MAD

PROJECT ID: 3050-01-77

WITH: NA

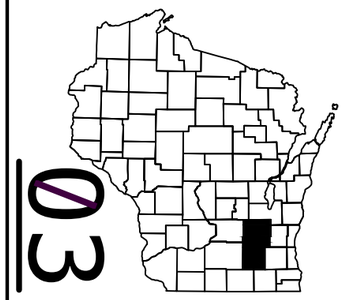
COUNTY: DODGE/JEFFERSON

APRIL 2026

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 = 88



N

DESIGN DESIGNATION

A.A.D.T.	(2028)	=	4100
A.A.D.T.	(2048)	=	4700
D.H.V.		=	526
D.D.		=	60/40
T.		=	14.9%
DESIGN SPEED		=	60 MPH
ESALS		=	980,000

CONVENTIONAL SYMBOLS

PLAN

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

PROFILE

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

UTILITIES

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

SUN PRAIRIE - WATERTOWN

CRAWFISH RIVER BRIDGE TO GYPSY ROAD

STH 19

DODGE/JEFFERSON COUNTIES

STATE PROJECT NUMBER
3050-01-77

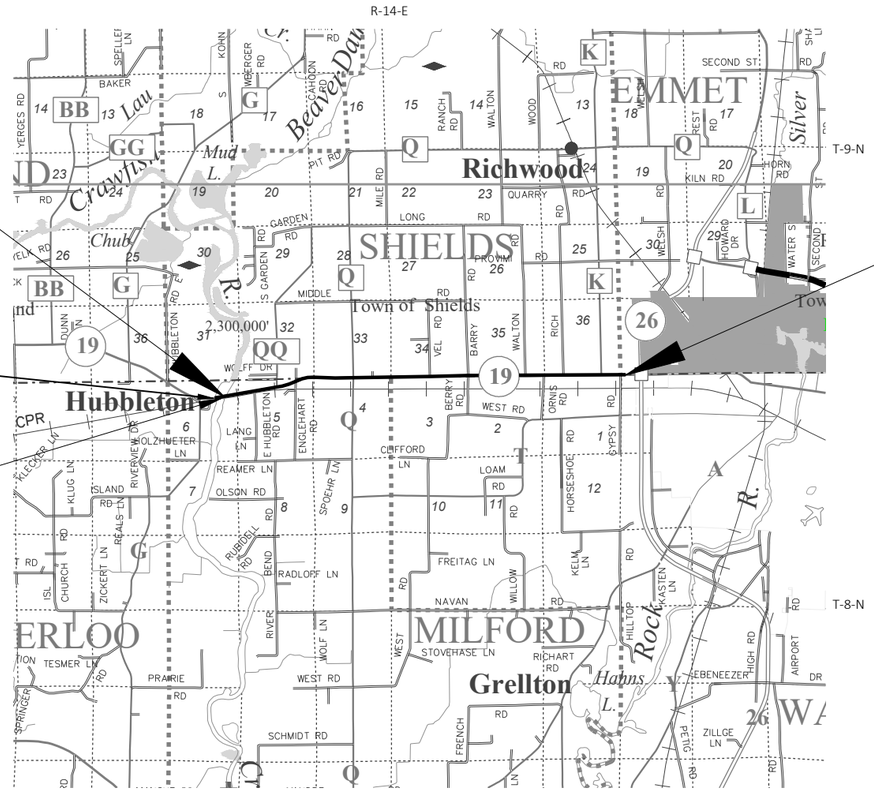
STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
3050-01-77		

BEGIN PROJECT
STA 343+29.44
Y=627746.524
X=837033.518

BEGIN CONSTRUCTION
STA 340+06.00

STRUCTURE B-28-010
STA 340+06 - STA 343+15

END PROJECT
STA 625+34.54
N=628850.213
E=865090.531



LAYOUT

SCALE 0 2 MI

TOTAL NET LENGTH OF CENTERLINE = 5.403 MI

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

ORIGINAL PLANS PREPARED BY

Mead & Hunt

WISCONSIN BRIAN W. VEIT #41689-006 OREGON, WI PROFESSIONAL ENGINEER

DATE: 10/20/25 (Professional Engineer Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	JT ENGINEERING
Designer	MEAD & HUNT
Project Manager	SARA SCHOENMANN
Regional Examiner	SW REGION
Regional Supervisor	JUSTIN KUTSCHENREUTER

APPROVED FOR THE DEPARTMENT

DATE: 10/21/2025 (Signature)

E

2

GENERAL NOTES

EXISTING SHOULDER AGGREGATE SHALL BE INCORPORATED INTO THE NEW SHOULDERS UNLESS OTHERWISE DIRECTED BY THE ENGINEER IN THE FIELD.

WHEN THE QUANTITY OF THE ITEM OF BASE AGGREGATE DENSE OR HMA PAVEMENT IS MEASURED FOR PAYMENT BY THE TON. THE DEPTH OR THICKNESS OF THE COURSE SHOWN ON THE PLANS IS APPROXIMATE, AND THE ACTUAL THICKNESS WILL DEPEND ON THE DISTRIBUTION OF THE MATERIAL AS DIRECTED BY THE ENGINEER IN THE FIELD.

CONSTRUCTION SHOULD BE BASED ON TYPICAL SECTIONS AND HARD SURFACES RATHER THAN THE ALIGNMENT.

PAVING LIMITS AT INTERSECTIONS ARE TO BE DETERMINED IN THE FIELD BY THE ENGINEER.

THE EXACT LOCATIONS AND LIMITS OF PRIVATE ENTRANCES, COMMERCIAL ENTRANCES, AND FIELD ENTRANCES SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.

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

PRIOR TO THE PLACEMENT OF STEEL PLATE BEAM GUARD OR MGS GUARDRAIL, THE SHOULDERS SHALL BE IN PLACE, SHAPED AND COMPACTED UNLESS SHOWN OTHERWISE.

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

APPLY TACK COAT AT A RATE OF 0.07 GAL/SY TO MILLED PAVEMENT SURFACE AND 0.05 GAL/SY BETWEEN LAYERS OF HMA PAVEMENT.

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

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

STANDARD ABBREVIATIONS

AADT	ANNUAL AVERAGE DAILY TRAFFIC
ADT	AVERAGE DAILY TRAFFIC
AGG	AGGREGATE
ASPH	ASPHALTIC
BM	BENCH MARK
BOC	BACK OF CURB
C&G	CURB AND GUTTER
CE	COMMERCIAL ENTRANCE
CL	CENTERLINE
COR	CORNER
CWT	HUNDREDWEIGHT
CY	CUBIC YARD
DHV	DESIGN HOURLY VOLUME
DWY	DRIVEWAY
EL	ELEVATION
EX	EXISTING
EXC	EXCAVATION
FT	FOOT
FTG	FOOTING
HYD	HYDRANT
INV	INVERT
LB	POUND
LF	LINEAR FOOT
LHF	LEFT-HAND FORWARD
LS	LUMP SUM
LT	LEFT
Mgal	MEGAGALLON
M/L	MAINLINE
NO	NUMBER
PE	PRIVATE ENTRANCE
PI	POINT OF INTERSECTION
PL	PROPERTY LINE
PP	POWER POLE
QTY	QUANTITY
RHF	RIGHT-HAND FORWARD
RT	RIGHT
R/L	REFERENCE LINE
R/W	RIGHT-OF-WAY
SF	SQUARE FOOT
SHLDR	SHOULDER
SS	STORM SEWER
STA	STATION
SY	SQUARE YARD
T	TRUCKS (PERCENT OF)
TEL	TELEPHONE
TLE	TEMPORARY LIMITED EASEMENT
TYP	TYPICAL
UG	UNDERGROUND CABLE
VAR	VARIABLE
VC	VERTICAL CURVE
VPC	VERTICAL POINT OF CURVE
VPI	VERTICAL POINT OF INTERSECTION
VPT	VERTICAL POINT OF TANGENCY

UTILITIES

COMMUNICATIONS

AT&T WISCONSIN - COMMUNICATION LINE
TYLER FLECK
220 WISCONSIN AVENUE
WAUKESHA, WI 53186
PHONE: (414)248-6803
EMAIL: tf8394@att.com

COMMUNICATIONS

SPECTRUM - COMMUNICATION LINE
COREY LEWIS
N 3760 COUNTY RD DJ
JUNEAU, WI 53039
PHONE: (920)404-0575
EMAIL: corey.lewis@charter.com

ELECTRIC

WE ENERGIES - ELECTRICITY
STEVEN J. KING
500 S 116TH STREET
WEST ALLIS, WI. 53214
PHONE: (262)968-5768
EMAIL: steve.king@we-energies.com

ORDER OF SECTION 2 SHEETS

GENERAL NOTES
PROJECT OVERVIEW
TYPICAL SECTIONS
CONSTRUCTION DETAILS
PAVEMENT MARKING
TRAFFIC CONTROL

RUNOFF COEFFICIENT TABLE

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

TOTAL PROJECT AREA = 77.70 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 0.234 ACRES

WISCONSIN DOT

WISCONSIN DEPARTMENT OF TRANSPORTATION
SOUTHWEST REGION
2101 WRIGHT STREET
MADISON, WI 53704
ATTN: SARA SCHOENMANN, P.E.
PHONE: (608) 246-5316
EMAIL: sara.schoenmann@dot.wi.gov

WISCONSIN DNR

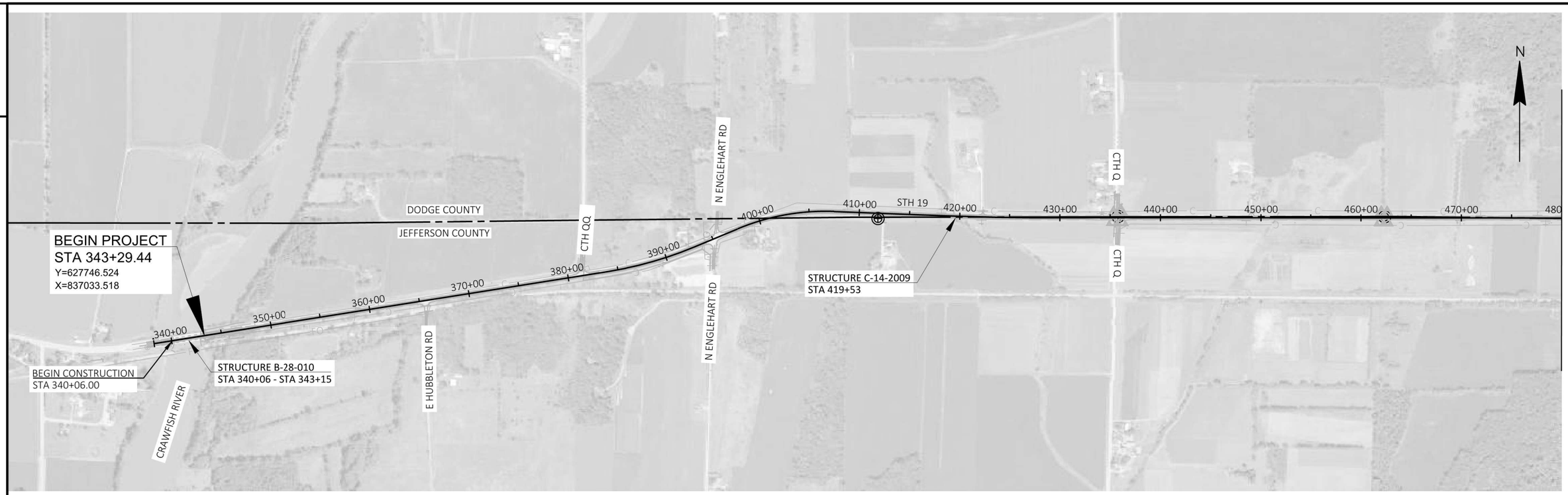
WISCONSIN DEPARTMENT OF NATURAL RESOURCES
3911 FISH HATCHERY ROAD
FITCHBURG, WI 53711
ATTN: ERIC HEGGELUND
PHONE: (608)228-7927
EMAIL: eric.heggelund@wisconsin.gov

DESIGN CONSULTANT

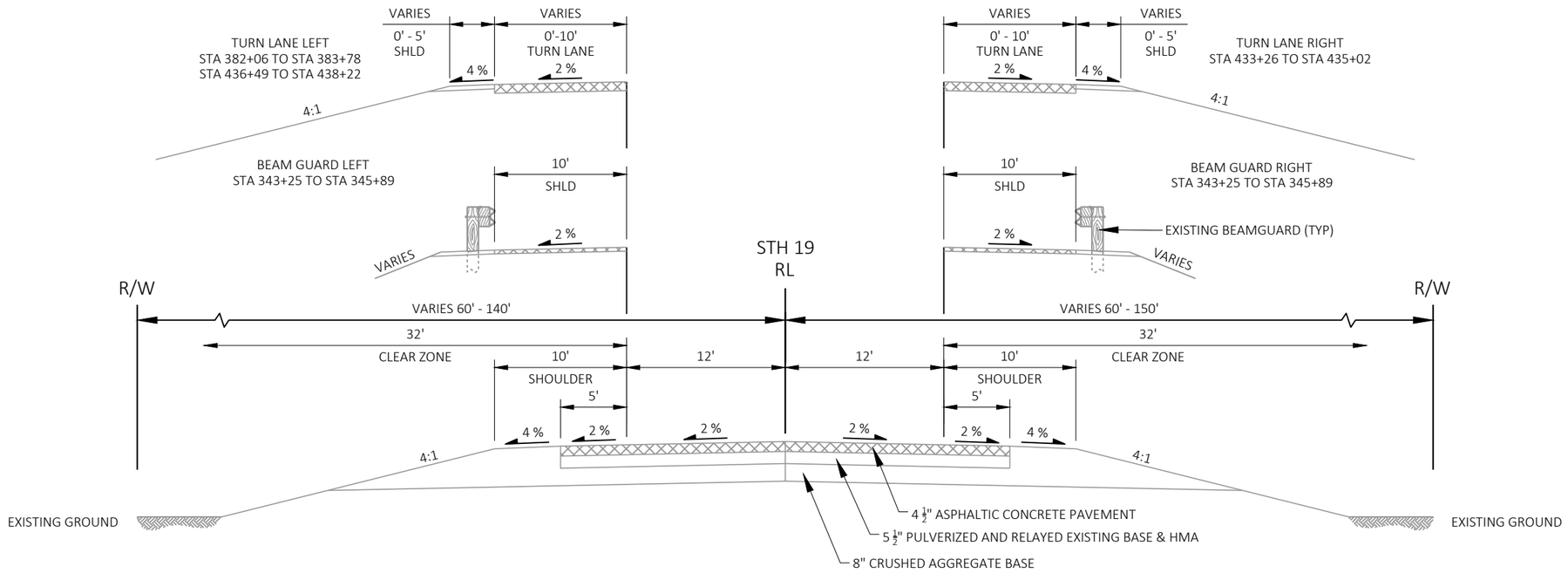
Mead and Hunt, Inc.
2440 DEMING WAY
MIDDLETON, WI. 53562
ATTN: BRIAN VEIT, P.E.
PHONE: (608)443-0412
EMAIL: brian.veit@meadhunt.com

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

2

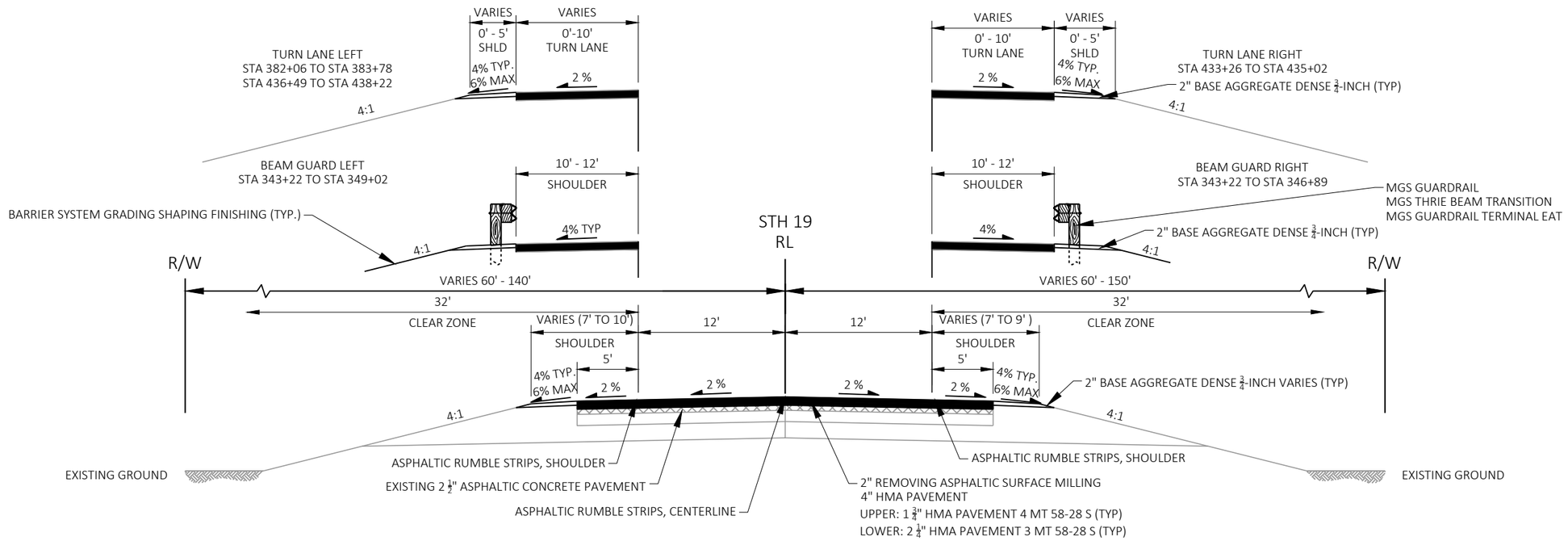


PROJECT NO: 3050-01-77	HWY: STH 19	COUNTY: DODGE/JEFFERSON	PROJECT OVERVIEW	SHEET 3	E



TYPICAL EXISTING SECTION

STA 343+29 - 625+34

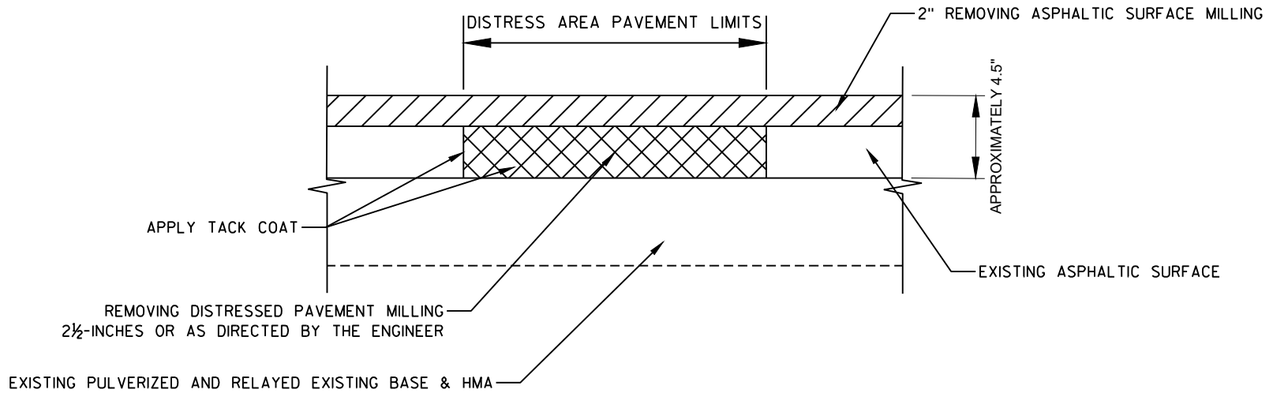


TYPICAL FINISHED SECTION

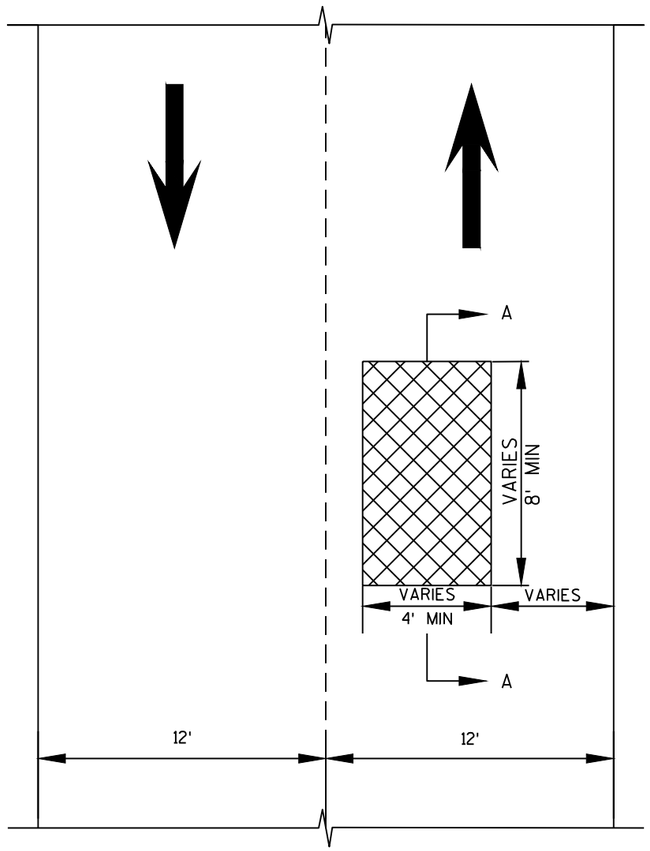
STA 343+29 - 625+34

PROJECT NO: 3050-01-77	HWY: STH 19	COUNTY: DODGE/JEFFERSON	TYPICAL SECTIONS	SHEET 4	E

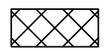
2



REMOVING DISTRESSED PAVEMENT MILLING
SECTION A-A



PLAN VIEW



REMOVING DISTRESSED PAVEMENT MILLING

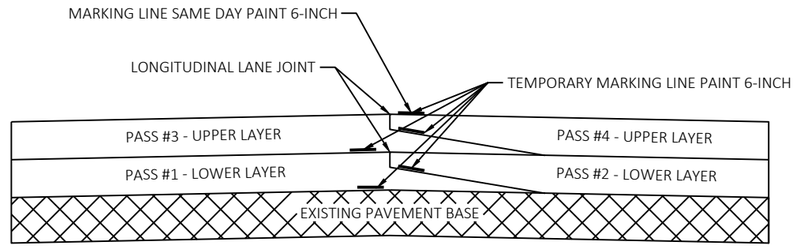
REPLACE WITH ASPHALTIC SURFACE

TRAVEL DIRECTION

EXACT LOCATION AND LIMITS OF REMOVING DISTRESSED PAVEMENT MILLING TO BE DETERMINED BY THE ENGINEER IN THE FIELD

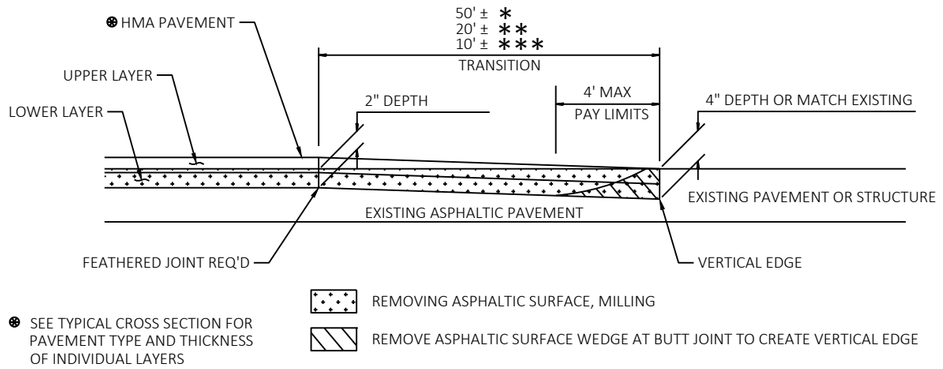
PROJECT NO: 3050-01-77	HWY: STH 19	COUNTY: DODGE/JEFFERSON	CONSTRUCTION DETAILS	SHEET 5	E

2



NOTE:
ONLY ONE SET OF PAVEMENT MARKINGS WILL BE VISIBLE AT ALL TIMES DURING CONSTRUCTION.

PAVEMENT MARKING DETAIL FOR TAPERED OVERLAPPING JOINTS IN HMA PAVEMENTS



⊛ SEE TYPICAL CROSS SECTION FOR PAVEMENT TYPE AND THICKNESS OF INDIVIDUAL LAYERS

BUTT JOINT DETAIL FOR MILLED ASPHALTIC PAVEMENTS (PROFILE CHANGE)

* MAINLINE
** SIDEROADS
*** PRIVATE ENTRANCES

2

N

RW

STRUCTURE B-28-010

MGS THRIE BEAM TRANSITION

+24.61
-23.79' LT

+74.61
-23.37' LT

+99.58
-22.00' LT

MGS GUARDRAIL 3K

REMOVING GUARDRAIL

SI

CONCRETE SURFACE DRAINS

MGS GUARDRAIL TERMINAL EAT

+52.80
-22.12' LT
POST 9

+77.68
-23.06' LT
POST 5

+02.66
-24.00' LT
POST 1

+72.66
17.00' LT

+21.74
-22.00' LT

STH 19

343+00 344+00 345+00 346+00 347+00 348+00 349+00 350+00

CONCRETE SURFACE DRAINS

+24.35
23.70' RT

+74.35
24.01' RT

+99.27
22.00' RT

MGS THRIE BEAM TRANSITION

REMOVING GUARDRAIL

MGS GUARDRAIL

10:1 TAPER

15:1 TAPER

+39.89
22.12' RT
POST 9

+64.87
23.06' RT
POST 5

+89.86
24.00' RT
POST 1

+59.10
17.08' RT

+08.93
22.00' RT

SI

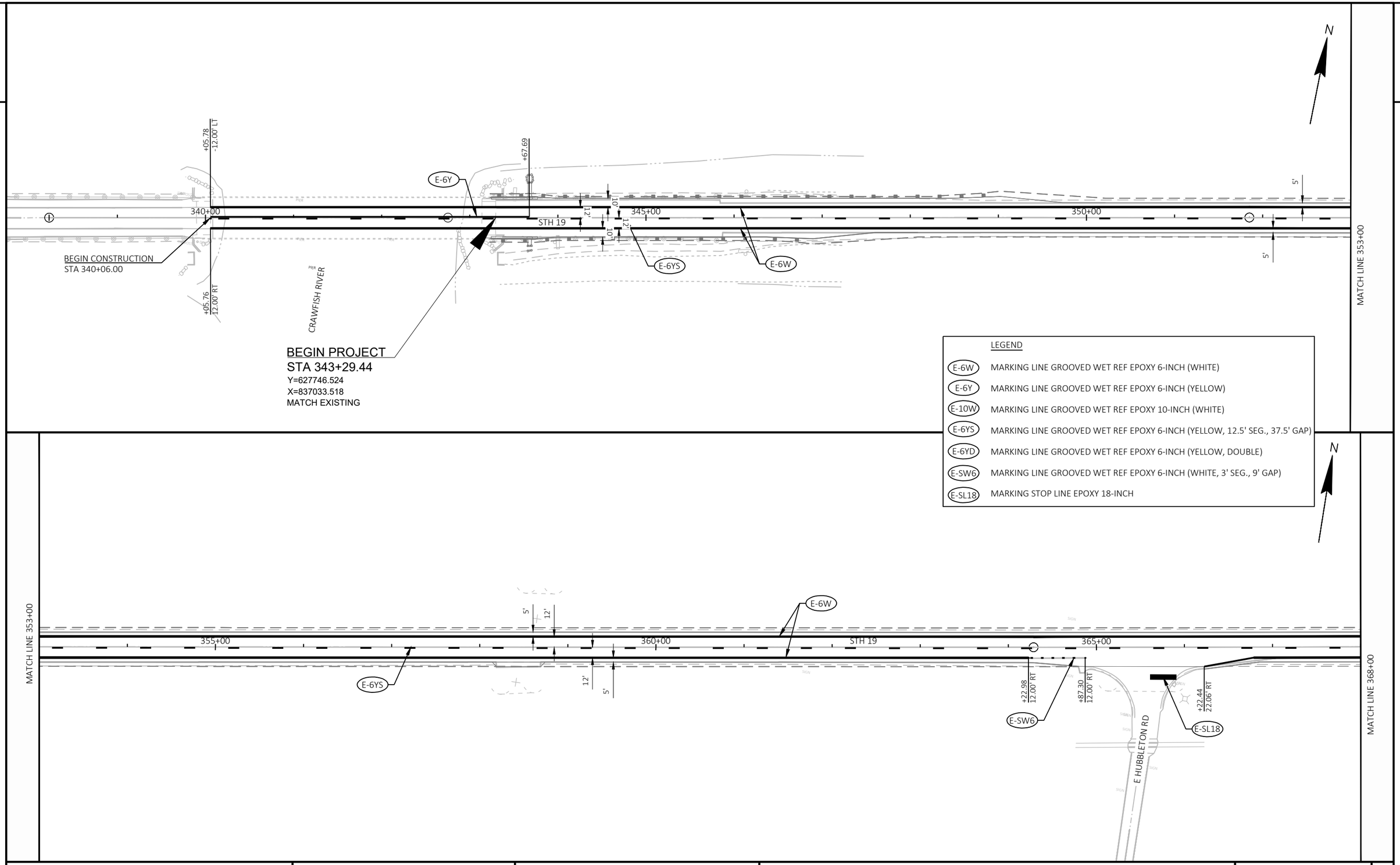
RW

PROJECT NO: 3050-01-77	HWY: STH 19	COUNTY: DODGE/JEFFERSON	CONSTRUCTION DETAILS - GUARDRAIL	SHEET 7	E

FILE NAME : X:\3230900\210505.01\TECH\CAD\XXXXXXXX\SHEETSPLAN\021003_CD-BEAMGUARD.DWG
LAYOUT NAME - 021003-cd-Beamguard

PLOT DATE : 2/9/2026 11:40 AM PLOT BY : BRIAN VEIT PLOT NAME : PLOT SCALE : 1 IN:50 FT

WISDOT/CADDS SHEET 42



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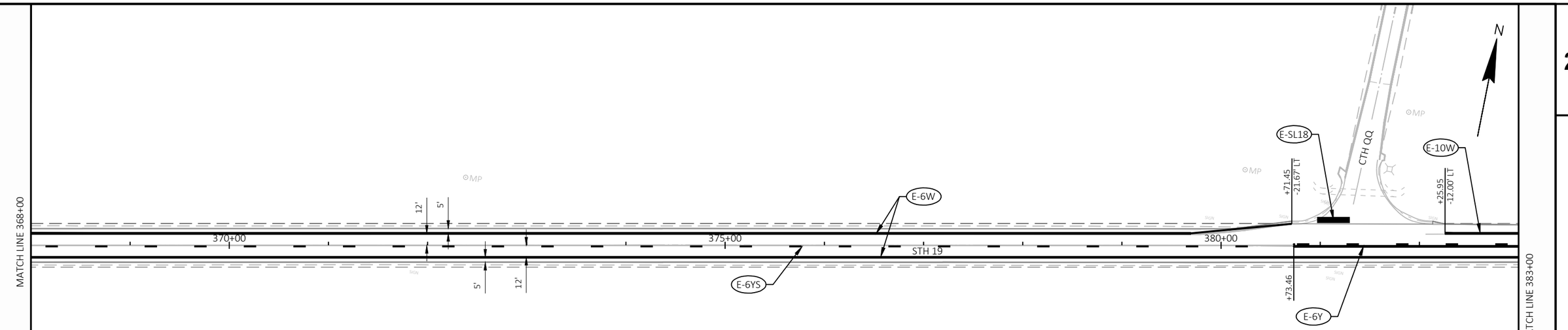
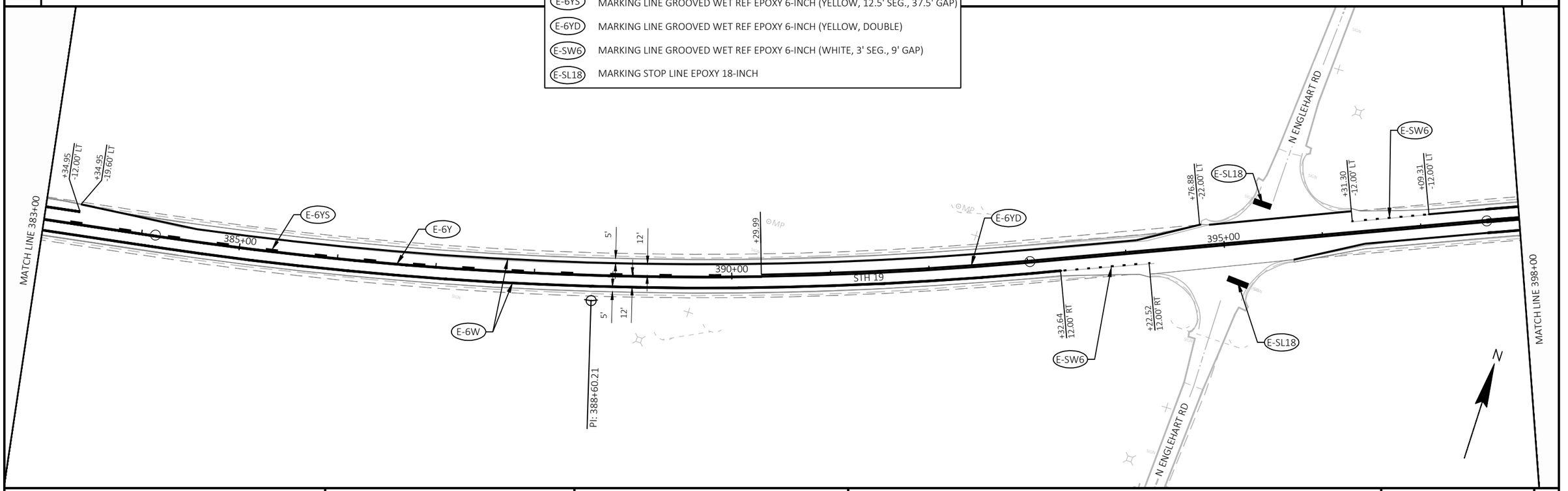
PLOT DATE : 2/9/2026 12:17 PM
PLOT BY : BRIAN VEIT
PLOT NAME :
PLOT SCALE : 1 IN:100 FT

2



	LEGEND
E-6W	MARKING LINE GROOVED WET REF EPOXY 6-INCH (WHITE)
E-6Y	MARKING LINE GROOVED WET REF EPOXY 6-INCH (YELLOW)
E-10W	MARKING LINE GROOVED WET REF EPOXY 10-INCH (WHITE)
E-6YS	MARKING LINE GROOVED WET REF EPOXY 6-INCH (YELLOW, 12.5' SEG., 37.5' GAP)
E-6YD	MARKING LINE GROOVED WET REF EPOXY 6-INCH (YELLOW, DOUBLE)
E-SW6	MARKING LINE GROOVED WET REF EPOXY 6-INCH (WHITE, 3' SEG., 9' GAP)
E-SL18	MARKING STOP LINE EPOXY 18-INCH



PROJECT NO: 3050-01-77	HWY: STH 19	COUNTY: DODGE/JEFFERSON	PAVEMENT MARKING	SHEET 9 E

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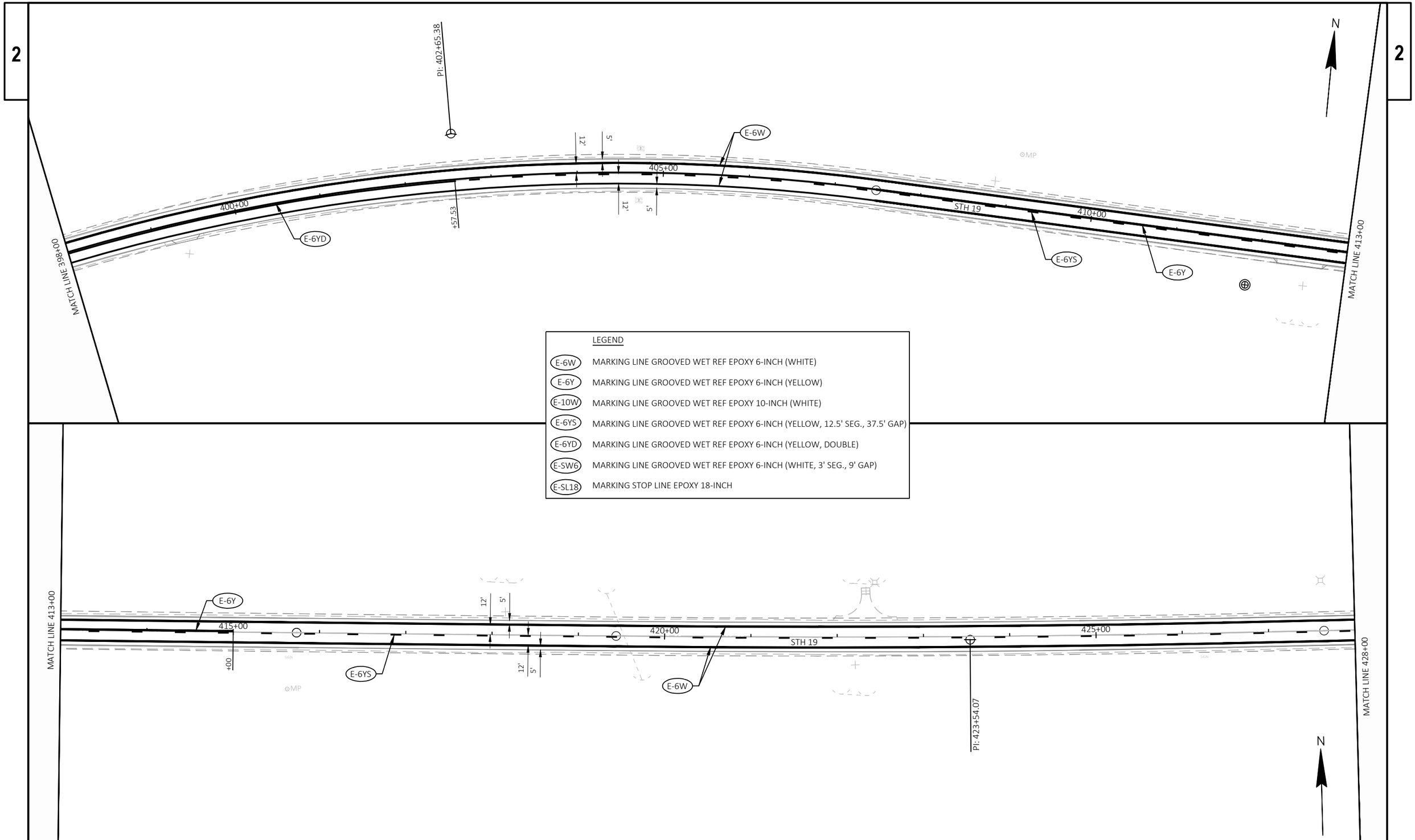
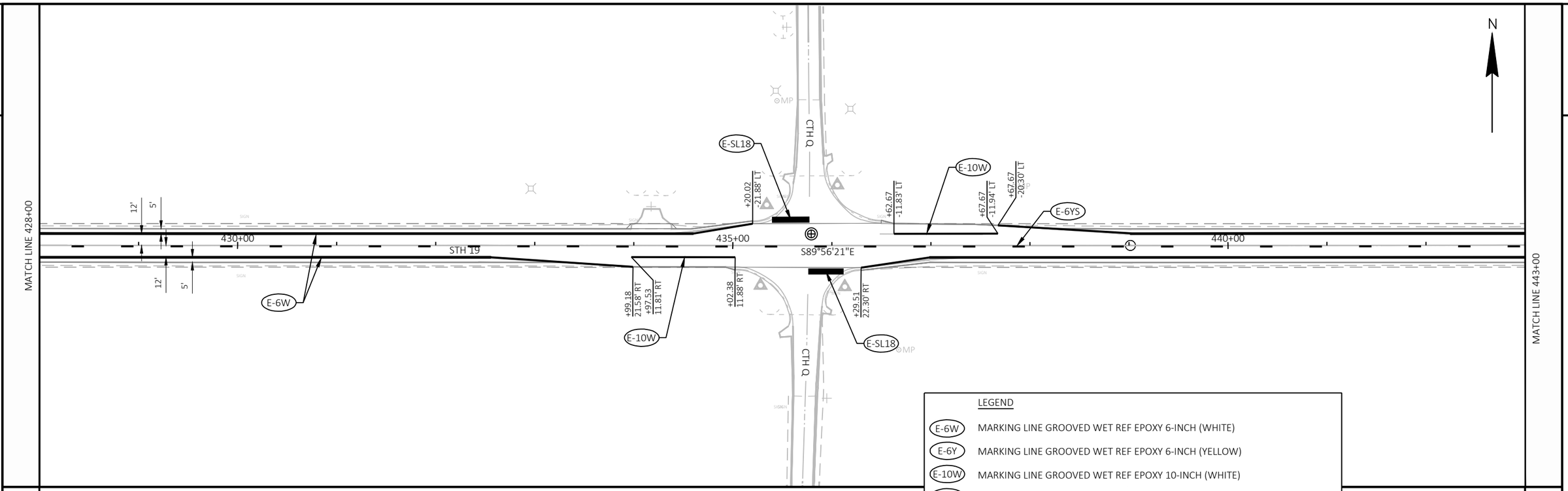
WISDOT/CADDS SHEET 44

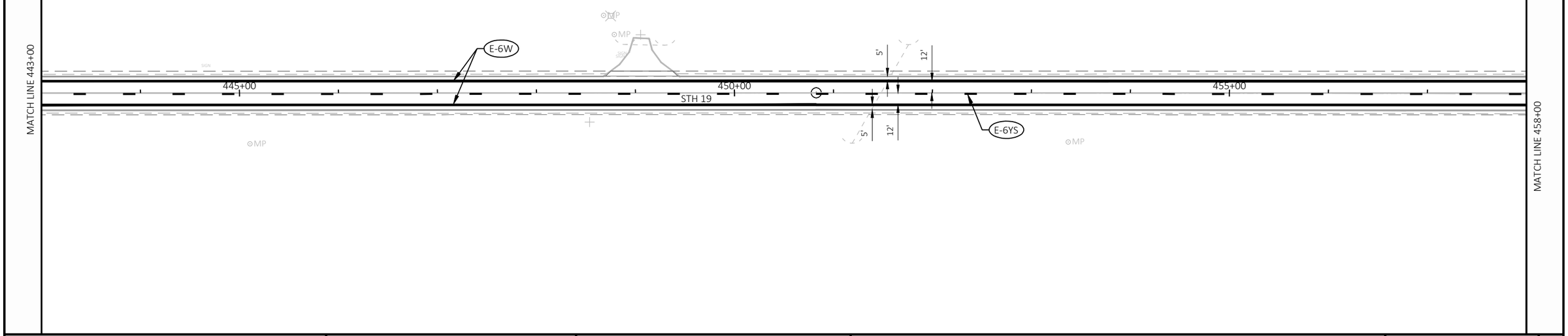


PROJECT NO: 3050-01-77	HWY: STH 19	COUNTY: DODGE/JEFFERSON	PAVEMENT MARKING	SHEET 10	E



LEGEND

E-6W	MARKING LINE GROOVED WET REF EPOXY 6-INCH (WHITE)
E-6Y	MARKING LINE GROOVED WET REF EPOXY 6-INCH (YELLOW)
E-10W	MARKING LINE GROOVED WET REF EPOXY 10-INCH (WHITE)
E-6YS	MARKING LINE GROOVED WET REF EPOXY 6-INCH (YELLOW, 12.5' SEG., 37.5' GAP)
E-6YD	MARKING LINE GROOVED WET REF EPOXY 6-INCH (YELLOW, DOUBLE)
E-SW6	MARKING LINE GROOVED WET REF EPOXY 6-INCH (WHITE, 3' SEG., 9' GAP)
E-SL18	MARKING STOP LINE EPOXY 18-INCH



PROJECT NO: 3050-01-77	HWY: STH 19	COUNTY: DODGE/JEFFERSON	PAVEMENT MARKING	SHEET 11 E

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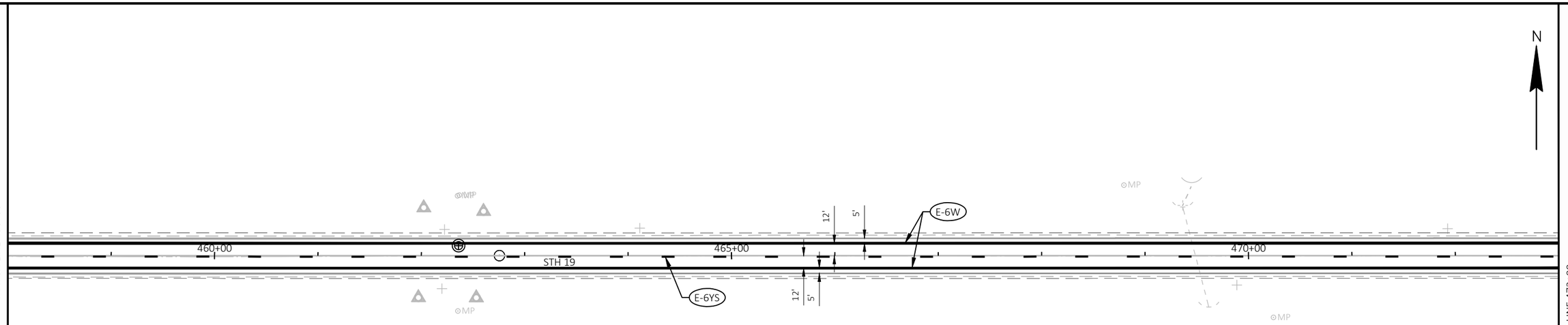
PLOT BY : BRIAN VEIT
PLOT NAME :
PLOT SCALE : 1 IN:100 FT

2

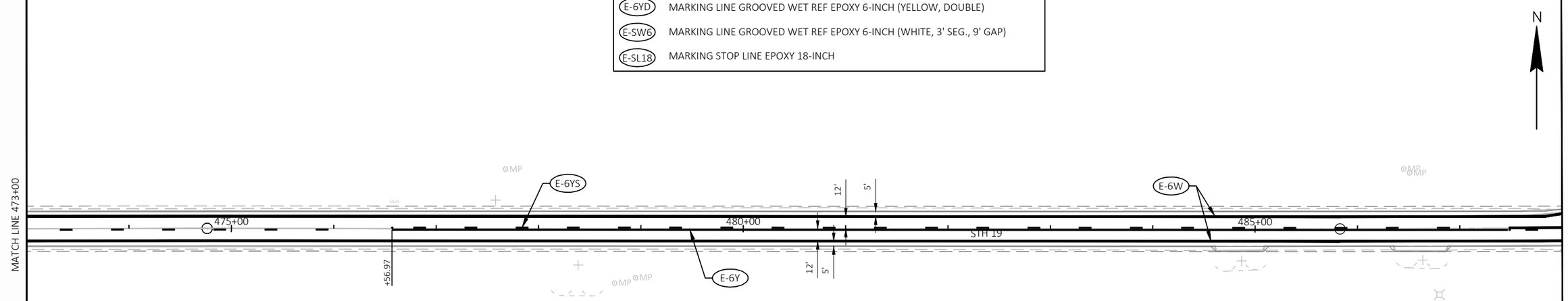
MATCH LINE 458+00



MATCH LINE 473+00

2

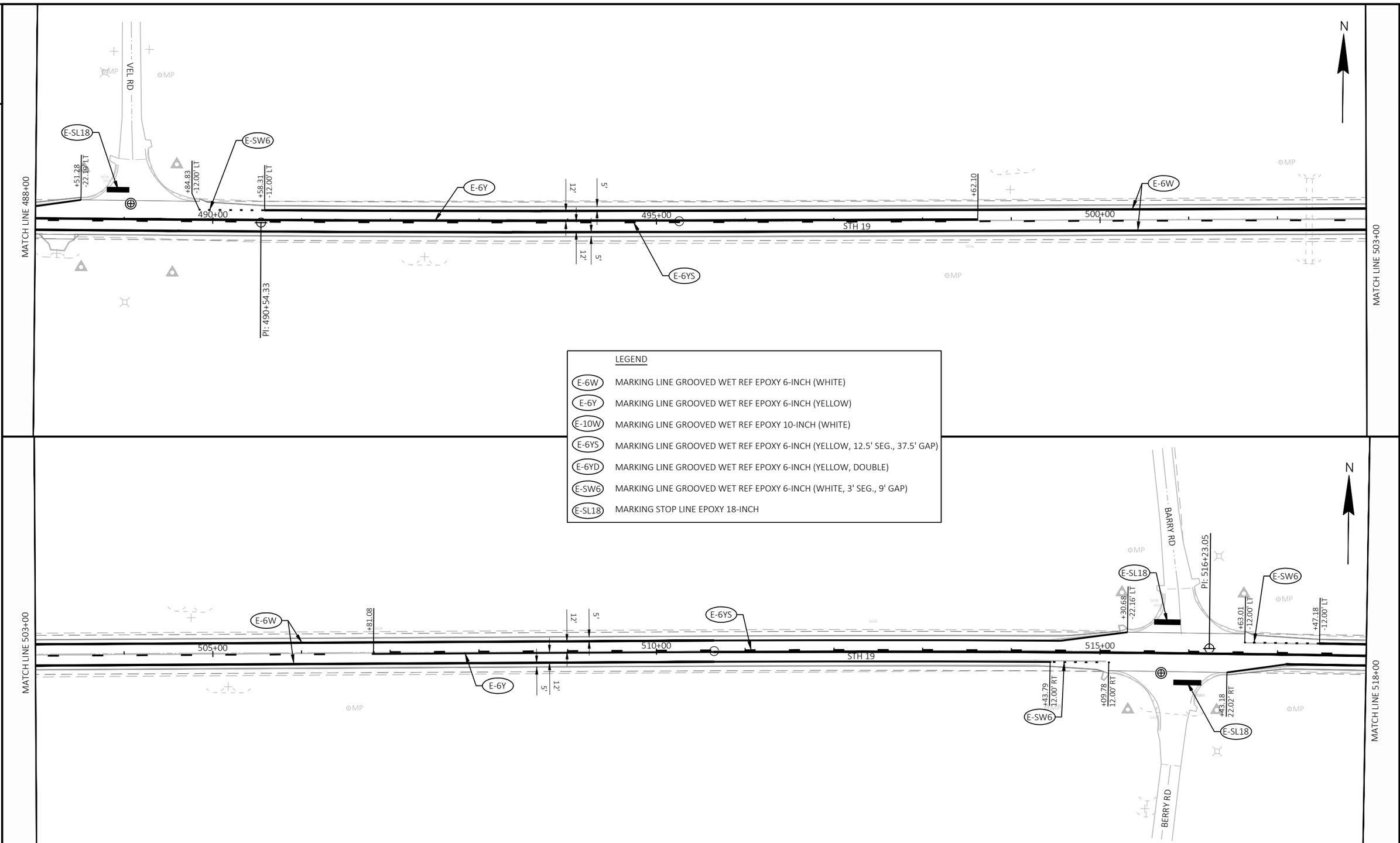
	LEGEND
E-6W	MARKING LINE GROOVED WET REF EPOXY 6-INCH (WHITE)
E-6Y	MARKING LINE GROOVED WET REF EPOXY 6-INCH (YELLOW)
E-10W	MARKING LINE GROOVED WET REF EPOXY 10-INCH (WHITE)
E-6YS	MARKING LINE GROOVED WET REF EPOXY 6-INCH (YELLOW, 12.5' SEG., 37.5' GAP)
E-6YD	MARKING LINE GROOVED WET REF EPOXY 6-INCH (YELLOW, DOUBLE)
E-SW6	MARKING LINE GROOVED WET REF EPOXY 6-INCH (WHITE, 3' SEG., 9' GAP)
E-SL18	MARKING STOP LINE EPOXY 18-INCH



