

WKE
WITH: N/A

PROJECT ID:

2753-02-73

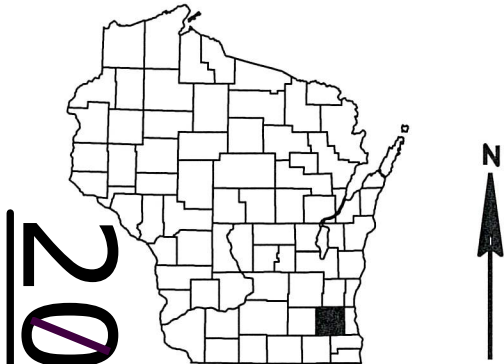
COUNTY:

WAUKESHA

NOVEMBER 2024
ORDER OF SHEETS

Section No.	1	Title
Section No.	2	Typical Sections and 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 = 120



DESIGN DESIGNATION

A.A.D.T.	2018	=	28,500
A.A.D.T.		=	N/A
D.H.V.		=	1,450
D.D.		=	50-50
T.		=	N/A
DESIGN SPEED		=	50 MPH
ESALS		=	N/A

CONVENTIONAL SYMBOLS

PLAN

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

PROFILE

GRADE LINE	
ORIGINAL GROUND	
MARSH OR ROCK PROFILE (To be noted as such)	
SPECIAL DITCH	
GRADE ELEVATION	
CULVERT (Profile View)	
UTILITIES	
ELECTRIC	
FIBER OPTIC	
GAS	
SANITARY SEWER	
STORM SEWER	
TELEPHONE	
WATER	
UTILITY PEDESTAL	
POWER POLE	
TELEPHONE POLE	

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

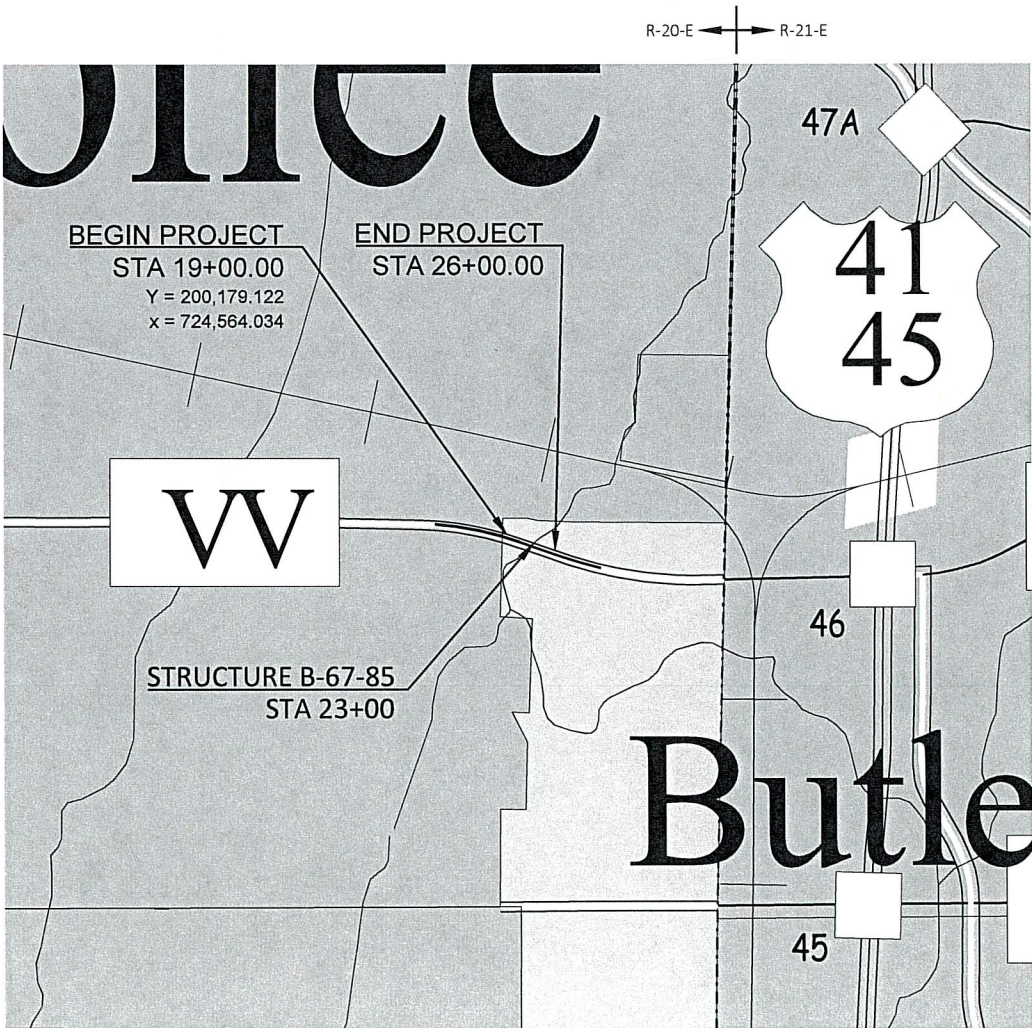
PLAN OF PROPOSED IMPROVEMENT

V BUTLER /SILVER SPRING DR

BRIDGE OVER MENOMONEE RIVER B67-085

CTH VV
WAUKESHA COUNTY

STATE PROJECT NUMBER
2753-02-73



LAYOUT
SCALE 0 0.5 MI

TOTAL NET LENGTH OF CENTERLINE = 0.133 MI

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COUNTY COORDINATE SYSTEM (WCCS), WAUKESHA 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.

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
2753-02-73	WISC 2025034	1

STRUCTURES
B-67-0085

APPROVED FOR	
WAUKESHA COUNTY DEPARTMENT OF PUBLIC WORKS	
Date: 7/29/24	Allyson Bassler DIRECTOR
Date: 7/29/24	Butler ENGINEERING SERVICES MANAGER P.E.

ORIGINAL PLANS PREPARED BY	
 BLOOM COMPANIES, LLC Infrastructure Innovation and Ingenuity	

DATE: 7/26/2024	Jake Bondhus (Professional Engineer Signature)

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
PREPARED BY	
Surveyor	RA SMITH
Designer	BLOOM COMPANIES, LLC
Project Manager	JOSEPH JELACIC
Regional Examiner	WISDOT SE REGION
Regional Supervisor	BRIAN BOOTHBY

APPROVED FOR THE DEPARTMENT	
DATE: 9/11/2024	Joseph Jelacic (Signature)

UTILITY CONTACTS

WE ENERGIES

JACOB HULBERT
GAS/PETROLEUM
500 S 116TH ST
WEST ALLIS, WI 53214
(262) 968-5718
we-utility-relocations@we-energies.com

WE ENERGIES

JOE FELLEENZ
ELECTRICITY
W140 N9100 LILLY RD
MENOMONEE FALLS, WI 53051
(262) 502-6831
we-utility-relocations@we-energies.com

AT&T WISCONSIN

TYLER FLECK
COMMUNICATION LINE
220 WISCONSIN AVE
WAUKESHA, WI 53186
(414) 248-6803
tf8394@att.com

WEST SHORE PIPE LINE COMPANY

BILL O'MALLEY
GAS/PETROLEUM
3400 SOUTH BADGER RD
ARLINGTON HEIGHTS, IL
(847) 878-3428
womalley@buckeye.com

VILLAGE OF BUTLER

BENJAMIN HUBRICH
SANITARY SEWER & WATER
12621 W. HAMPTON AVE
BUTLER, WI 53007
(262) 783-2525 x 1222
bhubrich@butlerwi.gov

VILLAGE OF MENOMONEE FALLS

THOMAS M. HOFFMAN, PE
SANITARY SEWER
W156 N8480 PILGRIM RD
MENOMONEE FALLS, WI 53051
(262) 532-4415
thoffman@menomonee-falls.org

WISCONSIN DNR LIAISON

CRAIG WEBSTER
SE REGION
141 NW BARSTOW ST, ROOM 180
WAUKESHA, WI 53188
PHONE: (262) 574-2141
CELL: (414) 303-3011
craig.webster@wi.gov

DESIGN FIRM PROJECT MANAGER

JACOB BONDHUS, PE
BLOOM COMPANIES, LLC
10501 W RESEARCH DR
MILWAUKEE, WI 53226
CELL: (773) 520-2078
jbondhus@bloomcos.com

WAUKESHA COUNTY
PROJECT MANAGER

KEVIN YANNY, PE
WAUKESHA COUNTY
515 W MORELAND BLVD, ROOM 220
WAUKESHA, WI 53188
PHONE: (262) 548-7740
kyanny@waukeshacounty.gov

WISDOT PROJECT MANAGER

JOSEPH JELACIC, PE
SE REGION-WAUKESHA
141 NW BARSTOW ST
WAUKESHA, WI 53188
OFFICE: (262) 548-6762
joseph.jelacic@dot.wi.gov

GENERAL NOTES

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

CONTRACTOR WILL BE RESPONSIBLE FOR RESHAPING AND SEEDING ANY PREVIOUSLY GRASSED AREAS WHICH ARE DISTURBED BY OPERATIONS, OUTSIDE OF THE NORMAL CONSTRUCTION LIMITS.

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

RIGHT OF WAY INFORMATION SHOWN ON THE PLANS IS APPROXIMATE.

EROSION CONTROL FEATURES AS SHOWN IN THE PLANS ARE AT APPROXIMATE LOCATIONS. EXACT LOCATIONS WILL BE DETERMINED BY THE CONTRACTOR'S EROSION CONTROL IMPLEMENTATION PLAN (ECIP) AND APPROVED BY THE ENGINEER. MAINTAIN EROSION CONTROL MEASURES UNTIL SUCH A TIME AS THE ENGINEER DETERMINES THE MEASURE IS NO LONGER NECESSARY.

THE CONTRACTOR'S PAVING OPERATION SHALL BE CONSISTENT WITH THE TYPICAL SECTIONS AND CONSTRUCTED TO PREVENT LONGITUDINAL JOINTS FROM BEING LOCATED WITHIN A DRIVING, TURNING, PASSING, OR PARKING LANE.

SAWCUTS, AS SHOWN ON THE PLANS, ARE SUGGESTED LOCATIONS AND MAY BE ADJUSTED AT THE DISCRETION OF THE ENGINEER TO BETTER SUIT FIELD CONDITIONS.

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

DO NOT DRIVE OR STORE EQUIPMENT, OR STORE CONSTRUCTION MATERIALS IN ENVIRONMENTALLY SENSITIVE AREAS, WETLANDS OR WATERWAYS.

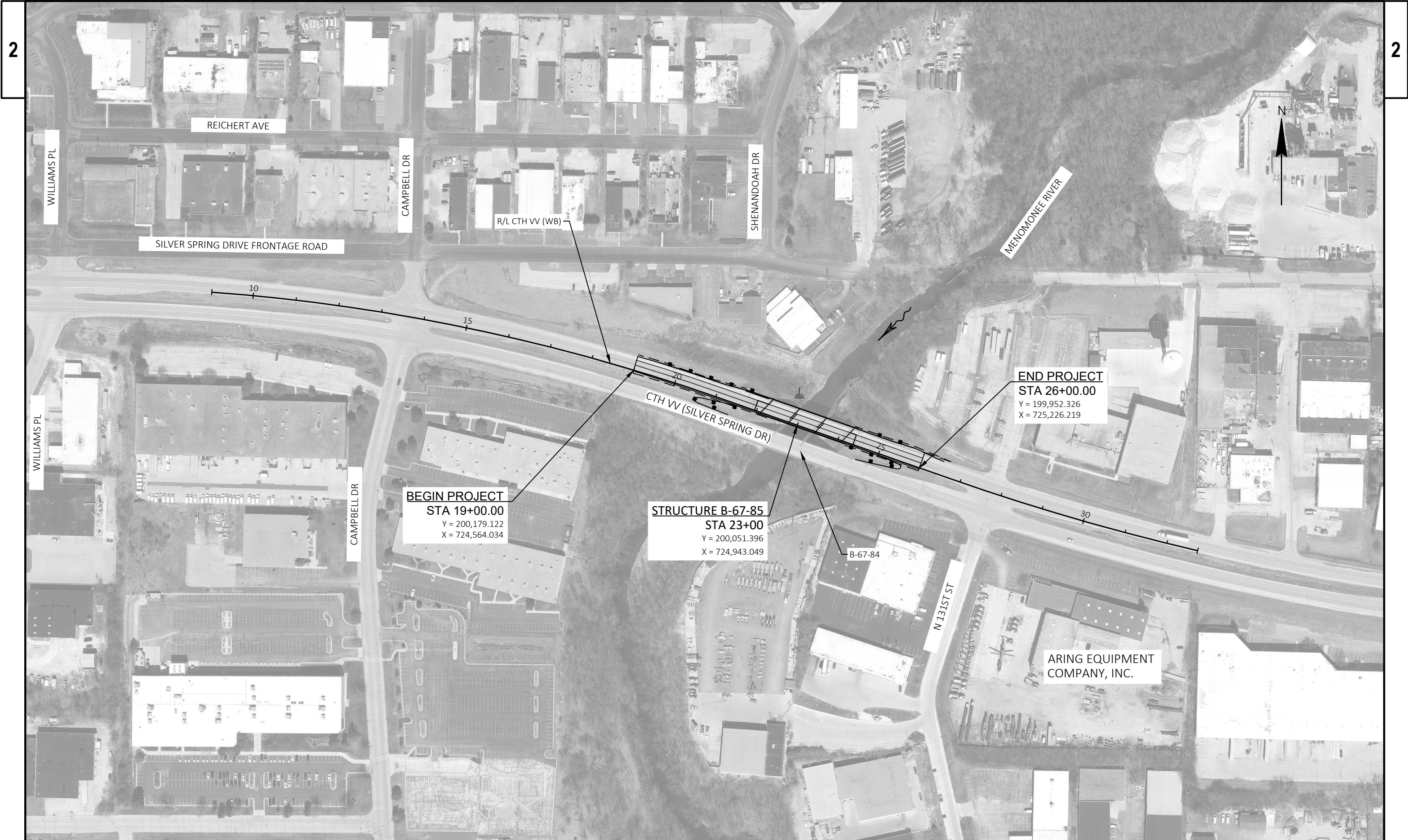
ORDER OF SECTION 2 DETAIL SHEETS

- GENERAL NOTES
- PROJECT OVERVIEW
- TYPICAL SECTIONS
- CONSTRUCTION DETAILS
- REMOVAL PLAN
- EROSION CONTROL, PERMANENT SIGNING, & PAVEMENT MARKING
- TRAFFIC CONTROL & STAGING
- ALIGNMENT PLAN
- SURVEY CONTROL

ABBREVIATIONS

AEW	APRON ENDWALL
EAT	ENERGY ABSORBING TERMINAL
BRG	BRIDGE
MGAL	ONE THOUSAND GALLONS
OSOW	OVERSIZE-OVERWEIGHT





PROJECT NO: 2753-02-73

HWY: CTH VV

COUNTY: WAUKESHA

PROJECT OVERVIEW

SHEET

3

E

FILE NAME : X:\BM1-4085 CTH VV WESTBOUND BRIDGE OVER MENOMONEE RIVER\5_DESIGN\03_ROADS\27530203\SHEETSPLAN\020201-PO.DWG
LAYOUT NAME - po-01

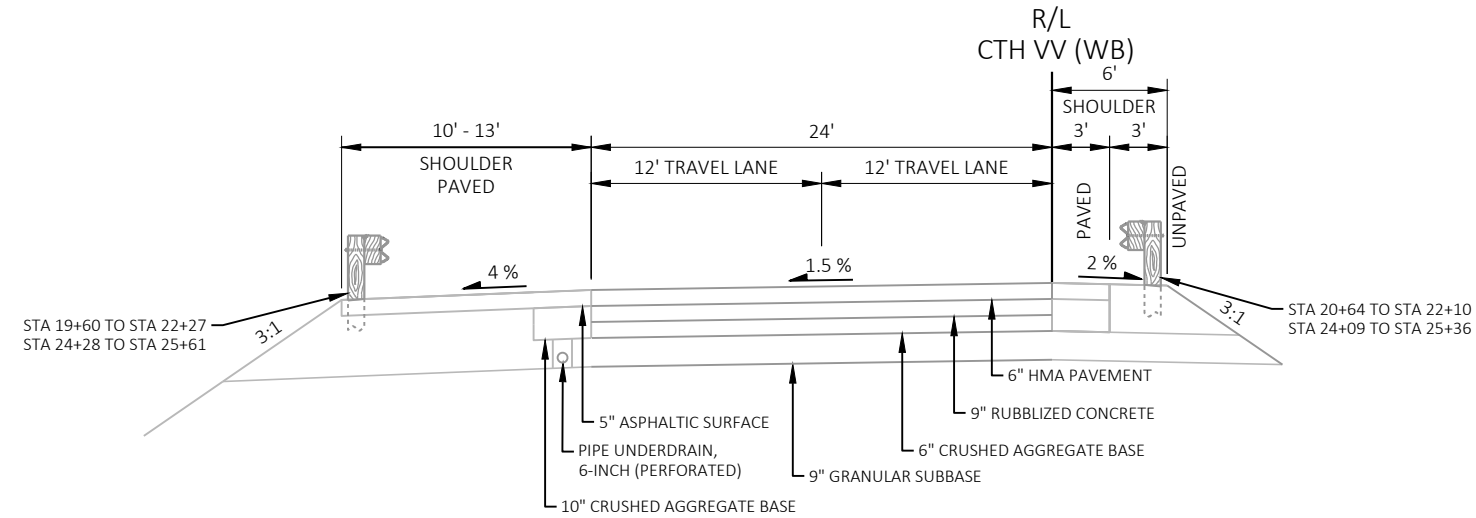
PLOT DATE : 7/25/2024 3:54 PM

PLOT BY : AMBER WALTERS

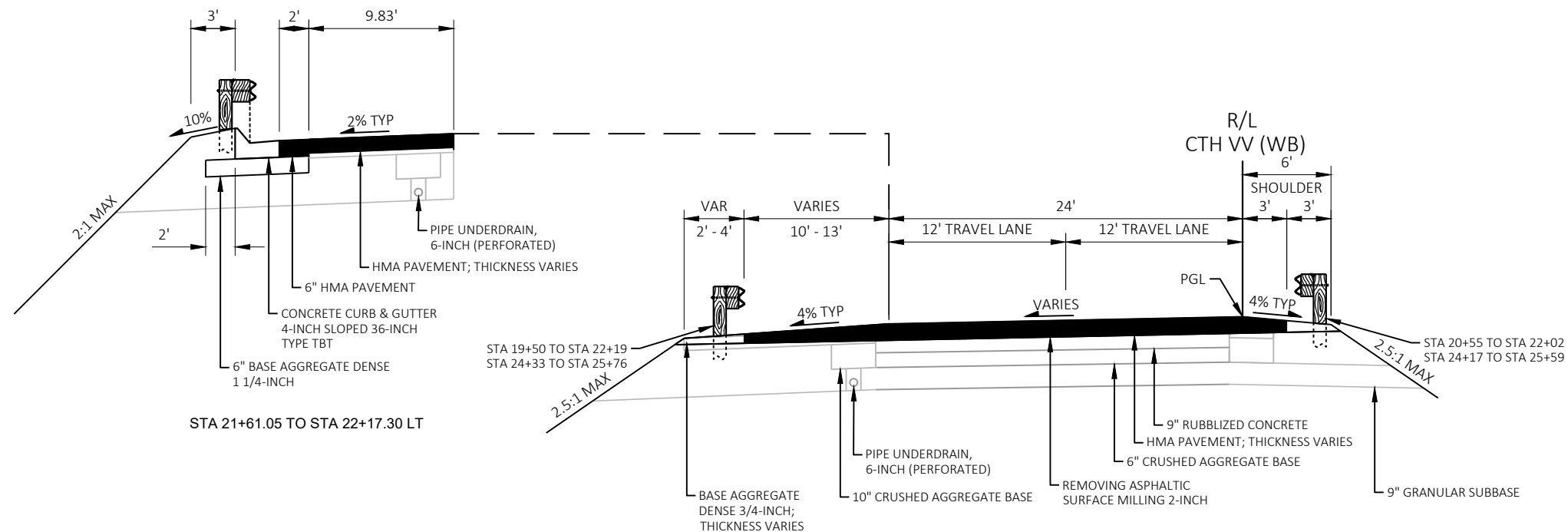
PLOT NAME :

PLOT SCALE : 1 IN:200 FT

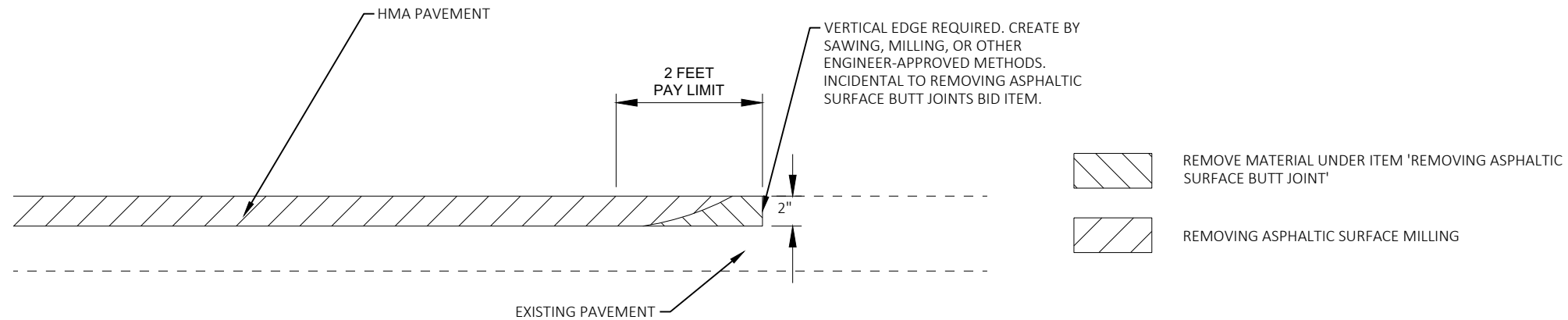
WISDOT/CADDs SHEET 42

**EXISTING TYPICAL SECTION**

STA 19+00.00 TO STA 26+00.00
BRIDGE OMISSION FROM
STA 22+07.78 TO STA 24+08.08

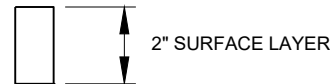
**FINISHED TYPICAL SECTION**

STA 19+00.00 TO STA 26+00.00
BRIDGE OMISSION FROM
STA 22+07.78 TO STA 24+08.08

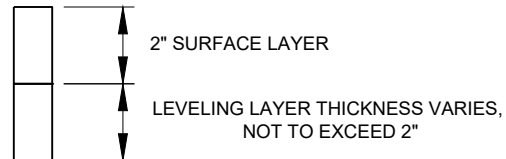


REMOVING BUTT JOINT DETAIL

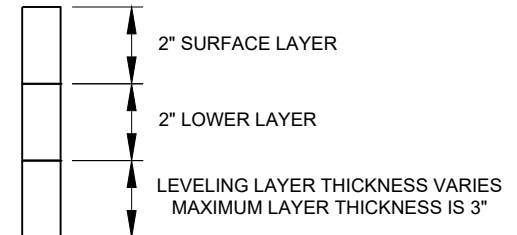
HMA PAVEMENT = 2"



HMA PAVEMENT VARIES;
BETWEEN 2" TO 4"



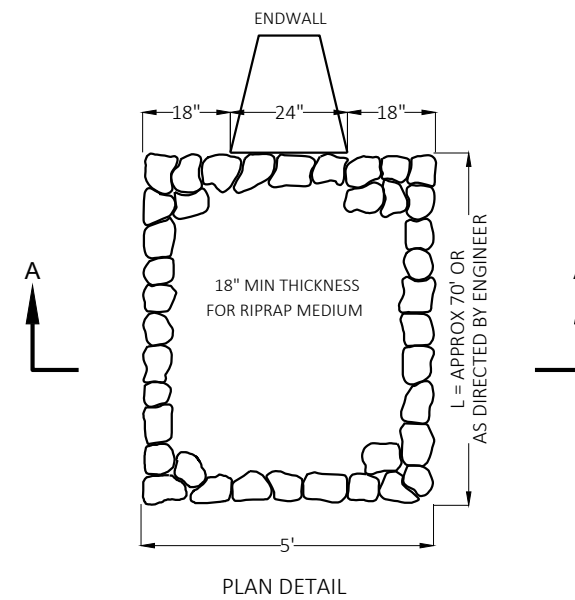
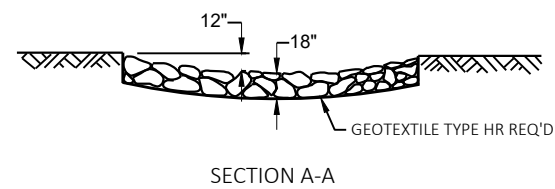
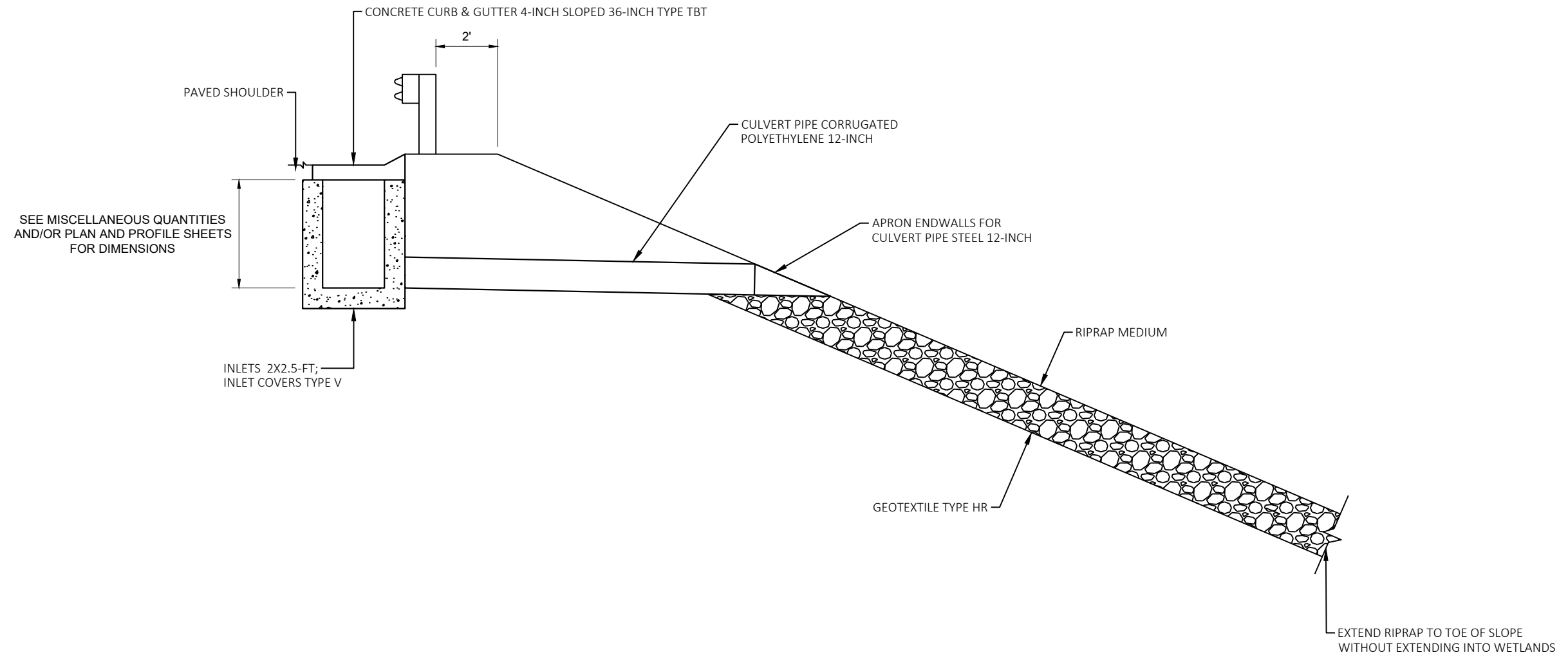
HMA PAVEMENT VARIES;
GREATER THAN 4"

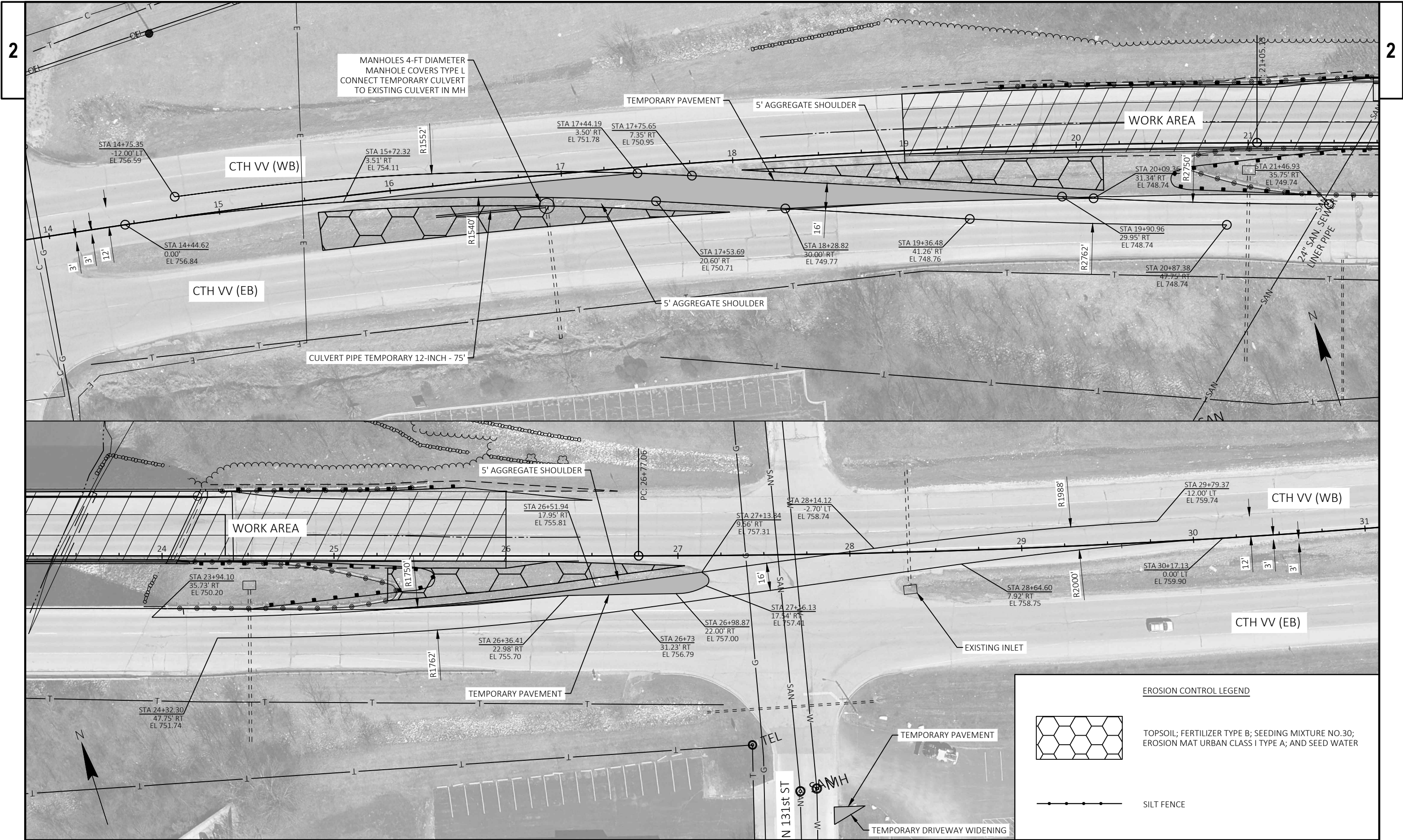


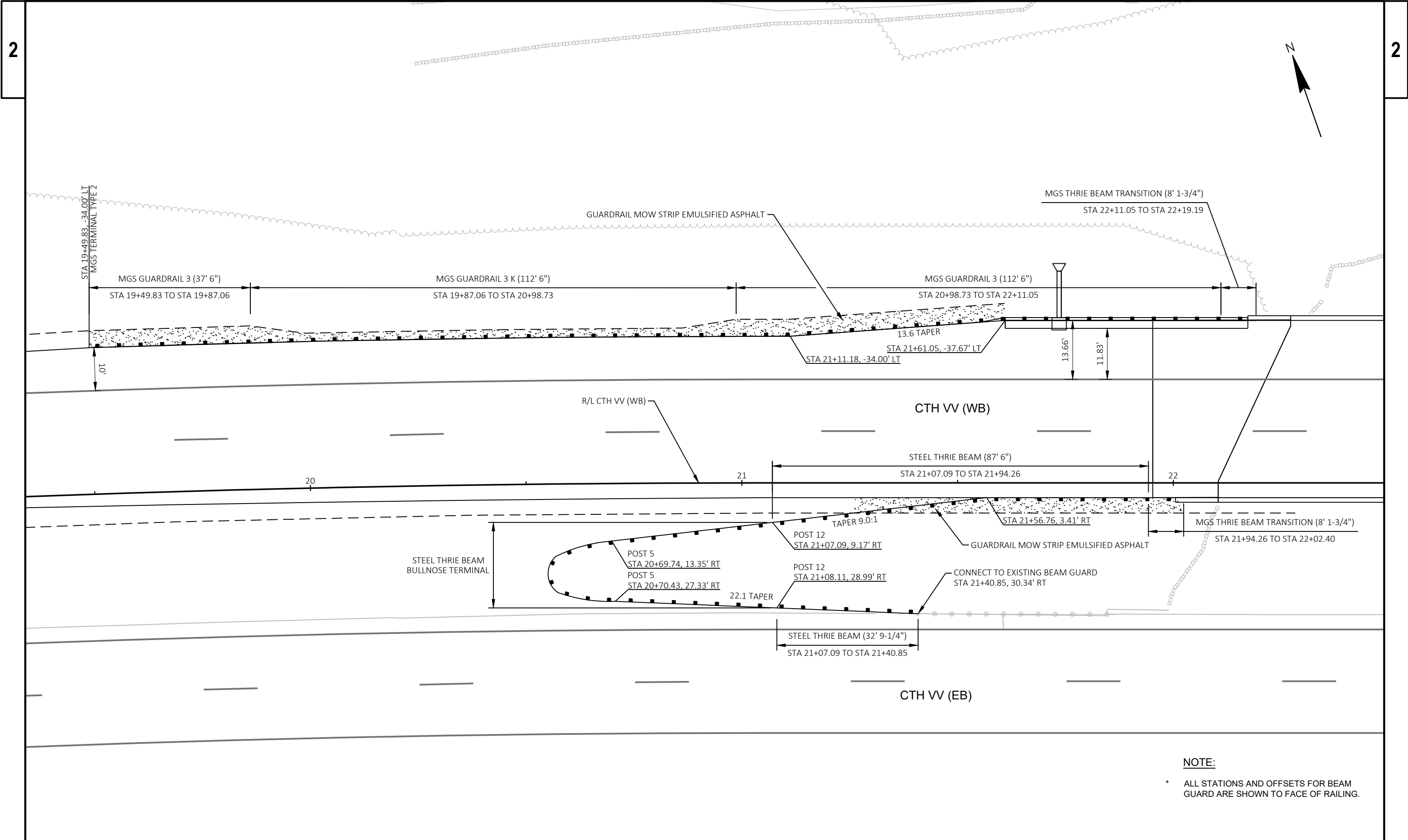
HMA PAVEMENT LAYERS DETAIL

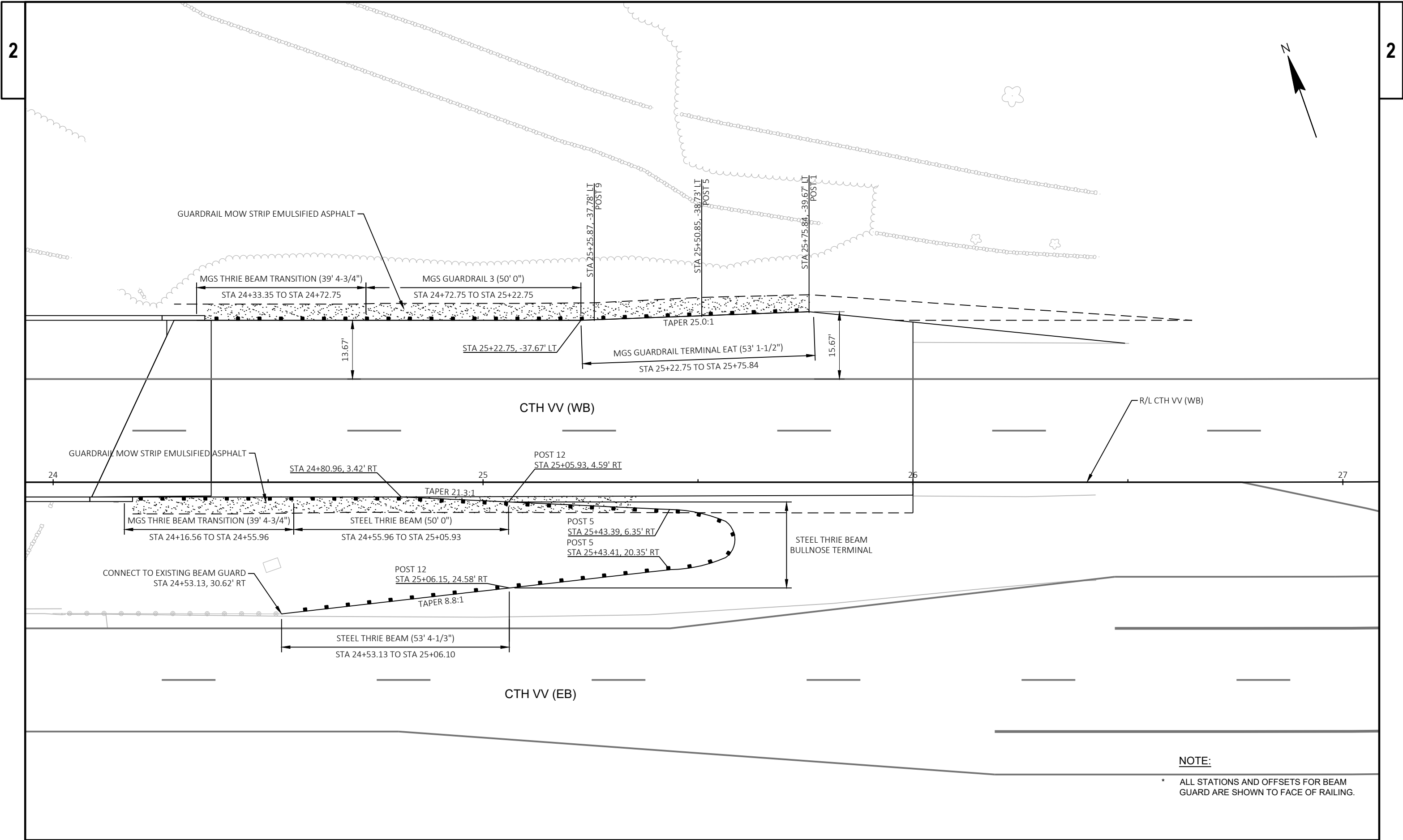
NOTES:

1. ALL ASPHALTIC PAVEMENT LAYERS SHOWN ARE TO USE HMA PAVEMENT 4 MT 58-28 S.
2. SURFACE LAYER CAN VARY BETWEEN 1.75" TO 2.5" TO ACCOUNT FOR LEVELING LAYER THICKNESS VARIATIONS.
3. LOWER LAYER THICKNESS CAN VARY FROM 1.75" TO 3" TO ACCOUNT FOR LEVELING THICKNESS VARIATIONS.

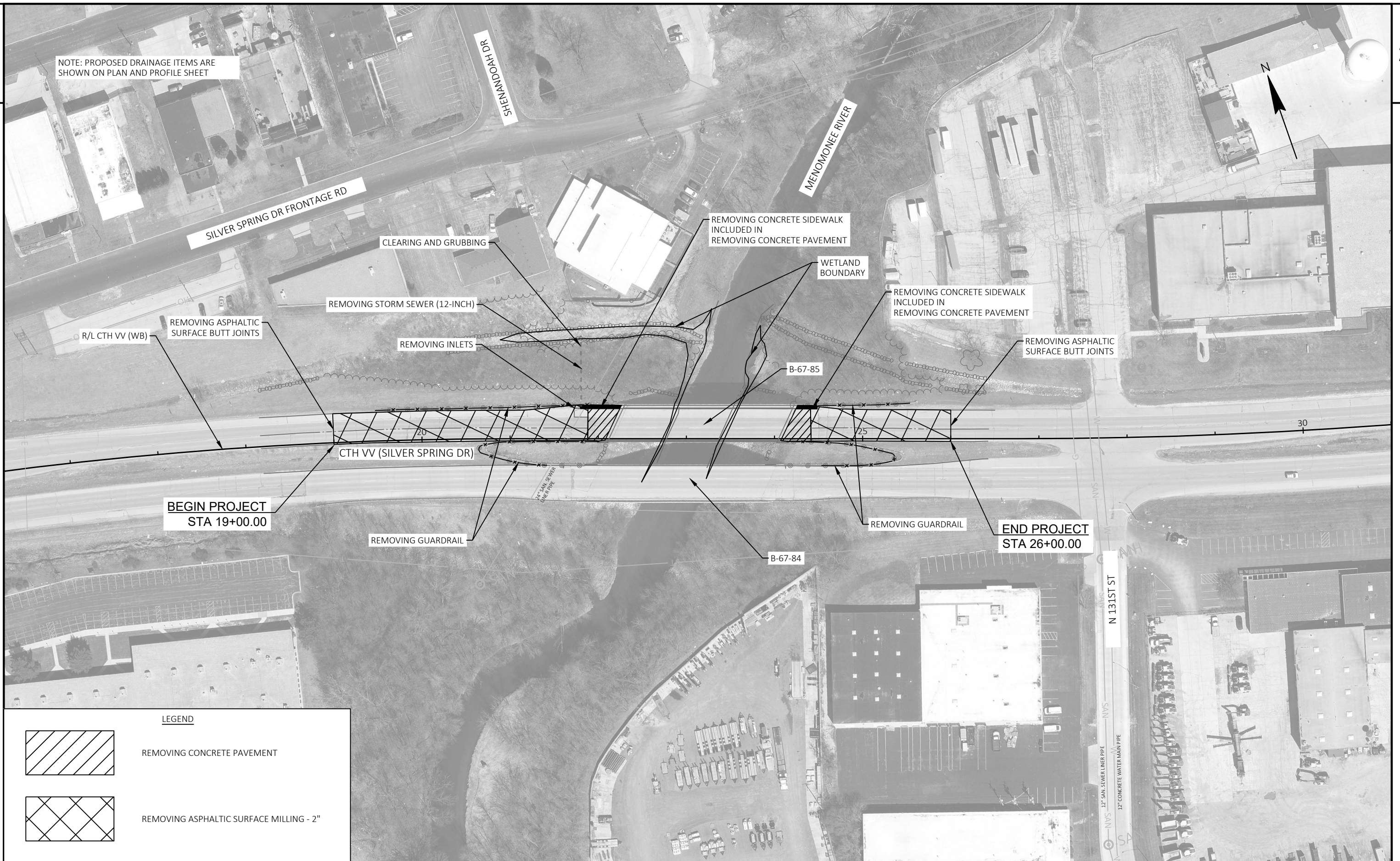




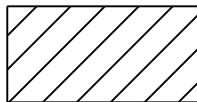




NOTE: PROPOSED DRAINAGE ITEMS ARE SHOWN ON PLAN AND PROFILE SHEET



LEGEND



REMOVING CONCRETE PAVEMENT



REMOVING ASPHALTIC SURFACE MILLING - 2"

PROJECT NO: 2753-02-73

HWY: CTH VV

COUNTY: WAUKESHA

REMOVAL PLAN

SHEET

10

E

FILE NAME : X:\BM1-4085 CTH VV WESTBOUND BRIDGE OVER MENOMONEE RIVER\5_DESIGN\03_ROADS\27530203\SHEETSPLAN\021101-RM.DWG
LAYOUT NAME - 021101-rm

PLOT DATE : 7/25/2024 1:51 PM

PLOT BY : AMBER WALTERS

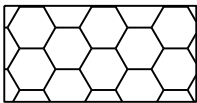
PLOT NAME :

PLOT SCALE : 1 IN:100 FT

WISDOT/CADDs SHEET 42



EROSION CONTROL LEGEND



TOPSOIL; FERTILIZER TYPE B; SEEDING MIXTURE NO.30;
EROSION MAT URBAN CLASS I TYPE A; AND SEED WATER



SILT FENCE

PAVEMENT MARKING LEGEND

- 1 MARKING LINE EPOXY 4-INCH (WHITE)
- 2 MARKING LINE EPOXY 4-INCH (YELLOW)
- 3 MARKING LINE EPOXY 8-INCH (WHITE)
- 4 MARKING LINE EPOXY 4-INCH (WHITE - 12.5 FT LINE, 37.5 FT SKIP)

PROJECT NO: 2753-02-73

HWY: CTH VV

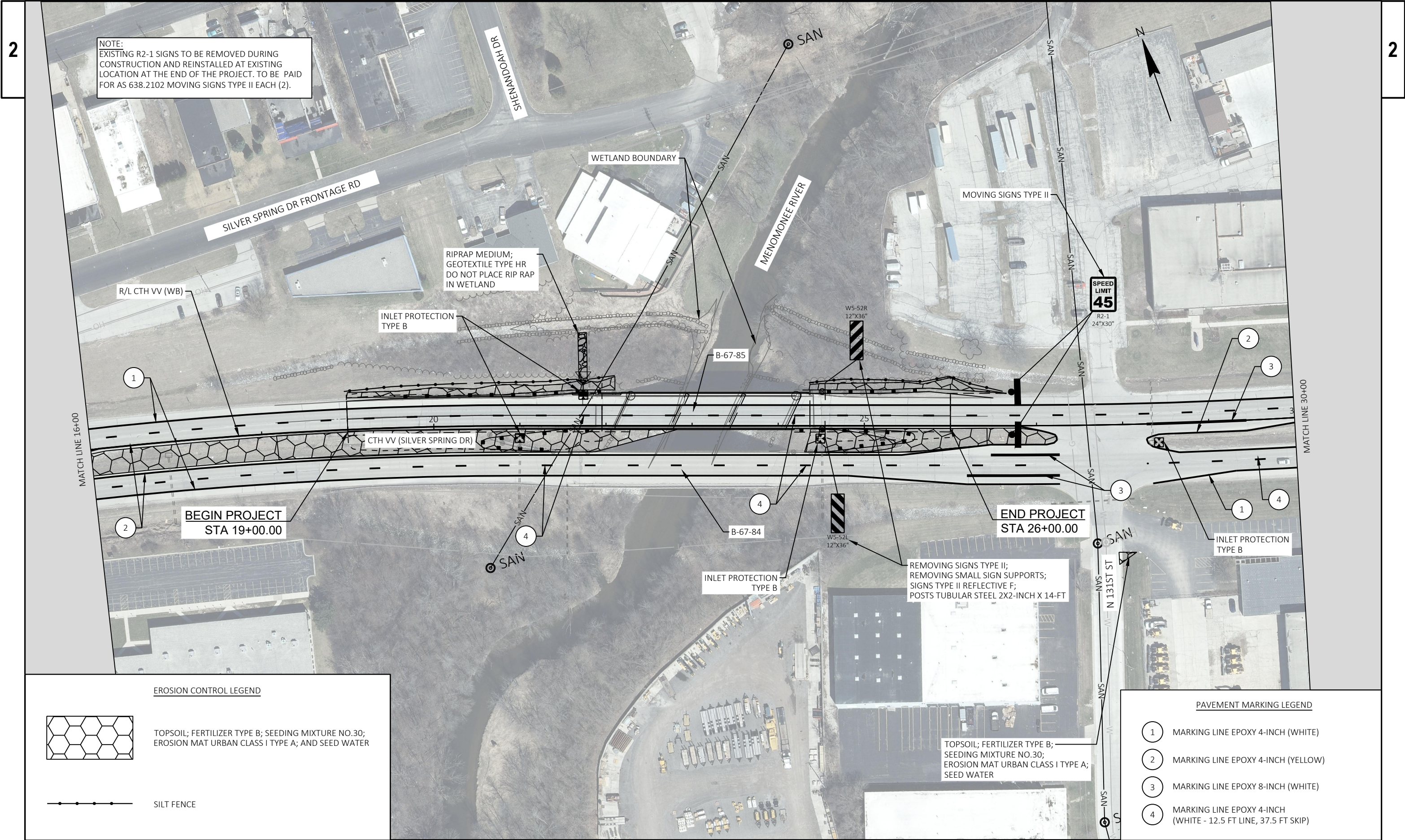
COUNTY: WAUKESHA

EROSION CONTROL, PERMANENT SIGNING, AND PAVEMENT MARKING

SHEET

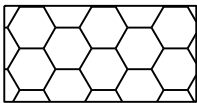
11

E





EROSION CONTROL LEGEND



TOPSOIL; FERTILIZER TYPE B; SEEDING MIXTURE NO.30;
EROSION MAT URBAN CLASS I TYPE A; AND SEED WATER



SILT FENCE

PAVEMENT MARKING LEGEND

- 1 MARKING LINE EPOXY 4-INCH (WHITE)
- 2 MARKING LINE EPOXY 4-INCH (YELLOW)
- 3 MARKING LINE EPOXY 8-INCH (WHITE)
- 4 MARKING LINE EPOXY 4-INCH
(WHITE - 12.5 FT LINE, 37.5 FT SKIP)

CONSTRUCTION

STAGE 1

- REMOVE TREES
- INSTALL BIRD DETERRENT SYSTEM
- CONSTRUCT TEMPORARY CROSSOVER

STAGE 2

- INSTALL EROSION CONTROL MEASURES
- CONSTRUCT B67-085
- INSTALL INLET AND STORM SEWER
- CONSTRUCT CURB AND GUTTER
- MILL AND PAVE ADJACENT TO BRIDGE APPROACH
- INSTALL GUARDRAIL AND BULL NOSE

STAGE 3

- REMOVE TEMPORARY CROSSOVER
- COMPLETE REMAINING BULL NOSE AND GUARDRAIL ITEMS ADJACENT TO EASTBOUND CTH VV
- FINAL EROSION CONTROL AND LANDSCAPING
- PLACE PERMANENT PAVEMENT MARKINGS

TRAFFIC CONTROL

STAGE 1

- TRAFFIC TO BE REDUCED TO ONE LANE IN EACH DIRECTION DURING CROSSOVER CONSTRUCTION.
- CLOSE LEFT LANE IN EACH DIRECTION.
- UTILIZE SDD TRAFFIC CONTROL, SINGLE LANE CLOSURE, DIVIDED NON-FREEWAY/EXPRESSWAY FOR THIS CLOSURE.
- PLACE PORTABLE CHANGEABLE MESSAGE SIGN 7 DAYS PRIOR TO BEGINNING CONSTRUCTION 0.5 MILES BEFORE START OF LANE CLOSURE IN EASTBOUND AND WESTBOUND DIRECTIONS. PCMS MESSAGE OR AS DIRECTED BY THE ENGINEER AS FOLLOWS:

PANEL 1:	ROAD WORK BEGINS	PANEL 2:	XXXXDAY XX/XX
----------	------------------------	----------	------------------

- PLACE PORTABLE CHANGEABLE MESSAGE SIGN 0.5 MILES BEFORE START OF LANE CLOSURE IN EASTBOUND AND WESTBOUND DIRECTIONS. PCMS MESSAGE OR AS DIRECTED BY THE ENGINEER AS FOLLOWS:

PANEL 1:	LEFT LANE CLOSED	PANEL 2:	AHEAD 0.5 MILES
----------	------------------------	----------	-----------------------

STAGE 2

- SHIFT WESTBOUND TRAFFIC ONTO THE CROSSOVER CONSTRUCTED IN STAGE 1 AS SHOWN IN THE PLANS.
- EASTBOUND AND WESTBOUND TRAFFIC TO BE BIDIRECTIONAL ON B67-084.
- SIDE ROAD CLOSURES ARE NECESSARY WITHIN THE LIMITS OF THE CROSSOVER.
- ALTERNATE SIDE ROADS MUST REMAIN OPEN FOR ACCESS TO BUSINESSES.
- PLACE PORTABLE CHANGEABLE MESSAGE SIGN 7 DAYS PRIOR TO BEGINNING CONSTRUCTION 0.5 MILES BEFORE START OF LANE CLOSURE IN WESTBOUND DIRECTION. PCMS MESSAGE OR AS DIRECTED BY THE ENGINEER AS FOLLOWS:

PANEL 1:	BRIDGE CLOSED BEGINS	PANEL 2:	XXXXDAY XX/XX
----------	----------------------------	----------	------------------

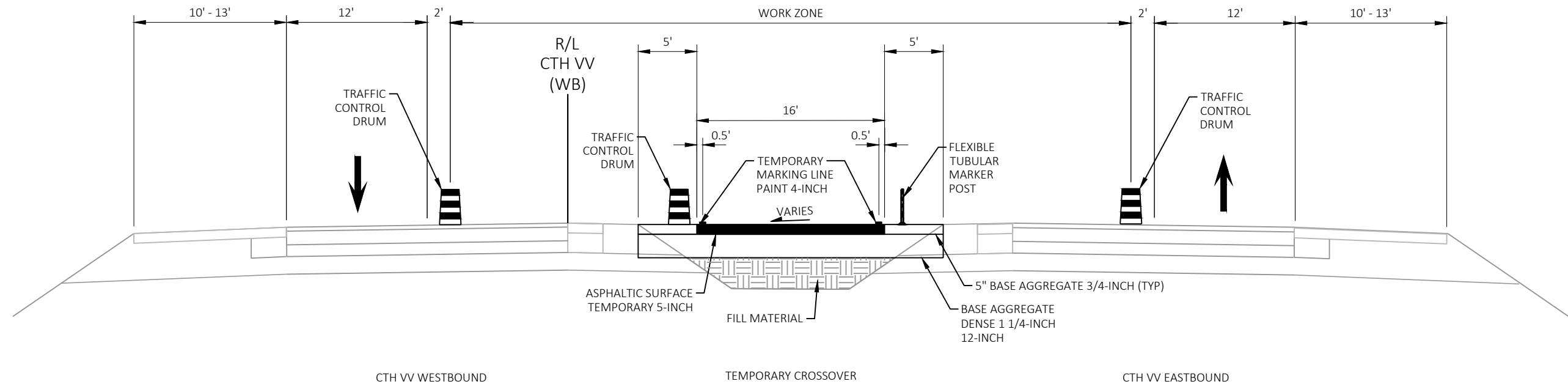
- PLACE PORTABLE CHANGEABLE MESSAGE SIGN 0.5 MILES BEFORE START OF LANE CLOSURE IN WESTBOUND DIRECTION. PCMS MESSAGE OR AS DIRECTED BY THE ENGINEER AS FOLLOWS:

PANEL 1:	BRIDGE CLOSED	PANEL 2:	NEW TRAFFIC PATTERN
----------	------------------	----------	---------------------------

STAGE 3

- TRAFFIC TO BE REDUCED TO ONE LANE IN EACH DIRECTION DURING CROSSOVER REMOVAL.
- CLOSE LEFT LANE IN EACH DIRECTION.
- UTILIZE SDD TRAFFIC CONTROL, SINGLE LANE CLOSURE, DIVIDED NON-FREEWAY/EXPRESSWAY FOR THIS CLOSURE.
- PLACE PORTABLE CHANGEABLE MESSAGE SIGN 0.5 MILES BEFORE START OF LANE CLOSURE INWESTBOUND DIRECTION. PCMS MESSAGE OR AS DIRECTED BY THE ENGINEER AS FOLLOWS:

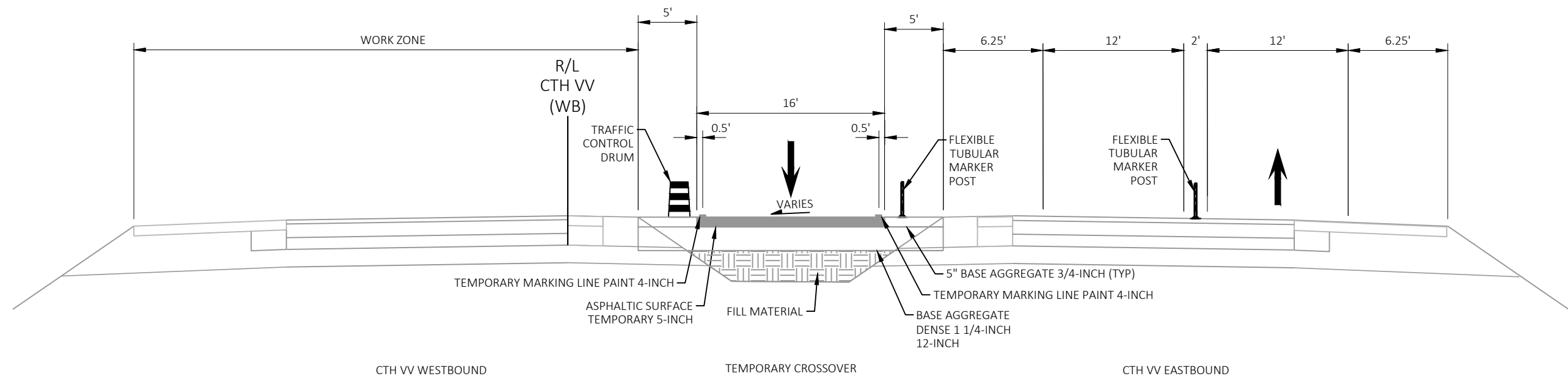
PANEL 1:	LEFT LANE CLOSED	PANEL 2:	AHEAD 0.5 MILES
----------	------------------------	----------	-----------------------



TRAFFIC CONTROL STAGE 1 & 3
(EASTBOUND & WESTBOUND LEFT LANE CLOSURES)

NOTES

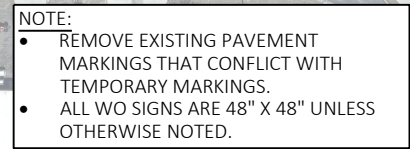
- TO BE USED TO CONSTRUCT AND REMOVE TEMPORARY CROSSOVERS
- OPEN LEFT LANE WHEN SAFE SLOPES ARE PRESENT AND NOT NEEDED BY CONSTRUCTION OPERATIONS
- PLACE TRAFFIC CONTROL BARRELS TO ALLOW TRAFFIC THE MAXIMUM WIDTH AVAILABLE (UNLESS ALTERNATIVE PLACEMENT IS APPROVED BY THE ENGINEER IN THE FIELD)

