MAD DECEMBER 2022

PROJECT ID: 5215-02-74

WITH: N/A

COUNTY: GRANT

05

ORDER OF SHEETS

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

TOTAL SHEETS = 170

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

CASSVILLE - LANCASTER

CTH Y TO STH 35

STH 81

GRANT COUNTY

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
5215-02-74	———	—

STATE PROJECT NUMBER

5215-02-74

N

DESIGN DESIGNATION 5215-02-04

A.A.D.T.	(2023)	=	840
A.A.D.T.	(2043)	=	840
D.H.V.	(2043)	=	130
D.D.		=	60/40
T.		=	10.9%
DESIGN SPEED		=	30-55 MPH*
ESALS		=	510,000

* 55 MPH DESIGN SPEED FROM STA. 134+48 TO STA. 439+50

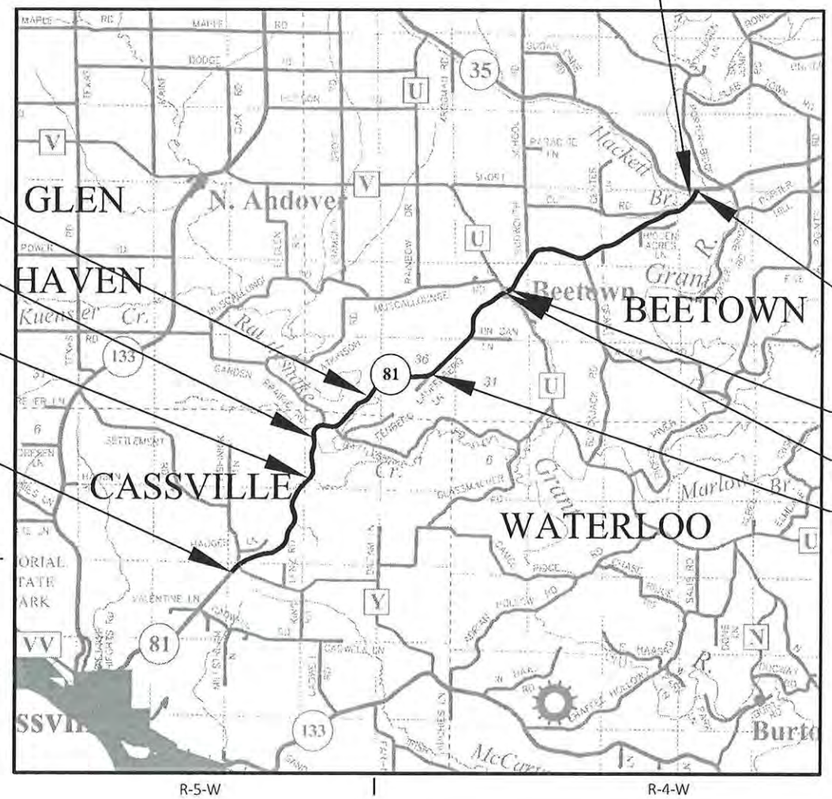
* 30 MPH DESIGN SPEED FROM STA. 439+50 TO STA. 460+50

* 45 MPH DESIGN SPEED FROM STA. 460+50 TO STA. 470+00

* 55 MPH DESIGN SPEED FROM STA. 470+00 TO STA. 609+99.84

CONVENTIONAL SYMBOLS

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



EXCEPTION TO NET ℄ LENGTH
STA. 312+66.65 TO STA. 313+55.21
B-22-141

EXCEPTION TO NET ℄ LENGTH
STA. 263+95.81 TO STA. 264+58.95
B-22-140

EXCEPTION TO NET ℄ LENGTH
STA. 227+29.04 TO STA. 227+84.44
B-22-139

BEGIN PROJECT
STA 134+48.00
Y:484,480.92
X:752,792.53

EXCEPTION TO NET ℄ LENGTH
STA. 600+82.21 TO STA. 607+42.43
B-22-292

END PROJECT
STA 609+99.84

C-22-075
(TO REMAIN)

B-22-036
(TO REMAIN)

C-22-124
(TO REMAIN)

LAYOUT

SCALE 0 2 MI

TOTAL NET LENGTH OF CENTERLINE = 8.842 MI

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

ORIGINAL PLANS PREPARED BY

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

WISCONSIN
ROBERT A JACK
E-42985
MADISON
WI
PROFESSIONAL ENGINEER

7-21-22

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	STRAND ASSOCIATES, INC.
Designer	STRAND ASSOCIATES, INC.
Project Manager	CHRIS HAZARD, P.E.
Regional Examiner	WISDOT SW REGION
Regional Supervisor	PAUL PICCIONE, P.E.

APPROVED FOR THE DEPARTMENT

DATE: _____

Chris Hazard
Digitally signed by Chris Hazard
DN: OU=S
Christopher.hazard@dot.wi.gov, O=WISDOT, OU=Southwest Region, CN=Chris Hazard
Date: 2022.07.21 10:22:25-05'00'
(Signature)

E

GENERAL NOTES

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

ALL SIGN LOCATIONS SHALL BE REVIEWED BY THE ENGINEER PRIOR TO INSTALLATION.

ALL EXISTING SIGNS SHALL REMAIN IN PLACE UNLESS THE ENGINEER APPROVES THEIR REMOVAL.

SILT FENCE SHALL BE PLACED AS SHOWN IN THE PLANS OR AS DIRECTED BY THE ENGINEER AND IN PLACE PRIOR TO CONSTRUCTION.

DISTURBED AREAS WITHIN THE RIGHT-OF-WAY SHALL BE RESTORED AS DIRECTED BY THE ENGINEER.

REMOVAL ITEMS SHALL BE REMOVED TO AN EXISTING JOINT, SAWCUT WHERE SHOWN ON PLANS, OR AS DIRECTED BY THE ENGINEER.

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, PASSING, OR PARKING LANE.

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

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

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

THE LOCATION OF DRIVEWAYS WILL BE DETERMINED BY THE ENGINEER.

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

A SAWED JOINT SHALL BE REQUIRED WHERE NEW PAVEMENT IS TO MEET AN EXISTING PAVED SURFACE.

THERE MAY BE FULL PAVED SHOULDER LOCATIONS THAT ARE CURRENTLY NOT SHOWN IN THE PLAN. MATCH FULL PAVED SHOULDER WIDTH USING THE MILLING AND PAVING DEPTHS SHOWN IN THE PROPOSED TYPICAL SECTION FOR THAT LOCATION, OR AS DIRECTED BY THE ENGINEER. FOR ISOLATED CURB AND GUTTER LOCATIONS NOT IDENTIFIED IN A TYPICAL SECTION RANGE, VARY ASPHALT DEPTH WITHIN THE SHOULDER TO MATCH INTO EXISTING GUTTER FLANGE.

DESIGN CONTACT

STRAND ASSOCIATES, INC.
ROBERT JACK, P.E.
910 W. WINGRA DR.
MADISON, WI 53715
PHONE: (608) 251-4843
EMAIL: ROBERT.JACK@STRAND.COM

WISDOT CONTACT

WISDOT SW REGION
CHRIS HAZARD, P.E.
2101 WRIGHT ST.
MADISON, WI 53704-2583
PHONE: (608) 245-2652
EMAIL: CHRISTOPHER.HAZARD@DOT.WI.GOV

DNR CONTACT

DNR SOUTH CENTRAL REGION
ANDY BARTA
3911 FISH HATCHERY RD.
FITCHBURG, WI 53711
PHONE: (608) 275-3308
EMAIL: ANDY.BARTA@WISCONSIN.GOV

UTILITY/MUNICIPALITY	UTILITY CONTACT	UTILITY TYPE
** ATC MANAGEMENT, INC.	DOUG VOSBERG 2489 RINDEN ROAD COTTAGE CROVE, WI 53527 608-877-7650 DVOSBERG@ATCLLC.COM	ELECTRICITY-TRANSMISSION
** SCENIC RIVERS ENERGY COOPERATIVE	CHAD OLMSTEAD 231 N. SHERIDAN ST. LANCASTER, WI 53813 (608) 723-2121 EXT. 561 COLMSTEAD@SREC.NET	ELECTRICITY
** SPECTRUM	STEVE HEGGE 2701 DANIELS ST. MADISON, WI 53718 (608) 576-2613 STEVE.HEGGE@CHARTER.COM	COMMUNICATION LINE
** TDS TELECOM	CHRIS FERGUSON 827 16th AVE. P.O. BOX 88 MONROE, WI 53566 (608) 328-1158 CHRIS.FERGUSON@TDSTELECOM.COM	COMMUNICATION LINE

HMA PAVEMENT SUMMARY TABLE

3.5" HMA PAVEMENT (OVERLAY)		
LAYER	THICKNESS	HMA TYPE
UPPER LAYER	1.75"	4 LT 58-28 S
LOWER LAYER	1.75"	4 LT 58-28 S

HMA PAVEMENT SUMMARY TABLE

2" HMA PAVEMENT (OVERLAY)		
LAYER	THICKNESS	HMA TYPE
UPPER LAYER	2"	4 LT 58-28 S

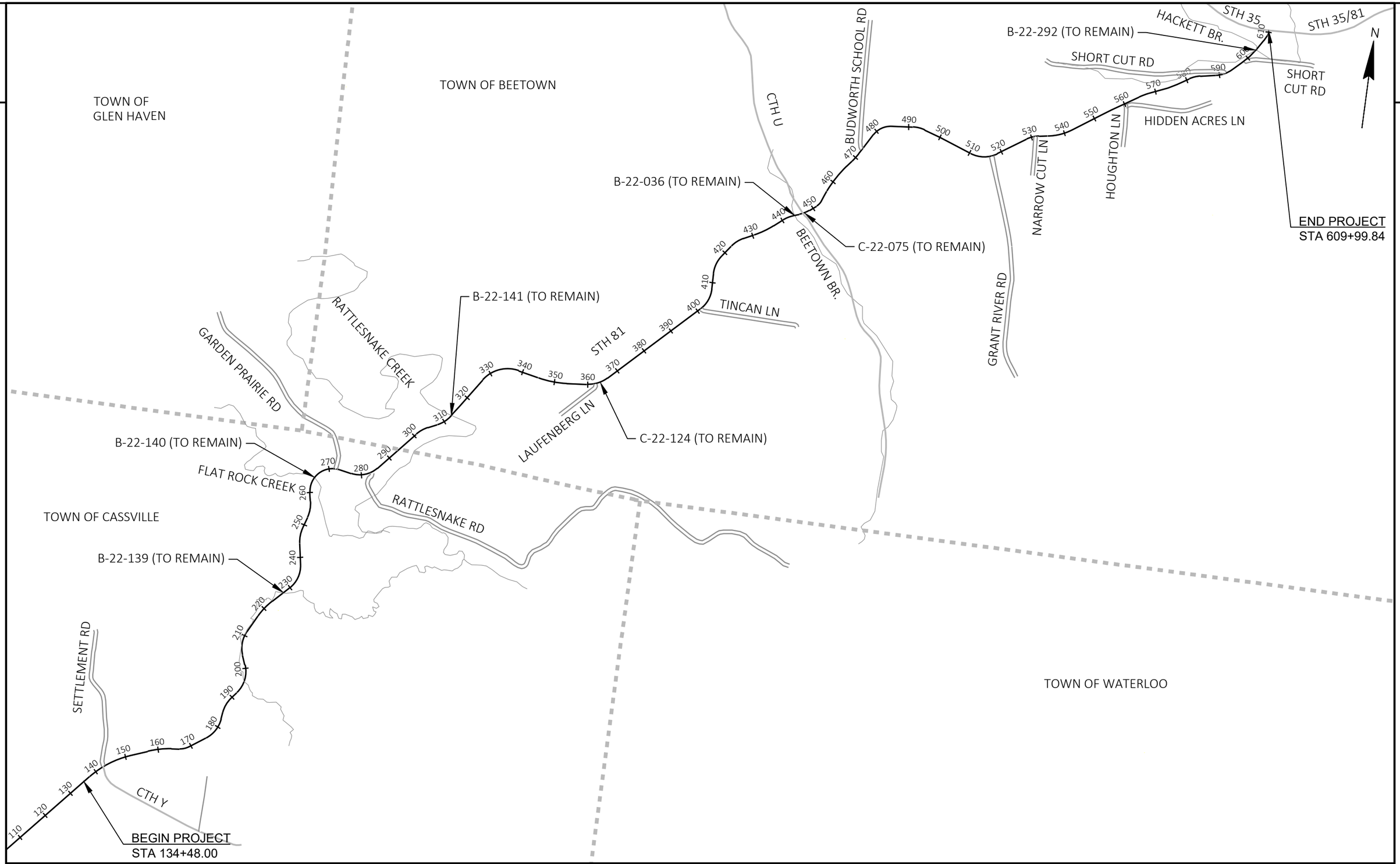
HMA PAVEMENT SUMMARY TABLE

1.75" HMA PAVEMENT (OVERLAY)		
LAYER	THICKNESS	HMA TYPE
UPPER LAYER	1.75"	4 LT 58-28 S

SECTION 2 ORDER OF SHEETS

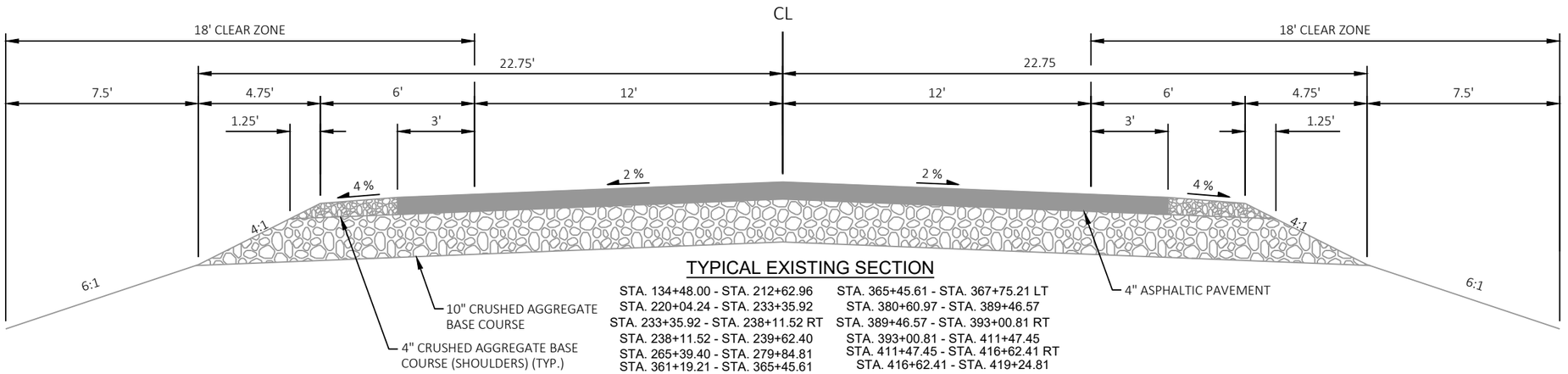
GENERAL NOTES
PROJECT OVERVIEW
TYPICAL SECTIONS
CONSTRUCTION DETAILS
CONSTRUCTION DETAILS GUARDRAIL LAYOUT
TRAFFIC CONTROL - ADVANCE WARNING SIGNING

** DENOTES DIGGERS HOTLINE MEMBER



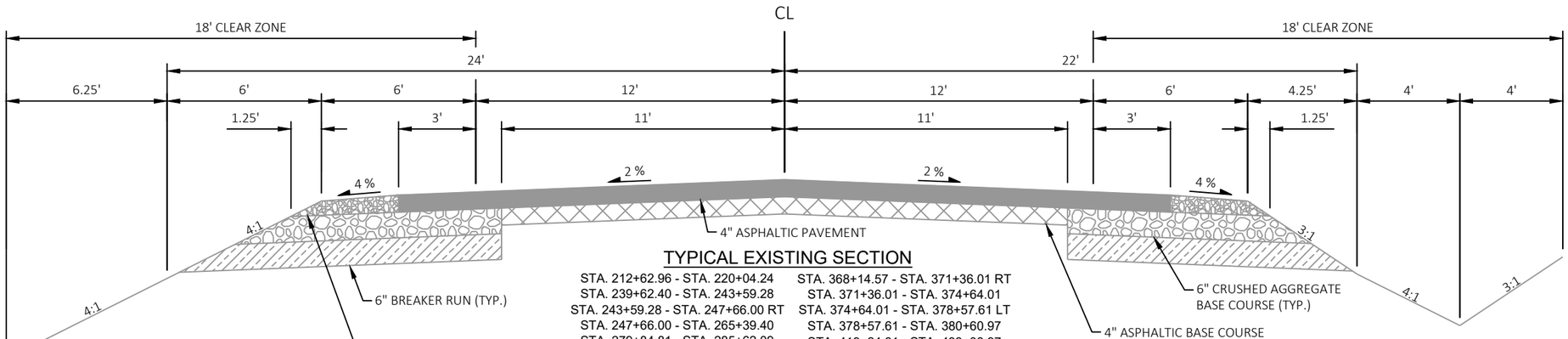
PROJECT NO: 5215-02-74	HWY: STH 81	COUNTY: GRANT	PROJECT OVERVIEW	SHEET 3	E

FILE NAME : S:\MAD\1000--1099\1089\632\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\020201-PO.DWG
LAYOUT NAME - 020201-po
PLOT DATE : 7/21/2022 7:39 AM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : PLOT SCALE : 1 IN:0.5 MI
WISDOT/CADDS SHEET 42



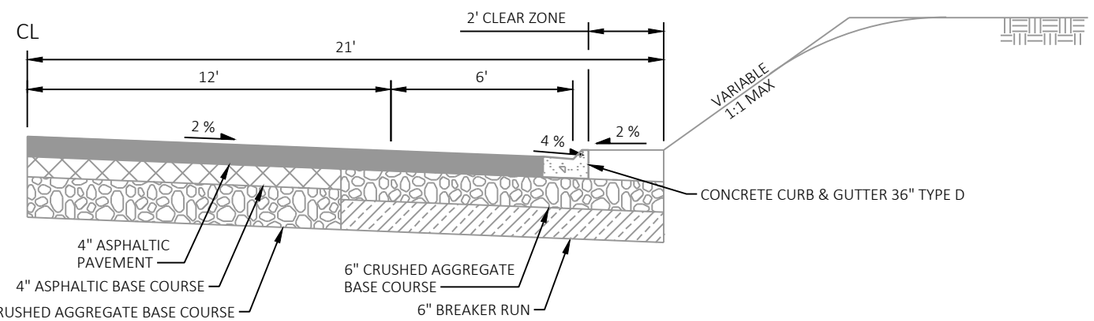
TYPICAL EXISTING SECTION

STA. 134+48.00 - STA. 212+62.96
STA. 220+04.24 - STA. 233+35.92
STA. 233+35.92 - STA. 238+11.52 RT
STA. 238+11.52 - STA. 239+62.40
STA. 265+39.40 - STA. 279+84.81
STA. 361+19.21 - STA. 365+45.61
STA. 365+45.61 - STA. 367+75.21 LT
STA. 380+60.97 - STA. 389+46.57
STA. 389+46.57 - STA. 393+00.81 RT
STA. 393+00.81 - STA. 411+47.45
STA. 411+47.45 - STA. 416+62.41 RT
STA. 416+62.41 - STA. 419+24.81



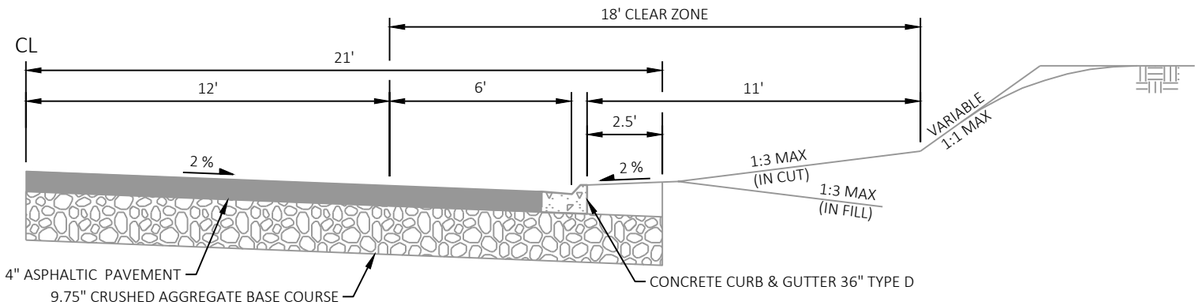
TYPICAL EXISTING SECTION

STA. 212+62.96 - STA. 220+04.24
STA. 239+62.40 - STA. 243+59.28
STA. 243+59.28 - STA. 247+66.00 RT
STA. 247+66.00 - STA. 265+39.40
STA. 279+84.81 - STA. 285+62.09
STA. 285+62.09 - STA. 293+65.69 RT
STA. 293+65.69 - STA. 328+88.41
STA. 328+88.41 - STA. 344+62.81 LT
STA. 344+62.81 - STA. 361+19.21
STA. 367+75.21 - STA. 368+14.57
STA. 368+14.57 - STA. 371+36.01 RT
STA. 371+36.01 - STA. 374+64.01
STA. 374+64.01 - STA. 378+57.61 LT
STA. 378+57.61 - STA. 380+60.97
STA. 419+24.81 - STA. 433+08.97
STA. 433+08.97 - STA. 444+22.41 LT
STA. 474+47.41 - STA. 499+28.01
STA. 499+28.01 - STA. 502+72.41 RT
STA. 502+72.41 - STA. 509+57.93
STA. 519+58.33 - STA. 549+56.25



TYPICAL EXISTING HALF SECTION W/ CURB AND GUTTER

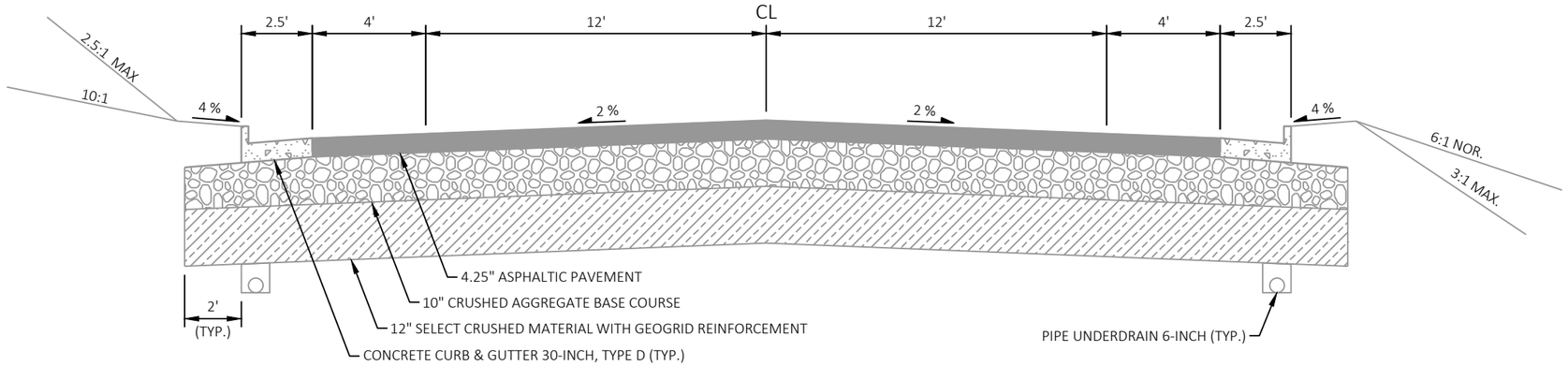
STA. 243+59.28 - STA. 247+66.00 LT (REVERSED)
STA. 285+62.09 - STA. 293+65.69 LT (REVERSED)
STA 328+88.41 - STA. 344+62.81 RT
STA. 374+64.01 - STA. 378+57.61 RT
STA. 433+08.97 - STA. 444+22.41 RT
STA 499+28.01 - STA. 502+72.41 LT (REVERSED)



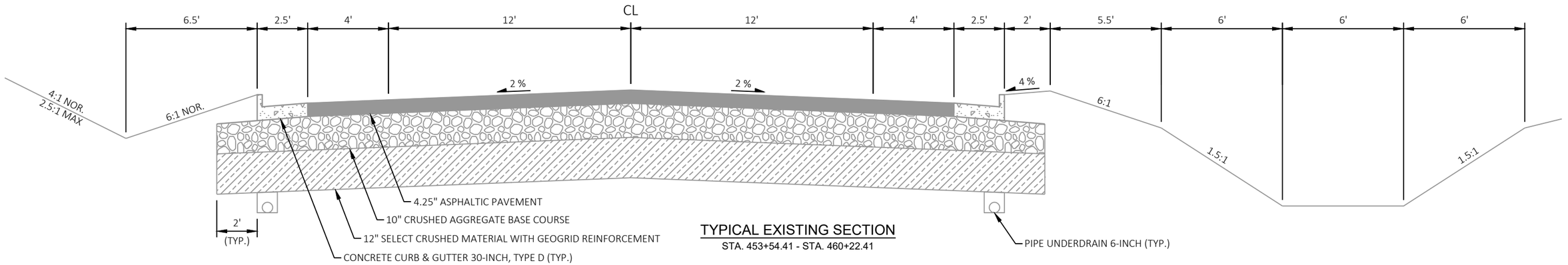
TYPICAL EXISTING HALF SECTION W/ CURB AND GUTTER

STA. 233+35.92 - STA. 238+11.52 LT (REVERSED)
STA. 365+45.61 - STA. 367+75.21 RT
STA. 368+14.57 - STA. 371+36.01 LT (REVERSED)
STA. 389+46.57 - STA. 393+00.81 LT (REVERSED)
STA. 411+47.45 - STA. 416+62.41 LT (REVERSED)
STA. 560+87.85 - STA. 566+19.21 RT

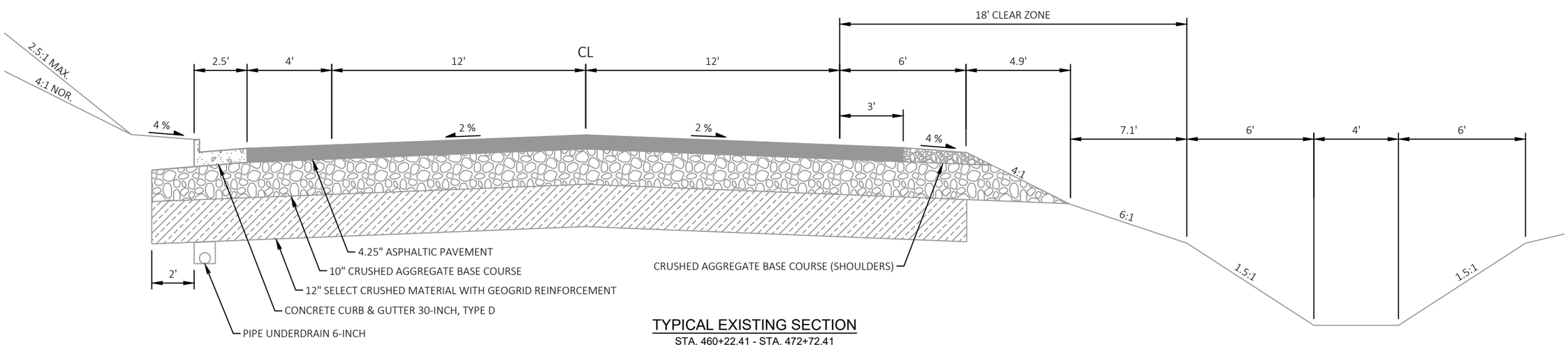
PROJECT NO: 5215-02-74	HWY: STH 81	COUNTY: GRANT	TYPICAL SECTIONS	SHEET 4	E



TYPICAL EXISTING SECTION
STA. 444+22.41 - STA. 453+54.41



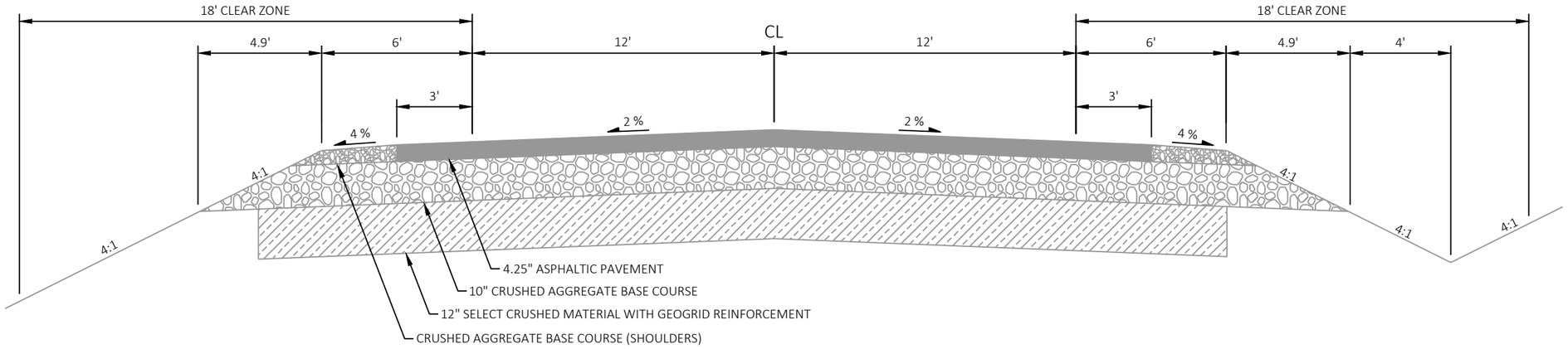
TYPICAL EXISTING SECTION
STA. 453+54.41 - STA. 460+22.41



TYPICAL EXISTING SECTION
STA. 460+22.41 - STA. 472+72.41

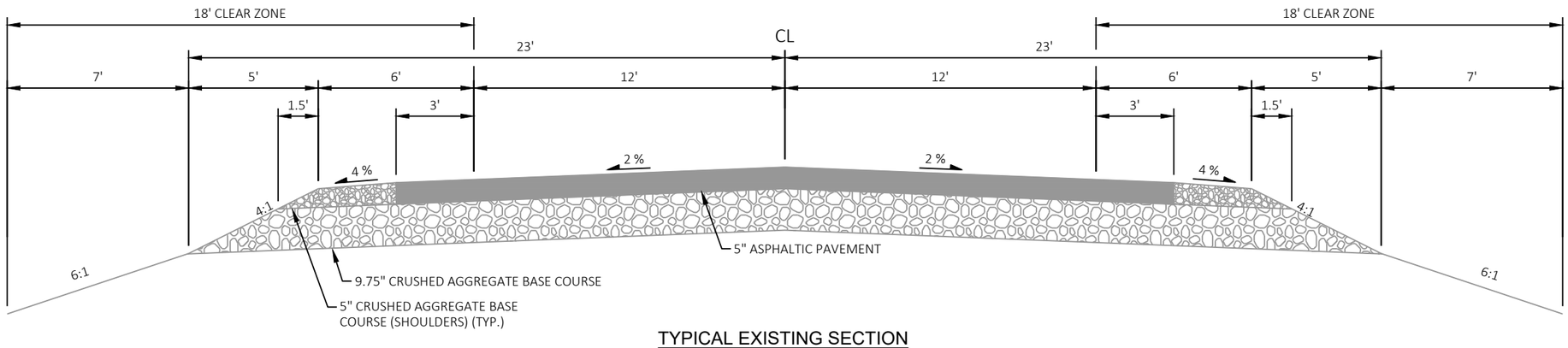
PROJECT NO: 5215-02-74	HWY: STH 81	COUNTY: GRANT	TYPICAL SECTIONS	SHEET 5	E

2



TYPICAL EXISTING SECTION

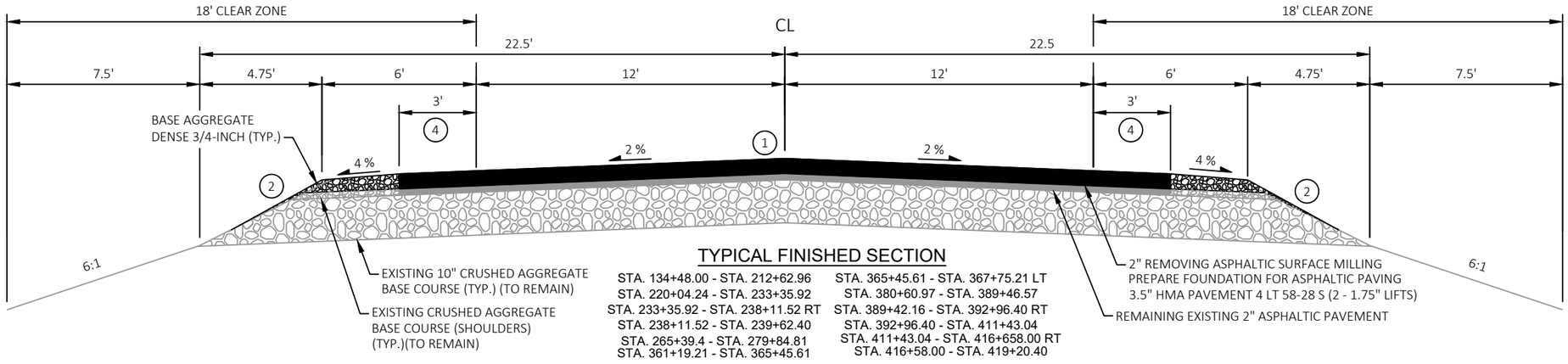
STA. 472+72.41 - STA. 474+47.41



TYPICAL EXISTING SECTION

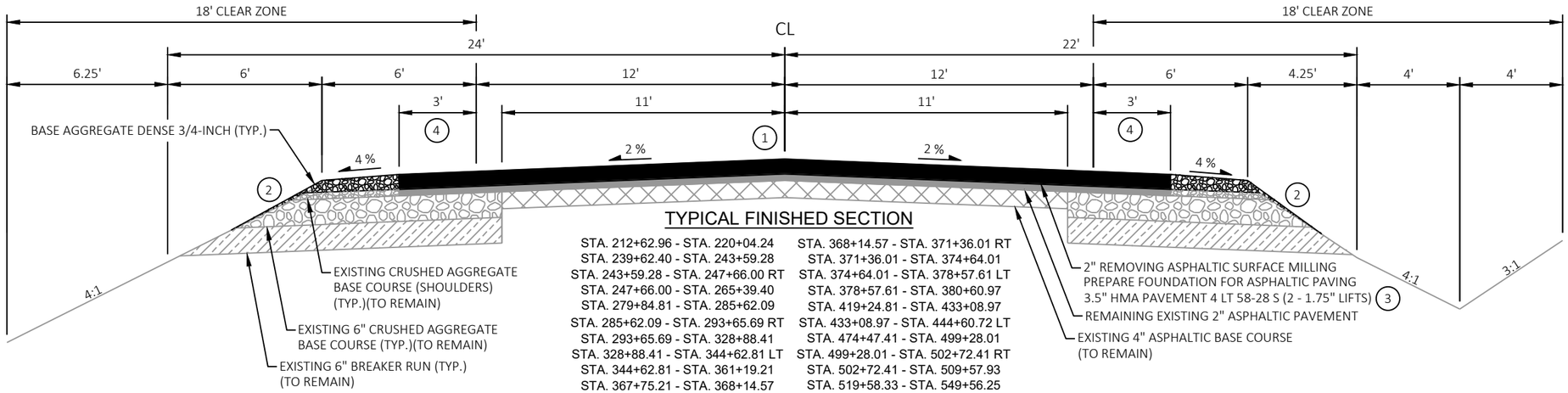
STA. 509+57.93 - STA. 519+58.33 STA. 566+19.21 - STA. 600+82.21
STA. 549+56.25 - STA. 560+87.85 STA. 607+42.43 - STA. 609+99.84
STA. 560+87.85 - STA. 566+19.21 LT

PROJECT NO: 5215-02-74	HWY: STH 81	COUNTY: GRANT	TYPICAL SECTIONS	SHEET 6	E



TYPICAL FINISHED SECTION

STA. 134+48.00 - STA. 212+62.96
STA. 220+04.24 - STA. 233+35.92
STA. 233+35.92 - STA. 238+11.52 RT
STA. 238+11.52 - STA. 239+62.40
STA. 265+39.4 - STA. 279+84.81
STA. 361+19.21 - STA. 365+45.61
STA. 365+45.61 - STA. 367+75.21 LT
STA. 380+60.97 - STA. 389+46.57
STA. 389+42.16 - STA. 392+96.40 RT
STA. 392+96.40 - STA. 411+43.04
STA. 411+43.04 - STA. 416+658.00 RT
STA. 416+58.00 - STA. 419+20.40



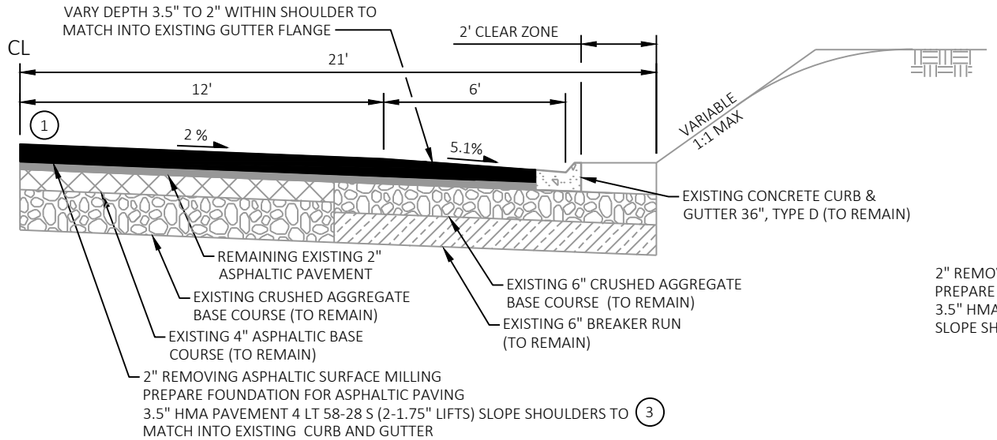
TYPICAL FINISHED SECTION

STA. 212+62.96 - STA. 220+04.24
STA. 239+62.40 - STA. 243+59.28
STA. 243+59.28 - STA. 247+66.00 RT
STA. 247+66.00 - STA. 265+39.40
STA. 279+84.81 - STA. 285+62.09
STA. 285+62.09 - STA. 293+65.69 RT
STA. 293+65.69 - STA. 328+88.41
STA. 328+88.41 - STA. 344+62.81 LT
STA. 344+62.81 - STA. 361+19.21
STA. 367+75.21 - STA. 368+14.57
STA. 368+14.57 - STA. 371+36.01 RT
STA. 371+36.01 - STA. 374+64.01
STA. 374+64.01 - STA. 378+57.61 LT
STA. 378+57.61 - STA. 380+60.97
STA. 419+24.81 - STA. 433+08.97
STA. 433+08.97 - STA. 444+60.72 LT
STA. 474+47.41 - STA. 499+28.01
STA. 499+28.01 - STA. 502+72.41 RT
STA. 502+72.41 - STA. 509+57.93
STA. 519+58.33 - STA. 549+56.25

1. ASPHALTIC CENTER LINE RUMBLE STRIPS 2-LANE RURAL REQUIRED
2. 4:1 - WHEN EXISTING SIDE SLOPE IS FLATTER THAN OR EQUAL TO 4:1

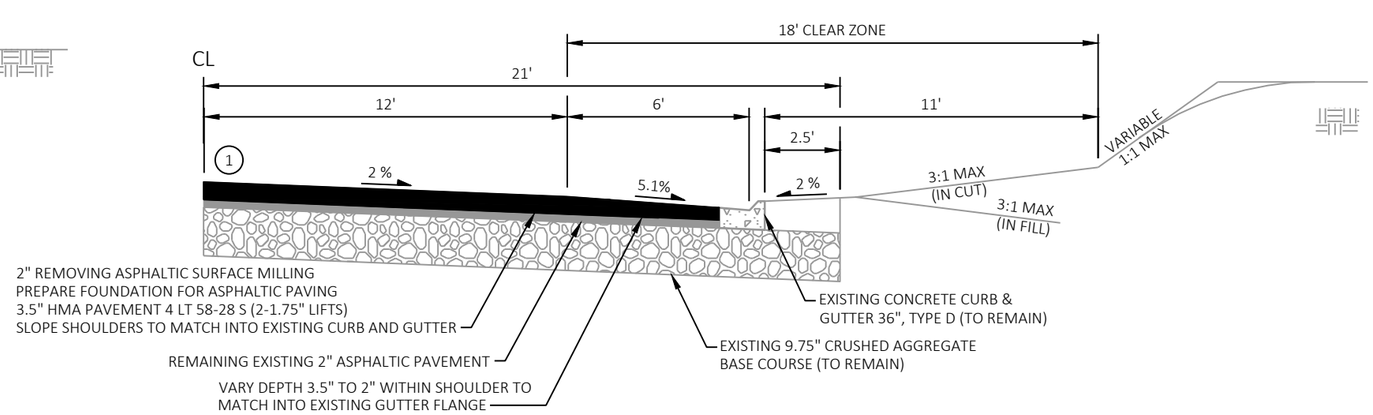
   MATCH EXISTING - WHEN EXISTING SIDE SLOPE IS STEEPER THAN 4:1 BUT FLATTER THAN 3:1 UNLESS OTHERWISE INDICATED

   3:1 - WHEN EXISTING SIDE SLOPE IS STEEPER THAN 3:1 UNLESS OTHERWISE INDICATED
3. 2" HMA PAVEMENT 4 LT 58-28 S (1 LIFT) - STA. 284+50 TO STA. 322+00
4. 6' PAVED AT 2%
   - STA. 272+00 TO STA. 285+20, STA. 393+20 TO STA. 444+60.72, STA. 467+75 TO STA. 495+25. OUTSIDE 3' - PREPARE FOUNDATION FOR ASPHALTIC SHOULDERS REQ'D.



TYPICAL FINISHED SECTION HALF SECTION W/ CURB AND GUTTER

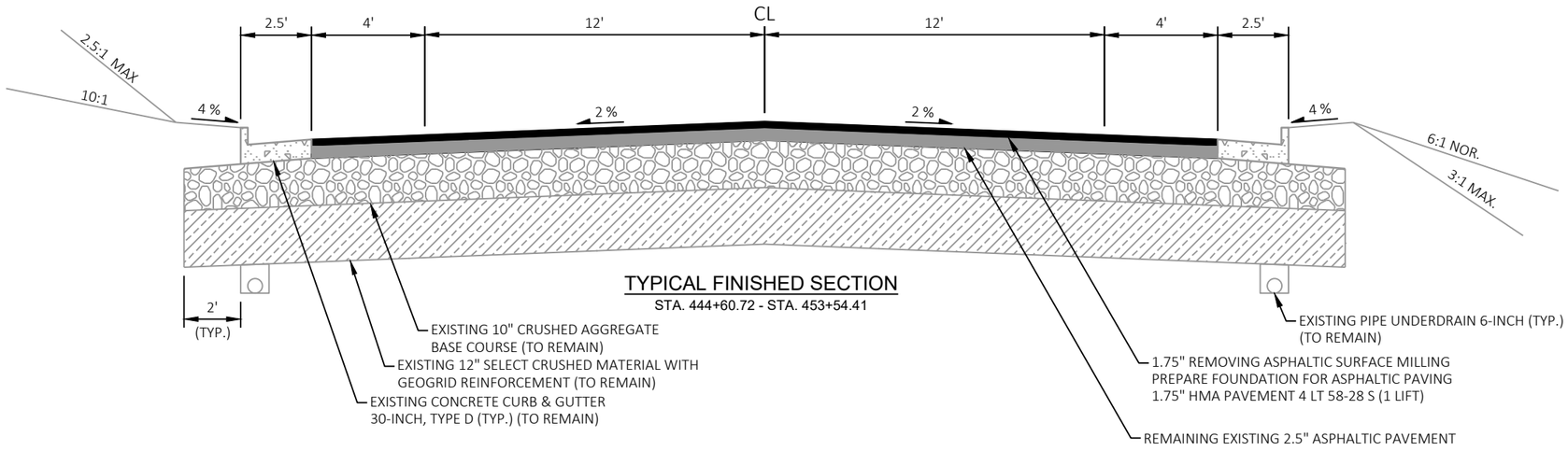
STA. 243+59.28 - STA. 247+66.00 LT (REVERSED)
STA. 285+62.09 - STA. 293+65.69 LT (REVERSED)
STA 328+88.41 - STA. 344+62.81 RT
STA. 374+64.01 - STA. 378+57.61 RT
STA. 433+08.97 - STA. 444+60.72 RT
STA 499+28.01 - STA. 502+72.41 LT (REVERSED)



TYPICAL FINISHED HALF SECTION W/ CURB AND GUTTER

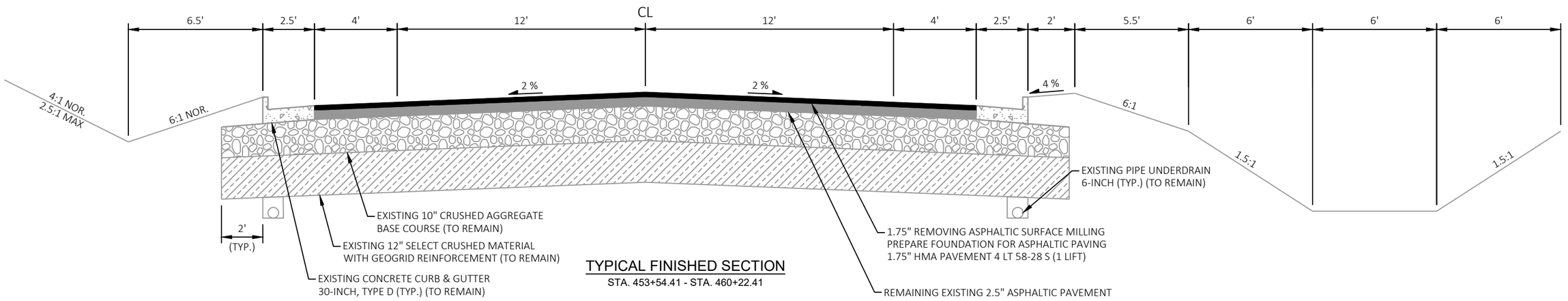
STA. 233+35.92 - STA. 238+11.52 LT (REVERSED)
STA. 365+45.61 - STA. 367+75.21 RT
STA. 368+14.57 - STA. 371+36.10 LT (REVERSED)
STA. 389+46.57 - STA. 393+00.81 LT (REVERSED)
STA. 411+47.45 - STA. 416+62.41 LT (REVERSED)
STA. 560+87.85 - STA. 566+19.21 RT

PROJECT NO: 5215-02-74	HWY: STH 81	COUNTY: GRANT	TYPICAL SECTIONS	SHEET 7	E



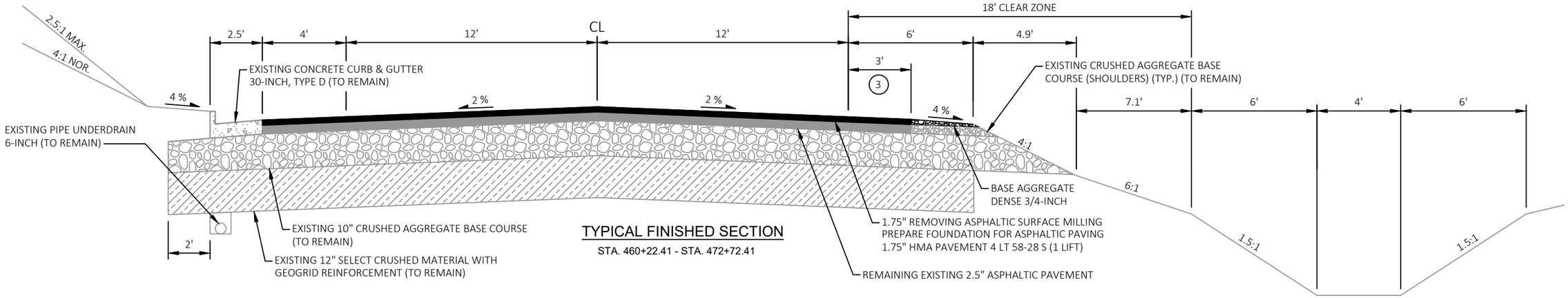
TYPICAL FINISHED SECTION

STA. 444+60.72 - STA. 453+54.41



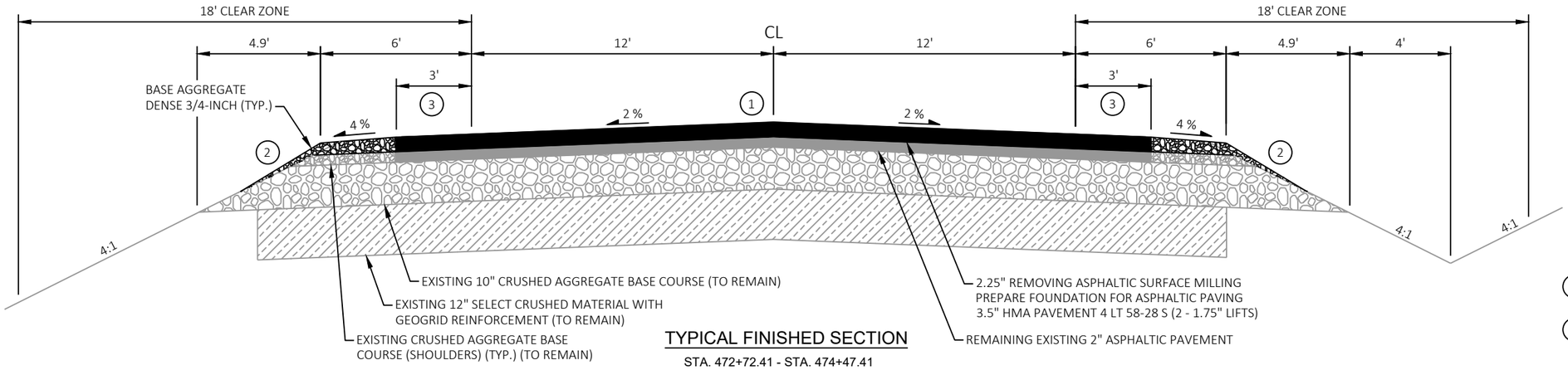
TYPICAL FINISHED SECTION

STA. 453+54.41 - STA. 460+22.41



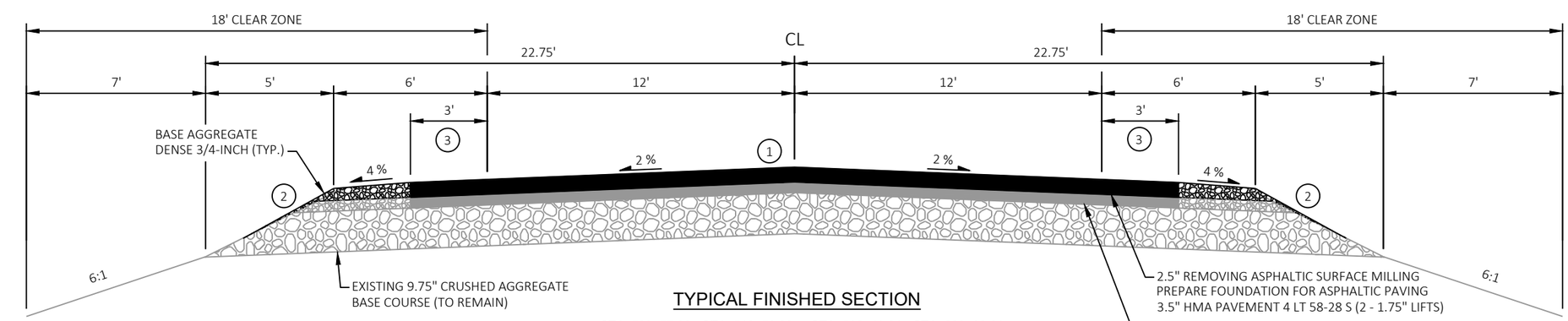
TYPICAL FINISHED SECTION

STA. 460+22.41 - STA. 472+72.41



TYPICAL FINISHED SECTION

STA. 472+72.41 - STA. 474+47.41



TYPICAL FINISHED SECTION

STA. 509+57.93 - STA. 519+58.33
STA. 549+56.25 - STA. 560+87.85
STA. 560+87.85 - STA. 566+19.21
STA. 566+19.21 - STA. 600+82.21
STA. 607+42.43 - STA. 609+99.84

1. ASPHALTIC CENTER LINE RUMBLE STRIPS 2-LANE RURAL REQUIRED
2. 4:1 - WHEN EXISTING SIDE SLOPE IS FLATTER THAN OR EQUAL TO 4:1

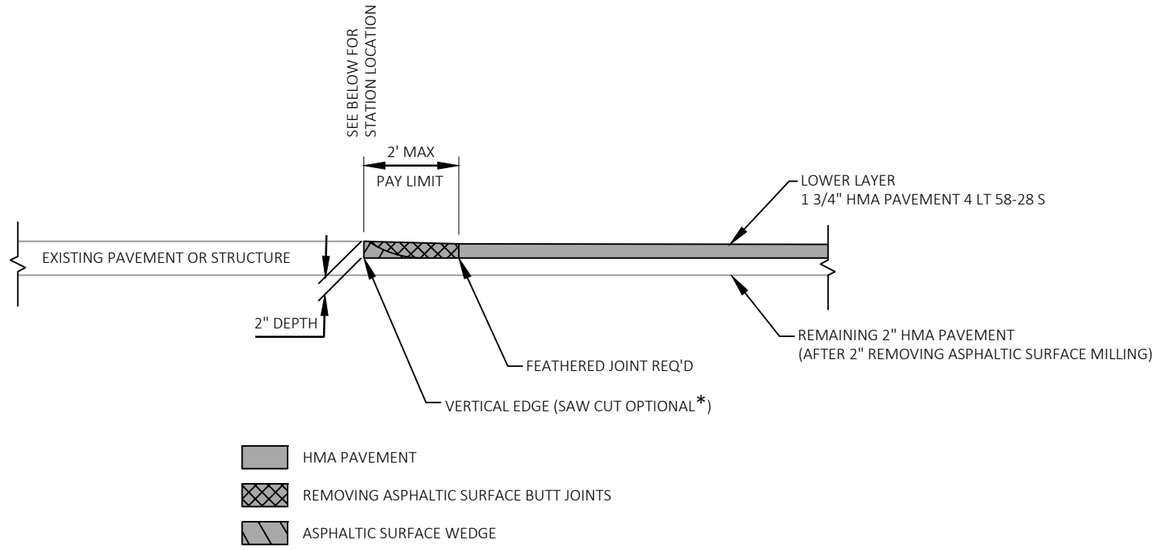
   MATCH EXISTING - WHEN EXISTING SIDE SLOPE IS STEEPER THAN 4:1 BUT FLATTER THAN 3:1 UNLESS OTHERWISE INDICATED

   3:1 - WHEN EXISTING SIDE SLOPE IS STEEPER THAN 3:1 UNLESS OTHERWISE INDICATED
3. 6' PAVED AT 2%
   - STA. 467+50 TO STA. 495+25, STA. 560+00 TO STA. 595+40. OUTSIDE 3' - PREPARE FOUNDATION FOR ASPHALTIC SHOULDERS REQ'D.

PROJECT NO: 5215-02-74	HWY: STH 81	COUNTY: GRANT	TYPICAL SECTIONS	SHEET 9	E

FILE NAME : S:\MAD\1000--1099\1089\632\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\020401-TS.DWG
LAYOUT NAME - 020403-ts
PLOT DATE : 7/21/2022 7:39 AM
PLOT BY : ROSENTHAL, BRIAN
PLOT NAME :
PLOT SCALE : 1 IN:5 FT
WISDOT/CADDS SHEET 42

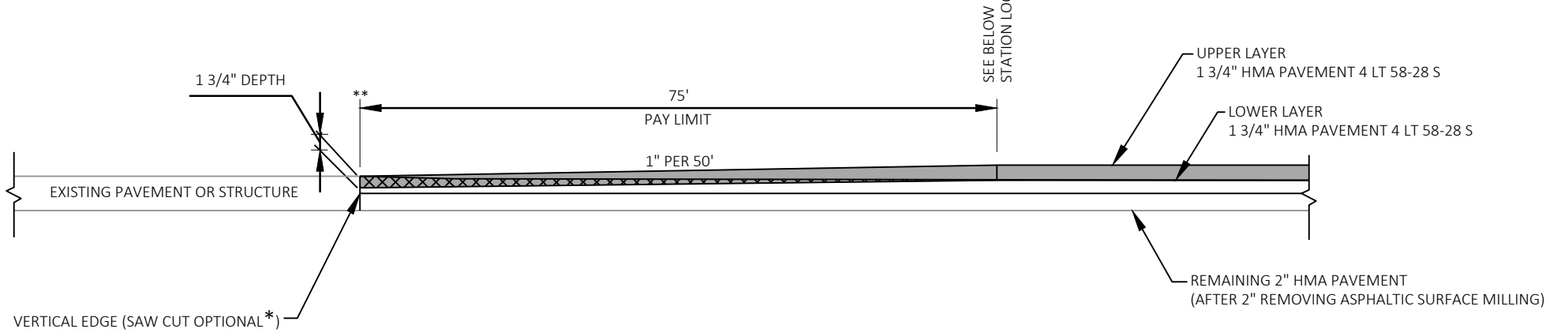
NOT TO SCALE



LOWER PAVEMENT LAYER

* NOT PAID FOR SEPARATELY

** TRANSITION PAVEMENT CROSS SLOPE TO MATCH EXISTING CROSS SLOPE.



UPPER PAVEMENT LAYER

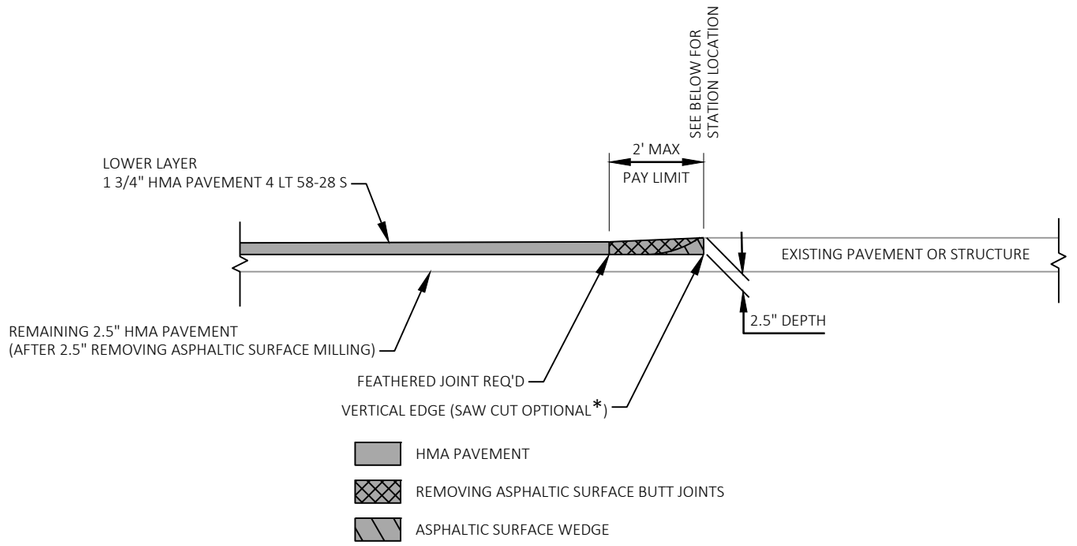
NOTE:

REMOVE ASPHALTIC SURFACE WEDGE PRIOR TO PAVING UPPER PAVEMENT LAYER TO CREATE A VERTICAL FACE AT BUTT JOINT. PAID FOR UNDER REMOVING ASPHALTIC SURFACE BUTT JOINTS.

REMOVING ASPHALTIC SURFACE BUTT JOINTS DETAIL

STA. 134+48.00 (BEGIN PROJECT)
STA. 227+29.04 (B-22-139; MIRRORED)
STA. 229+33.83 (B-22-139)
STA. 262+53.98 (B-22-140; MIRRORED)
STA. 264+58.95 (B-22-140)

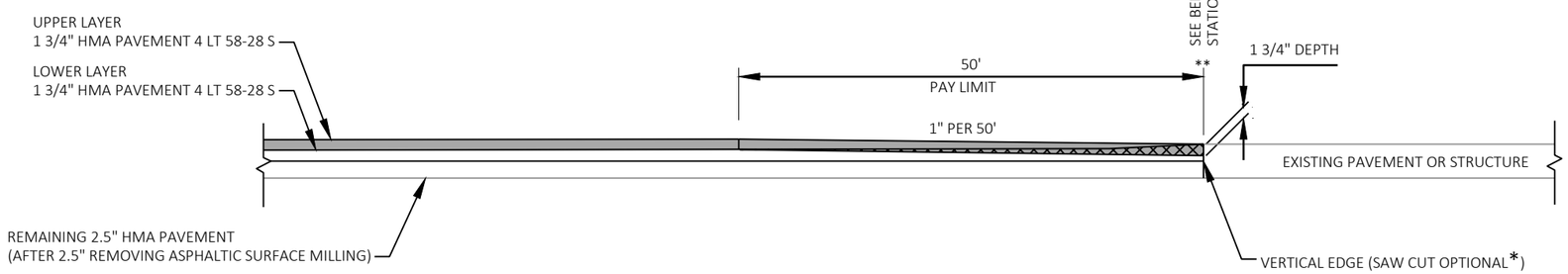
NOT TO SCALE



LOWER PAVEMENT LAYER

* NOT PAID FOR SEPARATELY

** TRANSITION PAVEMENT CROSS SLOPE TO MATCH EXISTING CROSS SLOPE.



UPPER PAVEMENT LAYER

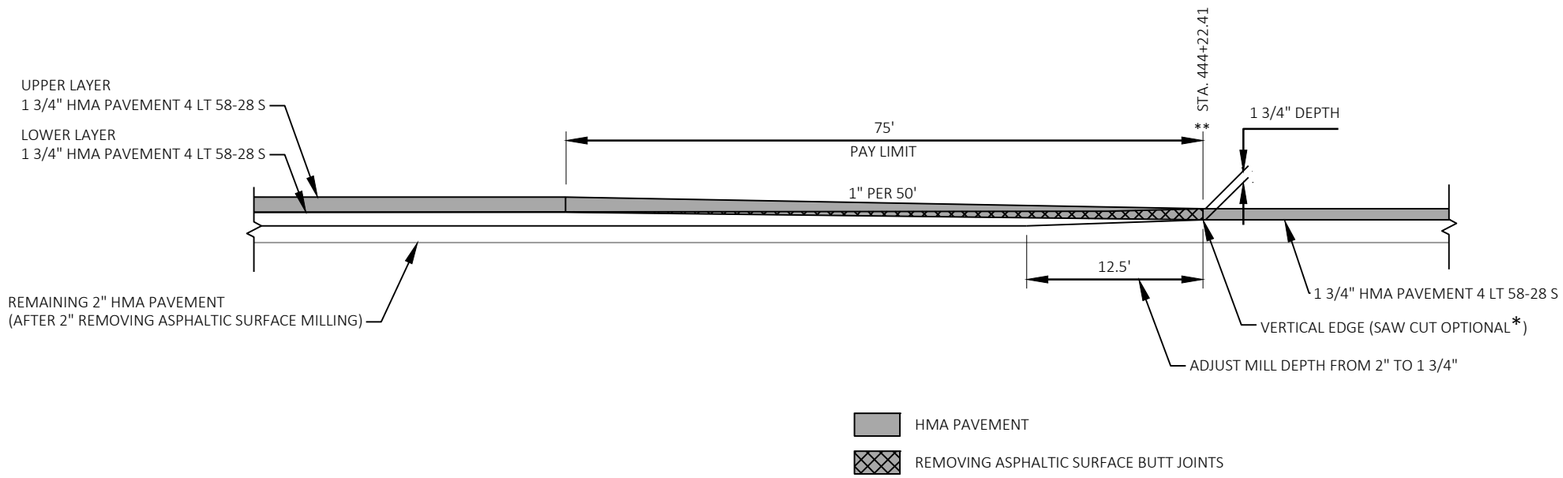
NOTE:

REMOVE ASPHALTIC SURFACE WEDGE PRIOR TO PAVING UPPER PAVEMENT LAYER TO CREATE A VERTICAL FACE AT BUTT JOINT. PAID FOR UNDER REMOVING ASPHALTIC SURFACE BUTT JOINTS.

REMOVING ASPHALTIC SURFACE BUTT JOINTS DETAIL

STA. 600+82.21 (B-22-292)
STA. 607+42.43 (B-22-292; MIRRORED)
STA. 609+99.84 (END PROJECT)

NOT TO SCALE



UPPER PAVEMENT LAYER

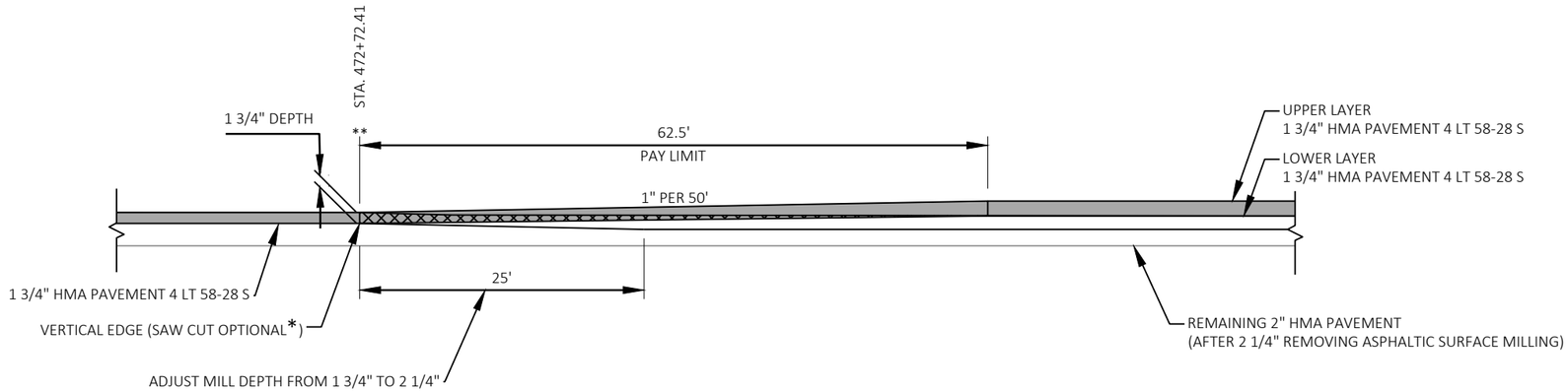
NOTE:

REMOVE ASPHALTIC SURFACE WEDGE PRIOR TO PAVING UPPER PAVEMENT LAYER TO CREATE A VERTICAL FACE AT BUTT JOINT. PAID FOR UNDER REMOVING ASPHALTIC SURFACE BUTT JOINTS.