MATCH LINE 473+00

MATCH LINE 488+00

PROJECT NO: 3050-01-77	HWY: STH 19	COUNTY: DODGE/JEFFERSON	PAVEMENT MARKING	SHEET 12	E



PROJECT NO: 3050-01-77	HWY: STH 19	COUNTY: DODGE/JEFFERSON	PAVEMENT MARKING	SHEET 13	E

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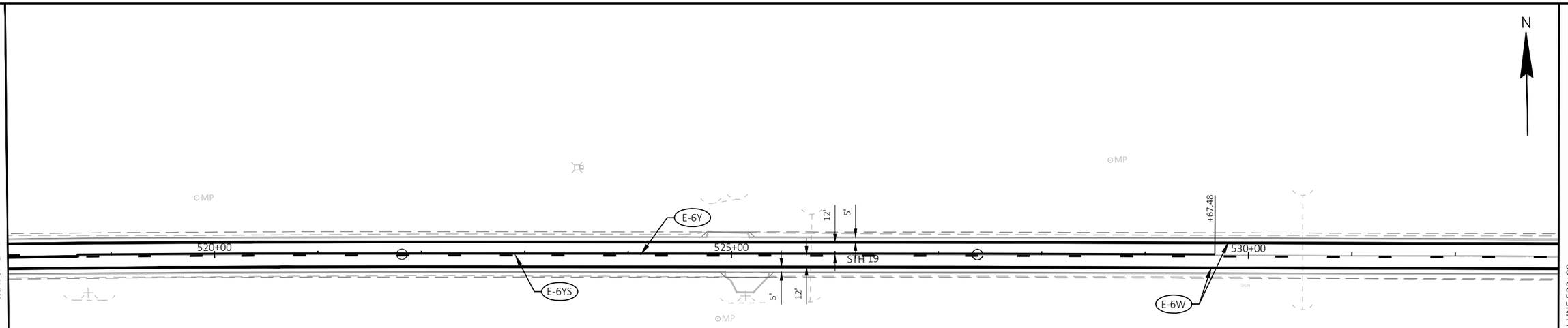
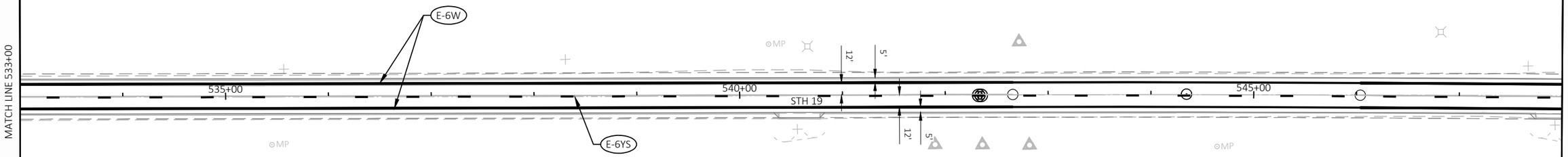
PLOT BY : BRIAN VEIT
PLOT NAME :
PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 44



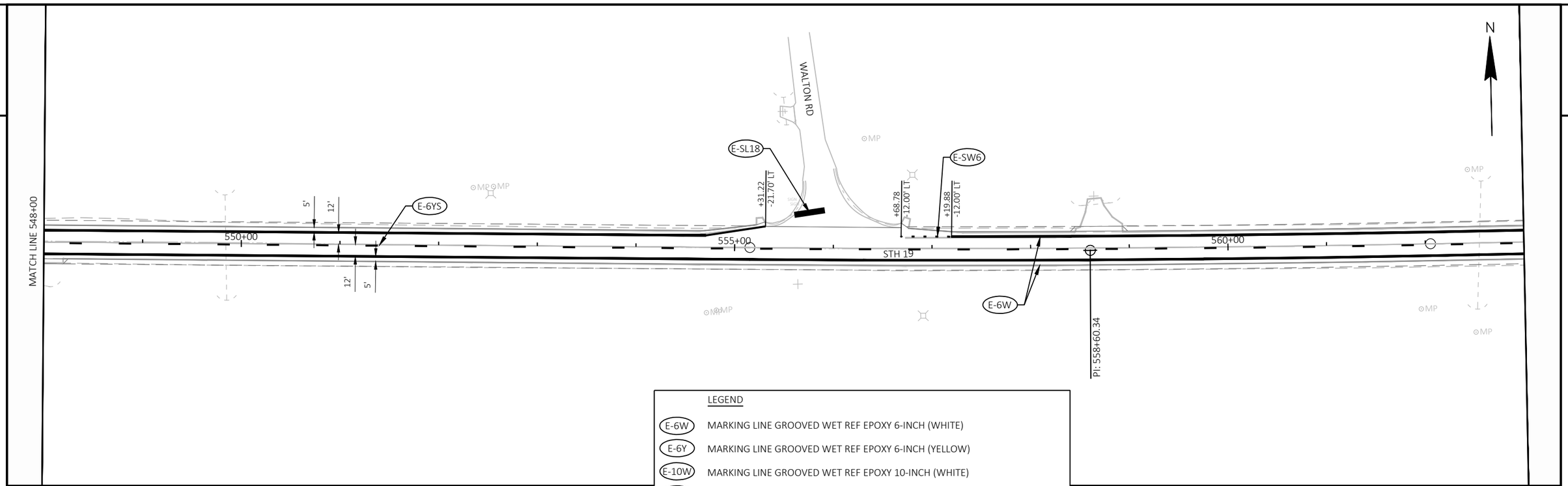
LEGEND

E-6W	MARKING LINE GROOVED WET REF EPOXY 6-INCH (WHITE)
E-6Y	MARKING LINE GROOVED WET REF EPOXY 6-INCH (YELLOW)
E-10W	MARKING LINE GROOVED WET REF EPOXY 10-INCH (WHITE)
E-6YS	MARKING LINE GROOVED WET REF EPOXY 6-INCH (YELLOW, 12.5' SEG., 37.5' GAP)
E-6YD	MARKING LINE GROOVED WET REF EPOXY 6-INCH (YELLOW, DOUBLE)
E-SW6	MARKING LINE GROOVED WET REF EPOXY 6-INCH (WHITE, 3' SEG., 9' GAP)
E-SL18	MARKING STOP LINE EPOXY 18-INCH



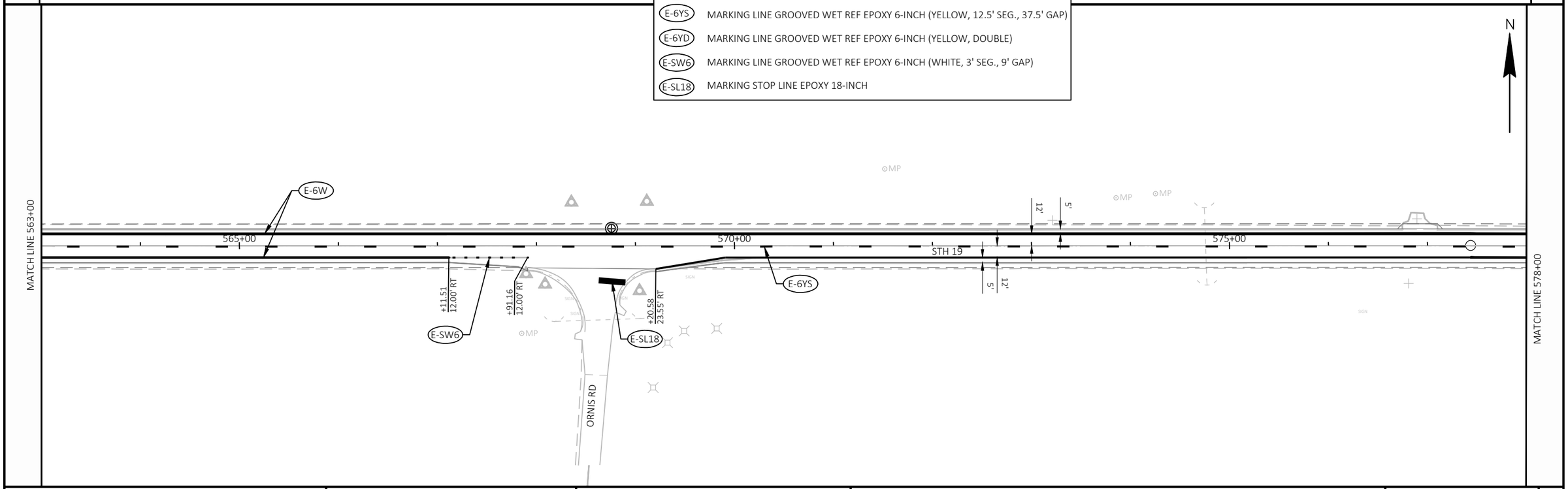
PROJECT NO: 3050-01-77	HWY: STH 19	COUNTY: DODGE/JEFFERSON	PAVEMENT MARKING	SHEET 14	E

FILE NAME : X:\3230900\210505.01\TECH\CAD\XXXXXXXX\SHEETSPLAN\024501_PM.DWG
LAYOUT NAME - 024507_pm
PLOT DATE : 2/9/2026 12:17 PM
PLOT BY : BRIAN VEIT
PLOT NAME :
PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 44

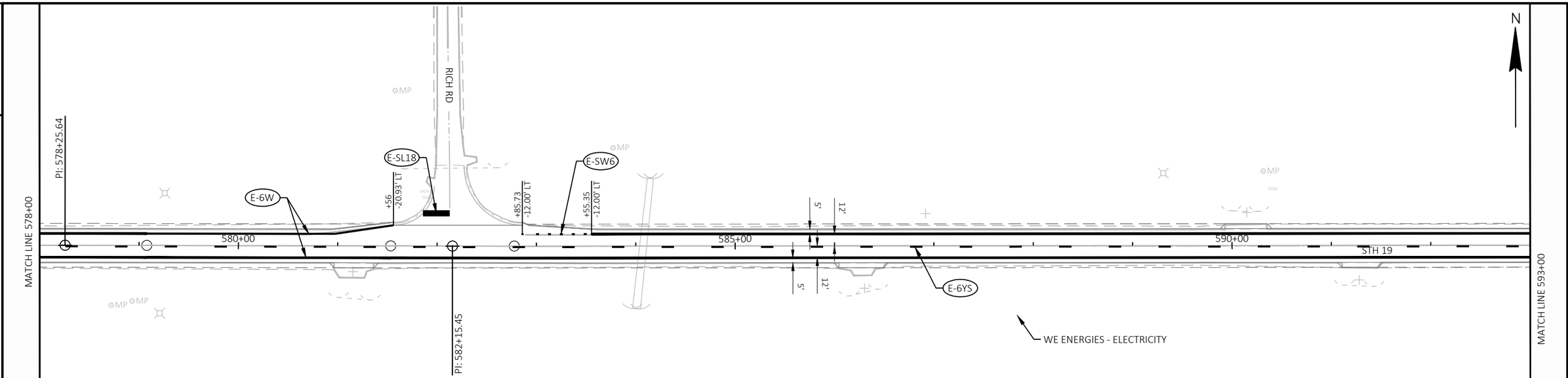


LEGEND

E-6W	MARKING LINE GROOVED WET REF EPOXY 6-INCH (WHITE)
E-6Y	MARKING LINE GROOVED WET REF EPOXY 6-INCH (YELLOW)
E-10W	MARKING LINE GROOVED WET REF EPOXY 10-INCH (WHITE)
E-6YS	MARKING LINE GROOVED WET REF EPOXY 6-INCH (YELLOW, 12.5' SEG., 37.5' GAP)
E-6YD	MARKING LINE GROOVED WET REF EPOXY 6-INCH (YELLOW, DOUBLE)
E-SW6	MARKING LINE GROOVED WET REF EPOXY 6-INCH (WHITE, 3' SEG., 9' GAP)
E-SL18	MARKING STOP LINE EPOXY 18-INCH

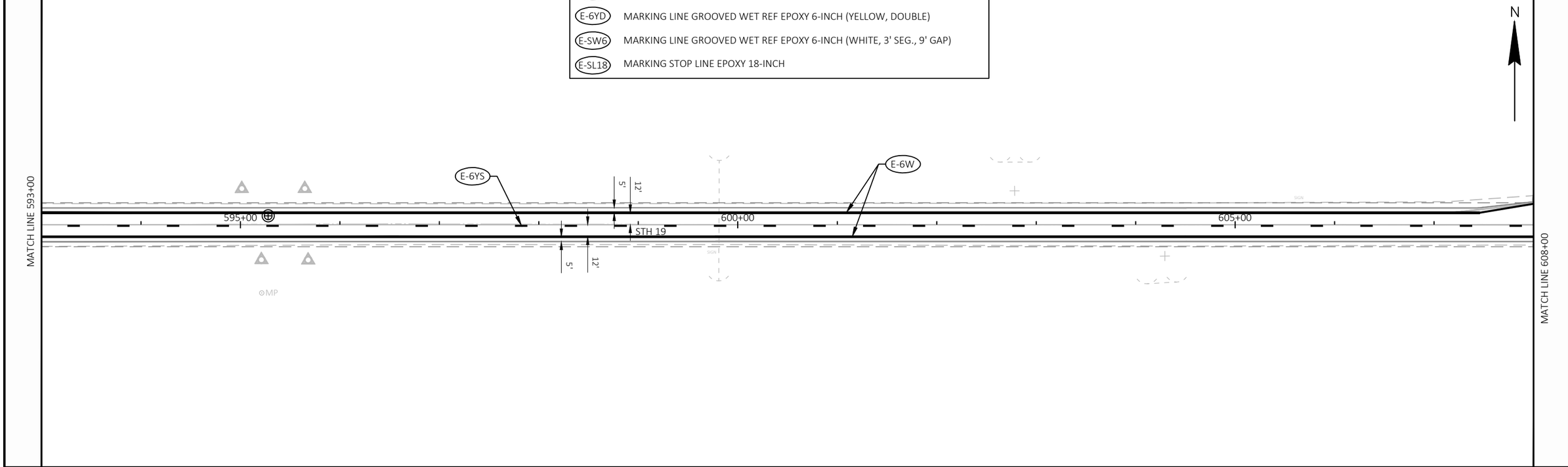


PROJECT NO: 3050-01-77	HWY: STH 19	COUNTY: DODGE/JEFFERSON	PAVEMENT MARKING	SHEET 15	E

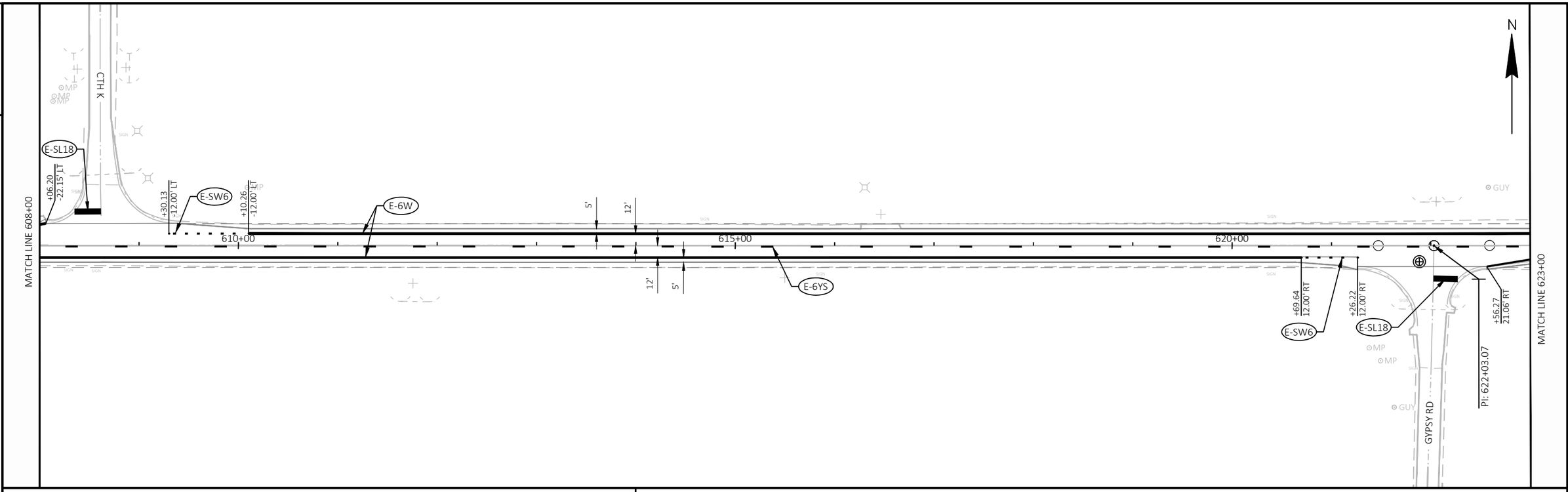


LEGEND

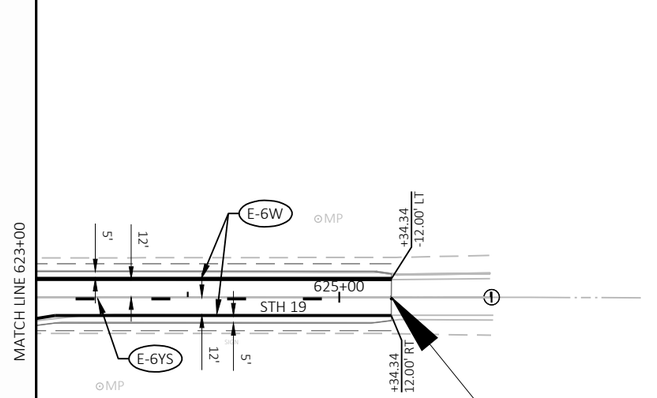
E-6W	MARKING LINE GROOVED WET REF EPOXY 6-INCH (WHITE)
E-6Y	MARKING LINE GROOVED WET REF EPOXY 6-INCH (YELLOW)
E-10W	MARKING LINE GROOVED WET REF EPOXY 10-INCH (WHITE)
E-6YS	MARKING LINE GROOVED WET REF EPOXY 6-INCH (YELLOW, 12.5' SEG., 37.5' GAP)
E-6YD	MARKING LINE GROOVED WET REF EPOXY 6-INCH (YELLOW, DOUBLE)
E-SW6	MARKING LINE GROOVED WET REF EPOXY 6-INCH (WHITE, 3' SEG., 9' GAP)
E-SL18	MARKING STOP LINE EPOXY 18-INCH



PROJECT NO: 3050-01-77	HWY: STH 19	COUNTY: DODGE/JEFFERSON	PAVEMENT MARKING	SHEET 16	E



LEGEND	
E-6W	MARKING LINE GROOVED WET REF EPOXY 6-INCH (WHITE)
E-6Y	MARKING LINE GROOVED WET REF EPOXY 6-INCH (YELLOW)
E-10W	MARKING LINE GROOVED WET REF EPOXY 10-INCH (WHITE)
E-6YS	MARKING LINE GROOVED WET REF EPOXY 6-INCH (YELLOW, 12.5' SEG., 37.5' GAP)
E-6YD	MARKING LINE GROOVED WET REF EPOXY 6-INCH (YELLOW, DOUBLE)
E-SW6	MARKING LINE GROOVED WET REF EPOXY 6-INCH (WHITE, 3' SEG., 9' GAP)
E-SL18	MARKING STOP LINE EPOXY 18-INCH



PROJECT NO: 3050-01-77	HWY: STH 19	COUNTY: DODGE/JEFFERSON	PAVEMENT MARKING	SHEET 17	E

SHIELDS

Town of Shields

L.

HUBBLETON RD

CRAWFISH RIVER

STRUCTURE B-28-010
STA 340+08 - STA 343+14

1 2 3

MB

CTH G

E HUBBLETON RD

CTH Q

CTH QQ

N ENGLEHART RD

MIDDLE RD

VEL RD

BARRY RD

BERRY RD

W RD

WALTON RD

ORNIS RD

RICH RD

CTH K

CTH T

GYPSY RD

PROVIMI RD

19

26

ROAD WORK AHEAD W20-1A

ROAD WORK 500 FT W20-1D

ROAD WORK BEGINS

XXXDAY MMM-DD

NOTE
INSTALL PCMS BOARDS 7-DAYS PRIOR TO LANE CLOSURES ON STH 19 FOR CONSTRUCTION OPERATIONS

NOTE
INSTALL PCMS BOARDS 7-DAYS PRIOR TO LANE CLOSURES ON STH 19 FOR CONSTRUCTION OPERATIONS

GENERAL NOTES:
- TRAFFIC CONTROL FOR ALL STRUCTURE, MILLING, PAVING , AGGREGATE SHOULDER AND RUMBLE STRIP WORK SHALL FOLLOW S.D.D. "TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION"

- TRAFFIC CONTROL FOR ALL PAVEMENT MARKING WORK SHALL FOLLOW S.D.D. "MOVING PAVEMENT MARKING OPERATION-TWO LANE TWO-WAY ROADWAY"

- TRAFFIC CONTROL FOR ANY WORK REQUIRING A SHOULDER CLOSURE SHALL FOLLOW S.D.D. "TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY."

- FLAGGERS ARE REQUIRED WHEN WORK IS BEING COMPLETED AT INTERSECTIONS TO MAINTAIN VEHICULAR ACCESS TO STH 19.

- DO NOT ALLOW TRAFFIC TO STOP BETWEEN THE STOP LINE MARKINGS AT ANY TIME. ADDITIONAL FLAGGERS MAY BE REQUIRED WHEN WORKING NEAR RAILROAD TRACKS.

- TRAFFIC CONTROL PLANS ARE NOT TO SCALE.

- MAINTAIN ACCESS TO DRIVEWAYS AND SIDE ROADS AT ALL TIMES.

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

LEGEND

- SIGN ON TEMPORARY SUPPORT
- MB — PORTABLE CHANGEABLE MESSAGE BOARD
- GENERAL WORK AREA

REFERENCED STANDARD DETAIL DRAWINGS

1. TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION
2. TRAFFIC CONTROL, DROP-OFF SIGNING
3. TRAFFIC CONTROL, SIGNING ON ROADWAYS WITH MILLED SURFACE

PROJECT NO: 3050-01-77	HWY: STH 19	COUNTY: DODGE/JEFFERSON	TRAFFIC CONTROL OVERVIEW	SHEET 18	E

FILE NAME : X:\3230900\210505.01\TECH\CAD\XXXXXXXX\SHEETSPLAN\025100_TC.DWG
LAYOUT NAME - 025100-tc

PLOT DATE : 3/25/2025 8:41 AM PLOT BY : BRIAN VEIT PLOT NAME : PLOT SCALE : 1 IN:0.5 MI

WISDOT/CADDS SHEET 42

Estimate Of Quantities

3050-01-77

Line	Item	Item Description	Unit	Total	Qty
0002	201.0205	Grubbing	STA	4.000	4.000
0004	204.0115	Removing Asphaltic Surface Butt Joints	SY	563.000	563.000
0006	204.0120	Removing Asphaltic Surface Milling	SY	108,453.000	108,453.000
0008	204.0165	Removing Guardrail	LF	546.000	546.000
0010	211.0101	Prepare Foundation for Asphaltic Paving (project) 01. 3050-01-77	EACH	1.000	1.000
0012	213.0100	Finishing Roadway (project) 01. 3050-01-77	EACH	1.000	1.000
0014	305.0110	Base Aggregate Dense 3/4-Inch	TON	7,000.000	7,000.000
0016	450.4000	HMA Cold Weather Paving	TON	6,110.000	6,110.000
0018	455.0605	Tack Coat	GAL	13,229.000	13,229.000
0020	460.0105.S	HMA Percent Within Limits (PWL) Test Strip Volumetrics	EACH	2.000	2.000
0022	460.0110.S	HMA Percent Within Limits (PWL) Test Strip Density	EACH	2.000	2.000
0024	460.2000	Incentive Density HMA Pavement	DOL	4,830.000	4,830.000
0026	460.2005	Incentive Density PWL HMA Pavement	DOL	24,393.000	24,393.000
0028	460.2007	Incentive Density HMA Pavement Longitudinal Joints	DOL	5,641.000	5,641.000
0030	460.2010	Incentive Air Voids HMA Pavement	DOL	24,393.000	24,393.000
0032	460.6223	HMA Pavement 3 MT 58-28 S	TON	13,729.000	13,729.000
0034	460.6224	HMA Pavement 4 MT 58-28 S	TON	10,678.000	10,678.000
0036	465.0105	Asphaltic Surface	TON	250.000	250.000
0038	465.0110	Asphaltic Surface Patching	TON	20.000	20.000
0040	465.0120	Asphaltic Surface Driveways and Field Entrances	TON	64.000	64.000
0042	465.0520	Asphaltic Rumble Strips, Shoulder	LF	39,824.000	39,824.000
0044	465.0560	Asphaltic Rumble Strips, Centerline	LF	23,674.000	23,674.000
0046	502.3205	Pigmented Surface Sealer Reseal	SY	300.000	300.000
0048	509.1500	Concrete Surface Repair	SF	175.000	175.000
0050	509.9025.S	Epoxy Injection Crack Repair	LF	55.000	55.000
0052	509.9026.S	Cored Holes 2-Inch Diameter	EACH	2.000	2.000
0054	601.0588	Concrete Curb & Gutter 4-Inch Sloped 36-Inch Type TBT	LF	106.000	106.000
0056	602.3010	Concrete Surface Drains	CY	5.000	5.000
0058	606.0100	Riprap Light	CY	14.000	14.000
0060	606.0200	Riprap Medium	CY	4.000	4.000
0062	614.0010	Barrier System Grading Shaping Finishing	EACH	2.000	2.000
0064	614.2300	MGS Guardrail 3	LF	275.000	275.000
0066	614.2330	MGS Guardrail 3 K	LF	487.500	487.500
0068	614.2500	MGS Thrie Beam Transition	LF	78.800	78.800
0070	614.2610	MGS Guardrail Terminal EAT	EACH	2.000	2.000
0072	618.0100	Maintenance and Repair of Haul Roads (project) 01. 3050-01-77	EACH	1.000	1.000
0074	619.1000	Mobilization	EACH	1.000	1.000
0076	624.0100	Water	MGAL	133.000	133.000
0078	628.1504	Silt Fence	LF	1,337.000	1,337.000
0080	628.1520	Silt Fence Maintenance	LF	1,337.000	1,337.000
0082	642.5001	Field Office Type B	EACH	1.000	1.000
0084	643.0300	Traffic Control Drums	DAY	455.000	455.000
0086	643.0420	Traffic Control Barricades Type III	DAY	5.000	5.000
0088	643.0900	Traffic Control Signs	DAY	2,027.000	2,027.000
0090	643.1050	Traffic Control Signs PCMS	DAY	28.000	28.000
0092	643.3165	Temporary Marking Line Paint 6-Inch	LF	157,358.000	157,358.000
0094	643.5000	Traffic Control	EACH	1.000	1.000
0096	645.0130	Geotextile Type R	SY	89.000	89.000
0098	646.2040	Marking Line Grooved Wet Ref Epoxy 6-Inch	LF	70,521.000	70,521.000

Estimate Of Quantities

3050-01-77

Line	Item	Item Description	Unit	Total	Qty
0100	646.4040	Marking Line Grooved Wet Ref Epoxy 10-Inch	LF	319.000	319.000
0102	646.4720	Marking Line Same Day Epoxy 6-Inch	LF	28,529.000	28,529.000
0104	646.6120	Marking Stop Line Epoxy 18-Inch	LF	404.000	404.000
0106	646.6466	Cold Weather Marking Epoxy 6-Inch	LF	17,680.000	17,680.000
0108	646.6470	Cold Weather Marking Epoxy 10-Inch	LF	90.000	90.000
0110	648.0100	Locating No-Passing Zones	MI	5.400	5.400
0112	650.8000	Construction Staking Resurfacing Reference	LF	28,529.000	28,529.000
0114	650.9911	Construction Staking Supplemental Control (project) 01. 3050-01-77	EACH	1.000	1.000
0116	740.0440	Incentive IRI Ride	DOL	10,683.000	10,683.000
0118	SPV.0060	Special 01. Strapping B-28-10	EACH	4.000	4.000
0120	SPV.0060	Special 02. Verify Landmark Reference Monuments	EACH	8.000	8.000
0122	SPV.0180	Special 01. Removing Distressed Pavement Milling	SY	2,200.000	2,200.000
0124	SPV.0195	Special 01. Crushed Aggregate Settlement Repair	TON	12.000	12.000

STATION	TO	STATION	LOCATION	201.0205 GRUBBING STA
343+25	-	344+25	LT	2
346+50	-	347+50	LT	2
			TOTAL 0010	4

BUTT JOINTS

STATION	TO	STATION	LOCATION	204.0115 REMOVING ASPHALTIC SURFACE BUTT JOINTS SY
343+29	-	343+79	MAINLINE	20
358+14	-	358+74	DWY RT	22
364+80	-	366+22	E HUBBLETON RD RT	25
380+80	-	382+11	CTH QQ LT	27
394+23	-	395+62	N ENGLEHART RD RT	29
394+94	-	396+25	N ENGLEHART RD LT	28
433+92	-	434+43	DWY LT	12
435+02	-	436+29	CTH Q RT	24
435+22	-	436+50	CTH Q LT	25
448+70	-	449+42	DWY LT	24
488+04	-	488+49	DWY RT	12
488+54	-	489+80	VEL RD LT	25
515+11	-	516+41	BERRY RD RT	26
515+34	-	516+60	BARRY RD LT	24
524+89	-	525+41	DWY RT	15
540+33	-	540+83	DWY RT	18
547+69	-	548+25	DWY RT	20
555+35	-	556+69	WALTON RD LT	24
558+40	-	558+98	DWY LT	18
567+91	-	569+18	ORNIS RD RT	24
576+69	-	577+15	DWY LT	9
580+91	-	581+41	DWY RT	15
581+58	-	582+85	RICH Rd LT	24
585+99	-	586+54	DWY RT	11
608+07	-	609+34	CTH K LT	24
621+26	-	622+56	GYPSY Rd RT	24
624+84	-	625+34	MAINLINE	14
			TOTAL 0010	563

STATION	TO	STATION		LOCATION	204.0165 REMOVING GUARDRAIL LF
343+18	-	345+91	LT	STH 19	273
343+18	-	345+92	RT	STH 19	273
				TOTAL 0010	546

REMOVING ASPHALTIC SURFACE

STATION	TO	STATION	LOCATION	204.0120 REMOVING ASPHALTIC SURFACE MILLING SY
343+79	-	435+79	BEGIN PROJECT - CTH Q	35,934
435+79	-	556+00	CTH Q - WALTON RD	46,007
556+00	-	624+84	WALTON RD - END PROJECT	26,512
			TOTAL 0010	108,453

BASE AGGREGATE

STATION	TO	STATION		LOCATION	305.0110 BASE AGGREGATE DENSE 3/4-INCH TON	624.0100 WATER MGAL	REMARKS
343+29	-	434+98	LT/RT	STH 19	2,120	43	BEGIN PROJECT - CTH Q
		358+65	LT	STH 19	11		DRIVEWAY
		389+56	RT	STH 19	9		DRIVEWAY
		392+50	LT	STH 19	9		DRIVEWAY
		399+37	RT	STH 19	9		DRIVEWAY
		408+84	LT	STH 19	11		DRIVEWAY
		412+54	RT	STH 19	11		DRIVEWAY
		418+15	LT	STH 19	11		DRIVEWAY
		422+21	RT	STH 19	14		DRIVEWAY
		422+34	LT	STH 19	7		DRIVEWAY
436+55	-	556+00	LT/RT	STH 19	2,825	57	CTH Q - WALTON RD
		462+20	RT	STH 19	11		DRIVEWAY
		462+22	LT	STH 19	12		DRIVEWAY
		464+12	LT	STH 19	11		DRIVEWAY
		469+89	RT	STH 19	11		DRIVEWAY
		471+93	LT	STH 19	11		DRIVEWAY
		477+58	LT	STH 19	7		DRIVEWAY
		478+39	RT	STH 19	9		DRIVEWAY
		484+87	RT	STH 19	11		DRIVEWAY
		486+64	RT	STH 19	11		DRIVEWAY
		492+39	RT	STH 19	11		DRIVEWAY
		498+99	LT	STH 19	9		DRIVEWAY
		504+76	LT	STH 19	12		DRIVEWAY
		505+17	RT	STH 19	11		DRIVEWAY
		518+77	RT	STH 19	9		DRIVEWAY
		524+96	LT	STH 19	7		DRIVEWAY
		535+57	LT	STH 19	12		DRIVEWAY
		538+31	LT	STH 19	12		DRIVEWAY
		547+67	LT	STH 19	11		DRIVEWAY
		555+64	RT	STH 19	12		DRIVEWAY
		576+81	RT	STH 19	11		DRIVEWAY
		586+92	LT	STH 19	9		DRIVEWAY
		590+15	LT	STH 19	7		DRIVEWAY
		591+28	RT	STH 19	9		DRIVEWAY
		594+26	RT	STH 19	9		DRIVEWAY
		602+75	LT	STH 19	15		DRIVEWAY
		604+29	RT	STH 19	12		DRIVEWAY
		611+76	RT	STH 19	11		DRIVEWAY
		615+50	RT	STH 19	9		DRIVEWAY
		616+47	LT	STH 19	6		DRIVEWAY
		622+09	LT	STH 19	15		DRIVEWAY
556+00	-	625+34	LT/RT	STH 19	1,650	33	WALTON RD - END PROJECT
				TOTAL 0010	7,000	133	

LOCATION	211.0101.01 PREPARE FOUNDATION FOR ASPHALTIC PAVING (PROJECT) (01. 3050-01-77) EACH
PROJECT	1
TOTAL 0010	1

ASPHALTIC SURFACE PATCHING

CATEGORY	LOCATION	465.0110 ASPHALTIC SURFACE PATCHING TON	REMARKS
0010	UNDISTRIBUTED	20	POT HOLES
	TOTAL 0010	20	

DISTRESSED MILLING

LOCATION	465.0105 ASPHALTIC SURFACE TON	SPV.0180.01 SPECIAL (01. REMOVING DISTRESSED PAVEMENT MILLING) SY
UNDISTRIBUTED	250	2,200
TOTAL 0010	250	2,200

ASPHALTIC DRIVEWAYS

CATEGORY	STATION	LOCATION	465.0120 ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES TON
0010	358+41	RT	7
0010	434+18	LT	5
0010	449+05	LT	8
0010	488+24	RT	5
0010	525+14	RT	6
0010	540+56	RT	6
0010	547+93	RT	6
0010	558+64	LT	6
0010	576+89	LT	4
0010	581+15	RT	6
0010	586+30	RT	5
		TOTAL 0010	64

RUMBLE STRIPS

STATION	TO	STATION	465.0520 ASPHALTIC RUMBLE STRIPS, SHOULDER LF	465.0560 ASPHALTIC RUMBLE STRIPS, CENTERLINE LF
343+54	-	365+51	3,323	1,996
365+51	-	381+42	2,256	1,191
381+42	-	394+95	1,875	953
394+95	-	435+79	6,058	3,607
435+79	-	489+18	7,672	4,933
489+18	-	515+92	3,863	2,258
515+92	-	556+00	5,587	3,603
556+00	-	568+55	1,611	855
568+55	-	582+20	1,740	965
582+20	-	608+72	3,655	2,251
608+72	-	621+91	1,772	919
621+91	-	625+34	412	143
		TOTAL 0010	39,824	23,674

3

HMA PAVEMENT

STATION	TO	STATION	LOCATION	450.4000 HMA COLD WEATHER PAVING TON	455.0605 TACK COAT GAL	460.6223 HMA PAVEMENT 3 MT 58-28 S TON	460.6224 HMA PAVEMENT 4 MT 58-28 S TON	REMARKS
343+29	-	435+79	BEGIN PROJECT - CTH Q	2,030	4,349	4,567	3,552	
435+79	-	556+00	CTH Q - WALTON RD	2,580	5,522	5,797	4,509	
556+00	-	625+34	WALTON RD - END PROJECT	1,500	3,204	3,365	2,617	
			UNDISTRIBUTED		154			TO BE USED FOR DISTRESSED PAVEMENT AREAS
			TOTAL 0010	6,110	13,229	13,729	10,678	

HMA PWL TEST STRIPS

LOCATION	460.0105.S HMA PERCENT WITHIN LIMITS (PWL) TEST STRIP VOLUMETRICS EACH	460.0110.S HMA PERCENT WITHIN LIMITS (PWL) TEST STRIP DENSITY EACH
PROJECT	2	2
TOTAL 0010	2	2

HMA ACCEPTANCE TABLE

							QUALITY MANAGEMENT PROGRAM TO BE USED FOR:	
LOCATION	STA TO STA	MIXTURE USE	UNDERLYING SURFACE	BID ITEM	TONS	THICKNESS	MIXTURE ACCEPTANCE	DENSITY ACCEPTANCE
12 FOOT DRIVING LANE, LT & RT	343+29 - 625+34	LOWER LAYER	EXISTING MILLED SURFACE	3 MT 58-28 S	9478	2 1/4"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	INCENTIVE DENSITY PWL HMA 460.2005
12 FOOT DRIVING LANE, LT & RT	343+29 - 625+34	UPPER LAYER	3 MT 58-28 S	4 MT 58-28 S	7373	1 3/4"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	INCENTIVE DENSITY PWL HMA 460.2005
SHOULDERS, SIDEROADS, TURN LANES	VARIOUS	LOWER LAYER	EXISTING MILLED SURFACE	3 MT 58-28 S	4252	2 1/4"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	ACCEPTANCE TENSTING BY DEPTARTMENT; NOT ELIGIBLE FOR INCENTIVE
SHOULDERS, SIDEROADS, TURN LANES	VARIOUS	UPPER LAYER	3 MT 58-28 S	4 MT 58-28 S	3308	1 3/4"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	ACCEPTANCE TENSTING BY DEPTARTMENT; NOT ELIGIBLE FOR INCENTIVE
DRIVEWAYS	VARIOUS	UPPER LAYER	EXISTING MILLED SURFACE	ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES	64	4"	QMP AS PER SS 465	ACCEPTANCE BY ORDINARY COMPACTION

CONCRETE MISCELLANEOUS

STATION	TO	STATION		LOCATION	601.0588 CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE TBT LF
343+24	-	343+77	RT	STH 19	53
343+25	-	343+77	LT	STH 19	53
				TOTAL 0010	106

STATION	TO	STATION		LOCATION	602.3010 CONCRETE SURFACE DRAINS CY	606.0200 RIPRAP MEDIUM CY	645.0130 GEOTEXTILE TYPE R SY
343+65	-	343+71	LT	STH 19	3	2	23
343+65	-	343+71	RT	STH 19	2	2	18
				TOTAL 0010	5	4	41

BEAMGUARD

STATION	TO	STATION		LOCATION	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
343+22	-	346+90	RT	STH 19	275.0		39.4	1
343+22	-	349+03	LT	STH 19		487.5	39.4	1
				TOTAL 0010	275	487.5	78.8	2

STATION	TO	STATION		LOCATION	614.0010 BARRIER SYSTEM GRADING SHAPING FINISHING EACH	FOR INFORMATION ONLY CONSTRUCTION STAKING SLOPE STAKES LF	EXCAVATION COMMON CY	BORROW CY	SEED WATER MGAL	TOPSOIL SY	EROSION MAT URBAN CLASS I TYPE B SY	FERTILIZER TYPE B CWT	SEEDING MIXTURE #20 LB
343+22	-	346+90	RT	STH 19	1	368	10	100	3	305	305	0.3	9
343+22	-	349+03	LT	STH 19	1	581	10	240	4	766	766	0.5	21
				TOTAL 0010	2	949	20	340	7	1,071	1,071	0.8	30

3

TRAFFIC CONTROL

LOCATION	STAGE DURATION DAYS	643.0300 TRAFFIC CONTROL DRUMS DAY	643.0420 TRAFFIC CONTROL BARRICADES TYPE III DAY	643.0900 TRAFFIC CONTROL SIGNS DAY	643.1050 TRAFFIC CONTROL SIGNS PCMS DAY
B-28-10	12	180			14
MILLING	10			400	14
OVERLAY	25			1,000	
SHOULDERING	15	225		345	
PAVEMENT MARKING	8			144	
	UNDISTRIBUTED	50	5	138	
	TOTAL 0010	455	5	2,027	28

SILT FENCE

CATEGORY	STATION	TO	STATION	LOCATION	628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINTENANCE LF
0010	343+12	-	350+40	STH 19 LT	782	782
0010	343+14	-	350+36	STH 19 RT	555	555
				TOTAL 0010	1,337	1,337

PAVEMENT MARKINGS

STATION	TO	STATION	643.3165 TEMPORARY MARKING LINE PAINT 6-INCH 12.5' LINE 37.5' SKIP YELLOW LF	643.3165 TEMPORARY MARKING LINE PAINT 6-INCH SOLID YELLOW LF	646.2040 MARKING LINE GROOVED WET REF EPOXY 6-INCH 12.5' LINE 37.5' SKIP YELLOW LF	646.2040 MARKING LINE GROOVED WET REF EPOXY 6-INCH SOLID YELLOW LF	646.2040 MARKING LINE GROOVED WET REF EPOXY 6-INCH 3' LINE 9' SKIP WHITE LF	646.2040 MARKING LINE GROOVED WET REF EPOXY 6-INCH SOLID WHITE LF	646.4040 MARKING LINE GROOVED WET REF EPOXY 10-INCH LF	646.6120 MARKING STOP LINE EPOXY 18-INCH LF	646.6466 COLD WEATHER MARKING EPOXY 6-INCH LF	646.6470 COLD WEATHER MARKING EPOXY 10-INCH LF	REMARKS
34005	-	36551	636	11,472	636	362	16	4962			1,500		
36551	-	38142	398	8,024	398	69		2978		63	870		
38142	-	39495	222	8,584	222	1819	23	2334	109		1,100	30	
39495	-	43579	831	23,187	831	2767	20	7643	105	80	2,820	30	
43579	-	48918	1335	27,955	1335	1260		10374	105	62	3,250	30	
48918	-	51592	668	15,225	668	1855	36	5000		30	1,890		
51592	-	55600	1002	21,414	1002	1374	21	7742		63	2,540		
55600	-	56855	314	6,275	314		33	2247			650		
56855	-	58220	342	6,825	342			2601		54	740		
58220	-	60872	663	13,260	663		18	5103		27	1,450		
60872	-	62191	330	6,595	330		36	2379			690		
62191	-	62534	86	1,715	86			622		25	180		
		TOTAL 0010	157,358		70,521				319	404	17,680	90	

LOCATING NO-PASSING ZONES

CATEGORY	STATION	TO	STATION	648.0100 LOCATING NO-PASSING ZONES MI
0010	340+05	-	625+34	5.40
			TOTAL 0010	5.40

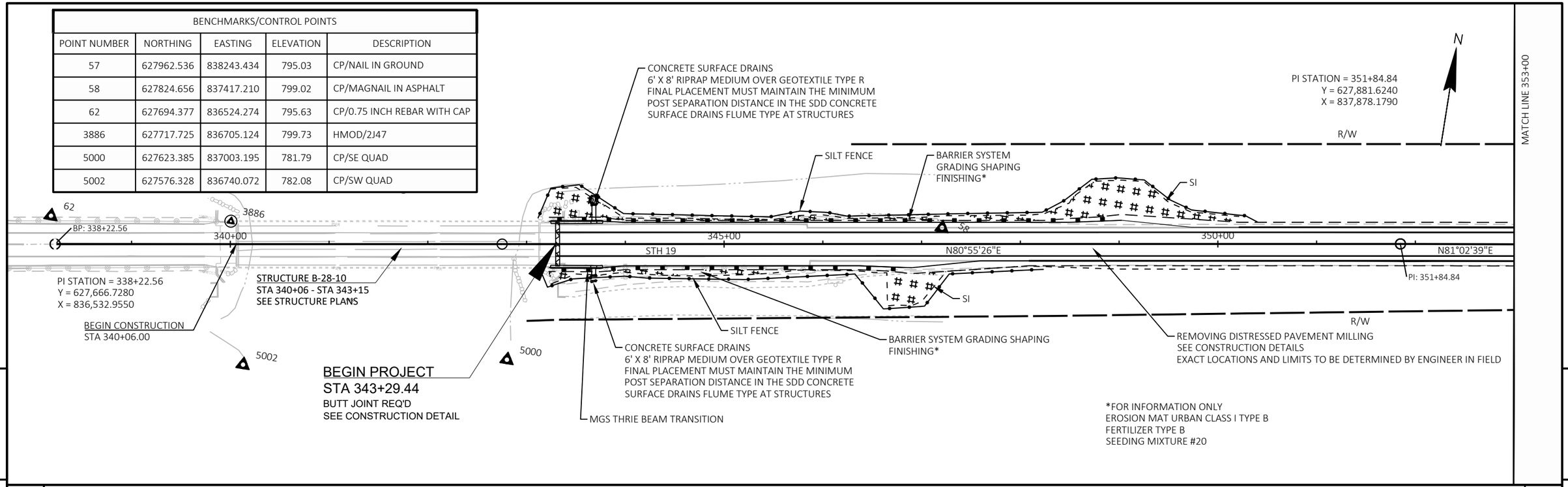
CONSTRUCTION STAKING

STATION	TO	STATION	LOCATION	650.8000 CONSTRUCTION STAKING RESURFACING REFERENCE LF	650.9911.01 CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (PROJECT) (01. 3050-01-77) EACH
340+05	-	625+34		28,529	
			PROJECT		1
			TOTAL 0010	28,529	1

LANDMARK MONUMENTS

STATION	OFFSET	DESCRIPTION	SPV.0060.02 SPECIAL (02. VERIFY LANDMARK REFERENCE MONUMENTS) EACH
435+79	11.7' LT	T-9-N R-14-E 33	1
462+35	9.7' LT	T-9-N R-14-E 33/34	1
489+07	18.4' LT	T-9-N R-14-E 34	1
515+69	23.4' RT	T-9-N R-14-E 34/35	1
542+34	0.7' RT	T-9-N R-14-E 35	1
568+75	17.3' LT	T-9-N R-14-E 35/36	1
595+27	8.9' LT	T-9-N R-14-E 36	1
621+88	16.1' RT	T-9-N R-14/15-E 36/31	1
		TOTAL 0010	8

BENCHMARKS/CONTROL POINTS				
POINT NUMBER	NORTHING	EASTING	ELEVATION	DESCRIPTION
57	627962.536	838243.434	795.03	CP/NAIL IN GROUND
58	627824.656	837417.210	799.02	CP/MAGNAIL IN ASPHALT
62	627694.377	836524.274	795.63	CP/0.75 INCH REBAR WITH CAP
3886	627717.725	836705.124	799.73	HMOD/2J47
5000	627623.385	837003.195	781.79	CP/SE QUAD
5002	627576.328	836740.072	782.08	CP/SW QUAD



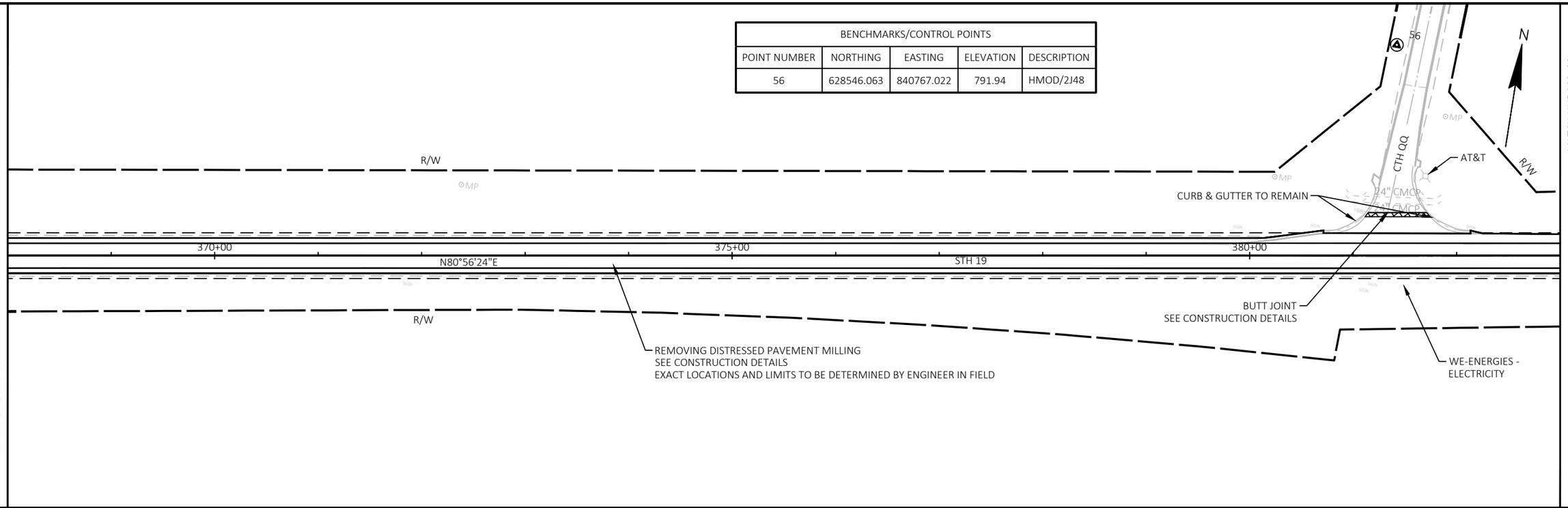
PROJECT NO: 3050-01-77	HWY: STH 19	COUNTY: DODGE/JEFFERSON	PLAN	SHEET 24	E

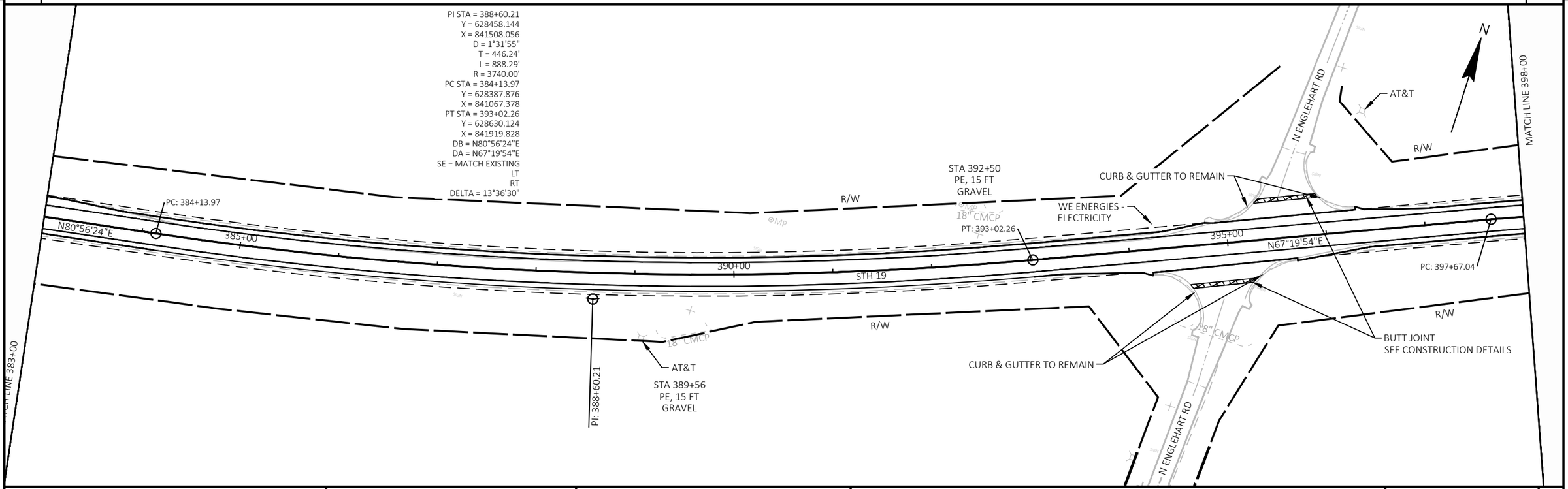
FILE NAME : X:\3230900\210505.01\TECH\CAD\XXXXXXXX\SHEETSPLAN\050201_PN.DWG
LAYOUT NAME - 01