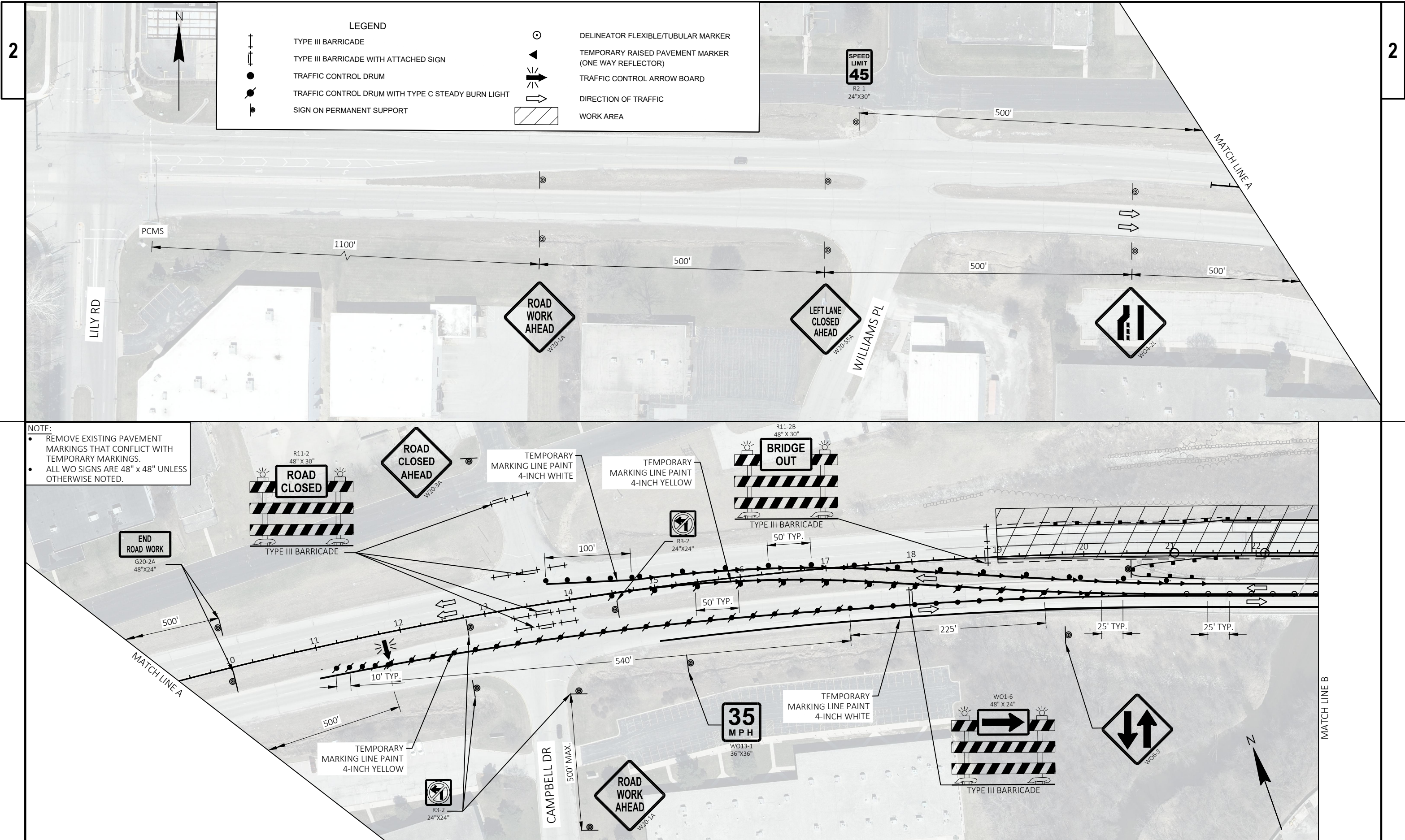


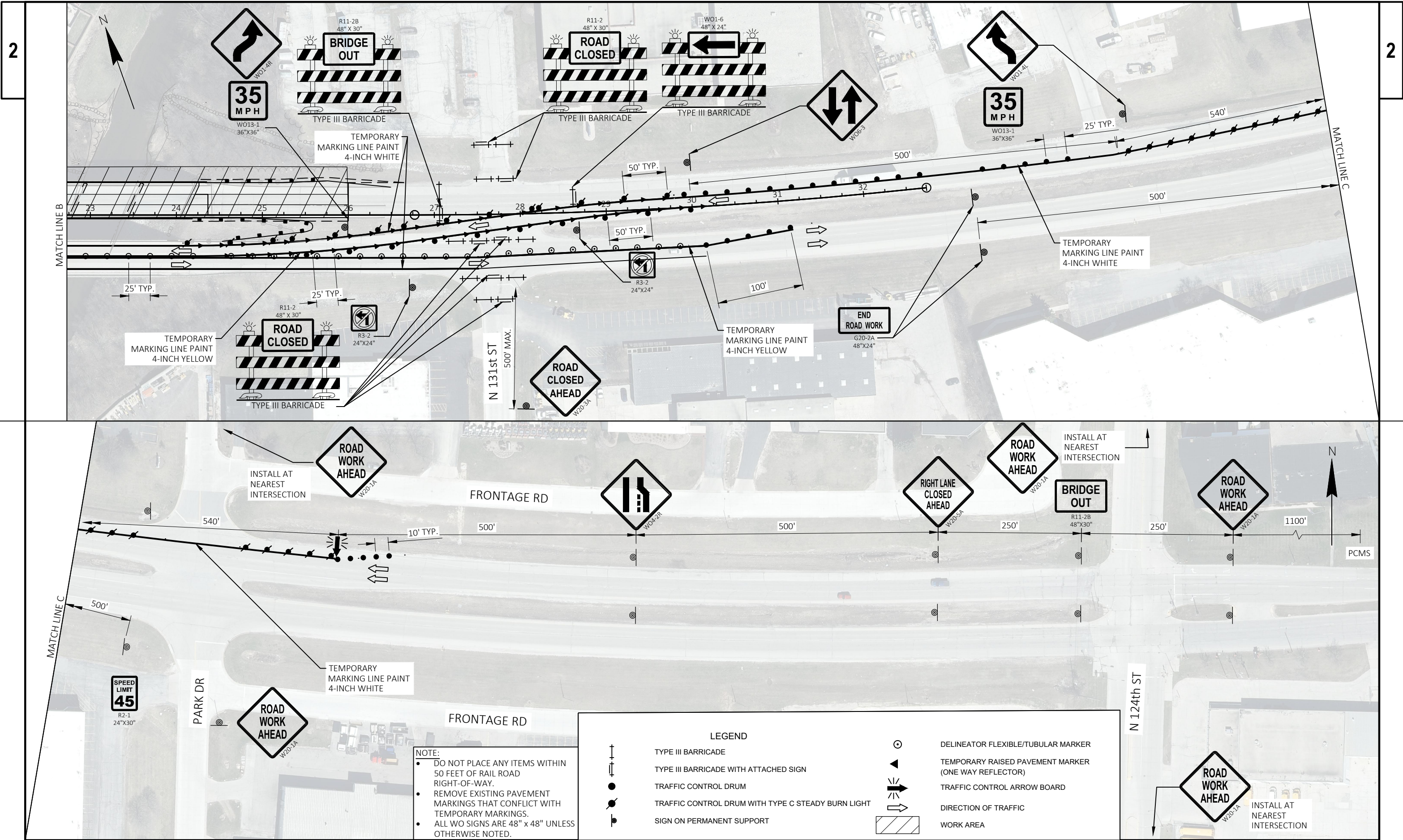
TRAFFIC CONTROL STAGE 2
(EASTBOUND & WESTBOUND BI-DIRECTIONAL ON EASTBOUND LANES)

NOTES

- TO BE USED FOR CONSTRUCTION OF CTH VV WESTBOUND BRIDGE







PROJECT NO: 2753-02-73

HWY: CTH VV

COUNTY: WAUKESHA

TRAFFIC CONTROL - STAGE 2

SHEET

18

E

FILE NAME : X:\BM1-4085 CTH VV WESTBOUND BRIDGE OVER MENOMONEE RIVER\5_DESIGN\03_ROADS\27530203\SHEETSPLAN\025100-TC.DWG
LAYOUT NAME - 02

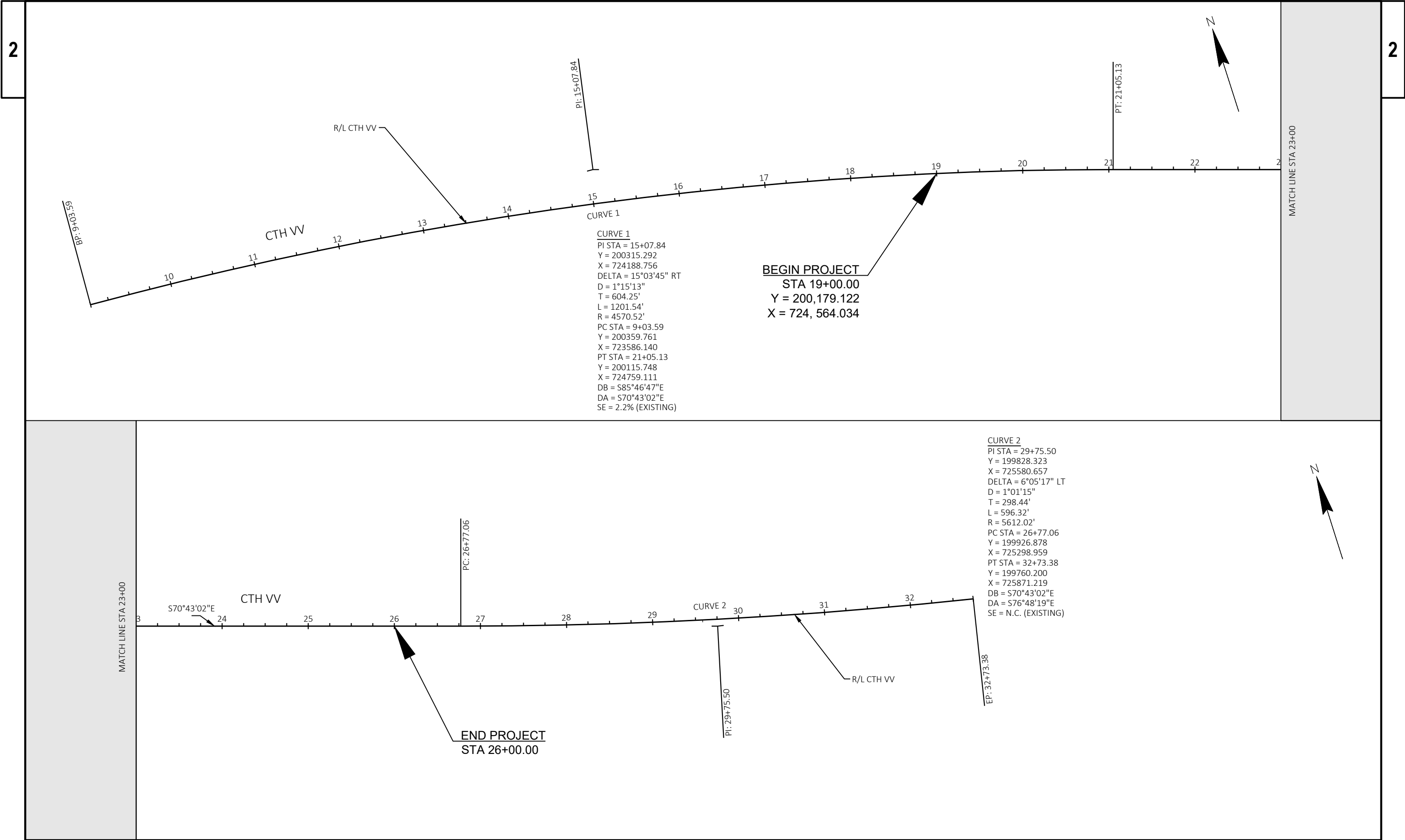
PLOT DATE : 9/10/2024 3:58 PM

PLOT BY : AMBER WALTERS

PLOT NAME :

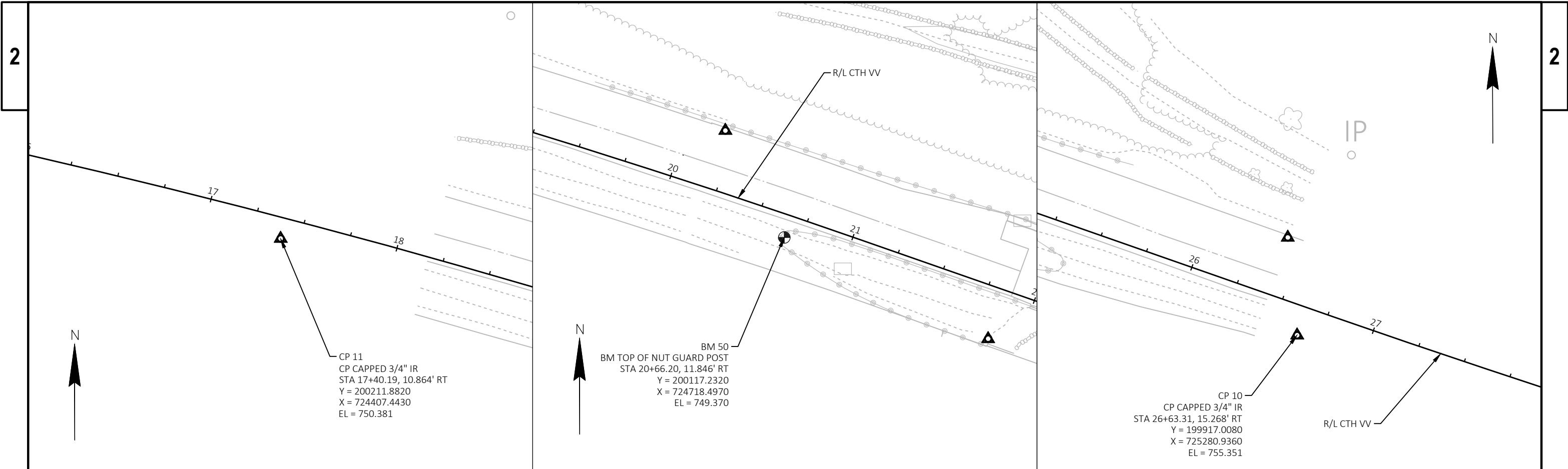
PLOT SCALE : 1 IN:100 FT

WISDOT/CADDs SHEET 42



WEST OF B-67-85					
STA	OUT SHLD	LN 2	LN 1	IN SHLD	NOTES
19+00.00	-0.5%	1.8%	1.9%	-2.0%	MATCH EXISTING
19+05.00	-0.6%	1.8%	1.8%	-2.0%	EVEN LANES
20+36.21	-4.0%	1.8%	1.8%	-2.0%	LOW POINT
20+48.00	-3.9%	1.8%	1.8%	-2.0%	END FULL SUPER
21+05.13	-3.1%	0.2%	0.2%	-0.3%	POINT OF TANGENT
21+13.21	-3.0%	0.0%	0.0%	0.0%	LEVEL CROWN
21+85.00	-2.1%	-2.0%	-2.0%	2.0%	NORMAL CROWN
21+95.26	-1.5%	-2.0%	-2.0%	2.0%	START OF CONCRETE PAV'T APPROACH SLAB

EAST OF B-67-85					
STA	OUT SHLD	LN 2	LN 1	IN SHLD	NOTES
24+36.75	-1.5%	-2.0%	-2.0%	2.0%	END OF CONCRETE PAV'T APPROACH SLAB
25+25.00	-3.3%	-2.0%	-2.0%	2.0%	BEGIN IN SHLD BREAK
25+70.00	-3.9%	-1.4%	-1.4%	1.2%	BEGIN LN 1 & LN 2 BREAKS
25+75.84	-4.0%	-1.4%	-1.3%	1.1%	POST 1 OF EAT/BEGIN OUT SHLD BREAK
26+00.00	-5.5%	-1.3%	-0.7%	0.7%	MATCH EXISTING



Estimate Of Quantities

2753-02-73

Line	Item	Item Description	Unit	Total	Qty
0002	201.0110	Clearing	SY	71.000	71.000
0004	201.0210	Grubbing	SY	71.000	71.000
0006	203.0211.S	Abatement of Asbestos Containing Material (structure) 01. B-67-85	EACH	1.000	1.000
0008	203.0260	Removing Structure Over Waterway Minimal Debris (structure) 01. B-67-85	EACH	1.000	1.000
0010	204.0100	Removing Concrete Pavement	SY	248.000	248.000
0012	204.0115	Removing Asphaltic Surface Butt Joints	SY	16.000	16.000
0014	204.0120	Removing Asphaltic Surface Milling	SY	1,763.000	1,763.000
0016	204.0165	Removing Guardrail	LF	830.000	830.000
0018	204.0220	Removing Inlets	EACH	1.000	1.000
0020	204.0245	Removing Storm Sewer (size) 01. 12-Inch	LF	80.000	80.000
0022	205.0100	Excavation Common	CY	602.000	602.000
0024	206.1001	Excavation for Structures Bridges (structure) 01. B-67-85	EACH	1.000	1.000
0026	208.0100	Borrow	CY	246.000	246.000
0028	210.1500	Backfill Structure Type A	TON	20.000	20.000
0030	213.0100	Finishing Roadway (project) 01. 2753-02-73	EACH	1.000	1.000
0032	305.0110	Base Aggregate Dense 3/4-Inch	TON	350.000	350.000
0034	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	315.000	315.000
0036	415.0410	Concrete Pavement Approach Slab	SY	188.000	188.000
0038	455.0605	Tack Coat	GAL	150.000	150.000
0040	460.2000	Incentive Density HMA Pavement	DOL	340.000	340.000
0042	460.6224	HMA Pavement 4 MT 58-28 S	TON	550.000	550.000
0044	465.0125	Asphaltic Surface Temporary	TON	143.000	143.000
0046	502.0100	Concrete Masonry Bridges	CY	348.000	348.000
0048	502.3200	Protective Surface Treatment	SY	931.000	931.000
0050	502.3210	Pigmented Surface Sealer	SY	179.000	179.000
0052	502.4205	Adhesive Anchors No. 5 Bar	EACH	338.000	338.000
0054	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	68,700.000	68,700.000
0056	506.4000	Steel Diaphragms (structure) 01. B-67-85	EACH	15.000	15.000
0058	509.1500	Concrete Surface Repair	SF	35.000	35.000
0060	509.9020.S	Epoxy Crack Sealing	LF	25.000	25.000
0062	513.4056	Railing Tubular Type H	LF	436.000	436.000
0064	516.0500	Rubberized Membrane Waterproofing	SY	3.000	3.000
0066	520.2012	Culvert Pipe Temporary 12-Inch	LF	75.000	75.000
0068	521.1012	Apron Endwalls for Culvert Pipe Steel 12-Inch	EACH	1.000	1.000
0070	530.0112	Culvert Pipe Corrugated Polyethylene 12-Inch	LF	13.000	13.000
0072	601.0588	Concrete Curb & Gutter 4-Inch Sloped 36-Inch Type TBT	LF	40.000	40.000
0074	606.0200	Riprap Medium	CY	22.000	22.000
0076	611.0430	Reconstructing Inlets	EACH	1.000	1.000
0078	611.0545	Manhole Covers Type L	EACH	1.000	1.000
0080	611.0654	Inlet Covers Type V	EACH	1.000	1.000
0082	611.2004	Manholes 4-FT Diameter	EACH	1.000	1.000
0084	611.3225	Inlets 2x2.5-FT	EACH	1.000	1.000
0086	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	20.000	20.000
0088	614.0150	Anchor Assemblies for Steel Plate Beam Guard	EACH	4.000	4.000
0090	614.0220	Steel Thrie Beam Bullnose Terminal	EACH	2.000	2.000
0092	614.0230	Steel Thrie Beam	LF	223.600	223.600
0094	614.0397	Guardrail Mow Strip Emulsified Asphalt	SY	250.000	250.000
0096	614.2300	MGS Guardrail 3	LF	200.000	200.000
0098	614.2330	MGS Guardrail 3 K	LF	112.500	112.500

Estimate Of Quantities

2753-02-73

Line	Item	Item Description	Unit	Total	Qty
0100	614.2500	MGS Thrie Beam Transition	LF	95.100	95.100
0102	614.2610	MGS Guardrail Terminal EAT	EACH	1.000	1.000
0104	614.2620	MGS Guardrail Terminal Type 2	EACH	1.000	1.000
0106	619.1000	Mobilization	EACH	1.000	1.000
0108	625.0100	Topsoil	SY	4,102.000	4,102.000
0110	628.1504	Silt Fence	LF	537.000	537.000
0112	628.1520	Silt Fence Maintenance	LF	537.000	537.000
0114	628.1905	Mobilizations Erosion Control	EACH	1.000	1.000
0116	628.1910	Mobilizations Emergency Erosion Control	EACH	1.000	1.000
0118	628.2006	Erosion Mat Urban Class I Type A	SY	4,102.000	4,102.000
0120	628.7010	Inlet Protection Type B	EACH	4.000	4.000
0122	629.0210	Fertilizer Type B	CWT	2.600	2.600
0124	630.0130	Seeding Mixture No. 30	LB	185.000	185.000
0126	630.0200	Seeding Temporary	LB	100.000	100.000
0128	630.0500	Seed Water	MGAL	231.000	231.000
0130	634.0814	Posts Tubular Steel 2x2-Inch X 14-FT	EACH	2.000	2.000
0132	637.2230	Signs Type II Reflective F	SF	6.000	6.000
0134	638.2102	Moving Signs Type II	EACH	2.000	2.000
0136	638.2602	Removing Signs Type II	EACH	2.000	2.000
0138	638.3000	Removing Small Sign Supports	EACH	2.000	2.000
0140	642.5201	Field Office Type C	EACH	1.000	1.000
0142	643.0300	Traffic Control Drums	DAY	21,900.000	21,900.000
0144	643.0420	Traffic Control Barricades Type III	DAY	3,500.000	3,500.000
0146	643.0500	Traffic Control Flexible Tubular Marker Posts	EACH	50.000	50.000
0148	643.0600	Traffic Control Flexible Tubular Marker Bases	EACH	50.000	50.000
0150	643.0715	Traffic Control Warning Lights Type C	DAY	6,500.000	6,500.000
0152	643.0800	Traffic Control Arrow Boards	DAY	300.000	300.000
0154	643.0900	Traffic Control Signs	DAY	7,590.000	7,590.000
0156	643.0920	Traffic Control Covering Signs Type II	EACH	35.000	35.000
0158	643.1050	Traffic Control Signs PCMS	DAY	170.000	170.000
0160	643.3105	Temporary Marking Line Paint 4-Inch	LF	8,684.000	8,684.000
0162	643.3760	Temporary Marking Raised Pavement Marker Type I	EACH	260.000	260.000
0164	643.5000	Traffic Control	EACH	1.000	1.000
0166	645.0120	Geotextile Type HR	SY	55.000	55.000
0168	646.1020	Marking Line Epoxy 4-Inch	LF	9,864.000	9,864.000
0170	646.3020	Marking Line Epoxy 8-Inch	LF	642.000	642.000
0172	646.9000	Marking Removal Line 4-Inch	LF	9,422.000	9,422.000
0174	646.9100	Marking Removal Line 8-Inch	LF	640.000	640.000
0176	650.4000	Construction Staking Storm Sewer	EACH	3.000	3.000
0178	650.6000	Construction Staking Pipe Culverts	EACH	1.000	1.000
0180	650.6501	Construction Staking Structure Layout (structure) 01. B-67-85	EACH	1.000	1.000
0182	650.8000	Construction Staking Resurfacing Reference	LF	498.000	498.000
0184	650.9911	Construction Staking Supplemental Control (project) 01. 2753-02-73	EACH	1.000	1.000
0186	650.9920	Construction Staking Slope Stakes	LF	498.000	498.000
0188	690.0150	Sawing Asphalt	LF	475.000	475.000
0190	715.0502	Incentive Strength Concrete Structures	DOL	348.000	348.000
0192	715.0720	Incentive Compressive Strength Concrete Pavement	DOL	188.000	188.000
0194	999.2000.S	Installing and Maintaining Bird Deterrent System (station) 01. 23+00	EACH	1.000	1.000
0196	ASP.1T0A	On-the-Job Training Apprentice at \$5.00/HR	HRS	700.000	700.000

Estimate Of Quantities

2753-02-73					
Line	Item	Item Description	Unit	Total	Qty
0198	ASP.1T0G	On-the-Job Training Graduate at \$5.00/HR	HRS	2,400.000	2,400.000
0200	SPV.0035	Special 01. Void Repair Grout	CY	3.000	3.000
0202	SPV.0060	Special 01. Cleaning and Painting Bearings	EACH	24.000	24.000
0204	SPV.0060	Special 02. Bearing Modification	EACH	12.000	12.000
0206	SPV.0060	Special 03. Foam Void Filling B-67-85	EACH	1.000	1.000
0208	SPV.0165	Special 01. Prestressed Concrete Girder Surface Repair	SF	6.000	6.000

3

CLEARING AND GRUBBING ITEMS							
CATEGORY	STATION	TO	STATION	LOCATION	201.0110 CLEARING SY	201.0210 GRUBBING SY	
0010	BEGIN	-	END	CTH VV	71	71	
				TOTAL 0010	71	71	

REMOVAL ITEMS										
					204.0100	204.0115	204.0120	204.0165	204.0220	204.0245.01
					REMOVING	REMOVING	REMOVING			
					CONCRETE	ASPHALTIC	ASPHALTIC			REMOVING
					PAVEMENT	SURFACE BUTT	SURFACE	REMOVING	REMOVING	STORM SEWER
					SY	JOINTS	MILLING	GUARDRAIL	INLETS	12-INCH
CATEGORY	STATION	TO	STATION	LOCATION	SY	SY	SY	LF	EACH	LF
0010	BEGIN	-	END	CTH VV	248	16	1,763	830	1	80
				TOTAL 0010	248	16	1,763	830	1	80

Division	From/To Station	Location	Common Excavation (1) (item # 205.0100)	Unexpanded Fill	Expanded Fill (3)	Mass Ordinate +/- (4)	Waste	Borrow (item # 208.0100)	Comment:
			Cut (2)		Factor 1.25				
1	0+00 to 6+00	CTH VV Crossover	170	19	23	147	147	0	West Crossover Installation
Division 1 Subtotal			170	19	23	147	147	0	
2	19+00 to 26+00	CTH VV	129	300	375	-246	-246	246	
Division 2 Subtotal			129	300	375	-246	-246	246	
3	0+00 to 6+00	CTH VV Crossover	303	5	7	296	296	0	West Crossover Removal
Division 3 Subtotal			303	5	7	296	296	0	
Grand Total 0010			602	324	405	197	197	246	
1) Common Excavation is the Cut. Item number 205.0100 2) Salvaged/Unsuable Pavement Material is included in Cut. 3) Expanded Fill Factor = 1.25. Expanded Fill = Unexpanded Fill * Fill Factor 4) The Mass Ordinate + or - Qty calculated for the Division. Plus quantity indicates an excess of material within the Division. Minus indicates a shortage of material within the Division.									

BASE AGGREGATE ITEMS							
CATEGORY	STATION	TO	STATION	LOCATION	305.0110 BASE AGGREGATE DENSE 3/4-INCH TON	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH TON	
0010	BEGIN	-	END	CTH VV	350	315	
				TOTAL 0010	350	315	

FINISHING ROADWAY 2753-02-73							
CATEGORY	STATION	TO	STATION	LOCATION	213.0100.01 EACH		
0010	BEGIN	-	END	CTH VV	1		
				TOTAL 0010	1		

CONCRETE PAVEMENT APPROACH SLAB							
CATEGORY	STATION	TO	STATION	LOCATION	415.0410 SY		
0010	BEGIN	-	END	CTH VV	188		
				TOTAL 0010	188		

HMA PAVEMENT ITEMS							
CATEGORY	STATION	TO	STATION	LOCATION	455.0605 TACK COAT GAL	460.6224 HMA PAVEMENT 4 MT 58-28 S TON	
0010	BEGIN	-	END	CTH VV	150	550	
				TOTAL 0010	150	550	

ASPHALTIC SURFACE TEMPORARY							
CATEGORY	STATION	TO	STATION	LOCATION	465.0125 TON		
0010	BEGIN	-	END	CTH VV	143		
				TOTAL 0010	143		

3

3

CULVERT AND MANHOLE ITEMS								
CATEGORY	STATION	TO	STATION	LOCATION	520.2012 CULVERT PIPE TEMPORARY 12-INCH LF	611.0545 MANHOLE COVERS TYPE L EACH	611.2004 MANHOLES 4-FT DIAMETER EACH	
0010	BEGIN	-	END	CTH VV	75	1	1	
				TOTAL 0010	75	1	1	

MOBILIZATION						
CATEGORY	STATION	TO	STATION	LOCATION	619.1000 EACH	
0010	BEGIN	-	END	CTH VV	1	
				TOTAL 0010	1	

DRAINAGE ITEMS															
CATEGORY	STATION	LOCATION	OFFSET*	RIM** ELEVATION	INVERT/INLET*** ELEVATION	DEPTH**** FT	OUTLET***** ELEVATION	SLOPE FT/FT	521.1012 APRON ENDWALLS FOR CULVERT PIPE STEEL 12-INCH EACH	530.0112 CULVERT PIPE CORRUGATED POLYETHYLENE 12-INCH LF	601.0588 CONCRETE CURB & GUTTER 4-INCH SLOPED 36- INCH TYPE TBT LF	611.0430 RECONSTRUCTING INLETS EACH	611.0654 INLET COVERS TYPE V EACH	611.3225 INLETS 2X2.5-FT EACH	REMARKS
0010	21+01	RT	17.88 RT	--	--	--	--	--	--	--	--	1	--	--	
	21+74	LT	36.89' LT	749.34	745.00	3.01	744.39	5.00%	1	13	40	--	1	1	CONCRETE SURFACE DRAIN DROP INLET AT STRUCTURE
								TOTAL 0010	1	13	40	1	1	1	

*STATIONS AND OFFSETS ARE TO CENTER OF STRUCTURE
**RIM ELEV IS AT THE INLET COVER FLANGE LOCATION
***FOR STRUCTURES WITH SUMPS, THE INVERT ELEVATION IS THE ELEVATION OF THE SUMP. FOR STRUCTURES WITHOUT SUMPS, THE INVERT ELEVATION IS THE ELEVATION OF THE LOWEST PIPE FLOW LINE
****DEPTH = RIM ELEV - TOP OF STRUCTURE BASE ELEV - COVER HEIGHT - 6-INCH ADJUSTMENT RING HEIGHT
*****PIPE INVERT AT END OF PIPE FOR INFORMATION ONLY. FIELD VERIFY

GUARDRAIL ITEMS														
CATEGORY	STATION	TO	STATION	LOCATION	614.0220 STEEL THRIE BEAM BULLNOSE TERMINAL EACH	614.0230 STEEL THRIE BEAM LF	614.0397 GUARDRAIL MOW STRIP EMULSIFIED ASPHALT SY	614.2300 MGS GUARDRAIL 3 LF	614.2330 MGS GUARDRAIL 3 K LF	614.2500 MGS THRIE BEAM TRANSITION LF	614.2610 MGS GUARDRAIL TERMINAL EAT EACH	614.2620 MGS GUARDRAIL TERMINAL TYPE 2 EACH	REMARKS	
0010	19+56	-	22+19	LT	--	--	80	150.00	112.50	8.15	--	1	NW QUADRANT	
	20+55	-	22+02	RT	1	120.25	40	--	--	8.15	--	--	SW QUADRANT	
	24+17	-	25+59	RT	1	103.35	60	--	--	39.40	--	--	SE QUADRANT	
	24+33	-	25+76	LT	--	--	70	50.00	--	39.40	1	--	NE QUADRANT	
				TOTAL 0010	2	223.60	250	200.00	112.50	95.10	1	1		

3

3

EROSION CONTROL ITEMS																		
CATEGORY	STATION	TO	STATION	LOCATION	606.0200 RIPRAP MEDIUM CY	625.0100 TOPSOIL SY	628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINTENANCE LF	628.1905 MOBILIZATIONS EROSION CONTROL EACH	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EACH	628.2006 EROSION MAT URBAN CLASS I TYPE A SY	628.7010 INLET PROTECTION TYPE B EACH	629.0210 FERTILIZER TYPE B CWT	630.0130 SEEDING MIXTURE NO. 30 LB	630.0200 SEEDING TEMPORARY LB	630.0500 SEED WATER MGAL	645.0120 GEOTEXTILE TYPE HR SY	REMARKS
0010	BEGIN	-	END	CTH VV	20	4,102	537	537	1	1	4,102	4	2.6	185	100	231	45	4 WEEKS SEED WATERING
				TOTAL 0010	20	4,102	537	537	1	1	4,102	4	2.6	185	100	231	45	

SIGN ITEMS									
CATEGORY	STATION	TO	STATION	LOCATION	634.0814 POSTS TUBULAR STEEL 2X2-INCH X 14-FT EACH	637.2230 SIGNS TYPE II REFLECTIVE F SF	638.2102 MOVING SIGNS TYPE II EACH	638.2602 REMOVING SIGNS TYPE II EACH	638.3000 REMOVING SMALL SIGN SUPPORTS EACH
0010	BEGIN	-	END	CTH VV	2	6	2	2	2
				TOTAL 0010	2	6	2	2	2

TEMPORARY MARKING LINE PAINT 4-INCH									
CATEGORY	STATION	TO	STATION	LOCATION	643.3105				
					WHITE LF	YELLOW LF	DOUBLE YELLOW LF		
0010	5+50	-	11+00	STAGE 1	--	550	--		
	32+25	-	37+75	STAGE 1	--	550	--		
	10+00	-	17+25	STAGE 2	717	--	--		
	20+98	-	24+39	STAGE 2	--	--	341		
	24+39	-	27+50	STAGE 2	--	312	--		
	35+00	-	40+50	STAGE 2	550	--	--		
	14+45	-	20+98	STAGE 2	--	653	--		
	14+75	-	20+98	STAGE 2	623	--	--		
	24+07	-	29+79	STAGE 2	574	--	--		
	24+39	-	30+17	STAGE 2	--	582	--		
	20+98	-	24+07	STAGE 2	309	--	--		
	10+00	-	28+25	STAGE 2	1,823	--	--		
	5+50	-	11+00	STAGE 3	--	550	--		
	32+25	-	37+75	STAGE 3	--	550	--		
				TOTAL 0010	8,684				

FIELD OFFICE TYPE C						
CATEGORY	STATION	TO	STATION	LOCATION	642.5201 EACH	
0010	BEGIN	-	END	CTH VV	1	
				TOTAL 0010	1	

TRAFFIC CONTROL ITEMS

						643.0300		643.0420		643.0500		643.0600		643.0715		643.0800		643.0900		643.0920			643.1050		643.3760		643.5000	
										TRAFFIC CONTROL FLEXIBLE TUBULAR MARKER POSTS		TRAFFIC CONTROL FLEXIBLE TUBULAR MARKER BASES								TRAFFIC CONTROL COVERING SIGNS TYPE II			TRAFFIC CONTROL SIGNS PCMS		TEMPORARY MARKING RAISED PAVEMENT MARKER TYPE I		TRAFFIC CONTROL	
						TRAFFIC CONTROL DRUMS		TRAFFIC CONTROL BARRICADES TYPE III						TRAFFIC CONTROL WARNING LIGHTS TYPE C		TRAFFIC CONTROL ARROW BOARDS												
CATEGORY	STATION	TO	STATION	STAGE	DURATION DAYS	EACH**	DAY	EACH**	DAY	EACH	EACH	EACH**	DAY	EACH**	DAY	EACH**	DAY	NUMBER OF SIGNS	NUMBER OF CYCLES	EACH	EACH**	DAY	EACH	EACH				
0010	BEGIN	-	END	PRE-STAGE 1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2	14	--	--				
	BEGIN	-	END	STAGE 1	10	96	960	10	100	--	--	22	220	2	20	50	500	5	2	10	2	14	--	--				
	BEGIN	-	END	PRE-STAGE 2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1	7	--	--				
	BEGIN	-	END	STAGE 2	120	150	18,000	27	3,240	38	38	50	6,000	2	240	54	6,480	5	2	10	1	120	243	--				
	BEGIN	-	END	STAGE 3	10	96	960	10	100	--	--	22	220	2	20	50	500	5	2	10	1	7	--	--				
	UNDISTRIBUTED						1,980		60		12	12	60		20		110		5		8		17		1			
TOTAL 0010						21,900		3,500		50	50	6,500		300		7,590		35		170		260		1				

** FOR INFORMATIONAL PURPOSES ONLY

PAVEMENT MARKING ITEMS

					646.1020			646.3020			646.9000			646.9100		
					MARKING LINE EPOXY 4-INCH			MARKING LINE EPOXY 8-INCH			MARKING REMOVAL LINE 4-INCH			MARKING REMOVAL LINE 8-INCH		
					WHITE 12.5 FT LINE						WHITE 12.5 FT LINE					
CATEGORY	STATION	TO	STATION	LOCATION	WHITE LF	YELLOW LF	37.5 FT SKIP LF	WHITE LF			WHITE LF	YELLOW LF	37.5 FT SKIP LF	WHITE LF		
0010	BEGIN	-	END	CTH VV	4,358	4,385	1,121	642			4,161	4,189	1,072	640		
TOTAL 0010					9,864			642			9,422			640		

SAWING ASPHALT

CATEGORY	STATION	TO	STATION	LOCATION	690.0150 LF
0010	BEGIN	-	END	CTH VV	475
TOTAL 0010					475

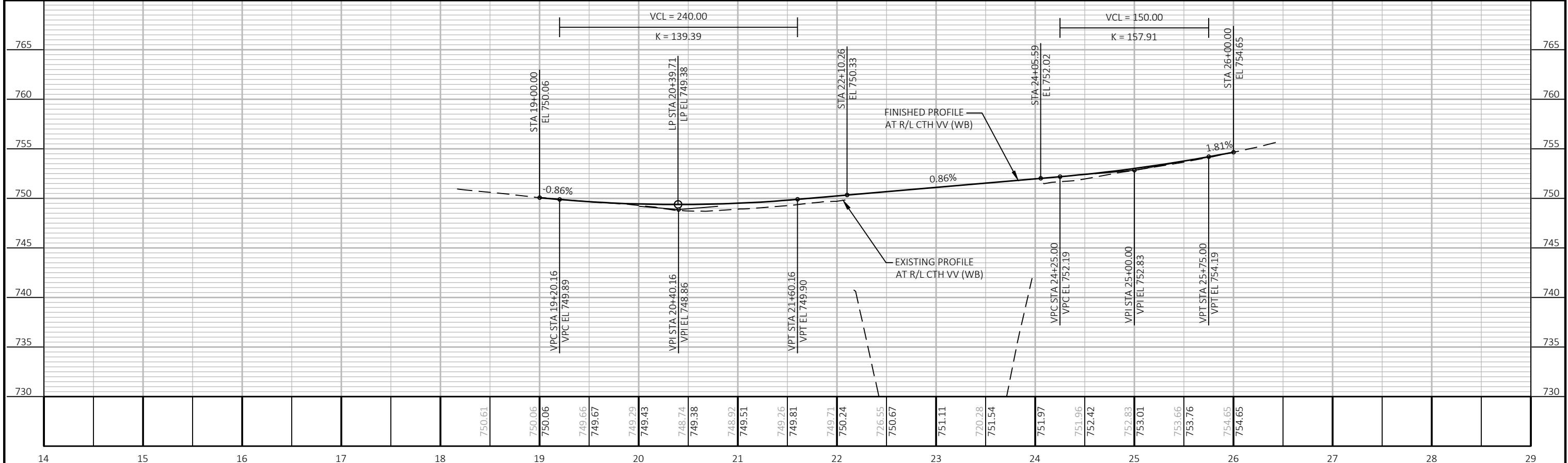
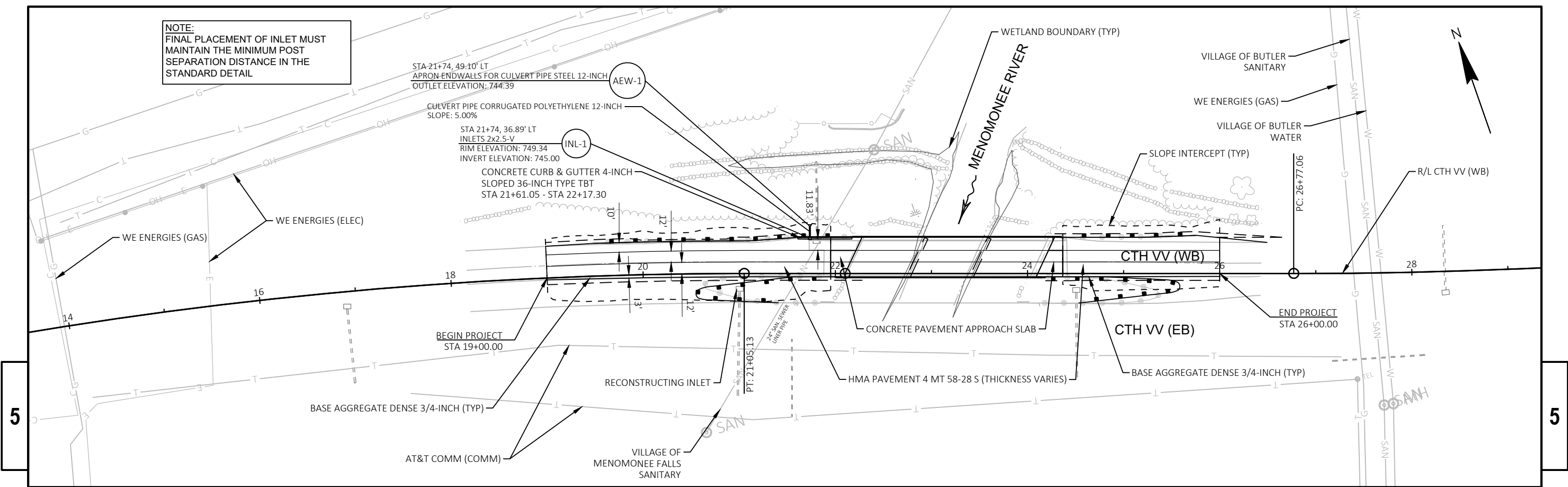
INSTALLING AND MAINTAINING BIRD DETERRENT SYSTEM (STATION) 23+00

CATEGORY	STATION	LOCATION	999.2000.S.01 EACH
0010	23+00	CTH VV	1
TOTAL 0010			1

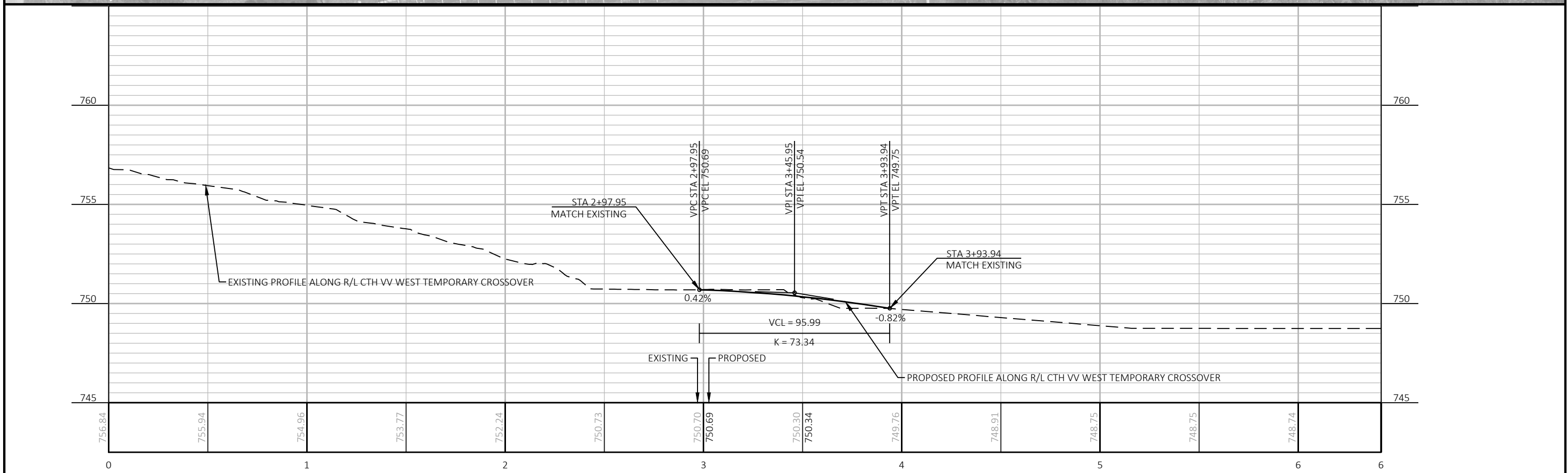
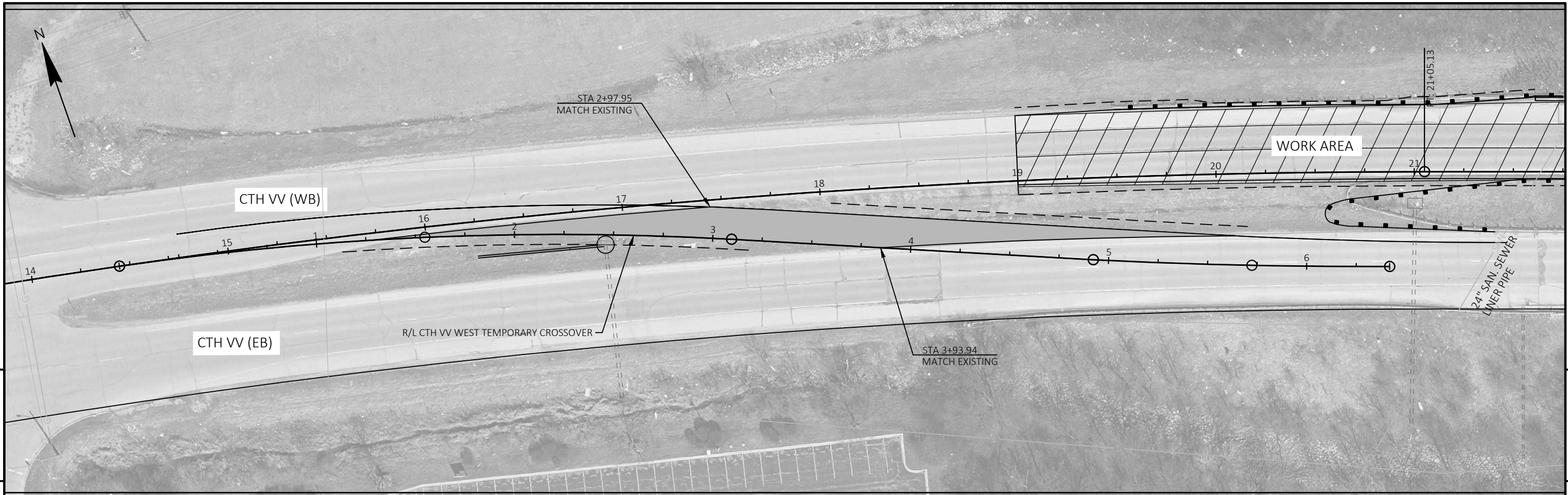
CONSTRUCTION STAKING ITEMS

					650.4000		650.6000		650.8000		650.9920		650.6501.01		650.9911.01	
					CONSTRUCTION STAKING STORM SEWER	EACH	CONSTRUCTION STAKING PIPE CULVERTS	EACH	CONSTRUCTION STAKING RESURFACING REFERENCE	LF	CONSTRUCTION STAKING SLOPE STAKES	LF	CONSTRUCTION STAKING STRUCTURE LAYOUT (B-67-85)	EACH	CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (2753-02-73)	EACH
CATEGORY	STATION	TO	STATION	LOCATION	EACH	EACH	EACH	EACH	LF	LF	LF	LF	EACH	EACH	EACH	EACH
0010	BEGIN	-	END	CTH VV	3	1	498	498	1	498	1	1	1	1	1	1
	TOTAL 0010				3	1	498	498	1	498	1	1	1	1	1	1

NOTE:
FINAL PLACEMENT OF INLET MUST
MAINTAIN THE MINIMUM POST
SEPARATION DISTANCE IN THE
STANDARD DETAIL



PROJECT NO:	2753-02-73	HWY:	CTH VV	COUNTY:	WAUKESHA	PLAN AND PROFILE:	CTH VV	SHEET	29	E
-------------	------------	------	--------	---------	----------	-------------------	--------	-------	----	---



Standard Detail Drawing List

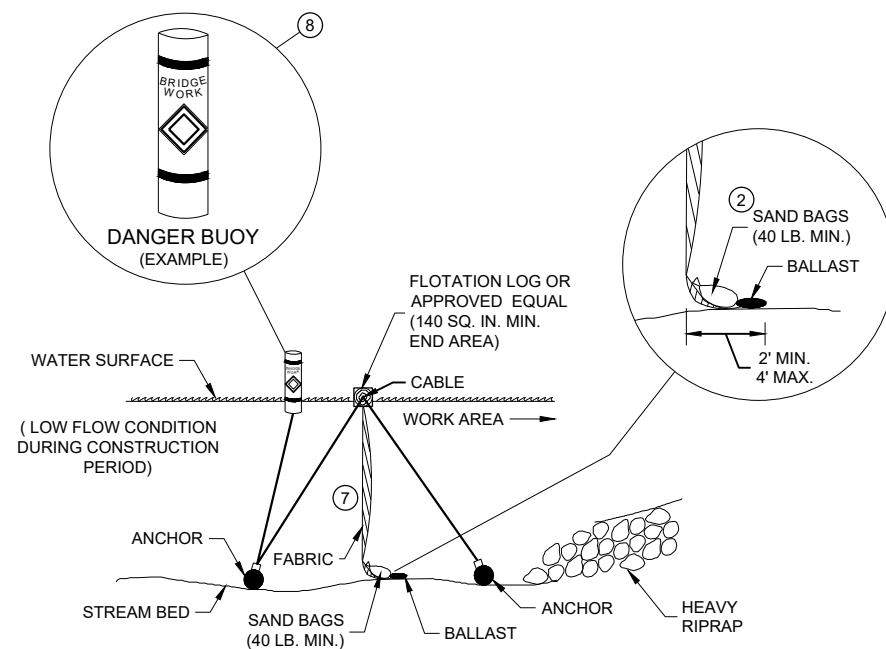
08A05-21D	INLET COVERS TYPE V, V-B, & VV-B
08A05-21E	INLET COVER TYPE BW, MANHOLE COVERS, TYPE K, J, J-S, L & M
08B09-04	MANHOLES 3-FT, 4-FT, 5-FT, 6-FT, 7-FT, 8-FT, 9-FT, 10-FT DIAMETER
08C07-03	INLETS 2X2-FT, 2X2.5-FT, 2X3-FT, 2.5X3-FT & 2X3.5-FT
08D01-23A	CONCRETE CURB & GUTTER
08D01-23B	CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS
08D03-09A	CONCRETE SURFACE DRAINS DROP INLET TYPE AT STRUCTURES
08D03-09B	CONCRETE SURFACE DRAINS DROP INLET TYPE AT STRUCTURES
08E09-06	SILT FENCE
08E10-02	INLET PROTECTION TYPE A, B, C AND D
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
08F04-08	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
12A03-10	NAME PLATE (STRUCTURES)
13B02-09A	CONCRETE PAVEMENT APPROACH SLAB
13C19-03	HMA LONGITUDINAL JOINTS
14B20-12A	STEEL THRIE BEAM STRUCTURE APPROACH
14B20-12B	STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO SQUARE END PARAPETS
14B20-12C	STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO VERTICAL FACED PARAPETS
14B20-12G	STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTOR PLATE DETAIL
14B20-12H	STEEL THRIE BEAM STRUCTURE APPROACH, SINGLE SLOPE ATTACHMENT
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
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)
14B45-05E	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
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
15C02-09A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-09B	BARRICADES AND SIGNS FOR VARIOUS CLOSURES
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
15C19-08C	MOVING PAVEMENT MARKING OPERATION MULTI-LANE DIVIDED ROADWAY
15D06-06	TRAFFIC CONTROL, TWO LANE TWO WAY OPERATION
15D11-09	TRAFFIC CONTROL, SINGLE LANE CROSSOVER
15D20-07A	TRAFFIC CONTROL, SINGLE LANE CLOSURE, DIVIDED NON-FREEWAY/EXPRESSWAY
15D21-07A	TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE
15D21-07B	TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE



- 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 1½" X 1½" 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.

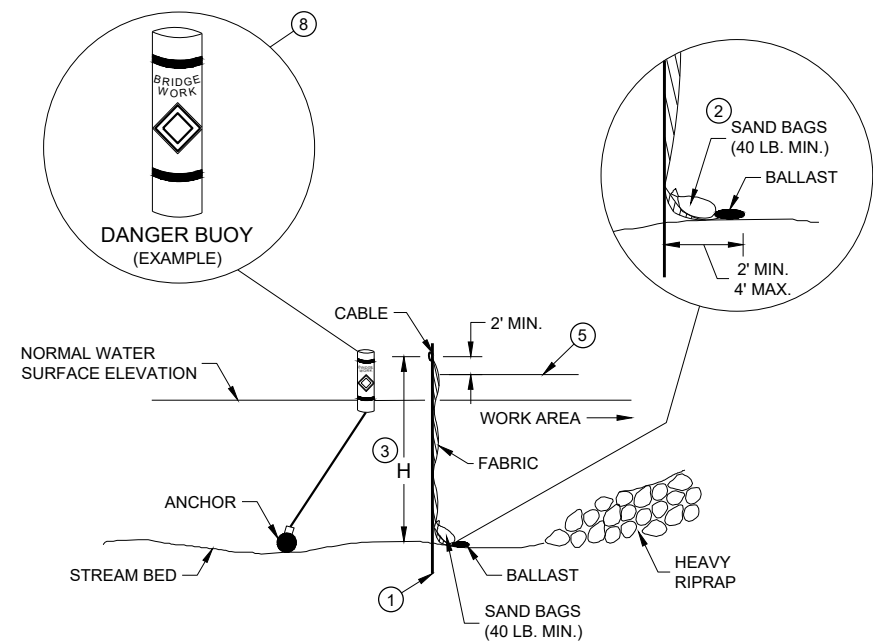


SILT FENCE
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION
APPROVED <u>4-29-05</u> DATE <u>/S/ Beth Connolly</u> CHIEF ROADWAY DEVELOP <u>32</u> INCHES FHWA



SECTION B - B

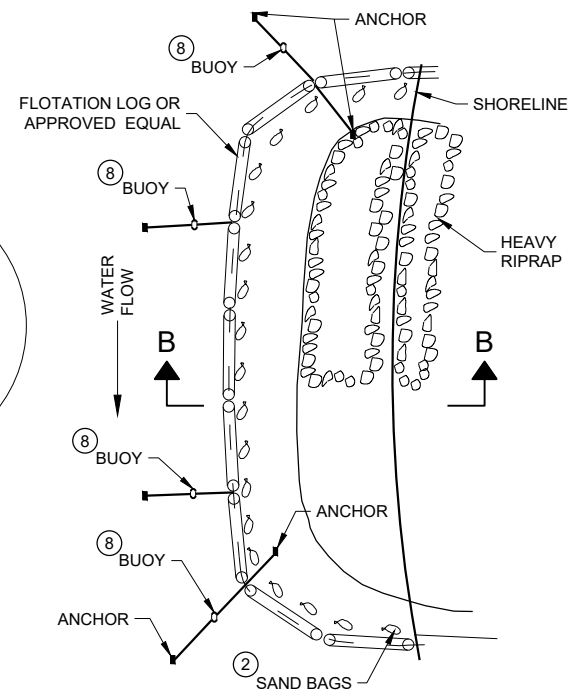
TURBIDITY BARRIER - FLOAT ALTERNATIVE CAUTION - SEE NOTE 6



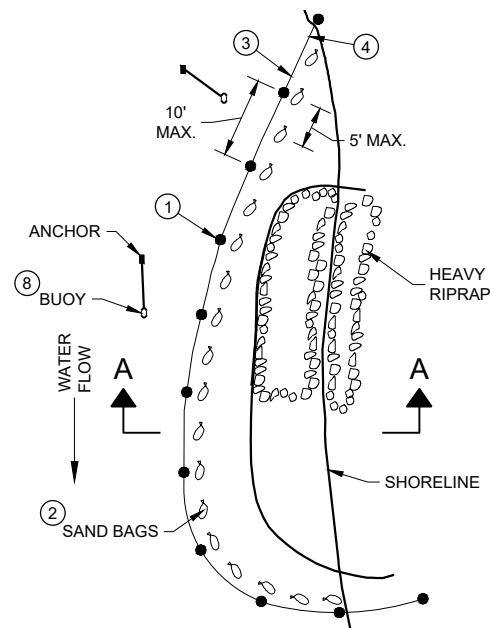
SECTION A - A

TURBIDITY BARRIER - STANDARD POST INSTALLATION

TURBIDITY BARRIER PLACEMENT DETAILS



PLAN VIEW



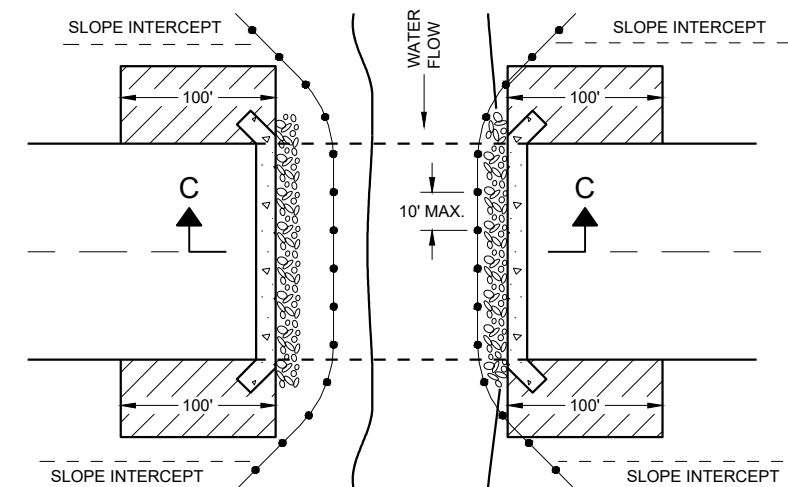
PLAN VIEW

GENERAL NOTES

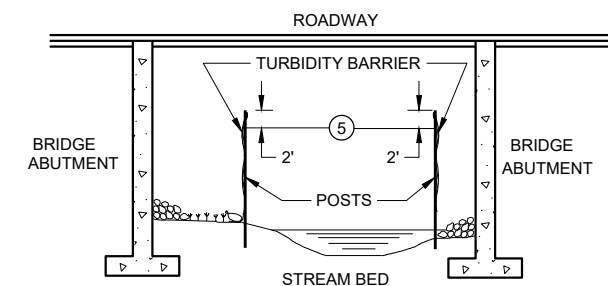
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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

- ① DRIVEN STEEL POSTS, PIPES, OR CHANNELS. LENGTH SHALL BE SUFFICIENT TO SECURELY SUPPORT BARRIER AT HIGH WATER ELEVATIONS.
- ② SAND BAGS TO BE USED AS ADDITIONAL BALLAST WHEN ORDERED BY THE ENGINEER TO MEET ADVERSE FIELD CONDITIONS. SPACE AS APPROPRIATE FOR SITE CONDITIONS.
- ③ WHEN BARRIER HEIGHT "H" EXCEEDS 8 FEET, POST SPACING MAY NEED TO BE DECREASED.
- ④ IN WATERWAYS SUBJECT TO FLUCTUATING WATER ELEVATIONS, PROVISIONS SHOULD BE MADE TO ALLOW THE WATER TO EQUALIZE ON EACH SIDE OF THE BARRIER. THIS MAY BE ACCOMPLISHED BY LEAVING A PORTION OF THE BARRIER OPEN ON THE UPSTREAM END.
- ⑤ ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION PERIOD. MINIMUM BARRIER HEIGHT SHALL BE 2' GREATER THAN EITHER THE Q2 ELEVATION OR THE ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION, WHICHEVER IS GREATER.
- ⑥ FLOAT ALTERNATIVE WILL ONLY BE ALLOWED WITH WRITTEN APPROVAL OF THE ENGINEER, AND IS MEANT FOR LOCATIONS WHERE BEDROCK PREVENTS THE INSTALLATION OF POSTS.
- ⑦ ALLOW SUFFICIENT SLACK VERTICALLY AND HORIZONTALLY SO THAT SEDIMENT BUILD UP WILL NOT SEPARATE OR LOWER THE TURBIDITY BARRIER.
- ⑧ USE AS DIRECTED BY COAST GUARD OR DNR PERMIT WHEN WORKING IN NAVIGABLE WATERWAYS.



PLAN VIEW



SECTION C - C

TURBIDITY BARRIER DETAIL SHOWING TYPICAL PLACEMENT AT STRUCTURES

TURBIDITY BARRIER

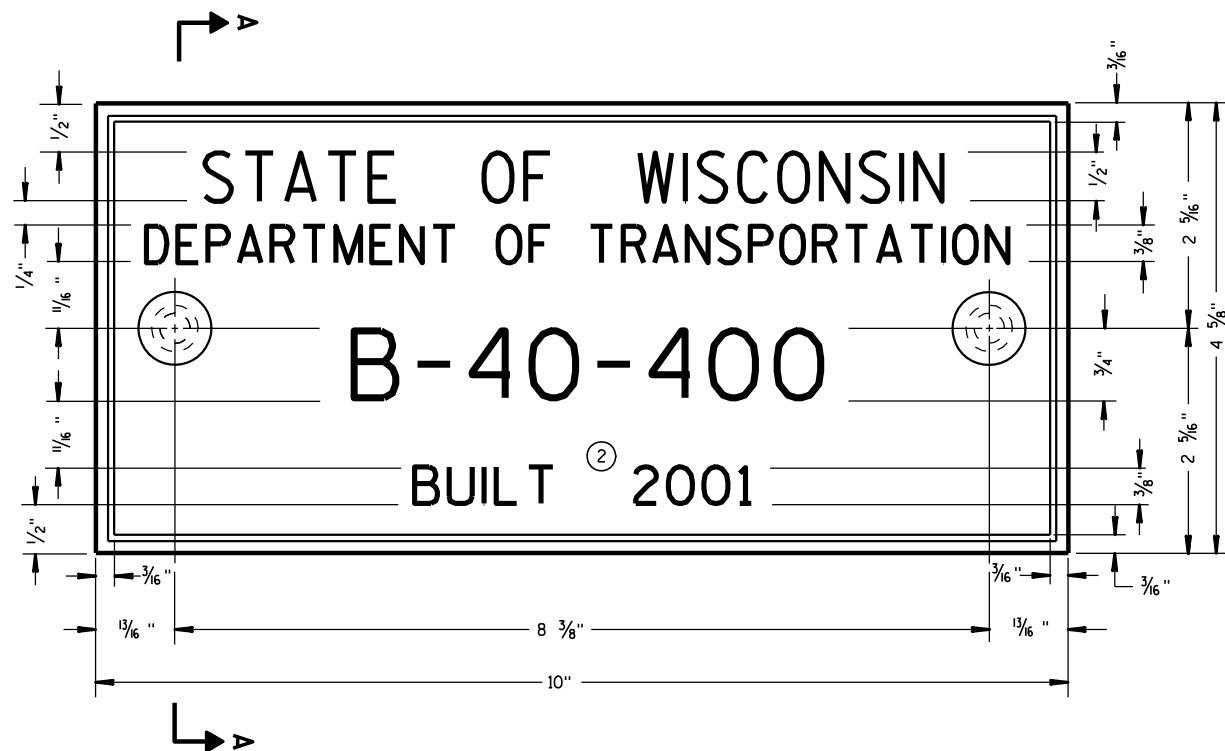
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

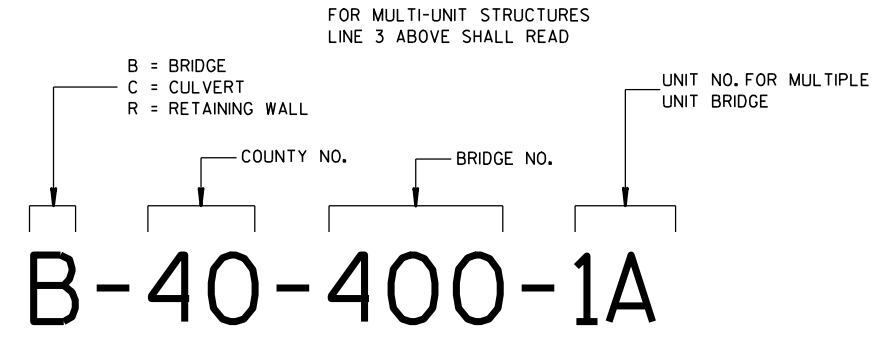
6/4/02
DATE

/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPER
ENGINEER

FHWA



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



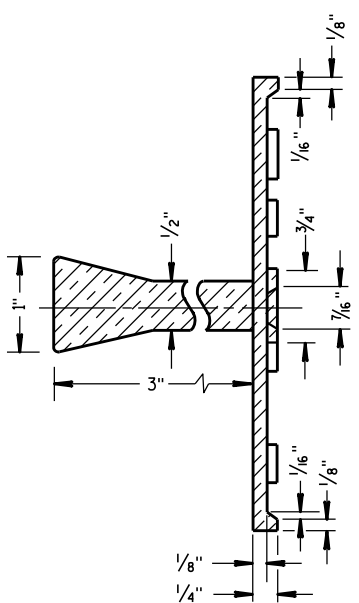
**NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES**

GENERAL NOTES

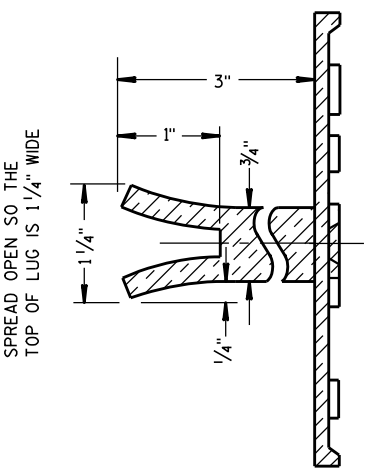
NAME PLATES TO BE INSTALLED ON BRIDGES, CULVERTS, AND RETAINING WALLS SHALL CONFORM TO THE REQUIREMENTS OF SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS.

