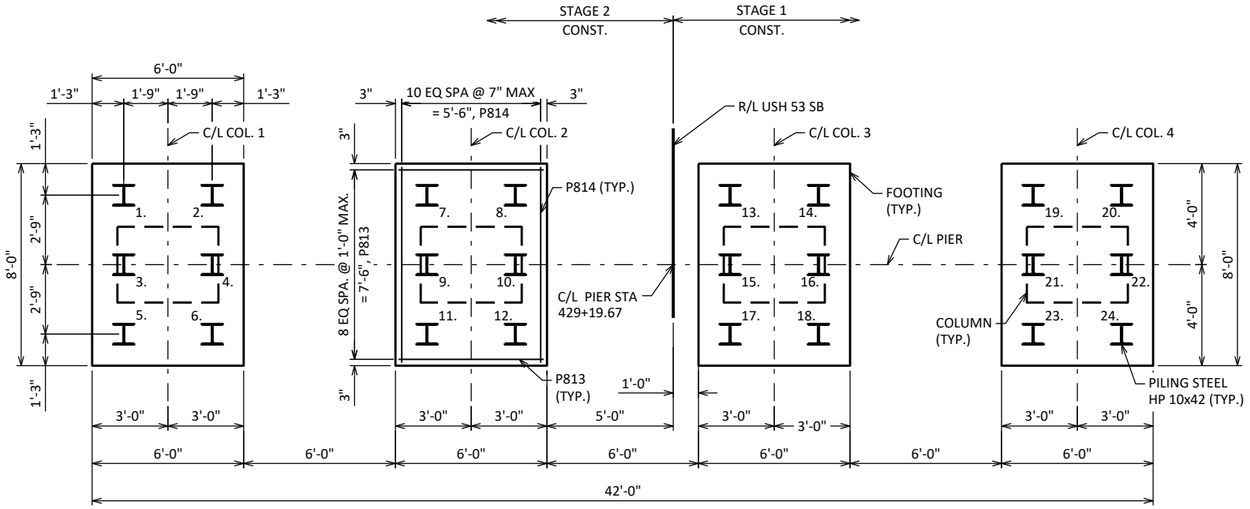
SHEET 11
349

8

8

STATE PROJECT NUMBER

1196-04-77



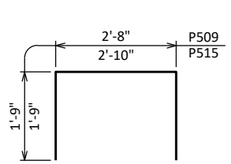
FOOTING PLAN

PIER BILL OF BARS

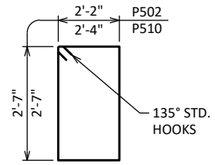
UNCOATED: 1,450 LBS.
COATED: 13,500 LBS.

	BAR MARK	NO. REQ'D	LENGTH	BENT	COAT	LOCATION
	P501	25	2'-0"		X	CAP - DOWEL - VERT.
	P502	110	10'-2"	X	X	CAP - STIRRUPS - VERT.
⚹⚹	P503	6	22'-3"		X	CAP - SIDES - HORIZ. - STAGE 1
⚹⚹	P504	6	18'-9"		X	CAP - SIDES - HORIZ. - STAGE 2
⚹⚹	P805	7	24'-6"	X	X	CAP - TOP - HORIZ. - STAGE 1
⚹⚹	P806	7	21'-0"	X	X	CAP - TOP - HORIZ. - STAGE 2
⚹⚹	P807	7	22'-3"		X	CAP - BOT. - HORIZ. - STAGE 1
⚹⚹	P808	7	18'-9"		X	CAP - BOT. - HORIZ. - STAGE 2
	P509	6	5'-11"	X	X	CAP - SIDES - HORIZ. - ENDS
	P510	272	10'-6"	X	X	COLUMN - STIRRUPS
	P911	72	19'-5"		X	COLUMN - VERT.
	P912	72	10'-6"	X	X	FOOTING/COLUMN - VERT.
	P813	36	5'-8"			FOOTING - HORIZ.
	P814	44	7'-8"			FOOTING - HORIZ.
	P515	8	6'-1"	X	X	CAP - STIRRUPS - VERT.
	P416	3	7'-0"		X	CAP - TOP - HORIZ.

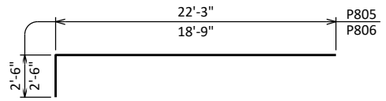
⚹⚹ BAR WITH COUPLER. SEE SHEET 20 FOR DETAILS AND NOTES.



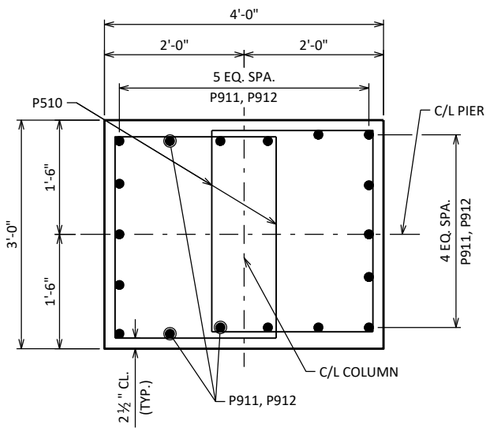
P509, P515



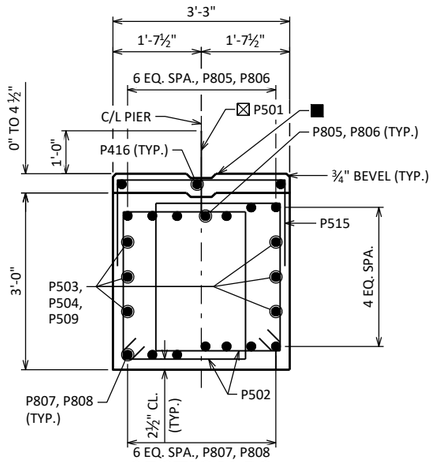
P502, P510



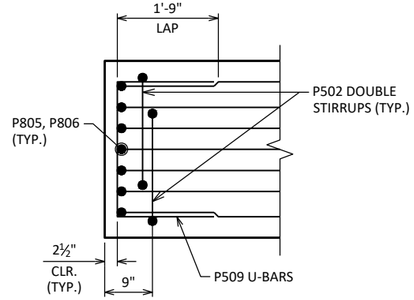
P805, P806



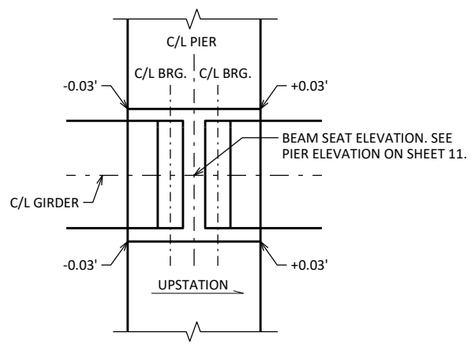
SECTION P1
(THRU COLUMN)



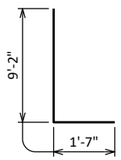
SECTION P2
(THRU CAP)



PLAN VIEW SHOWING END OF CAP REINF.



SLOPED BEAM SEAT DETAIL



P912

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.

■ 2" x 6" BEVELED KEYWAY BETWEEN BEAM SEATS. (TYP.)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-3-218

DRAWN BY ZHC | PLANS CK'D EJC

PIER DETAILS

SHEET 12
350

8

8

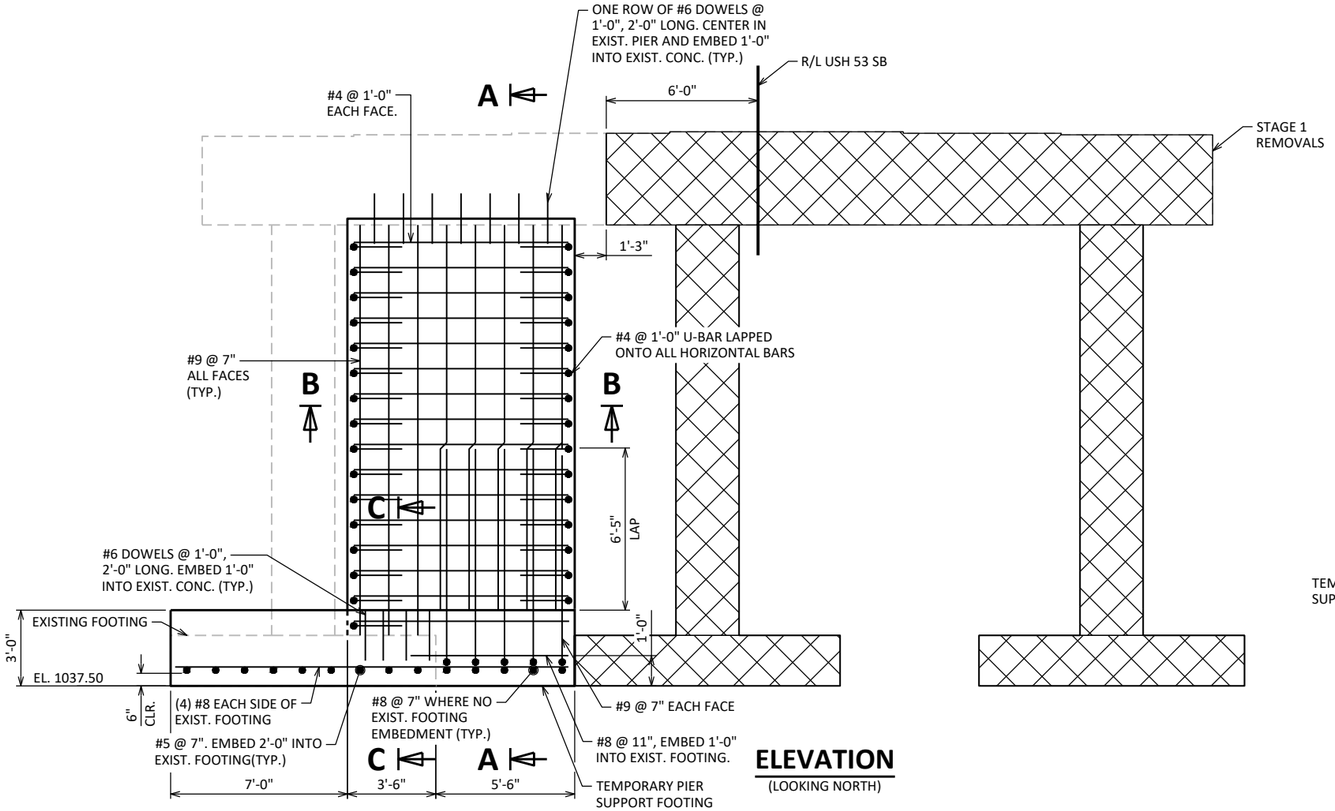
STATE PROJECT NUMBER

1196-04-77

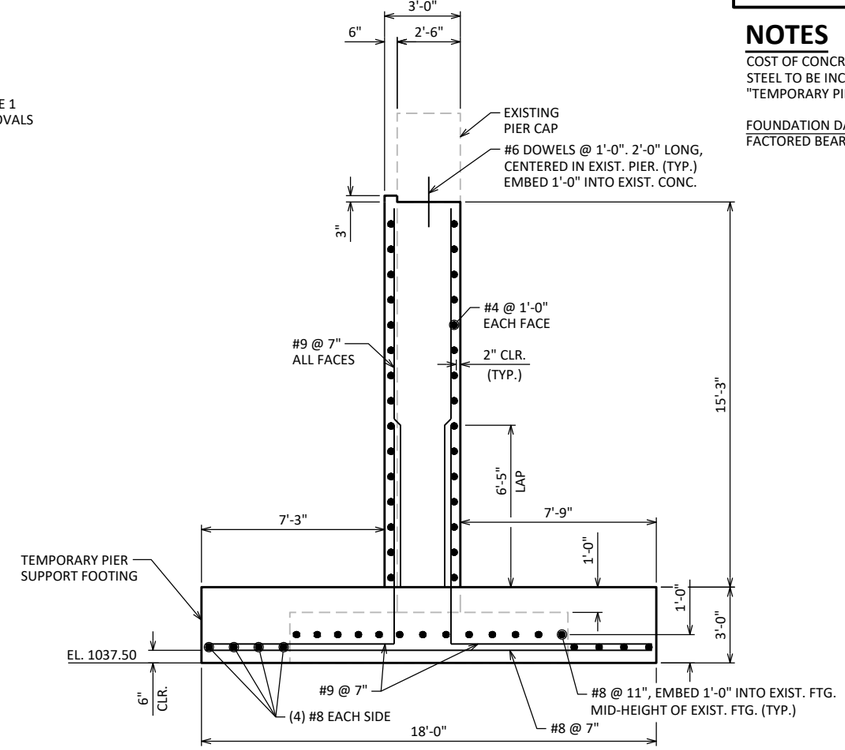
NOTES

COST OF CONCRETE MASONRY AND REINFORCING STEEL TO BE INCLUDED IN THE BID ITEM "TEMPORARY PIER SUPPORT B-3-218".

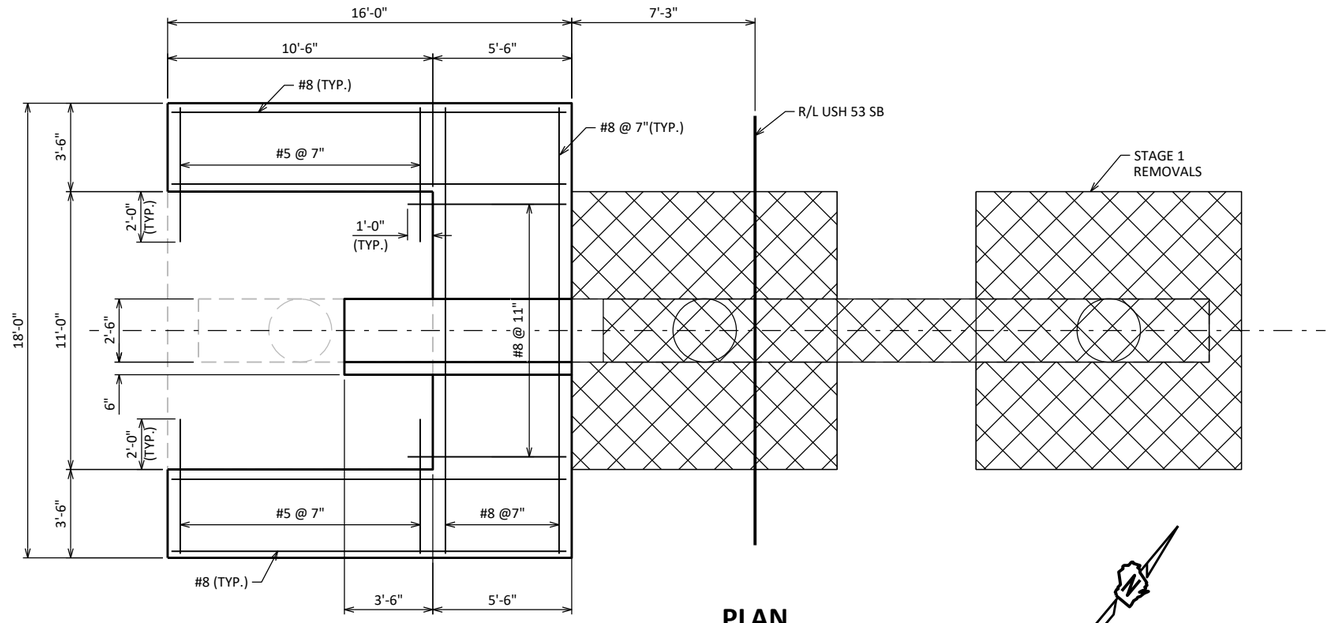
FOUNDATION DATA:
FACTORED BEARING RESISTANCE = 7,000 PSF



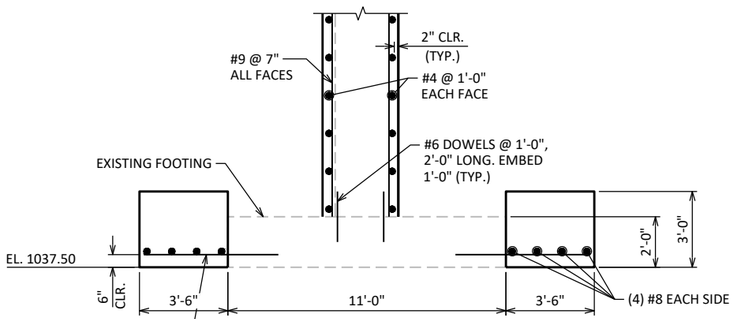
ELEVATION
(LOOKING NORTH)



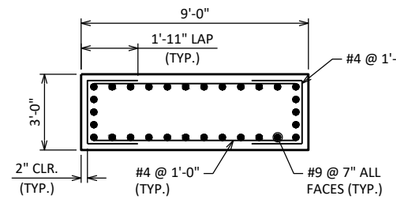
SECTION A-A



PLAN



SECTION C-C



SECTION B-B

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-3-218

DRAWN BY ZHC | PLANS CK'D EJC

TEMPORARY PIER SUPPORT

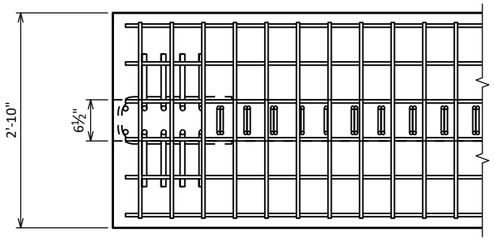
SHEET 13
351

8

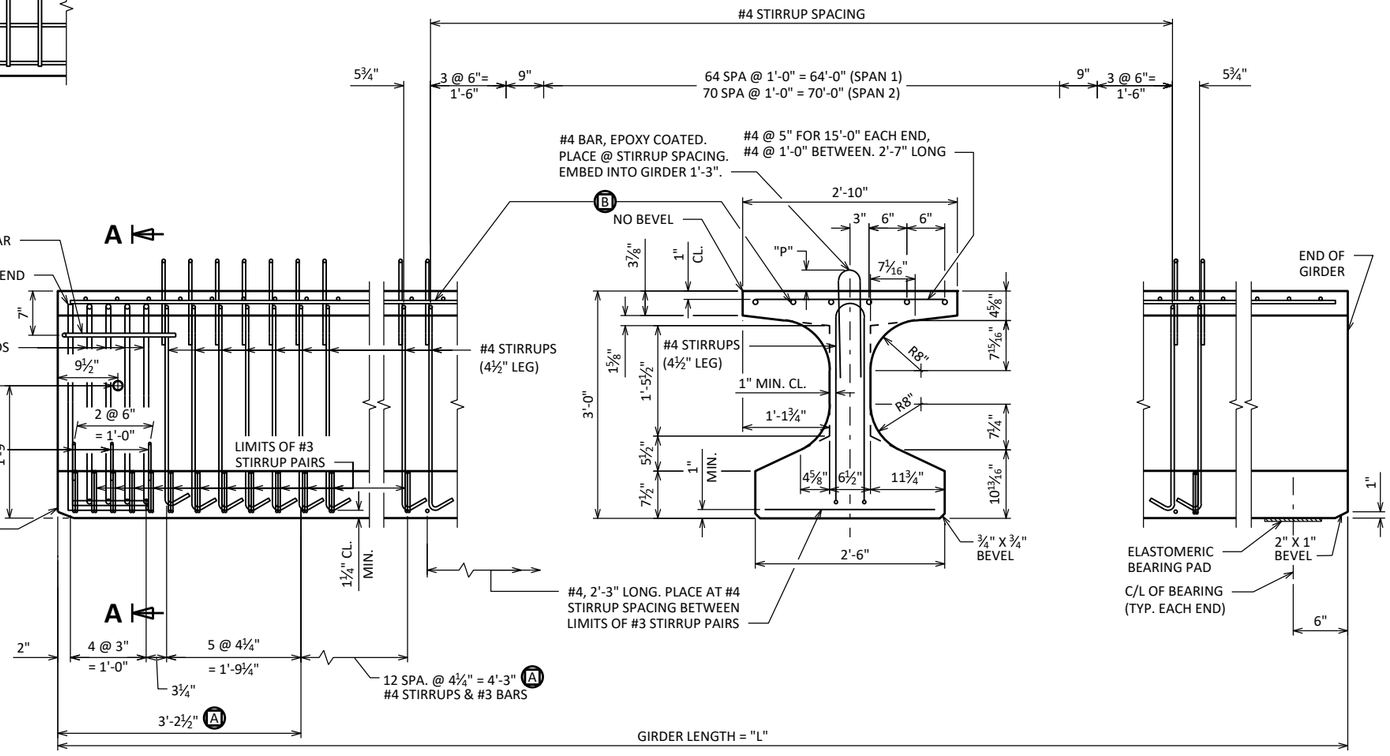
8

STATE PROJECT NUMBER

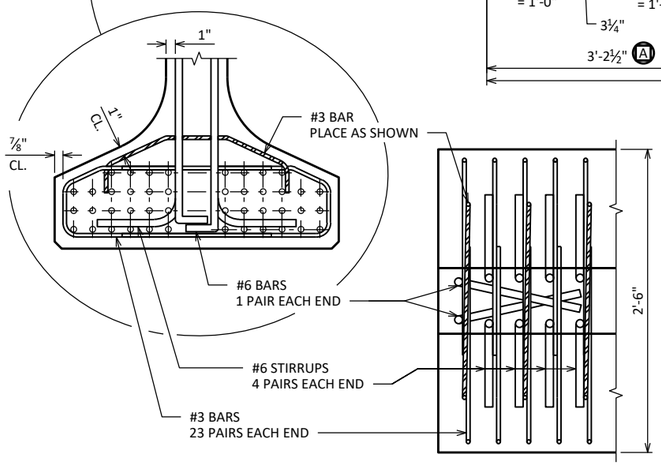
1196-04-77



TOP FLANGE



SECTION A-A



BOTTOM FLANGE

SIDE VIEW & TYPICAL SECTION IN SPAN

(A) DETAIL TYP. AT EACH END

(B) 6 #5 BARS, FULL LENGTH, MIN. LAP = 2'-5"

NOTES

TOP OF GIRDER TO BE ROUGH FLOATED AND BROOMED TRANSVERSELY, EXCEPT THE OUTSIDE 8" OF GIRDER, WHICH SHALL RECEIVE A SMOOTH FINISH. AN APPROVED CONCRETE SEALER SHALL BE APPLIED TO ALL SMOOTH SURFACES INCLUDING THE OUTSIDE 8" 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.

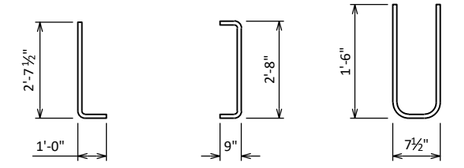
ALL GIRDERS SHALL BE CAST FULL LENGTH AS SHOWN.

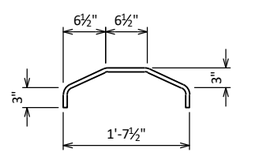
SPACING SHOWN FOR #4 STIRRUPS IS FOR GRADE 60 REINFORCEMENT.

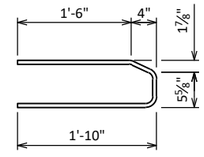
AN EQUIVALENT OF WELDED WIRE FABRIC (WWF) ASTM A1064 MAY BE SUBSTITUTED FOR THE STIRRUP REINFORCEMENT SHOWN, UPON APPROVAL OF THE STRUCTURES DESIGN SECTION. IF USED, WWF SUBSTITUTION DETAILS SHALL BE SUBMITTED ELECTRONICALLY TO THE WISDOT FABRICATION LIBRARY AND ACCEPTED PRIOR TO SHOP DRAWING SUBMITTAL.

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.







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

GIRDER DATA

SPAN	GIRDER	GIRDER LENGTH "L" (FEET)	DEAD LOAD DEFL. (IN.) 1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10	CONC. STRGTH. f'c (P.S.I.)	"P" (IN.) 1ST ⅓ OF GIRDER	MID ⅓ OF GIRDER	END ⅓ OF GIRDER	DIA. OF STRAND (IN.)	DRAPED PATTERN TOTAL NO. OF STRANDS	f'ci (P.S.I.) ⚹	(IN.) "A"	"B" MIN.	"B" MAX.	"C"
1	1,6	84'-4 1/2"	0.4	0.8	1.1	1.3	1.4	1.3	1.1	0.8	0.4	8,000	7.75	7.25	7.50	0.60	26	6800	31.0	10.75	13.75	4.0
1	2-5	84'-4 1/2"	0.5	0.9	1.3	1.5	1.6	1.5	1.3	0.9	0.5	8,000	7.75	7.25	7.75	0.60	26	6800	31.0	10.75	13.75	4.0
2	1,6	90'-4 1/2"	0.5	1.1	1.5	1.7	1.8	1.8	1.5	1.1	0.6	8,000	7.50	7.00	7.50	0.60	30	6800	31.0	10.75	13.75	4.0
2	2-5	90'-4 1/2"	0.6	1.2	1.7	2.0	2.1	2.0	1.7	1.2	0.6	8,000	7.75	7.25	7.75	0.60	30	6800	31.0	10.75	13.75	4.0

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-3-218

DRAWN BY ZHC | PLANS CK'D EJC

36W" PRESTRESSED GIRDER DETAILS - 1

SHEET 14
352

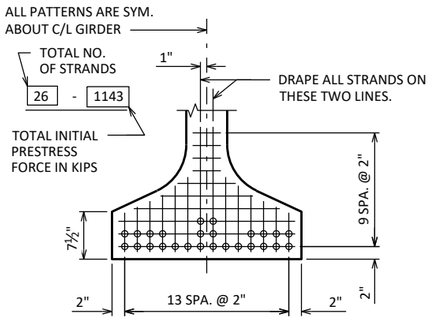
SCALE = 2.00

8

8

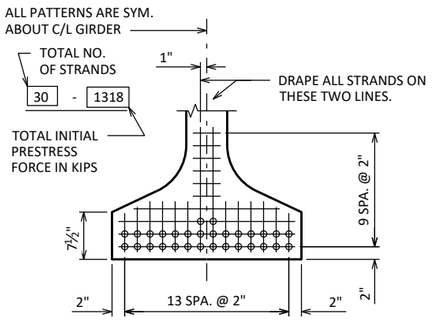
STATE PROJECT NUMBER

1196-04-77



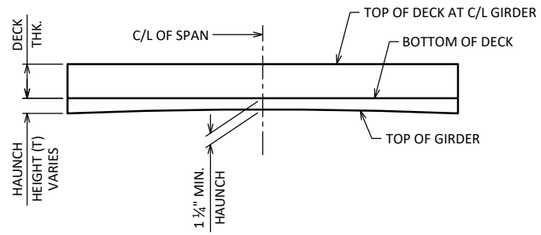
TYP. STRAND PATTERN SPAN 1

(ARRANGEMENT AT C/L SPAN,
0.6" DIA. DRAPED STRANDS)

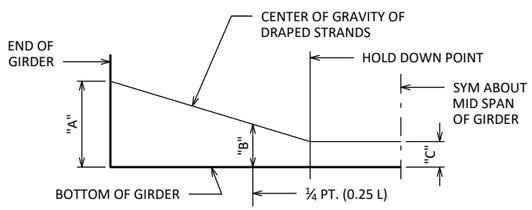


TYP. STRAND PATTERN SPAN 2

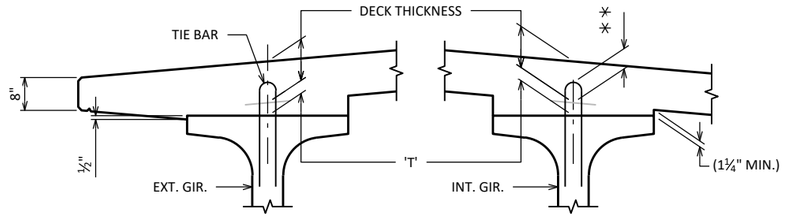
(ARRANGEMENT AT C/L SPAN,
0.6" DIA. DRAPED STRANDS)



ELEVATION



DRAPED STRAND PROFILE



DECK HAUNCH DETAIL

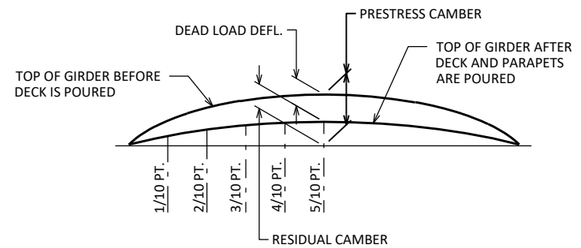
IF 1¼" MINIMUM HAUNCH HEIGHT AT EDGE OF GIRDER CANNOT BE MAINTAINED, THE GRADE LINE MAY BE REVISED BY THE ENGINEER AT THE OPTION OF THE CONTRACTOR, THE PLAN DECK THICKNESS SHALL BE HELD. NOTIFY THE STRUCTURES SECTION IF THE GRADE LINE IS RAISED FROM THE PLAN PROFILE BY MORE THAN ½" OR,

⁂ 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 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 3¼" WAS USED IN THE QUANTITY "CONCRETE MASONRY BRIDGES".



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	2.66
2	3.48

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

THESE VALUES ARE FOR INFORMATIONAL PURPOSES ONLY.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-3-218

DRAWN BY ZHC | PLANS CK'D EJC

36W" PRESTRESSED GIRDER DETAILS - 2

SHEET 15
353

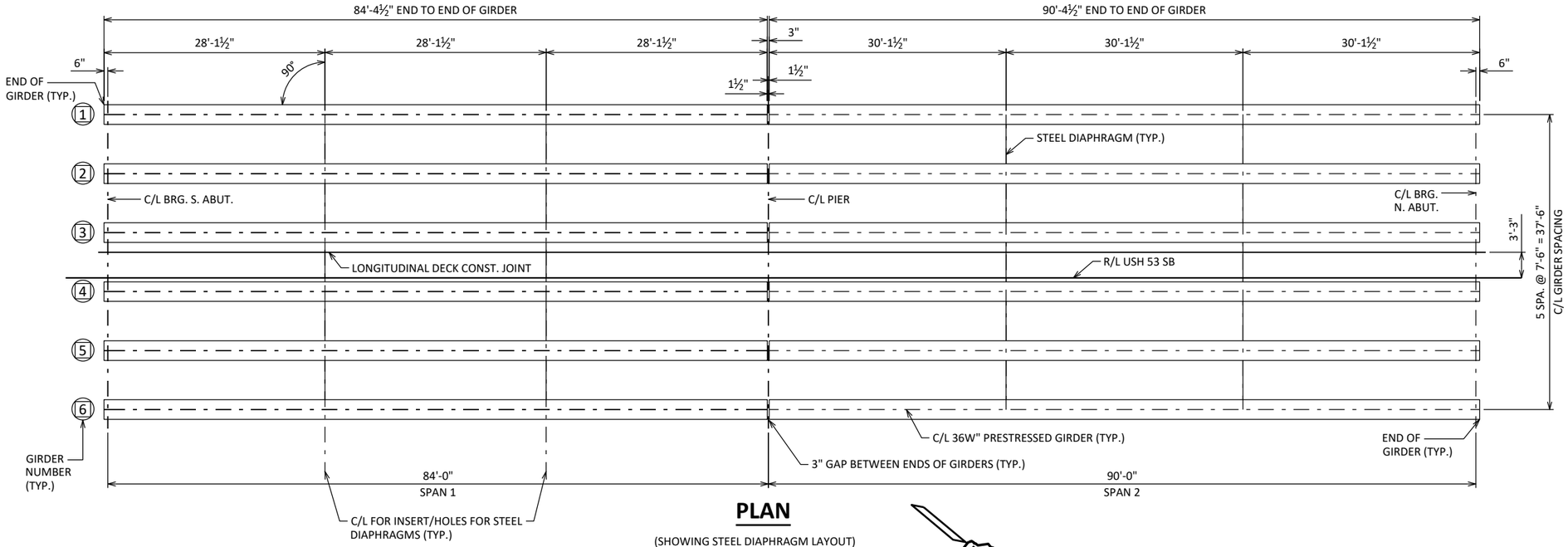
SCALE = 2.00

8

8

STATE PROJECT NUMBER

1196-04-77



PLAN

(SHOWING STEEL DIAPHRAGM LAYOUT)

NOTES

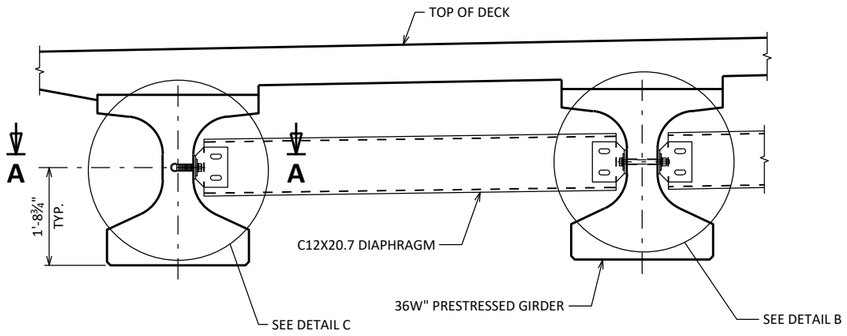
ALL DIAPHRAGM MATERIAL NOT EMBEDDED IN THE CONCRETE GIRDER SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "STEEL DIAPHRAGMS B-3-218", EACH.

EACH DIAPHRAGM BETWEEN GIRDERS SHALL CONSTITUTE ONE UNIT.

ALL DIAPHRAGM STRUCTURAL STEEL SHALL BE ASTM A709 GRADE 36.

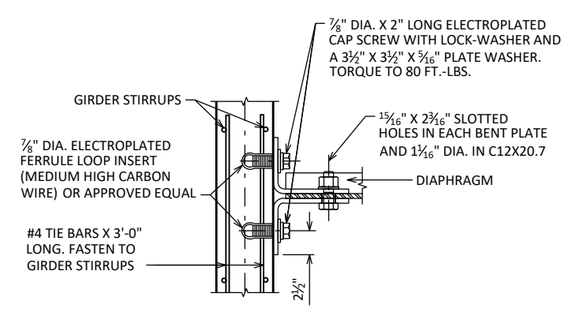
ALL DIAPHRAGM MATERIAL INCLUDING BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED AFTER FABRICATION.