PLOT DATE : 2/9/2026 12:10 PM PLOT BY : BRIAN VEIT PLOT NAME : PLOT SCALE : 1 IN:100 FT

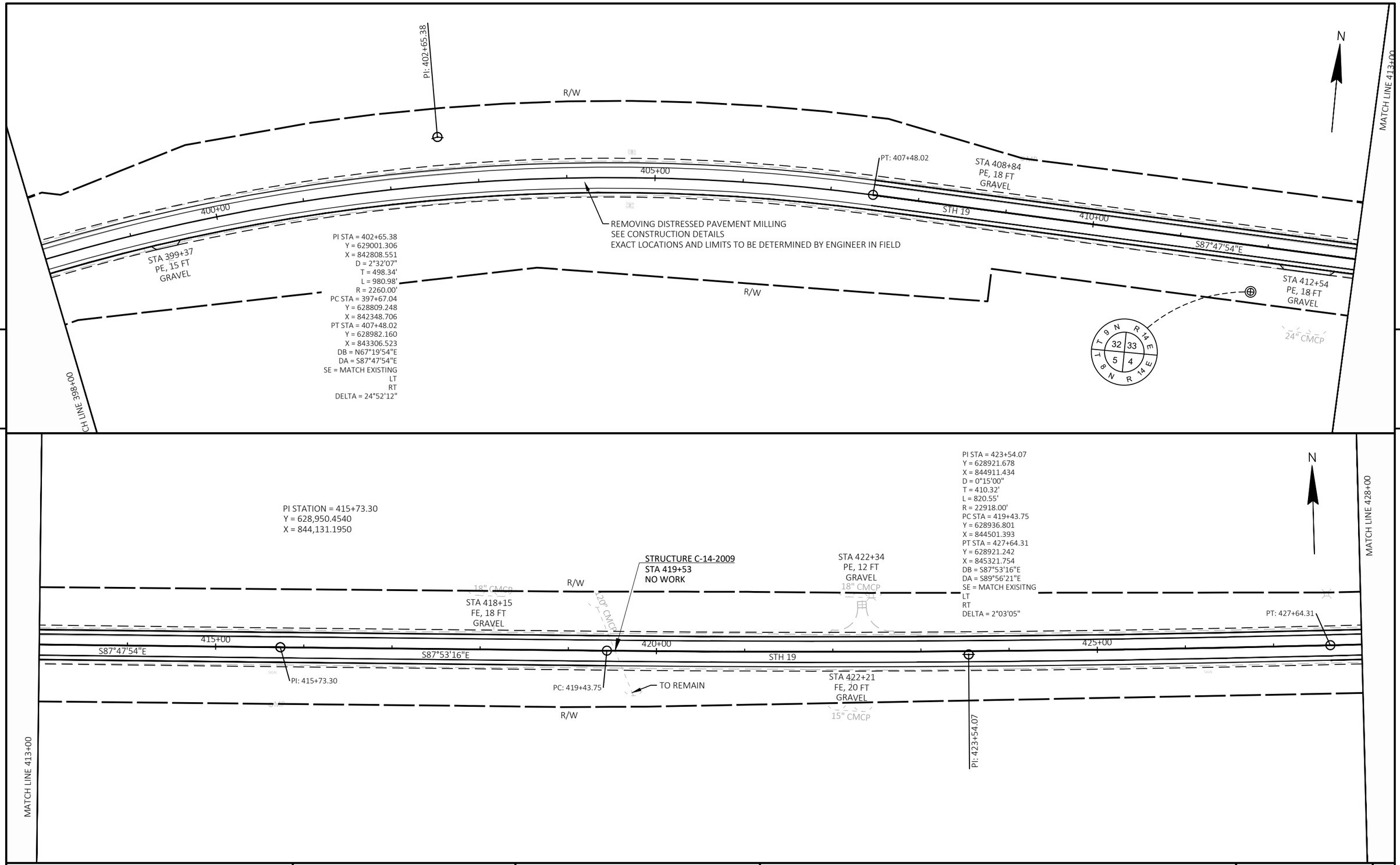
WISDOT/CADDS SHEET 44

BENCHMARKS/CONTROL POINTS				
POINT NUMBER	NORTHING	EASTING	ELEVATION	DESCRIPTION
56	628546.063	840767.022	791.94	HMOD/2J48





PROJECT NO: 3050-01-77	HWY: STH 19	COUNTY: DODGE/JEFFERSON	PLAN	SHEET 25	E



PROJECT NO: 3050-01-77	HWY: STH 19	COUNTY: DODGE/JEFFERSON	PLAN	SHEET 26	E

FILE NAME : X:\3230900\210505.01\TECH\CAD\XXXXXXXX\SHEETSPLAN\050201_PN.DWG
LAYOUT NAME - 03

PLOT DATE : 2/9/2026 12:11 PM PLOT BY : BRIAN VEIT PLOT NAME : PLOT SCALE : 1 IN:100 FT

MATCH LINE 428+00

5

MATCH LINE 443+00

5

N

PI STATION = 439+01.37
Y = 628,920.0360
X = 846,458.8210

T 9 N R 14 E
33 33
4 4
T 8 N R 14 E

CURB & GUTTER TO REMAIN

STA 434+18
PE, 15 FT
ASPH

CTH Q

20" CMCP

132

VERIFY LANDMARK
REFERENCE MONUMENTS

R/W

24" CMCP

BUTT JOINT
SEE CONSTRUCTION DETAIL (TYP)

133

BUTT JOINT
SEE CONSTRUCTION DETAIL

PI: 439+01.37

430+00 435+00 440+00

STH 19

S89°56'21"E

S89°59'41"E

134

131

R/W

15" CMCP

CTH Q

REMOVING DISTRESSED PAVEMENT MILLING
SEE CONSTRUCTION DETAILS
EXACT LOCATIONS AND LIMITS TO BE DETERMINED BY ENGINEER IN FIELD

CURB & GUTTER TO REMAIN

MATCH LINE 443+00

MATCH LINE 458+00

N

PI STATION = 450+82.63
Y = 628,919.9280
X = 847,640.0740

STA 449+05
PE, 18 FT
ASPH

BUTT JOINT
SEE CONSTRUCTION DETAIL

R/W

18" CMCP

PI: 450+82.63

TO REMAIN

445+00 450+00 455+00

S89°59'41"E

STH 19

S89°56'55"E

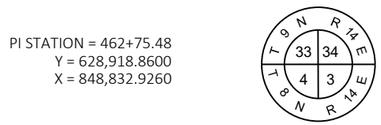
55

R/W

BENCHMARKS/CONTROL POINTS				
POINT NUMBER	NORTHING	EASTING	ELEVATION	DESCRIPTION
55	628866.394	847382.701	800.09	HMOD/2J49
131	628878.641	846170.477	803.06	RTIE/TIE FOR 130 3 INCH CAP
132	628981.307	846163.058	802.76	RTIE/TIE FOR 130 3 INCH CAP
133	628961.379	846091.727	801.90	RTIE/TIE FOR 130 3 INCH CAP
134	628880.113	846085.385	803.41	RTIE/TIE FOR 130 3 INCH CAP

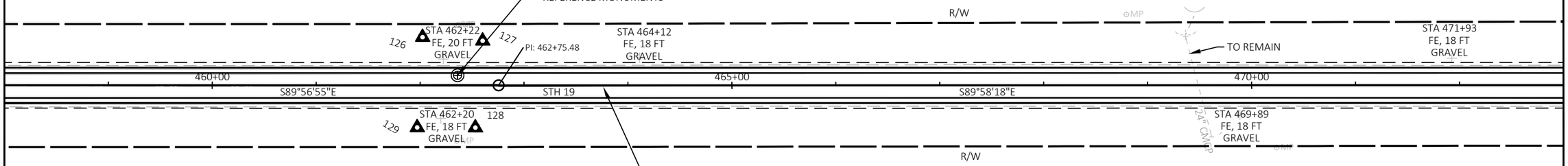
PROJECT NO: 3050-01-77	HWY: STH 19	COUNTY: DODGE/JEFFERSON	PLAN	SHEET 27	E

BENCHMARKS/CONTROL POINTS				
POINT NUMBER	NORTHING	EASTING	ELEVATION	DESCRIPTION
126	628965.212	848759.785	797.51	RTIE/TIE FOR 125 DOT MONUMENT
127	628961.740	848817.605	796.84	RTIE/TIE FOR 125 DOT MONUMENT
128	628878.199	848810.505	797.09	RTIE/TIE FOR 125 3 INCH CAP
129	628878.364	848754.585	797.23	RTIE/TIE FOR 125 3 INCH CAP



PI STATION = 462+75.48
Y = 628,918.8600
X = 848,832.9260

VERIFY LANDMARK
REFERENCE MONUMENTS



REMOVING DISTRESSED PAVEMENT MILLING
SEE CONSTRUCTION DETAILS
EXACT LOCATIONS AND LIMITS TO BE DETERMINED BY ENGINEER IN FIELD

MATCH LINE 458+00

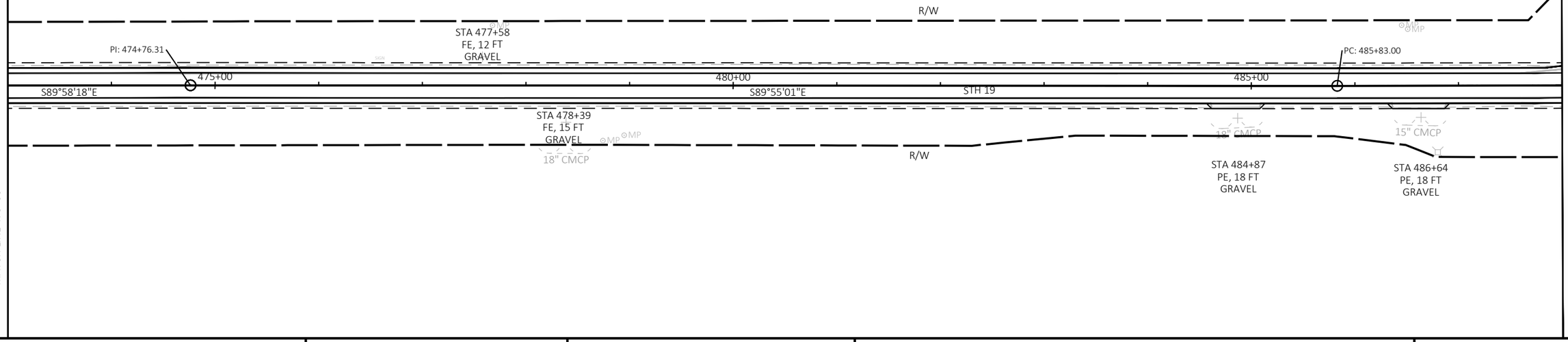
MATCH LINE 473+00

5

5

PI STATION = 474+76.31
Y = 628,918.2640
X = 850,033.7570

MATCH LINE 488+00



MATCH LINE 473+00

PROJECT NO: 3050-01-77	HWY: STH 19	COUNTY: DODGE/JEFFERSON	PLAN	SHEET 28	E

FILE NAME : X:\3230900\210505.01\TECH\CAD\XXXXXXXX\SHEETSPLAN\050201_PN.DWG
LAYOUT NAME - 05

PLOT DATE : 2/9/2026 12:11 PM PLOT BY : BRIAN VEIT PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 44

PI STA = 490+54.33
Y = 628915.976
X = 851611.776
D = 0°06'15"
T = 471.33'
L = 942.64'
R = 55000.00'
PC STA = 485+83.00
Y = 628916.659
X = 851140.446
PT STA = 495+25.64
Y = 628923.370
X = 852083.049
DB = S89°55'01"E
DA = N89°06'04"E
SE = MATCH EXISTING
LT
RT
DELTA = 0°58'55"

BENCHMARKS/CONTROL POINTS				
POINT NUMBER	NORTHING	EASTING	ELEVATION	DESCRIPTION
121	628975.065	851411.156	818.81	RTIE/TIE FOR 120 DOT MONUMENT
122	628980.459	851516.045	818.92	RTIE/TIE FOR 120 3 INCH CAP
123	628858.425	851512.441	819.00	RTIE/TIE FOR 120 3 INCH CAP
124	628863.315	851409.585	819.47	RTIE/TIE FOR 120 3 INCH CAP

MATCH LINE 488+00

MATCH LINE 503+00

VEL RD

VERIFY LANDMARK REFERENCE MONUMENTS

121

122

123

124

15" CMCP

CURB & GUTTER TO REMAIN

STA 488+24
PE, 15 FT
ASPH

BUTT JOINT
SEE CONSTRUCTION DETAILS

PI: 490+54.33

490+00

495+00

PT: 495+25.64

STA 492+39
FE, 18 FT
GRAVEL

24" CMCP

R/W

REMOVING DISTRESSED PAVEMENT MILLING
SEE CONSTRUCTION DETAILS
EXACT LOCATIONS AND LIMITS TO BE DETERMINED BY ENGINEER IN FIELD

STA 498+99
FE, 15 FT
GRAVEL

18" CMCP

TO REMAIN

500+00

STH 19

N89°06'04"E

60" CMCP

60" CMCP

MATCH LINE 503+00

MATCH LINE 518+00

PI STA = 516+23.05
Y = 628956.275
X = 854180.200
D = 0°10'25"
T = 558.20'
L = 1116.29'
R = 33000.00'
PC STA = 510+64.85
Y = 628947.518
X = 853622.072
PT STA = 521+81.14
Y = 628946.151
X = 854738.305
DB = N89°06'04"E
DA = S88°57'39"E
SE = MATCH EXISTING
LT
RT
DELTA = 1°56'17"

CURB & GUTTER TO REMAIN

BARRY RD

PI: 516+23.05

119

118

R/W

BUTT JOINT
SEE CONSTRUCTION DETAILS

STA 504+76
FE, 20 FT
GRAVEL

20" CMCP

R/W

PC: 510+64.85

505+00

510+00

515+00

N89°06'04"E

STH 19

18" CMCP

R/W

116

15" CMCP

117

CURB & GUTTER TO REMAIN

R/W

STA 505+17
FE, 18 FT
GRAVEL

VERIFY LANDMARK
REFERENCE MONUMENTS

BERRY RD

BENCHMARKS/CONTROL POINTS				
POINT NUMBER	NORTHING	EASTING	ELEVATION	DESCRIPTION
116	628886.568	854089.106	827.51	RTIE/TIE FOR 115 3 INCH CAP
117	628886.950	854189.200	826.83	RTIE/TIE FOR 115 DOT MONUMENT
118	629018.430	854218.572	827.30	RTIE/TIE FOR 115 3 INCH CAP
119	629018.491	854081.128	826.58	RTIE/TIE FOR 115 DOT MONUMENT

PROJECT NO: 3050-01-77	HWY: STH 19	COUNTY: DODGE/JEFFERSON	PLAN	SHEET 29	E

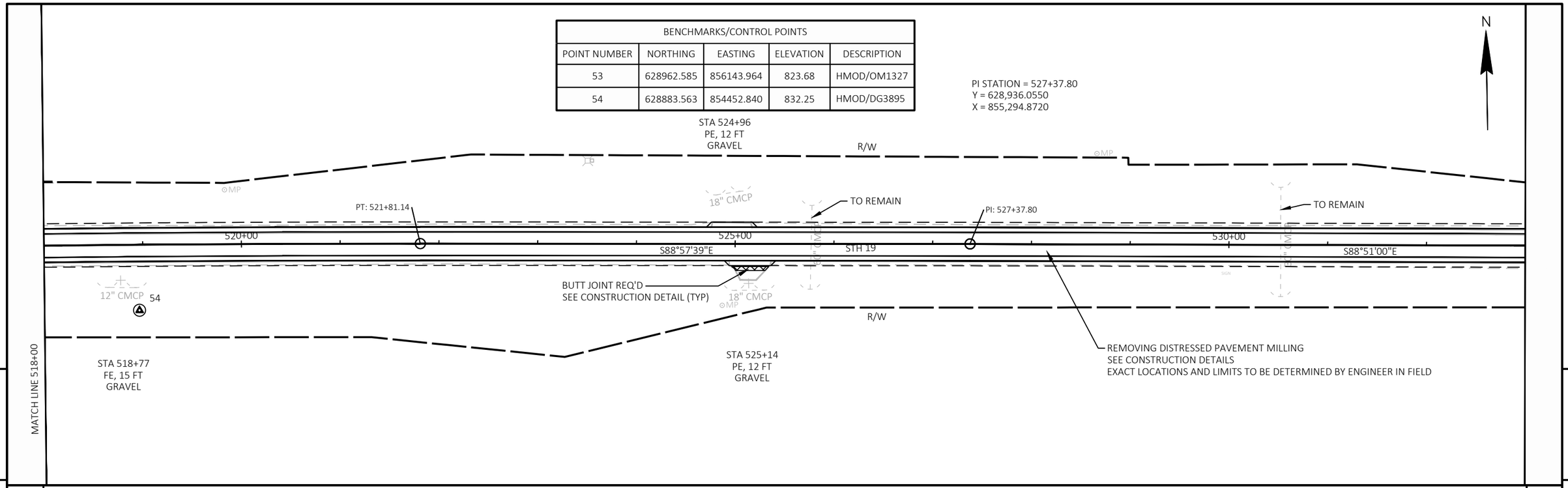
FILE NAME : X:\3230900\210505.01\TECH\CAD\XXXXXXXX\SHEETSPLAN\050201_PN.DWG
LAYOUT NAME - 06

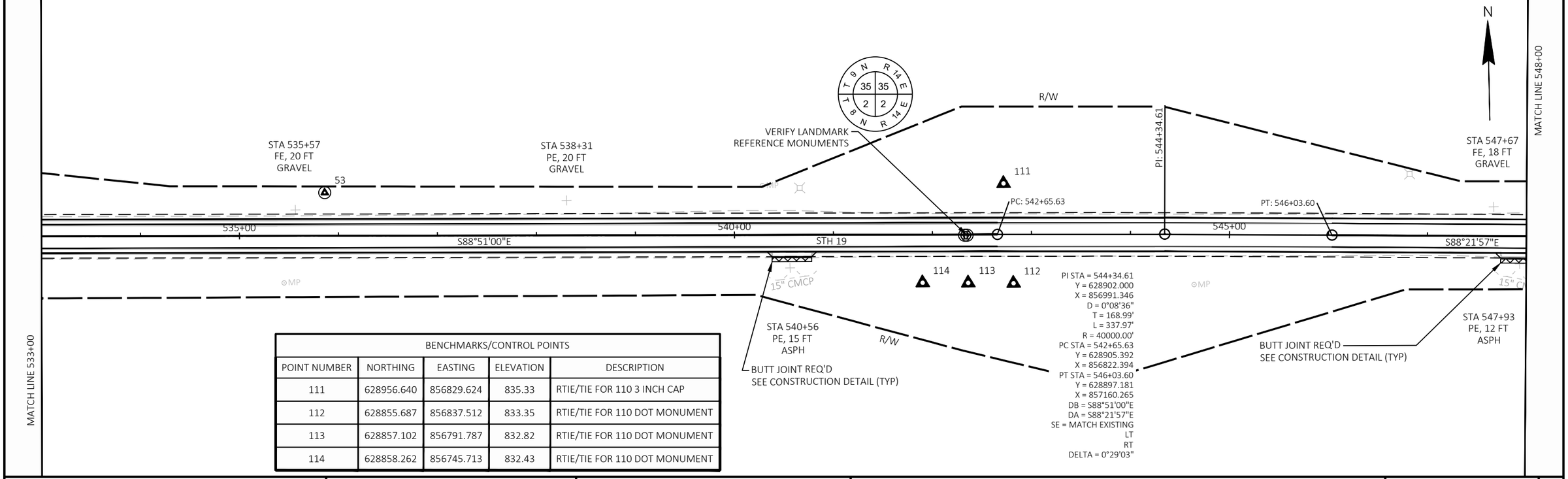
PLOT DATE : 2/9/2026 12:11 PM PLOT BY : BRIAN VEIT PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 44

BENCHMARKS/CONTROL POINTS				
POINT NUMBER	NORTHING	EASTING	ELEVATION	DESCRIPTION
53	628962.585	856143.964	823.68	HMOD/OM1327
54	628883.563	854452.840	832.25	HMOD/DG3895

PI STATION = 527+37.80
Y = 628,936.0550
X = 855,294.8720

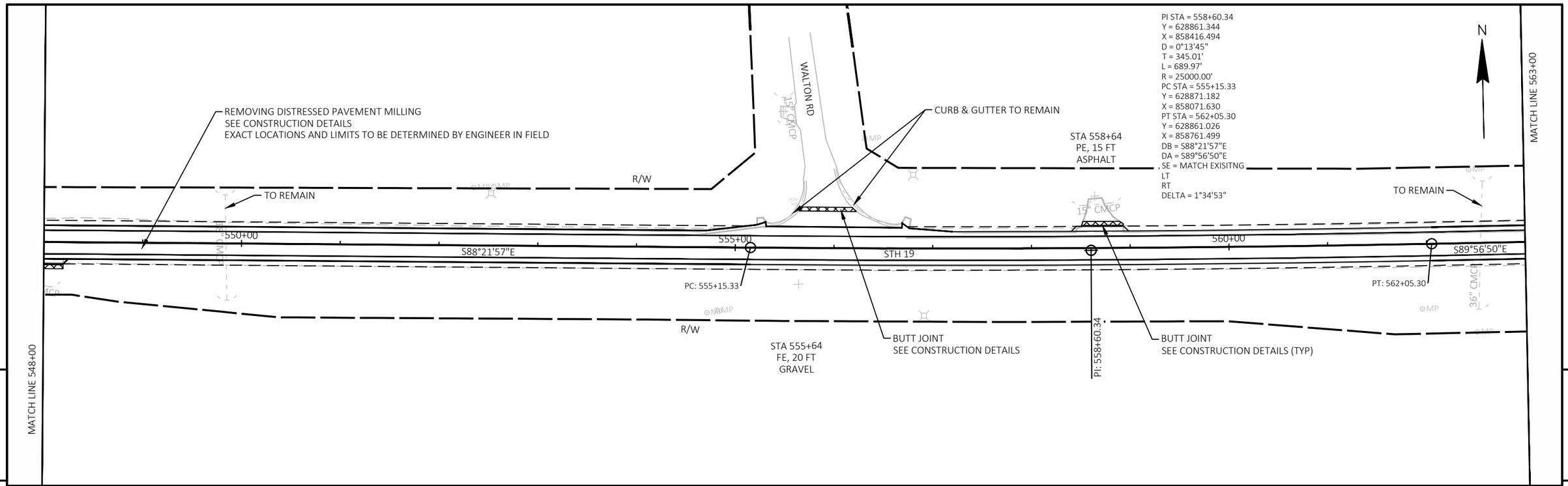




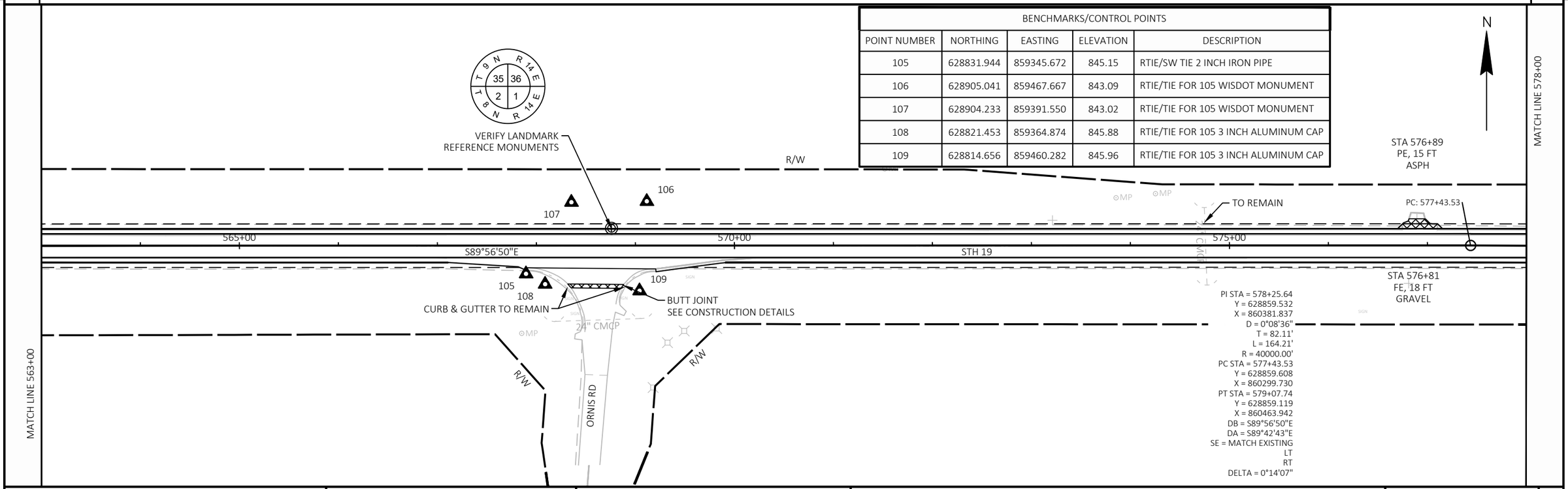
BENCHMARKS/CONTROL POINTS				
POINT NUMBER	NORTHING	EASTING	ELEVATION	DESCRIPTION
111	628956.640	856829.624	835.33	RTIE/TIE FOR 110 3 INCH CAP
112	628855.687	856837.512	833.35	RTIE/TIE FOR 110 DOT MONUMENT
113	628857.102	856791.787	832.82	RTIE/TIE FOR 110 DOT MONUMENT
114	628858.262	856745.713	832.43	RTIE/TIE FOR 110 DOT MONUMENT

PROJECT NO: 3050-01-77	HWY: STH 19	COUNTY: DODGE/JEFFERSON	PLAN	SHEET 30	E

FILE NAME : X:\3230900\210505.01\TECH\CAD\XXXXXXXX\SHEETSPLAN\050201_PN.DWG
LAYOUT NAME - 07
PLOT DATE : 2/9/2026 12:11 PM
PLOT BY : BRIAN VEIT
PLOT NAME :
PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 44



BENCHMARKS/CONTROL POINTS				
POINT NUMBER	NORTHING	EASTING	ELEVATION	DESCRIPTION
105	628831.944	859345.672	845.15	RTIE/SW TIE 2 INCH IRON PIPE
106	628905.041	859467.667	843.09	RTIE/TIE FOR 105 WISDOT MONUMENT
107	628904.233	859391.550	843.02	RTIE/TIE FOR 105 WISDOT MONUMENT
108	628821.453	859364.874	845.88	RTIE/TIE FOR 105 3 INCH ALUMINUM CAP
109	628814.656	859460.282	845.96	RTIE/TIE FOR 105 3 INCH ALUMINUM CAP



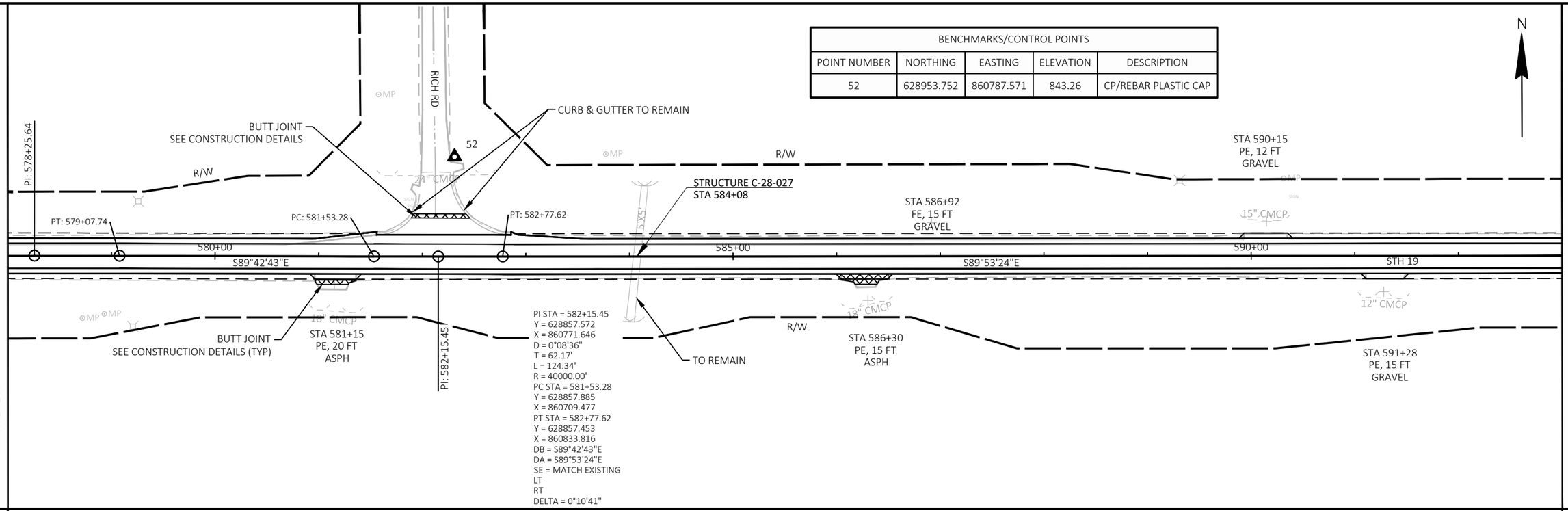
PROJECT NO: 3050-01-77	HWY: STH 19	COUNTY: DODGE/JEFFERSON	PLAN	SHEET 31	E

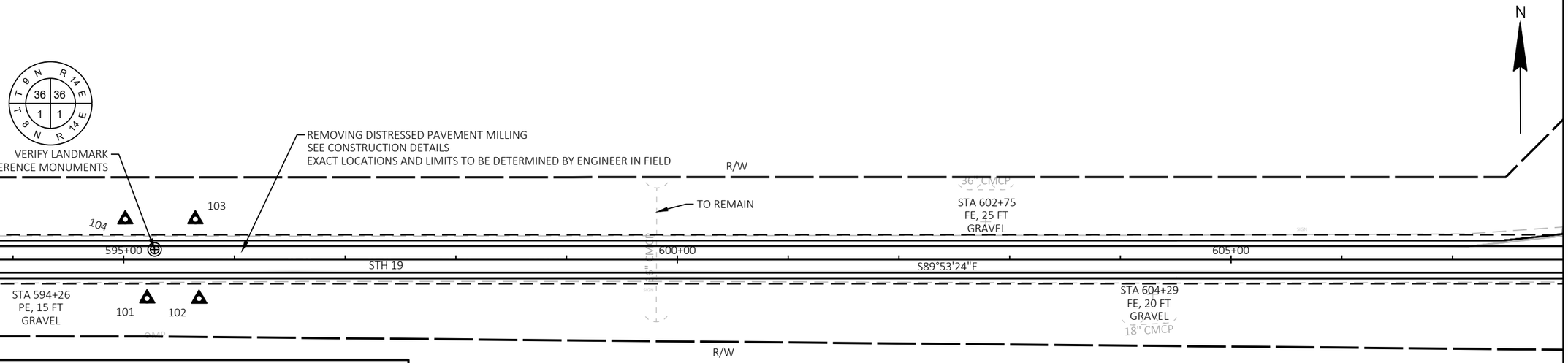
FILE NAME : X:\3230900\210505.01\TECH\CAD\XXXXXXXX\SHEETSPLAN\050201_PN.DWG
LAYOUT NAME - 08

PLOT DATE : 2/9/2026 12:10 PM PLOT BY : BRIAN VEIT PLOT NAME : PLOT SCALE : 1 IN:100 FT

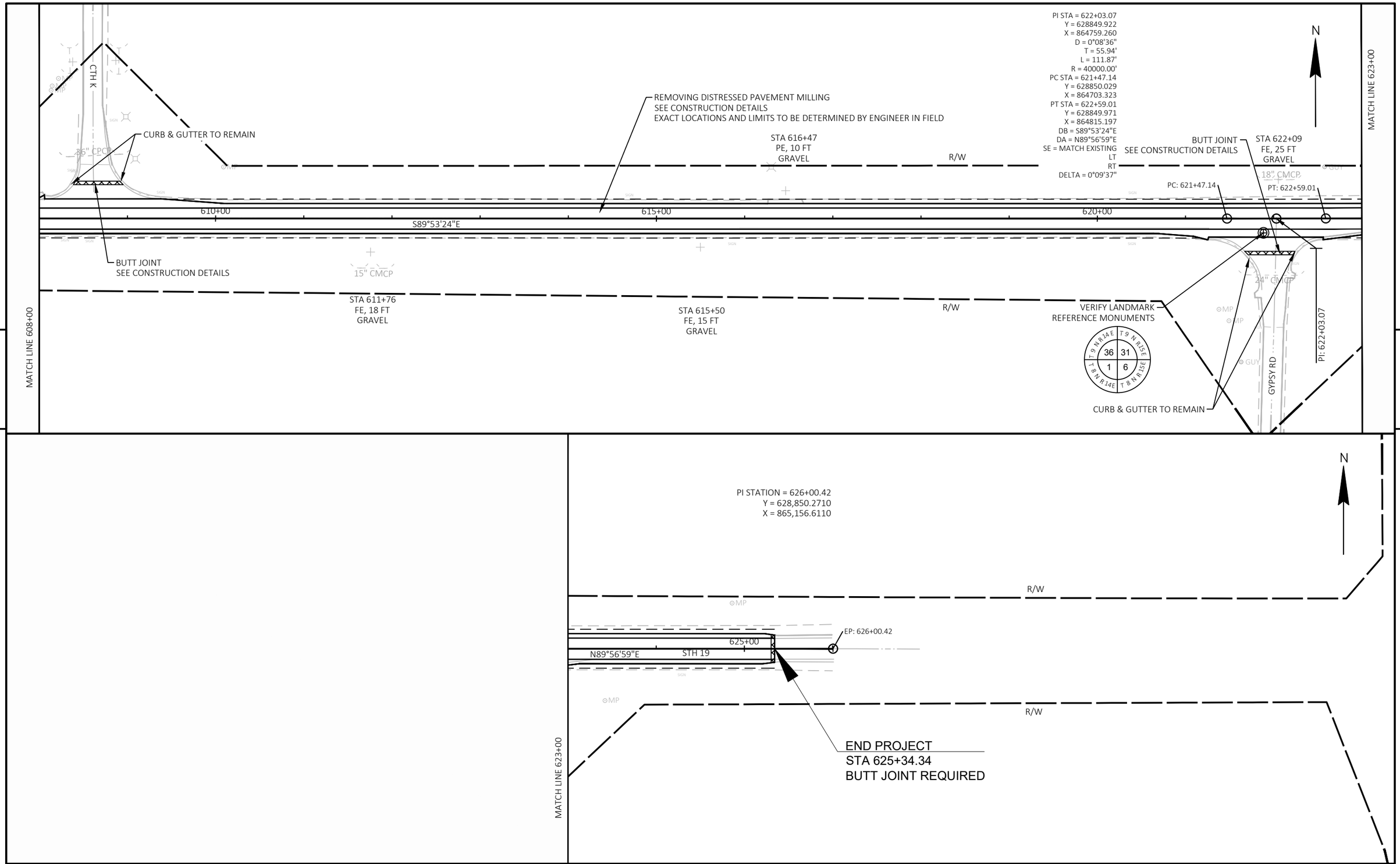
WISDOT/CADDS SHEET 44

BENCHMARKS/CONTROL POINTS				
POINT NUMBER	NORTHING	EASTING	ELEVATION	DESCRIPTION
52	628953.752	860787.571	843.26	CP/REBAR PLASTIC CAP





BENCHMARKS/CONTROL POINTS				
POINT NUMBER	NORTHING	EASTING	ELEVATION	DESCRIPTION
101	628819.851	862077.109	837.53	RTIE/SW TIE FOR 100
102	628819.492	862124.068	837.22	RTIE/SE TIE FOR 100
103	628891.268	862120.805	837.35	RTIE/NE TIE FOR 100
104	628891.299	862057.471	837.43	RTIE/NW TIE FOR 100



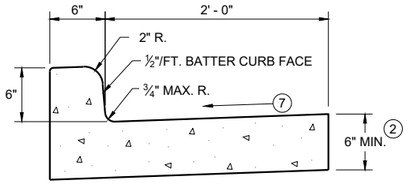
PROJECT NO: 3050-01-77	HWY: STH 19	COUNTY: DODGE/JEFFERSON	PLAN	SHEET 33	E

FILE NAME : X:\3230900\210505.01\TECH\CAD\XXXXXXXX\SHEETSPLAN\050201_PN.DWG
LAYOUT NAME - 10

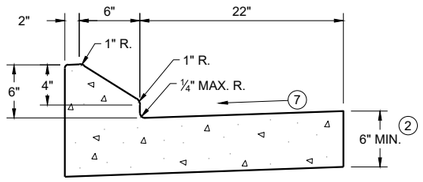
PLOT DATE : 2/9/2026 12:11 PM PLOT BY : BRIAN VEIT PLOT NAME : PLOT SCALE : 1 IN:100 FT

Standard Detail Drawing List

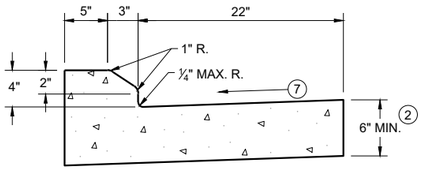
08D01-24A	CONCRETE CURB & GUTTER
08D01-24B	CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS
08D02-08A	CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES
08D02-08B	CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES
08D02-08C	CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES
08D22-01	DRIVEWAYS WITHOUT CURB & GUTTER RESURFACING PROJECTS RURAL
08E09-06	SILT FENCE
13A10-03A	SHOULDER RUMBLE STRIPS - ASPHALT
13A10-03G	SHOULDER AND EDGE LINE RUMBLE STRIPS - CROSSINGS, INTERSECTIONS, BRIDGES, DRIVEWAYS
13A11-04A	CENTERLINE RUMBLE STRIPS - ASPHALT
13A11-04D	CENTERLINE RUMBLE STRIPS - INTERSECTIONS, DRIVEWAYS, BRIDGES, RAILROADS
13C19-03	HMA LONGITUDINAL JOINTS
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)
14B45-05F	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
15C08-24A	PERMANENT LONGITUDINAL PAVEMENT MARKINGS
15C08-24B	TEMPORARY LONGITUDINAL PAVEMENT MARKING
15C11-10A	CHANNELIZING DEVICES FLEXIBLE TUBULAR MARKER POST
15C11-10B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS
15C12-09A	TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION
15C12-09B	TRAFFIC CONTROL, LANE CLOSURE WITH AUTOMATED FLAGGER ASSISTANCE DEVICE
15C19-10A	MOVING PAVEMENT MARKING OPERATION TWO-LANE TWO-WAY ROADWAY
15C33-05	STOP LINE AND CROSSWALK PAVEMENT MARKING
15D28-04	TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY
15D39-03	TRAFFIC CONTROL, DROP-OFF SIGNING
15D44-02	TRAFFIC CONTROL, SIGNING ON ROADWAYS WITH MILLED SURFACES



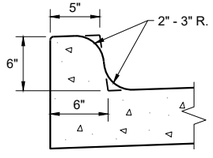
TYPES A (1) & D



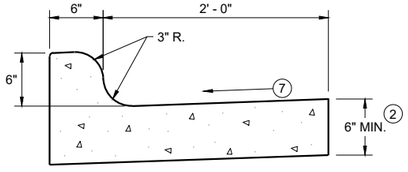
6" SLOPED CURB TYPES G (1) & J



4" SLOPED CURB TYPES G (1) & J

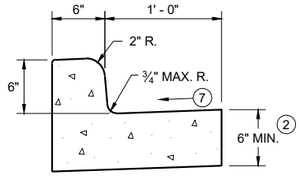


TYPES K (1) & L
(OPTIONAL CURB SHAPE)



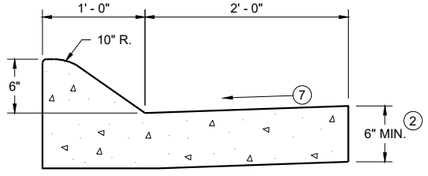
TYPES K (1) & L

CONCRETE CURB AND GUTTER 30"

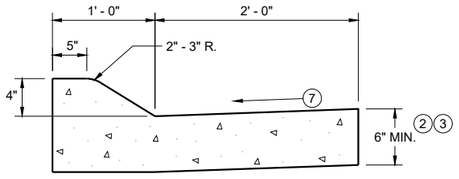


TYPES A (1) & D

CONCRETE CURB AND GUTTER 18"

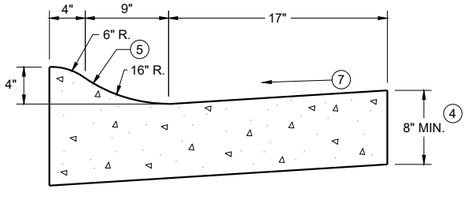


6" SLOPED CURB TYPES A (1) & D



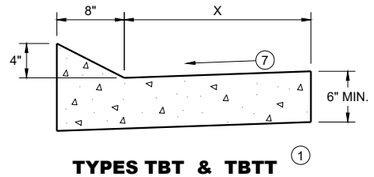
4" SLOPED CURB TYPES A (1) & D

CONCRETE CURB AND GUTTER 36"



4" SLOPED CURB TYPES R (1) & T
CONCRETE CURB AND GUTTER 30"

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

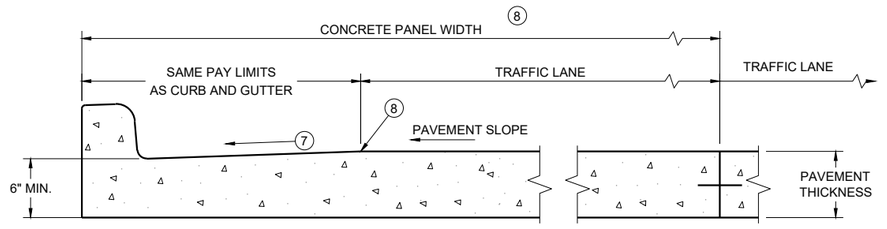


TYPES TBT & TBTT (1)

CONCRETE CURB AND GUTTER

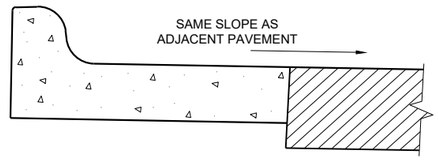
PAVEMENT THICKNESS AND MAXIMUM CONCRETE PANEL WIDTH TABLE

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



PARTIAL SECTION OF PAVEMENT * WITH INTEGRAL CURB AND GUTTER

* BIKE LANE IS NOT SHOWN



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

GENERAL NOTES

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

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

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

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

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

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

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

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

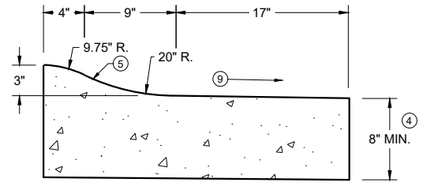
(5) UNLESS OTHERWISE NOTED, FOR STAKING PURPOSES THE FACE OF CURB IS 6" FROM THE BACK OF CURB.

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

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

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

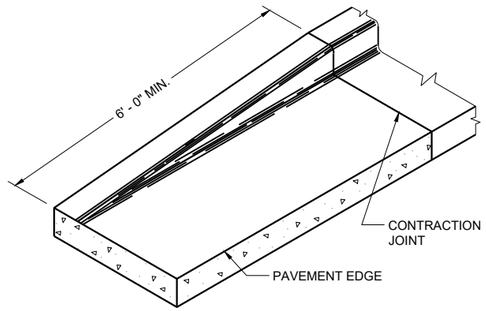
(9) SLOPE TO BE REVERSE SLOPE MATCHING THE SLOPE OF THE PAVEMENT AND THE CIRCULATORY ROADWAY



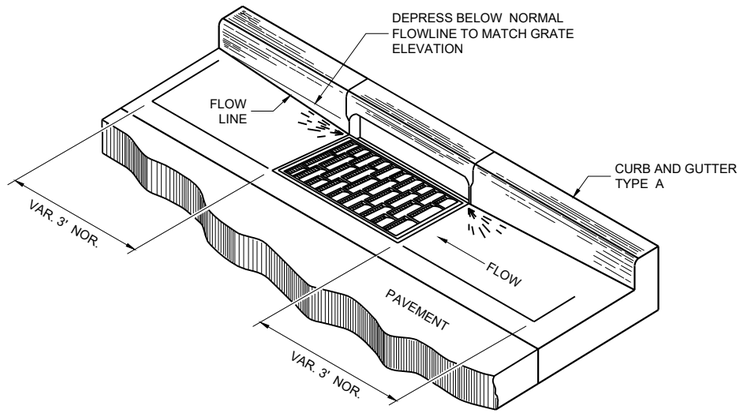
3" SLOPED CURB TYPES R (1) & T

CONCRETE CURB AND GUTTER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



END SECTION CURB AND GUTTER



DETAIL OF CURB AND GUTTER AT INLETS

(TYPICAL H INLET COVER SHOWN)

GENERAL NOTES

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

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

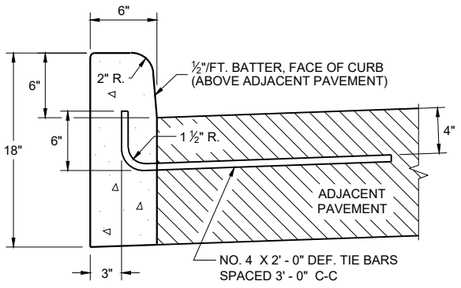
UNLESS OTHERWISE SHOWN ON THE TYPICAL CROSS SECTIONS, THE BASE AGGREGATE AND COMMON EXCAVATION LIMITS ARE 2' - 0" BEHIND THE BACK OF CURBS.

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

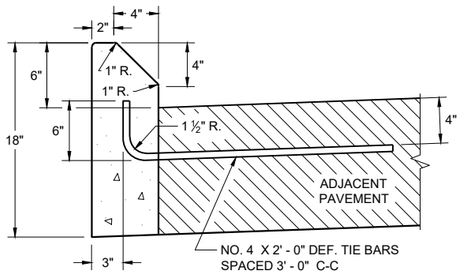
(2) THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.

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

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

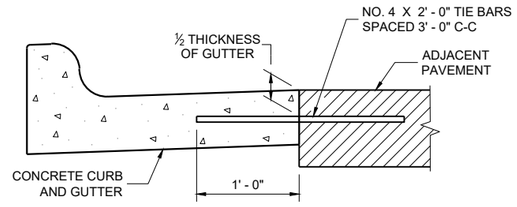


TYPES A (1) & D

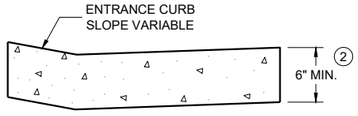


TYPES G (1) & J

CONCRETE CURB

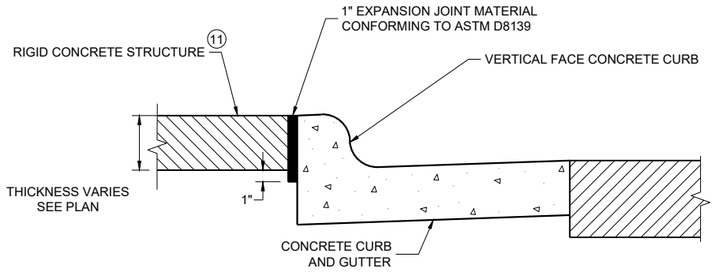


TYPICAL TIE BAR LOCATION (1)

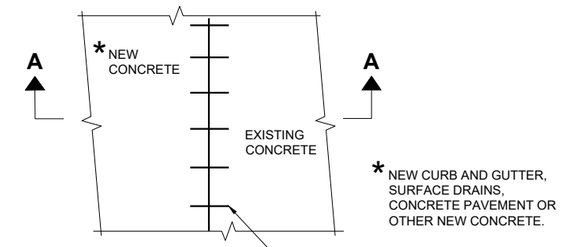


DRIVEWAY ENTRANCE CURB (10)

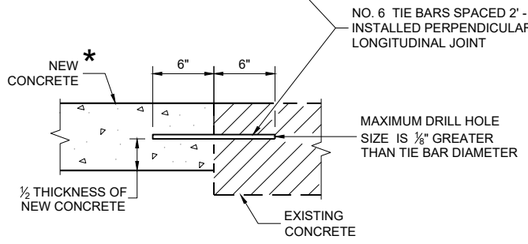
(WHEN DIRECTED BY THE ENGINEER)



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



PLAN VIEW



SECTION A - A

TIE BARS DRILLED INTO EXISTING PAVEMENT

CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2025 — DATE
/S/ Rodnery Taylor — ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR

FHWA

6

SDD 08D01-24b

6

SDD 08D01-24b

GENERAL NOTES

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

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

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

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

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

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

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

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

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

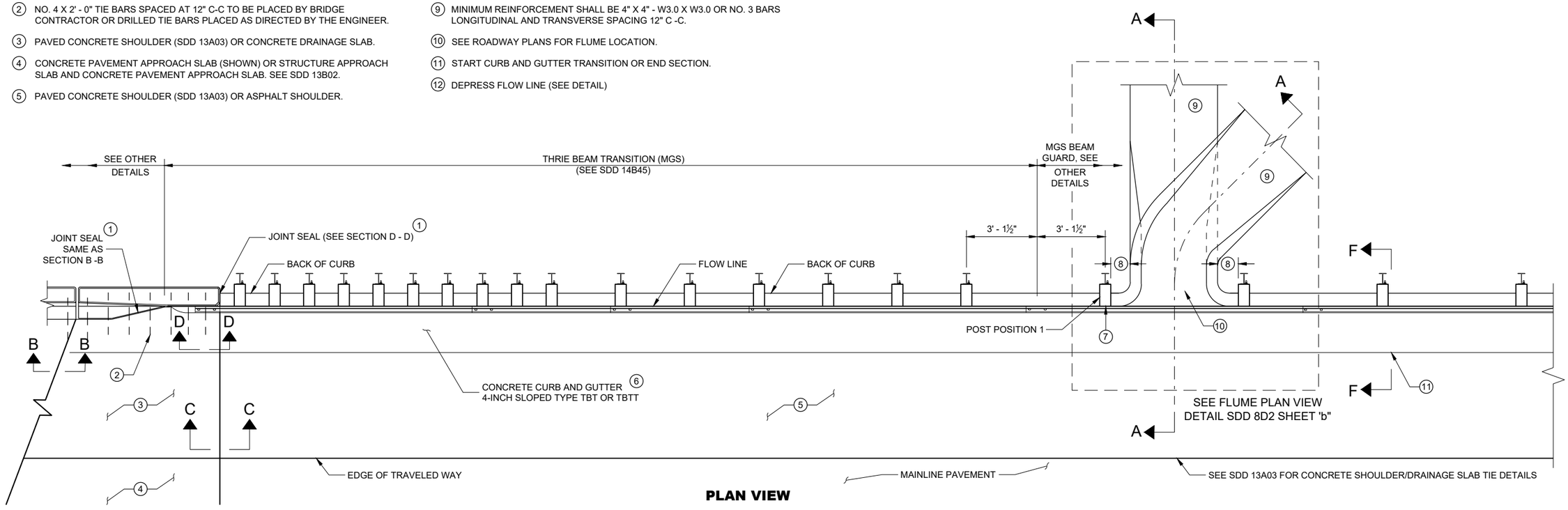
(8) CENTER FLUME BETWEEN POSTS. 6-INCH MINIMUM SEPARATION FROM OUTSIDE EDGE OF FLUME TO POSTS.

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

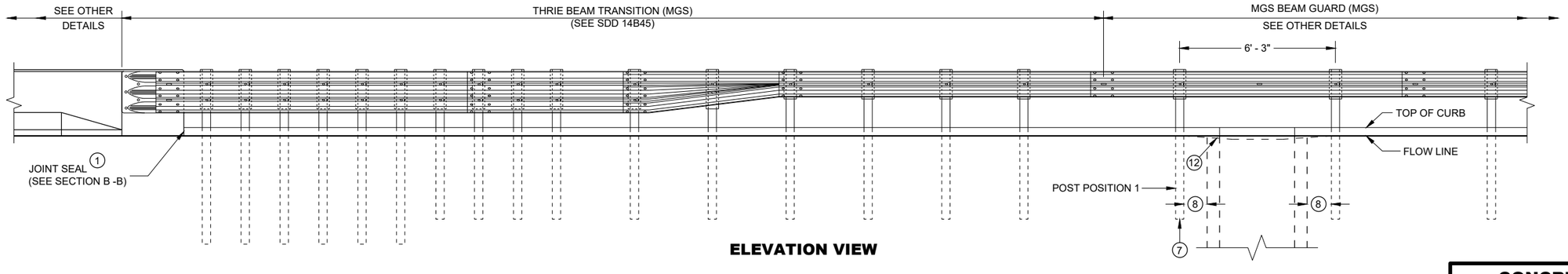
(10) SEE ROADWAY PLANS FOR FLUME LOCATION.