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

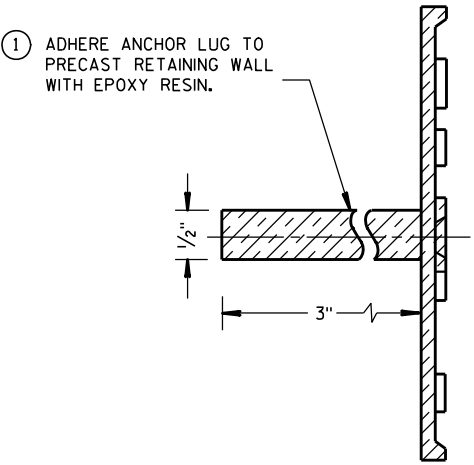
- ① EPOXY RESIN SHALL BE FROM AN APPROVED MANUFACTURER AND USED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
- ② REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.



SECTION A-A



ALTERNATE LUG

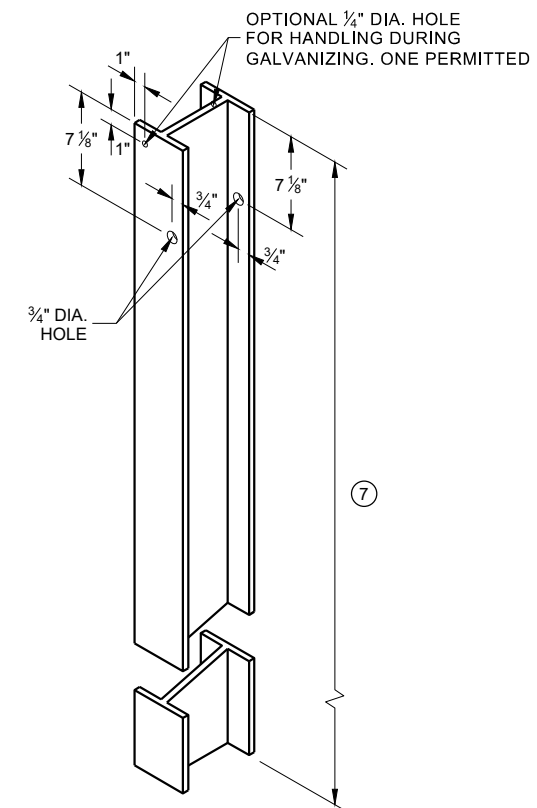
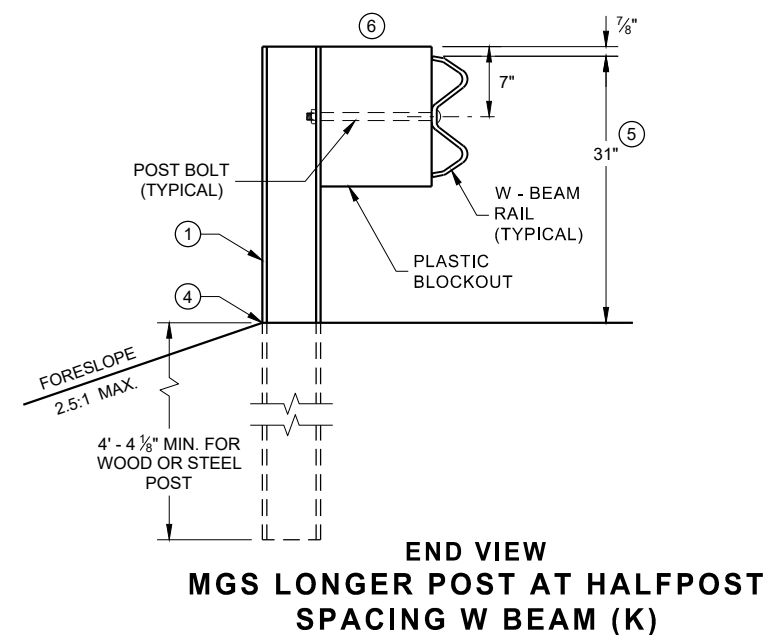
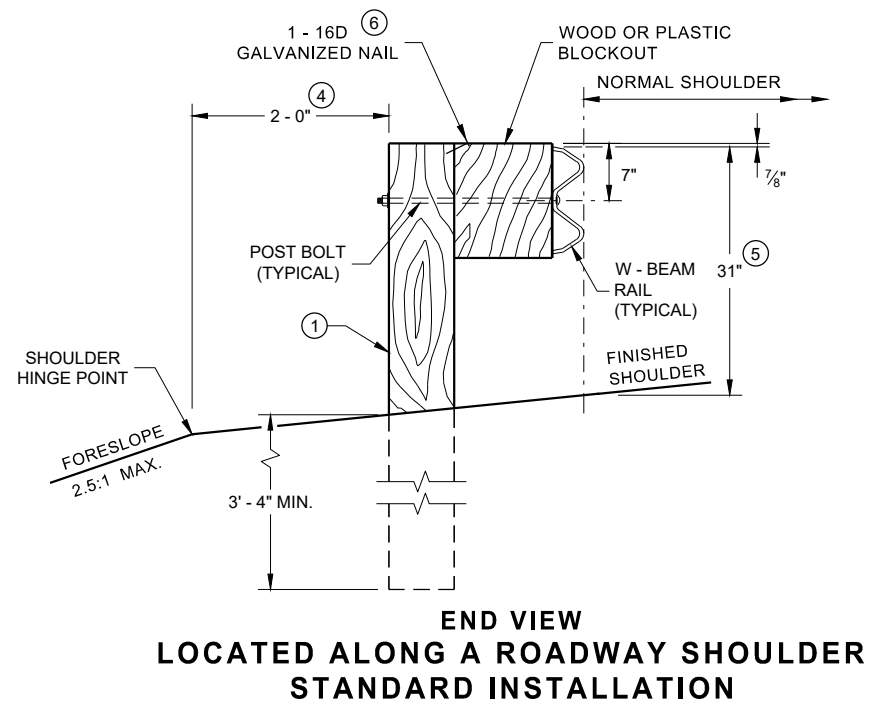
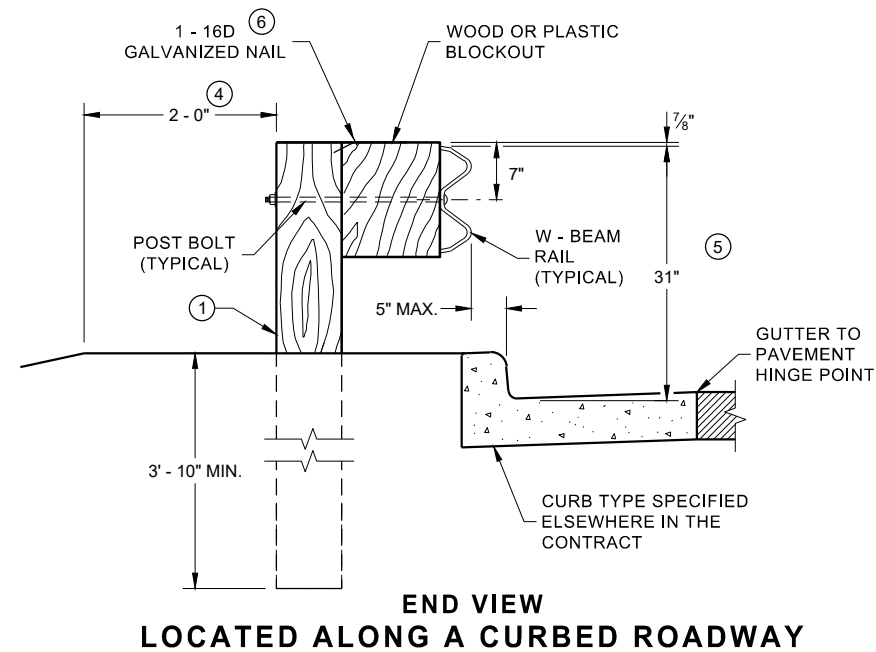
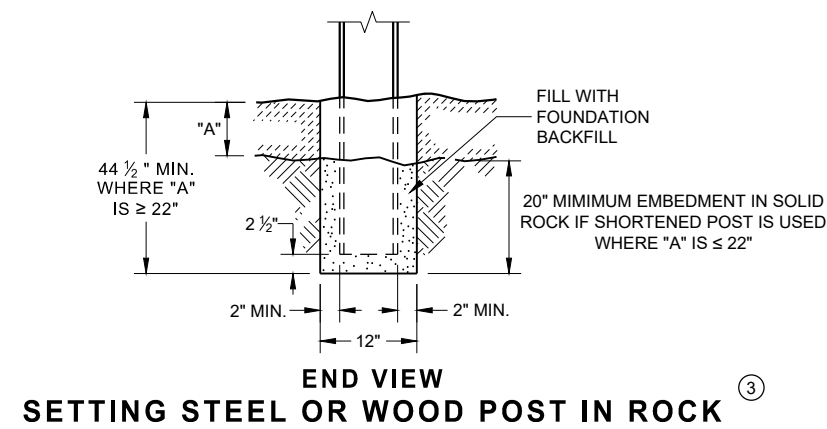


- ① ADHERE ANCHOR LUG TO PRECAST RETAINING WALL WITH EPOXY RESIN.

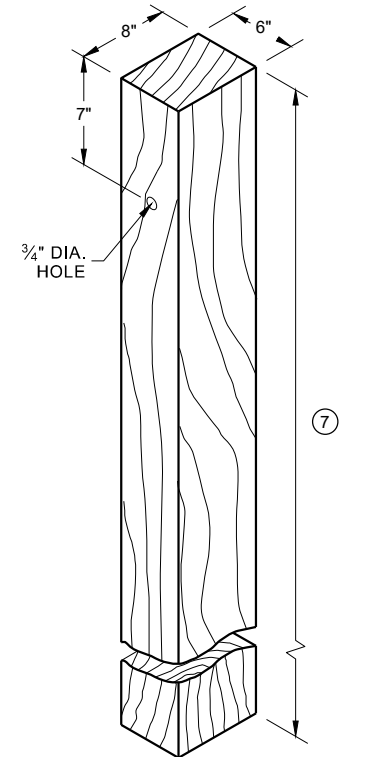
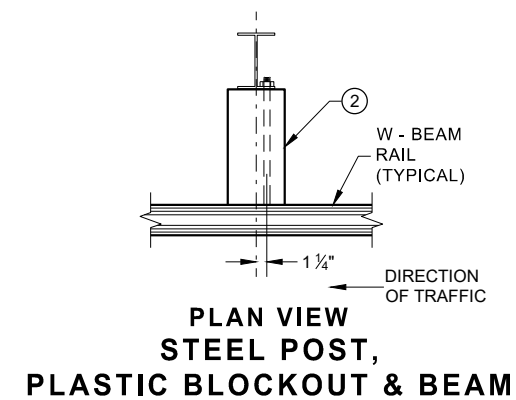
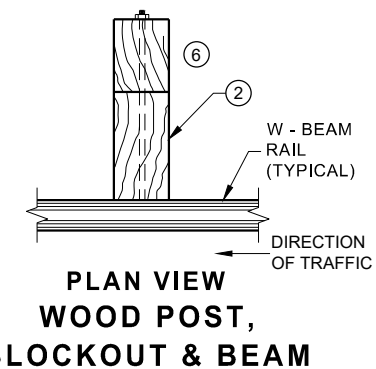
ALTERNATE LUG
(FOR ATTACHMENT TO PRECAST STRUCTURES)

NAME PLATE (STRUCTURES)		
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION		
APPROVED DATE 3/26/10	CHIEF STRUCTURAL DEVELOPER /S/ Scot Beck 34	JEER

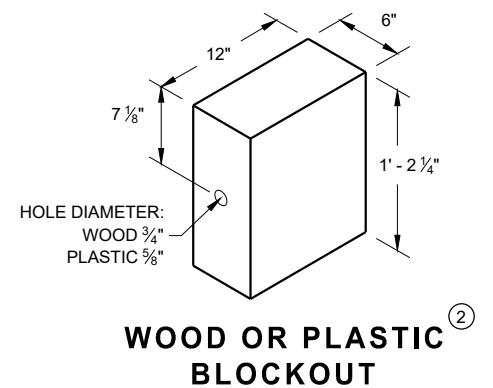
- ① WOOD OR STEEL POSTS (w6X9 OR w6X8.5) MAY BE USED. DO NOT INTERMIX WOOD AND STEEL POSTS. INSTALL STEEL POSTS WITH HOLES ON APPROACHING TRAFFIC SIDE.
- ② USE WOOD OR APPROVED PLASTIC BLOCKOUTS. WOOD BLOCKOUTS MAY BE CONSTRUCTED OUT OF TWO OR MORE WOOD BLOCKOUTS. SEE ALTERNATE WOOD BLOCKOUT DETAIL. 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 AND 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 $\pm 1"$. FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27 3/4" 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".



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



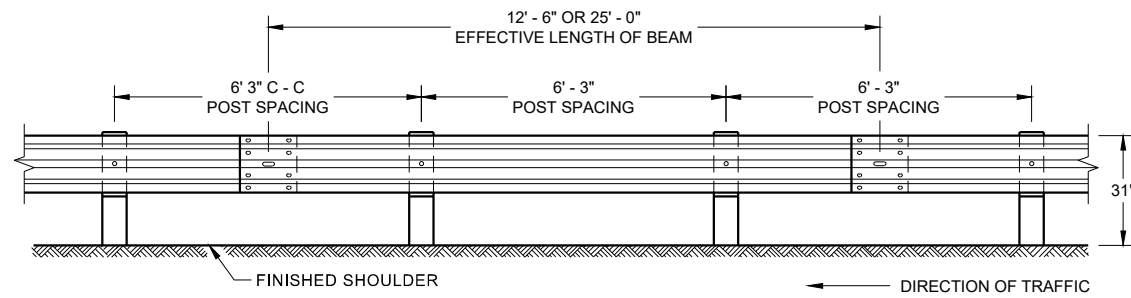
WOOD POST (6" X 8") NOMINAL ⁽¹⁾



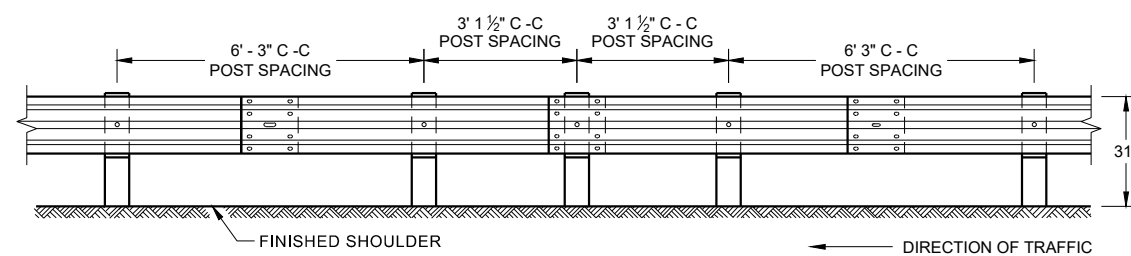
**WOOD OR PLASTIC
BLOCKOUT**

**MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL**

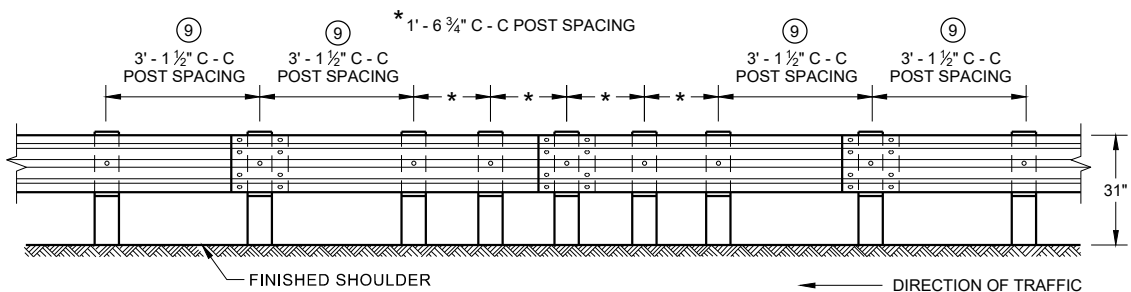
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION 35



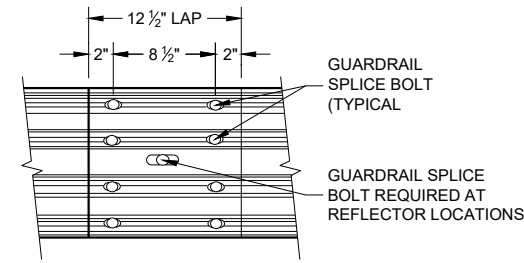
**FRONT VIEW
POST SPACING STANDARD INSTALLATION**



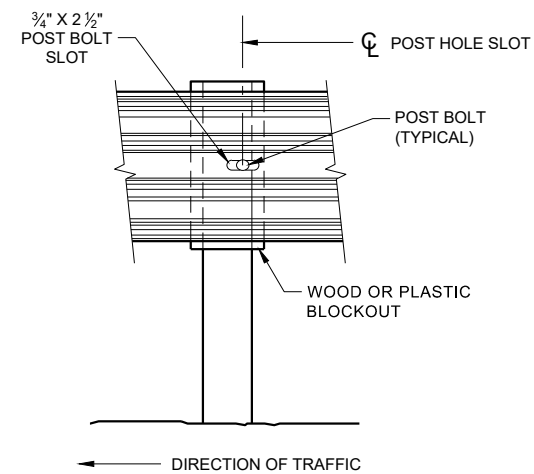
**FRONT VIEW
HALF POST SPACING (HS) AND
HALF POST SPACING WITH LONGER POSTS (K)**



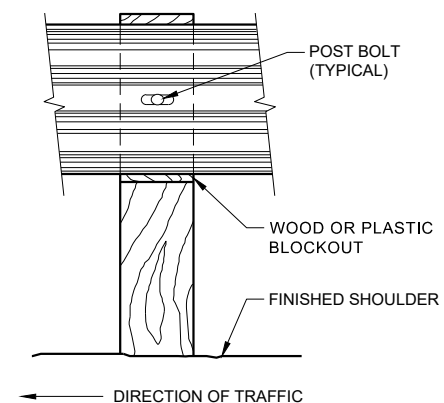
**FRONT VIEW
QUARTER POST SPACING (QS)**



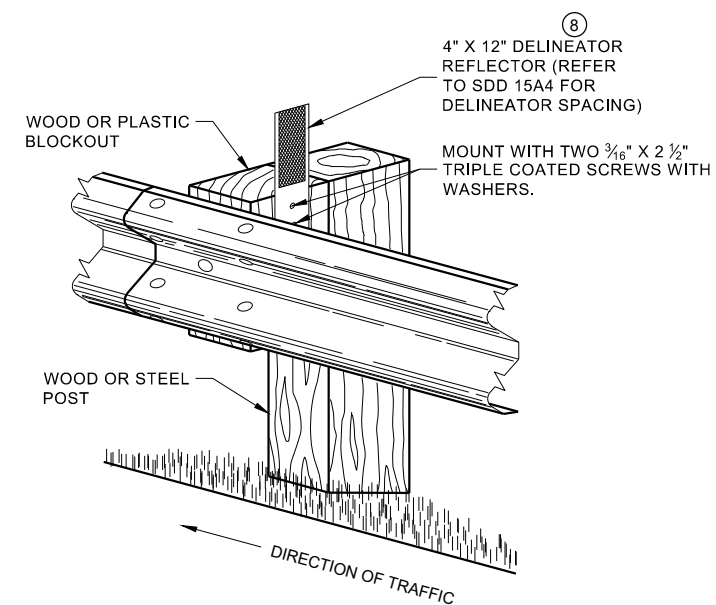
**FRONT VIEW
MID-SPAN BEAM SPLICE**



FRONT VIEW AT STEEL POST



FRONT VIEW AT WOOD POST



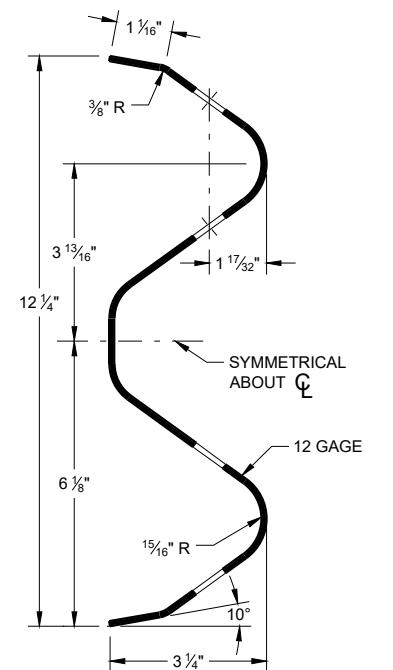
**ONE SIDED REFLECTOR DETAIL
AND TYPICAL INSTALLATION**

GENERAL NOTES

- 8 DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.
- 9 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.

POST BOLTS ARE A 3/8" DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES 3/4" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT AND 3/8" DIAMETER F844 FLAT WASHER. POST BOLTS MAY BE LONGER IF MULTIPLE BLOCKOUTS ARE BEING USED.

GUARD RAIL SPLICE BOLTS ARE A 3/8" DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES 3/4" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.



SECTION THRU W-BEAM RAIL

**MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



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.

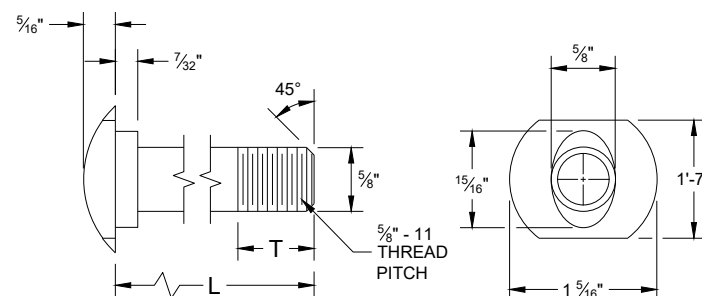


NOTES: UNDER SPECIAL CIRCUMSTANCES, SUCH AS AVOIDING OBSTACLES THAT ARE NOT RELOCATED, IT IS ACCEPTABLE TO INSTALL ADDITIONAL BLOCKOUTS TO OBTAIN UP TO 36" DEPTH FOR ONE OR TWO POSTS IN A SECTION OF GUARDRAIL.

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

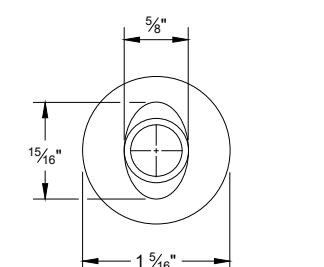
NOTE:

1. ALL FILLETS SHALL HAVE A MINIMUM RADIUS OF $\frac{3}{16}$ ".
2. IF THE BOLT EXTENDS MORE THAN $\frac{1}{4}$ " FROM THE NUT THE BOLT SHOULD BE TRIMMED BACK.

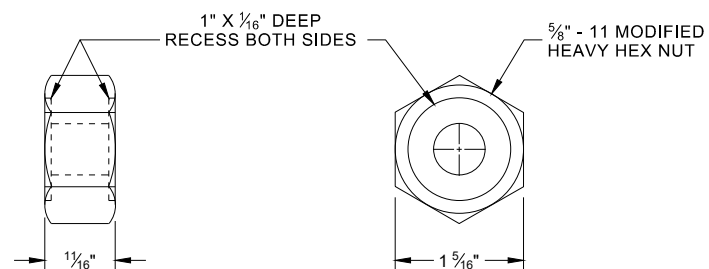


POST BOLT TABLE

L	T (MIN.)
1 1/4"	1 1/8"
2"	1 3/4"
10"	4"
14"	4 1/16"
18"	4"
21"	4 1/16"
25"	4"

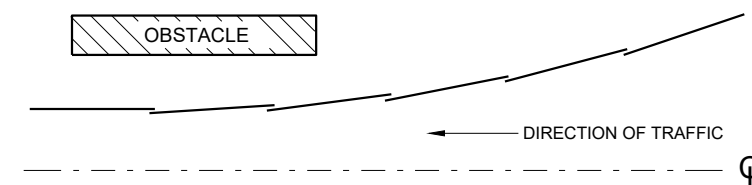


ALTERNATE BOLT HEAD

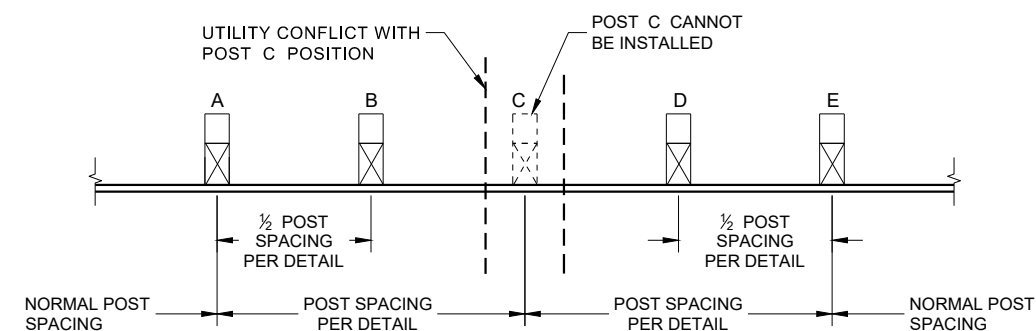


POST BOLT, SPLICE BOLT AND RECESS NUT

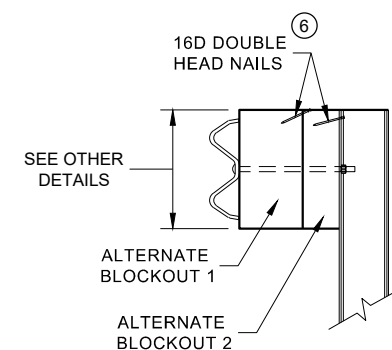
⑥ WHEN USING STEEL POST AD WOOD BLOCKOUTS, INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.



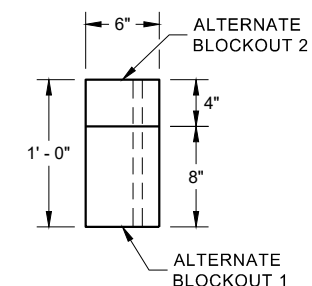
PLAN VIEW
BEAM LAPPING DETAIL



POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION



SIDE VIEW

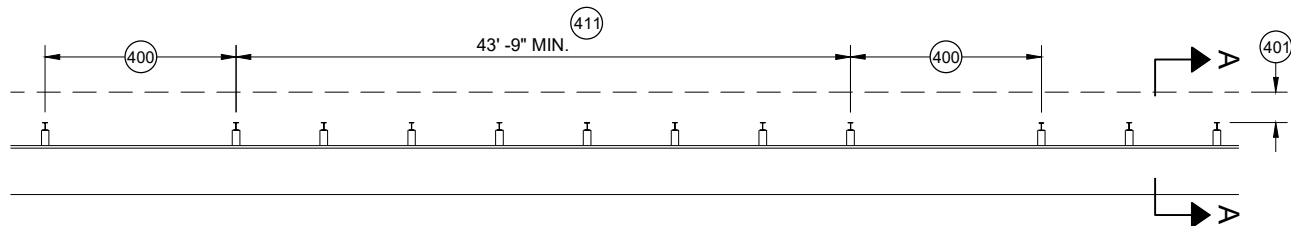


PLAN VIEW

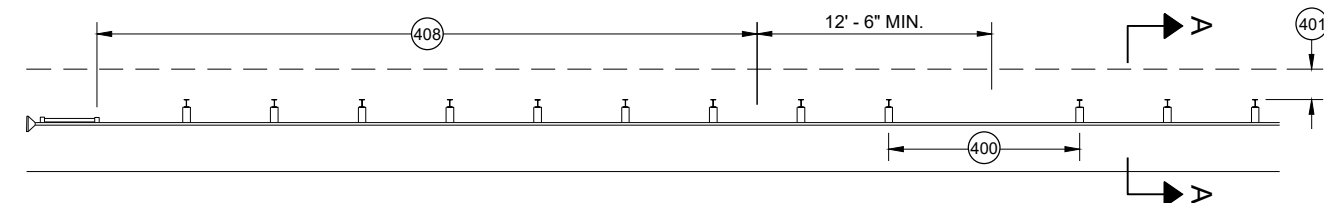
ALTERNATE WOOD BLOCKOUT DETAIL

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

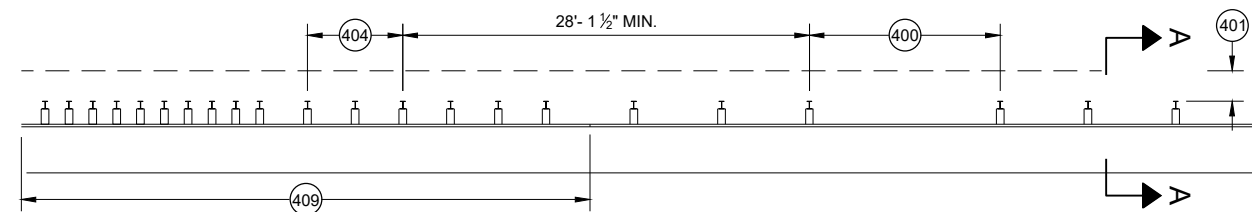
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION 37



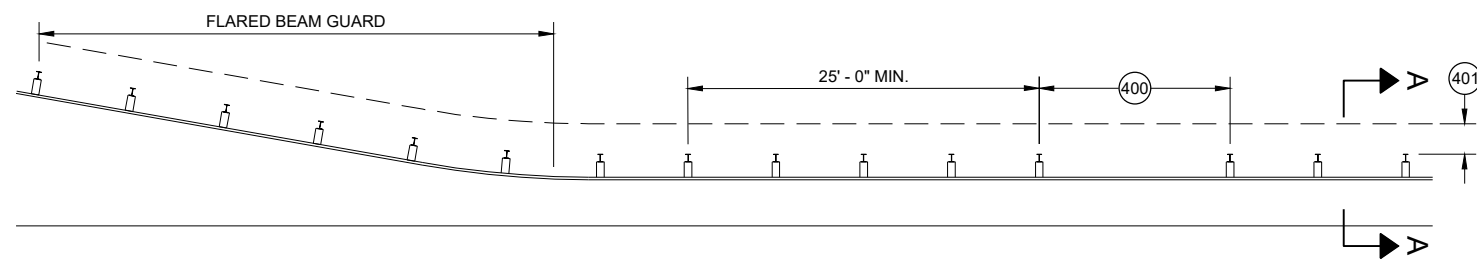
MISSING POST IN MGS GUARDRAIL



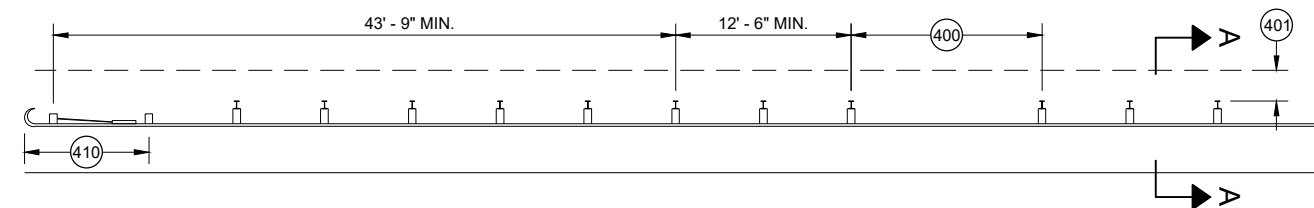
MISSING POST IN MGS GUARDRAIL NEAR EAT



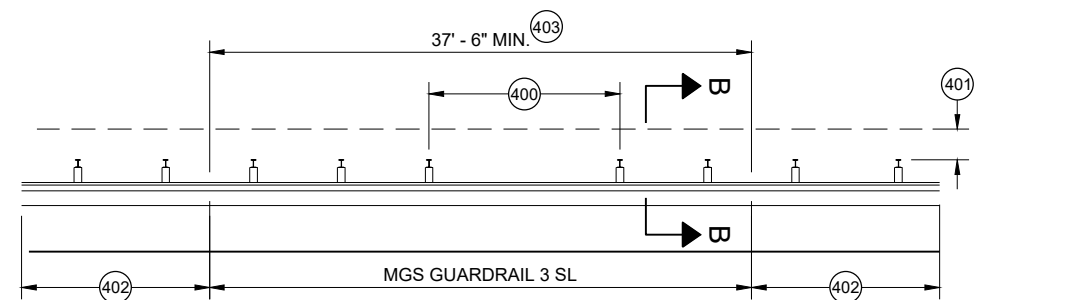
MISSING POST IN MGS GUARDRAIL NEAR AN APPROACH TRANSITION



MISSING POST IN MGS GUARDRAIL NEAR FLARED BEAM GUARD

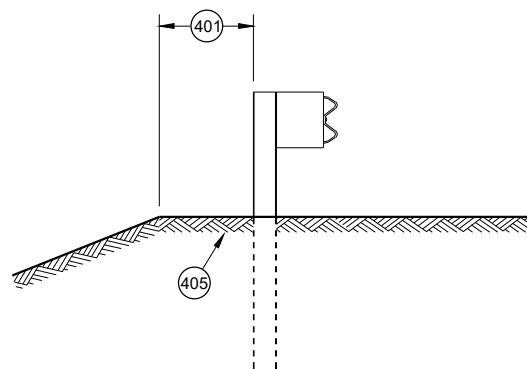


MISSING POST IN MGS GUARDRAIL NEAR A TYPE 2 END TERMINAL

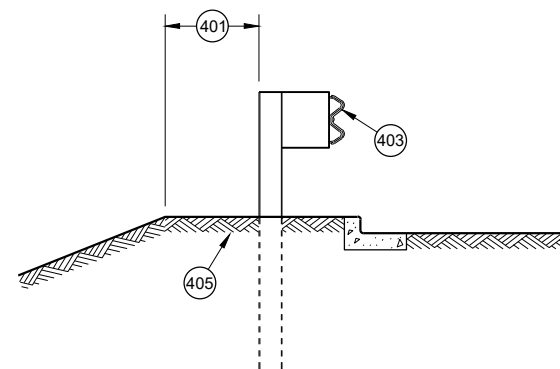


MISSING POST IN SHORT SPAN MGS GUARDRAIL NEAR CURB (SL)

- (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



SECTION B - B

**MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA

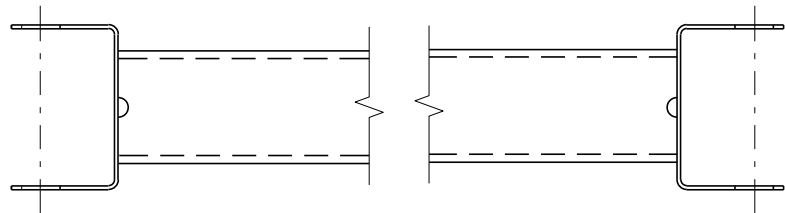
- A) THE SLOPE IN THE AREA BOUNDED BY THE GRADELINE, THE HINGE POINT LINE (HPL) AND THE CLEAR ZONE LIMITS (CZL) SHALL BE 4:1 OR FLATTER.
- B) AFTER FINAL ASSEMBLY, RECHECK CABLE TO BE SURE IT IS TAUT AND HAS NOT RELAXED
- C) DIFFERENT MANUFACTURERS REQUIRE DIFFERENT PERFORATED W - BEAM RAIL END PANELS. 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.

THE CENTER OF THE UPPER 3 1/2" 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.

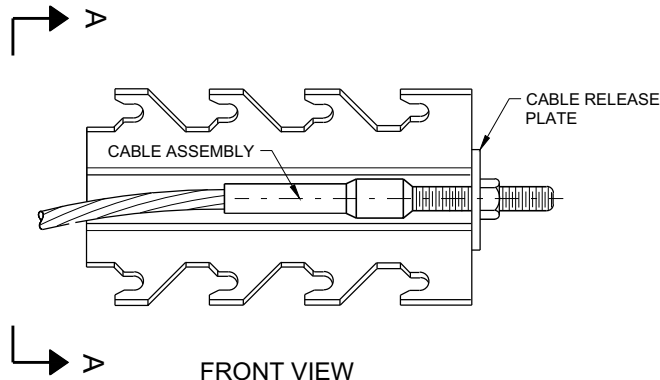


STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION 39

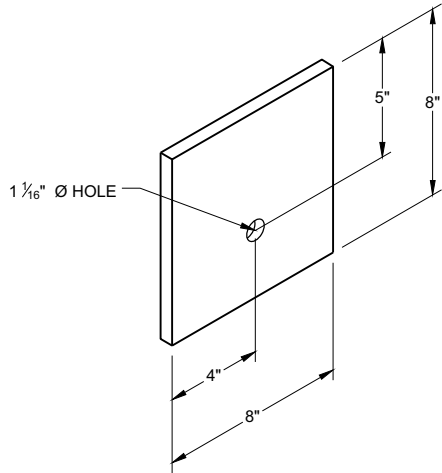
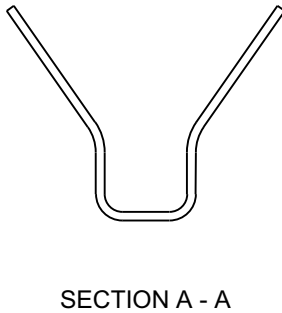


GENERIC GROUND STRUT⁹ ^E

BILL OF MATERIALS	
PART NO.	DESCRIPTION MATERIALS PROVIDED BY MGS EAT MANUFACTURER. SEE MANUFACTURER'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



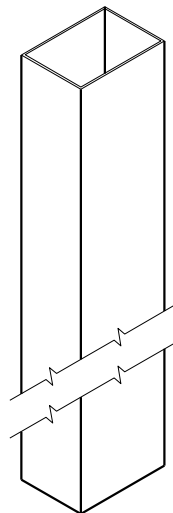
GENERIC ANCHOR CABLE BOX⁹ ^E



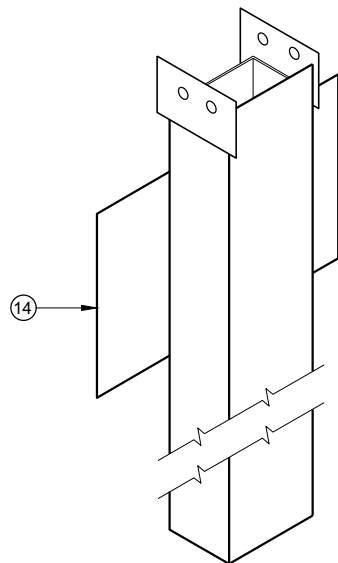
BEARING PLATE⁶ ^E

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

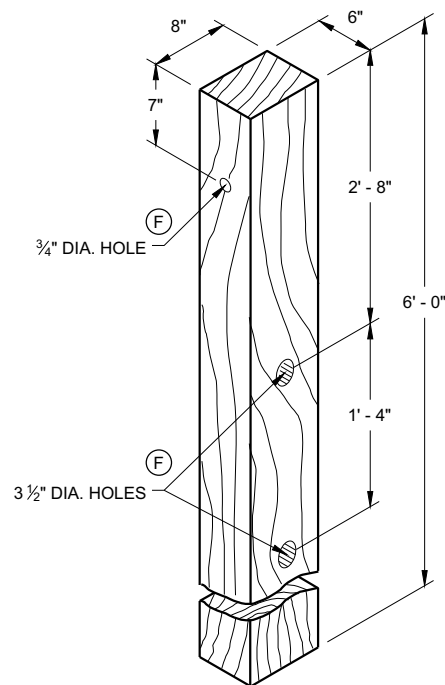
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



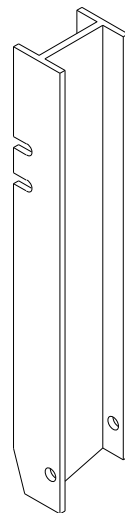
UPPER POST NO. 1 ⁽¹⁾ (E)



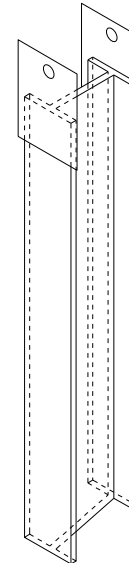
LOWER POST NO. 1 ⁽²⁾ (E)



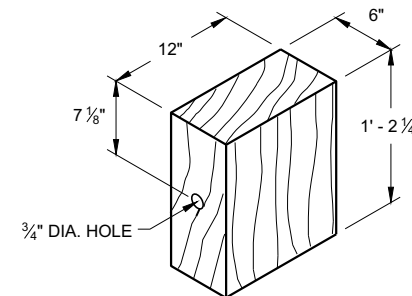
WOOD CRT POST ⁽³⁾ (E)
POSTS NUMBER 3-9



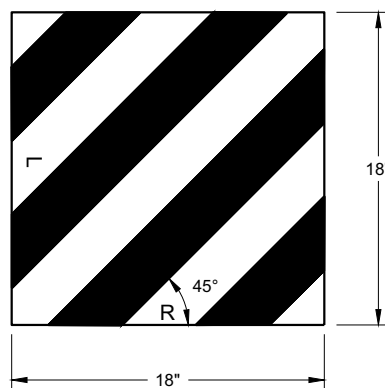
UPPER POST NO. 2 ⁽¹⁵⁾ (E)



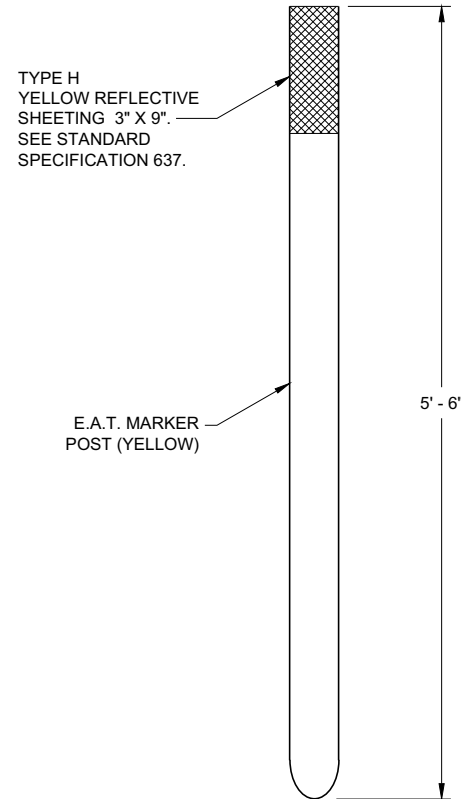
LOWER POST NO. 2 ⁽¹⁶⁾ (E)



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



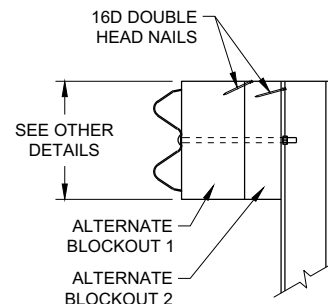
REFLECTIVE SHEETING DETAIL ^(E)



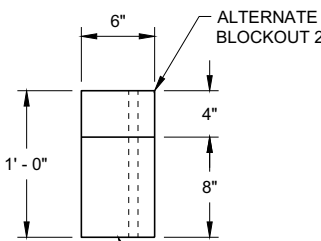
FRONT VIEW

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 DEVELOPMENT UNIT SUPERVISOR
FHWA 41



Ⓢ W-BEAM CONNECTION WHEN REQUIRED

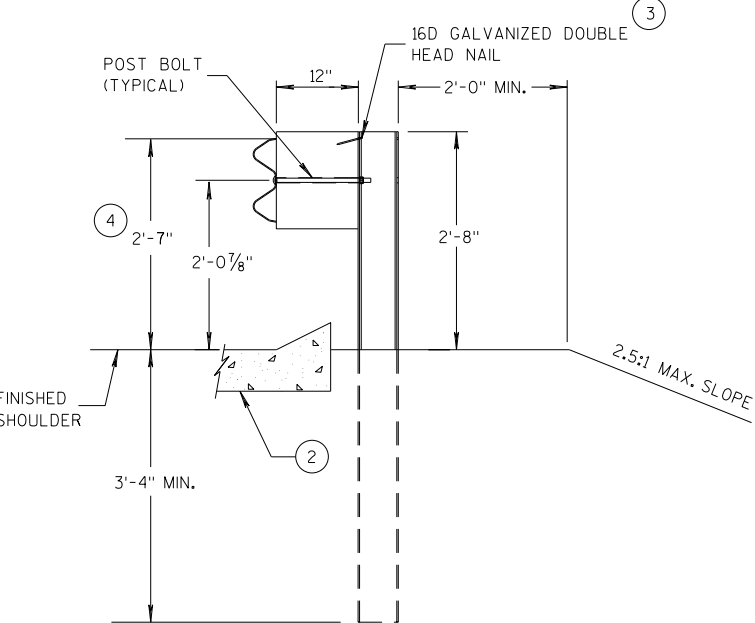
- ① BRIDGE RAILING TYPE "W" DOES NOT REQUIRE A TERMINAL CONNECTOR.
- ② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.
- ⑬ STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD14B42



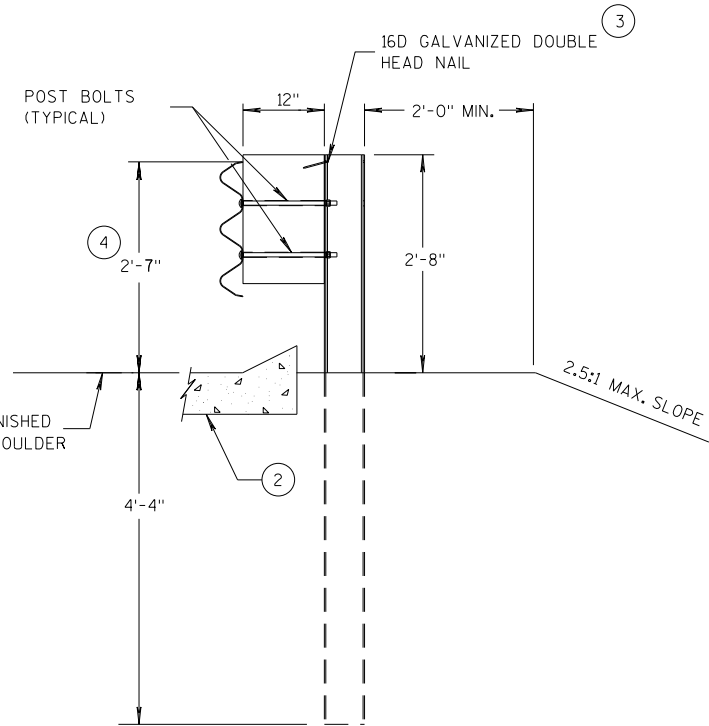
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION 42

GENERAL NOTES

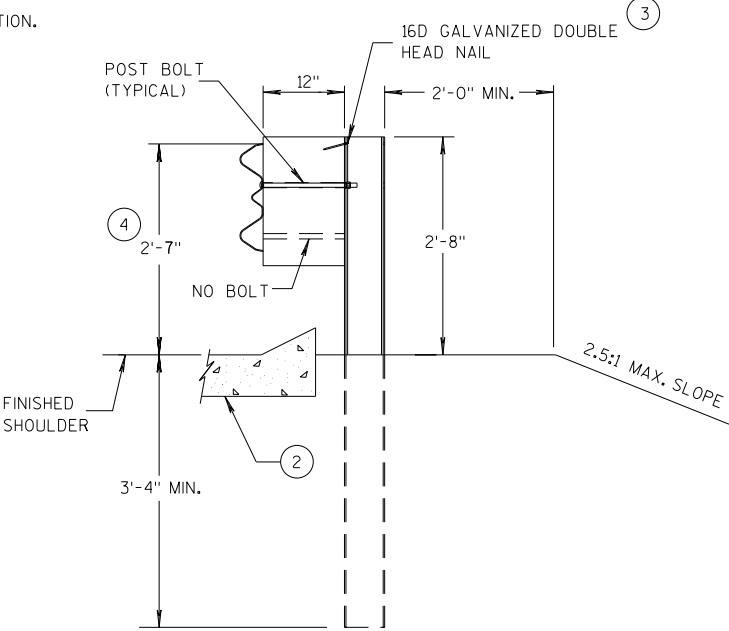
- 2 OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.
- 3 WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 10D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.
- 4 TOLERANCE FOR TOP OF W-BEAM RAIL IS $\pm 1"$.
- 13 STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD 14B42



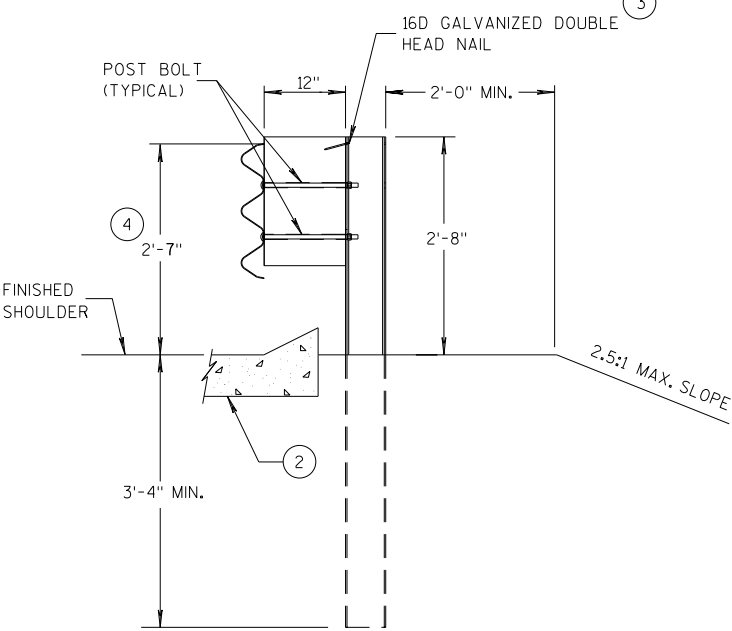
SECTION A-A
POSTS 1-5



SECTION D-D
POSTS 12-17



SECTION B-B
POST 6



SECTION C-C
POSTS 7-11

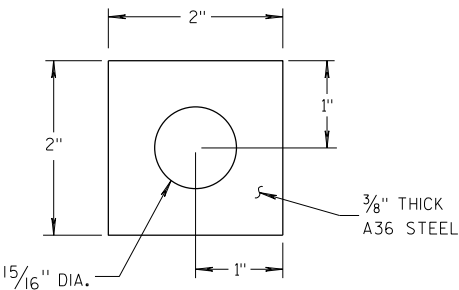
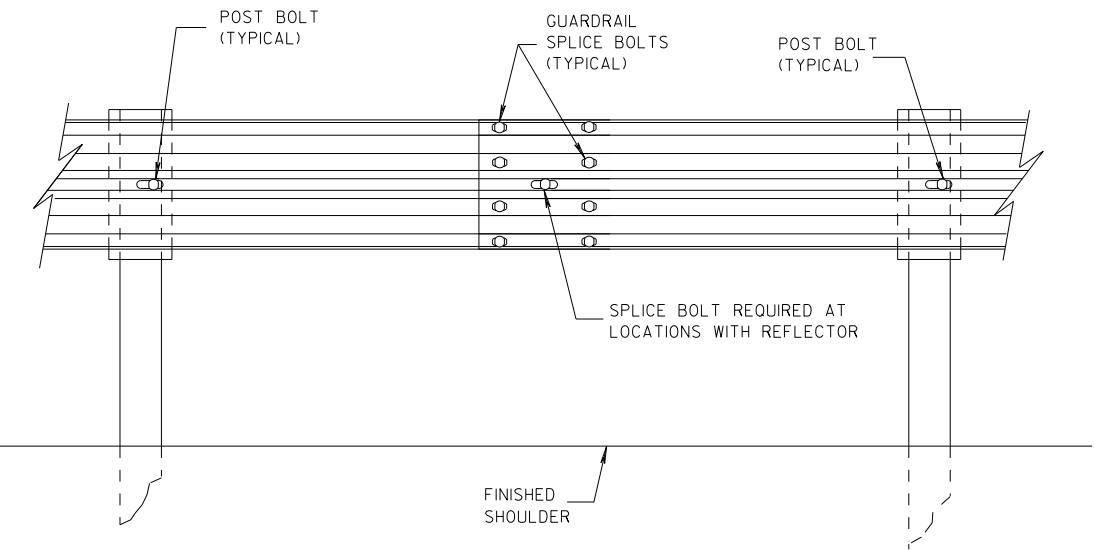
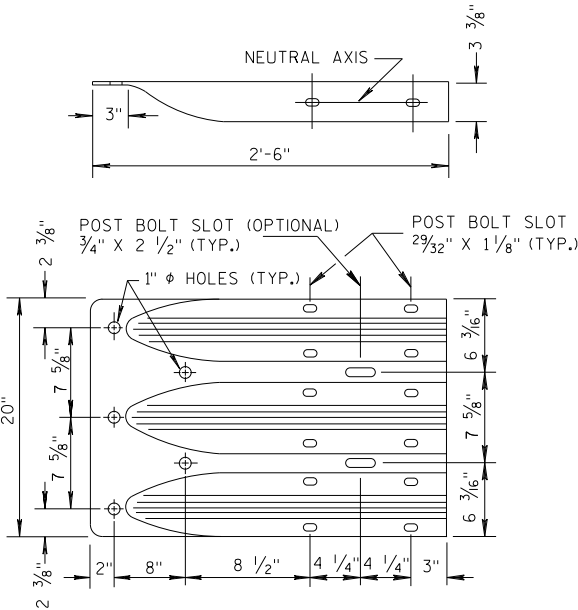


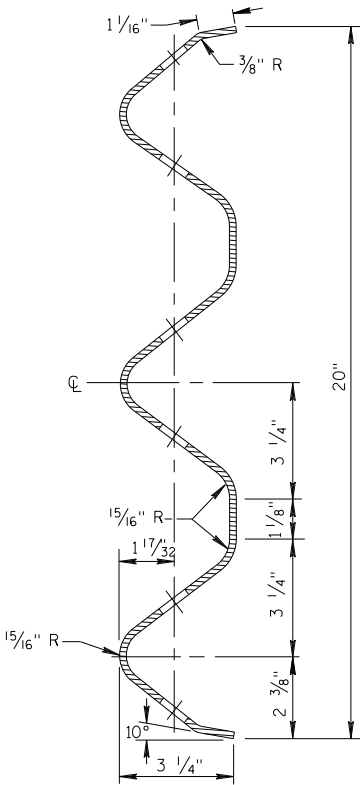
PLATE WASHER DETAIL



SPLICE DETAIL



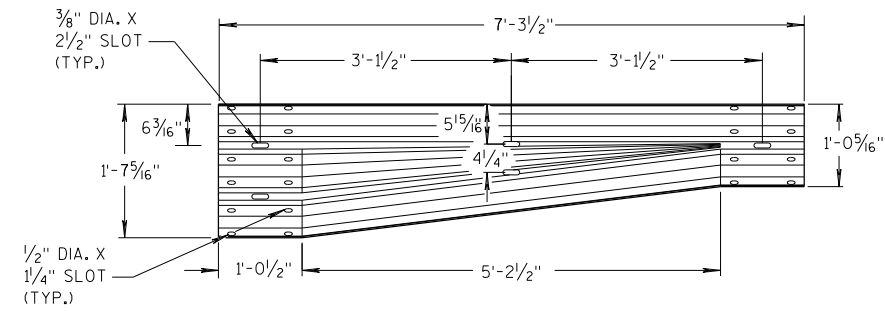
THRIE BEAM
TERMINAL CONNECTOR



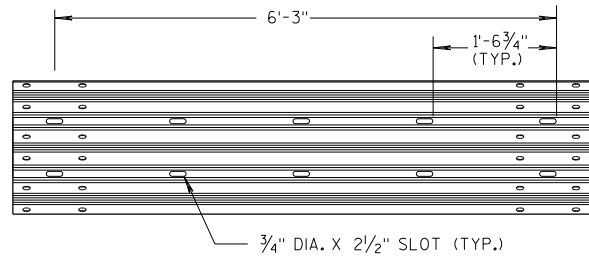
SECTION THRU THRIE
BEAM RAIL ELEMENT

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

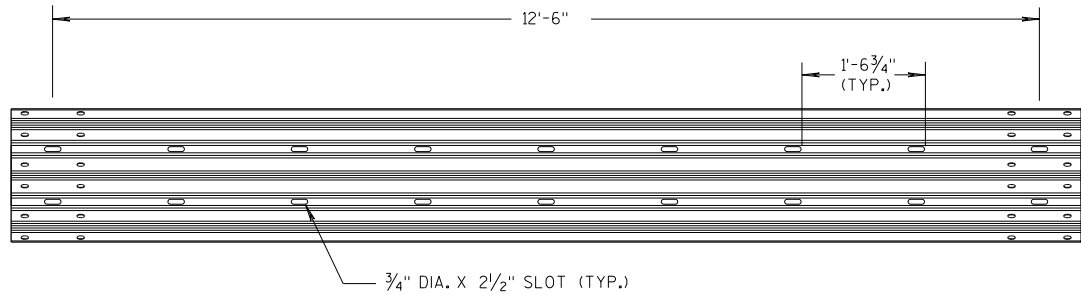
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



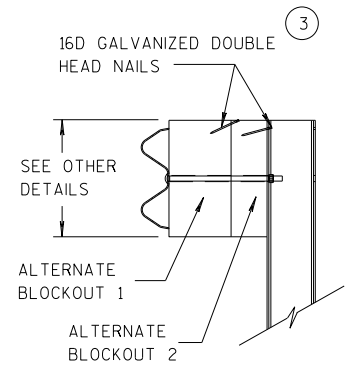
W-BEAM TO THRIE BEAM TRANSITION SECTION



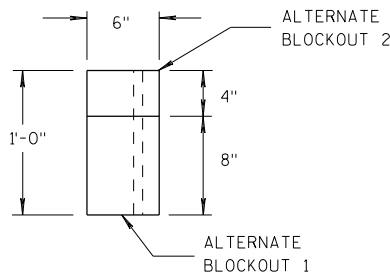
6'-3" THRIE BEAM SECTION



12'-6" THRIE BEAM SECTION

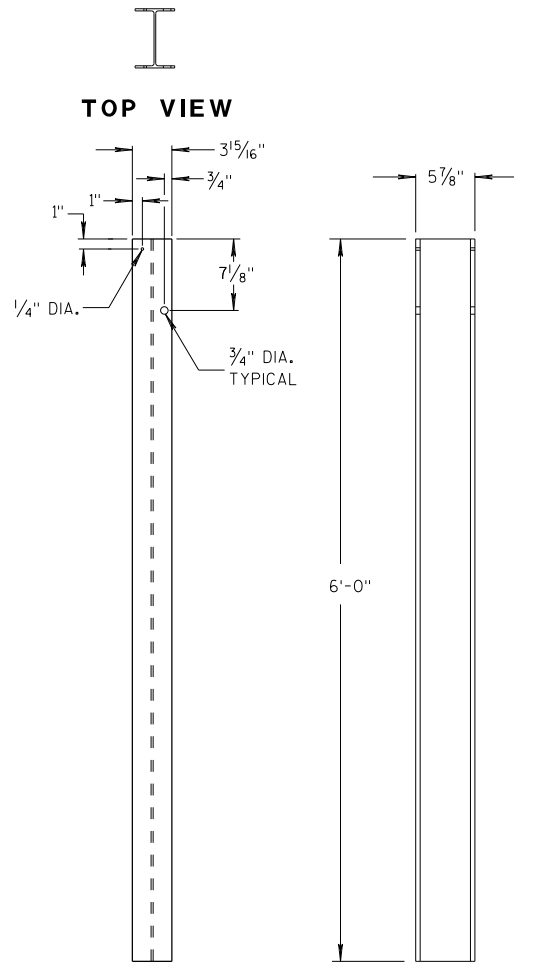


SIDE VIEW



TOP VIEW

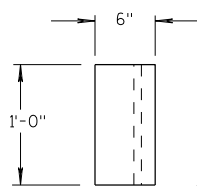
ALTERNATE WOOD BLOCKOUT DETAIL



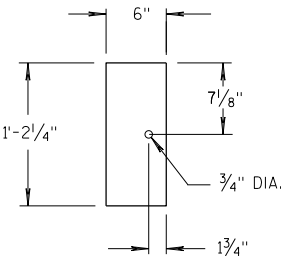
FRONT VIEW

SIDE VIEW

STEEL POSTS 1-5

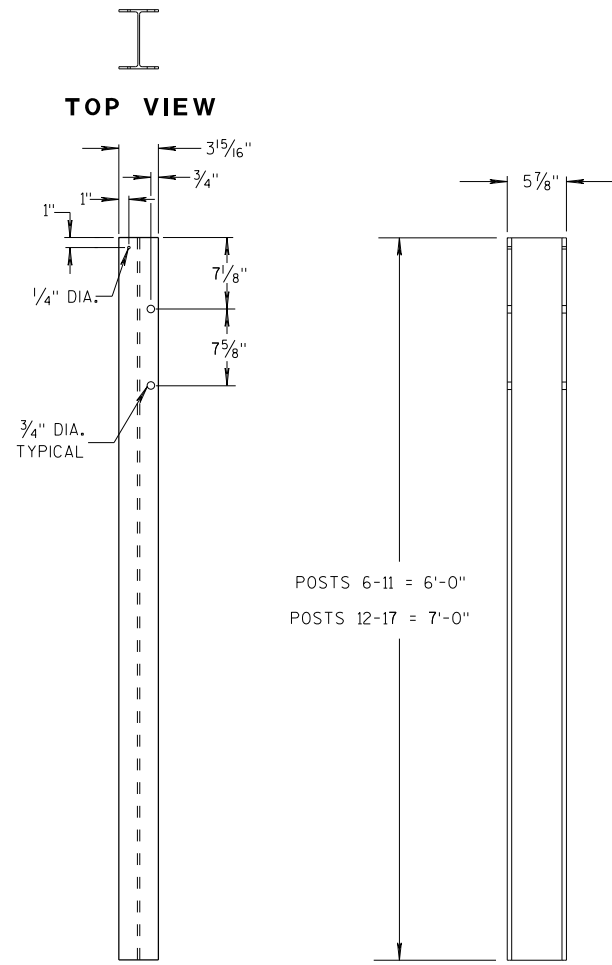


TOP VIEW



FRONT VIEW

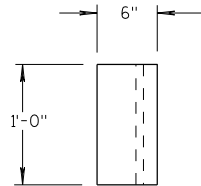
BLOCKOUT POSTS 1-5



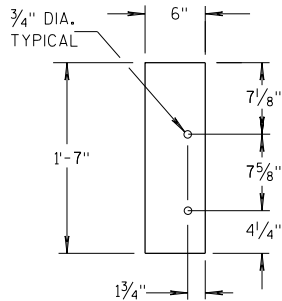
FRONT VIEW

SIDE VIEW

STEEL POSTS 6-17



TOP VIEW



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.