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



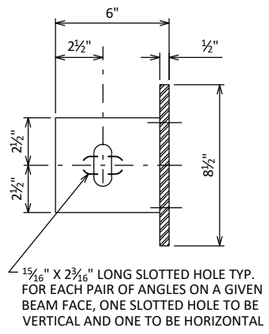
EXTERIOR GIRDER **INTERIOR GIRDER**

PART TRANSVERSE SECTION AT DIAPHRAGM

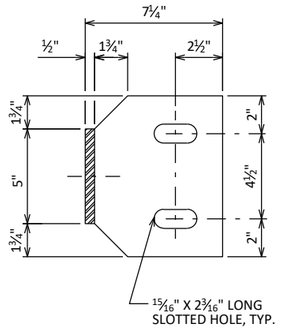


SECTION A-A

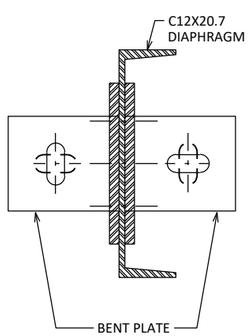
(FOR EXTERIOR ATTACHMENT)



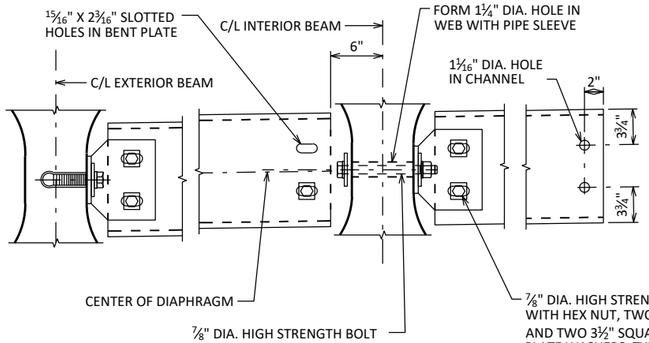
BEAM FACE



DIAPHRAGM FACE



ATTACHMENT TO CHANNEL



DETAIL C

DETAIL B

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-3-218

DRAWN BY ZHC | PLANS CK'D EJC

STEEL DIAPHRAGMS

SHEET 16
354

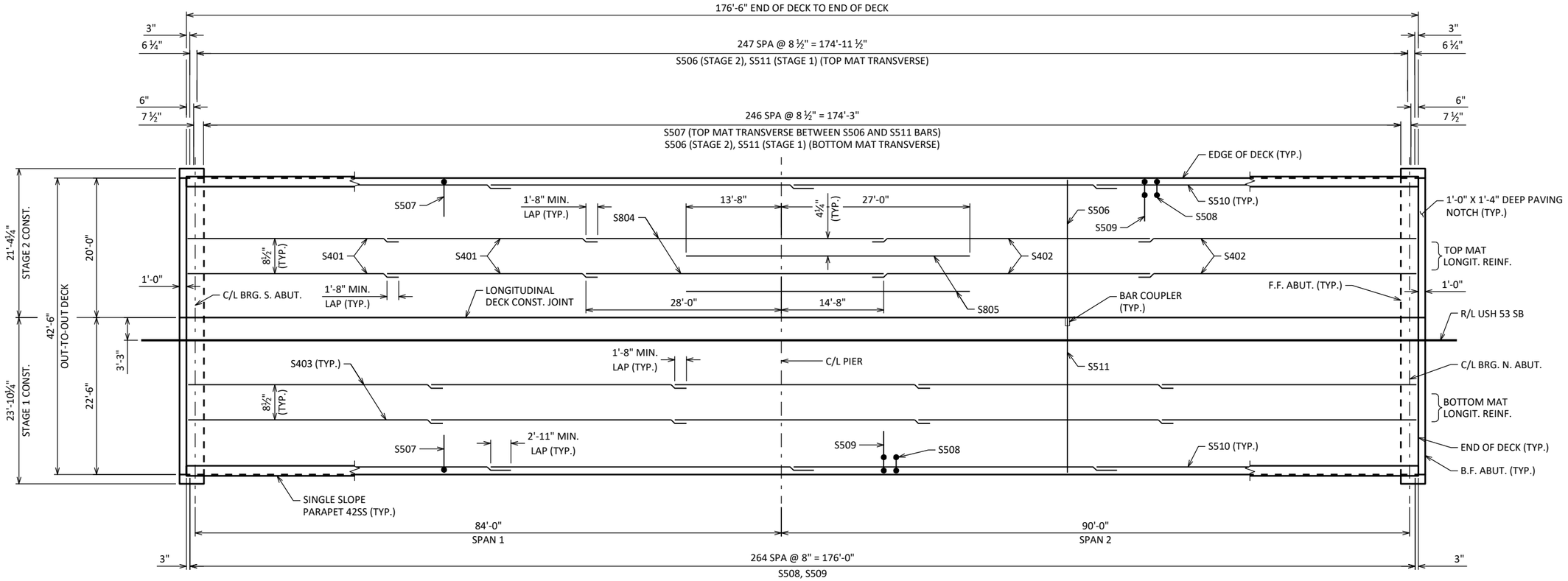
SCALE = 2.00

8

8

STATE PROJECT NUMBER

1196-04-77



PLAN

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-3-218

DRAWN BY ZHC | PLANS CK'D EJC

SUPERSTRUCTURE PLAN

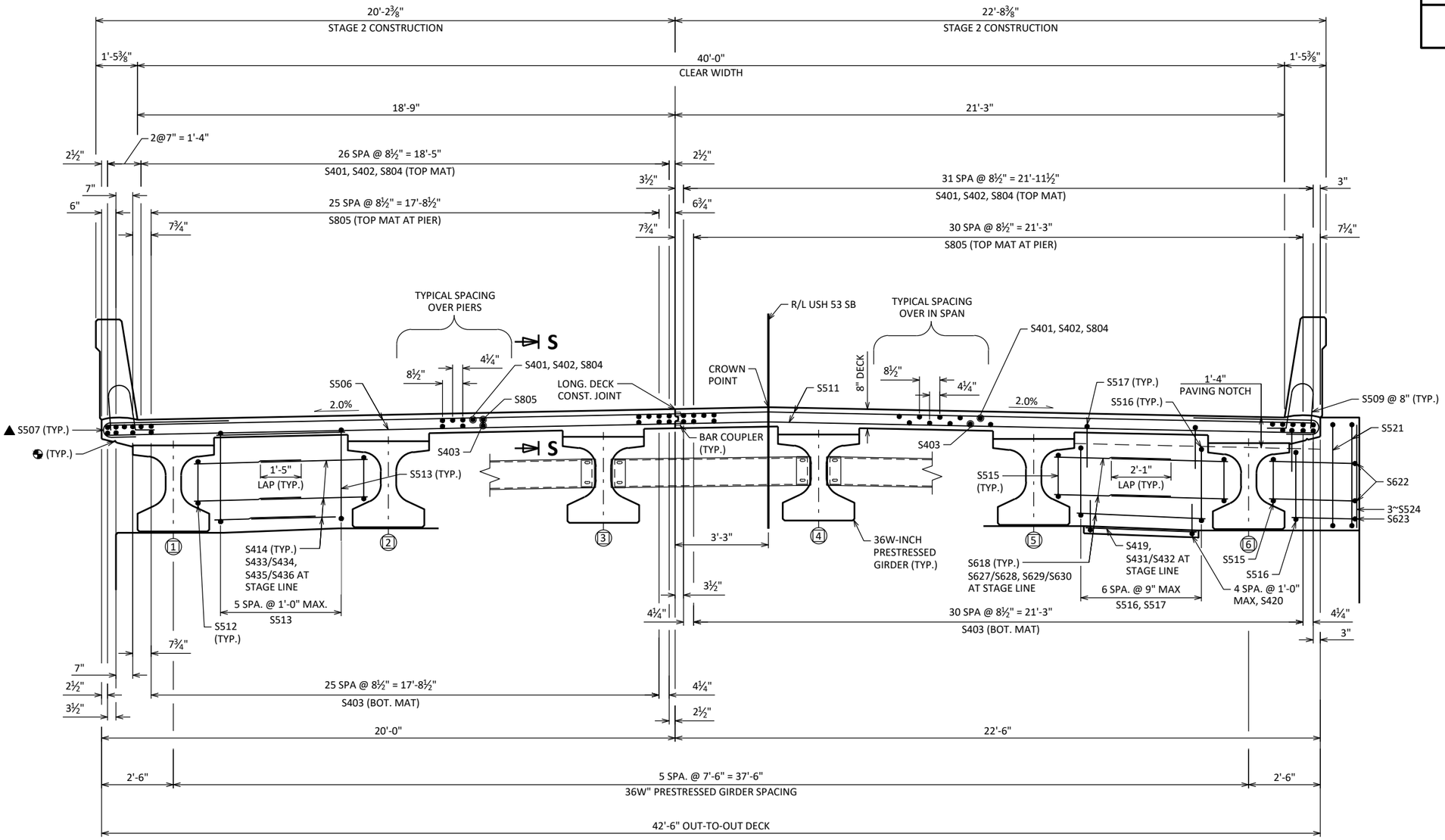
SHEET 17
355

8

8

STATE PROJECT NUMBER

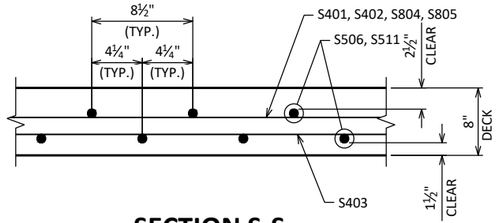
1196-04-77



CONCRETE DIAPHRAGM AT PIER | **IN-SPAN DIAPHRAGM** | **CONCRETE DIAPHRAGM AT ABUTMENTS**

CROSS SECTION THROUGH DECK

(LOOKING NORTH)



SECTION S-S

LEGEND

(#) INDICATES GIRDER NUMBER.

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

▲ LOCATE S507 BETWEEN S506 AND S511.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-3-218

DRAWN BY ZHC | PLANS CK'D EJC

SUPERSTRUCTURE SECTION

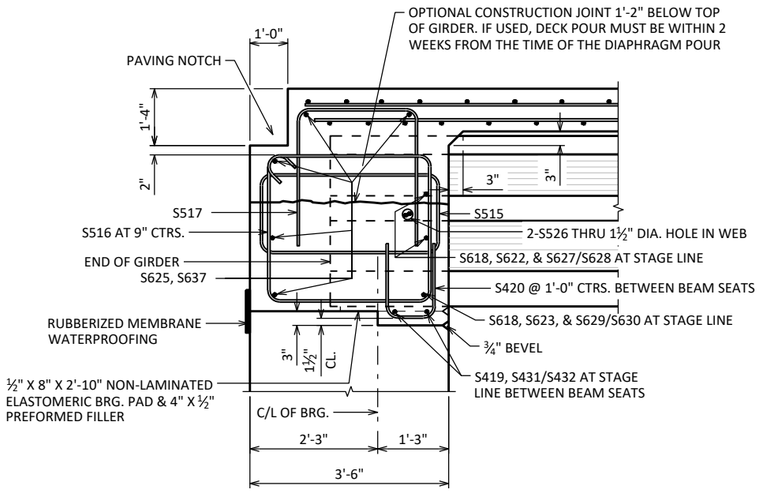
SHEET 18
356

8

8

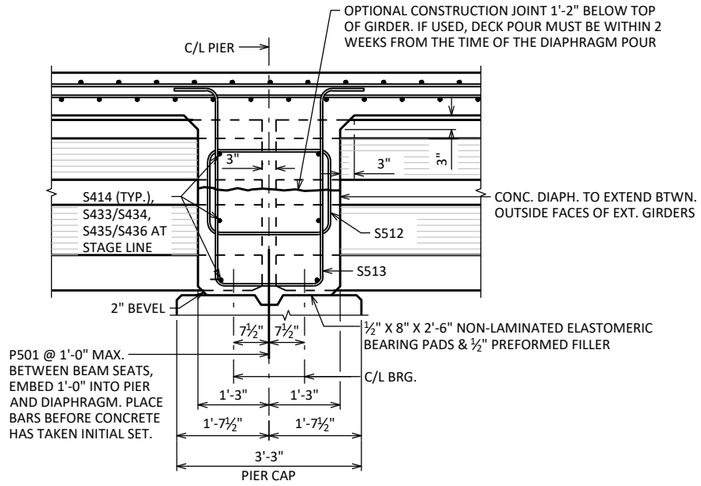
STATE PROJECT NUMBER

1196-04-77



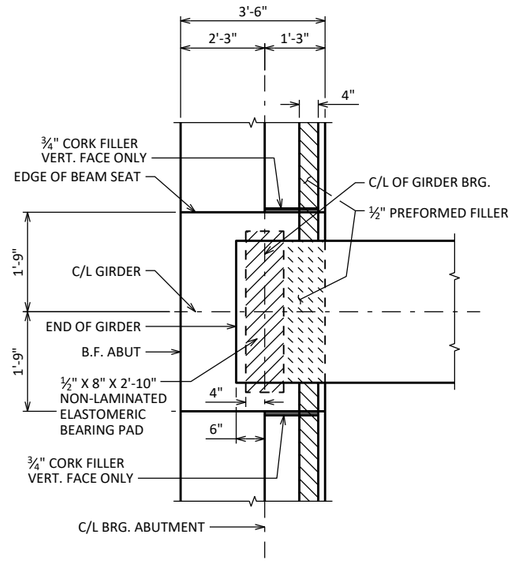
PART LONGIT. SECTION

AT ABUTMENTS



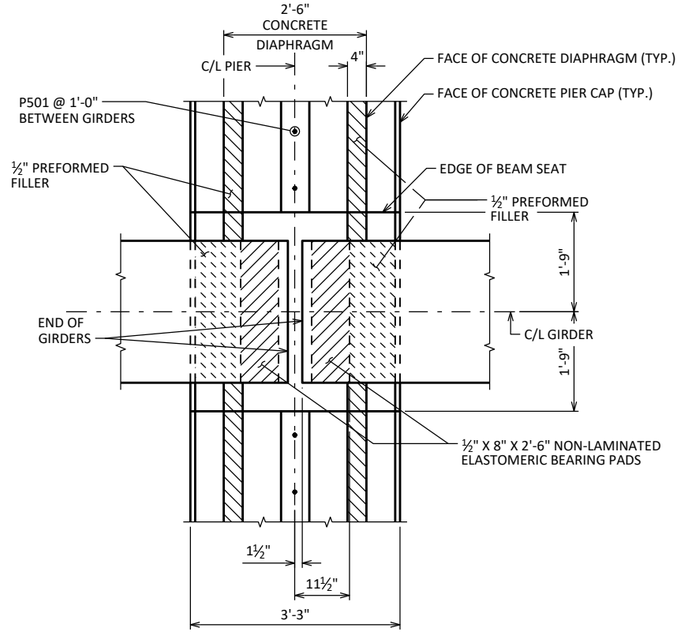
PART LONGIT. SECTION

AT PIER



BEARING PAD DETAIL

AT ABUTMENTS



BEARING PAD DETAIL

AT PIER

NOTES

ALL DIAPHRAGM SUPPORT HARDWARE SHALL BE INCIDENTAL TO "CONCRETE MASONRY BRIDGES".

DIAPHRAGM SUPPORT ANGLES SHALL BE ASTM A709 GRADE 36.

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

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

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-3-218

DRAWN BY ZHC | PLANS CK'D EJC

SUPERSTRUCTURE DETAILS - 1

SHEET 19
357

SCALE = 2.67

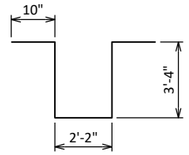
8

8

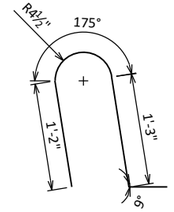
TOP OF DECK ELEVATIONS

LOCATION	STATION	WEST EDGE OF DECK (OFFSET 23.25' LT)	INSIDE FACE PARAPET (OFFSET 22.00' LT)	C/L GIRDER 1 (20.75' LT)	C/L GIRDER 2 (13.25' LT)	C/L GIRDER 3 (5.75' LT)	STAGE LINE (3.25' LT)
C/L BRG. S. ABUT	428+35.67	1062.69	1062.69	1062.72	1062.87	1063.02	1063.07
0.1 SPAN	428+44.07	1062.84	1062.84	1062.87	1063.02	1063.17	1063.22
0.2 SPAN	428+52.47	1062.99	1062.99	1063.02	1063.17	1063.32	1063.37
0.3 SPAN	428+60.87	1063.15	1063.15	1063.17	1063.32	1063.47	1063.52
0.4 SPAN	428+69.27	1063.30	1063.30	1063.32	1063.47	1063.62	1063.67
0.5 SPAN	428+77.67	1063.45	1063.45	1063.47	1063.62	1063.77	1063.82
0.6 SPAN	428+86.07	1063.60	1063.60	1063.62	1063.77	1063.92	1063.97
0.7 SPAN	428+94.47	1063.75	1063.75	1063.78	1063.93	1064.08	1064.13
0.8 SPAN	429+02.87	1063.90	1063.90	1063.93	1064.08	1064.23	1064.28
0.9 SPAN	429+11.27	1064.05	1064.05	1064.08	1064.23	1064.38	1064.43
C/L BRG. PIER	429+19.67	1064.20	1064.20	1064.23	1064.38	1064.53	1064.58
0.1 SPAN	429+28.67	1064.37	1064.37	1064.39	1064.54	1064.69	1064.74
0.2 SPAN	429+37.67	1064.53	1064.53	1064.55	1064.70	1064.85	1064.90
0.3 SPAN	429+46.67	1064.69	1064.69	1064.72	1064.87	1065.02	1065.07
0.4 SPAN	429+55.67	1064.85	1064.85	1064.88	1065.03	1065.18	1065.23
0.5 SPAN	429+64.67	1065.01	1065.01	1065.04	1065.19	1065.34	1065.39
0.6 SPAN	429+73.67	1065.18	1065.18	1065.20	1065.35	1065.50	1065.55
0.7 SPAN	429+82.67	1065.34	1065.34	1065.36	1065.51	1065.66	1065.71
0.8 SPAN	429+91.67	1065.50	1065.50	1065.53	1065.68	1065.83	1065.88
0.9 SPAN	430+00.67	1065.66	1065.66	1065.69	1065.84	1065.99	1066.04
C/L BRG. N. ABUT	430+09.67	1065.82	1065.82	1065.85	1066.00	1066.15	1066.20

LOCATION	STATION	REF. LINE	C/L GIRDER 4 (1.75' RT)	C/L GIRDER 5 (9.25' RT)	C/L GIRDER 6 (16.75' RT)	INSIDE FACE PARAPET (OFFSET 18.00' RT)	EAST EDGE OF DECK (OFFSET 19.25' RT)
C/L BRG. S. ABUT	428+35.67	1063.13	1063.10	1062.95	1062.80	1062.77	1062.77
0.1 SPAN	428+44.07	1063.28	1063.25	1063.10	1062.95	1062.92	1062.92
0.2 SPAN	428+52.47	1063.43	1063.40	1063.25	1063.10	1063.07	1063.07
0.3 SPAN	428+60.87	1063.59	1063.55	1063.40	1063.25	1063.23	1063.23
0.4 SPAN	428+69.27	1063.74	1063.70	1063.55	1063.40	1063.38	1063.38
0.5 SPAN	428+77.67	1063.89	1063.85	1063.70	1063.55	1063.53	1063.53
0.6 SPAN	428+86.07	1064.04	1064.00	1063.85	1063.70	1063.68	1063.68
0.7 SPAN	428+94.47	1064.19	1064.16	1064.01	1063.86	1063.83	1063.83
0.8 SPAN	429+02.87	1064.34	1064.31	1064.16	1064.01	1063.98	1063.98
0.9 SPAN	429+11.27	1064.49	1064.46	1064.31	1064.16	1064.13	1064.13
C/L BRG. PIER	429+19.67	1064.64	1064.61	1064.46	1064.31	1064.28	1064.28
0.1 SPAN	429+28.67	1064.81	1064.77	1064.62	1064.47	1064.45	1064.45
0.2 SPAN	429+37.67	1064.97	1064.93	1064.78	1064.63	1064.61	1064.61
0.3 SPAN	429+46.67	1065.13	1065.10	1064.95	1064.80	1064.77	1064.77
0.4 SPAN	429+55.67	1065.29	1065.26	1065.11	1064.96	1064.93	1064.93
0.5 SPAN	429+64.67	1065.45	1065.42	1065.27	1065.12	1065.09	1065.09
0.6 SPAN	429+73.67	1065.62	1065.58	1065.43	1065.28	1065.26	1065.26
0.7 SPAN	429+82.67	1065.78	1065.74	1065.59	1065.44	1065.42	1065.42
0.8 SPAN	429+91.67	1065.94	1065.91	1065.76	1065.61	1065.58	1065.58
0.9 SPAN	430+00.67	1066.10	1066.07	1065.92	1065.77	1065.74	1065.74
C/L BRG. N. ABUT	430+09.67	1066.26	1066.23	1066.08	1065.93	1065.90	1065.90

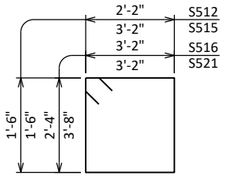


S513

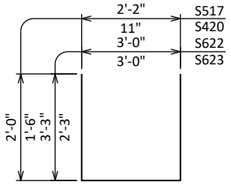


S509

S507



S512, S515, S516, S521



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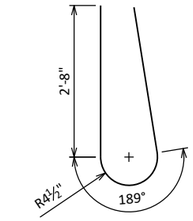


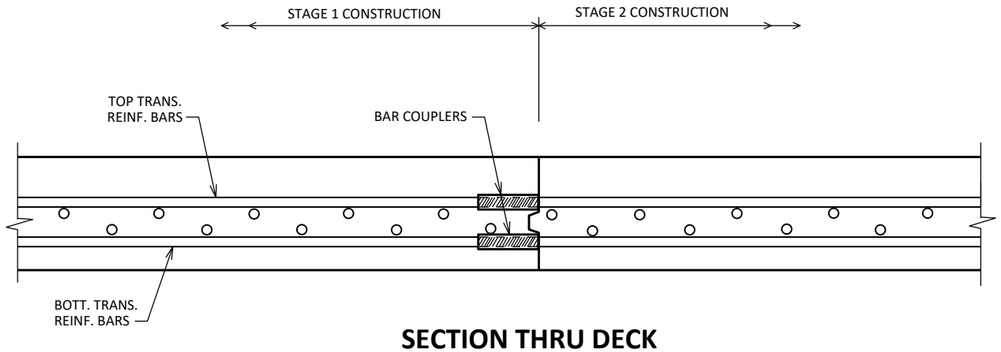
S508

SUPERSTRUCTURE BILL OF BARS

COATED: 64,040 LBS

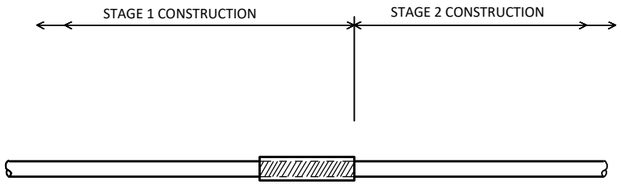
	BAR MARK	NO. REQ'D	LENGTH	BENT	COAT	LOCATION
	S401	122	30'-3"		X	SLAB - LONG. - TOP - SPAN 1
	S402	122	39'-11"		X	SLAB - LONG. - TOP - SPAN 2
	S403	315	36'-7"		X	SLAB - LONG. - BOTTOM - SPANS 1 & 2
	S804	61	42'-8"		X	SLAB - LONG. - TOP AT PIER
	S805	59	40'-8"		X	SLAB - LONG. - TOP AT PIER
⁑⁑	S506	499	19'-10"		X	SLAB - TRANS. - TOP & BOTTOM - STAGE 2
	S507	498	4'-5"	X	X	SLAB - TRANS. - TOP - OVERHANG
	S508	530	6'-8"	X	X	PARAPET - VERT.
	S509	530	4'-5"	X	X	PARAPET - VERT.
	S510	64	46'-4"		X	PARAPET - LONG.
⁑⁑	S511	499	22'-4"		X	SLAB - TRANS. - TOP & BOTTOM - STAGE 1
	S512	10	8'-0"	X	X	PIER DIAPHRAGM - VERT.
	S513	30	10'-0"	X	X	PIER DIAPHRAGM - VERT.
	S414	48	4'-1"		X	PIER DIAPHRAGM - HORIZ.
	S515	24	10'-0"	X	X	ABUT. DIAPHRAGM - VERT.
	S516	74	11'-8"	X	X	ABUT. DIAPHRAGM - VERT.
	S517	74	5'-11"	X	X	ABUT. DIAPHRAGM - VERT.
	S618	40	4'-8"		X	ABUT. DIAPHRAGM - HORIZ.
	S419	16	3'-8"		X	ABUT. DIAPHRAGM - HORIZ.
	S420	50	3'-9"	X	X	ABUT. DIAPHRAGM - VERT.
	S521	8	14'-4"	X	X	ABUT. DIAPHRAGM - VERT. - ENDS
	S622	8	9'-2"	X	X	ABUT. DIAPHRAGM - HORIZ. - ENDS
	S623	4	7'-2"	X	X	ABUT. DIAPHRAGM - HORIZ. - ENDS
	S524	12	3'-8"		X	ABUT. DIAPHRAGM - VERT. - ENDS
⁑⁑	S625	10	23'-8"		X	ABUT. DIAPHRAGM - HORIZ. - B.F., TOP - STAGE 1
	S526	24	6'-0"		X	ABUT. DIAPHRAGM - GIRDER ENDS
⁑⁑	S627	4	4'-6"		X	ABUT. DIAPHRAGM - HORIZ. - STAGE 1
⁑⁑	S628	4	2'-0"		X	ABUT. DIAPHRAGM - HORIZ. - STAGE 2
⁑⁑	S629	2	3'-7"		X	ABUT. DIAPHRAGM - HORIZ. - BTM. - STAGE 1
⁑⁑	S630	2	1'-1"		X	ABUT. DIAPHRAGM - HORIZ. - BTM. - STAGE 2
⁑⁑	S431	4	3'-1"		X	ABUT. DIAPHRAGM - HORIZ. - BTM. - STAGE 1
⁑⁑	S432	4	7"		X	ABUT. DIAPHRAGM - HORIZ. - BTM. - STAGE 2
⁑⁑	S433	4	4'-6"		X	PIER DIAPHRAGM - HORIZ. - STAGE 1
⁑⁑	S434	4	2'-0"		X	PIER DIAPHRAGM - HORIZ. - STAGE 2
⁑⁑	S435	2	3'-7"		X	PIER DIAPHRAGM - HORIZ. - BTM. - STAGE 1
⁑⁑	S436	2	1'-1"		X	PIER DIAPHRAGM - HORIZ. - BTM. - STAGE 2
⁑⁑	S637	10	21'-2"		X	ABUT. DIAPHRAGM - HORIZ. B.F., TOP - STAGE 2

⁑⁑ BAR WITH COUPLER. SEE THIS SHEET FOR DETAILS AND NOTES.



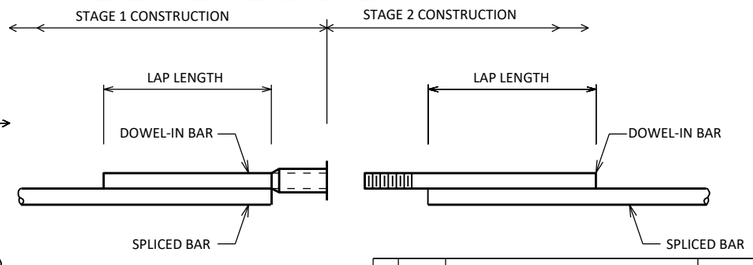
SECTION THRU DECK

ONE-PIECE THREADED COUPLER SHOWN



ONE-PIECE THREADED COUPLER

BAR COUPLER ALTERNATIVES



DOWEL BAR COUPLER

STAGE 2 DOWEL SCREWS INTO COUPLER PLACED IN STAGE 1

BAR COUPLER NOTES

FOR DOWEL BAR COUPLERS, ALL DOWEL BARS SHALL BE LAPPED AND TIED TO THE REINFORCEMENT BARS.

BAR LENGTHS FOR BARS WITH BAR COUPLERS HAVE BEEN COMPUTED TO THE C/L OF THE CONSTRUCTION JOINT AND SHALL BE MODIFIED BY THE BAR COUPLER MANUFACTURER RECOMMENDATIONS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STATE PROJECT NUMBER
1196-04-77

STRUCTURE B-3-218

DRAWN BY ZHC | PLANS CK'D EJC

SUPERSTRUCTURE DETAILS - 2

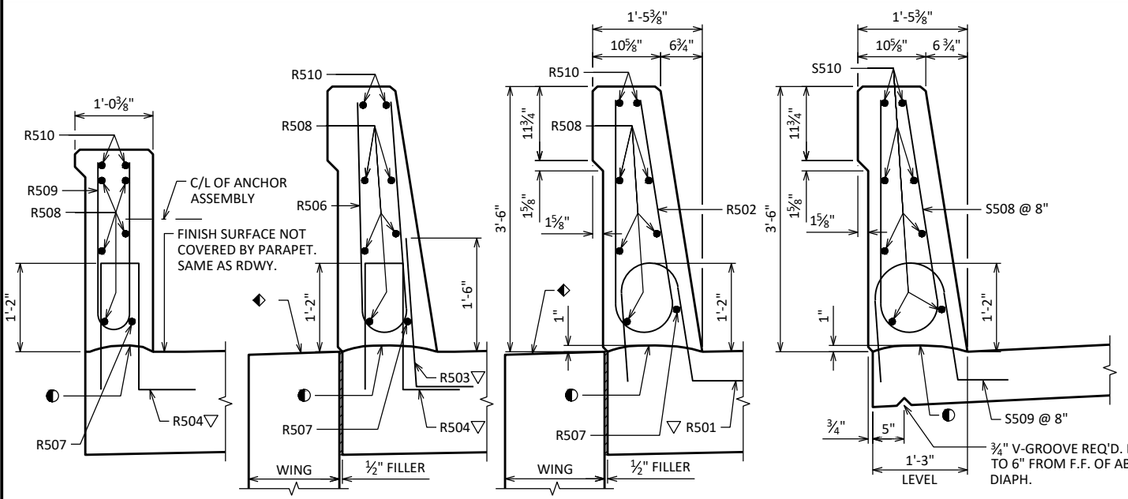
SHEET 20
358

8

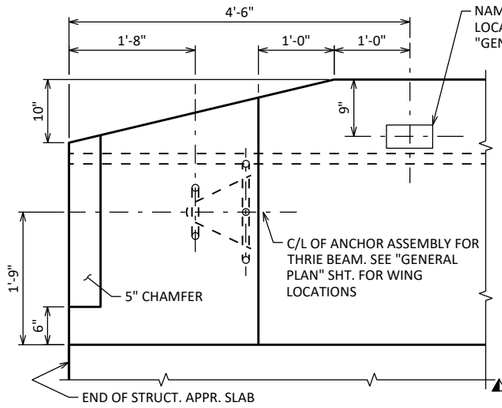
8

STATE PROJECT NUMBER

1196-04-77



SECTION A-A **SECTION B-B** **SECTION C-C** **SECTION THRU PARAPET ON DECK**



PARAPET END TREATMENT DETAIL

LOOKING AT INSIDE FACE OF PARAPET

SINGLE SLOPE PARAPET 42SS
BILL OF BARS

COATED: 2,090 LBS

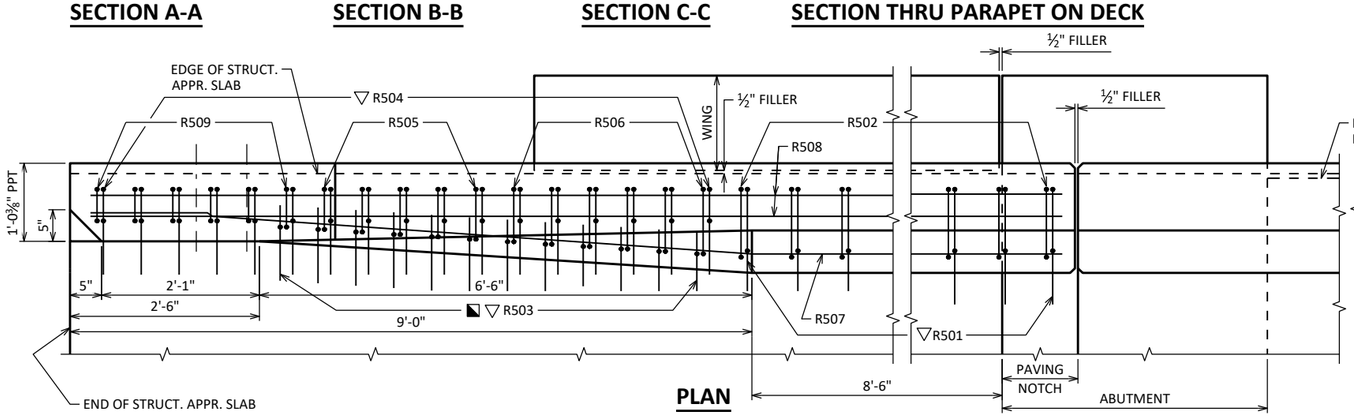
BAR MARK	NO. REQ'D S. ABUT.	NO. REQ'D N. ABUT.	LENGTH	BENT	COAT	LOCATION
R501	28	28	4'-5"	X	X	PARAPET - VERT.
R502	28	28	6'-8"	X	X	PARAPET - VERT.
R503	24	24	2'-9"	X	X	PARAPET - VERT.
R504	34	34	4'-4"	X	X	PARAPET - VERT.
R505	10	10	6'-5"	X	X	PARAPET - VERT.
R506	12	12	6'-6"	X	X	PARAPET - VERT.
R507	2	2	17'-1"	X	X	PARAPET - HORIZ.
R508	10	10	17'-1"		X	PARAPET - HORIZ.
R509	12	12	5'-5"	X	X	PARAPET - VERT.
R510	4	4	17'-1"	X	X	PARAPET - HORIZ.

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

BAR SERIES TABLE

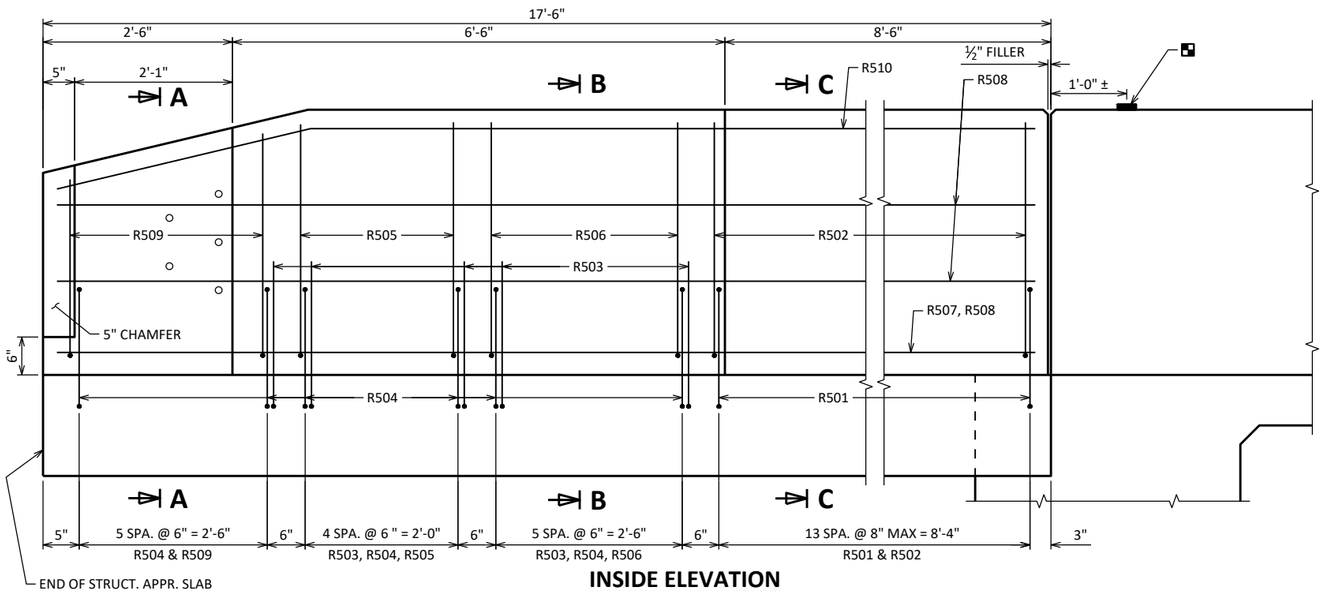
BUNDLE AND TAG EACH SERIES SEPARATELY.

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



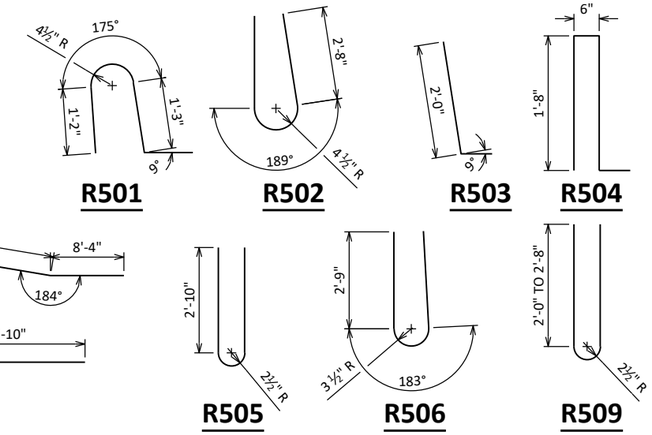
PLAN

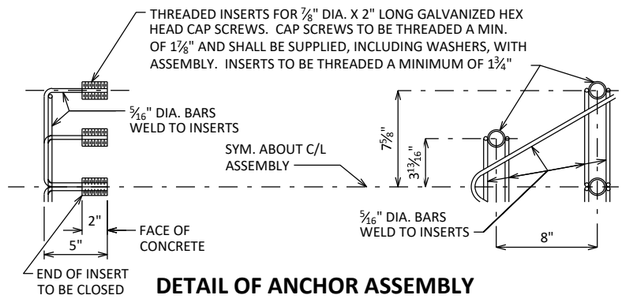
WING 2 CORNER SHOWN, OTHERS SIMILAR



INSIDE ELEVATION

WING 2 CORNER SHOWN, OTHERS SIMILAR
WING & STRUCTURAL APPROACH SLAB FOOTING NOT SHOWN FOR CLARITY





DETAIL OF ANCHOR ASSEMBLY

NOTE: HEX HEAD CAP SCREWS & WASHERS TO BE GALVANIZED IN ACCORDANCE WITH ASTM F2329.