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

(12) DEPRESS FLOW LINE (SEE DETAIL)



PLAN VIEW



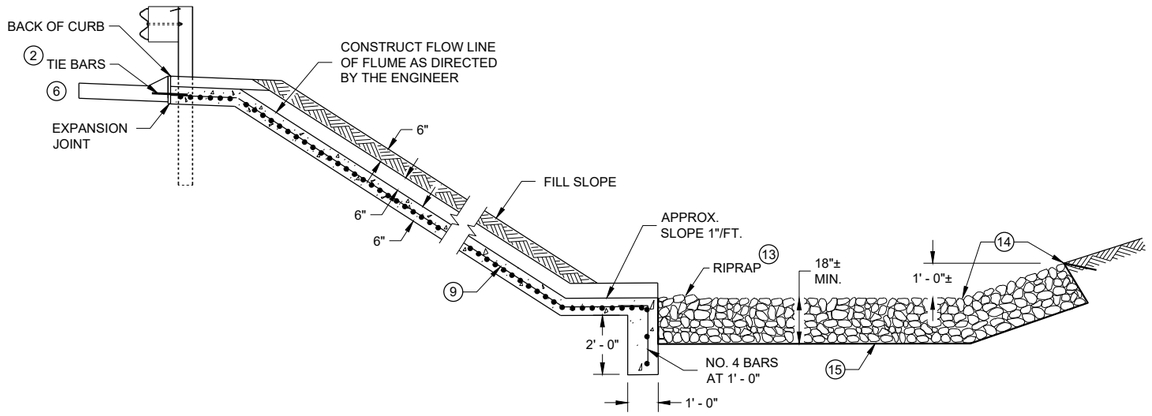
ELEVATION VIEW

CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES

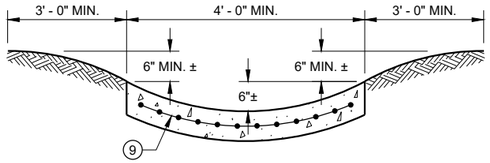
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

SDD 08D02 - 08a

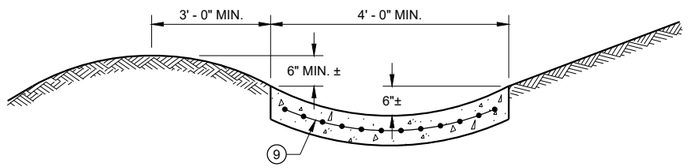
SDD 08D02 - 08a



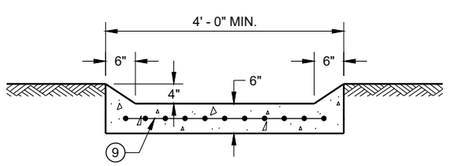
SECTION A - A



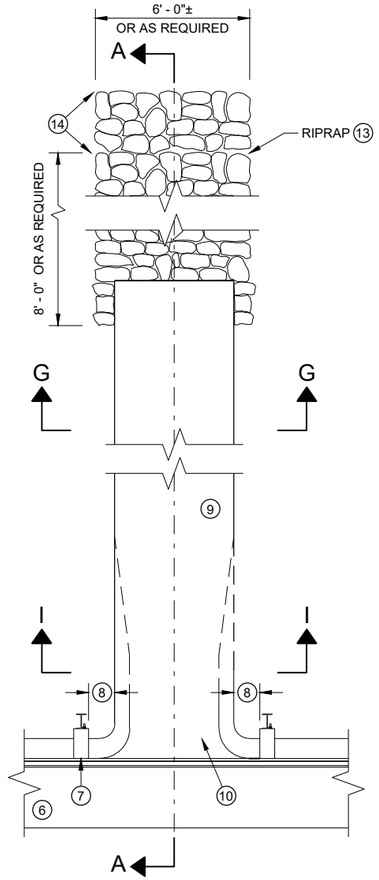
SECTION G - G



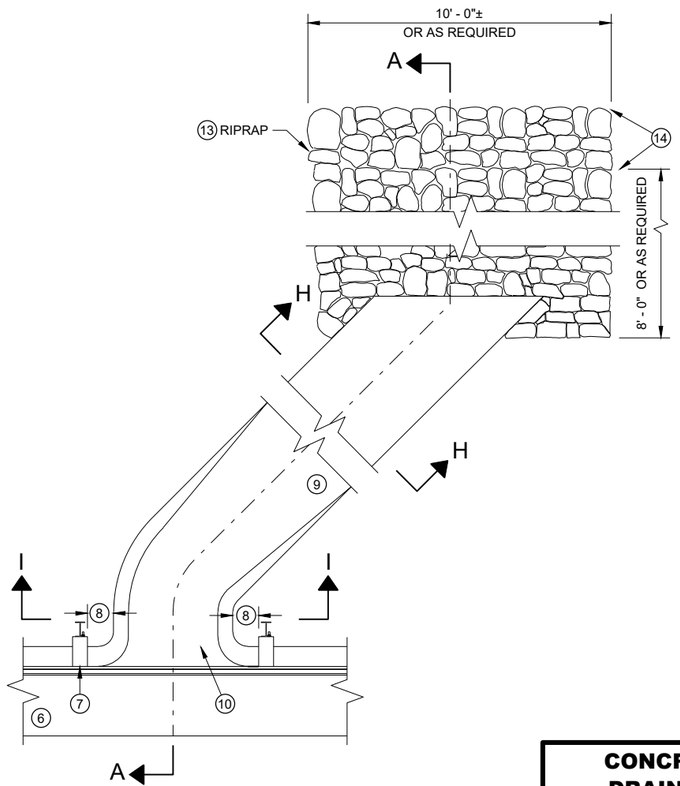
SECTION H - H



SECTION I - I



PLAN VIEW PERPENDICULAR FLUME



PLAN VIEW SKEWED FLUME

GENERAL NOTES

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

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

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

CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES

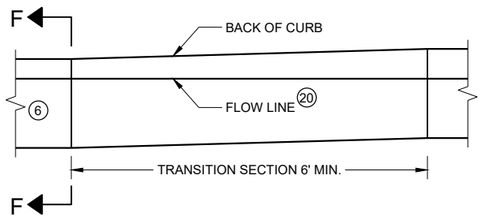
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

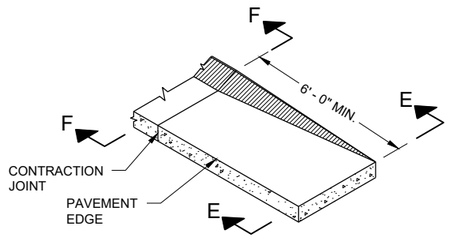
SDD 08D02 - 08b

6

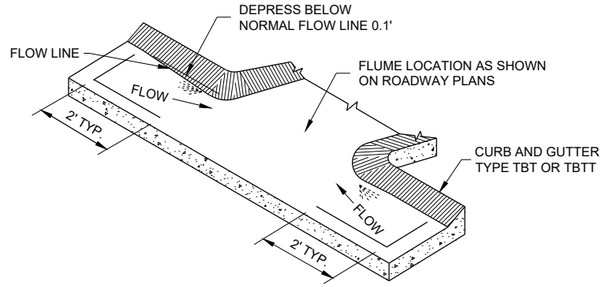
SDD 08D02 - 08b



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



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



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

GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

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

(10) SEE ROADWAY PLANS FOR FLUME LOCATION.

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

(12) DEPRESS FLOW LINE (SEE DETAIL)

(13) MEDIUM RIPRAP UNLESS OTHERWISE SPECIFIED.

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

(15) GEOTEXTILE TYPE HR.

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

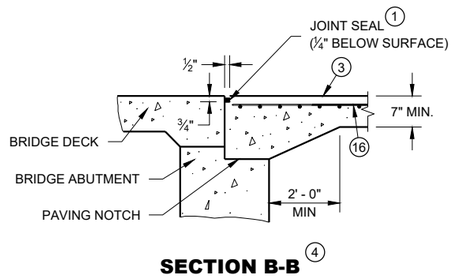
(17) MSG THRIE BEAM TRANSITION POST 1. SEE SDD 14B45 FOR ADDITIONAL CONSTRUCTION DETAILS AND ACCEPTABLE MATERIALS.

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

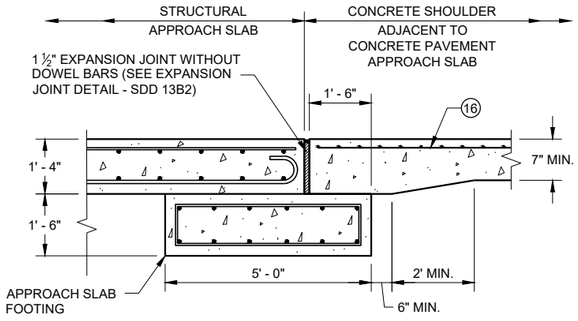
(19) ALIGN FACE OF POST BLOCK WITH FLOW LINE.

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

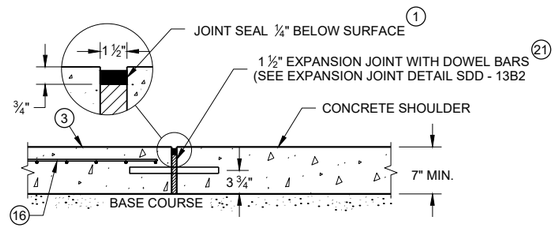
(21) DO NOT CONSTRUCT AN EXPANSION JOINT OR INSTALL DOWEL BARS WHEN ABUTTING HMA PAVEMENTS.



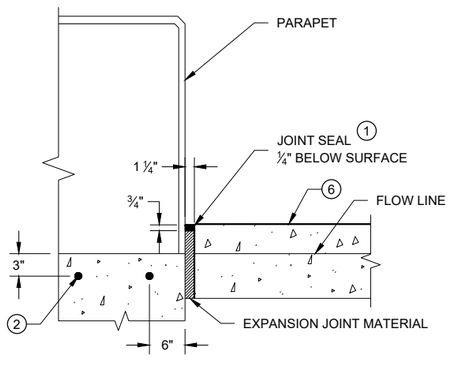
SECTION B-B (4)



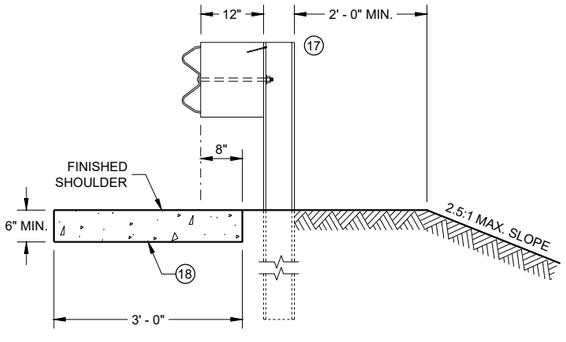
SECTION C - C
JOINT DETAIL FOR BRIDGE WITH STRUCTURAL APPROACH SLAB AND CONCRETE APPROACH SLAB



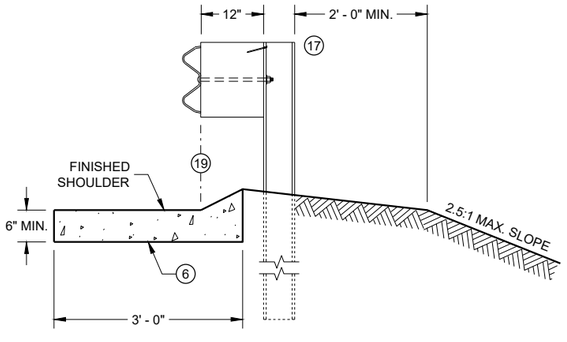
SECTION C - C
JOINT DETAIL FOR BRIDGE APPROACH WITH CONCRETE SHOULDERS



SECTION D - D



SECTION E - E



SECTION F - F

CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA

6

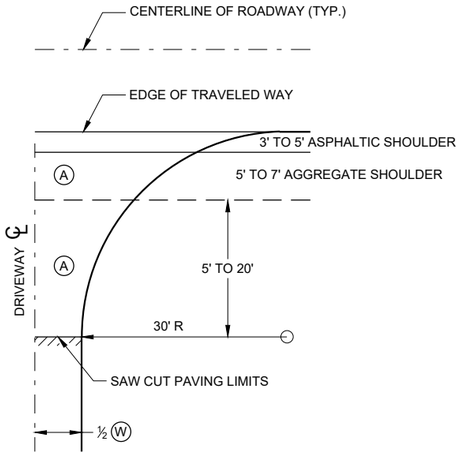
SDD 08D02 - 08c

6

SDD 08D02 - 08c

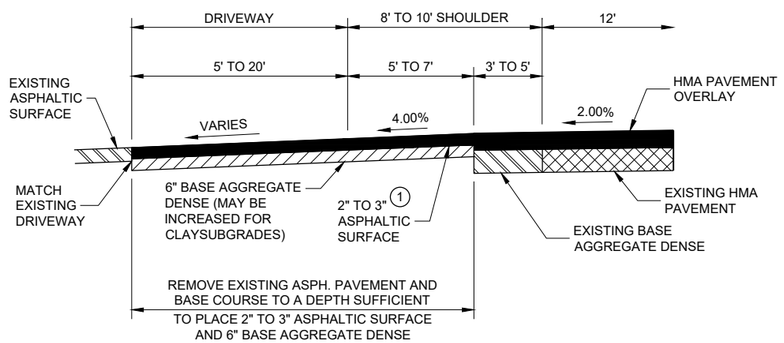
GENERAL NOTES

(1) DESIGN WILL DETERMINE FINAL DRIVEWAY ASPHALTIC THICKNESS BASED ON TYPE OF USAGE AND LOADINGS.



PLAN VIEW

HALF SECTION



PROFILE VIEW

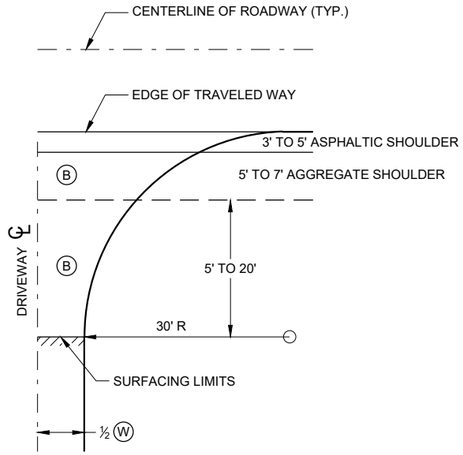
RURAL ENTRANCE WITH ASPHALTIC SURFACE

RESURFACING PROJECTS

(A) : PAID FOR AS ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES. (TON)

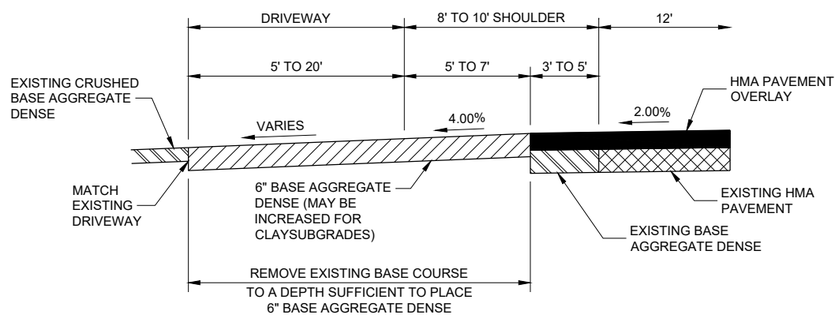
(B) : PAID FOR AS BASE AGGREGATE DENSE 1 ¼" (TON)

(W) : DRIVEWAY WIDTH 16' MIN. - 24' MAX.



PLAN VIEW

HALF SECTION



PROFILE VIEW

RURAL ENTRANCE WITH AGGREGATE SURFACE

6" BASE AGGREGATE DENSE

RESURFACING PROJECTS

DRIVEWAYS WITHOUT CURB AND GUTTER RESURFACING PROJECTS RURAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
December 2016
DATE

/S/ Rodney Taylor
ROADWAY STANDARDS DEVE ENGINEER

FHWA

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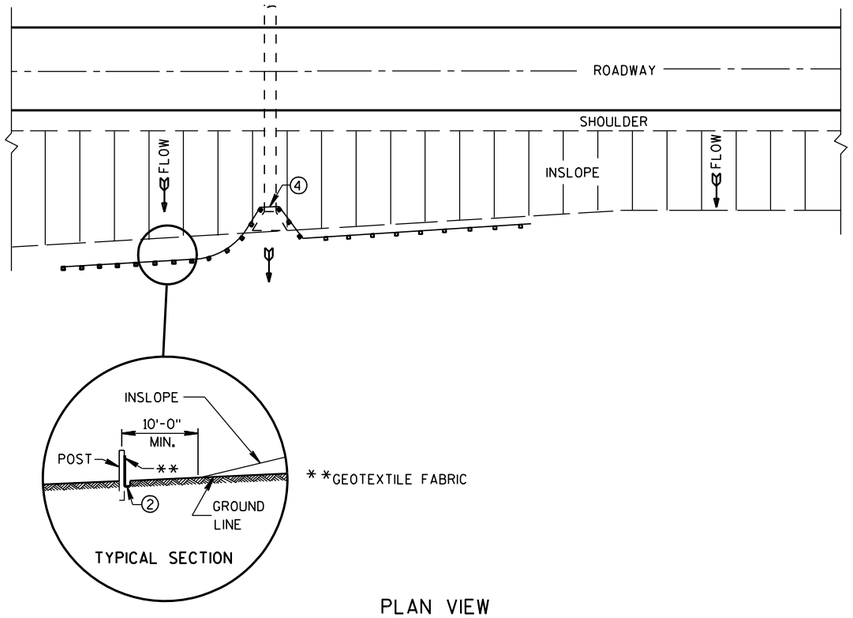
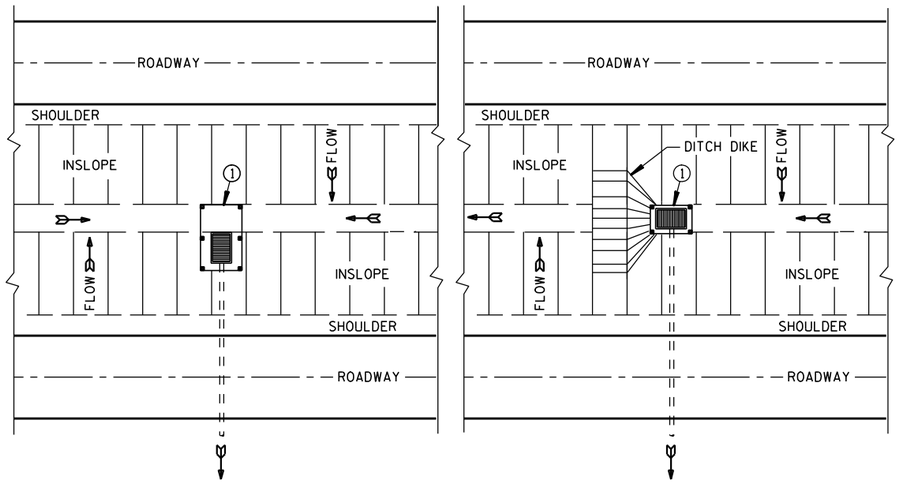
SDD 08D22 - 01



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



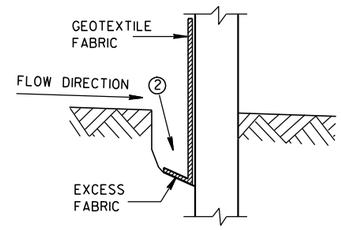
PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

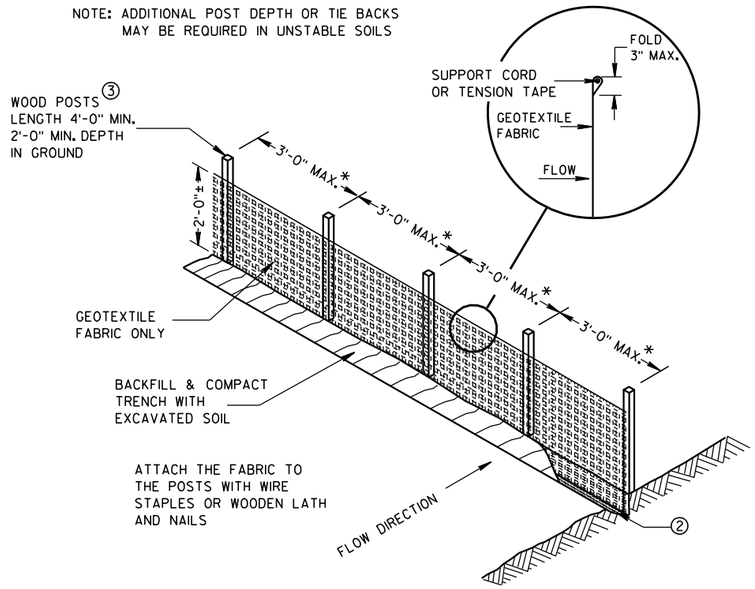
GENERAL NOTES

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

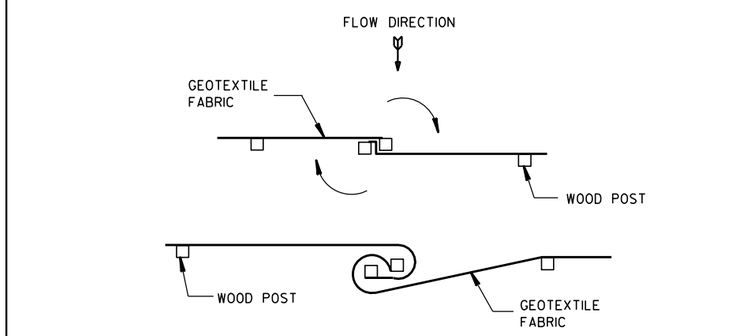
1. HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
2. FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
3. WOOD POSTS SHALL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



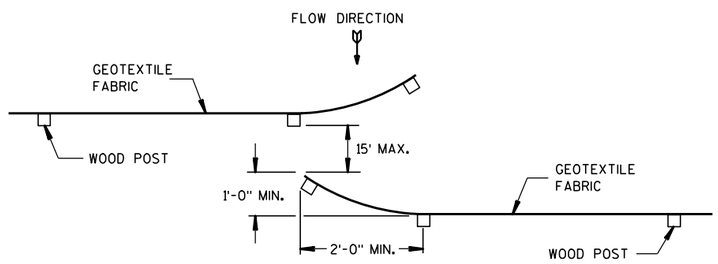
TRENCH DETAIL



SILT FENCE

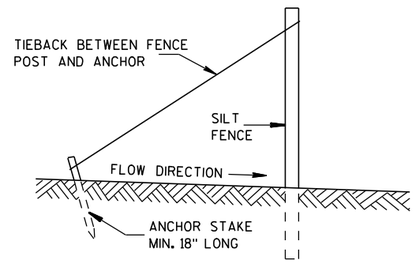


TWIST METHOD



HOOK METHOD

JOINING TWO LENGTHS OF SILT FENCE 5



SILT FENCE TIE BACK

(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6

S.D.D. 8 E 9-6

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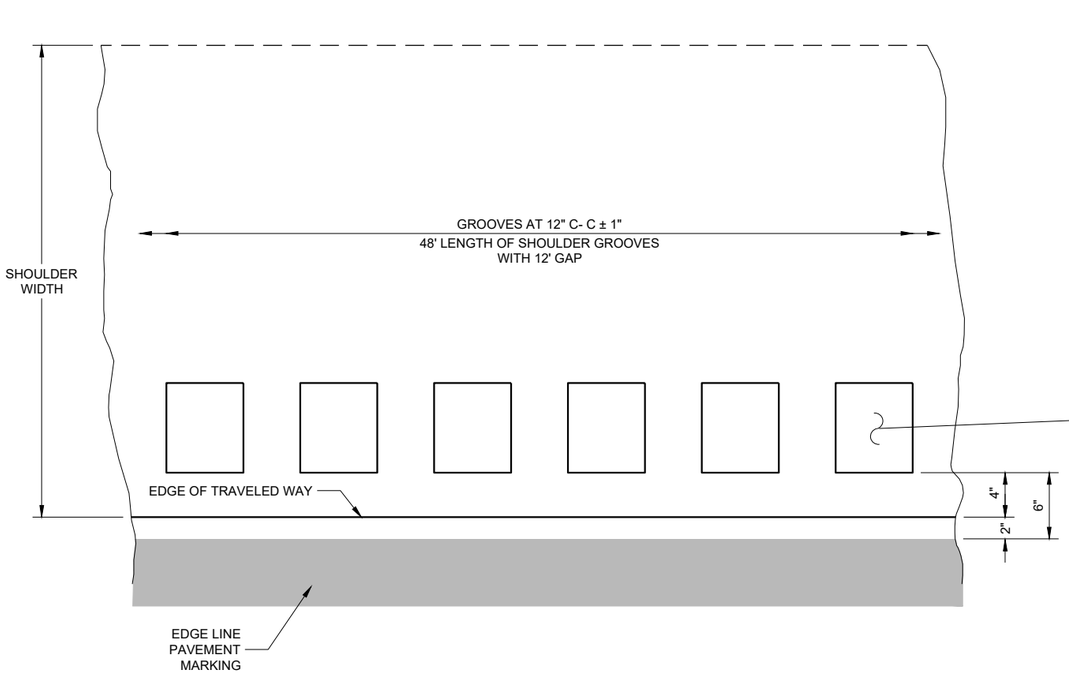
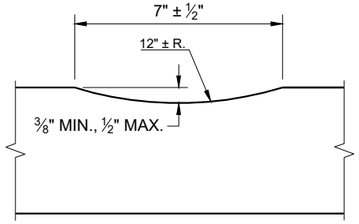
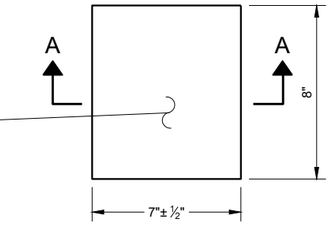
S.D.D. 8 E 9-6



PLAN DETAIL VIEW
SHOULDER WITH GROOVES



SECTION A - A

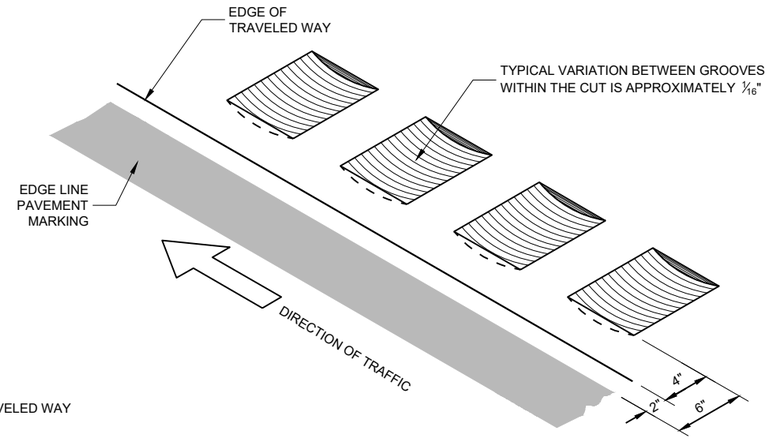


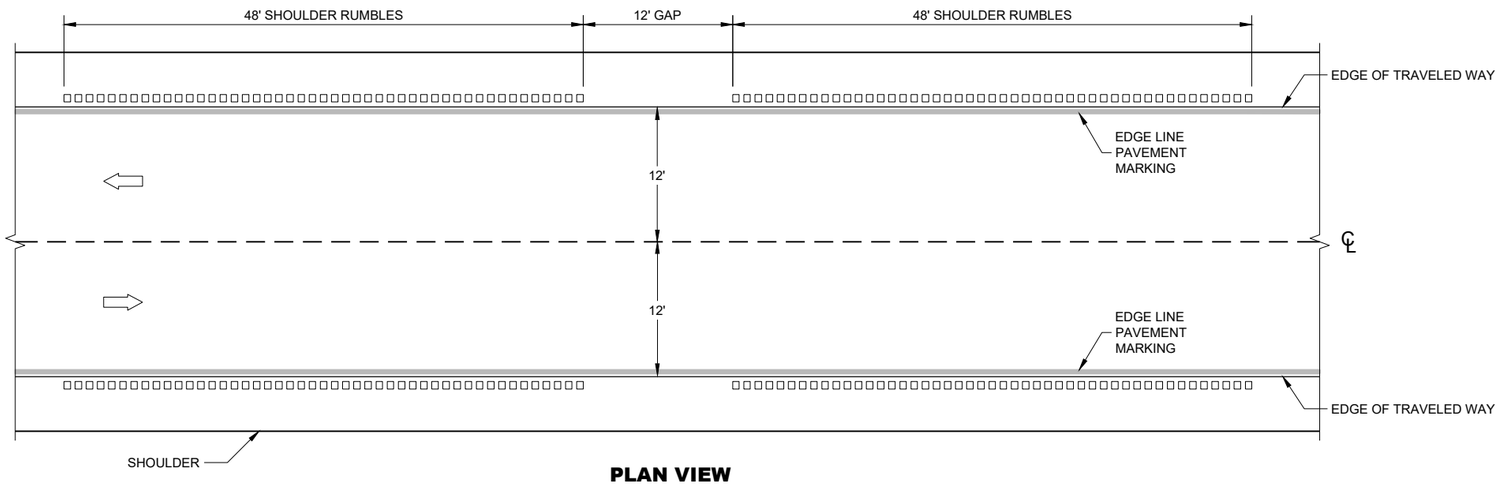
PLAN VIEW
(SINGLE GROOVE)

GENERAL NOTES

DO NOT MILL SHOULDER GROOVES THROUGH INTERSECTIONS, MARKED CROSSWALKS, NON-MOTORIZED PATH CROSSINGS, ETC. REFER TO SDD 13A10 SHEETS "g" AND "h".

SHOULDER GROOVES MAY BE OMITTED IN AREAS WITH HIGH CONCENTRATIONS OF DRIVEWAYS WHEN DIRECTED BY THE ENGINEER.





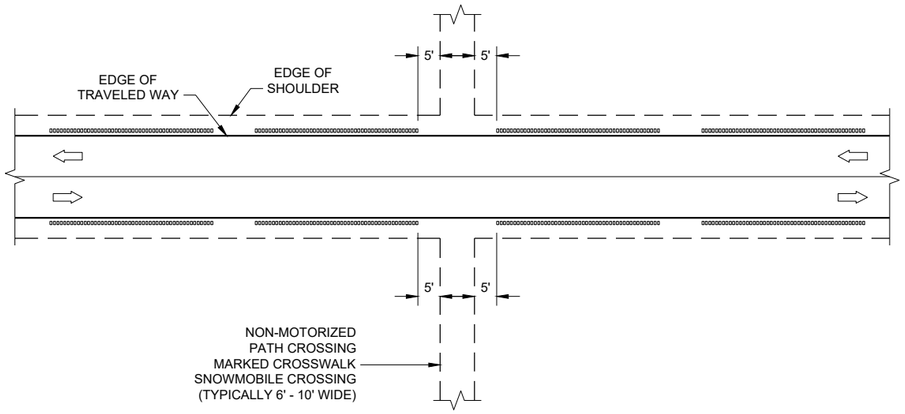
PLAN VIEW

SHOULDER RUMBLE STRIPS - ASPHALT

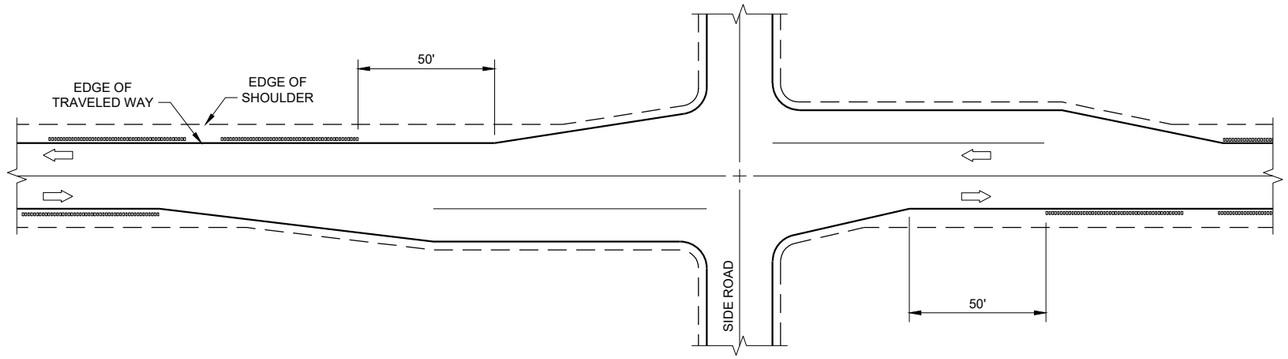
SHOULDER RUMBLE STRIPS ASPHALT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

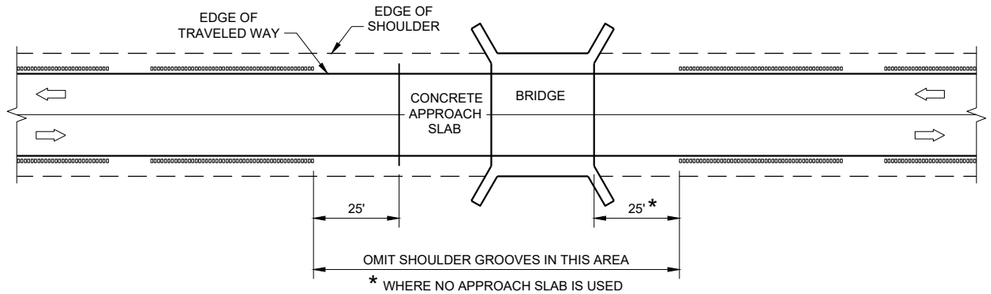
6
SDD 13A10 - 03a



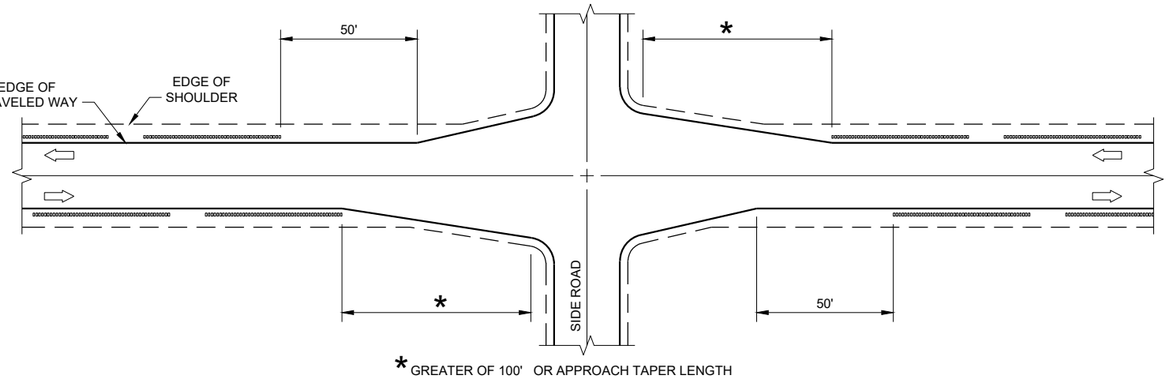
GROOVES AT MISCELLANEOUS CROSSINGS



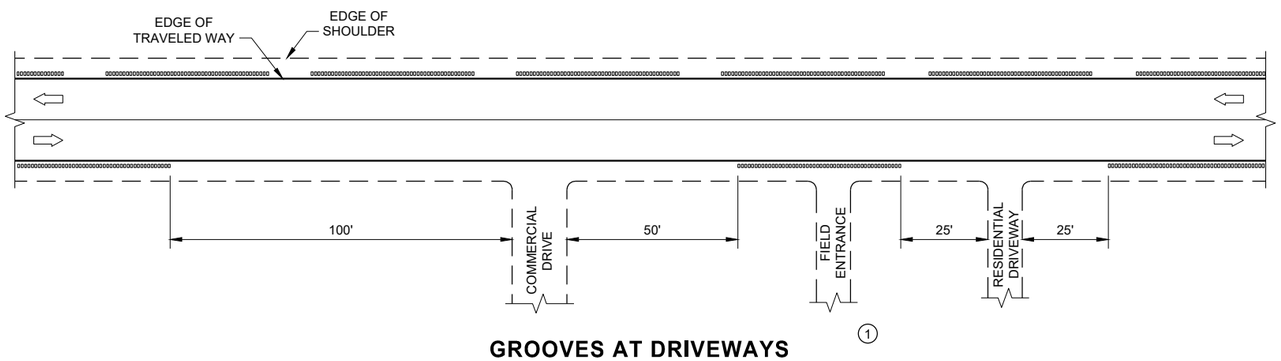
GROOVES AT RIGHT TURN LANE



GROOVES AT BRIDGES



GROOVES AT INTERSECTIONS WITH APPROACH TAPER



GROOVES AT DRIVEWAYS ①

GENERAL NOTES

① SHOULDER GROOVES MAY BE OMITTED IN AREAS WITH HIGH CONCENTRATIONS OF DRIVEWAYS. WHEN DIRECTED BY THE ENGINEER.

SHOULDER AND EDGE LINE RUMBLE STRIPS CROSSINGS, INTERSECTIONS, BRIDGES, DRIVEWAYS

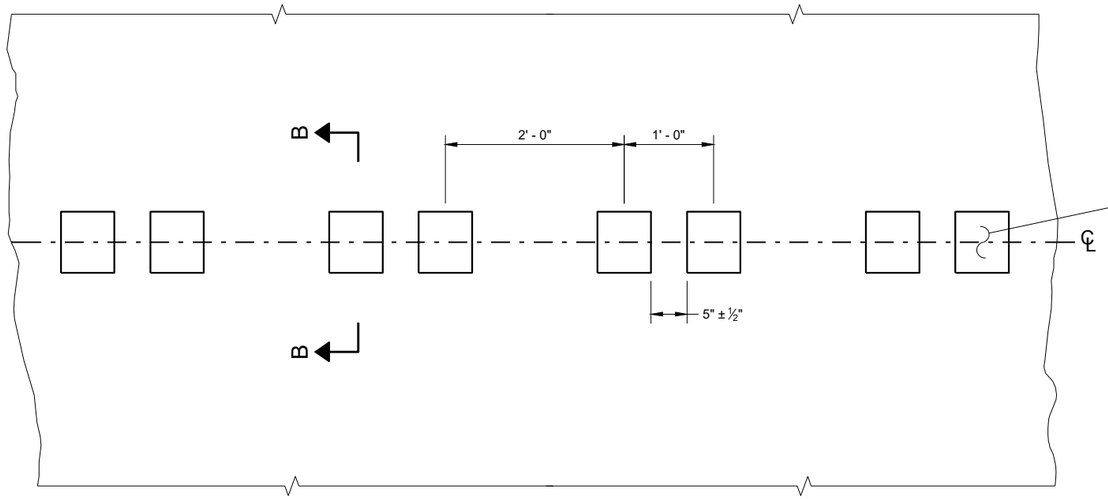
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6
SDD 13A10 - 03g

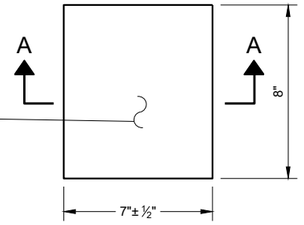
GENERAL NOTES

DO NOT MILL SHOULDER GROOVES THROUGH INTERSECTIONS, MARKED CROSSWALKS, NON-MOTORIZED PATH CROSSINGS, ETC. REFER TO SDD 13A11 SHEETS "d" AND "e".

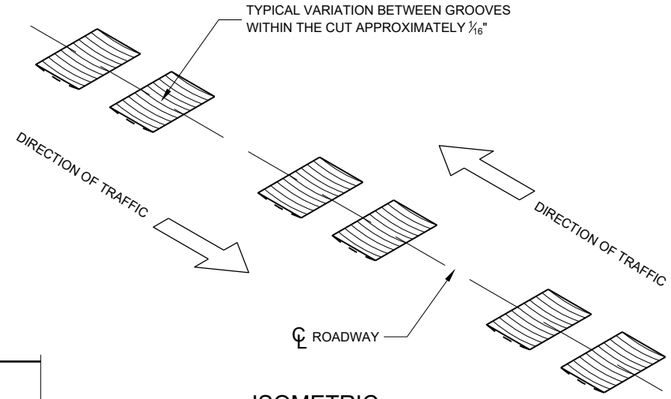
CENTERLINE GROOVES MAY BE OMITTED IN AREAS WITH HIGH CONCENTRATIONS OF DRIVEWAYS WHEN DIRECTED BY THE ENGINEER.



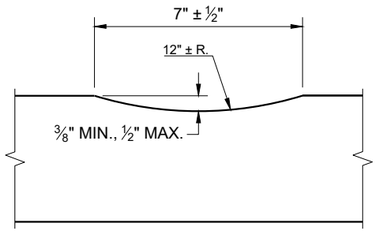
PLAN DETAIL VIEW



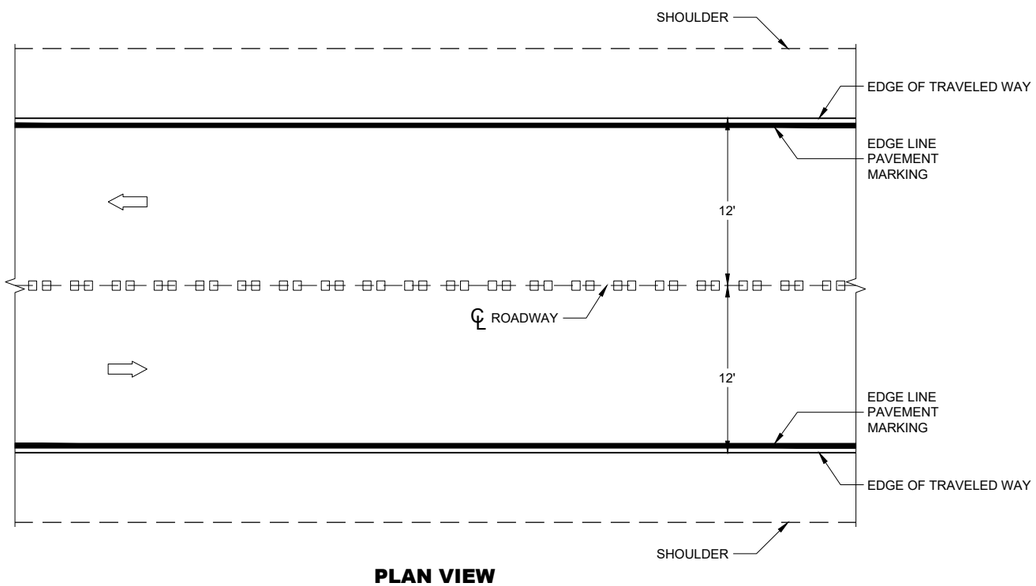
PLAN VIEW
(SINGLE GROOVE)



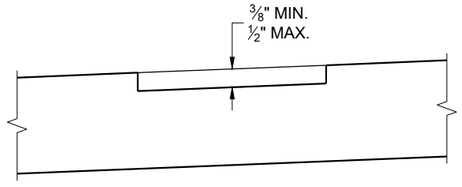
ISOMETRIC



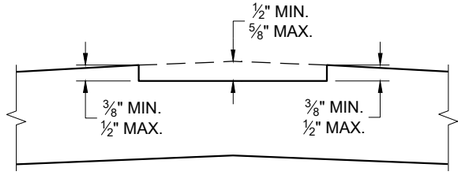
SECTION A - A



PLAN VIEW



SECTION B - B
SUPERELEVATED ROADWAY



SECTION B - B
CROWNED ROADWAY

CENTERLINE RUMBLE STRIPS - ASPHALT

CENTERLINE RUMBLE STRIPS - ASPHALT	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTAT	44

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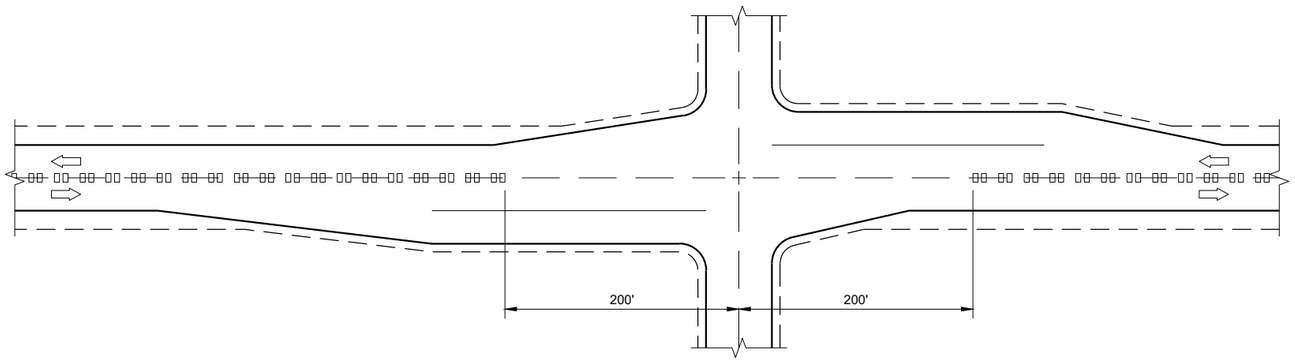
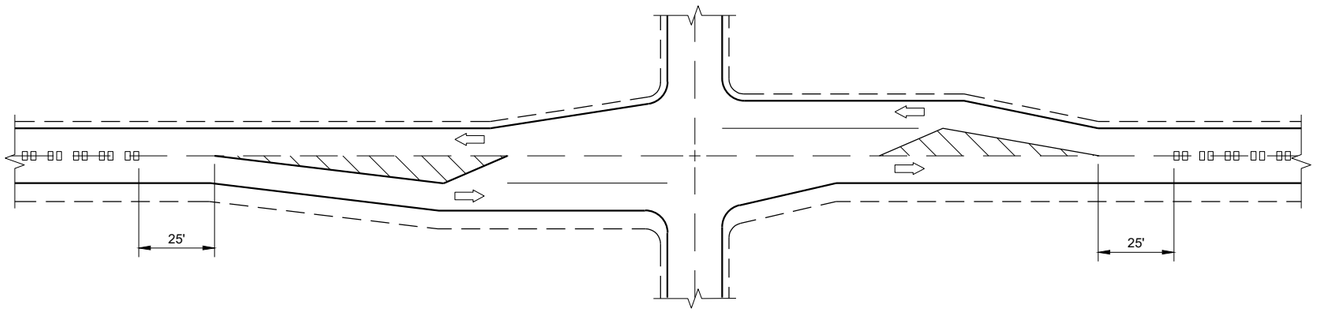
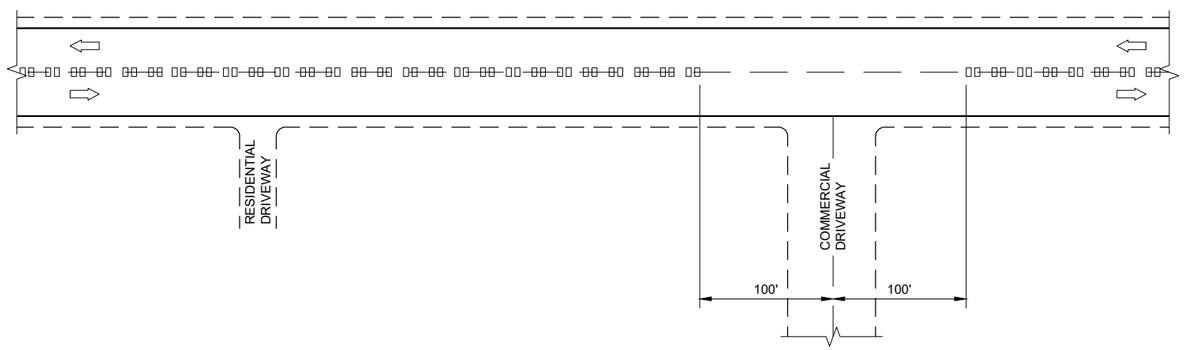
SDD13A11 - 04a



CENTERLINE GROOVES AT INTERSECTIONS



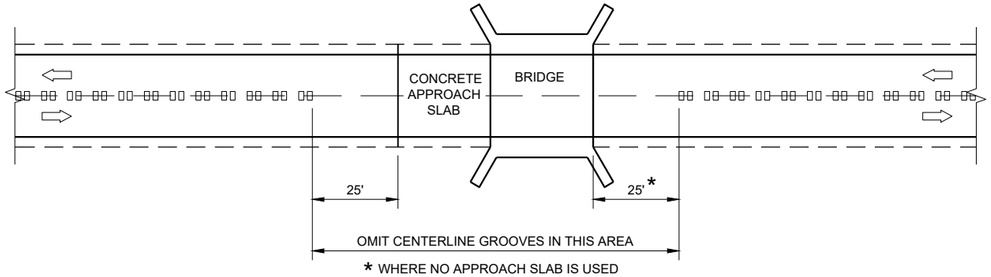
CENTERLINE GROOVES AT INTERSECTIONS (WITH LEFT TURN LANES)



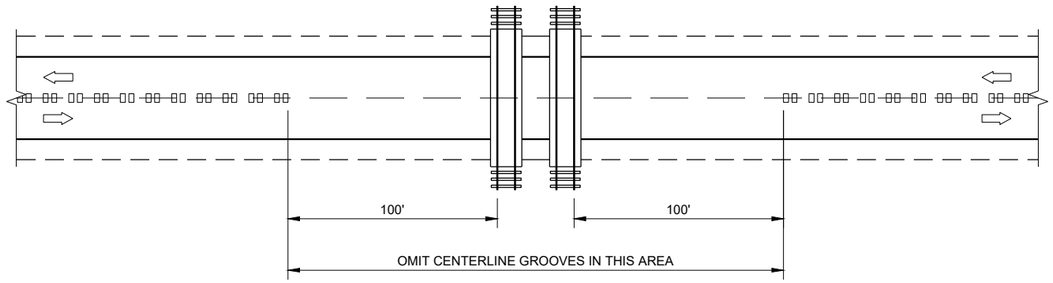
CENTERLINE GROOVES AT DRIVEWAYS (1)

GENERAL NOTES

(1) CENTERLINE GROOVES MAY BE OMITTED IN AREAS WITH HIGH CONCENTRATIONS OF DRIVEWAYS WHEN DIRECTED BY THE ENGINEER.