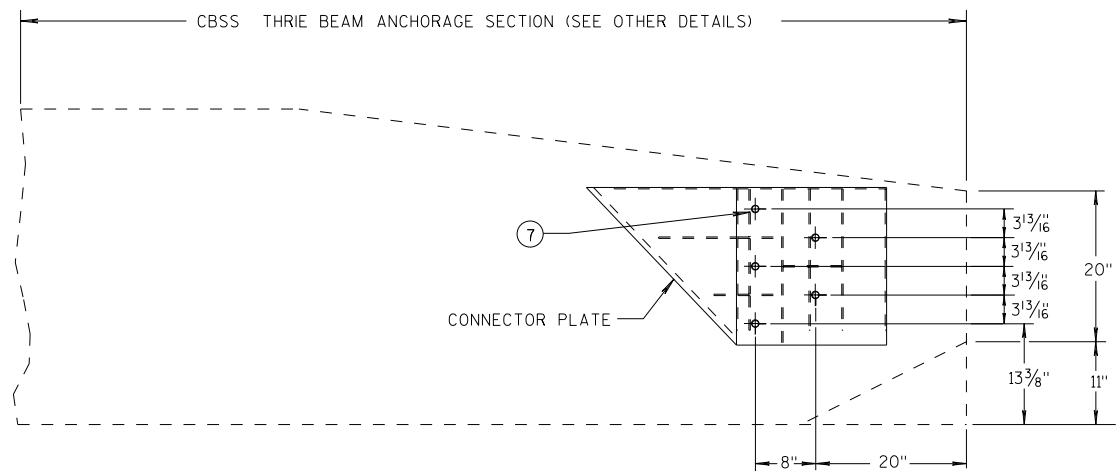
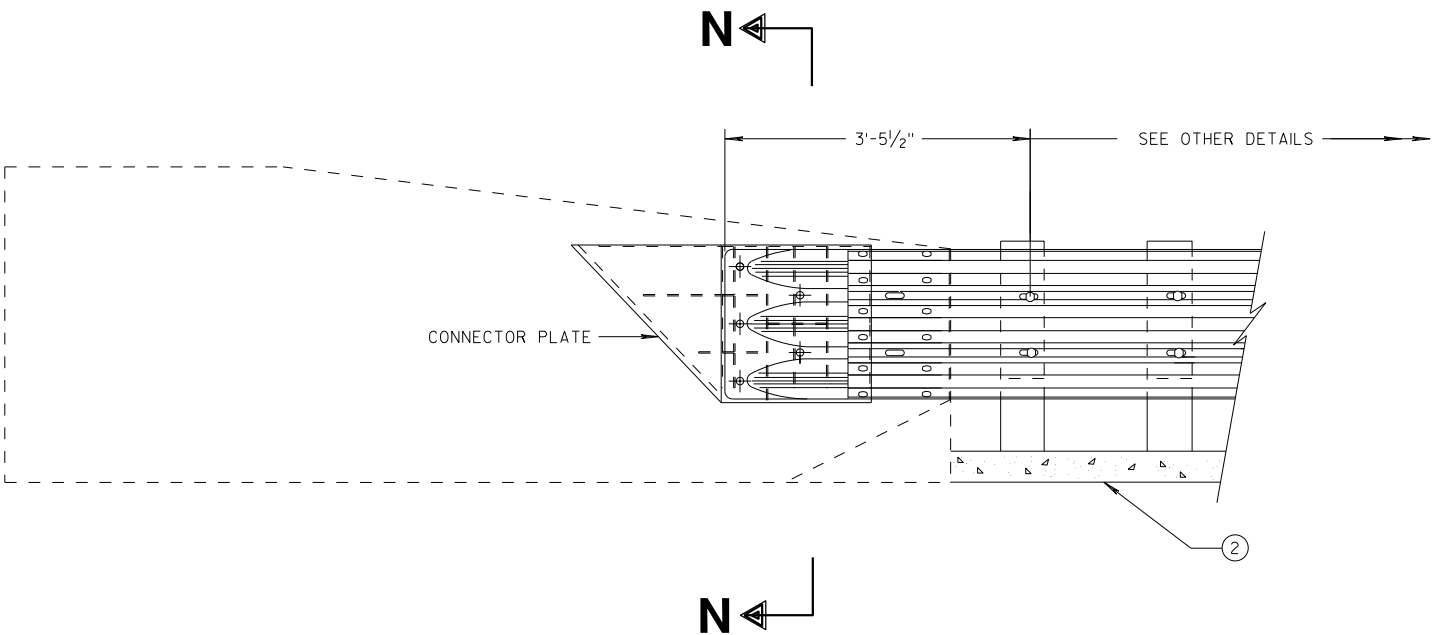
(5) WOOD BLOCKS MAY BE CONSTRUCTED OUT OF 2 WOOD BLOCKS. SEE ALTERNATE WOOD BLOCK DETAIL.

(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 TRANSPORTATION

THRIE BEAM CONNECTION TO SINGLE SLOPE BARRIER



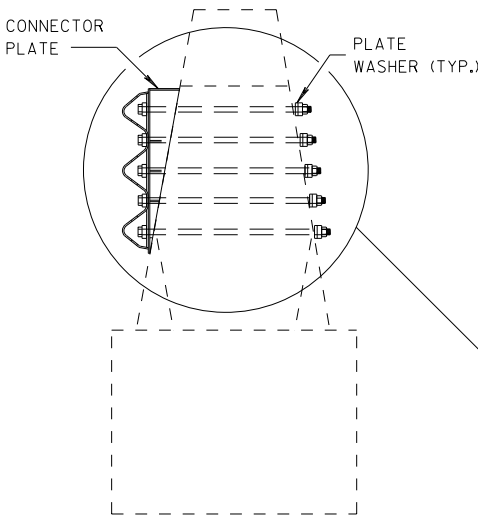
SINGLE SLOPE CONNECTION PLATE PLACEMENT

GENERAL NOTES

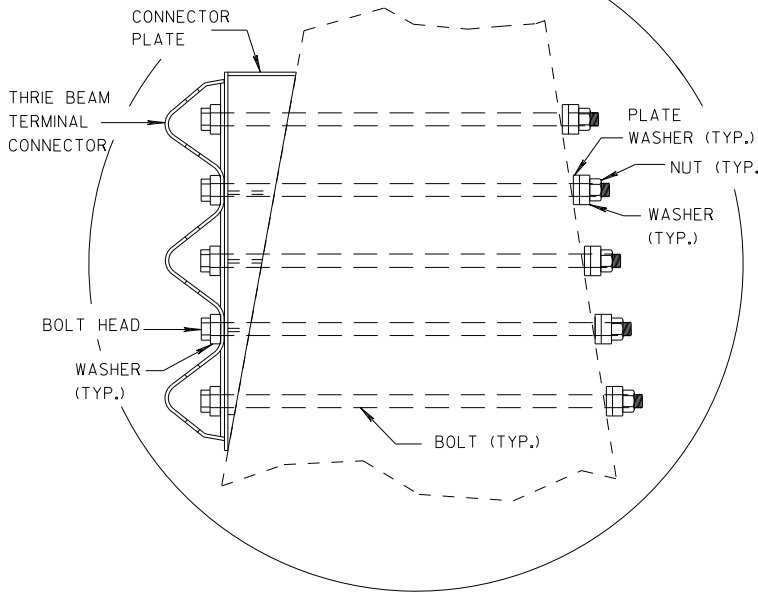
CONNECTOR PLATE, DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

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

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.



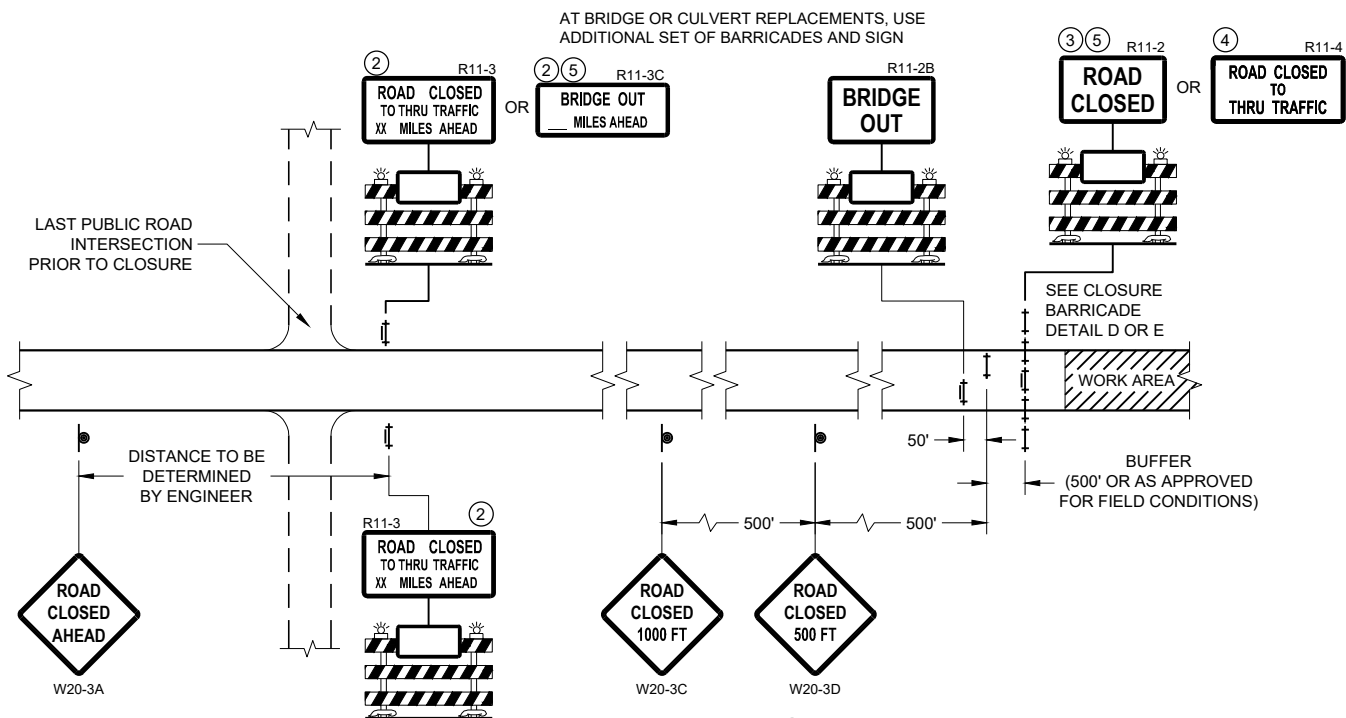
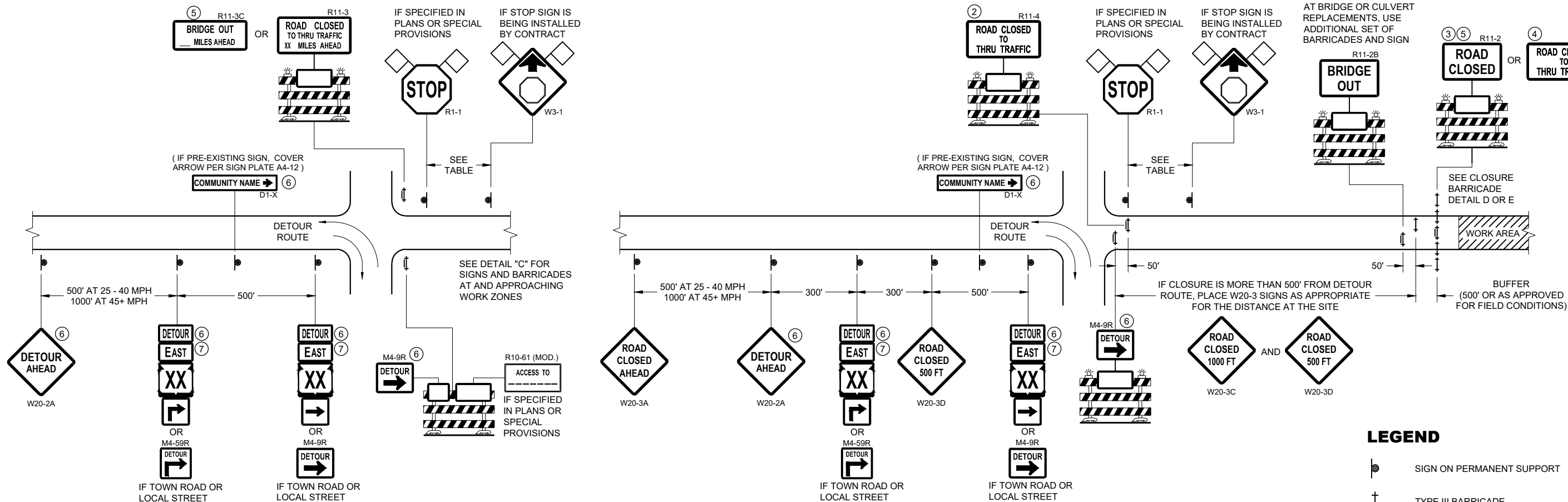
SECTION N-N



MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
DATE 7/2018
ROADWAY STANDARDS DIVISION
UNIT SUPERVISOR /S/ Rodney Taylor
45
FHWA



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

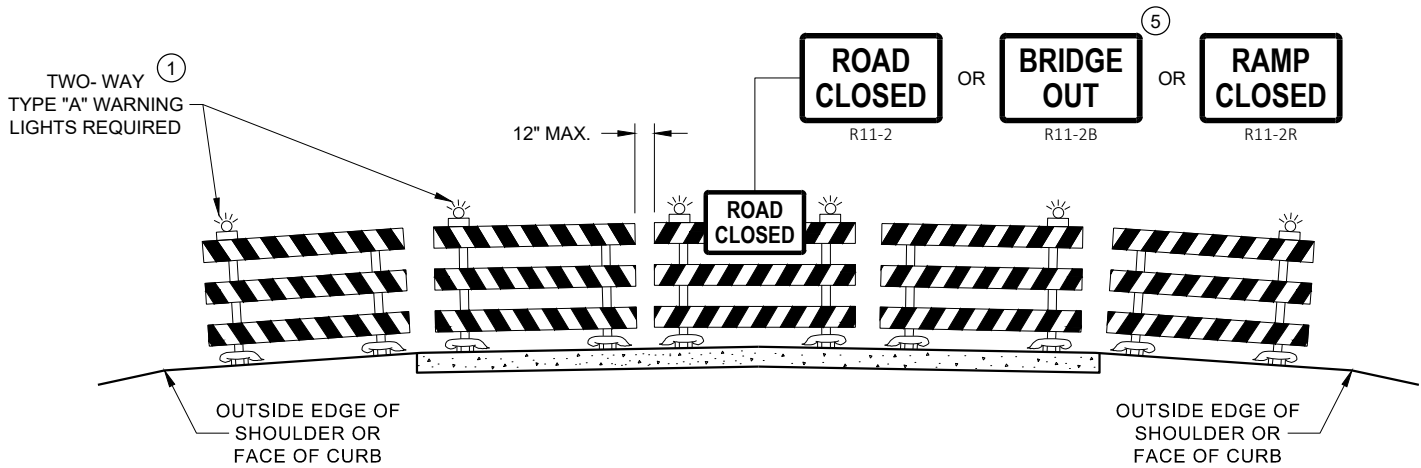
SEE SDD 15C2-SHEET "b"
FOR GENERAL NOTES
AND FOOTNOTES ① THROUGH ⑦

**BARRICADES AND SIGNS
FOR MAINLINE CLOSURES**

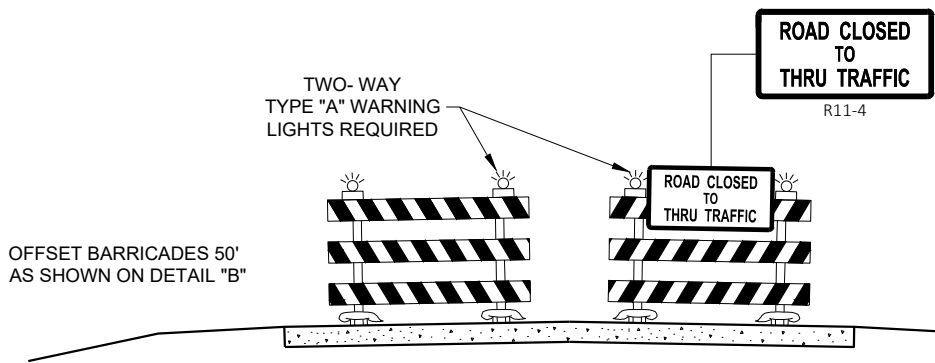
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER 46

FHWA



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"

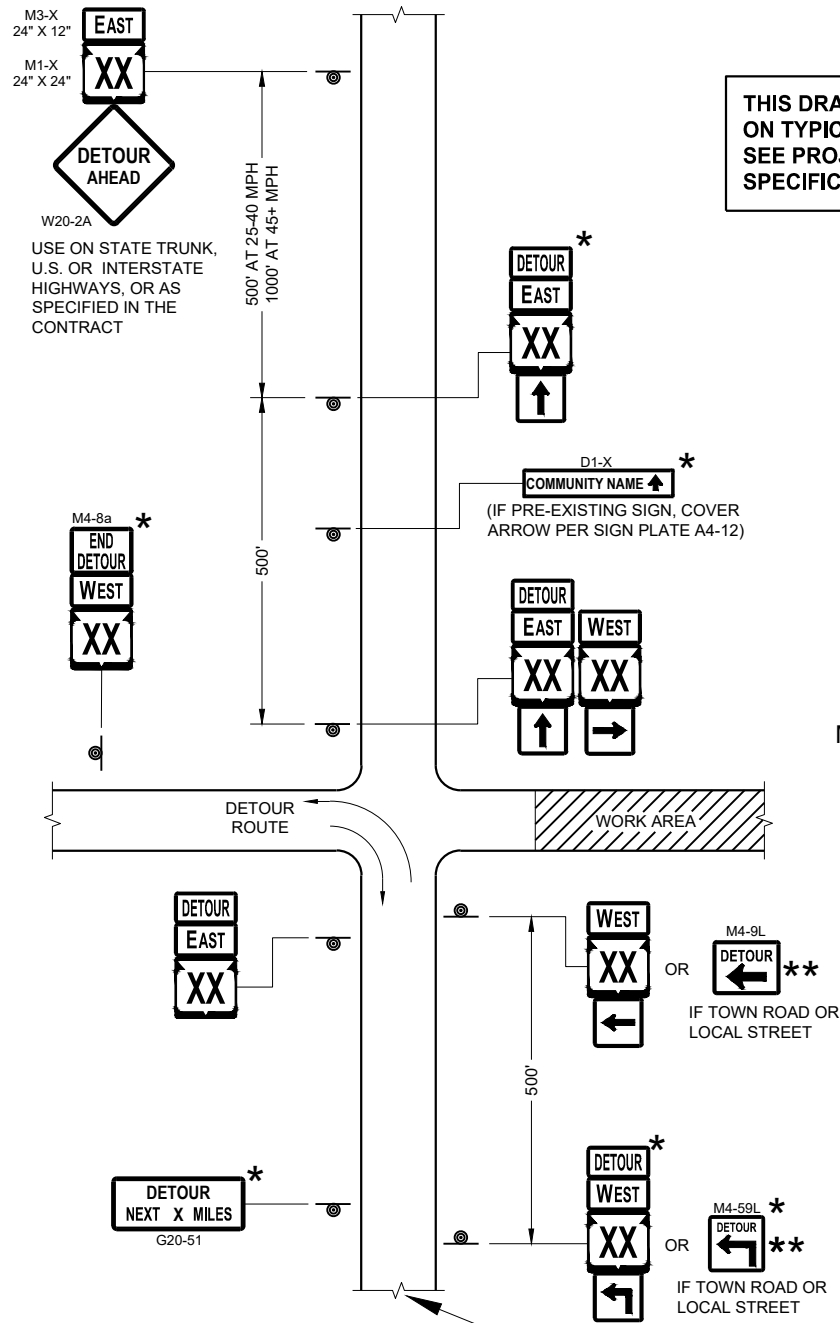
- 1 TWO WARNING LIGHTS SHALL BE PROVIDED ON THE CENTER BARRICADE AND A MINIMUM OF ONE WARNING LIGHT SHALL BE PROVIDED ON EACH OF THE OTHER BARRICADES WITHIN THE ROADWAY LIMITS. SPACING OF THE WARNING LIGHTS SHALL BE UNIFORM TO THE EDGE OF ROADWAY AS SHOWN (APPROX. 8 FOOT LIGHT SPACING).
- 2 THESE SIGNS 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 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER 47

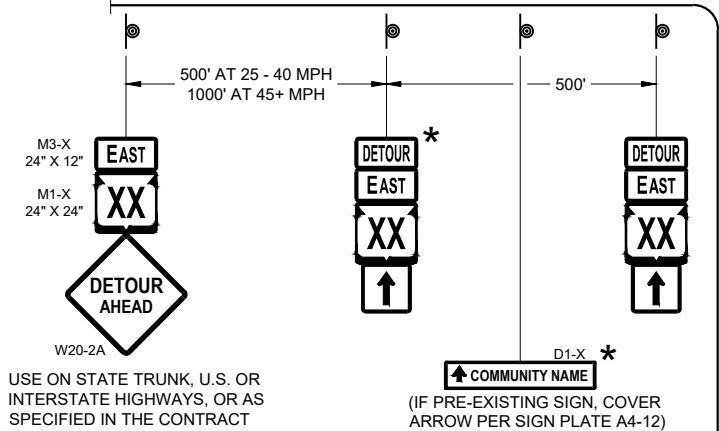
FHWA



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

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

MATCH POINT



DETAIL F
DETOUR SIGNING

LEGEND

- SIGN ON PERMANENT SUPPORT
- WORK AREA
- DETOUR EAST M4 - 8
- DETOUR WEST M3 - X
- DETOUR AHEAD M1 - 4 OR M1 - 6 OR M1 - 5A
- DETOUR NEXT X MILES 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.

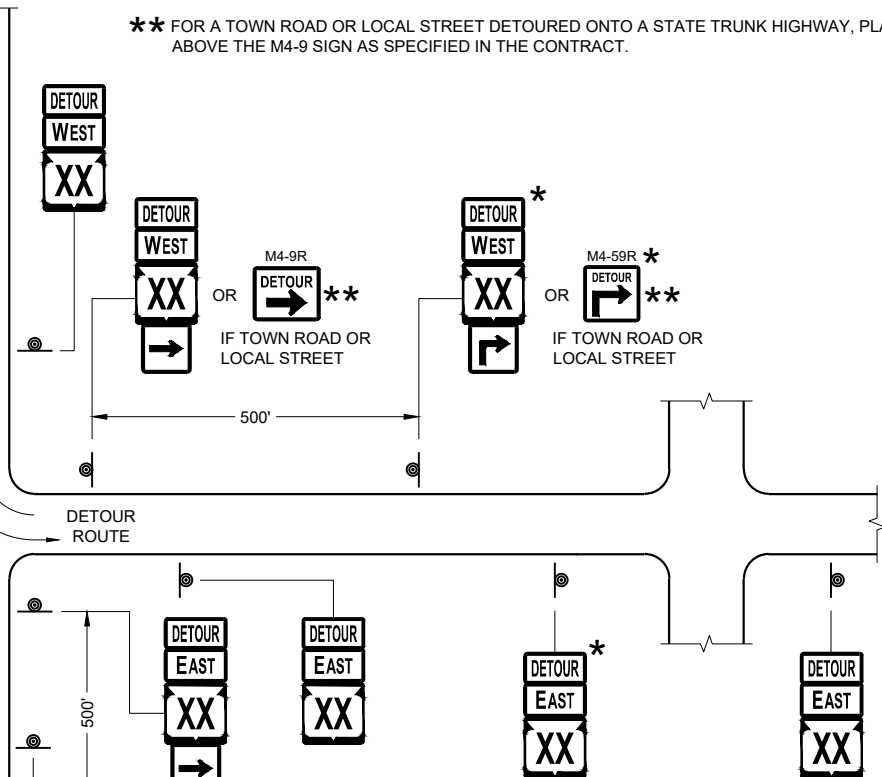
SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

"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 M4-9R 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.

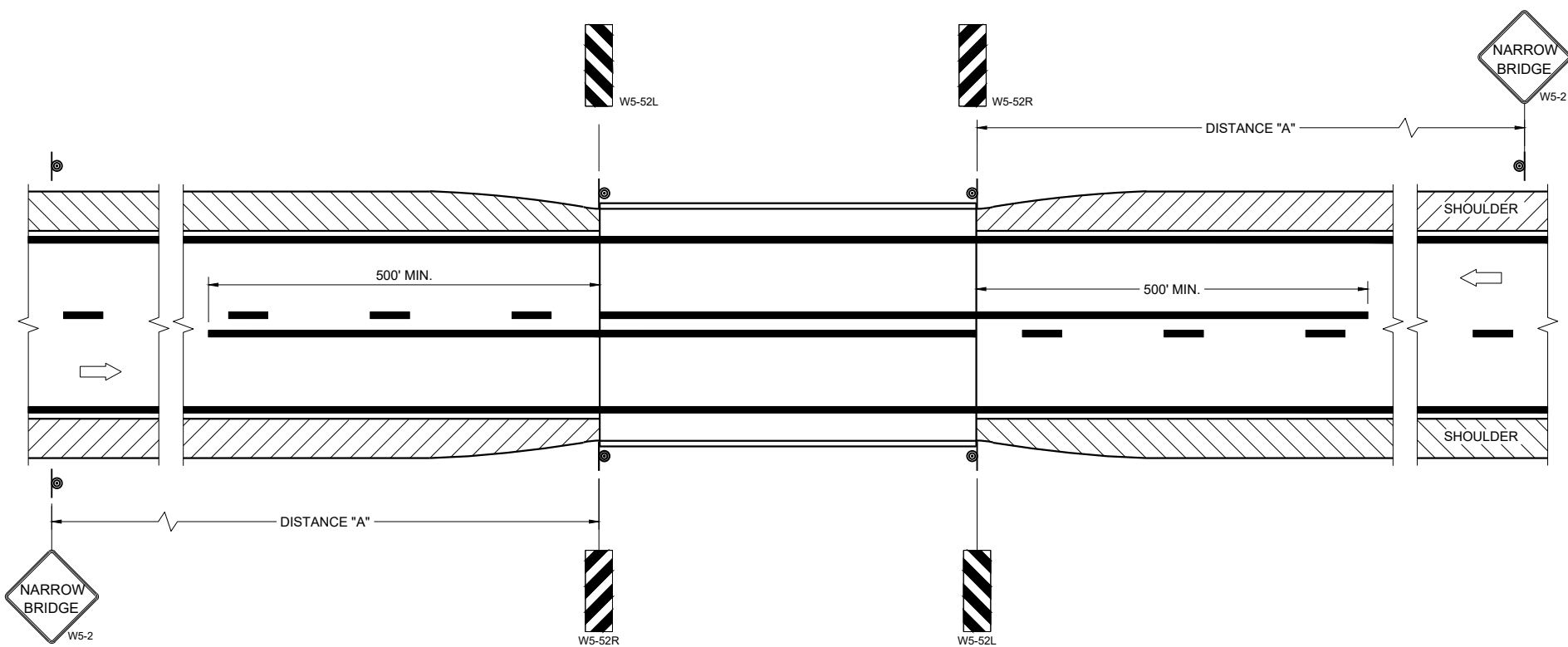


PLACE SIGNS BEYOND INTERSECTIONS
WITH STATE OR COUNTY TRUNK
HIGHWAYS OR AT 4 MILE MAXIMUM
SPACING (4 BLOCKS IF URBAN AREA)

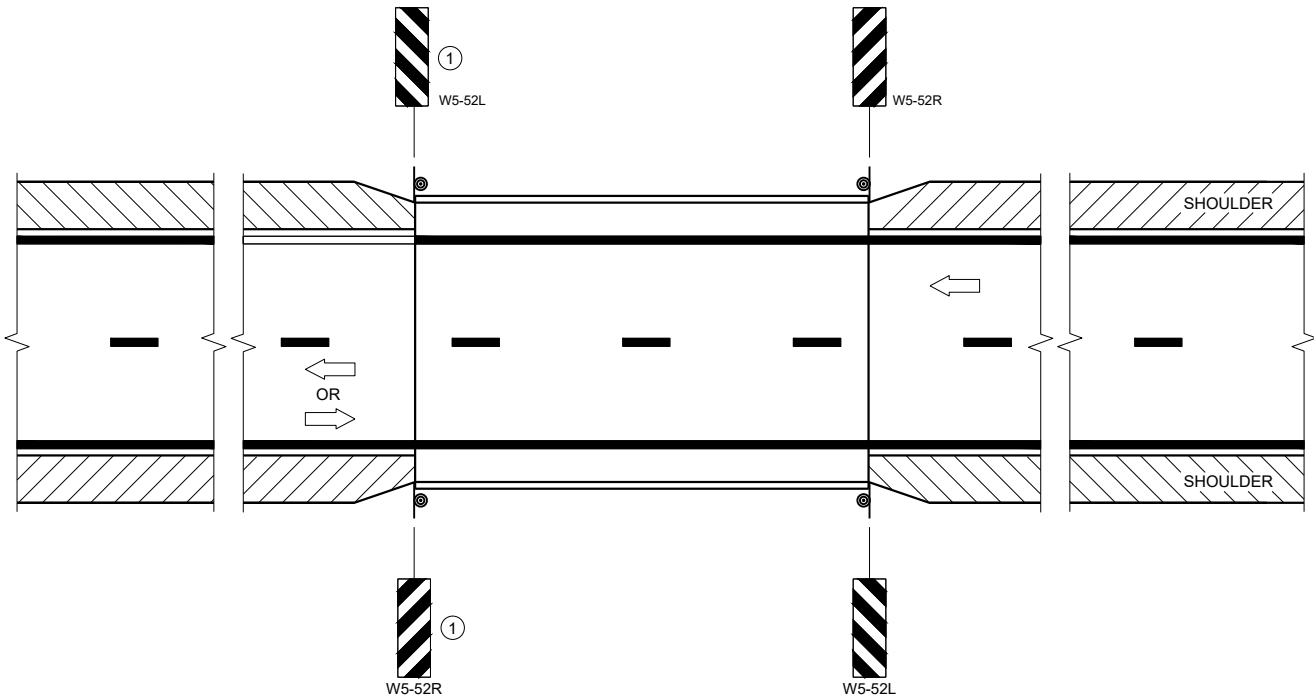
DETOUR SIGNING
FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER 48
FHWA



SITUATION 1
WARRANTING CRITERIA:
BRIDGE WIDTH IS AT LEAST 16 FEET BUT LESS THAN 24 FEET.



SITUATION 2
WARRANTING CRITERIA:
1. BRIDGE WIDTH IS AT LEAST 24 FEET AND
2. BRIDGE SHOULDER WIDTH IS LESS THAN 6 FEET

GENERAL NOTES

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

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

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

ON BRIDGE ONLY PROJECTS, PLACE 300 FEET OF EDGELINE.

OMIT EDGELINES ON ROADWAYS WITHOUT EXISTING EDGELINES.

① OMIT ON ONE-WAY TRAVELED WAYS.

LEGEND

● SIGN ON PERMANENT SUPPORT

➡ DIRECTION OF TRAFFIC

DISTANCE TABLE

POSTED OR 85TH PERCENTILE SPEED	DISTANCE "A"
25	150'
30	200'
35	250'
40	300'
45	400'
50	550'
55	700'

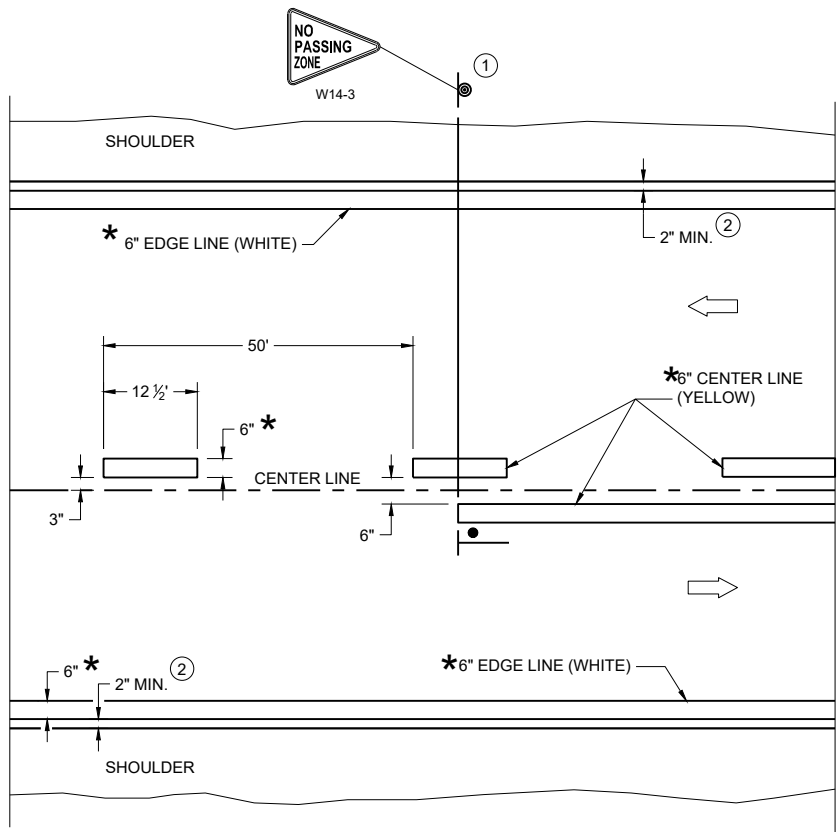
**SIGNING AND MARKING
FOR TWO LANE BRIDGES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

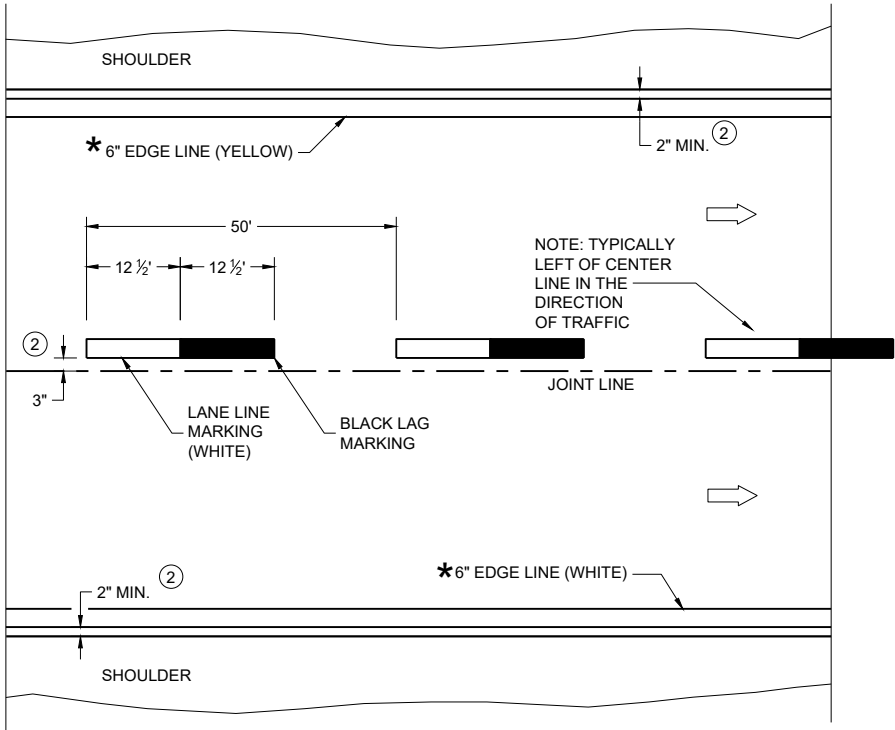
APPROVED
May 2023
DATE

/S/ Jeannie Silver
Statewide Pavement Marking Engineer

FHWA 49



TWO WAY TRAFFIC



ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING

*CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES

GENERAL NOTES

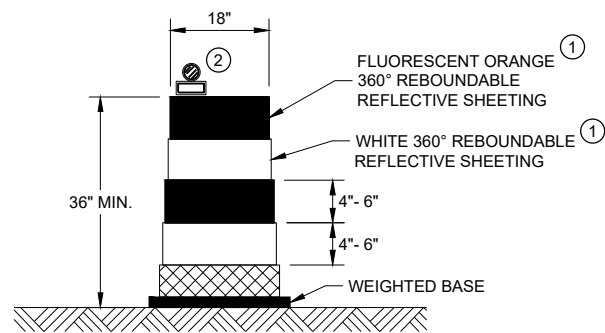
DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS.

- 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

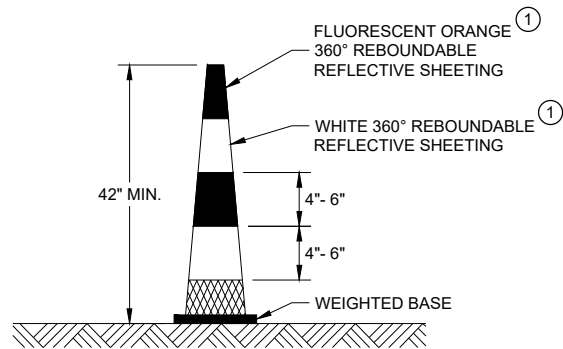
- "T" MARKING
- SIGN ON PERMANENT SUPPORT
- DIRECTION OF TRAFFIC

PERMANENT LONGITUDINAL PAVEMENT MARKINGS	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED May 2023 DATE	/S/ Jeannie Silver Statewide Pavement Marking Engineer



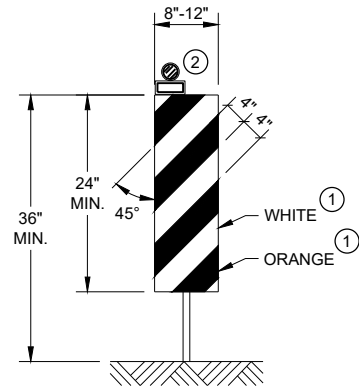
DRUM

BALLAST WIDTHS
RANGE FROM 24"-36"



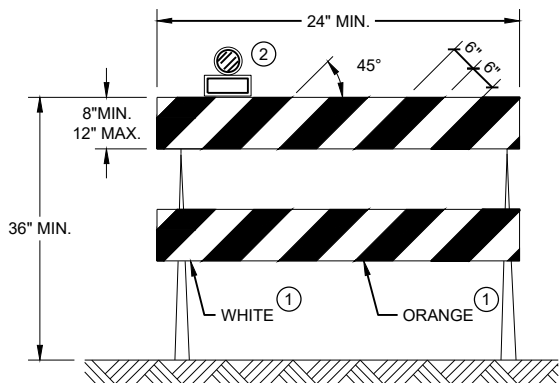
42" CONE

DO NOT USE IN TAPERS
½ SPACING OF DRUMS
BALLAST WIDTHS
RANGE FROM 14"-20"



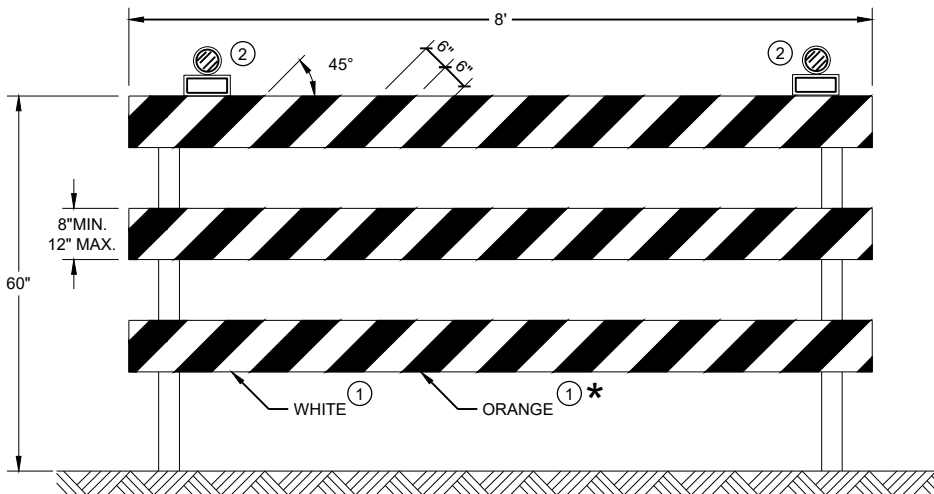
VERTICAL PANEL

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.

GENERAL NOTES

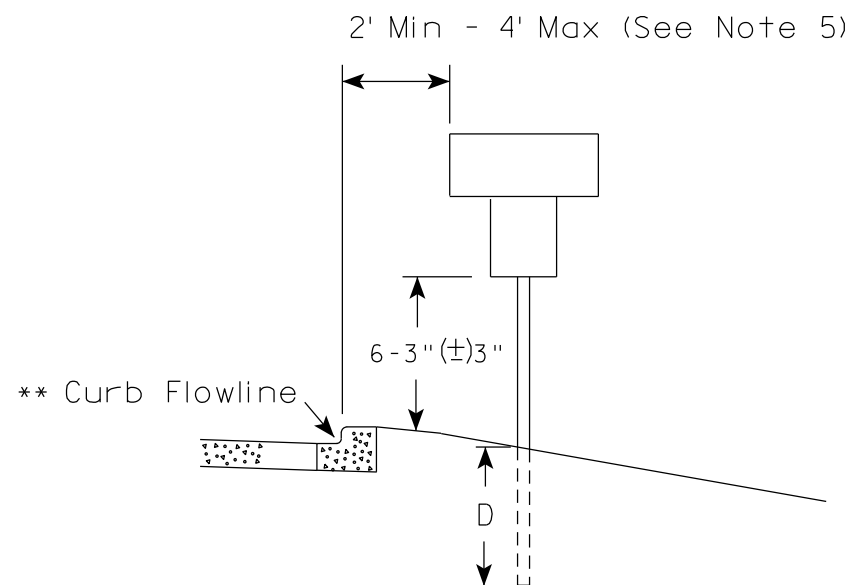
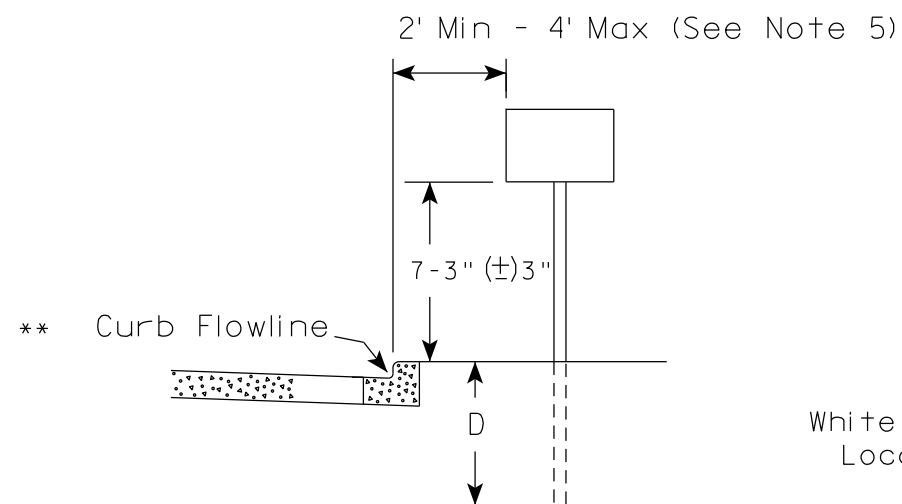
- ① REFLECTIVE SHEETING SHALL FOLLOW THE REQUIREMENTS IN THE APPROVED PRODUCTS LISTING FOR SIGN SHEETING.
- ② LOCATION OF WARNING LIGHTS WHEN SHOWN ON THE PLAN.

**CHANNELIZING DEVICES
DRUMS, CONES, BARRICADES
AND VERTICAL PANELS**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

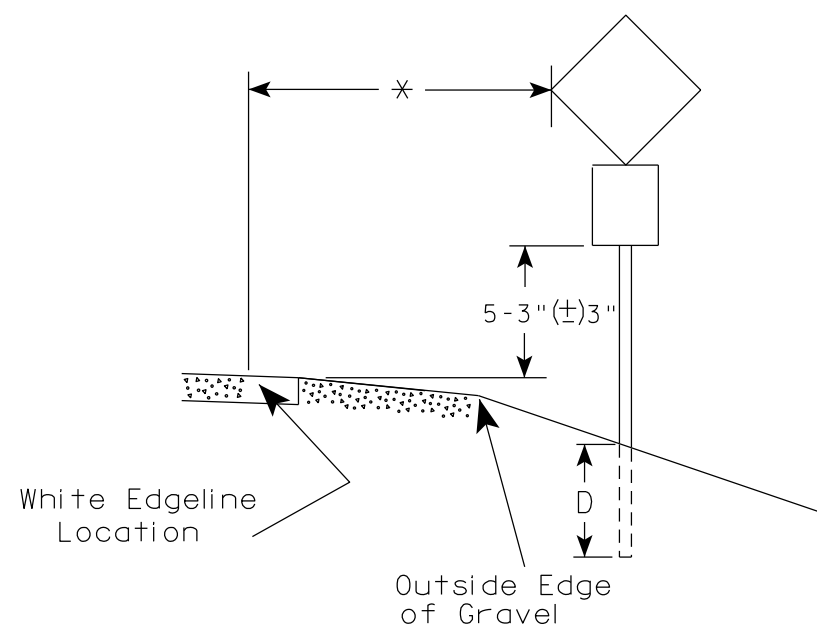
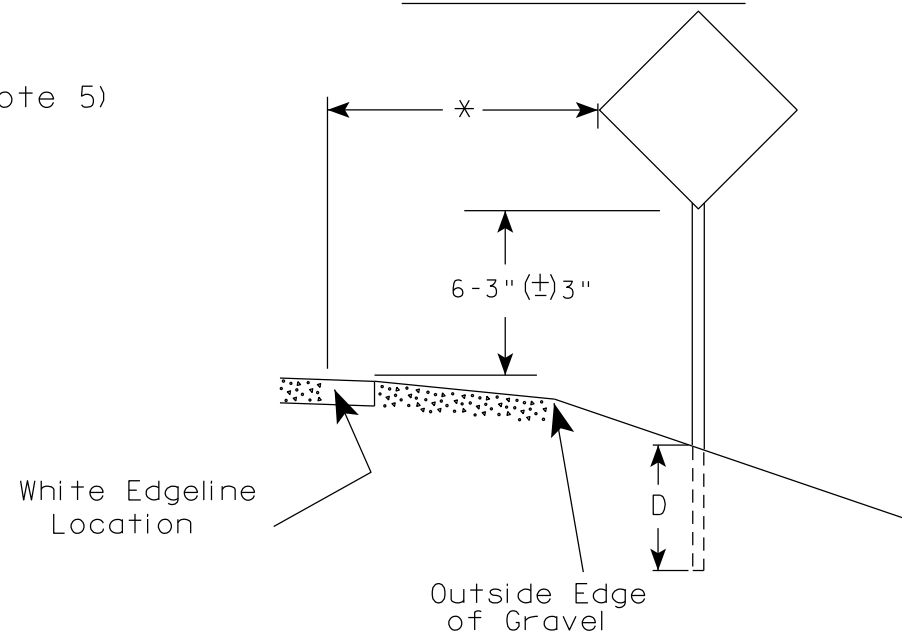
APPROVED
November 2022 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER 51
FHWA

URBAN AREA



* * 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.

RURAL AREA (See Note 2)



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

GENERAL NOTES

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

POST EMBEDMENT DEPTH

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

TYPICAL INSTALLATION
OF PERMANENT TYPE II
SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Matthew R. Rauch
for State Traffic Engineer

DATE 12/6/23

PLATE NO. A4-3.23

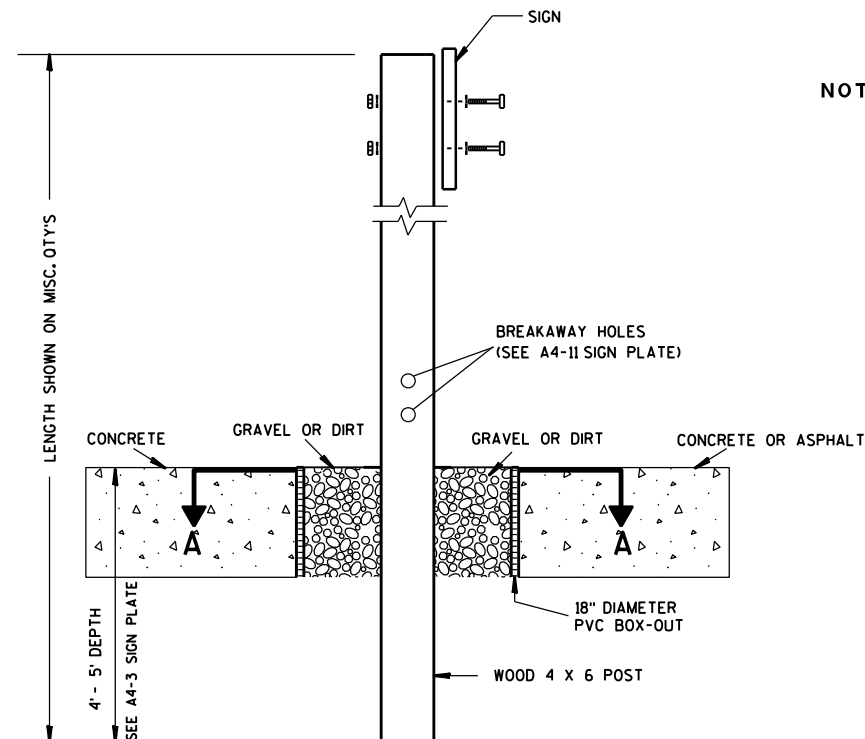
PROJECT NO:

HWY:

COUNTY:

SHEET NO: 52

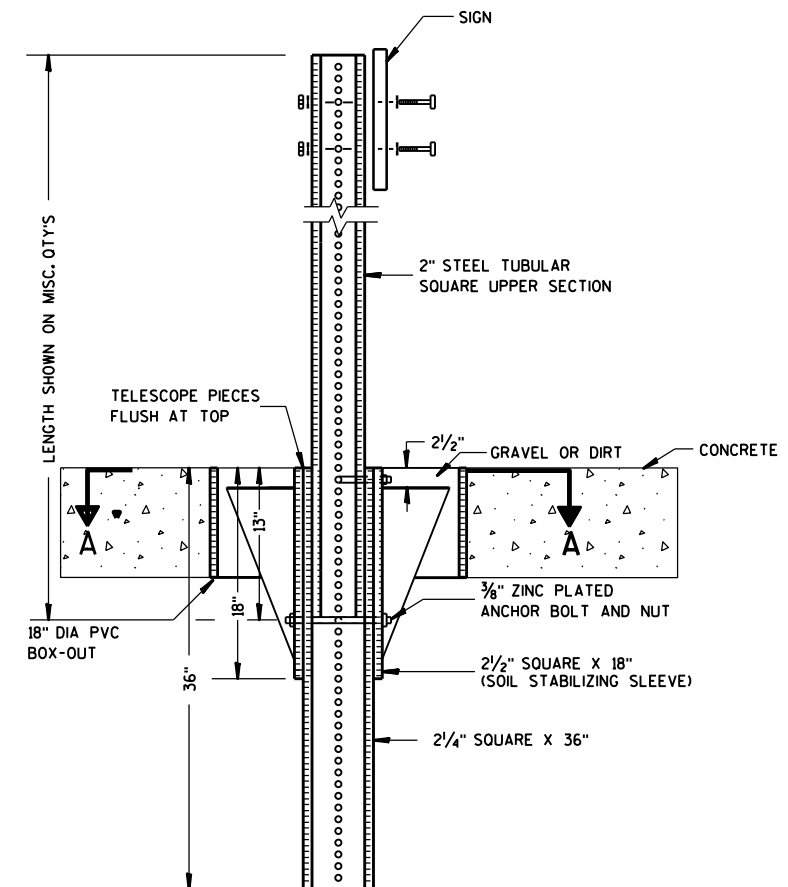
E



ELEVATION VIEW

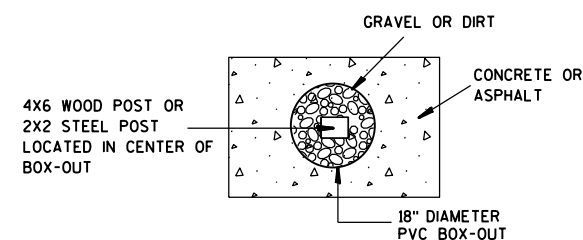
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

- 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 PLAT 53 A4-3B.1

PROJECT NO:

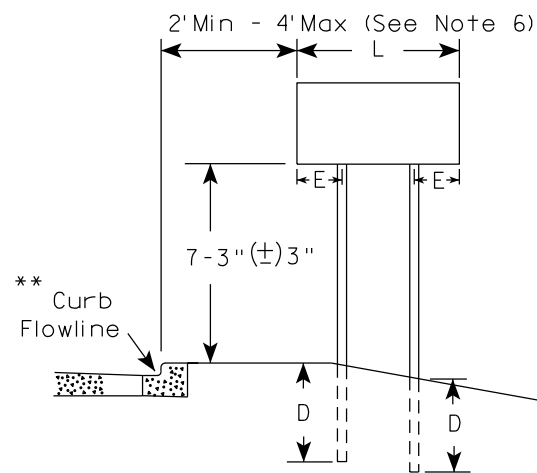
HWY:

COUNTY:

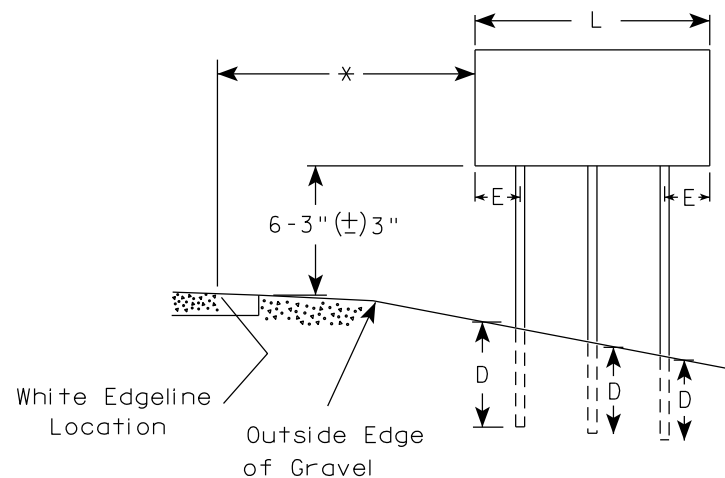
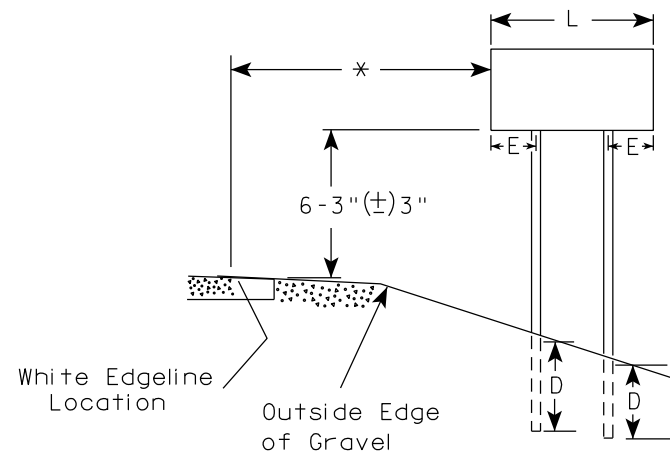
SHEET NO:

E

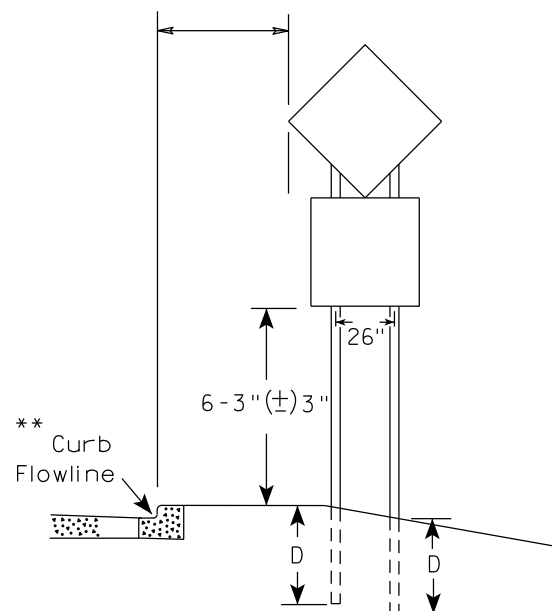
URBAN AREA



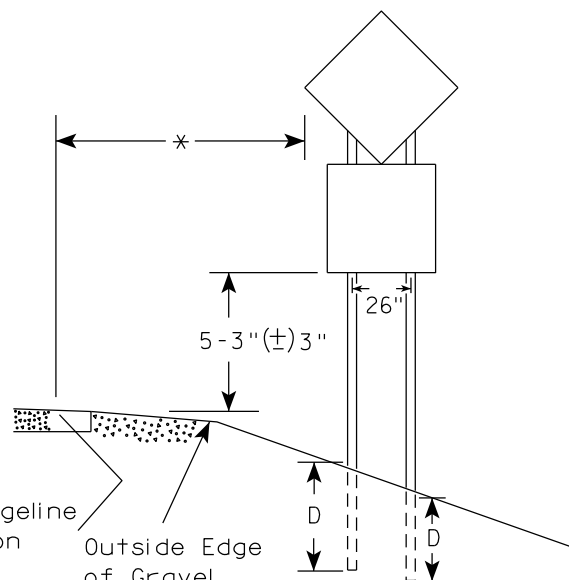
RURAL AREA (See Note 3)



2' Min - 4' Max (See Note 6)



48" DIAMOND WARNING SIGN



48" DIAMOND WARNING SIGN

SIGN SHAPE OTHER THAN DIAMOND (TWO POSTS REQUIRED)	
L	E
Greater than 48" Less than 60"	12"
60" to 108"	L/5

SIGN SHAPE OTHER THAN DIAMOND (THREE POSTS REQUIRED)	
L	E
Greater than 108" to 144"	12"

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

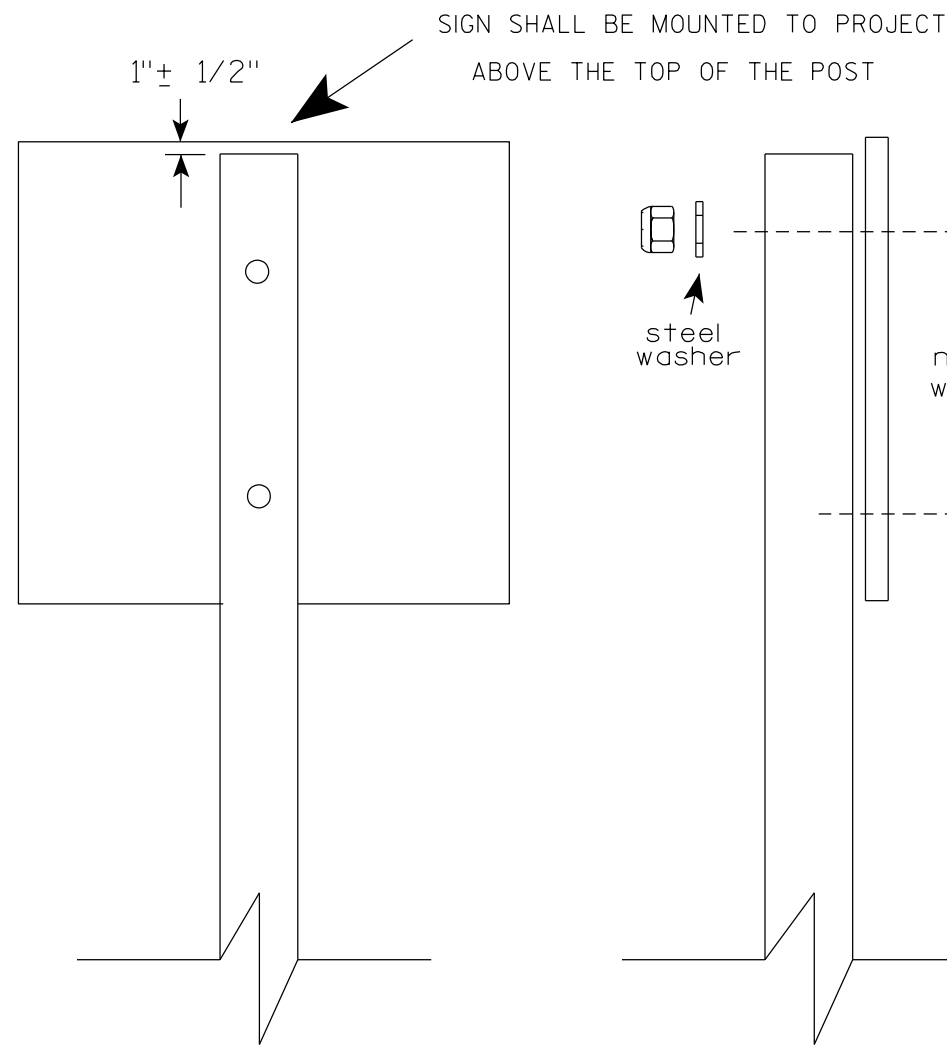
GENERAL NOTES

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.