REMOVING ASPHALTIC SURFACE BUTT JOINTS DETAIL - TYPICAL SECTION CHANGE

STA. 444+22.41

NOT TO SCALE

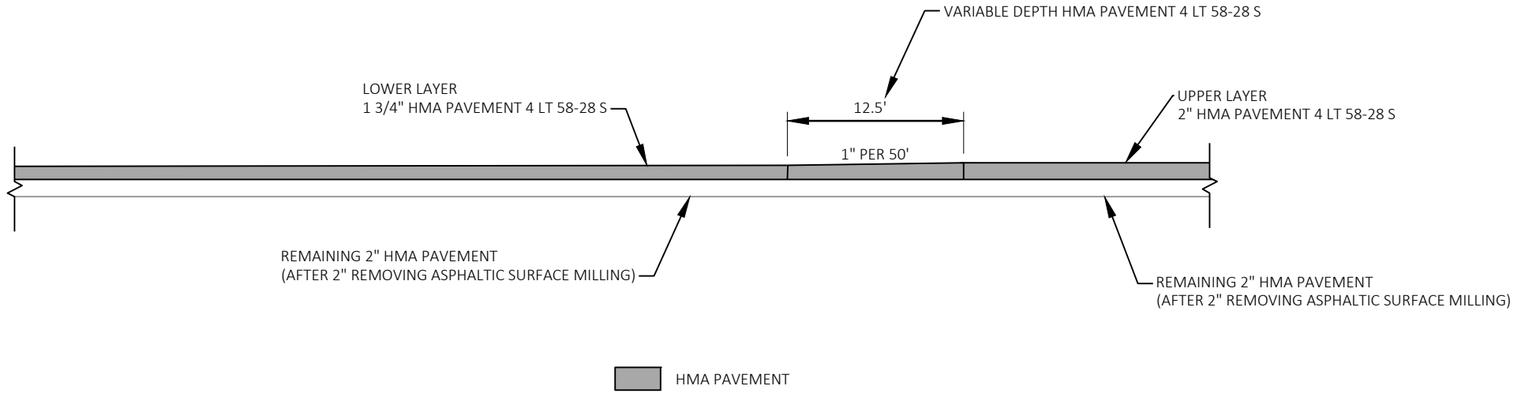


UPPER PAVEMENT LAYER

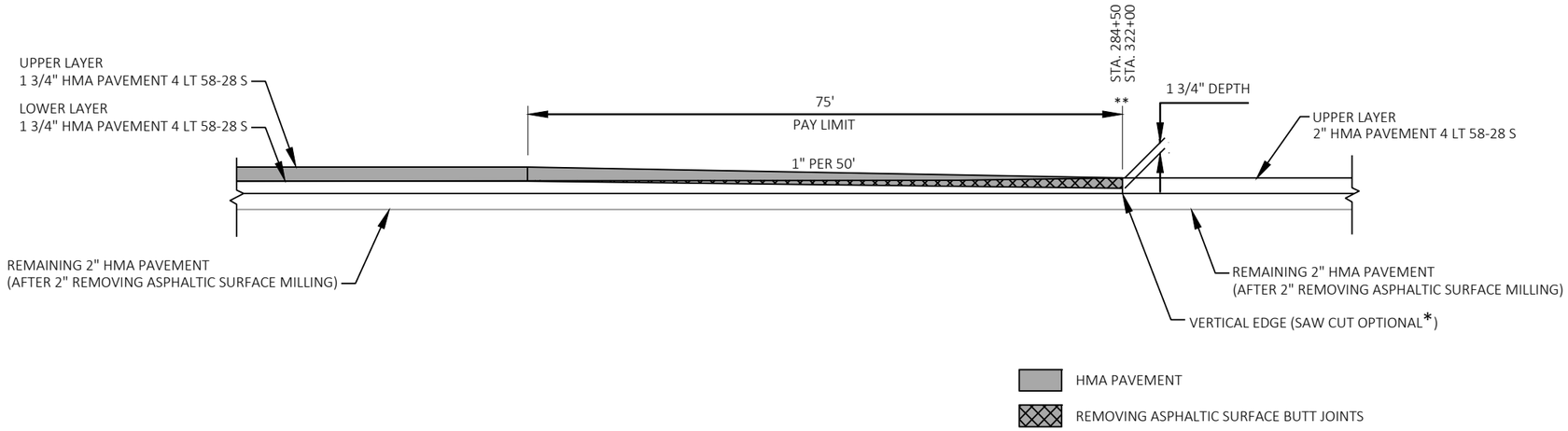
REMOVING ASPHALTIC SURFACE BUTT JOINTS DETAIL - TYPICAL SECTION CHANGE

STA. 472+72.41

NOT TO SCALE



UPPER / LOWER PAVEMENT LAYER



UPPER PAVEMENT LAYER

NOTE:

REMOVE ASPHALTIC SURFACE WEDGE PRIOR TO PAVING UPPER PAVEMENT LAYER TO CREATE A VERTICAL FACE AT BUTT JOINT. PAID FOR UNDER REMOVING ASPHALTIC SURFACE BUTT JOINTS.

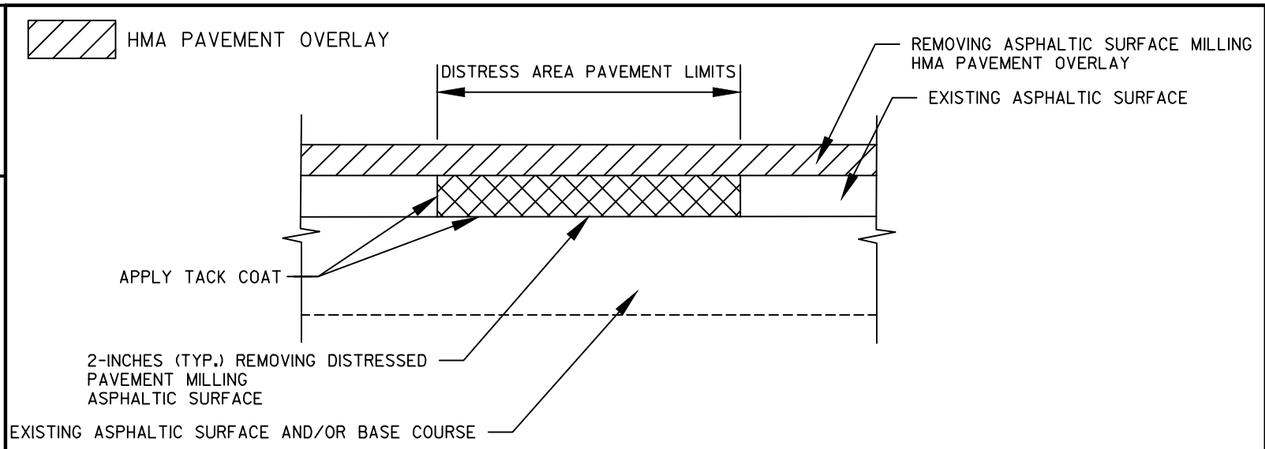
* NOT PAID FOR SEPARATELY

** TRANSITION PAVEMENT CROSS SLOPE TO MATCH EXISTING CROSS SLOPE.

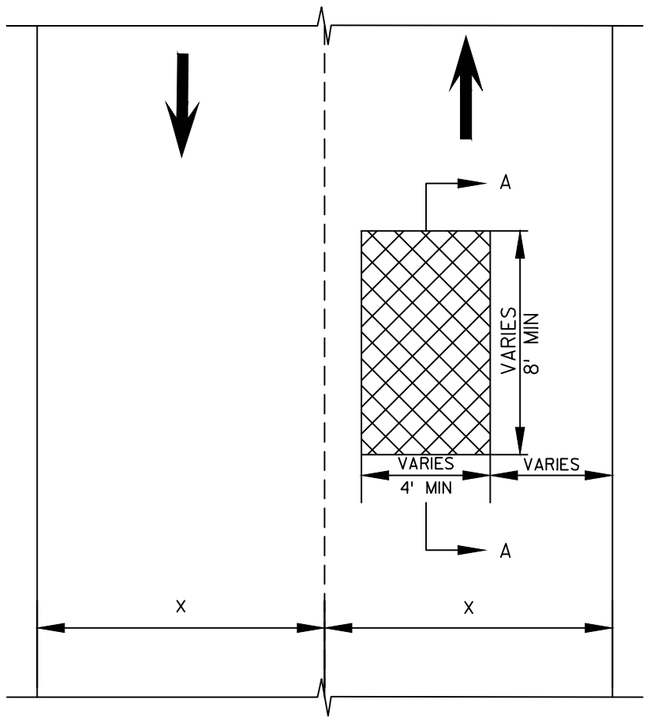
REMOVING ASPHALTIC SURFACE BUTT JOINTS DETAIL - TYPICAL SECTION CHANGE

STA. 284+50
STA. 322+00 (REVERSED)

2



REMOVING DISTRESSED PAVEMENT MILLING
SECTION A-A



PLAN VIEW

REMOVING DISTRESSED PAVEMENT MILLING

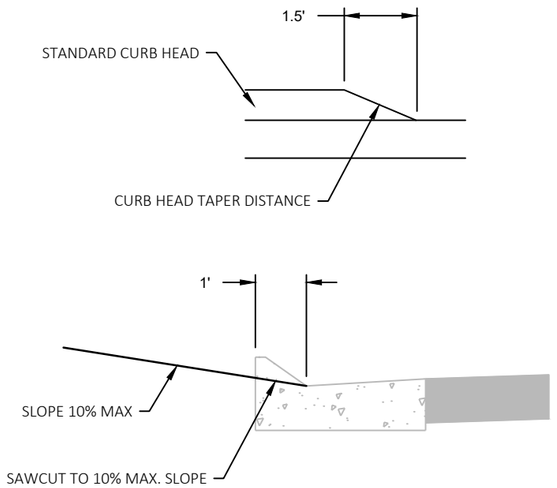
TRAVEL DIRECTION

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

RUNOFF COEFFICIENT TABLE

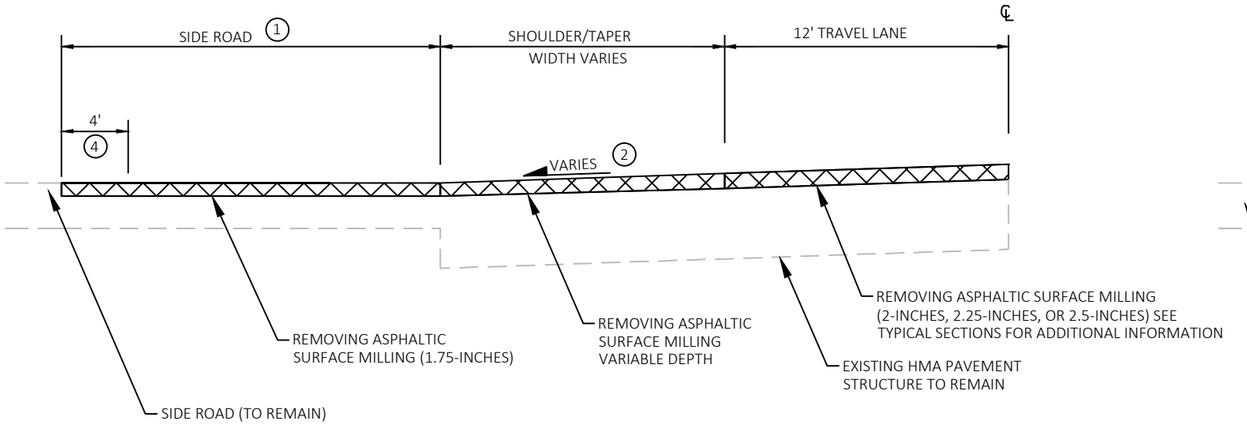
	HYDROLOGIC SOIL GROUP											
	A			B			C			D		
	SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)		
LAND USE:	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER
ROW CROPS	.08 .22	.16 .30	.22 .38	.12 .26	.20 .34	.27 .44	.15 .30	.24 .37	.33 .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 = 107.2 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 0.96 ACRES

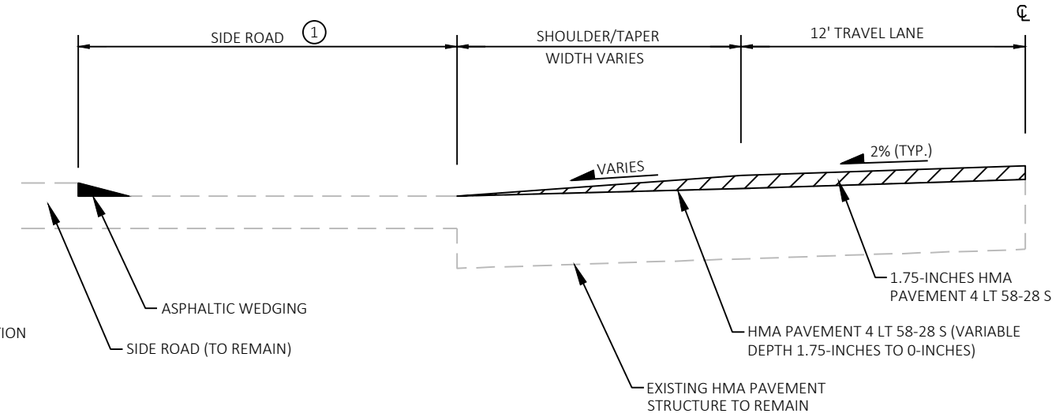


PROFILE CURB CUT AT GUARDRAIL APPROACH

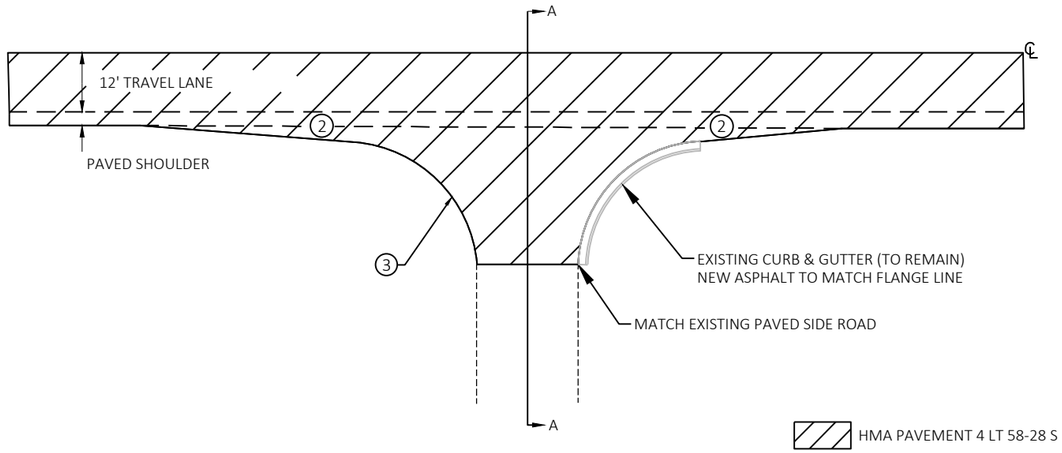
MAINTAIN EXISTING DRAINAGE PATTERNS
STA. 310+17 - STA. 311+87
STA. 365+15 - STA. 365+34
STA. 366+95 - STA. 367+48
STA. 367+72 - STA. 367+87
STA. 368+20 - STA. 368+48



MILLING - SECTION A-A

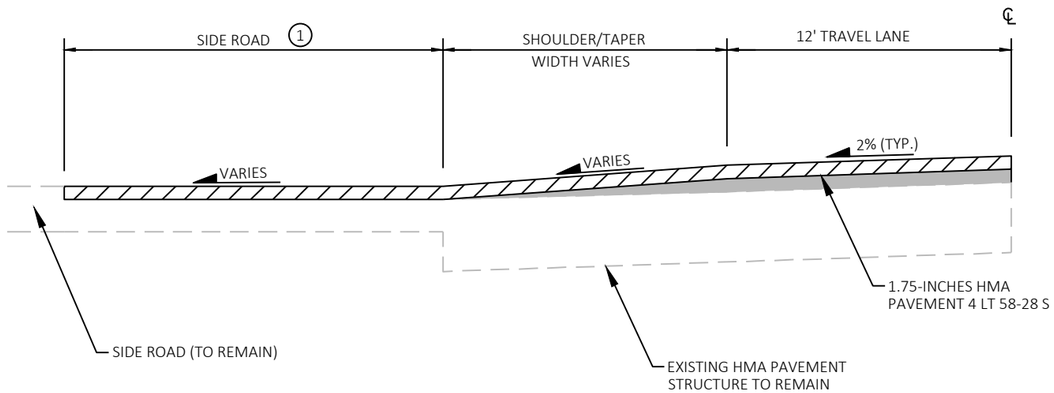


LOWER LIFT - SECTION A-A

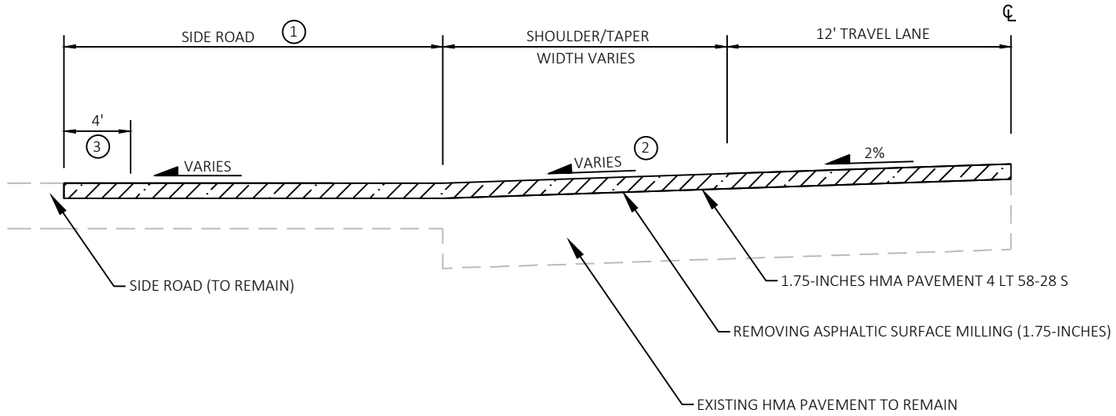


DETAIL FOR RURAL PAVED SIDE ROAD WITH AND WITHOUT CONCRETE CURB AND GUTTER

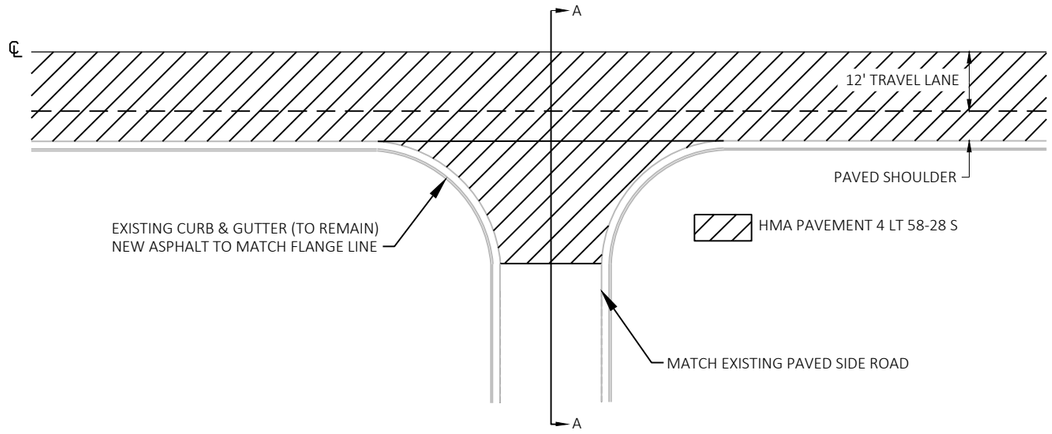
1. DETERMINED BY LARGEST SIDEROAD RADIUS OR AS DETERMINED BY THE ENGINEER
2. TRANSITION SHOULDER SLOPE PRIOR TO INTERSECTION TO MATCH SIDE ROAD PROFILE OR CONCRETE CURB AND GUTTER FLANGE LINE (50-FOOT MINIMUM).
3. MATCH EXISTING EDGE OF PAVEMENT ALONG THE SIDE ROAD
4. MAX PAY LIMIT OF REMOVING ASPHALTIC SURFACE BUTT JOINTS (1.75-INCHES)



UPPER LIFT - SECTION A-A

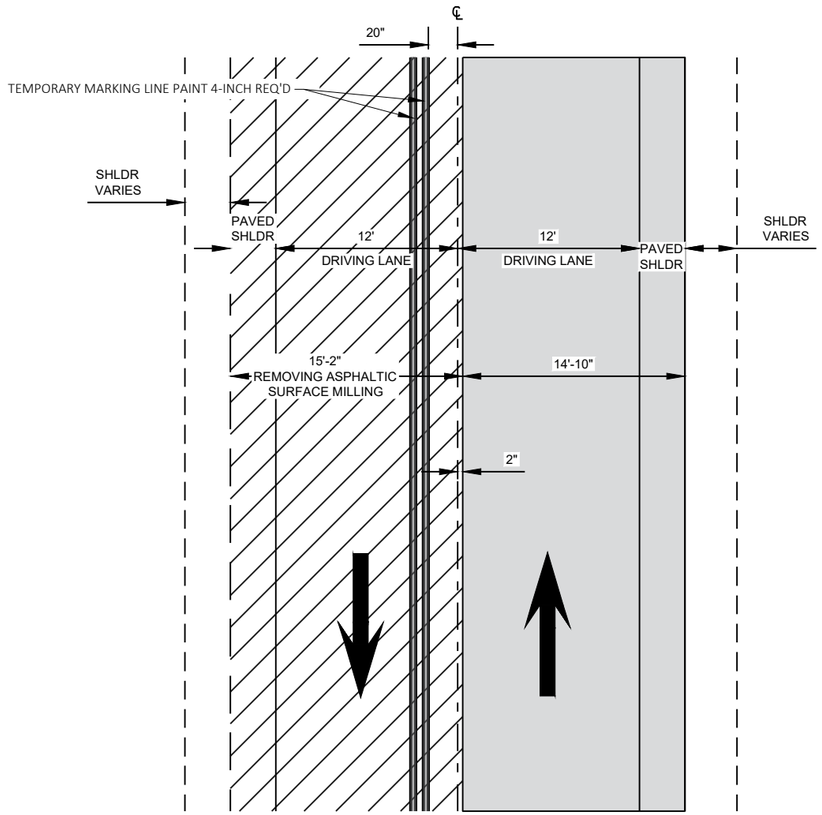


SECTION A-A



DETAIL FOR URBAN PAVED SIDE ROAD WITH CONCRETE CURB AND GUTTER

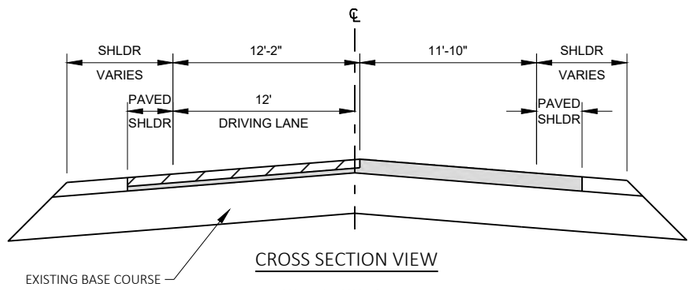
1. DETERMINED BY LARGEST SIDEROAD RADIUS OR AS DETERMINED BY THE ENGINEER
2. TRANSITION SHOULDER AND SIDE ROAD CROSS SLOPE TO MATCH THE EXISTING CONCRETE CURB AND GUTTER FLANGE LINE (50-FOOT MINIMUM). WEDGE ASPHALT SURFACE AS NECESSARY TO ACHIEVE BEST FIT.
3. MAX PAY LIMIT OF REMOVING ASPHALTIC SURFACE BUTT JOINTS (1.75-INCHES)



PLAN VIEW

EXISTING ASPHALTIC SURFACE TO REMAIN

FIRST PASS 1.75" HMA PAVEMENT 4 LT 58-28 S PAVING LIMITS



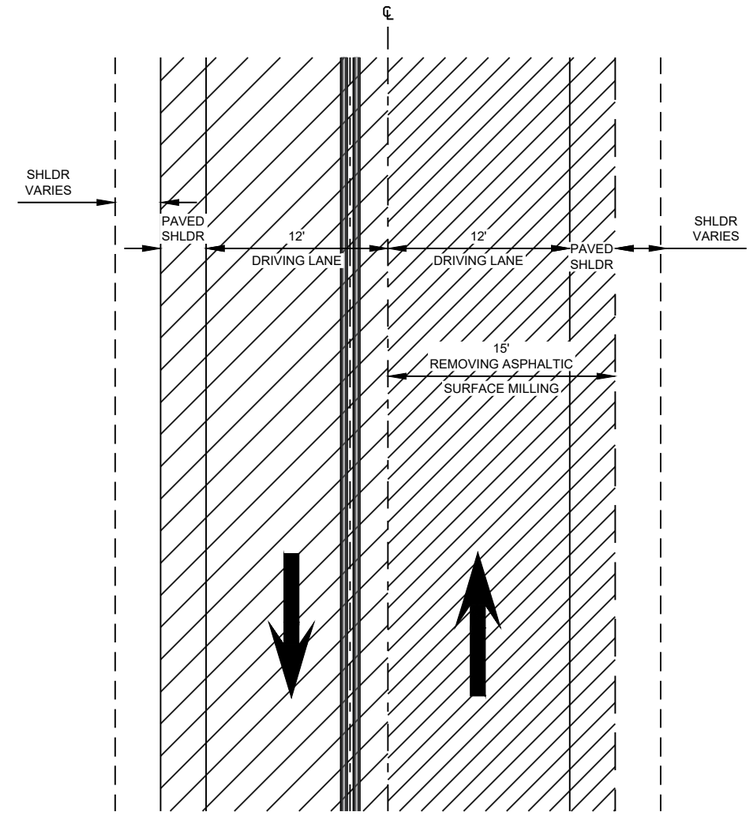
CROSS SECTION VIEW

FIRST PASS DETAIL

RURAL PAVING DETAIL

STA. 134+48 - STA. 444+22

STA. 460+22 - STA. 610+00

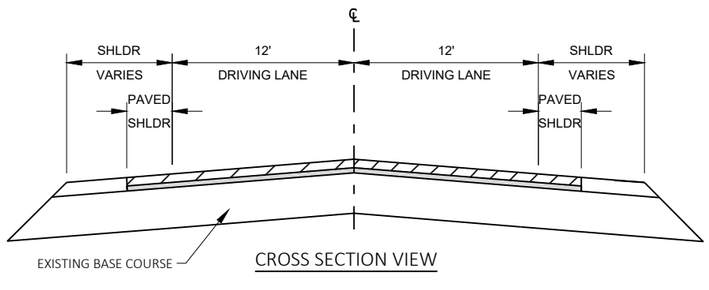


PLAN VIEW

EXISTING ASPHALTIC SURFACE TO REMAIN

FIRST PASS 1.75" HMA PAVEMENT 4 LT 58-28 S PAVING LIMITS

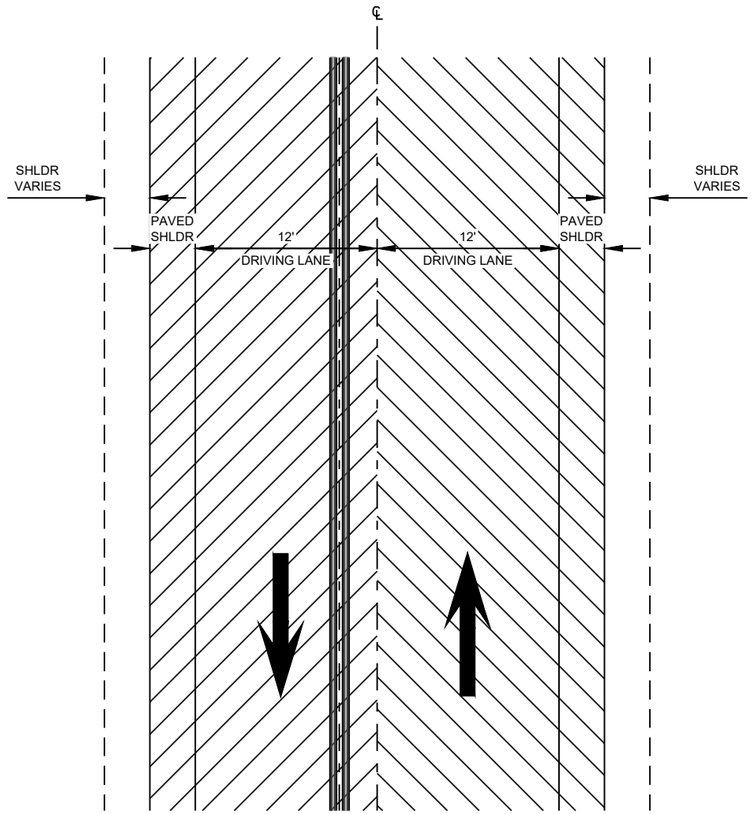
SECOND PASS 1.75" HMA PAVEMENT 4 LT 58-28 S PAVING LIMITS



CROSS SECTION VIEW

SECOND PASS DETAIL

PROJECT NO: 5215-02-74	HWY: STH 81	COUNTY: GRANT	CONSTRUCTION DETAILS	SHEET 17	E



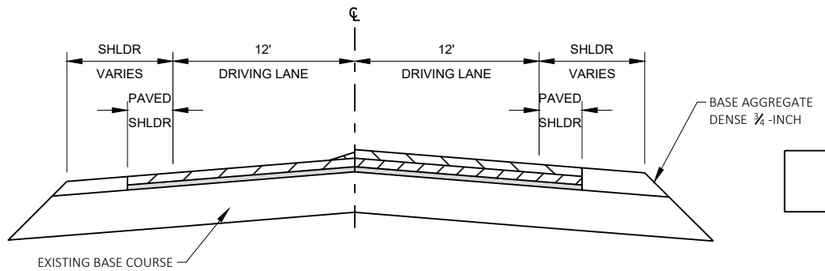
PLAN VIEW

EXISTING ASPHALTIC SURFACE TO REMAIN

FIRST PASS 1.75" HMA PAVEMENT 4 LT 58-28 S PAVING LIMITS

SECOND PASS 1.75" HMA PAVEMENT 4 LT 58-28 S PAVING LIMITS

THIRD PASS 1.75" HMA PAVEMENT 4 LT 58-28 S PAVING LIMITS



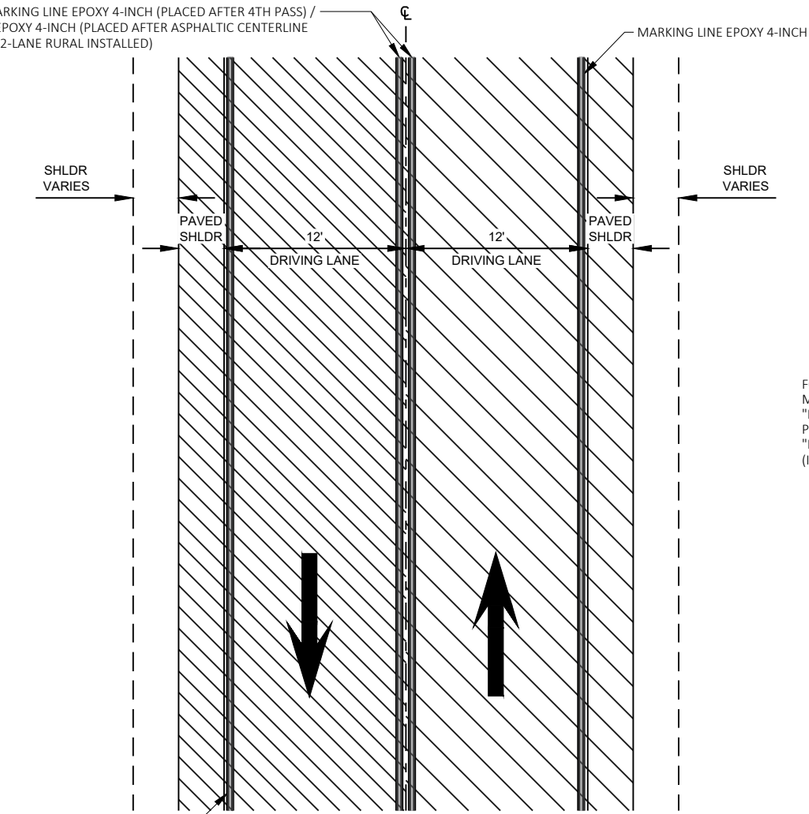
CROSS SECTION VIEW

THIRD PASS DETAIL

RURAL PAVING DETAIL
STA. 134+48 - STA. 444+22
STA. 460+22 - STA. 610+00

TEMPORARY MARKING LINE EPOXY 4-INCH (PLACED AFTER 4TH PASS) / MARKING LINE EPOXY 4-INCH (PLACED AFTER ASPHALTIC CENTERLINE RUMBLE STRIPS 2-LANE RURAL INSTALLED)

MARKING LINE EPOXY 4-INCH



MARKING LINE EPOXY 4-INCH

PLAN VIEW

FOR FINAL MAINLINE PAVEMENT MARKING LAYOUT, SEE S.D.D. "PERMANENT LONGITUDINAL PAVEMENT MARKINGS" AND "PAVEMENT MARKING (INTERSECTIONS)".

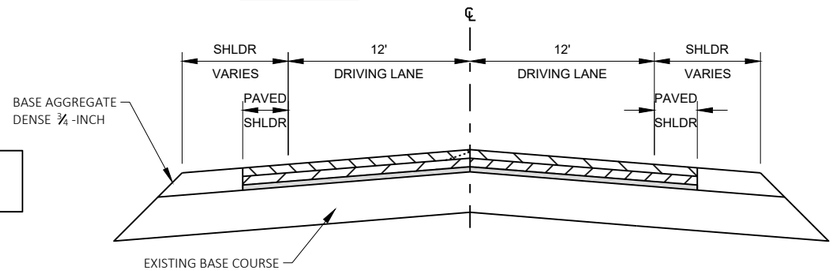
EXISTING ASPHALTIC SURFACE TO REMAIN

FIRST PASS 1.75" HMA PAVEMENT 4 LT 58-28 S PAVING LIMITS

SECOND PASS 1.75" HMA PAVEMENT 4 LT 58-28 S PAVING LIMITS

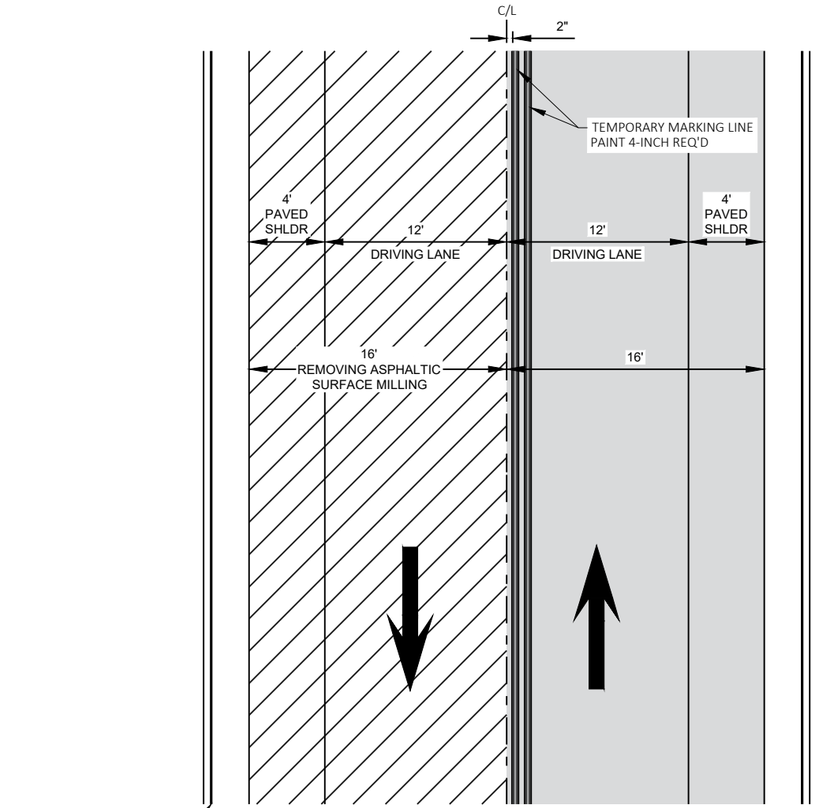
THIRD PASS 1.75" HMA PAVEMENT 4 LT 58-28 S PAVING LIMITS

FOURTH PASS 1.75" HMA PAVEMENT 4 LT 58-28 S PAVING LIMITS



CROSS SECTION VIEW

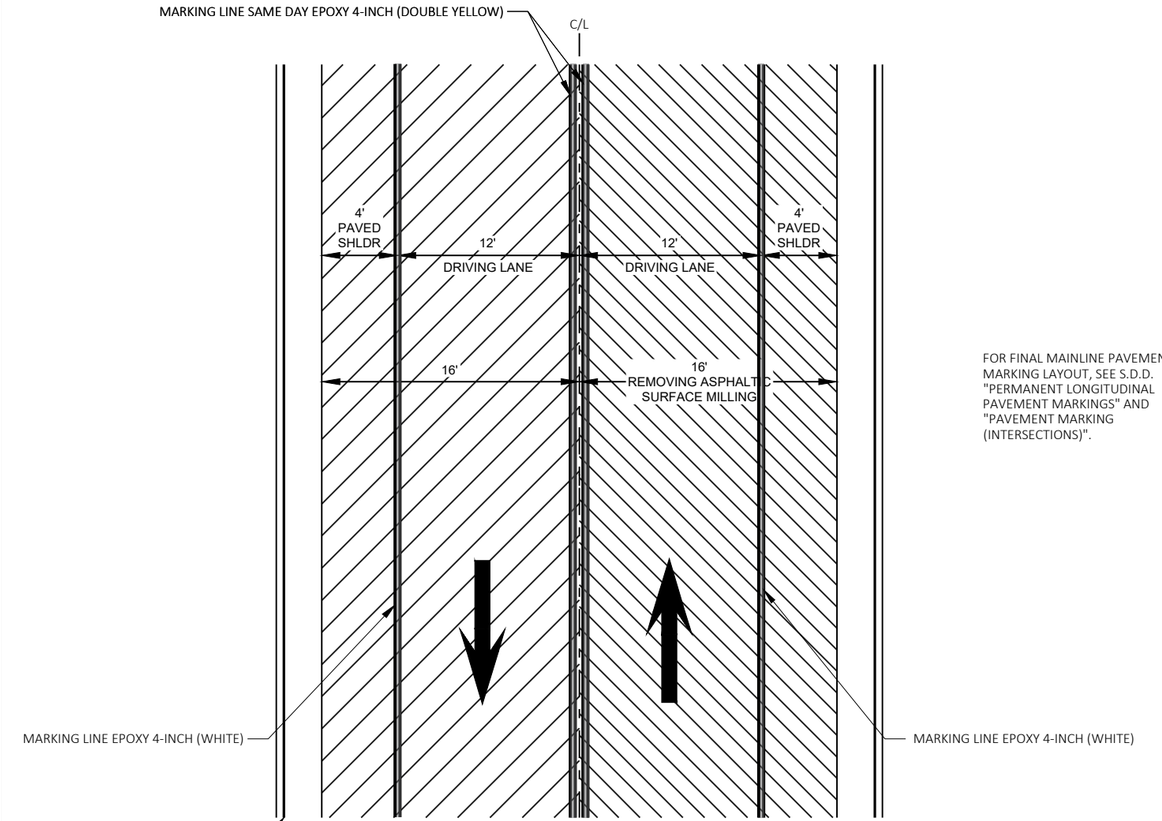
FOURTH PASS DETAIL



PLAN VIEW

EXISTING ASPHALTIC SURFACE TO REMAIN

FIRST PASS 1.75" HMA PAVEMENT 4 LT 58-28 S PAVING LIMITS



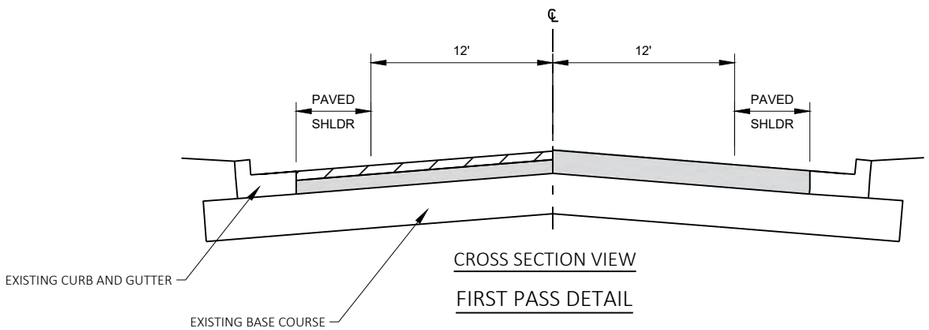
PLAN VIEW

EXISTING ASPHALTIC SURFACE TO REMAIN

FIRST PASS 1.75" HMA PAVEMENT 4 LT 58-28 S PAVING LIMITS

SECOND PASS 1.75" HMA PAVEMENT 4 LT 58-28 S PAVING LIMITS

FOR FINAL MAINLINE PAVEMENT MARKING LAYOUT, SEE S.D.D. "PERMANENT LONGITUDINAL PAVEMENT MARKINGS" AND "PAVEMENT MARKING (INTERSECTIONS)".

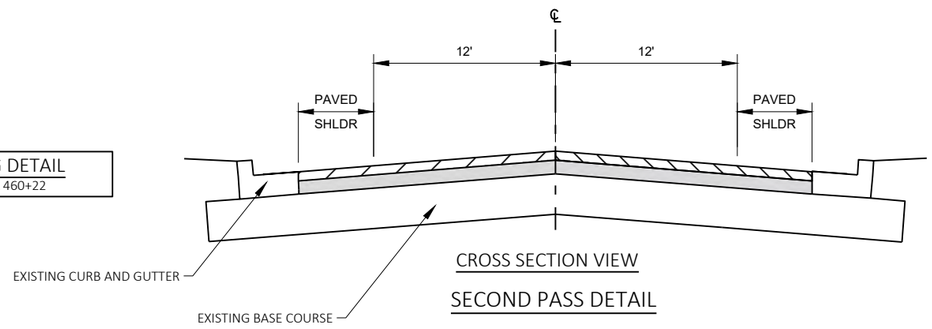


CROSS SECTION VIEW

FIRST PASS DETAIL

URBAN PAVING DETAIL

STA. 444+22 - STA. 460+22



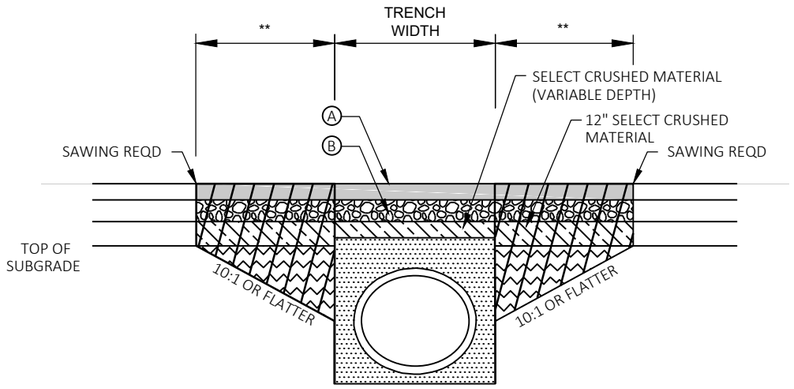
CROSS SECTION VIEW

SECOND PASS DETAIL

PROJECT NO: 5215-02-74	HWY: STH 81	COUNTY: GRANT	CONSTRUCTION DETAILS	SHEET 19	E

FILE NAME : S:\MAD\1000--1099\1089\632\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\021001_CD.DWG
LAYOUT NAME - 021010_cd

PLOT DATE : 7/21/2022 7:40 AM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : PLOT SCALE : 1 IN:10 FT



Ⓐ STH 81 - CULVERT CROSSING
4.25" ASPHATLIC SURFACE
(USE HMA PAVEMENT 4 LT 58-28 S)
LOWER LIFT: 2.25"; UPPER LIFT: 2"

BUDWORTH SCHOOL ROAD CROSSING
3.5" ASPHATLIC SURFACE
(USE HMA PAVEMENT 4 LT 58-28 S)
LOWER LIFT: 1.75"; UPPER LIFT: 1.75"

Ⓑ STH 81 - CULVERT CROSSING
10" BASE AGGREGATE
DENSE 1 1/4-INCH

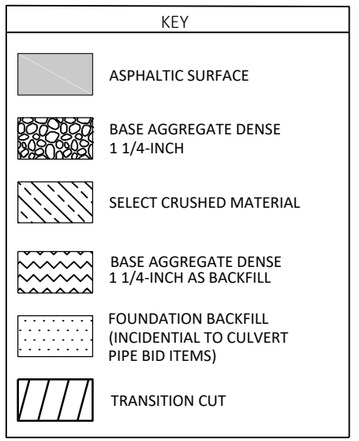
BUDWORTH SCHOOL ROAD CROSSING
6" BASE AGGREGATE
DENSE 1 1/4-INCH

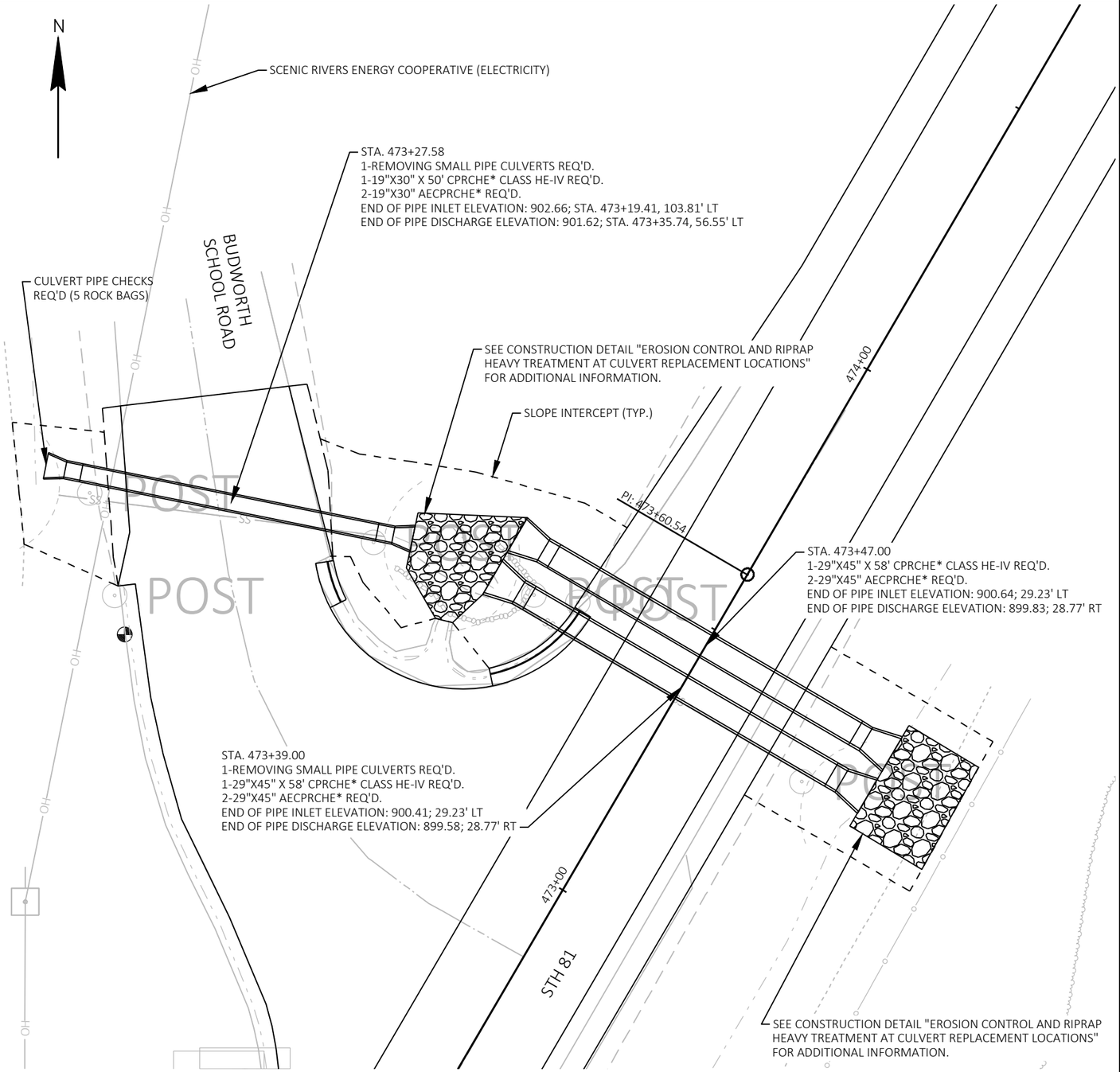
** 12 FEET (MIN.) FOR MAINLINE STH 81 CULVERT CROSSING LOCATIONS

9 FEET (MIN.) FOR BUDWORTH SCHOOL ROAD CULVERT CROSSING LOCATION

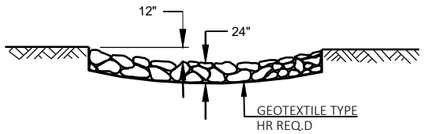
NOTES

TRANSITION CUT IS PAID AS EXCAVATION COMMON. DO NOT EXTEND TRANSITION CUT BELOW HORIZONTAL CENTER OF PIPE.
TRANSITION CUT WIDTH IS FROM SUBGRADE SHOULDER POINT TO SUBGRADE SHOULDER POINT.
BACKFILL THE TRANSITION CUT AREAS WITH BASE AGGREGATE DENSE 1 1/4-INCH.
PERFORM CULVERT PIPE INSTALLATION BEFORE MAINLINE MILLING AND PAVING.
PLACE ASPHALTIC PAVEMENT AFTER CULVERT PIPE INSTALLATION AND BEFORE MILLING MAINLINE.

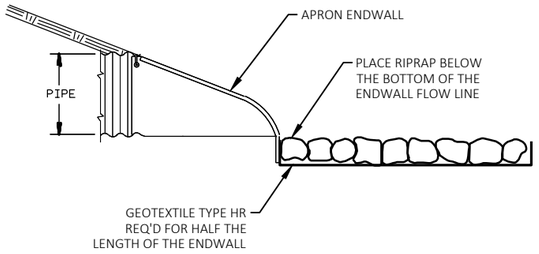




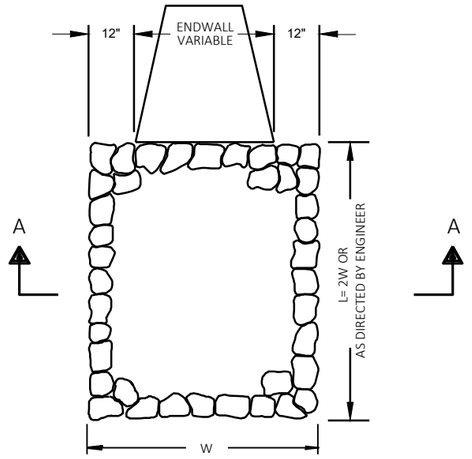
CULVERT PIPE TRANSITION
STATION 473+27.58 (BUDWORTH SCHOOL ROAD CROSSING)
STATION 473+39.00 (STH 81 CROSSING)
STATION 473+47.00 (STH 81 CROSSING)

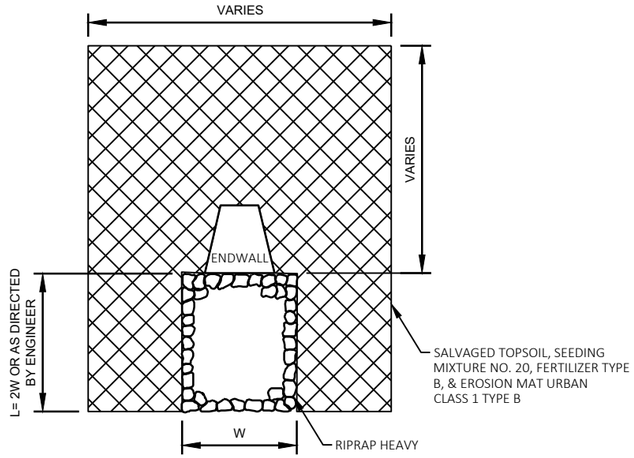


SECTION A-A



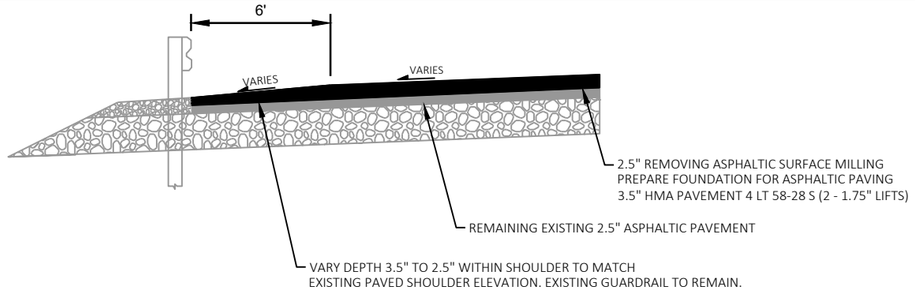
SIDE VIEW



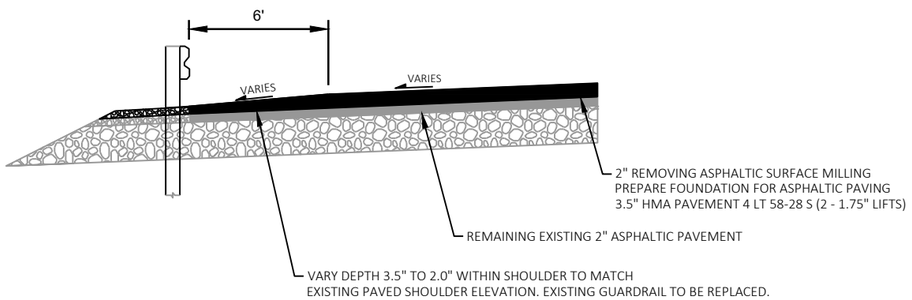


EROSION CONTROL AND RIPRAP HEAVY TREATMENT AT CULVERT REPLACEMENT LOCATIONS

STA. 473+39 LT
STA. 473+43 RT

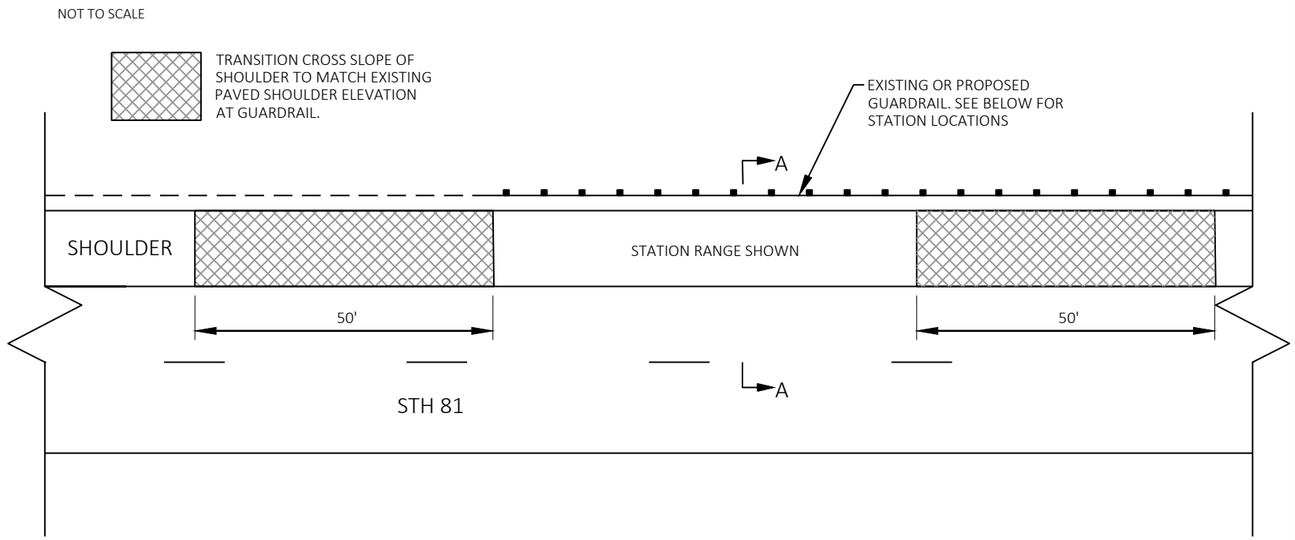


SECTION A-A - STA. 609+00 LT - END OF PROJECT



SECTION A-A - STA. 337+50 LT - STA.344+00 LT

NOT TO SCALE

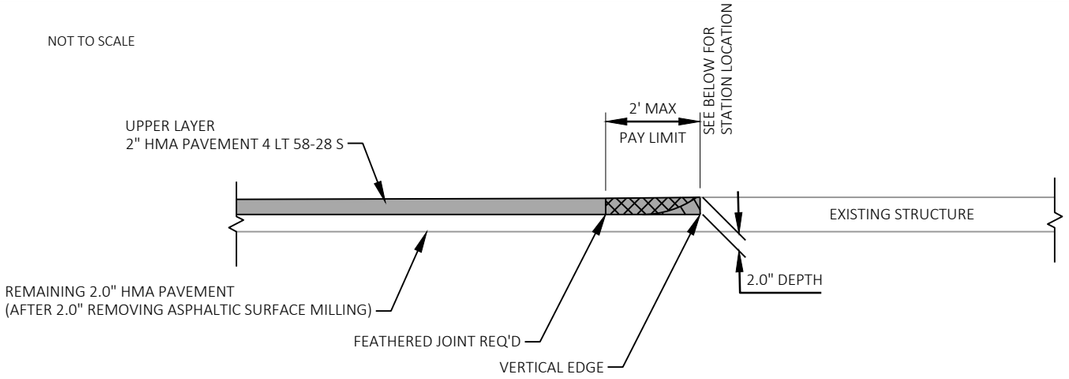


PAVED SHOULDER AT SPOT GUARDRAIL LOCATIONS

PROJECT NO: 5215-02-74	HWY: STH 81	COUNTY: GRANT	CONSTRUCTION DETAILS	SHEET 21	E

2

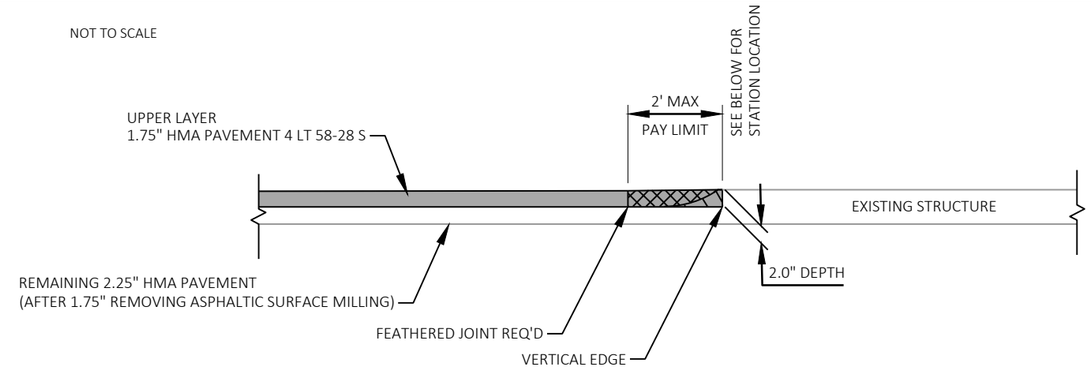
NOT TO SCALE



REMOVING ASPHALTIC SURFACE BUTT JOINTS DETAIL

STA. 312+66.65 (B-22-141)
STA. 313+55.21 (B-22-141; MIRRORED)

NOT TO SCALE

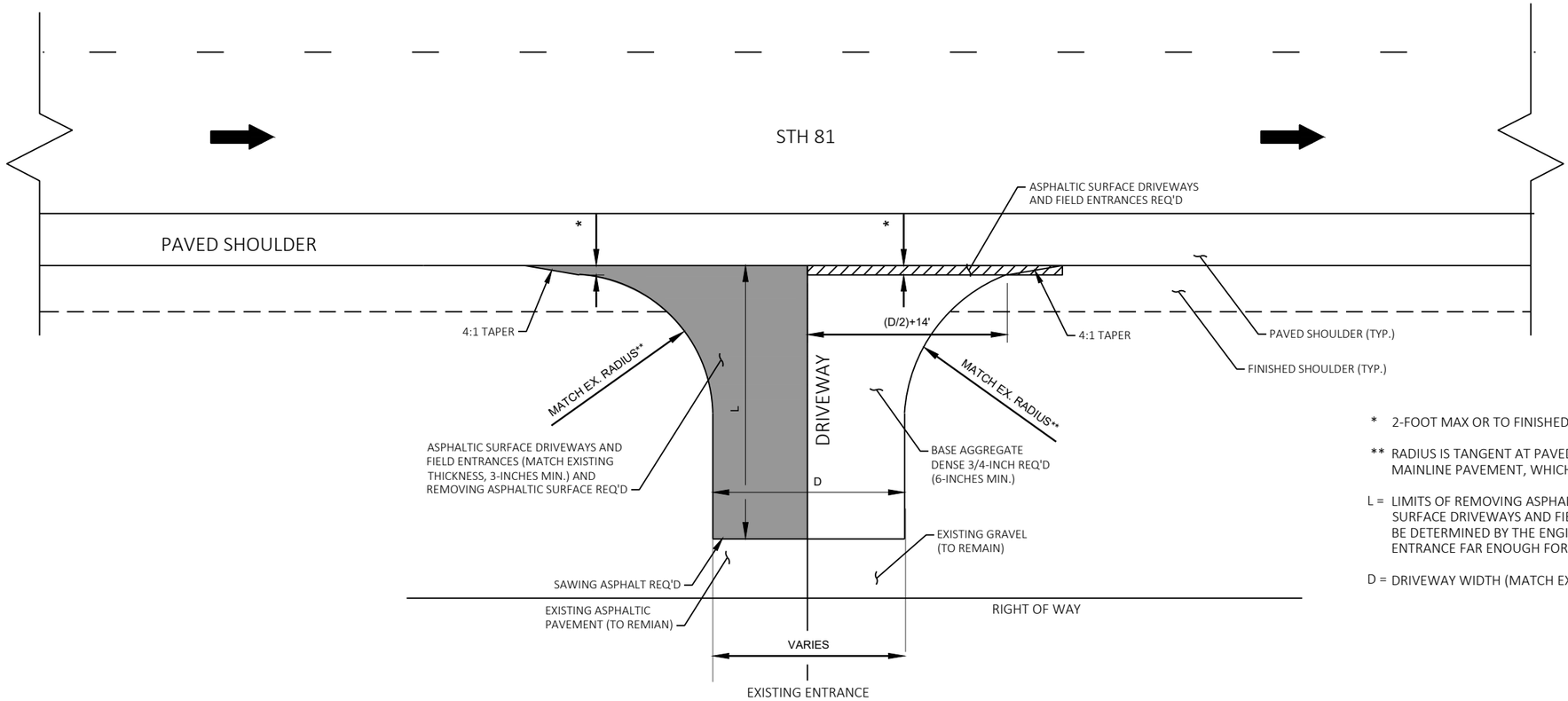


REMOVING ASPHALTIC SURFACE BUTT JOINTS DETAIL

STA. 227+84.44 - STA. 228+58.83 (B-22-139; MIRRORED)
STA. 263+28.98 - STA. 263+95.81 (B-22-140; MIRRORED)

2

NOT TO SCALE



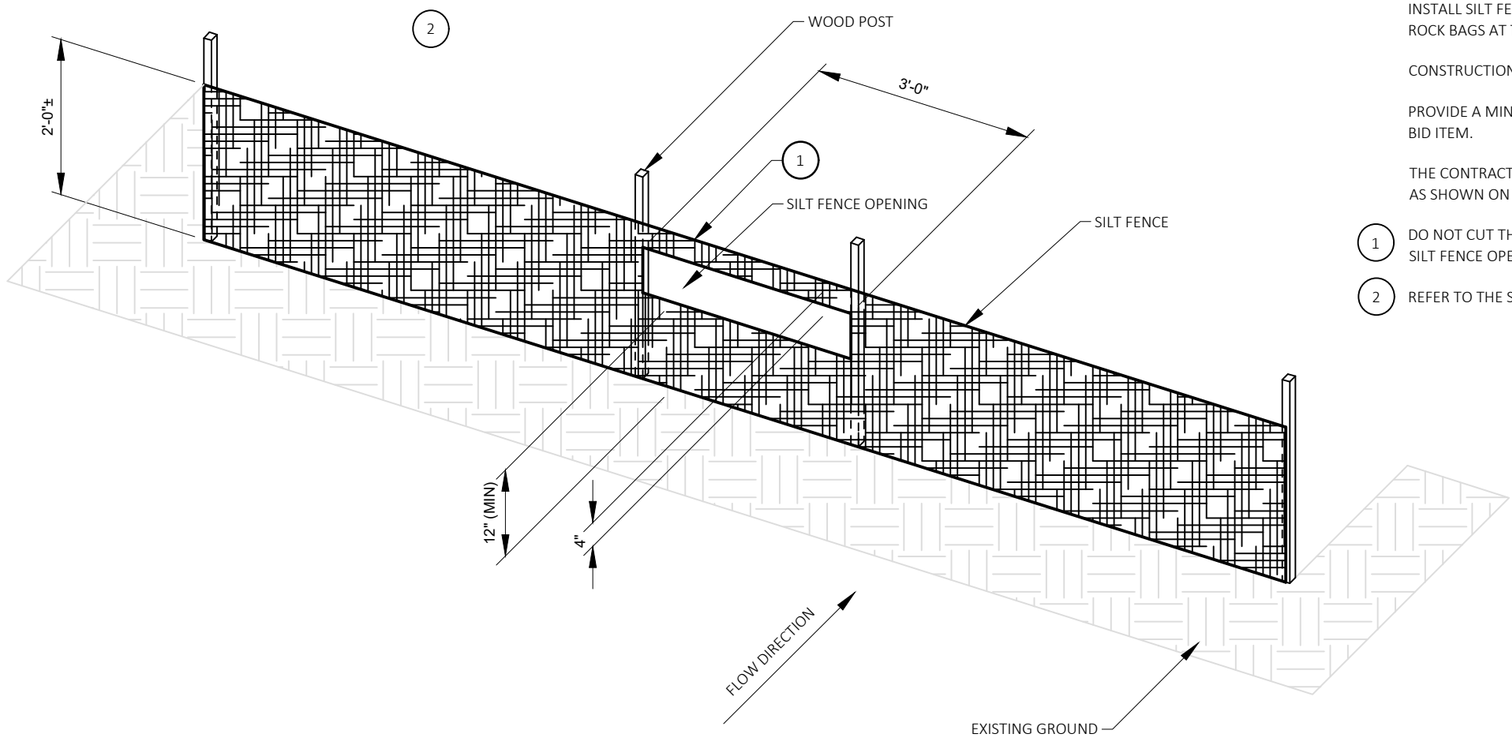
RURAL DRIVEWAY DETAIL

* 2-FOOT MAX OR TO FINISHED SHOULDER, WHICHEVER IS LESS.