CENTERLINE GROOVES AT BRIDGES



CENTERLINE GROOVES AT RAILROADS

CENTER LINE RUMBLE STRIPS - INTERSECTIONS, DRIVEWAYS, BRIDGES, RAIL ROADS

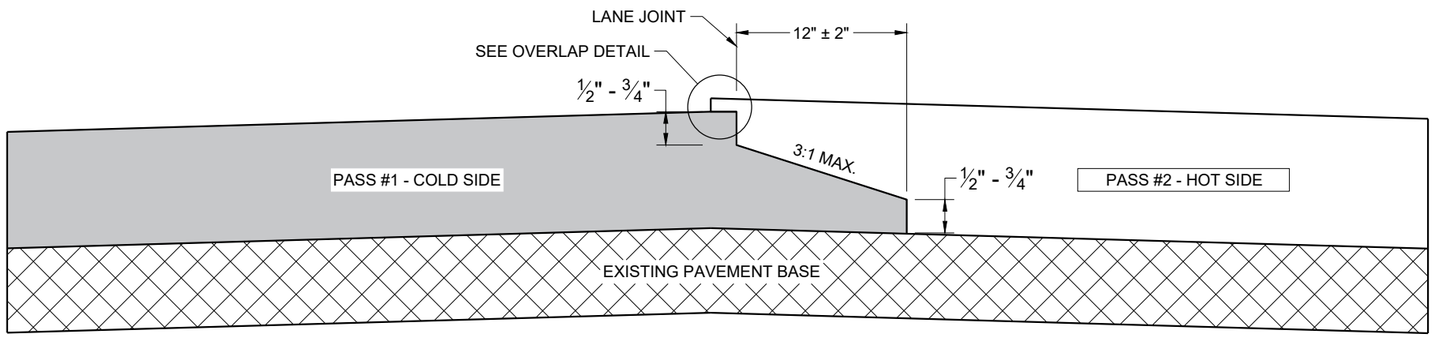
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023 — DATE
/S/ John Jenkins — ROADWAY STANDARDS DEVE ENGINEER

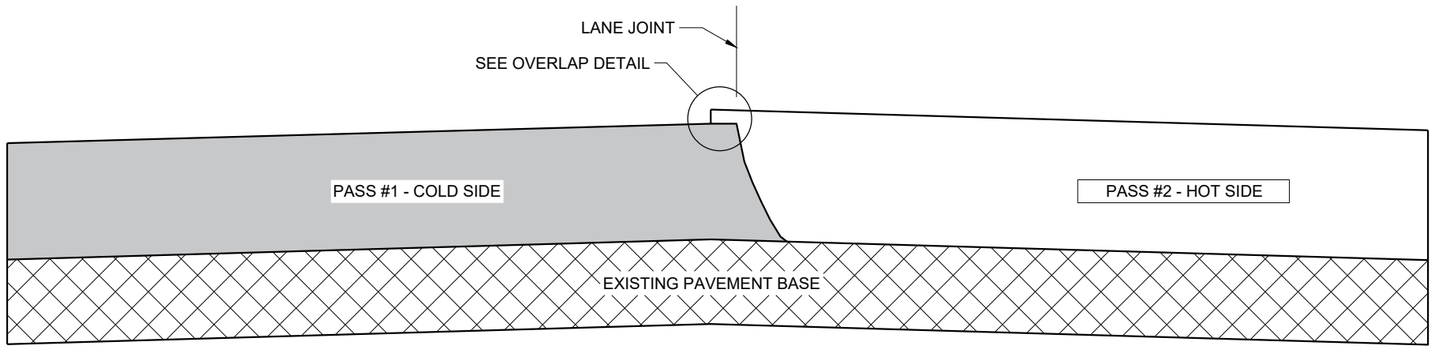
FHWA

6

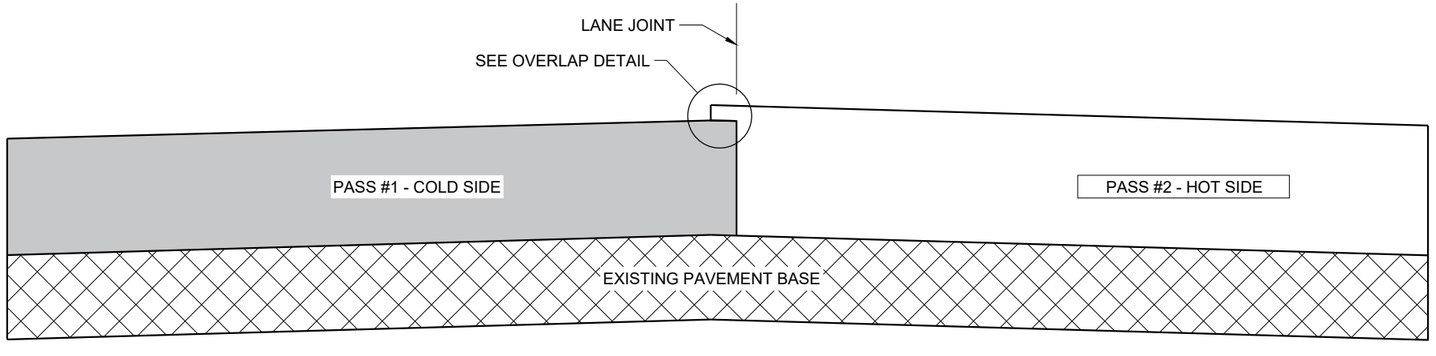
SDD 13A11 - 04d



TYPICAL PAVEMENT CROSS SECTION
NOTCHED WEDGE JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT (MILLED)

GENERAL NOTES

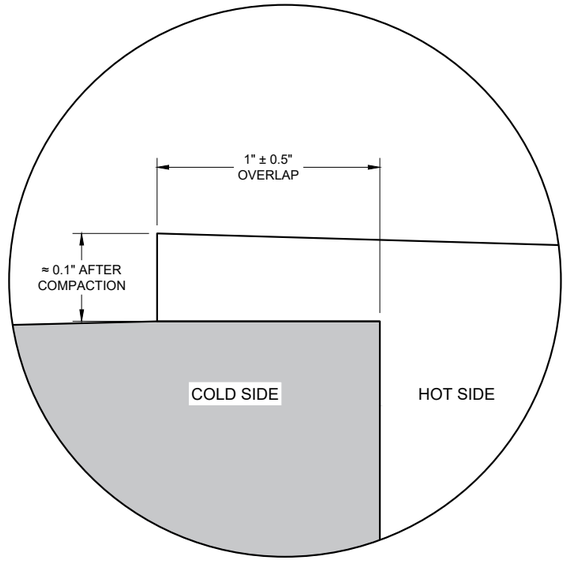
IN ADDITION TO THE DETAILS PROVIDED IN THIS DRAWING, CONFORM TO STANDARD SPECIFICATION 450.3.2.8 FOR WHEN A NOTCHED WEDGE JOINT IS REQUIRED AND FOR GENERAL JOINT CONSTRUCTION REQUIREMENTS.

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

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

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

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



OVERLAP DETAIL (TYPICAL)

6

6

SDD 13C19 - 03

SDD 13C19 - 03

HMA LONGITUDINAL JOINTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2020
DATE

/S/ Steven Hefel
HMA PAVEMENT ENGIN

FHWA

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

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

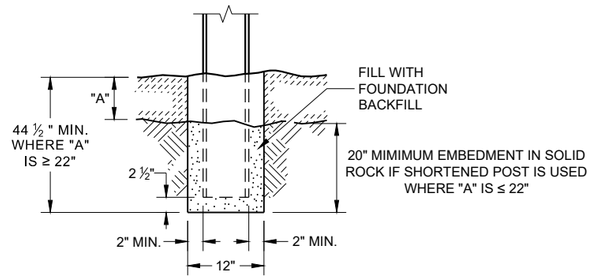
(3) IF ROCK IS ENCOUNTERED DURING EXCAVATION, PROVIDE A HOLE 12 INCHES IN DIAMETER EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2 1/2" INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS THE TO LENGTH AMD INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT. BACKFILL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

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

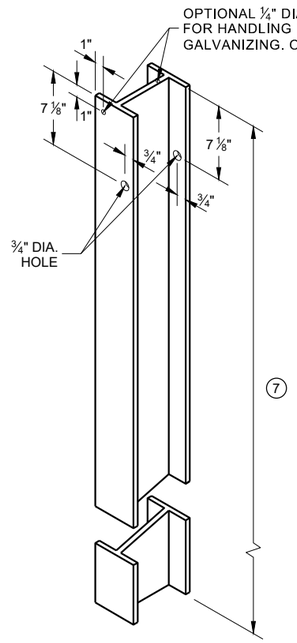
(5) FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS ±1". FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27 ¾" TO 32".

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

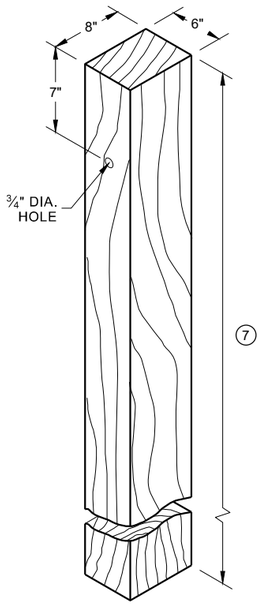
(7) TOTAL POST LENGTH FOR TYPE K IS 7' - 0".
TOTAL POST LENGTH FOR OTHER MGS TYPES IS 6' - 0".



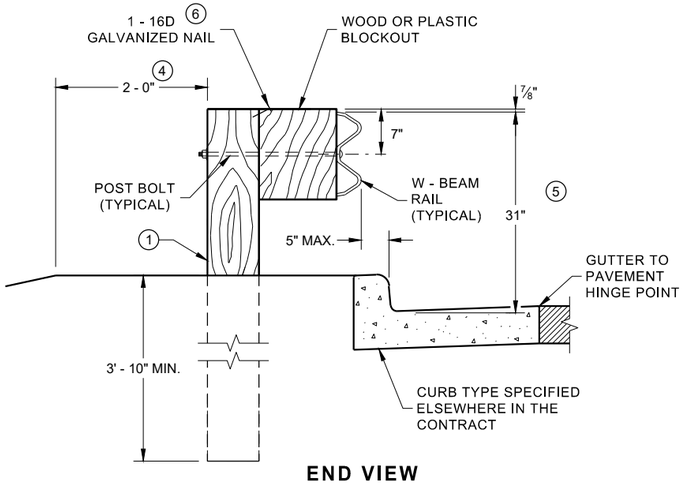
END VIEW
SETTING STEEL OR WOOD POST IN ROCK (3)



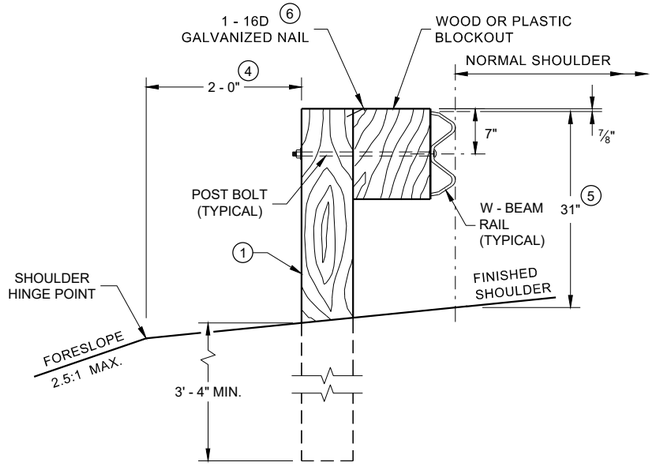
STEEL POST & HOLE PUNCHING DETAIL (W 6 X 9) (1)



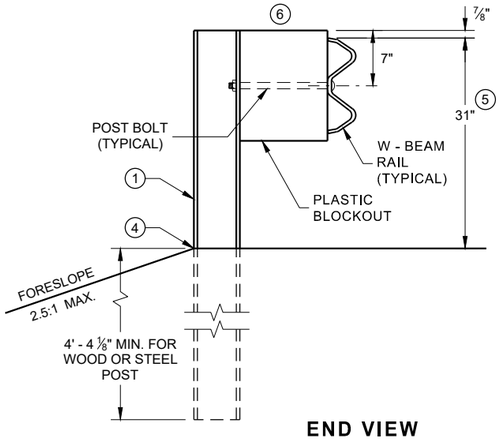
WOOD POST (6" X 8") NOMINAL (1)



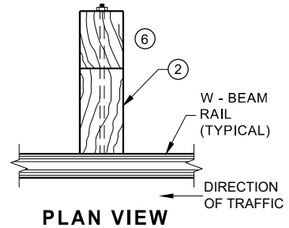
END VIEW
LOCATED ALONG A CURBED ROADWAY



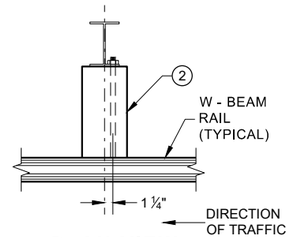
END VIEW
LOCATED ALONG A ROADWAY SHOULDER STANDARD INSTALLATION



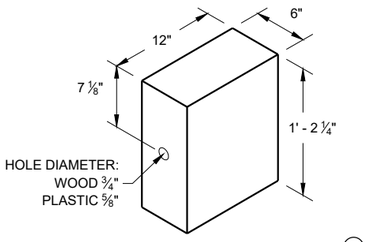
END VIEW
MGS LONGER POST AT HALFPOST SPACING W BEAM (K)



PLAN VIEW
WOOD POST, BLOCKOUT & BEAM



PLAN VIEW
STEEL POST, PLASTIC BLOCKOUT & BEAM



WOOD OR PLASTIC BLOCKOUT (2)

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

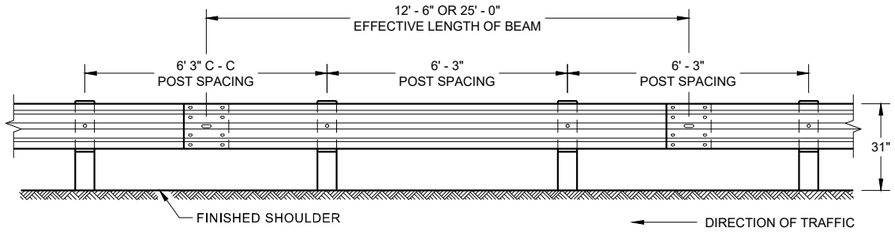
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

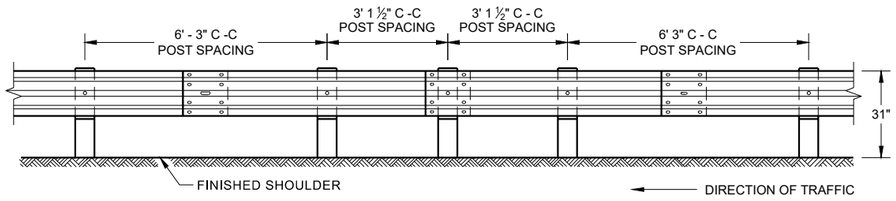
SDD 14B42 - 07a

6

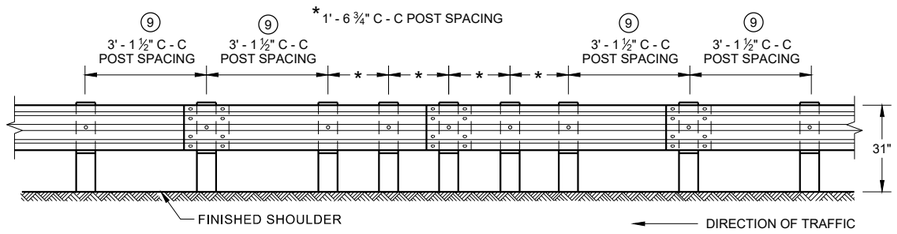
SDD 14B42 - 07a



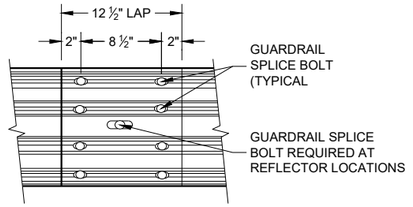
FRONT VIEW
POST SPACING STANDARD INSTALLATION



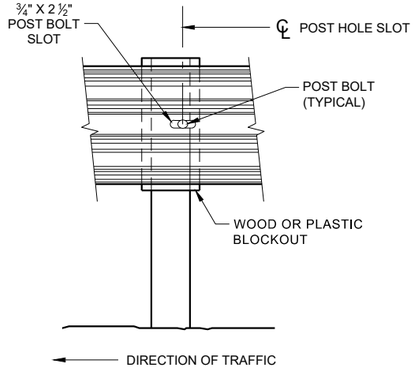
FRONT VIEW
HALF POST SPACING (HS) AND
HALF POST SPACING WITH LONGER POSTS (K)



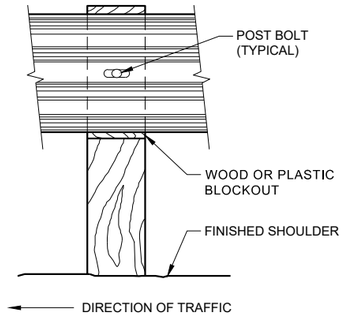
FRONT VIEW
QUARTER POST SPACING (QS)



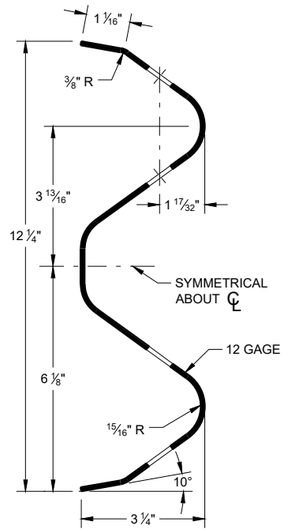
FRONT VIEW
MID-SPAN BEAM SPLICE



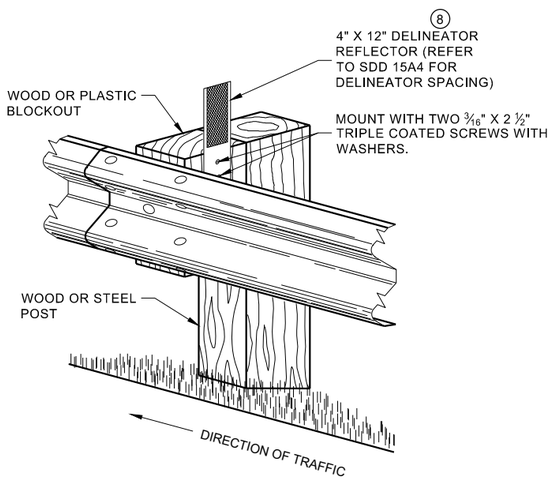
FRONT VIEW AT STEEL POST



FRONT VIEW AT WOOD POST



SECTION THRU W-BEAM RAIL



ONE SIDED REFLECTOR DETAIL
AND TYPICAL INSTALLATION

GENERAL NOTES

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

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

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

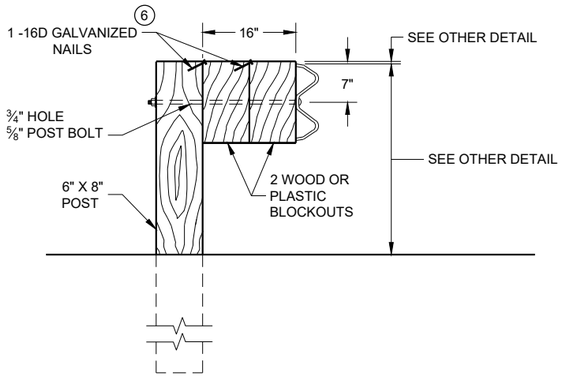
GUARD RAIL SPLICE BOLTS ARE A ⅝" DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES ⅝" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

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

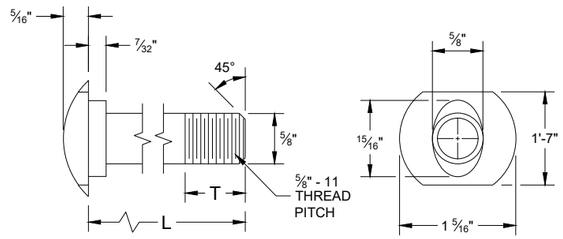


DETAIL FOR 16" BLOCKOUT DEPTH

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

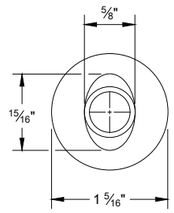
NOTE:

1. ALL FILLETS SHALL HAVE A MINIMUM RADIUS OF 3⁄16".
2. IF THE BOLT EXTENDS MORE THAN ¼" FROM THE NUT THE BOLT SHOULD BE TRIMMED BACK.

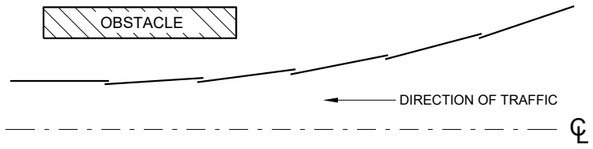


POST BOLT TABLE

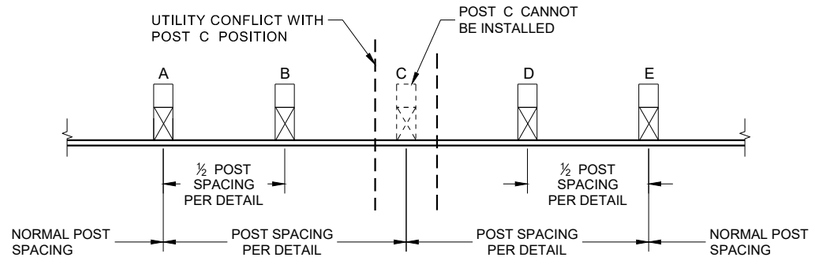
L	T (MIN.)
1 ¼"	1 ⅛"
2"	1 ¾"
10"	4"
14"	4 1⁄16"
18"	4"
21"	4 1⁄16"
25"	4"



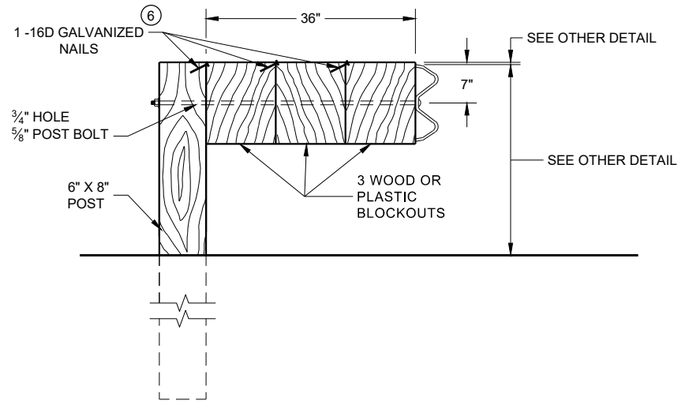
ALTERNATE BOLT HEAD



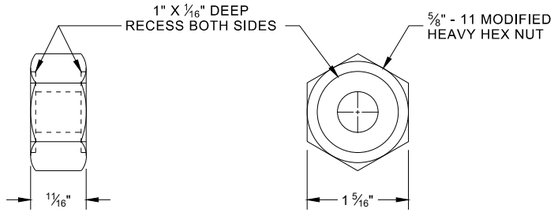
PLAN VIEW
BEAM LAPPING DETAIL



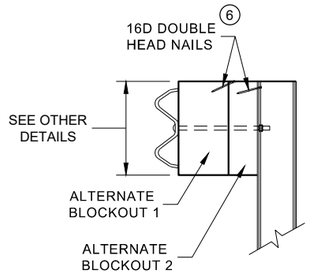
POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION



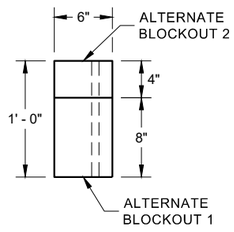
DETAIL FOR 36" BLOCKOUT DEPTH



POST BOLT, SPLICE BOLT AND RECESS NUT



SIDE VIEW



PLAN VIEW

ALTERNATE WOOD BLOCKOUT DETAIL

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

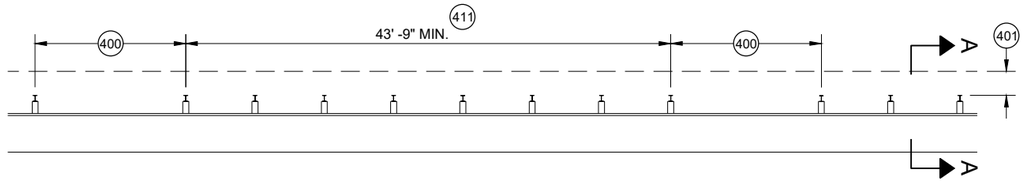
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.

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

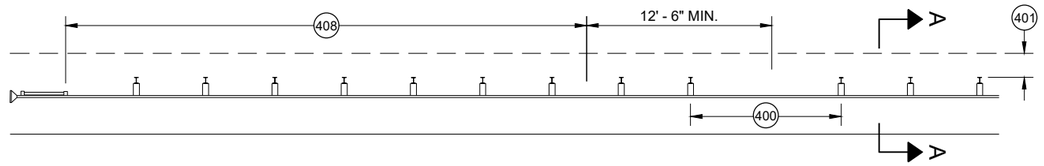
MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

6

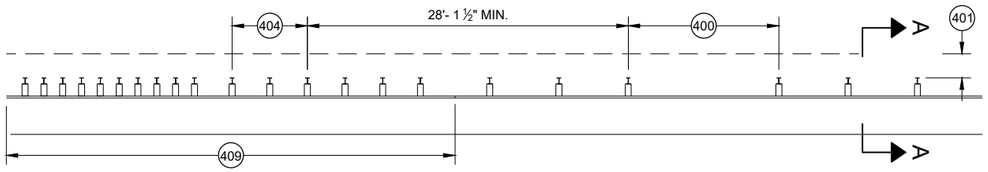
SDD 14B42 - 07c



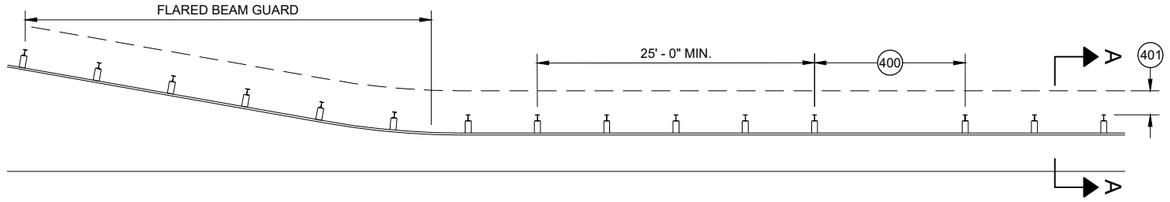
MISSING POST IN MGS GUARDRAIL



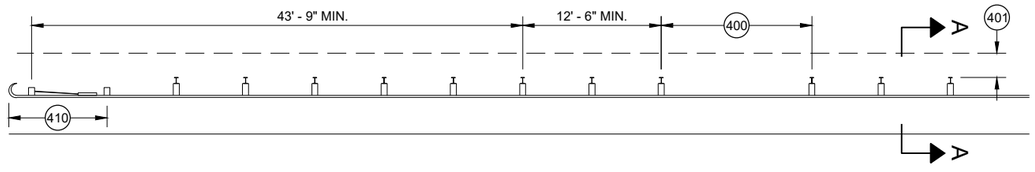
MISSING POST IN MGS GUARDRAIL NEAR EAT



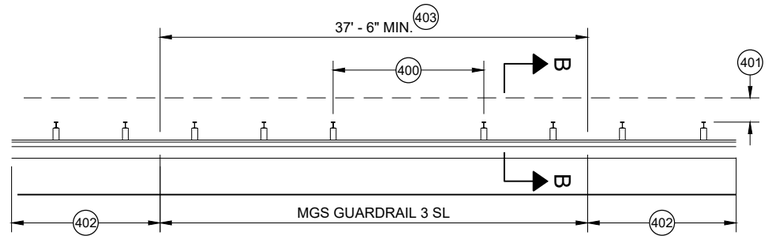
MISSING POST IN MGS GUARDRAIL NEAR AN APPROACH TRANSITION



MISSING POST IN MGS GUARDRAIL NEAR FLARED BEAM GUARD

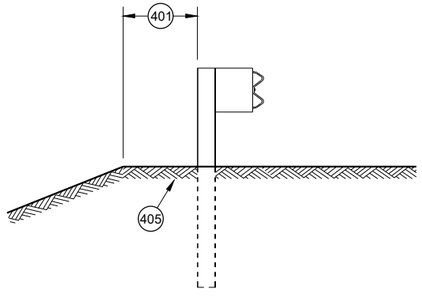


MISSING POST IN MGS GUARDRAIL NEAR A TYPE 2 END TERMINAL

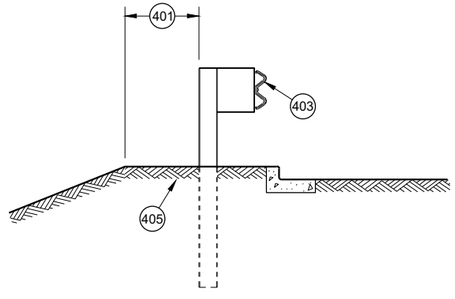


MISSING POST IN SHORT SPAN MGS GUARDRAIL NEAR CURB (SL) 407

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



SECTION A - A 406



SECTION B - B 406

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2021
DATE

/S/ Rodney Taylor
ROADWAY STANDARDS DEVE
UNIT SUPERVISOR

FHWA

6

SDD 14B42 - 07d

GENERAL NOTES

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

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

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

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

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

DIMENSIONS MAY VARY, MANUFACTURER'S INFORMATION.

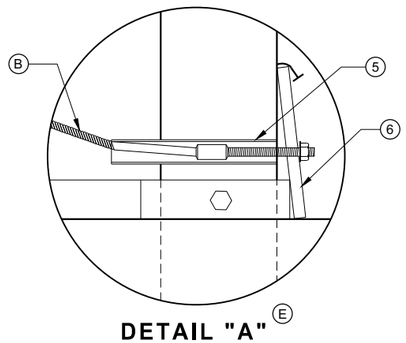
SEE SDD 14B42 FOR MORE INFORMATION.

* DO NOT ATTACH BLOCKOUTS TO POST 1 AND 2.

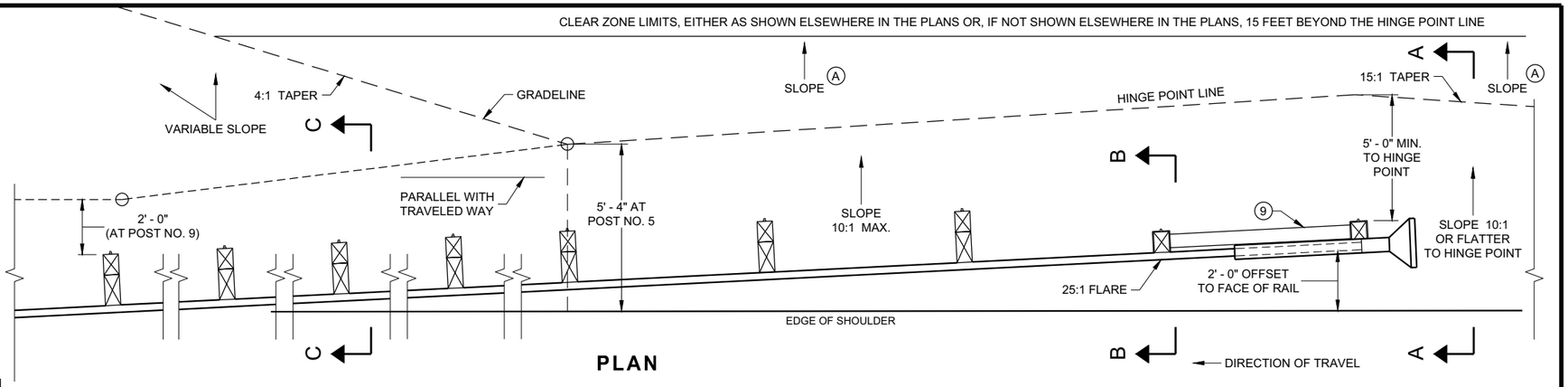
DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

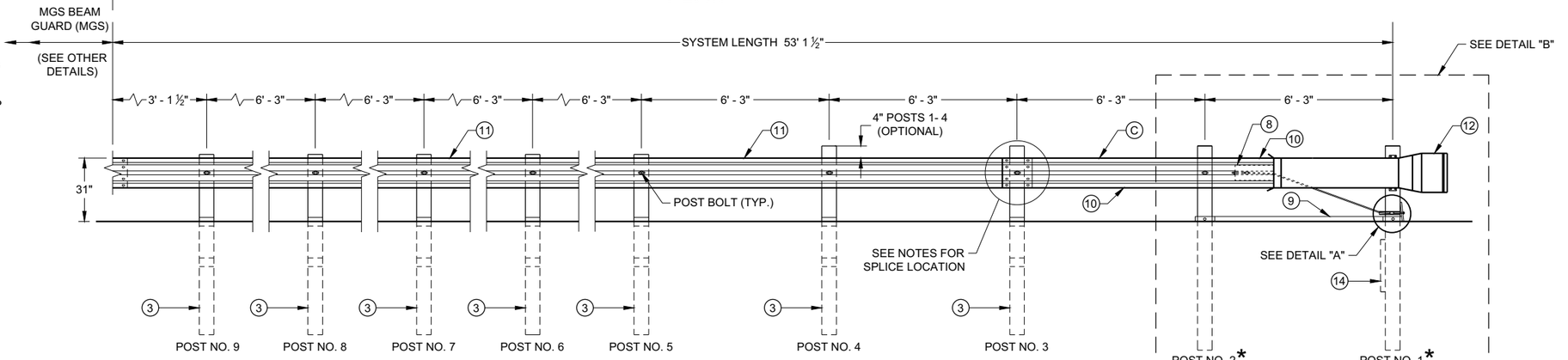
SEE MANUFACTURER'S DRAWING FOR SPLICE LOCATION, HARDWARE DIMENSIONS AND INSTALLATION INSTRUCTIONS.

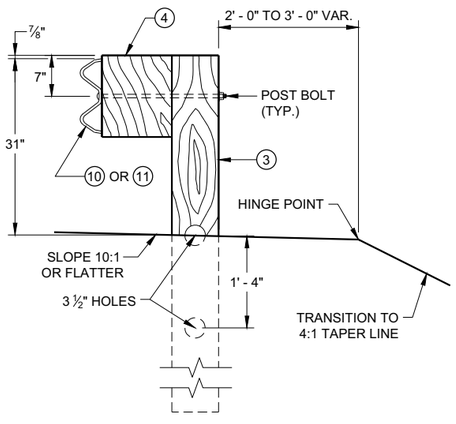
THE CENTER OF THE UPPER 3 ½" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE UP TO A MAXIMUM OF 2" ABOVE GROUND LINE. WOOD BLOCKS ON POSTS NUMBERED 3 THROUGH 9 MAY BE ADJUSTED UP TO 3" ABOVE THE TOP OF POST.



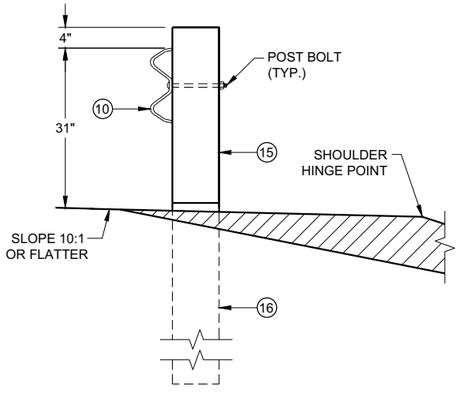
DETAIL "A" (E)



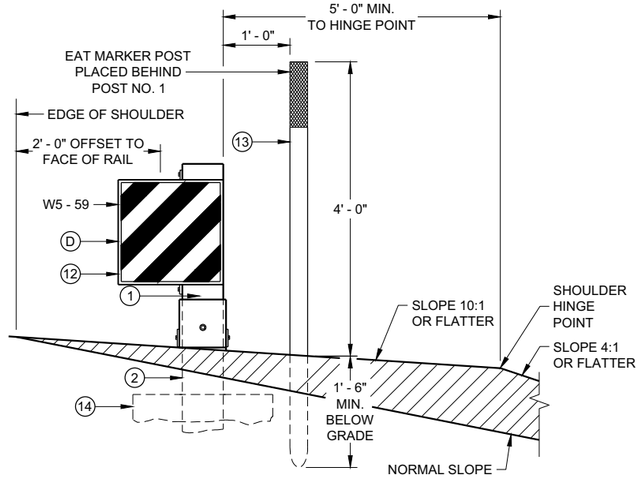




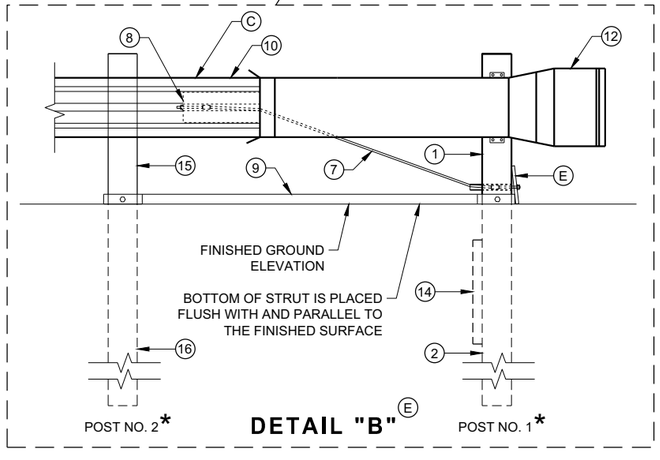
SECTION C - C
TYPICAL AT POST NOS. 3 - 9



SECTION B - B
TYPICAL AT POST NO. 2*



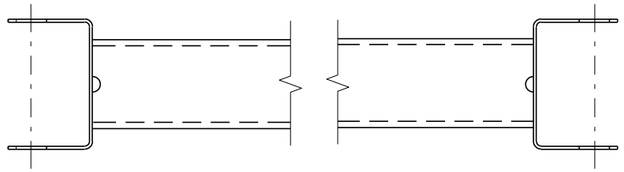
SECTION A - A
TYPICAL AT POST NO. 1*



MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

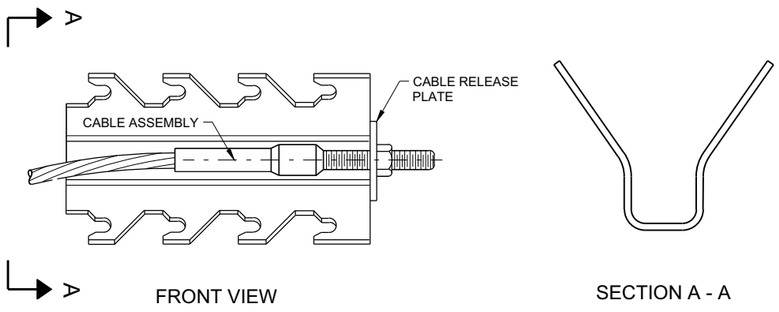
SDD 14B44 - 04a



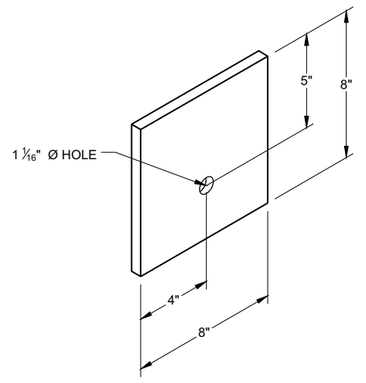
GENERIC GROUND STRUT ⑨ Ⓔ

BILL OF MATERIALS

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



GENERIC ANCHOR CABLE BOX ⑨ Ⓔ



BEARING PLATE ⑥ Ⓔ

6

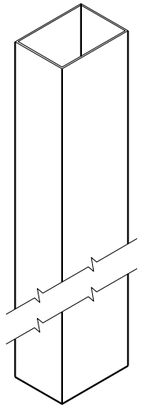
6

SDD 14B44 - 04b

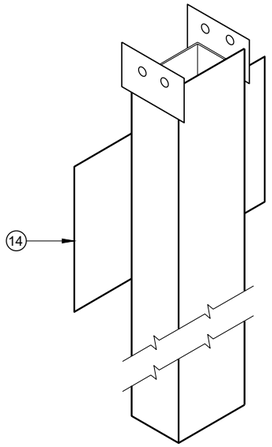
SDD 14B44 - 04b

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

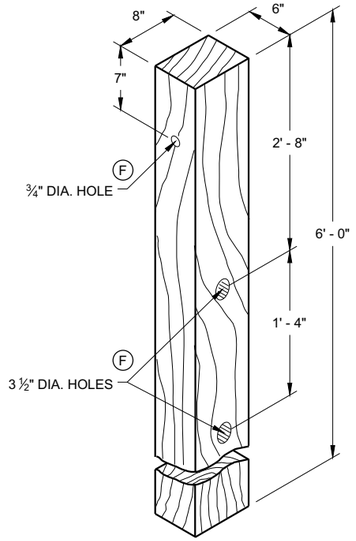
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



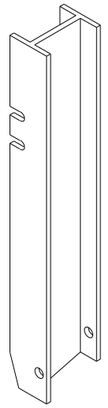
UPPER POST NO. 1 (1) (E)



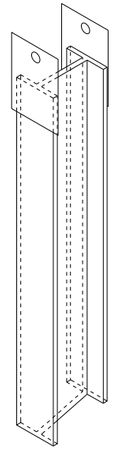
LOWER POST NO. 1 (2) (E)



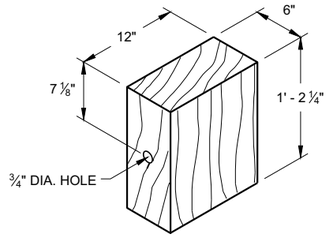
WOOD CRT POST (3) (E)
POSTS NUMBER 3-9



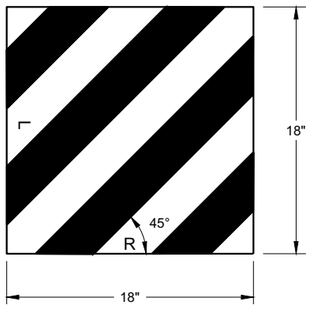
UPPER POST NO. 2 (15) (E)



LOWER POST NO. 2 (16) (E)

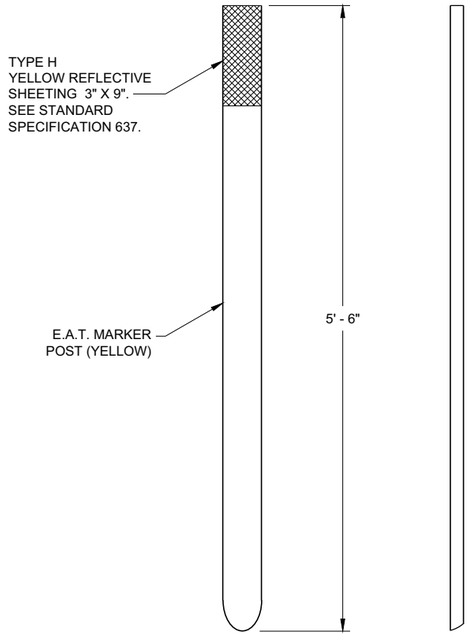


WOOD BLOCKOUT (4)
REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2



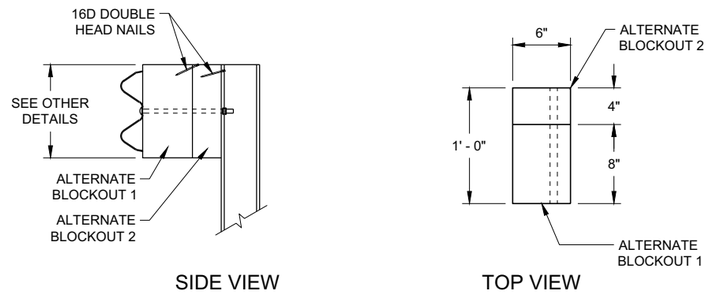
W5 - 59

REFLECTIVE SHEETING DETAIL (E)



FRONT VIEW SIDE VIEW

E.A.T. MARKER POST (13)



SIDE VIEW TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL

MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)

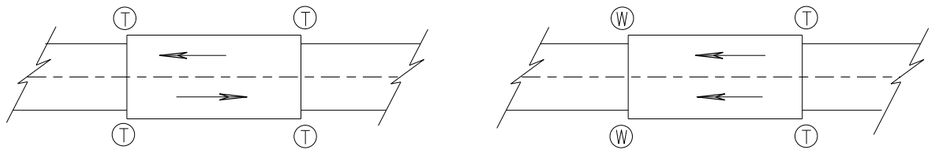
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA

6

SDD 14B44 - 04c



TWO WAY TRAFFIC

ONE WAY TRAFFIC

(T) THRIE BEAM CONNECTION

(W) W-BEAM CONNECTION WHEN REQUIRED

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

GENERAL NOTES

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

TRANSITION USES STEEL POSTS ONLY.

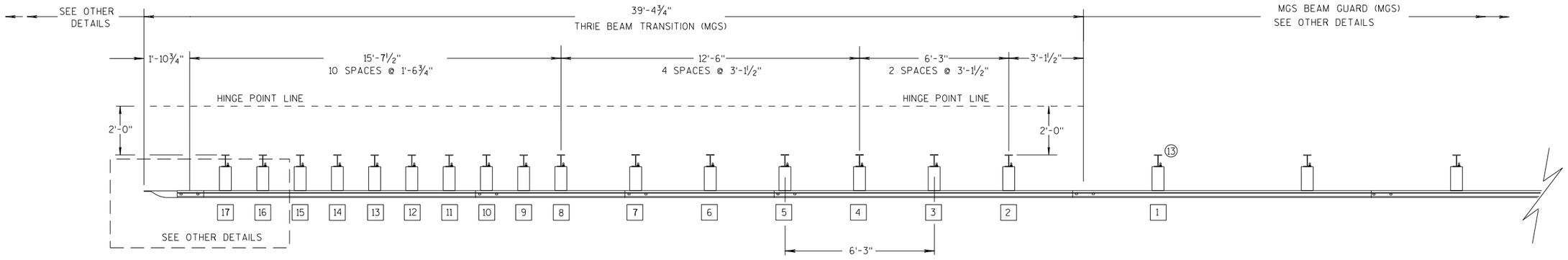
SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

POST 2 THROUGH 17 USES STEEL POST ONLY

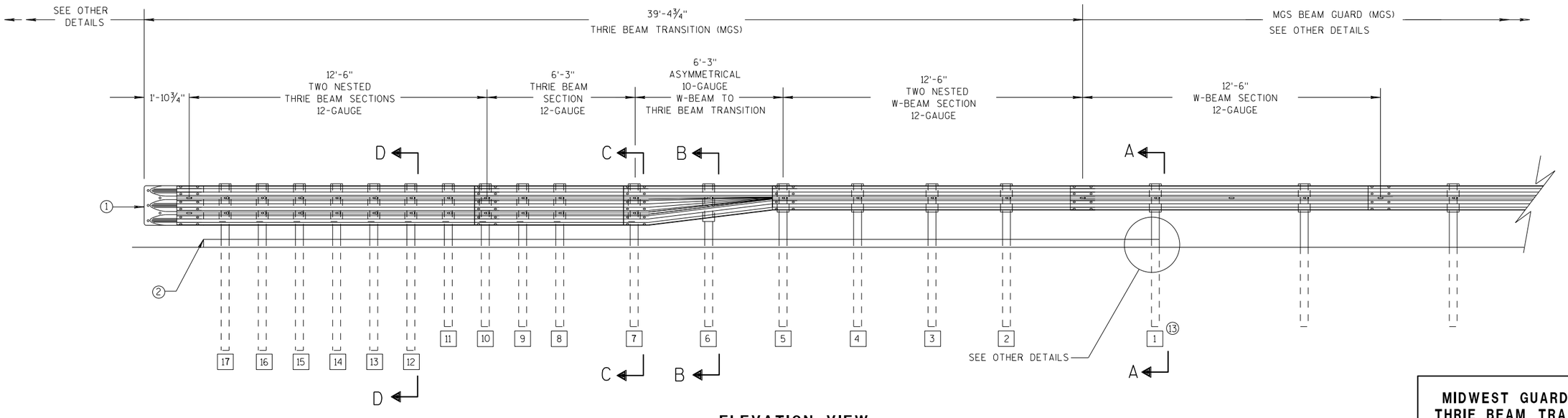
(1) BRIDGE RAILING TYPE "W" DOES NOT REQUIRE A TERMINAL CONNECTOR.

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

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



PLAN VIEW



ELEVATION VIEW

MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

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

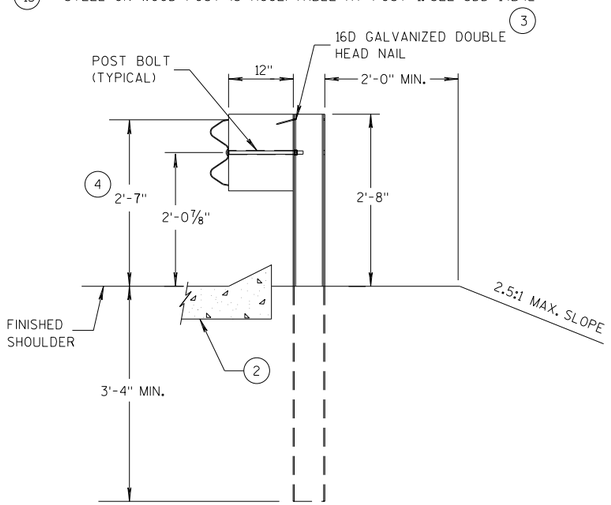
GENERAL NOTES

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

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

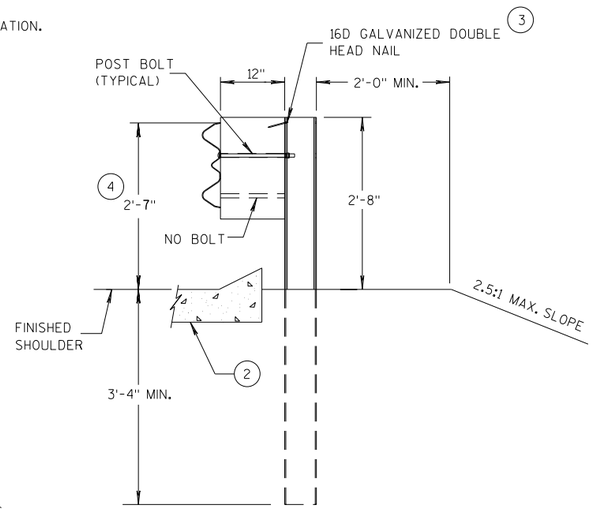
(4) TOLERANCE FOR TOP OF W-BEAM RAIL IS ± 1".