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

LEGEND

- CONST. JOINT - STRIKE OFF AS SHOWN
- SLOPE FOR DRAINAGE
- USE CARE TO PLACE R503 BARS CORRECTLY ALONG TRANSITION OF PARAPET.
- R501, R503, AND R504 BARS TO BE TIED TO STRUCTURAL APPROACH SLAB STEEL BEFORE STRUCTURAL APPROACH SLAB IS POURED.
- BENCH MARK CAP (WHEN SUPPLIED). AVOID PLACING A BENCH MARK CAP BELOW A RAIL OR FENCE SYSTEM THAT IS ATTACHED TO THE TOP OF THE PARAPET.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-3-218

DRAWN BY ZHC | PLANS CK'D EJC

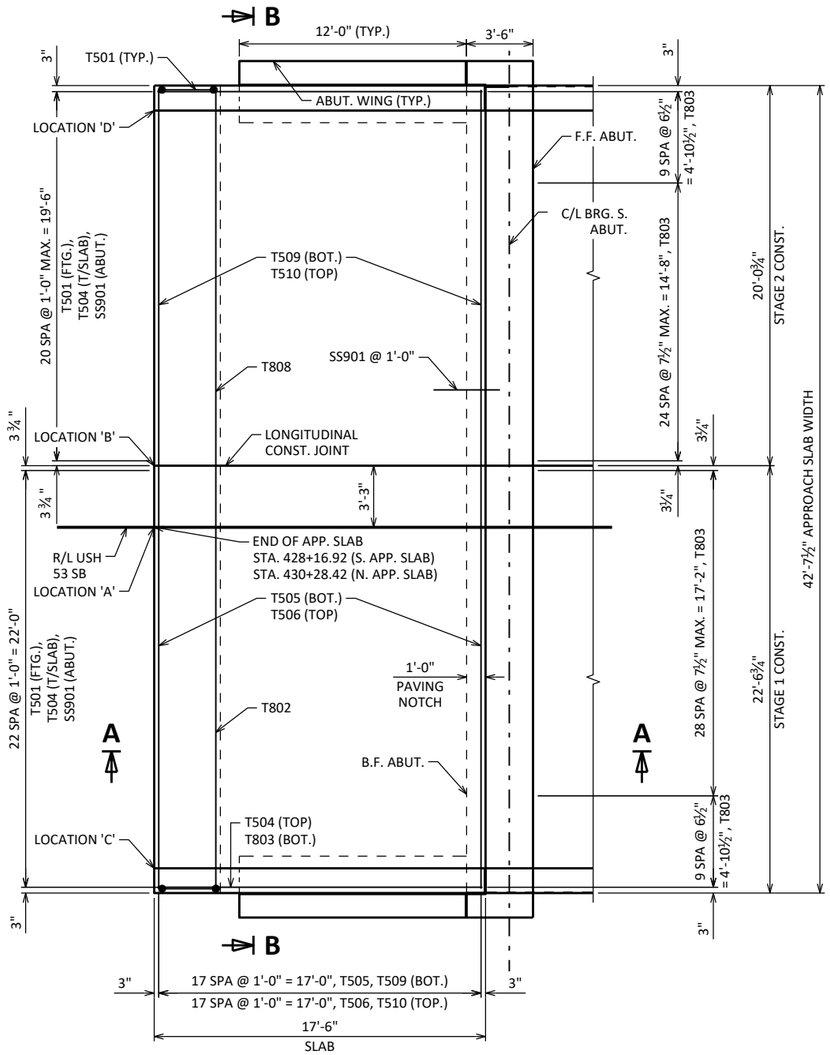
SINGLE SLOPE PARAPET 42SS

SHEET 21
359

SCALE =

8

8



APPROACH SLAB PLAN

(SOUTH SHOWN, NORTH SIMILAR)

APPROACH SLAB ELEVATIONS

LOCATION	SOUTH APP. SLAB		NORTH APP. SLAB	
	STA.	ELEV.	STA.	ELEV.
'A' (R/L)	428+16.92	1062.79	430+28.42	1066.60
'B' (CONST. JT.)	428+16.92	1062.73	430+28.42	1066.54
'C' (EAST)	428+16.92	1062.43	430+28.42	1066.24
'D' (WEST)	428+16.92	1062.35	430+28.42	1066.16

SINGLE APPROACH SLABS BILL OF BARS

COATED: 14,980 LBS

	BAR MARK	NO. REQ'D	LENGTH	BENT	COAT	LOCATION
	T501	88	9'-2"	X	X	FOOTING - STIRRUP
⚹⚹	T802	16	22'-4"		X	FOOTING - TRANS. - STAGE 1
	T803	144	19'-0"	X	X	SLAB - LONG. - BOT.
	T504	88	17'-2"		X	SLAB - LONG. - TOP
⚹⚹	T505	36	22'-4"		X	SLAB - TRANS. - BOT. - STAGE 1
⚹⚹	T506	36	22'-4"		X	SLAB - TRANS. - TOP - STAGE 1
	T507	68	4'-1"	X	X	SLAB - TRANS. - TOP - WING
⚹⚹	T808	16	19'-10"		X	FOOTING - TRANS. - STAGE 2
⚹⚹	T509	36	19'-10"		X	SLAB - TRANS. - BOT. - STAGE 2
⚹⚹	T510	36	19'-10"		X	SLAB - TRANS. - TOP - STAGE 2

⚹⚹ BAR WITH COUPLER. SEE SHEET 20 FOR DETAILS AND NOTES.

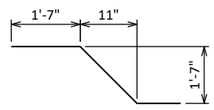
STAINLESS STEEL BILL OF BARS

STAINLESS: 1,496 LBS

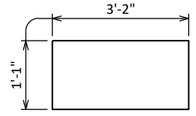
BAR MARK	NO. REQ'D	LENGTH	BENT	COAT	LOCATION
SS901	88	5'-0"	X		CONC. ABUT. DIAPH. TO APPROACH SLAB

LEGEND

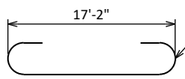
- ◭ SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF ½' FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE).
- ◐ STEEL TROWEL TOP SURFACE OF FOOTING AND PLACE MULTIPLE LAYERS (0.03" MIN. TOTAL THK.) OF POLYETHYLENE SHEETS OVER THE ENTIRE TOP OF FOOTING.
- □ PLACE MULTIPLE LAYERS (0.03" MIN. TOTAL THK.) OF POLYETHYLENE SHEETS OVER THE ENTIRE TOP OF SUBGRADE BENEATH SLAB.
- ◪ COAT WITH "PROTECTIVE SURFACE TREATMENT."
- ● ADJUST SS901 SPACING AS NECESSARY TO AVOID CONFLICTS WITH PRESTRESSED GIRDERS.
- ■ COAT WITH "PIGMENTED SURFACE SEALER".



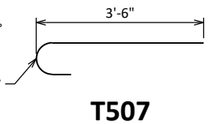
SS901



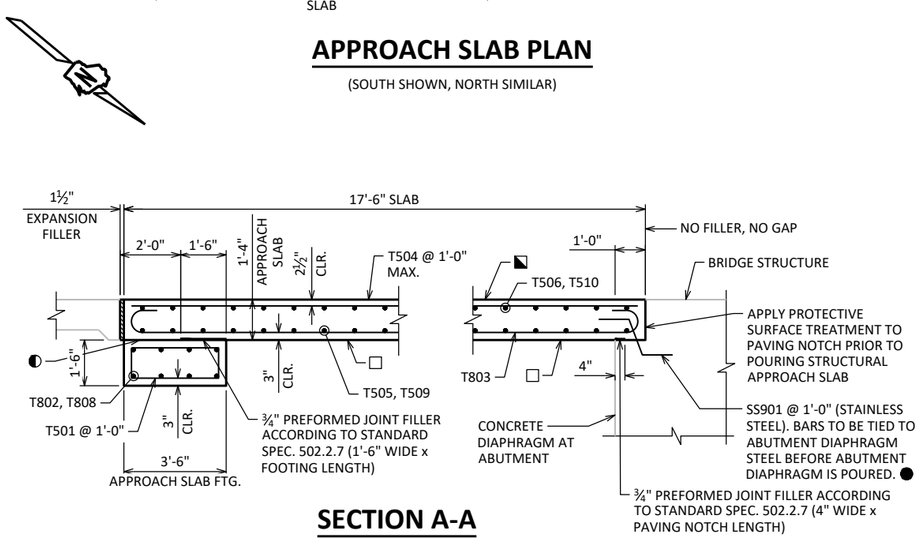
T501



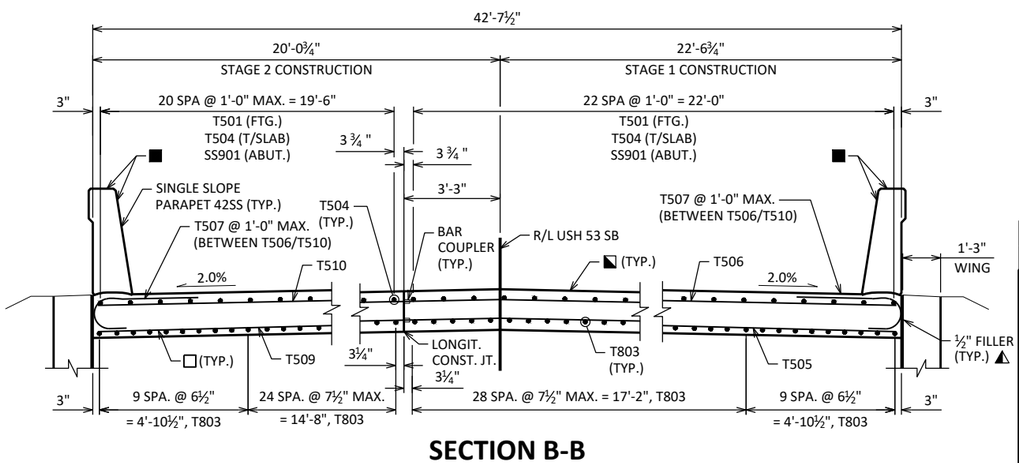
T803



T507



SECTION A-A



SECTION B-B

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-3-218

DRAWN BY ZHC | PLANS CK'D EJC

STRUCTURAL APPROACH SLAB

SHEET 22
360

STATE PROJECT NUMBER
1196-04-77

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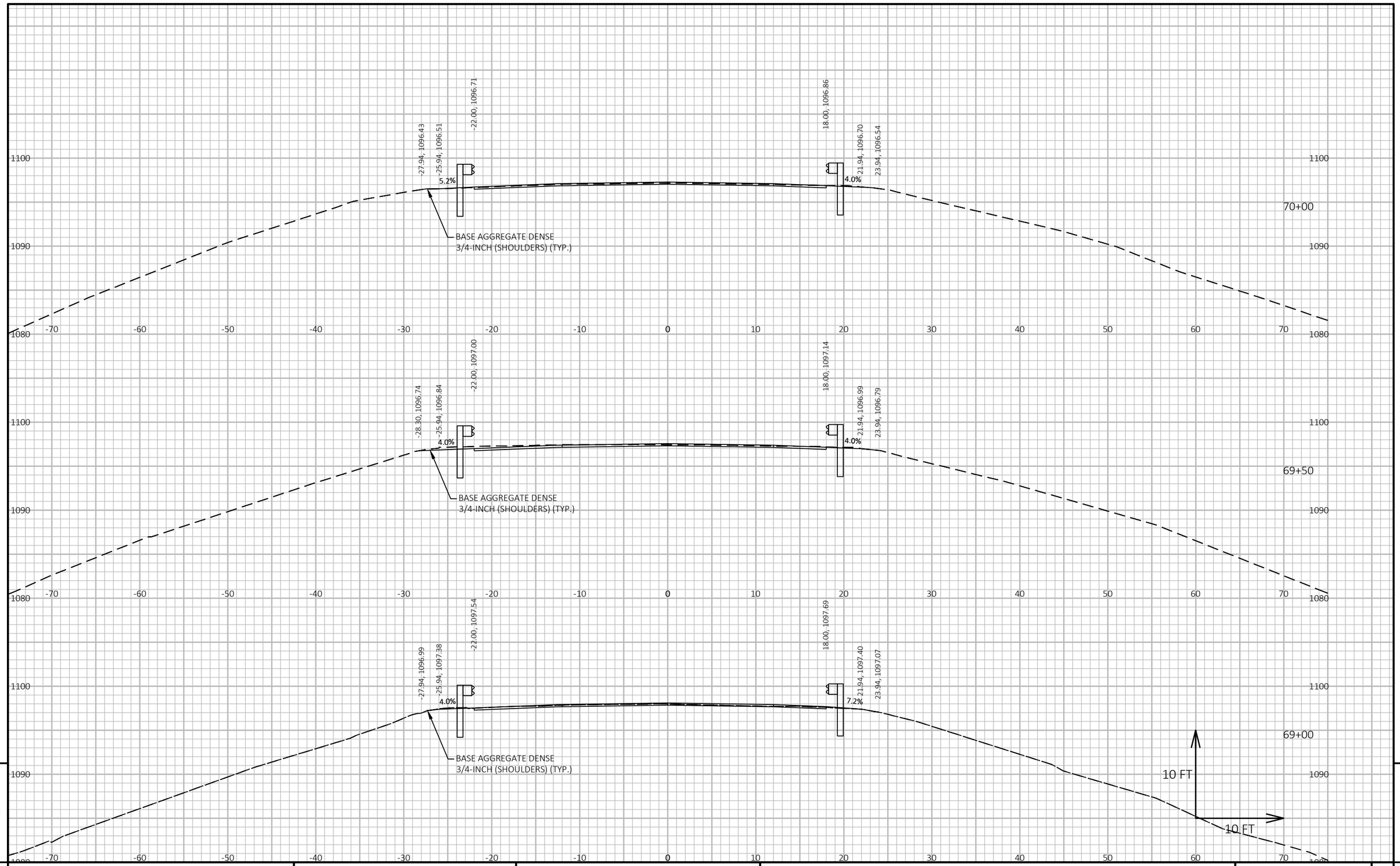

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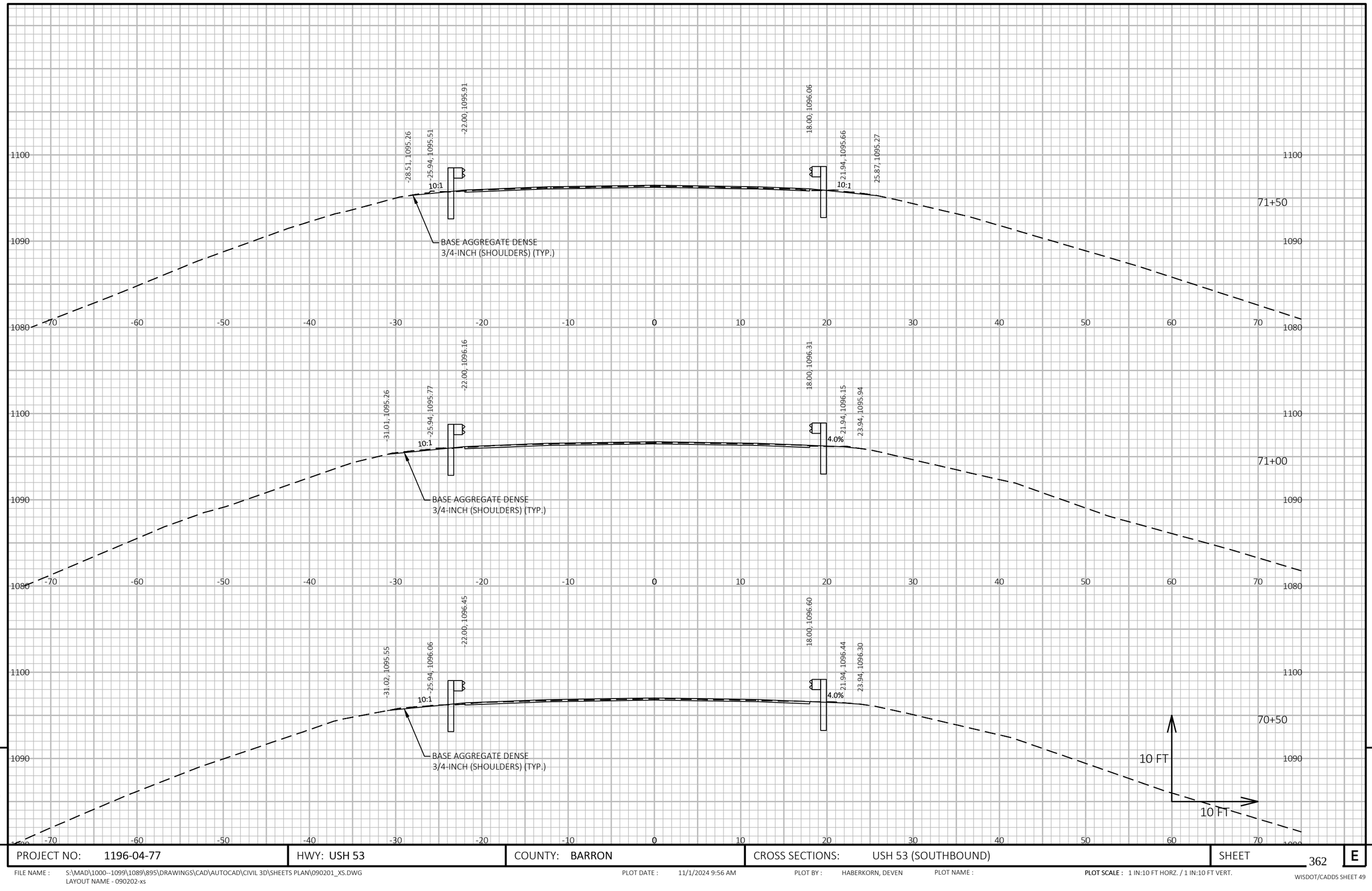
PROJECT NO: 1196-04-77	HWY: USH 53	COUNTY: BARRON	CROSS SECTIONS: USH 53 (SOUTHBOUND)	SHEET 361	E

FILE NAME : S:\MAD\1000--1099\1089\895\DRAWINGS\CAD\AUTOCAD\CIVIL 3D\SHEETS PLAN\090201_XS.DWG
LAYOUT NAME - 090201-xs

PLOT DATE : 11/1/2024 9:56 AM PLOT BY : HABERKORN, DEVEN PLOT NAME :

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

WISDOT/CADDS SHEET 49



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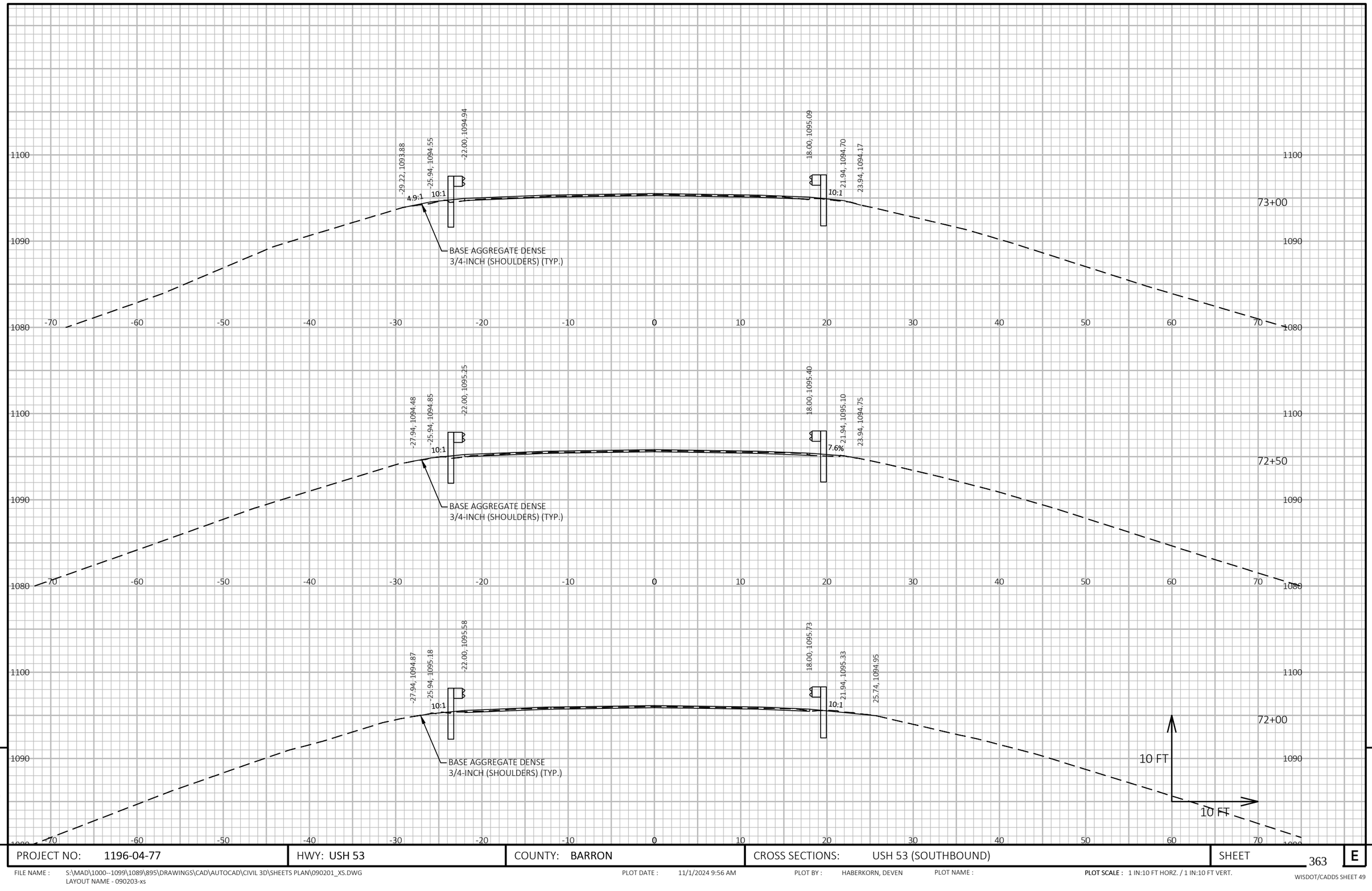
PROJECT NO: 1196-04-77	HWY: USH 53	COUNTY: BARRON	CROSS SECTIONS: USH 53 (SOUTHBOUND)	SHEET 362	E

FILE NAME : S:\MAD\1000--1099\1089\895\DRAWINGS\CAD\AUTOCAD\CIVIL 3D\SHEETS PLAN\090201_XS.DWG
LAYOUT NAME - 090202-xs

PLOT DATE : 11/1/2024 9:56 AM PLOT BY : HABERKORN, DEVEN PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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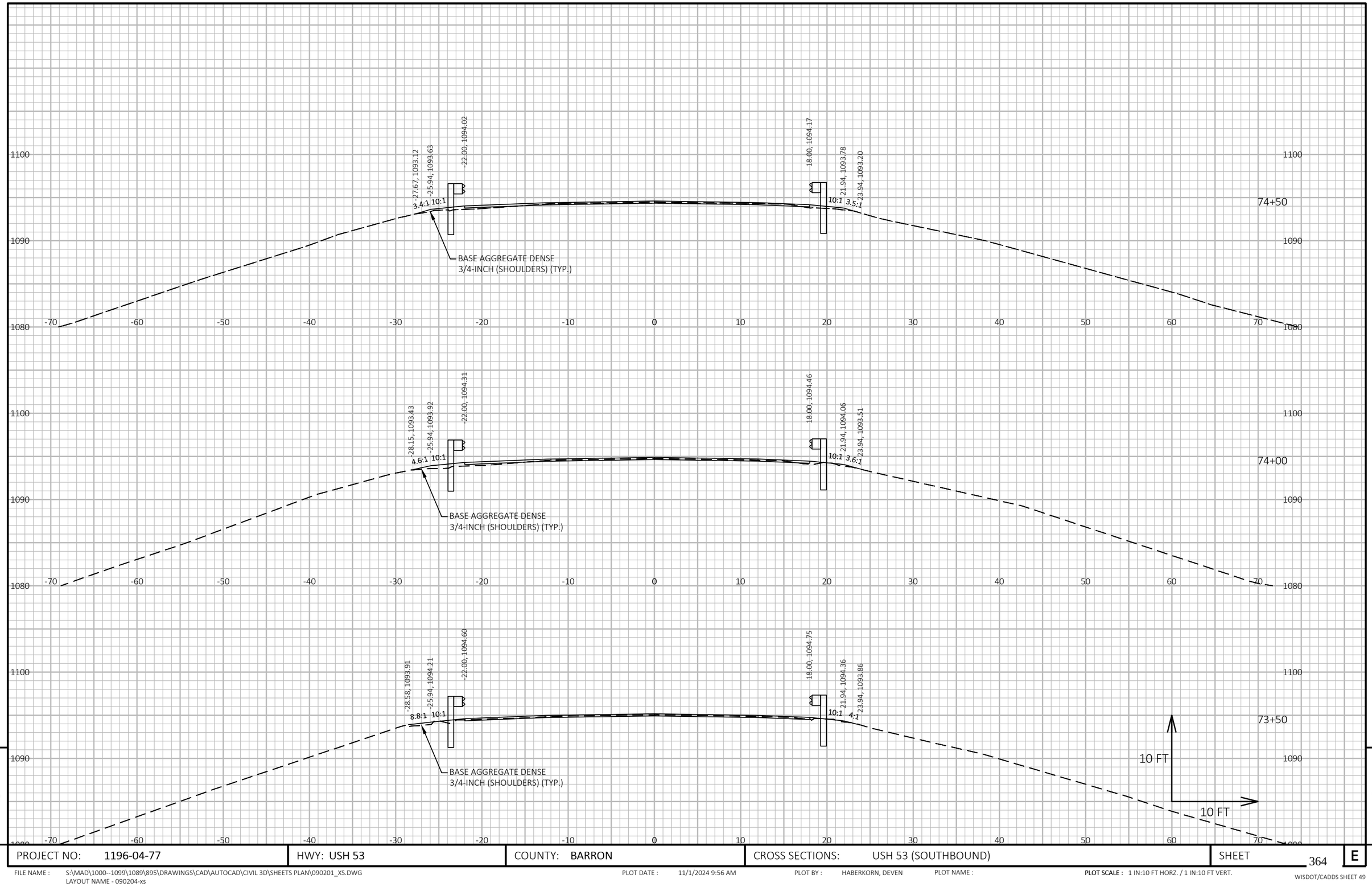
PROJECT NO: 1196-04-77	HWY: USH 53	COUNTY: BARRON	CROSS SECTIONS: USH 53 (SOUTHBOUND)	SHEET 363	E

FILE NAME : S:\MAD\1000--1099\1089\895\DRAWINGS\CAD\AUTOCAD\CIVIL 3D\SHEETS PLAN\090201_XS.DWG
LAYOUT NAME - 090203-xs

PLOT DATE : 11/1/2024 9:56 AM PLOT BY : HABERKORN, DEVEN PLOT NAME :

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



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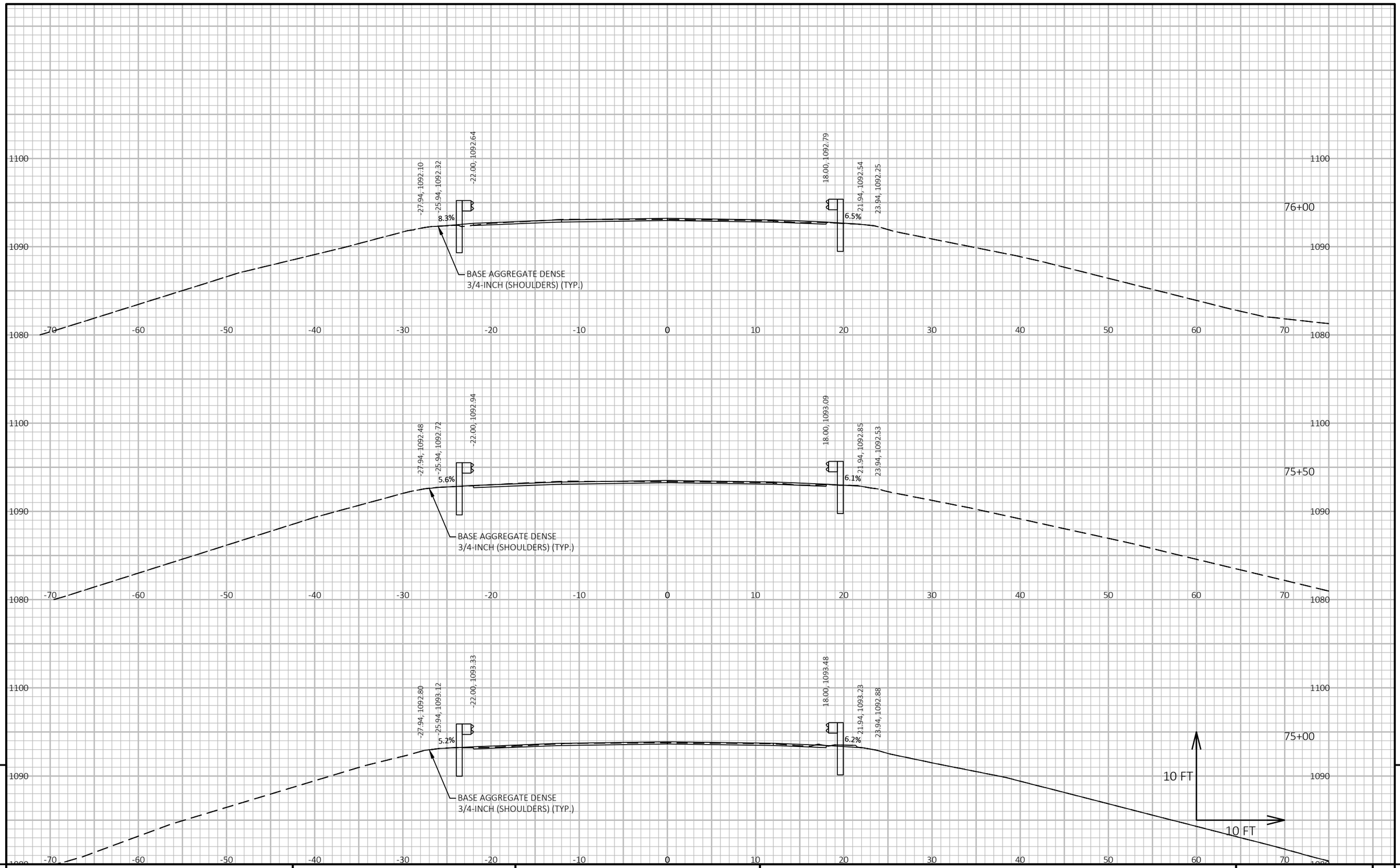
PROJECT NO: 1196-04-77	HWY: USH 53	COUNTY: BARRON	CROSS SECTIONS: USH 53 (SOUTHBOUND)	SHEET 364	E

FILE NAME : S:\MAD\1000--1099\1089\895\DRAWINGS\CAD\AUTOCAD\CIVIL 3D\SHEETS PLAN\090201_XS.DWG
LAYOUT NAME - 090204-xs

PLOT DATE : 11/1/2024 9:56 AM PLOT BY : HABERKORN, DEVEN PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



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PROJECT NO: 1196-04-77	HWY: USH 53	COUNTY: BARRON	CROSS SECTIONS: USH 53 (SOUTHBOUND)	SHEET 365	E

FILE NAME : S:\MAD\1000--1099\1089\895\DRAWINGS\CAD\AUTOCAD\CIVIL 3D\SHEETS PLAN\090201_XS.DWG
LAYOUT NAME - 090205-xs

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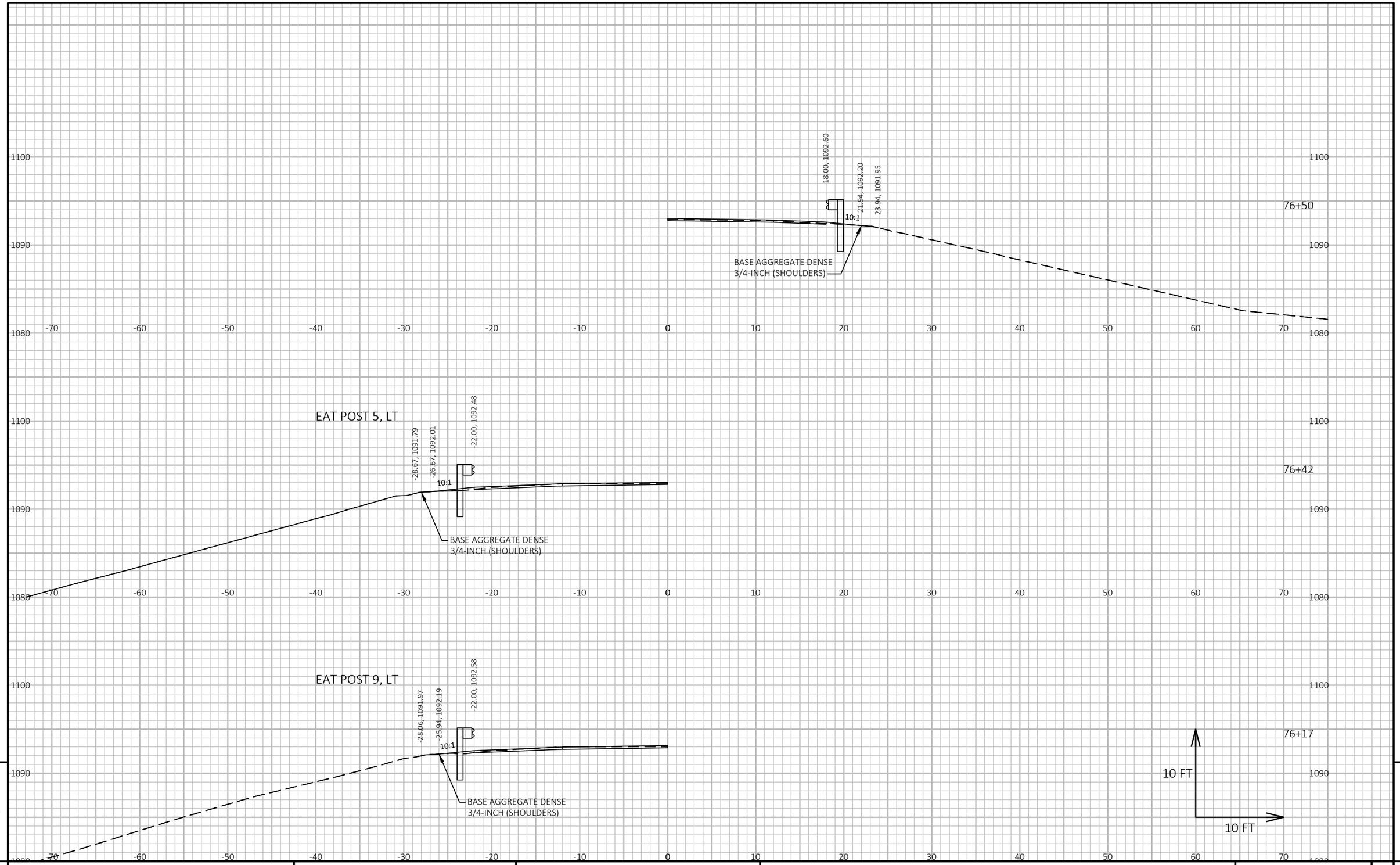
PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



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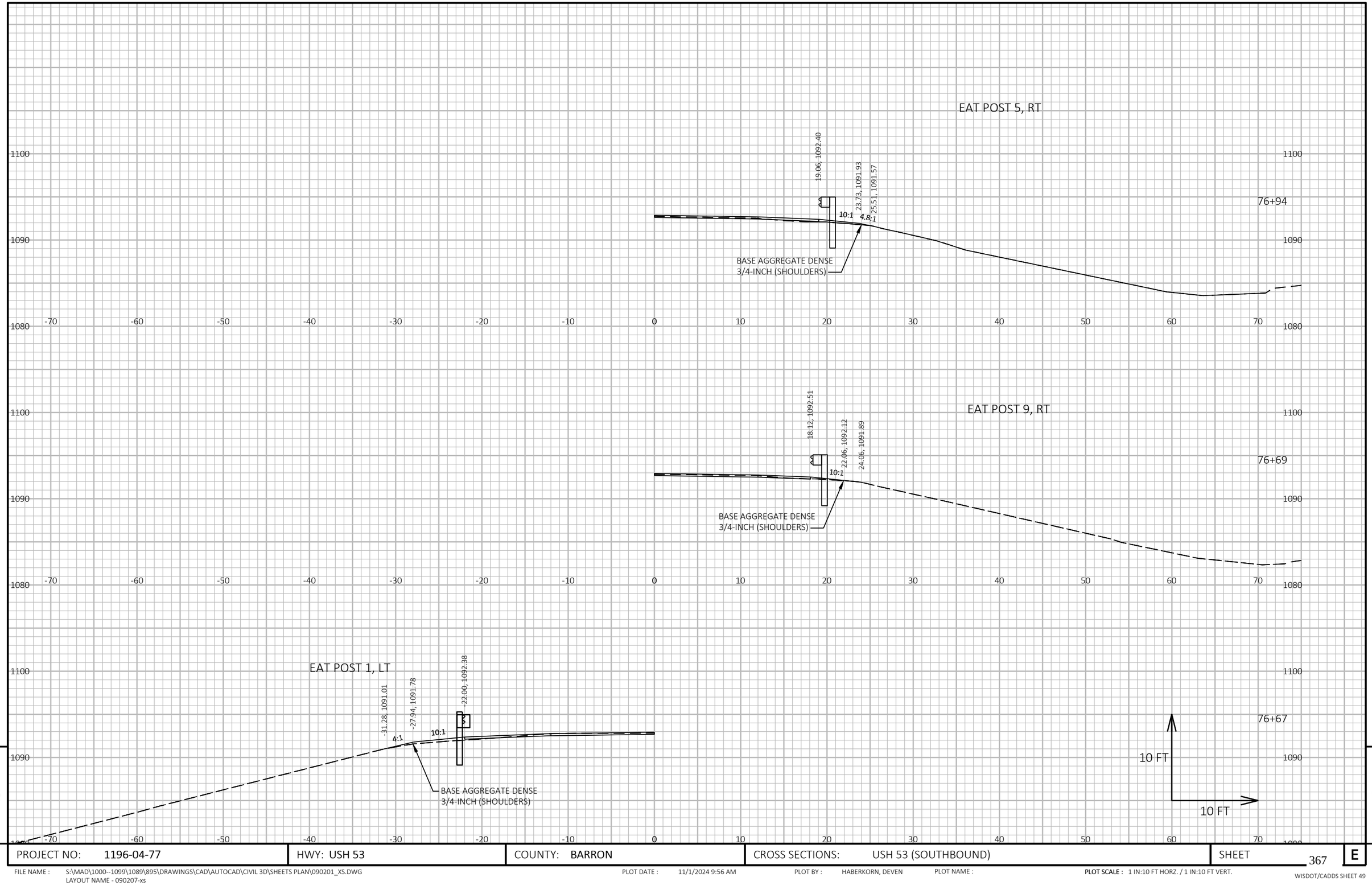
PROJECT NO: 1196-04-77	HWY: USH 53	COUNTY: BARRON	CROSS SECTIONS: USH 53 (SOUTHBOUND)	SHEET 366	E