** RADIUS IS TANGENT AT PAVED SHOULDER EDGE OR 10' OFF OF MAINLINE PAVEMENT, WHICHEVER IS LESS.

L = LIMITS OF REMOVING ASPHALTIC SURFACE AND ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES. EXACT LENGTH TO BE DETERMINED BY THE ENGINEER IN THE FIELD. BLEND BACK THE ENTRANCE FAR ENOUGH FOR A SMOOTH PROFILE TRANSITION.

D = DRIVEWAY WIDTH (MATCH EXISTING)



GENERAL NOTES

THE SILT FENCE RELIEF DETAIL IS A SUPPLEMENTAL DETAIL TO THE SILT FENCE STANDARD DETAILS AND SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

INSTALL SILT FENCE PRIOR TO CONSTRUCTING THE SILT FENCE OPENING. PRIOR TO CONSTRUCTING THE SILT FENCE OPENING, PLACE ROCK BAGS AT THE SILT FENCE OPENING AS SHOWN IN THIS DETAIL.

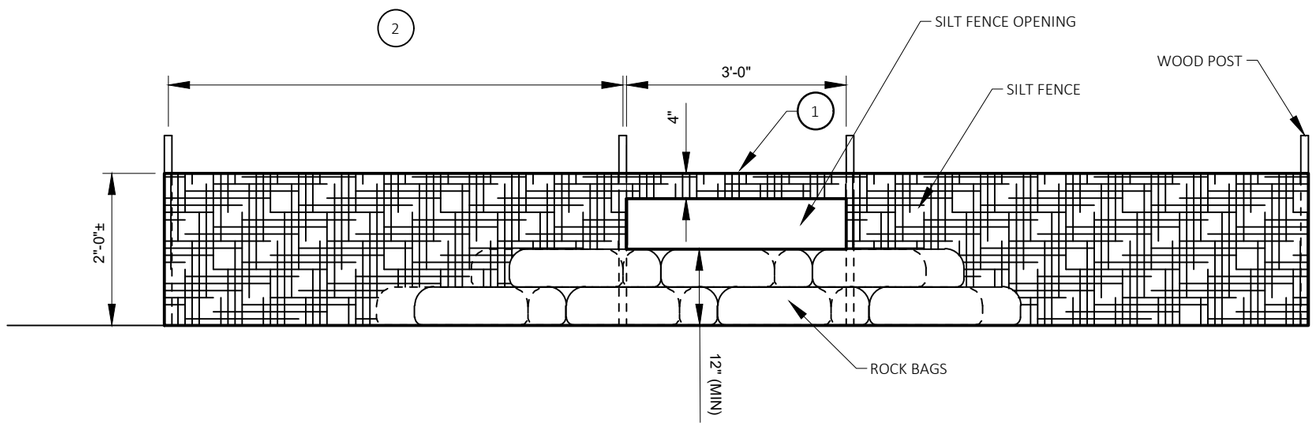
CONSTRUCTION OF THE SILT FENCE OPENING SHALL BE INCIDENTAL TO THE COST OF THE SILT FENCE BID ITEM.

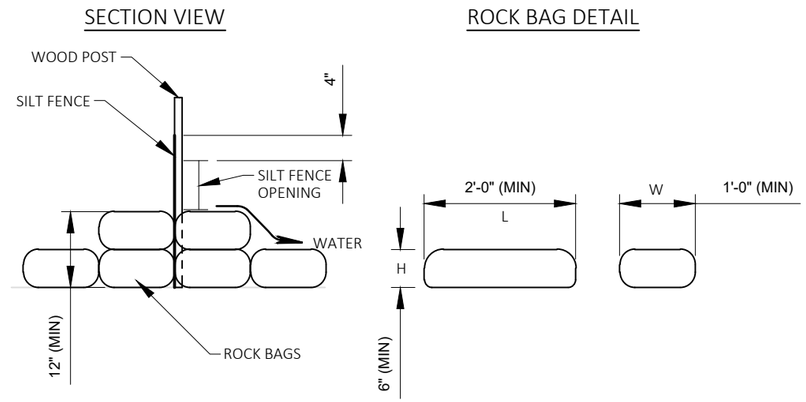
PROVIDE A MINIMUM OF 22 ROCK BAGS PER 3 FOOT OPENING. ROCK BAGS SHALL BE PAID UNDER THE ROCK BAGS BID ITEM.

THE CONTRACTOR SHALL ADJUST THE SILT FENCE RELIEF OPENINGS WITHIN THE SILT FENCE AS NECESSARY TO PROVIDE RELIEF: AS SHOWN ON THE PLANS, TO FIT FIELD CONDITIONS AND AS DIRECTED BY THE FIELD ENGINEER.

(1) DO NOT CUT THE SUPPORT CORD OR TENSION TAPE WHEN CONSTRUCTING THE SILT FENCE OPENING. KEEP THE TOP OF THE SILT FENCE OPENING 1"± BELOW THE 3" FOLD AT THE SUPPORT CORD OR TENSION TAPE.

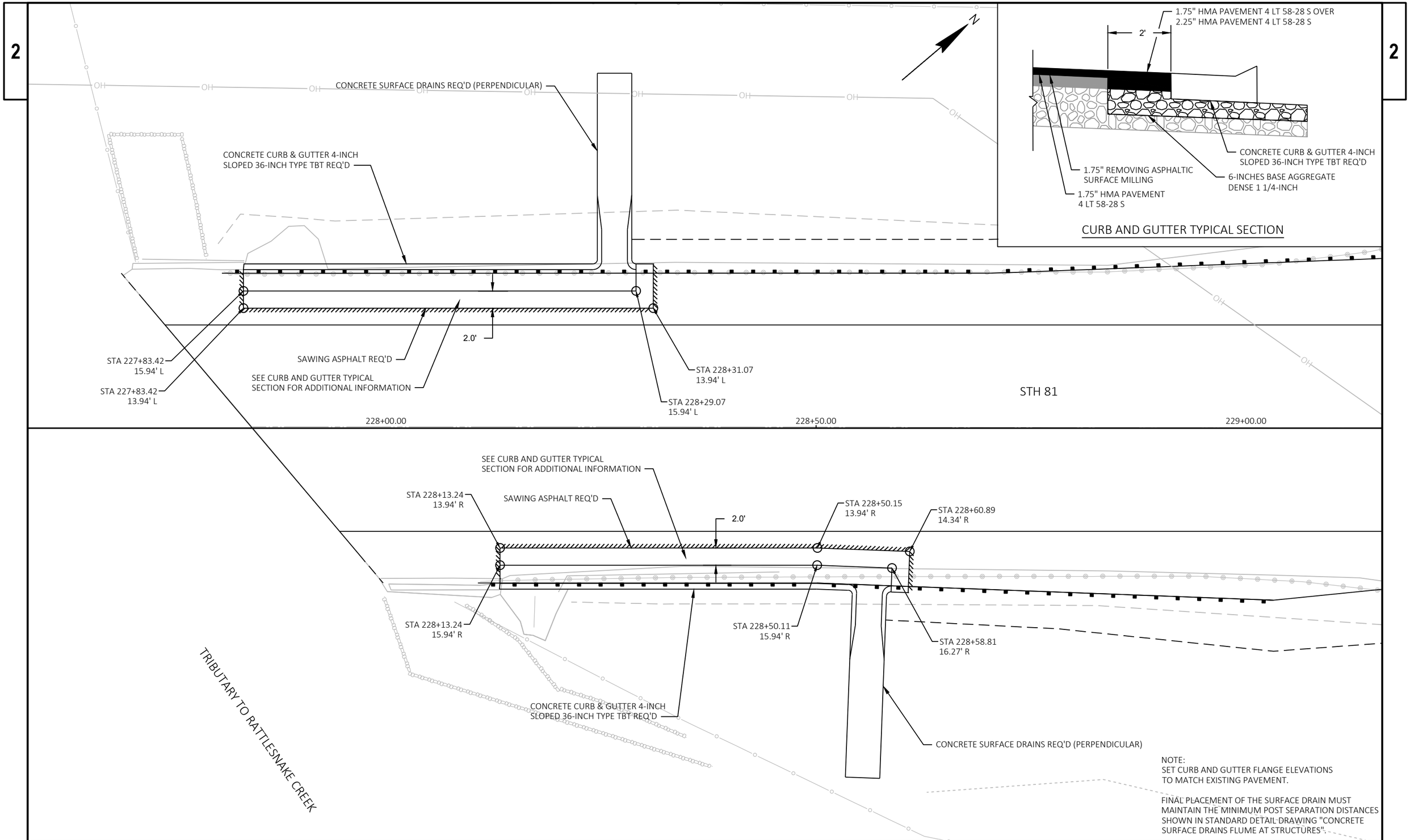
(2) REFER TO THE SILT FENCE STANDARD DETAILS FOR ALLOWABLE ADJUSTMENTS TO POST SPACING.





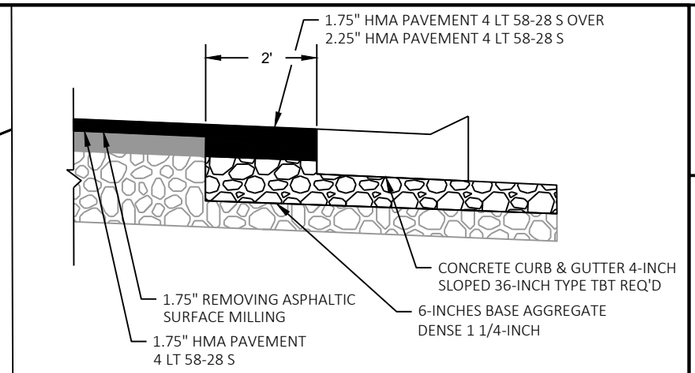
SILT FENCE RELIEF DETAIL

PROJECT NO: 5215-02-74	HWY: STH 81	COUNTY: GRANT	CONSTRUCTION DETAILS	SHEET 23	E



PROJECT NO: 5215-02-74	HWY: STH 81	COUNTY: GRANT	CONSTRUCTION DETAILS - CONCRETE SURFACE DRAIN LAYOUT	SHEET 24	E

2



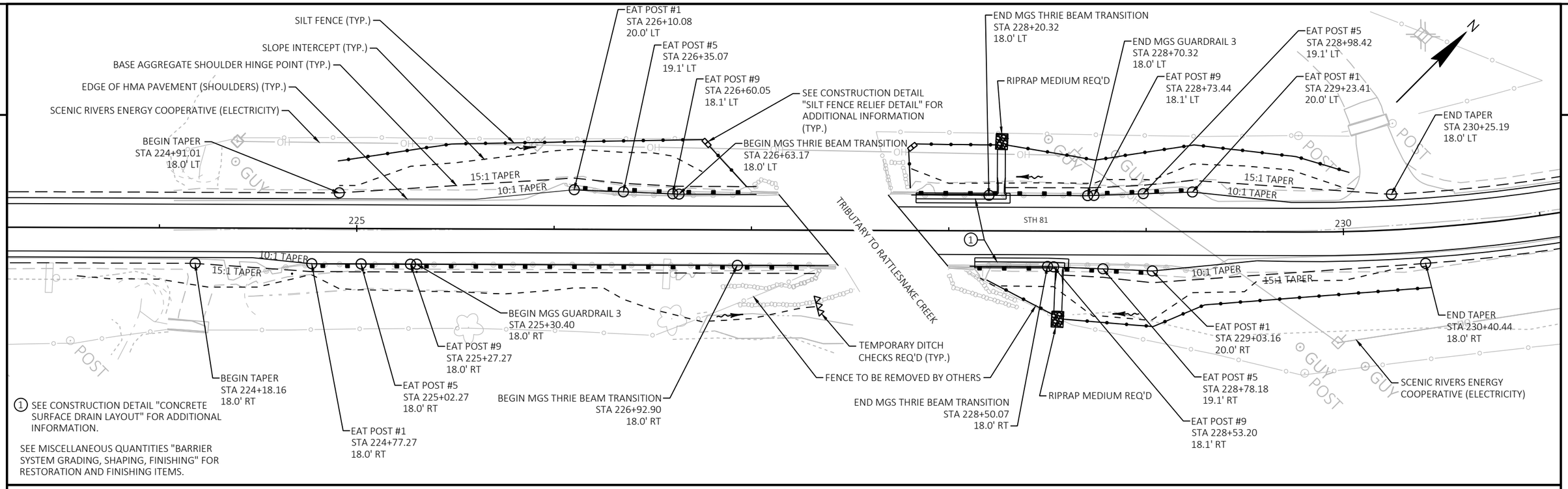
CURB AND GUTTER TYPICAL SECTION

NOTE:
SET CURB AND GUTTER FLANGE ELEVATIONS
TO MATCH EXISTING PAVEMENT.

FINAL PLACEMENT OF THE SURFACE DRAIN MUST
MAINTAIN THE MINIMUM POST SEPARATION DISTANCES
SHOWN IN STANDARD DETAIL DRAWING "CONCRETE
SURFACE DRAINS FLUME AT STRUCTURES".

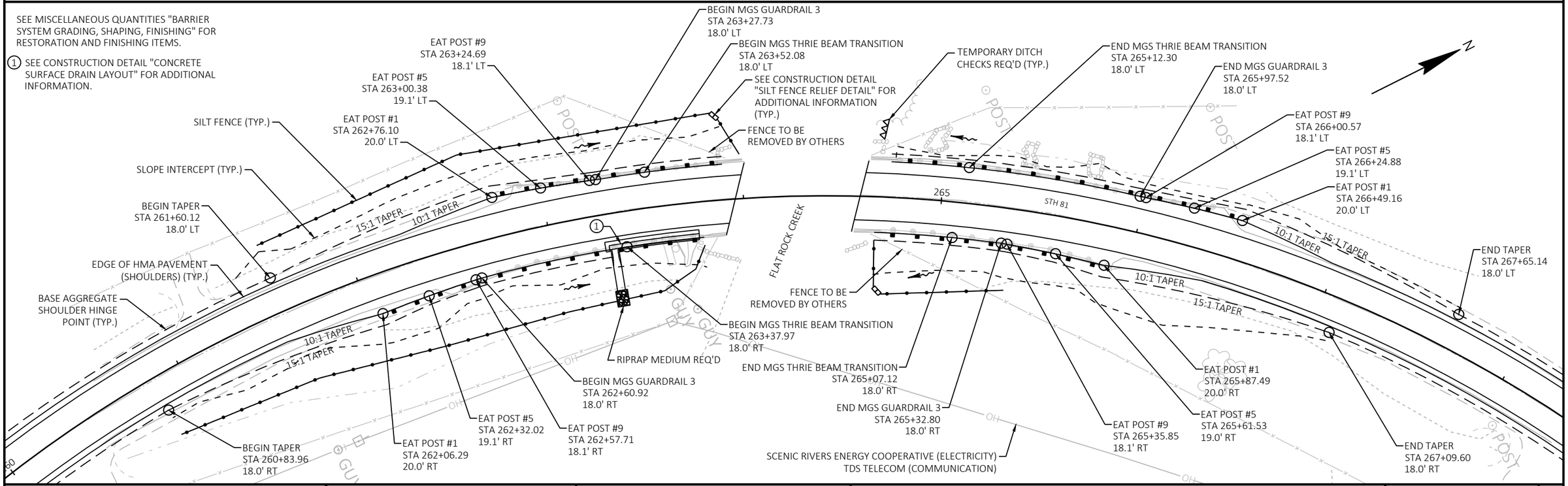
PROJECT NO: 5215-02-74	HWY: STH 81	COUNTY: GRANT	CONSTRUCTION DETAILS - CONCRETE SURFACE DRAIN LAYOUT	SHEET 25	E

FILE NAME : S:\MAD\1000--1099\1089\632\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\021003_CD.DWG
LAYOUT NAME - 021016_cd
PLOT DATE : 7/27/2022 11:02 AM
PLOT BY : JACK, ROBERT A.
PLOT NAME :
PLOT SCALE : 1 IN:10 FT
WISDOT/CADDS SHEET 42



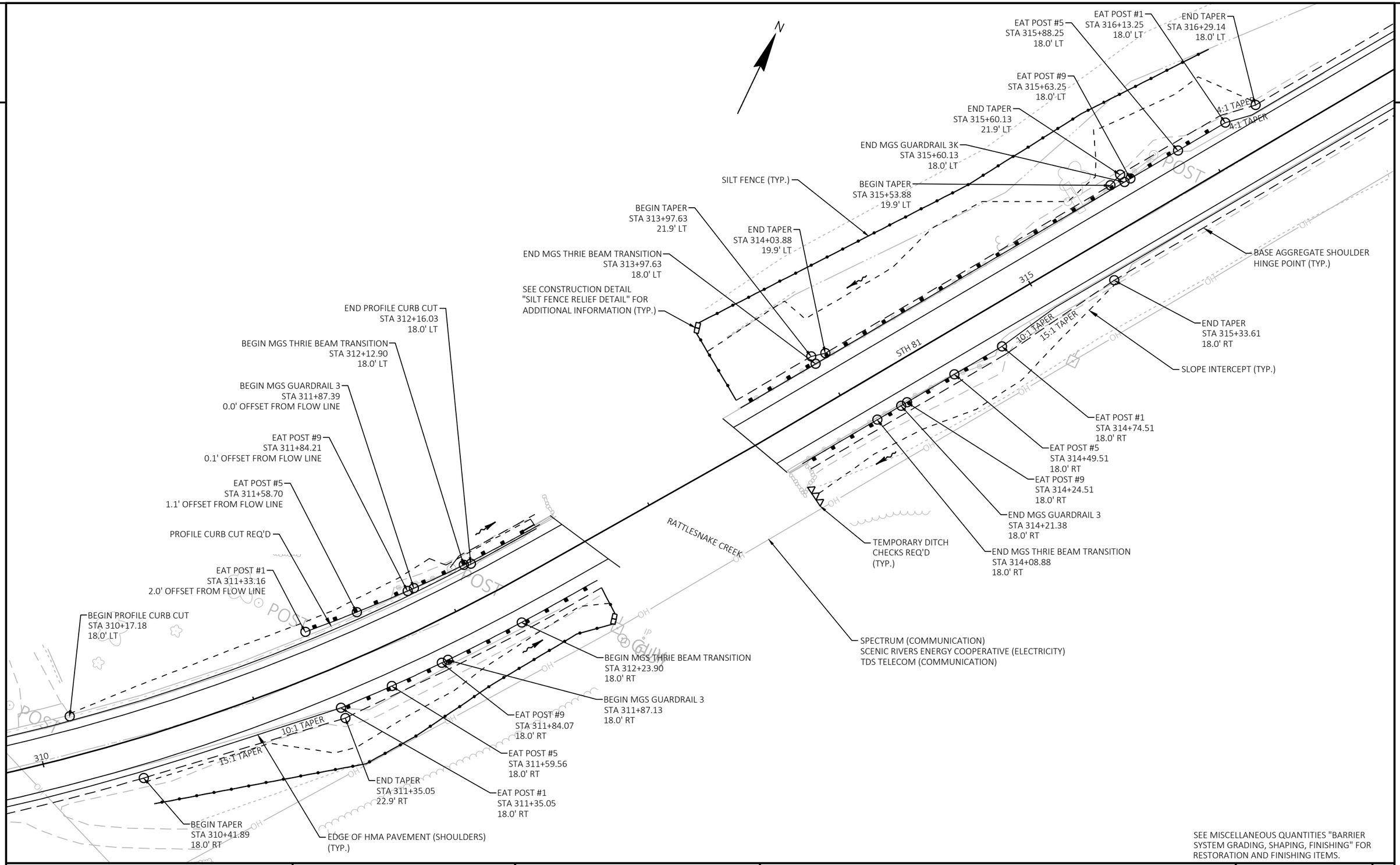
1 SEE CONSTRUCTION DETAIL "CONCRETE SURFACE DRAIN LAYOUT" FOR ADDITIONAL INFORMATION.

SEE MISCELLANEOUS QUANTITIES "BARRIER SYSTEM GRADING, SHAPING, FINISHING" FOR RESTORATION AND FINISHING ITEMS.



PROJECT NO: 5215-02-74	HWY: STH 81	COUNTY: GRANT	CONSTRUCTION DETAILS - GUARDRAIL LAYOUT DETAILS	SHEET 26	E

2

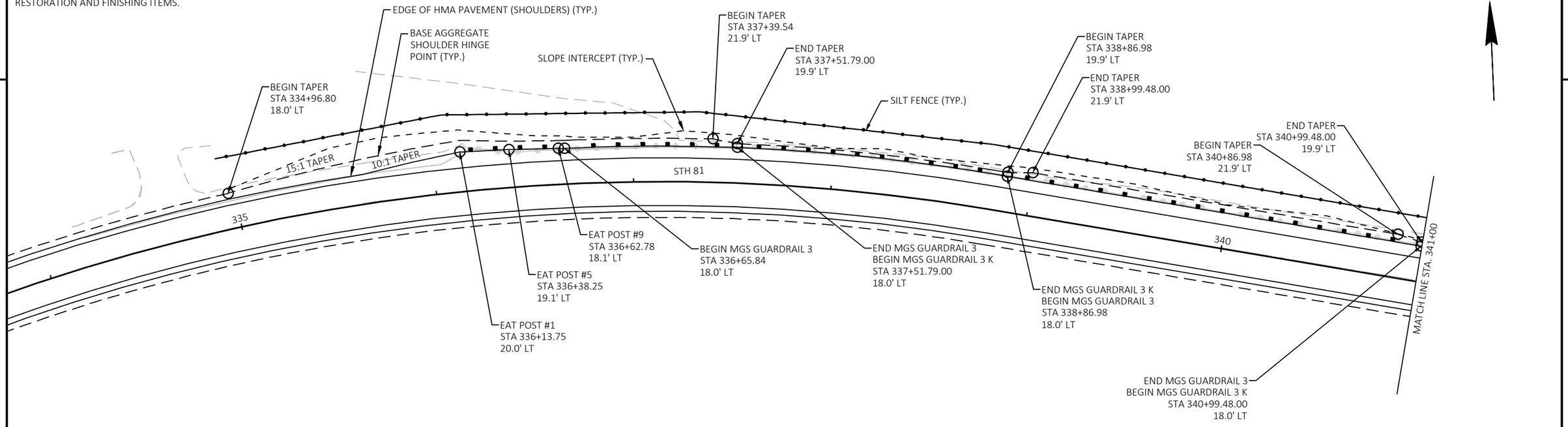


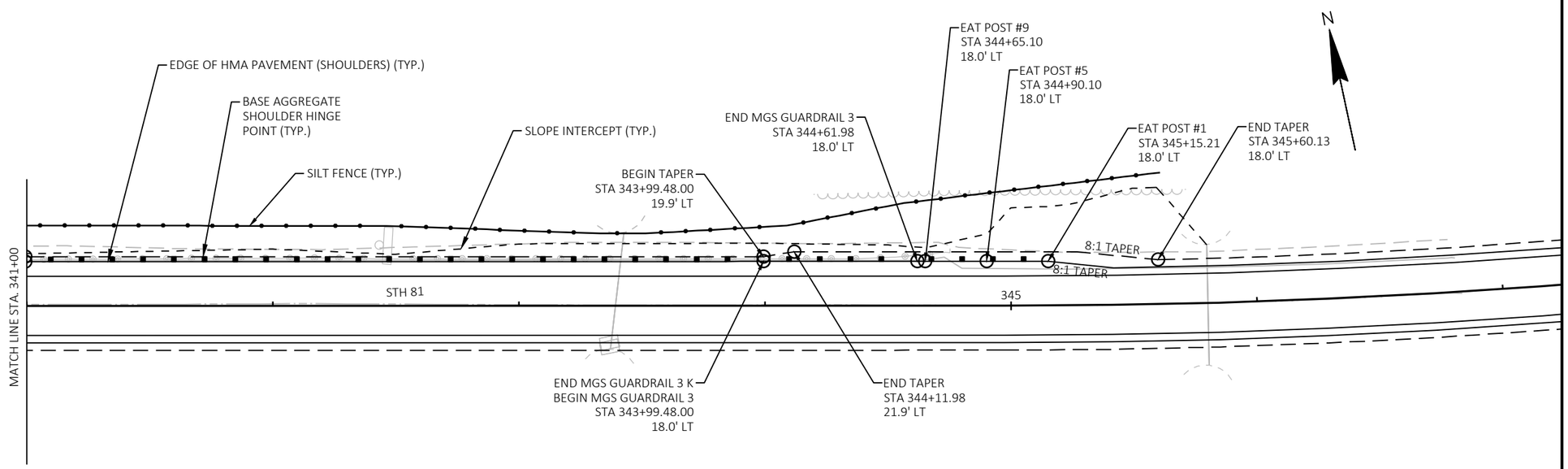
SEE MISCELLANEOUS QUANTITIES "BARRIER SYSTEM GRADING, SHAPING, FINISHING" FOR RESTORATION AND FINISHING ITEMS.

PROJECT NO: 5215-02-74	HWY: STH 81	COUNTY: GRANT	CONSTRUCTION DETAILS - GUARDRAIL LAYOUT DETAILS	SHEET 27	E

FILE NAME : S:\MAD\1000--1099\1089\632\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\021002_CD.DWG
LAYOUT NAME - 021051_cd
PLOT DATE : 7/21/2022 10:10 AM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : PLOT SCALE : 1 IN:40 FT
WISDOT/CADDS SHEET 42

SEE MISCELLANEOUS QUANTITIES "BARRIER SYSTEM GRADING, SHAPING, FINISHING" FOR RESTORATION AND FINISHING ITEMS.

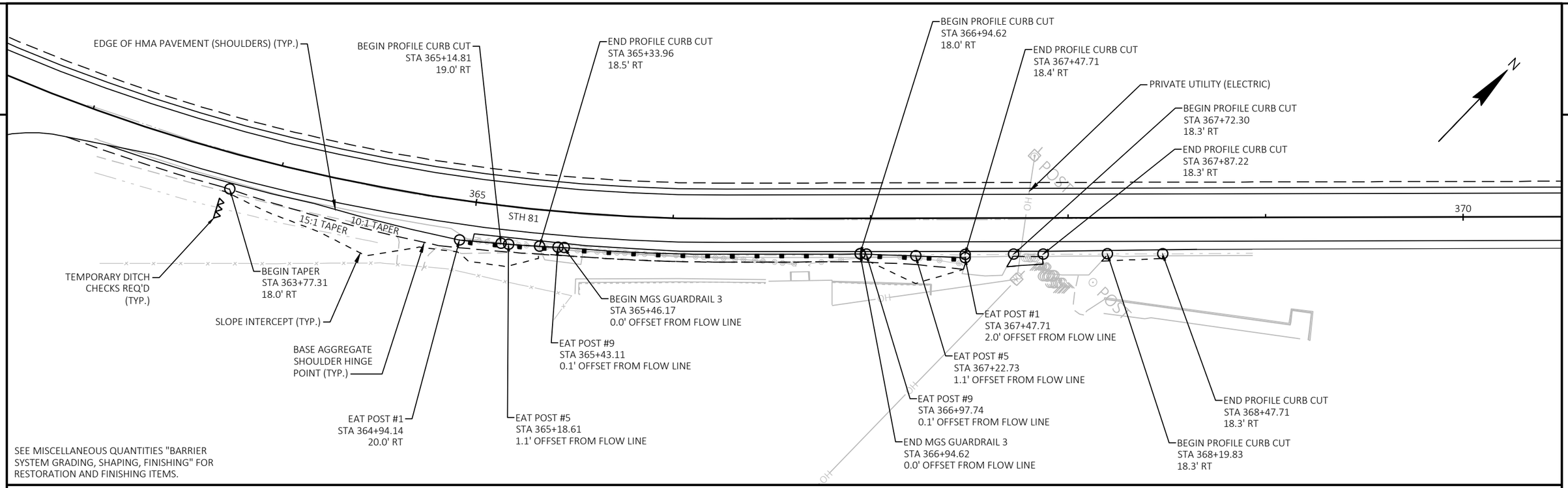


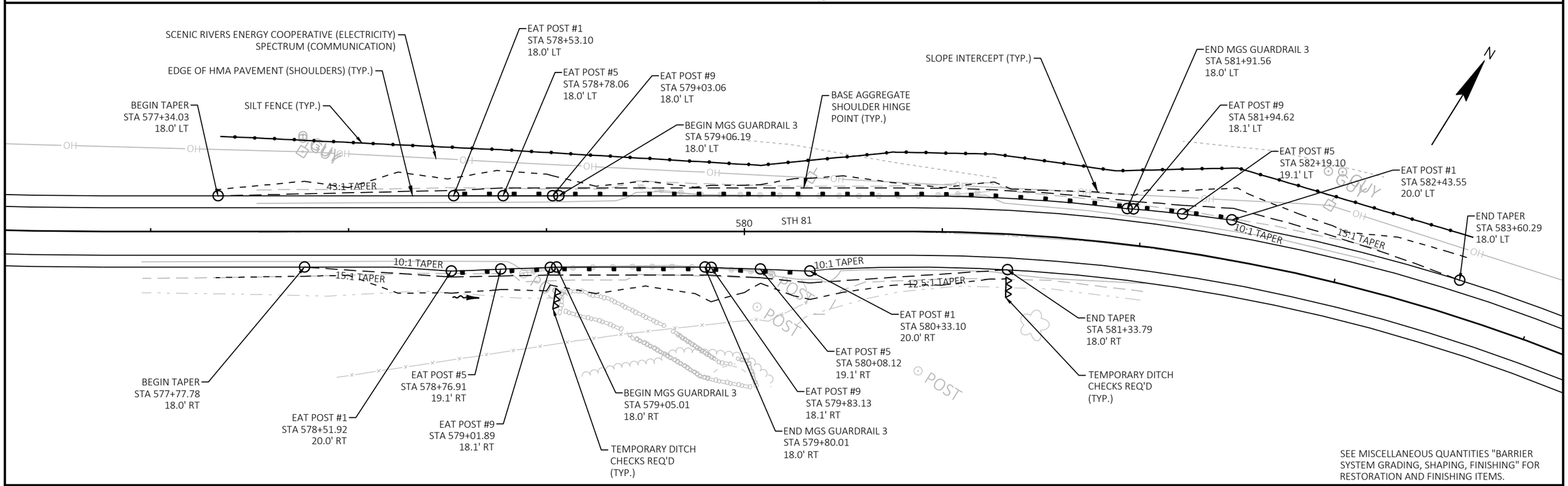


SEE MISCELLANEOUS QUANTITIES "BARRIER SYSTEM GRADING, SHAPING, FINISHING" FOR RESTORATION AND FINISHING ITEMS.

PROJECT NO: 5215-02-74	HWY: STH 81	COUNTY: GRANT	CONSTRUCTION DETAILS - GUARDRAIL LAYOUT DETAILS	SHEET 28	E

FILE NAME : S:\MAD\1000--1099\1089\632\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\021002_CD.DWG
LAYOUT NAME - 021052_cd
PLOT DATE : 7/21/2022 10:10 AM
PLOT BY : ROSENTHAL, BRIAN
PLOT NAME :
PLOT SCALE : 1 IN:50 FT
WISDOT/CADDS SHEET 44





PROJECT NO: 5215-02-74	HWY: STH 81	COUNTY: GRANT	CONSTRUCTION DETAILS - GUARDRAIL LAYOUT DETAILS	SHEET 29	E

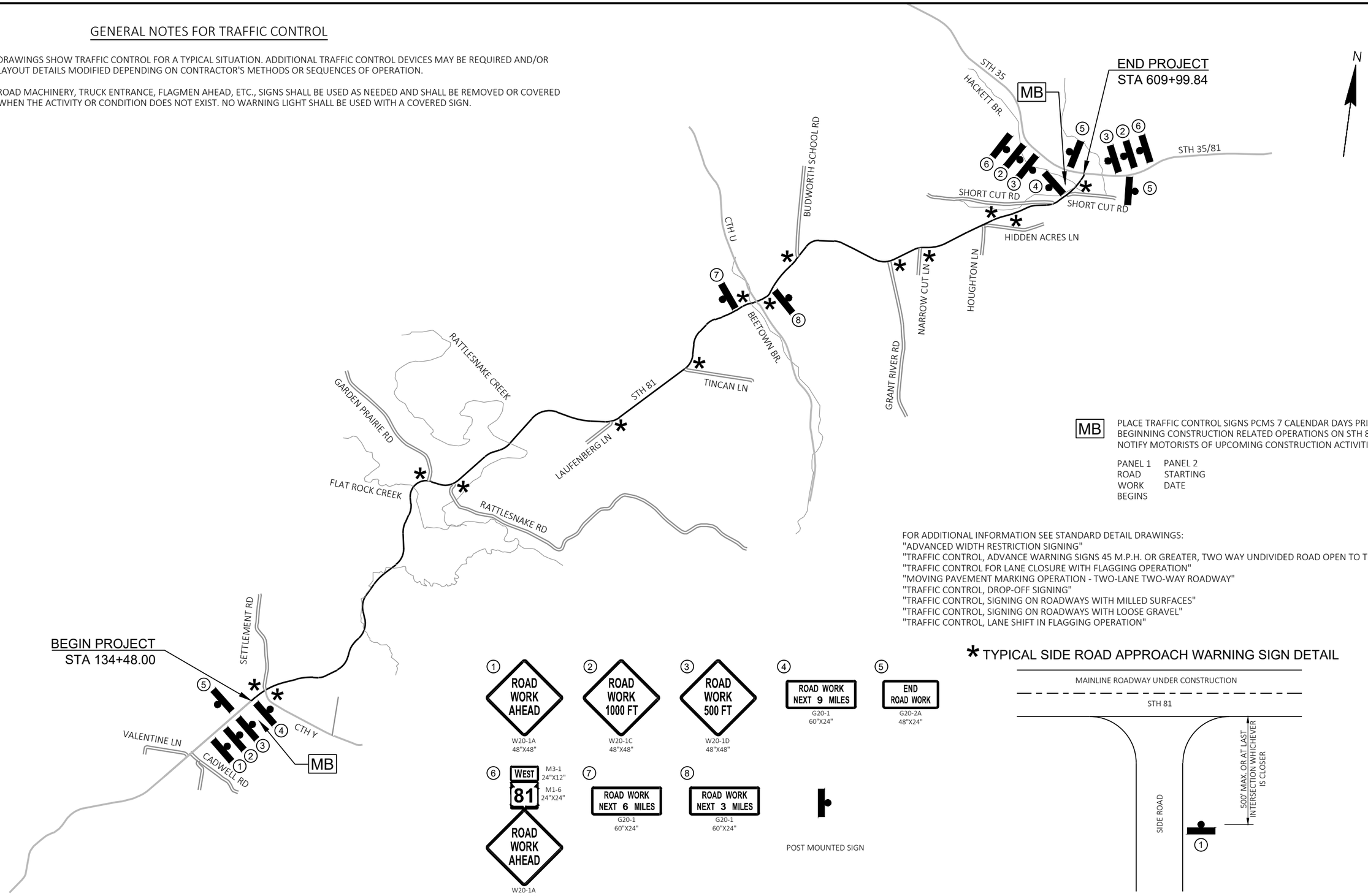
FILE NAME : S:\MAD\1000--1099\1089\632\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\021002_CD.DWG
LAYOUT NAME - 021053_cd
PLOT DATE : 7/21/2022 10:10 AM
PLOT BY : ROSENTHAL, BRIAN
PLOT NAME :
PLOT SCALE : 1 IN:50 FT
WISDOT/CADDS SHEET 44

2

GENERAL NOTES FOR TRAFFIC CONTROL

DRAWINGS SHOW TRAFFIC CONTROL FOR A TYPICAL SITUATION. ADDITIONAL TRAFFIC CONTROL DEVICES MAY BE REQUIRED AND/OR LAYOUT DETAILS MODIFIED DEPENDING ON CONTRACTOR'S METHODS OR SEQUENCES OF OPERATION.

ROAD MACHINERY, TRUCK ENTRANCE, FLAGMEN AHEAD, ETC., SIGNS SHALL BE USED AS NEEDED AND SHALL BE REMOVED OR COVERED WHEN THE ACTIVITY OR CONDITION DOES NOT EXIST. NO WARNING LIGHT SHALL BE USED WITH A COVERED SIGN.



MB PLACE TRAFFIC CONTROL SIGNS PCMS 7 CALENDAR DAYS PRIOR TO BEGINNING CONSTRUCTION RELATED OPERATIONS ON STH 81 TO NOTIFY MOTORISTS OF UPCOMING CONSTRUCTION ACTIVITIES.

PANEL 1	PANEL 2
ROAD	STARTING
WORK	DATE
BEGINS	

FOR ADDITIONAL INFORMATION SEE STANDARD DETAIL DRAWINGS:
"ADVANCED WIDTH RESTRICTION SIGNING"
"TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 M.P.H. OR GREATER, TWO WAY UNDIVIDED ROAD OPEN TO TRAFFIC"
"TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION"
"MOVING PAVEMENT MARKING OPERATION - TWO-LANE TWO-WAY ROADWAY"
"TRAFFIC CONTROL, DROP-OFF SIGNING"
"TRAFFIC CONTROL, SIGNING ON ROADWAYS WITH MILLED SURFACES"
"TRAFFIC CONTROL, SIGNING ON ROADWAYS WITH LOOSE GRAVEL"
"TRAFFIC CONTROL, LANE SHIFT IN FLAGGING OPERATION"

① ROAD WORK AHEAD — W20-1A 48"X48"
② ROAD WORK 1000 FT — W20-1C 48"X48"
③ ROAD WORK 500 FT — W20-1D 48"X48"
④ ROAD WORK NEXT 9 MILES — G20-1 60"X24"
⑤ END ROAD WORK — G20-2A 48"X24"
⑥ WEST 81 — M3-1 24"X12", M1-6 24"X24"; ROAD WORK AHEAD — W20-1A 48"X48"
⑦ ROAD WORK NEXT 6 MILES — G20-1 60"X24"
⑧ ROAD WORK NEXT 3 MILES — G20-1 60"X24"

POST MOUNTED SIGN

* TYPICAL SIDE ROAD APPROACH WARNING SIGN DETAIL

2

PROJECT NO: 5215-02-74	HWY: STH 81	COUNTY: GRANT	TRAFFIC CONTROL - ADVANCE WARNING SIGNING	SHEET 30	E

FILE NAME : S:\MAD\1000--1099\1089\632\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\023301-AW.DWG
LAYOUT NAME - 023301-aw
PLOT DATE : 7/21/2022 7:43 AM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : PLOT SCALE : 1 IN:0.75 MI

Estimate Of Quantities

5215-02-74

Line	Item	Item Description	Unit	Total	Qty
0002	203.0100	Removing Small Pipe Culverts	EACH	2.000	2.000
0004	204.0110	Removing Asphaltic Surface	SY	250.000	250.000
0006	204.0115	Removing Asphaltic Surface Butt Joints	SY	3,800.000	3,800.000
0008	204.0120	Removing Asphaltic Surface Milling	SY	170,000.000	170,000.000
0010	204.0150	Removing Curb & Gutter	LF	56.000	56.000
0012	204.0165	Removing Guardrail	LF	3,144.000	3,144.000
0014	205.0100	Excavation Common	CY	240.000	240.000
0016	211.0101	Prepare Foundation for Asphaltic Paving (project) 01. 5215-02-74	EACH	1.000	1.000
0018	211.0400	Prepare Foundation for Asphaltic Shoulders	STA	262.000	262.000
0020	213.0100	Finishing Roadway (project) 01. 5215-02-74	EACH	1.000	1.000
0022	305.0110	Base Aggregate Dense 3/4-Inch	TON	4,860.000	4,860.000
0024	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	250.000	250.000
0026	312.0110	Select Crushed Material	TON	120.000	120.000
0028	416.1010	Concrete Surface Drains	CY	5.100	5.100
0030	455.0605	Tack Coat	GAL	19,000.000	19,000.000
0032	460.0105.S	HMA Percent Within Limits (PWL) Test Strip Volumetrics	EACH	1.000	1.000
0034	460.0110.S	HMA Percent Within Limits (PWL) Test Strip Density	EACH	2.000	2.000
0036	460.2005	Incentive Density PWL HMA Pavement	DOL	22,850.000	22,850.000
0038	460.2007	Incentive Density HMA Pavement Longitudinal Joints	DOL	23,370.000	23,370.000
0040	460.2010	Incentive Air Voids HMA Pavement	DOL	30,850.000	30,850.000
0042	460.5224	HMA Pavement 4 LT 58-28 S	TON	30,850.000	30,850.000
0044	465.0105	Asphaltic Surface	TON	435.000	435.000
0046	465.0120	Asphaltic Surface Driveways and Field Entrances	TON	50.000	50.000
0048	465.0475	Asphalt Centerline Rumble Strips 2-Lane Rural	LF	38,860.000	38,860.000
0050	522.2419	Culvert Pipe Reinforced Concrete Horizontal Elliptical Class HE-IV 19x30-Inch	LF	50.000	50.000
0052	522.2429	Culvert Pipe Reinforced Concrete Horizontal Elliptical Class HE-IV 29x45-Inch	LF	116.000	116.000
0054	522.2619	Apron Endwalls for Culvert Pipe Reinforced Concrete Horizontal Elliptical 19x30-Inch	EACH	2.000	2.000
0056	522.2629	Apron Endwalls for Culvert Pipe Reinforced Concrete Horizontal Elliptical 29x45-Inch	EACH	4.000	4.000
0058	601.0557	Concrete Curb & Gutter 6-Inch Sloped 36-Inch Type D	LF	56.000	56.000
0060	601.0588	Concrete Curb & Gutter 4-Inch Sloped 36-Inch Type TBT	LF	139.000	139.000
0062	606.0200	Riprap Medium	CY	9.000	9.000
0064	606.0300	Riprap Heavy	CY	29.000	29.000
0066	614.0010	Barrier System Grading Shaping Finishing	EACH	16.000	16.000
0068	614.2300	MGS Guardrail 3	LF	1,367.000	1,367.000
0070	614.2330	MGS Guardrail 3 K	LF	600.000	600.000
0072	614.2500	MGS Thrie Beam Transition	LF	473.000	473.000
0074	614.2610	MGS Guardrail Terminal EAT	EACH	20.000	20.000
0076	618.0100	Maintenance And Repair of Haul Roads (project) 01. 5215-02-74	EACH	1.000	1.000
0078	619.1000	Mobilization	EACH	1.000	1.000
0080	624.0100	Water	MGAL	91.000	91.000
0082	625.0500	Salvaged Topsoil	SY	275.000	275.000
0084	628.1504	Silt Fence	LF	4,310.000	4,310.000
0086	628.1520	Silt Fence Maintenance	LF	12,930.000	12,930.000
0088	628.1905	Mobilizations Erosion Control	EACH	18.000	18.000
0090	628.1910	Mobilizations Emergency Erosion Control	EACH	4.000	4.000
0092	628.2008	Erosion Mat Urban Class I Type B	SY	275.000	275.000
0094	628.7010	Inlet Protection Type B	EACH	2.000	2.000
0096	628.7015	Inlet Protection Type C	EACH	17.000	17.000
0098	628.7020	Inlet Protection Type D	EACH	4.000	4.000

5215-02-74

Line	Item	Item Description	Unit	Total	Qty
0100	628.7504	Temporary Ditch Checks	LF	80.000	80.000
0102	628.7555	Culvert Pipe Checks	EACH	5.000	5.000
0104	628.7560	Tracking Pads	EACH	1.000	1.000
0106	628.7570	Rock Bags	EACH	240.000	240.000
0108	629.0210	Fertilizer Type B	CWT	0.170	0.170
0110	630.0120	Seeding Mixture No. 20	LB	7.000	7.000
0112	630.0500	Seed Water	MGAL	6.000	6.000
0114	633.5200	Markers Culvert End	EACH	6.000	6.000
0116	634.0616	Posts Wood 4x6-Inch X 16-FT	EACH	6.000	6.000
0118	638.2102	Moving Signs Type II	EACH	6.000	6.000
0120	642.5201	Field Office Type C	EACH	1.000	1.000
0122	643.0300	Traffic Control Drums	DAY	1,015.000	1,015.000
0124	643.0420	Traffic Control Barricades Type III	DAY	45.000	45.000
0126	643.0705	Traffic Control Warning Lights Type A	DAY	63.000	63.000
0128	643.0900	Traffic Control Signs	DAY	3,668.000	3,668.000
0130	643.1050	Traffic Control Signs PCMS	DAY	14.000	14.000
0132	643.3105	Temporary Marking Line Paint 4-Inch	LF	93,800.000	93,800.000
0134	643.3120	Temporary Marking Line Epoxy 4-Inch	LF	82,260.000	82,260.000
0136	643.5000	Traffic Control	EACH	1.000	1.000
0138	645.0120	Geotextile Type HR	SY	113.000	113.000
0140	646.1020	Marking Line Epoxy 4-Inch	LF	174,710.000	174,710.000
0142	646.4520	Marking Line Same Day Epoxy 4-Inch	LF	3,200.000	3,200.000
0144	648.0100	Locating No-Passing Zones	MI	8.840	8.840
0146	650.5500	Construction Staking Curb Gutter and Curb & Gutter	LF	165.000	165.000
0148	650.6000	Construction Staking Pipe Culverts	EACH	3.000	3.000
0150	650.8000	Construction Staking Resurfacing Reference	LF	47,550.000	47,550.000
0152	650.9911	Construction Staking Supplemental Control (project) 01. 5215-02-74	EACH	1.000	1.000
0154	650.9920	Construction Staking Slope Stakes	LF	4,150.000	4,150.000
0156	690.0150	Sawing Asphalt	LF	451.000	451.000
0158	690.0250	Sawing Concrete	LF	6.000	6.000
0160	740.0440	Incentive IRI Ride	DOL	35,329.000	35,329.000
0162	SPV.0090	Special 01. Profile Curb Cut	LF	315.000	315.000
0164	SPV.0180	Special 01. Removing Distressed Pavement Milling	SY	3,400.000	3,400.000

3

REMOVING SMALL PIPE CULVERTS

CATEGORY	STATION	LOCATION	203.0100 EACH	REMARKS
0010	473+28	LT	1	55 LF 18-INCH CMCP
	473+39	LT/RT	1	59 LF 24-INCH CMCP
	TOTAL		2	

REMOVING ASPHALT ITEMS

CATEGORY	STATION - STATION	LOCATION	204.0110 REMOVING ASPHALTIC SURFACE SY	204.0115 REMOVING ASPHALTIC SURFACE BUTT JOINTS SY	204.0120 REMOVING ASPHALTIC SURFACE MILLING SY	SPV.0180.01 REMOVING DISTRESSED PAVEMENT MILLING SY
0010	134+48 - 214+00	LT/RT	---	280	27,200	540
	214+00 - 294+00	LT/RT	---	1,550	28,300	570
	294+00 - 374+00	LT/RT	---	850	27,500	550
	374+00 - 454+00	LT/RT	---	330	31,200	620
	454+00 - 534+00	LT/RT	---	230	29,500	590
	534+00 - 610+00	LT/RT	---	560	26,300	530
	DRIVEWAYS	LT/RT	250	---	---	---
	TOTALS		250	3,800	170,000	3,400

EXCAVATION COMMON

CATEGORY	STATION - STATION	LOCATION	205.0100 EXCAVATION COMMON CY	*624.0100 WATER (FOR DUST CONTROL) MGAL
0010	227+83 - 228+61	LT/RT	20	1
	263+27 - 263+76	RT	10	1
	473+04 - 473+57	LT/RT	210	1
	TOTALS		240	3

*ADDITIONAL QUANTITIES LISTED ELSEWHERE

PREPARE FOUNDATION FOR ASPHALTIC PAVING

CATEGORY	STATION - STATION	PROJECT	211.0101.01 EACH
0010	134+48 - 610+00	5215-02-74	1

PREPARE FOUNDATION FOR ASPHALTIC SHOULDERS

CATEGORY	STATION - STATION	LOCATION	211.0400 STA
0010	272+00 - 286+00	LT/RT	28
	393+00 - 445+00	LT/RT	104
	467+00 - 496+00	LT/RT	58
	560+00 - 596+00	LT/RT	72
	TOTAL		262

FINISHING ROADWAY

CATEGORY	PROJECT	213.0100.01 EACH
0010	5215-02-74	1

BASE AGGREGATE DENSE

CATEGORY	STATION - STATION	LOCATION	305.0110 BASE AGGREGATE DENSE 3/4-INCH TON	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH TON	*624.0100 WATER (FOR COMPACTION) MGAL	*624.0100 WATER (FOR DUST CONTROL) MGAL	REMARKS
0010	134+48 - 214+00	LT/RT	1250	---	19	3	
	214+00 - 294+00	LT/RT	965	15	14	2	
	294+00 - 374+00	LT/RT	980	---	15	2	
	374+00 - 454+00	LT/RT	290	---	4	1	
	454+00 - 534+00	LT/RT	625	235	13	2	1 1/4-INCH AT PIPE CROSSINGS
	534+00 - 610+00	LT/RT	590	---	9	1	
	DRIVEWAYS	LT/RT	160	---	2	1	
	SUBTOTALS		4,860	250	76	12	
	TOTALS		4,860	250	88		

*ADDITIONAL QUANTITIES LISTED ELSEWHERE

SELECT CRUSHED MATERIAL

CATEGORY	STATION - STATION	LOCATION	312.0110 TON	REMARKS
0010	454+00 - 534+00	LT/RT	120	CULVERT PIPE TRANSITIONS

ASPHALTIC ITEMS

CATEGORY	STATION - STATION	LOCATION	460.5224 HMA PAVEMENT 4 LT 58-28 S TON	465.0105 ASPHALTIC SURFACE TON	465.0120 ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES TON	465.0475 ASPHALTIC CENTERLINE RUMBLE STRIPS 2-LANE RURAL LF	455.0605 TACK COAT GAL
0010	134+48 - 214+00	LT/RT	5,280	60	---	7,560	3,250
	214+00 - 294+00	LT/RT	5,230	65	---	6,990	3,200
	294+00 - 374+00	LT/RT	4,570	60	---	7,470	2,800
	374+00 - 454+00	LT/RT	5,640	70	---	6,150	3,500
	454+00 - 534+00	LT/RT	5,040	120	---	5,200	3,150
	534+00 - 610+00	LT/RT	5,090	60	---	5,490	3,100
	DRIVEWAYS	LT/RT	---	---	50	---	---
	TOTALS		30,850	435	50	38,860	19,000

NOTE: HMA PAVEMENT WEIGHT CALCULATIONS BASED ON 112 LB/SY/IN.
NOTE: TACK COAT ON MILLED SURFACE = 0.07 GAL/SY, TACK COAT ON PAVED LAYER = 0.05 GAL/SY

HMA PAVEMENT PERCENT WITHIN LIMITS (PWL)

CATEGORY	PROJECT	460.0105.S TEST STRIP VOLUMETRICS EACH	460.0110.S TEST STRIP DENSITY EACH
0010	5215-02-74	1	2

CONCRETE SURFACE DRAINS

CATEGORY	STATION	LOCATION	416.1010 CY
0010	228+27	LT	1.8
	228+56	RT	1.7
	263+31	RT	1.6
		TOTAL	5.1

PWL MIXTURE USE TABLE

THE FOLLOWING ACCEPTANCE CRITERIA ARE APPLICABLE FOR THIS PROJECT:

LOCATION	STATION - STATION	MIXTURE USE	UNDERLYING SURFACE	BID ITEM	TONS	THICKNESS	QUALITY MANAGEMENT PROGRAM TO BE USED FOR: MIXTURE ACCEPTANCE	DENSITY ACCEPTANCE
24-FOOT DRIVING LANE	134+48 - 284+50 322+00 - 444+22 472+22 - 610+00	LOWER LAYER	MILLED EXISTING HMA SURFACE	4 LT 58-28 S	10,500	1.75"	INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	INCENTIVE DENSITY PWL HMA PAVEMENT 460.2005
24-FOOT DRIVING LANE	134+48 - 284+50 322+00 - 444+22 472+22 - 610+00	UPPER LAYER	4 LT 58-28 S	4 LT 58-28 S	10,500	1.75"	INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	INCENTIVE DENSITY PWL HMA PAVEMENT 460.2005
24-FOOT DRIVING LANE	284+50 - 322+00	UPPER LAYER	MILLED EXISTING HMA SURFACE	4 LT 58-28 S	1,100	2"	INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	INCENTIVE DENSITY PWL HMA PAVEMENT 460.2005
24-FOOT DRIVING LANE	444+22 - 472+72	UPPER LAYER	MILLED EXISTING HMA SURFACE	4 LT 58-28 S	750	1.75"	INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	INCENTIVE DENSITY PWL HMA PAVEMENT 460.2005
OUTSIDE SHOULDERS / INTERSECTIONS	134+48 - 284+50 322+00 - 444+22 472+72 - 610+00	LOWER LAYER	MILLED EXISTING HMA SURFACE	4 LT 58-28 S	3,550	1.75"	INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	ACCEPTANCE TESTING BY THE DEPARTMENT; NOT ELIGIBLE FOR INCENTIVE
OUTSIDE SHOULDERS / INTERSECTIONS	134+48 - 284+50 322+00 - 444+22 472+72 - 610+00	UPPER LAYER	4 LT 58-28 S	4 LT 58-28 S	3,850	1.75"	INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	ACCEPTANCE TESTING BY THE DEPARTMENT; NOT ELIGIBLE FOR INCENTIVE
OUTSIDE SHOULDERS / INTERSECTIONS	284+50 - 322+00	UPPER LAYER	MILLED EXISTING HMA SURFACE	4 LT 58-28 S	300	2"	INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	ACCEPTANCE TESTING BY THE DEPARTMENT; NOT ELIGIBLE FOR INCENTIVE
OUTSIDE SHOULDERS / INTERSECTIONS	444+22 - 472+72	UPPER LAYER	MILLED EXISTING HMA SURFACE	4 LT 58-28 S	300	1.75"	INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	ACCEPTANCE TESTING BY THE DEPARTMENT; NOT ELIGIBLE FOR INCENTIVE

3

CULVERT PIPE ITEMS

CATEGORY	STATION	LOCATION	522.2419 CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL CLASS HE-IV 19X30-INCH LF	522.2429 CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL CLASS HE-IV 29X45-INCH LF	522.2619 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL 19X30-INCH EACH	522.2629 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL 29X45-INCH EACH	633.5200 MARKERS CULVERT END EACH
0010	473+28	LT	50	---	2	---	2
	473+39	LT/RT	---	58	---	2	2
	473+47	LT/RT	---	58	---	2	2
	TOTALS		50	116	2	4	6

CONCRETE CURB & GUTTER

CATEGORY	STATION - STATION	LOCATION	204.0150 REMOVING CURB & GUTTER LF	601.0557 CONCRETE CURB & GUTTER 6-INCH SLOPED 36-INCH TYPE D LF	601.0588 CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE TBT LF
0010	227+83 - 228+59	LT/RT	---	---	92
	263+29 - 263+76	RT	---	---	47
	473+21 - 473+41	LT	26	26	---
	UNDISTRIBUTED	LT/RT	30	30	---
		TOTALS	56	56	139

MAINTENANCE AND REPAIR OF HAUL ROADS

CATEGORY	PROJECT	618.0100.01 EACH
0010	5215-02-74	1

PROFILE CURB CUT

CATEGORY	STATION - STATION	LOCATION	SPV.0090.01 LF
0010	310+17.18 - 312+16.03	LT	200
	365+14.81 - 365+33.96	RT	19
	366+94.62 - 367+47.71	RT	53
	367+72.30 - 367+87.22	RT	15
	368+19.83 - 368+47.71	RT	28
	TOTAL		315

BARRIER SYSTEM GRADING SHAPING FINISHING

CATEGORY	STATION - STATION	LOCATION	614.0010 BARRIER SYSTEM GRADING SHAPING FINISHING EACH	FOR INFORMATION ONLY. ITEMS INCIDENTAL TO BARRIER SYSTEM GRADING SHAPING FINISHING. BORROW CY	SALVAGED TOPSOIL SY	FERTILIZER TYPE B CWT	SEEDING MIXTURE NO. 20 LB	SEEDING MIXTURE NO. 40 LB	SEEDING MIXTURE NO. 75 LB	EROSION MAT URBAN CLASS I TYPE B SY	SEED WATER MGAL
0010	223+58 - 230+40	LT/RT	4	248	1,047	0.66	---	---	7	1,047	24
	260+84 - 267+65	LT/RT	4	244	961	0.61	---	---	6	961	22
	310+17 - 316+29	LT/RT	4	169	1,055	0.66	---	3	6	1,055	24
	334+97 - 345+60	LT	1	36	557	0.35	4	---	---	557	13
	363+77 - 368+48	RT	1	18	168	0.11	---	3	---	168	4
	577+34 - 583+60	LT/RT	2	53	641	0.40	4	---	---	641	14
	TOTALS		16	768	4,428	2.79	8	6	18	4,428	99

RIPRAP

CATEGORY	STATION	LOCATION	606.0200 RIPRAP MEDIUM CY	606.0300 RIPRAP HEAVY CY	645.0120 GEOTEXTILE TYPE HR SY
0010	228+27	LT	3	---	11
	228+56	RT	3	---	11
	263+31	RT	3	---	11
	473+38	LT	---	19	45
	473+43	RT	---	10	35
	TOTALS		9	29	113

GUARDRAIL ITEMS

CATEGORY	STATION - STATION	LOCATION	204.0165 REMOVING GUARDRAIL LF	614.2300 MGS GUARDRAIL 3 LF	614.2330 MGS GUARDRAIL 3 K LF	614.2500 MGS THRIE BEAM TRANSITION LF	614.2610 GUARDRAIL TERMINAL EAT EACH
0010	214+00 - 294+00	LT/RT	1,200	425	---	315	8
	294+00 - 374+00	LT/RT	1,632	588	600	158	8
	534+00 - 610+00	LT/RT	312	363	---	---	4
	TOTALS		3,144	1,376	600	473	20

3

3

MOBILIZATION

CATEGORY	PROJECT	619.1000 EACH
0010	5215-02-74	1

MOBILIZATIONS EROSION CONTROL

CATEGORY	PROJECT	628.1905 EACH
0010	5215-02-74	18

MOBILIZATIONS EMERGENCY EROSION CONTROL

CATEGORY	PROJECT	628.1910 EACH
0010	5215-02-74	4

INLET PROTECTION

CATEGORY	LOCATION	628.7010 TYPE B EACH	628.7015 TYPE C EACH	628.7020 TYPE D EACH	REMARKS
0010	UNDISTRIBUTED	2	17	4	EXISTING INLET LOCATIONS

CULVERT PIPE CHECKS

CATEGORY	STATION	LOCATION	628.7555 EACH
0010	473+17	109' LT	5

TRACKING PADS

CATEGORY	LOCATION	628.7560 EACH
0010	BORROW SITE	1

SIGNING

CATEGORY	LOCATION	634.0616 POSTS WOOD 4X6-INCH X 16-FT EACH	638.2102 MOVING SIGNS TYPE II EACH	REMARKS
0010	UNDISTRIBUTED	6	6	*NO-PASSING ZONE SIGNS

NOTE: THE QUANTITIES FOR "NO PASSING ZONE" SIGNS ARE APPROXIMATE AND THE ACTUAL NUMBER WILL BE DETERMINED AFTER STH 81 HAS BEEN SPOTTED AS PART OF BID ITEM LOCATING NO PASSING ZONES.

FIELD OFFICE TYPE C

CATEGORY	PROJECT	642.5201 EACH
0010	5215-02-74	1

EROSION CONTROL ITEMS

CATEGORY	STATION - STATION	LOCATION	628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINTENANCE LF	628.7504 TEMPORARY DITCH CHECKS LF	628.7570 ROCK BAGS EACH
0010	134+48 - 214+00	LT/RT	---	---	---	---
	214+00 - 294+00	LT/RT	920	2,760	25	140
	294+00 - 374+00	LT/RT	2,070	6,210	20	50
	374+00 - 454+00	LT/RT	---	---	---	---
	454+00 - 534+00	LT/RT	---	---	---	---
	534+00 - 610+00	LT/RT	460	1,380	20	---
	UNDISTRIBUTED		860	2,580	15	50
	TOTALS		4,310	12,930	80	240

FINISHING ITEMS

CATEGORY	STATION - STATION	LOCATION	625.0500 SALVAGED TOPSOIL SY	628.2008 EROSION MAT URBAN CLASS I TYPE B SY	629.0210 FERTILIZER TYPE B CWT	630.0120 SEEDING MIXTURE NO. 20 LB	630.0500 SEED WATER MGAL
0010	473+04 - 473+57	LT/RT	220	220	0.14	6	5
	UNDISTRIBUTED		55	55	0.03	1	1
	TOTALS		275	275	0.17	7	6

3

TRAFFIC CONTROL

CATEGORY	LOCATION	DAYS	643.0300 DRUMS EACH	643.0300 DRUMS DAY	643.0420 BARRICADES TYPE III EACH	643.0420 BARRICADES TYPE III DAY	643.0705 WARNING LIGHTS TYPE A EACH	643.0705 WARNING LIGHTS TYPE A DAY	643.0900 SIGNS EACH	643.0900 SIGNS DAY	643.1050 SIGNS PCMS EACH	643.1050 SIGNS PCMS DAY
0010	ADVANCE WARNING	101	---	---	---	---	---	---	34	3,434	---	---
	GUARDRAIL REPLACEMENT	---	140	945	---	---	---	---	---	---	---	---
	BUDWORTH SCHOOL ROAD CLOSURE	3	---	---	15	45	21	63	8	24	---	---
	PRE WARN	7	10	70	---	---	---	---	---	---	2	14
	ADVANCED WIDTH RESTRICTION	101	---	---	---	---	---	---	30	210	---	---
	TOTALS			1,015		45		63		3,668		14

LOCATING NO-PASSING ZONES

CATEGORY	PROJECT	648.0100 MI
0010	5215-02-74	8.84

TRAFFIC CONTROL

CATEGORY	PROJECT	643.5000 EACH
0010	5215-02-74	1

SAWING

CATEGORY	STATION - STATION	LOCATION	690.0150 SAWING ASPHALT LF	690.0250 SAWING CONCRETE LF
0010	227+50 - 228+50	LT/RT	114	---
	263+25 - 263+80	RT	57	---
	454+00 - 534+00	LT/RT	145	6
	DRIVEWAYS	LT/RT	135	---
	TOTALS		451	6

CONSTRUCTION STAKING

CATEGORY	STATION - STATION	650.5500 CURB GUTTER AND CURB & GUTTER LF	650.6000 PIPE CULVERTS EACH	650.8000 RESURFACING REFERENCE LF	650.9911.01 SUPPLEMENTAL CONTROL 5215-02-74 EACH	650.9920 SLOPE STAKES LF
0010	134+48 - 610+00	165	3	47,550	1	4,150

PAVEMENT MARKING ITEMS

CATEGORY	STATION - STATION	LOCATION	643.3105 PAINT 4-INCH (DOUBLE YELLOW) LF	643.3120 TEMPORARY MARKING LINE EPOXY 4-INCH (YELLOW) LF	643.3120 TEMPORARY MARKING LINE EPOXY 4-INCH (12.5' SEG., 37.5' GAP) (YELLOW) LF	643.3120 TEMPORARY MARKING LINE EPOXY 4-INCH (DOUBLE YELLOW) LF	646.1020 MARKING LINE EPOXY 4-INCH (WHITE) LF	646.1020 MARKING LINE EPOXY 4-INCH (YELLOW) LF	646.1020 MARKING LINE EPOXY 4-INCH (12.5' SEG., 37.5' GAP) (YELLOW) LF	646.1020 MARKING LINE EPOXY 4-INCH (DOUBLE YELLOW) LF	646.4520 MARKING LINE SAME DAY EPOXY 4-INCH (DOUBLE YELLOW) LF
0010	134+48 - 214+00	LT/RT	15,900	---	---	15,900	15,700	---	---	15,900	---
	214+00 - 294+00	LT/RT	16,000	800	200	14,400	15,800	800	200	14,400	---
	294+00 - 374+00	LT/RT	16,000	4,100	1,030	7,800	15,900	4,100	1,030	7,800	---
	374+00 - 454+00	LT/RT	16,000	1,800	450	10,450	15,700	1,800	450	10,450	1,960
	454+00 - 534+00	LT/RT	16,000	---	---	14,750	15,750	---	---	14,750	1,240
	534+00 - 610+00	LT/RT	13,900	4,400	1,100	5,080	13,600	4,400	1,100	5,080	---
	SUBTOTALS		93,800	11,100	2,780	68,380	92,450	11,100	2,780	68,380	3,200
	TOTALS		93,800		82,260				174,710		3,200

FOR FINAL MAINLINE PAVEMENT MARKING LAYOUT, SEE S.D.D. "PERMANENT LONGITUDINAL PAVEMENT MARKINGS" AND "PAVEMENT MARKING (INTERSECTIONS)".