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



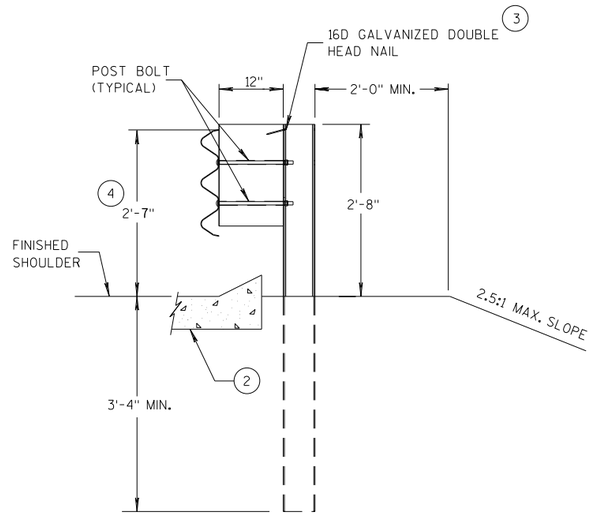
SECTION A-A (13)

POSTS 1-5



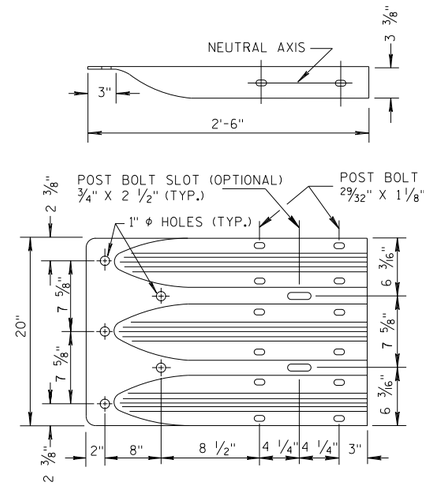
SECTION B-B

POST 6

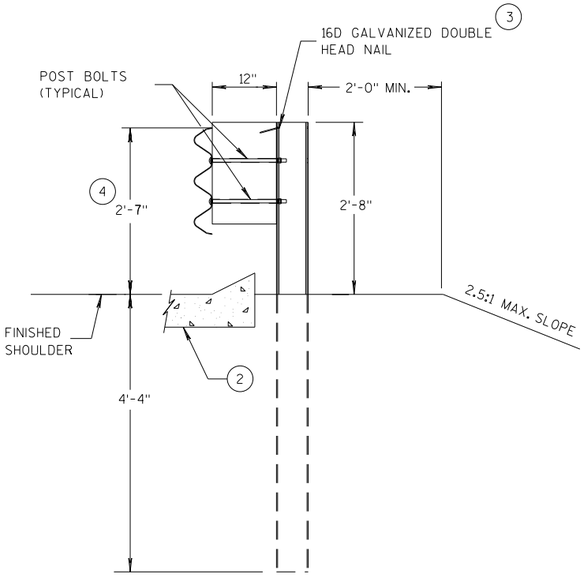


SECTION C-C

POSTS 7-11

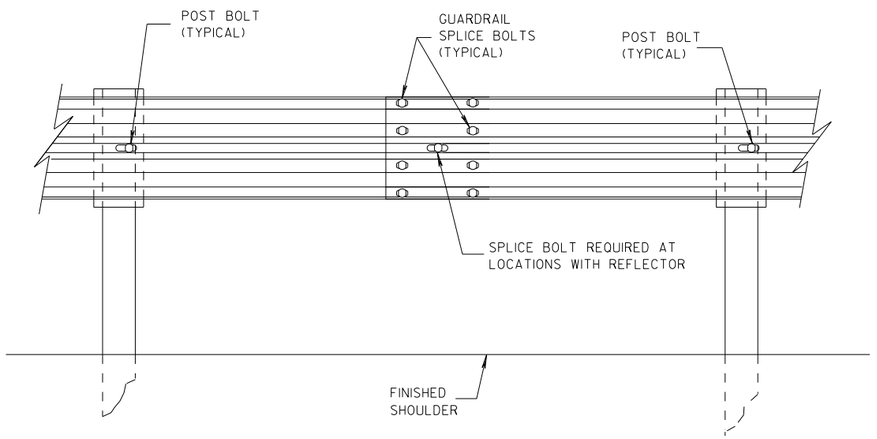


THRIE BEAM TERMINAL CONNECTOR



SECTION D-D

POSTS 12-17



SPLICE DETAIL

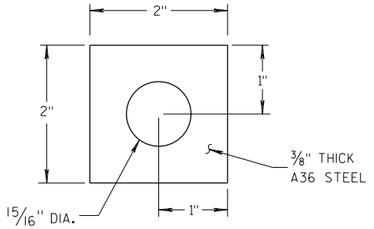
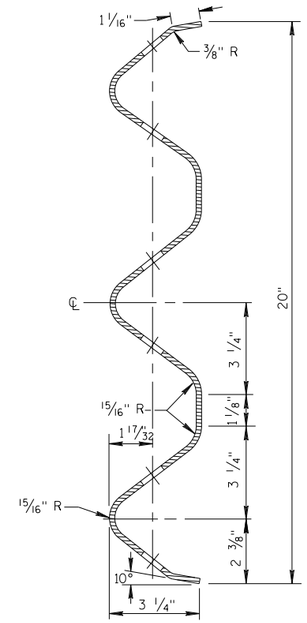


PLATE WASHER DETAIL



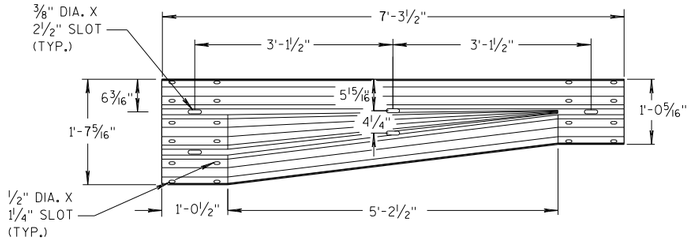
SECTION THRU THRIE BEAM RAIL ELEMENT

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

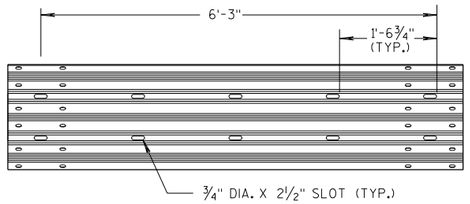
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOF

6

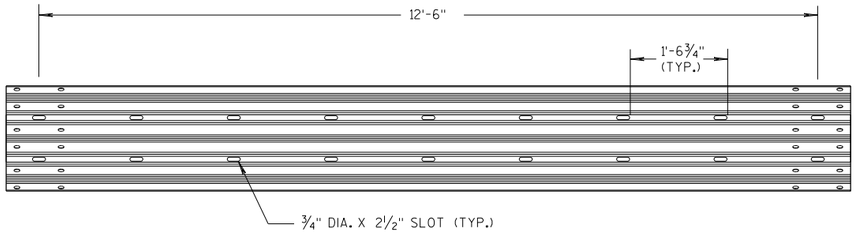
S.D.D. 14 B 45-5b



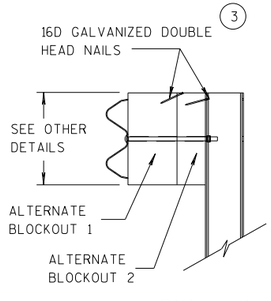
W-BEAM TO THRIE BEAM TRANSITION SECTION



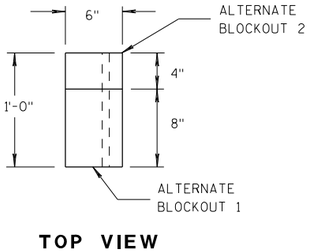
6'-3" THRIE BEAM SECTION



12'-6" THRIE BEAM SECTION

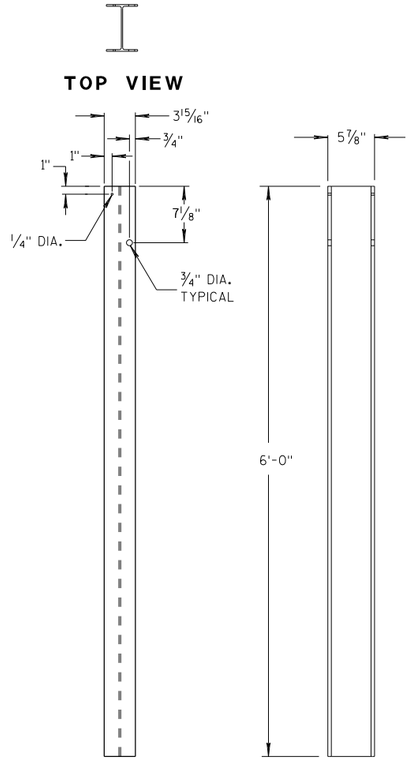


SIDE VIEW



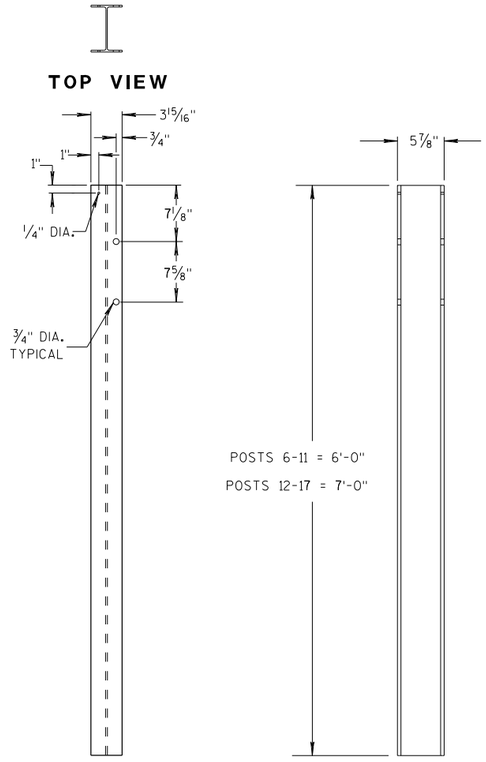
TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL



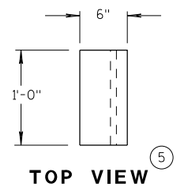
FRONT VIEW SIDE VIEW

STEEL POSTS 1-5 (13)

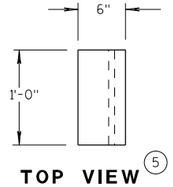


FRONT VIEW SIDE VIEW

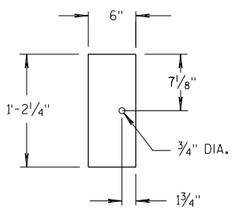
STEEL POSTS 6-17



TOP VIEW (5)

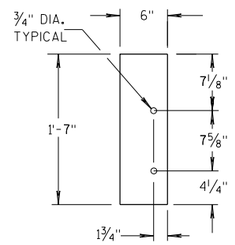


TOP VIEW (5)



FRONT VIEW

BLOCKOUT POSTS 1-5



FRONT VIEW

BLOCKOUT POSTS 6-17

GENERAL NOTES

STEEL POSTS ARE W6X9 OR W6X8.5.

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

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

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

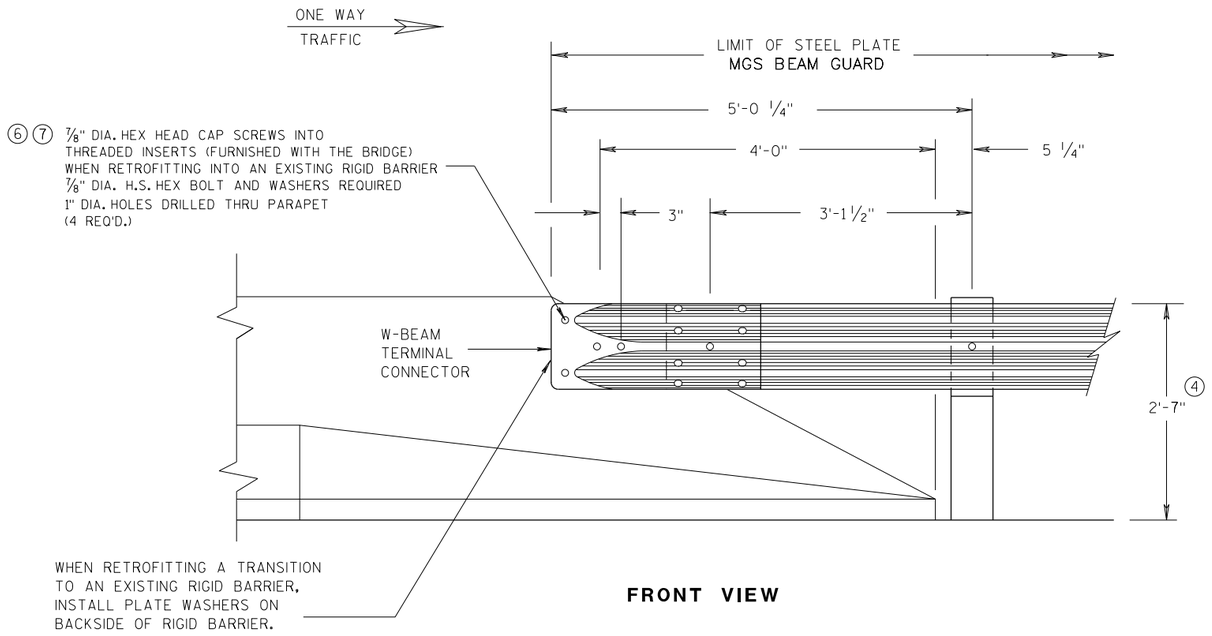
(13) STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD 14B42.

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

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



FRONT VIEW

W BEAM CONNECTION TO PARAPETS WITH SLOPED ENDS

(USE ONLY AT TRAFFIC EXIT END OF ONE WAY BRIDGE)

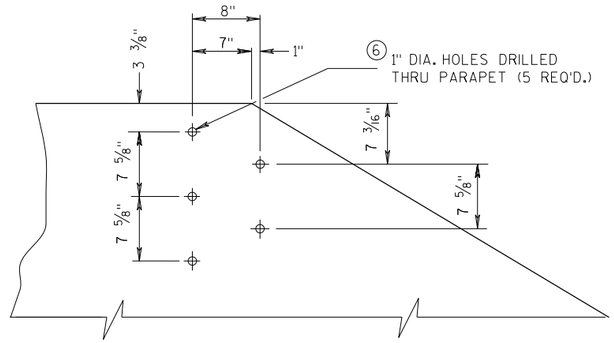
GENERAL NOTES

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

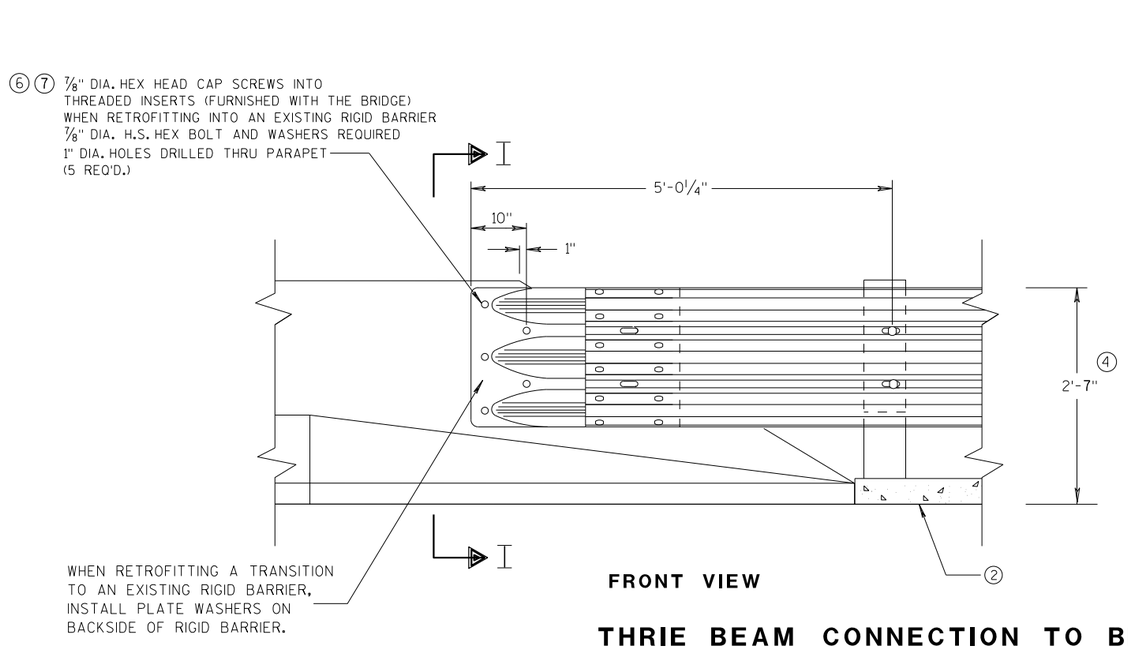
④ TOLERANCE FOR TOP OF BEAM IS ± 1".

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

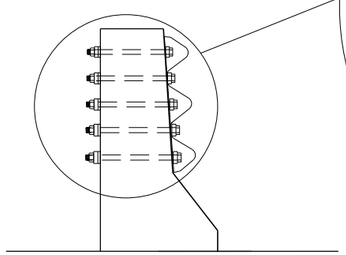
⑦ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE.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



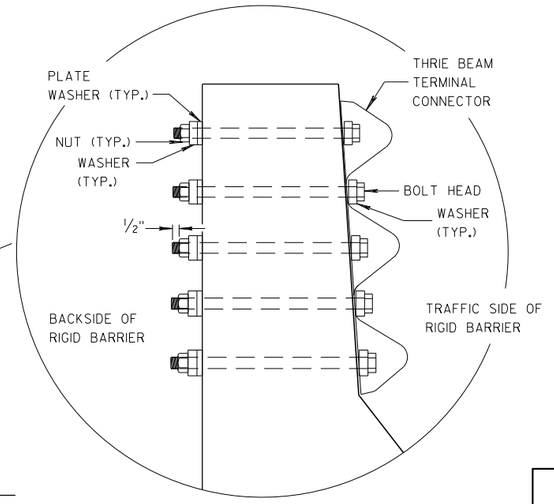
DRILL HOLE LOCATION AND PATTERN FOR THRIE BEAM CONNECTION



FRONT VIEW



SECTION I-I



THRIE BEAM CONNECTION TO BRIDGE PARAPETS WITH SLOPED ENDS

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
07/2018 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS [illegible] UNIT SUPERVI[illegible]ENT
FHWA

6

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

GENERAL NOTES

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

(1) LOCATE THE NO PASSING ZONE W14-3 SIGN WITHIN 50 FEET OF THE "T" MARKING

(2) MEASURE FROM EDGE OF MARKING TO JOINT LINE. THIS DOES NOT INCLUDE SPACE NEEDED FOR GROOVING OPERATIONS.

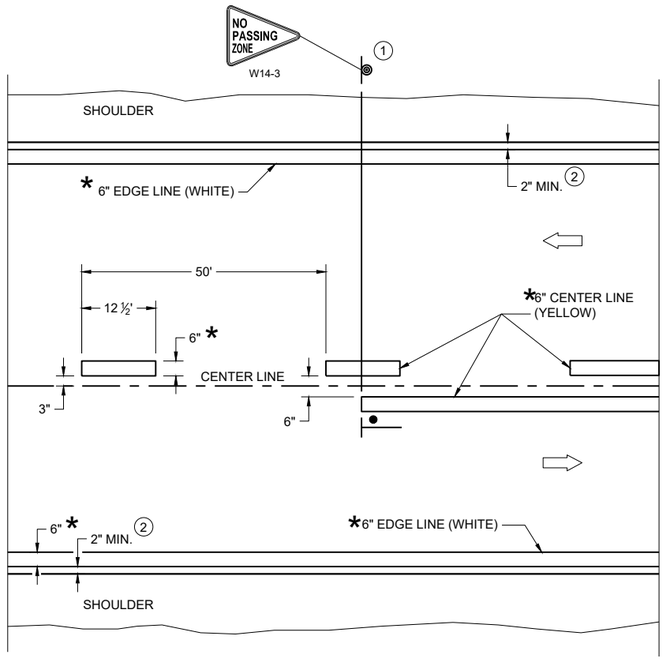
*CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES

LEGEND

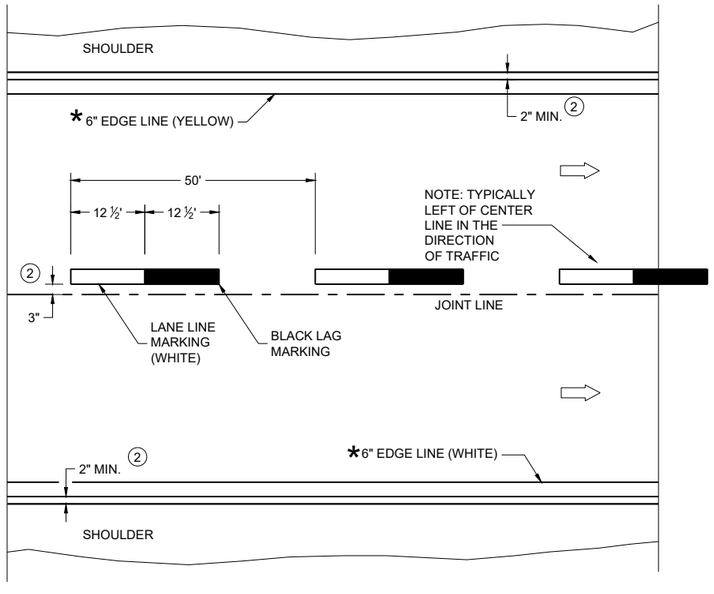
"T" MARKING

SIGN ON PERMANENT SUPPORT

DIRECTION OF TRAFFIC



TWO WAY TRAFFIC



ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING

6

PERMANENT LONGITUDINAL PAVEMENT MARKINGS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

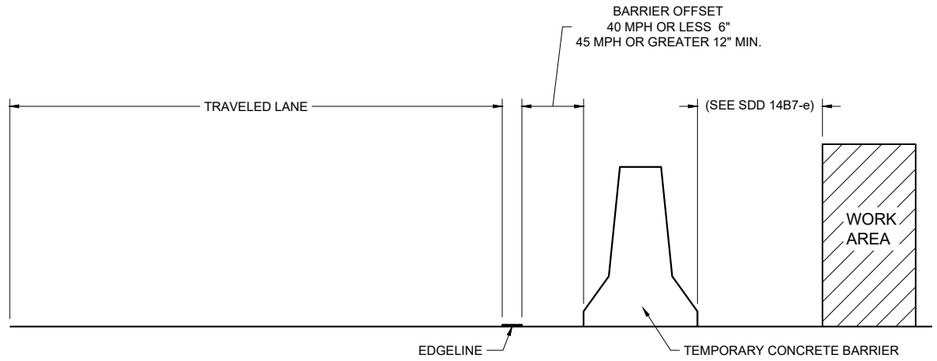
APPROVED
December 2024
DATE

/S/ Jeannie Silver
Statewide Pavement Marking Engineer

FHWA

SDD 15C08-24a

SDD 15C08-24a



TEMPORARY BARRIER OFFSET FROM EDGELINE

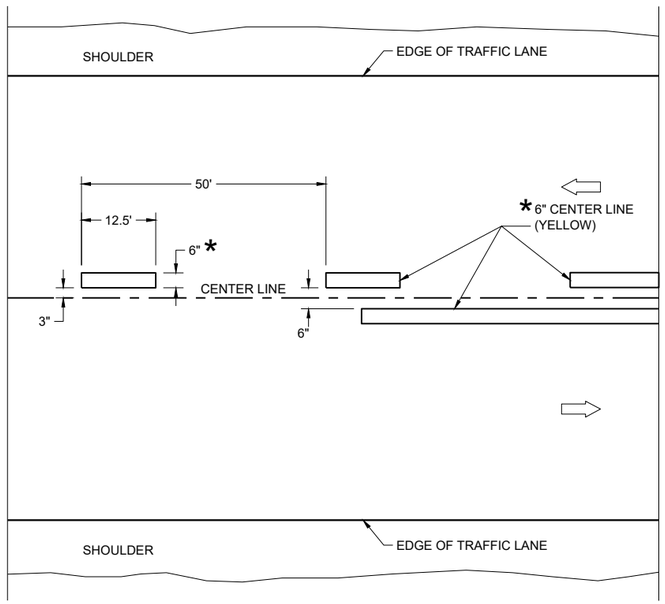
GENERAL NOTES

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

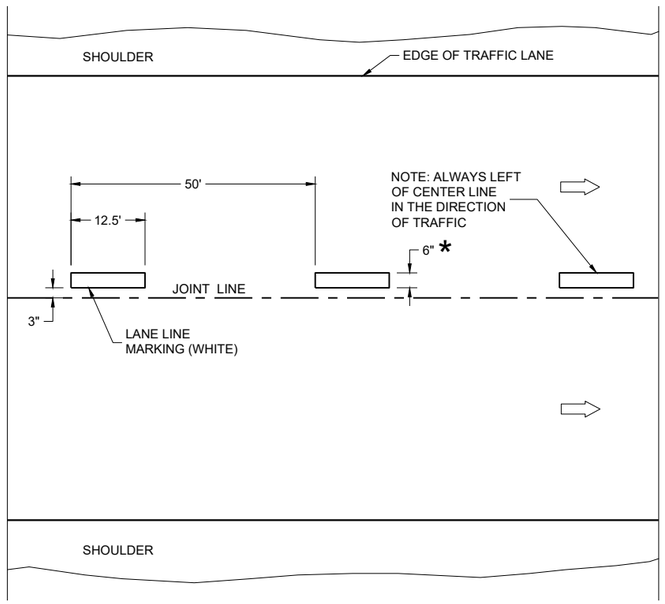
LEGEND

⇨ DIRECTION OF TRAFFIC

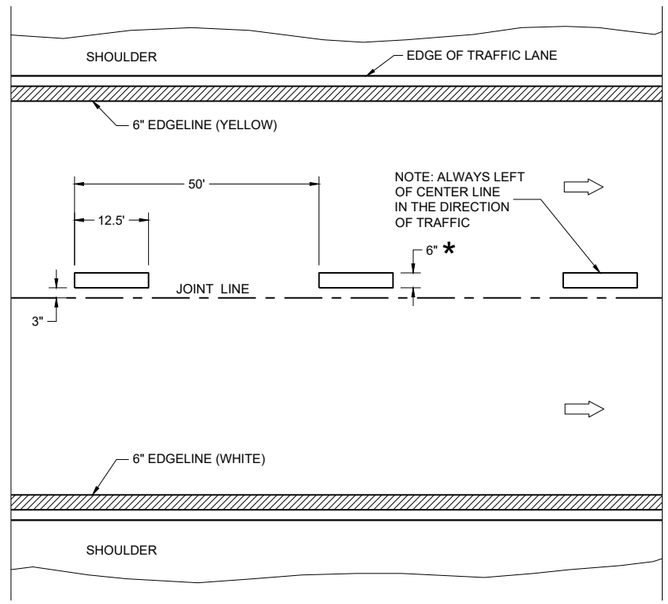
*CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES



TWO WAY TRAFFIC



ONE WAY TRAFFIC



FREEWAYS AND EXPRESSWAYS

TEMPORARY PAVEMENT MARKING

TEMPORARY LONGITUDINAL PAVEMENT MARKING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
December 2024
DATE
/S/ Jeannie Silver
Statewide Pavement Marking Engineer

FHWA

6

SDD 15C08-24b

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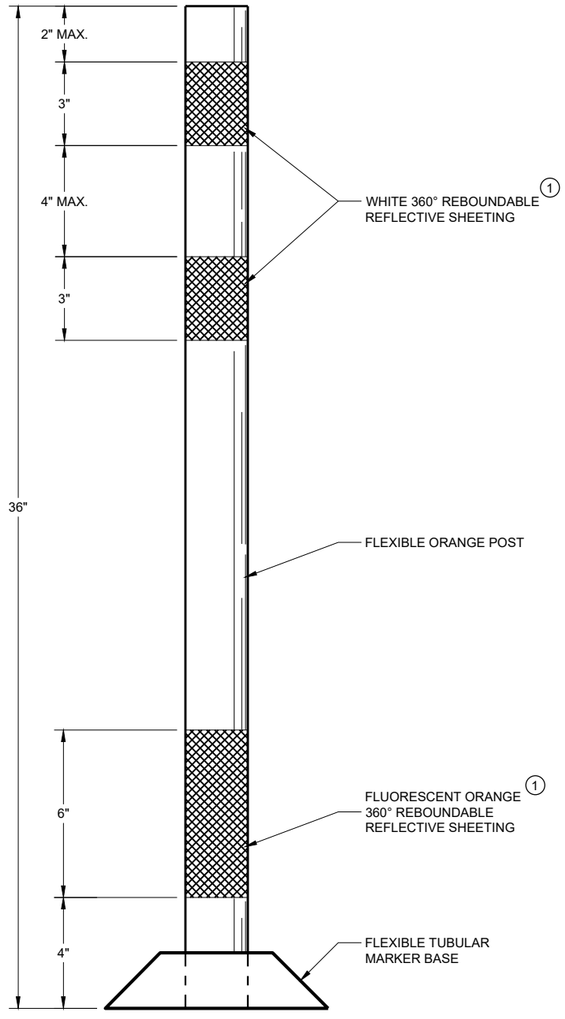
SDD 15C08-24b



FLEXIBLE TUBULAR MARKER POST WORK ZONE

GENERAL NOTES

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

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

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

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

CHANNELIZING DEVICES FLEXIBLE TUBULAR MARKER POST

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2022
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

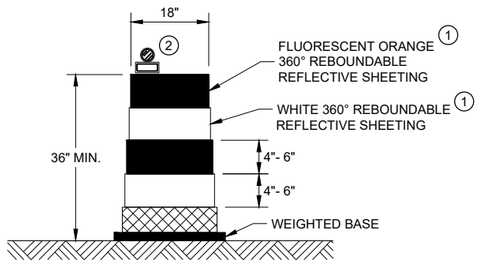
6

SDD 15C11 - 10a

SDD 15C11 - 10a

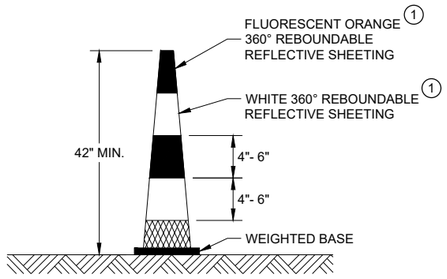
GENERAL NOTES

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



DRUM

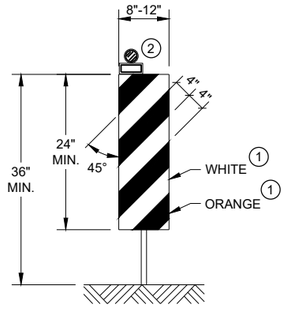
BALLAST WIDTHS
RANGE FROM 24"-36"



42" CONE

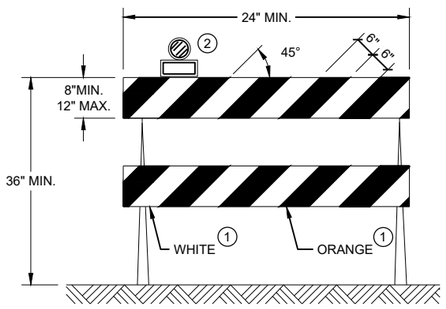
DO NOT USE IN TAPERS
½ SPACING OF DRUMS

BALLAST WIDTHS
RANGE FROM 14"-20"



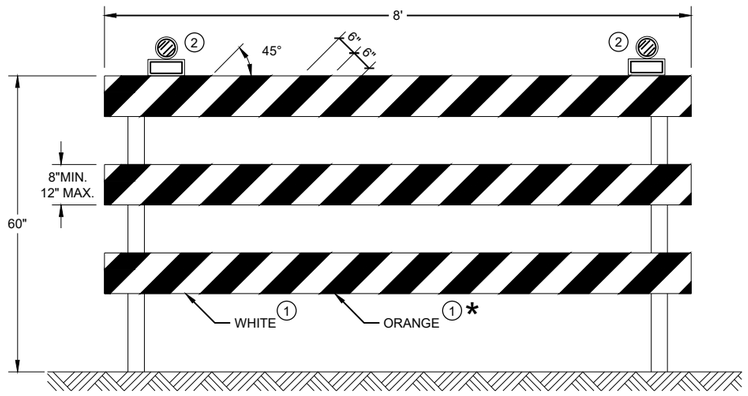
VERTICAL PANEL

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



TYPE II BARRICADE

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



TYPE III BARRICADE

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

* IF USED FOR A PERMANENT APPLICATION USE RED SHEETING.

CHANNELIZING DEVICES
DRUMS, CONES, BARRICADES
AND VERTICAL PANELS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6

SDD 15C11 - 10b

6

SDD 15C11 - 10b

LEGEND

SIGN ON PORTABLE OR PERMANENT SUPPORT

TEMPORARY PORTABLE RUMBLE STRIP ARRAY

DIRECTION OF TRAFFIC

WORK AREA

FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF

GENERAL NOTES

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

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

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

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

THE FIRST ADVANCE WARNING SIGN SHOULD TYPICALLY BE LOCATED IN ADVANCE OF THE ANTICIPATED TRAFFIC BACKUP OR QUEUE.

WHEN A SIDE ROAD OR RAMP INTERSECTS THE FACILITY ON WHICH THE WORK IS BEING PERFORMED, ADDITIONAL TRAFFIC CONTROLS SHALL BE PROVIDED AS SPECIFIED IN THE PLANS AND/OR THE SPECIAL PROVISIONS OR AS APPROVED BY THE ENGINEER.

FLAGGING

FLAGGERS SHALL BE IN SIGHT OF EACH OTHER OR IN DIRECT COMMUNICATION AT ALL TIMES. THEY SHALL BE EQUIPPED WITH STOP/SLOW PADDLES FASTENED ON SUPPORT STAFFS. WHEN THE FLAGGING OPERATION IS NOT IN EFFECT REMOVE TEMPORARY PORTABLE RUMBLE STRIPS PRIOR TO COVERING OR REMOVING ALL ADVANCE SIGNING.

(1) FOR MOVING WORK OPERATIONS, POST ADDITIONAL W20-7A FLAGGER SIGNS AT APPROXIMATELY 3,500' INTERVALS IN THE MOVING WORK OPERATION OR AS APPROVED BY THE ENGINEER.

(2) SIGN NOT REQUIRED IF FLAGGING OPERATION OCCURS WITHIN A SIGNED ROAD WORK ZONE AREA.

WHEN THE DISTANCE BETWEEN FLAGGERS EXCEEDS 2 MILES, A PILOT CAR IS REQUIRED. WHEN CURVES REDUCE SIGHT DISTANCE BELOW 400', A PILOT CAR IS REQUIRED.

TEMPORARY PORTABLE RUMBLE STRIPS

UTILIZE TEMPORARY PORTABLE RUMBLE STRIPS ON ALL FLAGGING OPERATIONS.

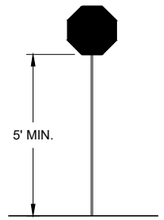
(3) EACH TEMPORARY PORTABLE RUMBLE STRIP ARRAY CONSISTS OF THREE RUMBLE STRIPS PLACED TRANSVERSE ACROSS THE LANE AT THE LOCATIONS SHOWN. WITHIN EACH ARRAY, SPACING BETWEEN RUMBLE STRIPS SHALL BE 15 FEET ON CENTER

ONLY USE TEMPORARY PORTABLE RUMBLE STRIPS FROM THE APPROVED PRODUCTS LIST.

INSTALL TEMPORARY RUMBLE STRIPS PER MANUFACTURER'S RECOMMENDATIONS.

PLACE ADVANCE SIGNING PRIOR TO INSTALLING TEMPORARY RUMBLE STRIPS.

DO NOT INSTALL TEMPORARY PORTABLE RUMBLE STRIPS ON GRAVEL, MILLED SURFACES, OR ASPHALT THAT HAS BEEN PAVED LESS THAN 12 HOURS.



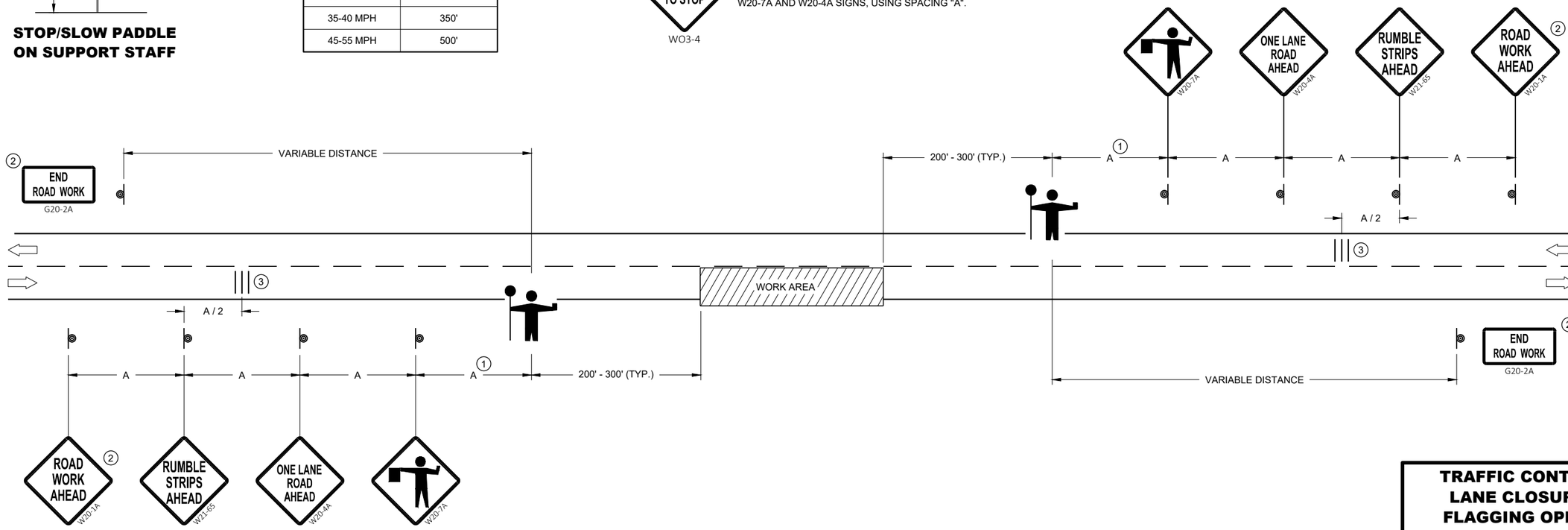
STOP/SLOW PADDLE ON SUPPORT STAFF

SIGN AND TEMPORARY RUMBLE STRIP ARRAY SPACING TABLE

SPEED LIMIT	SPACING "A"
25-30 MPH	200'
35-40 MPH	350'
45-55 MPH	500'

WO3-4

USE OF WO3-4 SIGN IS OPTIONAL. WHEN USED, THIS SIGN SHALL BE LOCATED BETWEEN THE W20-7A AND W20-4A SIGNS, USING SPACING "A".



TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2022
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

SDD 15C12 - 09a

SDD 15C12 - 09a

GENERAL NOTES

SIGN ON PERMANENT SUPPORT

TRAFFIC CONTROL CONE 42-INCH

TRAFFIC CONTROL DRUM

TEMPORARY PORTABLE RUMBLE STRIP ARRAY

DIRECTION OF TRAFFIC

WORK AREA

AFAD — AUTOMATED FLAGGER ASSISTANCE DEVICE (AFAD)

GENERAL NOTES

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

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

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

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

THE FIRST ADVANCE WARNING SIGN SHOULD TYPICALLY BE LOCATED IN ADVANCE OF THE ANTICIPATED TRAFFIC BACKUP OR QUEUE.

WHEN A SIDE ROAD OR RAMP INTERSECTS THE FACILITY ON WHICH THE WORK IS BEING PERFORMED, ADDITIONAL TRAFFIC CONTROLS SHALL BE PROVIDED AS SPECIFIED IN THE PLANS AND/OR THE SPECIAL PROVISIONS OR AS APPROVED BY THE ENGINEER.

FLAGGING

IF THE AUTOMATED FLAGGER ASSISTANCE DEVICE (AFAD) STOPS WORKING, FLAGGERS SHALL BE IN SIGHT OF EACH OTHER OR IN DIRECT COMMUNICATION AT ALL TIMES. THEY SHALL BE EQUIPPED WITH STOP/SLOW PADDLES FASTENED ON SUPPORT STAFFS. WHEN THE FLAGGING OPERATION IS NOT IN EFFECT REMOVE TEMPORARY PORTABLE RUMBLE STRIPS PRIOR TO COVERING OR REMOVING ALL ADVANCE SIGNING.

WHEN THE DISTANCE BETWEEN FLAGGERS EXCEEDS 2 MILES, A PILOT CAR IS REQUIRED. WHEN CURVES REDUCE SIGHT DISTANCE BELOW 400', A PILOT CAR IS REQUIRED.

(1) SIGN NOT REQUIRED IF FLAGGING OPERATION OCCURS WITHIN A SIGNED ROAD WORK ZONE AREA.

(2) IF FLAGGERS ARE PHYSICALLY NEEDED TO FLAG, REPLACE WO3-4 SIGNS WITH W20-7A SIGNS.

TEMPORARY PORTABLE RUMBLE STRIPS

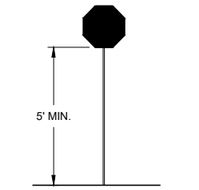
UTILIZE TEMPORARY PORTABLE RUMBLE STRIPS ON ALL FLAGGING OPERATIONS.

ONLY USE TEMPORARY PORTABLE RUMBLE STRIPS FROM THE APPROVED PRODUCTS LIST.

PLACE ADVANCE SIGNING PRIOR TO INSTALLING TEMPORARY RUMBLE STRIPS.

DO NOT INSTALL TEMPORARY PORTABLE RUMBLE STRIPS ON GRAVEL, MILLED SURFACES, OR ASPHALT THAT HAS BEEN PAVED LESS THAN 12 HOURS.

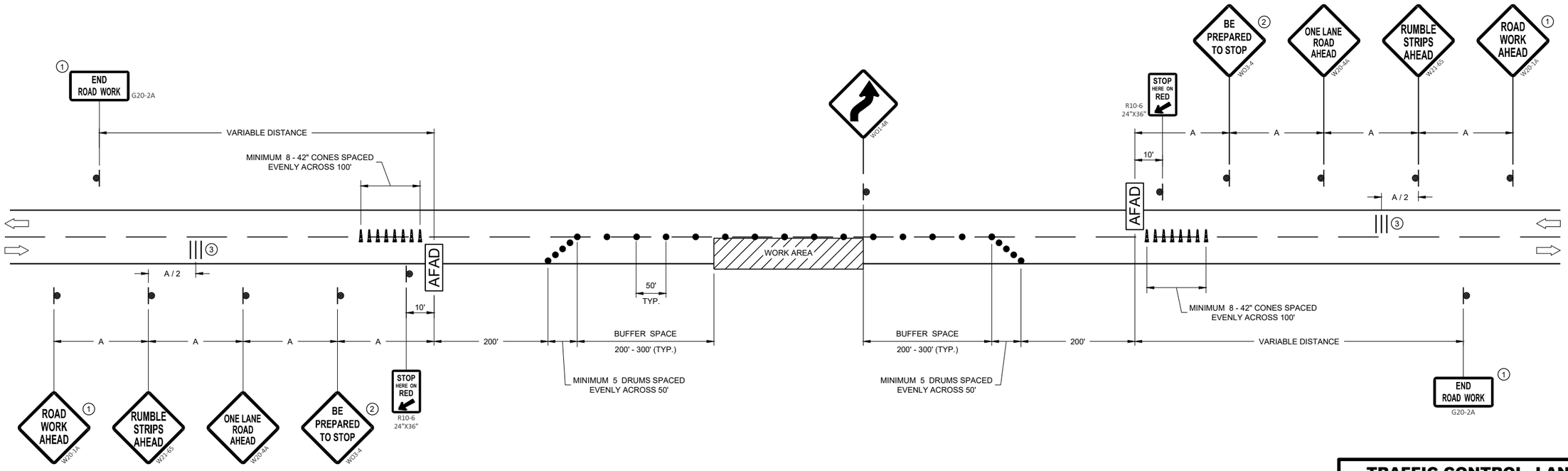
(3) EACH TEMPORARY PORTABLE RUMBLE STRIP ARRAY CONSISTS OF THREE RUMBLE STRIPS PLACED TRANSVERSELY AT THE LOCATIONS SHOWN. WITHIN EACH ARRAY, SPACING BETWEEN RUMBLE STRIPS SHALL BE 15 FEET ON CENTER.



STOP/SLOW PADDLE ON SUPPORT STAFF

SIGN AND TEMPORARY RUMBLE STRIP ARRAY SPACING TABLE

SPEED LIMIT	SPACING "A"
25-30 MPH	200'
35-40 MPH	350'
45-55 MPH	500'



TRAFFIC CONTROL, LANE CLOSURE WITH AUTOMATED FLAGGER ASSISTANCE DEVICE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2022
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

SDD 15C12 - 09b

SDD 15C12 - 09b

LEGEND

V1 LEAD VEHICLE

V2 MARKING VEHICLE

V3 SHADOW VEHICLE

TRUCK MOUNTED ATTENUATOR (TMA)

SIGN ON TEMPORARY SUPPORT

DIRECTION OF TRAFFIC

GENERAL NOTES

ALL VEHICLES SHALL BE EQUIPPED WITH TWO 360 DEGREE HIGH INTENSITY YELLOW FLASHING LIGHTS OR STROBE LIGHTS AND OPERATED WITH HEADLIGHTS TURNED ON.

ALL VEHICLES SHALL BE EQUIPPED WITH REAR FACING TYPE B OR C FLASHING ARROW PANEL OPERATING IN CAUTION MODE. SIGNS PLACED ON VEHICLES MUST NOT OBSCURE THE ARROW PANEL.

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

DISTANCE BETWEEN VEHICLES MAY VARY ACCORDING TO TERRAIN, SIGHT DISTANCE, PAINT DRYING TIME, AND OTHER FACTORS. WHENEVER ADEQUATE STOPPING SIGHT DISTANCE EXISTS TO THE REAR, SHADOW VEHICLES SHOULD MAINTAIN THE MINIMUM DISTANCE FROM THE WORK VEHICLE AND PROCEED AT THE SAME SPEED AS THE WORK VEHICLE. SHADOW VEHICLES SHOULD SLOW DOWN IN ADVANCE OF VERTICAL AND HORIZONTAL CURVES THAT RESTRICT SIGHT DISTANCE.

THE WORK AND SHADOW VEHICLES SHOULD PULL OVER PERIODICALLY TO ALLOW TRAFFIC TO PASS.

WHEN NO WORK ACTIVITY IS TAKING PLACE, REMOVE OR LAY STATIONARY SIGNS AND SUPPORTS FLAT ON THE GRADE WITH

WORKERS SHALL NOT PERFORM WORK FROM ANY SHADOW OR PROTECTION VEHICLES.

UPRIGHTS ORIENTED PARALLEL TO AND DOWNSTREAM FROM TRAFFIC.

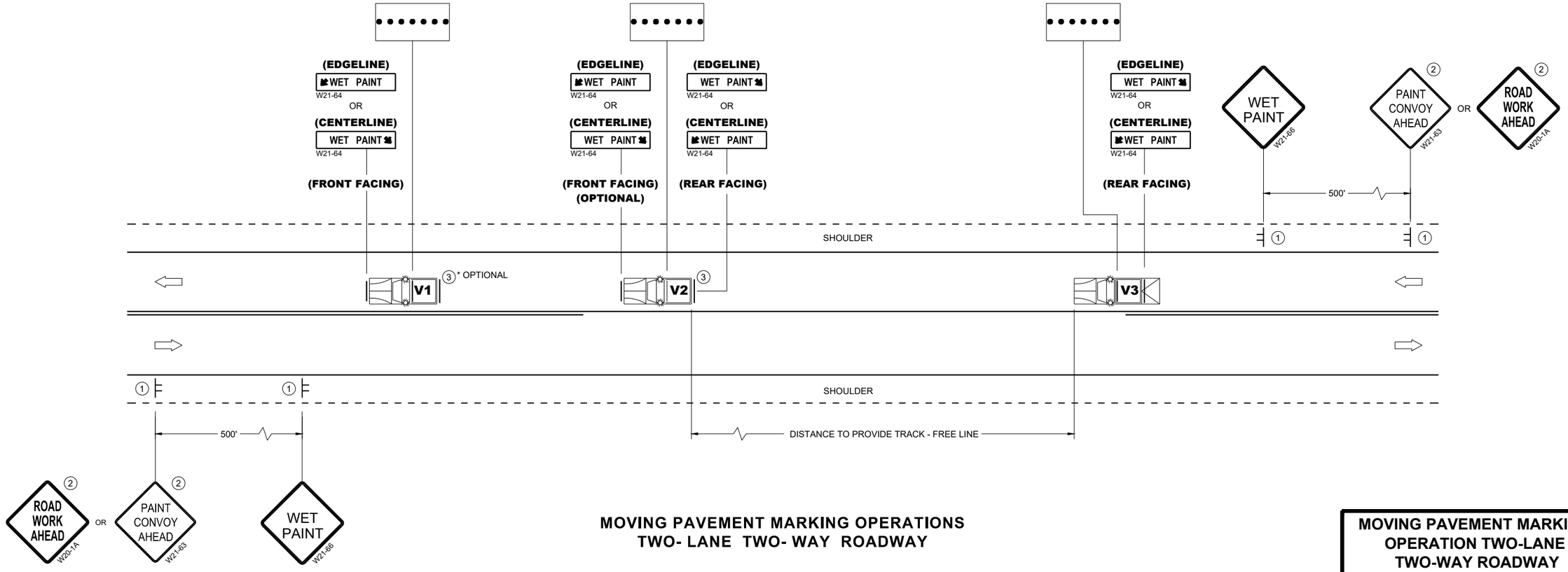
CONES SHOULD BE USED BETWEEN THE MARKING AND SHADOW VEHICLE AT 100 FOOT SPACING. CONES MAY BE OMITTED ON PAINTED LINE IF APPROVED BY THE ENGINEER. CONSIDER PAVEMENT MARKING DRY OR CURE TIMES AND TRAFFIC VOLUME.

CONES SHALL BE A MINIMUM OF 28" FOR WET PAVEMENT MARKING .

(1) SIGNS SHALL BE REPEATED APPROXIMATELY EVERY THREE MILES AND AFTER EVERY MAJOR INTERSECTION.

(2) IF CONSTRUCTION WORK ZONE SIGNS ARE IN PLACE, W20-1A OR W21-63 ARE NOT REQUIRED.

(3) V1 AND V2 CAN BE SWITCHED SO THAT THE MARKER IS THE LEAD VEHICLE.



MOVING PAVEMENT MARKING OPERATIONS TWO- LANE TWO- WAY ROADWAY

MOVING PAVEMENT MARKING OPERATION TWO-LANE TWO-WAY ROADWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2025 — DATE
/S/ Andrew Heidtke — STATE ELECTRICAL ENGINEER

FHWA

6

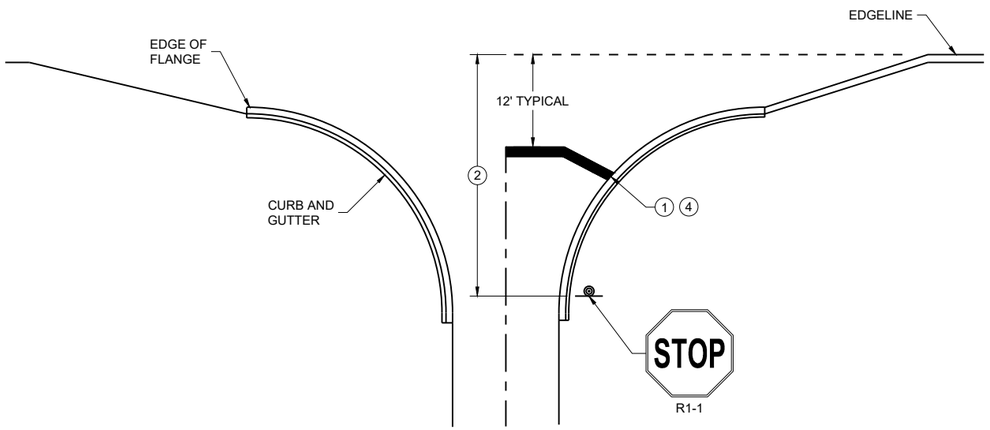
SDD 15C19-11a

SDD 15C19-11a

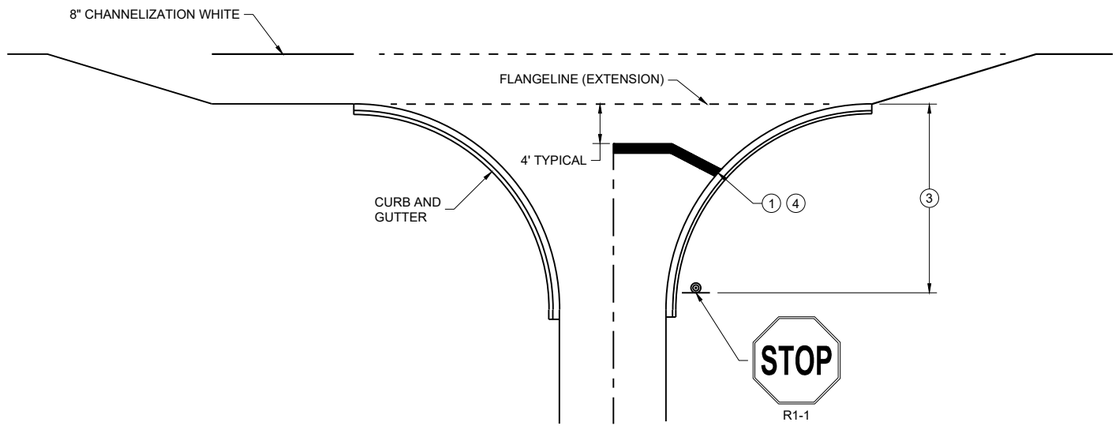
GENERAL NOTES

STOP SIGN SHALL BE PLACED A MINIMUM OF 6 FEET TO A MAXIMUM OF 50 FEET FROM THE EDGELINE LOCATION.

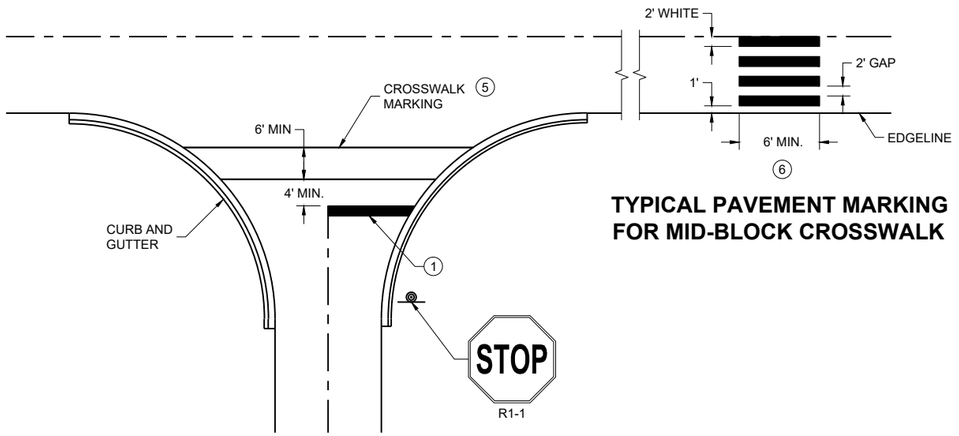
1. 18-INCH STOP LINES MAY BE DELETED OR ADDED BY THE REGION MARKING ENGINEER BASED ON VISIBILITY AND SIGHT LINES.
2. NO STOP LINE IS REQUIRED IF STOP SIGN IS LESS THAN OR EQUAL TO 40 FEET FROM THE EDGELINE.
3. NO STOP LINE IS REQUIRED IF STOP SIGN IS LESS THAN OR EQUAL TO 30 FEET FROM THE FLANGE LINE EXTENSION.
4. MOVE CLOSER TO THE EDGE OF TRAVEL LINE AS NEEDED FOR VISIBILITY AND SIGHT LINES (NO CLOSER THAN 4 FEET).
5. LADDER BAR CROSSWALKS SHOULD ONLY BE USED FOR MID BLOCK CROSSINGS. USE 2 - 6" TRANSVERSE LINES.
6. POSTED SPEED LIMITS OF 40 MPH OR GREATER USE A MINIMUM WIDTH OF 8' FOR MIDBLOCK CROSSWALKS



TYPICAL STOP LINE PAVEMENT MARKING WITH CURB AND GUTTER

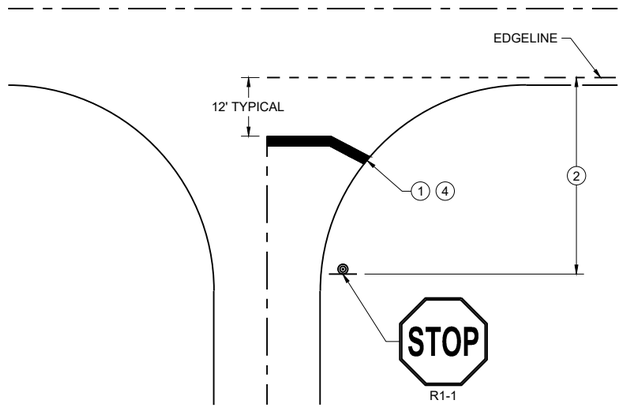


TYPICAL STOP LINE PAVEMENT MARKING FOR SIDE ROADS WITH RIGHT TURN LANE



TYPICAL PAVEMENT MARKING FOR MID-BLOCK CROSSWALK 5

TYPICAL STOP LINE PAVEMENT MARKING FOR SIDE ROADS WITH CROSSWALK MARKING



TYPICAL STOP LINE PAVEMENT MARKING WITHOUT CURB AND GUTTER

STOP LINE AND CROSSWALK PAVEMENT MARKING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

March 2024 — DATE

/S/ Matthew Rauch — STATE SIGNING AND MARKING ENGINEER

FHWA

6

SDD 15C33-05

6

SDD 15C33-05

LEGEND

SIGN ON PERMANENT SUPPORT

TRAFFIC CONTROL DRUM

DIRECTION OF TRAFFIC

WORK ZONE

GENERAL NOTES

ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36" X 36" SIGNS MAY BE USED IF APPROVED BY THE REGIONAL TRAFFIC UNIT.