FILE NAME : S:\MAD\1000--1099\1089\895\DRAWINGS\CAD\AUTOCAD\CIVIL 3D\SHEETS PLAN\090201_XS.DWG
LAYOUT NAME - 090206-xs

PLOT DATE : 11/1/2024 9:56 AM PLOT BY : HABERKORN, DEVEN PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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PROJECT NO: 1196-04-77	HWY: USH 53	COUNTY: BARRON	CROSS SECTIONS: USH 53 (SOUTHBOUND)	SHEET 367	E

FILE NAME : S:\MAD\1000--1099\1089\895\DRAWINGS\CAD\AUTOCAD\CIVIL 3D\SHEETS PLAN\090201_XS.DWG
LAYOUT NAME - 090207-xs

PLOT DATE : 11/1/2024 9:56 AM PLOT BY : HABERKORN, DEVEN PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

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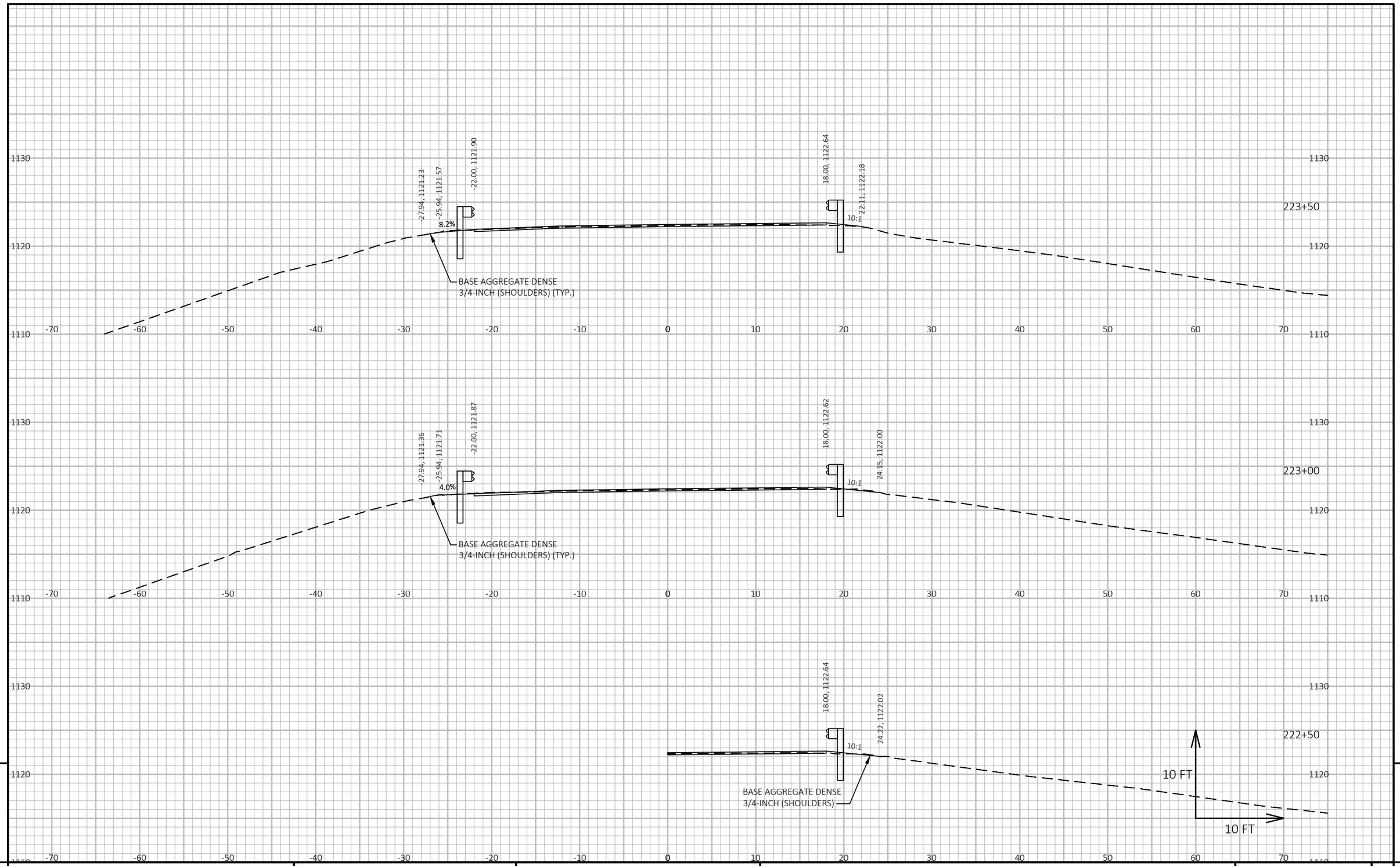
PROJECT NO: 1196-04-77	HWY: USH 53	COUNTY: BARRON	CROSS SECTIONS: USH 53 (SOUTHBOUND)	SHEET 368	E

FILE NAME : S:\MAD\1000--1099\1089\895\DRAWINGS\CAD\AUTOCAD\CIVIL 3D\SHEETS PLAN\090201_XS.DWG
LAYOUT NAME - 090208-xs

PLOT DATE : 11/1/2024 9:56 AM PLOT BY : HABERKORN, DEVEN PLOT NAME :

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

WISDOT/CADDS SHEET 49



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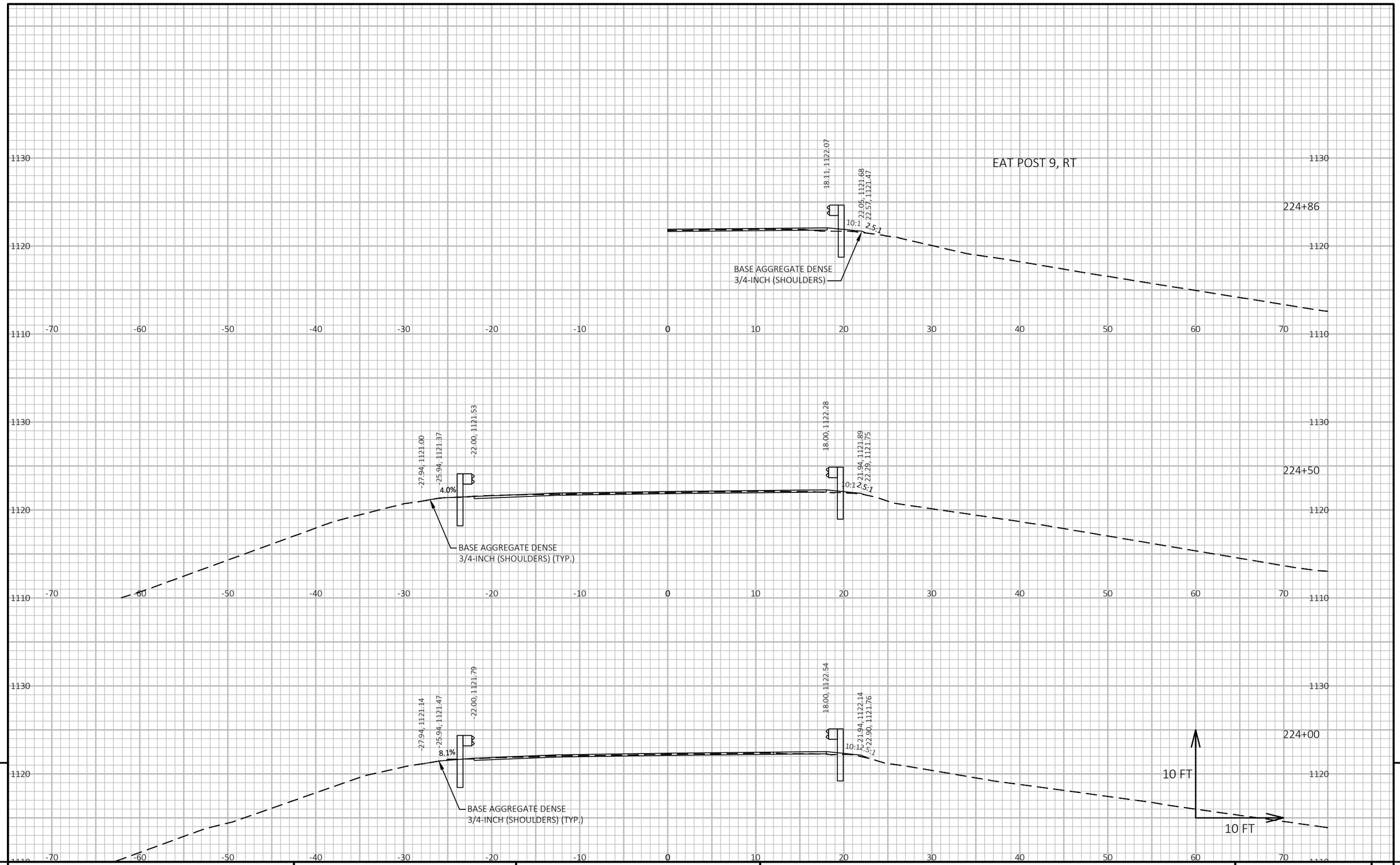
PROJECT NO: 1196-04-77	HWY: USH 53	COUNTY: BARRON	CROSS SECTIONS: USH 53 (SOUTHBOUND)	SHEET 369	E

FILE NAME : S:\MAD\1000--1099\1089\895\DRAWINGS\CAD\AUTOCAD\CIVIL 3D\SHEETS PLAN\090201_XS.DWG
LAYOUT NAME - 090209-xs

PLOT DATE : 11/1/2024 9:56 AM PLOT BY : HABERKORN, DEVEN PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



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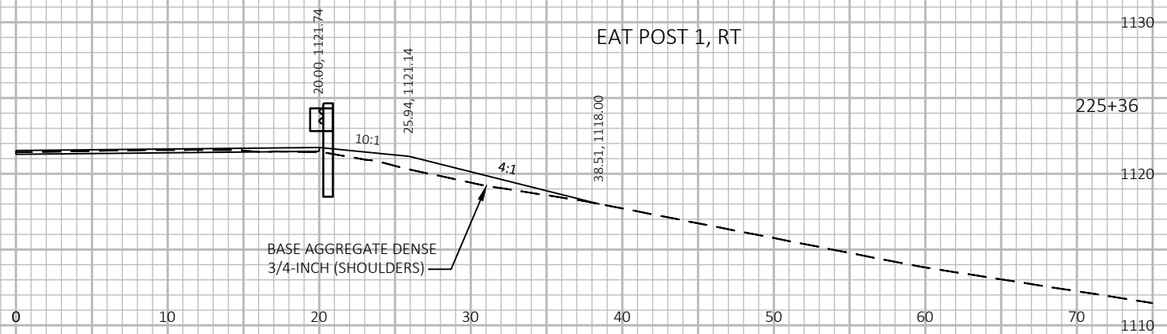
PROJECT NO: 1196-04-77	HWY: USH 53	COUNTY: BARRON	CROSS SECTIONS: USH 53 (SOUTHBOUND)	SHEET 370	E

FILE NAME : S:\MAD\1000--1099\1089\895\DRAWINGS\CAD\AUTOCAD\CIVIL 3D\SHEETS PLAN\090201_XS.DWG
LAYOUT NAME - 090210-xs

PLOT DATE : 11/1/2024 9:56 AM PLOT BY : HABERKORN, DEVEN PLOT NAME :

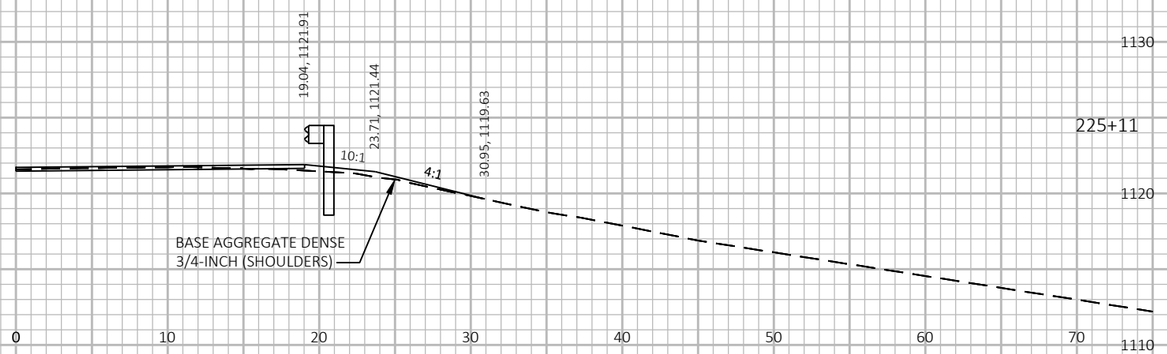
PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

EAT POST 1, RT

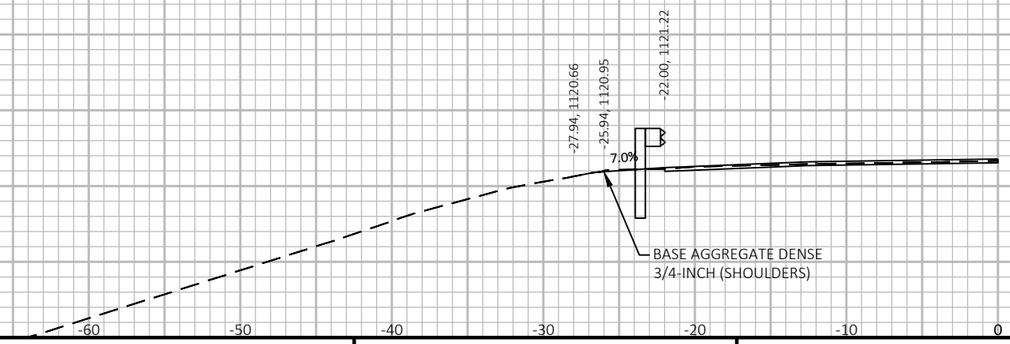


225+36

EAT POST 5, RT



225+11



225+00

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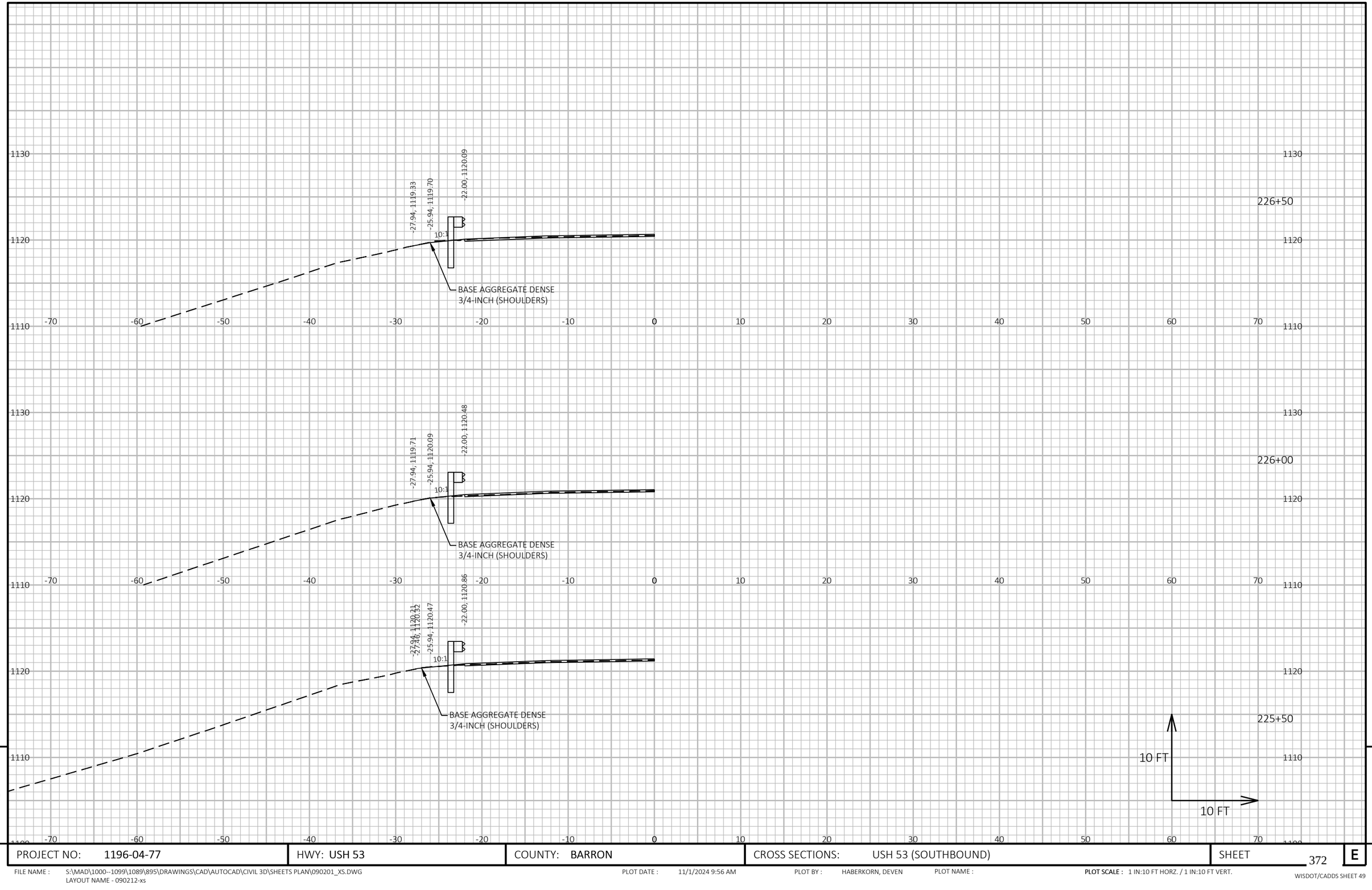
PROJECT NO: 1196-04-77	HWY: USH 53	COUNTY: BARRON	CROSS SECTIONS: USH 53 (SOUTHBOUND)	SHEET 371	E

FILE NAME : S:\MAD\1000--1099\1089\895\DRAWINGS\CAD\AUTOCAD\CIVIL 3D\SHEETS PLAN\090201_XS.DWG
LAYOUT NAME - 090211-xs

PLOT DATE : 11/1/2024 9:56 AM PLOT BY : HABERKORN, DEVEN PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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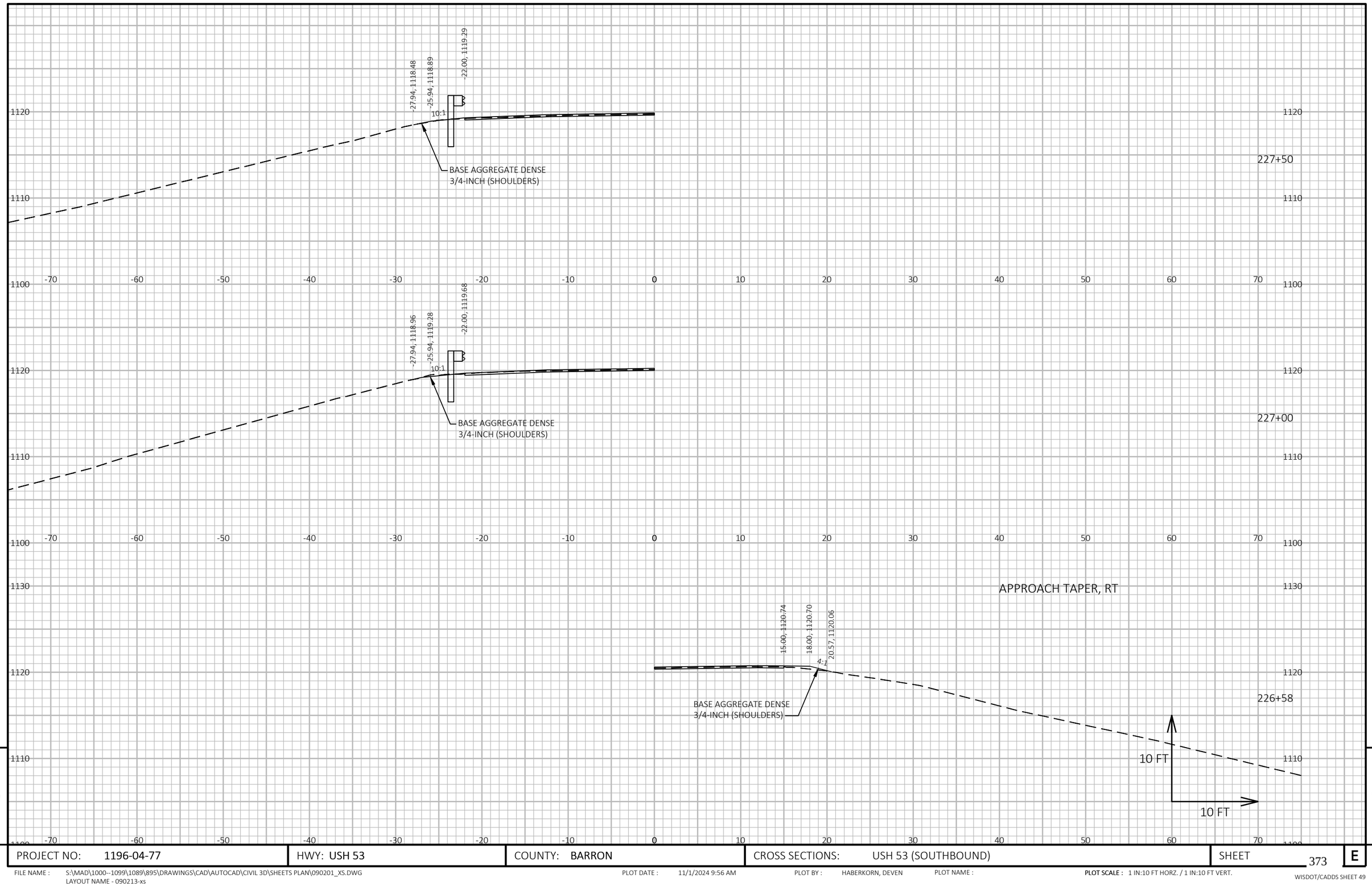
PROJECT NO: 1196-04-77	HWY: USH 53	COUNTY: BARRON	CROSS SECTIONS: USH 53 (SOUTHBOUND)	SHEET 372	E

FILE NAME : S:\MAD\1000--1099\1089\895\DRAWINGS\CAD\AUTOCAD\CIVIL 3D\SHEETS PLAN\090201_XS.DWG
LAYOUT NAME - 090212-xs

PLOT DATE : 11/1/2024 9:56 AM PLOT BY : HABERKORN, DEVEN PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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PROJECT NO: 1196-04-77	HWY: USH 53	COUNTY: BARRON	CROSS SECTIONS: USH 53 (SOUTHBOUND)	SHEET 373	E

FILE NAME : S:\MAD\1000--1099\1089\895\DRAWINGS\CAD\AUTOCAD\CIVIL 3D\SHEETS PLAN\090201_XS.DWG
LAYOUT NAME - 090213-xs

PLOT DATE : 11/1/2024 9:56 AM PLOT BY : HABERKORN, DEVEN PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

EAT POST 5, LT

-28.66, 1118.12
-27.67, 1118.25
-23.00, 1118.72

228+55

EAT POST 9, LT

-29.10, 1117.97
-26.06, 1118.57
-22.12, 1118.96
5.1:1
10:1

BASE AGGREGATE DENSE
3/4-INCH (SHOULDERS)

228+30

-27.94, 1118.23
-25.94, 1118.53
-22.00, 1118.92
10:1

BASE AGGREGATE DENSE
3/4-INCH (SHOULDERS)

228+00

10 FT
10 FT

9

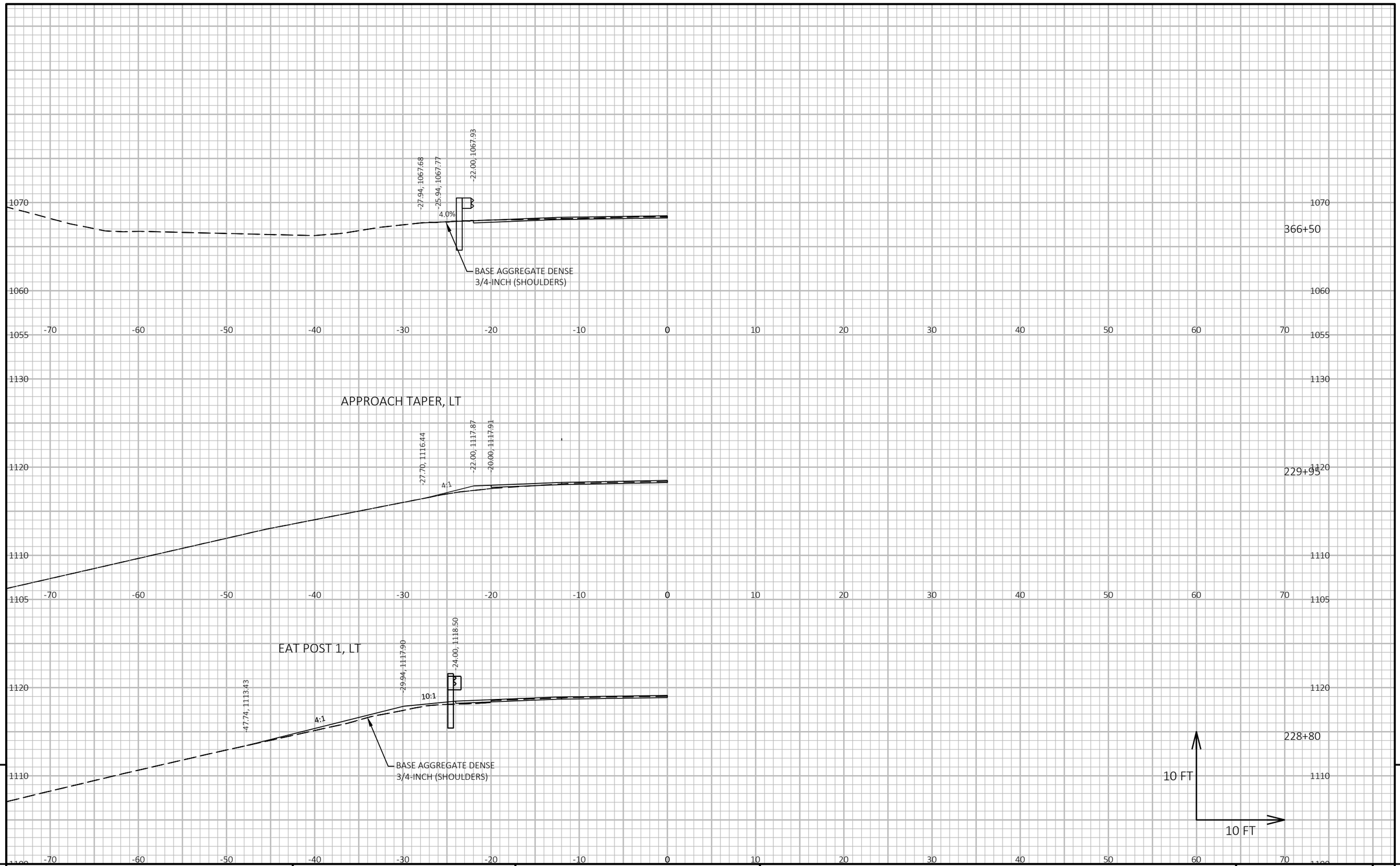
9

PROJECT NO: 1196-04-77	HWY: USH 53	COUNTY: BARRON	CROSS SECTIONS: USH 53 (SOUTHBOUND)	SHEET 374	E

FILE NAME : S:\MAD\1000--1099\1089\895\DRAWINGS\CAD\AUTOCAD\CIVIL 3D\SHEETS PLAN\090201_XS.DWG
LAYOUT NAME - 090214-xs

PLOT DATE : 11/1/2024 9:56 AM PLOT BY : HABERKORN, DEVEN PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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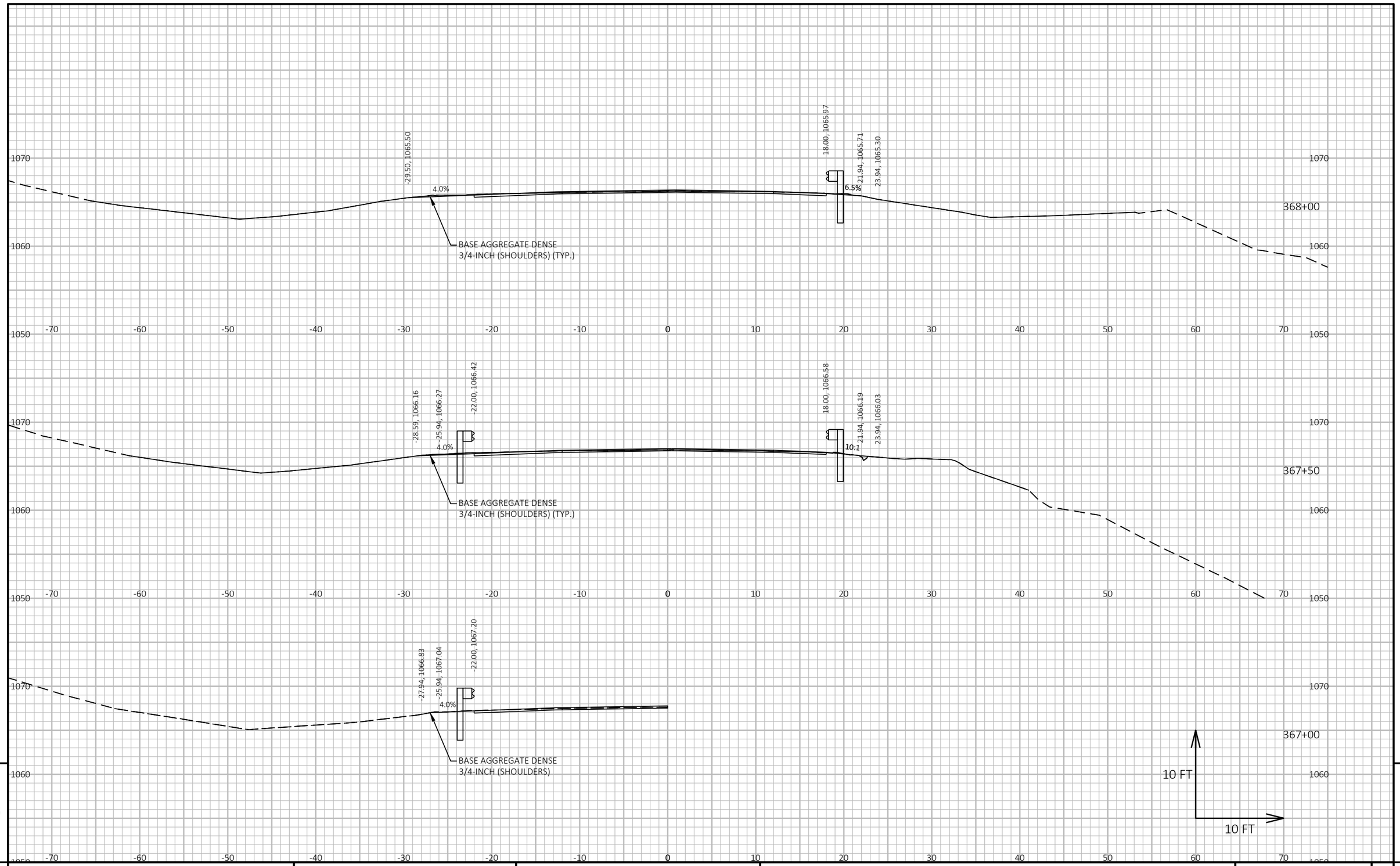
PROJECT NO: 1196-04-77	HWY: USH 53	COUNTY: BARRON	CROSS SECTIONS: USH 53 (SOUTHBOUND)	SHEET 375	E

FILE NAME : S:\MAD\1000--1099\1089\895\DRAWINGS\CAD\AUTOCAD\CIVIL 3D\SHEETS PLAN\090201_XS.DWG
LAYOUT NAME - 090215-xs

PLOT DATE : 11/1/2024 9:56 AM PLOT BY : HABERKORN, DEVEN PLOT NAME :

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

WISDOT/CADDS SHEET 49



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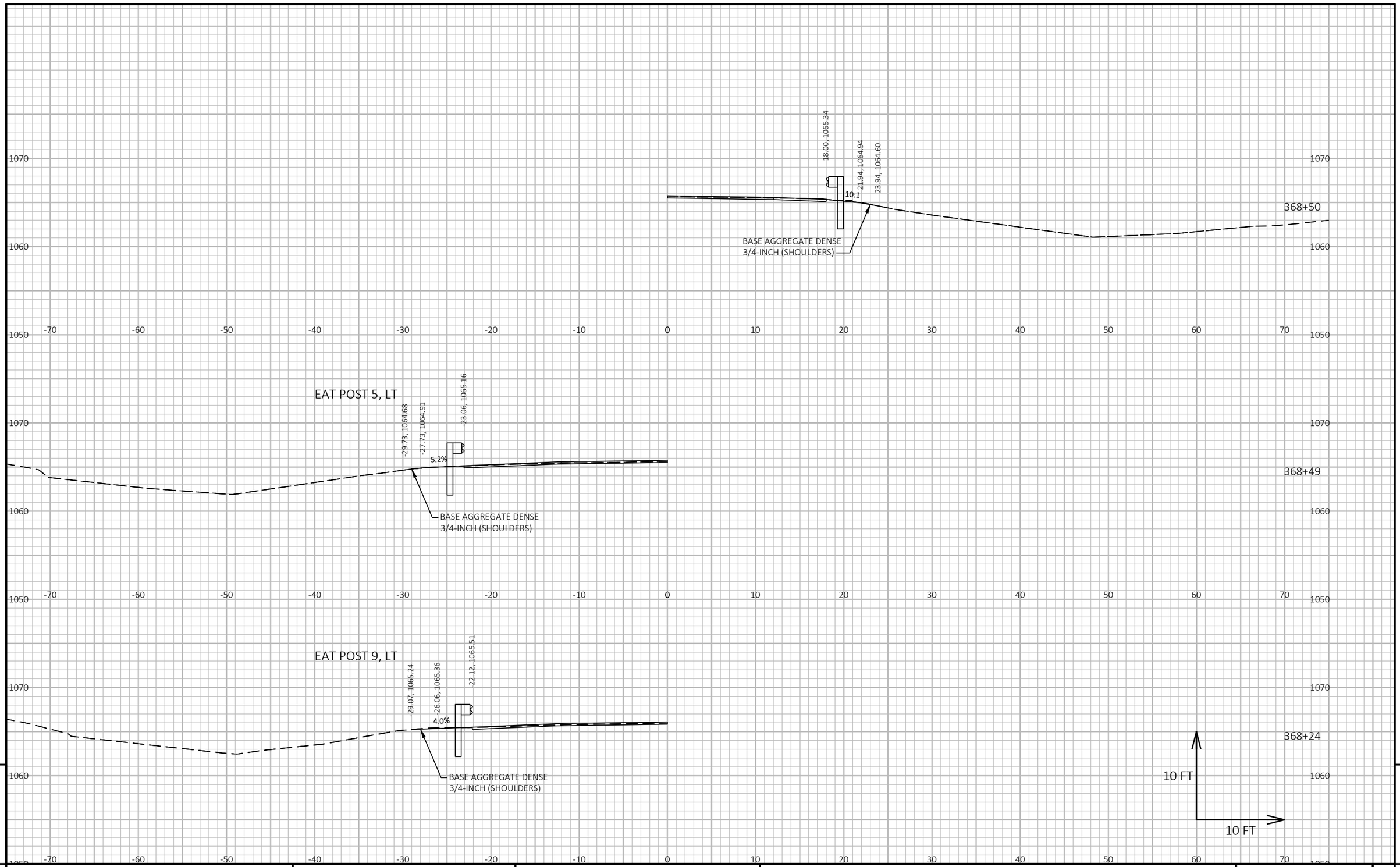
9

PROJECT NO: 1196-04-77	HWY: USH 53	COUNTY: BARRON	CROSS SECTIONS: USH 53 (SOUTHBOUND)	SHEET 376	E

FILE NAME : S:\MAD\1000--1099\1089\895\DRAWINGS\CAD\AUTOCAD\CIVIL 3D\SHEETS PLAN\090201_XS.DWG
LAYOUT NAME - 090216-xs

PLOT DATE : 11/1/2024 9:56 AM PLOT BY : HABERKORN, DEVEN PLOT NAME :