BUTT JOINT REQ'D SEE CONSTRUCTION DETAIL "REMOVING ASPHALTIC SURFACE BUTT JOINTS DETAIL - BEGIN PROJECT"

PC: 137+62.11

SETTLEMENT RD

N

120+00

125+00

N41°23'00"E

130+00

STH 81

135+00

140+00

145+00

BEGIN PROJECT
STA. 134+48.00
Y:484,480.92
X:752,792.53

PI STA = 144+61.92
Y = 485241.667
X = 753462.824
DELTA = 27°35'30" RT
D = 2°00'37"
T = 699.81'
L = 1372.46'
R = 2850.00'
PC STA = 137+62.11
Y = 484716.598
X = 753000.186
PT STA = 151+34.57
Y = 485492.741
X = 754116.042
SE = 3.98% (MATCH EXISTING)

CTH Y

MATCH LINE 149+00

PI STA = 85+80.08
Y = 480,828.501
X = 749,574.384

5

5

MATCH LINE 149+00

PT: 151+34.57

PC: 156+82.73

PI STA = 160+41.91
Y = 485818.273
X = 754962.977
DELTA = 14°37'12" RT
D = 2°02'47"
T = 359.19'
L = 714.47'
R = 2800.00'
PC STA = 156+82.73
Y = 485689.406
X = 754627.704
PT STA = 163+97.20
Y = 485858.343
X = 755319.921
SE = 3.98% (MATCH EXISTING)

PT: 163+97.20

PC: 166+37.15

PT: 169+34.62

PI STA = 167+89.01
Y = 485902.052
X = 755709.290
DELTA = 28°24'23" LT
D = 9°32'57"
T = 151.86'
L = 297.47'
R = 600.00'
PC STA = 166+37.15
Y = 485885.111
X = 755558.380
PT STA = 169+34.62
Y = 485988.744
X = 755833.972
SE = 6.00% (MATCH EXISTING)

PC: 175+08.53

N

MATCH LINE 178+00

150+00

N68°58'30"E

155+00

STH 81

160+00

165+00

N83°35'42"E

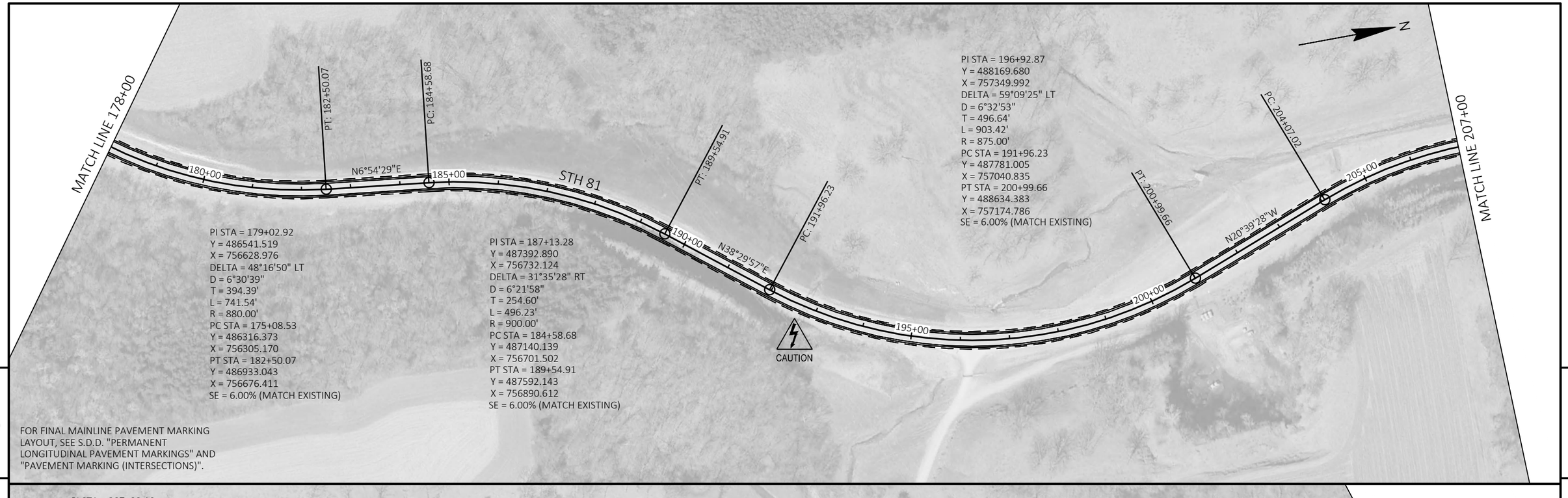
170+00

N55°11'19"E

175+00

FOR FINAL MAINLINE PAVEMENT MARKING LAYOUT, SEE S.D.D. "PERMANENT LONGITUDINAL PAVEMENT MARKINGS" AND "PAVEMENT MARKING (INTERSECTIONS)".

PROJECT NO: 5215-02-74	HWY: STH 81	COUNTY: GRANT	PLAN SHEETS	SHEET 38	E



BENCH MARKS			
NO.	STATION	DESCRIPTION	ELEV.
1	227+34.17, 18.57' RT	ALUMINUM MONUMENT ON TOP PARAPET AT SE CORNER OF EXISTING BRIDGE B-22-139	760.45
2	228+63.19, 38.24' LT	SPIKE IN EAST FACE OF POWER POLE AT NW CORNER OF EXISTING BRIDGE B-22-139	753.75

PROJECT NO: 5215-02-74	HWY: STH 81	COUNTY: GRANT	PLAN SHEETS	SHEET 39 E

FOR FINAL MAINLINE PAVEMENT MARKING LAYOUT, SEE S.D.D. "PERMANENT LONGITUDINAL PAVEMENT MARKINGS" AND "PAVEMENT MARKING (INTERSECTIONS)".

MATCH LINE 236+00

PT: 237+80.03

PC: 244+24.70

PT: 248+88.54

PC: 252+44.85

PT: 257+36.49

PC: 259+91.41

STH 81

240+00

245+00

250+00

255+00

260+00

N9°55'31"W

N17°11'35"E

N11°33'03"W

PI STA = 254+95.96
Y = 493497.718
X = 758533.066
DELTA = 28°44'38" LT
D = 5°50'47"
T = 251.11'
L = 491.64'
R = 980.00'
PC STA = 252+44.85
Y = 493257.829
X = 758458.840
PT STA = 257+36.49
Y = 493743.743
X = 758482.784
SE = 6.00% (MATCH EXISTING)

PI STA = 246+61.05
Y = 492691.658
X = 758283.656
DELTA = 27°07'06" RT
D = 5°50'47"
T = 236.35'
L = 463.84'
R = 980.00'
PC STA = 244+24.70
Y = 492458.848
X = 758324.393
PT STA = 248+88.54
Y = 492917.444
X = 758353.518
SE = 6.00% (MATCH EXISTING)

CP-15 (3/4" REBAR)
STA. 260+47.24, 37.73' RT
Y= 494053.070
X= 758460.293
ELEV.= 752.31

CP-15

BM21

BM22

SEE CONSTRUCTION DETAILS FOR GUARDRAIL INFORMATION

ENVIRONMENTALLY SENSITIVE AREA. SEE SPECIAL PROVISION ARTICLE "ENVIRONMENTAL PROTECTION, BLANCHARD'S CRICKET FROG" FOR REQUIREMENTS PRIOR TO ENTERING.

ENVIRONMENTALLY SENSITIVE AREA. SEE SPECIAL PROVISION ARTICLE "ENVIRONMENTAL PROTECTION, BLANCHARD'S CRICKET FROG" FOR REQUIREMENTS PRIOR TO ENTERING.

EXCEPTION TO NET ℄ LENGTH
STA. 263+95.81 TO STA. 264+58.95
B-22-140

FLAT ROCK CREEK

MATCH LINE 265+00

N

BENCH MARKS			
NO.	STATION	DESCRIPTION	ELEV.
21	259+83.35, 48.17' RT	SPIKE IN WEST FACE OF POWER POLE APPOXIMATELY 50' SOUTH OF CP-15 AT FENCE	753.24
22	263+80.35, 17.89' RT	ALUMINUM MONUMENT ON TOP OF PARAPET AT SE CORNER OF EXISTING BRIDGE	757.49

ENVIRONMENTALLY SENSITIVE AREA. SEE SPECIAL PROVISION ARTICLE "ENVIRONMENTAL PROTECTION, BLANCHARD'S CRICKET FROG" FOR REQUIREMENTS PRIOR TO ENTERING.

SEE CONSTRUCTION DETAILS FOR GUARDRAIL INFORMATION

CP-20 (3/4" REBAR)
STA. 267+76.22, 33.37' LT
Y= 494709.389
X= 758687.430
ELEV.= 776.57

CP-20

GARDEN PRAIRIE RD

MATCH LINE 265+00

200

270+00

275+00

280+00

285+00

290+00

PT: 273+19.97

PC: 276+83.65

PT: 285+22.31

STH 81

S78°46'46"E

N41°09'20"E

ENVIRONMENTALLY SENSITIVE AREA. SEE SPECIAL PROVISION ARTICLE "ENVIRONMENTAL PROTECTION, BLANCHARD'S CRICKET FROG" FOR REQUIREMENTS PRIOR TO ENTERING.

PI STA = 270+06.82
Y = 494988.344
X = 758228.415
DELTA = 112°46'17" RT
D = 8°29'18"
T = 1015.41'
L = 1328.56'
R = 675.00'
PC STA = 259+91.41
Y = 493993.503
X = 758431.739
PT STA = 273+19.97
Y = 494790.762
X = 759224.412
SE = 6.00% (MATCH EXISTING)

PI STA = 281+46.13
Y = 494630.004
X = 760034.782
DELTA = 60°03'54" LT
D = 7°09'43"
T = 462.48'
L = 838.66'
R = 800.00'
PC STA = 276+83.65
Y = 494719.996
X = 759581.137
PT STA = 285+22.31
Y = 494978.221
X = 760339.145
SE = 6.00% (MATCH EXISTING)

MATCH LINE 294+00

RATTLESNAKE RD

FOR FINAL MAINLINE PAVEMENT MARKING LAYOUT, SEE S.D.D. "PERMANENT LONGITUDINAL PAVEMENT MARKINGS" AND "PAVEMENT MARKING (INTERSECTIONS)".

PROJECT NO: 5215-02-74	HWY: STH 81	COUNTY: GRANT	PLAN SHEETS	SHEET 40	E

FILE NAME : S:\MAD\1000--1099\1089\632\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\050101_PN.DWG
LAYOUT NAME - 050103-pn

PLOT DATE : 7/21/2022 8:07 AM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : PLOT SCALE : 1 IN:200 FT

WISDOT/CADDS SHEET 44

FOR FINAL MAINLINE PAVEMENT MARKING LAYOUT, SEE S.D.D. "PERMANENT LONGITUDINAL PAVEMENT MARKINGS" AND "PAVEMENT MARKING (INTERSECTIONS)".

MATCH LINE 294+00

STH 81

295+00

N41°09'20"E

300+00

PC: 300+67.66

PI STA = 302+74.51
Y = 496297.497
X = 761492.276
DELTA = 24°04'34" RT
D = 5°54'24"
T = 206.85'
L = 407.60'
R = 970.00'
PC STA = 300+67.66
Y = 496141.752
X = 761356.146
PT STA = 304+75.26
Y = 496384.158
X = 761680.101
SE = 6.00% (MATCH EXISTING)

PT: 304+75.26

305+00

N65°13'54"E

PC: 307+71.84

PI STA = 310+13.53
Y = 496609.671
X = 762168.861
DELTA = 30°03'49" LT
D = 6°21'58"
T = 241.69'
L = 472.24'
R = 900.00'
PC STA = 307+71.84
Y = 496508.414
X = 761949.405
PT STA = 312+44.08
Y = 496807.244
X = 762308.068
SE = 6.00% (MATCH EXISTING)

RATTLESNAKE CREEK

CP-25 (3/4" REBAR)
STA. 309+74.47, 37.54' RT
Y= 496583.492
X= 762145.263
ELEV.= 735.29

CP-25

310+00

SEE CONSTRUCTION DETAILS FOR GUARDRAIL INFORMATION

EXCEPTION TO NET ℄ LENGTH
STA. 312+66.65 TO STA. 313+55.21
B-22-141

ENVIRONMENTALLY SENSITIVE AREA. SEE SPECIAL PROVISION ARTICLE "ENVIRONMENTAL PROTECTION, BLANCHARD'S CRICKET FROG" FOR REQUIREMENTS PRIOR TO ENTERING.

PT: 312+44.08

PT: 313+55.43
Y:496898.266
X:762372.201

PI: 316+64.06
Y:497153.650
X:762545.499

N35°10'05"E

BM32

315+00

N34°09'36"E

BM33

320+00

N34°06'35"E

CP-30

CP-30 (3/4" REBAR)
STA. 317+13.94, 23.78' RT
Y= 497181.616
X= 762593.160
ELEV.= 740.31

SEE CONSTRUCTION DETAILS FOR GUARDRAIL INFORMATION

RATTLESNAKE CREEK

MATCH LINE 323+00

N

BENCH MARKS			
NO.	STATION	DESCRIPTION	ELEV.
32	312+68.40, 20.04' RT	ALUMINUM MONUMENT ON TOP OF PARAPET AT SE CORNER OF EXISTING BRIDGE B-22-141	744.59
33	314+98.90, 40.08' RT	SPIKE IN WEST FACE OF POWER POLE APPROX. 25' NE OF END OF EXISTING GUARDRAIL	738.40

5

5

CP-31 (3/4" REBAR)
STA. 334+90.95, 29.24' LT
Y= 498460.314
X= 763766,814
ELEV.= 833.06

CP-31

335+00

STH 81

330+00

PC: 326+98.96

PI STA = 333+69.85
Y = 498565.988
X = 763502.071
DELTA = 67°58'52" RT
D = 5°45'30"
T = 670.90'
L = 1180.56'
R = 995.00'
PC STA = 326+98.96
Y = 498010.508
X = 763125.846
PT STA = 338+79.52
Y = 498425.462
X = 764158.085
SE = 6.00% (MATCH EXISTING)

325+00

N34°06'35"E

MATCH LINE 323+00

PT: 338+79.52

CP-33 (3/4" REBAR)
STA. 339+43.12, 24.63' LT
Y= 498436.231
X= 764225.399
ELEV.= 865.24

CP-33

BM42

340+00

SEE CONSTRUCTION DETAILS FOR GUARDRAIL INFORMATION

S77°54'33"E

PC: 344+97.44

BM43

345+00

PI STA = 349+36.55
Y = 498204.056
X = 765191.670
DELTA = 16°39'16" LT
D = 1°54'35"
T = 439.11'
L = 872.03'
R = 3000.00'
PC STA = 344+97.44
Y = 498296.032
X = 764762.300
PT STA = 353+69.47
Y = 498238.996
X = 765629.388
SE = 3.98% (MATCH EXISTING)

350+00

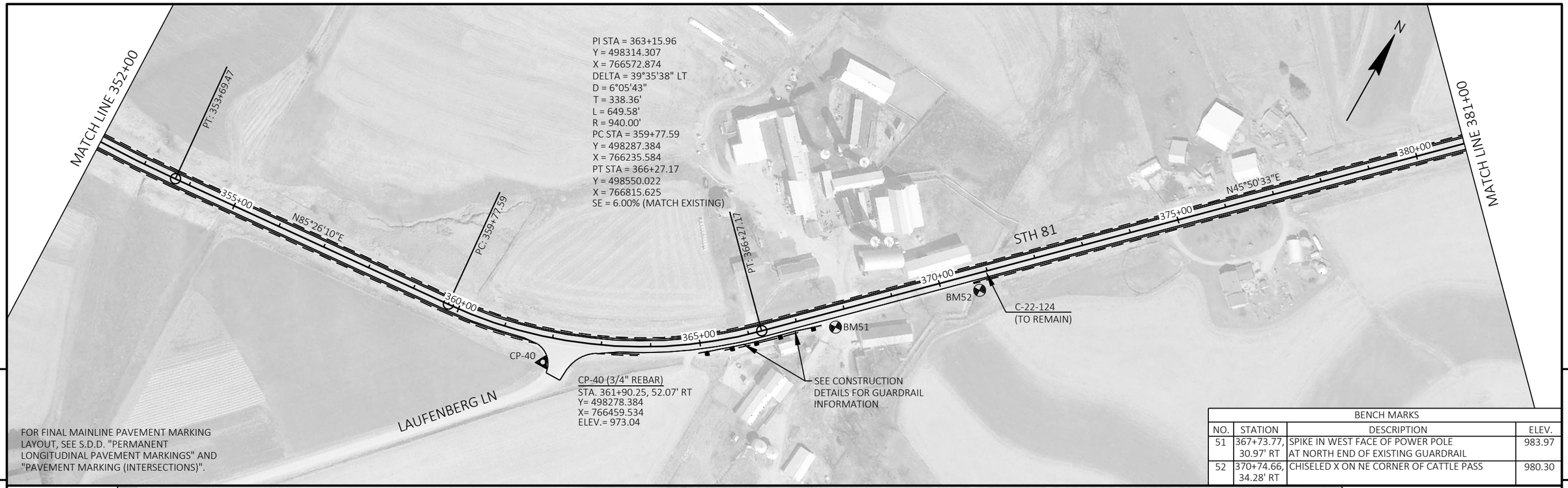
MATCH LINE 352+00

N

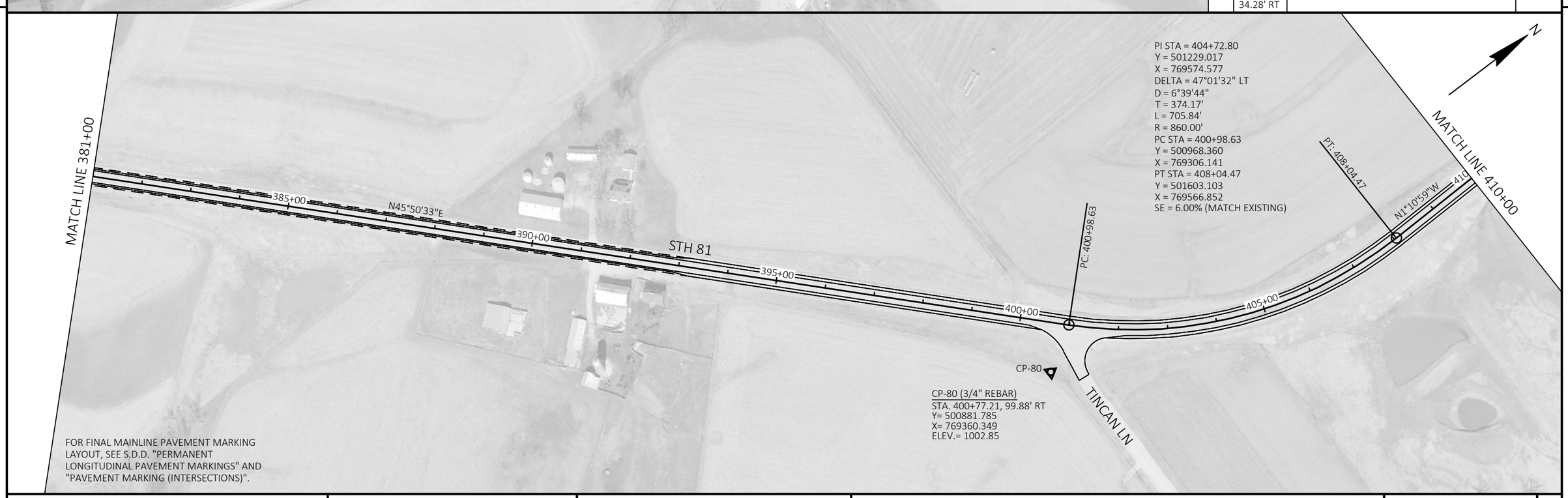
FOR FINAL MAINLINE PAVEMENT MARKING LAYOUT, SEE S.D.D. "PERMANENT LONGITUDINAL PAVEMENT MARKINGS" AND "PAVEMENT MARKING (INTERSECTIONS)".

BENCH MARKS			
NO.	STATION	DESCRIPTION	ELEV.
42	339+46.20, 18.21' RT	CHISELED X ON TOP OF CURB ON THE SOUTH SIDE OF STH 81 ACROSS FROM CP-33	866.42
43	344+16.98, 17.67' RT	CHISELED X ON TOP OF CURB ON THE SOUTH SIDE OF STH 81 APPROX. 10' WEST OF END OF CURB	891.08

PROJECT NO: 5215-02-74	HWY: STH 81	COUNTY: GRANT	PLAN SHEETS	SHEET 41	E



BENCH MARKS			
NO.	STATION	DESCRIPTION	ELEV.
51	367+73.77, 30.97' RT	SPIKE IN WEST FACE OF POWER POLE AT NORTH END OF EXISTING GUARDRAIL	983.97
52	370+74.66, 34.28' RT	CHISELED X ON NE CORNER OF CATTLE PASS	980.30



PROJECT NO: 5215-02-74	HWY: STH 81	COUNTY: GRANT	PLAN SHEETS	SHEET 42	E

FOR FINAL MAINLINE PAVEMENT MARKING LAYOUT, SEE S.D.D. "PERMANENT LONGITUDINAL PAVEMENT MARKINGS" AND "PAVEMENT MARKING (INTERSECTIONS)".

BENCH MARKS			
NO.	STATION	DESCRIPTION	ELEV.
61	431+61.80, 29.45' RT	TOP OF CULVERT PIPE AT SW QUADRANT OF STH 81	890.44
62	432+70.09, 19.29' RT	CHISELED X TOP OF CURB 80' EAST OF DRIVEWAY	885.81

BENCH MARKS			
NO.	STATION	DESCRIPTION	ELEV.
71	444+61.24, 19.15' LT	CHISELED X ON WALL AT NW CORNER OF BOX CULVERT	811.45
72	445+22.70, 32.02' RT	CHISELED X TOP OF CURB AT SE CORNER OF BOX CULVERT	805.95

FOR FINAL MAINLINE PAVEMENT MARKING LAYOUT, SEE S.D.D. "PERMANENT LONGITUDINAL PAVEMENT MARKINGS" AND "PAVEMENT MARKING (INTERSECTIONS)".

PROJECT NO: 5215-02-74	HWY: STH 81	COUNTY: GRANT	PLAN SHEETS	SHEET 43 E

STA. 473+27.58
1-REMOVING SMALL PIPE CULVERTS REQ'D.
1-19"X30" X 50' CPRCHE* CLASS HE-IV REQ'D.
2-19"X30" AECPRCHE* REQ'D.
END OF PIPE INLET ELEVATION: 902.66; STA. 473+19.41, 103.81' LT
END OF PIPE DISCHARGE ELEVATION: 901.62; STA. 473+35.74, 56.55' LT

PI STA = 469+92.54
Y = 506062.048
X = 773324.426
DELTA = 7°55'06" LT
D = 2°36'16"
T = 152.26'
L = 304.04'
R = 2200.00'
PC STA = 468+40.28
Y = 505942.463
X = 773230.176
PT STA = 471+44.31
Y = 506193.477
X = 773401.303
SE = 3.20% (MATCH EXISTING)

BUDWORTH SCHOOL RD

SEE CONSTRUCTION DETAIL "CULVERT PIPE TRANSITION" FOR ADDITIONAL INFORMATION.

PC: 478+64.40

CP-70

STH 81

480+00

485+00

CP-70 (3/4' REBAR)
STA. 479+74.15, 28.96' LT
Y= 506923.588
X= 773805.237
ELEV.= 937.99

N30°15'48"E

475+00

BM84

PT: 471+44.31

CP-110 (CHZD X ON CURB HEAD)
STA. 471+76.41, 18.86' LT
Y= 506230.663
X= 773401.207
ELEV.= 899.08

CP-110

N30°19'29"E

PC: 468+40.28

PI: 473+60.54
Y: 506380.115
X: 773510.473

470+00

MATCH LINE 468+00

STA. 473+39.00
1-REMOVING SMALL PIPE CULVERTS REQ'D.
1-29"X45" X 58' CPRCHE* CLASS HE-IV REQ'D.
2-29"X45" AECPRCHE* REQ'D.
END OF PIPE INLET ELEVATION: 900.41; 29.23' LT
END OF PIPE DISCHARGE ELEVATION: 899.58; 28.77' RT

STA. 473+47.00
1-29"X45" X 58' CPRCHE* CLASS HE-IV REQ'D.
2-29"X45" AECPRCHE* REQ'D.
END OF PIPE INLET ELEVATION: 900.64; 29.23' LT
END OF PIPE DISCHARGE ELEVATION: 899.83; 28.77' RT

PI STA = 481+99.32
Y = 507104.584
X = 773933.197
DELTA = 54°31'11" RT
D = 8°48'53"
T = 334.91'
L = 618.51'
R = 650.00'
PC STA = 478+64.40
Y = 506815.312
X = 773764.409
PT STA = 484+82.91
Y = 507135.036
X = 774266.724
SE = 6.00% (MATCH EXISTING)

PT: 484+82.91

N84°46'59"E

490+00

PC: 491+22.94

PI STA = 493+08.70
Y = 507210.120
X = 775089.090
DELTA = 23°19'27" RT
D = 6°21'58"
T = 185.76'
L = 366.37'
R = 900.00'
PC STA = 491+22.94
Y = 507193.230
X = 774904.101
PT STA = 494+89.31
Y = 507152.387
X = 775265.650
SE = 6.00% (MATCH EXISTING)

PT: 494+89.31

495+00

S71°53'34"E

MATCH LINE 497+00

FOR FINAL MAINLINE PAVEMENT MARKING LAYOUT, SEE S.D.D. "PERMANENT LONGITUDINAL PAVEMENT MARKINGS" AND "PAVEMENT MARKING (INTERSECTIONS)".

* ABBREVIATIONS
CPRCHE CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL
AECPRCHE APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL

BENCH MARKS			
NO.	STATION	DESCRIPTION	ELEV.
84	472+99.87, 84.14' LT	CHISELED X ON TOP OF CURB ON WEST SIDE OF BUDWORTH SCHOOL ROAD AT END OF CURB	904.30

N

MATCH LINE 497+00

PI: 500+09.43
Y: 506990.736
X: 775760.010

S71°53'34"E

500+00

PI STA = 514+79.25
Y = 506484.519
X = 777139.909
DELTA = 53°49'09" LT
D = 6°30'39"
T = 446.63'
L = 826.60'
R = 880.00'
PC STA = 510+32.62
Y = 506638.343
X = 776720.600
PT STA = 518+59.22
Y = 506732.159
X = 777511.603
SE = 2.60% (MATCH EXISTING)

S69°51'16"E

505+00

STH 81

PC: 510+32.62

510+00

PT: 518+59.22

520+00

N56°19'35"E

515+00

525+00

MATCH LINE 526+00

GRANT RIVER RD

FOR FINAL MAINLINE PAVEMENT MARKING LAYOUT, SEE S.D.D. "PERMANENT LONGITUDINAL PAVEMENT MARKINGS" AND "PAVEMENT MARKING (INTERSECTIONS)".

PROJECT NO: 5215-02-74	HWY: STH 81	COUNTY: GRANT	PLAN SHEETS	SHEET 44	E

FILE NAME : S:\MAD\1000--1099\1089\632\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\050101_PN.DWG
LAYOUT NAME - 050107-pn
PLOT DATE : 7/21/2022 8:08 AM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : PLOT SCALE : 1 IN:200 FT

FOR FINAL MAINLINE PAVEMENT MARKING LAYOUT, SEE S.D.D. "PERMANENT LONGITUDINAL PAVEMENT MARKINGS" AND "PAVEMENT MARKING (INTERSECTIONS)".

MATCH LINE 526+00

PC: 528+41.29

PT: 532+30.49

PC: 534+83.85

PI STA = 538+66.07
Y = 507507.154
X = 779318.153
DELTA = 26°05'07" LT
D = 3°28'21"
T = 382.23'
L = 751.20'
R = 1650.00'
PC STA = 534+83.85
Y = 507451.759
X = 778939.962
PT STA = 542+35.05
Y = 507723.201
X = 779633.464
SE = 5.21% (MATCH EXISTING)

PT: 542+35.05

PC: 552+69.62

MATCH LINE 555+00

N56°19'35"E

530+00

N81°40'01"E

535+00

NARROW CUT LN

PI STA = 530+39.12
Y = 507386.369
X = 778493.532
DELTA = 25°20'25" RT
D = 6°30'39"
T = 197.84'
L = 389.20'
R = 880.00'
PC STA = 528+41.29
Y = 507276.677
X = 778328.891
PT STA = 532+30.49
Y = 507415.040
X = 778689.279
SE = 6.00% (MATCH EXISTING)

540+00

545+00

STH 81

N55°34'54"E

550+00

555

PI STA = 554+25.45
Y = 508396.056
X = 780615.466
DELTA = 1°47'08" RT
D = 0°34'23"
T = 155.83'
L = 311.63'
R = 10000.00'
PC STA = 552+69.62
Y = 508307.975
X = 780486.917
PT STA = 555+81.26
Y = 508480.088
X = 780746.697
SE = NORMAL CROWN (MATCH EXISTING)

N

5

5

FOR FINAL MAINLINE PAVEMENT MARKING LAYOUT, SEE S.D.D. "PERMANENT LONGITUDINAL PAVEMENT MARKINGS" AND "PAVEMENT MARKING (INTERSECTIONS)".

SHORT CUT RD

PI STA = 582+57.70
Y = 509793.042
X = 783072.430
DELTA = 21°43'02" RT
D = 6°21'58"
T = 172.64'
L = 341.13'
R = 900.00'
PC STA = 580+85.06
Y = 509701.772
X = 782925.890
PT STA = 584+26.20
Y = 509823.609
X = 783242.342
SE = 6.00% (MATCH EXISTING)

N

PT: 555+81.26

PC: 564+80.41

PT: 567+92.64

PC: 573+88.86

PT: 576+76.05

SEE CONSTRUCTION DETAILS FOR GUARDRAIL INFORMATION

PC: 580+85.06

MATCH LINE 555+00

+00

N57°22'02"E

560+00

565+00

570+00

N66°18'42"E

STH 81

575+00

BM101

N58°05'03"E

580+00

BM102

CP-55

MATCH LINE 584+00

CP-50

HOUGHTON LN

HIDDEN ACRES LN

PI STA = 566+36.84
Y = 509049.317
X = 781635.652
DELTA = 8°56'40" RT
D = 2°51'53"
T = 156.43'
L = 312.22'
R = 2000.00'
PC STA = 564+80.41
Y = 508964.961
X = 781503.916
PT STA = 567+92.64
Y = 509112.164
X = 781778.901
SE = 4.87% (MATCH EXISTING)

PI STA = 575+32.71
Y = 509409.494
X = 782456.614
DELTA = 8°13'39" LT
D = 2°51'53"
T = 143.84'
L = 287.19'
R = 2000.00'
PC STA = 573+88.86
Y = 509351.704
X = 782324.890
PT STA = 576+76.05
Y = 509485.541
X = 782578.713
SE = 4.87% (MATCH EXISTING)

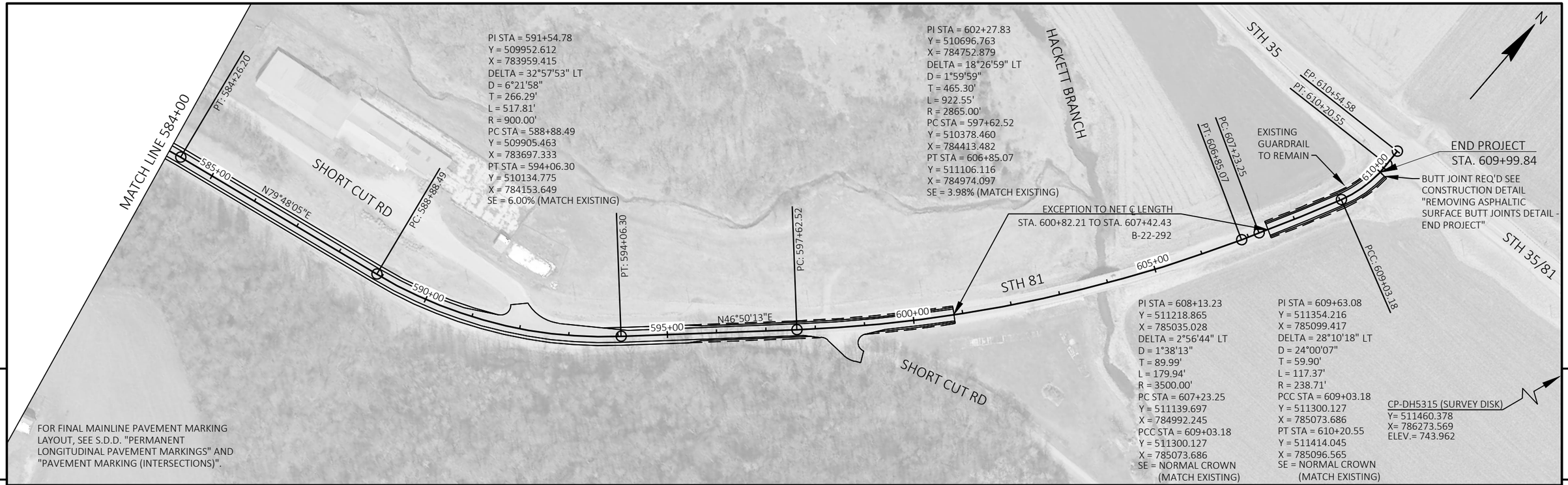
CP-50 (3/4" REBAR)
STA. 576+47.28, 29.96' RT
Y= 509444.854
X= 782569.650
ELEV.= 851.34

CP-55 (3/4" REBAR)
STA. 583+37.07, 31.10' LT
Y= 509833.432
X= 783147.045
ELEV.= 806.97

BENCH MARKS

NO.	STATION	DESCRIPTION	ELEV.
101	577+76.89, 40.23' LT	SPIKE IN POWER POLE APPROXIMATELY 100' EAST OF CP-50 ON NORTH SIDE OF STH 81	839.01
102	582+89.25, 37.04' LT	SPIKE IN POWER POLE APPROXIMATELY 50' WEST OF CP-55 ON NORTH SIDE OF STH 81	810.69

PROJECT NO: 5215-02-74	HWY: STH 81	COUNTY: GRANT	PLAN SHEETS	SHEET 45	E

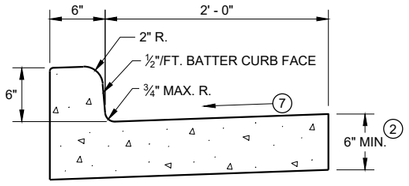


PROJECT NO: 5215-02-74	HWY: STH 81	COUNTY: GRANT	PLAN SHEETS	SHEET 46	E

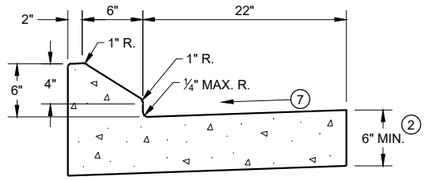
Standard Detail Drawing List

08D01-22A	CONCRETE CURB & GUTTER
08D01-22B	CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS
08D02-07A	CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES
08D02-07B	CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES
08D02-07C	CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E10-02	INLET PROTECTION TYPE A, B, C AND D
08E14-01	TRACKING PAD
08E15-01	CULVERT PIPE CHECK
08F02-01	APRON ENDWALLS FOR PIPE ARCH AND ELLIPTICAL PIPE
08F04-08	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
13A11-03A	2-LANE RURAL CENTER LINE RUMBLE STRIP, MILLING
13A11-03B	2-LANE RURAL CENTER LINE RUMBLE STRIP, MILLING
13C19-03	HMA LONGITUDINAL JOINTS
14B29-01	SAFETY EDGE
14B42-07A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07D	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B44-04A	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-04B	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-04C	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B45-05A	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05B	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05C	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05D	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
15A03-02A	FLEXIBLE MARKER POST FOR CULVERT END
15A03-02B	FLEXIBLE MARKER POST FOR CULVERT END
15C02-08F	ADVANCED WIDTH RESTRICTION SIGNING
15C03-05	BARRICADES AND SIGNS FOR SIDEROAD CLOSURES
15C04-05	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 M.P.H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC
15C05-05	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 M.P.H. OR LESS
15C08-21A	LONGITUDINAL MARKING (MAINLINE)
15C11-09B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS
15C12-09A	TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION
15C19-07A	MOVING PAVEMENT MARKING OPERATION TWO-LANE TWO-WAY ROADWAY
15C35-05A	PAVEMENT MARKING (INTERSECTIONS)
15D28-04	TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY
15D39-02	TRAFFIC CONTROL, DROP-OFF SIGNING
15D44-02	TRAFFIC CONTROL, SIGNING ON ROADWAYS WITH MILLED SURFACES
15D45-03	TRAFFIC CONTROL, SIGNING ON ROADWAYS WITH LOOSE GRAVEL
15D48-01	TRAFFIC CONTROL, LANE SHIFT IN FLAGGING OPERATION

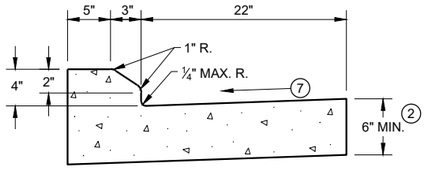
6



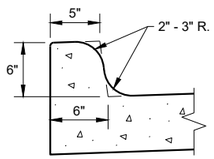
TYPES A[1] & D



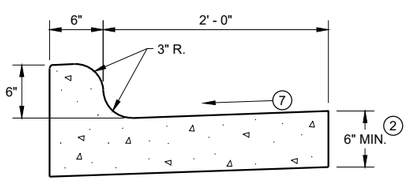
6" SLOPED CURB TYPES G[1] & J



4" SLOPED CURB TYPES G[1] & J

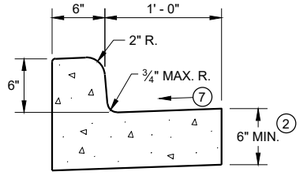


TYPES K[1] & L
(OPTIONAL CURB SHAPE)



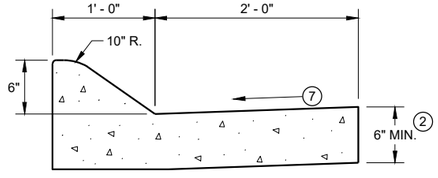
TYPES K[1] & L

CONCRETE CURB AND GUTTER 30"



TYPES A[1] & D

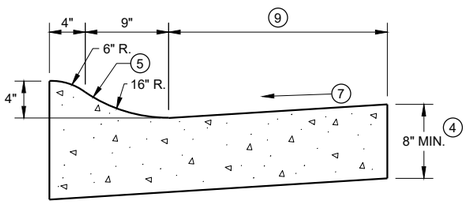
CONCRETE CURB AND GUTTER 18"



6" SLOPED CURB TYPES A[1] & D

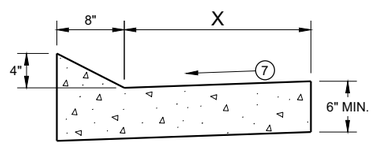
4" SLOPED CURB TYPES A[1] & D

CONCRETE CURB AND GUTTER 36"



4" SLOPED CURB TYPES R[1] & T

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

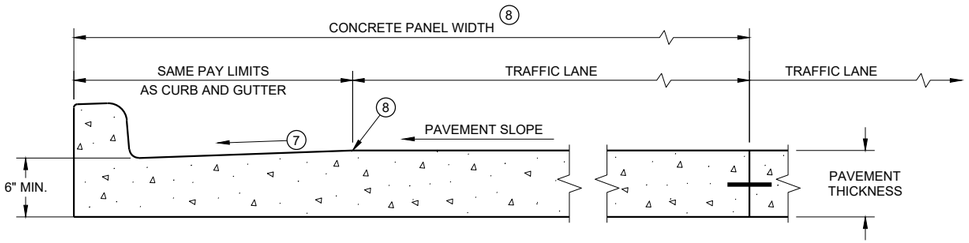


TYPES TBT & TBTT[1]

CONCRETE CURB AND GUTTER

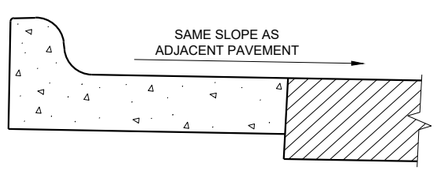
PAVEMENT THICKNESS AND MAXIMUM CONCRETE PANEL WIDTH TABLE

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



PARTIAL SECTION OF PAVEMENT * WITH INTEGRAL CURB AND GUTTER

* BIKE LANE IS NOT SHOWN



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

GENERAL NOTES

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

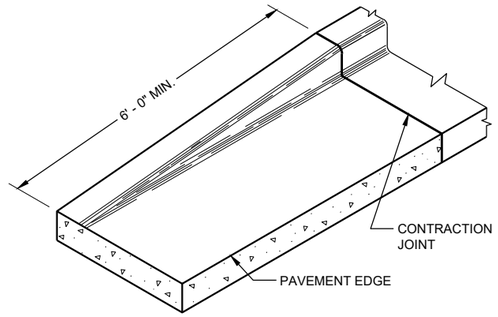
PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

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

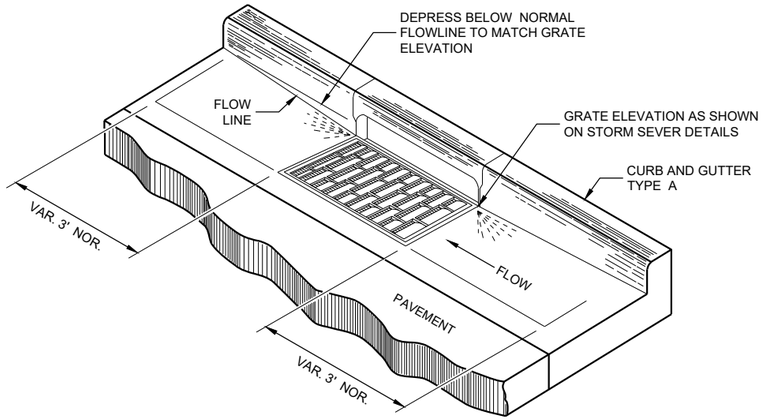
UNLESS OTHERWISE SHOWN ON THE TYPICAL CROSS SECTIONS, THE BASE AGGREGATE AND COMMON EXCAVATION LIMITS ARE 2' - 0" BEHIND THE BACK OF CURBS.

1. TIE BARS ARE REQUIRED FOR CURB AND GUTTERS TYPES A, G, K, R, AND TBTT.
2. THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.
3. USE 8" MINIMUM GUTTER THICKNESS WHEN USED WITH AN ADJACENT CONCRETE TRUCK APRON PLACED BEHIND BACK OF CURB.
4. THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 8" MINIMUM GUTTER THICKNESS IS MAINTAINED.
5. UNLESS OTHERWISE NOTED, FOR STAKING PURPOSES THE FACE OF CURB IS 6" FROM THE BACK OF CURB.
6. WHEN REVERSE SLOPE GUTTER IS REQUIRED, THE LOCATION(S) WILL BE SHOWN ELSEWHERE IN THE PLAN.
7. USE 4% GUTTER CROSS SLOPE UNLESS OTHERWISE NOTED IN THE PLANS.
8. INCLUDE LONGITUDINAL JOINT AND TIE BARS ALONG LANE EDGE WHEN CONCRETE PANEL WIDTH EXCEEDS THE MAXIMUM WIDTH PER TABLE BELOW. LONGITUDINAL JOINT(S) ARE NOT ALLOWED WITHIN TRAFFIC LANES AND BIKE LANES. LONGITUDINAL JOINT MAY BE SAWED.
9. CONCRETE CURB AND GUTTER 4-INCH SLOPED 30-INCH TYPE "R" AND "T" = 17 INCHES
   CONCRETE CURB AND GUTTER 4-INCH SLOPED 36-INCH TYPE "R" AND "T" = 23 INCHES

CONCRETE CURB AND GUTTER



END SECTIONCURB 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.

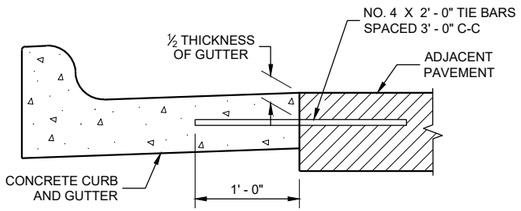
PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

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

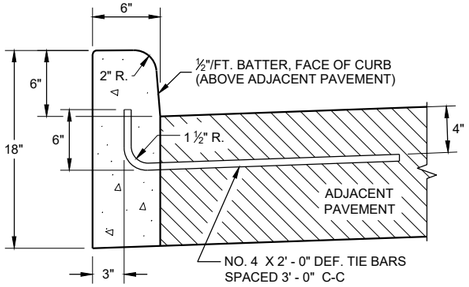
(1) TIE BARS ARE REQUIRED FOR CURB AND GUTTERS TYPES A, G, K, R, AND TBTT.

(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.

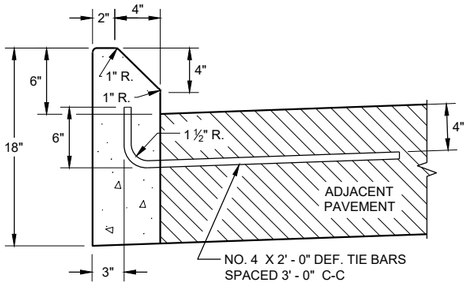
(9) REFER TO SDD 08D18 AND 08D19 FOR ADDITIONAL DRIVEWAY ENTRANCE CURB DETAILS.



TYPICAL TIE BAR LOCATION (1)

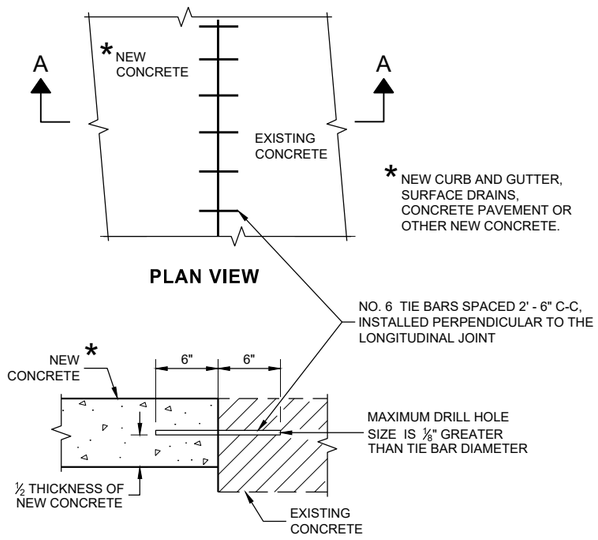


TYPES A (1) & D

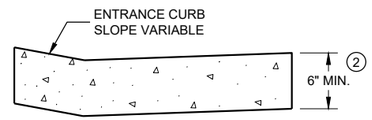


TYPES G (1) & J

CONCRETE CURB



TIE BARS DRILLED INTO EXISTING PAVEMENT



DRIVEWAY ENTRANCE CURB (9)

(WHEN DIRECTED BY THE ENGINEER)

CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2021 — DATE
/S/ Rodnery Taylor — ROADWAY STANDARDS DEVE ENGINEER

FHWA

6

SDD08D01 - 22b
SDD08D01 - 22b

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)

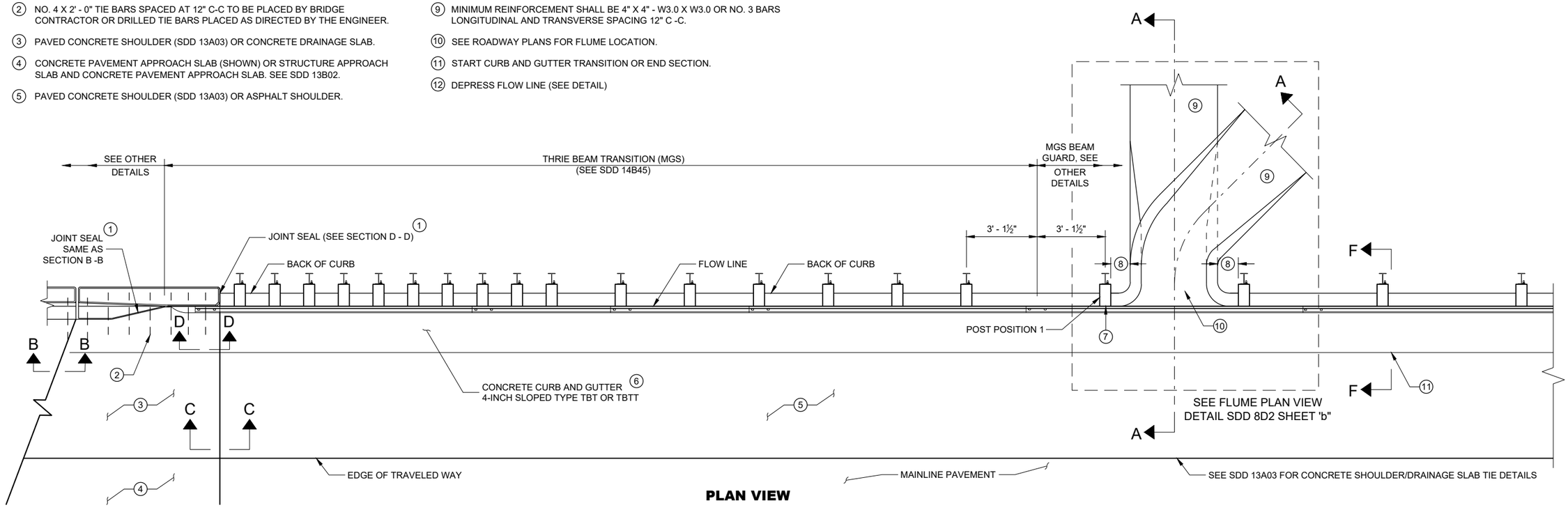
(8) CENTER FLUME BETWEEN POSTS. 6-INCH MINIMUM SEPARATION FROM OUTSIDE EDGE OF FLUME TO POSTS.

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

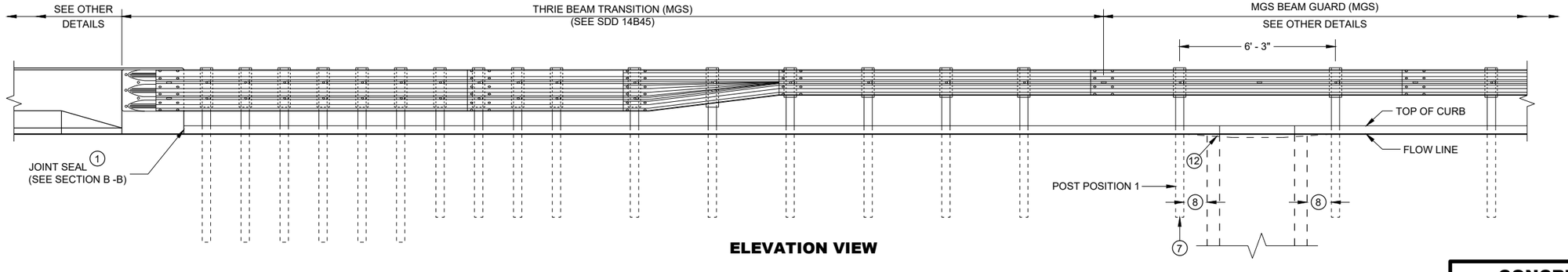
(10) SEE ROADWAY PLANS FOR FLUME LOCATION.

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

(12) DEPRESS FLOW LINE (SEE DETAIL)



PLAN VIEW



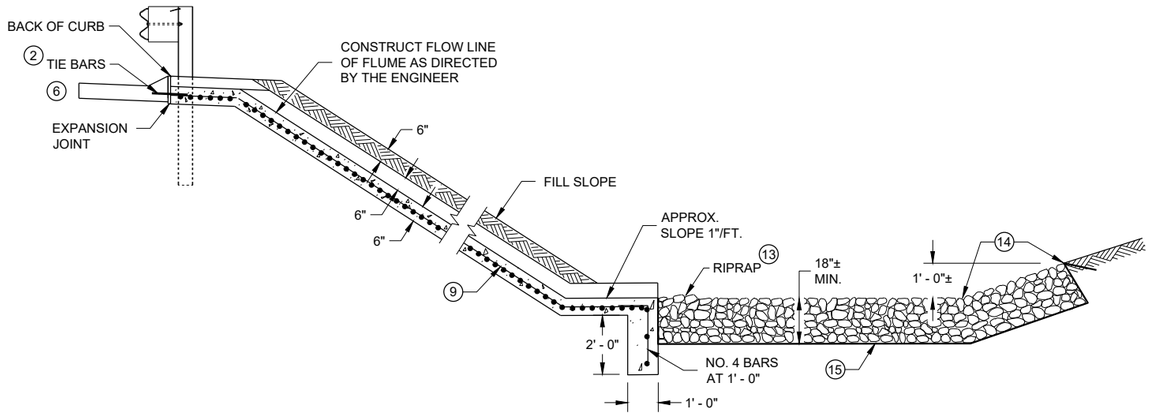
ELEVATION VIEW

CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES

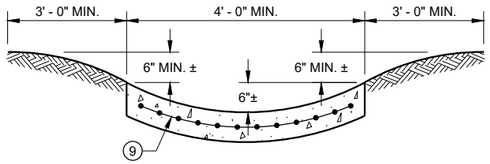
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

SDD 08D02 - 07a

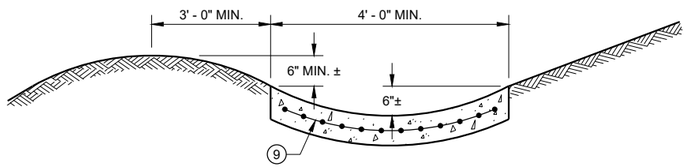
SDD 08D02 - 07a



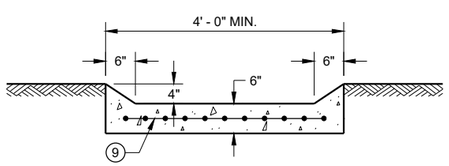
SECTION A - A



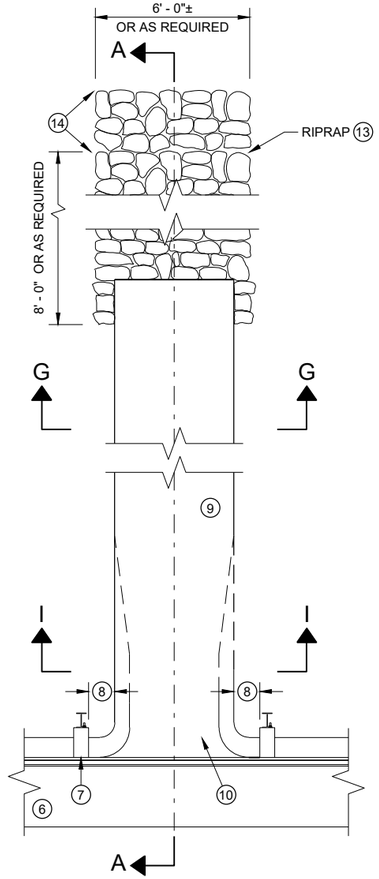
SECTION G - G



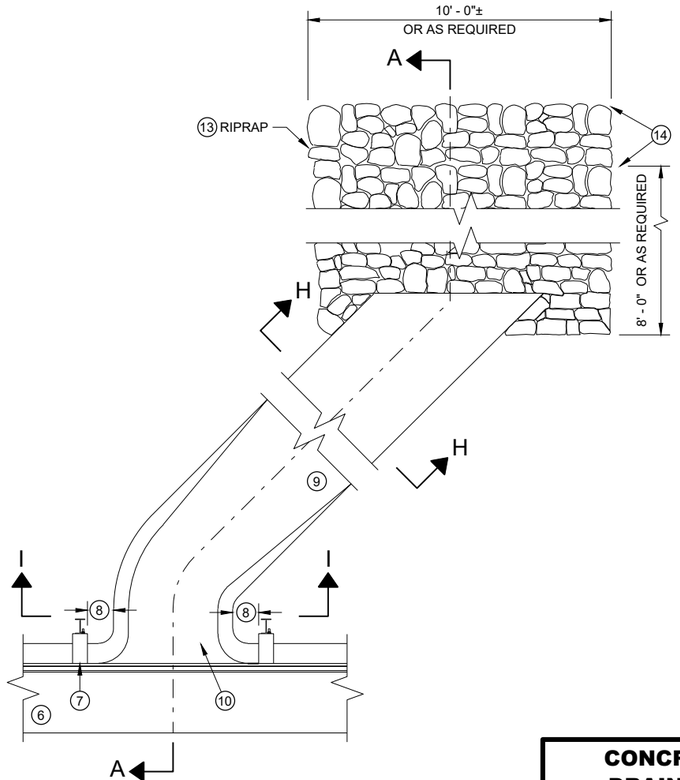
SECTION H - H



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 FABRIC TYPE HR.

CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES

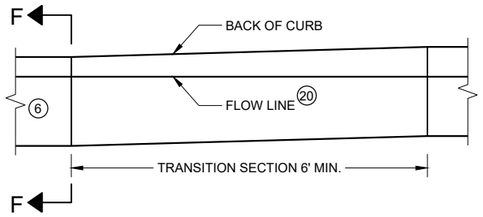
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

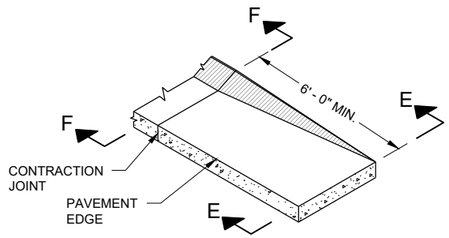
SDD 08D02 - 07b

6

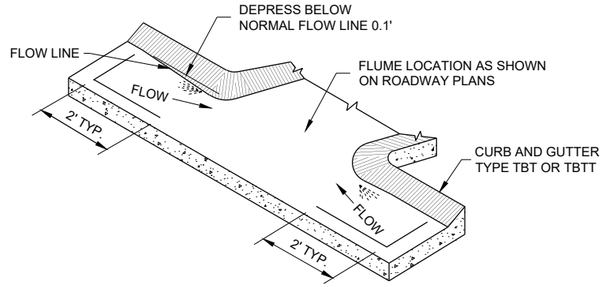
SDD 08D02 - 07b



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 FABRIC 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.

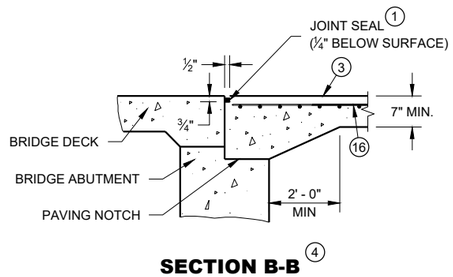
(17) MSG THRIE BEAM TRANSITION POST 1. SEE SDD 14B45 FOR ADDITIONAL CONSTRUCTION DETAILS AND ACCEPTABLE MATERIALS.

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

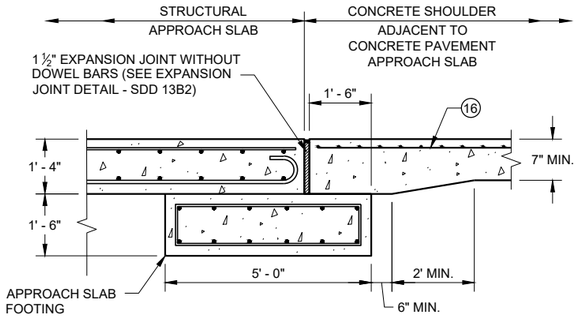
(19) ALIGN FACE OF POST BLOCK WITH FLOW LINE.

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

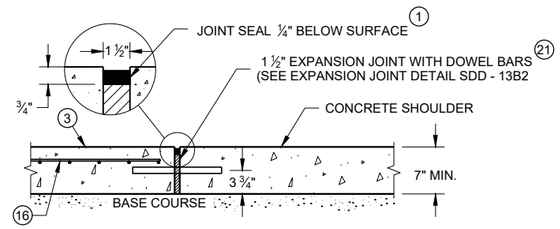
(21) DO NOT CONSTRUCT AN EXPANSION JOINT OR INSTALL DOWEL BARS WHEN ABUTTING HMA PAVEMENTS.



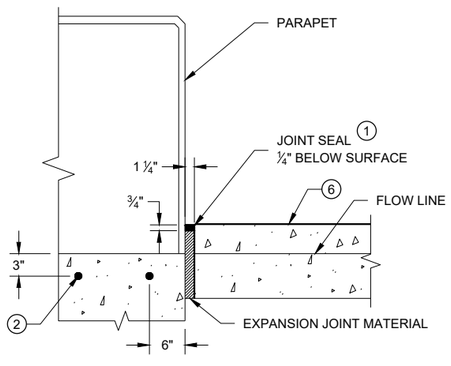
SECTION B-B (4)



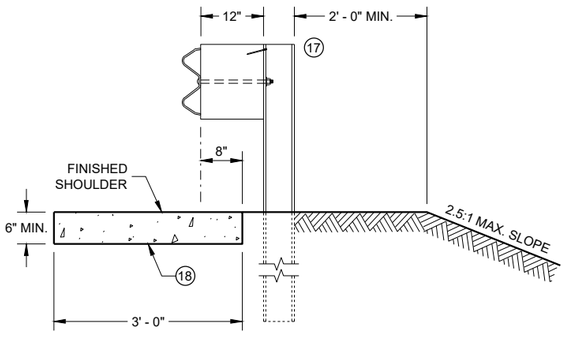
SECTION C - C
JOINT DETAIL FOR BRIDGE WITH STRUCTURAL APPROACH SLAB AND CONCRETE APPROACH SLAB



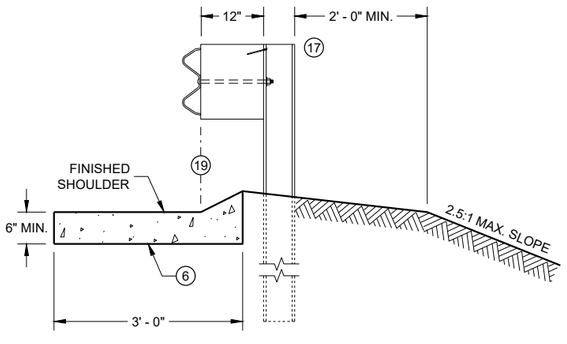
SECTION C - C
JOINT DETAIL FOR BRIDGE APPROACH WITH CONCRETE SHOULDERS



SECTION D - D



SECTION E - E



SECTION F - F

CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2020 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVE ENGINEER

FHWA

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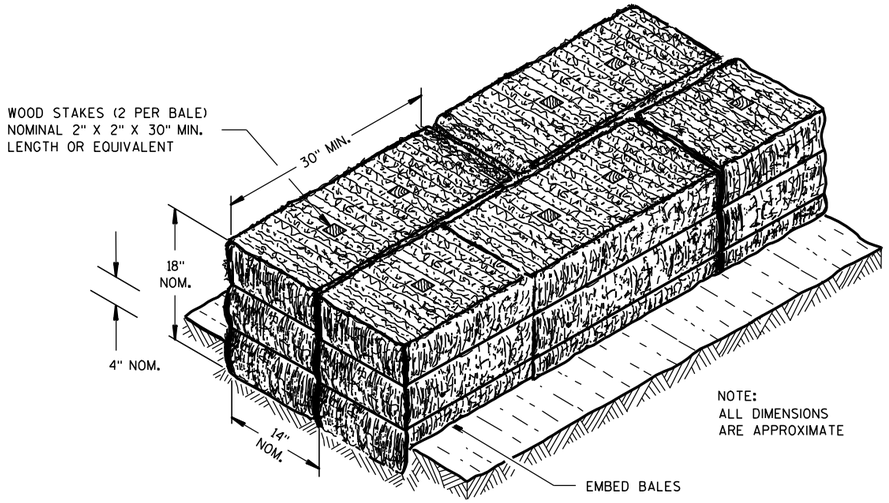
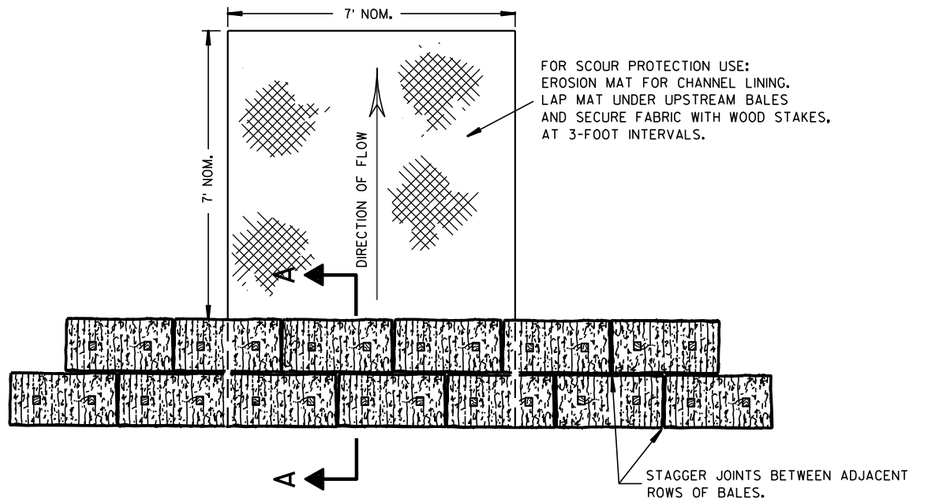
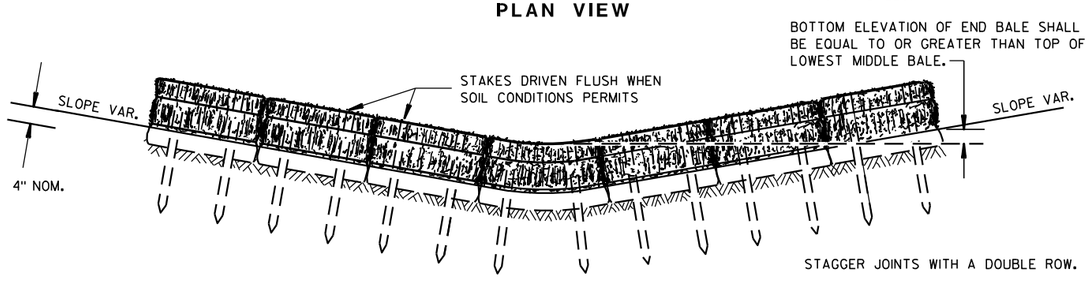
SDD 08D02 - 07c
SDD 08D02 - 07c



SECTION A-A



PLAN VIEW



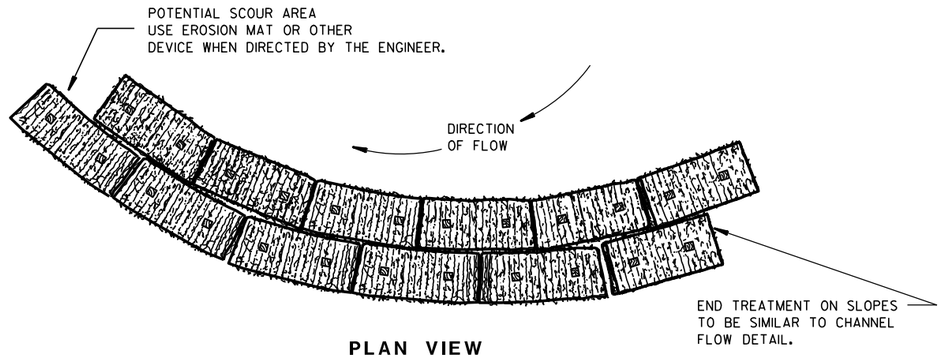
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES (1)

GENERAL NOTES

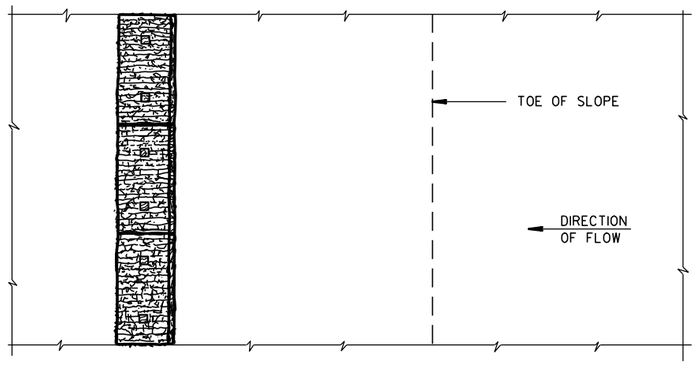
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

(1) TEMPORARY DITCH CHECKS EITHER EROSION BALES OR MANUFACTURED SHALL BE PAID FOR UNDER THE BID ITEM OF TEMPORARY DITCH CHECK. THE DEPARTMENT WILL NOT PAY FOR TEMPORARY DITCH CHECKS CONSTRUCTED OF A SINGLE ROW OF EROSION BALES.