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.

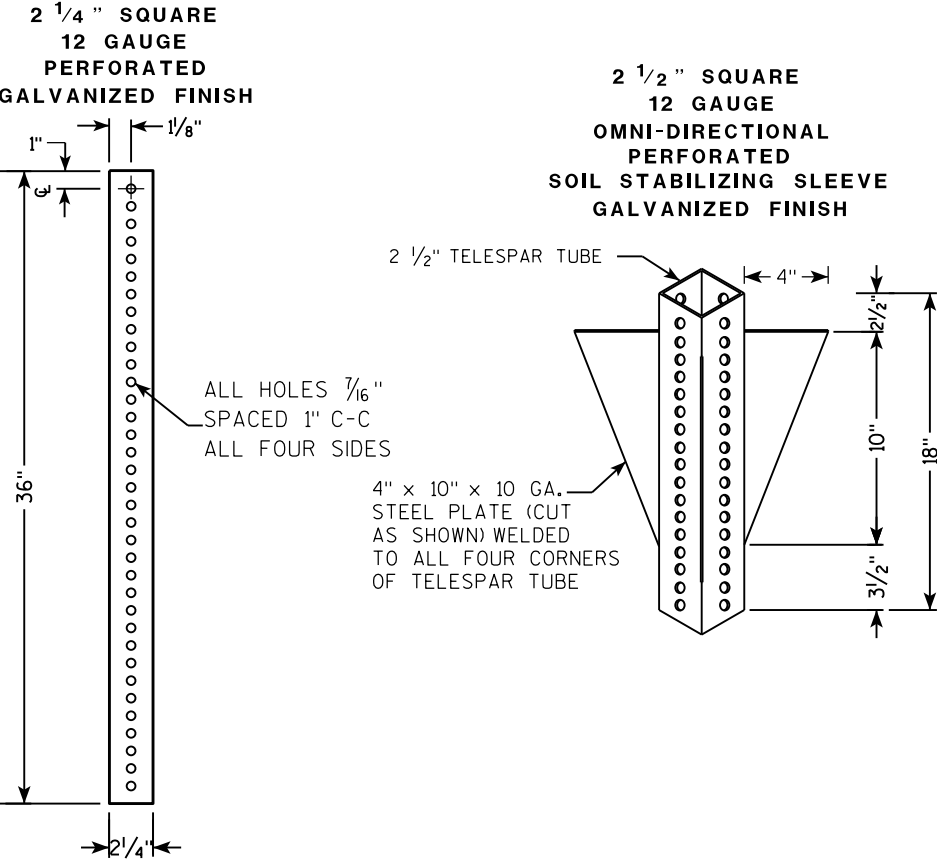
Threads on bolts and nuts shall be manufactured with sufficient allowance for the cadmium plate or galvanized coating to permit the nuts to run freely on the bolts.

- STRINGER BOLTING TO ALUMINUM SIGNS (SEE SIGN PLATE A4-18)
- MACHINE BOLTS - $\frac{5}{16}$ " X 1-3/4" Length w/ lock nuts
- WOOD POSTS (4" x 6")
- LAG SCREWS - $\frac{3}{8}$ " X 3" (NO STRINGERS ON BACK OF SIGN)
 $\frac{3}{8}$ " X 4" (STRINGERS ON BACK OF SIGN)
- SQUARE STEEL POSTS (2" x 2")
- MACHINE BOLTS - $\frac{3}{8}$ " X 3-1/4" Length w/ nuts (NO STRINGER ON BACK OF SIGN)
 $\frac{3}{8}$ " X 5" Length w/ nuts (STRINGERS ON BACK OF SIGN)
- RIVETS - $\frac{9}{32}$ " (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 $\frac{3}{8}$ " I.D. X $\frac{1}{16}$ " STEEL
 - 1-1/4" O.D. X $\frac{3}{8}$ " I.D. X .080 NYLON

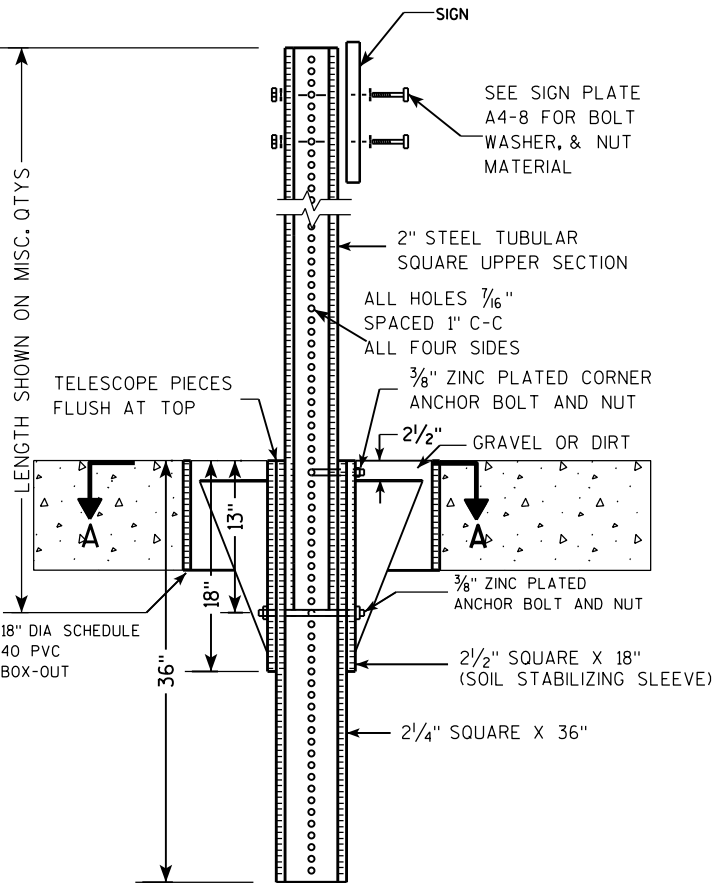
* Two different fastening systems are shown for illustration purposes. On any individual sign, either one or the other system shall be used. Actual number of fasteners per sign varies with the sign area, but normally there are two. For a single post installation, all signs greater than 9 sq. ft. require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

ATTACHMENT OF SIGNS TO POSTS	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> For State Traffic Engineer
DATE 4/1/2020	PLATE NO. A4-8.9

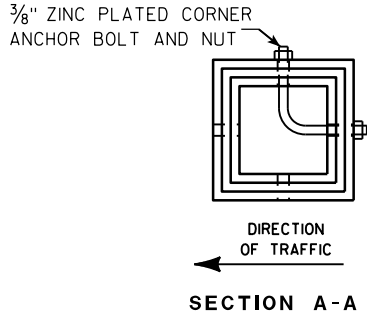
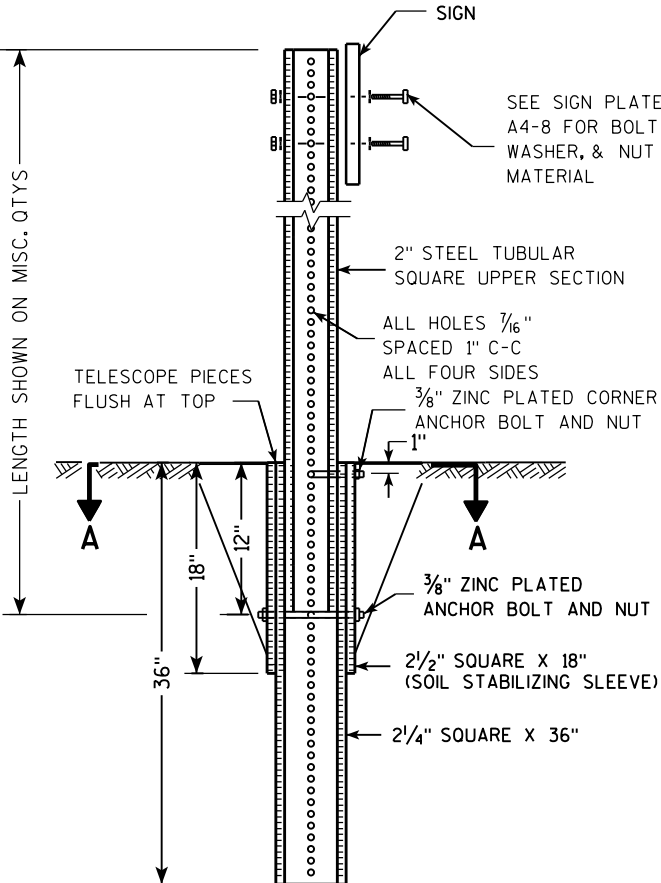
TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM



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)



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).

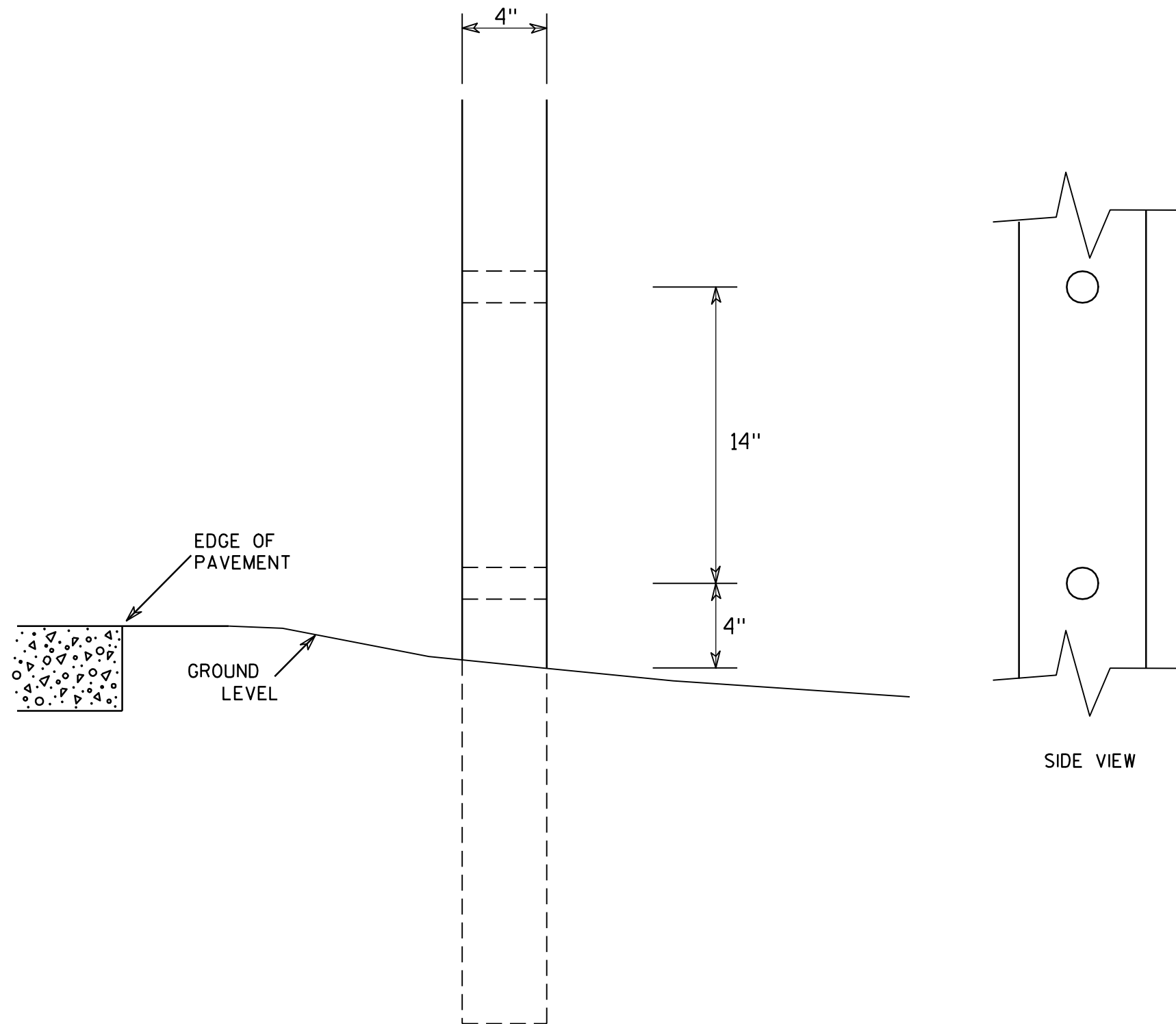
TUBULAR STEEL
SIGN POST
A4-9

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 2/05/15 PLAT 56 14-9.9

7



GENERAL NOTES

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

7

4 X 6 WOOD POST
MODIFICATIONS

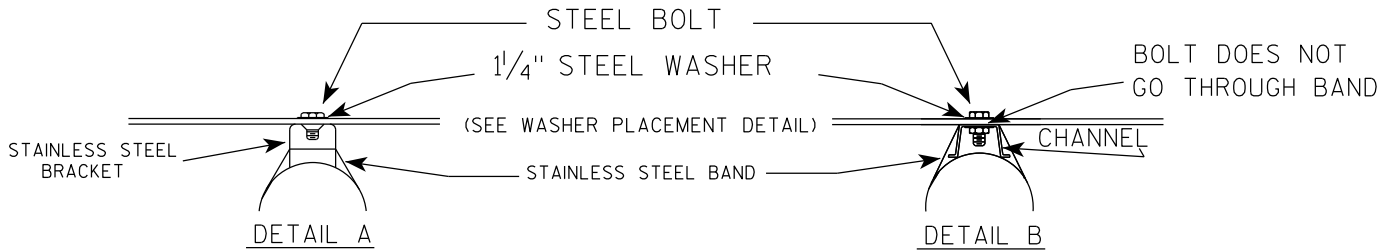
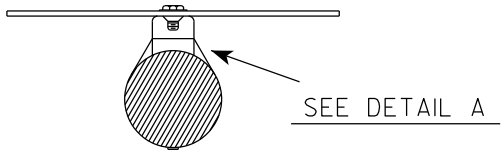
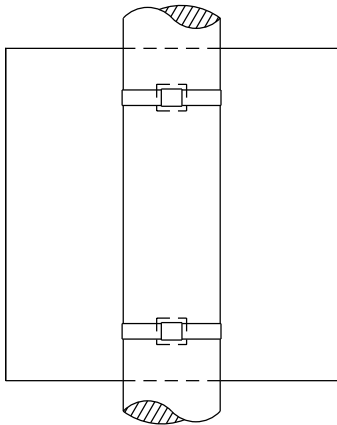
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Chester J. Spang*
for State Traffic Engineer

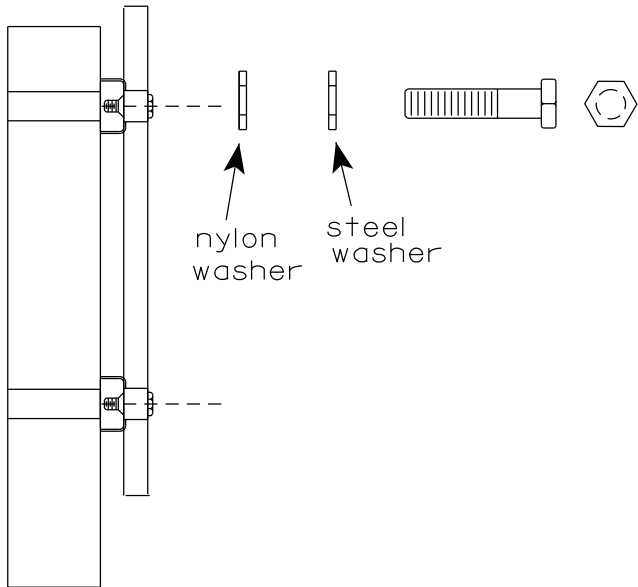
DATE 3/27/97 PLATE NO. A4-11.2

BANDING

SINGLE SIGN



WASHER PLACEMENT

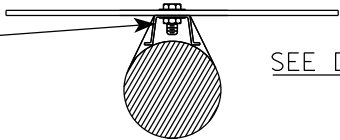
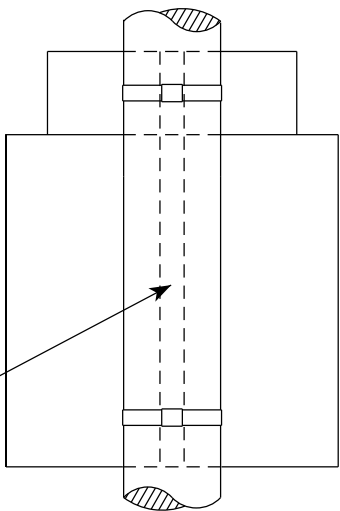


WASHERS (ALL POSTS) -
1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON
FOR ALL TYPE H SIGNS

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 3/4" 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

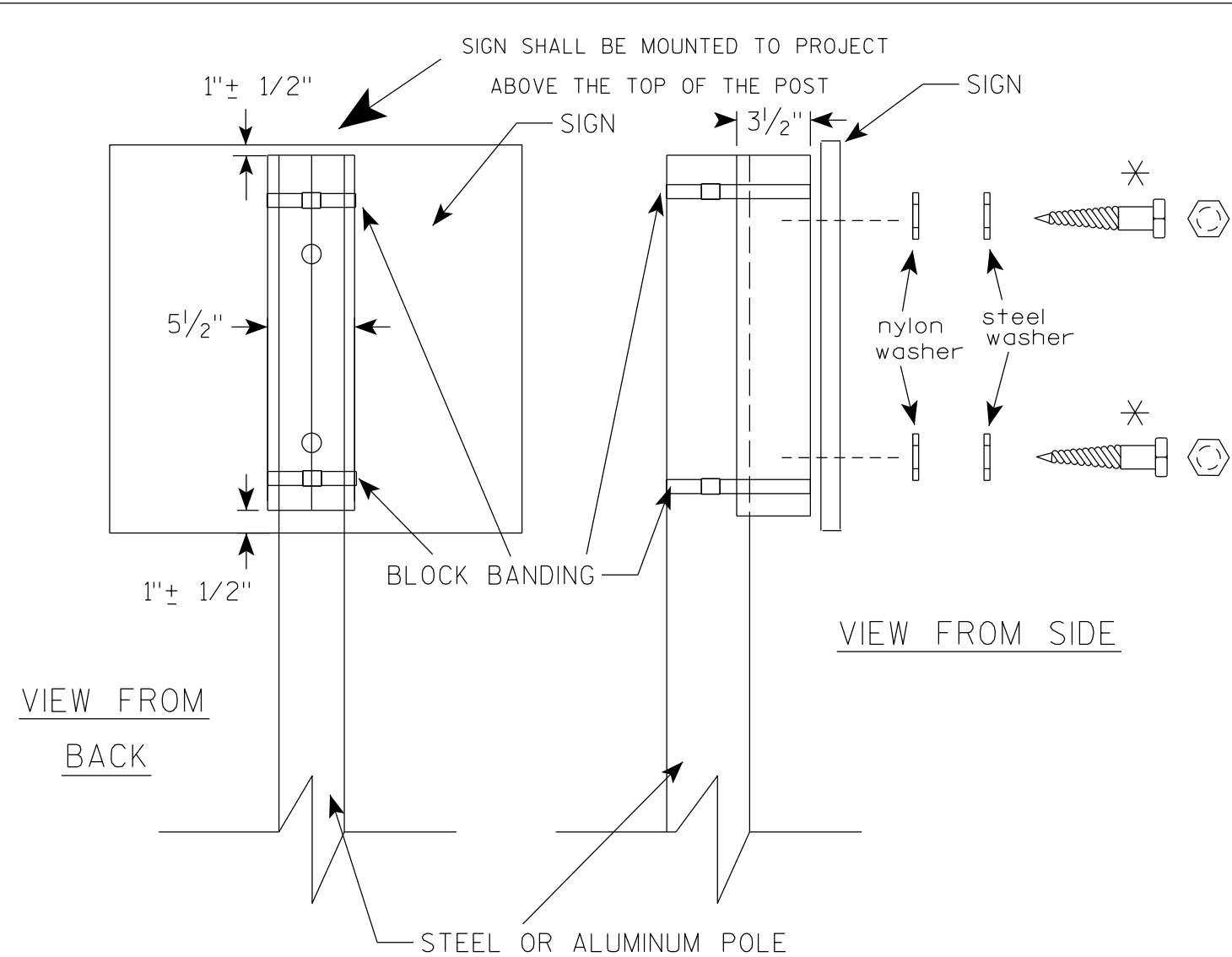
"J" ASSEMBLY



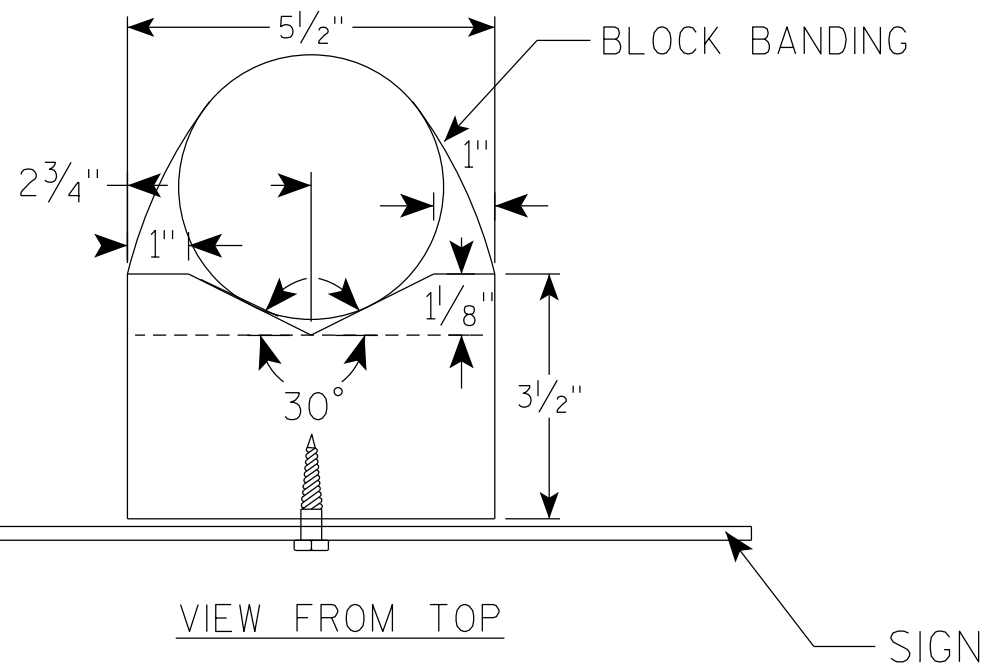
STANDARD SIGN
SIGN BANDING DETAILS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer
DATE 6/10/19 PLATE NO. A5-9.4



VIEW FROM
BACK



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, 3/4" 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 NORMALLY 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 1 1/4" O.D. X 3/8" I.D. X 1/16"
8. NYLON WASHERS SHALL BE 1 1/4" O.D. X 3/8" I.D. X .080 FOR TYPE H OR TYPE F FACE SIGN

✱ LAG BOLTS SHALL BE 3/8" X 2 1/2"

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

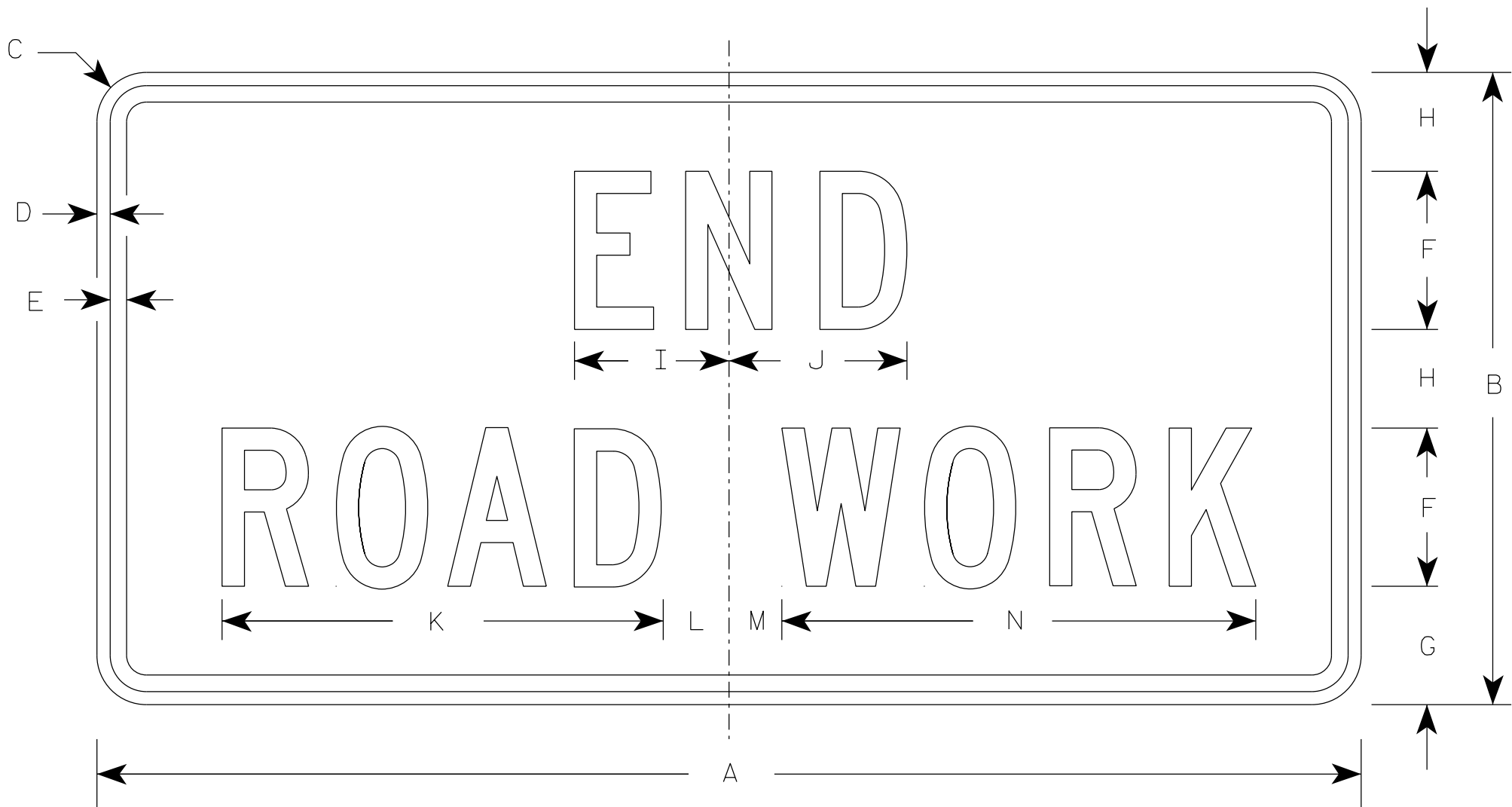
PROJECT NO:

SHEET NO: 59

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.



G20-2A

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

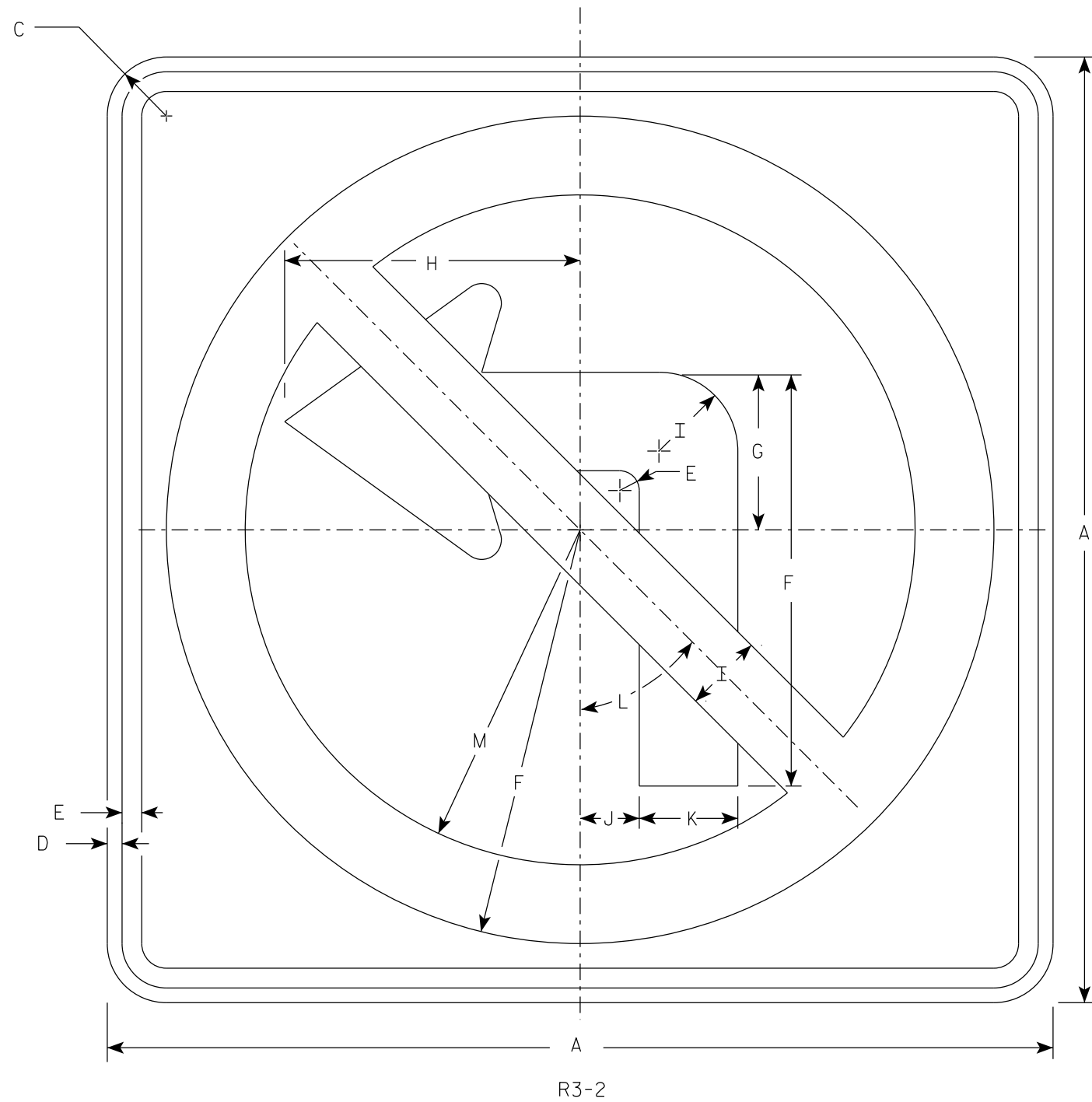
STANDARD SIGN

G20-2A

WISCONSIN DEPT OF TRANSPORTATION

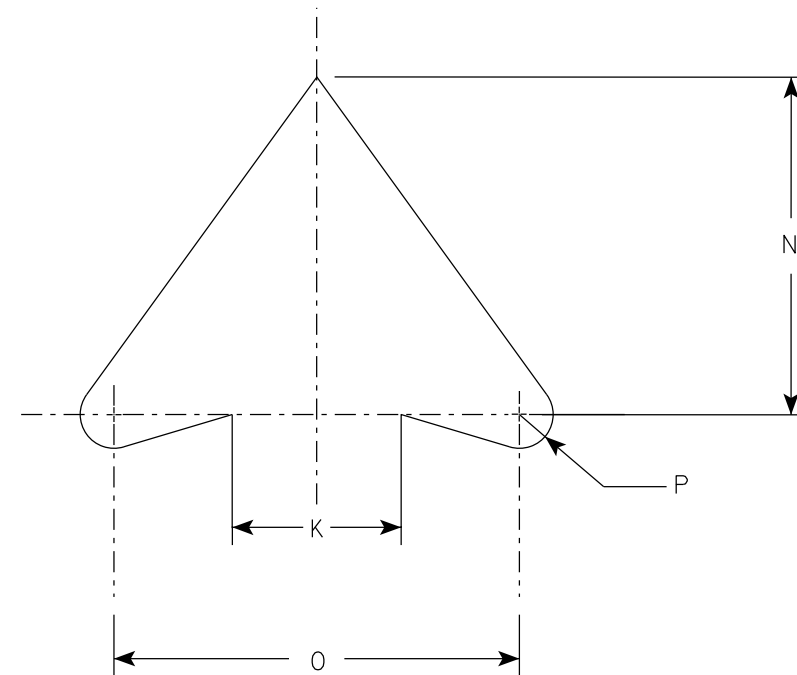
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 1/26/2023 PLATE NO. G20-2A.10



NOTES

1. Sign is Type II - Type H Reflective
2. Color:
Background - White
Message - See note 3
3. Border & Arrow are non reflective black, the circle with diagonal bar is reflective red.



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24		1 1/2	3/8	1/2	10 1/2	4	7 1/2	2	1 1/2	2 1/2	45°	8 1/2	5	6	1/2											4.0
2S	24		1 1/2	3/8	1/2	10 1/2	4	7 1/2	2	1 1/2	2 1/2	45°	8 1/2	5	6	1/2											4.0
2M	36		2 1/4	5/8	3/4	15 3/4	6	11 1/4	3	2 1/4	3 3/4	45°	12 3/4	7 1/2	9	3/4											9.0
3	36		2 1/4	5/8	3/4	15 3/4	6	11 1/4	3	2 1/4	3 3/4	45°	12 3/4	7 1/2	9	3/4											9.0
4	36		2 1/4	5/8	3/4	15 3/4	6	11 1/4	3	2 1/4	3 3/4	45°	12 3/4	7 1/2	9	3/4											9.0
5	48		2 1/4	3/4	1	21	8	15	4	3	5	45°	17	10	12	1											16.0

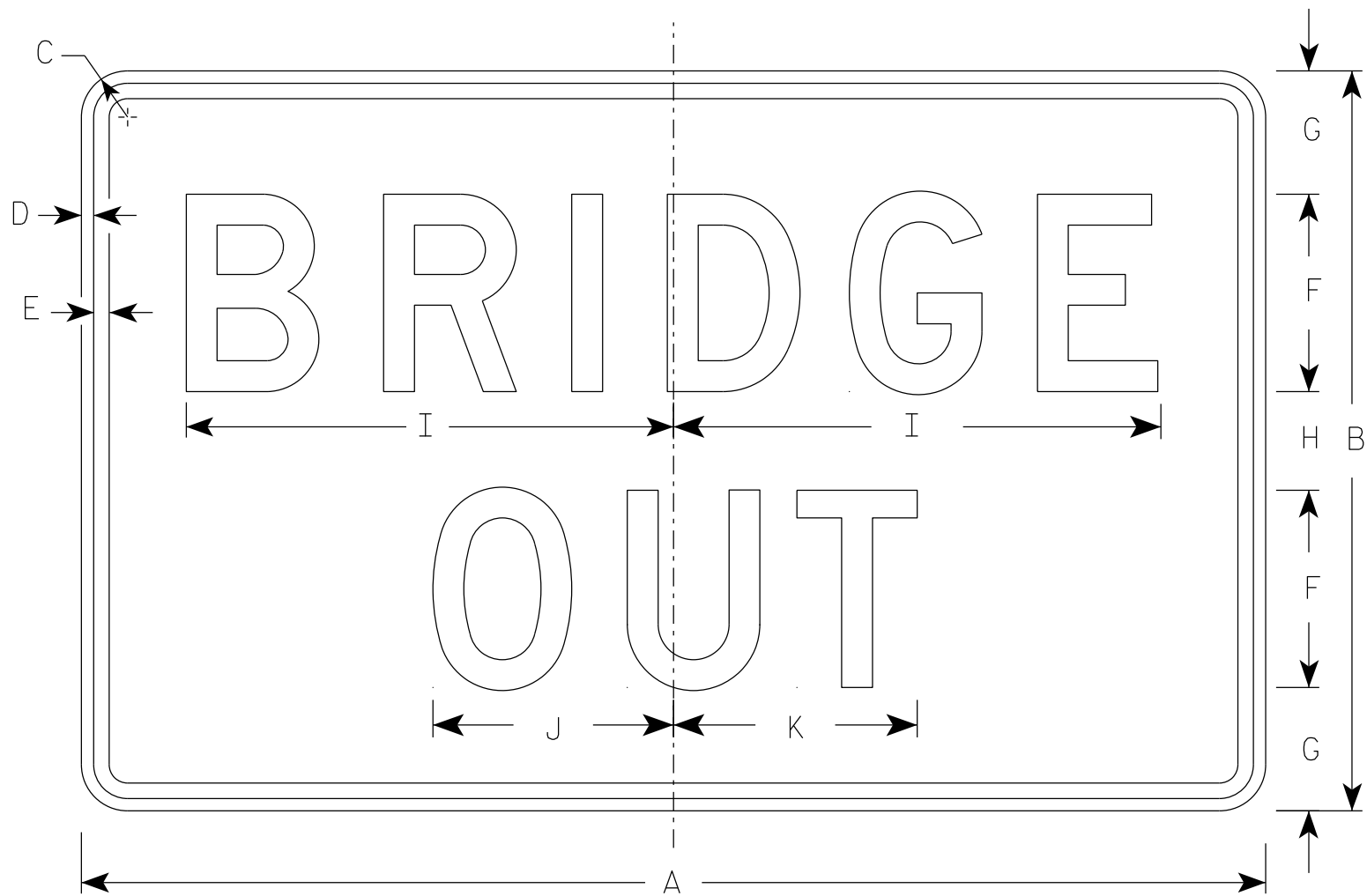
PROJECT NO:

HWY:

COUNTY:

SHEET NO: 61

E



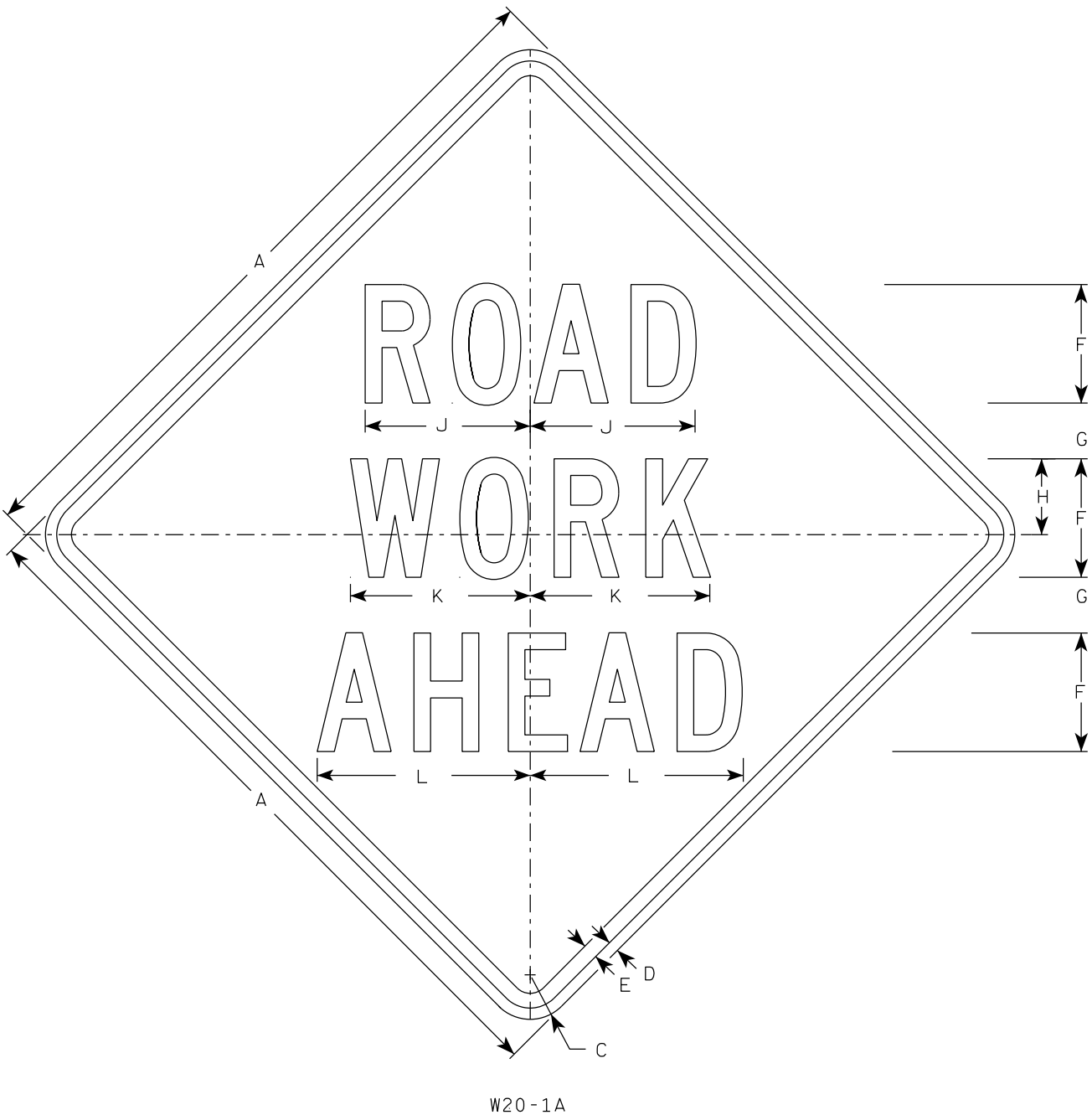
R11-2B

NOTES

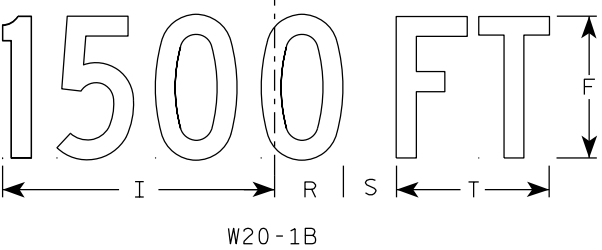
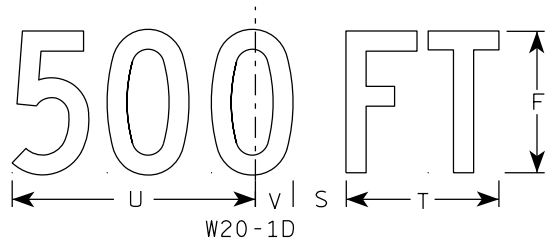
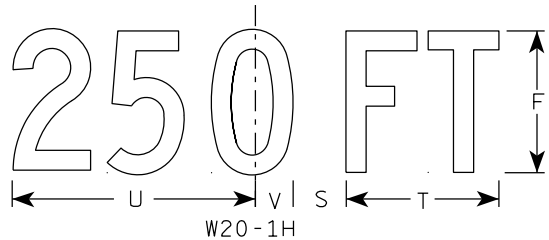
- 1. Sign is Type II - Type H Reflective
- 2. Color:
 - Background - White
 - Message - Black
- 3. Message Series - D
- 4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48	30	1 7/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
2M	48	30	1 7/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
3	48	30	1 7/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
4	48	30	1 7/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
5	48	30	1 7/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0

7

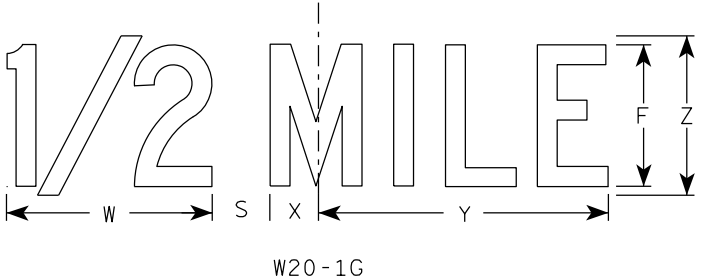


W20-1A

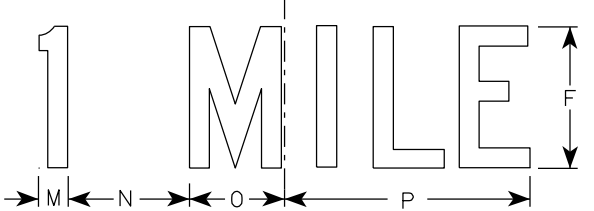


W20-1B

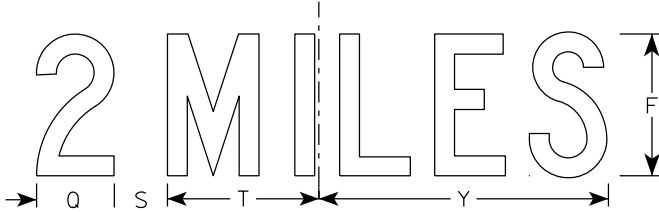
- NOTES
1. Sign is Type II - Type F Reflective
 2. Color:
Background - Orange
Message - Black
 3. Message Series - C
 4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.



W20-1G



W20-1F

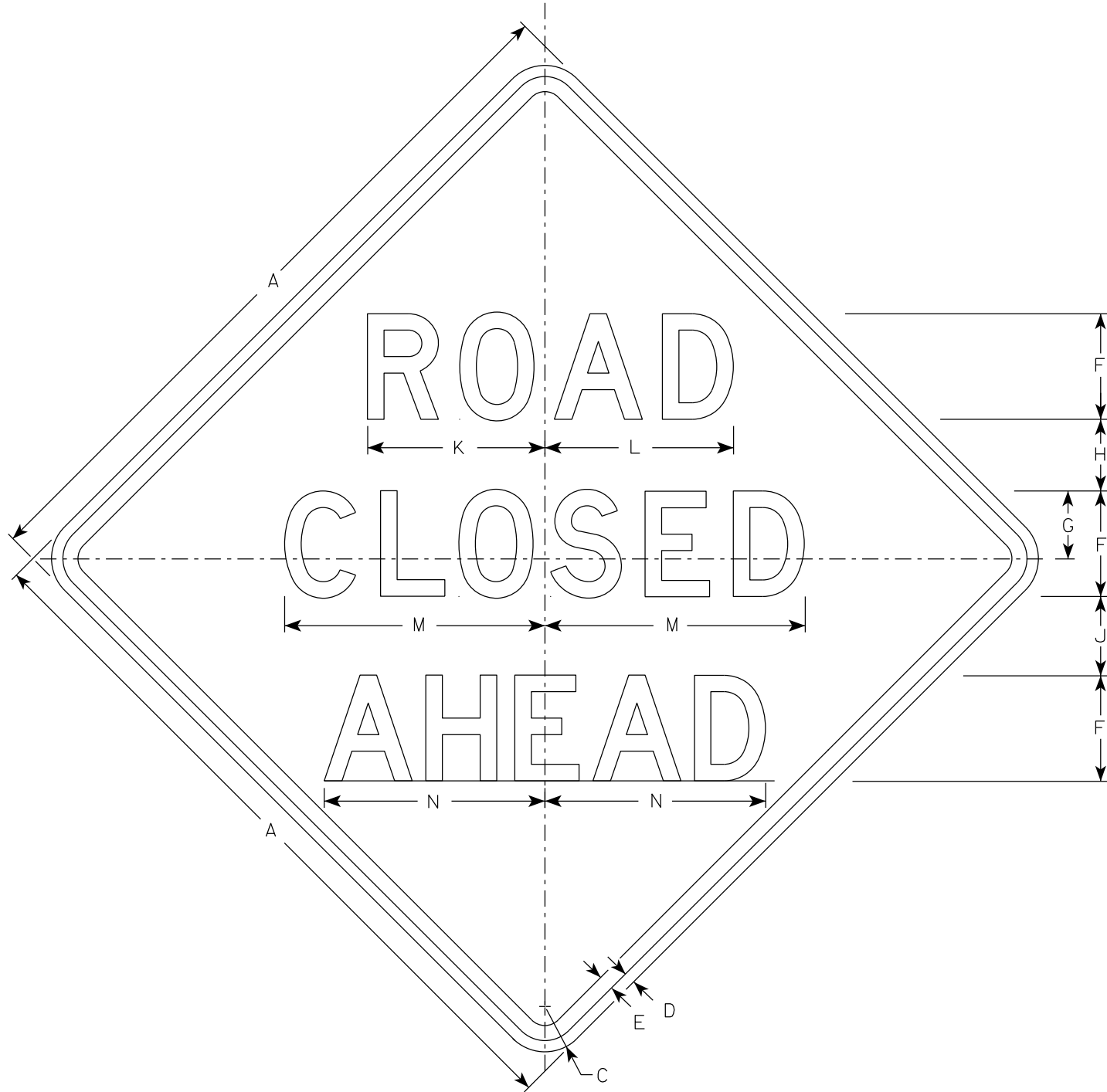


W20-1E

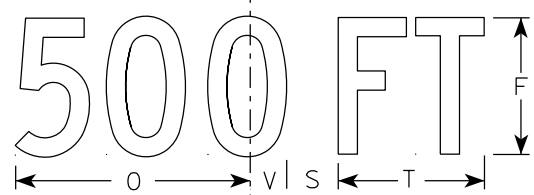
7

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

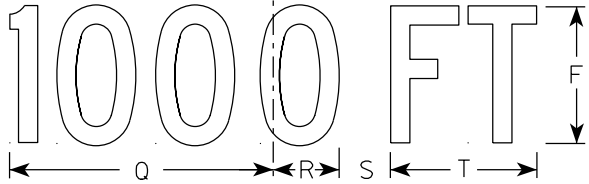
7



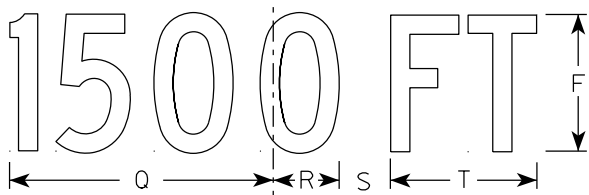
W20-3A



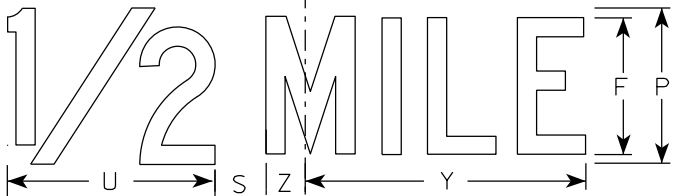
W20-3D



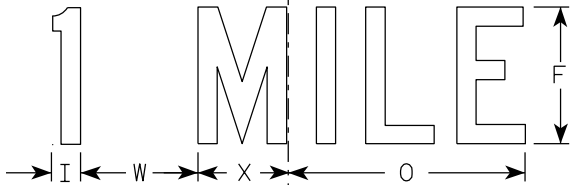
W20-3C



W20-3B



W20-3G



W20-3F

NOTES

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

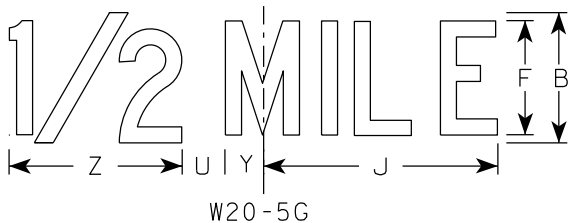
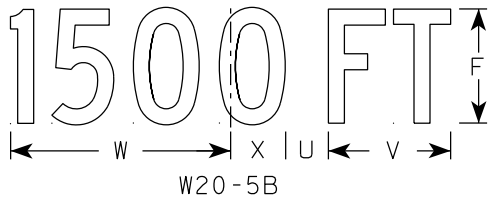
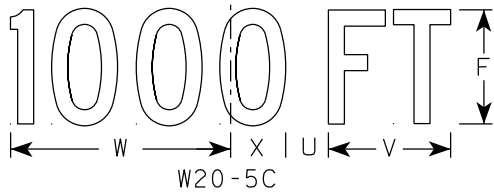
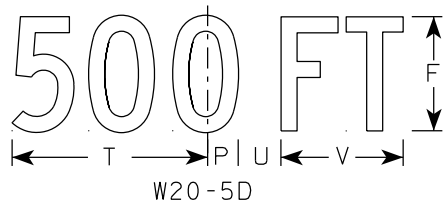
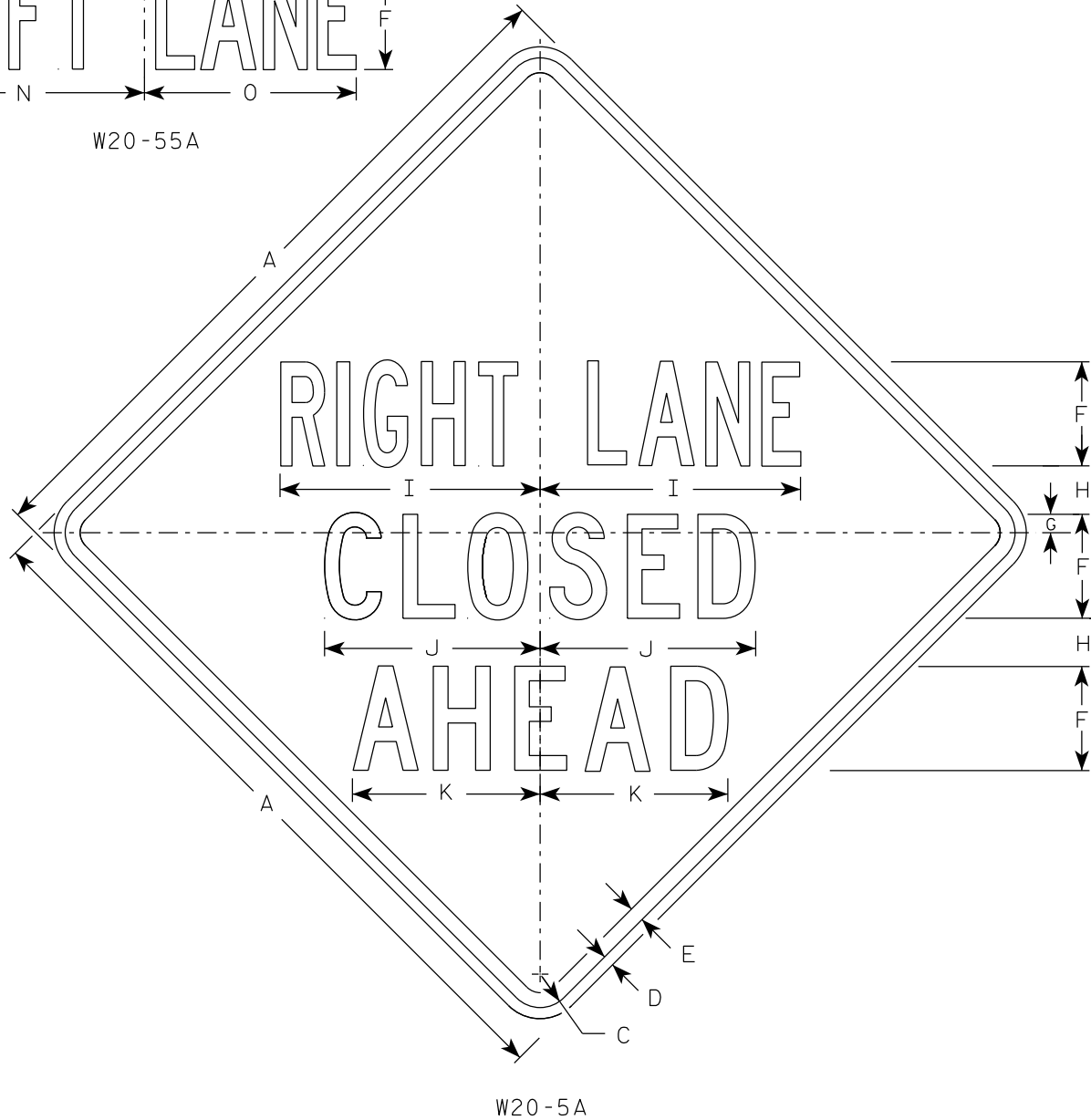
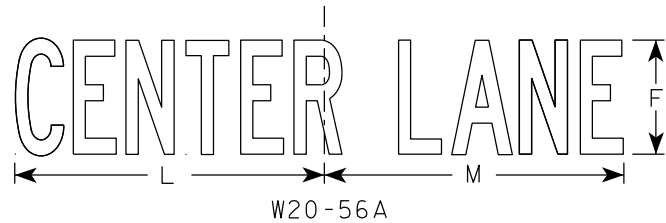
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	v	W	X	Y	Z	Area sq. ft.
1	36		2 1/4	5/8	3/4	5	3 3/8	3 1/2	1 1/8	4	8 3/8	8 7/8	12 1/2	11	9	6	10 1/8	2 1/2	1 7/8	5 5/8	8	1 3/8	4 1/2	3 1/2	10 3/4	1 3/4	9.0
2S	48		3	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10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

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

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 1/10/2024 PLATE NO. W20-3.8



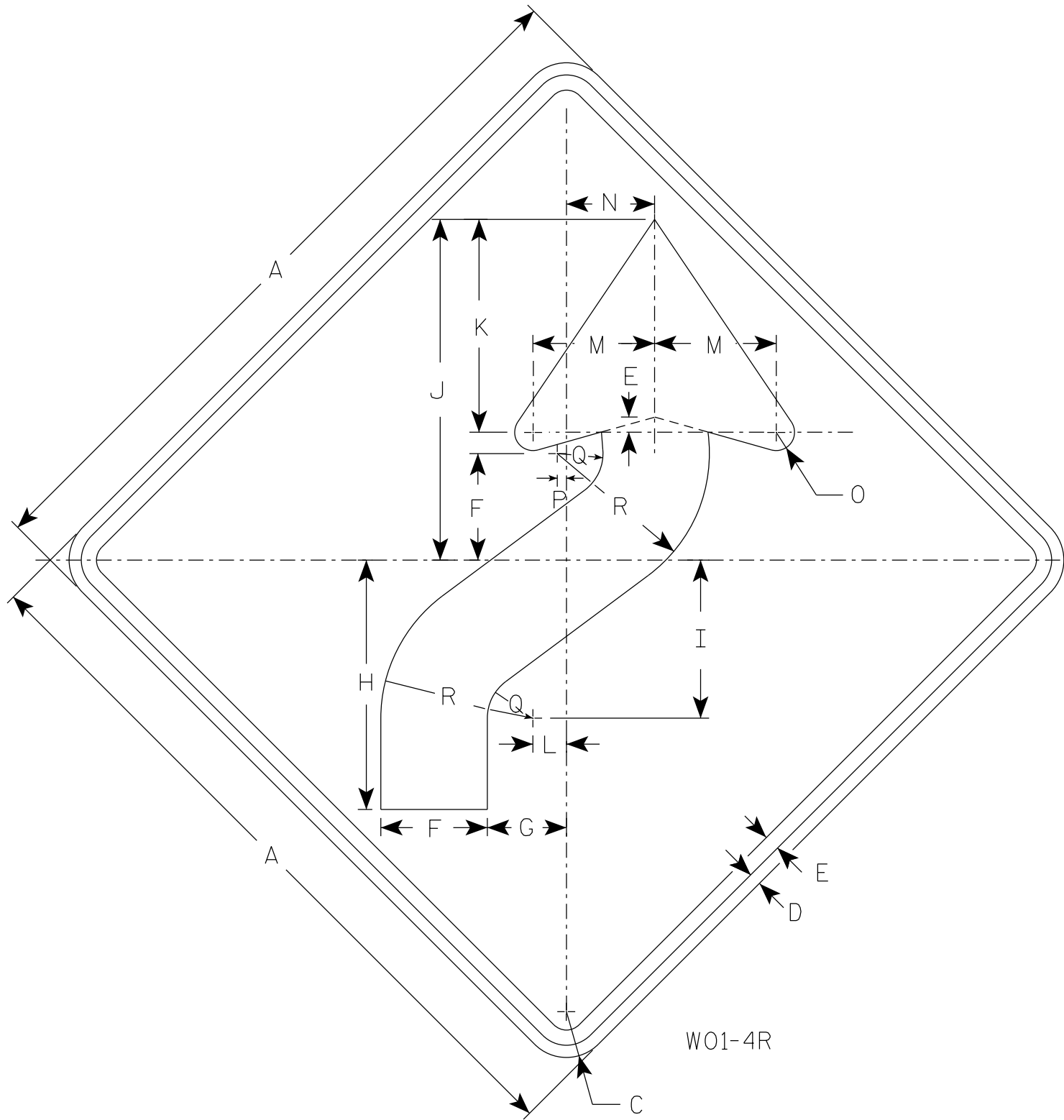
NOTES

- 1. Sign is Type II - Type F Reflective
- 2. Color:
Background - Orange
Message - Black
- 3. Message Series - See Note 5
- 4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- 5. " _____ LANE" is Series B.
All other copy is Series C.