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



9

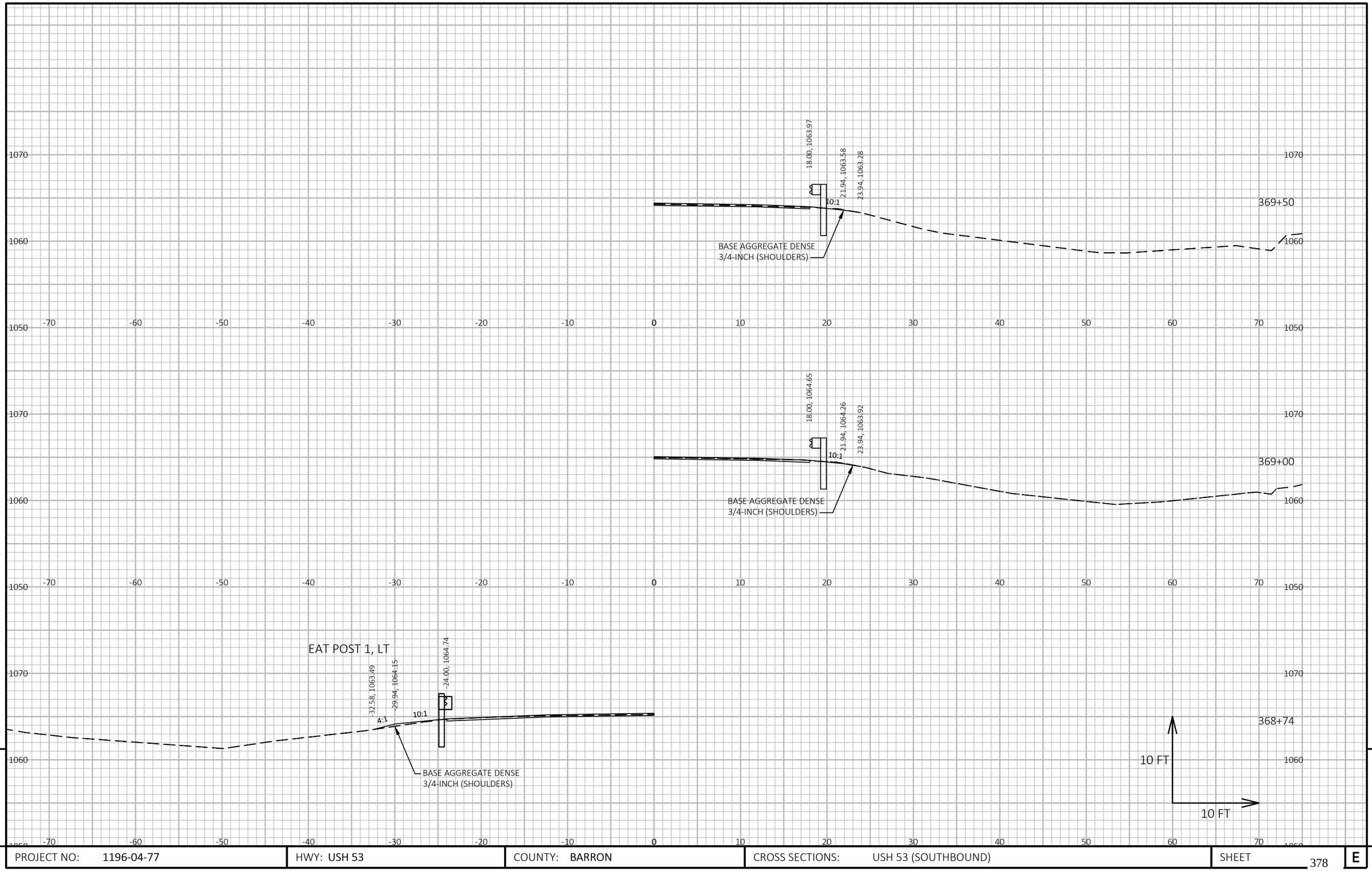
9

PROJECT NO: 1196-04-77	HWY: USH 53	COUNTY: BARRON	CROSS SECTIONS: USH 53 (SOUTHBOUND)	SHEET 377	E

FILE NAME : S:\MAD\1000--1099\1089\895\DRAWINGS\CAD\AUTOCAD\CIVIL 3D\SHEETS PLAN\090201_XS.DWG
LAYOUT NAME - 090217-xs

PLOT DATE : 11/1/2024 9:56 AM PLOT BY : HABERKORN, DEVEN PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

9

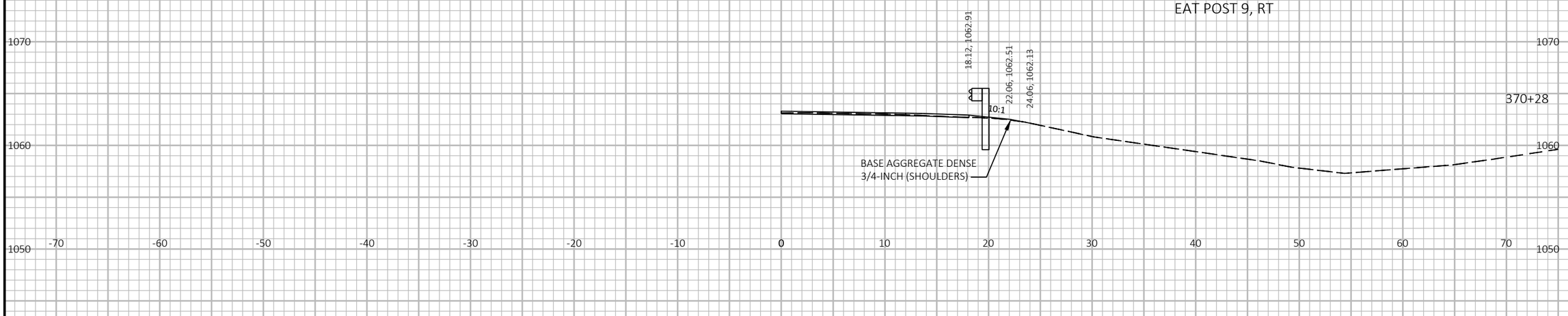
PROJECT NO: 1196-04-77	HWY: USH 53	COUNTY: BARRON	CROSS SECTIONS: USH 53 (SOUTHBOUND)	SHEET 378	E

FILE NAME : S:\MAD\1000--1099\1089\895\DRAWINGS\CAD\AUTOCAD\CIVIL 3D\SHEETS PLAN\090201_XS.DWG
LAYOUT NAME - 090218-xs

PLOT DATE : 11/1/2024 9:56 AM PLOT BY : HABERKORN, DEVEN PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

EAT POST 9, RT



APPROACH TAPER, LT

9

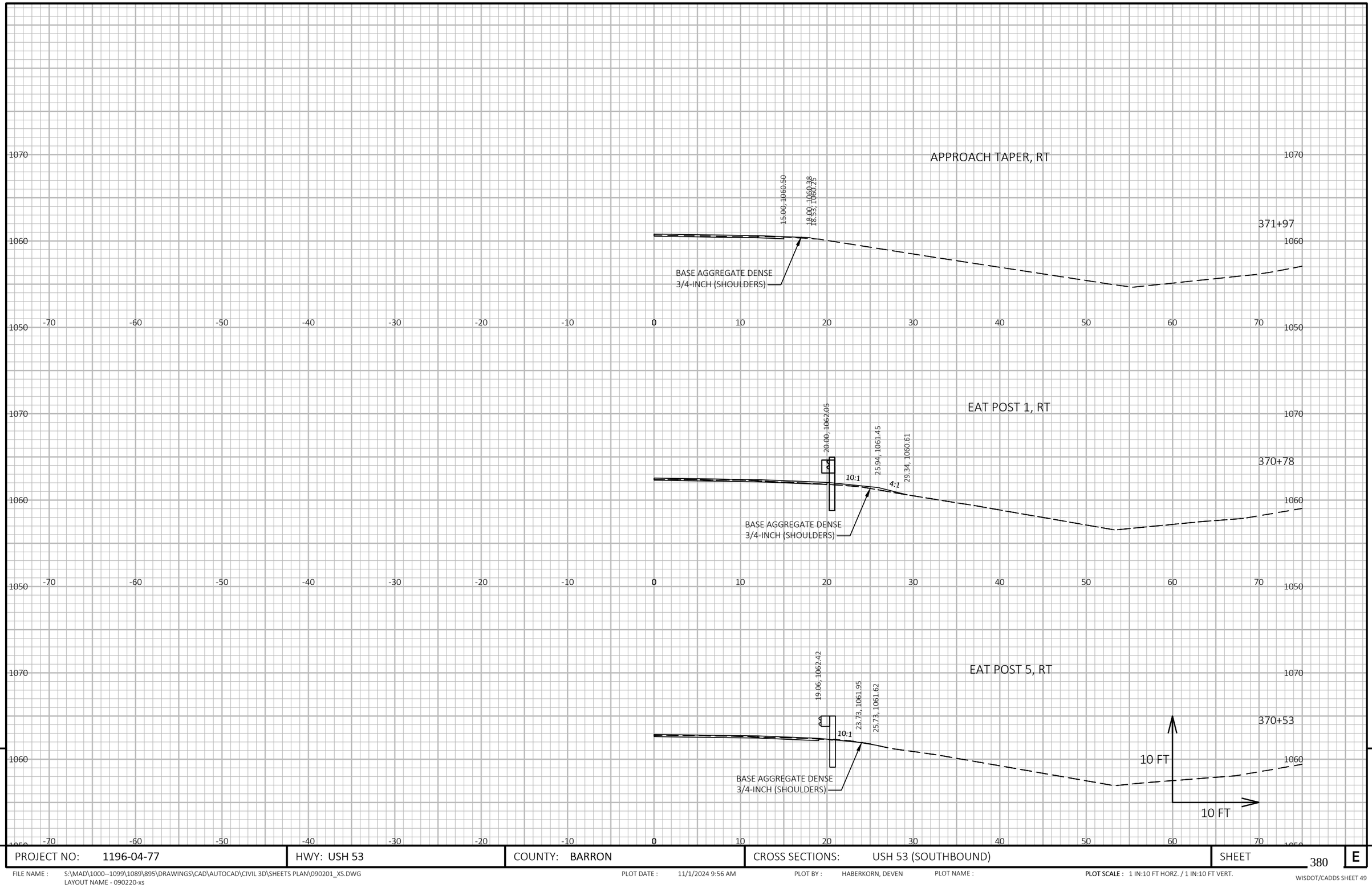
9

PROJECT NO: 1196-04-77	HWY: USH 53	COUNTY: BARRON	CROSS SECTIONS: USH 53 (SOUTHBOUND)	SHEET 379	E

FILE NAME : S:\MAD\1000--1099\1089\895\DRAWINGS\CAD\AUTOCAD\CIVIL 3D\SHEETS PLAN\090201_XS.DWG
LAYOUT NAME - 090219-xs

PLOT DATE : 11/1/2024 9:56 AM PLOT BY : HABERKORN, DEVEN PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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PROJECT NO: 1196-04-77	HWY: USH 53	COUNTY: BARRON	CROSS SECTIONS: USH 53 (SOUTHBOUND)	SHEET 380	E

FILE NAME : S:\MAD\1000--1099\1089\895\DRAWINGS\CAD\AUTOCAD\CIVIL 3D\SHEETS PLAN\090201_XS.DWG
LAYOUT NAME - 090220-xs

PLOT DATE : 11/1/2024 9:56 AM PLOT BY : HABERKORN, DEVEN PLOT NAME :

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

WISDOT/CADDS SHEET 49

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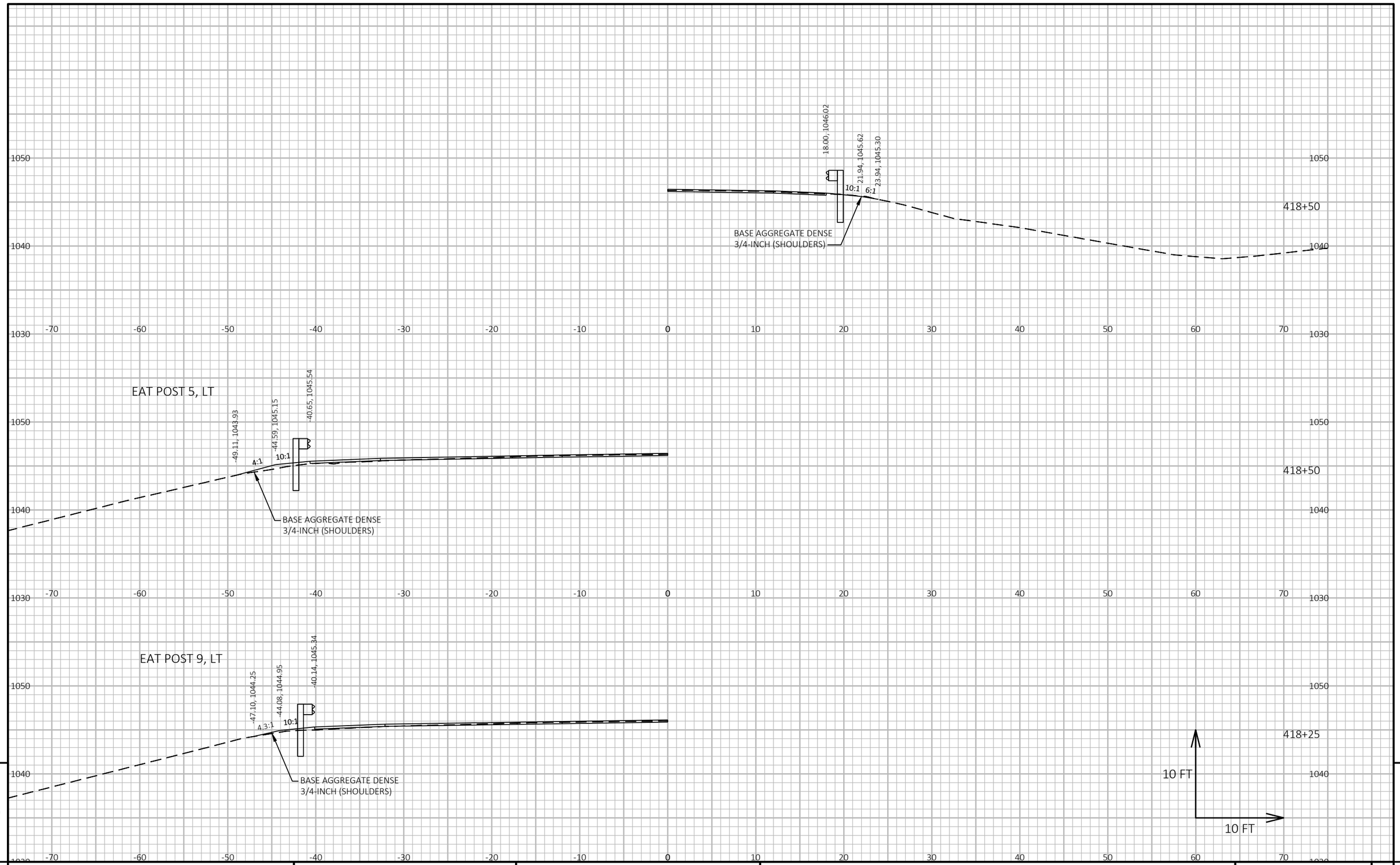
PROJECT NO: 1196-04-77	HWY: USH 53	COUNTY: BARRON	CROSS SECTIONS: USH 53 (SOUTHBOUND)	SHEET 381	E

FILE NAME : S:\MAD\1000--1099\1089\895\DRAWINGS\CAD\AUTOCAD\CIVIL 3D\SHEETS PLAN\090201_XS.DWG
LAYOUT NAME - 090221-xs

PLOT DATE : 11/1/2024 9:56 AM PLOT BY : HABERKORN, DEVEN PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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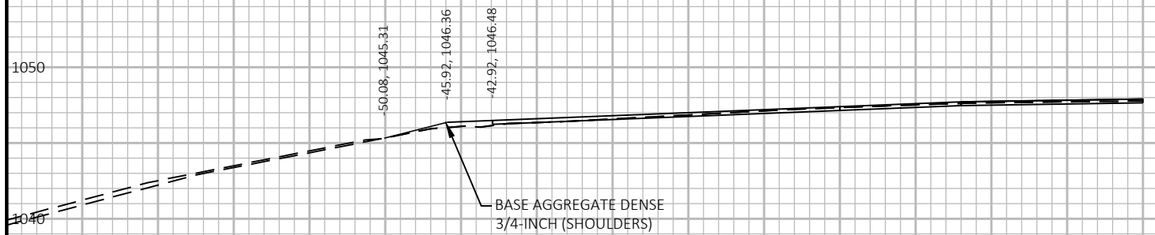
PROJECT NO: 1196-04-77	HWY: USH 53	COUNTY: BARRON	CROSS SECTIONS: USH 53 (SOUTHBOUND)	SHEET 382	E

FILE NAME : S:\MAD\1000--1099\1089\895\DRAWINGS\CAD\AUTOCAD\CIVIL 3D\SHEETS PLAN\090201_XS.DWG
LAYOUT NAME - 090222-xs

PLOT DATE : 11/1/2024 9:56 AM PLOT BY : HABERKORN, DEVEN PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

APPROACH TAPER, LT

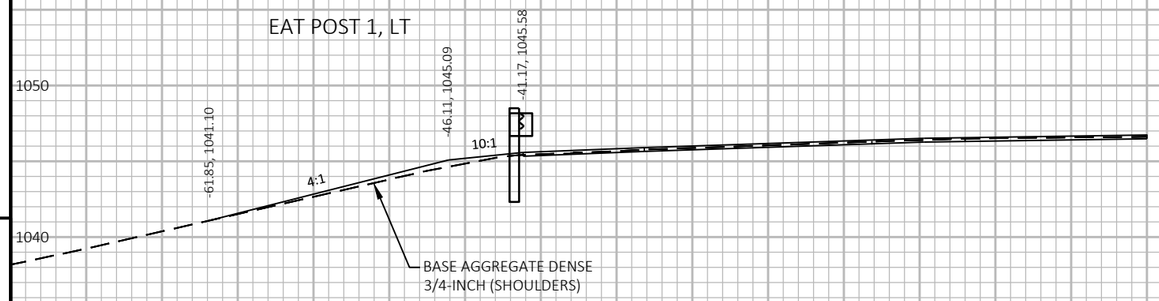


419+58

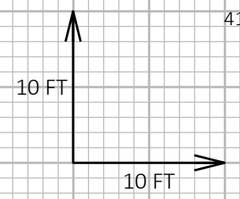
EAT POST 9, RT

419+50

EAT POST 1, LT



418+75



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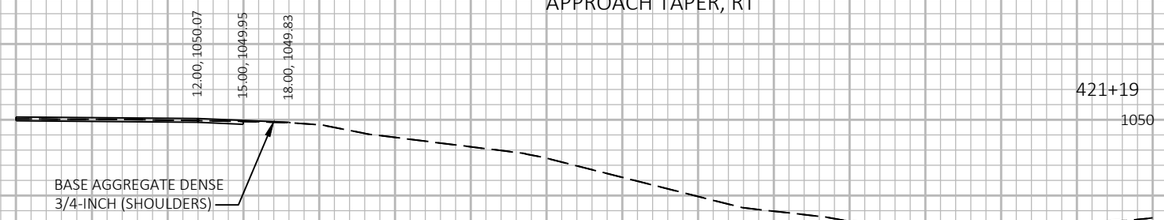
PROJECT NO: 1196-04-77	HWY: USH 53	COUNTY: BARRON	CROSS SECTIONS: USH 53 (SOUTHBOUND)	SHEET 383	E

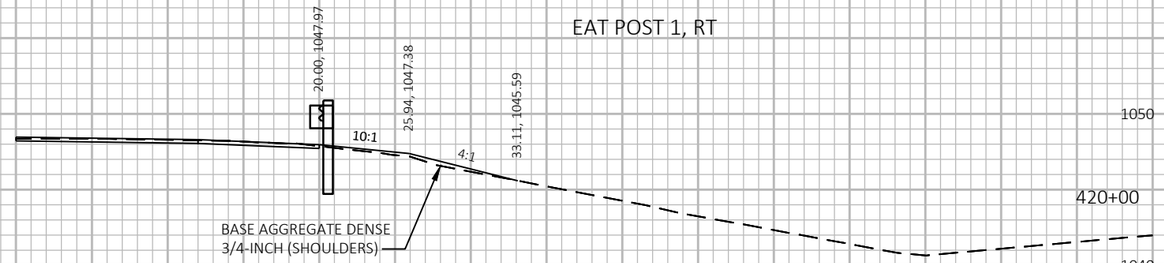
FILE NAME : S:\MAD\1000--1099\1089\895\DRAWINGS\CAD\AUTOCAD\CIVIL 3D\SHEETS PLAN\090201_XS.DWG
LAYOUT NAME - 090223-xs

PLOT DATE : 11/1/2024 9:56 AM PLOT BY : HABERKORN, DEVEN PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

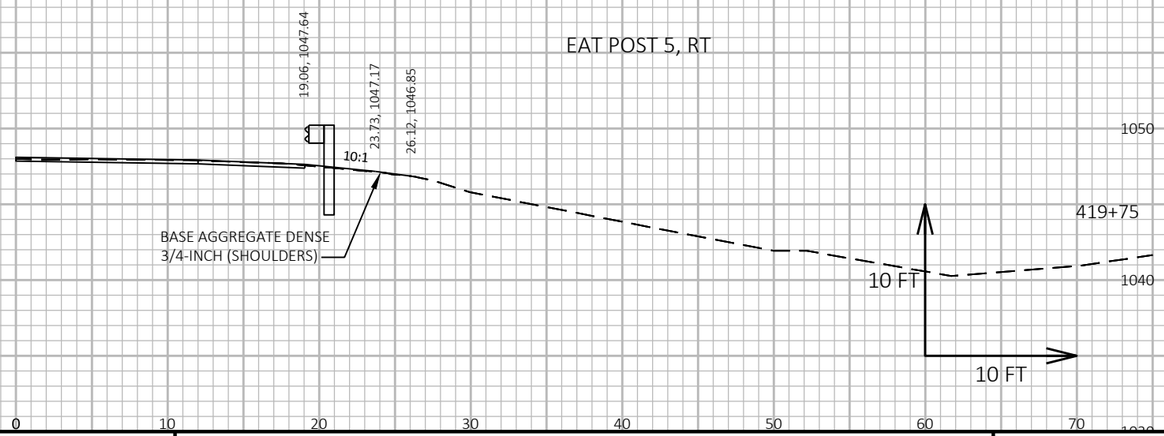
APPROACH TAPER, RT



EAT POST 1, RT



EAT POST 5, RT



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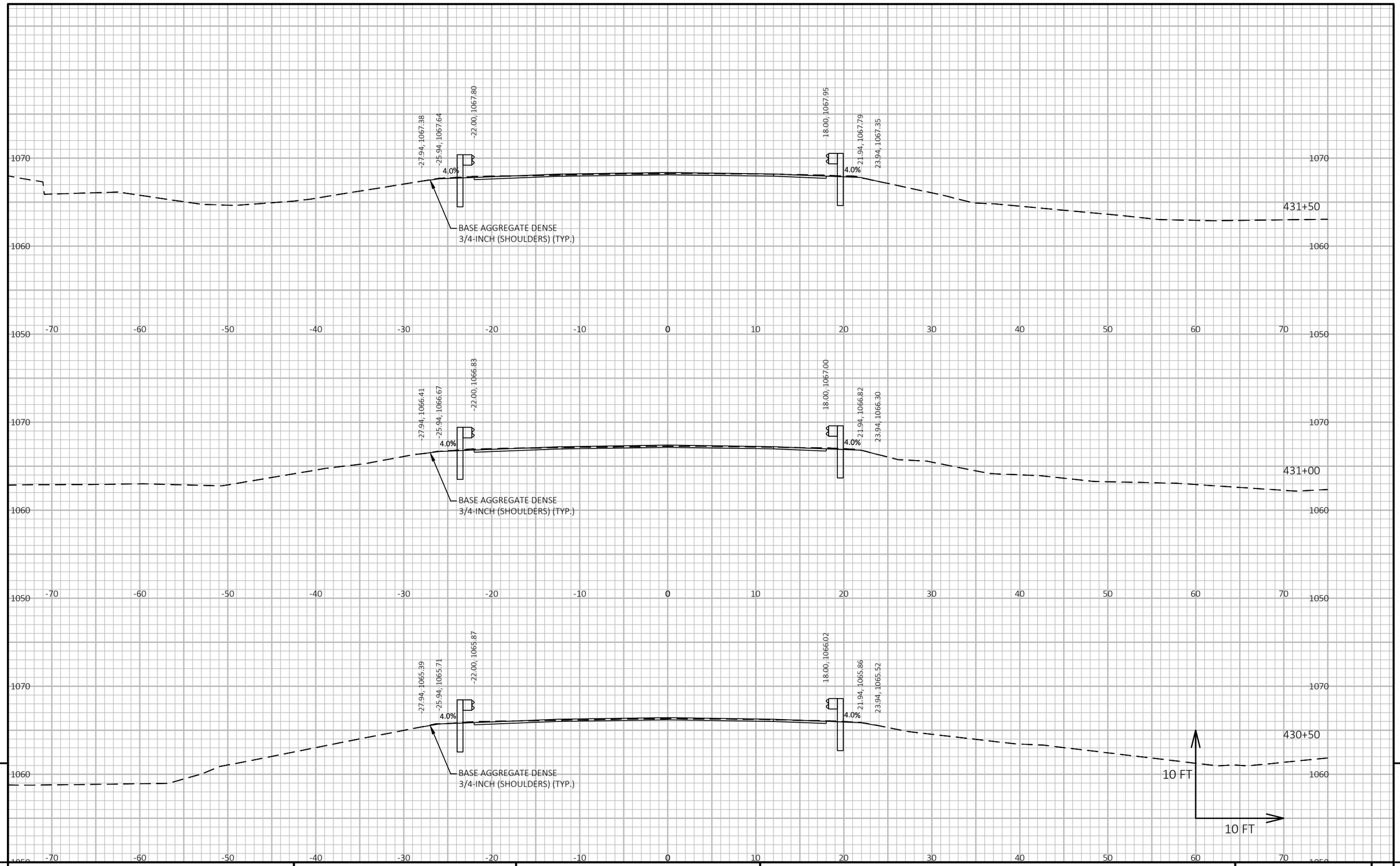
PROJECT NO: 1196-04-77	HWY: USH 53	COUNTY: BARRON	CROSS SECTIONS: USH 53 (SOUTHBOUND)	SHEET 384	E

FILE NAME : S:\MAD\1000--1099\1089\895\DRAWINGS\CAD\AUTOCAD\CIVIL 3D\SHEETS PLAN\090201_XS.DWG
LAYOUT NAME - 090224-xs

PLOT DATE : 11/1/2024 9:56 AM PLOT BY : HABERKORN, DEVEN PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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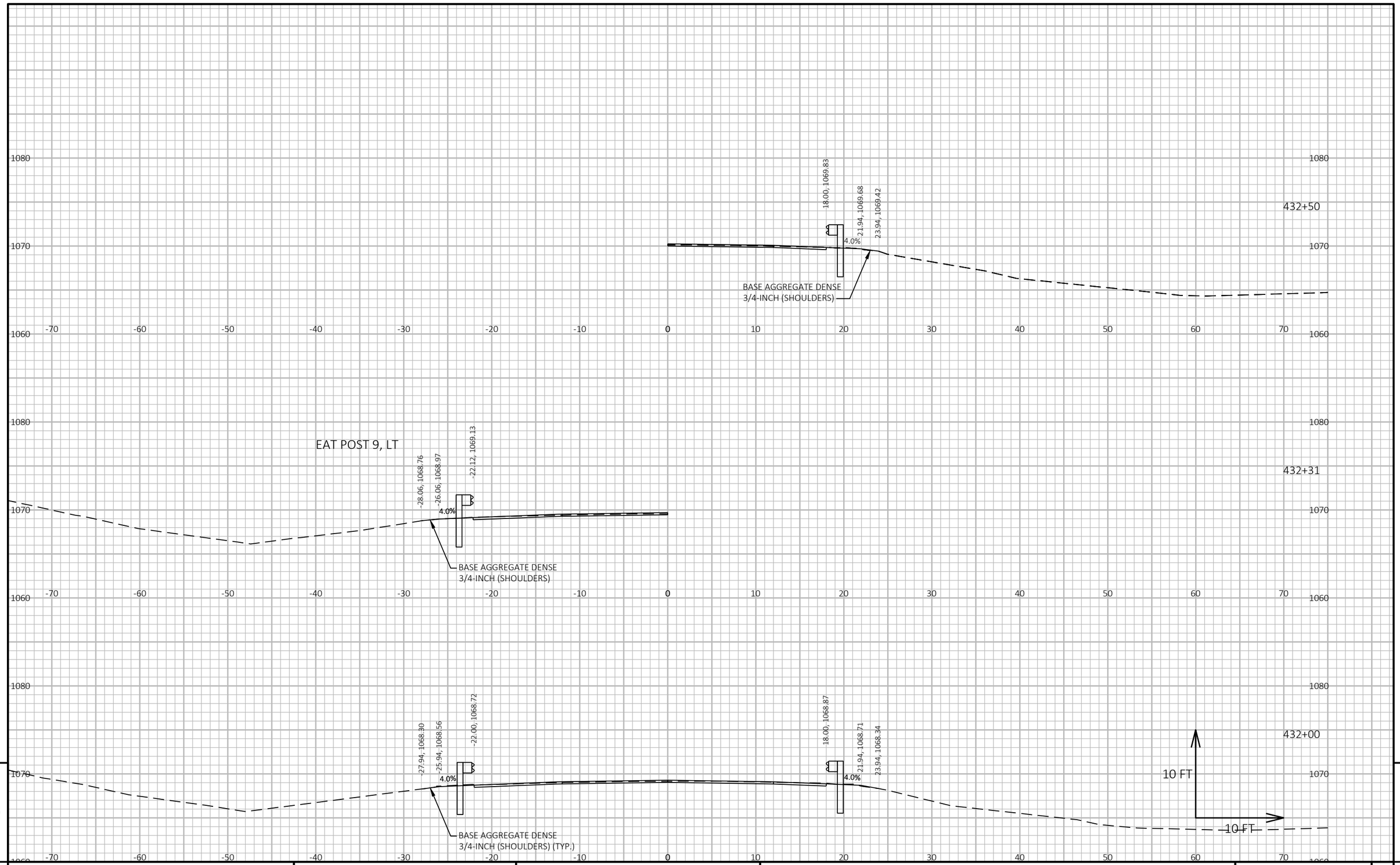
PROJECT NO: 1196-04-77	HWY: USH 53	COUNTY: BARRON	CROSS SECTIONS: USH 53 (SOUTHBOUND)	SHEET 385	E

FILE NAME : S:\MAD\1000--1099\1089\895\DRAWINGS\CAD\AUTOCAD\CIVIL 3D\SHEETS PLAN\090201_XS.DWG
LAYOUT NAME - 090225-xs

PLOT DATE : 11/1/2024 9:56 AM PLOT BY : HABERKORN, DEVEN PLOT NAME :

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

WISDOT/CADDS SHEET 49



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PROJECT NO: 1196-04-77	HWY: USH 53	COUNTY: BARRON	CROSS SECTIONS: USH 53 (SOUTHBOUND)	SHEET 386	E

FILE NAME : S:\MAD\1000--1099\1089\895\DRAWINGS\CAD\AUTOCAD\CIVIL 3D\SHEETS PLAN\090201_XS.DWG
LAYOUT NAME - 090226-xs

PLOT DATE : 11/1/2024 9:56 AM

PLOT BY : HABERKORN, DEVEN

PLOT NAME :

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

WISDOT/CADDS SHEET 49

EAT POST 5, RT

433+06

19.06, 1070.64
23.73, 1070.29
26.47, 1069.61
7.6%
BASE AGGREGATE DENSE
3/4-INCH (SHOULDERS)

EAT POST 1, LT

432+81

31.59, 1069.12
29.94, 1069.40
24.00, 1069.99
10:1
BASE AGGREGATE DENSE
3/4-INCH (SHOULDERS) (TYP.)