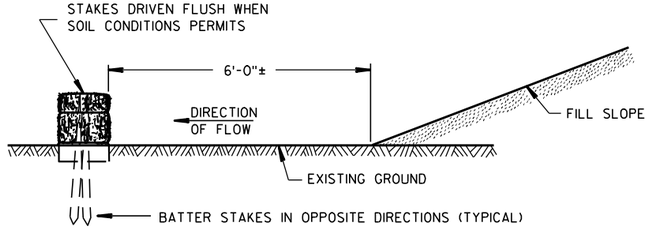


PLAN VIEW

WHEN ALTERING THE DIRECTION OF FLOW



PLAN VIEW



FRONT ELEVATION

WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

EROSION BALES FOR SHEET FLOW

TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

6/04/02 — DATE

/S/ Beth Cannestra — CHIEF ROADWAY DEVELOPMENT ENGINEER

FHWA

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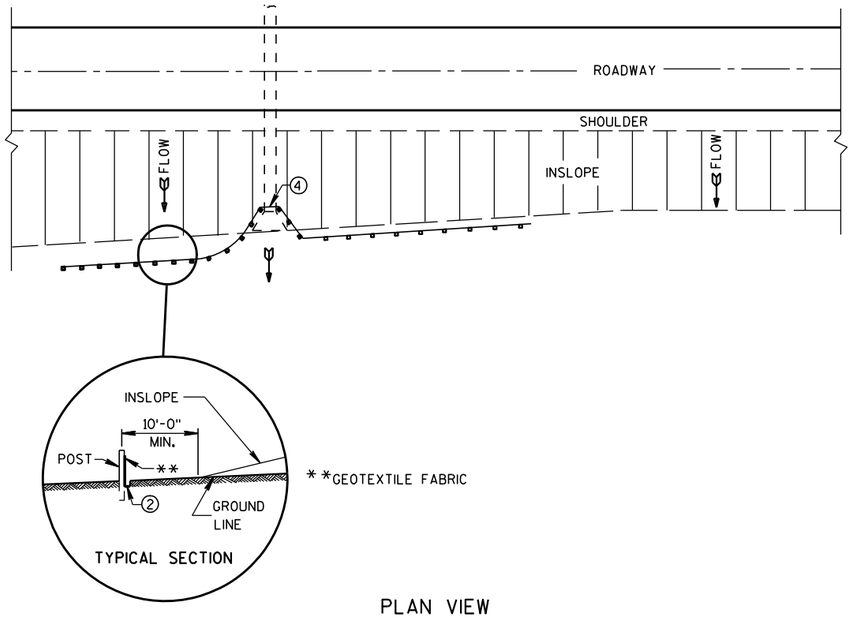
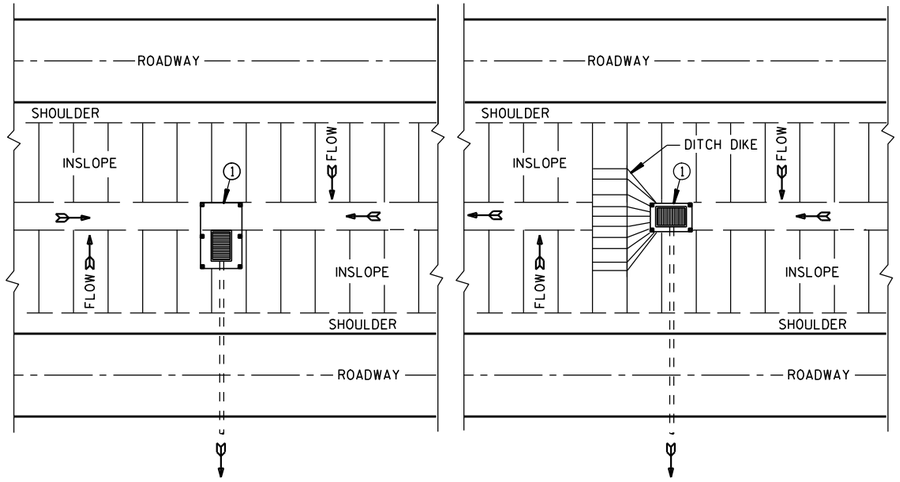
S.D.D. 8 E 8-3



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



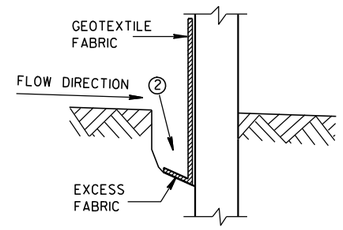
PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

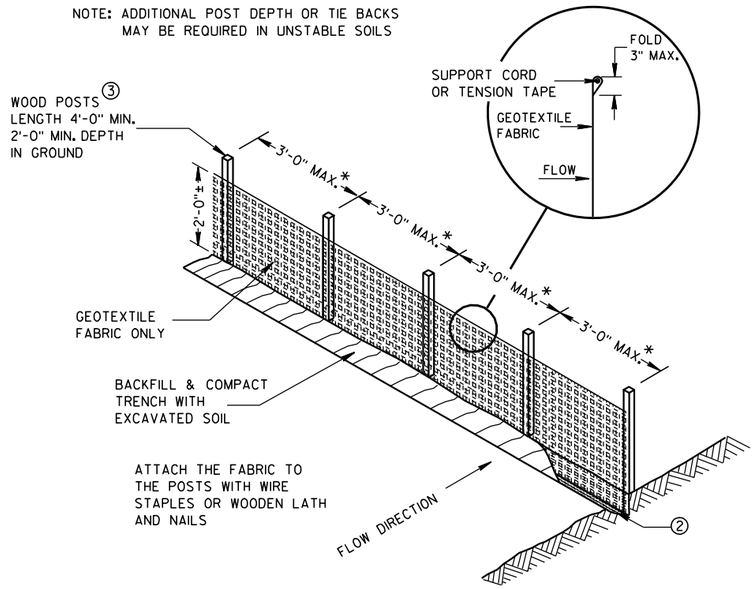
GENERAL NOTES

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

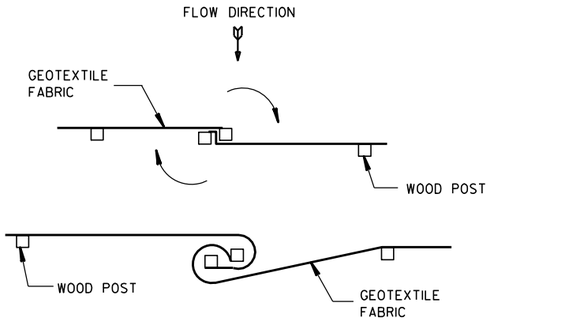
1. HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
2. FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
3. WOOD POSTS SHALL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



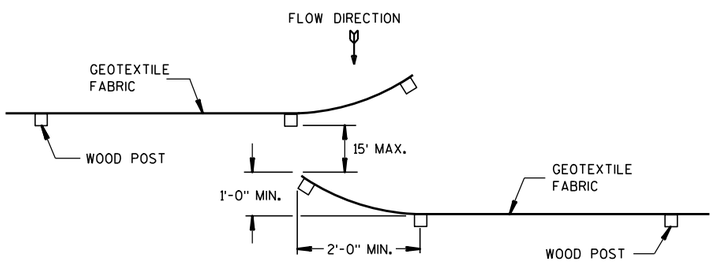
TRENCH DETAIL



SILT FENCE

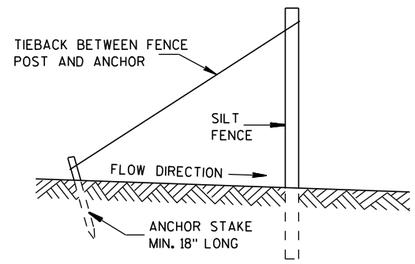


TWIST METHOD



HOOK METHOD

JOINING TWO LENGTHS OF SILT FENCE 5



SILT FENCE TIE BACK

(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6

S.D.D. 8 E 9-6

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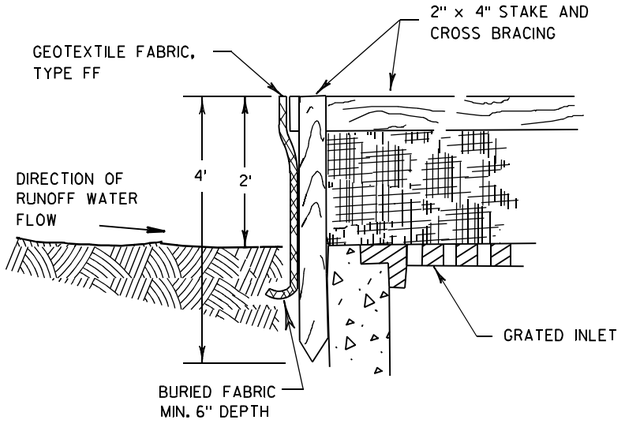
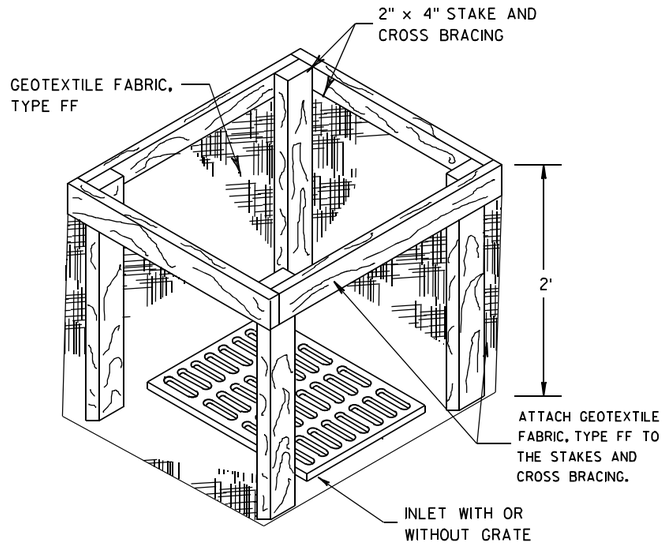
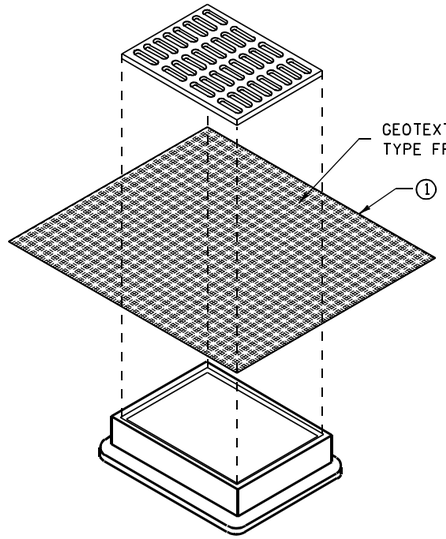
S.D.D. 8 E 9-6



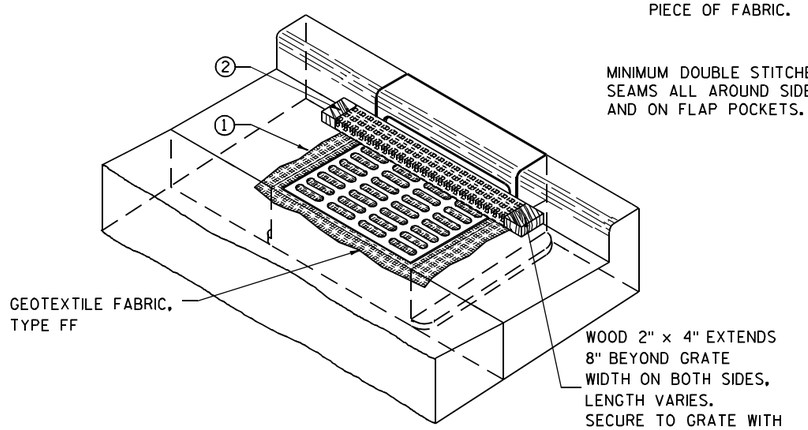


INLET PROTECTION, TYPE A

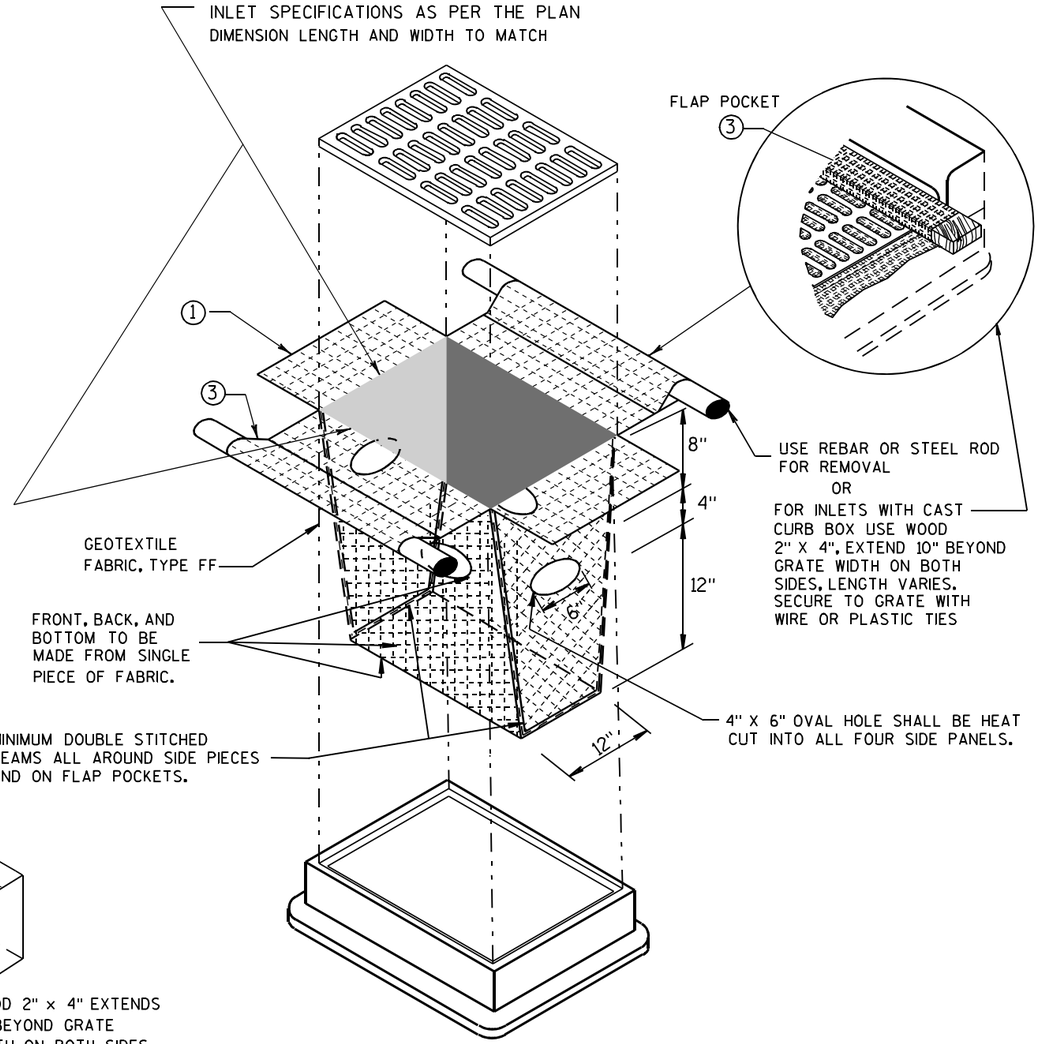


INLET PROTECTION, TYPE B
(WITHOUT CURB BOX)

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



INLET PROTECTION, TYPE C (WITH CURB BOX)



INLET PROTECTION, TYPE D

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

GENERAL NOTES

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

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

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

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

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

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

INSTALLATION NOTES

TYPE B & C

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

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

TYPE D

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

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

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

INLET PROTECTION
TYPE A, B, C, AND D

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

10/16/02
DATE

/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER

FHWA

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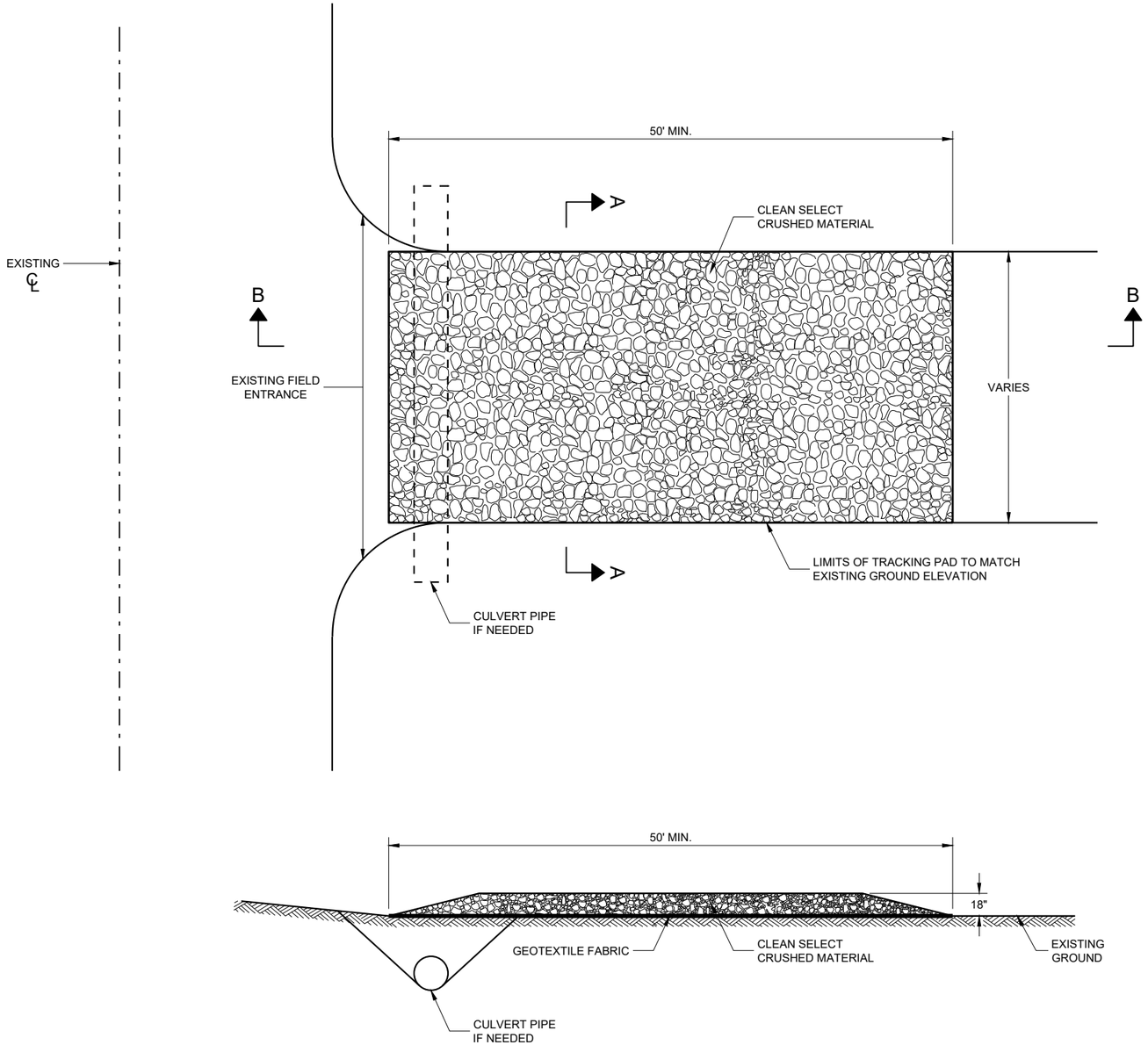
S.D.D. 8 E 10-2



SECTION B - B

GENERAL NOTES

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

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

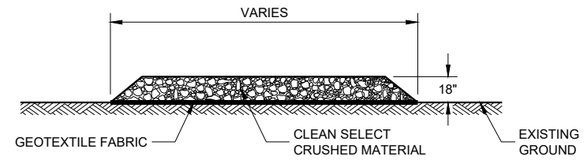
TRACKING PAD TO BE REMOVED AFTER CONSTRUCTION IS COMPLETED.

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

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

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

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



SECTION A - A

TRACKING PAD

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

3/24/2011
DATE

/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVE ENGINEER

FHWA

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SDD 08E14 - 01

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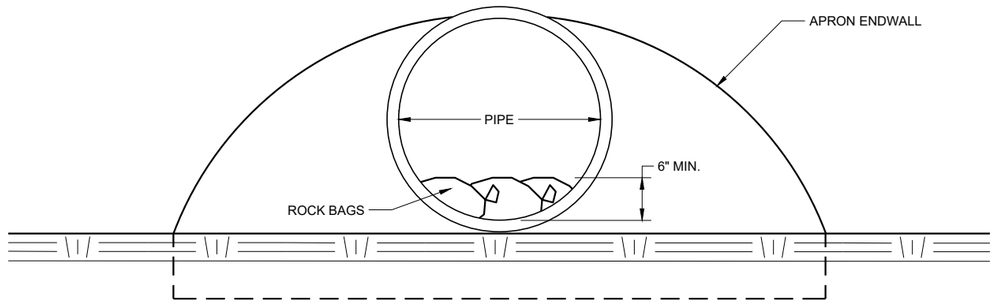
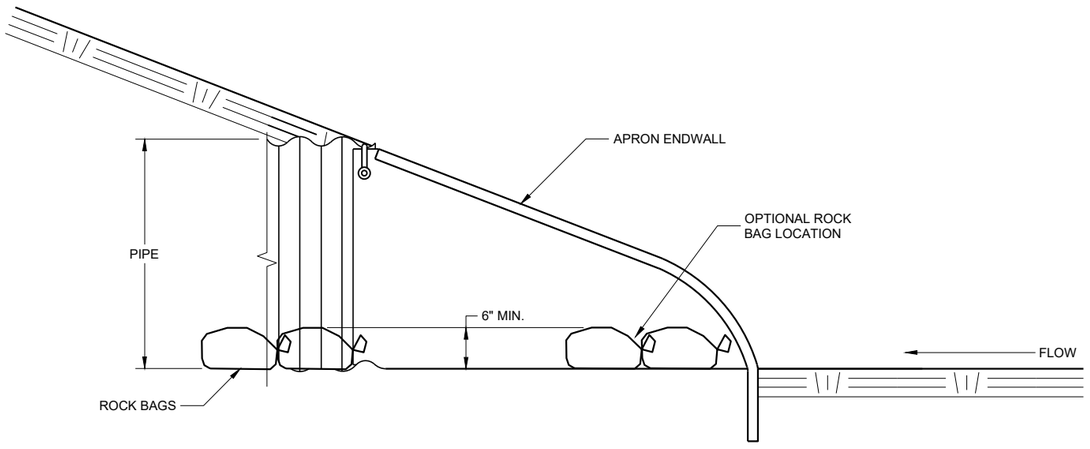
SDD 08E14 - 01



END VIEW



SIDE VIEW

CULVERT PIPE CHECK

(INSTALL ON INLET END ONLY)

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

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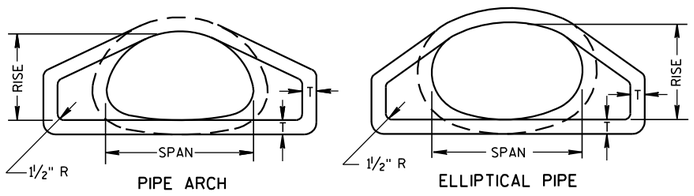
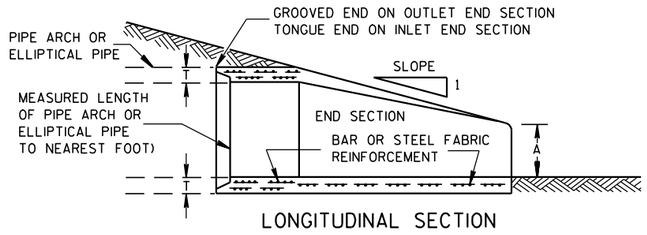
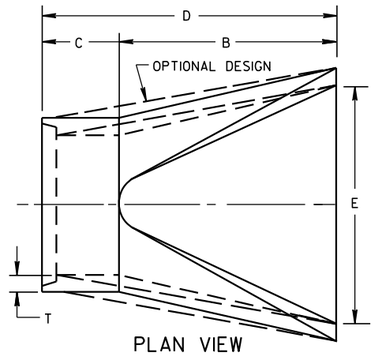
SDD 08E15 - 01



END VIEW

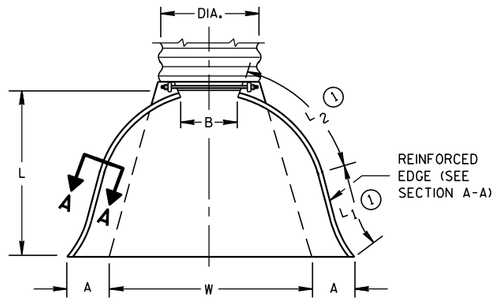


LONGITUDINAL SECTION

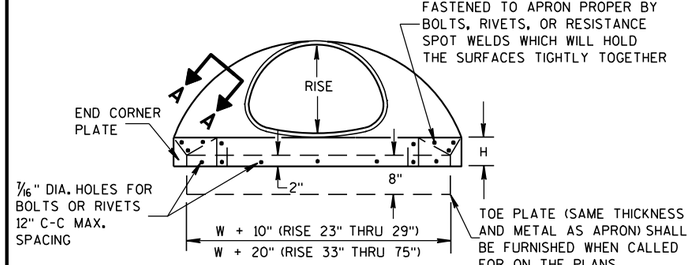


PLAN VIEW

CONCRETE ENDWALLS

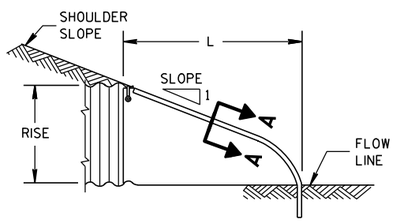


PLAN VIEW



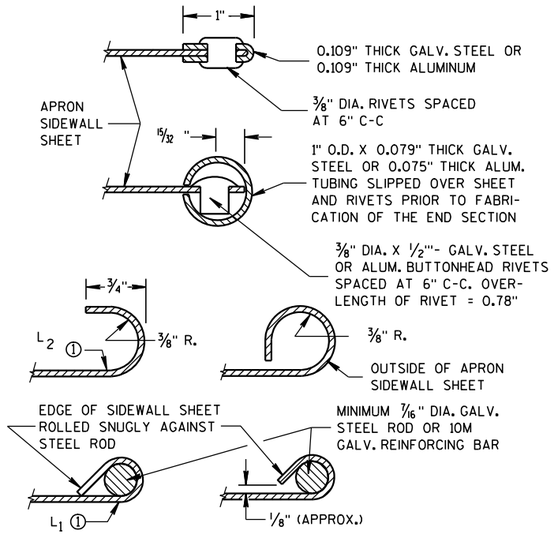
END CORNER PLATES MAY BE FASTENED TO APRON PROPER BY BOLTS, RIVETS, OR RESISTANCE SPOT WELDS WHICH WILL HOLD THE SURFACES TIGHTLY TOGETHER

END VIEW



SIDE ELEVATION

METAL ENDWALLS



SECTION A-A

2- 2/3" X 1/2" CORRUGATIONS

EQUIV. DIA. (Inches)	(Inches) SPAN	(Inches) RISE	MIN. THICK. (Inches) STEEL	MIN. THICK. (Inches) ALUM.	DIMENSIONS (Inches) A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")	APPROX. SLOPE	BODY
15	17	13	.064	.060	7	9	6	19	14	16	30	2½ to 1	1 Pc.
18	21	15	.064	.060	7	10	6	23	14	19⅜	36	2½ to 1	1 Pc.
21	24	18	.064	.060	8	12	6	28	18	21¾	42	2½ to 1	1 Pc.
24	28	20	.064	.060	9	14	6	32	18	27½	48	2½ to 1	1 Pc.
30	35	24	.079	.075	10	16	6	39	18	37⅝	60	2½ to 1	1 Pc.
36	42	29	.079	.075	12	18	8	46	24	45⅜	75	2½ to 1	1 Pc.
42	49	33	.109	.105	13	21	9	53	24	54¾	85	2½ to 1	2 Pc.
48	57	38	.109	.105	18	26	12	63	24	68	90	2½ to 1	3 Pc.
54	64	43	.109	.105	18	30	12	70	24	72¾	102	2¼ to 1	3 Pc.
60	71	47	.109*	.105*	18	33	12	77	30	82¼	114	2¼ to 1	3 Pc.
66	77	52	.109*	.105*	18	36	12	77	—	—	126	2 to 1	3 Pc.
72	83	57	.109*	.105*	18	39	12	77	—	—	138	2 to 1	3 Pc.

3" X 1" CORRUGATIONS

EQUIV. DIA. (Inches)	(Inches) SPAN	(Inches) RISE	MIN. THICK. (Inches) STEEL	MIN. THICK. (Inches) ALUM.	DIMENSIONS (Inches) A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")	APPROX. SLOPE	BODY
48	53	41	.109	.105	18	26	12	63	24	72¾	90	2½ to 1	2 Pc.
54	60	46	.109	.105	18	30	12	70	30	82¼	102	2 to 1	2 Pc.
60	66	51	.109*	.105*	18	33	12	77	—	—	114	1½ to 1	3 Pc.
66	73	55	.109*	.105*	18	36	12	77	—	—	126	1½ to 1	3 Pc.
72	81	59	.109*	.105*	18	39	12	77	—	—	138	2 to 1	3 Pc.
78	87	63	.109*	.105*	22	38	12	77	—	—	148	1½ to 1	3 Pc.
84	95	67	.109*	.105*	22	34	12	77	—	—	162	1½ to 1	3 Pc.
90	103	71	.109*	.105*	22	38	12	77	—	—	174	1½ to 1	3 Pc.
96	112	75	.109*	.105*	24	40	12	77	—	—	174	1½ to 1	3 Pc.

NOTE: ALL SPLICES TO BE LAP RIVETED OR BOLTED.

* EXCEPT CENTER PANEL SEE GENERAL NOTES

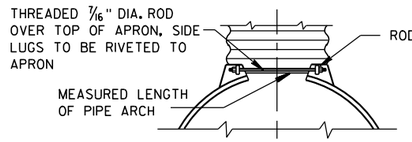
REINFORCED CONCRETE PIPE ARCH

EQUIV. DIA. (Inches)	DIMENSIONS (Inches) ** SPAN	** RISE	T	A	B	C	D	E	APPROX. SLOPE
24	29	18	3	8½	39	33	72	48	3 to 1
30	36	22	3½	9½	50	46	96	60	3 to 1
36	44	27	4	11⅛	60	36	96	72	3 to 1
42	51	31	4½	15 13/16	60	36	96	78	3 to 1
48	58	36	5	21	60	36	96	84	3 to 1
54	65	40	5½	25½	60	36	96	90	3 to 1
60	73	45	6	31	60	36	96	96	3 to 1
72	88	54	7	31	60	39	99	120	2 to 1
84	102	62	8	28½	83	19	102	144	2 to 1

REINFORCED CONCRETE ELLIPTICAL PIPE

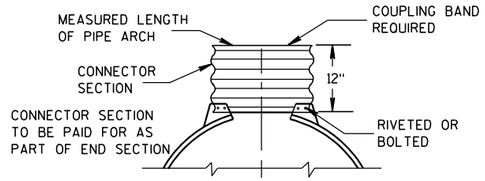
EQUIV. DIA. (Inches)	DIMENSIONS (Inches) ** SPAN	** RISE	T	A	B	C	D	E	APPROX. SLOPE
24	30	19	3¼	8½	39	33	72	48	3 to 1
30	38	24	3¾	9½	54	18	72	60	3 to 1
36	45	29	4½	11⅛	60	24	84	72	2½ to 1
42	53	34	5	15¾	60	36	96	78	2½ to 1
48	60	38	5½	21	60	36	96	84	2½ to 1
54	68	43	6	25½	60	36	96	90	2½ to 1
60	76	48	6½	30	60	36	96	96	2½ to 1

**NOMINAL SIZE



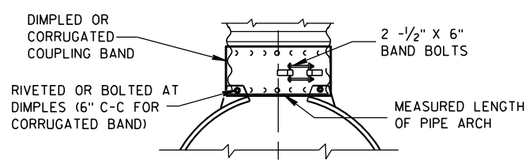
TYPE 2

FOR 17" X 13" THRU 112" X 75" PIPE ARCH



TYPE 3

FOR 64" X 43" THRU 112" X 75" PIPE ARCH



TYPE 5

ALTERNATE FOR:

ALL SIZES CORRUGATED PIPE ARCHES

NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL, AND CORRUGATED BAND FITS INSIDE ENDWALL.

CONNECTION DETAILS

GENERAL NOTES

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

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

ALL THREE PIECE STEEL APRON ENDWALLS FOR 66" X 51" PIPE ARCH AND LARGER SHALL HAVE 0.109" SIDES AND 0.138" CENTER PANELS. ALL THREE PIECE ALUMINUM APRON ENDWALLS FOR 66" X 51" PIPE ARCH AND LARGER SHALL HAVE 0.105" SIDES AND 0.134" CENTER PANELS. THE WIDTH OF CENTER PANELS SHALL BE GREATER THAN 20 PERCENT OF THE PIPE ARCH PERIMETER.

LAP SEAMS SHALL BE TIGHTLY JOINED BY GALVANIZED RIVETS OR BOLTS FOR STEEL UNITS AND ALUMINUM RIVETS AND BOLTS FOR ALUMINUM UNITS. FOR THE 77" X 52" THROUGH 112" X 75" APRON ENDWALL SIZES, THE REINFORCED EDGES AND CENTER PANEL SEAMS SHALL BE FURTHER REINFORCED WITH GALVANIZED STEEL OR ALUMINUM STIFFENER ANGLES. THE ANGLES SHALL BE ATTACHED BY GALVANIZED NUTS AND BOLTS FOR STEEL UNITS AND ALUMINUM NUTS AND BOLTS FOR ALUMINUM UNITS.

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

① FOR PIPE ARCH SIZES UP TO 73" X 55" A 180° ROLLED EDGE MAY BE USED INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.

APRON ENDWALLS FOR PIPE ARCH AND ELLIPTICAL PIPE

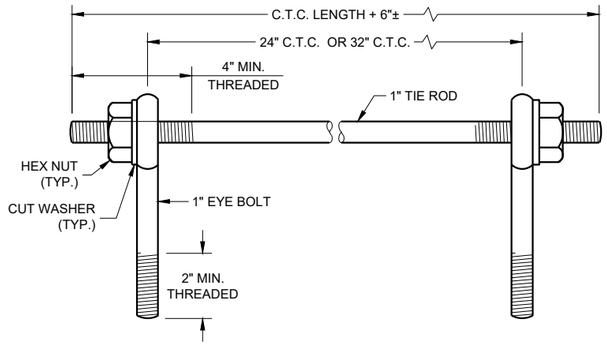
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

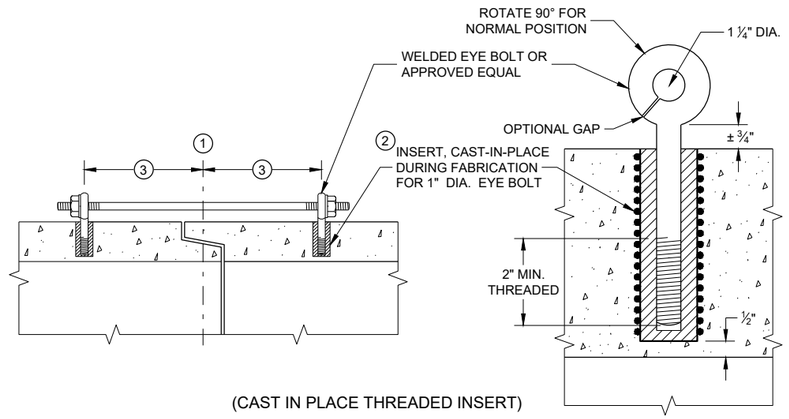
11/30/94 — DATE

/S/ Rory L. Rhinesmith — CHIEF ROADWAY DEVELOPMENT ENGINEER

FHWA



EYE BOLTS AND TIE ROD



(CAST IN PLACE THREADED INSERT)

LONGITUDINAL SECTIONS

EYE BOLT AND TIE ROD ASSEMBLY (ALTERNATE NO. 1)

GENERAL NOTES

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

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

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

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

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

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

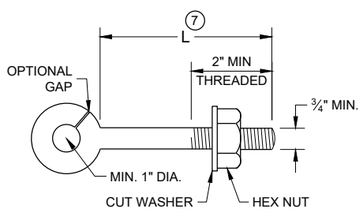
(3) HOLES SHALL BE CAST-IN-PLACE OR DRILLED PER THE APPLICABLE DETAIL, AND EQUAL DISTANCE FROM THE CENTERLINE OF THE JOINT.

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

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

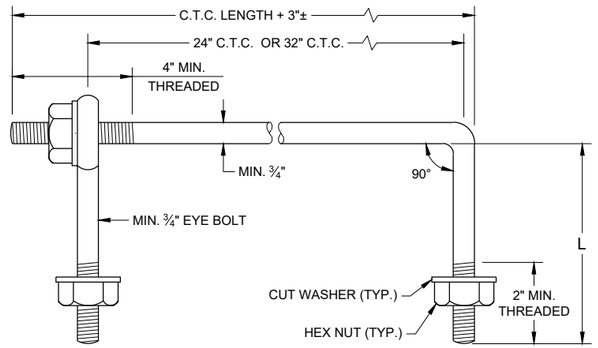
(6) LENGTH ADEQUATE TO EXTEND TO WITHIN ½ INCH OF THE INNER SURFACE OF THE PIPE.

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

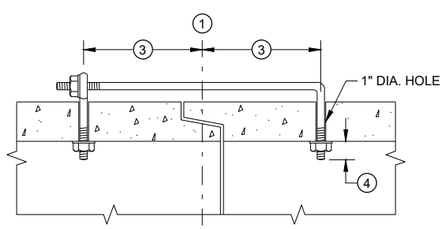


EYE BOLT (7)

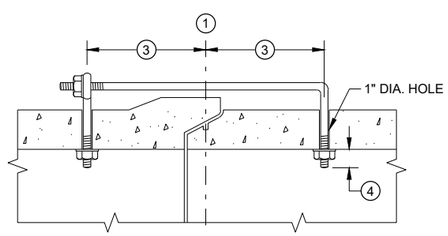
NOTE: TWO EYE BOLTS MAY BE USED WITH A 30" OR 38" LONG THREADED ROD IN LIEU OF THE 90° BENT TIE ROD.



EYE BOLT AND TIE ROD



(TONGUE AND GROOVE PIPE)



(MODIFIED BELL PIPE)

LONGITUDINAL SECTION

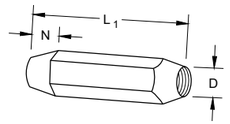
(JOINT TIES FOR 18" TO 66" DIA. CONCRETE PIPE)

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

ADJUSTABLE TIE ROD TABLE

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

DIMENSIONS SHOWN ARE IN INCHES



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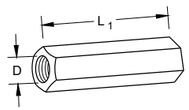
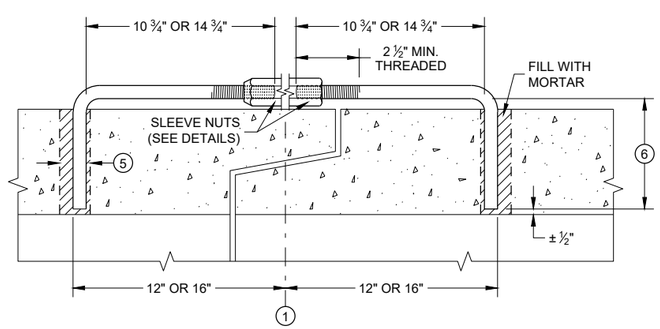


PLAIN

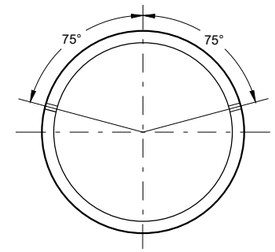
RIGHT AND LEFT THREADS

SLEEVE NUTS



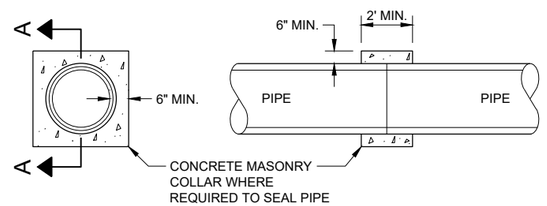
LONGITUDINAL SECTION

ADJUSTABLE TIE ROD (ALTERNATE NO. 3)



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

TRANSVERSE SECTION



SECTION A - A

CONCRETE COLLAR DETAIL

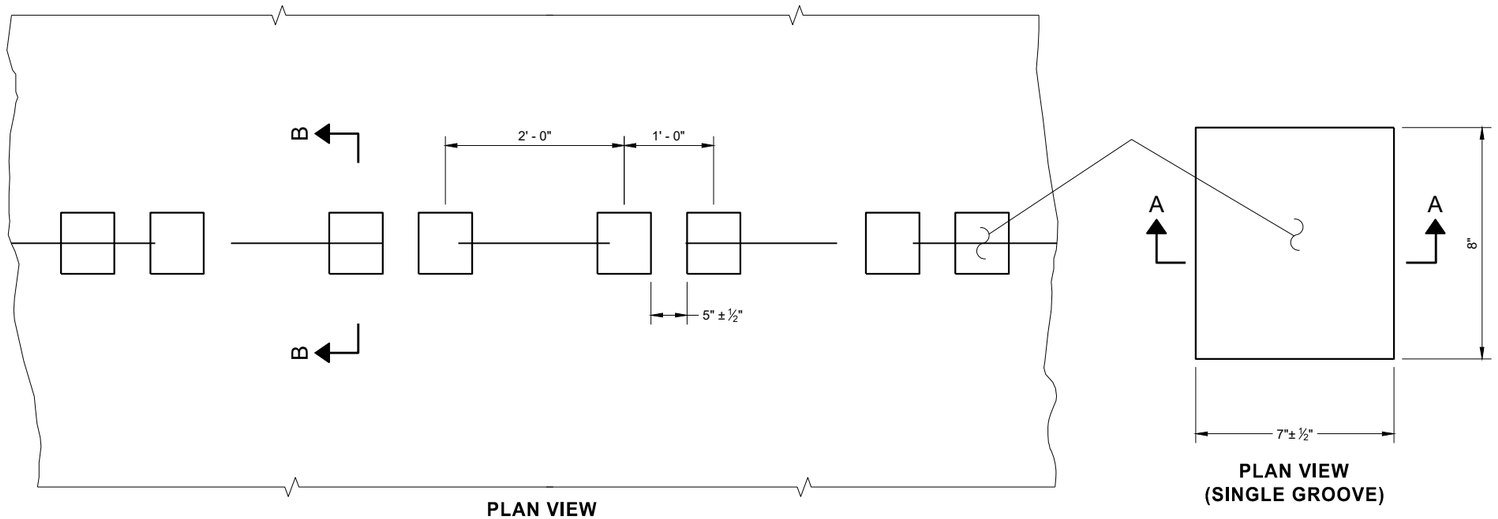
JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

SDD 08F04 - 08

SDD 08F04 - 08



PLAN VIEW
SHOULDER WITH GROOVES

PLAN VIEW
(SINGLE GROOVE)

PLACEMENT DETAIL FOR TYPE 1 MILLED RUMBLE STRIP

GENERAL NOTES

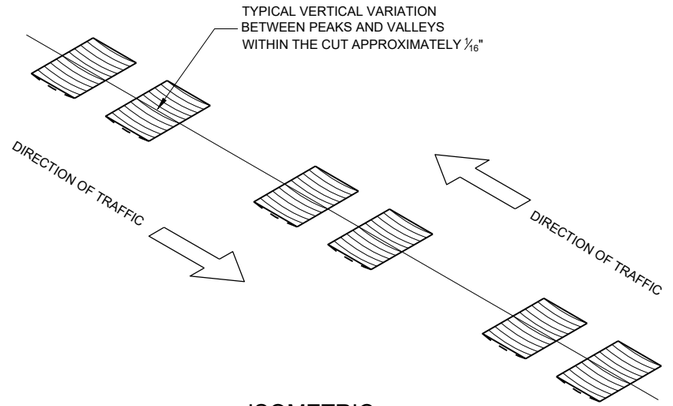
DETAILS OF CONSTRUCTION NO SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

DO NOT MILL CENTERLINE GROOVES THROUGH ANY INTERSECTION, MARKED CROSSWALK, NON-MOTORIZED PATH CROSSING, OR SNOWMOBILE CROSSING.

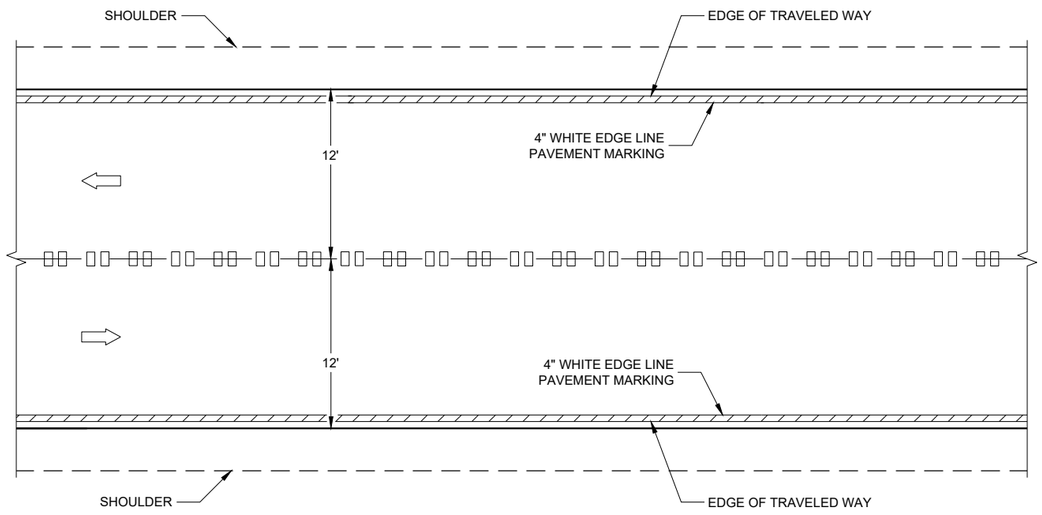
INSTALL PAVEMENT MARKING AFTER THE GROOVES ARE INSTALLED.

SEE SIGNING PLAN FOR SIGN REQUIREMENTS THAT MAY BE NEEDED.

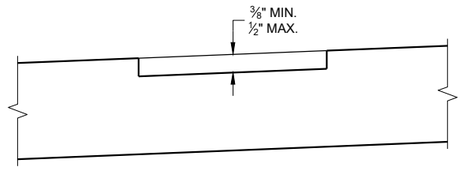
(1) CENTERLINE GROOVES MAY BE OMITTED IN AREAS WITH HIGH CONCENTRATIONS OF DRIVEWAYS. WHEN DIRECTED BY THE ENGINEER.



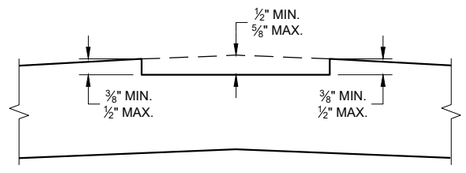
ISOMETRIC



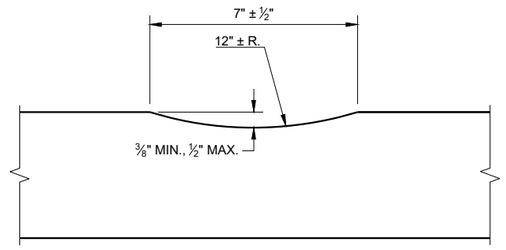
CENTERLINE GROOVES ON TWO-WAY ROADWAYS



SECTION B - B
SUPERELEVATED ROADWAY



SECTION B - B
CROWNED ROADWAY



SECTION A - A

2-LANE RURAL
CENTER LINE RUMBLE STRIP, MILLING

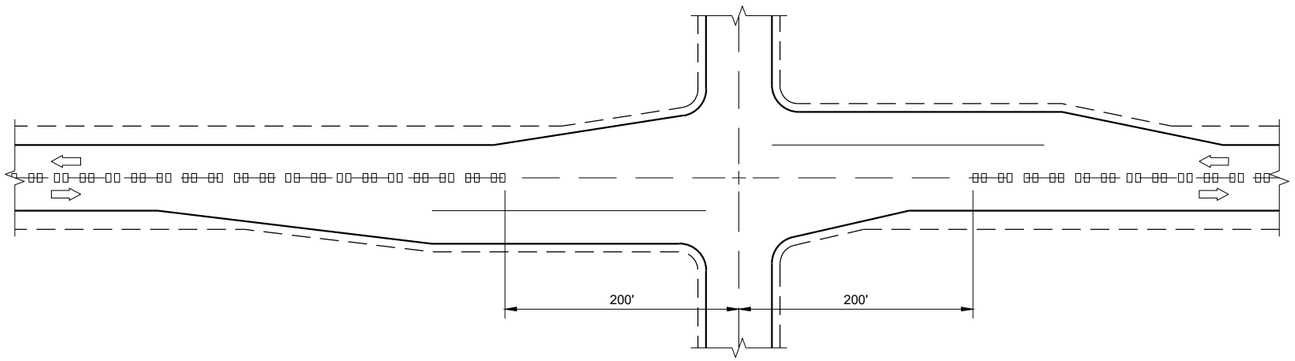
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

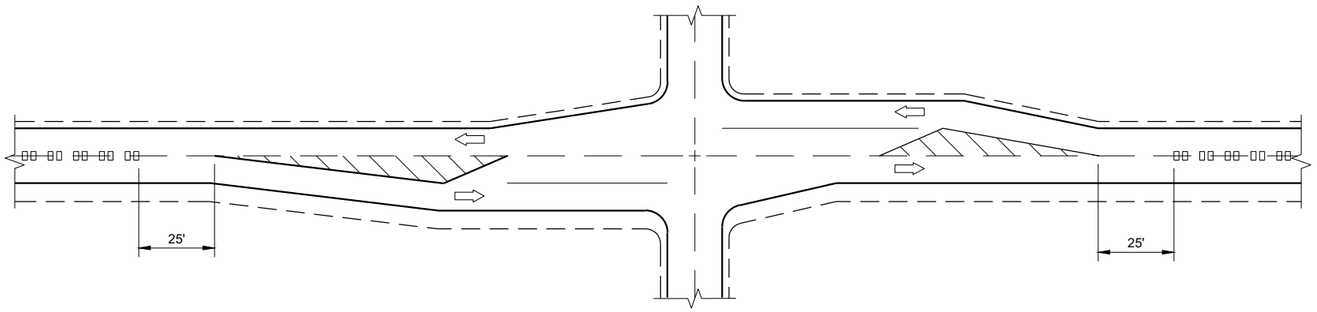
SDD 13A11 - 03a

6

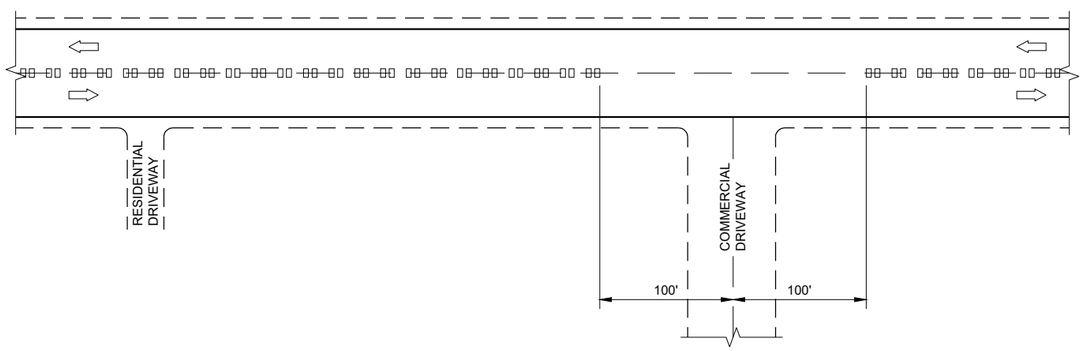
SDD 13A11 - 03a



CENTERLINE GROOVES AT INTERSECTIONS



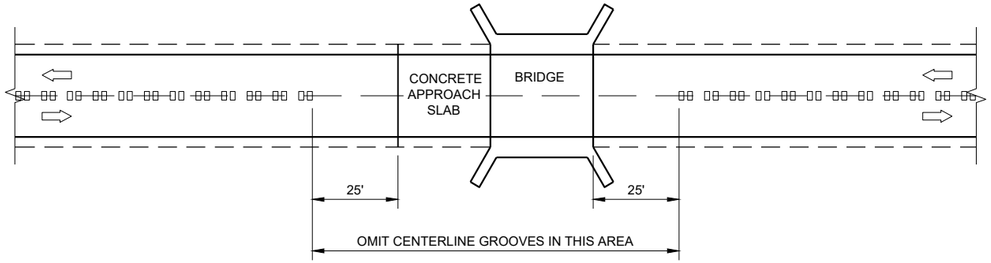
CENTERLINE GROOVES AT INTERSECTIONS (WITH LEFT TURN LANES)



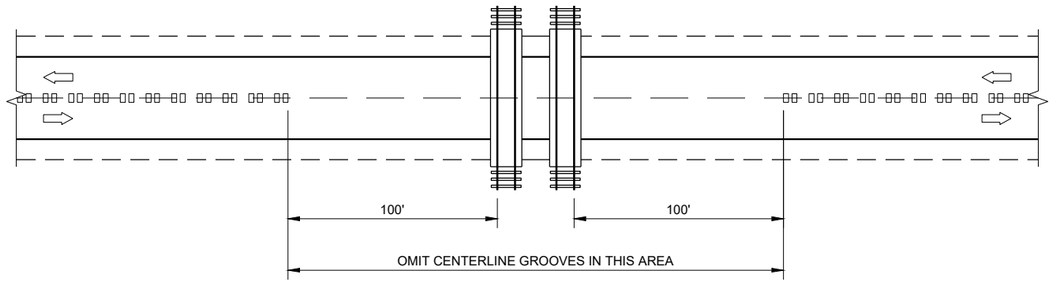
CENTERLINE GROOVES AT DRIVEWAYS (1)

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

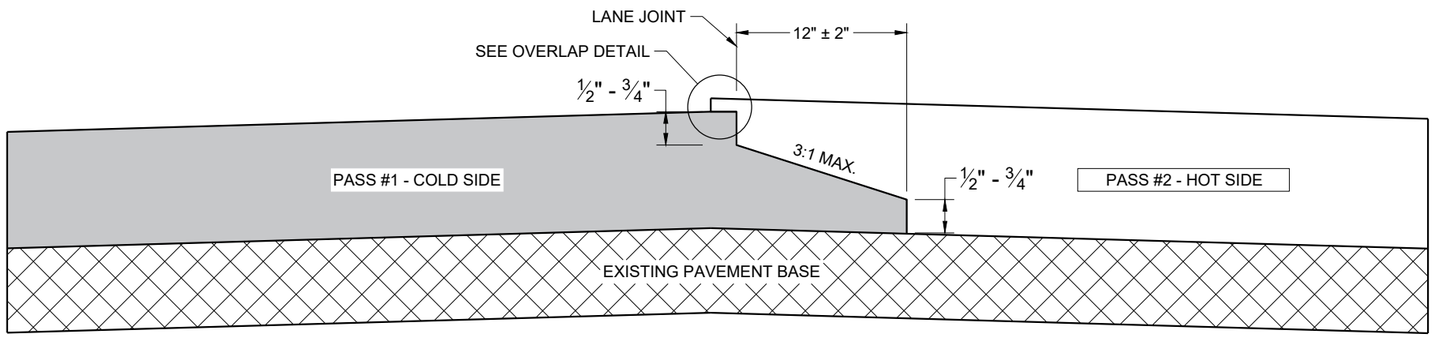
2-LANE RURAL CENTERLINE RUMBLE STRIP, MILLING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

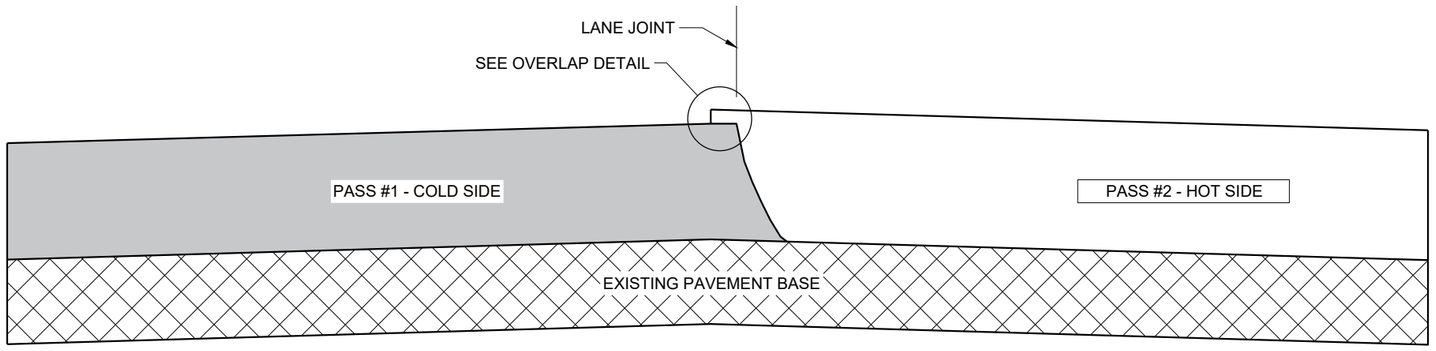
APPROVED
7/2018 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVE ENGINEER

FHWA

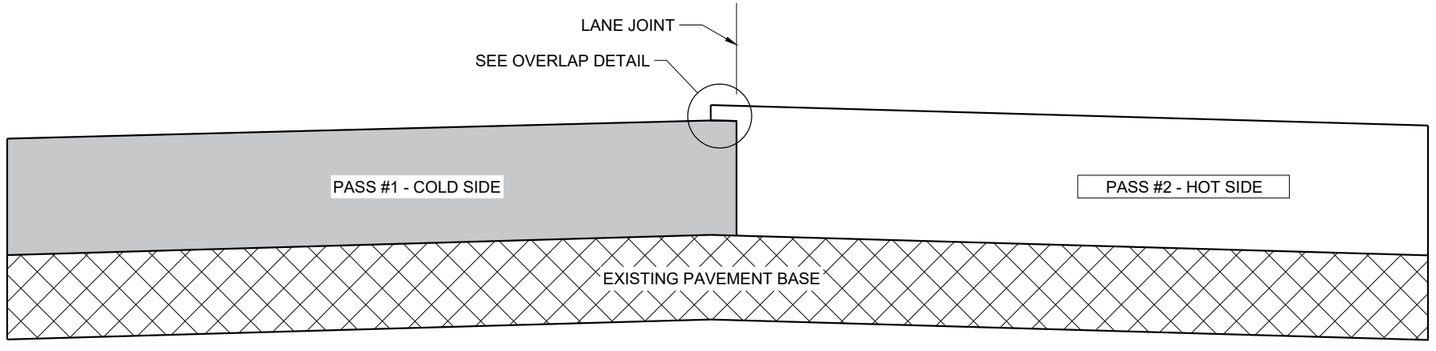
6
SDD 13A11 - 03b



TYPICAL PAVEMENT CROSS SECTION
NOTCHED WEDGE JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT (MILLED)

GENERAL NOTES

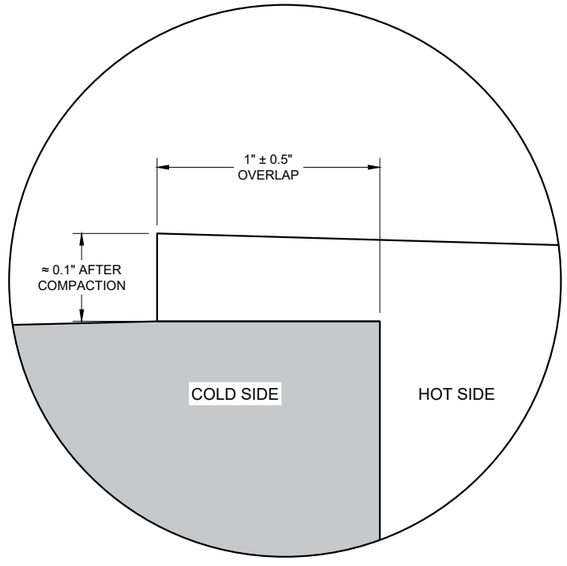
IN ADDITION TO THE DETAILS PROVIDED IN THIS DRAWING, CONFORM TO STANDARD SPECIFICATION 450.3.2.8 FOR WHEN A NOTCHED WEDGE JOINT IS REQUIRED AND FOR GENERAL JOINT CONSTRUCTION REQUIREMENTS.

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

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

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

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



OVERLAP DETAIL (TYPICAL)

HMA LONGITUDINAL JOINTS	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED November 2020 DATE	/S/ Steven Hefel HMA PAVEMENT ENGIN

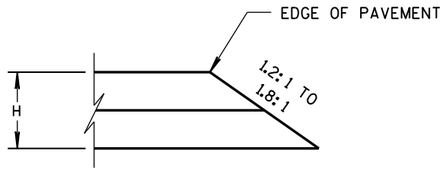
FHWA

6

SDD 13C19 - 03

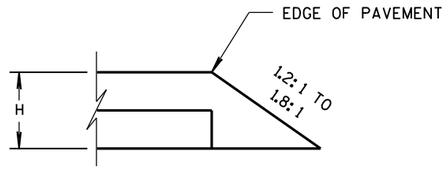
6

SDD 13C19 - 03



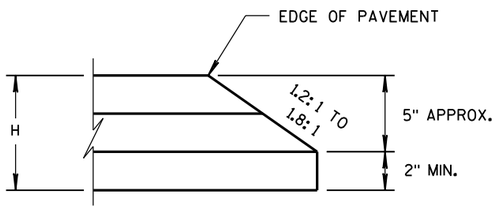
CONSTRUCTED WITH FINAL TWO LAYERS

FOR H 5" OR LESS



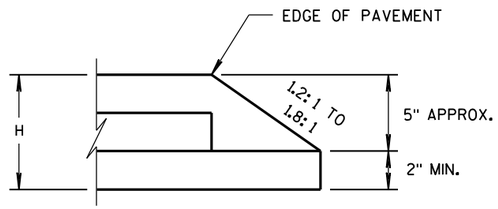
CONSTRUCTED WITH FINAL LAYER

FOR H 5" OR LESS



CONSTRUCTED WITH FINAL TWO LAYERS

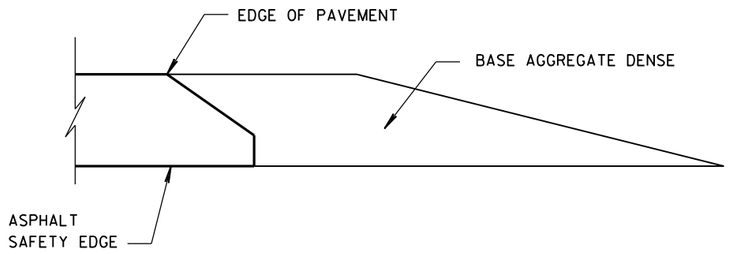
FOR H GREATER THAN 5"



CONSTRUCTED WITH FINAL LAYER

FOR H GREATER THAN 5"

HMA PAVEMENT AND HMA OVERLAYS



FINISHED SHOULDER AGGREGATE PLACEMENT

6

6

S.D.D. 14 B 29-1

S.D.D. 14 B 29-1

SAFETY EDGE SM

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

11/30/2012
DATE

/S/ Jerry H. Zoda
ROADWAY STANDARDS DEVELOPMENT ENGINEER

FHWA

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

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

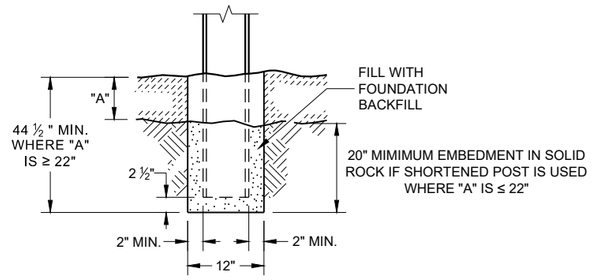
(3) IF ROCK IS ENCOUNTERED DURING EXCAVATION, PROVIDE A HOLE 12 INCHES IN DIAMETER EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2 1/2" INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS THE TO LENGTH AMD INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT. BACKFILL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

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

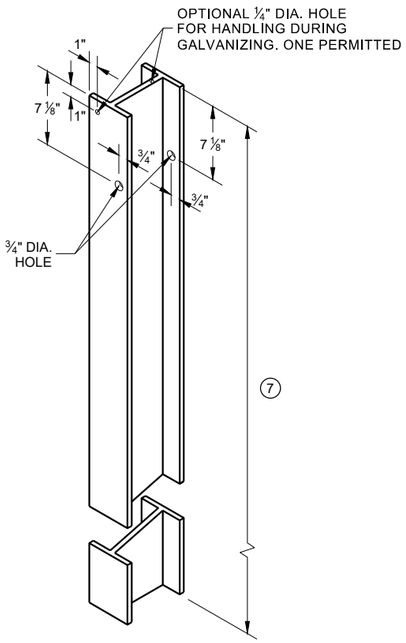
(5) FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS ±1". FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27 ¾" TO 32".