7

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36	6	2 1/4	5/8	3/4	5	7/8	2 1/2	13 1/8	10 3/4	9 1/2	14 1/4	13 5/8	12	12	1 3/8	1 1/8	4 1/2	3 1/2	9	1 7/8	5 5/8	10 1/8	2 1/2	1 3/4	8	9.0
2S	48	8	3	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
2M	48	8	3	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
3	48	8	3	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
4	48	8	3	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
5	48	8	3	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0



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

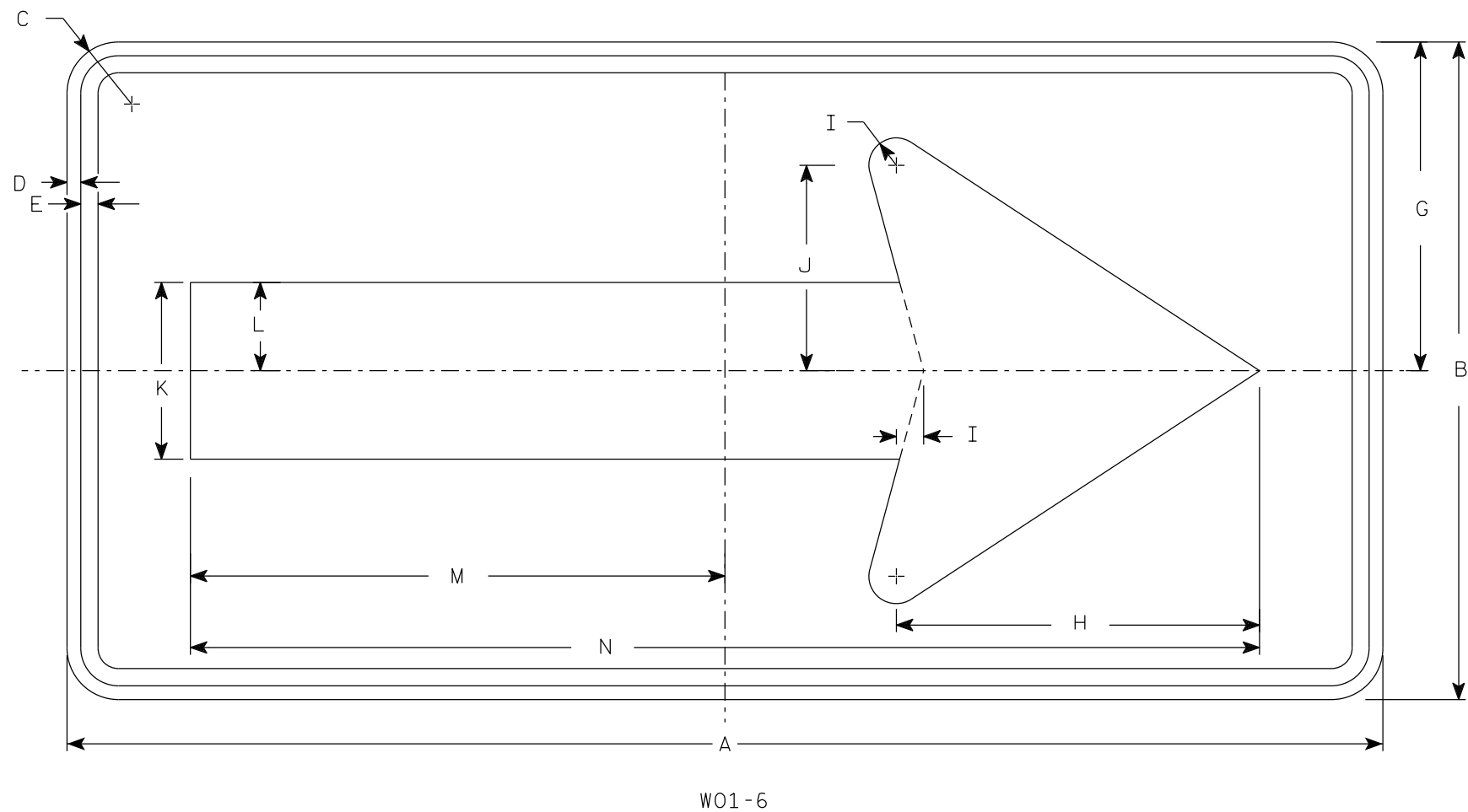
STANDARD SIGN
W01-4

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 1/24/2024 PLATE NO. W01-4.2

7



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.

7

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

W01-6

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

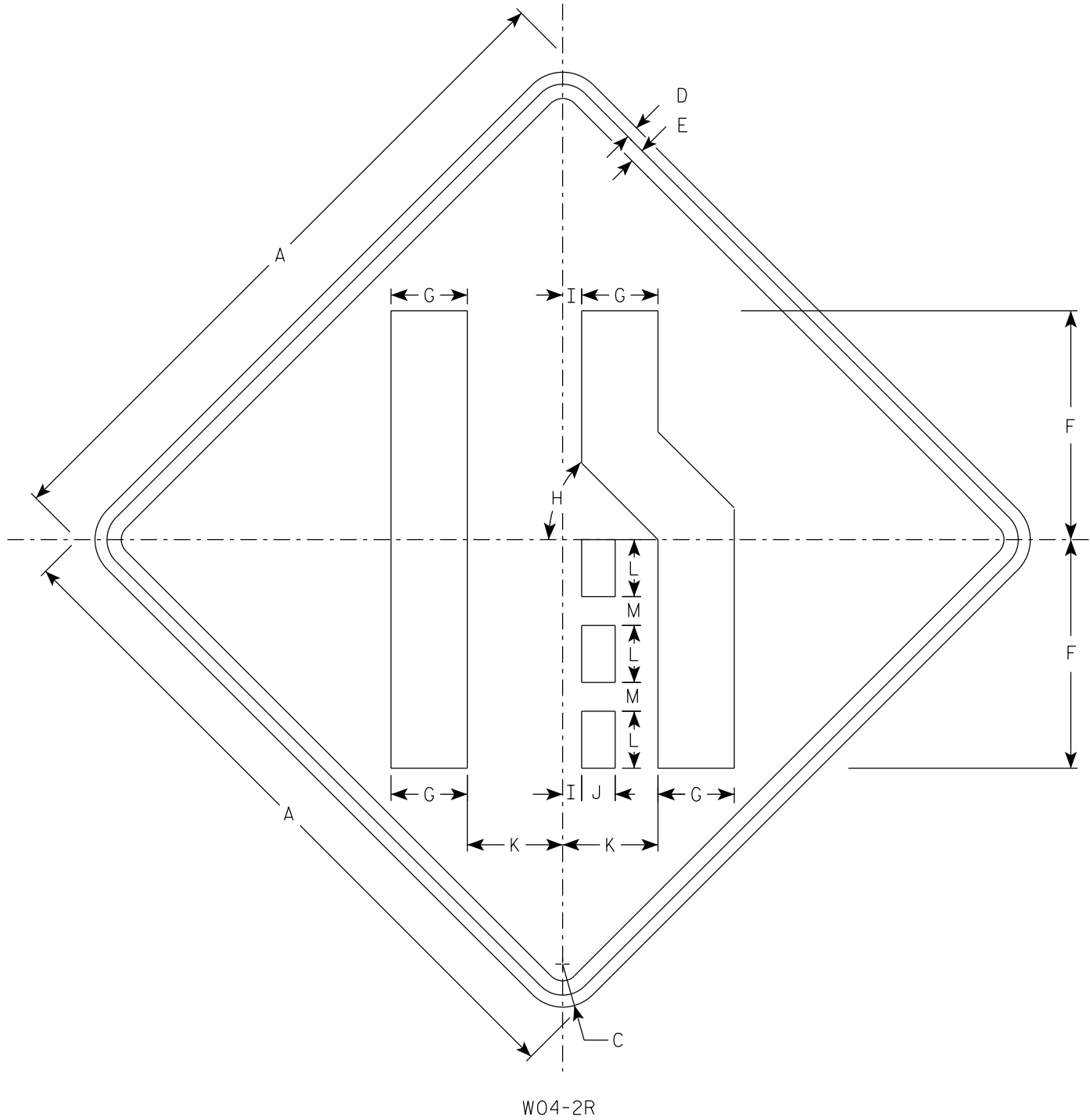
Matthew R. Rauch

for State Traffic Engineer

DATE 1/24/2024

PLATE NO. W01-6.2

7

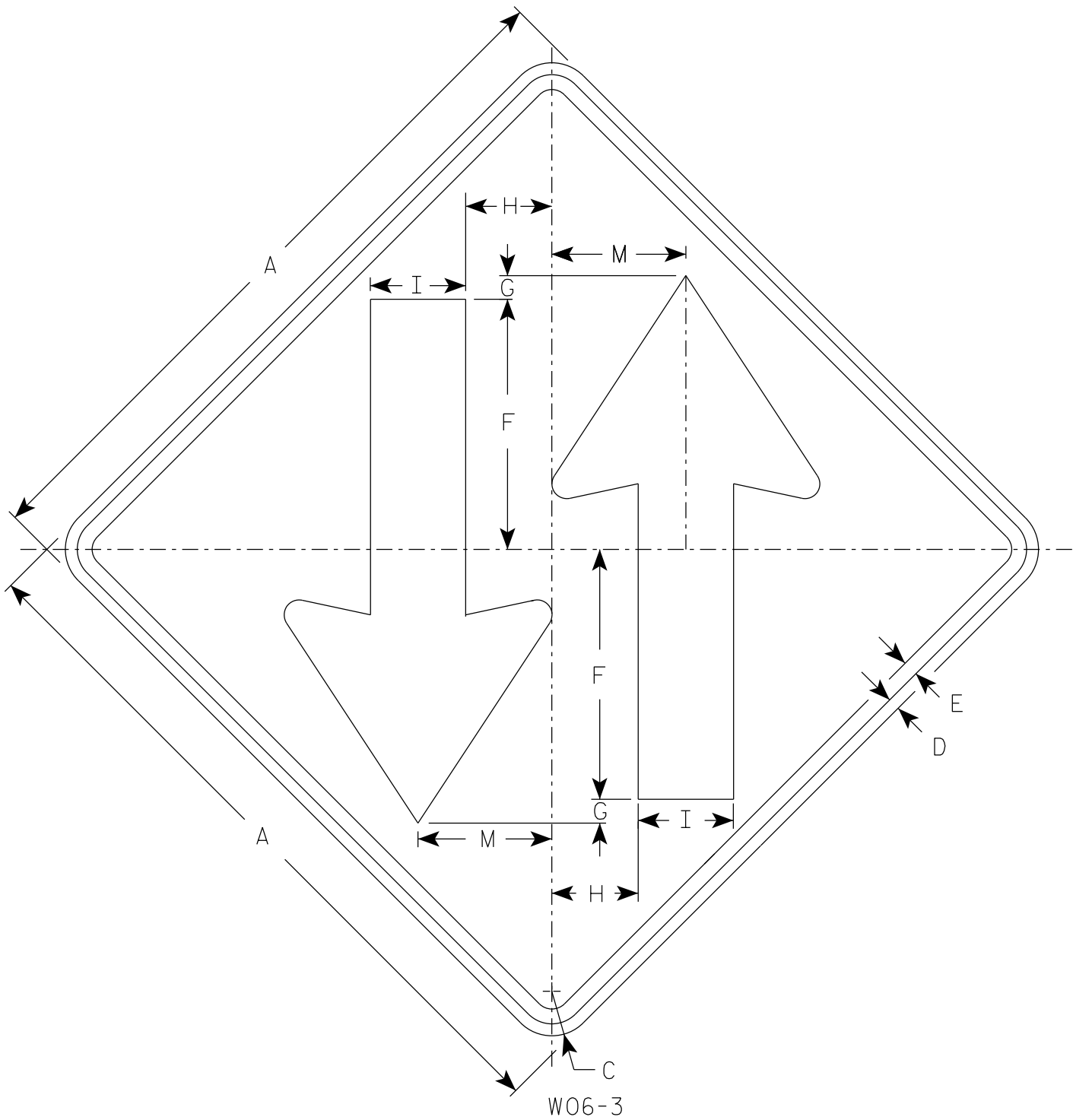


NOTES

1. Sign is Type II - Type F Reflective
2. Color:
Background - Orange
Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. W04-2L is the same as W04-2R except the symbol is reversed along the vertical centerline.

7

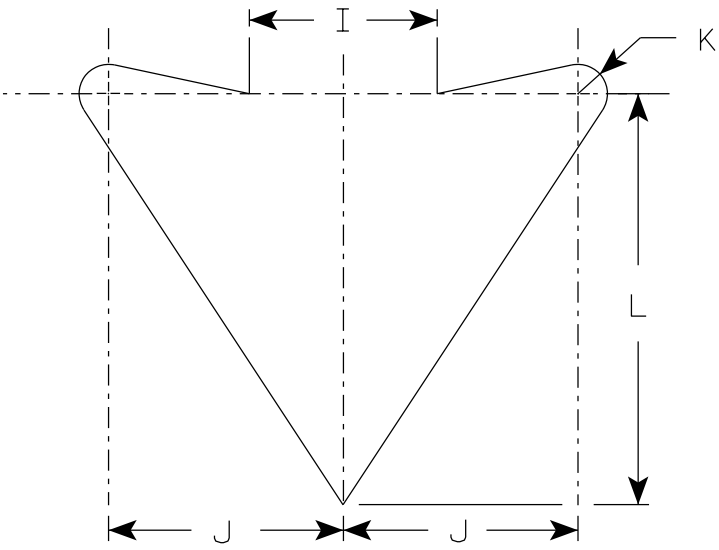
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		2 1/4	5/8	3/4	12	4	45°	1	1 3/4	5	3	1 1/2														9.0
2S	48		3	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
2M	48		3	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
3	48		3	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
4	48		3	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
5	48		3	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0



W06-3

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.



ARROW DETAIL

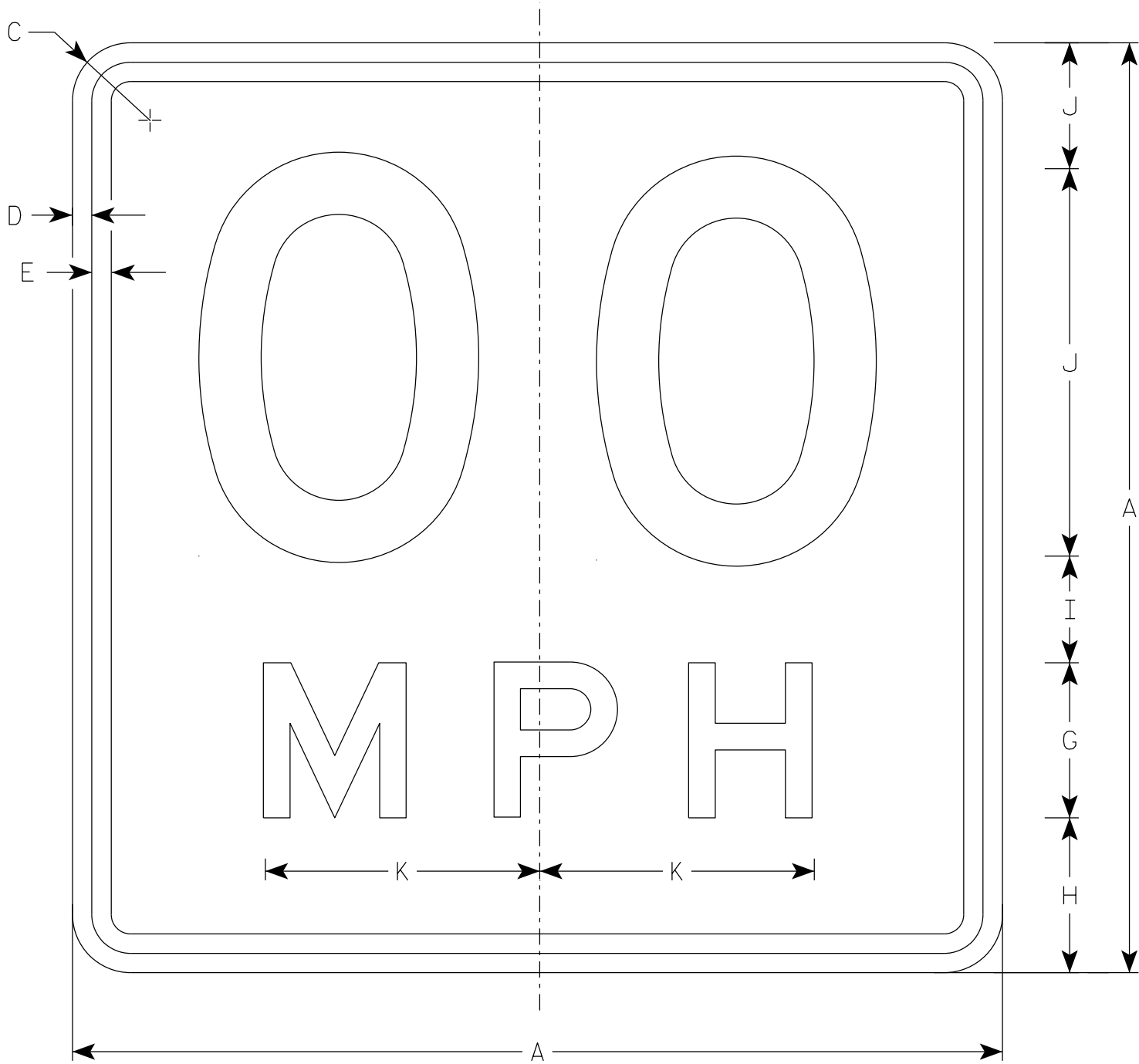
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		2 1/4	5/8	3/4	12	1	4 1/4	5	6	3/4	10 1/2	6 3/4														9.0
2S	48		3	3/4	1	15 1/2	1	6	6	8	1	14	9														16.0
2M	48		3	3/4	1	15 1/2	1	6	6	8	1	14	9														16.0
3	48		3	3/4	1	15 1/2	1	6	6	8	1	14	9														16.0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

STANDARD SIGN
W06-3

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 1/30/2024 PLATE NO. W06-3.2



W013-1

NOTES

- 1. Sign is Type II - Type F Reflective
- 2. Color:
Background - Orange
Message - Black
- 3. Message Series - See Note 6
- 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 and optically space about centerline to achieve proper balance.
- 6. Line 1 is Series D
Line 2 is Series E

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

STANDARD SIGN

W013-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 2/1/2024 PLATE NO. W013-1.2

⊗ INDICATES WING NUMBER
* PROVIDE FOR THRIE BEAM ANCHORAGE

PIPE UNDERDRAIN
WRAPPED 6-INCH

REMOVE AND REPLACE
WING 2 ABOVE BEAM
SEAT ELEVATION

25°
SKEW
TYP.

CL BRG. W. ABUT.
RIPRAP MEDIUM
OVER GEOTEXTILE
TYPE 'HR'

CL BRG. E. ABUT.

CL BRG. W. ABUT.
STA 22+10.26

END OF DECK
STA 22+07.78

NAMEPLATE
22+00

CL PIER 1
STA 22+75.09

CL PIER 2
STA 23+40.75

CL BRG. E. ABUT.
STA 24+05.60

END OF DECK
STA 24+08.08

CL CTH VV WB

8"
PAV. NOTCH, TYP.

B-67-85

CL PIER 1

CL PIER 2

VERTICAL FACE
PARAPET 'A'

VERTICAL FACE
PARAPET 'A'

3'-2 5/8"

64'-10"

65'-8"

64'-10"

3'-2 5/8"

SPAN 1

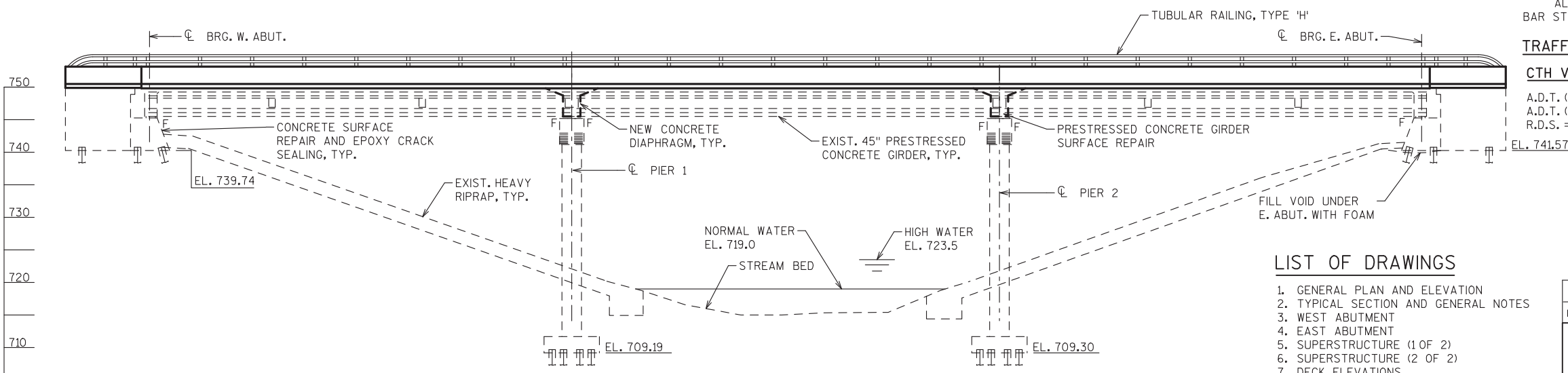
SPAN 2

SPAN 3

201'-9 1/4" BACK TO BACK OF ABUTMENTS

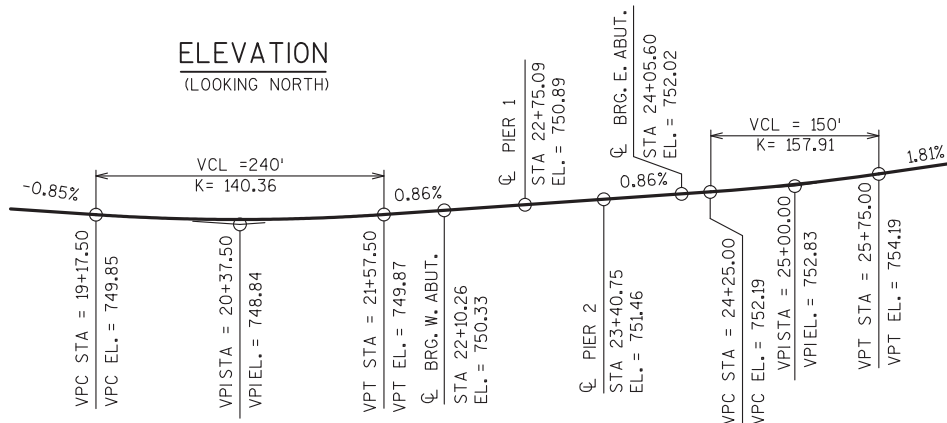
PLAN

(DECK REPLACEMENT 3 SPAN 45" PRESTRESSED CONCRETE GIRDER BRIDGE)



ELEVATION

(LOOKING NORTH)



LIST OF DRAWINGS

1. GENERAL PLAN AND ELEVATION
2. TYPICAL SECTION AND GENERAL NOTES
3. WEST ABUTMENT
4. EAST ABUTMENT
5. SUPERSTRUCTURE (1 OF 2)
6. SUPERSTRUCTURE (2 OF 2)
7. DECK ELEVATIONS
8. STEEL DIAPHRAGM
9. VERTICAL FACE PARAPET 'A'
10. TUBULAR RAILING TYPE 'H' (ALUM.)

STRUCTURE DESIGN CONTACTS

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

CONSULTANT CONTACT:
BABU THENGANAKUNNEL
(414) 292-4506

DESIGN DATA

LIVE LOAD

DESIGN LOAD: HS20
INVENTORY RATING: HS29
OPERATIONAL RATING: HS61
WISCONSIN STANDARD PERMIT VEHICLE LOAD
(WIS-SPV):.....250 KIPS

MATERIAL PROPERTIES

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

TRAFFIC DATA

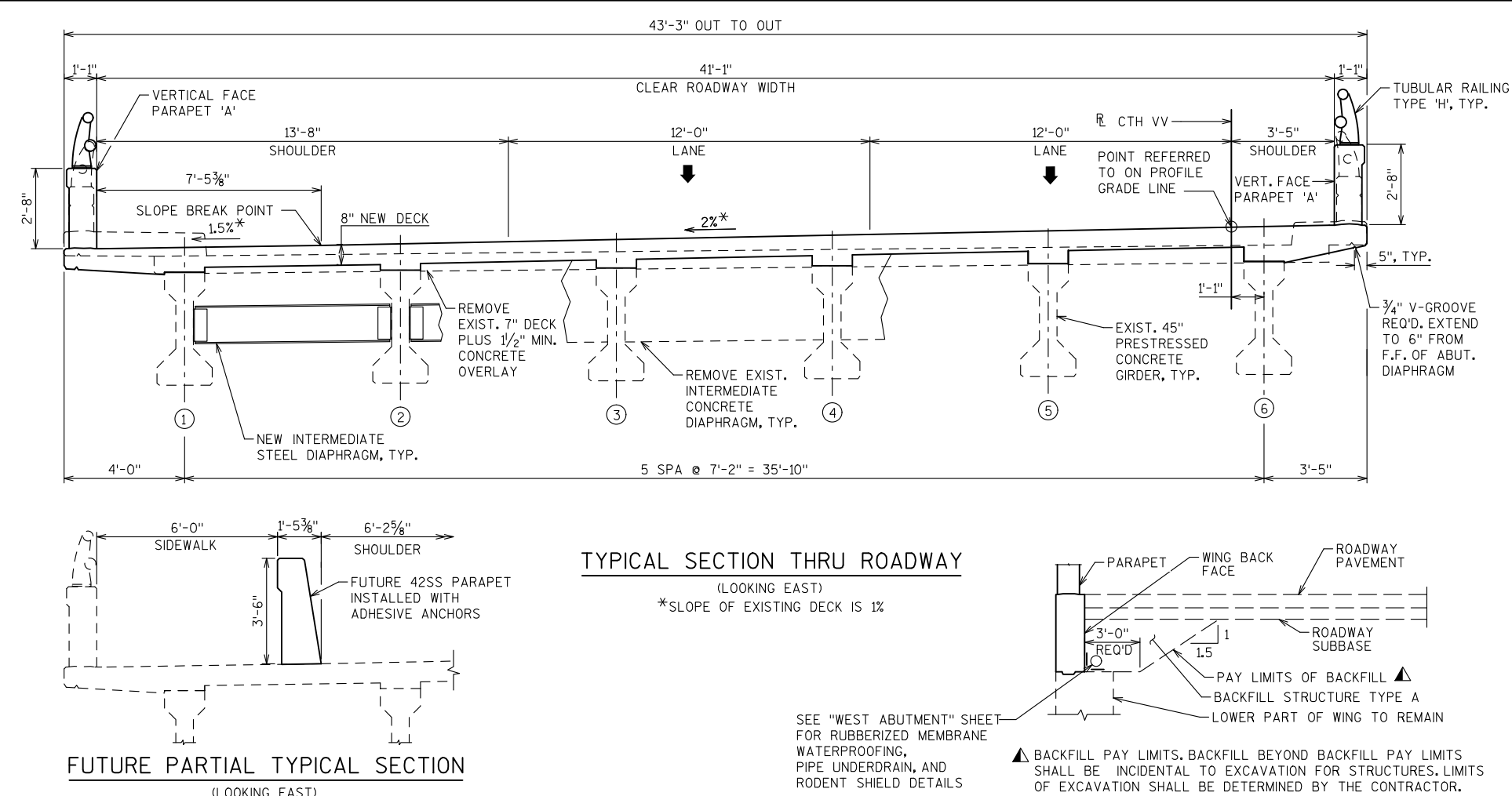
CTH VV WB

A.D.T. (2018) = 14,250
A.D.T. (2038) = 17,400
R.D.S. = 50 MPH



BENCHMARK DATA

NO.	STATION	DESCRIPTION	ELEVATION
CP3	21+83.88, 26.78° RT	MAG NAIL BETWN EB AND WB LANES	749.23
CP4	22+82.64, 20.57° LT	MAG SPIKE UNDER WB BRIDGE	717.61



TOTAL ESTIMATED QUANTITIES

ITEM NUMBER	BID ITEMS	UNIT	WEST ABUT.	PIER 1	PIER 2	EAST ABUT.	SUPER	TOTAL
203.0211.S	ABATEMENT OF ASBESTOS CONTAINING MATERIAL B-67-85	EACH						1
203.0260	REMOVING STRUCTURE OVER WATERWAY MINIMAL DEBRIS B-67-85	EACH						1
206.1001	EXCAVATION FOR STRUCTURES BRIDGES B-67-85	EACH						1
210.1500	BACKFILL STRUCTURE TYPE A	TON						20
502.0100	CONCRETE MASONRY BRIDGES	CY	9			6	333	348
502.3200	PROTECTIVE SURFACE TREATMENT	SY					931	931
502.3210	PIGMENTED SURFACE SEALER	SY	9			9	161	179
502.4205	ADHESIVE ANCHORS NO. 5 BAR	EACH	56			56	226	338
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	810			630	67260	68700
506.4000	STEEL DIAPHRAGMS B-67-85	EACH					15	15
509.1500	CONCRETE SURFACE REPAIR	SF	15			20		35
509.9020.S	EPOXY CRACK SEALING	LF	10			15		25
513.4056	RAILING TUBULAR TYPE H	LF					436	436
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	3					3
606.0200	RIPRAP MEDIUM	CY	2					2
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	20					20
614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	EACH	2			2		4
645.0120	GEOTEXTILE TYPE HR	SY	10					10
SPV.0035.01	VOID REPAIR GROUT	CY				3		3
SPV.0060.01	CLEANING AND PAINTING BEARINGS	EACH		12	12			24
SPV.0060.02	BEARING MODIFICATION	EACH			12			12
SPV.0060.03	FOAM VOID FILLING B-67-85	EACH				1		1
SPV.0165.01	PRESTRESSED CONCRETE GIRDER SURFACE REPAIR	SF					6	6
	NON BID ITEMS							
	NAMEPLATE							
	FILLER	1/2"						

ALL ITEMS ARE CATEGORY 0020

STATE PROJECT NUMBER
2753-02-73

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

ALL STATIONS AND ALL ELEVATIONS ARE IN FEET.

ALL DIMENSIONS ARE IN FEET AND INCHES.

ELEVATIONS ARE REFERENCED TO THE NAVD 88 (2012) DATUM.

ALL NEW BAR STEEL REINFORCEMENT SHALL BE EPOXY COATED.

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

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

BEVEL EXPOSED EDGES OF CONCRETE 3/4 INCH UNLESS OTHERWISE NOTED.

SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE).

UTILIZE EXISTING BAR STEEL REINFORCEMENT WHERE SHOWN AND EXTEND 24 BAR DIAMETERS INTO NEW WORK. EXISTING BARS SHALL BE CLEANED AND STRAIGHTENED.

DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS, UNLESS SHOWN OTHERWISE.

ALL CONCRETE REMOVAL LIMITS SHALL BE DEFINED BY A 1/2 INCH DEEP SAWCUT.

THE UPPER LIMIT OF "EXCAVATION FOR STRUCTURES B-67-85" SHALL BE THE EXISTING GROUNDLINE.

THE BACKFILL QUANTITIES ARE BASED ON THE PAY LIMITS SHOWN ON THE PLANS AND MAY NOT REFLECT ACTUAL QUANTITIES. "BACKFILL STRUCTURE TYPE A" REQUIRED DIRECTLY BEHIND NORTHWEST WING.

VARIATIONS TO THE NEW GRADE LINE OVER 1/4 INCH 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 502.3.11 OF THE STANDARD SPECIFICATIONS AND THE STANDARD DETAIL DRAWINGS. THE NEW NAME PLATE SHALL SHOW THE ORIGINAL CONSTRUCTION YEAR. ORIGINAL CONSTRUCTION YEAR IS 1964.

PROTECTIVE SURFACE TREATMENT SHALL BE APPLIED TO THE TOP OF DECK, AND TOP AND SIDES OF PAVING NOTCH.

PIGMENTED SURFACE SEALER SHALL BE APPLIED TO TOP AND INSIDE FACES OF PARAPETS.

THE EXISTING DECK, CONCRETE OVERLAY, PARAPETS, TUBULAR RAILING, CLOSED FLOOR DRAINS AND DOWNSPOUTS, CURBS, SIDEWALK, INTERMEDIATE CONCRETE DIAPHRAGMS, PIER DIAPHRAGMS, AND PART OF WING WALLS AND ABUTMENT DIAPHRAGMS SHALL BE REMOVED AND REPLACED IN THIS CONTRACT. EXISTING GIRDERS AND SUBSTRUCTURE UNITS SHALL REMAIN IN PLACE.

PLANS OF THE EXISTING BRIDGE ARE ON FILE AND ARE AVAILABLE FOR INSPECTION AT THE WISCONSIN DEPARTMENT OF TRANSPORTATION, SOUTHEAST REGION.

THE HAUNCH CONCRETE QUANTITY IS BASED ON AN AVERAGE HAUNCH HEIGHT SHOWN ON "DECK ELEVATIONS" SHEET, WHICH IS THE MAXIMUM HAUNCH QUANTITY FOR WHICH CONTRACTOR WILL BE PAID. THE HAUNCH HEIGHT VARIES BY GIRDER.

CLEAN AND PAINT ALL EXISTING BEARINGS AT PIERS.

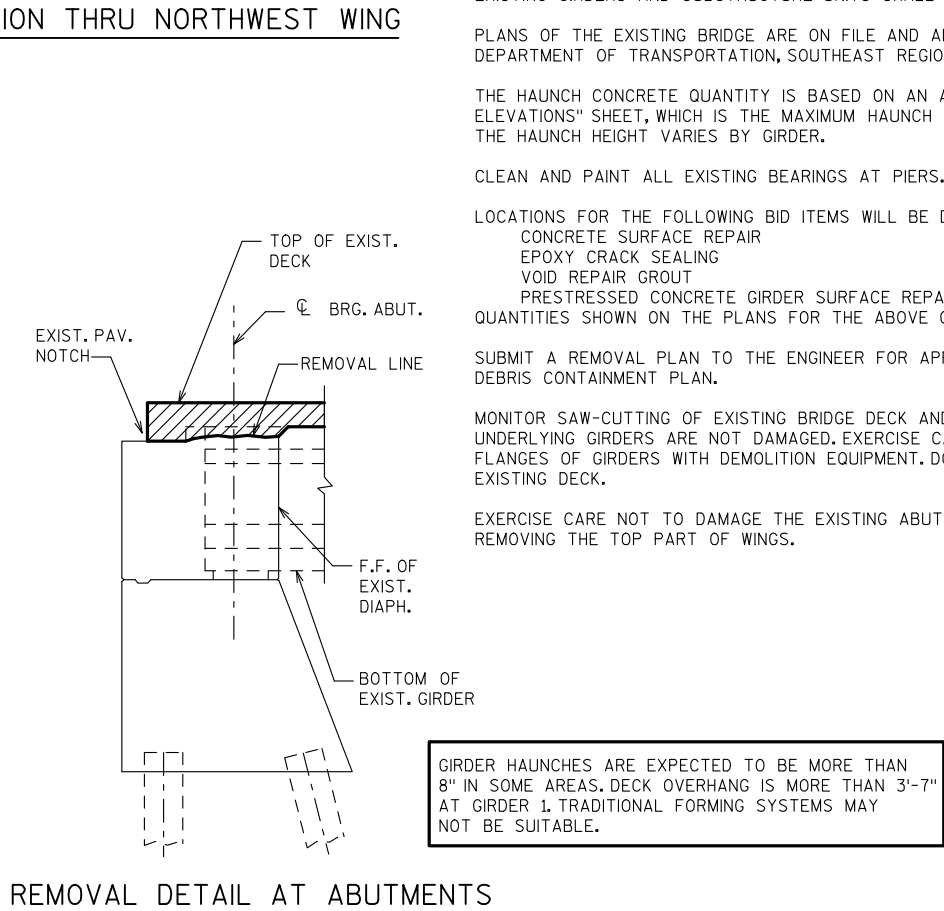
LOCATIONS FOR THE FOLLOWING BID ITEMS WILL BE DETERMINED BY THE FIELD ENGINEER:
CONCRETE SURFACE REPAIR
EPOXY CRACK SEALING
VOID REPAIR GROUT
PRESTRESSED CONCRETE GIRDER SURFACE REPAIR

QUANTITIES SHOWN ON THE PLANS FOR THE ABOVE QUANTITIES ARE APPROXIMATE.

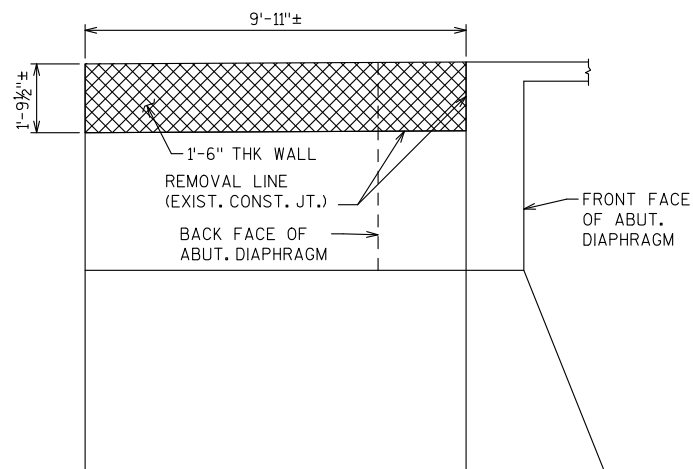
SUBMIT A REMOVAL PLAN TO THE ENGINEER FOR APPROVAL AND STRICTLY CONFORM TO THE APPROVED DEBRIS CONTAINMENT PLAN.

MONITOR SAW-CUTTING OF EXISTING BRIDGE DECK AND BLADE DEPTH SO THAT EXISTING UNDERLYING GIRDERS ARE NOT DAMAGED. EXERCISE CARE NOT TO DAMAGE THE TOP FLANGES OF GIRDERS WITH DEMOLITION EQUIPMENT. DO NOT DAMAGE GIRDER STIRRUPS EMBEDDED IN EXISTING DECK.

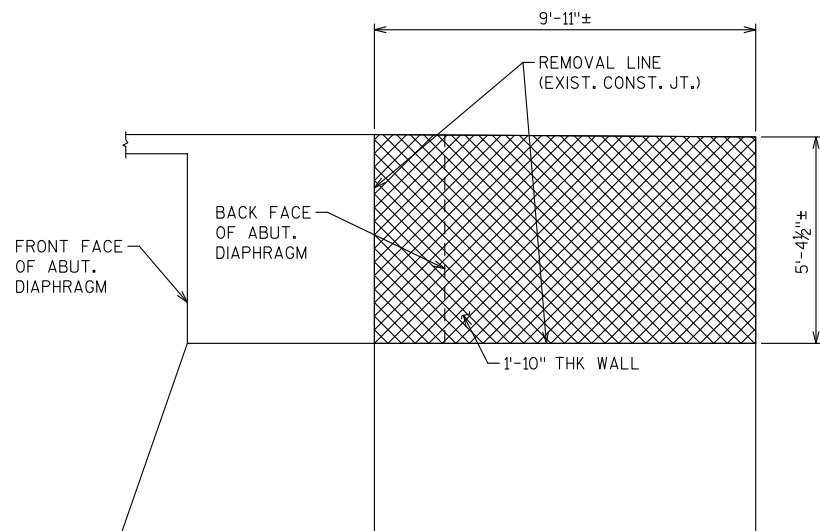
EXERCISE CARE NOT TO DAMAGE THE EXISTING ABUTMENT DIAPHRAGMS BEHIND THE WINGS WHILE REMOVING THE TOP PART OF WINGS.



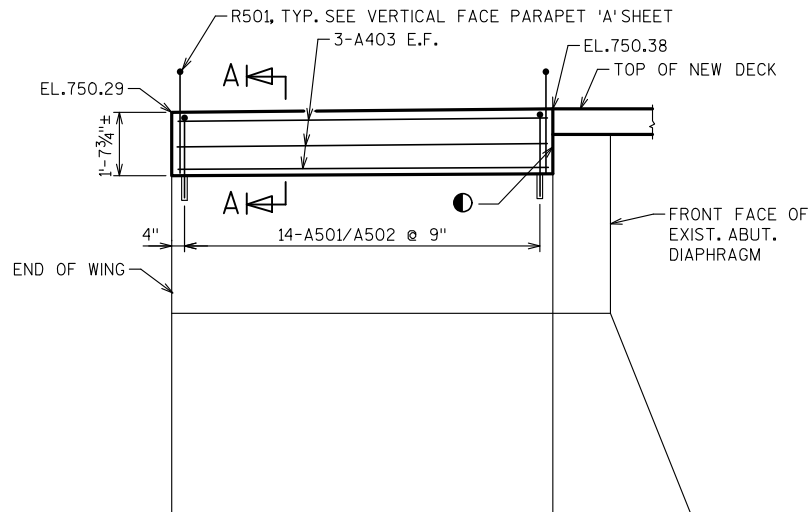
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-67-85			
	DRAWN BY	TAL	PLANS CK'D. BDT
TYPICAL SECTION AND GENERAL NOTES		SHEET 2 OF 10	
		73	

**WING 1 ELEVATION**

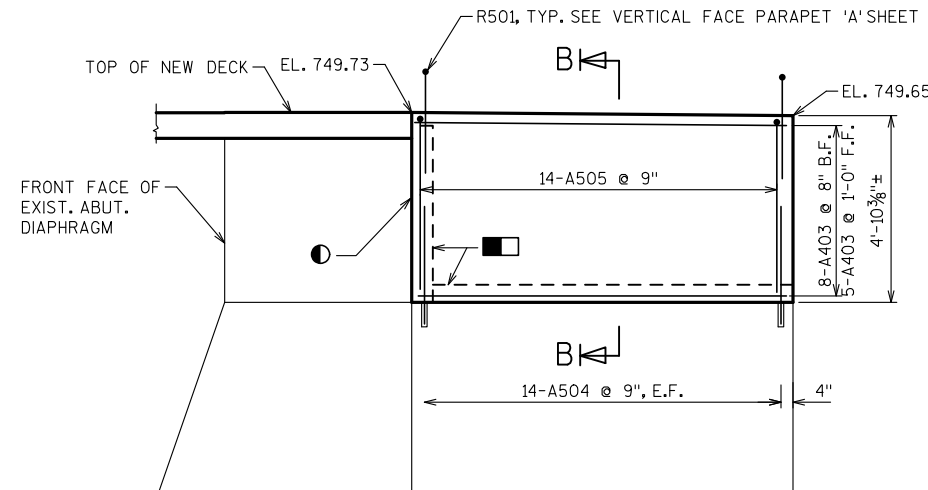
(LOOKING AT OUTSIDE FACE OF WING, SHOWING REMOVAL)

**WING 2 ELEVATION**

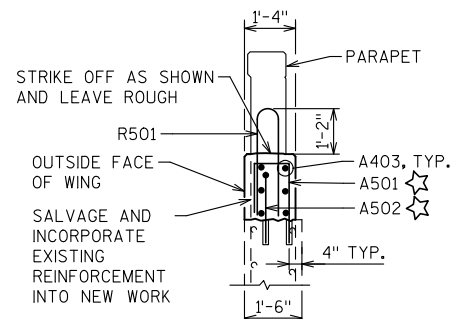
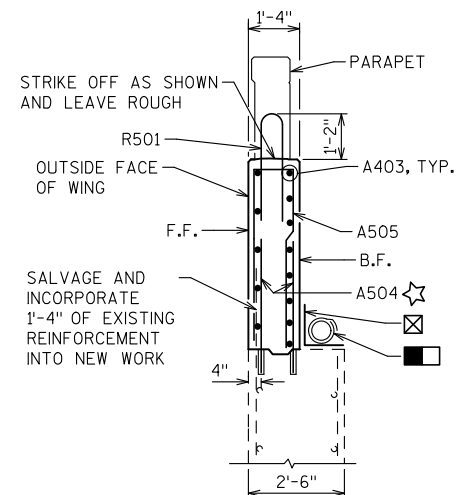
(LOOKING AT OUTSIDE FACE OF WING, SHOWING REMOVAL)

**WING 1 ELEVATION**

(LOOKING AT OUTSIDE FACE OF WING)

**WING 2 ELEVATION**

(LOOKING AT OUTSIDE FACE OF WING)

**SECTION A-A****SECTION B-B**

8

LEGEND

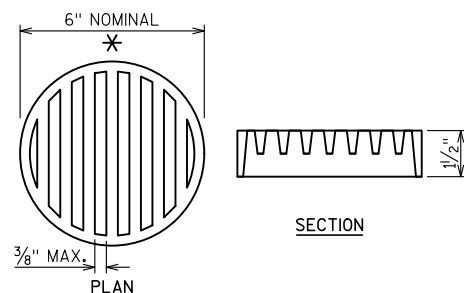
INDICATES REMOVAL

● 1/2" FILLER TO EXTEND TO TOP OF WING

☆ ADHESIVE ANCHORS NO.5 BAR. EMBED 1'-0" IN CONCRETE. TURN HOOK AS NECESSARY TO FIT.

☒ 18 INCH RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACK FACE.

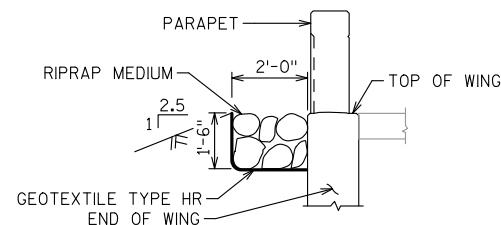
■ PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT DISCHARGE END OF PIPE. CAP OTHER END OF PIPE.

**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".

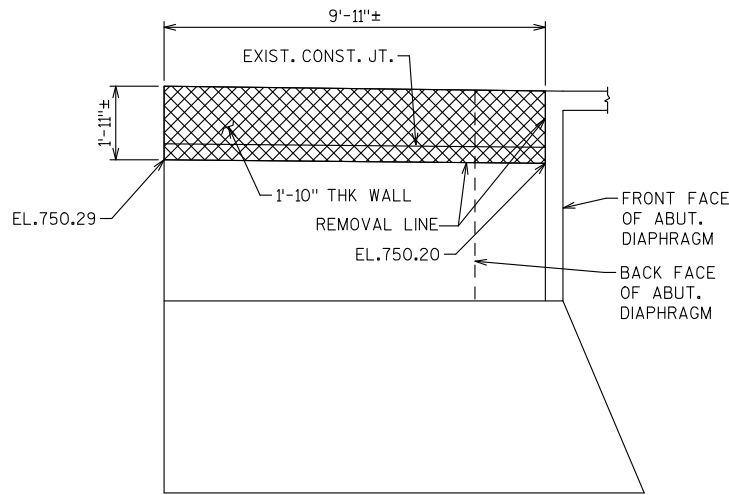
THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE EXPOSED END OF THE PIPE UNDERDRAIN. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X 1-INCH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

**SECTION AT END OF WING 2**

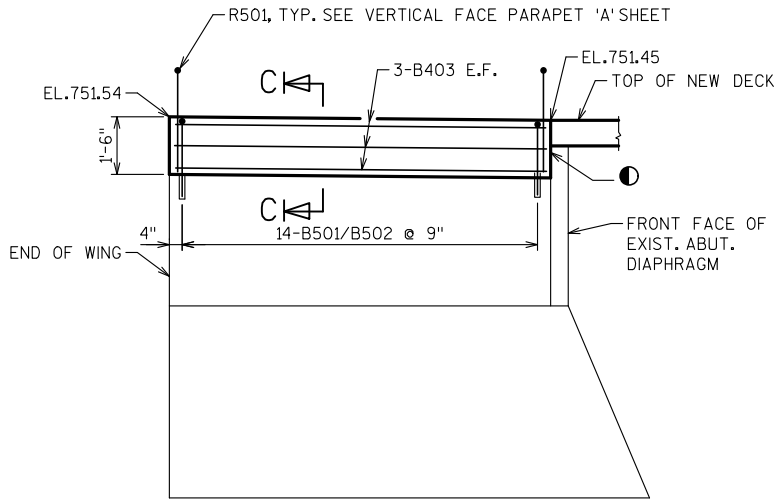
SEE SHEET 4 FOR BILL OF BARS

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-67-85			
DRAWN BY		TAL	PLANS CK'D. BDT
WEST ABUTMENT		SHEET 3 OF 10	
		74	

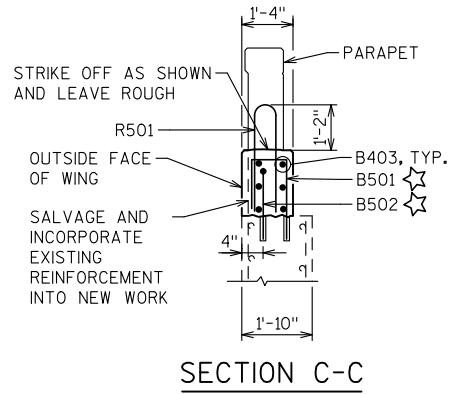
8



WING 3 ELEVATION
(LOOKING AT OUTSIDE FACE
OF WING, SHOWING REMOVAL)

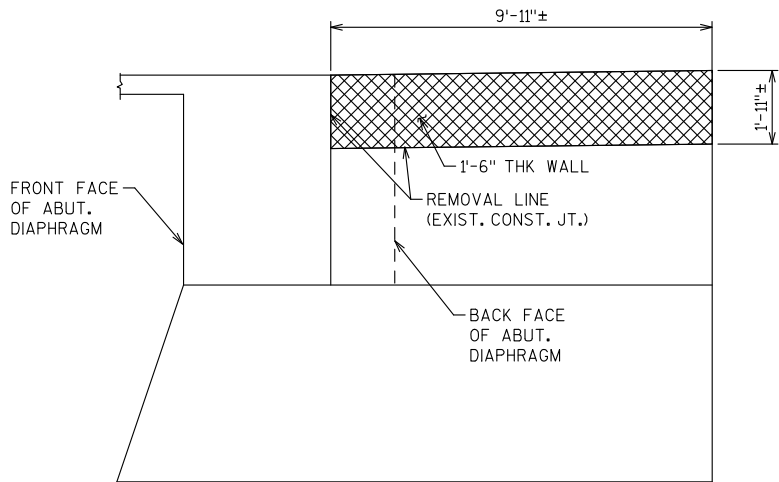


WING 3 ELEVATION
(LOOKING AT OUTSIDE FACE OF WING)

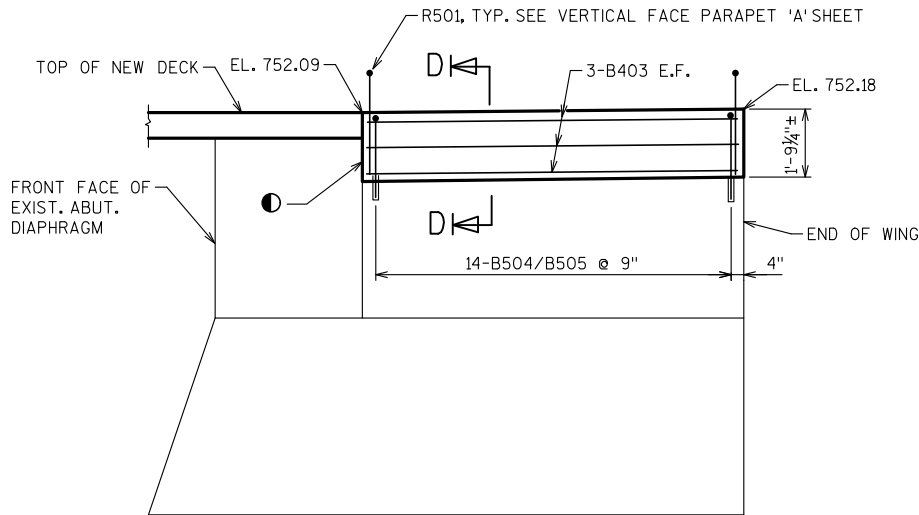


BILL OF BARS

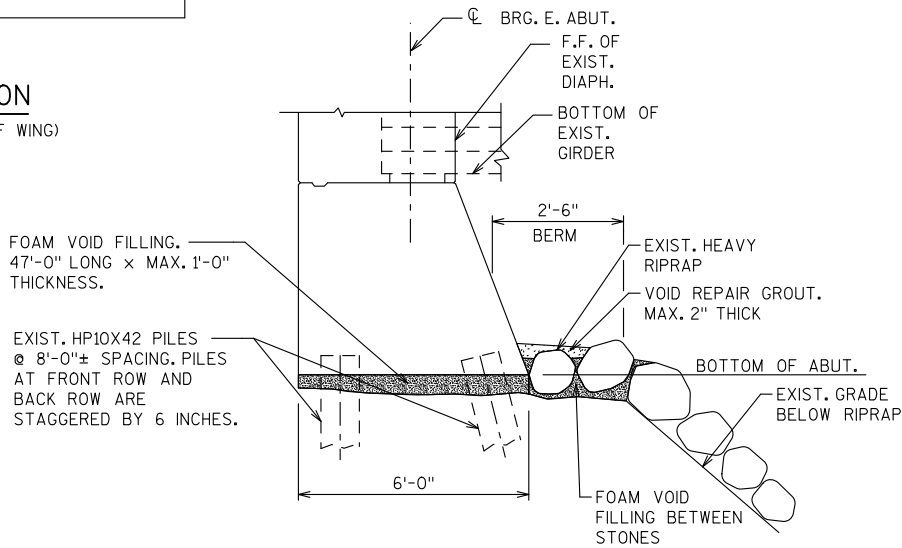
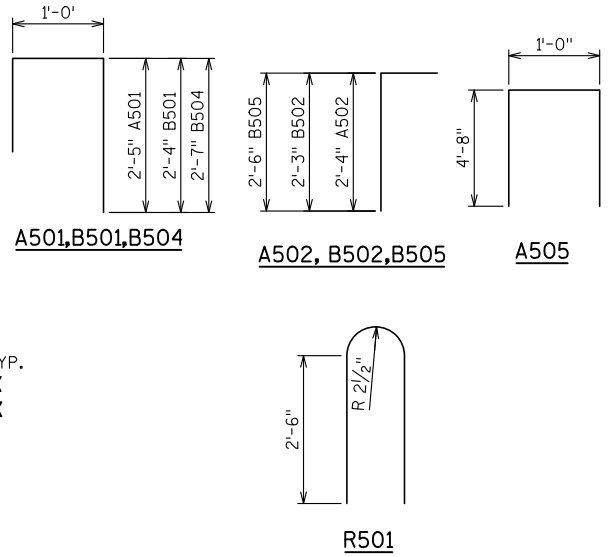
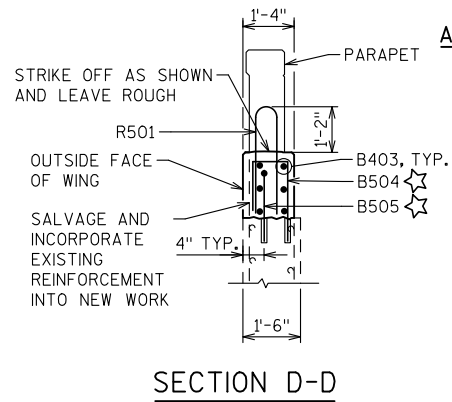
BAR MARK	COAT	NO.	LENGTH	BENT	BAR SERIES	LOCATION
A501	X	14	4'-7"	X		WING 1 VERTICAL
A502	X	14	3'-0"	X		WING 1 VERTICAL
A403	X	19	9'-9"	-		WING 1 AND 2 LONGIT.
A504	X	28	3'-7"	-		WING 2 VERTICAL
A505	X	14	10'-1"	X		WING 2 VERTICAL
B501	X	14	4'-5"	X		WING 3 VERTICAL
B502	X	14	3'-0"	X		WING 3 VERTICAL
B403	X	12	9'-9"	-		WING 3 AND 4 LONGIT.
B504	X	14	4'-11"	X		WING 4 VERTICAL
B505	X	14	3'-3"	X		WING 4 VERTICAL
R501	X	68	5'-6"	X		PARAPET VERTICAL



WING 4 ELEVATION
(LOOKING AT OUTSIDE FACE
OF WING, SHOWING REMOVAL)



WING 4 ELEVATION
(LOOKING AT OUTSIDE FACE OF WING)



SECTION THRU EAST ABUTMENT

LEGEND



INDICATES REMOVAL

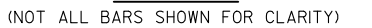
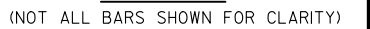


1/2" FILLER TO EXTEND
TO TOP OF WING



ADHESIVE ANCHORS NO.5 BAR.
EMBED 1'-0" IN CONCRETE.
TURN HOOK AS NECESSARY TO FIT.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-67-85			
DRAWN BY		TAL	PLANS CK'D. BDT
EAST ABUTMENT		SHEET 4 OF 10	
		75	



- DIMENSION IS TAKEN PARALLEL TO GIRDER
- * DIMENSION IS TAKEN NORMAL TO ϕ SUBSTRUCTURE UNIT.
- BARS PLACED PARALLEL TO GIRDERS, SPACING PERPENDICULAR TO ϕ GIRDERS.
- ☆ SALVAGE EXISTING BARS AND INCORPORATE INTO NEW WORK.
- ▽ ADHESIVE ANCHORS NO.5 BAR. EMBED MIN. 1'-0" IN CONCRETE. MIN. EDGE DISTANCE = 4".
- ▲ S530 BARS NOT REQUIRED IF THIS DIMENSION IS LESS THAN 4".