EAT POST 9, RT

18.12, 1070.21
22.06, 1070.06
24.06, 1069.82
4.0%

EAT POST 5, LT

432+56

29.73, 1068.96
27.73, 1069.24
23.06, 1069.57
7.0%
BASE AGGREGATE DENSE
3/4-INCH (SHOULDERS)

10 FT
10 FT

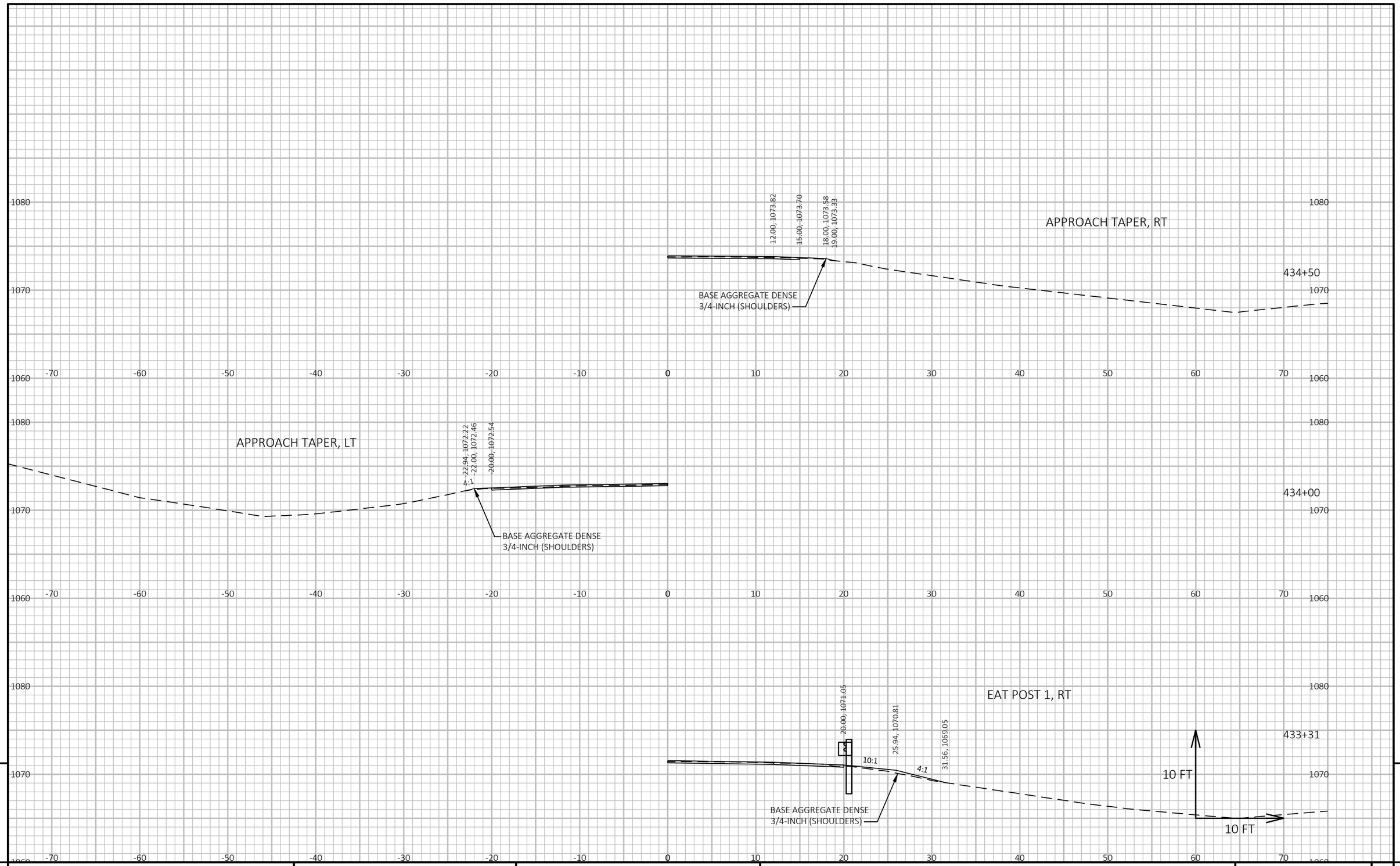
PROJECT NO: 1196-04-77	HWY: USH 53	COUNTY: BARRON	CROSS SECTIONS: USH 53 (SOUTHBOUND)	SHEET 387	E

FILE NAME : S:\MAD\1000--1099\1089\895\DRAWINGS\CAD\AUTOCAD\CIVIL 3D\SHEETS PLAN\090201_XS.DWG
LAYOUT NAME - 090227-xs

PLOT DATE : 11/1/2024 9:56 AM PLOT BY : HABERKORN, DEVEN PLOT NAME :

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

WISDOT/CADDS SHEET 49



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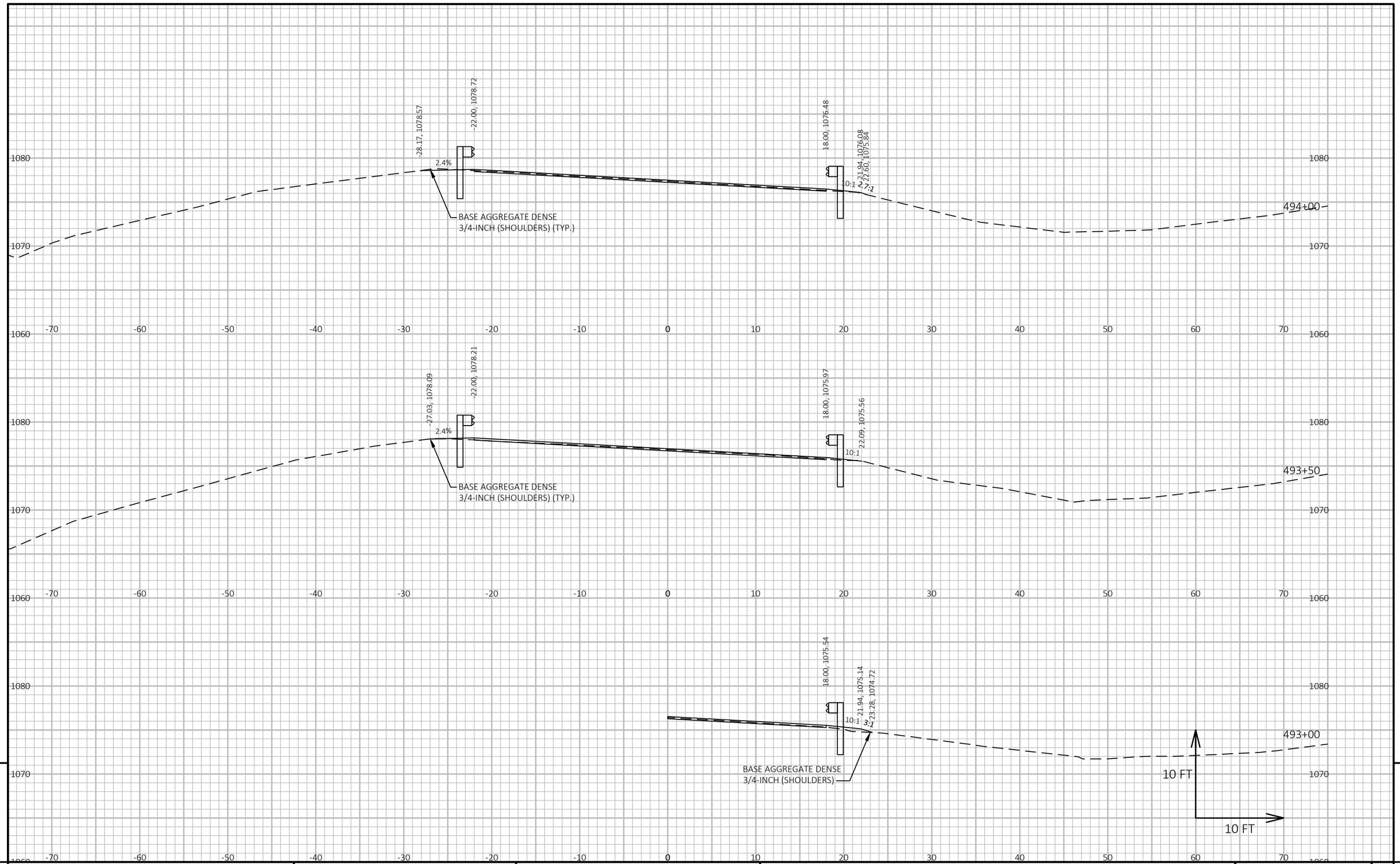
PROJECT NO: 1196-04-77	HWY: USH 53	COUNTY: BARRON	CROSS SECTIONS: USH 53 (SOUTHBOUND)	SHEET 388	E

FILE NAME : S:\MAD\1000--1099\1089\895\DRAWINGS\CAD\AUTOCAD\CIVIL 3D\SHEETS PLAN\090201_XS.DWG
LAYOUT NAME - 090228-xs

PLOT DATE : 11/1/2024 9:56 AM PLOT BY : HABERKORN, DEVEN PLOT NAME :

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

WISDOT/CADDS SHEET 49



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PROJECT NO: 1196-04-77	HWY: USH 53	COUNTY: BARRON	CROSS SECTIONS: USH 53 (SOUTHBOUND)	SHEET 389	E

FILE NAME : S:\MAD\1000--1099\1089\895\DRAWINGS\CAD\AUTOCAD\CIVIL 3D\SHEETS PLAN\090201_XS.DWG
LAYOUT NAME - 090229-xs

PLOT DATE : 11/1/2024 9:56 AM PLOT BY : HABERKORN, DEVEN PLOT NAME :

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

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9

PROJECT NO: 1196-04-77	HWY: USH 53	COUNTY: BARRON	CROSS SECTIONS: USH 53 (SOUTHBOUND)	SHEET 390	E

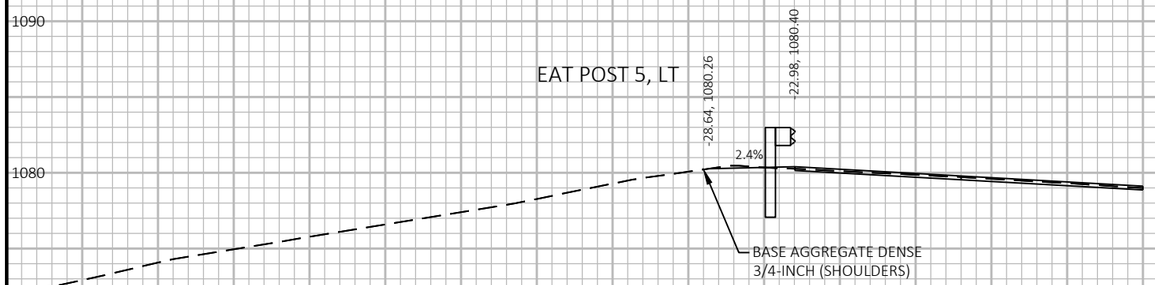
FILE NAME : S:\MAD\1000--1099\1089\895\DRAWINGS\CAD\AUTOCAD\CIVIL 3D\SHEETS PLAN\090201_XS.DWG
LAYOUT NAME - 090230-xs

PLOT DATE : 11/1/2024 9:56 AM PLOT BY : HABERKORN, DEVEN PLOT NAME :

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

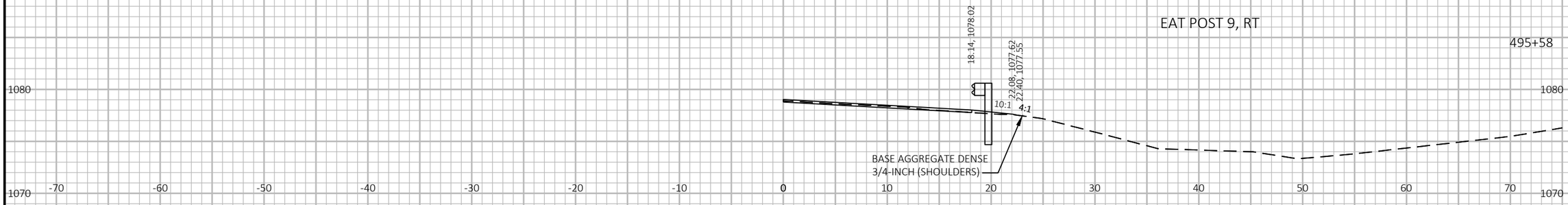
WISDOT/CADDS SHEET 49

EAT POST 5, LT

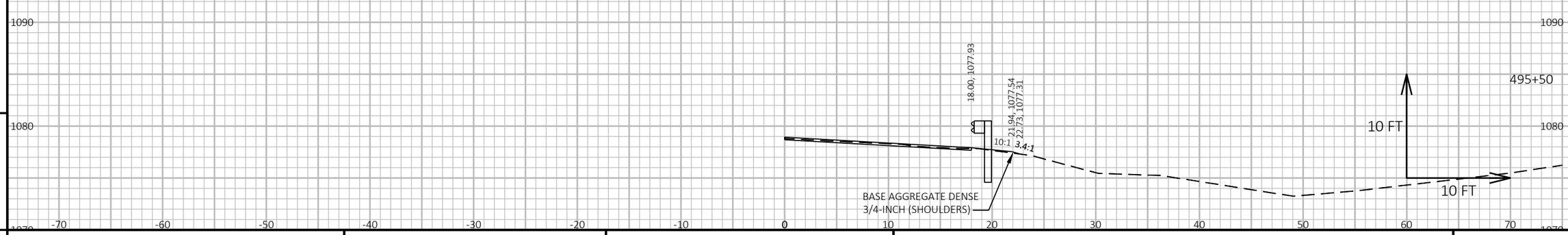


495+68

EAT POST 9, RT



495+58



495+50

9

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PROJECT NO: 1196-04-77	HWY: USH 53	COUNTY: BARRON	CROSS SECTIONS: USH 53 (SOUTHBOUND)	SHEET 391	E

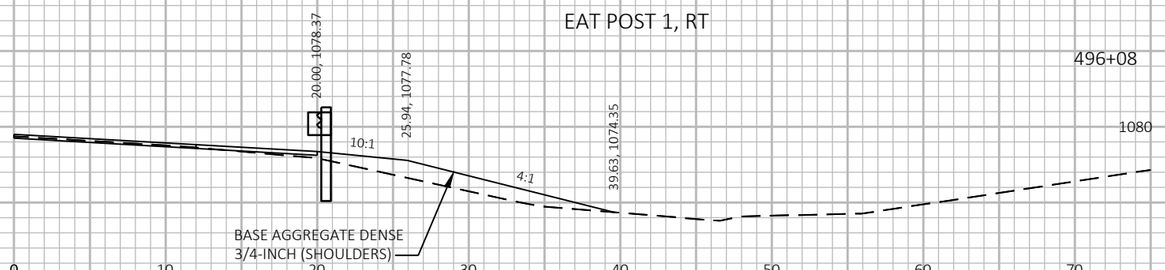
FILE NAME : S:\MAD\1000--1099\1089\895\DRAWINGS\CAD\AUTOCAD\CIVIL 3D\SHEETS PLAN\090201_XS.DWG
LAYOUT NAME - 090231-xs

PLOT DATE : 11/1/2024 9:56 AM PLOT BY : HABERKORN, DEVEN PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

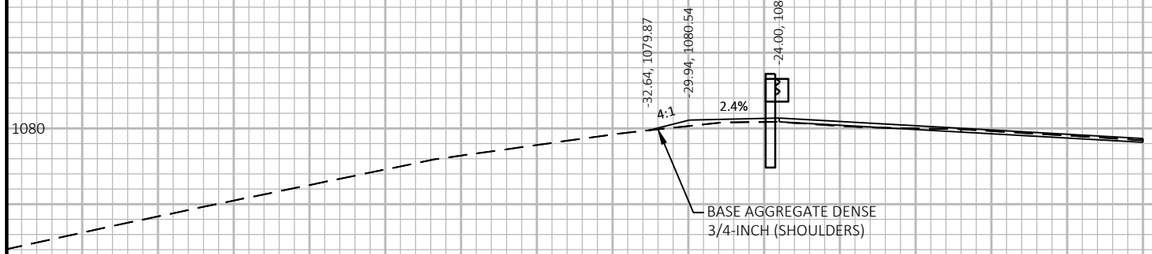
EAT POST 1, RT

496+08



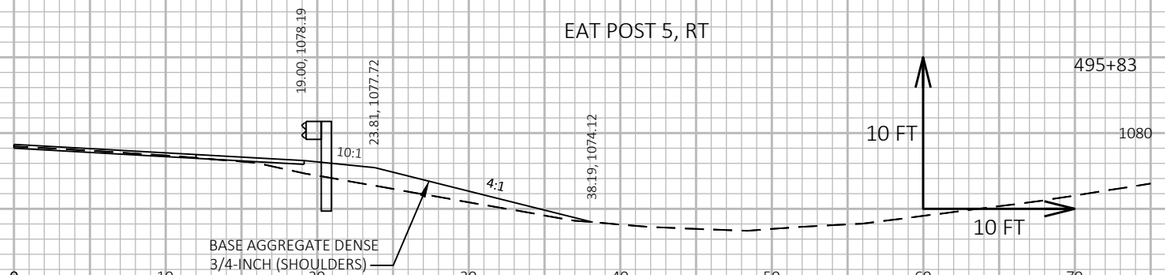
EAT POST 1, LT

495+92



EAT POST 5, RT

495+83

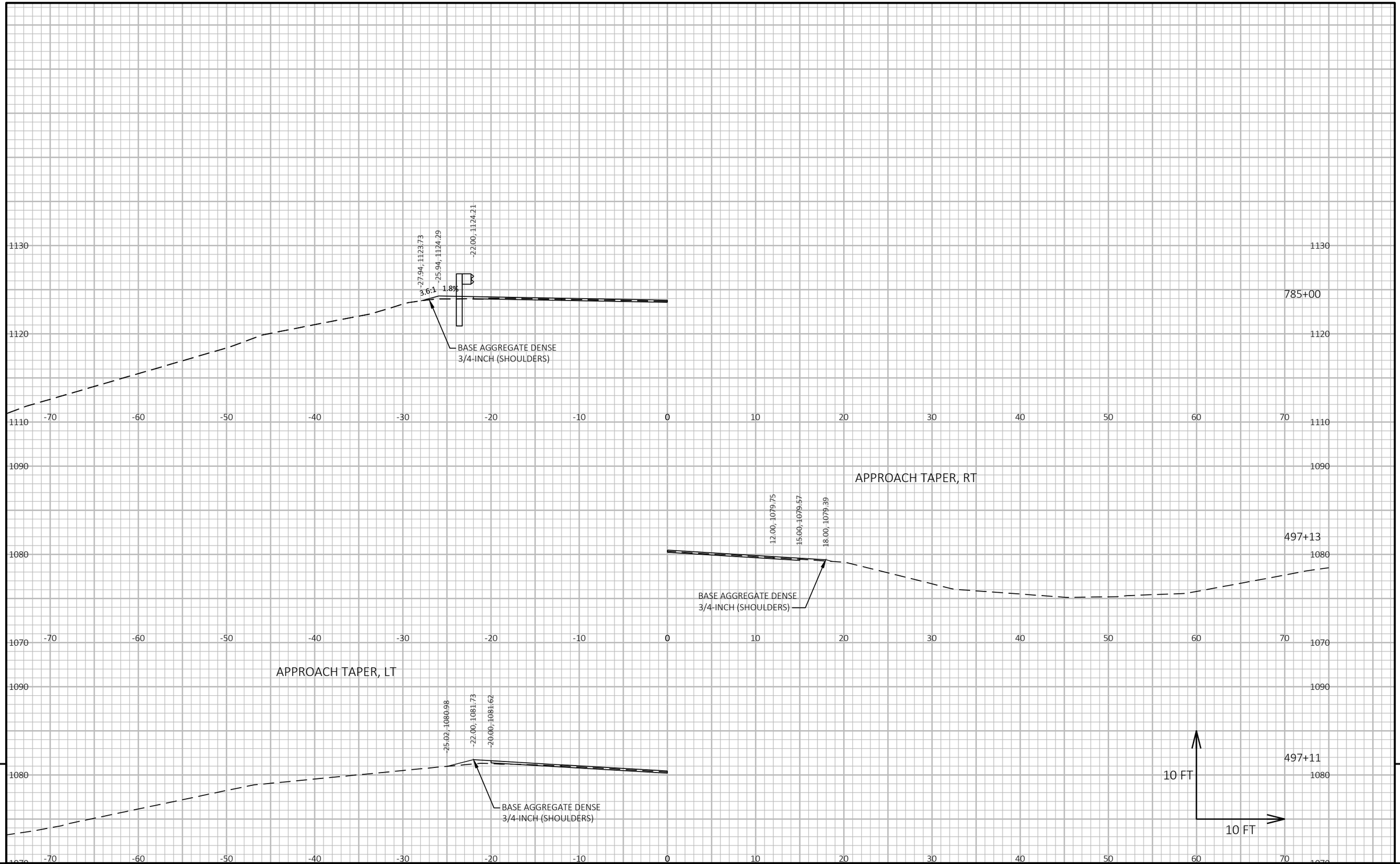


PROJECT NO: 1196-04-77	HWY: USH 53	COUNTY: BARRON	CROSS SECTIONS: USH 53 (SOUTHBOUND)	SHEET 392	E

FILE NAME : S:\MAD\1000--1099\1089\895\DRAWINGS\CAD\AUTOCAD\CIVIL 3D\SHEETS PLAN\090201_XS.DWG
LAYOUT NAME - 090232-xs

PLOT DATE : 11/1/2024 9:56 AM PLOT BY : HABERKORN, DEVEN PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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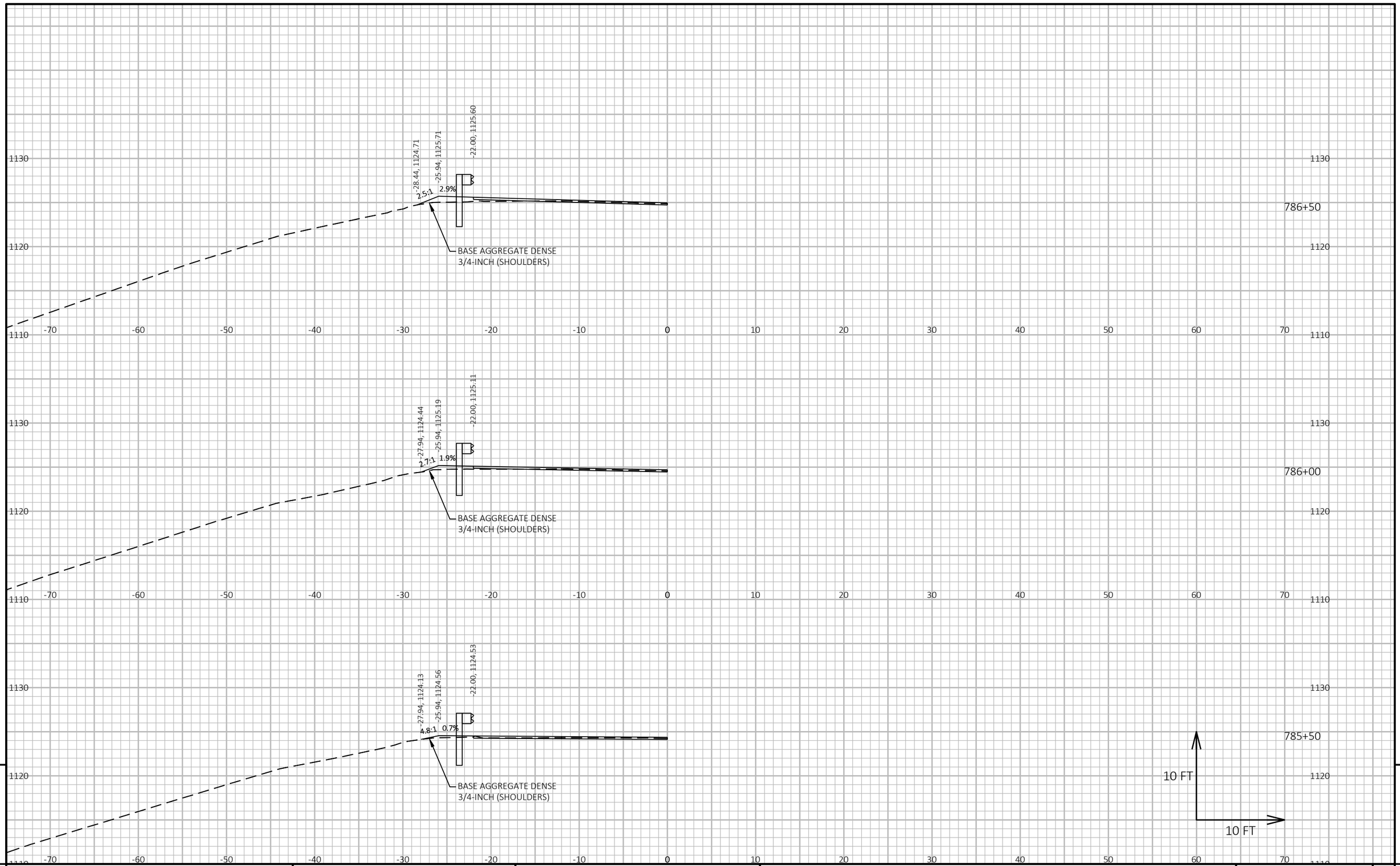
PROJECT NO: 1196-04-77	HWY: USH 53	COUNTY: BARRON	CROSS SECTIONS: USH 53 (SOUTHBOUND)	SHEET 393	E

FILE NAME : S:\MAD\1000--1099\1089\895\DRAWINGS\CAD\AUTOCAD\CIVIL 3D\SHEETS PLAN\090201_XS.DWG
LAYOUT NAME - 090233-xs

PLOT DATE : 11/1/2024 9:56 AM PLOT BY : HABERKORN, DEVEN PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



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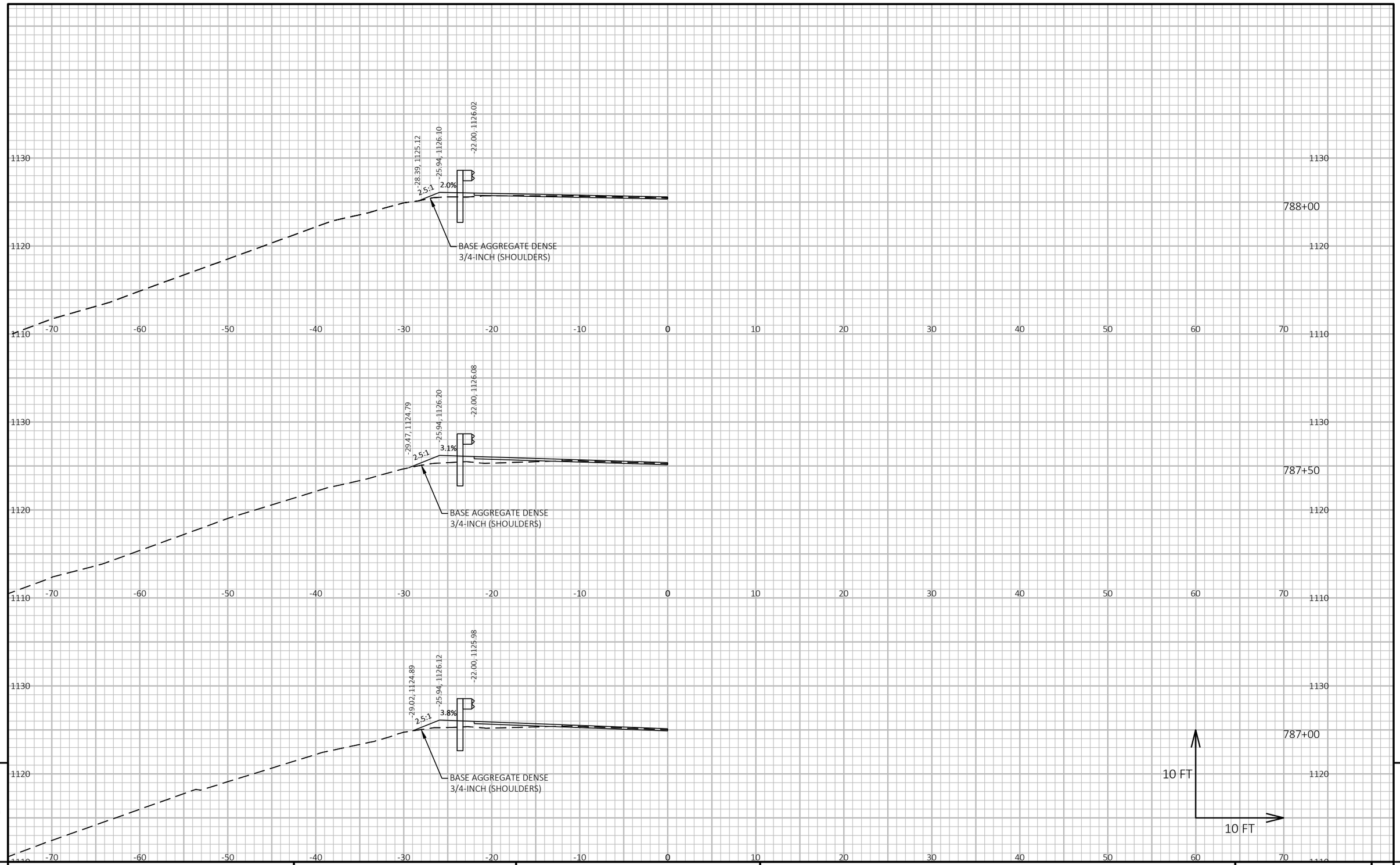
PROJECT NO: 1196-04-77	HWY: USH 53	COUNTY: BARRON	CROSS SECTIONS: USH 53 (SOUTHBOUND)	SHEET 394	E

FILE NAME : S:\MAD\1000--1099\1089\895\DRAWINGS\CAD\AUTOCAD\CIVIL 3D\SHEETS PLAN\090201_XS.DWG
LAYOUT NAME - 090234-xs

PLOT DATE : 11/1/2024 9:56 AM PLOT BY : HABERKORN, DEVEN PLOT NAME :

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

WISDOT/CADDS SHEET 49



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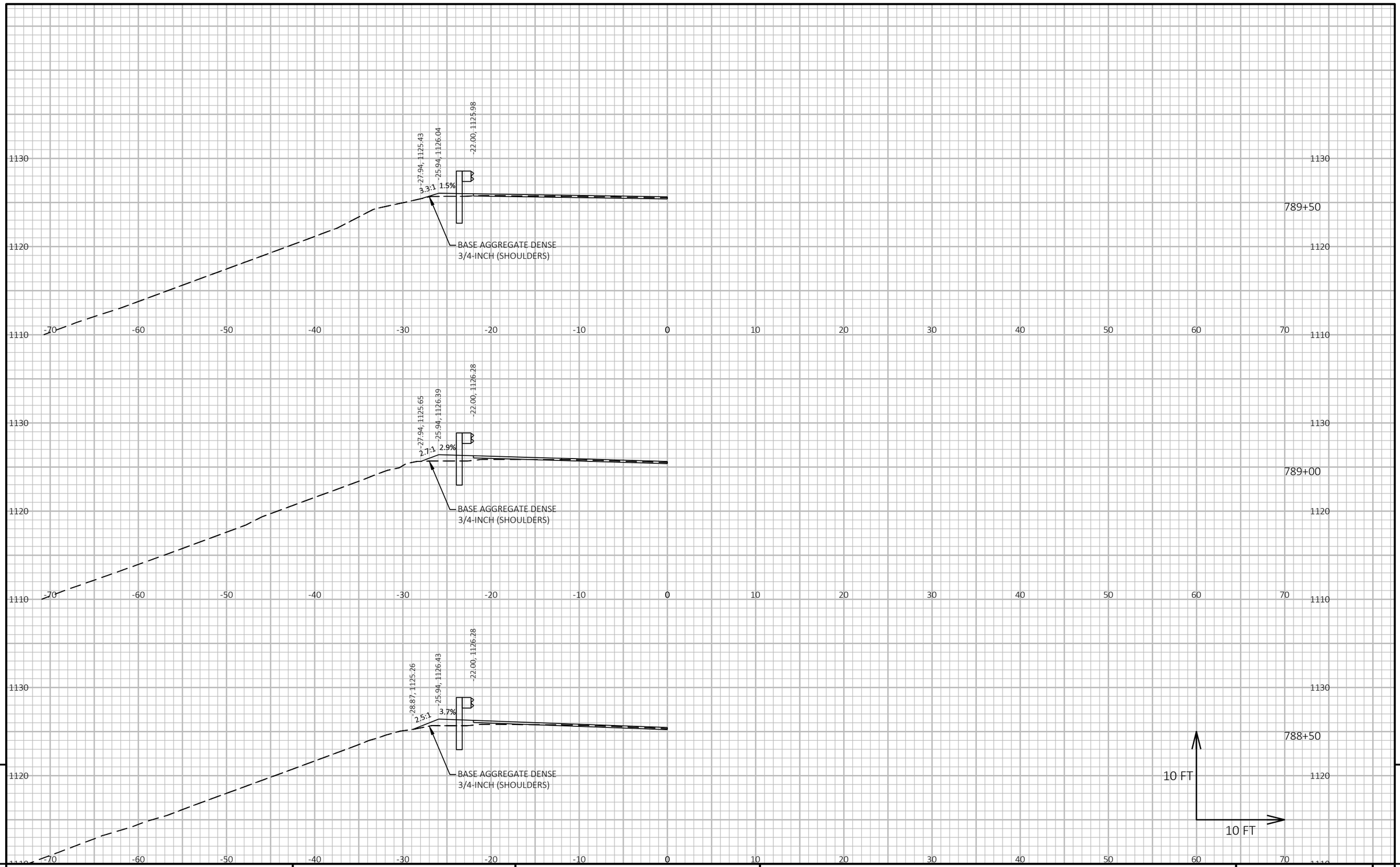
PROJECT NO: 1196-04-77	HWY: USH 53	COUNTY: BARRON	CROSS SECTIONS: USH 53 (SOUTHBOUND)	SHEET 395	E

FILE NAME : S:\MAD\1000--1099\1089\895\DRAWINGS\CAD\AUTOCAD\CIVIL 3D\SHEETS PLAN\090201_XS.DWG
LAYOUT NAME - 090235-xs

PLOT DATE : 11/1/2024 9:56 AM PLOT BY : HABERKORN, DEVEN PLOT NAME :

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

WISDOT/CADDS SHEET 49



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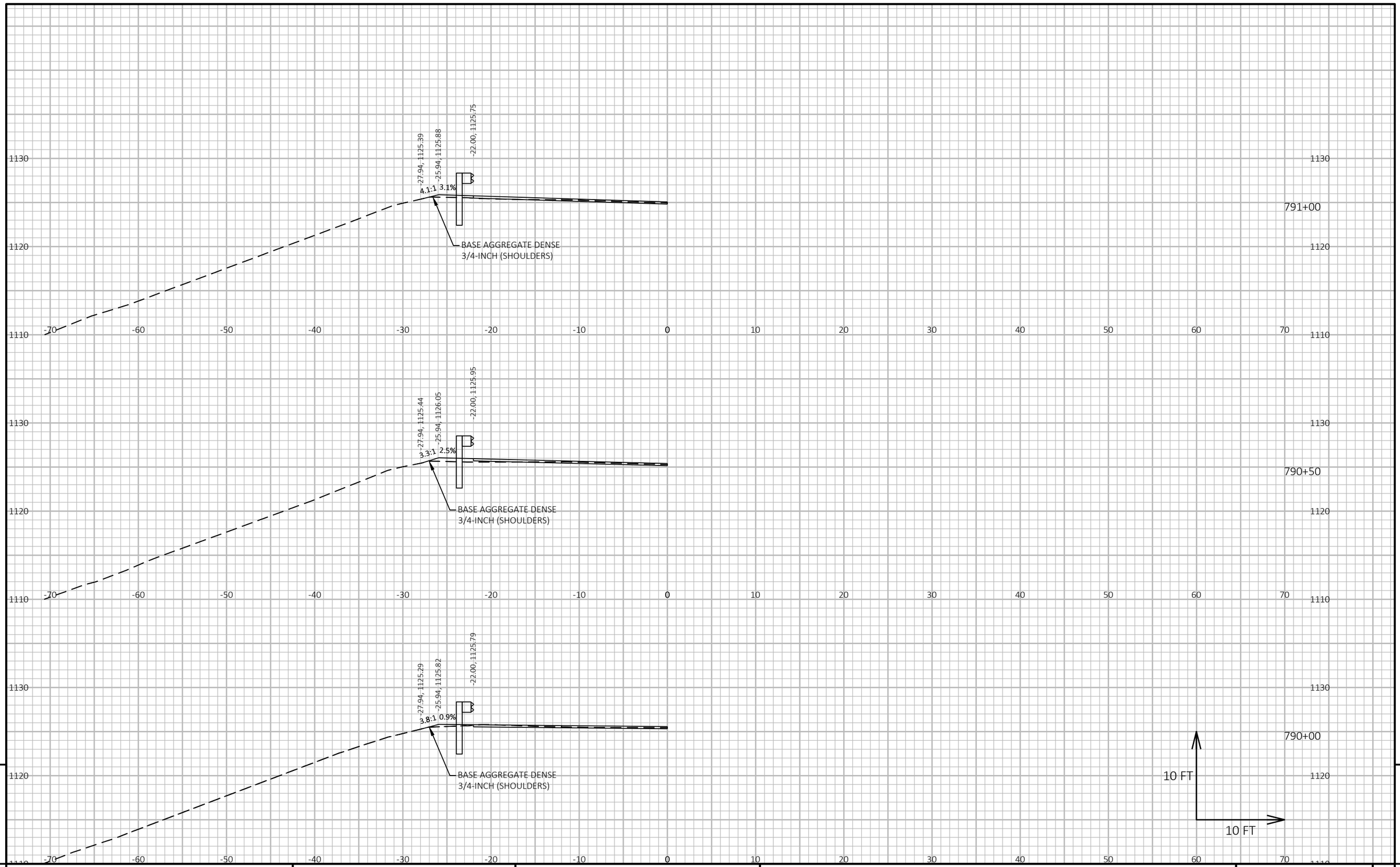
PROJECT NO: 1196-04-77	HWY: USH 53	COUNTY: BARRON	CROSS SECTIONS: USH 53 (SOUTHBOUND)	SHEET 396	E

FILE NAME : S:\MAD\1000--1099\1089\895\DRAWINGS\CAD\AUTOCAD\CIVIL 3D\SHEETS PLAN\090201_XS.DWG
LAYOUT NAME - 090236-xs

PLOT DATE : 11/1/2024 9:56 AM PLOT BY : HABERKORN, DEVEN PLOT NAME :

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

WISDOT/CADDS SHEET 49



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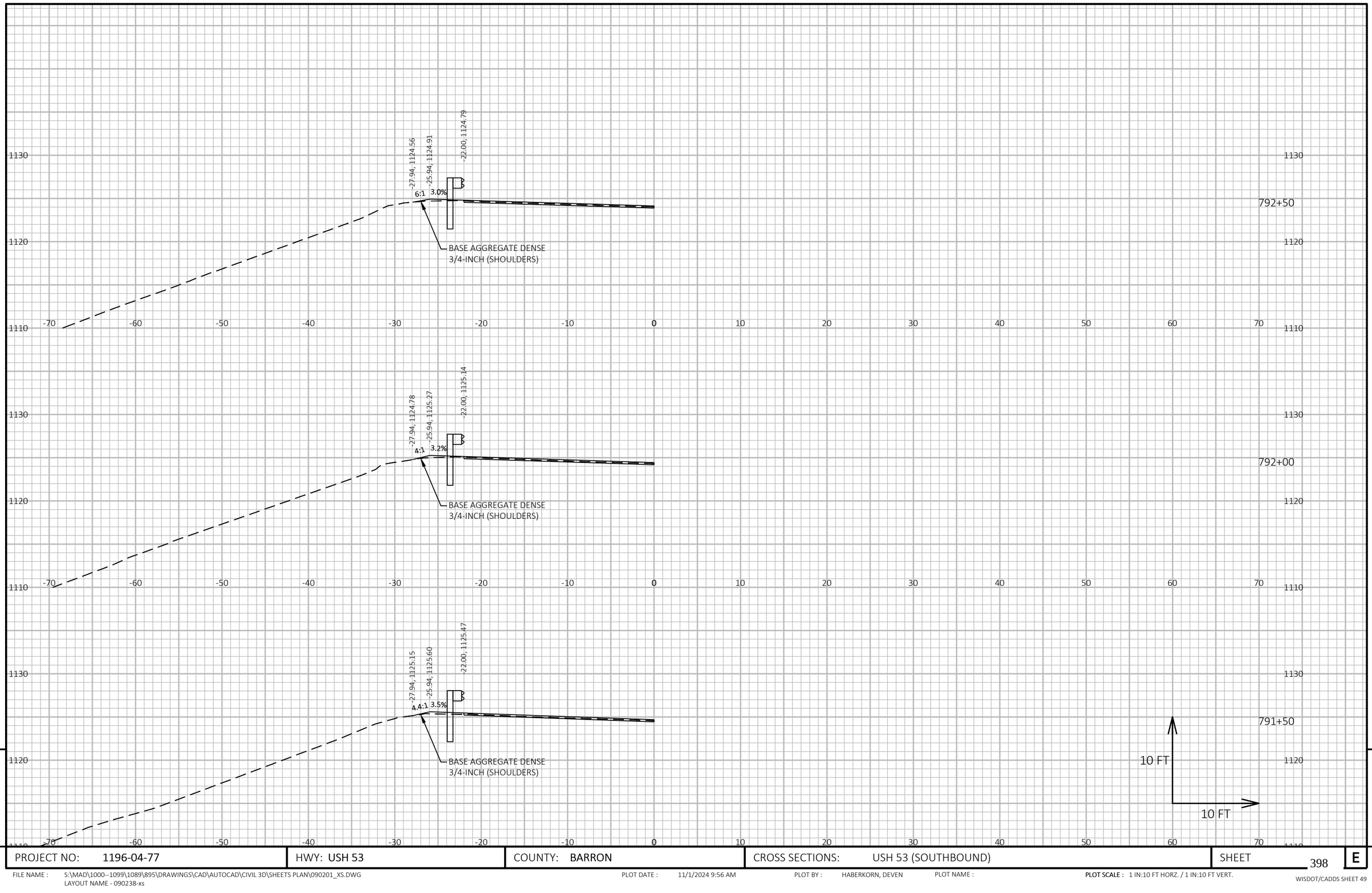
PROJECT NO: 1196-04-77	HWY: USH 53	COUNTY: BARRON	CROSS SECTIONS: USH 53 (SOUTHBOUND)	SHEET 397	E