"WO" SIGN IS THE SAME AS "W" SIGN EXCEPT THE BACKGROUND IS ORANGE.

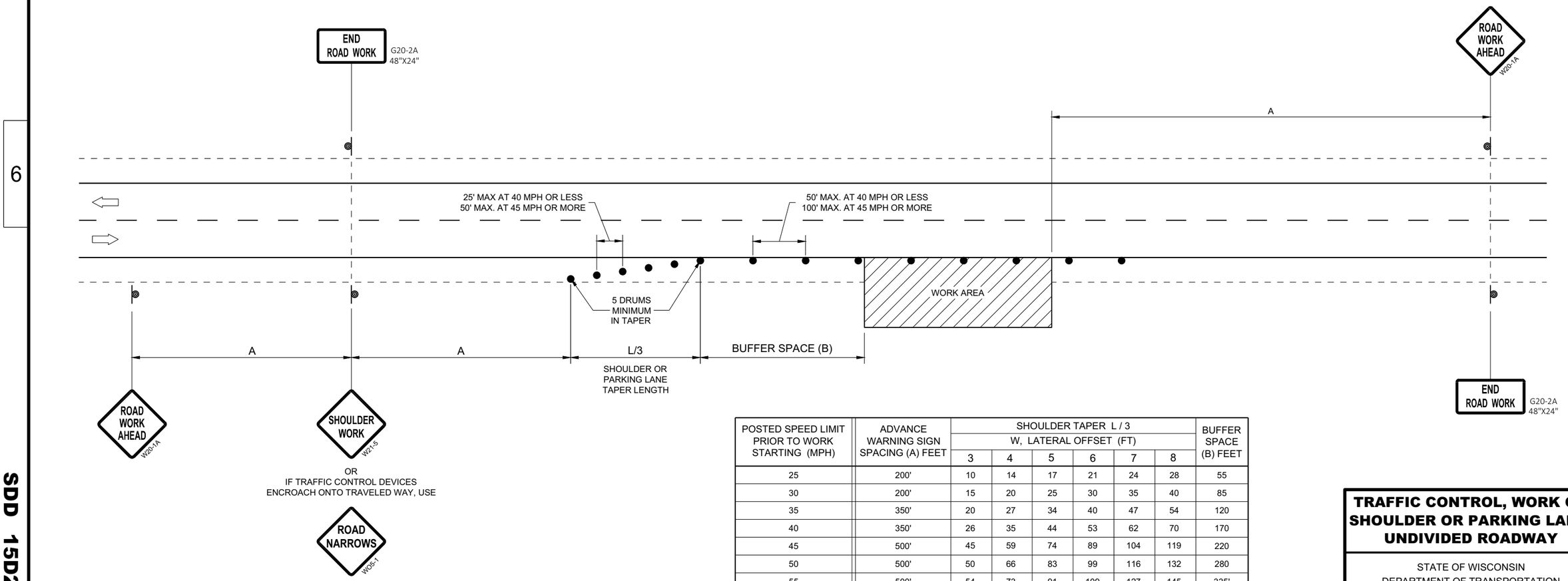
ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH THE TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

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

CHANNELIZING DEVICES PLACED ADJACENT TO WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

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

W20-1A AND G20-2A SIGNS ARE NOT REQUIRED IF THE WORK AREA IS WITHIN A LARGER WORK ZONE WHERE THESE SIGNS ARE ALREADY PRESENT. G20-2A SIGNS MAY ALSO BE OMITTED IF DURATION OF WORK IS LESS THAN 7 CONTINUOUS DAYS AND NIGHTS.



POSTED SPEED LIMIT PRIOR TO WORK STARTING (MPH)	ADVANCE WARNING SIGN SPACING (A) FEET	SHOULDER TAPER L / 3 W, LATERAL OFFSET (FT)						BUFFER SPACE (B) FEET
		3	4	5	6	7	8	
25	200'	10	14	17	21	24	28	55
30	200'	15	20	25	30	35	40	85
35	350'	20	27	34	40	47	54	120
40	350'	26	35	44	53	62	70	170
45	500'	45	59	74	89	104	119	220
50	500'	50	66	83	99	116	132	280
55	500'	54	73	91	109	127	145	335'

TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

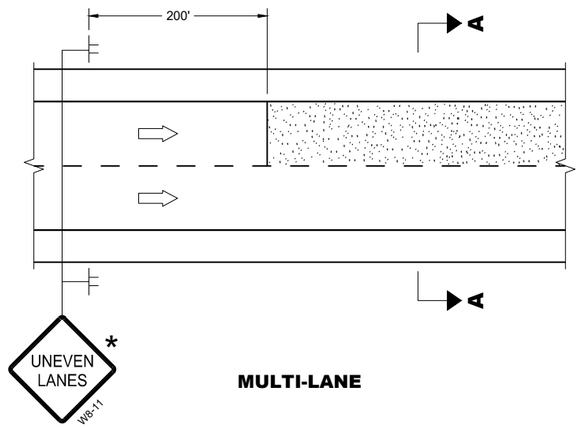
APPROVED
May 2020
DATE

/S/ Andrew Heidtke
STATEWIDE WORK ZONE T SAFETY ENGINEER

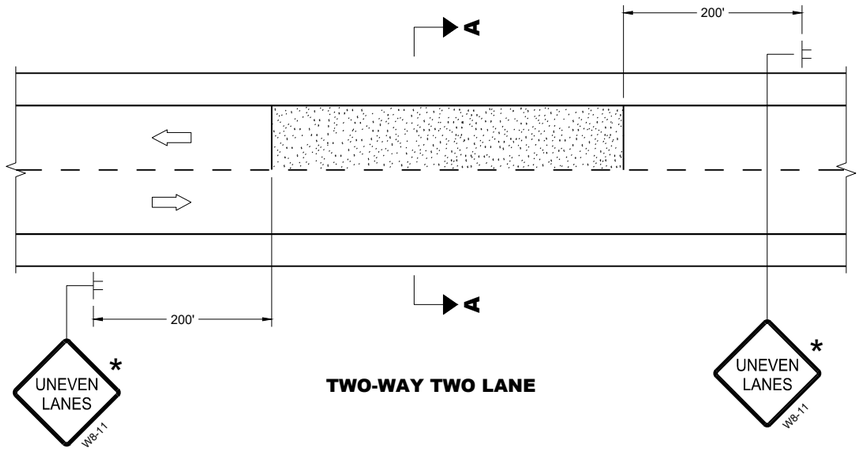
FHWA

SDD 15D28 - 04

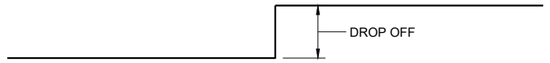
SDD 15D28 - 04



MULTI-LANE

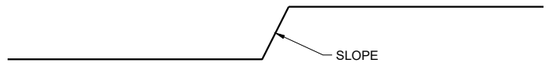


TWO-WAY TWO LANE

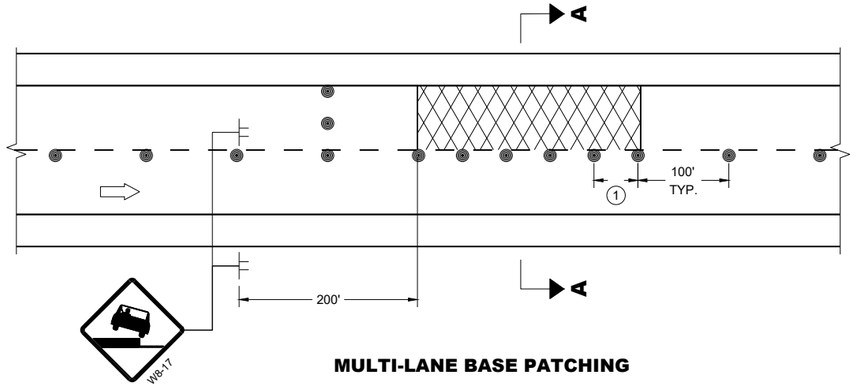


SECTION A - A

OR



SECTION A - A



MULTI-LANE BASE PATCHING

ADJACENT LANE DROP-OFFS

GENERAL NOTES

FOR SPOT LOCATIONS USE ENGINEERING JUDGEMENT WHEN PLACING ADDITIONAL SIGNS.

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

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

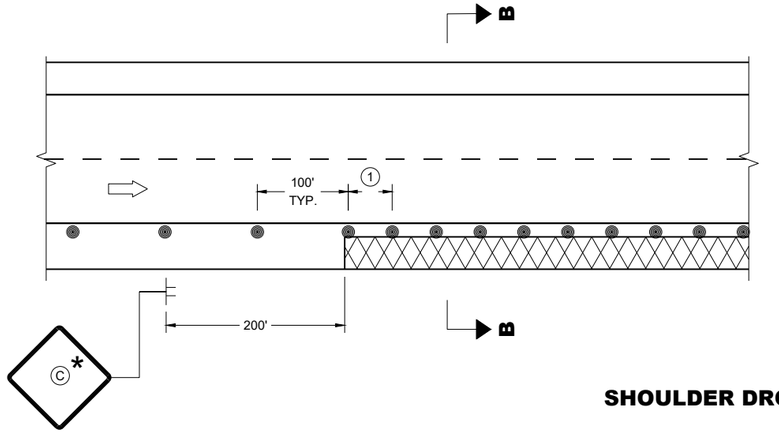
WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

* IF THE DROP-OFF IS CONTINUOUS ALONG THE PROJECT, PLACE ADDITIONAL SIGNS EVERY 1 MILE AND AFTER EVERY ENTRANCE RAMP.

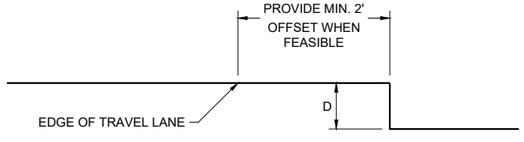
(1) USE CLOSER SPACING WHEN DELINEATING DROP-OFF.

LEGEND

- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM
- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)
- DIRECTION OF TRAFFIC
- WORK AREA WITH DROP-OFF
- MILLED SURFACE



SHOULDER DROP-OFFS



SECTION B - B

D	SIGN (C)
< 2" WITH A SLOPE STEEPER THAN 3:1	LOW SHOULDER WO8-9
2" < 6" WITH A SLOPE STEEPER THAN 3:1	SHOULDER DROP - OFF W8-9A
	PROVIDE A 3:1 OR FLATTER SLOPE OF MATERIAL ADJACENT TO THE PAVEMENT

TRAFFIC CONTROL, DROP-OFF SIGNING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2025 — DATE
/S/ Andrew Heidtke — WORK ZONE ENGINEER

FHWA

6
SDD 15D39-03

GENERAL NOTES

DRAWING NOT TO SCALE. ALL SIGNS AND POSTS ON THIS SHEET SHALL BE PAID FOR WITH 'TRAFFIC CONTROL SIGNS' BID ITEM. ALL SIDE ROADS WHICH ARE UNDER CONSTRUCTION OF CURB AND GUTTER AND/OR GRADING SHALL BE ADEQUATELY SIGNED.

ALL SIGNS AND DEVICES SHALL BE IN CONFORMANCE WITH THE WISCONSIN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (WMUTCD). SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE WISDOT STANDARD SIGN PLATES.

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

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

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

ALL SIGNS INAPPROPRIATE TO THE STATUS OF THE CONTROL ZONE, INCLUDING PRE-EXISTING SIGNS IN THE VICINITY, SHALL BE COVERED OR REMOVED AS DIRECTED BY THE ENGINEER.

SEE 15C34 FOR ADDITIONAL TRAFFIC CONTROL SIGNING WHEN CENTERLINE PAVEMENT MAKINGS ARE MISSING. 'DO NOT PASS' SIGNS MUST BE INSTALLED ON THE SAME DAY AS MILLING OPERATIONS.

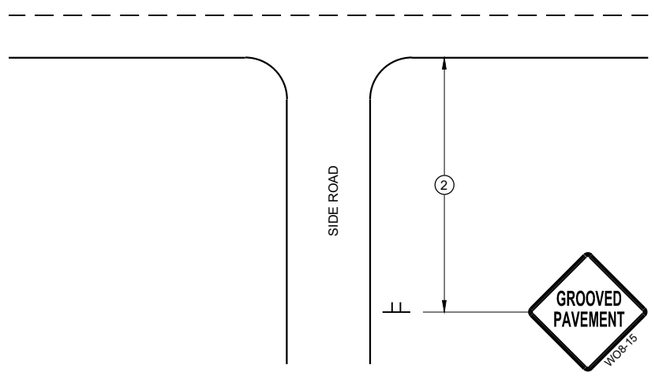
(1) PLACE SIGNS 350' IN ADVANCE OF MILLED SURFACES AND AT 1 MILE INTERVALS, OR AS DIRECTED BY THE ENGINEER.

(2) PLACE SIGN 200' MIN. FROM INTERSECTION AND 200' MIN. AFTER ADVANCE WARNING SIGN SHOWN IN SDD 15C04.

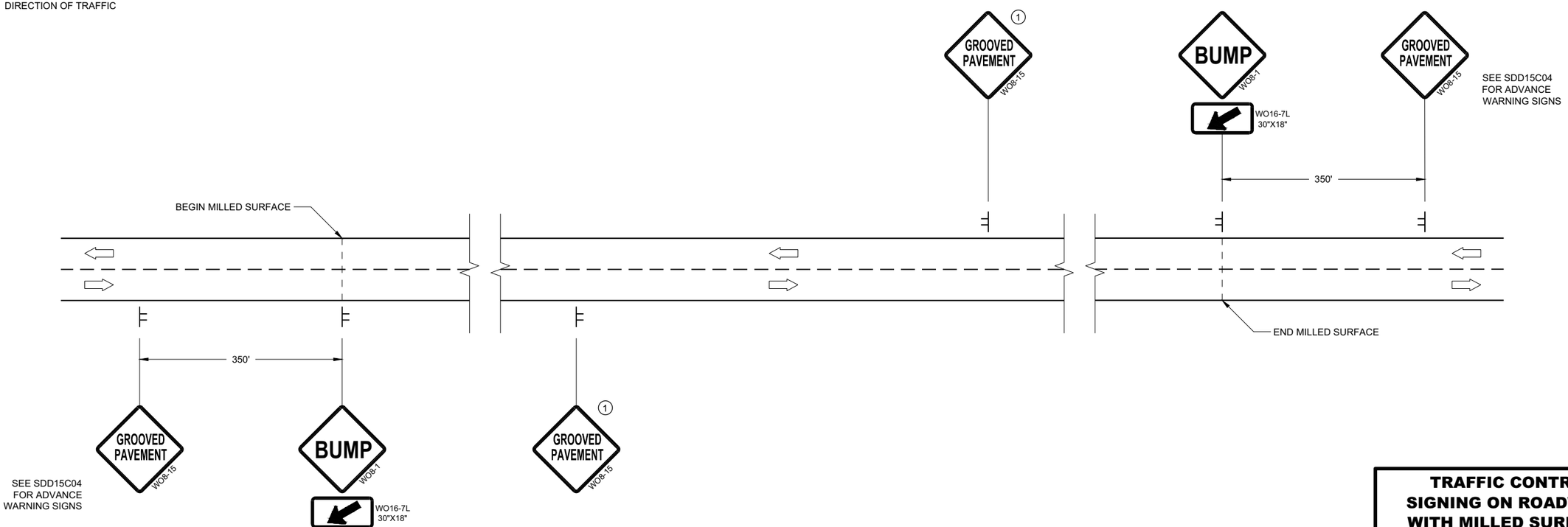
LEGEND

SIGN ON TEMPORARY SUPPORT

DIRECTION OF TRAFFIC



TYPICAL SIDE ROAD APPROACH SIGN DETAIL



DETAIL FOR SIGNING ON MILLED SURFACES

TRAFFIC CONTROL, SIGNING ON ROADWAYS WITH MILLED SURFACES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

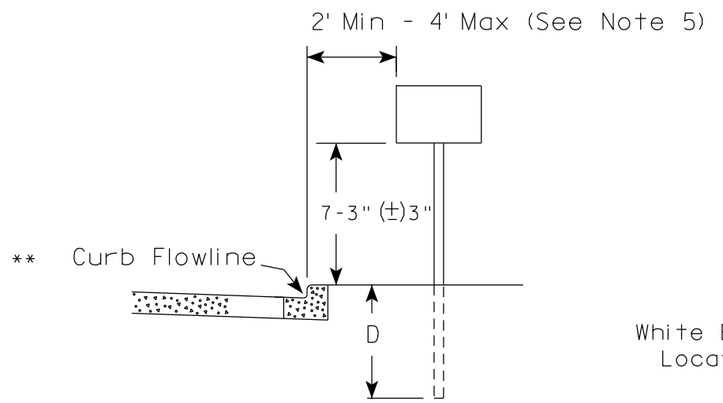
APPROVED
February 2020
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEER

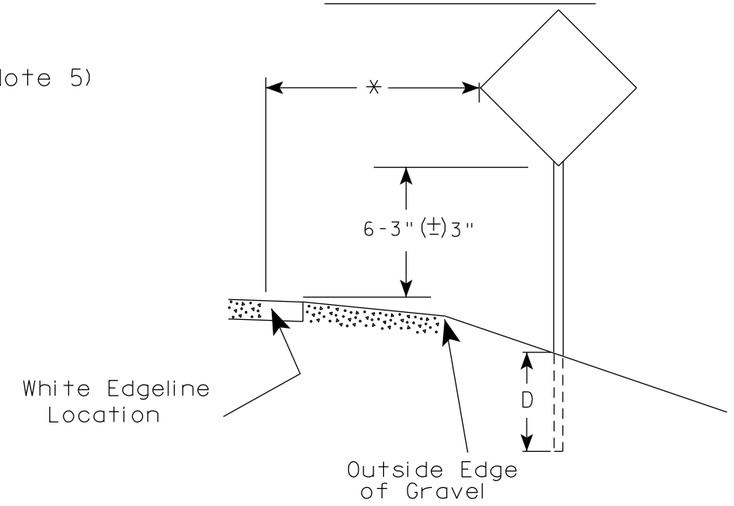
FHWA

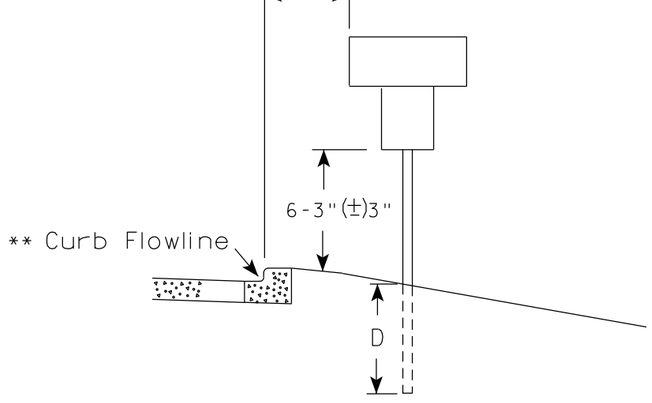
6
SDD 15D44 - 02

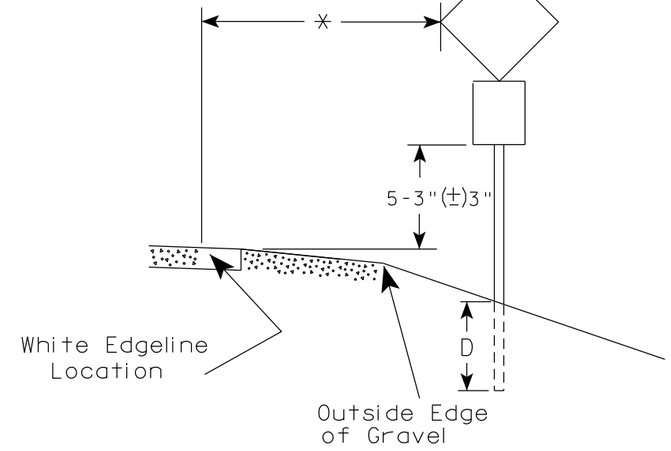
URBAN AREA



RURAL AREA (See Note 2)







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

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

POST EMBEDMENT DEPTH

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

GENERAL NOTES

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

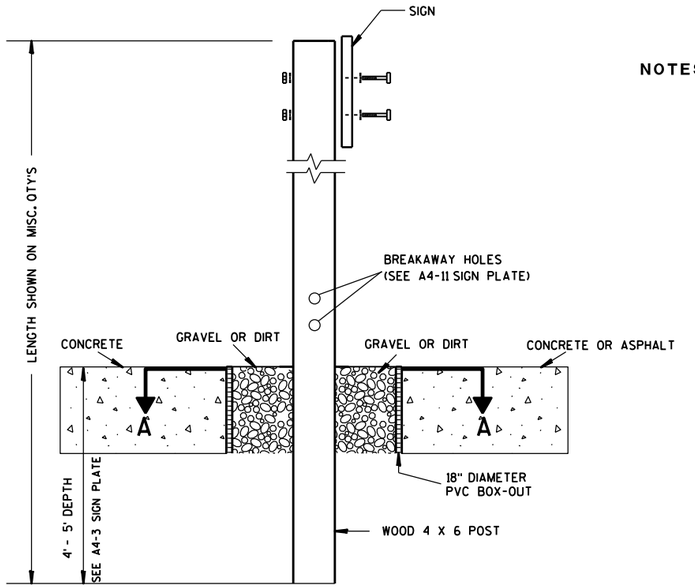
TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/6/23 PLATE NO. A4-3.23

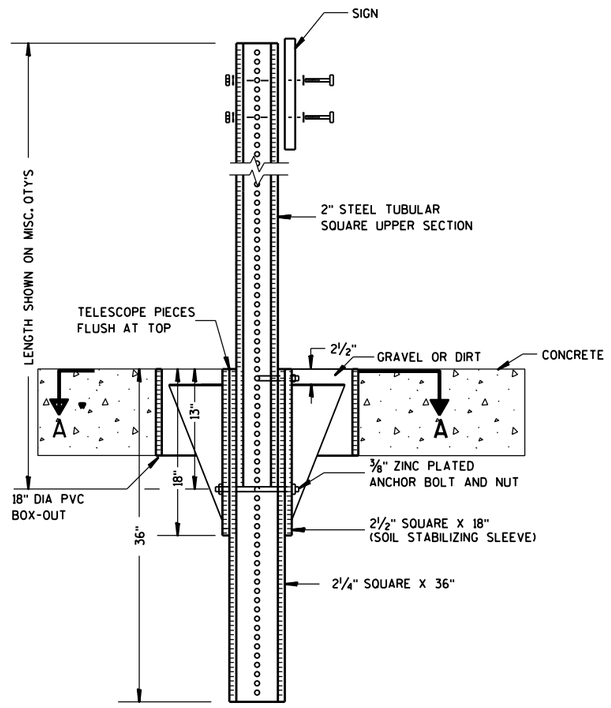
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 69	E



ELEVATION VIEW

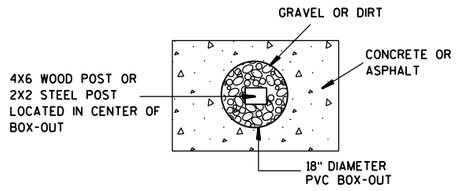
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

NOTES:
1. ALL MATERIAL TO BE APPROVED BY ENGINEER PRIOR TO INSTALLATION
2. SEE SIGN PLATE A4-8 FOR SIGN HARDWARE REQUIREMENTS
3. 18 INCH X 18 INCH SQUARE BOX-OUTS MAY BE USED FOR INSTALLATIONS IN EXISTING CONCRETE OR ASPHALT LOCATIONS.



ELEVATION VIEW

DETAIL OF STEEL 2 X 2 SIGN POST IN BOX-OUT



PLAN VIEW

FOR NEW CONCRETE/ASPHALT INSTALLATIONS

SIGN POST BOX-OUTS A4-3B

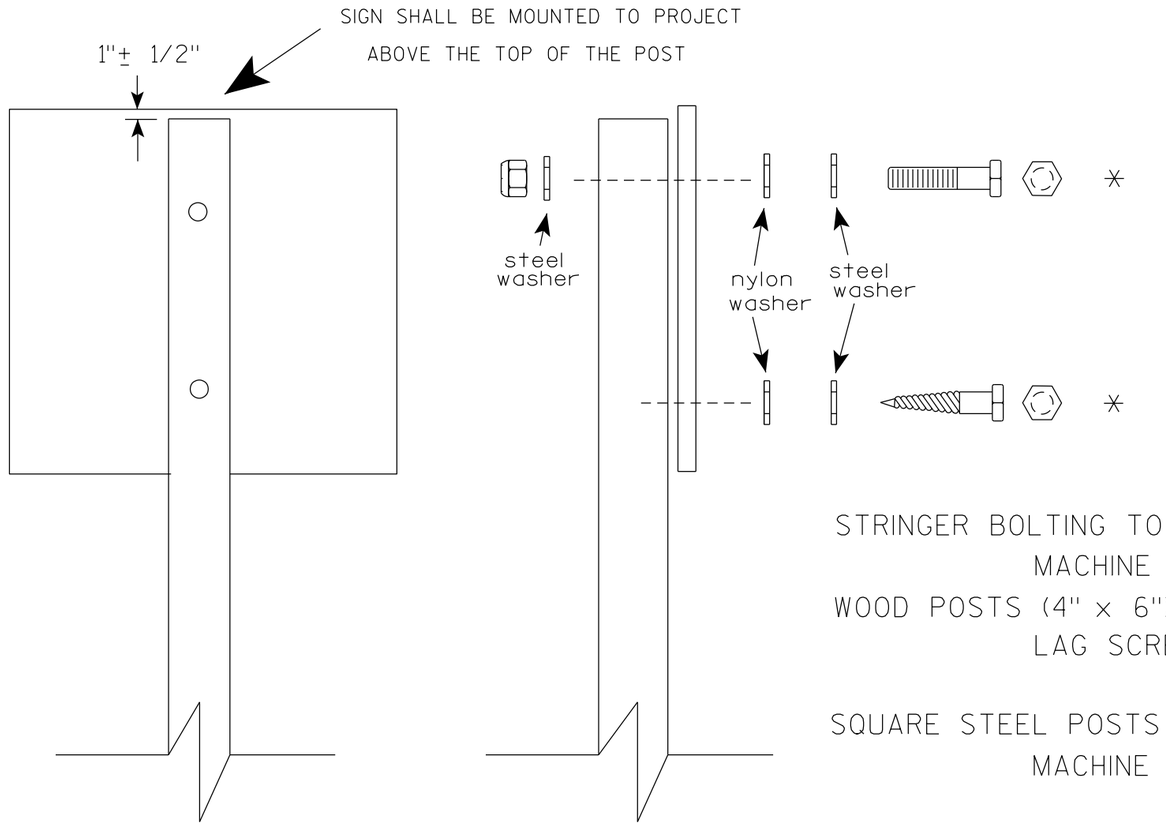
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 1/27/14 PLATE NO. A4-3B.1

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A43B.DGN PLOT DATE : 27-JAN-2014 09:48 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 13.659812:1.000000 WISDOT/CADDS SHEET 42



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

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

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

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

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

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

WOOD POSTS (4" x 6")

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

SQUARE STEEL POSTS (2" x 2")

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

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

WASHERS (ALL POSTS) -

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

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

ATTACHMENT OF SIGNS TO POSTS

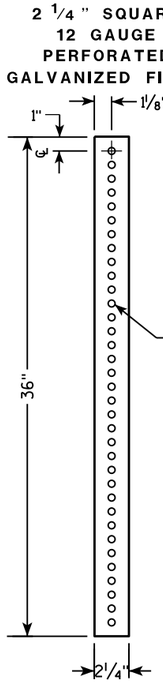
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

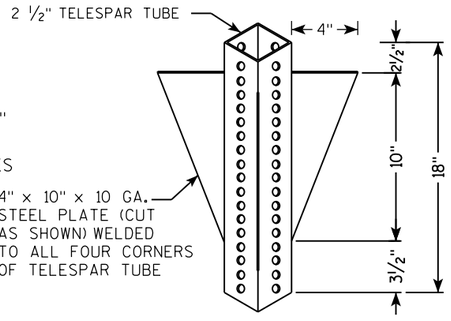
DATE 4/1/2020 PLATE NO. A4-8.9

TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM

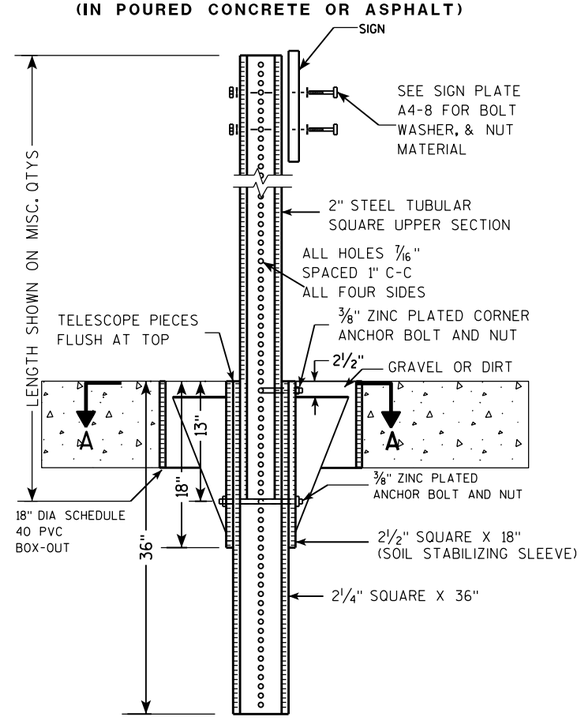
2 1/4 " SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH



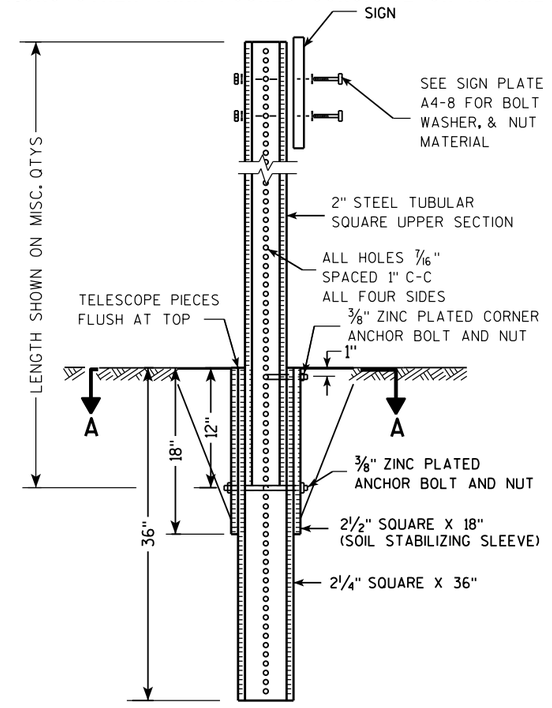
2 1/2 " SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH

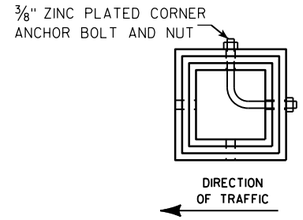


DETAIL OF TUBULAR STEEL SIGN POST
(IN POURED CONCRETE OR ASPHALT)



DETAIL OF TUBULAR STEEL SIGN POST
(IN LOCATIONS OTHER THAN POURED CONCRETE OR ASPHALT)





SECTION A-A

Area of Sign Installation (Sq. Ft.)	Number of Required Posts
9 or less	1
Greater than 9 less than or equal to 18	2
Greater than 18 less than or equal to 27	3

Signs wider than 3 feet or larger than 9 sq. ft shall be mounted on multiple posts (see above table).

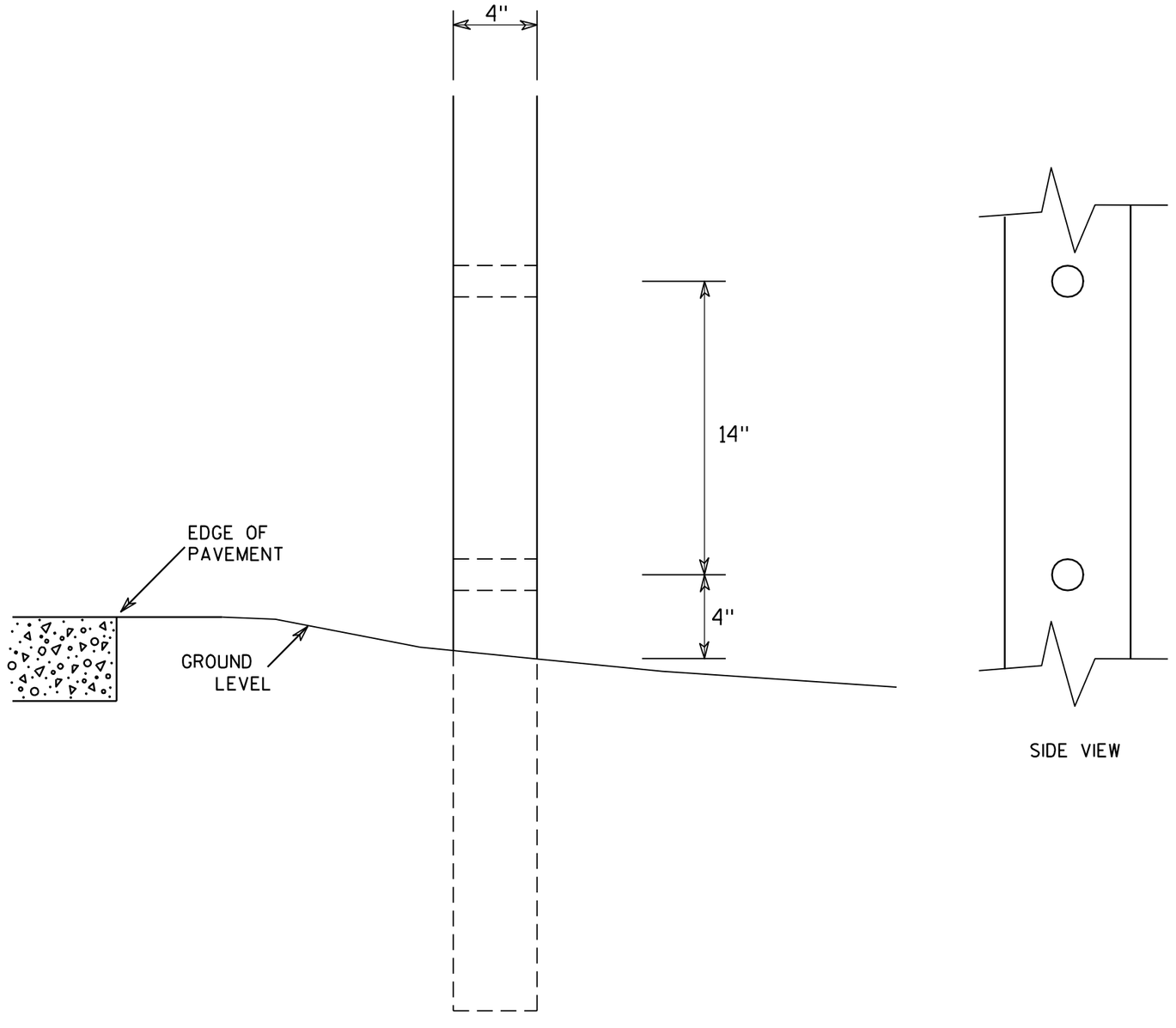
TUBULAR STEEL
SIGN POST
A4-9

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/05/15 PLATE 72 A4-9.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E



SIDE VIEW

GENERAL NOTES

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

4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

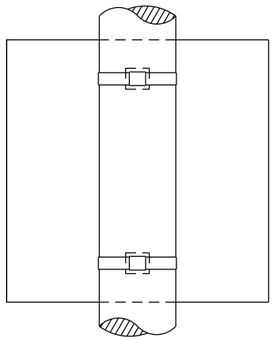
APPROVED Chester J Spang for State Traffic Engineer

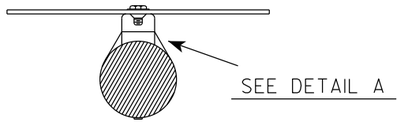
DATE 3/27/97 PLATE NO. A4-11.2

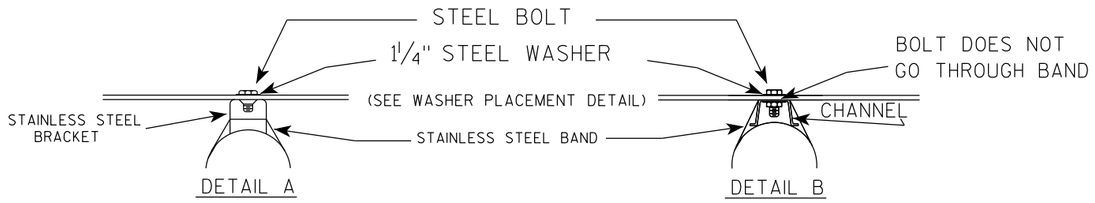
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 73	E

BANDING

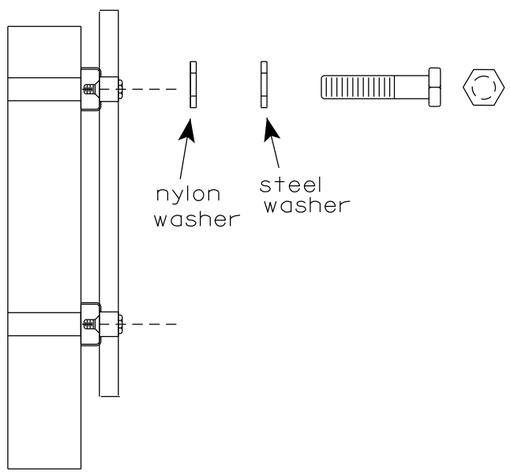
SINGLE SIGN







WASHER PLACEMENT

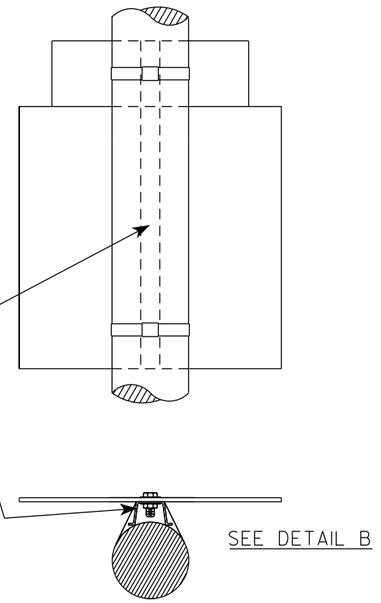


WASHERS (ALL POSTS) -
1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON
FOR ALL TYPE H SIGNS

GENERAL NOTES

1. Any sign over 3 feet in width shall use the V-Block banding method. See A5-10 standard plate.
2. Signs 3 feet or greater in height shall have three bracket bands installed. Signs less than 3 feet in height shall have two bracket bands installed.
3. Banding and assembly bracket shall be stainless steel. All bands shall be ¾" in width and 0.025" thickness.
4. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
   a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D
   b. Electro-galvanized in accordance with ASTM designation: B 633, Type III, SC 3

"J" ASSEMBLY



STANDARD SIGN
SIGN BANDING DETAILS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

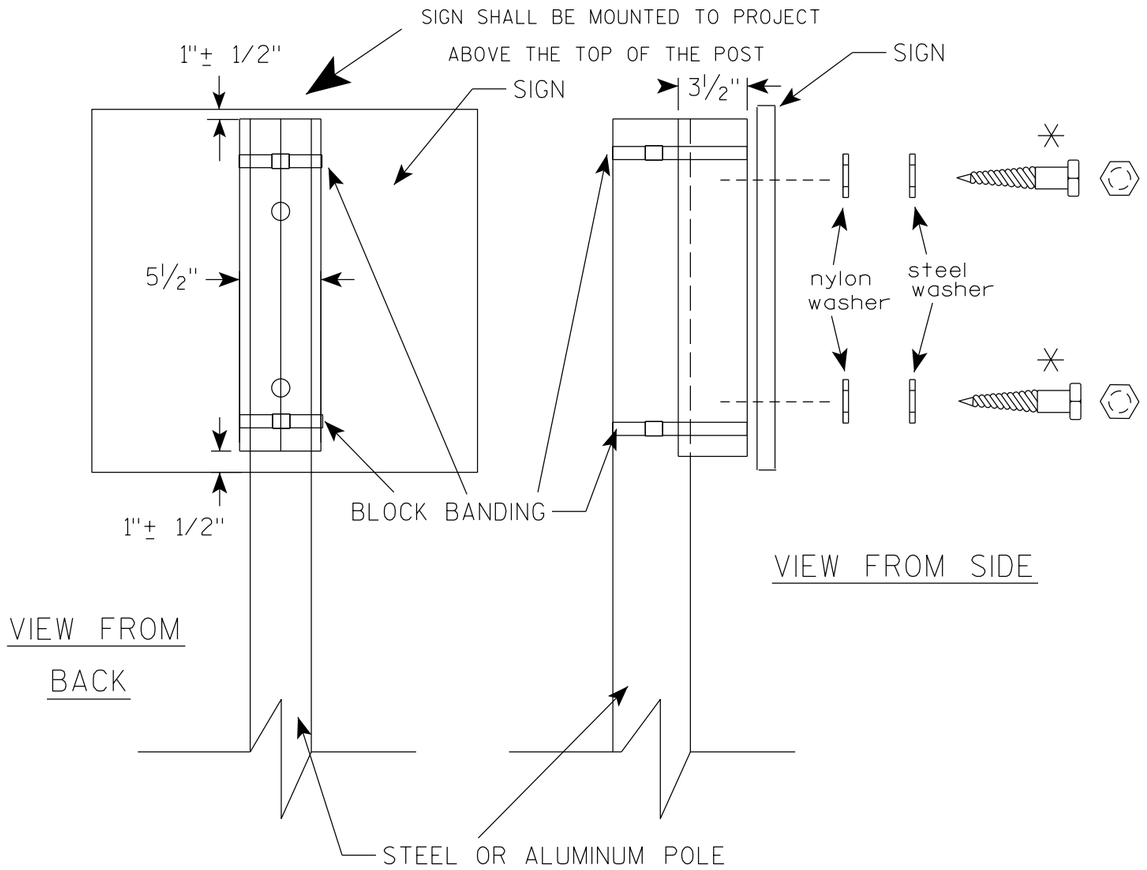
DATE 6/10/19 PLATE NO. A5-9.4

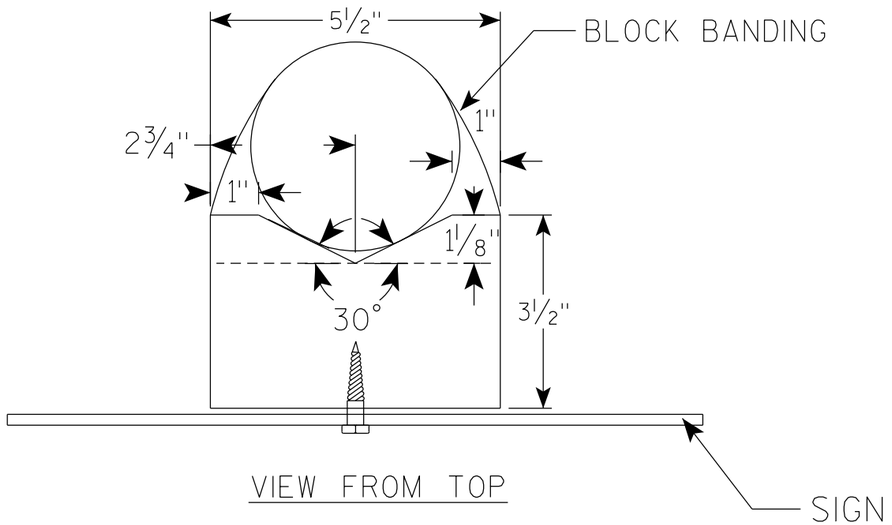
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 74	E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\A59.dgn PLOT DATE : 10-JUN 2019 4:10 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42

7

7





GENERAL NOTES

1. WOOD 4"X6" POST MATERIAL SHALL CONFORM TO 507.2.2 OF THE WisDOT STANDARD SPECIFICATIONS
2. BLOCK BANDING AND CLIPS SHALL BE STAINLESS STEEL, ¾" WIDTH AND 0.025" THICKNESS
3. SIGNS 3' OR GREATER IN HEIGHT SHALL UTILIZE 3 BLOCK BANDS. SIGNS UNDER 3' IN HEIGHT SHALL UTILIZE 2 BLOCK BANDS
4. ACTUAL NUMBER OF FASTENERS PER SIGN VARIES WITH THE SIGN AREA, BUT NORNALLY THERE ARE TWO. FOR SIGNS GREATER THAN 9 S.F. 3 FASTENERS SHALL BE USED.
5. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
   a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D
   b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3
6. ALL BOLTS SHALL HAVE HEXAGONAL HEADS.
7. STEEL WASHERS SHALL BE 1¼" O.D. X ⅜" I.D. X 1/16"
8. NYLON WASHERS SHALL BE 1¼" O.D. X ⅜" I.D. X .080 FOR TYPE H OR TYPE F FACE SIGN

✳ LAG BOLTS SHALL BE ⅜" X 2½"

BLOCK BANDING DETAIL (V-BLOCK OPTION)

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

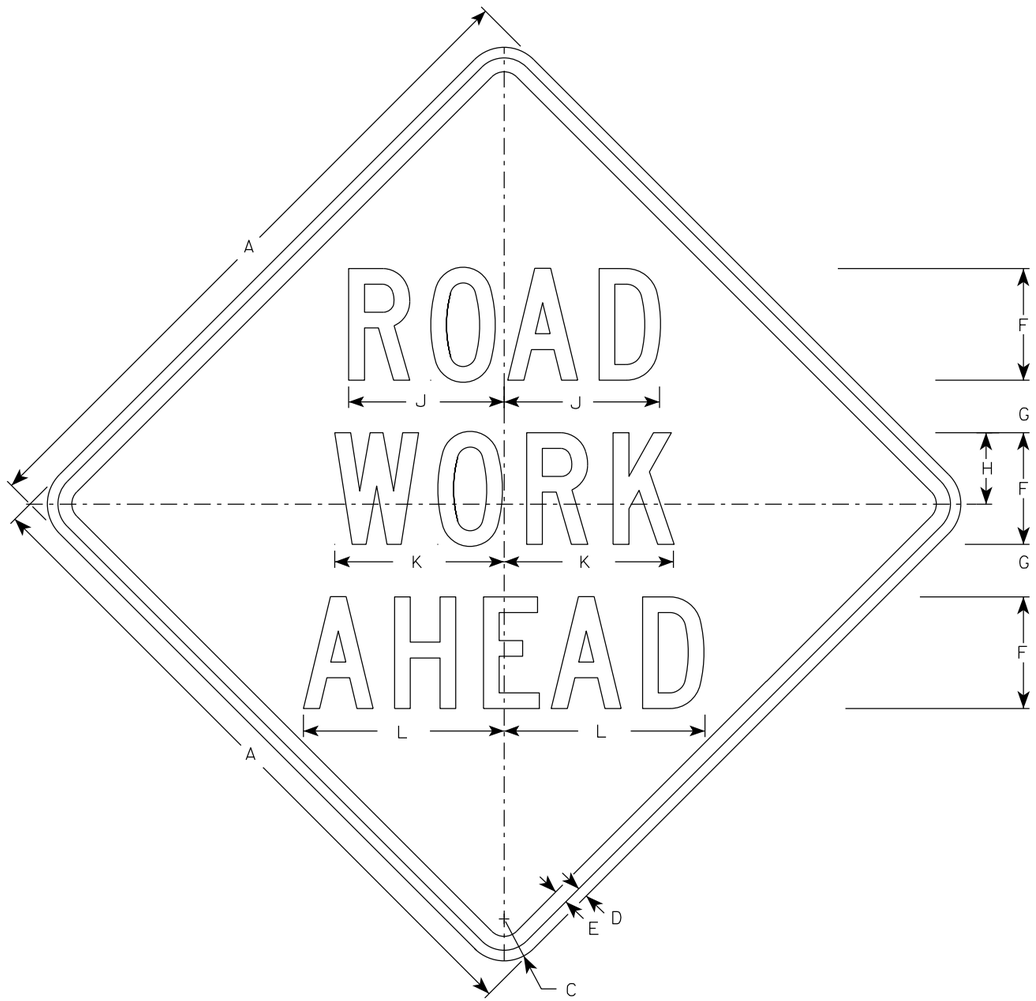
DATE 4/19/2022 PLATE NO. A5-10.3

PROJECT NO:

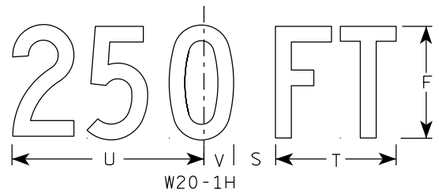
SHEET NO: 75 E

NOTES

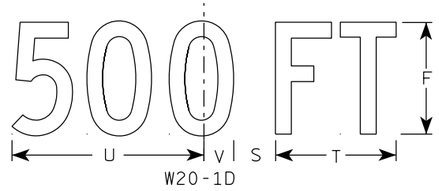
1. Sign is Type II - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.