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

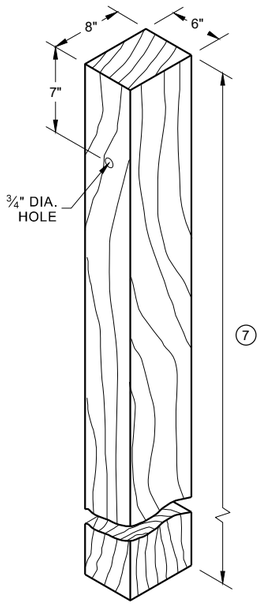
(7) TOTAL POST LENGTH FOR TYPE K IS 7' - 0".
TOTAL POST LENGTH FOR OTHER MGS TYPES IS 6' - 0".



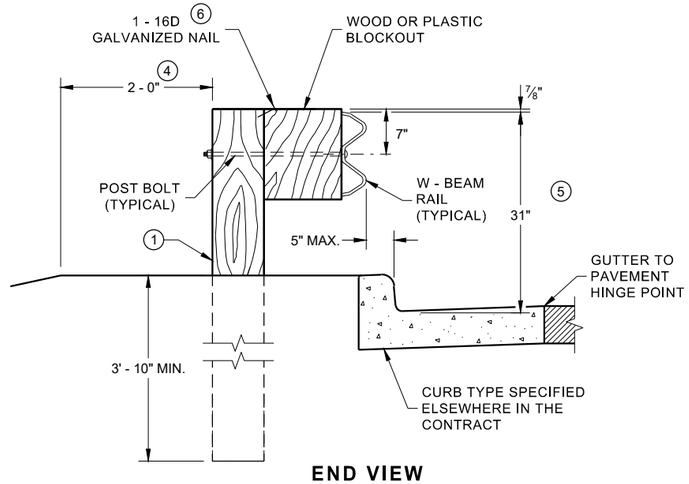
END VIEW
SETTING STEEL OR WOOD POST IN ROCK (3)



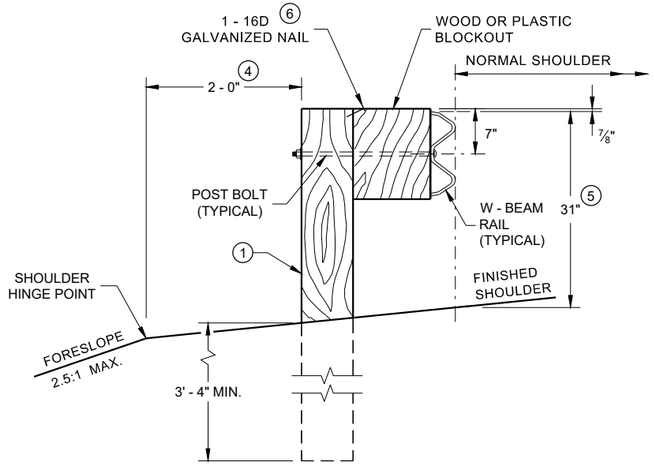
STEEL POST & HOLE PUNCHING DETAIL (W 6 X 9) (1)



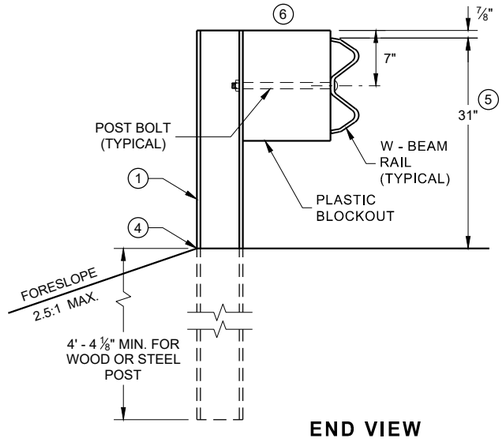
WOOD POST (6" X 8") NOMINAL (1)



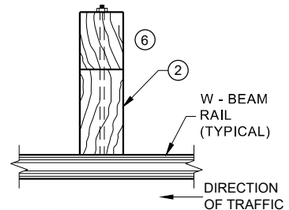
END VIEW
LOCATED ALONG A CURBED ROADWAY



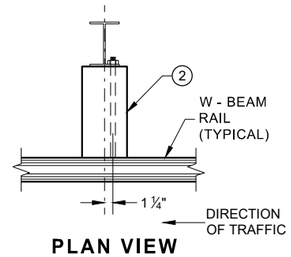
END VIEW
LOCATED ALONG A ROADWAY SHOULDER STANDARD INSTALLATION



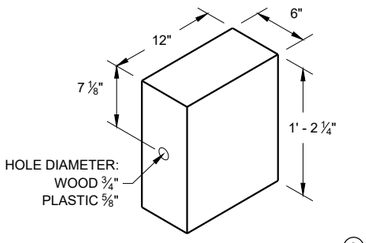
END VIEW
MGS LONGER POST AT HALFPOST SPACING W BEAM (K)



PLAN VIEW
WOOD POST, BLOCKOUT & BEAM



PLAN VIEW
STEEL POST, PLASTIC BLOCKOUT & BEAM



WOOD OR PLASTIC BLOCKOUT (2)

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

SDD 14B42 - 07a

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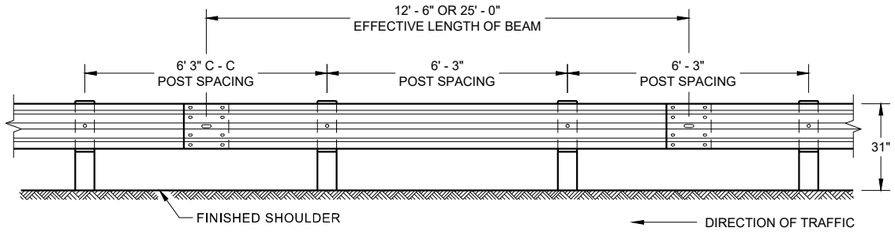
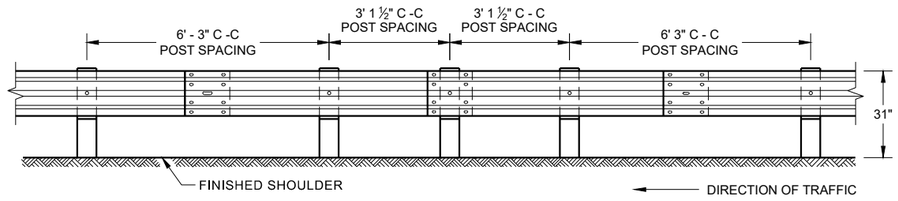
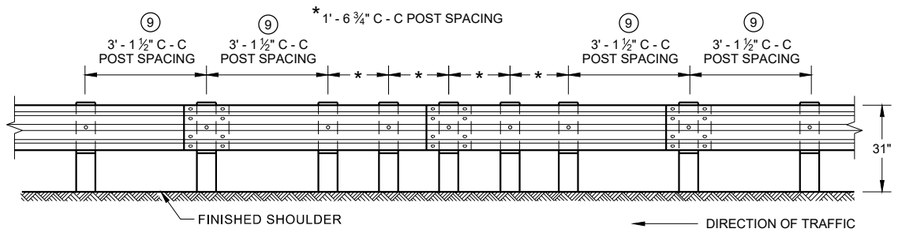


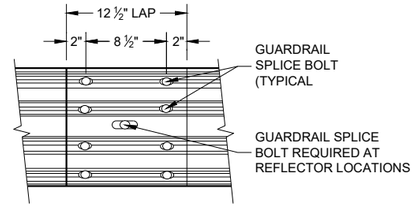
FRONT VIEW
POST SPACING STANDARD INSTALLATION



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



FRONT VIEW
QUARTER POST SPACING (QS)



FRONT VIEW
MID-SPAN BEAM SPLICE

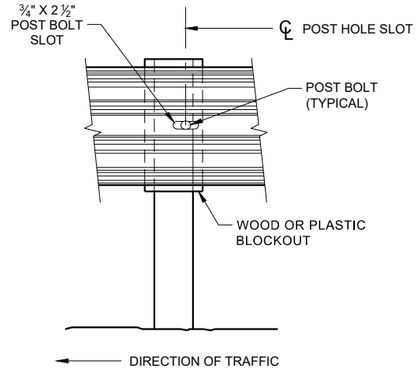
GENERAL NOTES

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

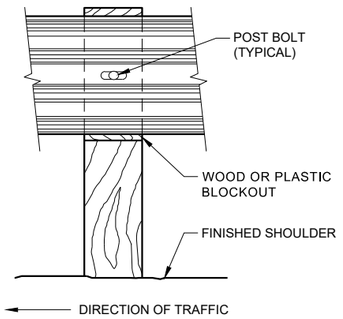
⑨ 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.

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

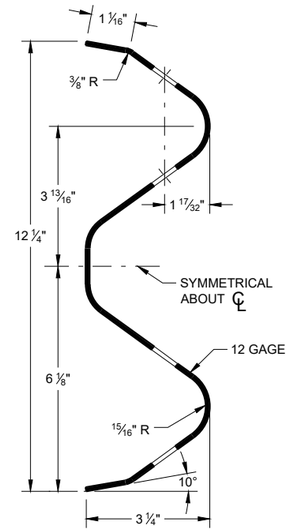
GUARD RAIL SPLICE BOLTS ARE A ⅝" DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES ⅝" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.



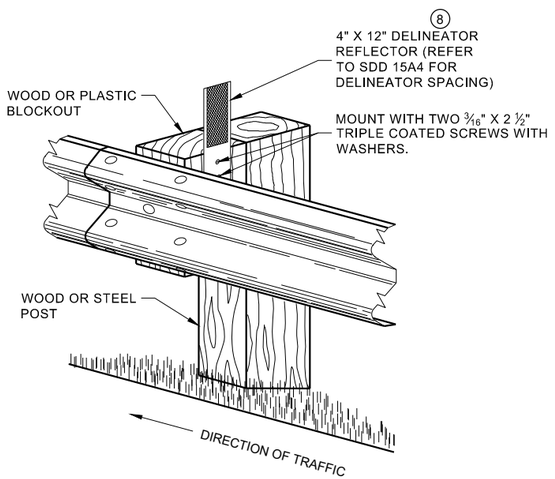
FRONT VIEW AT STEEL POST



FRONT VIEW AT WOOD POST



SECTION THRU W-BEAM RAIL



ONE SIDED REFLECTOR DETAIL
AND TYPICAL INSTALLATION

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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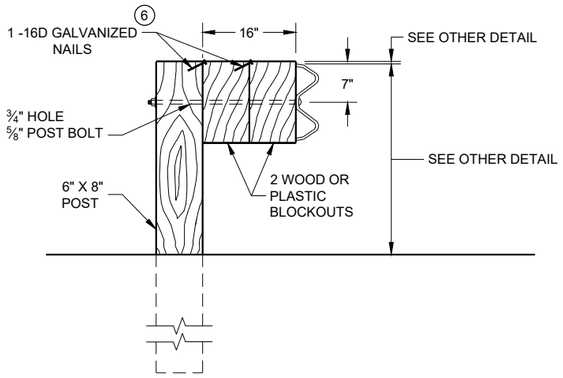
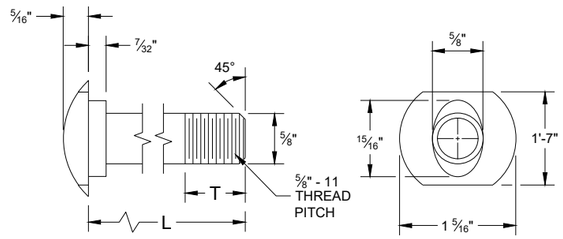


DETAIL FOR 16" BLOCKOUT DEPTH

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

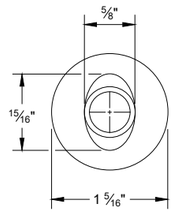
NOTE:

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

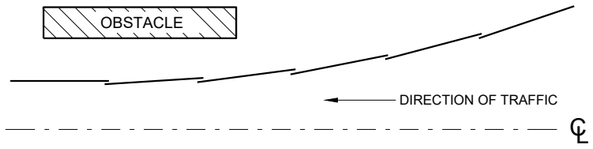


POST BOLT TABLE

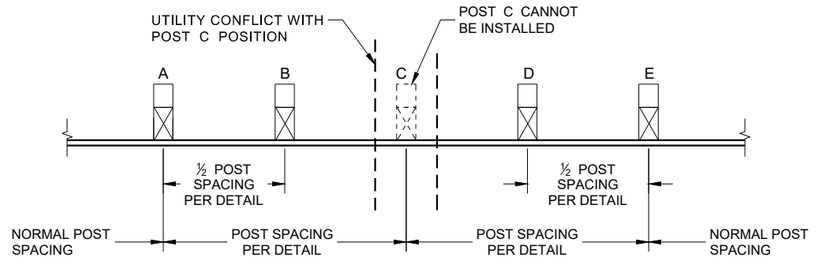
L	T (MIN.)
1 ¼"	1 ⅛"
2"	1 ¾"
10"	4"
14"	4 1⁄16"
18"	4"
21"	4 1⁄16"
25"	4"



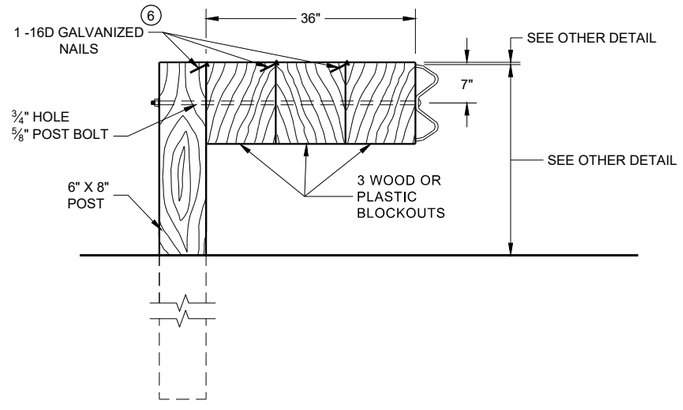
ALTERNATE BOLT HEAD



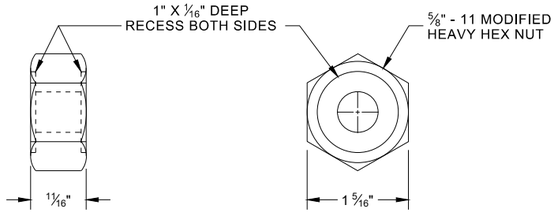
PLAN VIEW
BEAM LAPPING DETAIL



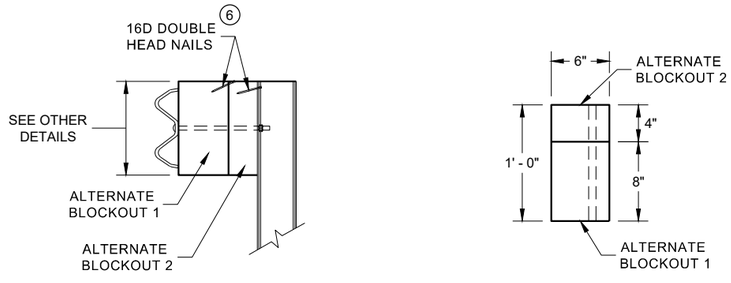
POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION



DETAIL FOR 36" BLOCKOUT DEPTH



POST BOLT, SPLICE BOLT AND RECESS NUT



SIDE VIEW

PLAN VIEW

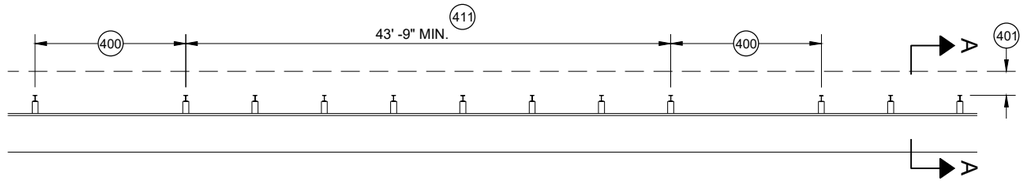
ALTERNATE WOOD BLOCKOUT DETAIL

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

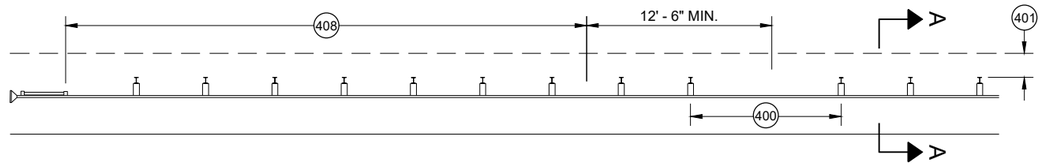
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.

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

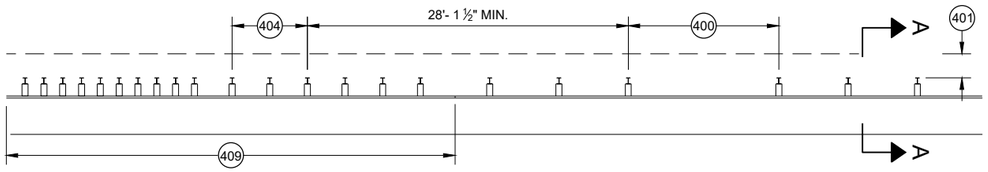
MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL



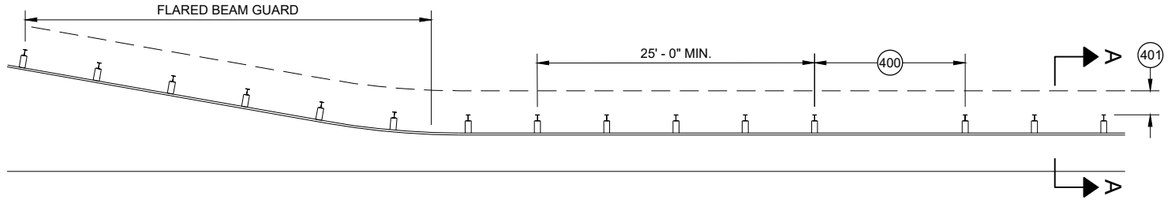
MISSING POST IN MGS GUARDRAIL



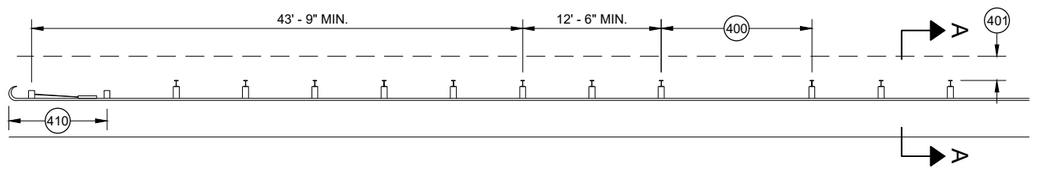
MISSING POST IN MGS GUARDRAIL NEAR EAT



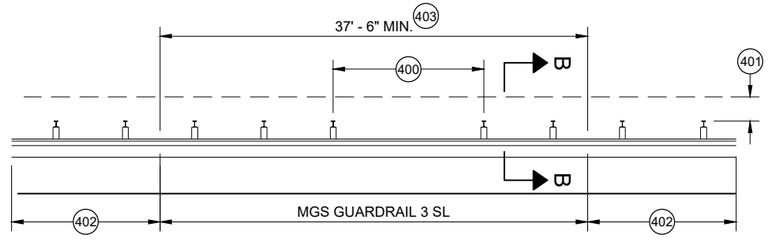
MISSING POST IN MGS GUARDRAIL NEAR AN APPROACH TRANSITION



MISSING POST IN MGS GUARDRAIL NEAR FLARED BEAM GUARD

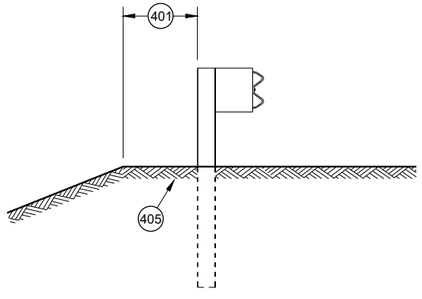


MISSING POST IN MGS GUARDRAIL NEAR A TYPE 2 END TERMINAL

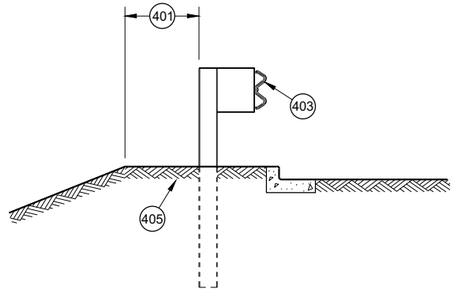


MISSING POST IN SHORT SPAN MGS GUARDRAIL NEAR CURB (SL) 407

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



SECTION A - A 406



SECTION B - B 406

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2021
DATE

/S/ Rodney Taylor
ROADWAY STANDARDS DEVE
UNIT SUPERVISOR

FHWA

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SDD 14B42 - 07d

SDD 14B42 - 07d

GENERAL NOTES

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

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

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

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

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

DIMENSIONS MAY VARY, MANUFACTURER'S INFORMATION.

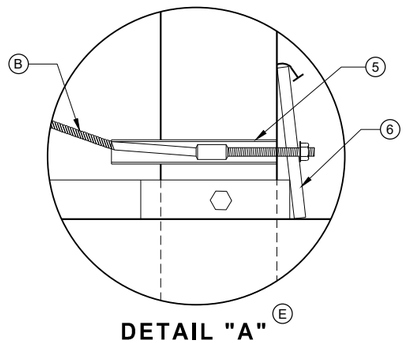
SEE SDD 14B42 FOR MORE INFORMATION.

* DO NOT ATTACH BLOCKOUTS TO POST 1 AND 2.

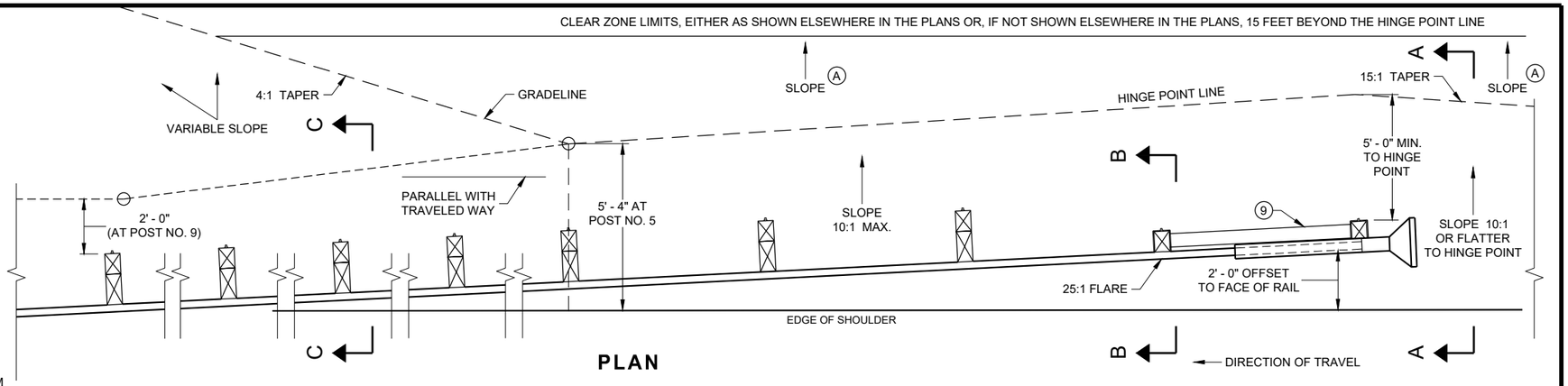
DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

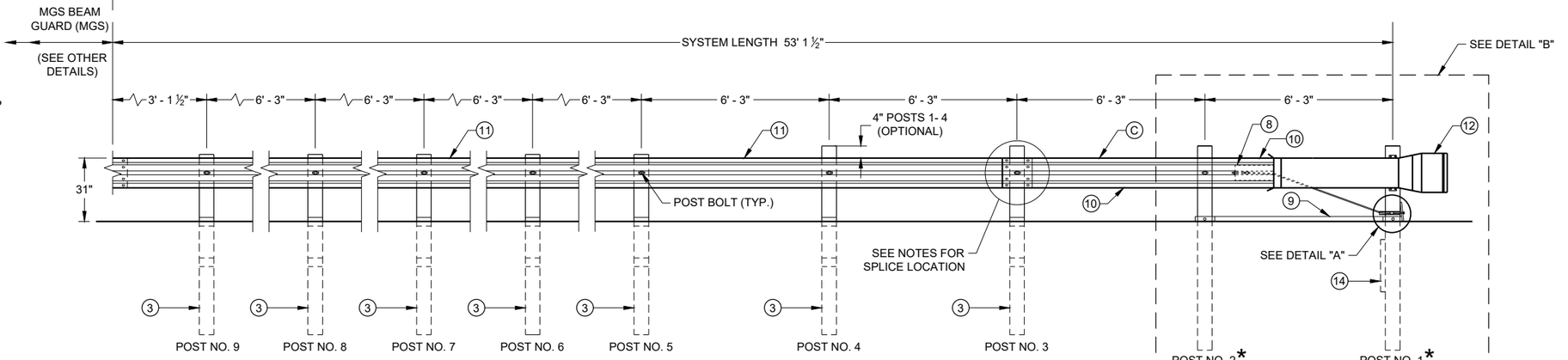
SEE MANUFACTURER'S DRAWING FOR SPLICE LOCATION, HARDWARE DIMENSIONS AND INSTALLATION INSTRUCTIONS.

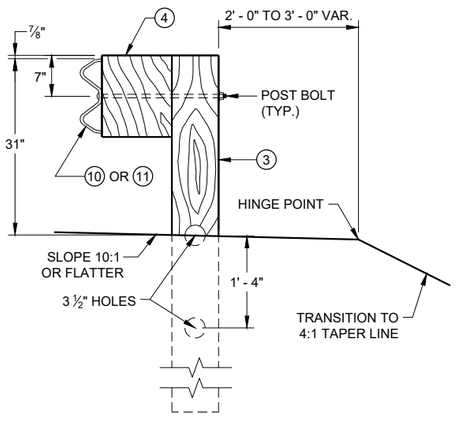
THE CENTER OF THE UPPER 3 ½" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE UP TO A MAXIMUM OF 2" ABOVE GROUND LINE. WOOD BLOCKS ON POSTS NUMBERED 3 THROUGH 9 MAY BE ADJUSTED UP TO 3" ABOVE THE TOP OF POST.



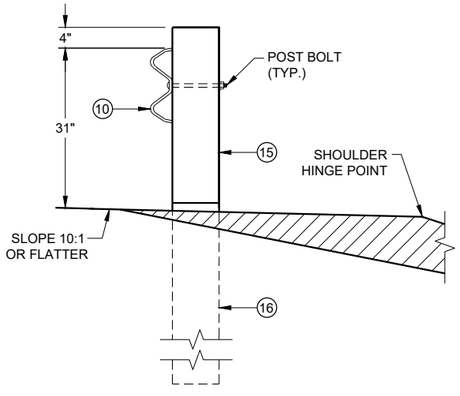
DETAIL "A" (E)



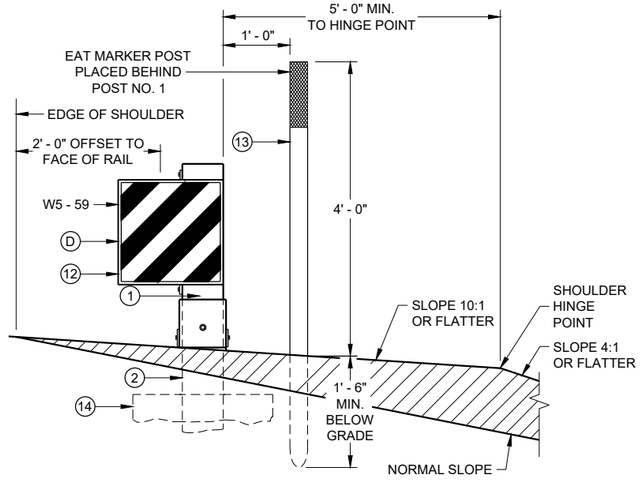




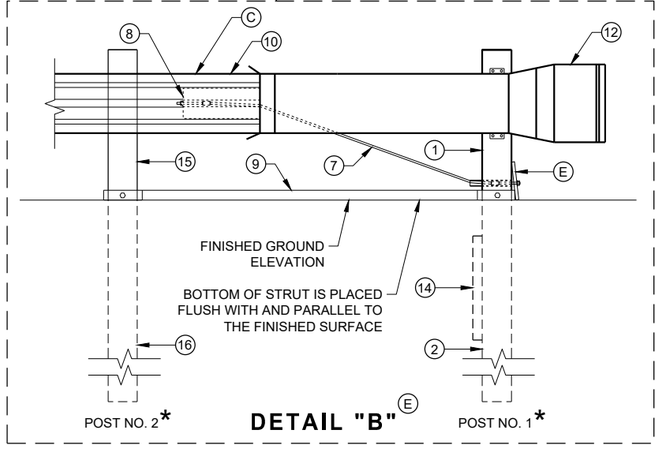
SECTION C - C
TYPICAL AT POST NOS. 3 - 9



SECTION B - B
TYPICAL AT POST NO. 2*



SECTION A - A
TYPICAL AT POST NO. 1*

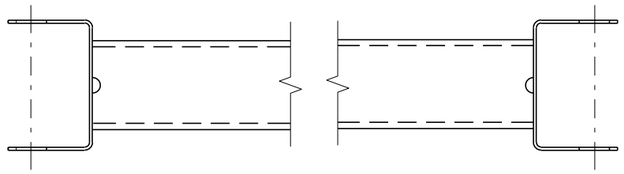


MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

SDD 14B44 - 04a

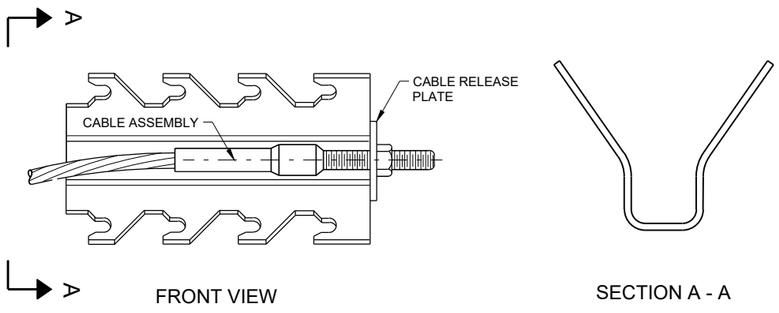
SDD 14B44 - 04a



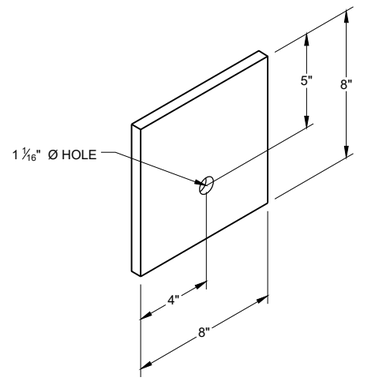
GENERIC GROUND STRUT ⑨ Ⓔ

BILL OF MATERIALS

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



GENERIC ANCHOR CABLE BOX ⑧ Ⓔ



BEARING PLATE ⑥ Ⓔ

6

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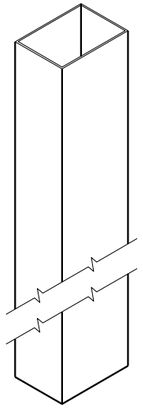
SDD 14B44 - 04b

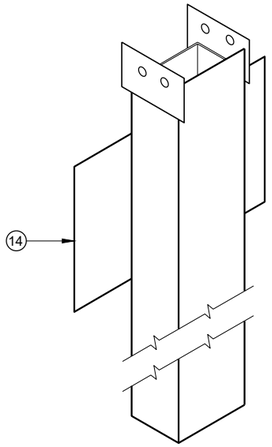
SDD 14B44 - 04b

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

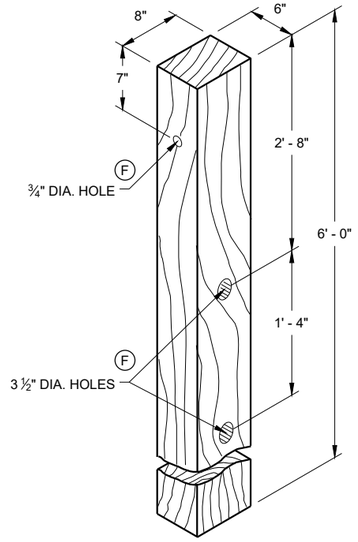
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



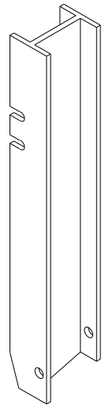
UPPER POST NO. 1 (1) (E)



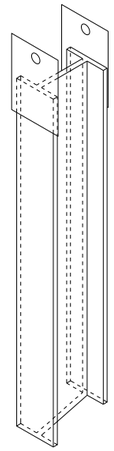
LOWER POST NO. 1 (2) (E)



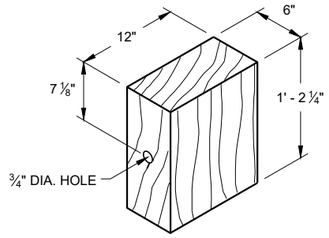
WOOD CRT POST (3) (E)
POSTS NUMBER 3-9



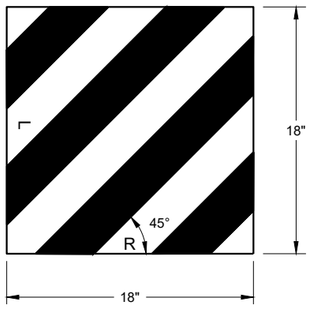
UPPER POST NO. 2 (15) (E)



LOWER POST NO. 2 (16) (E)

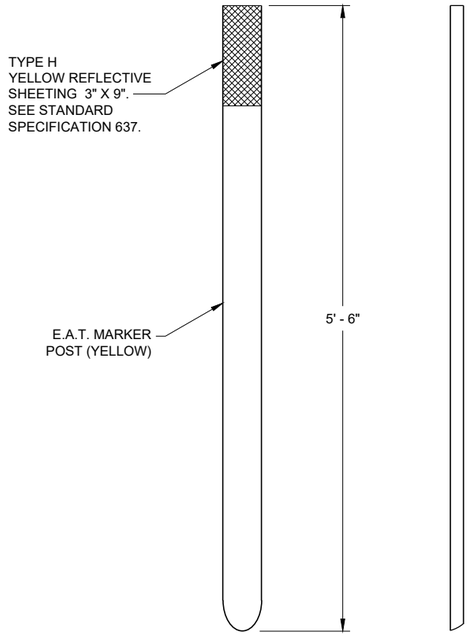


WOOD BLOCKOUT (4)
REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2



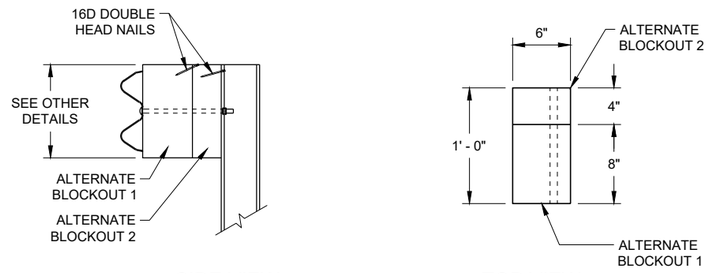
W5 - 59

REFLECTIVE SHEETING DETAIL (E)



FRONT VIEW SIDE VIEW

E.A.T. MARKER POST (13)



SIDE VIEW TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL

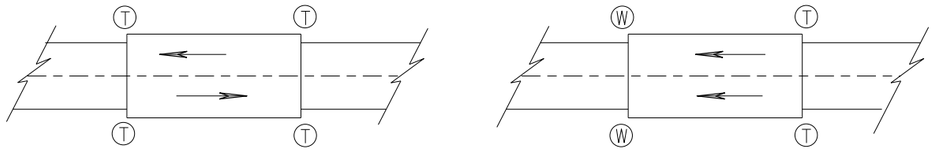
MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)

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.

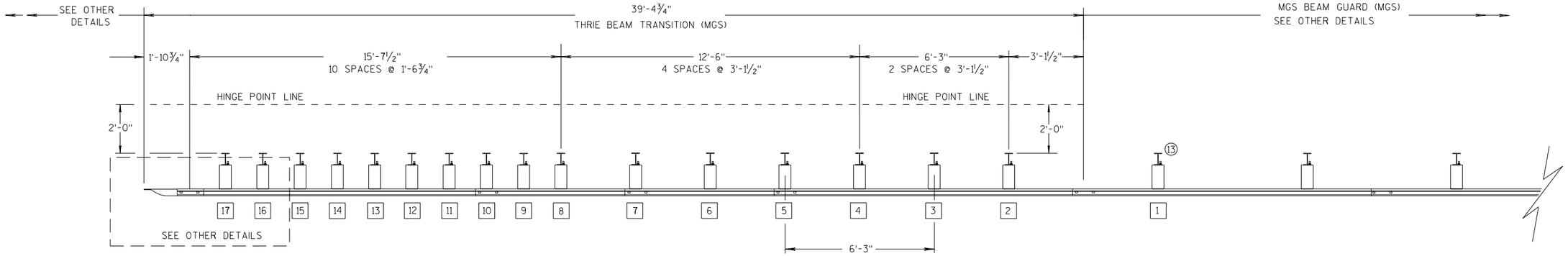
SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

POST 2 THROUGH 17 USES STEEL POST ONLY

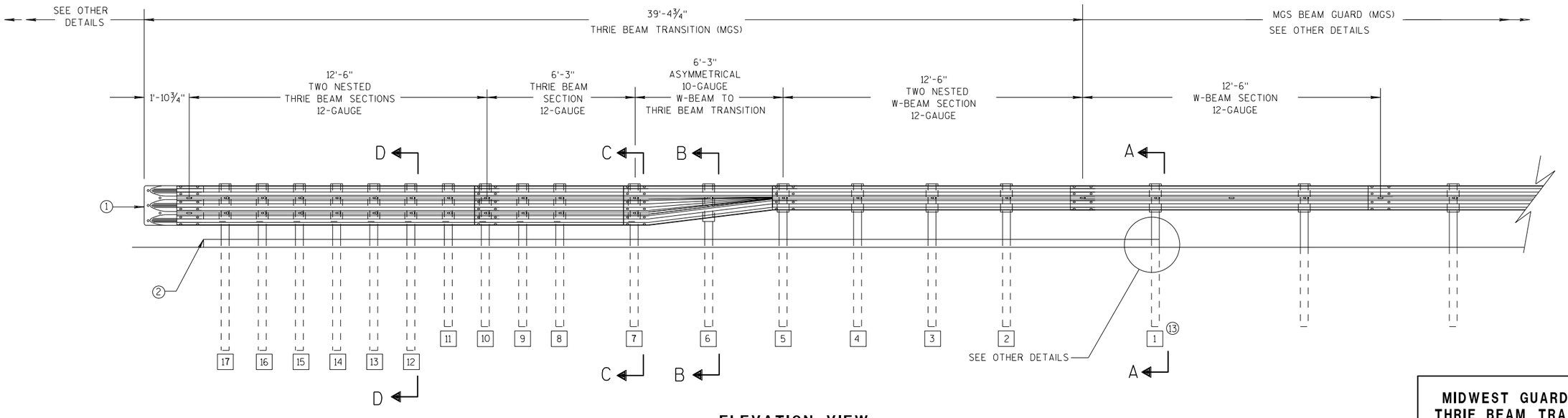
(1) BRIDGE RAILING TYPE "W" DOES NOT REQUIRE A TERMINAL CONNECTOR.

(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

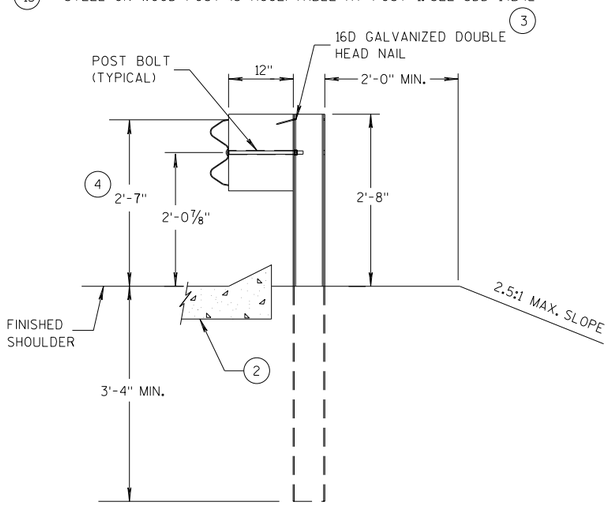
GENERAL NOTES

(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.

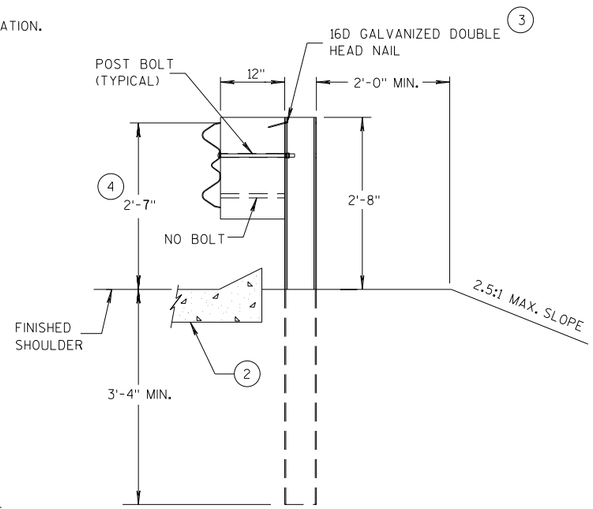
(4) TOLERANCE FOR TOP OF W-BEAM RAIL IS ± 1".

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



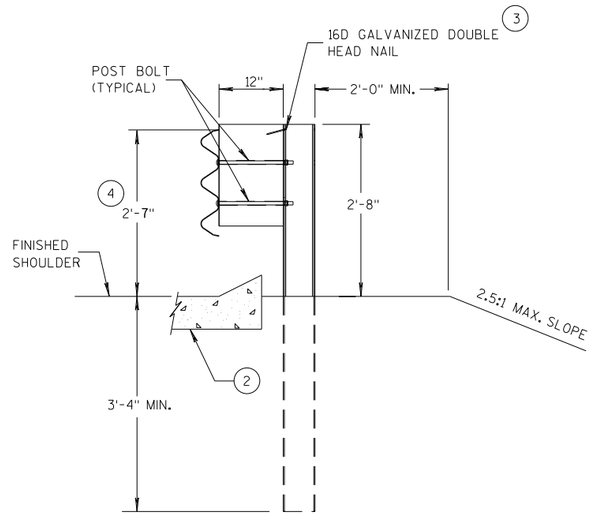
SECTION A-A (13)

POSTS 1-5



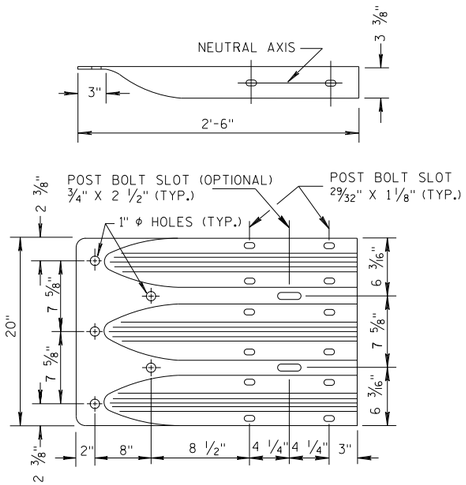
SECTION B-B

POST 6

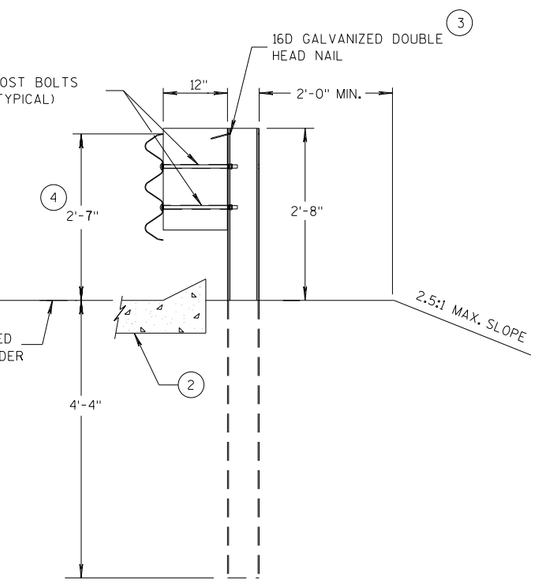


SECTION C-C

POSTS 7-11

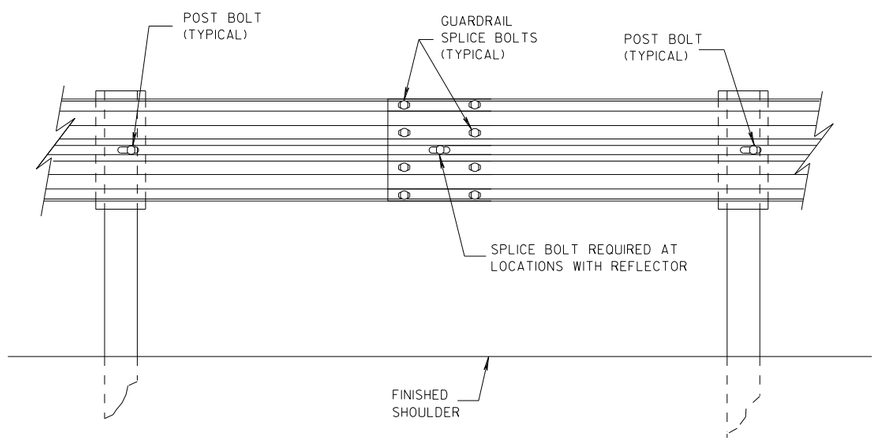


THRIE BEAM TERMINAL CONNECTOR



SECTION D-D

POSTS 12-17



SPLICE DETAIL

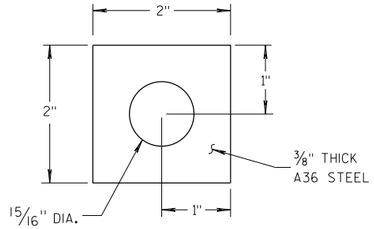
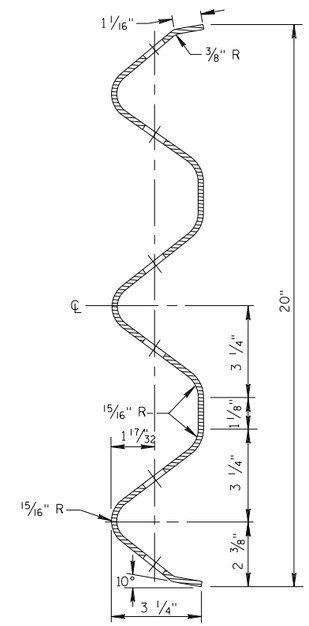


PLATE WASHER DETAIL



SECTION THRU THRIE BEAM RAIL ELEMENT

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

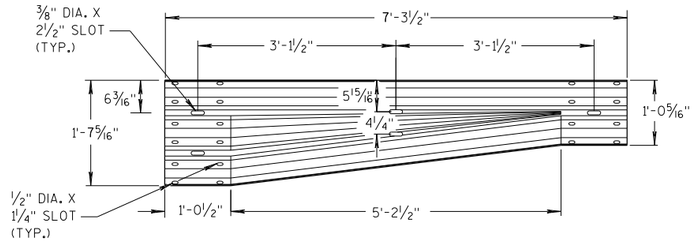
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

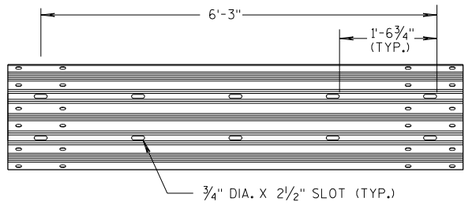
S.D.D. 14 B 45-5b

6

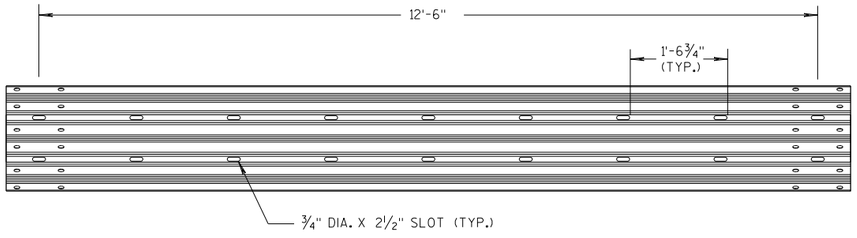
S.D.D. 14 B 45-5b



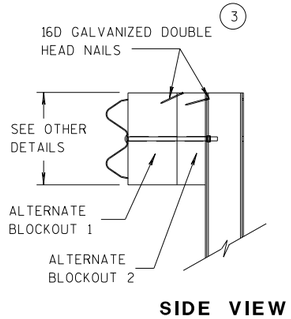
W-BEAM TO THRIE BEAM TRANSITION SECTION



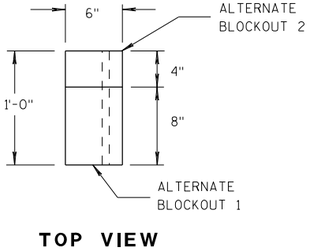
6'-3" THRIE BEAM SECTION



12'-6" THRIE BEAM SECTION

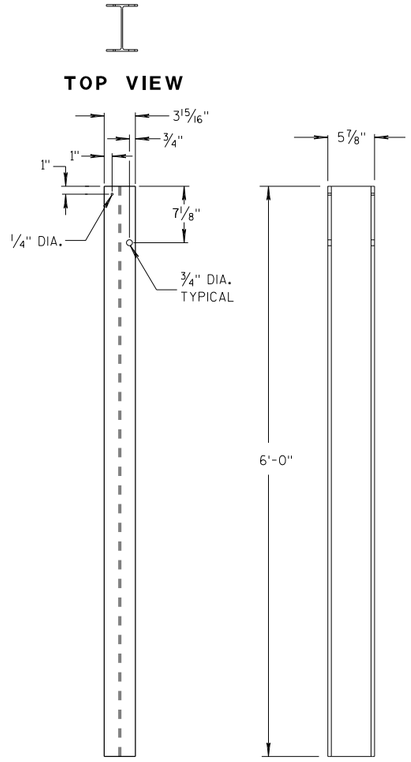


SIDE VIEW



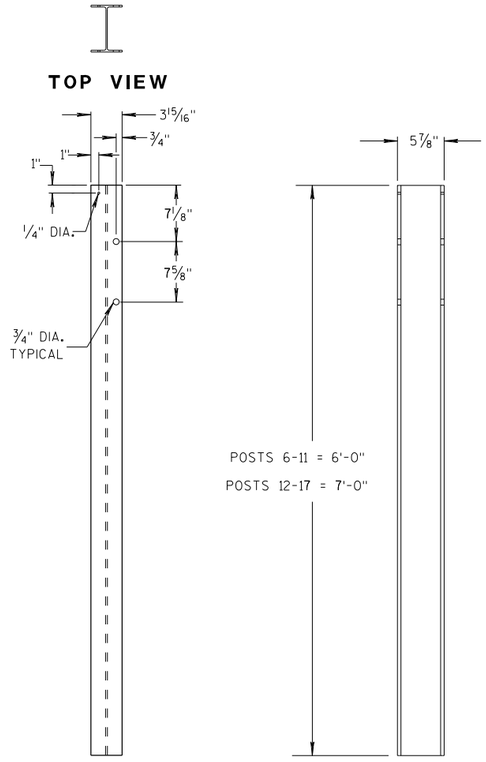
TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL



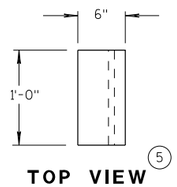
FRONT VIEW SIDE VIEW

STEEL POSTS 1-5 (13)

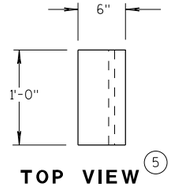


FRONT VIEW SIDE VIEW

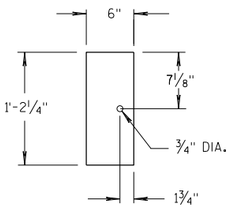
STEEL POSTS 6-17



TOP VIEW (5)

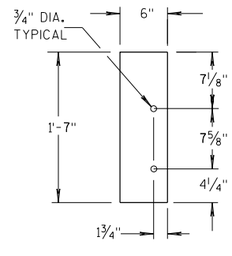


TOP VIEW (5)



FRONT VIEW

BLOCKOUT POSTS 1-5



FRONT VIEW

BLOCKOUT POSTS 6-17

GENERAL NOTES

STEEL POSTS ARE W6X9 OR W6X8.5.

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

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

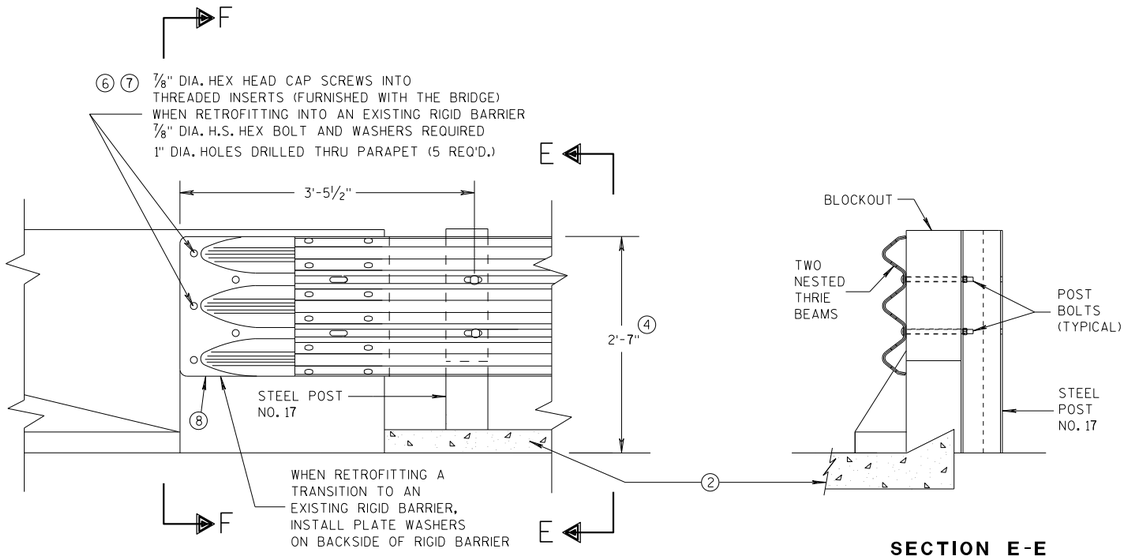
(5) WOOD BLOCKS MAY BE CONSTRUCTED OUT OF 2 WOOD BLOCKS. SEE ALTERNATE WOOD BLOCK DETAIL.

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

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

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



FRONT VIEW

SECTION E-E

THRIE BEAM CONNECTION TO BRIDGE PARAPET WITH SQUARE ENDS

GENERAL NOTES

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

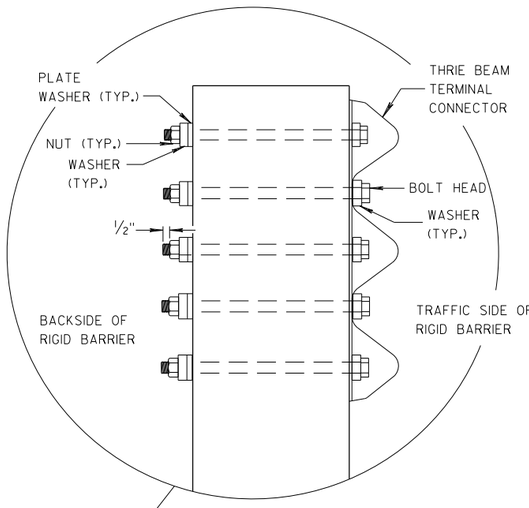
② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

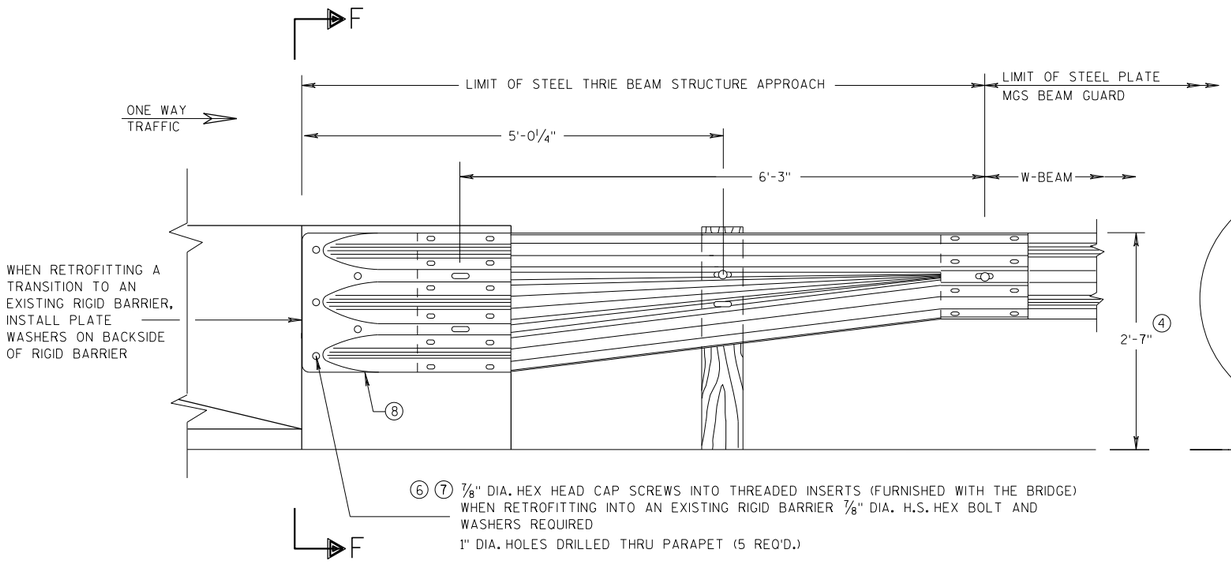
④ TOLERANCE FOR TOP OF BEAM IS ± 1".

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

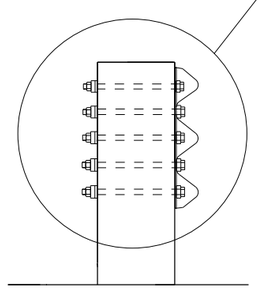
⑦ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE.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

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

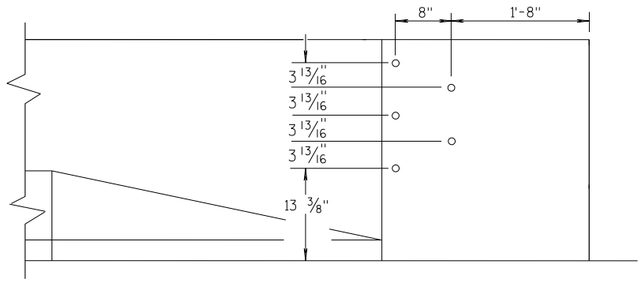




FRONT VIEW



SECTION F-F



DRILL HOLE LOCATION

W BEAM TRANSITION AND CONNECTION TO BRIDGE PARAPETS WITH SQUARE ENDS

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

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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

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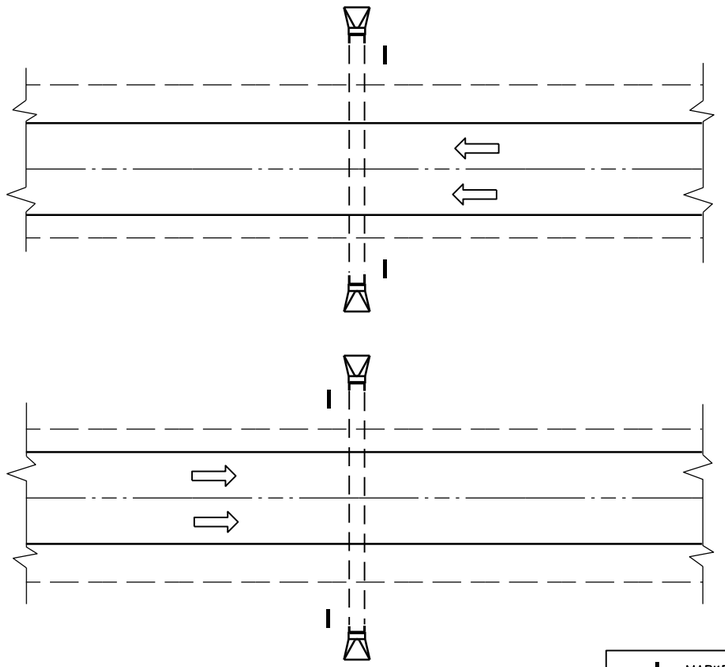
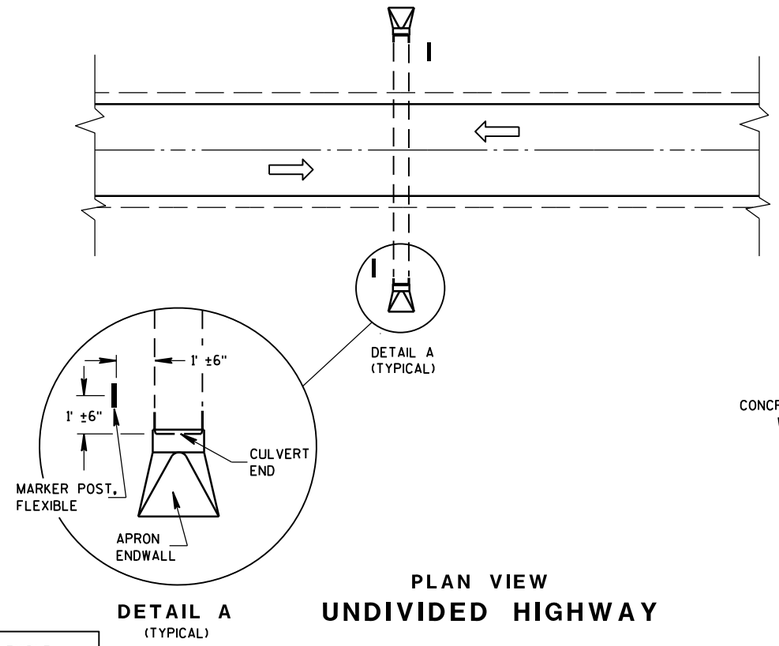
S.D.D. 14 B 45-5d



PLAN VIEW

DIVIDED HIGHWAY



DETAIL A
(TYPICAL)

PLAN VIEW

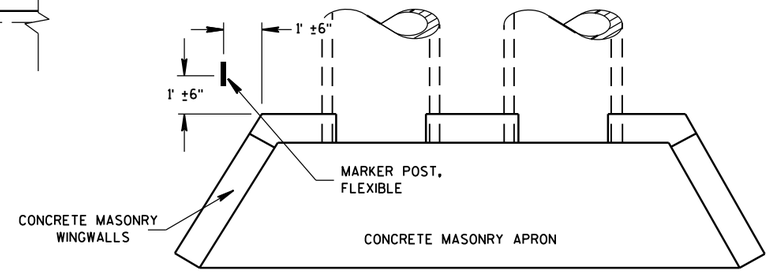
UNDIVIDED HIGHWAY

MARKER POST, FLEXIBLE

DIRECTION OF TRAFFIC FLOW

GENERAL NOTES

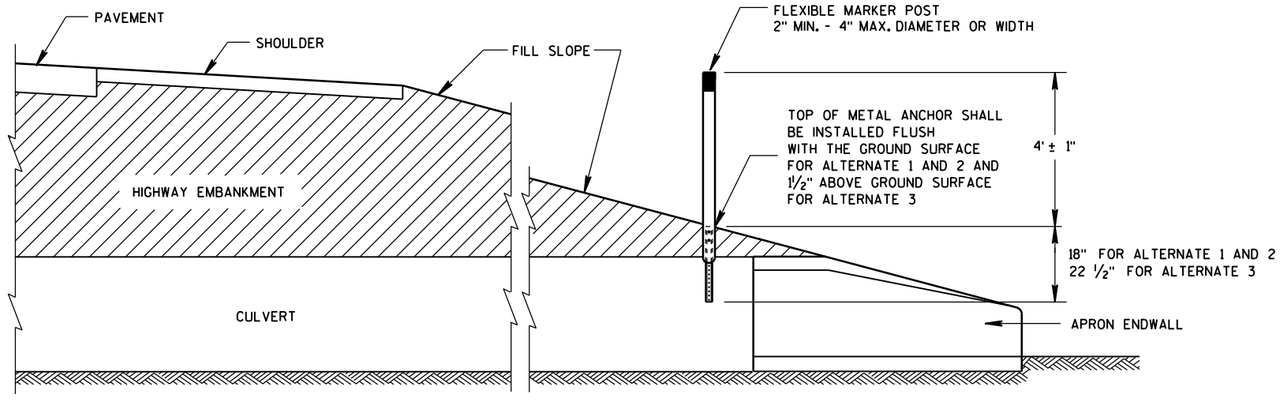
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.