FILE NAME : S:\MAD\1000--1099\1089\895\DRAWINGS\CAD\AUTOCAD\CIVIL 3D\SHEETS PLAN\090201_XS.DWG
LAYOUT NAME - 090237-xs

PLOT DATE : 11/1/2024 9:56 AM PLOT BY : HABERKORN, DEVEN PLOT NAME :

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

WISDOT/CADDS SHEET 49



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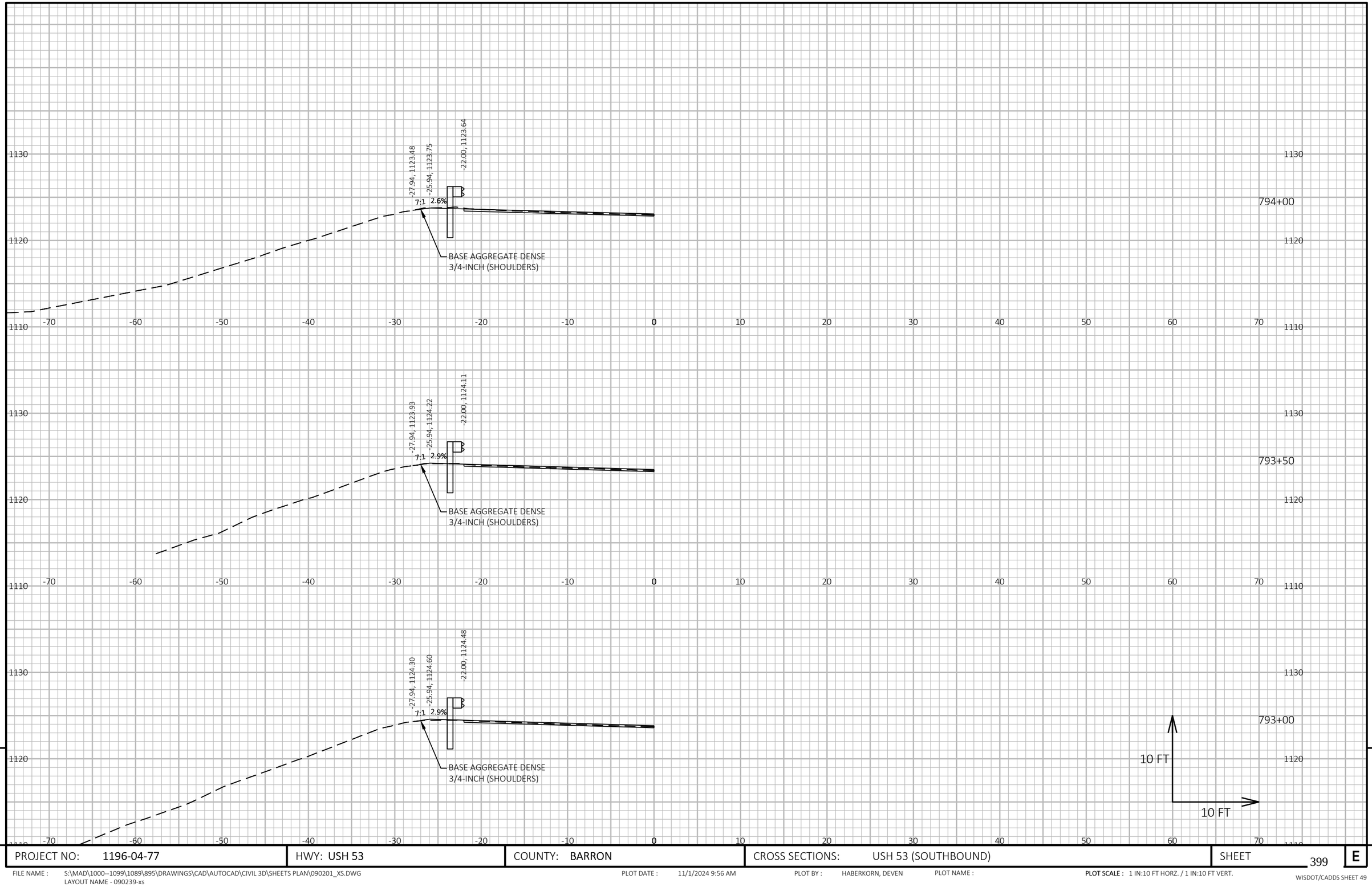
9

PROJECT NO: 1196-04-77	HWY: USH 53	COUNTY: BARRON	CROSS SECTIONS: USH 53 (SOUTHBOUND)	SHEET 398	E

FILE NAME : S:\MAD\1000--1099\1089\895\DRAWINGS\CAD\AUTOCAD\CIVIL 3D\SHEETS PLAN\090201_XS.DWG
LAYOUT NAME - 090238-xs

PLOT DATE : 11/1/2024 9:56 AM PLOT BY : HABERKORN, DEVEN PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



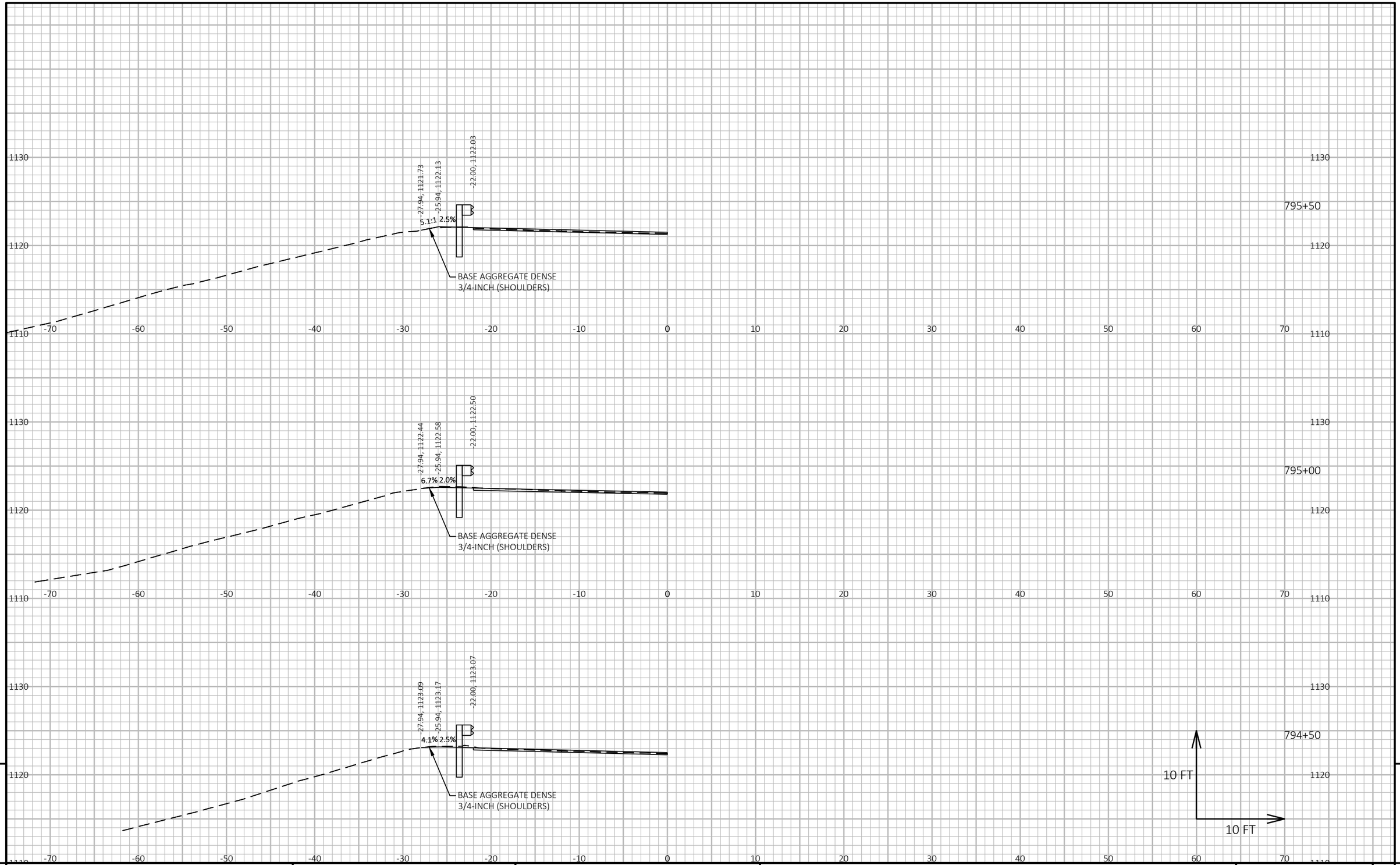
9

9

PROJECT NO: 1196-04-77	HWY: USH 53	COUNTY: BARRON	CROSS SECTIONS: USH 53 (SOUTHBOUND)	SHEET 399	E

FILE NAME : S:\MAD\1000--1099\1089\895\DRAWINGS\CAD\AUTOCAD\CIVIL 3D\SHEETS PLAN\090201_XS.DWG
LAYOUT NAME - 090239-xs

PLOT DATE : 11/1/2024 9:56 AM PLOT BY : HABERKORN, DEVEN PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



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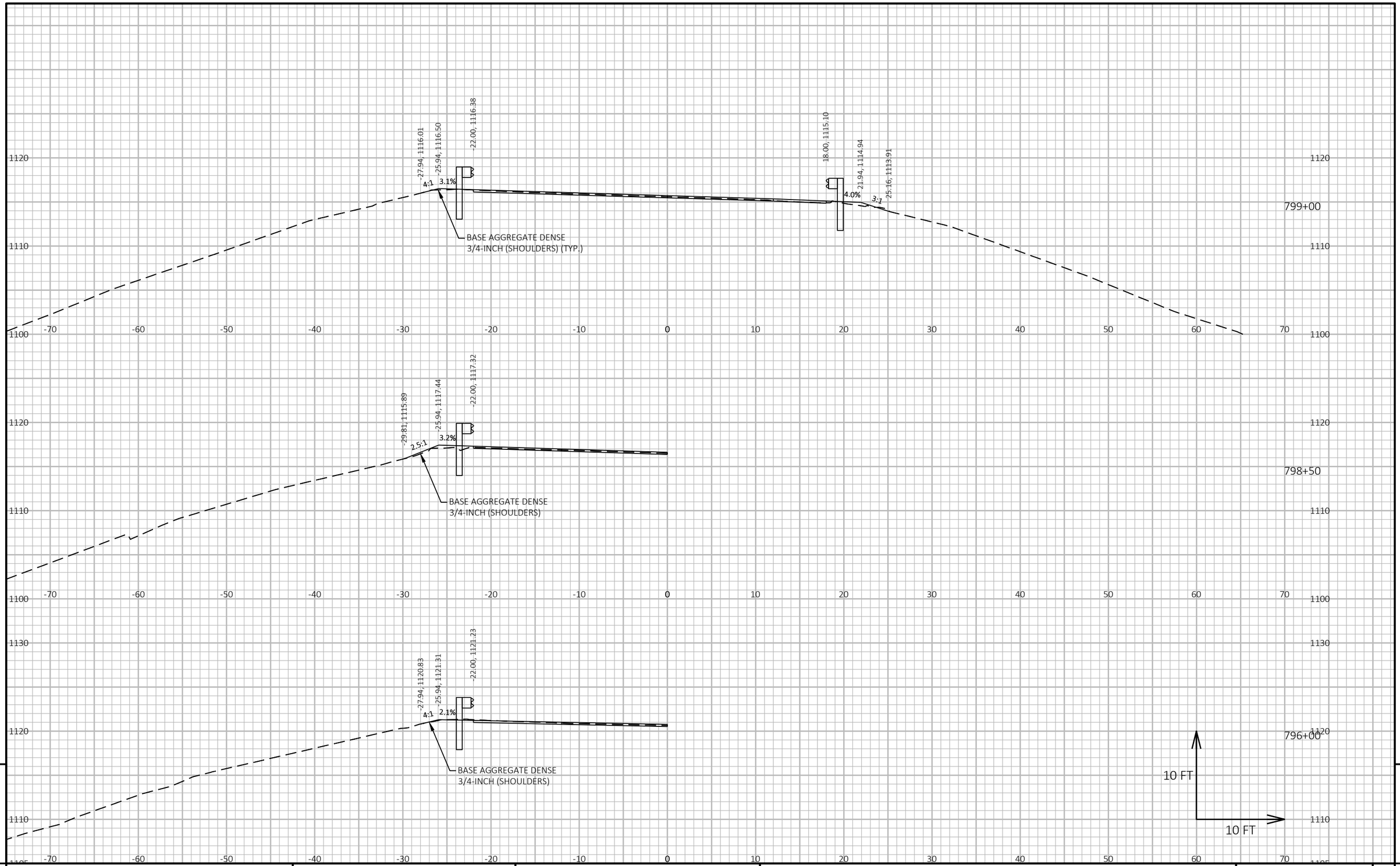
PROJECT NO: 1196-04-77	HWY: USH 53	COUNTY: BARRON	CROSS SECTIONS: USH 53 (SOUTHBOUND)	SHEET 400	E

FILE NAME : S:\MAD\1000--1099\1089\895\DRAWINGS\CAD\AUTOCAD\CIVIL 3D\SHEETS PLAN\090201_XS.DWG
LAYOUT NAME - 090240-xs

PLOT DATE : 11/1/2024 9:56 AM PLOT BY : HABERKORN, DEVEN PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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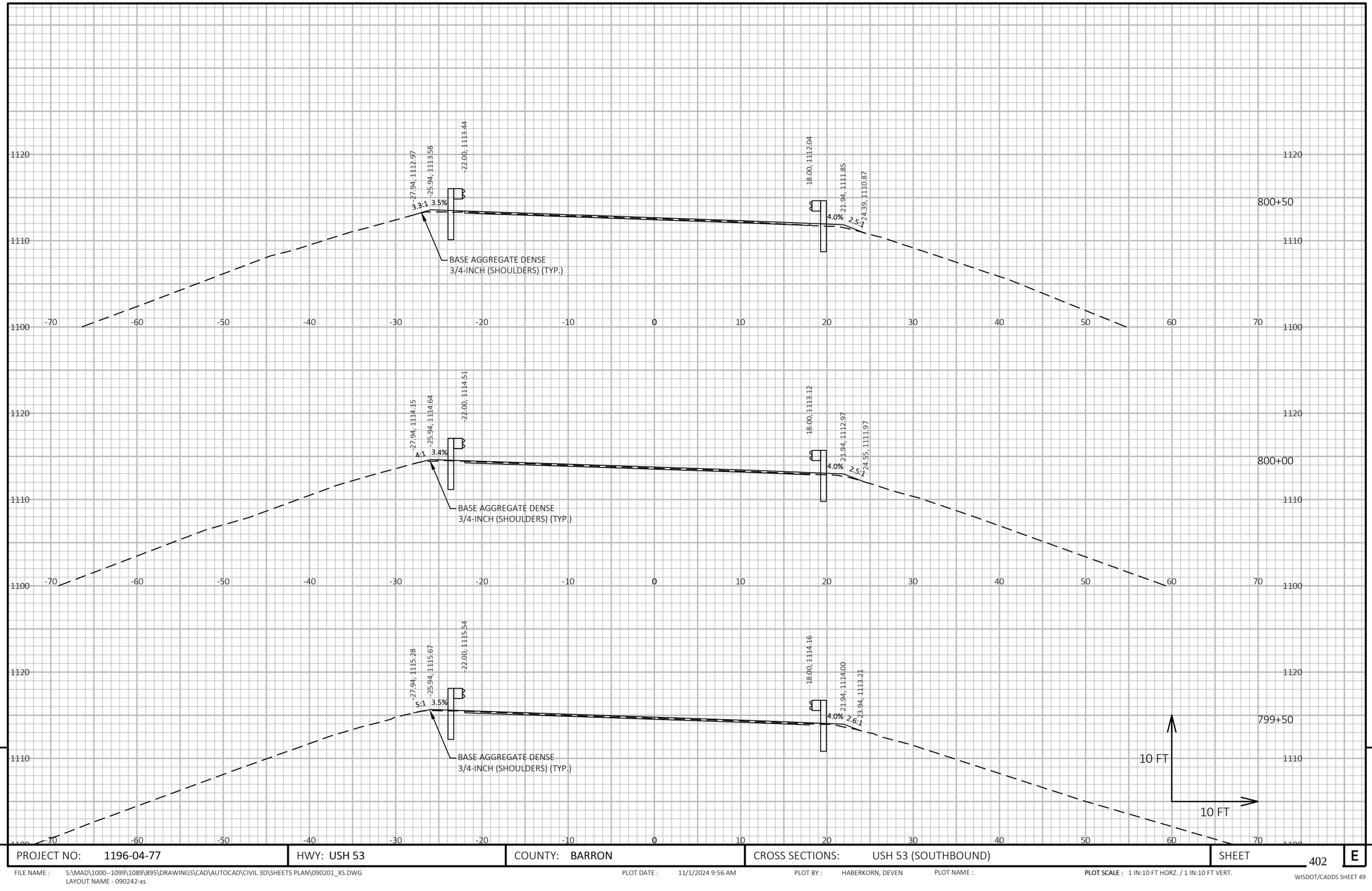
PROJECT NO: 1196-04-77	HWY: USH 53	COUNTY: BARRON	CROSS SECTIONS: USH 53 (SOUTHBOUND)	SHEET 401	E

FILE NAME : S:\MAD\1000--1099\1089\895\DRAWINGS\CAD\AUTOCAD\CIVIL 3D\SHEETS PLAN\090201_XS.DWG
LAYOUT NAME - 090241-xs

PLOT DATE : 11/1/2024 9:56 AM PLOT BY : HABERKORN, DEVEN PLOT NAME :

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

WISDOT/CADDS SHEET 49



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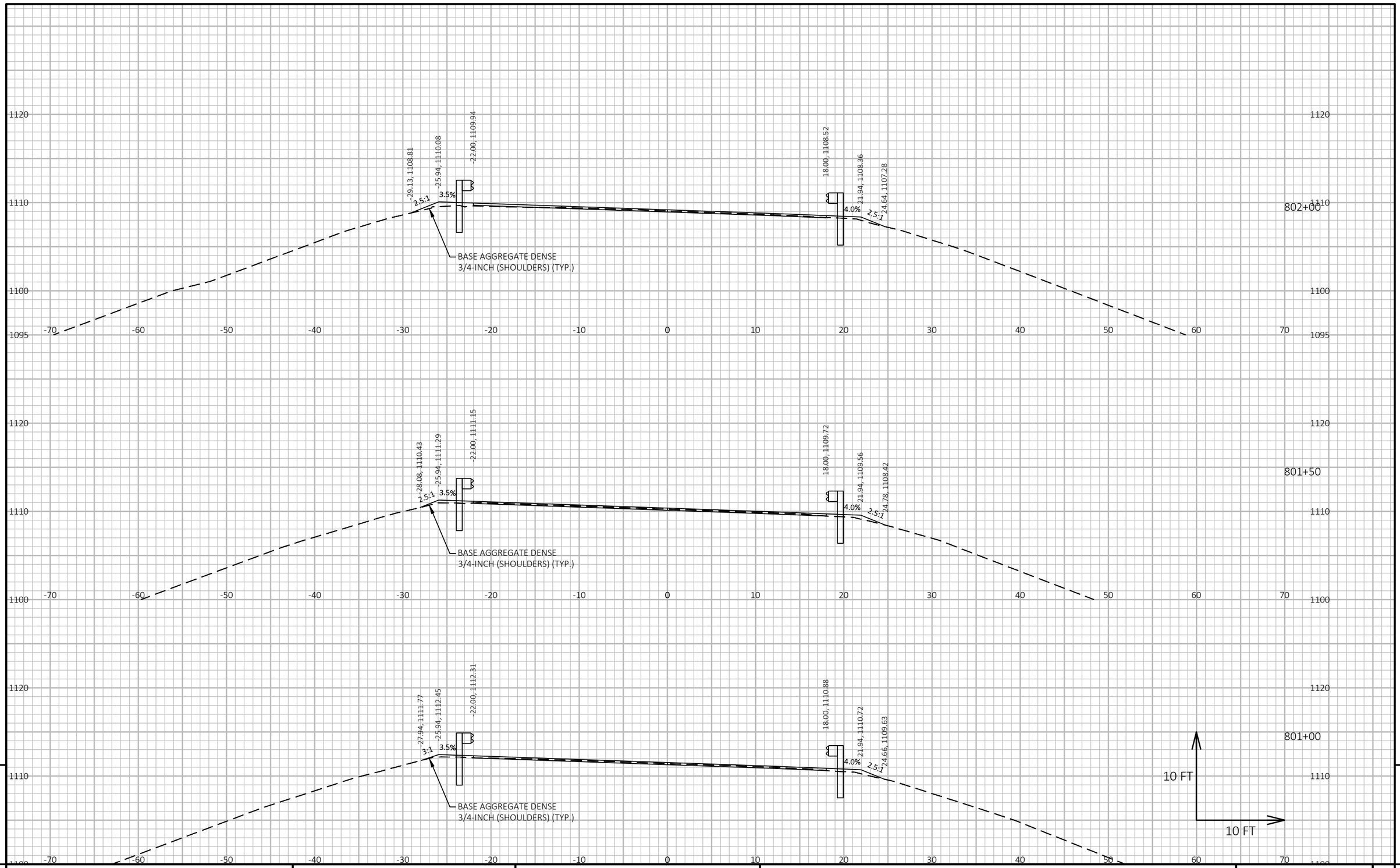
PROJECT NO: 1196-04-77	HWY: USH 53	COUNTY: BARRON	CROSS SECTIONS: USH 53 (SOUTHBOUND)	SHEET 402	E

FILE NAME : S:\MAD\1000--1099\1089\895\DRAWINGS\CAD\AUTOCAD\CIVIL 3D\SHEETS PLAN\090201_XS.DWG
LAYOUT NAME - 090242-xs

PLOT DATE : 11/1/2024 9:56 AM PLOT BY : HABERKORN, DEVEN PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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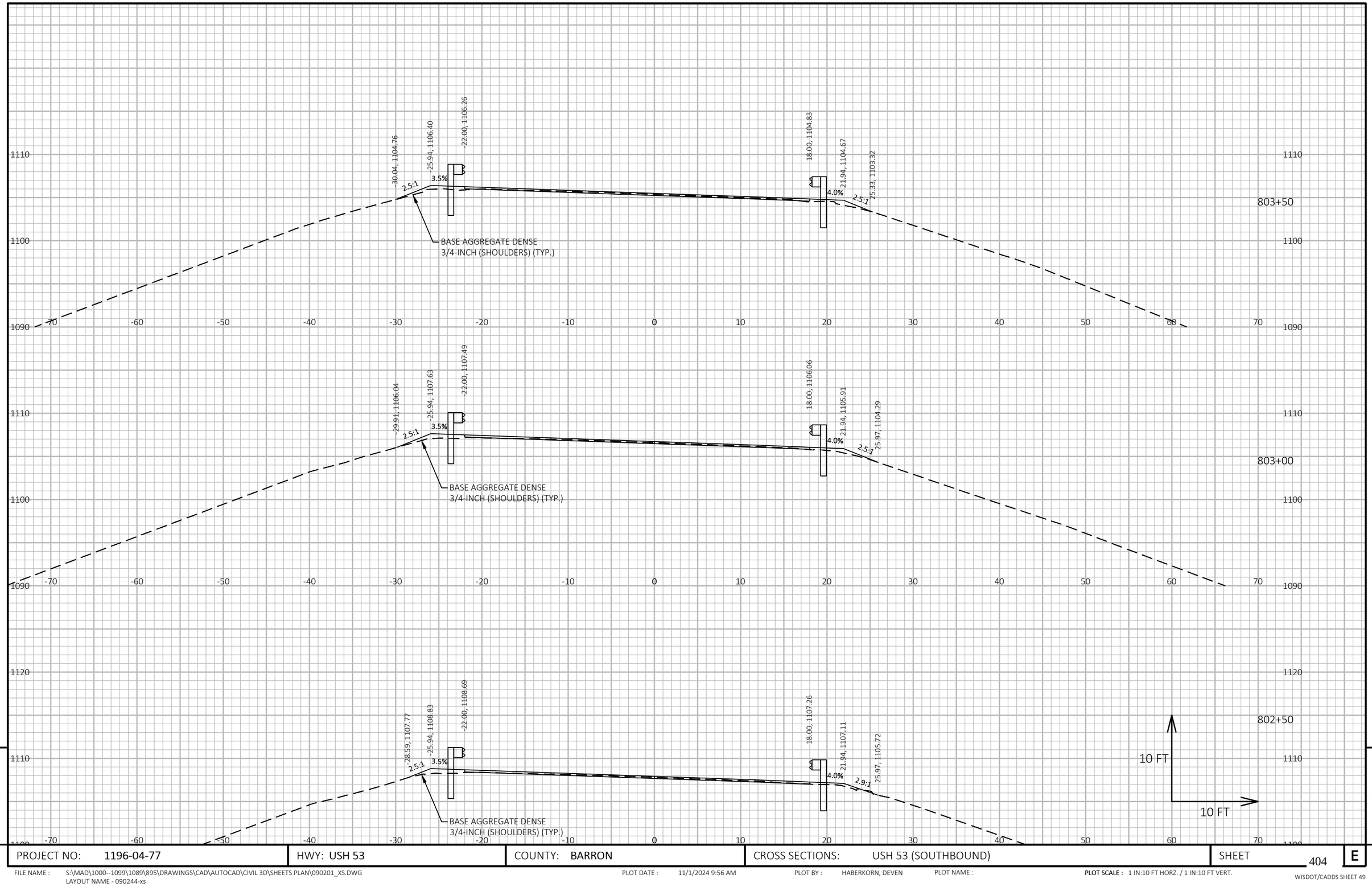
PROJECT NO: 1196-04-77	HWY: USH 53	COUNTY: BARRON	CROSS SECTIONS: USH 53 (SOUTHBOUND)	SHEET 403	E

FILE NAME : S:\MAD\1000--1099\1089\895\DRAWINGS\CAD\AUTOCAD\CIVIL 3D\SHEETS PLAN\090201_XS.DWG
LAYOUT NAME - 090243-xs

PLOT DATE : 11/1/2024 9:56 AM PLOT BY : HABERKORN, DEVEN PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

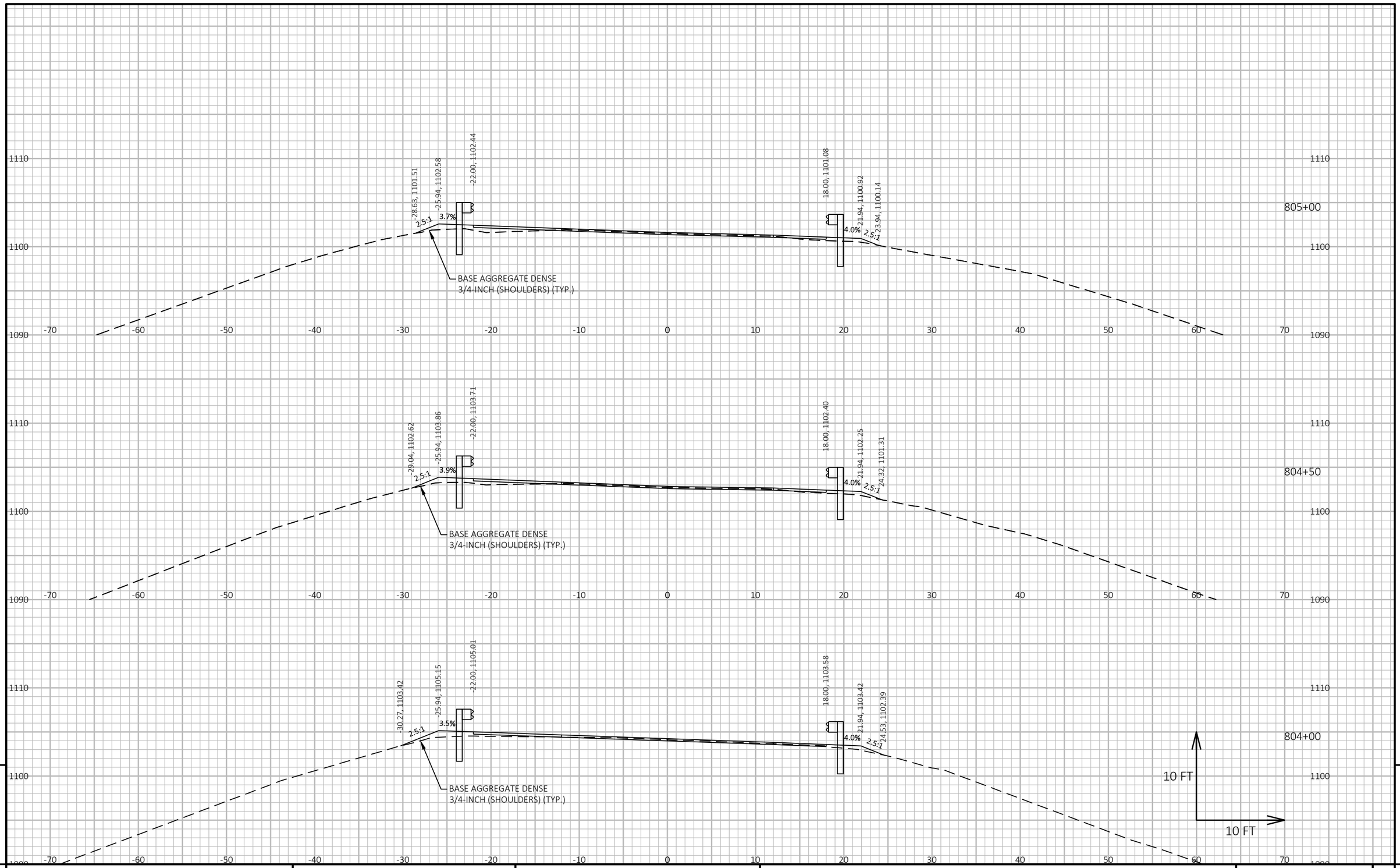


PROJECT NO: 1196-04-77	HWY: USH 53	COUNTY: BARRON	CROSS SECTIONS: USH 53 (SOUTHBOUND)	SHEET 404 E

FILE NAME : S:\MAD\1000--1099\1089\895\DRAWINGS\CAD\AUTOCAD\CIVIL 3D\SHEETS PLAN\090201_XS.DWG
LAYOUT NAME - 090244-xs

PLOT DATE : 11/1/2024 9:56 AM PLOT BY : HABERKORN, DEVEN PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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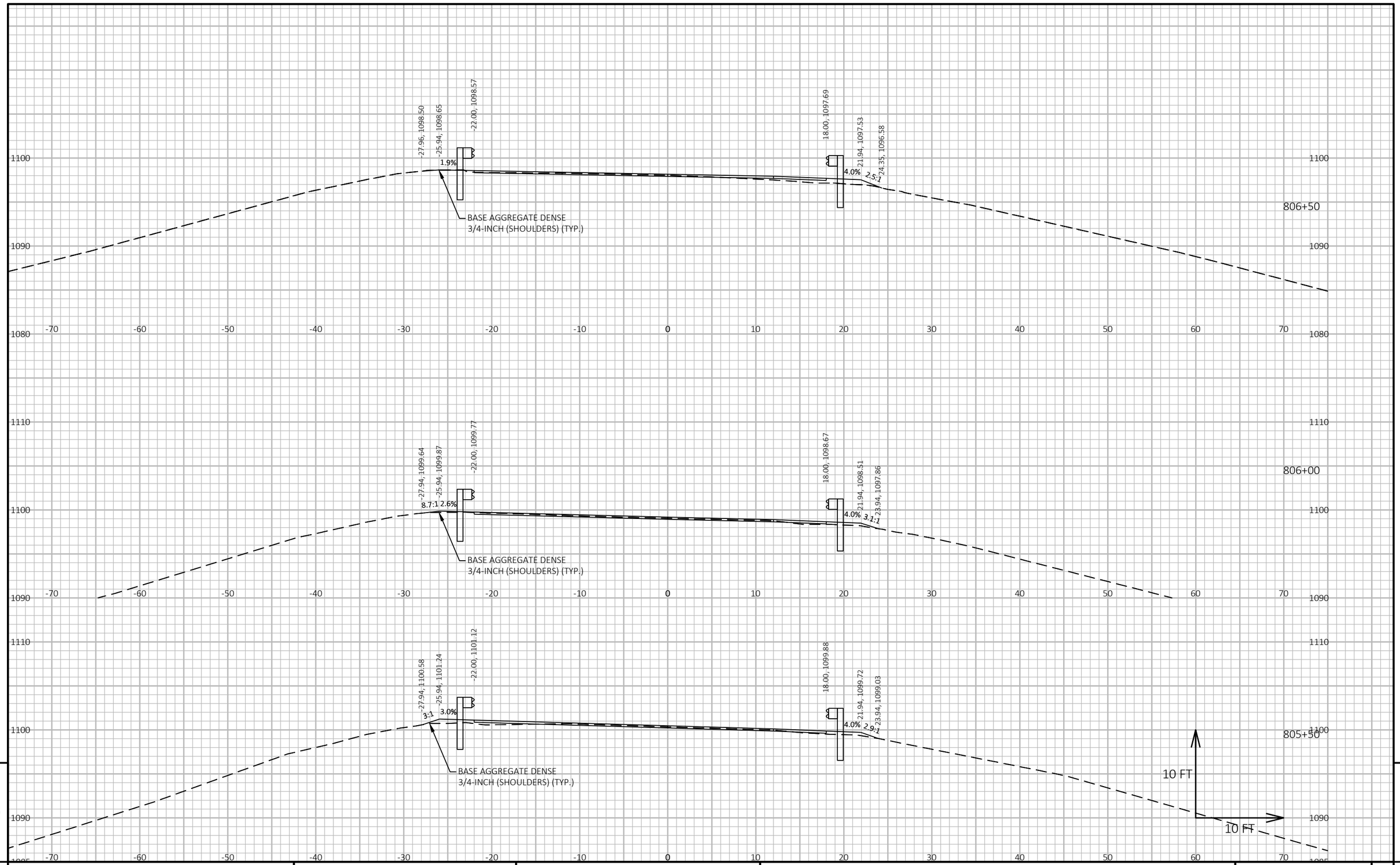
PROJECT NO: 1196-04-77	HWY: USH 53	COUNTY: BARRON	CROSS SECTIONS: USH 53 (SOUTHBOUND)	SHEET 405	E

FILE NAME : S:\MAD\1000--1099\1089\895\DRAWINGS\CAD\AUTOCAD\CIVIL 3D\SHEETS PLAN\090201_XS.DWG
LAYOUT NAME - 090245-xs

PLOT DATE : 11/1/2024 9:56 AM PLOT BY : HABERKORN, DEVEN PLOT NAME :

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

WISDOT/CADDS SHEET 49



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PROJECT NO: 1196-04-77	HWY: USH 53	COUNTY: BARRON	CROSS SECTIONS: USH 53 (SOUTHBOUND)	SHEET 406	E

FILE NAME : S:\MAD\1000--1099\1089\895\DRAWINGS\CAD\AUTOCAD\CIVIL 3D\SHEETS PLAN\090201_XS.DWG
LAYOUT NAME - 090246-xs

PLOT DATE : 11/1/2024 9:56 AM PLOT BY : HABERKORN, DEVEN PLOT NAME :

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

WISDOT/CADDS SHEET 49

EAT POST 9, LT

-25.95, 1097.12

-22.11, 1097.51

10:1

BASE AGGREGATE DENSE
3/4-INCH (SHOULDERS)

807+09

-25.19, 1097.34

-22.00, 1097.66

10:1

BASE AGGREGATE DENSE
3/4-INCH (SHOULDERS)

807+00

EAT POST 9, RT

18.13, 1096.54

21.72, 1096.18

10:1

BASE AGGREGATE DENSE
3/4-INCH (SHOULDERS)