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-67-85			
DRAWN BY		TAL	PLANS CK'D. BDT
SUPERSTRUCTURE (1 OF 2)		SHEET 5 OF 10	
		76	

BILL OF BARS

BAR MARK	COAT	NO.	LENGTH	BENT	BAR SERIES	LOCATION
S501	X	272	42'-11"	-	-	DECK TRANSVERSE TOP
S502	X	25	24'-12"	-	X	DECK TRANSVERSE TOP
S503	X	594	5'-11"	X	-	DECK TRANSV. AT OVERHANG
S504	X	25	22'-9"	-	X	DECK TRANSVERSE TOP
S505	X	273	42'-11"	-	-	DECK TRANSVERSE BOTTOM
S506	X	25	24'-4"	-	X	DECK TRANSVERSE BOTTOM
S507	X	1	2'-2"	-	-	DECK TRANSVERSE BOTTOM
S508	X	26	22'-1"	-	X	DECK TRANSVERSE BOTTOM
S409	X	223	25'-9"	-	-	DECK LONGIT. TOP
S410	X	118	24'-7"	-	-	DECK LONGIT. TOP
S511	X	112	33'-0"	-	-	DECK LONGIT. TOP OVER PIERS
S512	X	118	29'-10"	-	-	DECK LONGIT. TOP OVER PIERS
S413	X	54	26'-9"	-	-	DECK LONGIT., BOTTOM
S414	X	232	45'-0"	-	-	DECK LONGIT., BOTTOM
S415	X	4	24'-6"	-	-	DECK LONGIT., BOTTOM
S516	X	1	4'-11"	-	-	DECK TRANSVERSE BOTTOM
S517	X	1	4'-5"	-	-	DECK TRANSVERSE BOTTOM
S518	X	1	3'-4"	-	-	DECK TRANSVERSE BOTTOM
S419	X	7	27'-3"	-	-	DECK LONGIT. TOP
S520	X	1	2'-11"	-	-	DECK TRANSVERSE TOP
S521	X	1	1'-6"	-	-	DECK TRANSVERSE TOP
S522	X	1	5'-7"	-	-	DECK TRANSVERSE TOP
S523	X	1	4'-2"	-	-	DECK TRANSVERSE TOP
S524	X	1	5'-1"	-	-	DECK TRANSVERSE TOP
S525	X	1	3'-8"	-	-	DECK TRANSVERSE TOP
S426	X	6	24'-3"	-	-	DECK LONGIT. TOP
S527	X	476	4'-4"	X	-	PARAPET VERTICAL BARS
S428	X	70	9'-3"	X	-	DECK LONGIT. BOTTOM AT PIERS
S429	X	60	6'-1"	-	-	DECK TRANS. BOTTOM AT PIERS
S530	X	46	2'-0"	X	X	VERTICAL AT PAVING NOTCH
S531	X	180	2'-10"	X	X	VERTICAL AT ABUTMENTS
S632	X	2	22'-3"	-	-	HORIZ. AT ABUTMENTS
S633	X	8	24'-0"	-	-	HORIZ. AT ABUTMENTS
S534	X	70	12'-5"	X	X	VERTICAL AT PIER DIAPHRAGMS
S435	X	120	4'-0"	-	-	HORIZ. AT PIER DIAPHRAGMS
S436	X	108	22'-8"	-	-	LONGIT. ABOVE GIRDERS

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

BAR SERIES TABLE

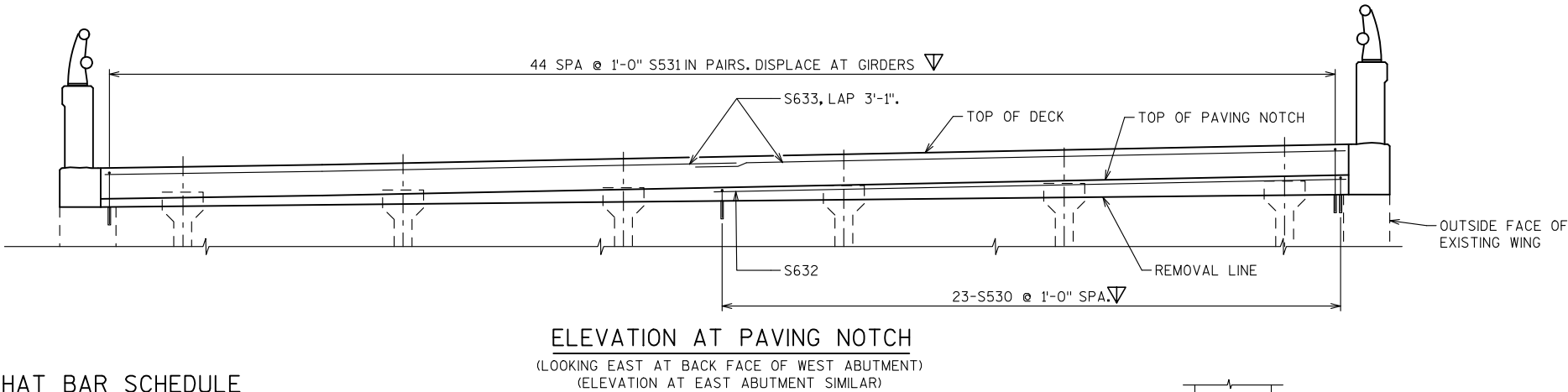
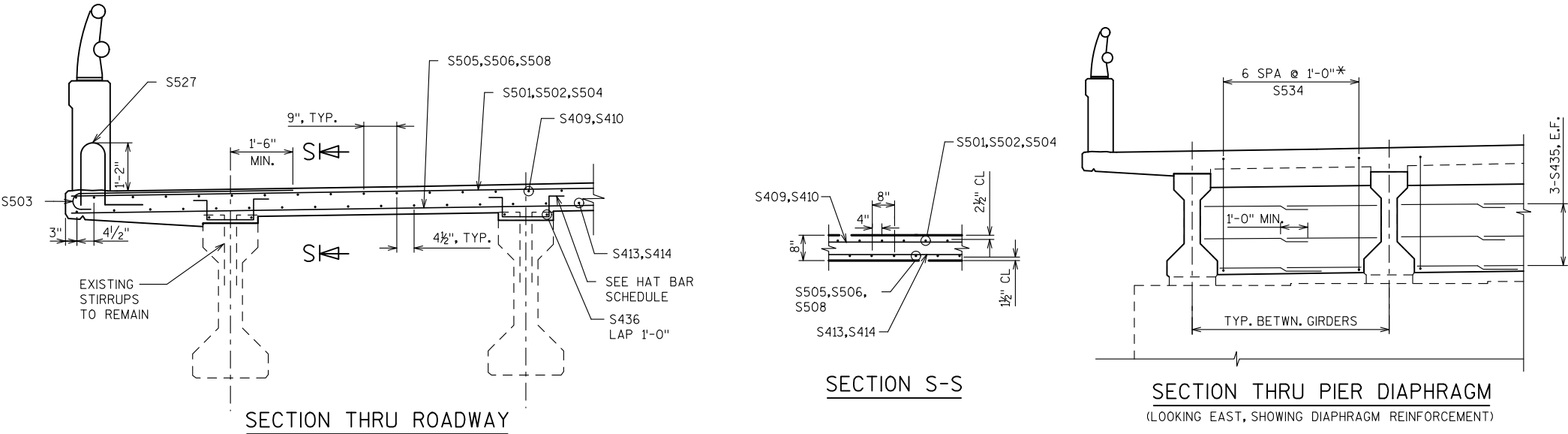
BAR MARK	NO. REQ'D	LENGTH
S508	1 SERIES OF 26	4'-11" TO 39'-3"
S506	1 SERIES OF 25	7'-2" TO 41'-6"
S504	1 SERIES OF 25	5'-8" TO 39'-11"
S502	1 SERIES OF 25	7'-10" TO 42'-2"
S530	2 SERIES OF 23	1'-10" TO 2'-3"
S531	4 SERIES OF 45	2'-7" TO 3'-1"
S534	2 SERIES OF 35	12'-0" TO 12'-10"

BUNDLE AND TAG EACH SERIES SEPARATELY

LEGEND

- * PLACE BARS PARALLEL TO GIRDERS, SPACING MEASURED PERPENDICULAR TO CL GIDERS.
- ▽ ADHESIVE ANCHORS NO.5 BAR. EMBED MIN. 1'-0" IN CONCRETE. MIN. EDGE DISTANCE = 4".

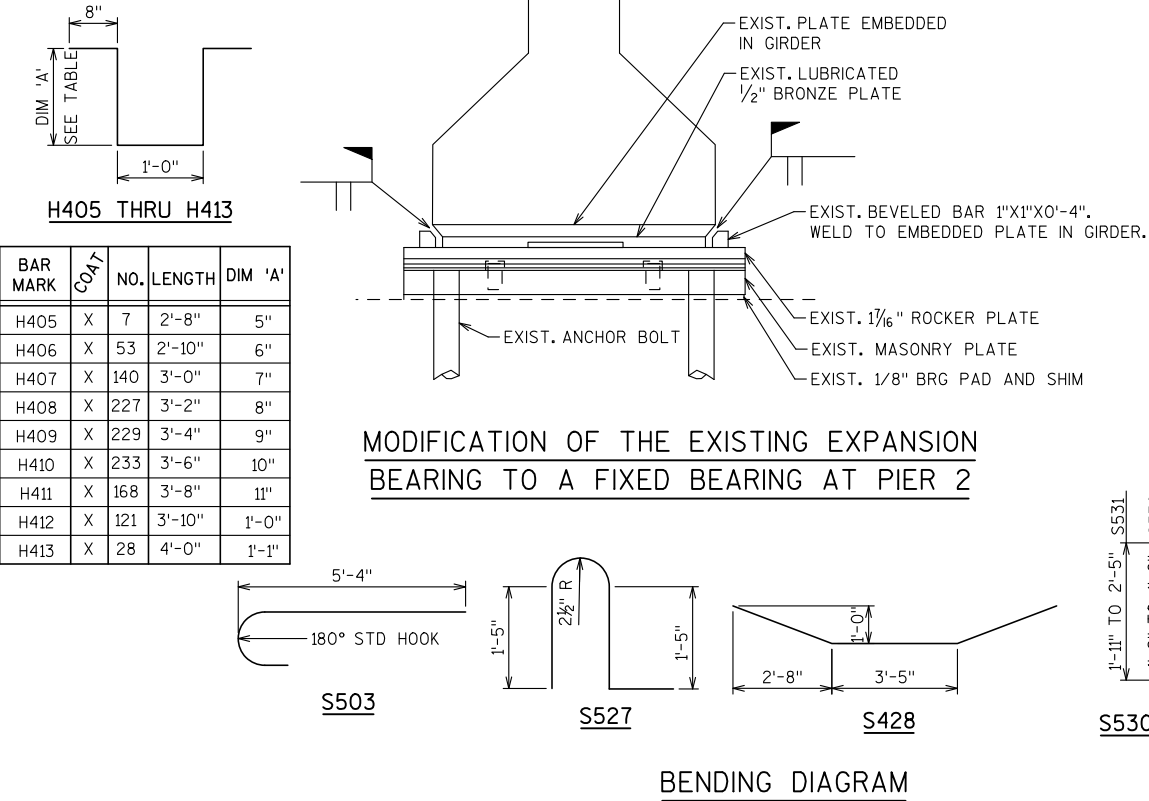
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-67-85			
		DRAWN BY	TAL
		PLANS CK'D.	BDT
SUPERSTRUCTURE (2 OF 2)		SHEET 6 OF 10	
		77	



HAT BAR SCHEDULE

SPAN	GIRDER	SPAN 10TH POINTS									
		0.0-0.1	0.1-0.2	0.2-0.3	0.3-0.4	0.4-0.5	0.5-0.6	0.6-0.7	0.7-0.8	0.8-0.9	0.9-1.0
NO. OF	HAT BARS	7	7	6	7	7	6	7	6	7	7
1	1	H407	H407	H407	H407	H407	H407	H407	H408	H408	H408
	2	H408	H407	H407	H407	H407	H407	H408	H408	H408	H409
	3	H408	H408	H408	H408	H408	H408	H408	H409	H409	H410
	4	H409	H409	H409	H409	H409	H409	H409	H410	H410	H411
	5	H410	H409	H409	H409	H409	H410	H410	H410	H411	H411
	6	H411	H411	H410	H410	H411	H411	H411	H411	H412	H412
2	1	H409	H409	H408	H408	H408	H408	H408	H408	H408	H409
	2	H410	H409	H409	H409	H408	H408	H408	H409	H409	H409
	3	H411	H410	H410	H410	H410	H410	H410	H410	H410	H410
	4	H412	H411	H411	H410	H410	H410	H410	H410	H411	H411
	5	H412	H412	H412	H411	H411	H411	H411	H411	H412	H412
	6	H413	H413	H412	H412	H412	H412	H412	H412	H412	H413
3	1	H409	H408	H407	H407	H407	H406	H406	H406	H406	H405
	2	H409	H409	H408	H407	H407	H407	H406	H406	H406	H406
	3	H410	H410	H409	H408	H408	H408	H408	H407	H407	H407
	4	H411	H410	H410	H409	H409	H409	H408	H408	H408	H408
	5	H412	H411	H411	H410	H410	H410	H409	H409	H409	H409
	6	H413	H412	H412	H411	H411	H411	H410	H410	H410	H410

NOTE: HAT BAR SPACING SHALL NOT EXCEED SPACING OF EXISTING GIRDER STIRRUPS OR 1'-0", WHICHEVER IS LOWER.



BENDING DIAGRAM

TOP OF DECK ELEVATIONS - SPAN 1

GIRDER/ LOCATION	W. ABUT.	1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10	PIER 1
NORTH EDGE	749.76	749.82	749.88	749.93	749.99	750.05	750.10	750.16	750.21	750.27	750.33
GIRDER 1	749.79	749.85	749.91	749.96	750.02	750.08	750.13	750.19	750.24	750.30	750.36
SLOPE BREAK	749.84	749.90	749.96	750.01	750.07	750.13	750.18	750.24	750.29	750.35	750.41
GIRDER 2	749.89	749.94	750.00	750.06	750.11	750.17	750.22	750.28	750.34	750.39	750.45
GIRDER 3	750.00	750.06	750.11	750.17	750.23	750.28	750.34	750.39	750.45	750.51	750.56
GIRDER 4	750.12	750.17	750.23	750.28	750.34	750.40	750.45	750.51	750.56	750.62	750.68
GIRDER 5	750.23	750.29	750.34	750.40	750.45	750.51	750.57	750.62	750.68	750.74	750.79
PGL	750.33	750.38	750.44	750.50	750.55	750.61	750.66	750.72	750.78	750.83	750.89
GIRDER 6	750.34	750.40	750.46	750.51	750.57	750.62	750.68	750.74	750.79	750.85	750.91
SOUTH EDGE	750.38	750.43	750.49	750.55	750.60	750.66	750.72	750.77	750.83	750.88	750.94

TOP OF DECK ELEVATIONS - SPAN 2

GIRDER/ LOCATION	PIER 1	1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10	PIER 2
NORTH EDGE	750.33	750.38	750.44	750.50	750.55	750.61	750.67	750.72	750.78	750.84	750.90
GIRDER 1	750.36	750.41	750.47	750.53	750.58	750.64	750.70	750.75	750.81	750.87	750.93
SLOPE BREAK	750.41	750.46	750.52	750.58	750.63	750.69	750.75	750.80	750.86	750.92	750.97
GIRDER 2	750.45	750.51	750.56	750.62	750.68	750.73	750.79	750.85	750.90	750.96	751.02
GIRDER 3	750.56	750.62	750.68	750.73	750.79	750.85	750.90	750.96	751.02	751.07	751.13
GIRDER 4	750.68	750.73	750.79	750.85	750.90	750.96	751.02	751.08	751.13	751.19	751.25
GIRDER 5	750.79	750.85	750.91	750.96	751.02	751.08	751.13	751.19	751.25	751.30	751.36
PGL	750.89	750.95	751.00	751.06	751.12	751.17	751.23	751.29	751.34	751.40	751.46
GIRDER 6	750.91	750.96	751.02	751.08	751.13	751.19	751.25	751.30	751.36	751.42	751.47
SOUTH EDGE	750.94	751.00	751.05	751.11	751.17	751.22	751.28	751.34	751.40	751.45	751.51

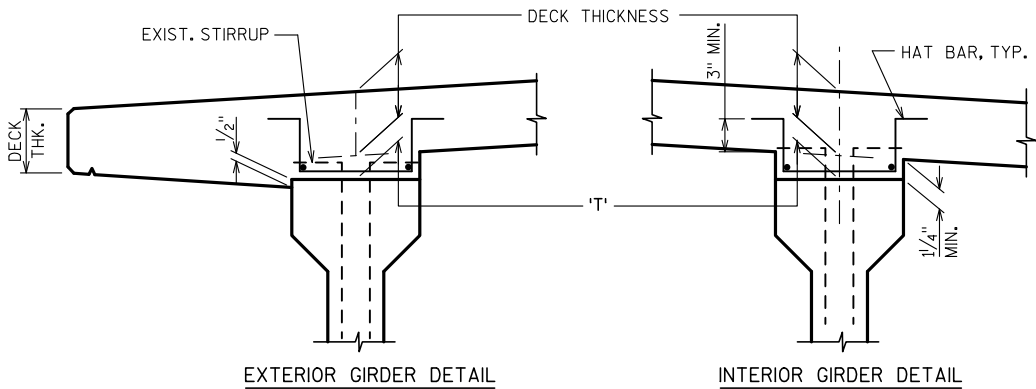
TOP OF DECK ELEVATIONS - SPAN 3

GIRDER/ LOCATION	PIER 2	1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10	E. ABUT.
NORTH EDGE	750.90	750.95	751.01	751.06	751.12	751.18	751.23	751.29	751.34	751.40	751.46
GIRDER 1	750.93	750.98	751.04	751.09	751.15	751.21	751.26	751.32	751.37	751.43	751.49
SLOPE BREAK	750.97	751.03	751.09	751.14	751.20	751.26	751.31	751.37	751.42	751.48	751.54
GIRDER 2	751.02	751.07	751.13	751.19	751.24	751.30	751.35	751.41	751.47	751.52	751.58
GIRDER 3	751.13	751.19	751.24	751.30	751.36	751.41	751.47	751.52	751.58	751.64	751.69
GIRDER 4	751.25	751.30	751.36	751.41	751.47	751.53	751.58	751.64	751.69	751.75	751.81
GIRDER 5	751.36	751.42	751.47	751.53	751.58	751.64	751.70	751.75	751.81	751.87	751.92
PGL	751.46	751.51	751.57	751.63	751.68	751.74	751.79	751.85	751.91	751.96	752.02
GIRDER 6	751.47	751.53	751.59	751.64	751.70	751.76	751.81	751.87	751.92	751.98	752.04
SOUTH EDGE	751.51	751.57	751.62	751.68	751.73	751.79	751.85	751.90	751.96	752.01	752.07

DEAD LOAD DEFLECTION

SPAN	GIRDER/ LOCATION	0	1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10	1.0
1	GIRDERS 1-5	0.0	0.2	0.4	0.5	0.6	0.6	0.6	0.5	0.4	0.2	0.0
	GIRDER 6	0.0	0.2	0.4	0.6	0.7	0.7	0.7	0.6	0.4	0.2	0.0
2	GIRDERS 1-5	0.0	0.2	0.4	0.5	0.6	0.7	0.6	0.5	0.4	0.2	0.0
	GIRDER 6	0.0	0.2	0.4	0.6	0.7	0.7	0.7	0.6	0.4	0.2	0.0
3	GIRDERS 1-5	0.0	0.2	0.4	0.5	0.6	0.6	0.6	0.5	0.4	0.2	0.0
	GIRDER 6	0.0	0.2	0.4	0.6	0.7	0.7	0.7	0.6	0.4	0.2	0.0

DEFLECTION VALUES ARE IN INCHES



DECK HAUNCH DETAIL

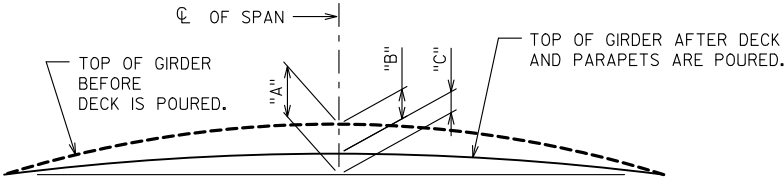
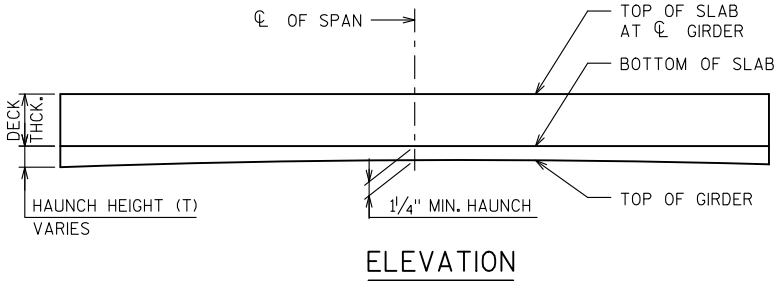
IF 1/4" MINIMUM HAUNCH HEIGHT AT EDGE OF GIRDER CANNOT BE MAINTAINED, THE GRADE LINE MAY BE REVISED BY THE ENGINEER AT THE OPTION OF THE CONTRACTOR, THE PLAN DECK THICKNESS SHALL BE HELD. NOTIFY THE STRUCTURES SECTION IF THE GRADE LINE IS RAISED FROM THE PLAN PROFILE BY MORE THAN 1/4".

TO DETERMINE 'T', ELEV. OF TOP OF GIR'S. AT $\mathcal{C}$ 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

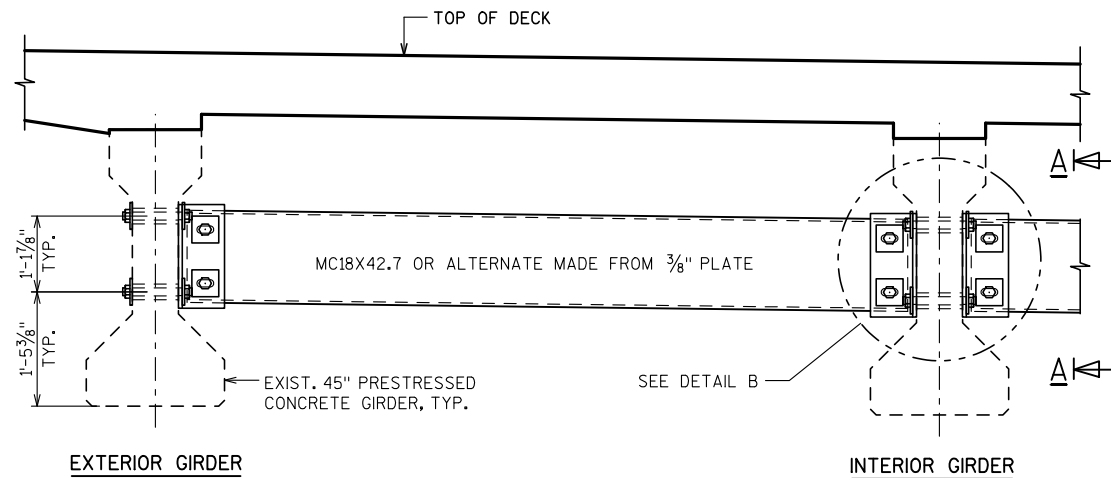
= HAUNCH HEIGHT 'T'

NOTE:
AN AVERAGE HAUNCH 'T' OF 5.75"
WAS USED IN THE QUANTITY "CONCRETE MASONRY BRIDGES"

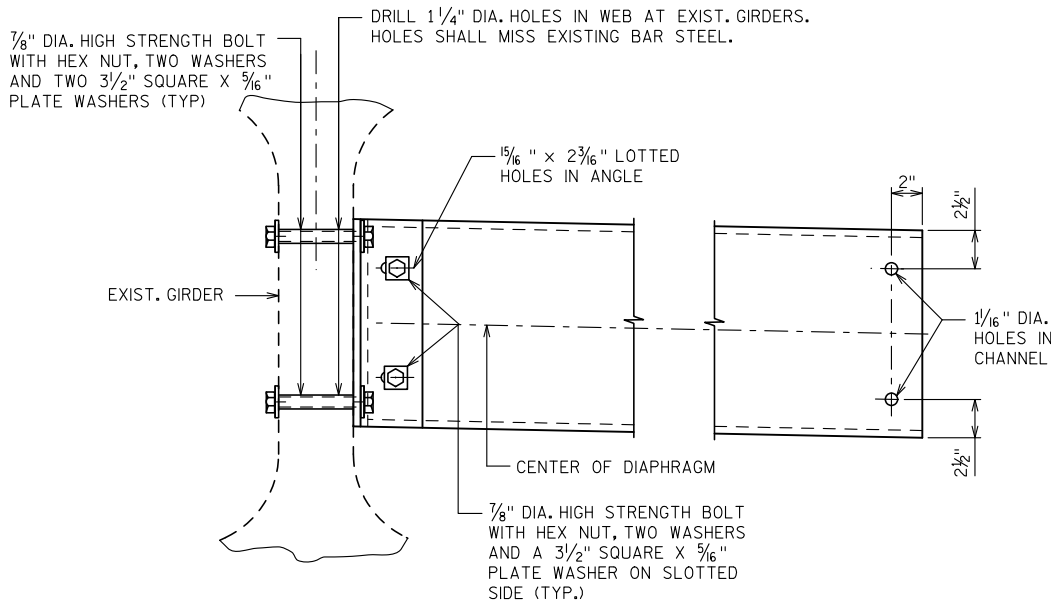


- * "A" = PRESTRESS CAMBER
- * "B" = DEAD LOAD DEFLECTION
- * "C" = RESIDUAL CAMBER

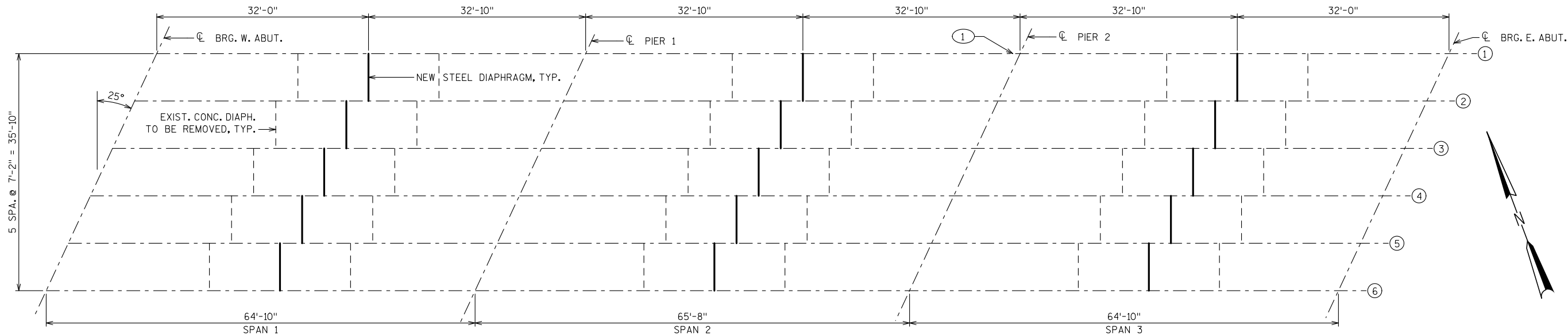
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-67-85			
		DRAWN BY	TAL PLANS CK'D. BDT
		SHEET 7 OF 10	
DECK ELEVATIONS		78	



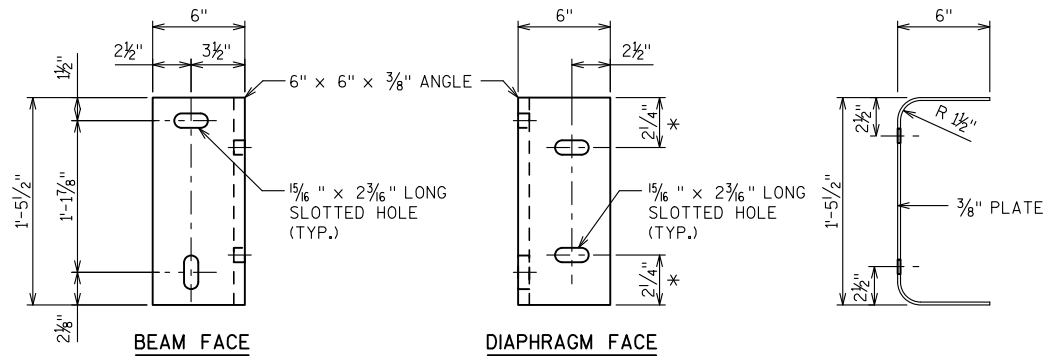
PART TRANSVERSE SECTION AT DIAPHRAGM



DETAIL B



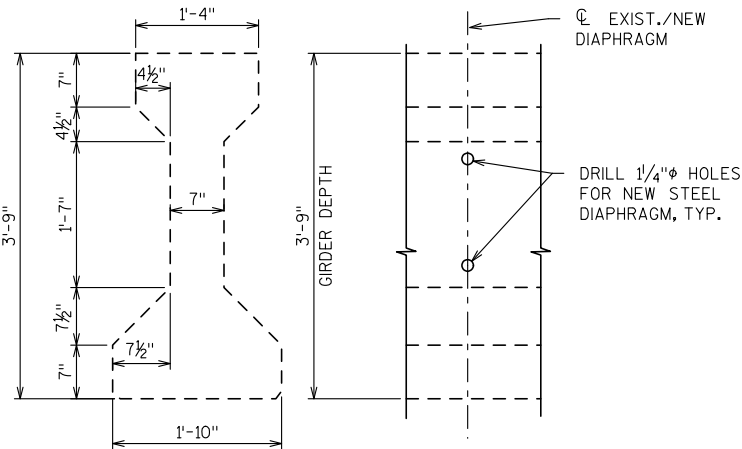
FRAMING PLAN



DIAPHRAGM SUPPORT

* 2 1/2" FOR ALTERNATE PLATE DIAPHRAGM

SECTION THRU
ALTERNATE DIAPHRAGM



EXISTING GIRDER
(SHOWING DIMENSIONS)

VIEW A-A

NOTES

ALL DIAPHRAGM MATERIAL SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "STEEL DIAPHRAGMS B-67-85", EACH.

EACH DIAPHRAGM BETWEEN GIRDERS SHALL CONSTITUTE ONE UNIT.

ALL DIAPHRAGM STRUCTURAL STEEL SHALL BE ASTM A709 GRADE 36.

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

STEEL DIAPHRAGM TO CONCRETE WEB CONNECTION SHALL BE SNUG-TIGHT PLUS 1/4 TURN, UNLESS NOTED OTHERWISE. HIGH STRENGTH BOLTS FOR WEB CONNECTION SHALL MEET THE REQUIREMENTS FOR ASTM A325 OR ASTM A449.

COST OF DRILLING HOLES IN EXISTING GIRDERS FOR DIAPHRAGM CONNECTION IS INCLUDED IN THE BID ITEM "STEEL DIAPHRAGMS B-67-85".

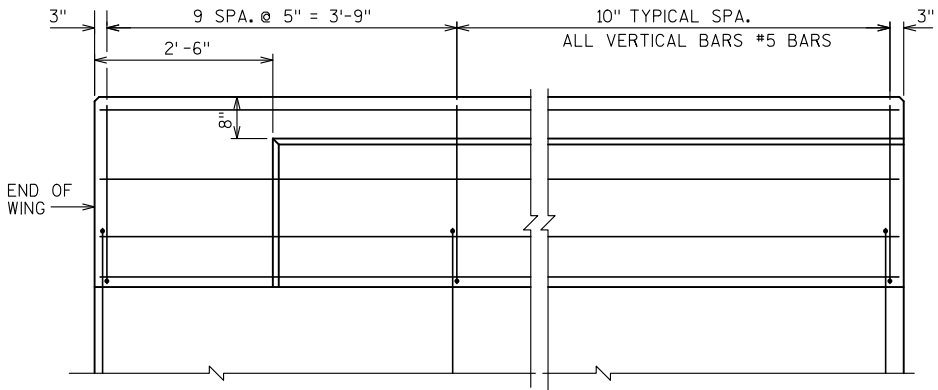
LEGEND

① INDICATES LOCATION OF PRESTRESSED CONCRETE GIRDER SURFACE REPAIR

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-67-85			
DRAWN BY		TAL	PLANS CK'D. BDT
STEEL DIAPHRAGM			SHEET 8 OF 10
			79

NOTES

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.



VIEW SHOWING OUTSIDE FACE OF PARAPET & REINF.

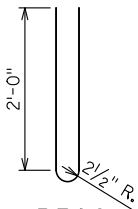
BILL OF BARS

BAR MARK	COAT	NO.			LENGTH	BENT	BAR SERIES	LOCATION
		WINGS*	SUPER.	TOTAL				
R502	X	68	478	546	4'-9"	X		PARAPET VERTICAL
R503	X	32	-	32	9'-9"	-		PARAPET HORIZONTAL
R504	X	-	48	48	60'-0"	-		PARAPET HORIZONTAL
R505	X	-	16	16	23'-0"	-		PARAPET HORIZONTAL

*DIVIDE THE WING BAR QUANTITY EQUALLY BETWEEN THE FOUR WINGS

SEE SHEET 4 FOR BAR R501

SEE SHEET 6 FOR BAR S527



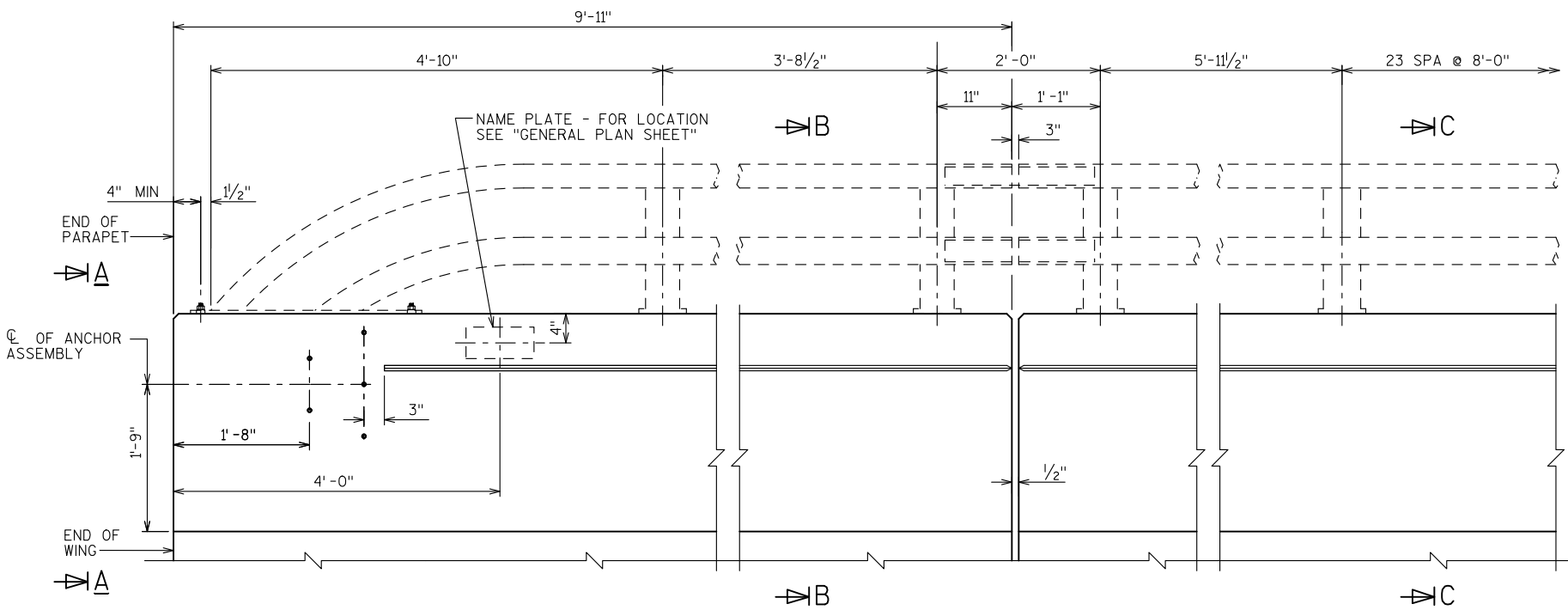
R502

BENDING DIAGRAM

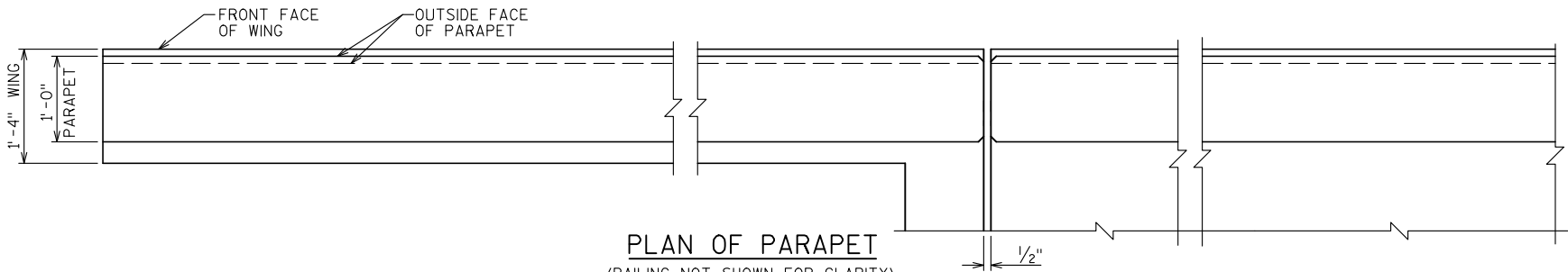
LEGEND

☐ CONST. JOINT - STRIKE OFF AS SHOWN AND LEAVE ROUGH.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-67-85			
DRAWN BY		TAL	PLANS CK'D. BDT
VERTICAL FACE PARAPET 'A'		SHEET 9 OF 10	
		80	

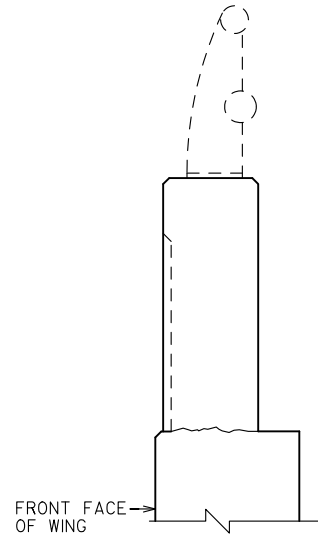


INSIDE ELEVATION OF PARAPET

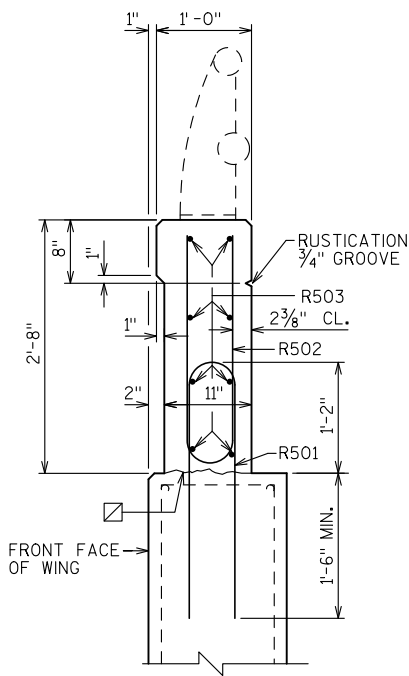


PLAN OF PARAPET

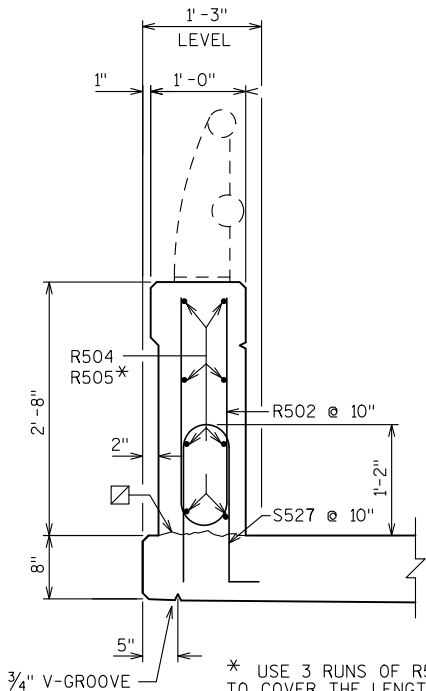
(RAILING NOT SHOWN FOR CLARITY)



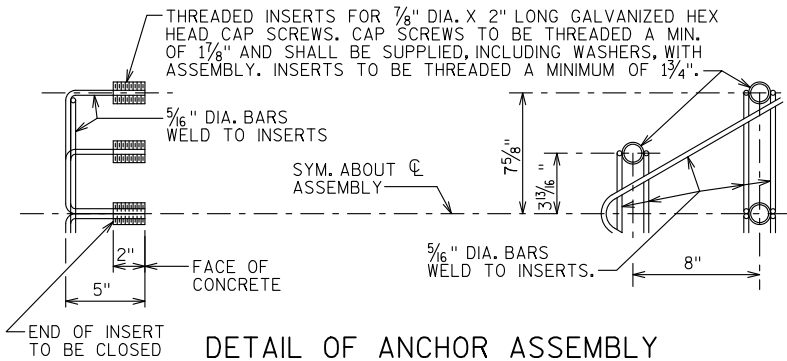
SECTION A-A



SECTION B-B



SECTION C-C



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.

* USE 3 RUNS OF R504 AND 1 RUN OF R505 TO COVER THE LENGTH OF THE PARAPET ON SUPERSTRUCTURE

FILL ALL EXPOSED OPENINGS BETWEEN SHIMS AND POST ANCHOR BOLT HOLES WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER.

NO.	DATE	REVISION			BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION					
STRUCTURE B-67-85					
		DRAWN BY	TAL	PLANS CK'D.	BDT
TUBULAR RAILING TYPE 'H' (ALUM.)			SHEET 10 OF 10		
			81		

Project ID: 2753-02-73
Division 1 - CTH VV Crossover

STATION	Distance	Area (SF)		Incremental Vol (CY) (Unadjusted)		Cumulative Vol (CY)		Mass Ordinate
		Cut	Fill	Cut	Fill	Cut 1.00	Expanded Fill 1.25	
00+00	0	0.0	0.0	0	0	0	0	0
00+50	50	0.0	0.0	0	0	0	0	0
01+00	50	0.0	0.0	0	0	0	0	0
01+50	50	7.2	1.2	7	1	7	1	5
01+55	5	7.2	1.0	1	0	8	1	6
02+00	45	8.8	1.2	13	2	21	3	18
02+50	50	7.0	1.5	15	3	36	6	29
03+00	50	18.2	0.4	23	2	59	7	50
03+10	10	19.3	0.4	7	0	66	8	56
03+50	40	15.7	0.3	26	0	92	8	82
04+00	50	19.0	1.5	32	2	124	10	112
04+50	50	7.0	1.5	24	3	148	12	133
04+92	42	5.1	1.2	9	2	158	15	140
05+00	8	5.0	1.2	1	0	159	15	141
05+50	50	3.8	1.5	8	3	168	18	146
05+67	1	4.0	1.6	0	0	168	18	146
06+00	33	0.0	0.0	2	1	170	19	147
				170	19			

Project ID: 2753-02-73
Division 2 - CTH VV

STATION	Distance	Area (SF)		Incremental Vol (CY) (Unadjusted)		Cumulative Vol (CY)		Mass Ordinate
		Cut	Fill	Cut	Fill	Cut 1.00	Expanded Fill 1.25	
19+00	0	8.0	2.3	0	0	0	0	0
19+50	50	10.8	5.4	17	7	17	9	6
19+56	6	10.5	6.0	2	1	20	11	7
20+00	44	6.5	12.3	14	15	34	29	-3
20+36	36	2.7	31.7	6	29	40	66	-43
20+48	12	1.9	37.8	1	15	41	85	-65
20+50	2	1.8	38.3	0	3	41	88	-70
20+64	14	1.0	41.1	1	21	42	115	-102
21+00	36	1.0	46.9	1	58	43	187	-191
21+01	1	1.0	47.1	0	3	43	191	-195
21+05	4	1.0	47.4	0	6	43	199	-205
21+13	8	1.0	44.8	0	14	44	216	-226
21+50	37	0.9	31.9	1	52	45	281	-307
21+85	35	14.2	13.2	10	29	55	318	-342
21+95	10	8.1	17.8	4	6	59	325	-347
24+37	0	4.2	18.5	0	0	59	325	-347
24+50	13	4.6	15.6	2	8	61	335	-358
25+00	50	11.1	6.2	15	20	76	361	-375
25+26	26	12.7	5.4	11	6	87	367	-372
25+50	24	17.0	0.6	13	3	100	371	-363
25+51	1	17.5	0.6	1	0	101	371	-363
25+76	25	14.3	2.1	15	1	116	372	-350
26+00	24	16.5	2.3	14	2	129	375	-339
				129	300			

Project ID: 2753-02-73
Division 3 - CTH VV Crossover

STATION	Distance	Area (SF)		Incremental Vol (CY) (Unadjusted)		Cumulative Vol (CY)		Mass Ordinate
		Cut	Fill	Cut	Fill	Cut 1.00	Expanded Fill 1.25	
00+00	0	0.0	0.0	0	0	0	0	0
00+50	50	0.0	0.0	0	0	0	0	0
01+00	50	0.0	0.0	0	0	0	0	0
01+50	50	8.4	0.0	8	0	8	0	8
01+55	5	9.0	0.0	2	0	9	0	9
02+00	45	13.8	0.0	19	0	28	0	28
02+50	50	17.0	0.0	29	0	57	0	57
03+00	50	24.4	0.0	38	0	95	0	95
03+10	10	25.6	0.0	9	0	104	0	104
03+50	40	35.2	0.0	46	0	150	0	150
04+00	50	22.1	2.8	53	3	203	3	200
04+50	50	18.3	0.1	37	3	240	5	234
04+92	42	16.6	0.0	27	0	268	5	261
05+00	8	16.0	0.0	5	0	272	5	266
05+50	50	10.0	0.0	24	0	296	5	290
05+67	1	9.8	0.2	0	0	297	5	290
06+00	33	0.0	0.0	6	0	303	5	296
				303	5			

NOTE

EXISTING PAVEMENT SURFACE
SHOWN IS AFTER 2" MILLING HAS
BEEN COMPLETED.

760

760

750

750

740

740

19+00

STA 19+00.00
BEGIN PROJECT

4 FT

10 FT

730

740

750

760

9

9

PROJECT NO: 2753-02-73

HWY: CTH VV

COUNTY: WAUKESHA

CROSS SECTIONS: CTH VV

SHEET

84

E

FILE NAME : X:\BM1-4085 CTH VV WESTBOUND BRIDGE OVER MENOMONEE RIVER\5_DESIGN\03_ROADS\27530203\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 01-xs

PLOT DATE : 7/25/2024 4:21 PM

PLOT BY : VALBON LATIFI

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:4 FT VERT.

WISDOT/CADDs SHEET 49

NOTE

EXISTING PAVEMENT SURFACE
SHOWN IS AFTER 2" MILLING HAS
BEEN COMPLETED.

760

760

750

750

19+50

740

740

9

9

PROJECT NO: 2753-02-73

HWY: CTH VV

COUNTY: WAUKESHA

CROSS SECTIONS: CTH VV

SHEET

85

E

FILE NAME : X:\BM1-4085 CTH VV WESTBOUND BRIDGE OVER MENOMONEE RIVER\5_DESIGN\03_ROADS\27530203\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 02-xs

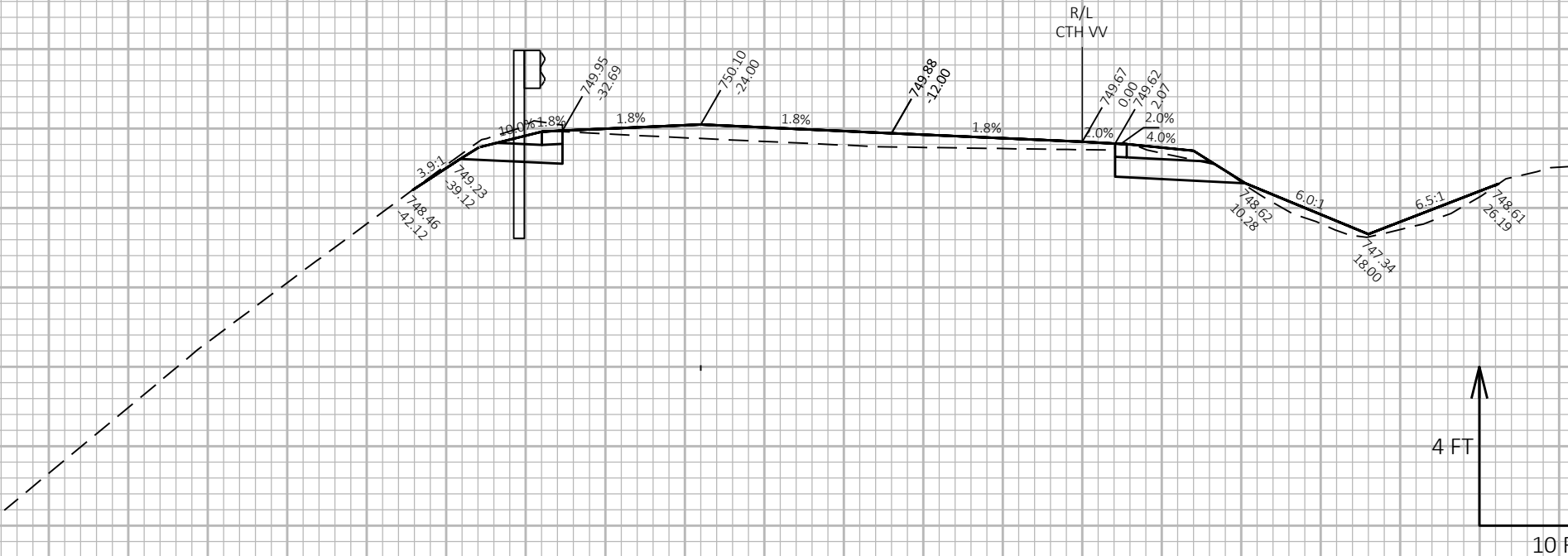
PLOT DATE : 7/25/2024 4:21 PM

PLOT BY : VALBON LATIFI

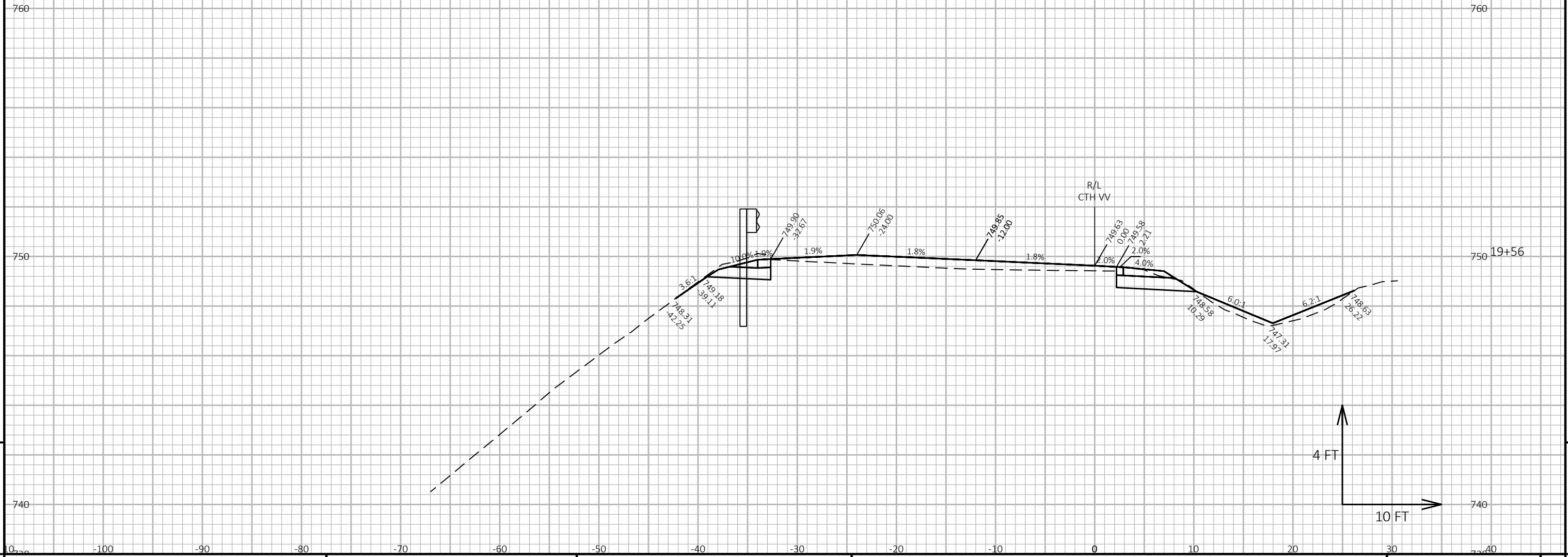
PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:4 FT VERT.

WISDOT/CADDs SHEET 49



NOTE
EXISTING PAVEMENT SURFACE
SHOWN IS AFTER 2" MILLING HAS
BEEN COMPLETED.



NOTE

EXISTING PAVEMENT SURFACE
SHOWN IS AFTER 2" MILLING HAS
BEEN COMPLETED.

760

760

750

750

20+00

740

740

10+00

-100

-90

-80

-70

-60

-50

-40

-30

-20

-10

0

10

20

30

40

PROJECT NO: 2753-02-73

HWY: CTH VV

COUNTY: WAUKESHA

CROSS SECTIONS: CTH VV

SHEET

87

E

FILE NAME : X:\BM1-4085 CTH VV WESTBOUND BRIDGE OVER MENOMONEE RIVER\5_DESIGN\03_ROADS\27530203\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 04-xs

PLOT DATE : 7/25/2024 4:22 PM

PLOT BY : VALBON LATIFI

PLOT NAME :

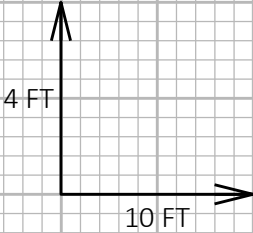
PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:4 FT VERT.

WISDOT/CADDs SHEET 49

9

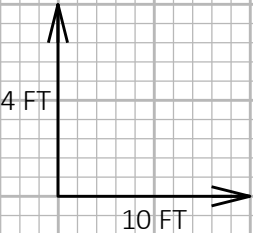
9

EXISTING PAVEMENT SURFACE
SHOWN IS AFTER 2" MILLING HAS
BEEN COMPLETED.



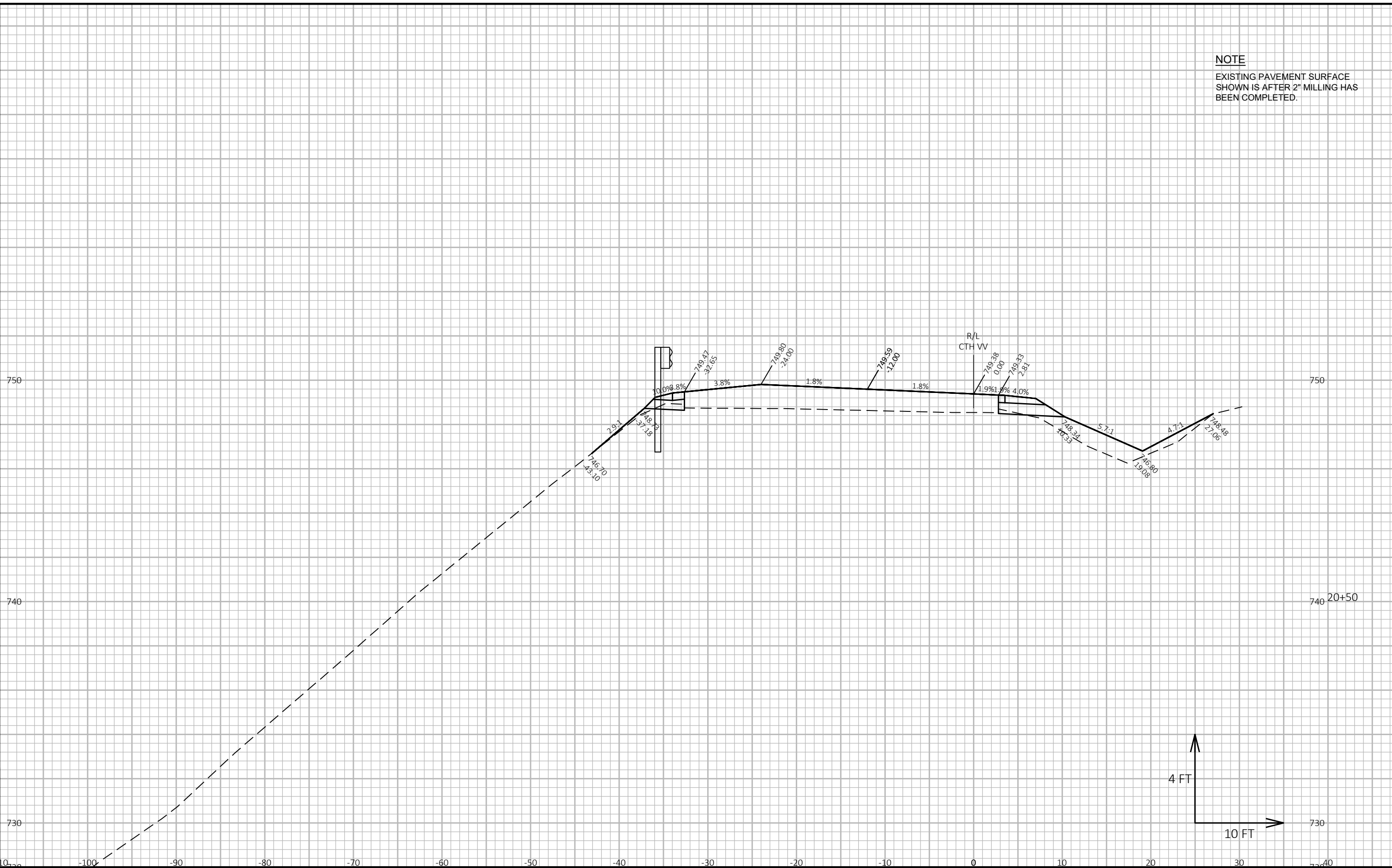
9

EXISTING PAVEMENT SURFACE
SHOWN IS AFTER 2" MILLING HAS
BEEN COMPLETED.



9

NOTE
EXISTING PAVEMENT SURFACE
SHOWN IS AFTER 2" MILLING HAS
BEEN COMPLETED.



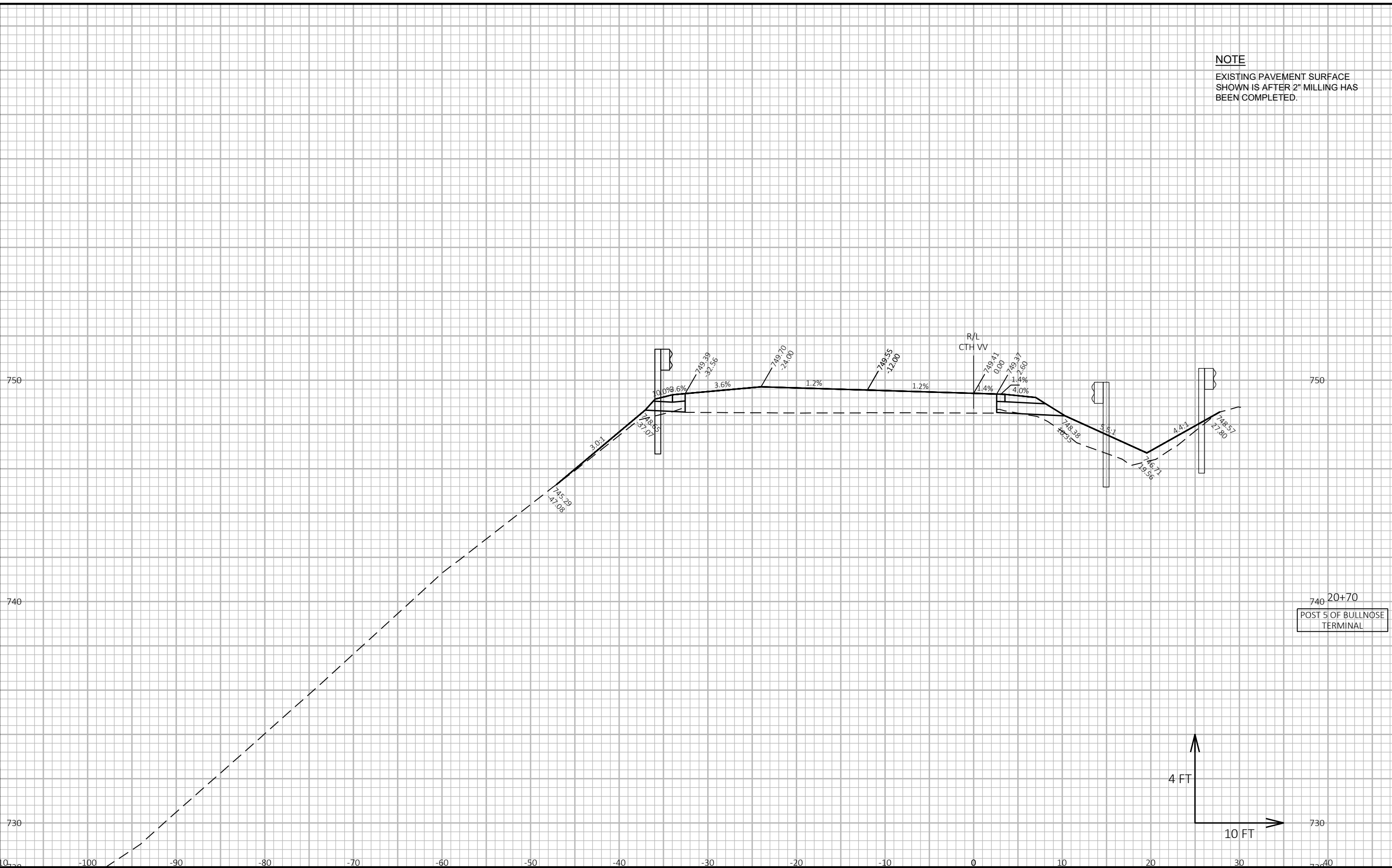
9

9

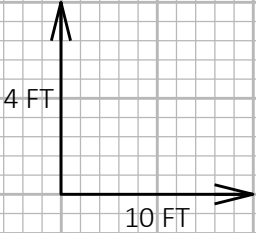
NOTE
EXISTING PAVEMENT SURFACE
SHOWN IS AFTER 2" MILLING HAS
BEEN COMPLETED.



NOTE
EXISTING PAVEMENT SURFACE
SHOWN IS AFTER 2" MILLING HAS
BEEN COMPLETED.

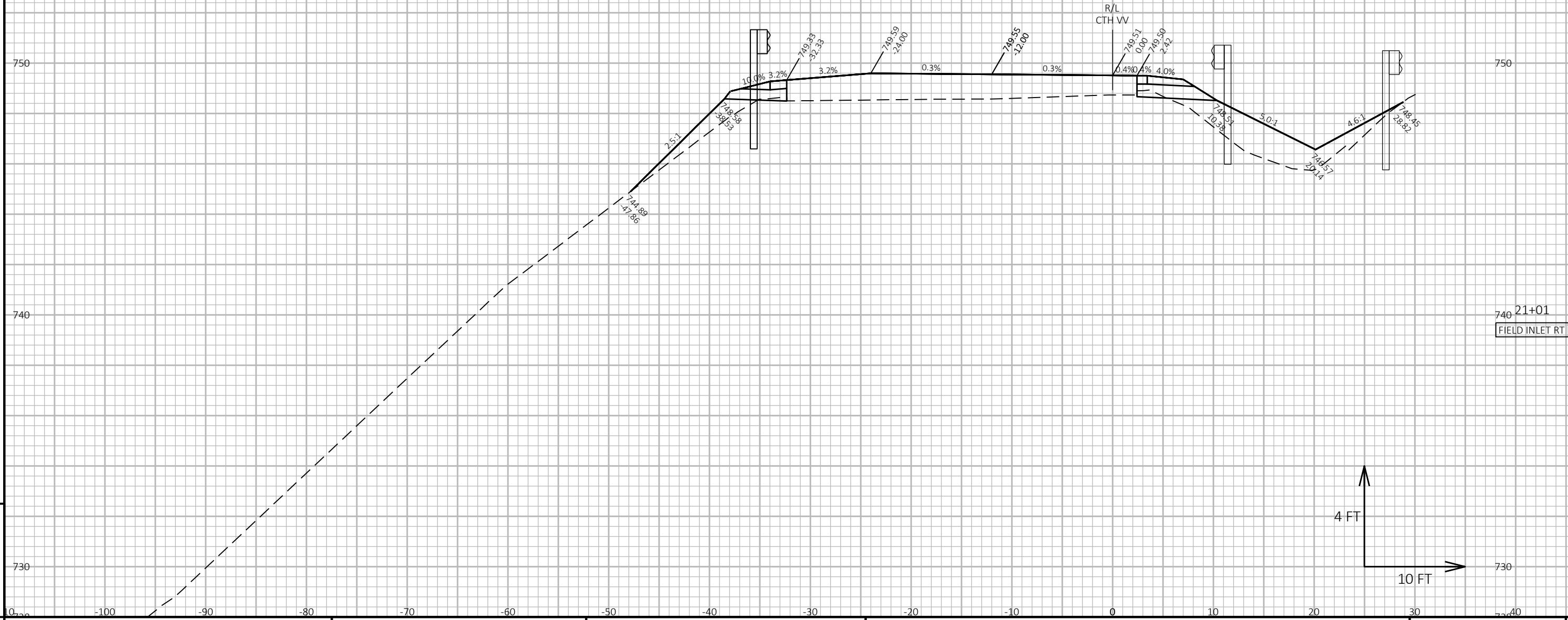


EXISTING PAVEMENT SURFACE
SHOWN IS AFTER 2" MILLING HAS
BEEN COMPLETED.