PLAN VIEW

CONCRETE MASONRY ENDWALLS FOR CULVERT PIPE AND PIPE ARCH

FLEXIBLE MARKER POST LOCATION



CROSS SECTION

FLEXIBLE MARKER POST

FLEXIBLE MARKER POST
FOR CULVERT END

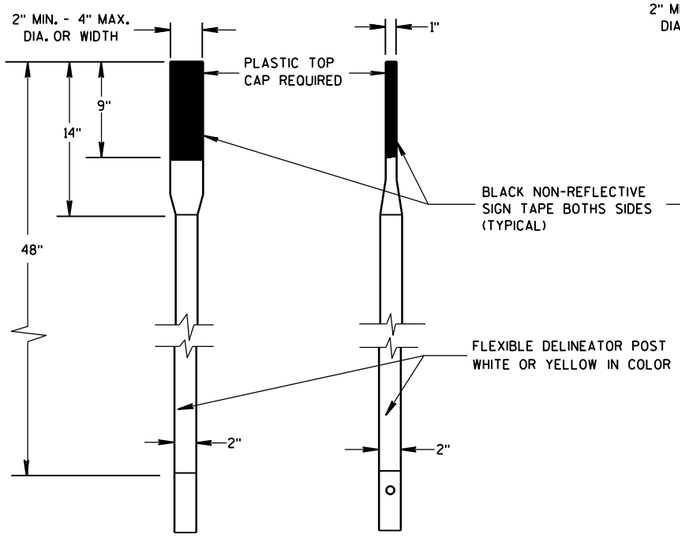
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

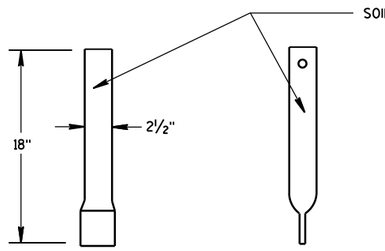
6

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

6

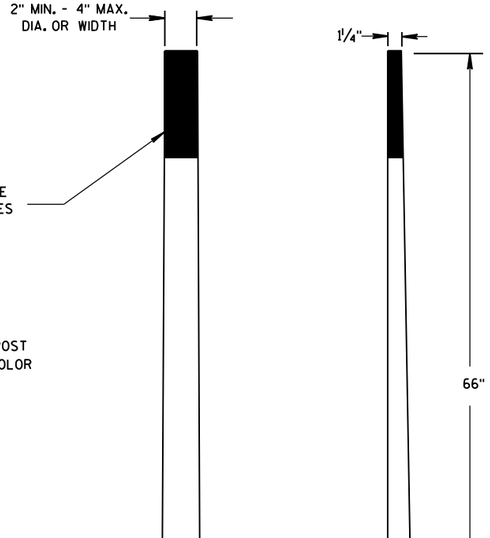
S.D.D. 15 A 3-2a





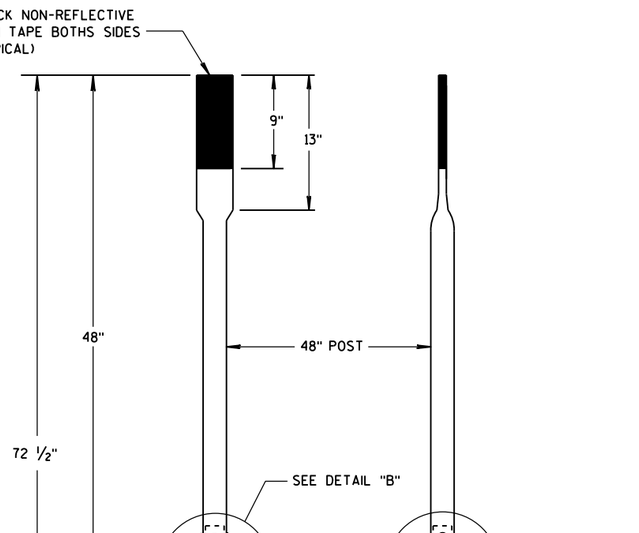
FRONT VIEW SIDE VIEW

ALTERNATE 1



FRONT VIEW SIDE VIEW

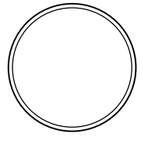
ALTERNATE 2



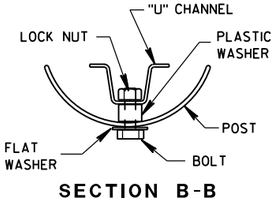
FRONT VIEW SIDE VIEW

ALTERNATE 3

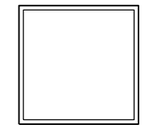
FLEXIBLE MARKER POSTS



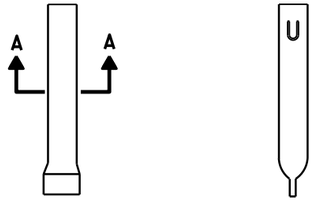
SECTION A-A



SECTION B-B

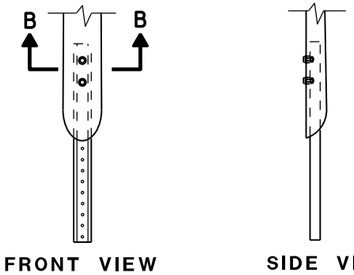


SECTION C-C



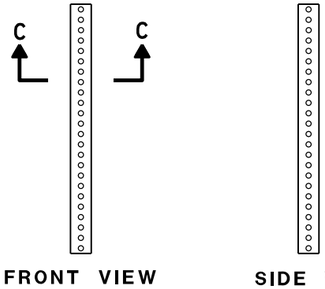
FRONT VIEW SIDE VIEW

ALTERNATE 1



FRONT VIEW SIDE VIEW

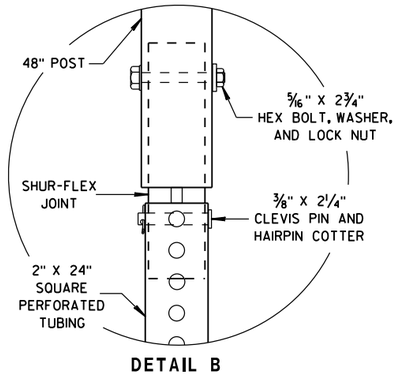
ALTERNATE 2



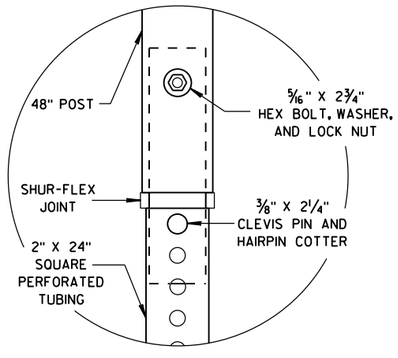
FRONT VIEW SIDE VIEW

ALTERNATE 3

FLEXIBLE MARKER POST ANCHORS



DETAIL B



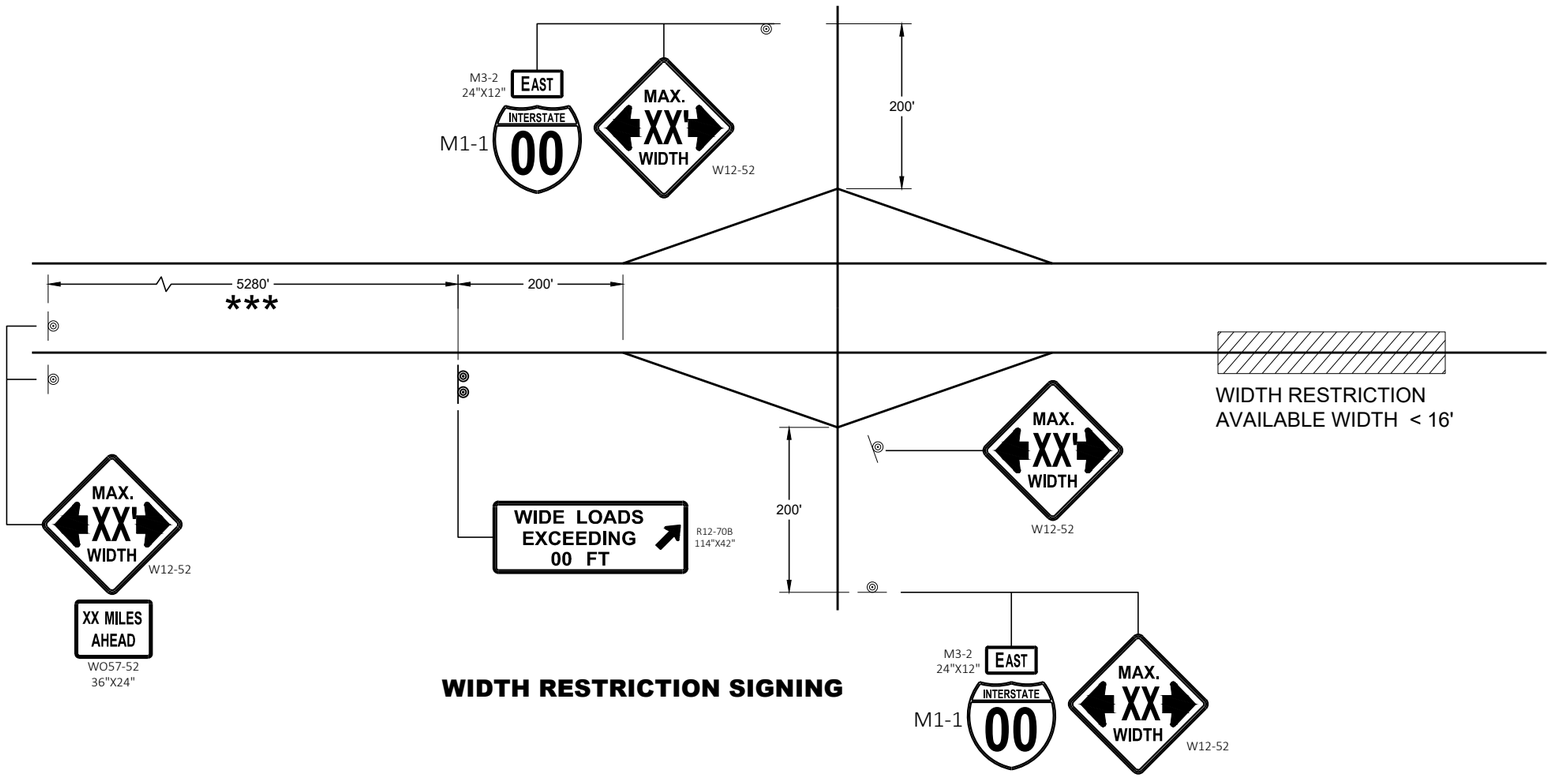
DETAIL C

FLEXIBLE MARKER POST
FOR CULVERT END

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
10/1/2012 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER
FHWA

6
S.D.D. 15 A 3-2b



WIDTH RESTRICTION SIGNING

LEGEND

SIGN ON PERMANENT SUPPORT

GENERAL NOTES

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

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

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

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

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

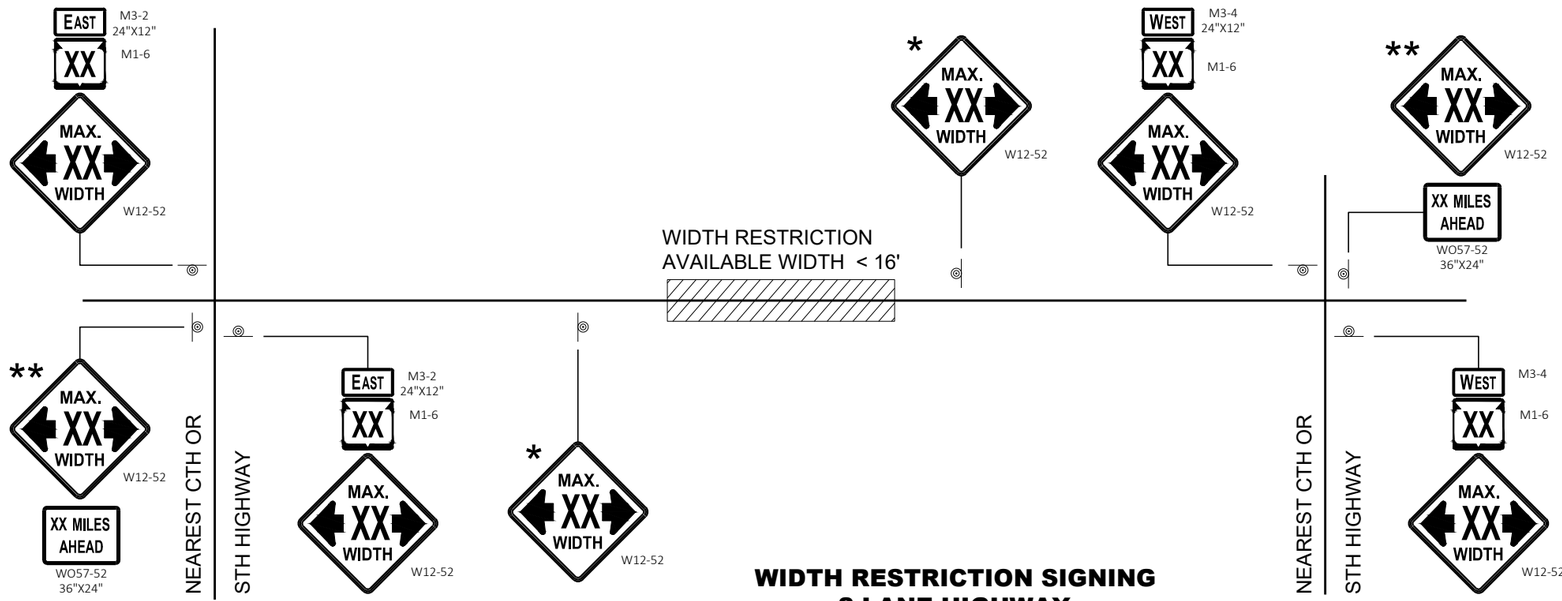
WIDTH ON SIGN TO BE APPROXIMATELY ONE FOOT LESS THAN AVAILABLE WIDTH.

* PLACE 500 FEET AFTER THE W20 - 1A AND 500 FEET BEFORE ADDITIONAL SIGNS FOR ROADWAYS WITH A PRE - CONSTRUCTION SPEED LIMIT OF 45 MPH OR MORE. FOR 35-40 MPH, USE 350 FOOT TYPICAL SPACING. FOR 25-30 MPH, USE 200 FOOT TYPICAL SPACING.

** SIGN SHALL BE VISIBLE FROM ROADWAY.

*** ADDITIONAL SIGNS NEEDED IF THERE IS AN ON RAMP BETWEEN SIGNS.

WIDTH ON SIGN TO BE APPROX. 1 - FOOT LESS THAN AVAILABLE WIDTH



WIDTH RESTRICTION SIGNING
2 LANE HIGHWAY

ADVANCED WIDTH RESTRICTION SIGNING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

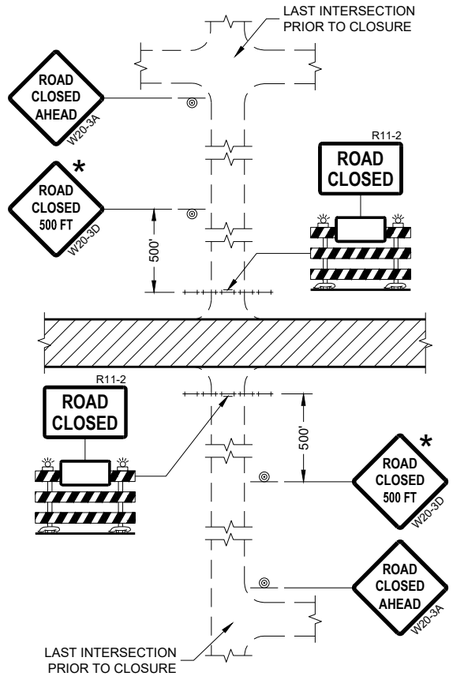
APPROVED
February 2020
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

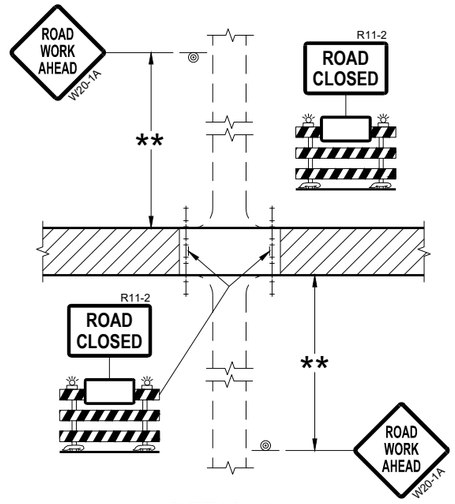
FHWA

6

SDD 15C02 - 08f
SDD 15C02 - 08f



DETAIL 1
(NO ACCESS TO PROJECT)



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

GENERAL NOTES

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

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

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

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

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

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

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

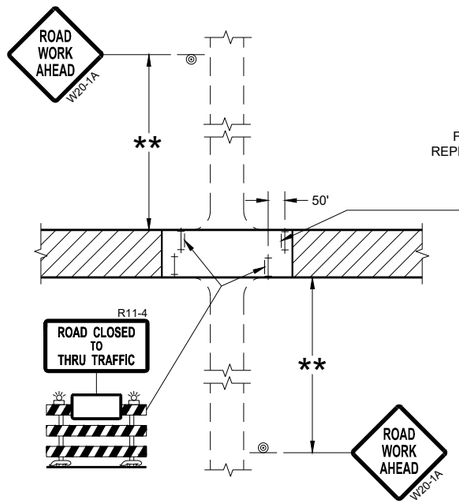
TYPE "A" LOW-INTENSITY FLASHING WARNING LIGHTS SHALL BE VISIBLE ON BOTH SIDES OF THE BARRICADE.

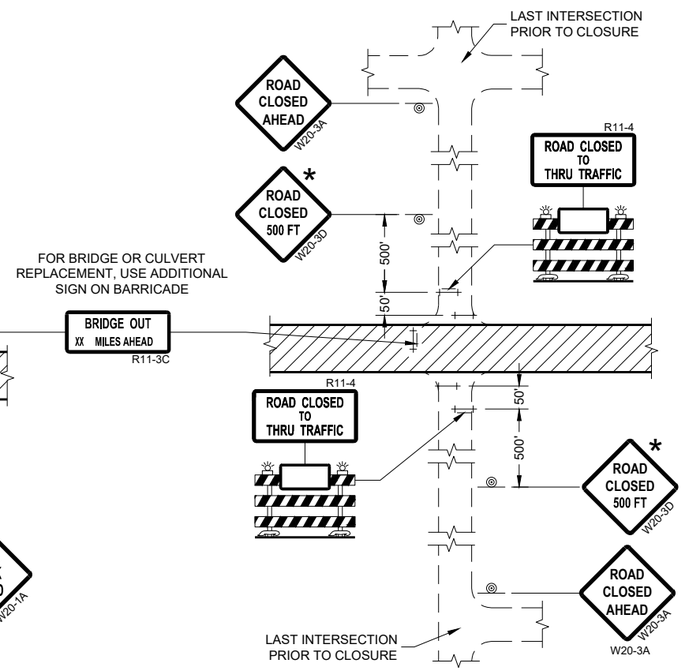
THE R11-2, R11-3, AND R11-4 SIGNS PLACED ON BARRICADES SHALL COVER NO MORE THAN THE TOP RAIL. THE SIGNS SHALL NOT COVER ANY PORTION OF THE MIDDLE OR BOTTOM RAILS.

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

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

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





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

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

LEGEND

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

BARRICADES AND SIGNS FOR SIDEROAD CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA

6

SDD 15C03 - 05

6

SDD 15C03 - 05

GENERAL NOTES

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

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

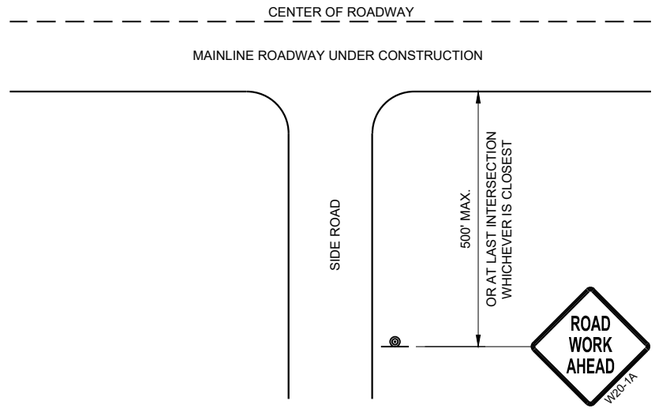
ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

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

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

* OMIT G20-1 SIGNS IF LENGTH OF WORK AREA IS 2 MILES OR LESS

** PLACE AN ADDITIONAL W20-1A "ROAD WORK AHEAD" SIGN IF WORK AREA WITHIN THE PROJECT IS SEPARATED BY MORE THAN 2 MILES FROM PREVIOUS WORK AREA.



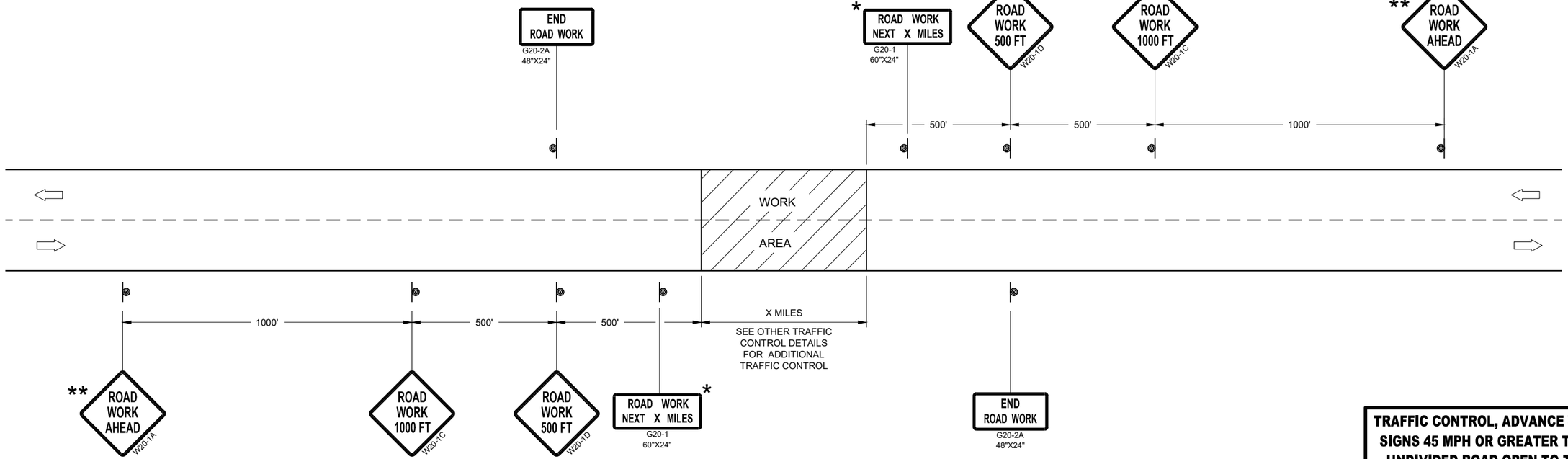
TYPICAL SIDE ROAD APPROACH WARNING SIGN DETAIL

LEGEND

SIGN ON PERMANENT SUPPORT

DIRECTION OF TRAFFIC

WORK AREA



TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45MPH OR GREATER

TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 MPH OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
July 2018
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

6

SDD 15C04 - 05

GENERAL NOTES

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

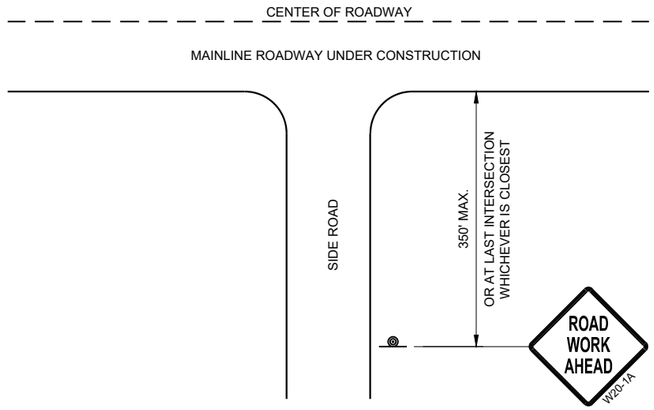
THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS, 36"X36" SIGNS MAY BE USED INSTEAD OF 48" X 48" SIGNS.

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

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

* THE THIRD W20-1 SIGN IS REQUIRED ONLY IF THERE IS AN INTERSECTION BETWEEN THE "ROAD WORK 500 FEET" SIGN AND THE WORK ZONE. ADJUST THE PLACEMENT OF THIS SIGN BASED ON INTERSECTION LOCATION AND OTHER FIELD CONDITIONS.



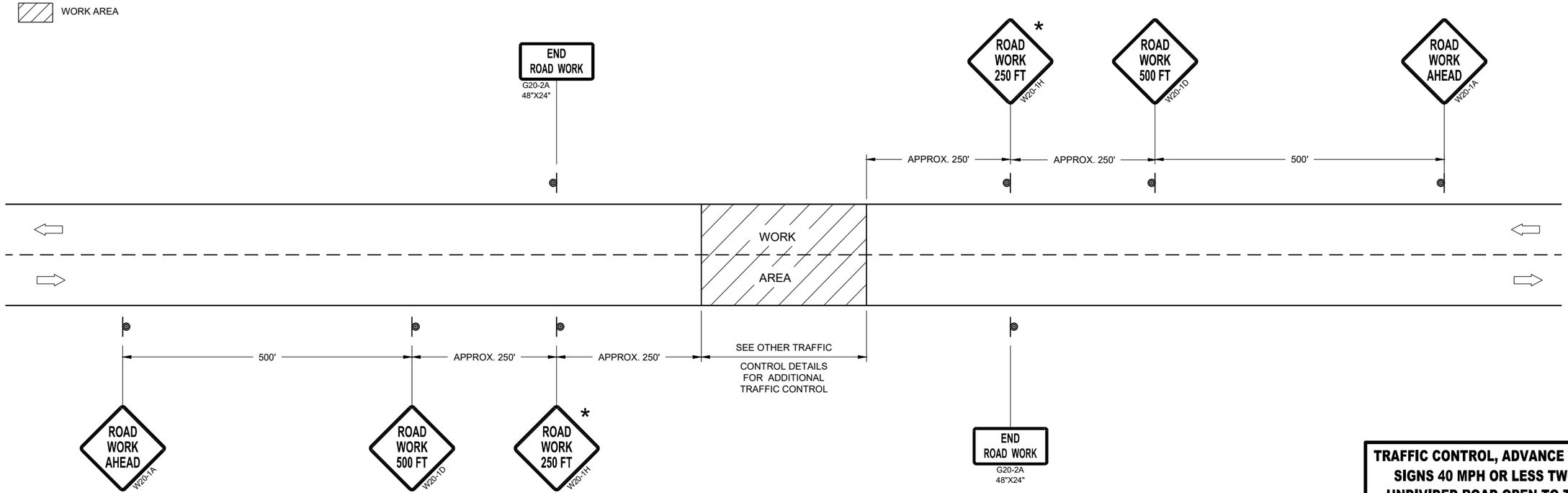
TYPICAL SIDE ROAD APPROACH WARNING SIGN DETAIL

LEGEND

SIGN ON PERMANENT SUPPORT

DIRECTION OF TRAFFIC

WORK AREA



TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40MPH OR LESS

TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 MPH OR LESS TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
July 2018
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

6

SDD 15C05 - 05

GENERAL NOTES

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

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

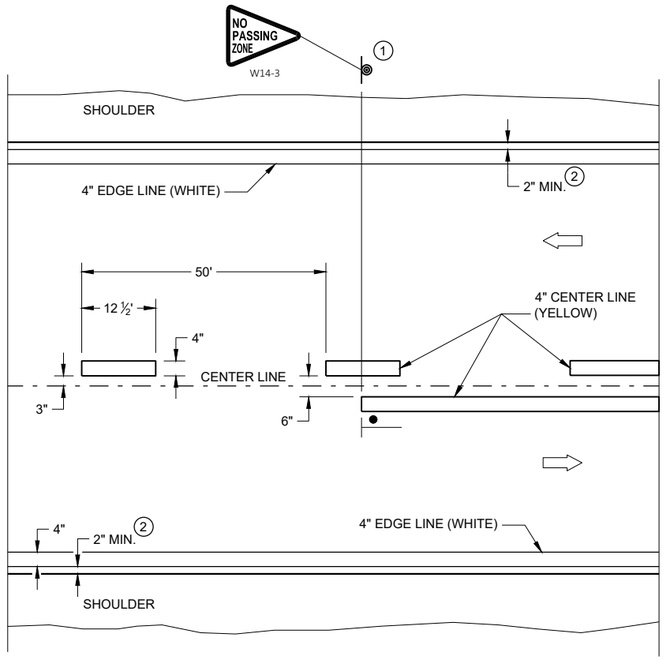
(2) MEASURE FROM EDGE OF MARKING TO JOINT LINE. THIS DOES NOT INCLUDE SPACE NEEDED FOR GROOVING OPERATIONS.

LEGEND

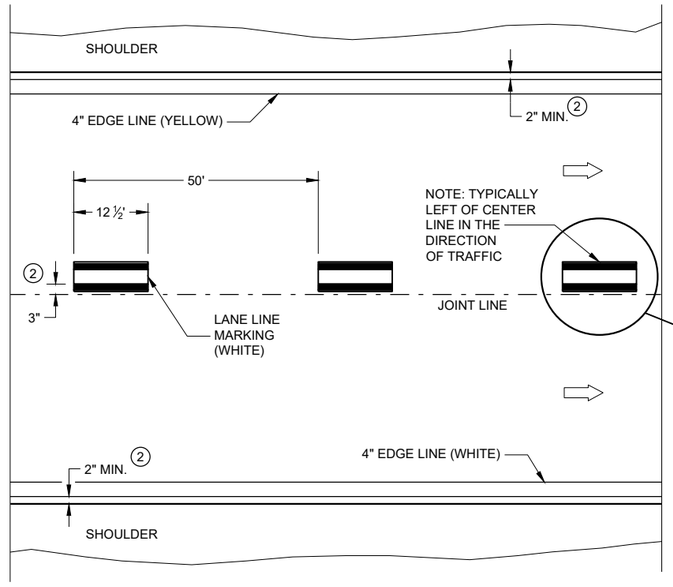
"T" MARKING

SIGN ON PERMANENT SUPPORT

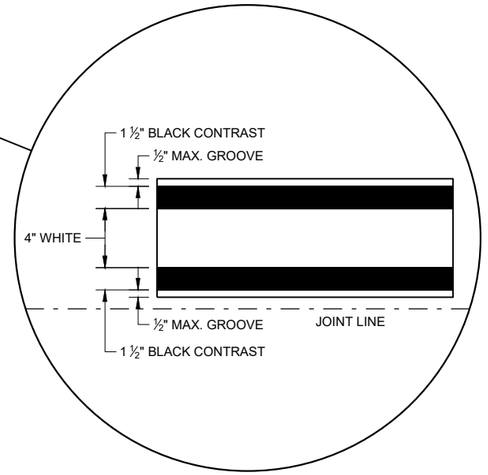
DIRECTION OF TRAFFIC



TWO WAY TRAFFIC



ONE WAY TRAFFIC



PERMANENT PAVEMENT MARKING

PERMANENT LONGITUDINAL PAVEMENT MARKINGS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2022 — DATE
/S/ Jeannie Silver — STATEWIDE SIGNING AND M ENGINEER

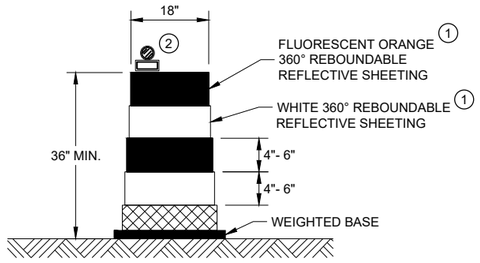
FHWA

SDD 15C08 - 21a

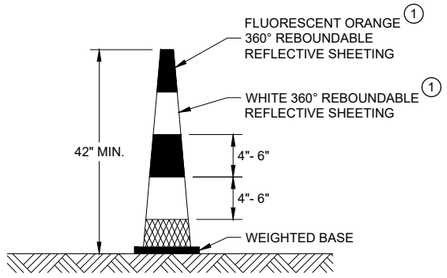
SDD 15C08 - 21a

GENERAL NOTES

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

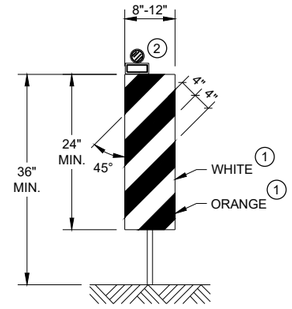


DRUM



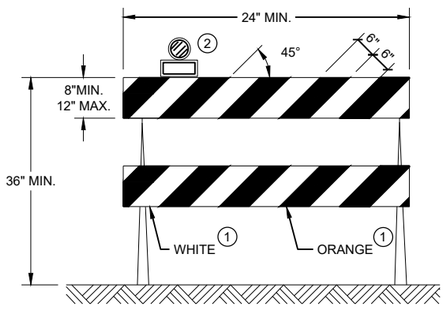
42" CONE

DO NOT USE IN TAPERS
½ SPACING OF DRUMS



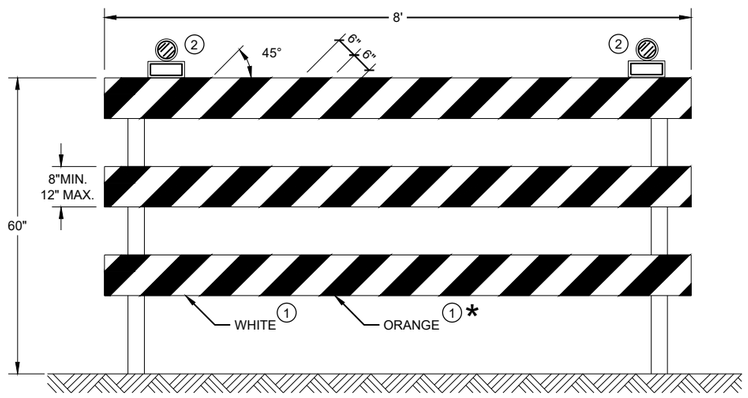
VERTICAL PANEL

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



TYPE II BARRICADE

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



TYPE III BARRICADE

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

* IF USED FOR A PERMANENT APPLICATION USE RED SHEETING.

CHANNELIZING DEVICES
DRUMS, CONES, BARRICADES
AND VERTICAL PANELS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2021 — DATE
/S/ Andrew Heidtke — WORK ZONE ENGINEE
FHWA

6

SDD15C11 - 09b

6

SDD15C11 - 09b

LEGEND

SIGN ON PORTABLE OR PERMANENT SUPPORT

TEMPORARY PORTABLE RUMBLE STRIP ARRAY

DIRECTION OF TRAFFIC

WORK AREA

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

GENERAL NOTES

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

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

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

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

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

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

FLAGGING

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

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

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

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

TEMPORARY PORTABLE RUMBLE STRIPS

UTILIZE TEMPORARY PORTABLE RUMBLE STRIPS ON ALL FLAGGING OPERATIONS.

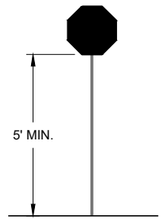
(3) EACH TEMPORARY PORTABLE RUMBLE STRIP ARRAY CONSISTS OF THREE RUMBLE STRIPS PLACED TRANSVERSE ACROSS THE LANE AT THE LOCATIONS SHOWN. WITHIN EACH ARRAY, SPACING BETWEEN RUMBLE STRIPS SHALL BE 15 FEET ON CENTER

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

INSTALL TEMPORARY RUMBLE STRIPS PER MANUFACTURER'S RECOMMENDATIONS.

PLACE ADVANCE SIGNING PRIOR TO INSTALLING TEMPORARY RUMBLE STRIPS.

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



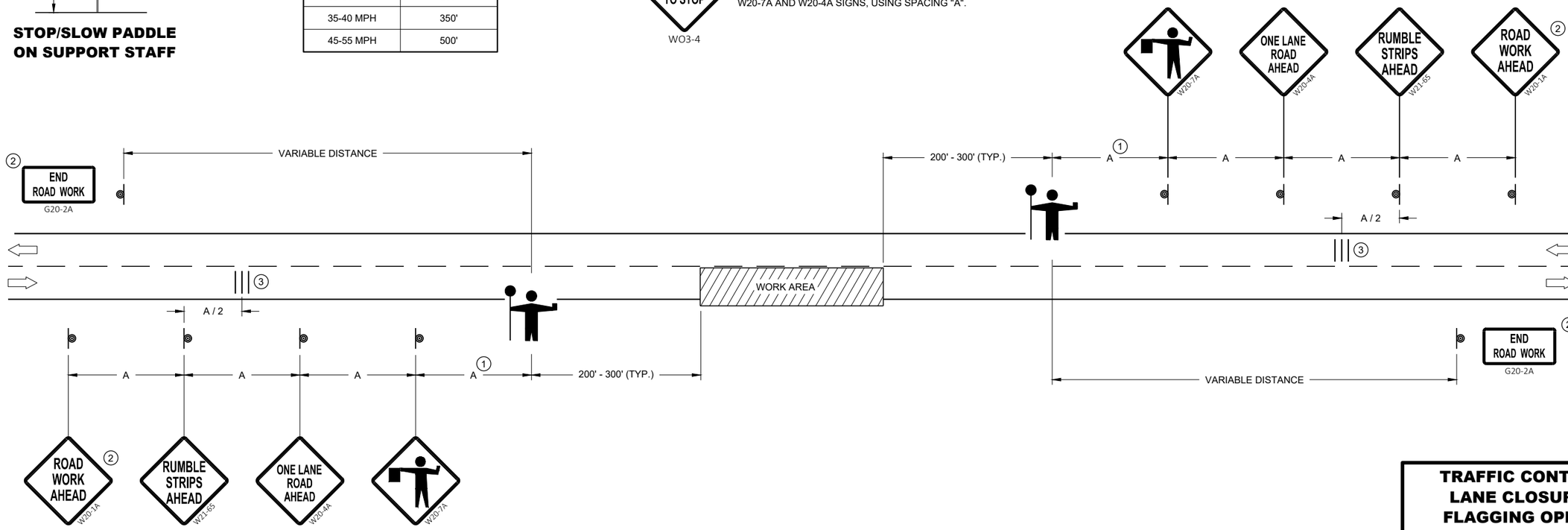
STOP/SLOW PADDLE ON SUPPORT STAFF

SIGN AND TEMPORARY RUMBLE STRIP ARRAY SPACING TABLE

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

WO3-4

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



TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2022
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

6

SDD 15C12 - 09a

6

SDD 15C12 - 09a

LEGEND

V1 LEAD VEHICLE

V2 MARKING VEHICLE

V3 SHADOW VEHICLE

TRUCK MOUNTED ATTENUATOR (TMA)

SIGN ON TEMPORARY SUPPORT

DIRECTION OF TRAFFIC

FLASHING ARROW PANEL (CAUTION)

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 UPRIGHTS ORIENTED PARALLEL TO AND DOWNSTREAM FROM TRAFFIC.

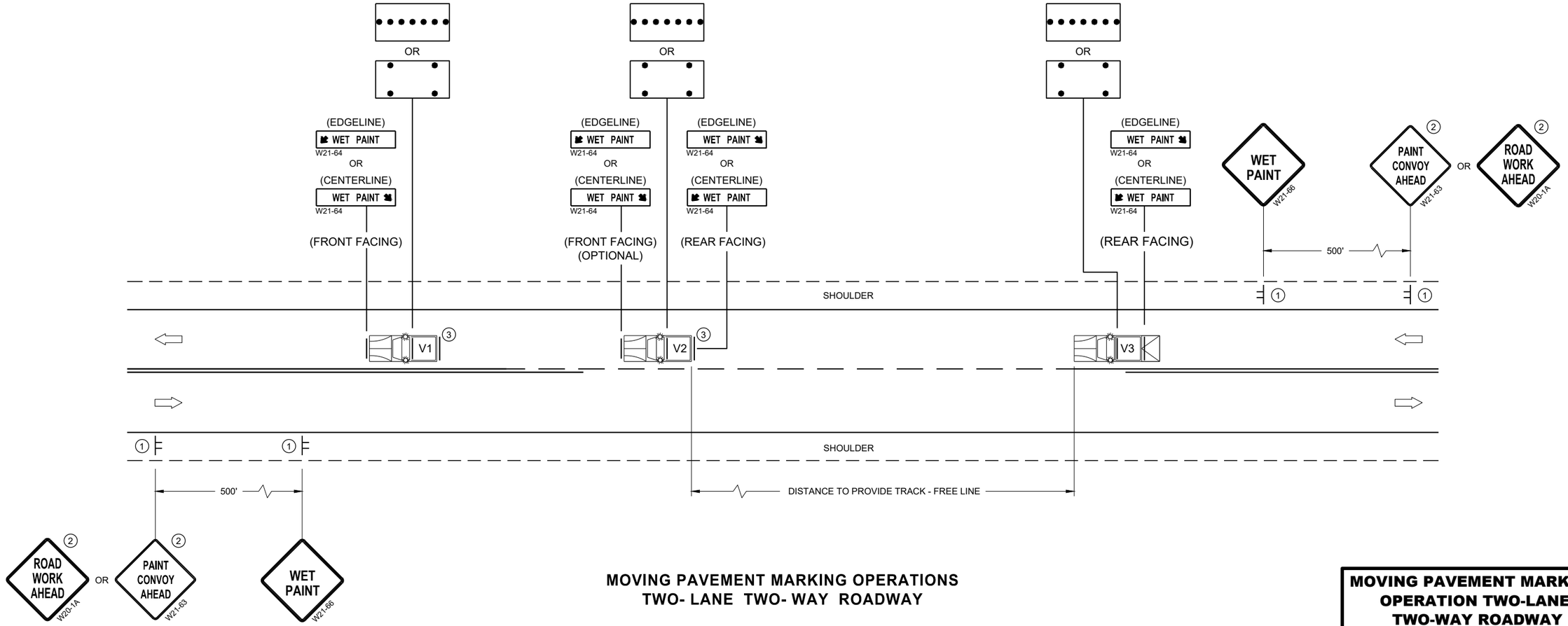
CONES SHOULD BE USED BETWEEN THE MARKING AND SHADOW VEHICLE AT 100 FOOT SPACING. CONES MAY BE OMITTED ON PAINTED LINE IF APPROVED BY THE ENGINEER. CONSIDER PAVEMENT MARKING DRY OR CURE TIMES AND TRAFFIC VOLUME.

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

(1) SIGNS SHALL BE REPEATED APPROXIMATELY EVERY THREE MILES.

(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
May 2022
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

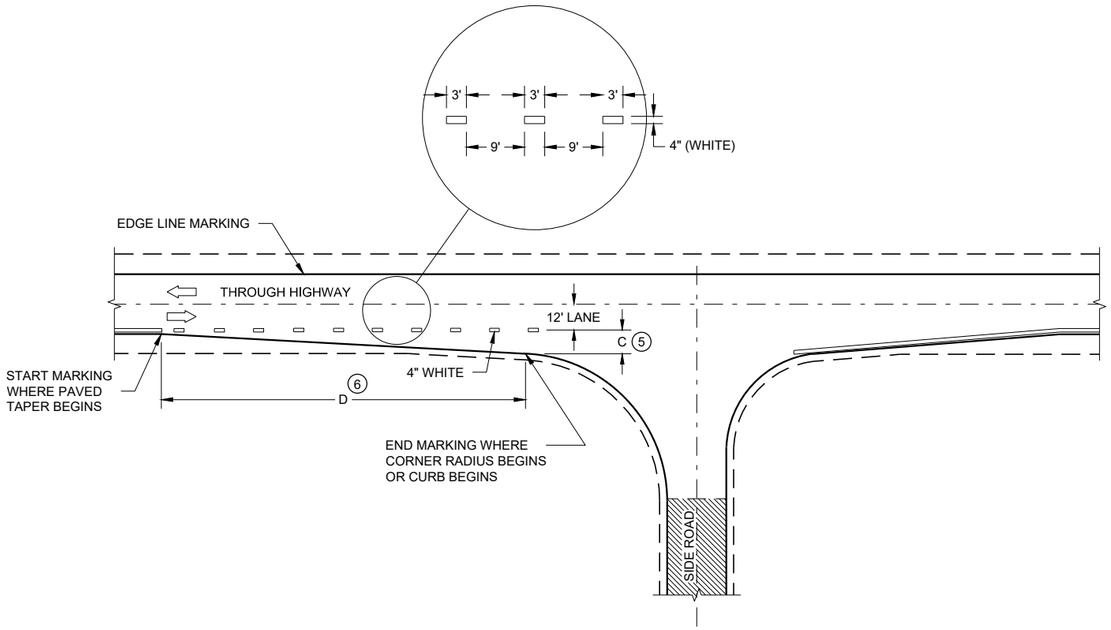
FHWA

6

SDD 15C19 - 07a

6

SDD 15C19 - 07a



MINOR INTERSECTION

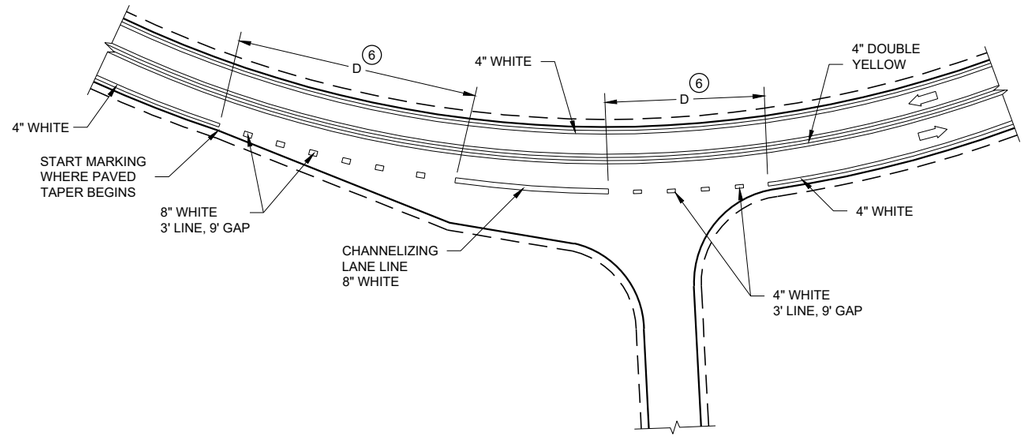
GENERAL NOTES

OMIT EDGE LINES THROUGH INTERSECTIONS. CONTINUE EDGE LINES THROUGH DRIVEWAYS.

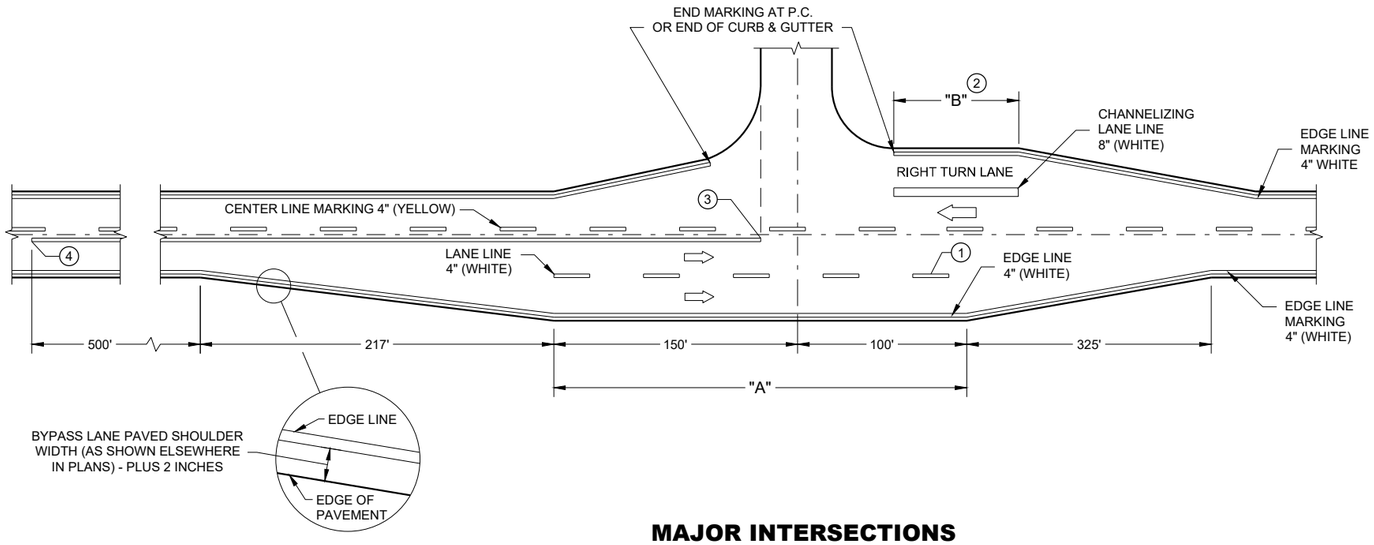
1. WHEN DISTANCE "A" IS LESS THAN 250 FEET, OMIT LANE LINE.
2. WHEN DISTANCE "B" IS LESS THAN 100 FEET, OMIT CHANNELIZING LANE LINE.
3. BARRIER LINE ENDS AT SIDE ROAD PAVEMENT / SURFACE EDGE EXTENSION.
4. BARRIER LINE STARTS 500 FEET PRIOR TO THE BYPASS TAPER.
5. WHEN DISTANCE "C" IS LESS THAN 4 FEET, OMIT DOTTED EXTENSION.
6. WHEN DISTANCE "D" IS LESS THAN 50 FEET, OMIT DOTTED EXTENSION.

LEGEND

DIRECTION OF TRAVEL



INTERSECTION ON OUTSIDE OF CURVE



MAJOR INTERSECTIONS

(INTERSECTION WITH FULL RIGHT TURN LANE OR BYPASS LANE)

PAVEMENT MARKING (INTERSECTIONS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTA

6

SDD 15C35 - 05a
SDD 15C35 - 05a

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.

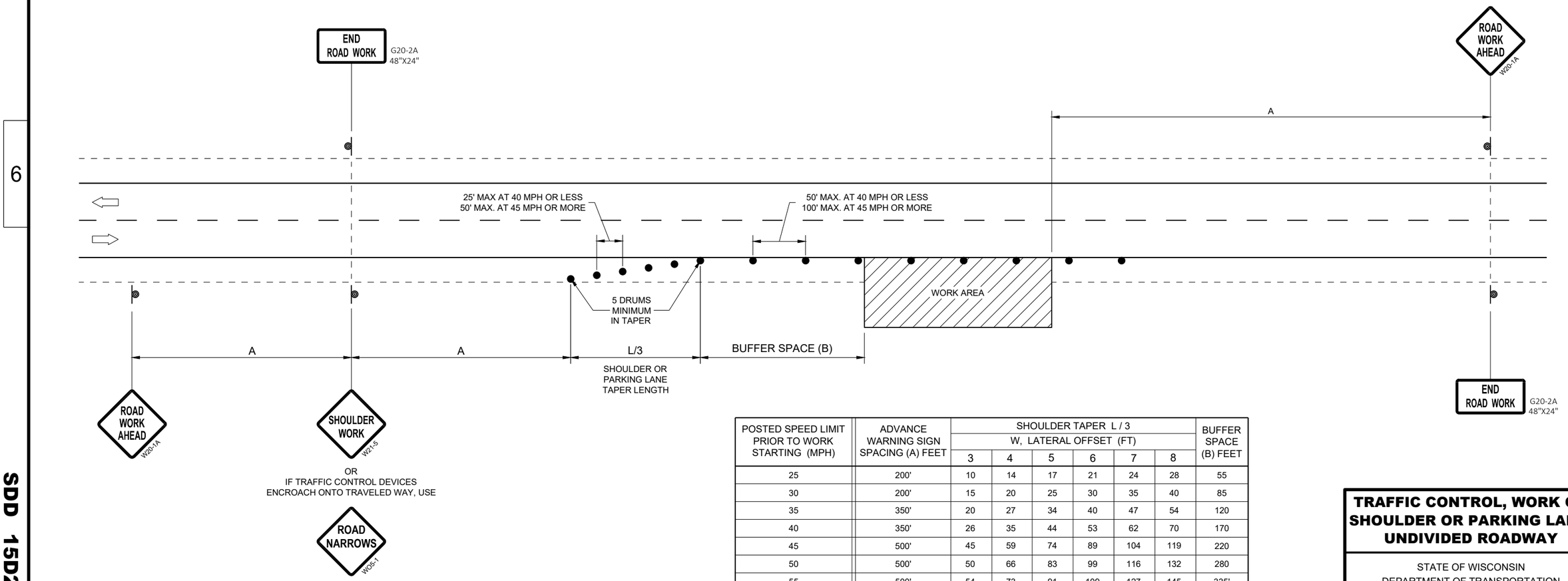
ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH THE TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

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

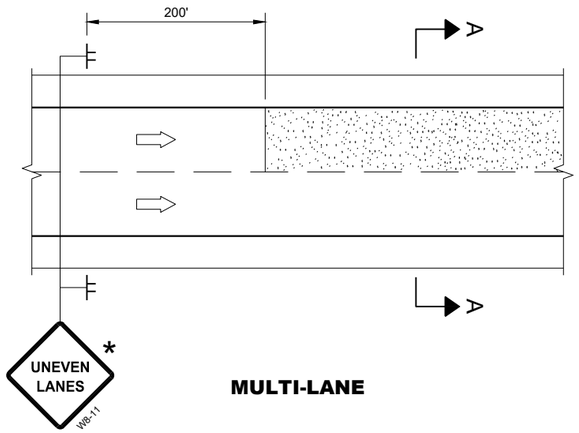
APPROVED
May 2020
DATE

/S/ Andrew Heidtke
STATEWIDE WORK ZONE T SAFETY ENGINEER

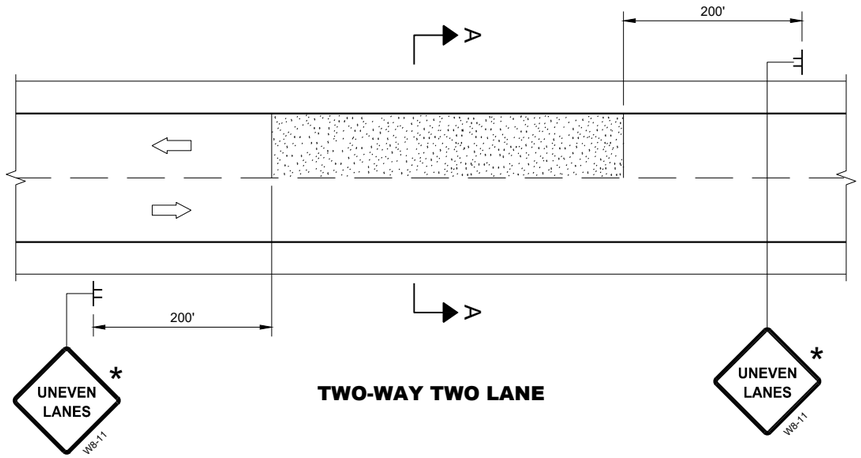
FHWA

SDD 15D28 - 04

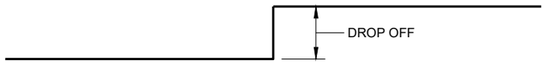
SDD 15D28 - 04



MULTI-LANE

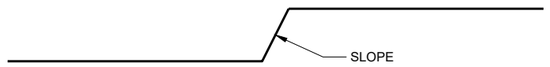


TWO-WAY TWO LANE

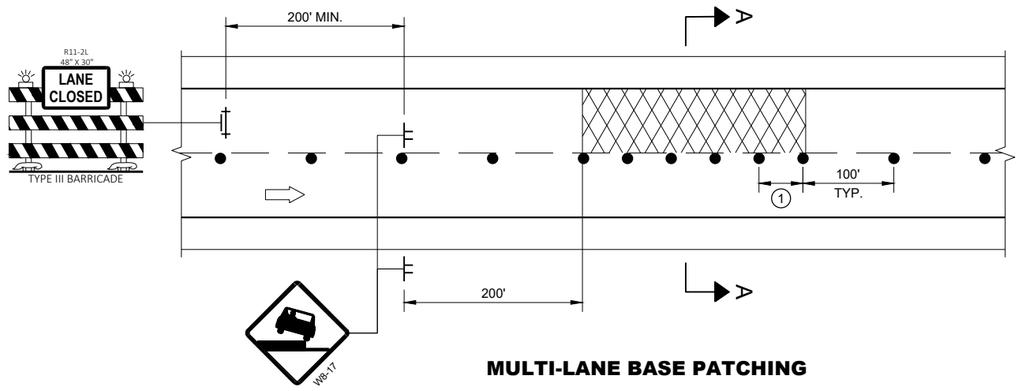


SECTION A - A

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.

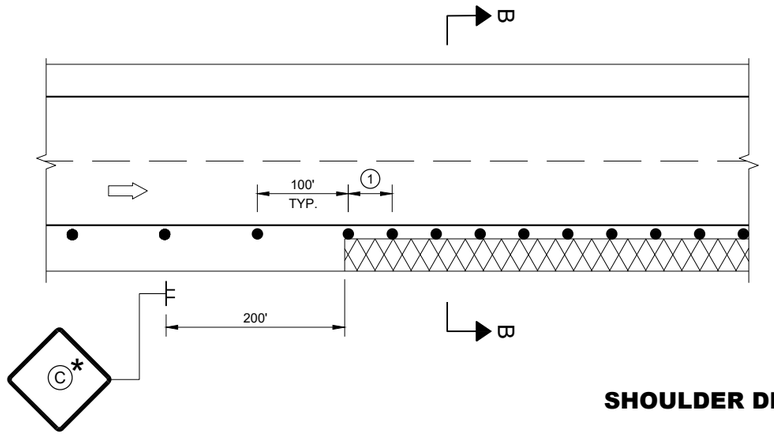
WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

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

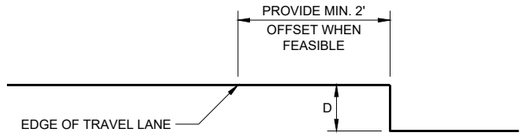
(1) USE CLOSER SPACING WHEN DELINEATING DROP-OFF.

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
March 2018
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

6

SDD 15D39 - 02

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.

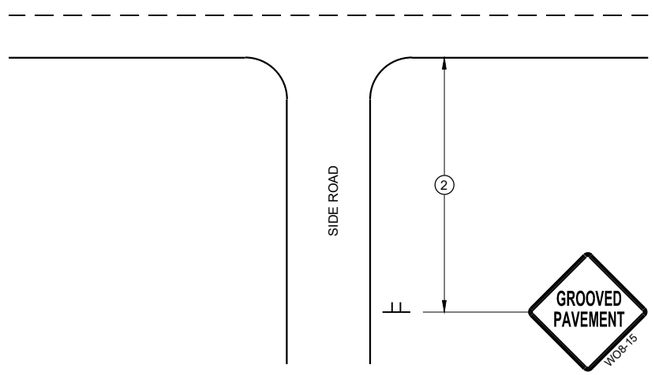
(1) PLACE SIGNS 350' IN ADVANCE OF MILLED SURFACES AND AT 1 MILE INTERVALS, OR AS DIRECTED BY THE ENGINEER.

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

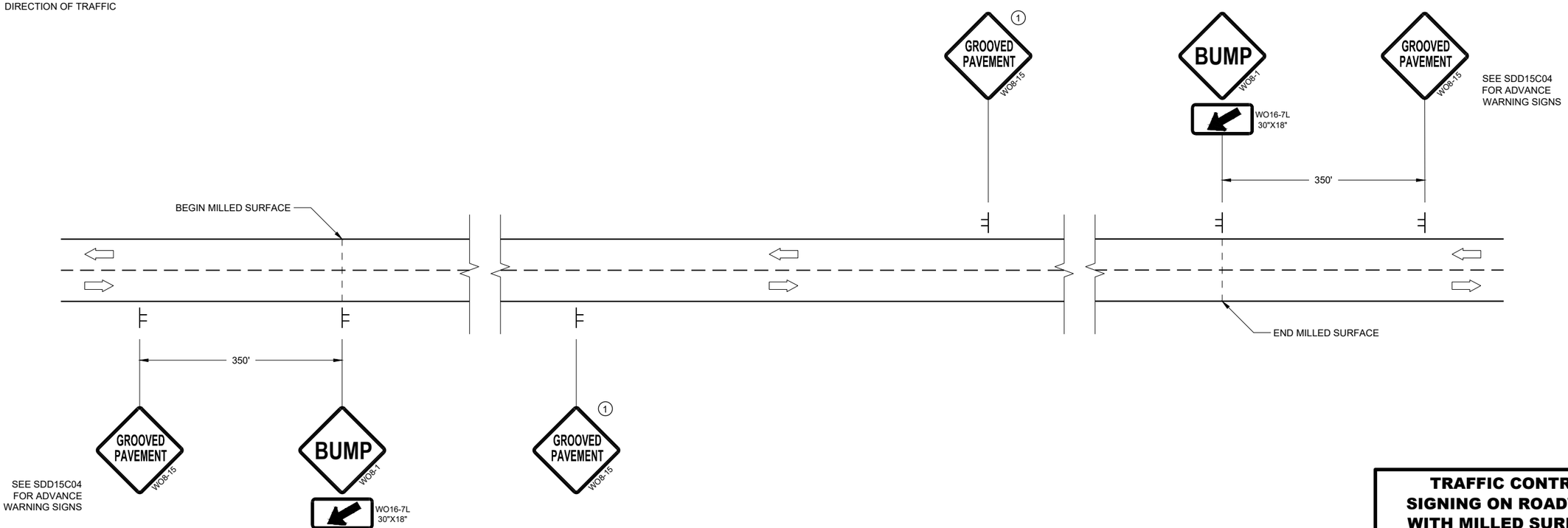
LEGEND

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 ENGINEE

FHWA

6
SDD 15D44 - 02

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 CHIP SEALED OR LOOSE GRAVEL SURFACES AND AT 1 MILE INTERVALS, OR AS DIRECTED BY THE ENGINEER.

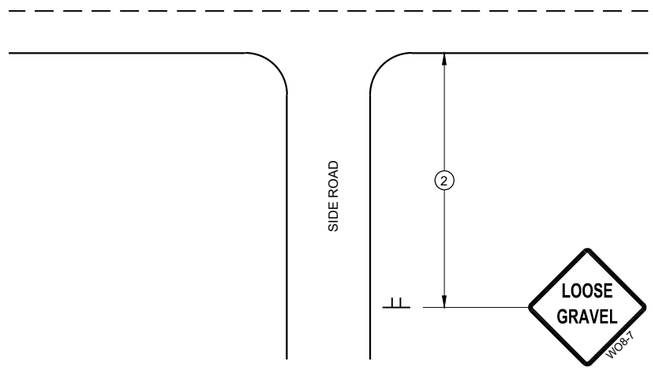
(2) PLACE SIGN 200' MIN. FROM INTERSECTION AND 200' MIN. AFTER ADVANCE WARNING SIGN SHOWN IN SDD 15C04.

(3) ADD WO8-1 OR WO8-2 SIGN WHEN THE CONDITION IS PRESENT.

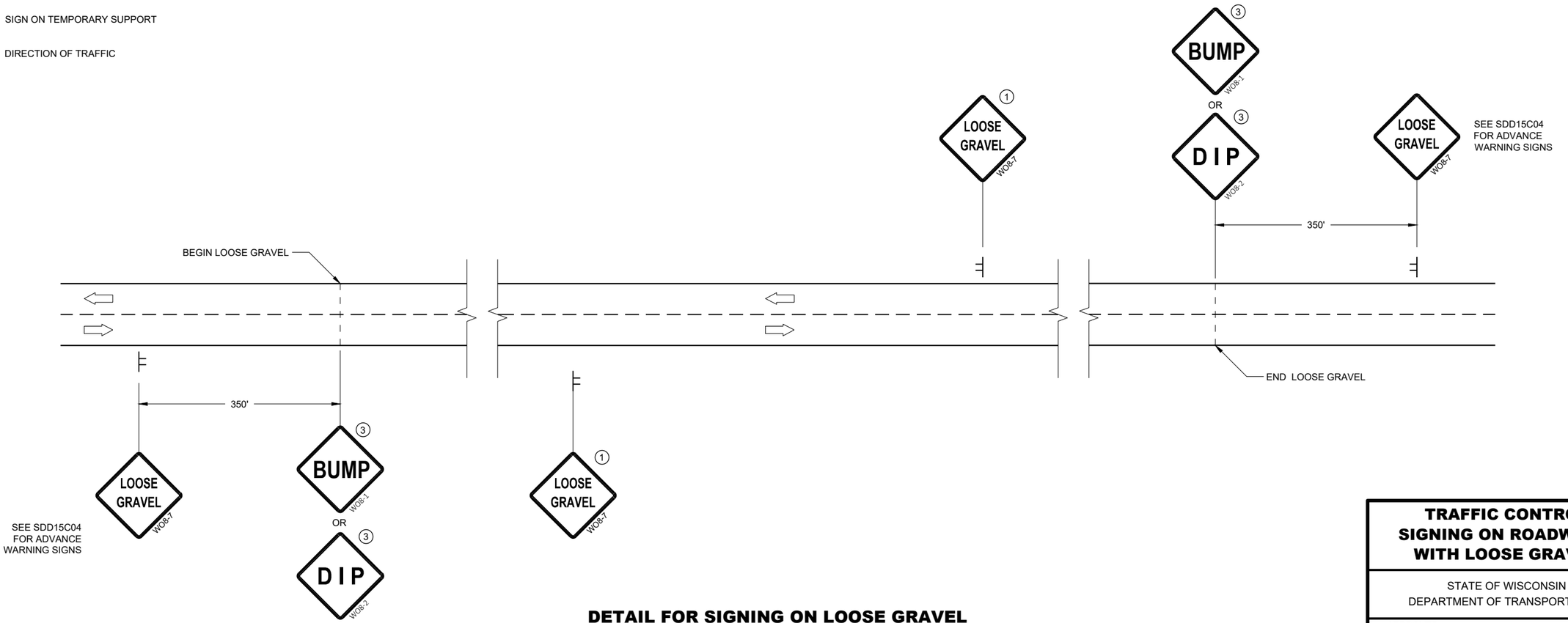
LEGEND

SIGN ON TEMPORARY SUPPORT

DIRECTION OF TRAFFIC



TYPICAL SIDE ROAD APPROACH SIGN DETAIL



DETAIL FOR SIGNING ON LOOSE GRAVEL OR CHIP SEALED SURFACES

TRAFFIC CONTROL SIGNING ON ROADWAYS WITH LOOSE GRAVEL

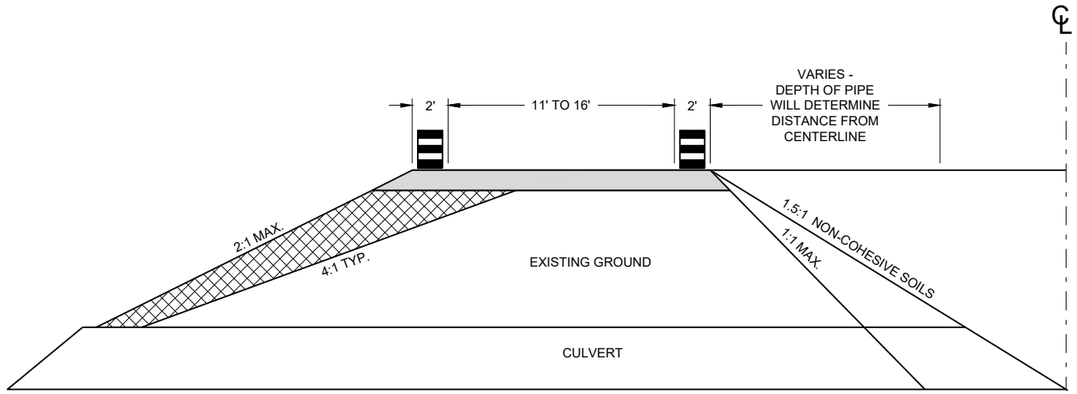
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2021
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

6

SDD 15D45 - 03



CROSS SECTION

GENERAL NOTES

USE 1:1 FOR COHESIVE CLAYS AND SILTS, LOAMS, SANDY CLAYS AND ANGULAR GRAVEL SOILS.
USE 1.5:1 FOR NON-COHESIVE SOILS.