806+89

10 FT

10 FT

1100
1090
1080
-70 -60 -50 -40 -30 -20 -10 0 10 20 30 40 50 60 70

9

9

PROJECT NO: 1196-04-77	HWY: USH 53	COUNTY: BARRON	CROSS SECTIONS: USH 53 (SOUTHBOUND)	SHEET 407	E

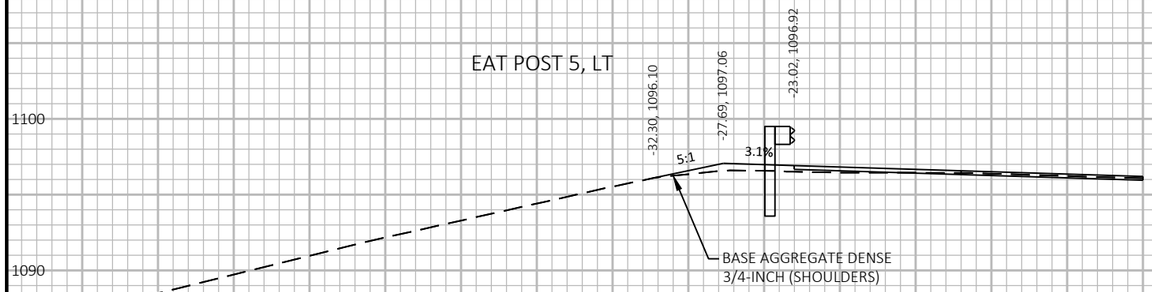
FILE NAME : S:\MAD\1000--1099\1089\895\DRAWINGS\CAD\AUTOCAD\CIVIL 3D\SHEETS PLAN\090201_XS.DWG
LAYOUT NAME - 090247-xs

PLOT DATE : 11/1/2024 9:56 AM PLOT BY : HABERKORN, DEVEN PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

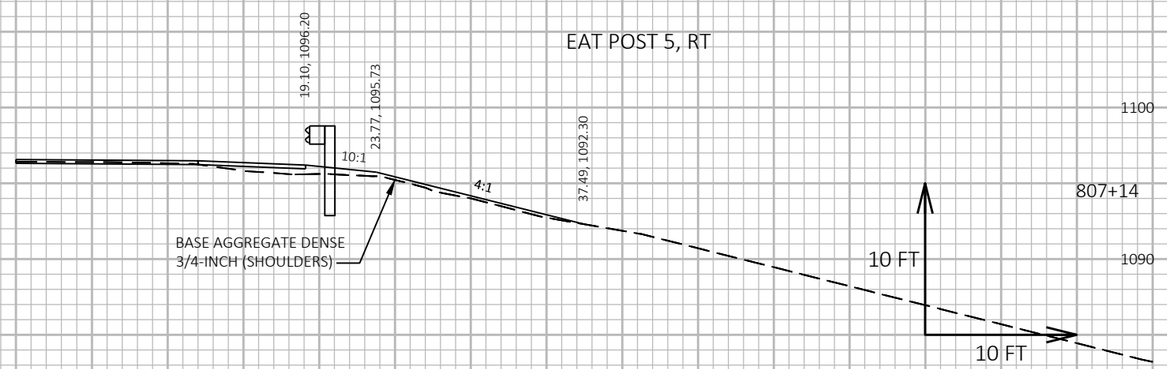
WISDOT/CADDS SHEET 49

EAT POST 1, RT

EAT POST 5, LT



EAT POST 5, RT



PROJECT NO: 1196-04-77	HWY: USH 53	COUNTY: BARRON	CROSS SECTIONS: USH 53 (SOUTHBOUND)	SHEET 408	E

FILE NAME : S:\MAD\1000--1099\1089\895\DRAWINGS\CAD\AUTOCAD\CIVIL 3D\SHEETS PLAN\090201_XS.DWG
LAYOUT NAME - 090248-xs

PLOT DATE : 11/1/2024 9:56 AM PLOT BY : HABERKORN, DEVEN PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

APPROACH TAPER, LT

-24.11, 1093.10
-22.00, 1093.63
-20.00, 1093.57

BASE AGGREGATE DENSE
3/4-INCH (SHOULDERS)

808+88

APPROACH TAPER, RT

12.00, 1093.19
15.00, 1093.07
18.00, 1092.95
22.07, 1091.93

4:1

BASE AGGREGATE DENSE
3/4-INCH (SHOULDERS)

808+56

EAT POST 1, LT

-30.64, 1095.46
-24.00, 1096.13

10:1

BASE AGGREGATE DENSE
3/4-INCH (SHOULDERS)

807+59

10 FT
10 FT

9

9

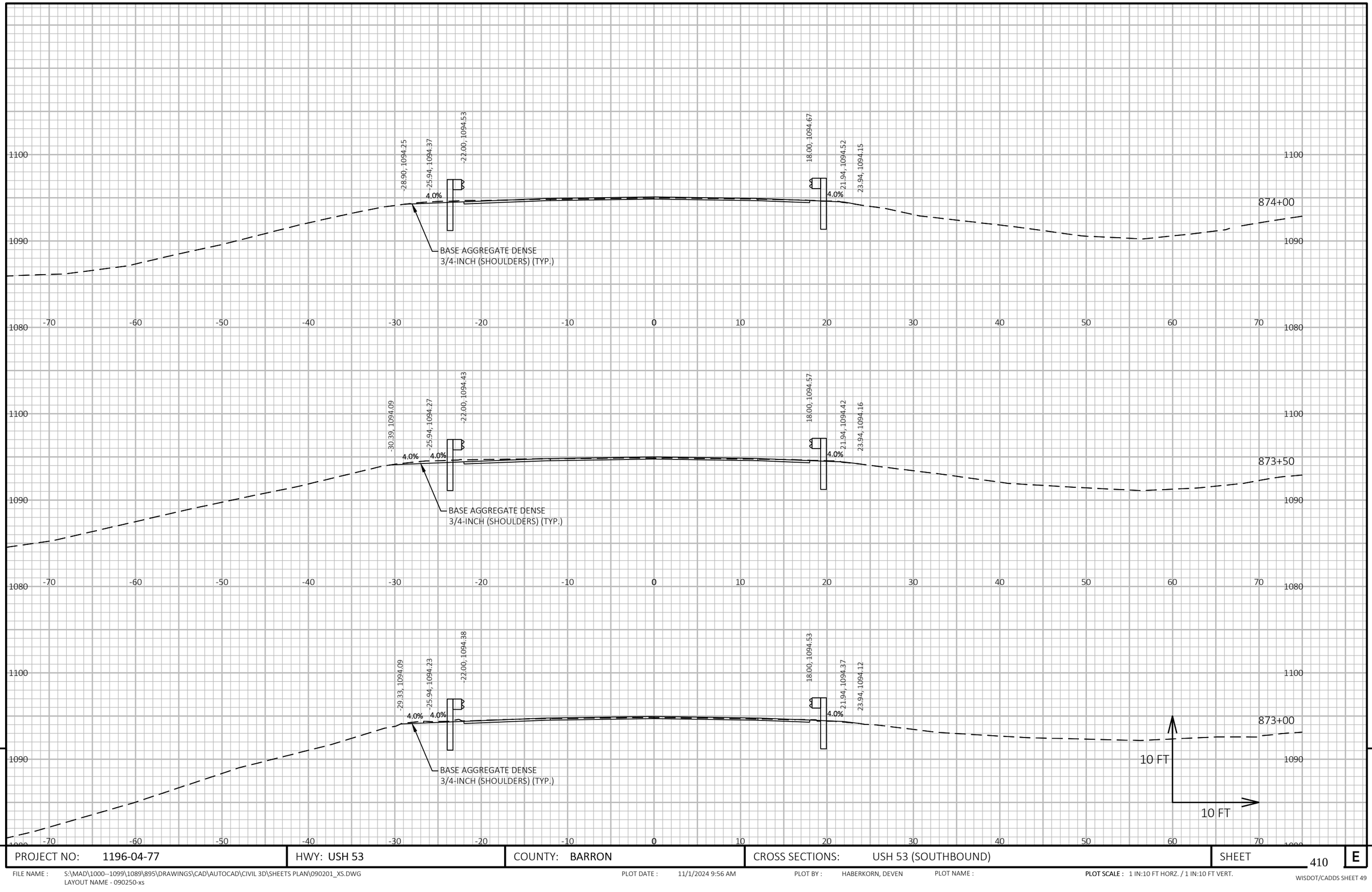
PROJECT NO: 1196-04-77	HWY: USH 53	COUNTY: BARRON	CROSS SECTIONS: USH 53 (SOUTHBOUND)	SHEET 409	E

FILE NAME : S:\MAD\1000--1099\1089\895\DRAWINGS\CAD\AUTOCAD\CIVIL 3D\SHEETS PLAN\090201_XS.DWG
LAYOUT NAME - 090249-xs

PLOT DATE : 11/1/2024 9:56 AM PLOT BY : HABERKORN, DEVEN PLOT NAME :

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

WISDOT/CADDS SHEET 49



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PROJECT NO: 1196-04-77	HWY: USH 53	COUNTY: BARRON	CROSS SECTIONS: USH 53 (SOUTHBOUND)	SHEET 410	E

FILE NAME : S:\MAD\1000--1099\1089\895\DRAWINGS\CAD\AUTOCAD\CIVIL 3D\SHEETS PLAN\090201_XS.DWG
LAYOUT NAME - 090250-xs

PLOT DATE : 11/1/2024 9:56 AM PLOT BY : HABERKORN, DEVEN PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

EAT POST 5, LT

-29.73, 1094.15
-27.73, 1094.40
-23.06, 1094.59
4.0%
BASE AGGREGATE DENSE
3/4-INCH (SHOULDERS)

874+89

EAT POST 9, LT

-28.06, 1094.30
-26.06, 1094.45
-22.12, 1094.60
4.0%
BASE AGGREGATE DENSE
3/4-INCH (SHOULDERS)

874+64

-27.94, 1094.30
-25.94, 1094.44
-22.00, 1094.60
18.00, 1094.74
21.94, 1094.59
23.94, 1094.15
4.0%
4.0%
BASE AGGREGATE DENSE
3/4-INCH (SHOULDERS) (TYP.)

874+50

10 FT
10 FT

9

9

PROJECT NO: 1196-04-77	HWY: USH 53	COUNTY: BARRON	CROSS SECTIONS: USH 53 (SOUTHBOUND)	SHEET 411	E

FILE NAME : S:\MAD\1000--1099\1089\895\DRAWINGS\CAD\AUTOCAD\CIVIL 3D\SHEETS PLAN\090201_XS.DWG
LAYOUT NAME - 090251-xs

PLOT DATE : 11/1/2024 9:56 AM PLOT BY : HABERKORN, DEVEN PLOT NAME :

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

WISDOT/CADDS SHEET 49

EAT POST 1, LT

-30.81, 1093.89

-24.00, 1094.57

10:1

BASE AGGREGATE DENSE
3/4-INCH (SHOULDERS)

875+14

EAT POST 9, RT

18.12, 1094.84

22.06, 1094.56

24.06, 1094.16

7.0%

BASE AGGREGATE DENSE
3/4-INCH (SHOULDERS)

875+07

18.00, 1094.78

21.94, 1094.50

23.94, 1094.15

7.0%

BASE AGGREGATE DENSE
3/4-INCH (SHOULDERS)

875+00

10 FT

10 FT

9

9

PROJECT NO: 1196-04-77	HWY: USH 53	COUNTY: BARRON	CROSS SECTIONS: USH 53 (SOUTHBOUND)	SHEET 412	E

FILE NAME : S:\MAD\1000--1099\1089\895\DRAWINGS\CAD\AUTOCAD\CIVIL 3D\SHEETS PLAN\090201_XS.DWG
LAYOUT NAME - 090252-xs

PLOT DATE : 11/1/2024 9:56 AM PLOT BY : HABERKORN, DEVEN PLOT NAME :

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

WISDOT/CADDS SHEET 49

APPROACH TAPER, LT

-24.31, 1094.08
-22.00, 1094.66
-20.00, 1094.74

BASE AGGREGATE DENSE
3/4-INCH (SHOULDERS)

876+33

EAT POST 1, RT

-20.00, 1094.76
25.94, 1094.16
31.28, 1092.83

10:1
4:1

BASE AGGREGATE DENSE
3/4-INCH (SHOULDERS)

875+57

EAT POST 5, RT

19.06, 1094.81
23.73, 1094.34
25.73, 1093.92

10:1

BASE AGGREGATE DENSE
3/4-INCH (SHOULDERS)

875+32

10 FT
10 FT

1100
1090
1080
-70 -60 -50 -40 -30 -20 -10 0 10 20 30 40 50 60 70

9

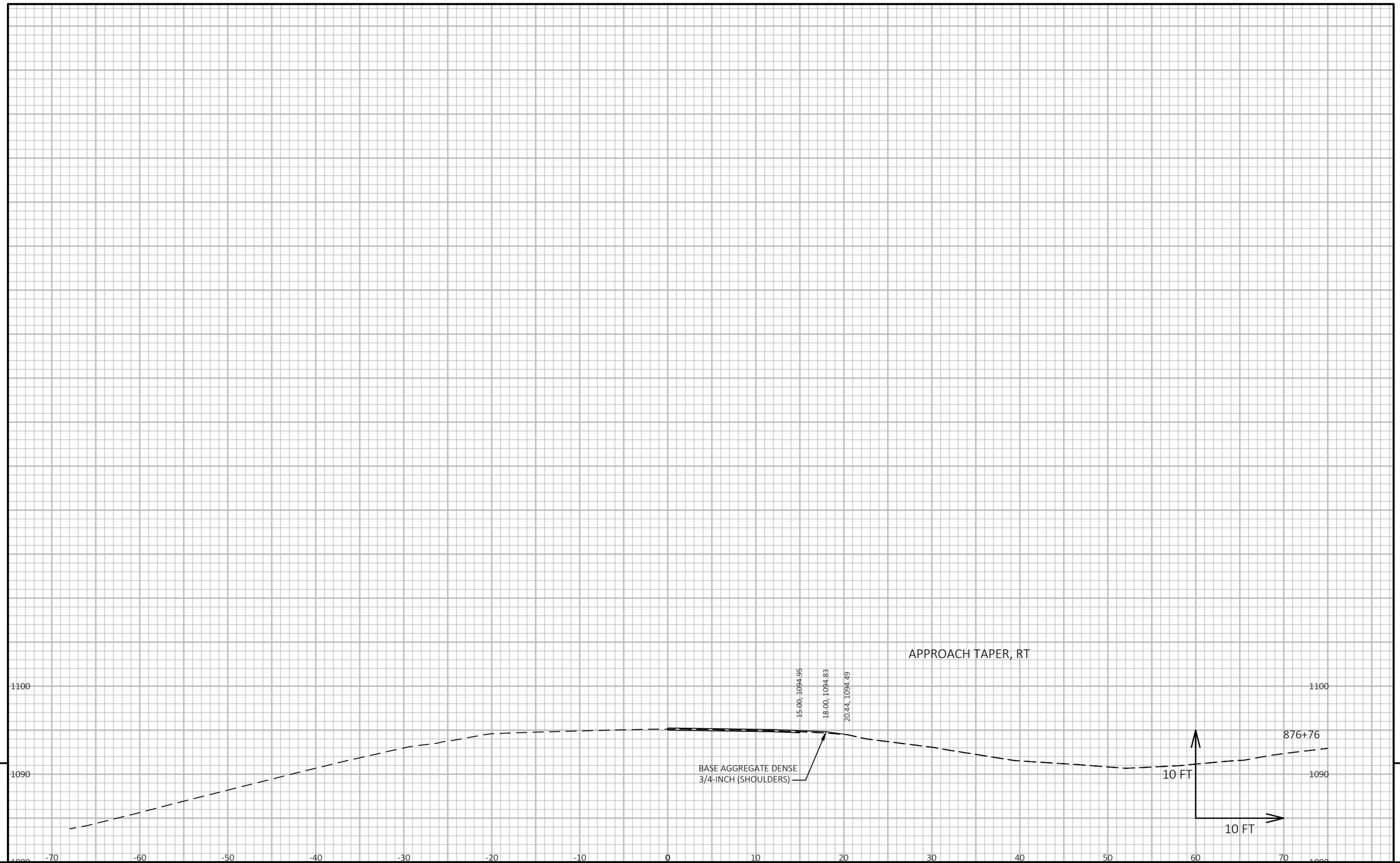
9

PROJECT NO: 1196-04-77	HWY: USH 53	COUNTY: BARRON	CROSS SECTIONS: USH 53 (SOUTHBOUND)	SHEET 413	E

FILE NAME : S:\MAD\1000--1099\1089\895\DRAWINGS\CAD\AUTOCAD\CIVIL 3D\SHEETS PLAN\090201_XS.DWG
LAYOUT NAME - 090253-xs

PLOT DATE : 11/1/2024 9:56 AM PLOT BY : HABERKORN, DEVEN PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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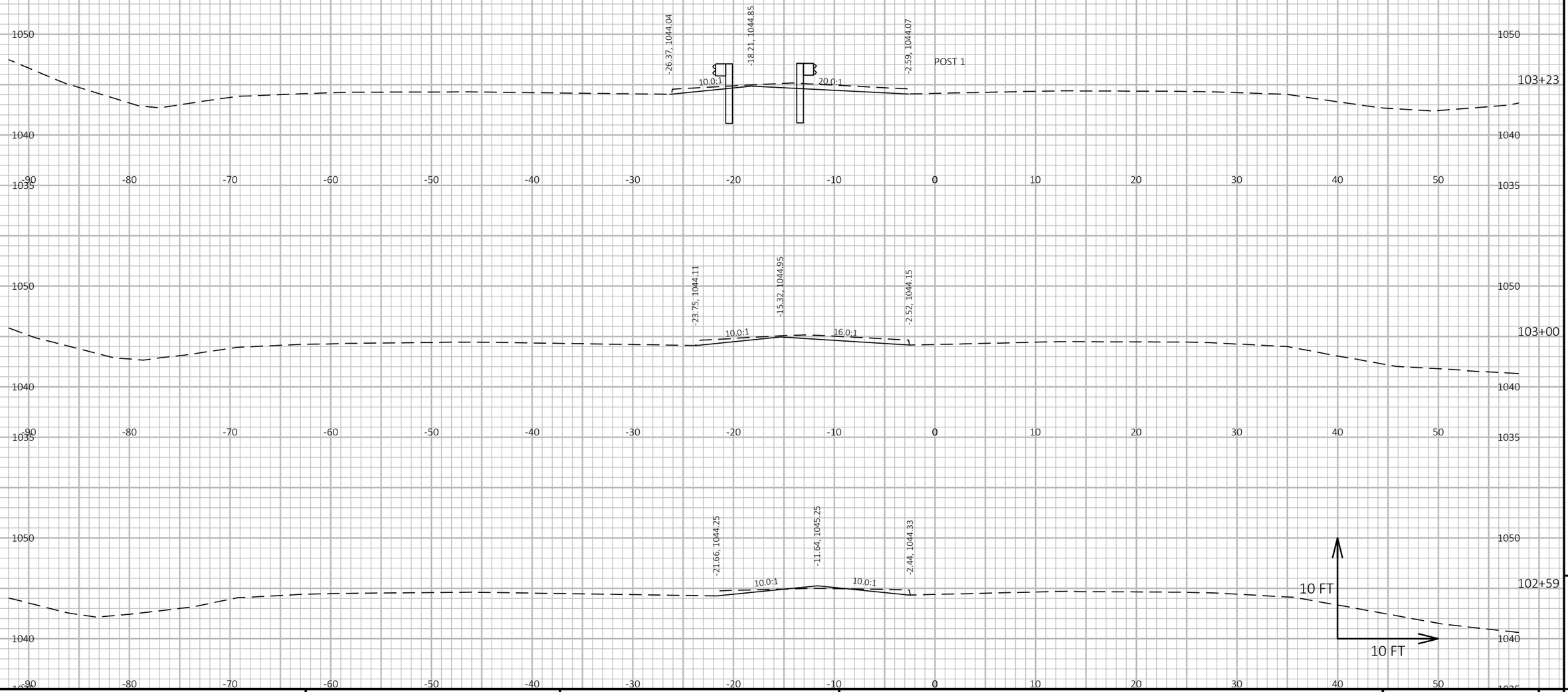
PROJECT NO: 1196-04-77	HWY: USH 53	COUNTY: BARRON	CROSS SECTIONS: USH 53 (SOUTHBOUND)	SHEET 414	E

FILE NAME : S:\MAD\1000--1099\1089\895\DRAWINGS\CAD\AUTOCAD\CIVIL 3D\SHEETS PLAN\090201_XS.DWG
LAYOUT NAME - 090254-xs

PLOT DATE : 11/1/2024 9:56 AM PLOT BY : HABERKORN, DEVEN PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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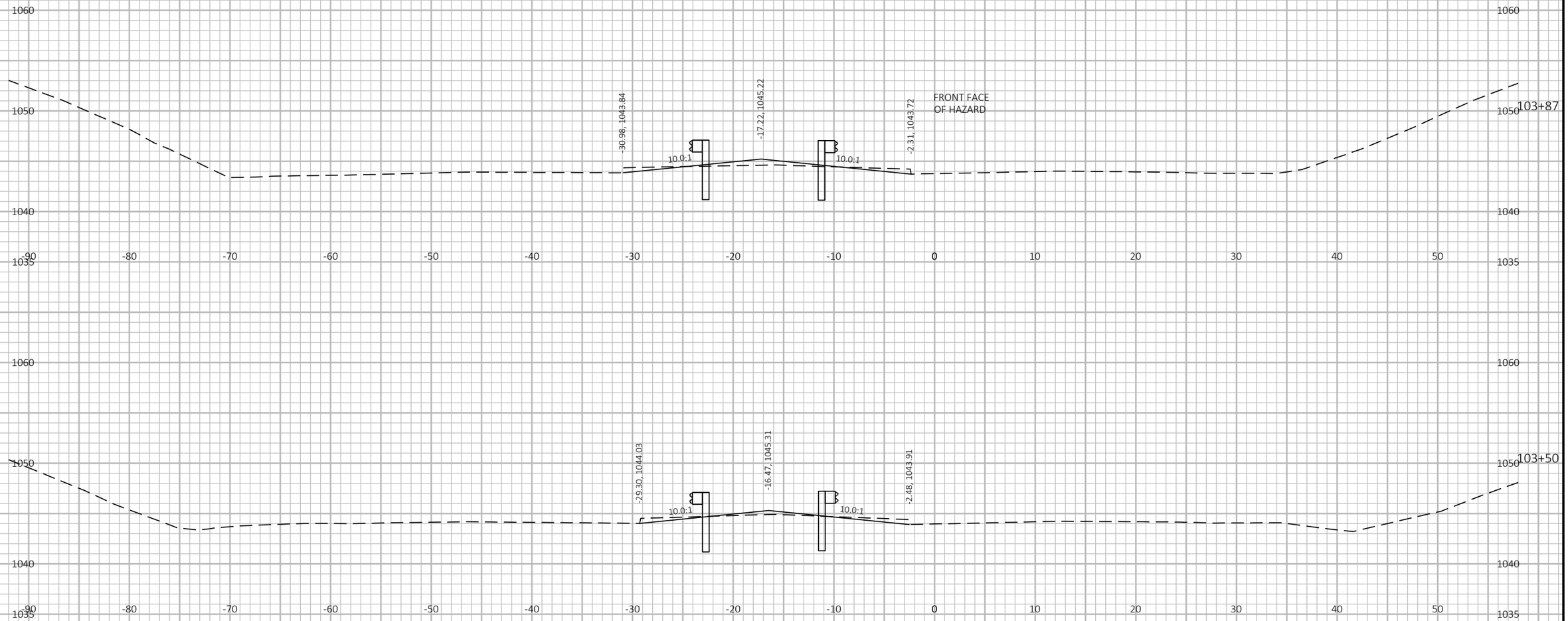
PROJECT NO: 1196-04-77	HWY: USH 53	COUNTY: BARRON	CROSS SECTIONS: CTH I BULLNOSE	SHEET 415	E

FILE NAME : S:\MAD\1000--1099\1089\895\DRAWINGS\CAD\AUTOCAD\CIVIL 3D\SHEETS PLAN\090202_XS_BULLNOSE.DWG
LAYOUT NAME - 090202-xs-Bullnose-01

PLOT DATE : 10/31/2024 3:44 PM PLOT BY : HABERKORN, DEVEN PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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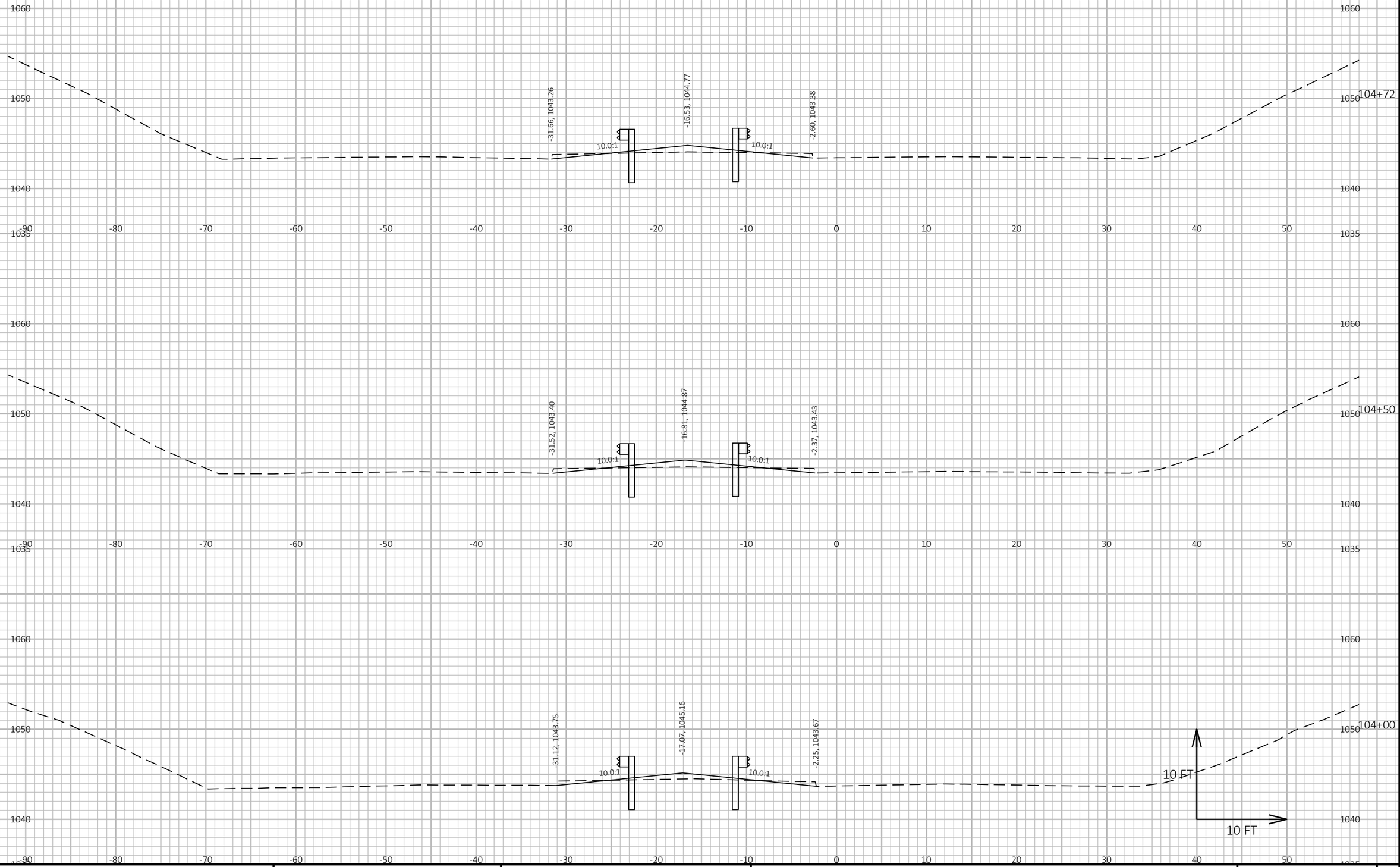
PROJECT NO: 1196-04-77	HWY: USH 53	COUNTY: BARRON	CROSS SECTIONS: CTH I BULLNOSE	SHEET 416	E

FILE NAME : S:\MAD\1000--1099\1089\895\DRAWINGS\CAD\AUTOCAD\CIVIL 3D\SHEETS PLAN\090202_XS_BULLNOSE.DWG
LAYOUT NAME - 090202-xs-Bullnose-02

PLOT DATE : 10/31/2024 9:28 AM PLOT BY : HABERKORN, DEVEN PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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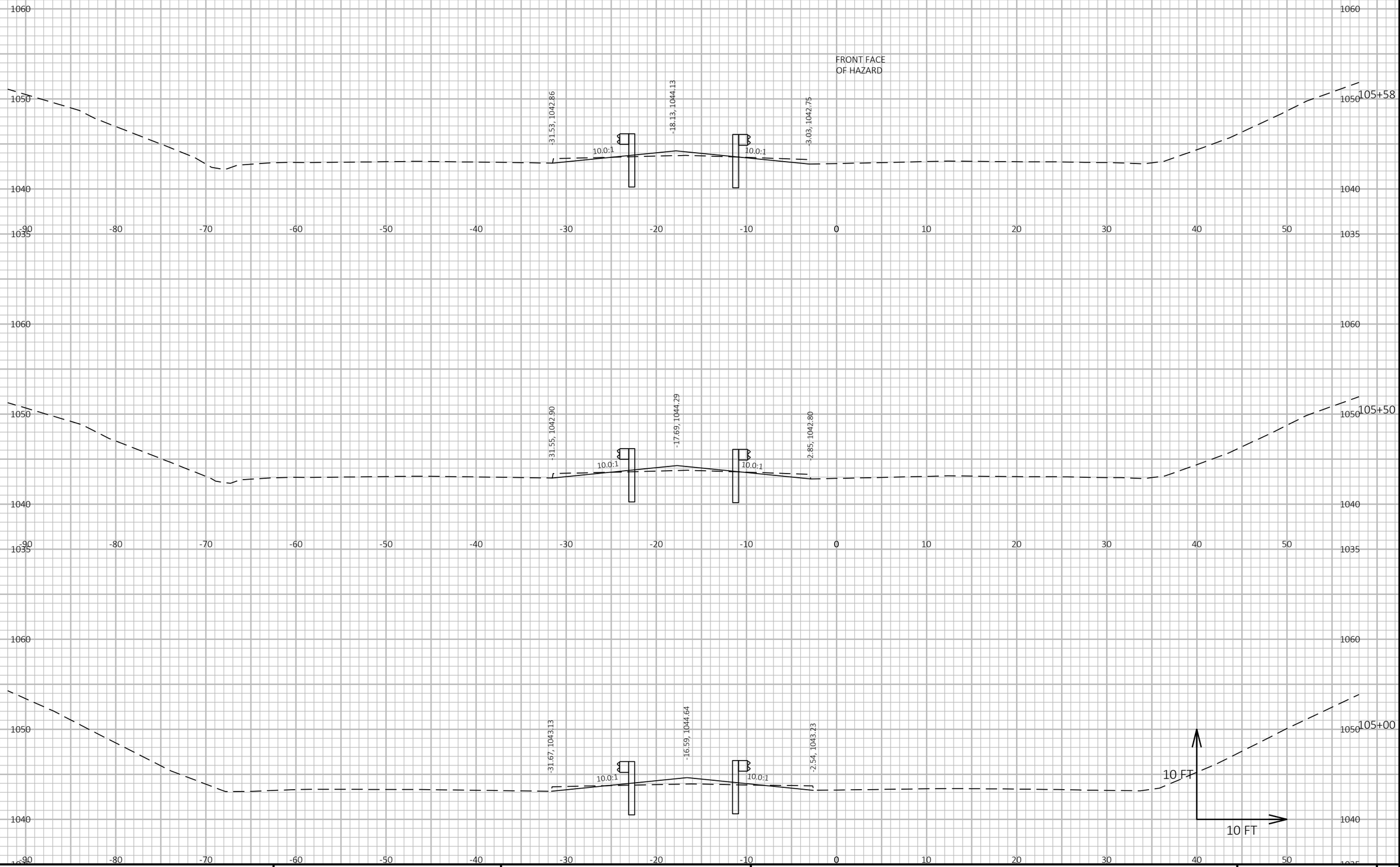
PROJECT NO: 1196-04-77	HWY: USH 53	COUNTY: BARRON	CROSS SECTIONS: CTH I BULLNOSE	SHEET 417	E

FILE NAME : S:\MAD\1000--1099\1089\895\DRAWINGS\CAD\AUTOCAD\CIVIL 3D\SHEETS PLAN\090202_XS_BULLNOSE.DWG
LAYOUT NAME - 090202-xs-Bullnose-03

PLOT DATE : 10/31/2024 9:28 AM PLOT BY : HABERKORN, DEVEN PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



PROJECT NO: 1196-04-77	HWY: USH 53	COUNTY: BARRON	CROSS SECTIONS: CTH I BULLNOSE	SHEET 418	E

FILE NAME : S:\MAD\1000--1099\1089\895\DRAWINGS\CAD\AUTOCAD\CIVIL 3D\SHEETS PLAN\090202_XS_BULLNOSE.DWG
LAYOUT NAME - 090202-xs-Bullnose-04

PLOT DATE : 10/31/2024 9:28 AM PLOT BY : HABERKORN, DEVEN PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

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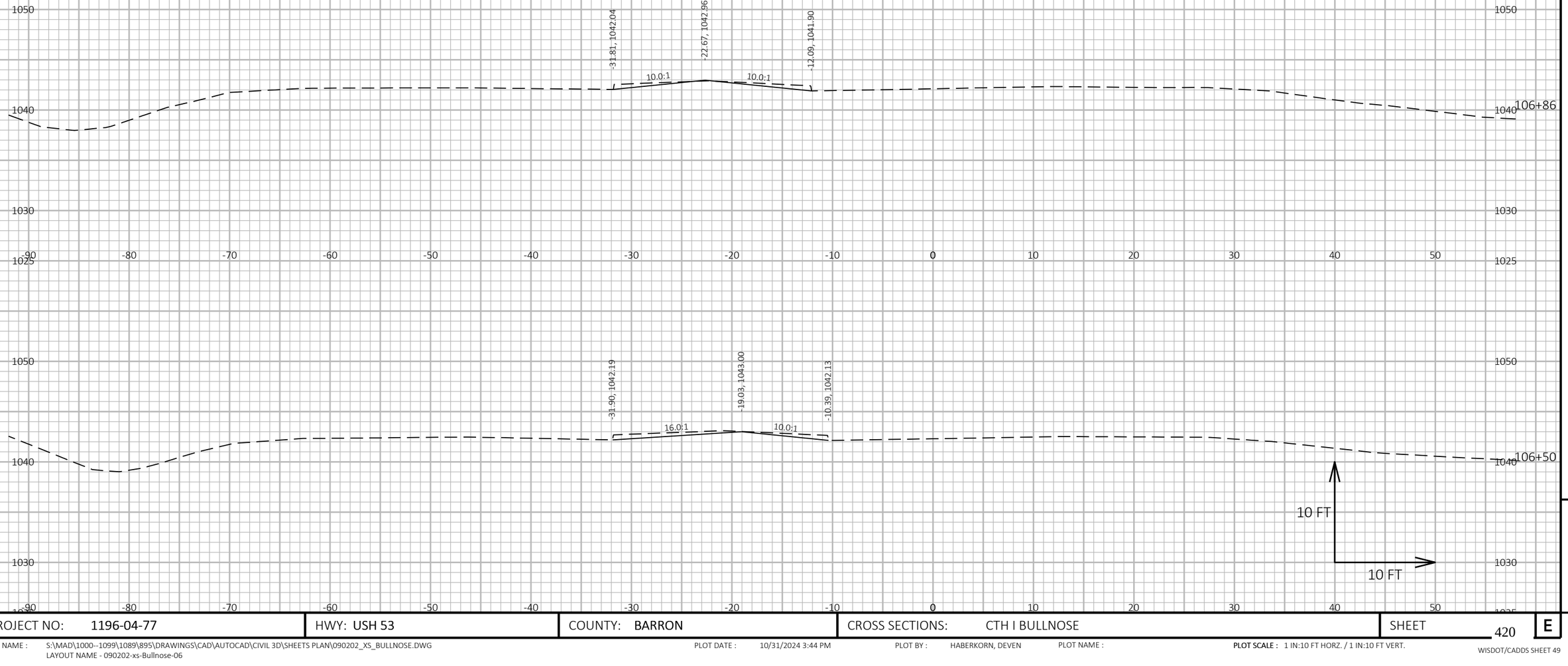
9

PROJECT NO: 1196-04-77	HWY: USH 53	COUNTY: BARRON	CROSS SECTIONS: CTH I BULLNOSE	SHEET 419	E

FILE NAME : S:\MAD\1000--1099\1089\895\DRAWINGS\CAD\AUTOCAD\CIVIL 3D\SHEETS PLAN\090202_XS_BULLNOSE.DWG
LAYOUT NAME - 090202-xs-Bullnose-05

PLOT DATE : 10/31/2024 9:28 AM PLOT BY : HABERKORN, DEVEN PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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PROJECT NO: 1196-04-77	HWY: USH 53	COUNTY: BARRON	CROSS SECTIONS: CTH I BULLNOSE	SHEET 420	E

FILE NAME : S:\MAD\1000--1099\1089\895\DRAWINGS\CAD\AUTOCAD\CIVIL 3D\SHEETS PLAN\090202_XS_BULLNOSE.DWG
LAYOUT NAME - 090202-xs-Bullnose-06

PLOT DATE : 10/31/2024 3:44 PM PLOT BY : HABERKORN, DEVEN PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

Notes

Wisconsin Department of Transportation

Dedicated people creating transportation solutions
through innovation and exceptional service.

http://www.dot.wisconsin.gov