9

NOTE
EXISTING PAVEMENT SURFACE
SHOWN IS AFTER 2" MILLING HAS
BEEN COMPLETED.



EXISTING PAVEMENT SURFACE
SHOWN IS AFTER 2" MILLING HAS
BEEN COMPLETED.



9

E

FILE NAME : X:\BM1-4085 CTH VV WESTBOUND BRIDGE OVER MENOMONEE RIVER\5_DESIGN\03_ROADS\27530203\SHEETS\PLAN\090201-XS.DWG
LAYOUT NAME - 12-xs

PLOT DATE : 7/25/2024 4:22 PM

PLOT BY : VALBON LATIFI

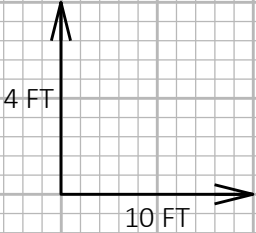
PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:4 FT VERT.

WISDOT/CADDs SHEET 49

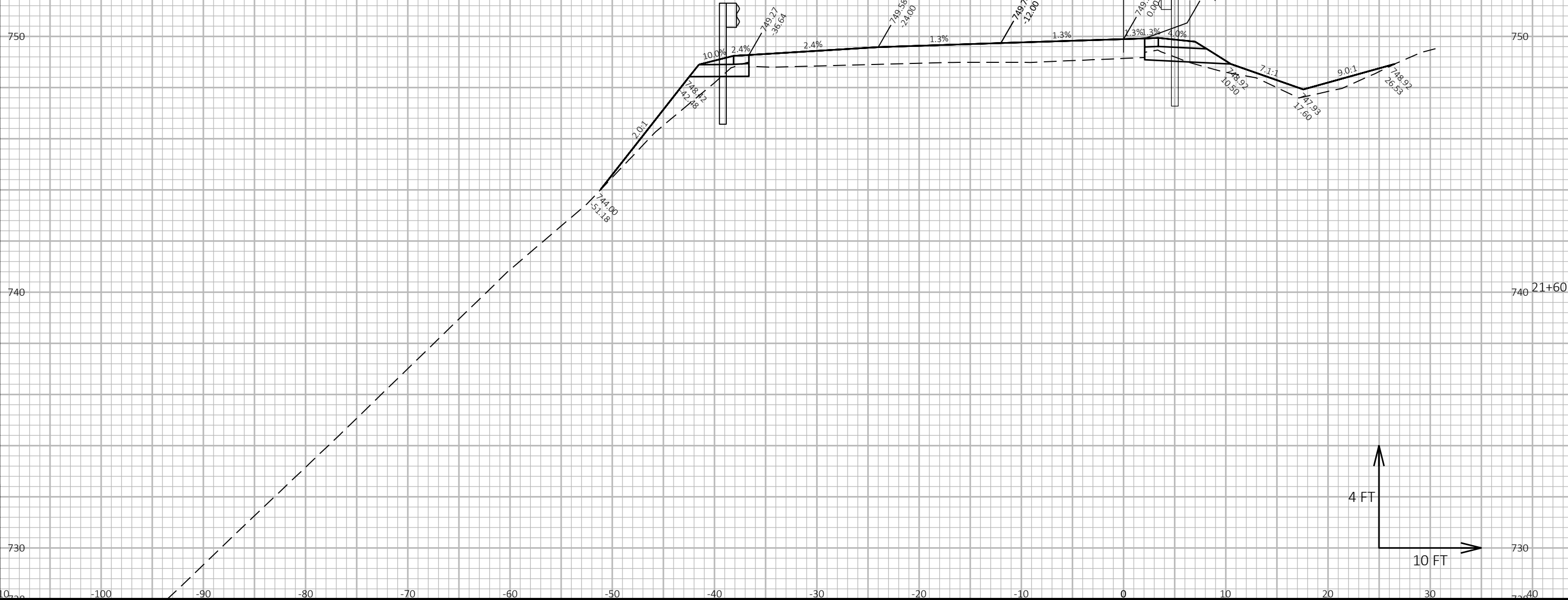
WISDOT/CADDS SHEET 49

EXISTING PAVEMENT SURFACE
SHOWN IS AFTER 2" MILLING HAS
BEEN COMPLETED.

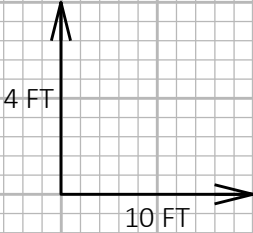


9

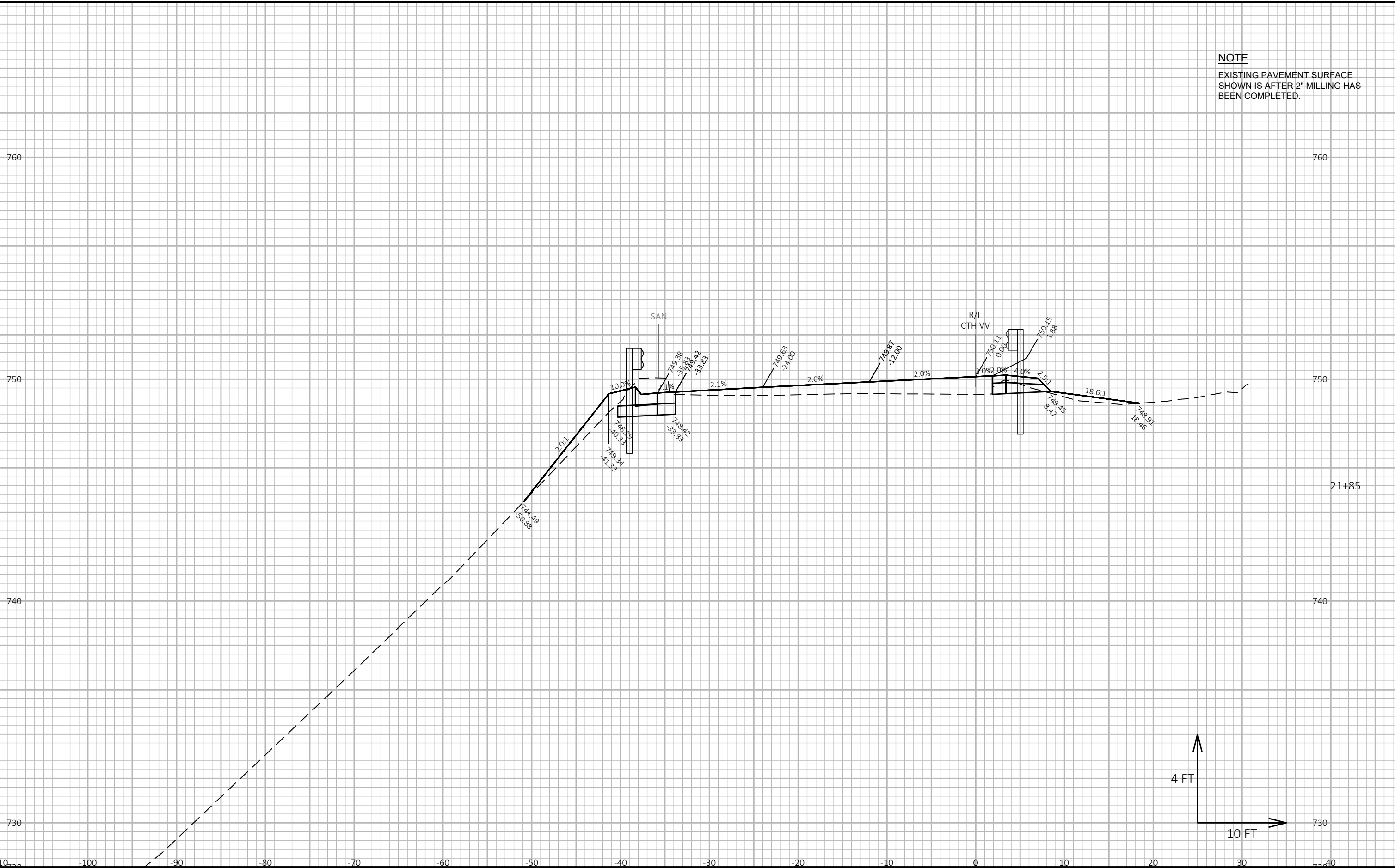
NOTE
EXISTING PAVEMENT SURFACE
SHOWN IS AFTER 2" MILLING HAS
BEEN COMPLETED.



EXISTING PAVEMENT SURFACE
SHOWN IS AFTER 2" MILLING HAS
BEEN COMPLETED.



NOTE
EXISTING PAVEMENT SURFACE
SHOWN IS AFTER 2" MILLING HAS
BEEN COMPLETED.



NOTE

EXISTING PAVEMENT SURFACE
SHOWN IS AFTER 2" MILLING HAS
BEEN COMPLETED.

760

760

750

750 21+95

START OF CONC PAV'T
APPROACH SLAB

740

740

10+00

-100

-90

-80

-70

-60

-50

-40

-30

-20

-10

0

10

20

30

730+40

PROJECT NO: 2753-02-73

HWY: CTH VV

COUNTY: WAUKESHA

CROSS SECTIONS: CTH VV

SHEET 100

E

FILE NAME : X:\BM1-4085 CTH VV WESTBOUND BRIDGE OVER MENOMONEE RIVER\5_DESIGN\03_ROADS\27530203\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 17-xs

PLOT DATE : 7/25/2024 4:22 PM

PLOT BY : VALBON LATIFI

PLOT NAME :

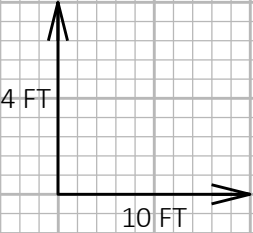
PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:4 FT VERT.

WISDOT/CADDs SHEET 49

9

9

EXISTING PAVEMENT SURFACE
SHOWN IS AFTER 2" MILLING HAS
BEEN COMPLETED.



9

E

FILE NAME :	X:\BM1-4085 CTH VV WESTBOUND BRIDGE OVER MEMONEE RIVER\5_DESIGN\03_ROADS\27530203\SHEETSPLAN\090201-XS.DWG	PLOT DATE :	7/25/2024 4:22 PM	PLOT BY :	VALBON LATIFI	PLOT NAME :		PLOT SCALE :	1 IN:10 FT HORZ. / 1 IN:4 FT VERT.	WISDOT/CADD\$ SHEET 49
LAYOUT NAME -	18-xs									

NOTE

EXISTING PAVEMENT SURFACE
SHOWN IS AFTER 2" MILLING HAS
BEEN COMPLETED.

760

760

750

750 24+50

FIELD INLET RT

740

740

100 -90 -80 -70 -60 -50 -40 -30 -20 -10 0 10 20 30 40

PROJECT NO: 2753-02-73

HWY: CTH VV

COUNTY: WAUKESHA

CROSS SECTIONS: CTH VV

SHEET 102

E

FILE NAME : X:\BM1-4085 CTH VV WESTBOUND BRIDGE OVER MENOMONEE RIVER\5_DESIGN\03_ROADS\27530203\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 19-xs

PLOT DATE : 7/25/2024 4:22 PM

PLOT BY : VALBON LATIFI

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:4 FT VERT.

WISDOT/CADDs SHEET 49

9

9

4 FT

10 FT

NOTE

EXISTING PAVEMENT SURFACE
SHOWN IS AFTER 2" MILLING HAS
BEEN COMPLETED.

760

760

750

750

25+00

740

740

PROJECT NO: 2753-02-73

HWY: CTH VV

COUNTY: WAUKESHA

CROSS SECTIONS: CTH VV

SHEET 103

E

FILE NAME : X:\BM1-4085 CTH VV WESTBOUND BRIDGE OVER MENOMONEE RIVER\5_DESIGN\03_ROADS\27530203\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 20-xs

PLOT DATE : 7/25/2024 4:22 PM

PLOT BY : VALBON LATIFI

PLOT NAME :

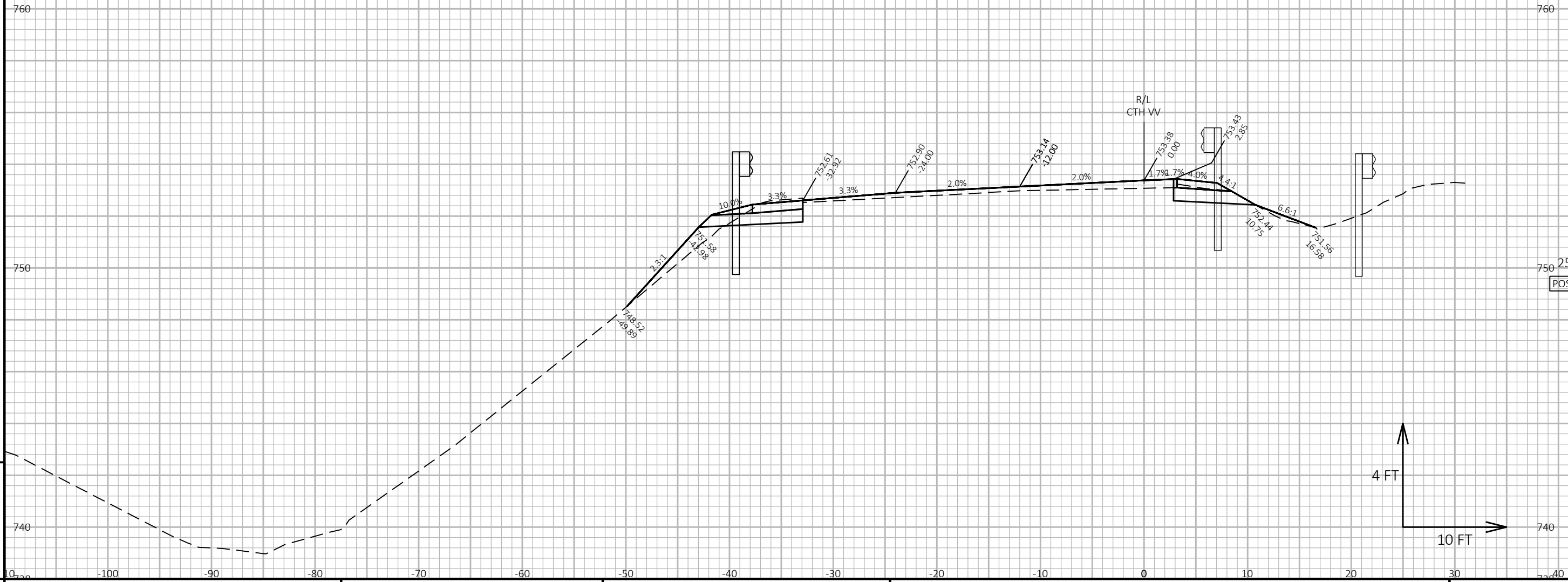
PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:4 FT VERT.

WISDOT/CADDs SHEET 49

9

9

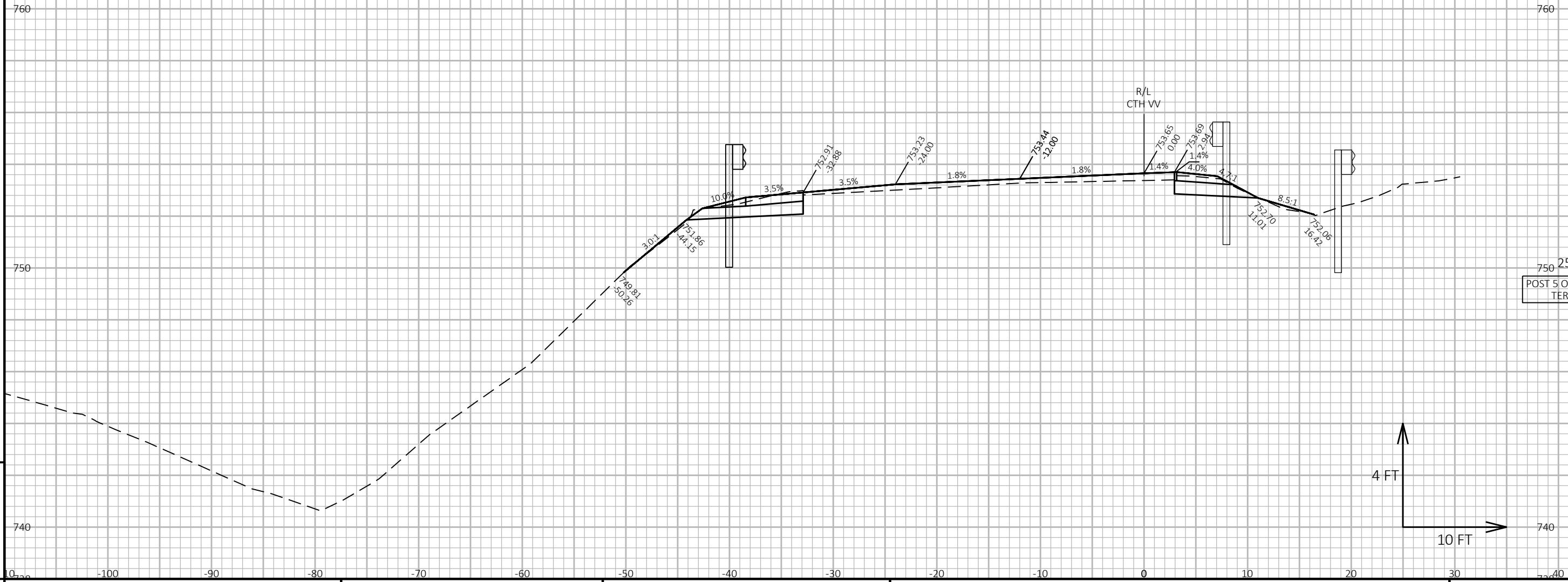
NOTE
EXISTING PAVEMENT SURFACE
SHOWN IS AFTER 2" MILLING HAS
BEEN COMPLETED.



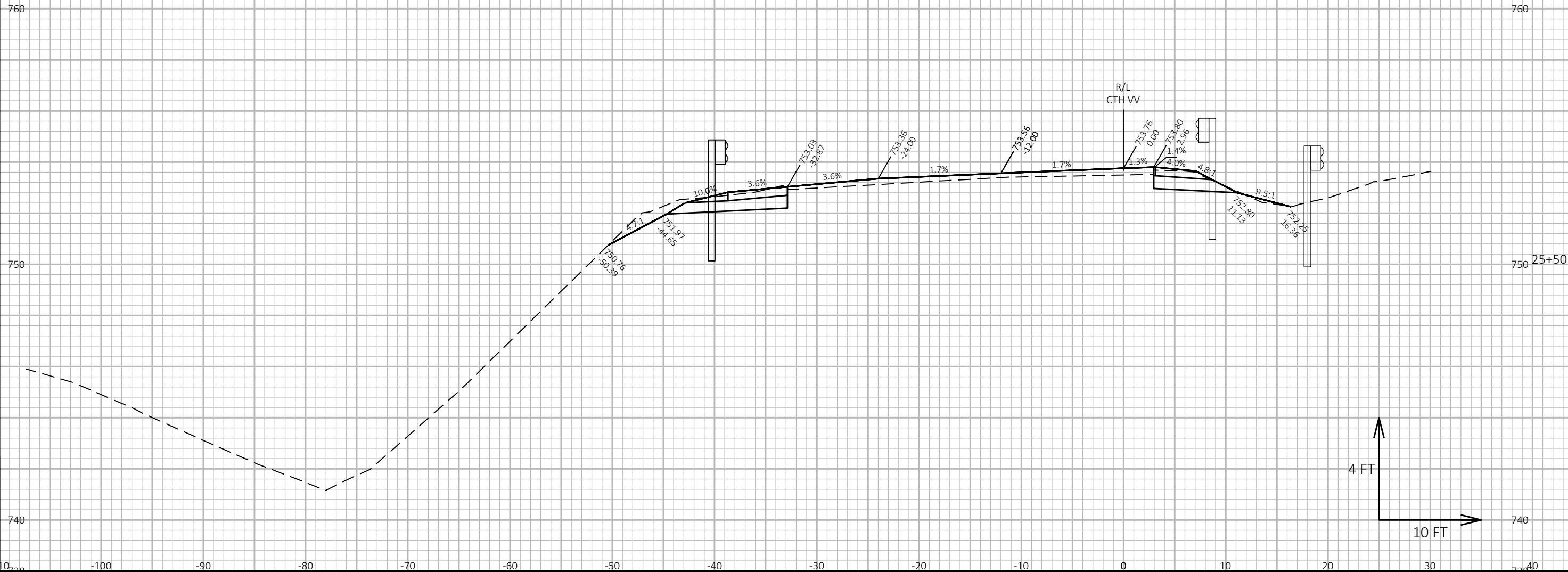
9

9

NOTE
EXISTING PAVEMENT SURFACE
SHOWN IS AFTER 2" MILLING HAS
BEEN COMPLETED.



NOTE
EXISTING PAVEMENT SURFACE
SHOWN IS AFTER 2" MILLING HAS
BEEN COMPLETED.



NOTE

EXISTING PAVEMENT SURFACE
SHOWN IS AFTER 2" MILLING HAS
BEEN COMPLETED.

760

760

750

750

25+51

POST 5 LT

740

740

107

107

PROJECT NO: 2753-02-73

HWY: CTH VV

COUNTY: WAUKESHA

CROSS SECTIONS: CTH VV

SHEET

107

E

FILE NAME : X:\BM1-4085 CTH VV WESTBOUND BRIDGE OVER MENOMONEE RIVER\5_DESIGN\03_ROADS\27530203\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 24-xs

PLOT DATE : 7/25/2024 4:22 PM

PLOT BY : VALBON LATIFI

PLOT NAME :

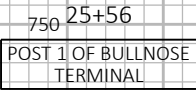
PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:4 FT VERT.

WISDOT/CADDs SHEET 49

4 FT

10 FT

EXISTING PAVEMENT SURFACE
SHOWN IS AFTER 2" MILLING HAS
BEEN COMPLETED.

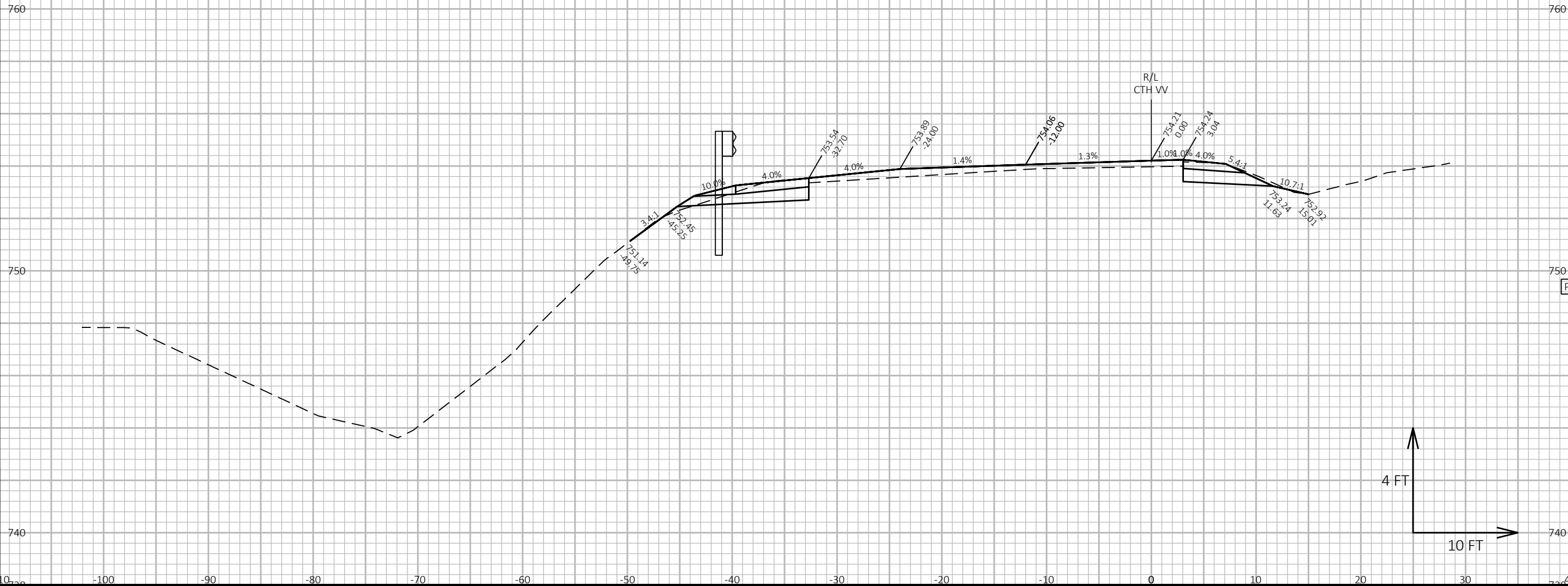


9

SHEET 108

WISDOT/CADDS SHEET 49

NOTE
EXISTING PAVEMENT SURFACE
SHOWN IS AFTER 2" MILLING HAS
BEEN COMPLETED.



9

9

NOTE

EXISTING PAVEMENT SURFACE
SHOWN IS AFTER 2" MILLING HAS
BEEN COMPLETED.

760

760

750

750

26+00

STA 26+00.00
END PROJECT

4 FT

10 FT

740

9

9

PROJECT NO: 2753-02-73

HWY: CTH VV

COUNTY: WAUKESHA

CROSS SECTIONS: CTH VV

SHEET

110

E

FILE NAME : X:\BM1-4085 CTH VV WESTBOUND BRIDGE OVER MENOMONEE RIVER\5_DESIGN\03_ROADS\27530203\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 27-xs

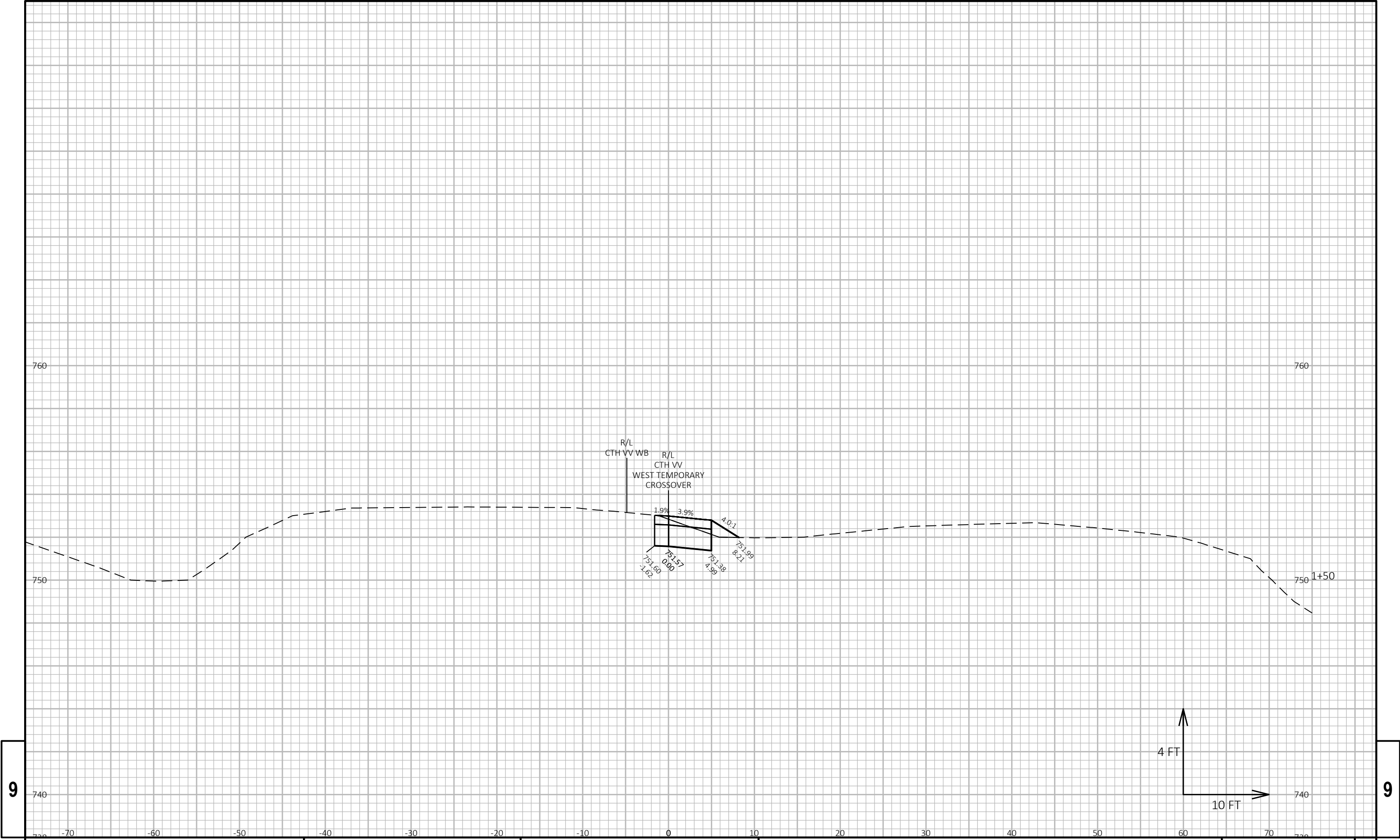
PLOT DATE : 7/25/2024 4:22 PM

PLOT BY : VALBON LATIFI

PLOT NAME :

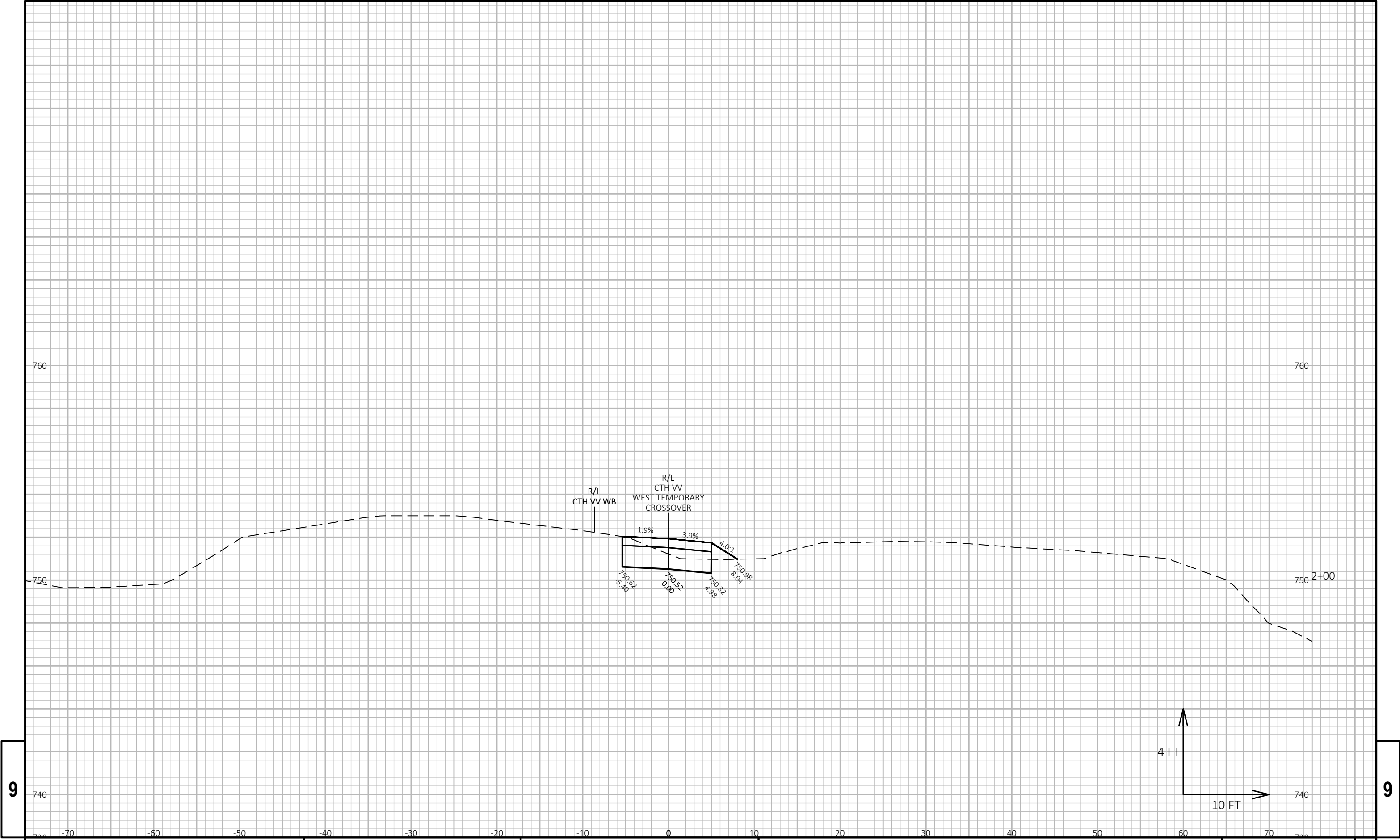
PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:4 FT VERT.

WISDOT/CADDs SHEET 49



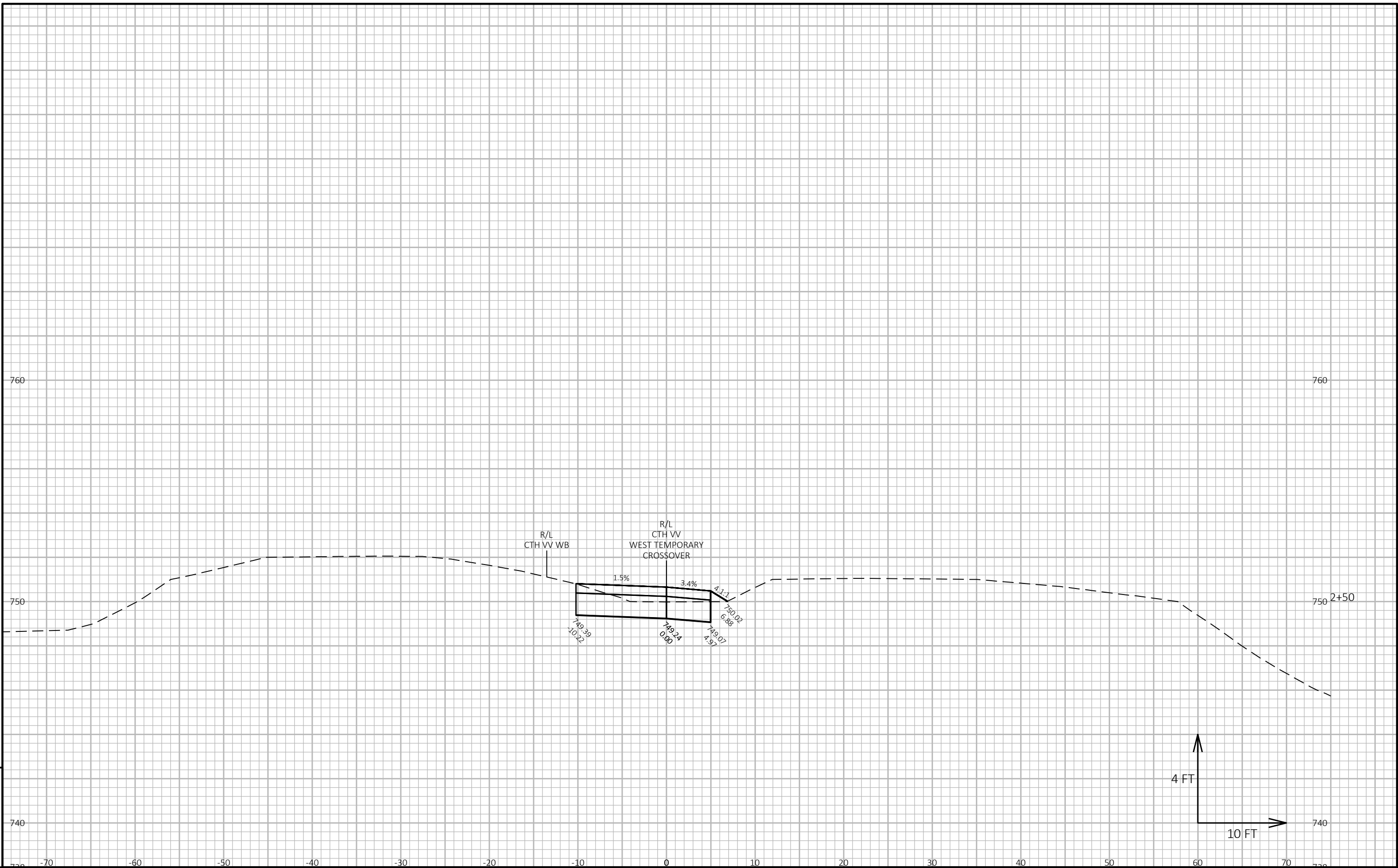
9

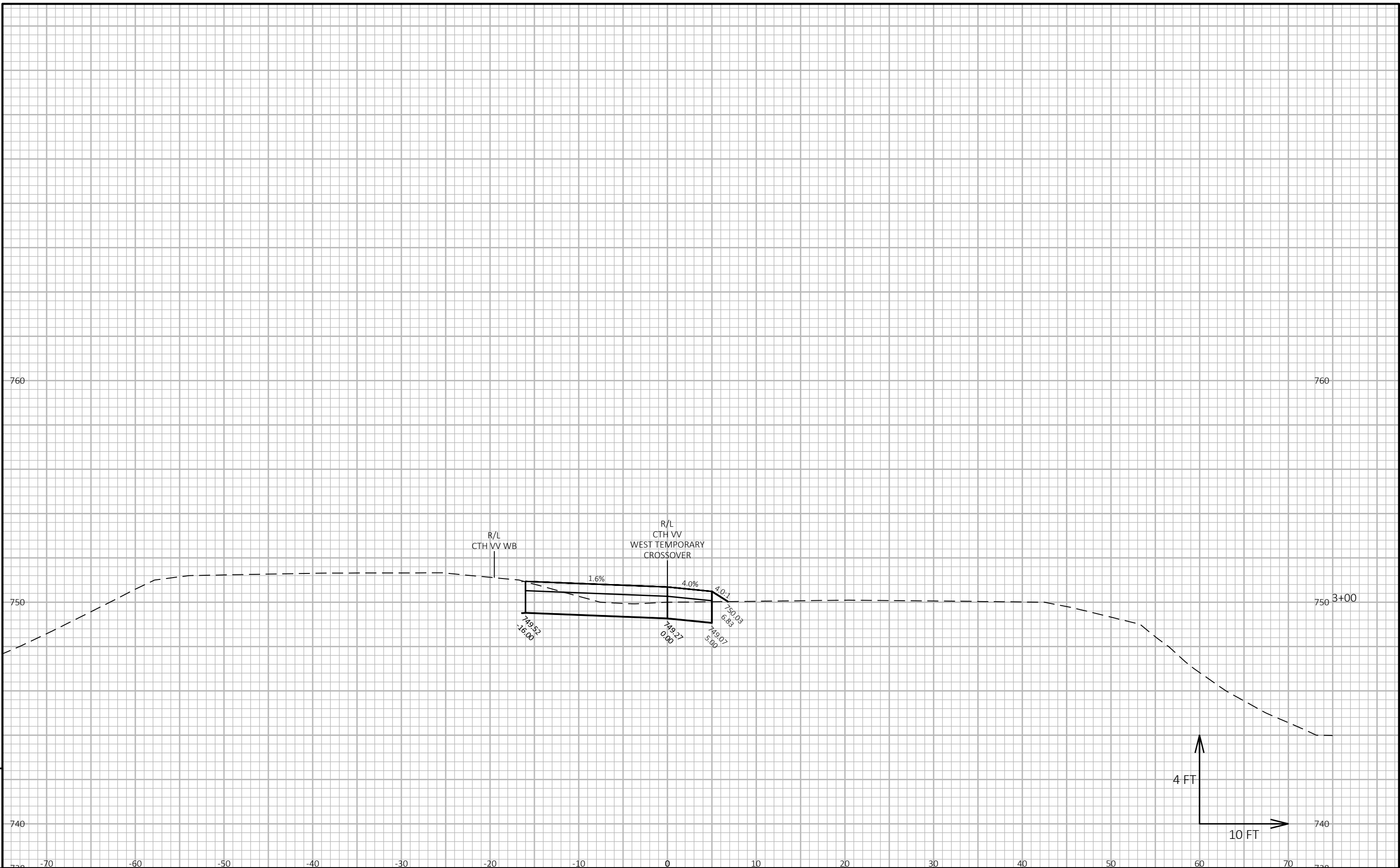
9

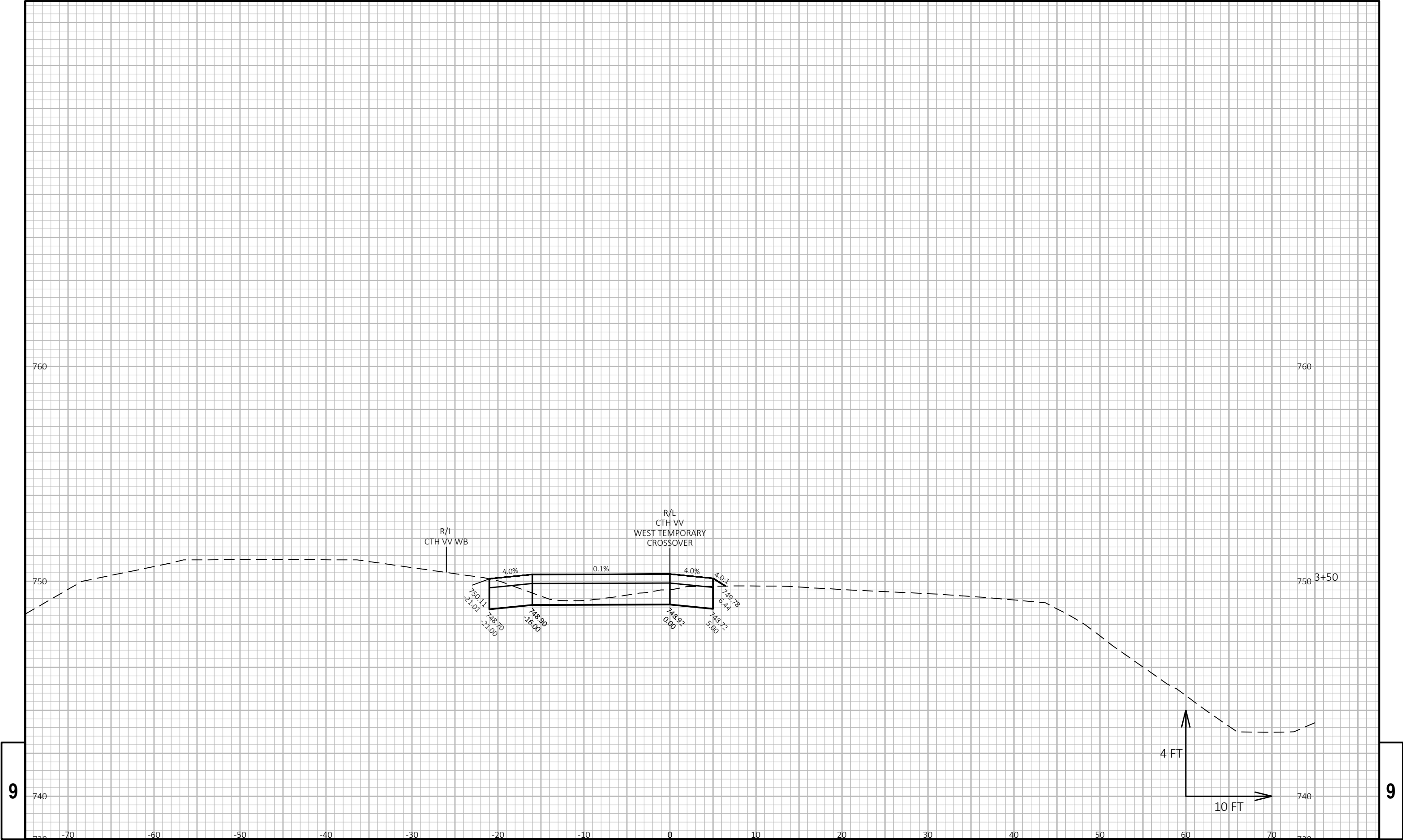


9

9

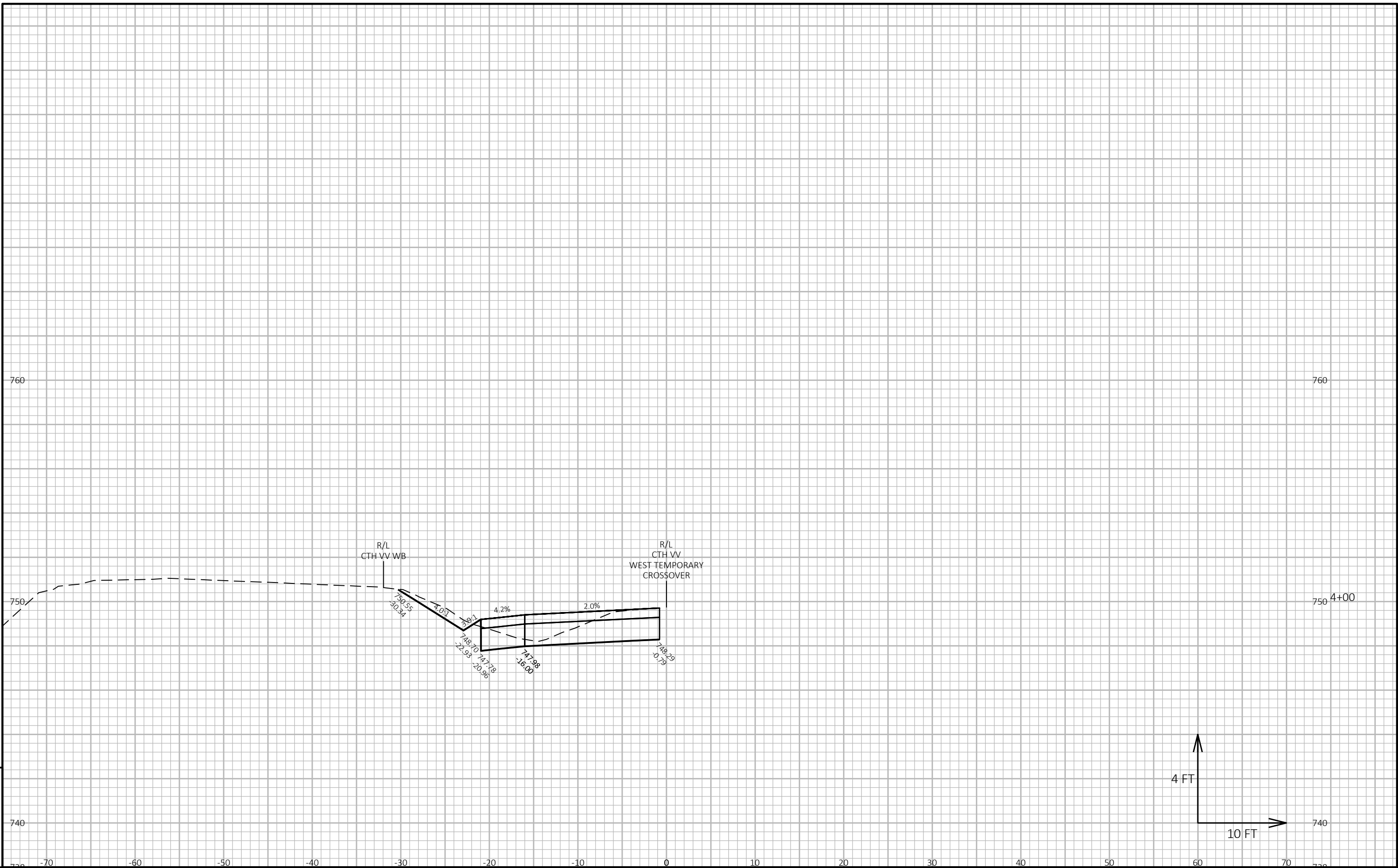






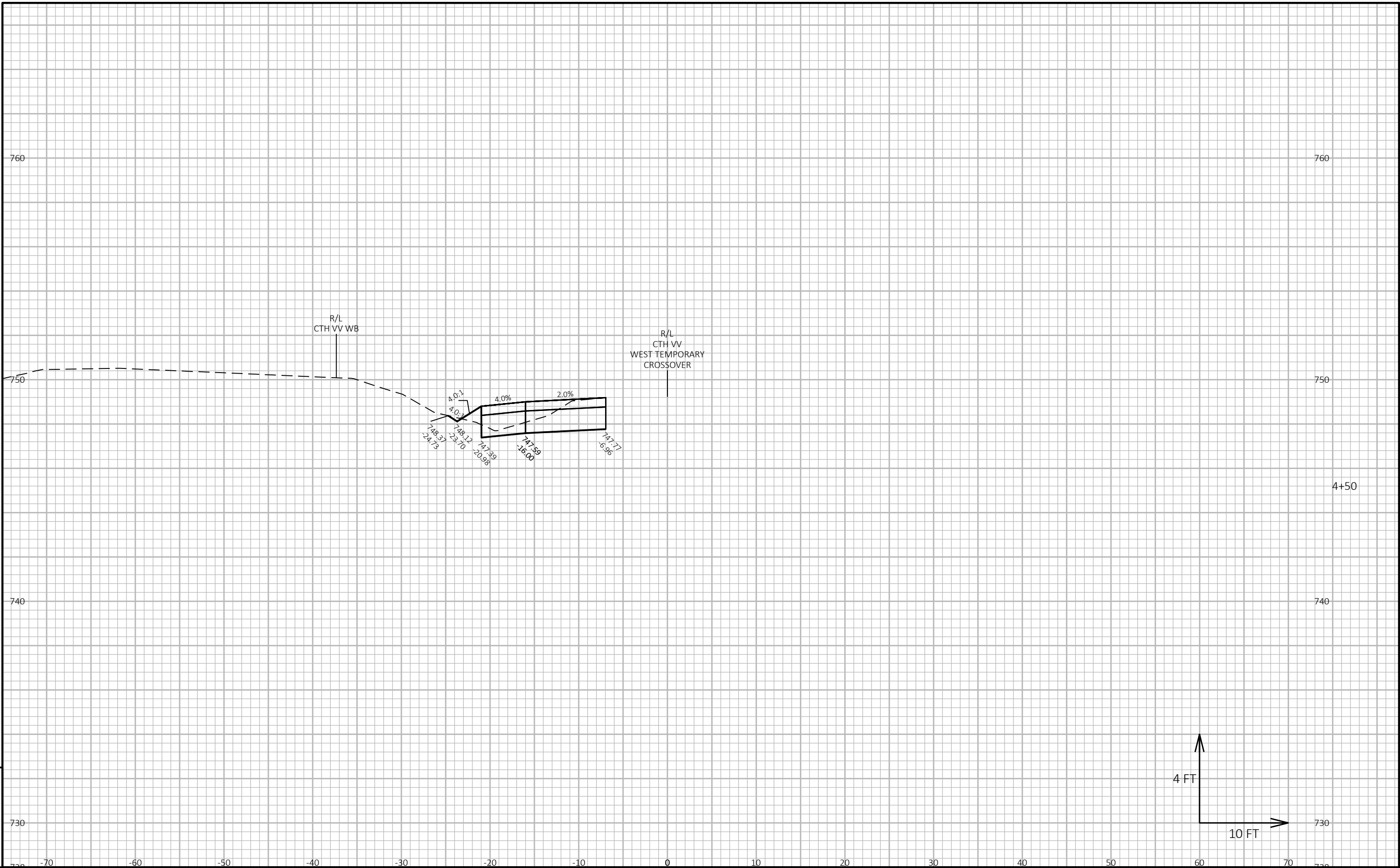
9

9



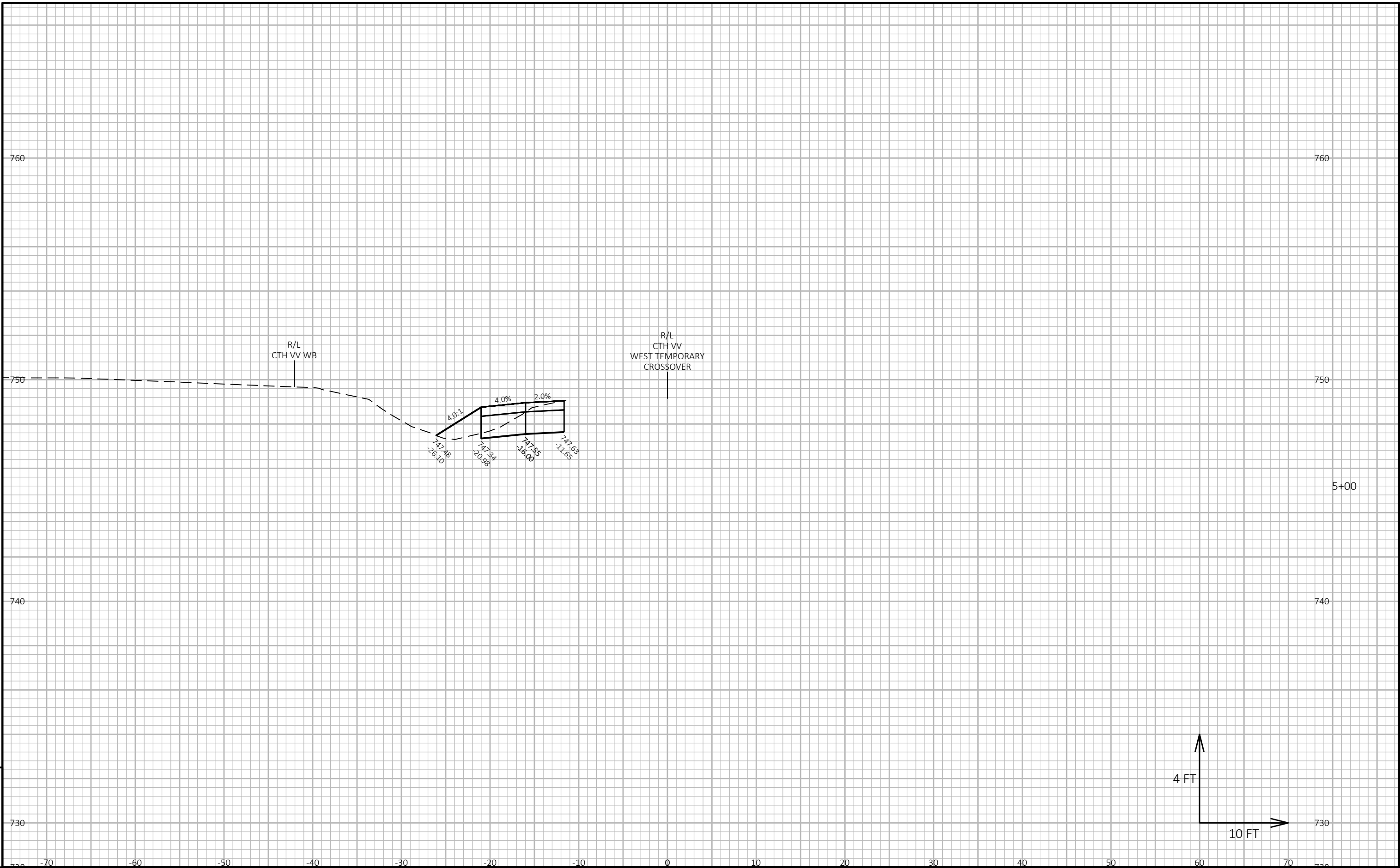
9

9



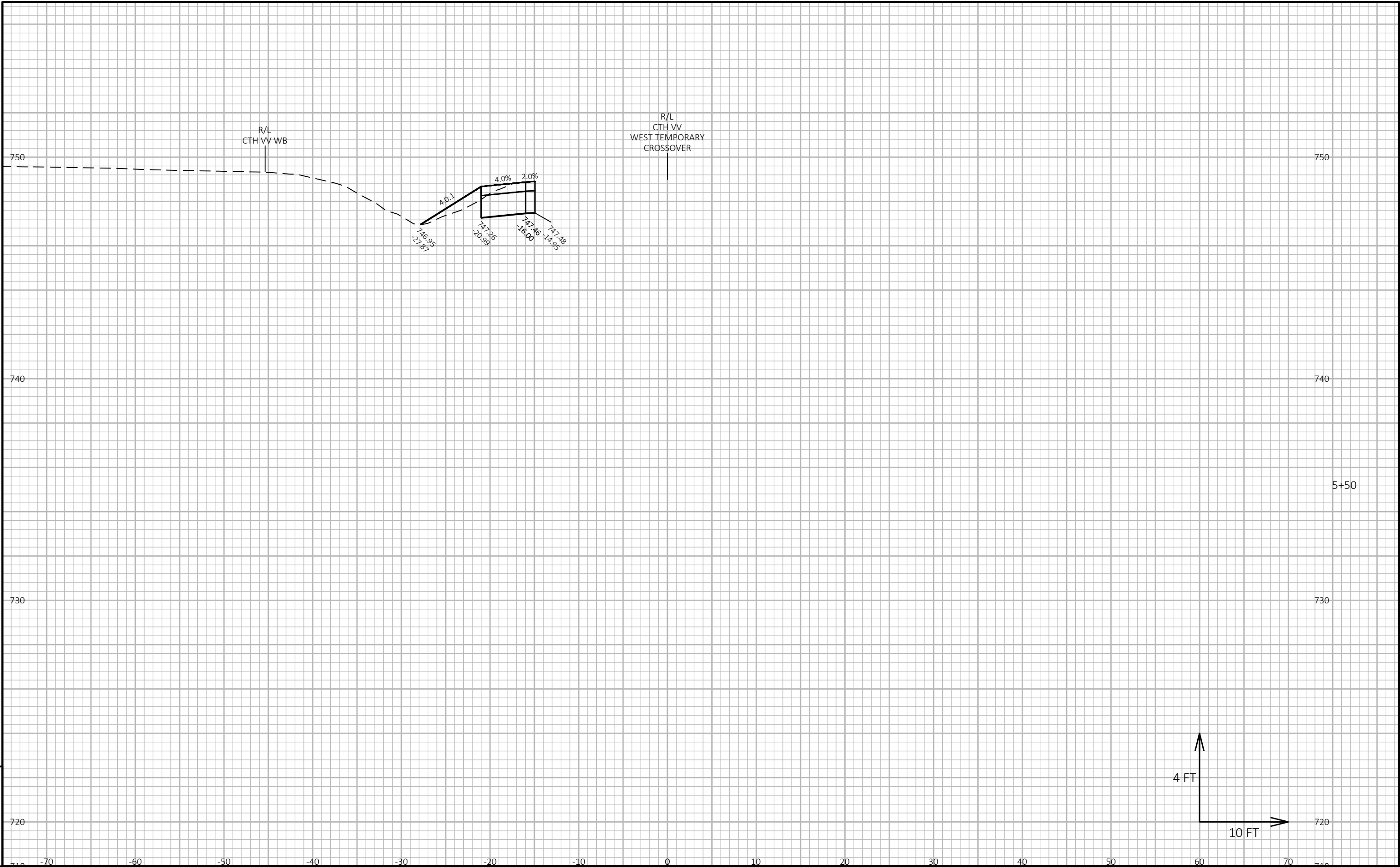
9

9



9

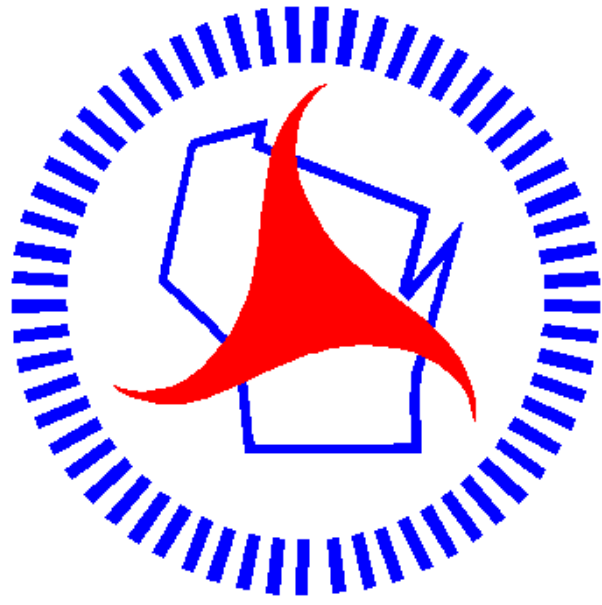
9



9

9

PROJECT NO: 2753-02-73	HWY: CTH VV	COUNTY: WAUKESHA	CROSS SECTIONS: CTH VV W CROSSOVER	SHEET 119	E
------------------------	-------------	------------------	------------------------------------	-----------	---



Wisconsin Department of Transportation

Dedicated people creating transportation solutions through innovation and exceptional service.

<http://www.dot.wisconsin.gov>