W20-1A



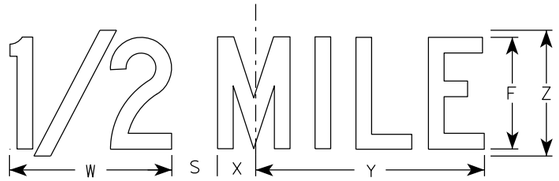
W20-1H



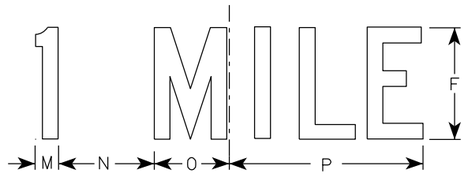
W20-1D

W20-1C

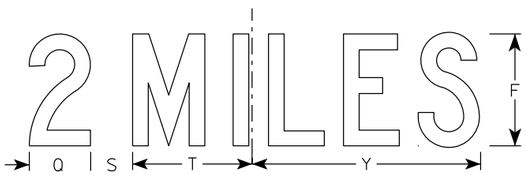
W20-1B



W20-1G



W20-1F



W20-1E

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		2 1/4	5/8	3/4	5	2 5/8	3 1/4	10 1/8	7	7 5/8	8 7/8	1 1/8	4 1/2	3 1/2	9	3 1/4	2 1/2	2 1/4	5 5/8	9	1 3/8	8	1 3/4	10 3/4	6	9.0
2S	48		3	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
2M	48		3	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
3	48		3	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
4	48		3	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
5	48		3	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0

STANDARD SIGN
W20-1A, B, C, D, E, F, G & H

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 1/10/2024 PLATE NO. W20-1.12

PROJECT NO:

SHEET NO: 76 E

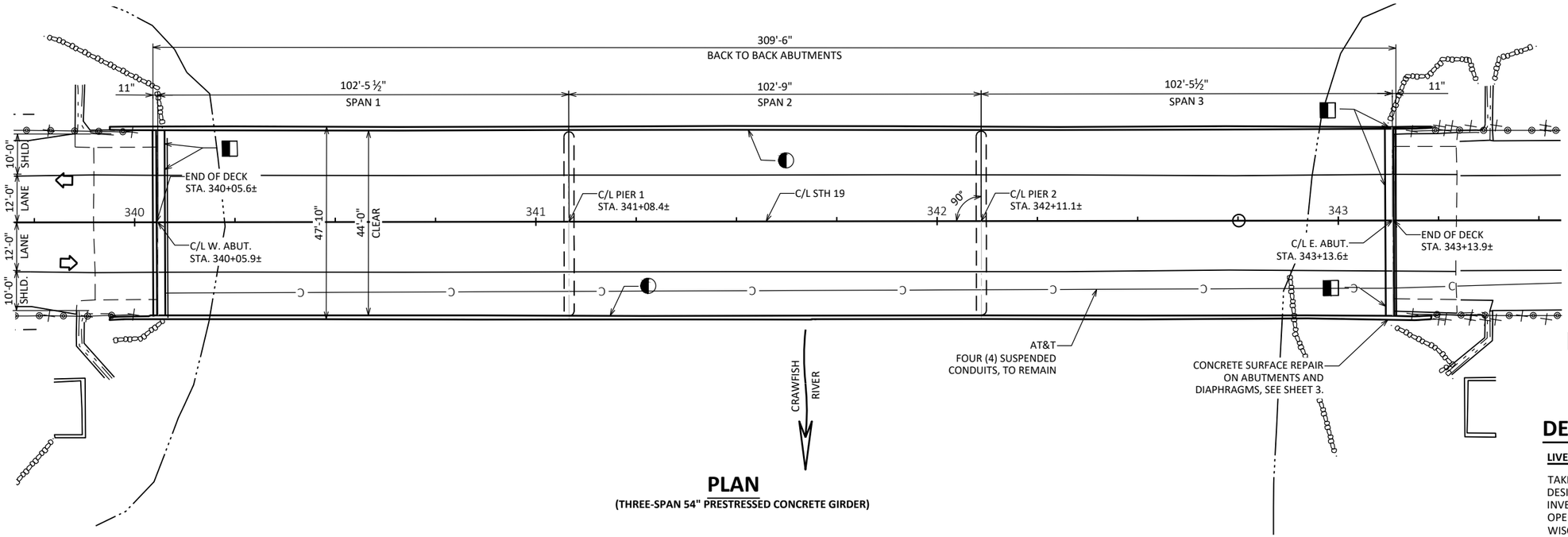
FILE NAME : C:\CAEfiles\Projects\tr_stdplate\W201.DGN PLOT DATE : 10-JAN 2024 11:16 PLOT BY : dotc4c

WISDOT/CADDS SHEET 42

7

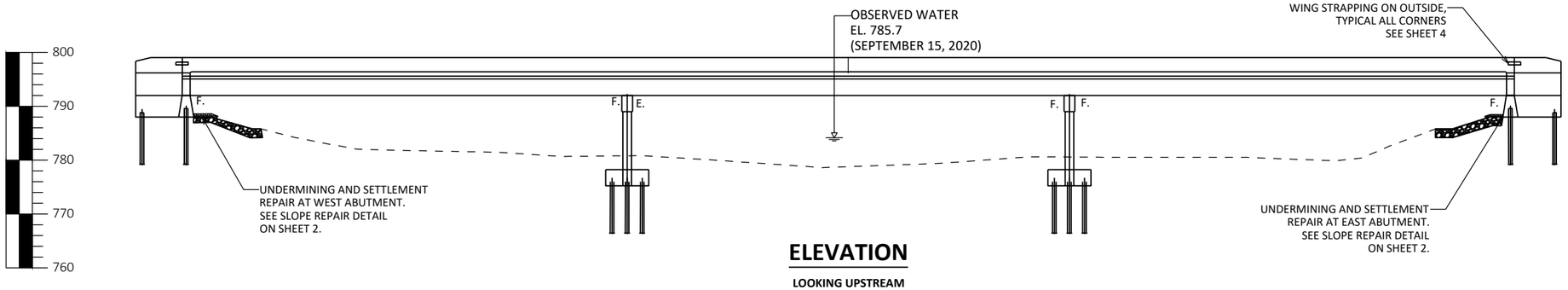
STATE PROJECT NUMBER

3050-01-77



PLAN

(THREE-SPAN 54" PRESTRESSED CONCRETE GIRDER)



ELEVATION

LOOKING UPSTREAM

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS.

ALL CONCRETE REMOVAL SHALL BE DEFINED BY A ½ INCH DEEP SAW CUT UNLESS SPECIFIED OTHERWISE.

UTILIZE EXISTING BAR STEEL REINFORCEMENT WHERE SHOWN.

CONCRETE SURFACE REPAIR TO OCCUR ON ROADWAY FACE OF PARAPET AND OTHER LOCATIONS AS DIRECTED BY ENGINEER. AFTER SURFACE REPAIR IS COMPLETE, ENTIRE ROADWAY FACE AND TOP SHALL RECEIVE PIGMENTED SURFACE SEALER RESEAL. SEE SHEET 3

CRACKS IN ABUTMENT AND END DIAPHRAGMS TO BE REPAIRED USING EPOXY CRACK INJECTION. SEE SHEET 3

DESIGN DATA

LIVE LOAD:

TAKEN FROM HSI, 11/19/2023
DESIGN LOADING: HS-20
INVENTORY RATING: HS17
OPERATING RATING: HS33
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV): 250 (KIPS)

MATERIAL PROPERTIES:

CONCRETE MASONRY:
SUPERSTRUCTURE —— f'_c = 4,000 PSI
ALL OTHER —— f'_c = 3,500 PSI

TRAFFIC VOLUME

FEATURE ON:
ADT = 4700 (2048)
R.D.S. = 60 MPH

LIST OF DRAWINGS:

1. GENERAL PLAN & ELEVATION
2. TYPICAL SECTION, DETAIL, QUANTITIES
3. ESTIMATED REPAIR LOCATIONS
4. STRAPPING

NO.	DATE	REVISION	BY

Mead & Hunt, Inc.
2440 Deming Way
Middleton, WI 53562
608.273.6380
www.meadhunt.com

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORATION

ACCEPTED SDR 05/06/24
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE B-28-10

STH 19 OVER CRAWFISH RIVER

COUNTY	TOWN
JEFFERSON	MILFORD

DESIGN SPEC.
REHABILIATION N/A

DESIGNED BY	DESIGNED CK'D	DRAWN BY	PLANS CK'D
TJR	MJB	MJB	RCP

GENERAL PLAN & ELEVATION

SHEET 1 OF 4
77

SCALE =

I.D.

DATE:

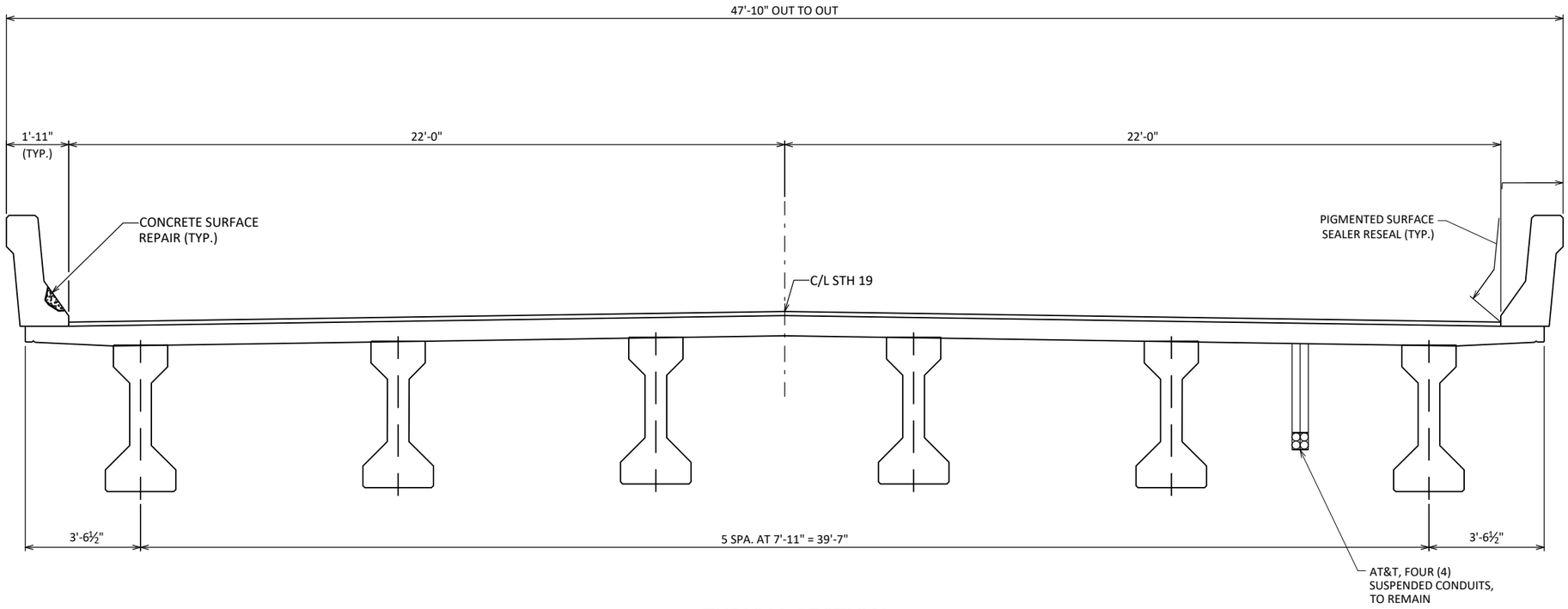
STRUCTURE DESIGN CONTACTS:
CONSULTANT: MATT BUCKLI 608-443-0441
BUREAU OF STRUCTURES: AARON BONK 608-261-0261

8

8

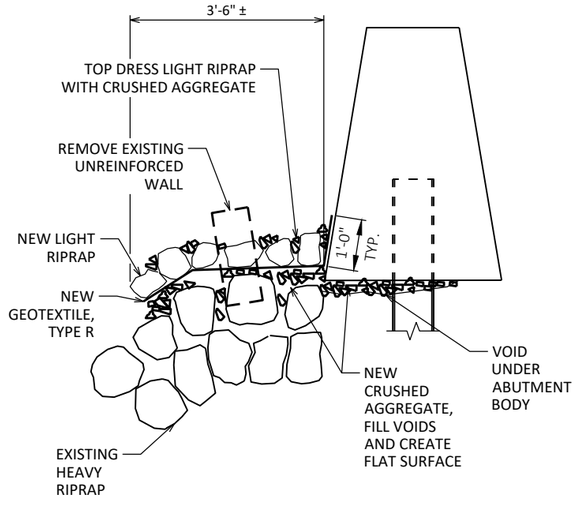
STATE PROJECT NUMBER

3050-01-77



TYPICAL SECTION

LOOKING UPSTATION



EAST & WEST ABUTMENT SLOPE REPAIR DETAIL

TOTAL ESTIMATED QUANTITIES

BID ITEM NO.	BID ITEMS	UNIT	W ABUT	PIER 1	PIER 2	E ABUT	SUPER	TOTALS
502.3205	PIGMENTED SURFACE SEALER RESEAL	SY	10	---	---	10	280	300
509.1500	CONCRETE SURFACE REPAIR	SF	20	---	---	25	130	175
509.9025.S	EPOXY INJECTION CRACK REPAIR	LF	30	---	---	25	---	55
509.9026.S	CORED HOLES 2-INCH DIAMETER	EA	1	---	---	1	---	2
606.0100	RIPRAP LIGHT	CY	7	---	---	7	---	14
645.0130	GEOTEXTILE TYPE R	SY	24	---	---	24	---	48
SPV.0060.01	STRAPPING B-28-10	EA	---	---	---	---	4	4
SPV.0195.01	CRUSHED AGGREGATE SETTLEMENT REPAIR	TON	6	---	---	6	---	12

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-28-10

DRAWN BY MJB | PLANS CK'D RCP

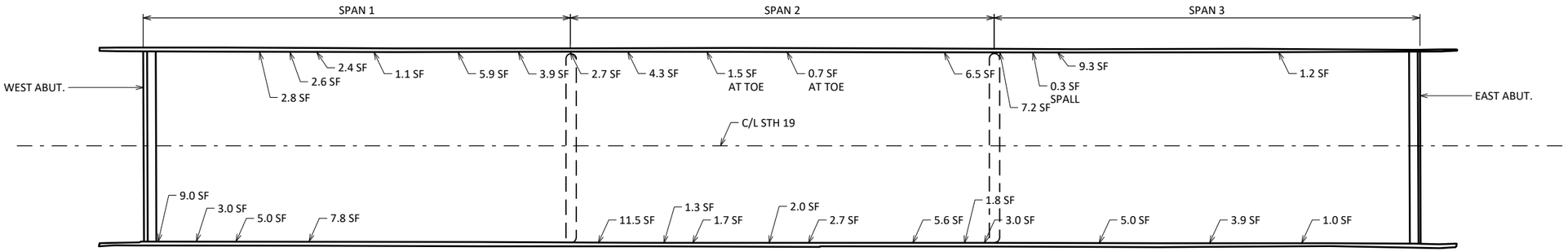
TYPICAL SECTION, DETAILS, QUANTITIES

SHEET 2
78

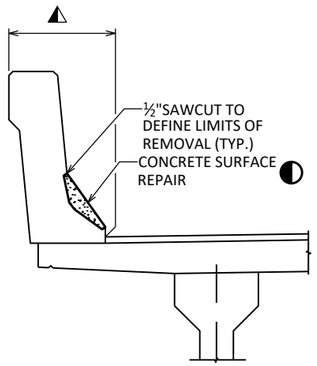
SCALE =

STATE PROJECT NUMBER

3050-01-77



PLAN



PARAPET REPAIR DETAIL

◐ ALL NOTES IN PLAN VIEW ARE FOR CONCRETE SURFACE REPAIR ON PARAPET FACE

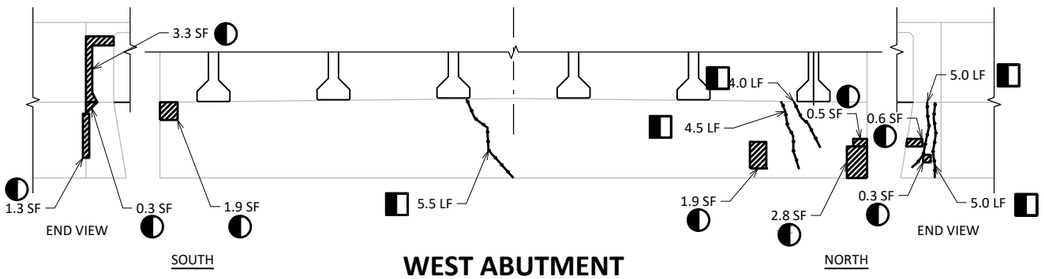
REPAIR NOTES

LOCATIONS AND QUANTITIES ARE APPROXIMATE BASED ON SITE VISIT ON SEPTEMBER 8, 2021. EXACT LIMITS TO BE DETERMINED IN THE FIELD BY THE ENGINEER.

◐ DENOTES SPALL OR DELAMINATION FOR "CONCRETE SURFACE REPAIR".

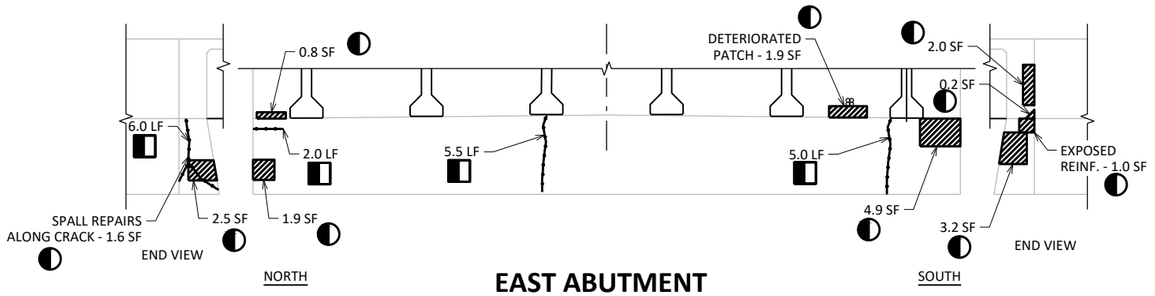
◧ DENOTES AN OPEN CRACK FOR "EPOXY INJECTION CRACK REPAIR".

◭ DENOTES LIMITS OF "PIGMENTED SURFACE SEALER RESEAL".



WEST ABUTMENT

LOOKING DOWNSTATION



EAST ABUTMENT

LOOKING UPSTATION

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-28-10

DRAWN BY MJB | PLANS CK'D RCP

ESTIMATED REPAIR LOCATIONS

SHEET 3
79

SCALE =

8

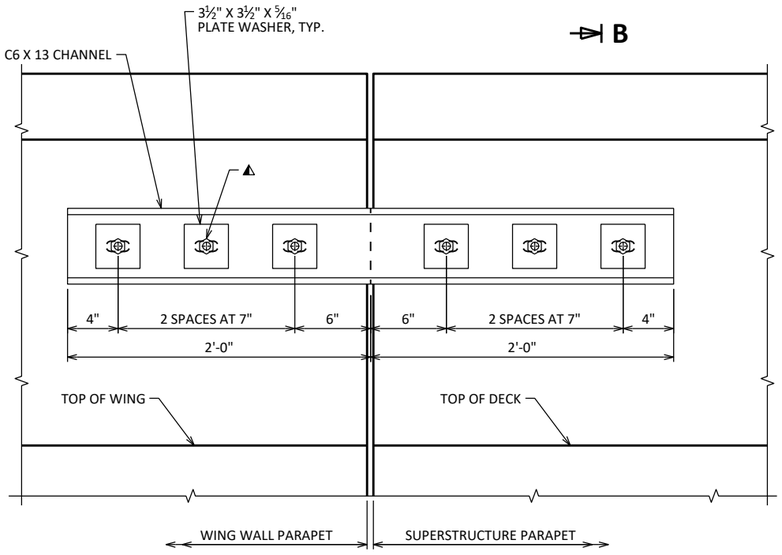
8

STATE PROJECT NUMBER

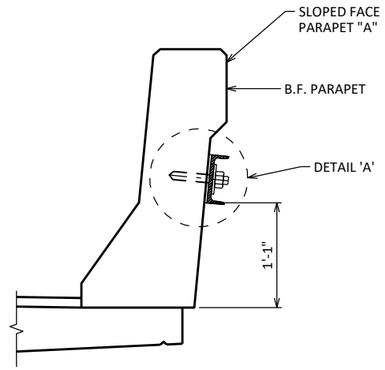
3050-01-77

⚠ ADHESIVE ANCHOR ⅝-INCH.
EMBED 5" IN CONCRETE.
SEE DETAIL "A"

USE $1\frac{1}{16}$" X $1\frac{3}{16}$" LONG SLOTTED HOLES

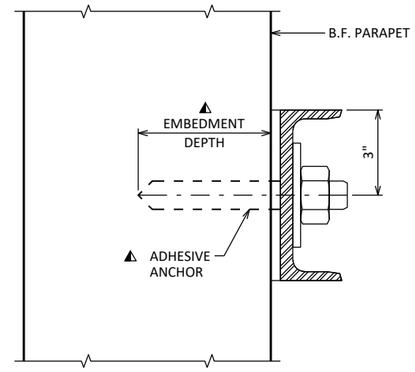


PARAPET JOINT ELEVATION



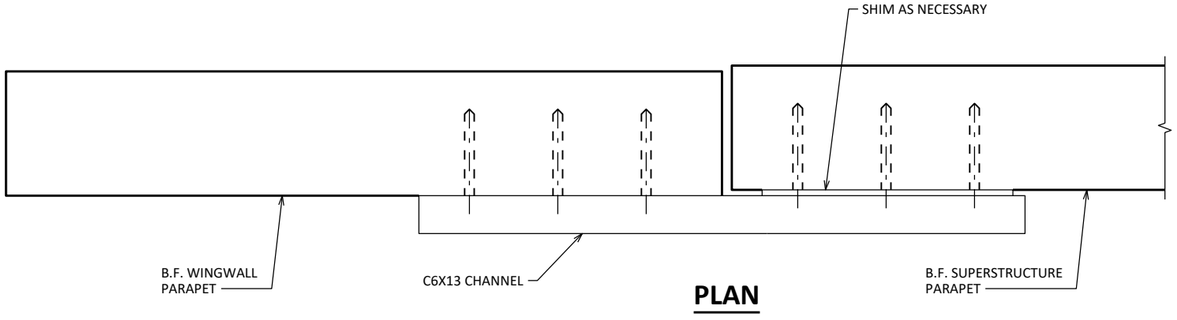
SECTION B-B

SECTION THROUGH SUPERSTRUCTURE SHOWN, WINGWALL SIMILAR



DETAIL A

SECTION THRU CHANNEL



PLAN

NOTES

BID ITEM SHALL BE "STRAPPING B-28-10 " WHICH INCLUDES ALL ITEMS SHOWN.

WISDOT REGIONAL BRIDGE MAINTENANCE ENGINEER TO APPROVE USE OF DETAIL PRIOR TO INSTALLATION.

ALL PROVIDED STEEL MATERIAL SHALL CONFORM TO ASTM A36.

ALL STRUCTURAL STEEL SHOWN SHALL BE GALVANIZED. MASONRY ANCHORS, NUTS AND WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C.

CUTTING AND DRILLING OF CHANNEL SHALL BE DONE IN FABRICATION SHOP, PRIOR TO GALVANIZING.

CAULK AROUND PERIMETER OF CHANNEL AND FILL PORTION OF HOLE AROUND ANCHOR BOLT AND SHIM WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER.

ADHESIVE ANCHORS SHALL CONFORM TO SECTION 502.2.12 OF THE STANDARD SPECIFICATIONS.

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

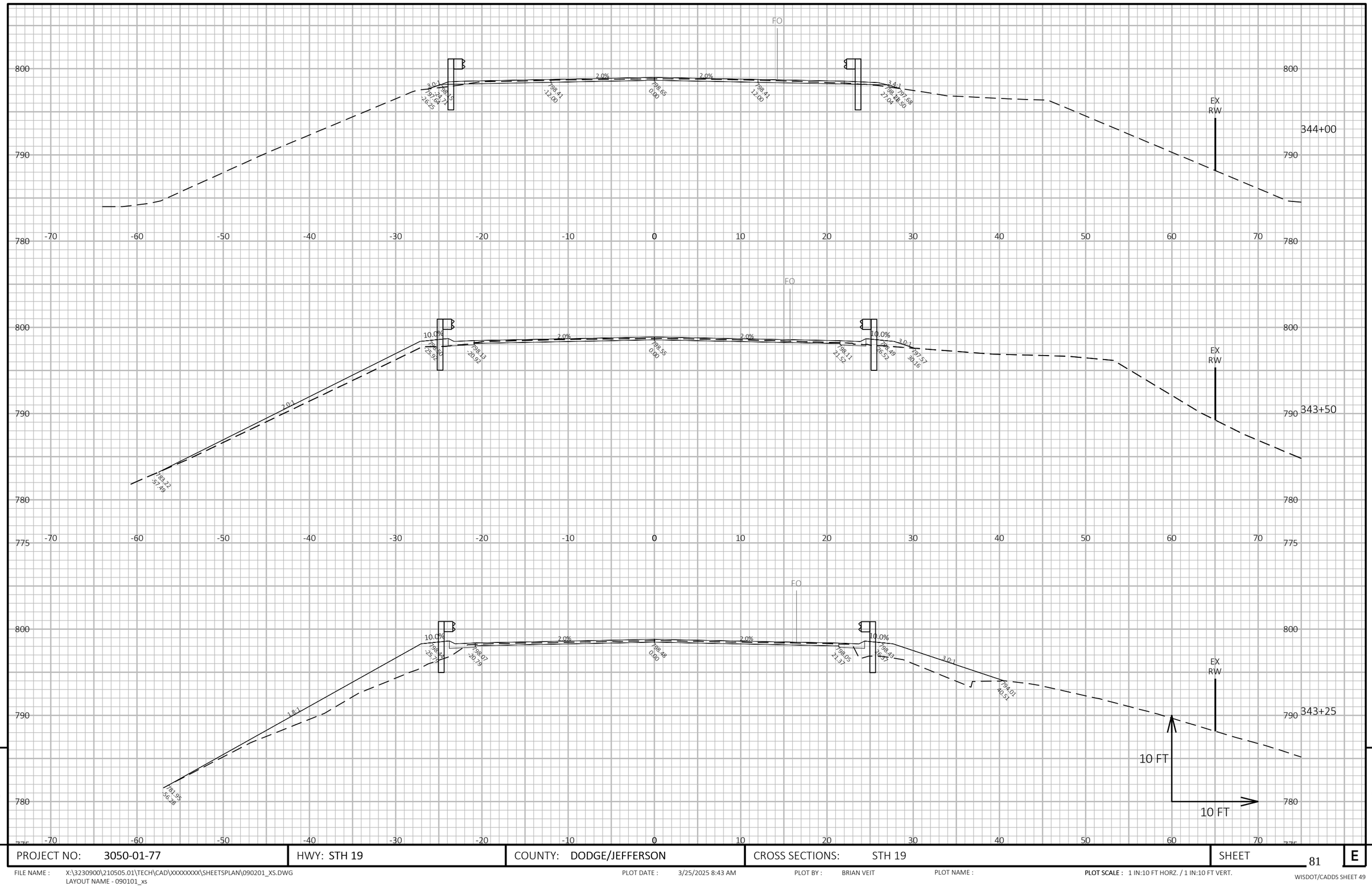
STRUCTURE B-28-10

DRAWN BY MJB | PLANS CK'D RCP

STRAPPING

SHEET 4
80

SCALE =



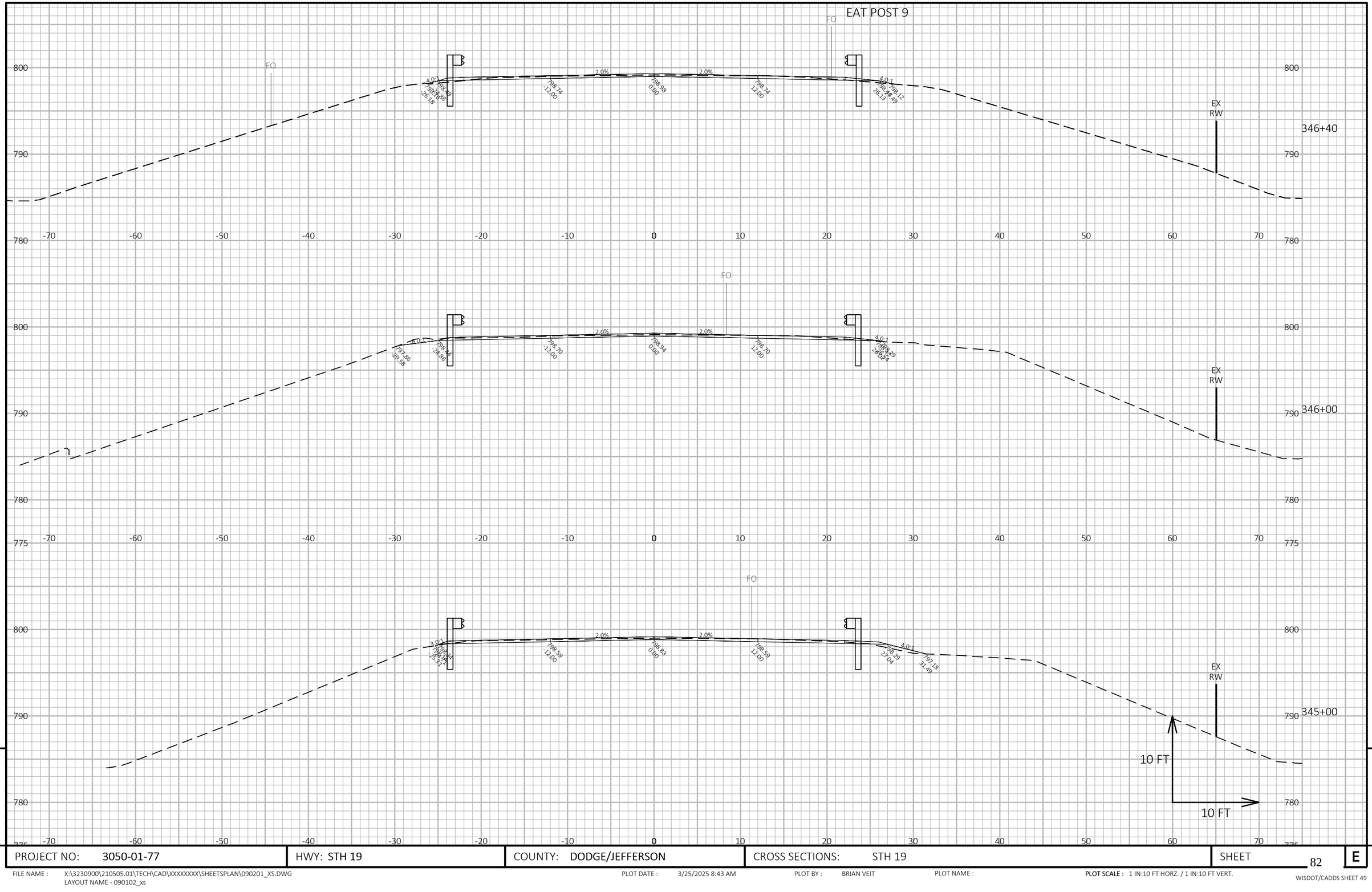
PROJECT NO: 3050-01-77	HWY: STH 19	COUNTY: DODGE/JEFFERSON	CROSS SECTIONS: STH 19	SHEET 81	E

FILE NAME : X:\3230900\210505.01\TECH\CAD\XXXXXXXX\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090101_xs

PLOT DATE : 3/25/2025 8:43 AM PLOT BY : BRIAN VEIT PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

EAT POST 9



9

9

PROJECT NO: 3050-01-77	HWY: STH 19	COUNTY: DODGE/JEFFERSON	CROSS SECTIONS: STH 19	SHEET 82	E

FILE NAME : X:\3230900\210505.01\TECH\CAD\XXXXXXXX\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090102_xs

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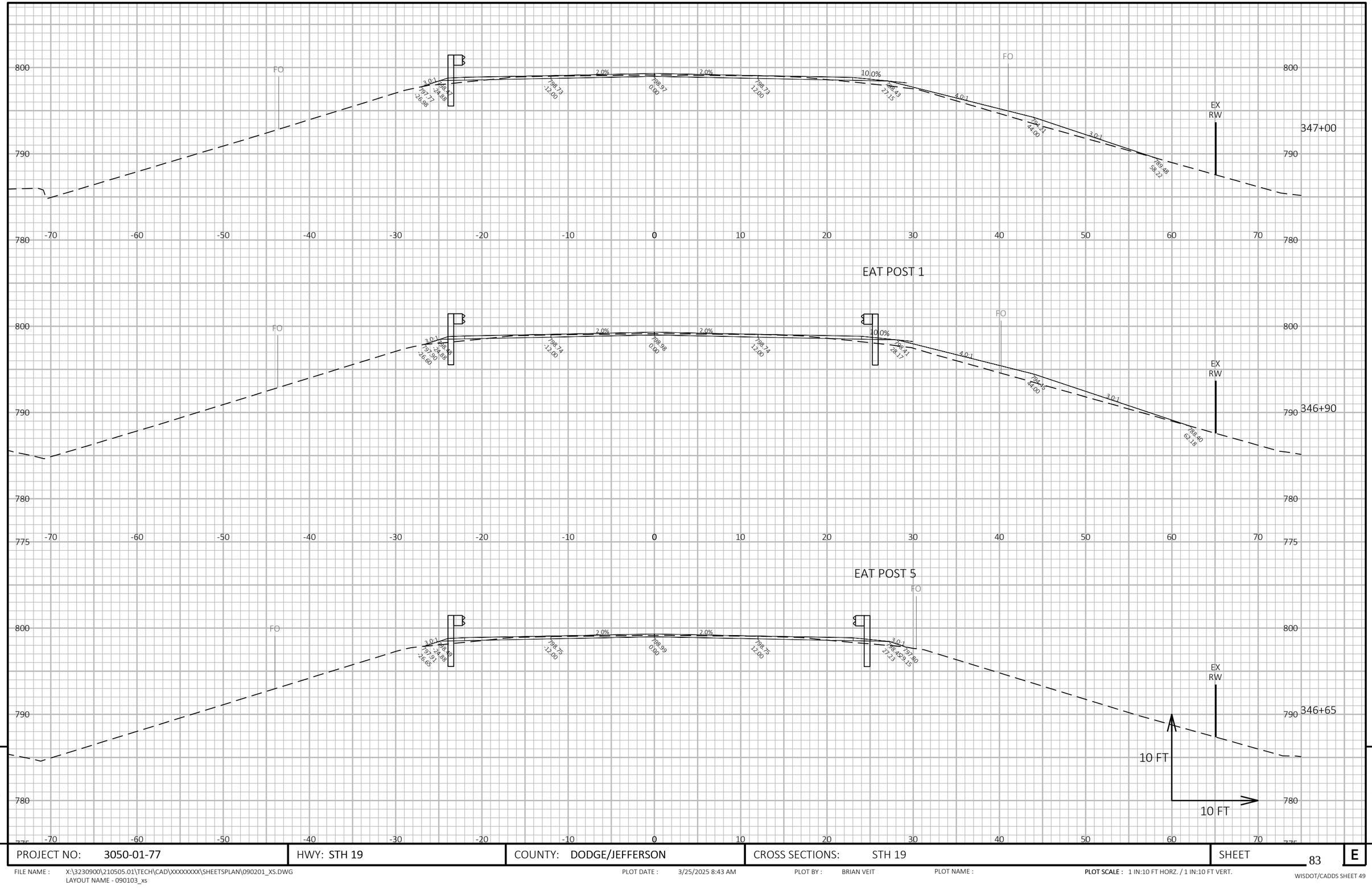
PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

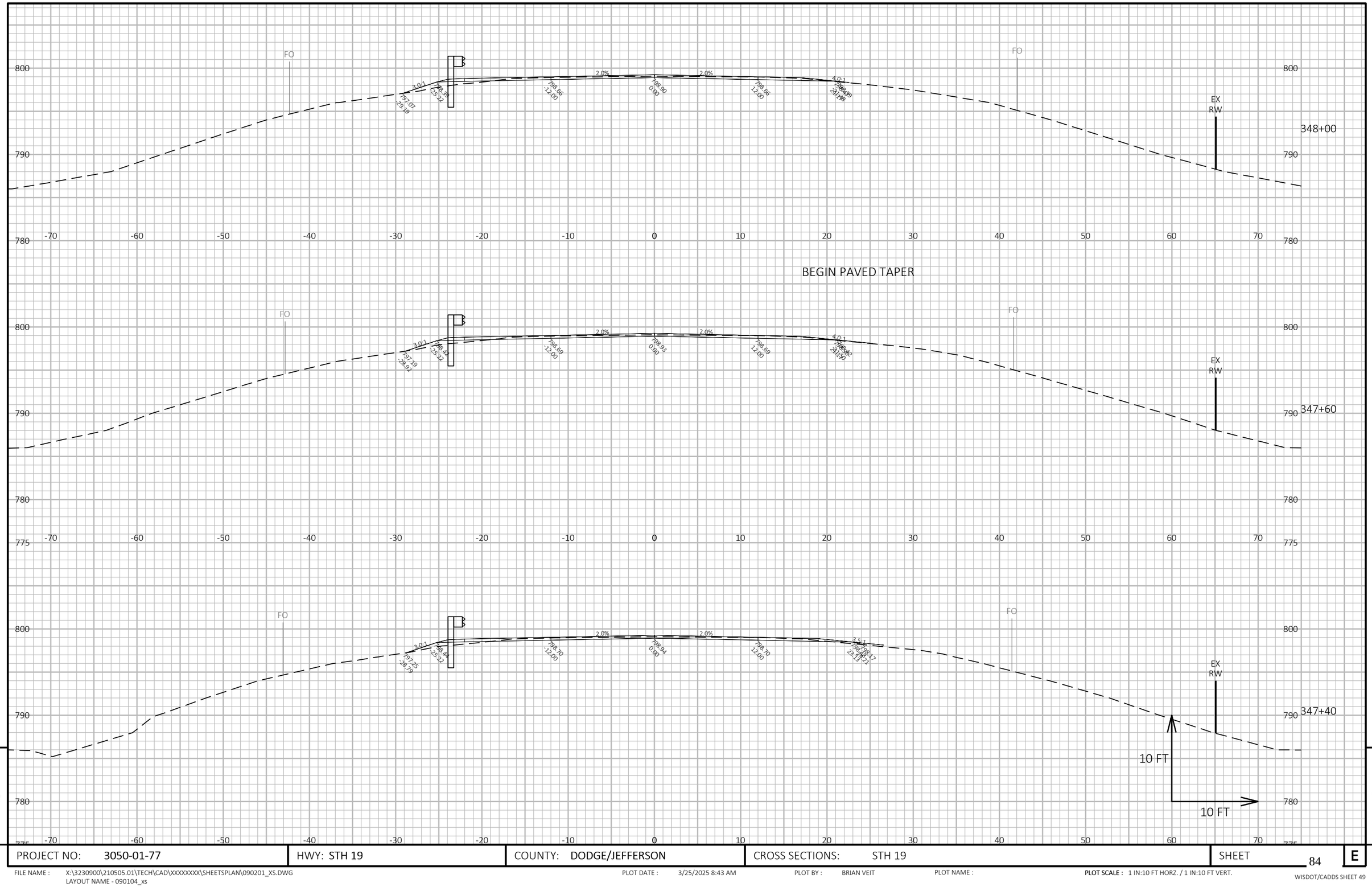


PROJECT NO: 3050-01-77	HWY: STH 19	COUNTY: DODGE/JEFFERSON	CROSS SECTIONS: STH 19	SHEET 83	E

FILE NAME : X:\3230900\210505.01\TECH\CAD\XXXXXXXX\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090103_xs

PLOT DATE : 3/25/2025 8:43 AM PLOT BY : BRIAN VEIT PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



PROJECT NO: 3050-01-77	HWY: STH 19	COUNTY: DODGE/JEFFERSON	CROSS SECTIONS: STH 19	SHEET 84	E

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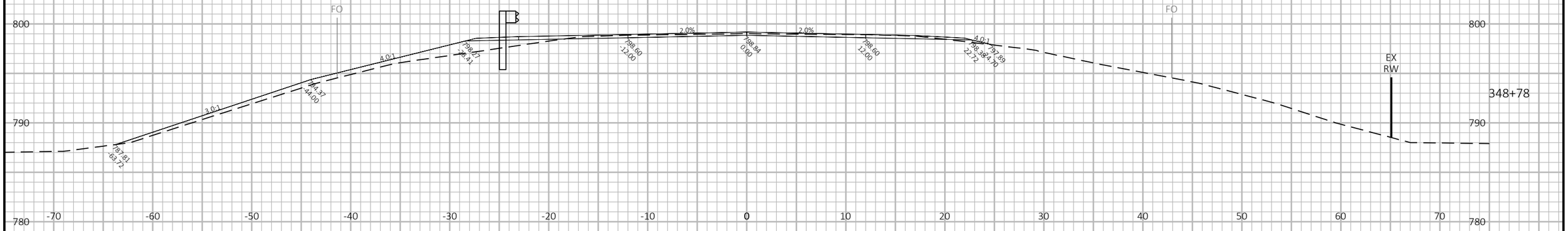
LAYOUT NAME - 090104_xs

PLOT DATE : 3/25/2025 8:43 AM PLOT BY : BRIAN VEIT PLOT NAME :

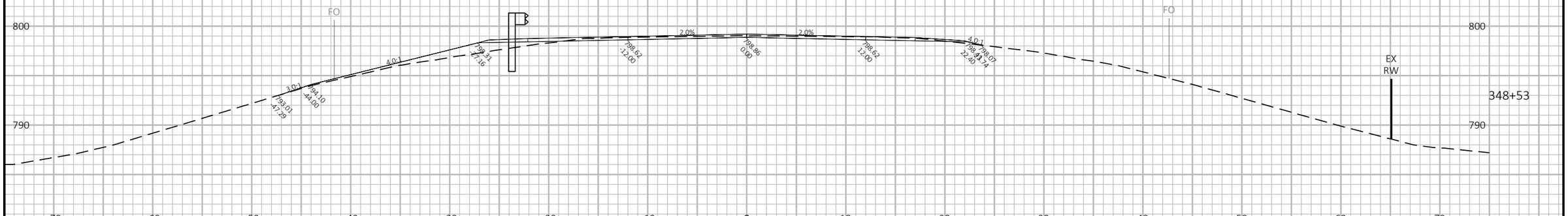
PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

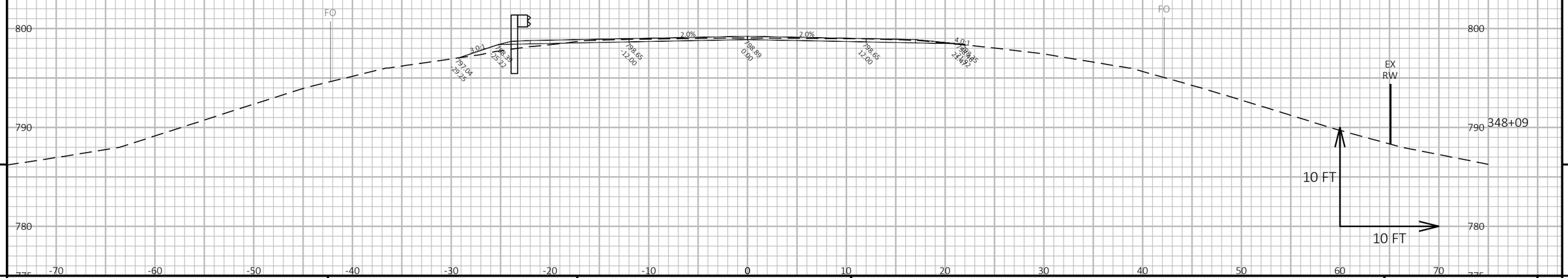
EAT POST 5



EAT POST 9



BEGIN AGGREGATE TAPER



9 9

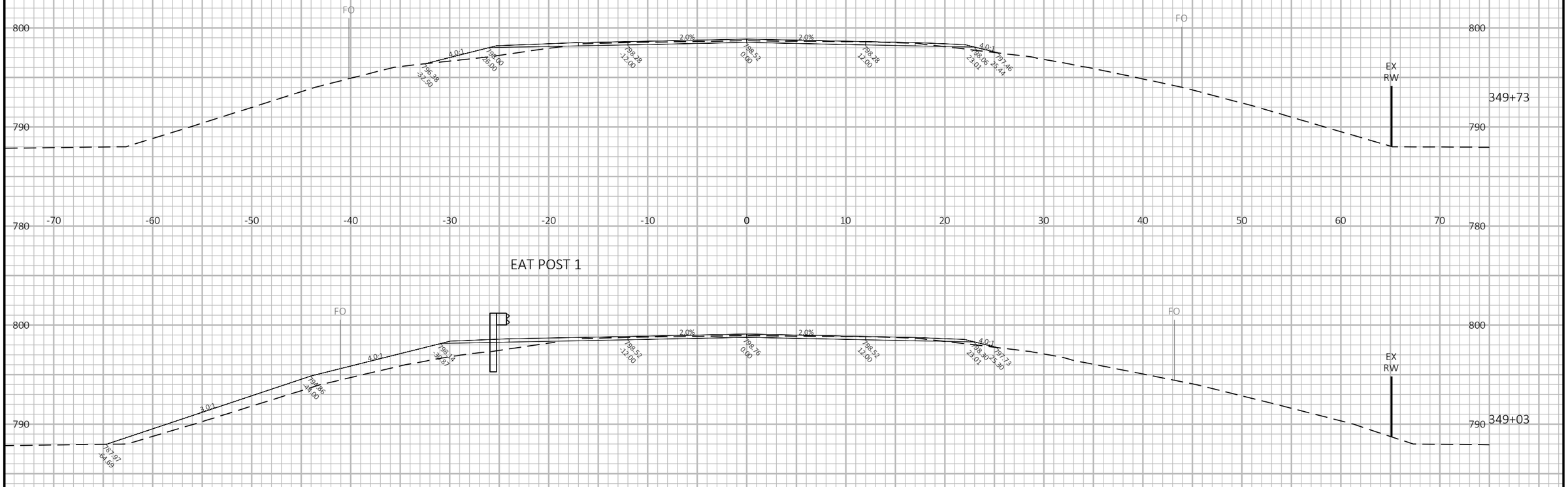
PROJECT NO: 3050-01-77	HWY: STH 19	COUNTY: DODGE/JEFFERSON	CROSS SECTIONS: STH 19	SHEET 85	E

FILE NAME : X:\3230900\210505.01\TECH\CAD\XXXXXXXX\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090105_xs

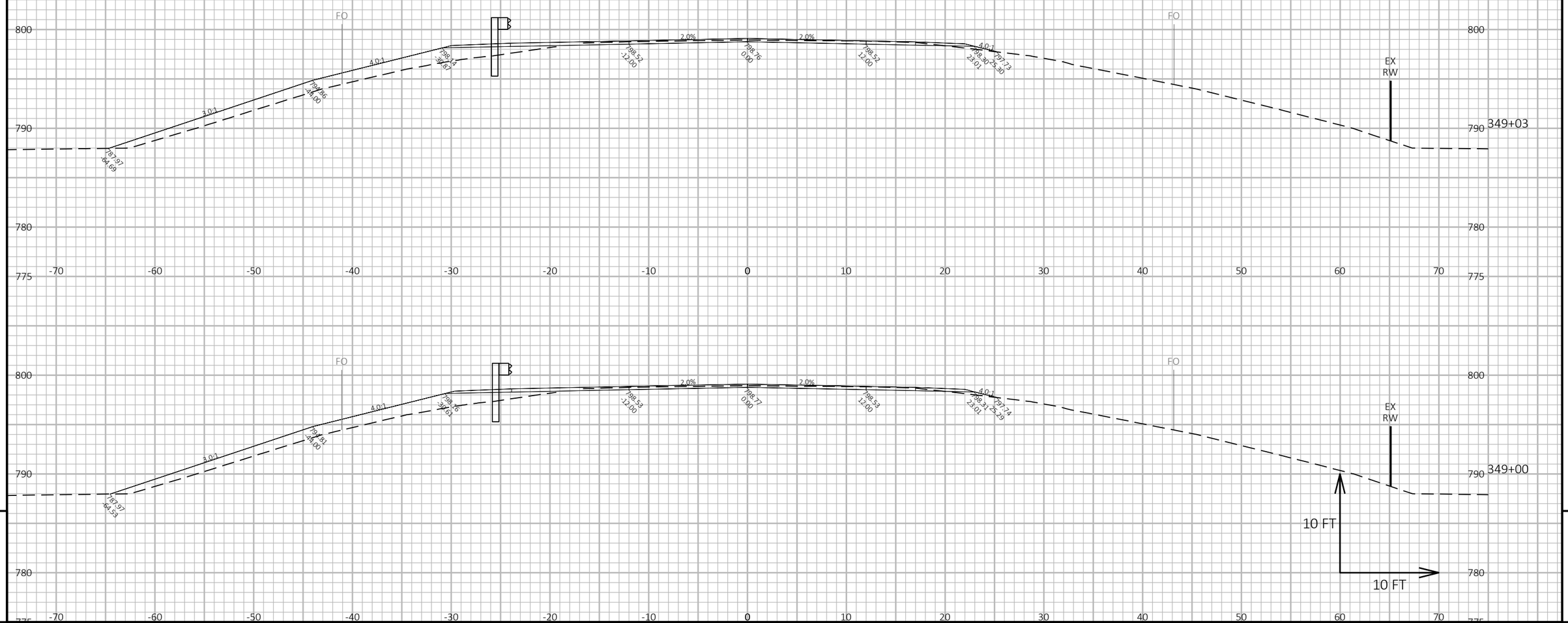
PLOT DATE : 3/25/2025 8:43 AM PLOT BY : BRIAN VEIT PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

BEGIN PAVED TAPER



EAT POST 1



PROJECT NO: 3050-01-77	HWY: STH 19	COUNTY: DODGE/JEFFERSON	CROSS SECTIONS: STH 19	SHEET 86	E

FILE NAME : X:\3230900\210505.01\TECH\CAD\XXXXXXXX\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090106_xs

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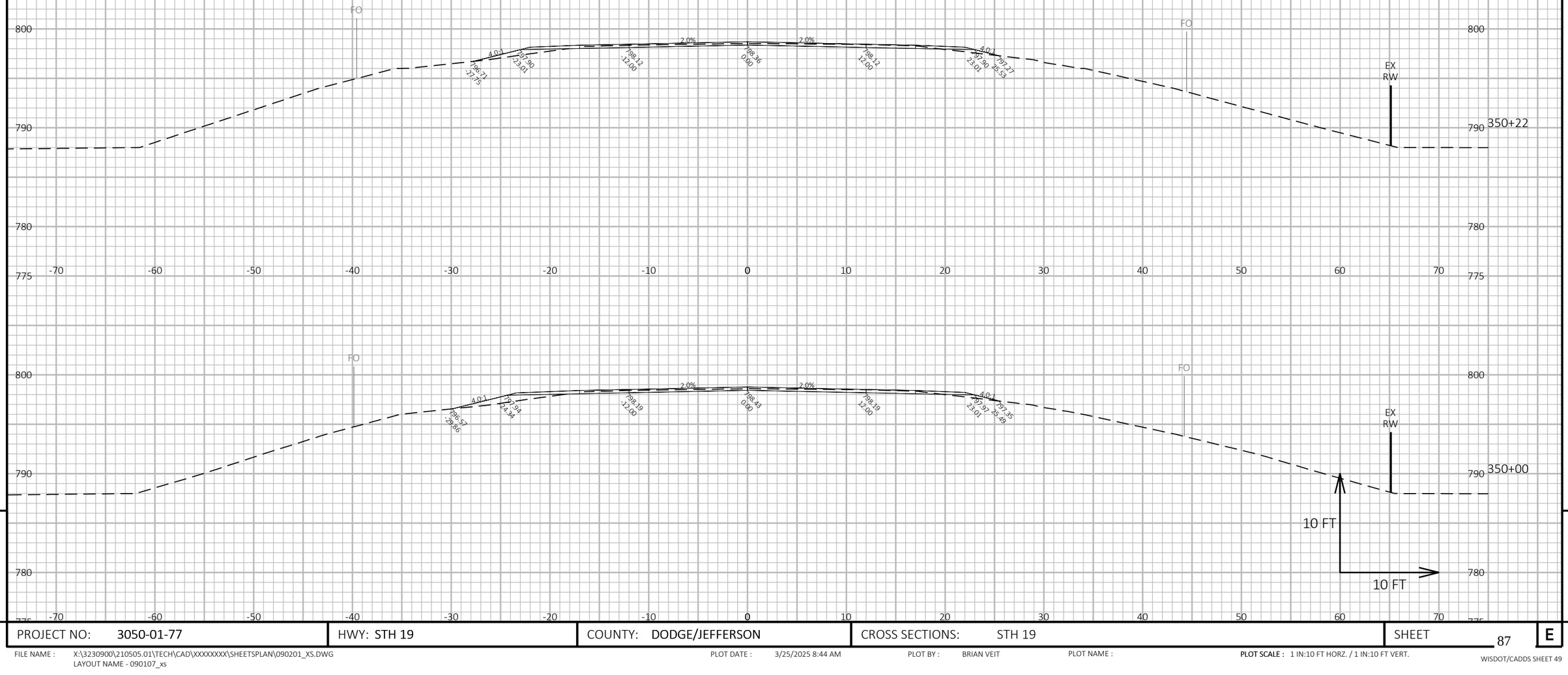
PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

BEGIN AGGREGATE TAPER



PROJECT NO: 3050-01-77	HWY: STH 19	COUNTY: DODGE/JEFFERSON	CROSS SECTIONS: STH 19	SHEET 87	E

FILE NAME : X:\3230900\210505.01\TECH\CAD\XXXXXXXX\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090107_xs

PLOT DATE : 3/25/2025 8:44 AM PLOT BY : BRIAN VEIT PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

Wisconsin Department of Transportation

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