THE TAPER SHOULD EXTEND ACROSS THE SHOULDER UNLESS DOING SO WOULD GREATLY CONFLICT WITH THE WORK OPERATION.

ALL LANE CLOSURE SIGNS SHALL BE REMOVED OR COVERED AND ALL DEVICES REMOVED BEYOND THE SHOULDER WHEN WORK IS NOT IN PROGRESS AND THE LANE IS RESTORED TO A SAFE OPERATING CONDITION.

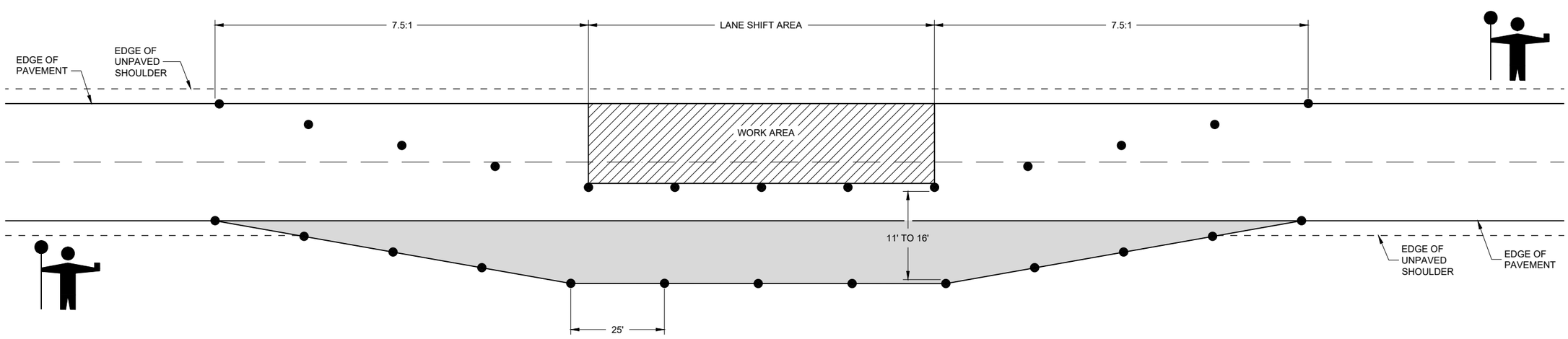
CHANNELIZING DEVICES PLACED ADJACENT TO WORK AREA SHALL BE PULLED BACK FROM TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

USE WITH SDD 15C12 "TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATIONS"

USE WITH SDD 15D45 "SIGNING ON ROADWAYS WITH LOOSE GRAVEL"

LEGEND

- DRUM WITHOUT WARNING LIGHT
- 6" BASE AGGREGATE DENSE 1 ¼" -INCIDENTAL TO LANE SHIFT ITEM
- FILL - INCIDENTAL TO LANE SHIFT ITEM
- WORK AREA
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF



LANE SHIFT IN FLAGGING OPERATION

6

6

SDD 15D48 - 01

SDD 15D48 - 01

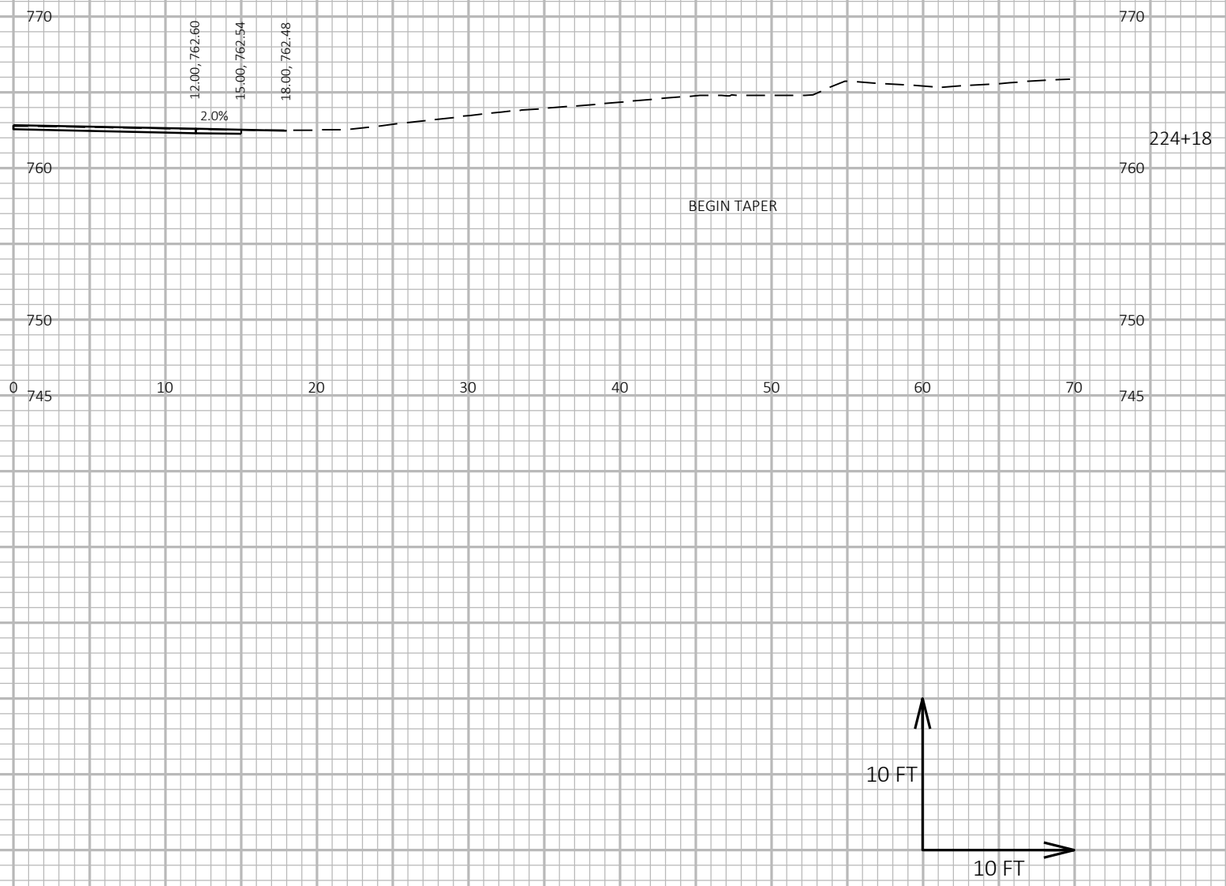
TRAFFIC CONTROL, TEMPORARY LANE SHIFT DURING CULVERT WORK

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2021
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA



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9

PROJECT NO: 5215-02-74	HWY: STH 81	COUNTY: GRANT	CROSS SECTIONS: STH 81	SHEET 91	E

FILE NAME : S:\MAD\1000--1099\1089\632\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090201

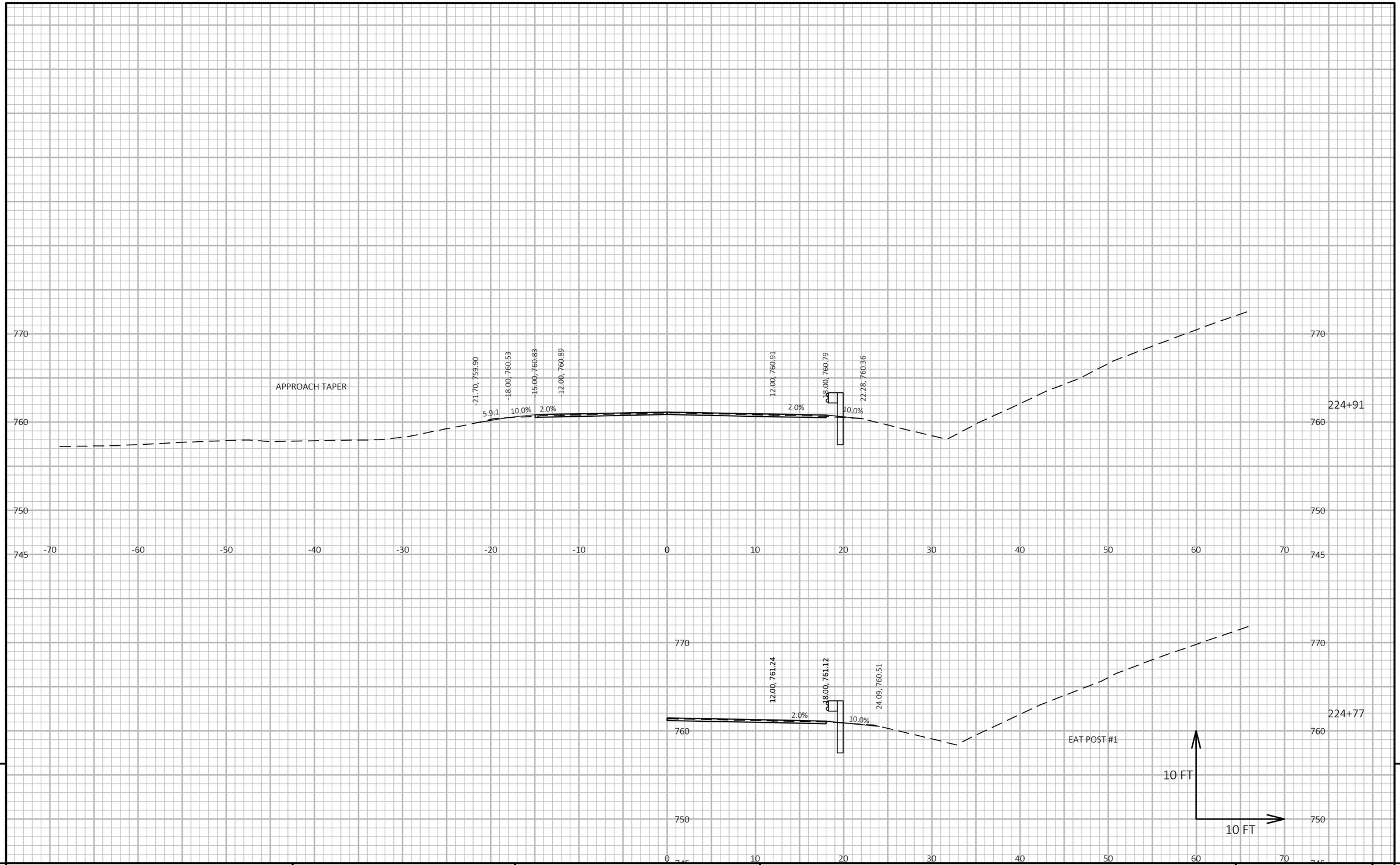
PLOT DATE : 5/4/2022 2:23 PM

PLOT BY : ROSENTHAL, BRIAN

PLOT NAME :

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

WISDOT/CADDS SHEET 49



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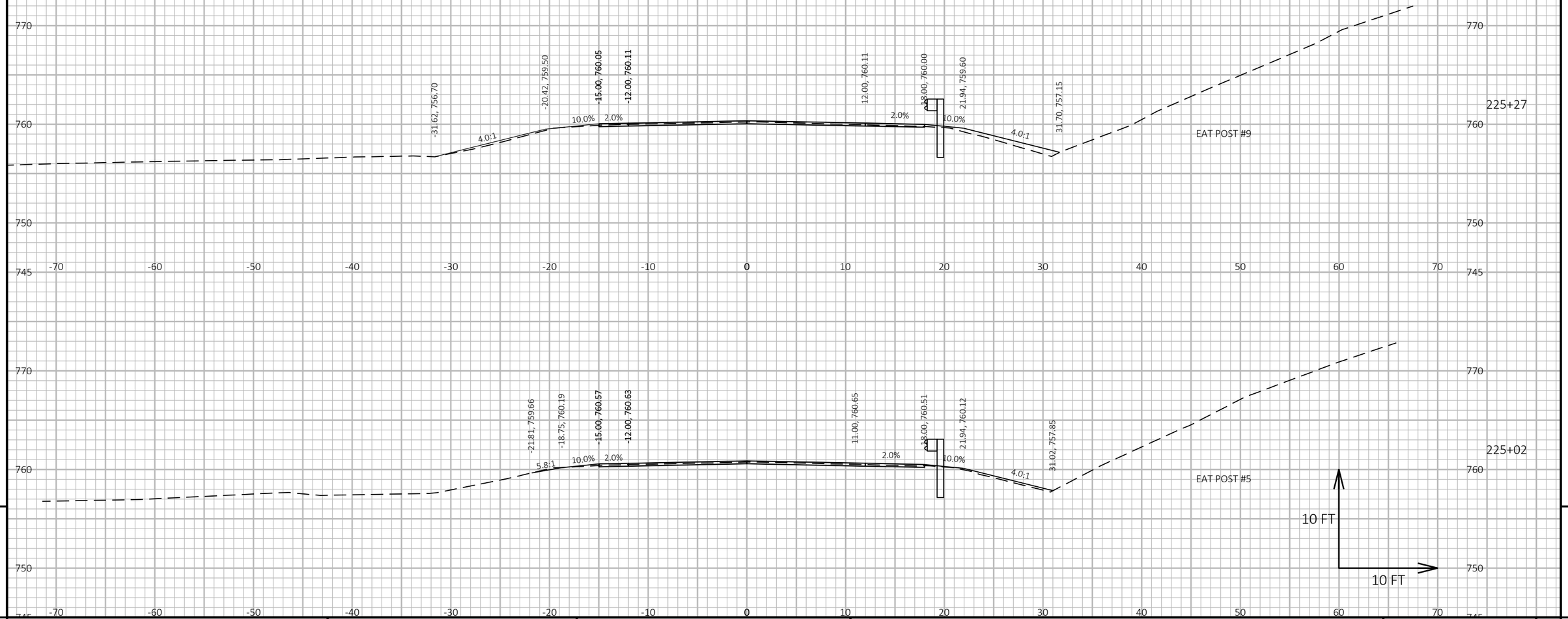
PROJECT NO: 5215-02-74	HWY: STH 81	COUNTY: GRANT	CROSS SECTIONS: STH 81	SHEET 92	E

FILE NAME : S:\MAD\1000--1099\1089\632\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090202

PLOT DATE : 5/4/2022 2:23 PM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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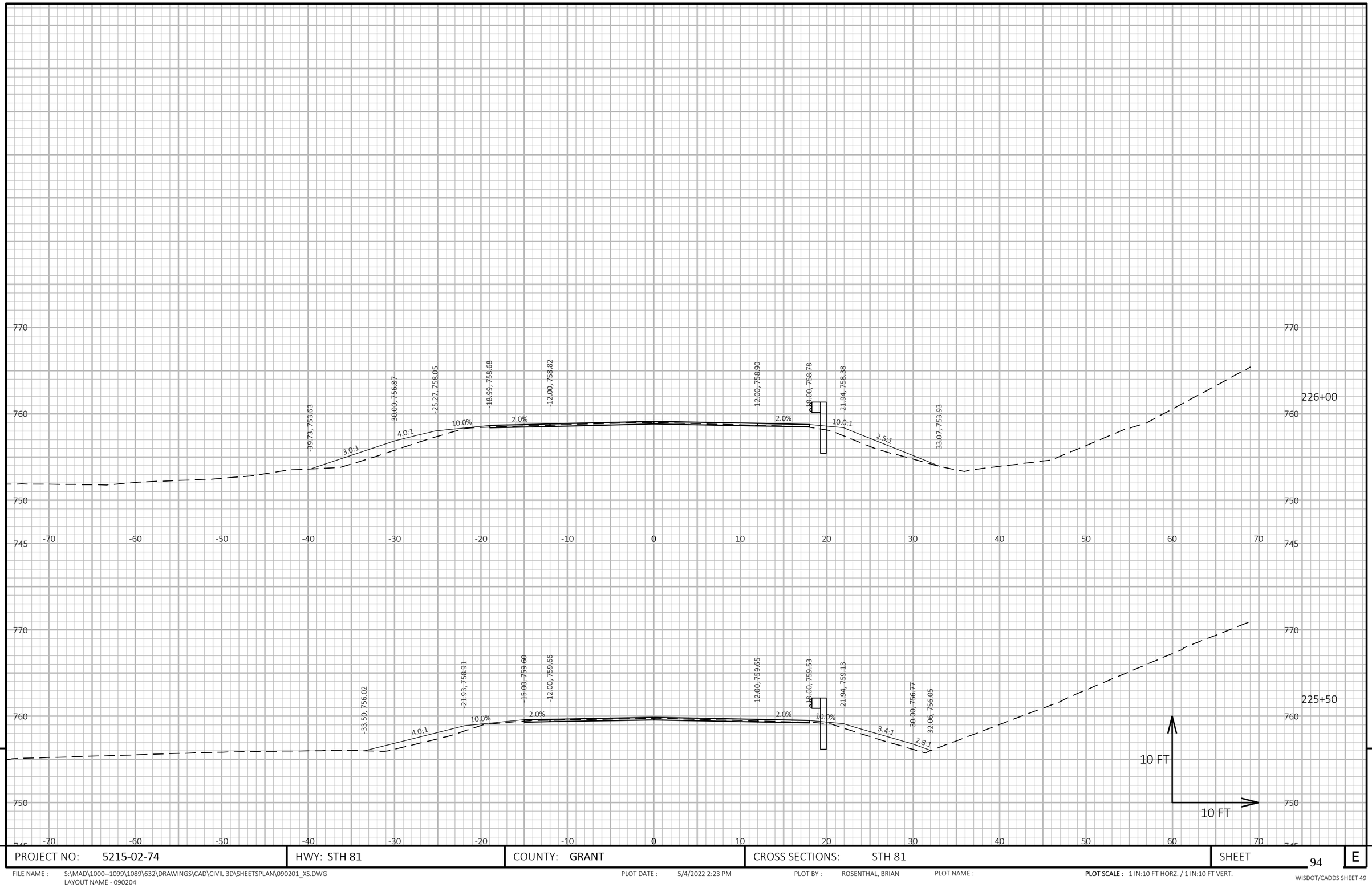
PROJECT NO: 5215-02-74	HWY: STH 81	COUNTY: GRANT	CROSS SECTIONS: STH 81	SHEET 93	E

FILE NAME : S:\MAD\1000--1099\1089\632\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090203

PLOT DATE : 5/5/2022 6:23 AM PLOT BY : JACK, ROBERT A. PLOT NAME :

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

WISDOT/CADDS SHEET 49



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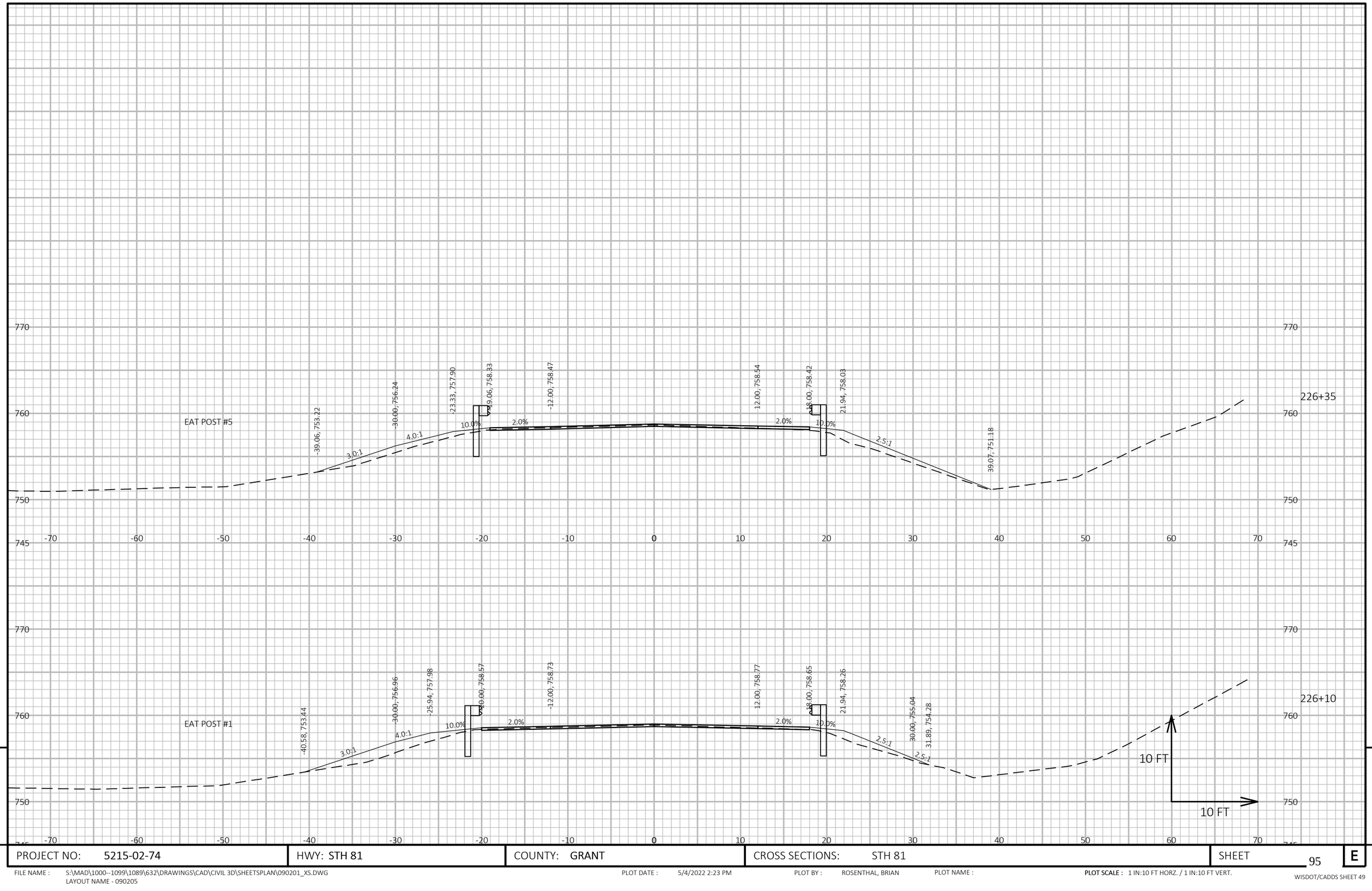
PROJECT NO: 5215-02-74	HWY: STH 81	COUNTY: GRANT	CROSS SECTIONS: STH 81	SHEET 94	E

FILE NAME : S:\MAD\1000--1099\1089\632\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090204

PLOT DATE : 5/4/2022 2:23 PM PLOT BY : ROSENTHAL, BRIAN PLOT NAME :

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

WISDOT/CADDS SHEET 49



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PROJECT NO: 5215-02-74	HWY: STH 81	COUNTY: GRANT	CROSS SECTIONS: STH 81	SHEET 95	E

FILE NAME : S:\MAD\1000--1099\1089\632\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090205

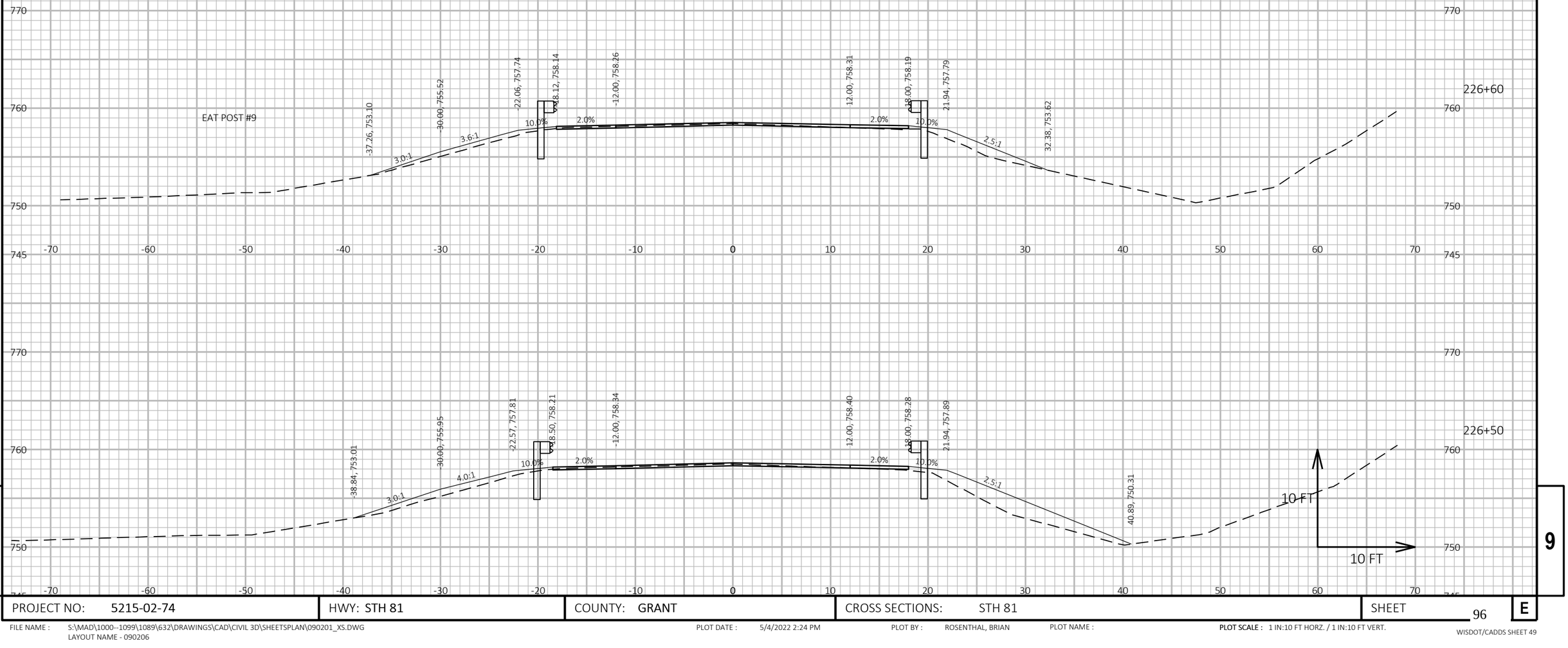
PLOT DATE : 5/4/2022 2:23 PM

PLOT BY : ROSENTHAL, BRIAN

PLOT NAME :

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

WISDOT/CADDS SHEET 49



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PROJECT NO: 5215-02-74	HWY: STH 81	COUNTY: GRANT	CROSS SECTIONS: STH 81	SHEET 96	E

FILE NAME : S:\MAD\1000--1099\1089\632\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090206

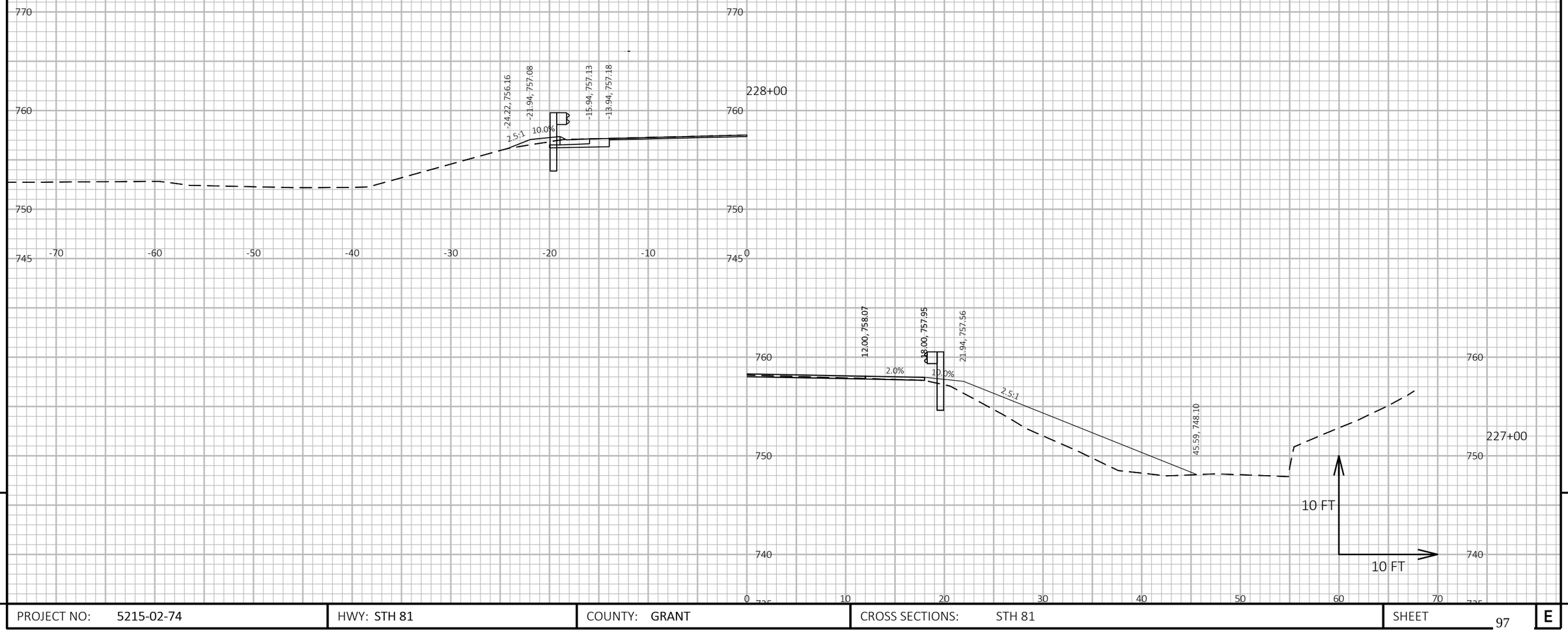
PLOT DATE : 5/4/2022 2:24 PM

PLOT BY : ROSENTHAL, BRIAN

PLOT NAME :

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

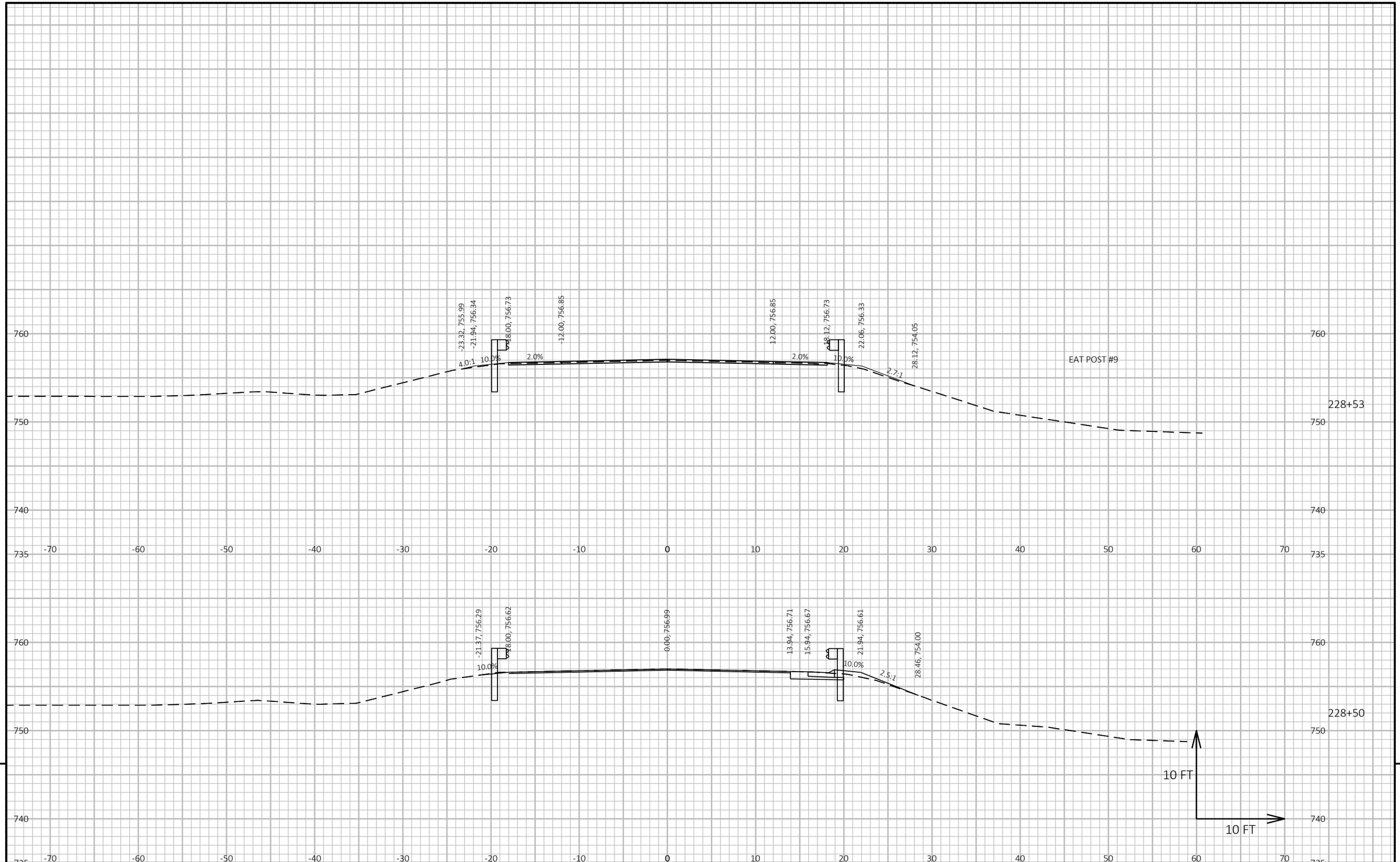
WISDOT/CADDS SHEET 49



9

9

PROJECT NO: 5215-02-74	HWY: STH 81	COUNTY: GRANT	CROSS SECTIONS: STH 81	SHEET 97	E



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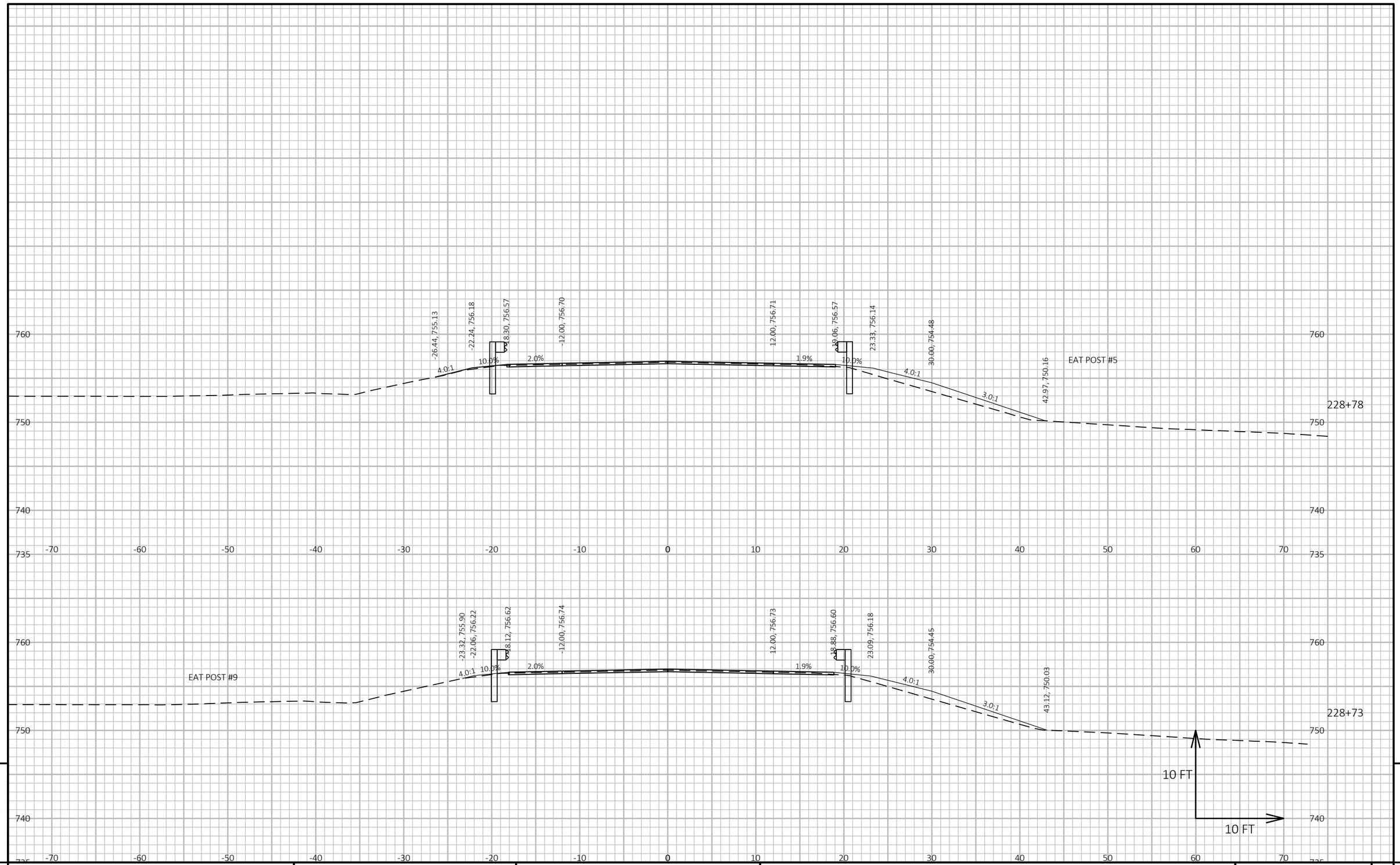
PROJECT NO: 5215-02-74	HWY: STH 81	COUNTY: GRANT	CROSS SECTIONS: STH 81	SHEET 98	E

FILE NAME : S:\MAD\1000--1099\1089\632\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090208

PLOT DATE : 7/27/2022 11:49 AM PLOT BY : JACK, ROBERT A. PLOT NAME :

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

WISDOT/CADDS SHEET 49



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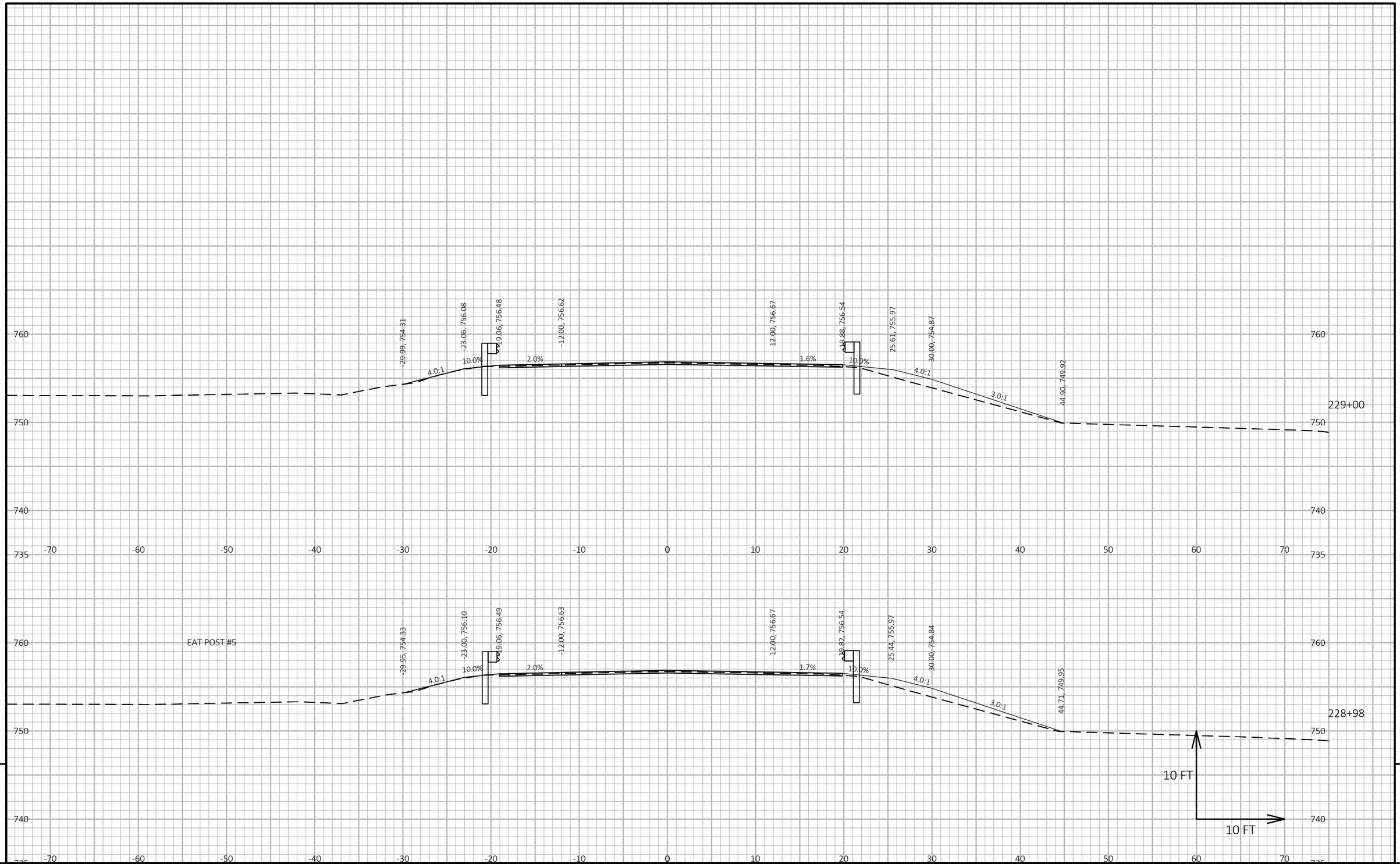
PROJECT NO: 5215-02-74	HWY: STH 81	COUNTY: GRANT	CROSS SECTIONS: STH 81	SHEET 99	E

FILE NAME : S:\MAD\1000--1099\1089\632\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090209

PLOT DATE : 5/5/2022 6:56 AM PLOT BY : JACK, ROBERT A. PLOT NAME :

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

WISDOT/CADDS SHEET 49



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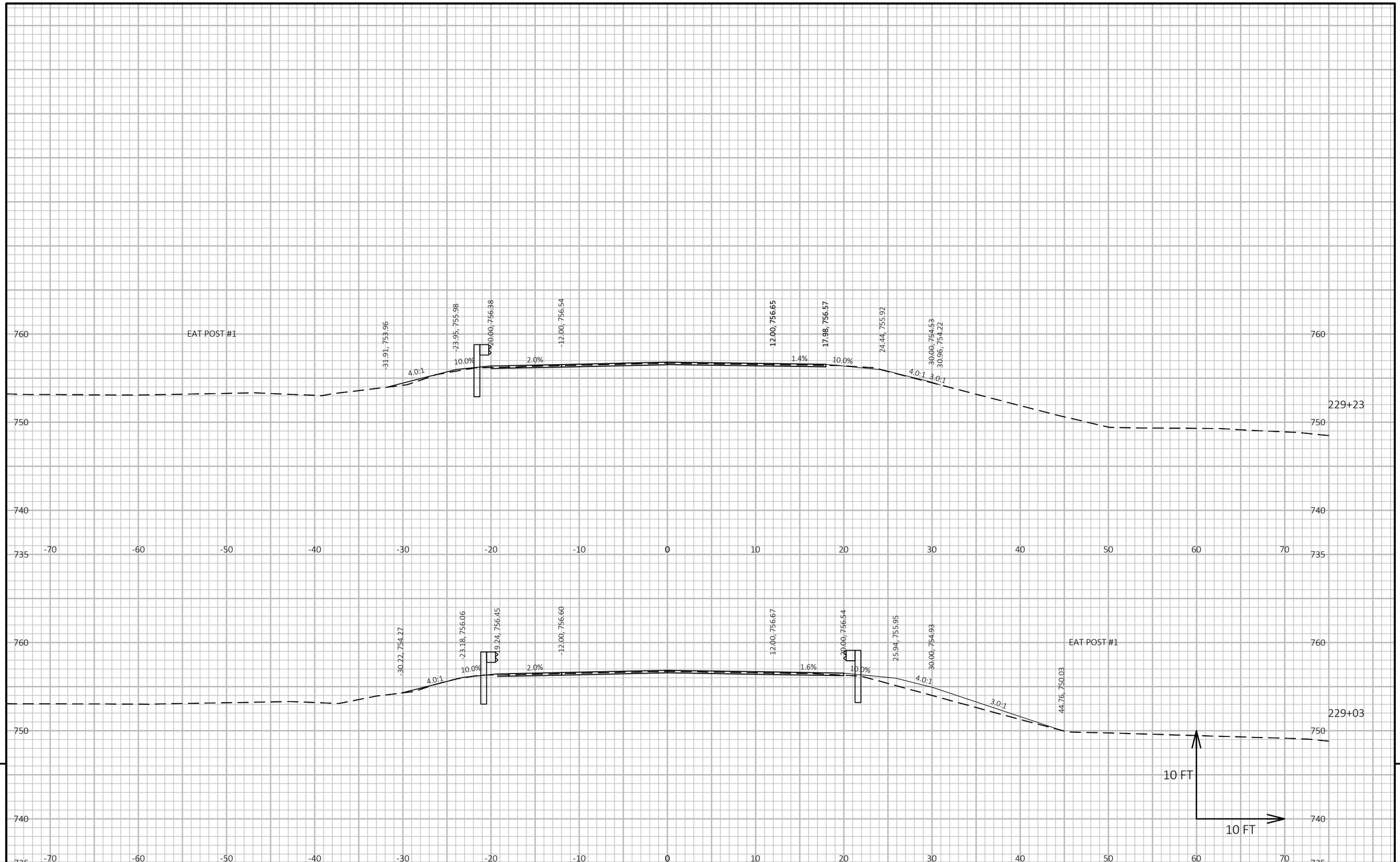
PROJECT NO: 5215-02-74	HWY: STH 81	COUNTY: GRANT	CROSS SECTIONS: STH 81	SHEET 100	E

FILE NAME : S:\MAD\1000--1099\1089\632\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090210

PLOT DATE : 5/5/2022 7:21 AM PLOT BY : JACK, ROBERT A. PLOT NAME :

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

WISDOT/CADDS SHEET 49



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PROJECT NO: 5215-02-74	HWY: STH 81	COUNTY: GRANT	CROSS SECTIONS: STH 81	SHEET 101	E

FILE NAME : S:\MAD\1000--1099\1089\632\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090211

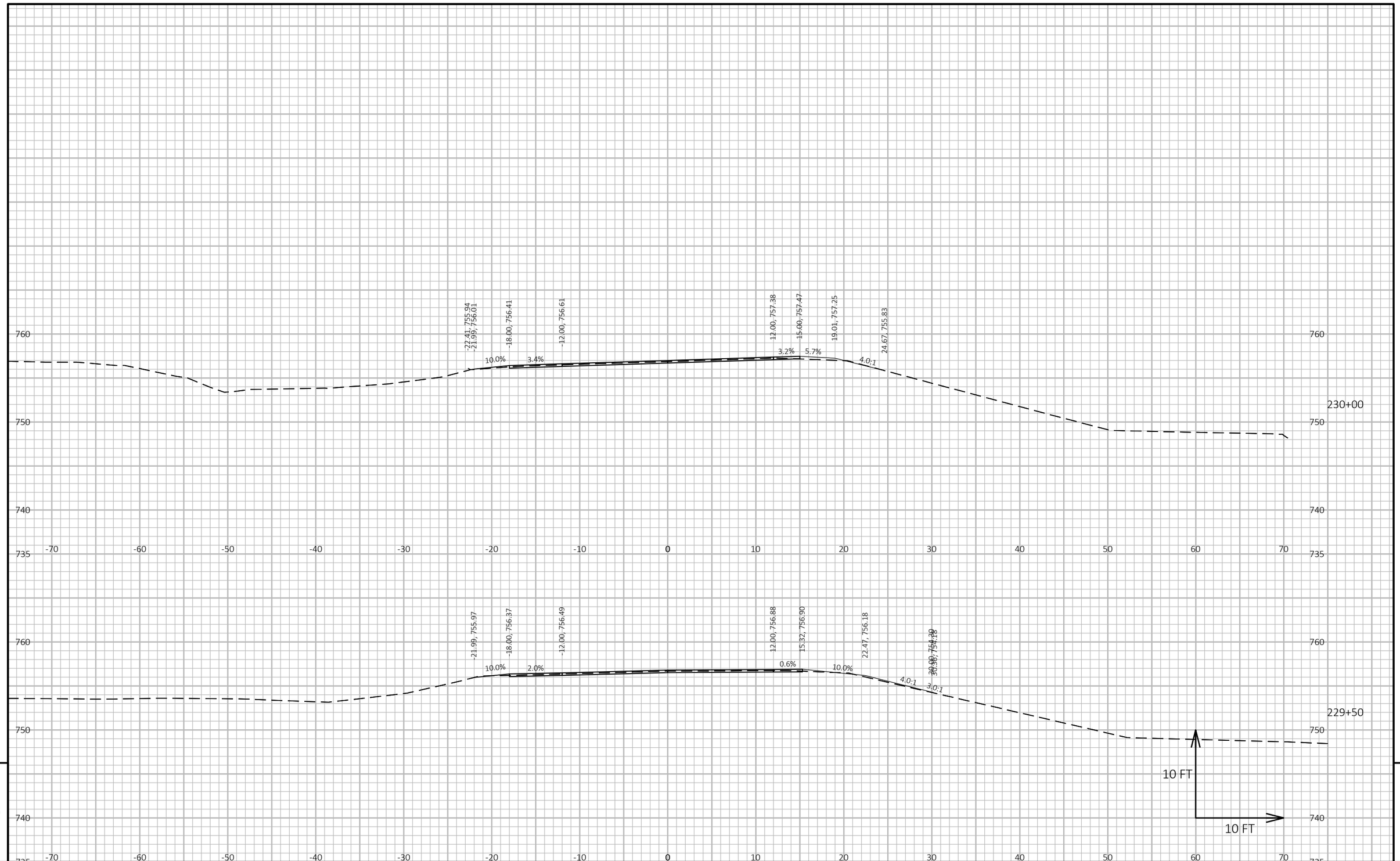
PLOT DATE : 5/5/2022 7:31 AM

PLOT BY : JACK, ROBERT A.

PLOT NAME :

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

WISDOT/CADDS SHEET 49



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PROJECT NO: 5215-02-74	HWY: STH 81	COUNTY: GRANT	CROSS SECTIONS: STH 81	SHEET 102	E

FILE NAME : S:\MAD\1000--1099\1089\632\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090212

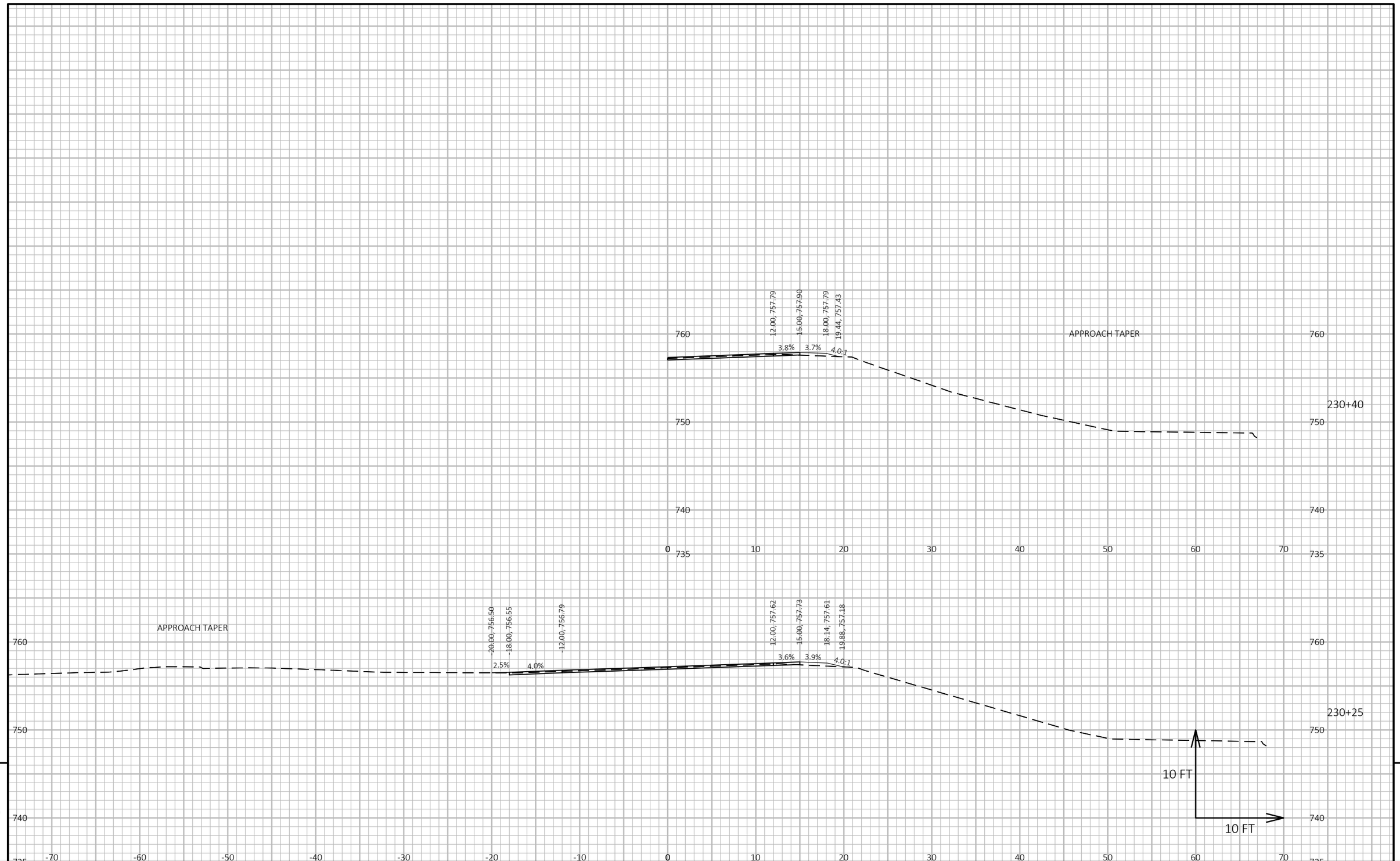
PLOT DATE : 5/5/2022 8:52 AM

PLOT BY : JACK, ROBERT A.

PLOT NAME :

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

WISDOT/CADDS SHEET 49



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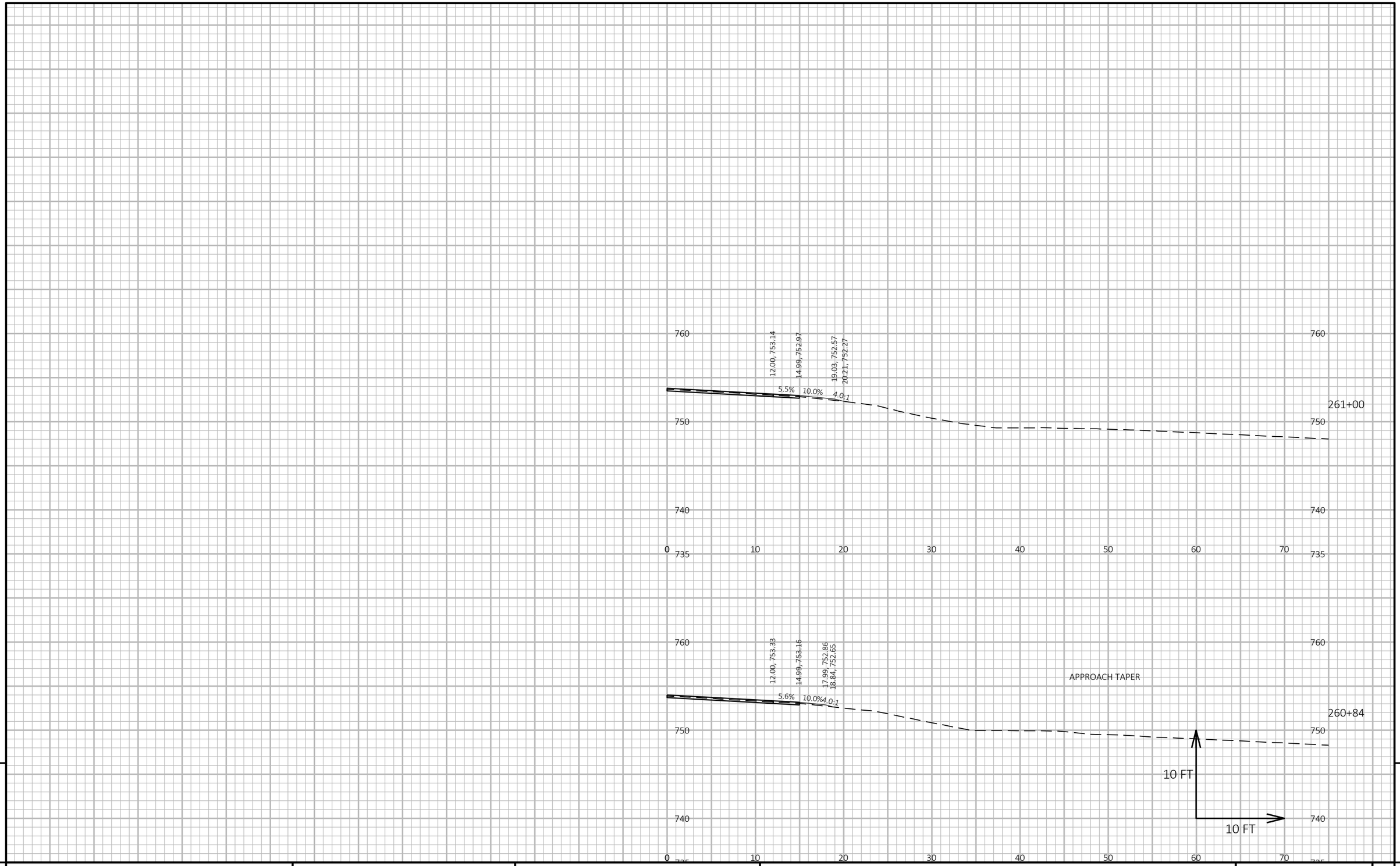
PROJECT NO: 5215-02-74	HWY: STH 81	COUNTY: GRANT	CROSS SECTIONS: STH 81	SHEET 103	E

FILE NAME : S:\MAD\1000--1099\1089\632\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090213

PLOT DATE : 5/5/2022 8:54 AM PLOT BY : JACK, ROBERT A. PLOT NAME :

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

WISDOT/CADDS SHEET 49



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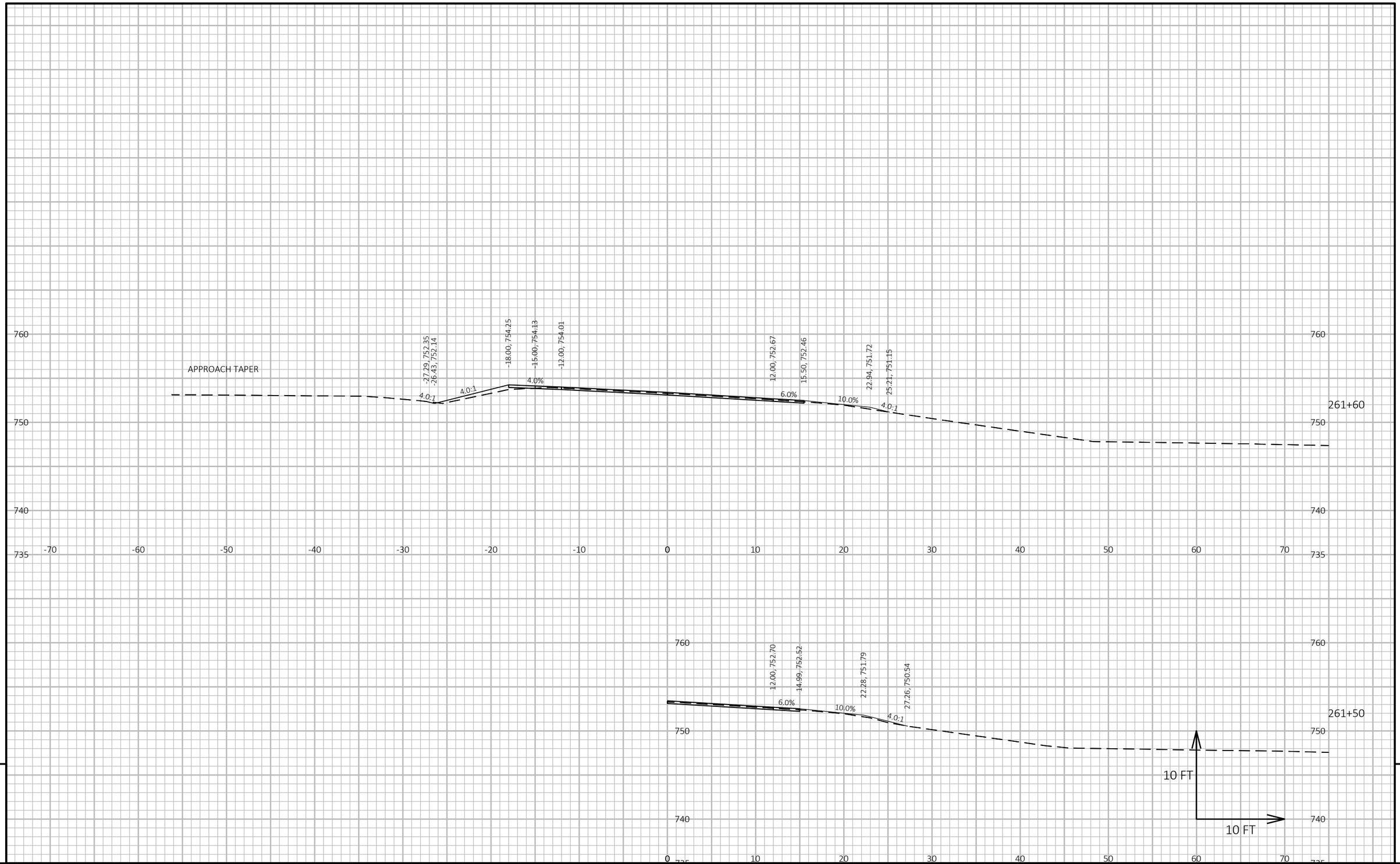
PROJECT NO: 5215-02-74	HWY: STH 81	COUNTY: GRANT	CROSS SECTIONS: STH 81	SHEET 104	E

FILE NAME : S:\MAD\1000--1099\1089\632\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090214

PLOT DATE : 5/4/2022 2:25 PM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



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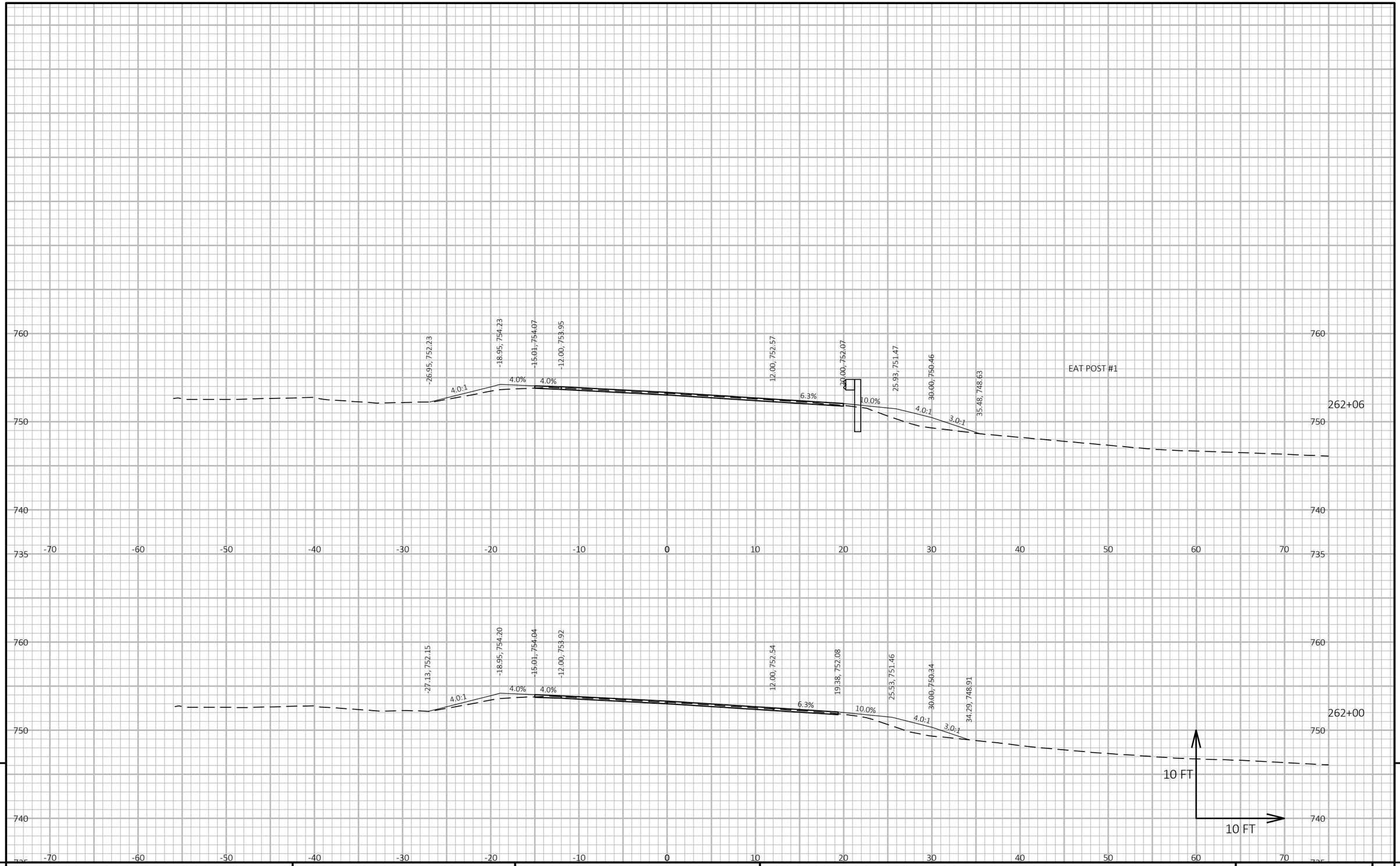
PROJECT NO: 5215-02-74	HWY: STH 81	COUNTY: GRANT	CROSS SECTIONS: STH 81	SHEET 105	E

FILE NAME : S:\MAD\1000--1099\1089\632\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090215

PLOT DATE : 5/5/2022 8:56 AM PLOT BY : JACK, ROBERT A. PLOT NAME :

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

WISDOT/CADDS SHEET 49

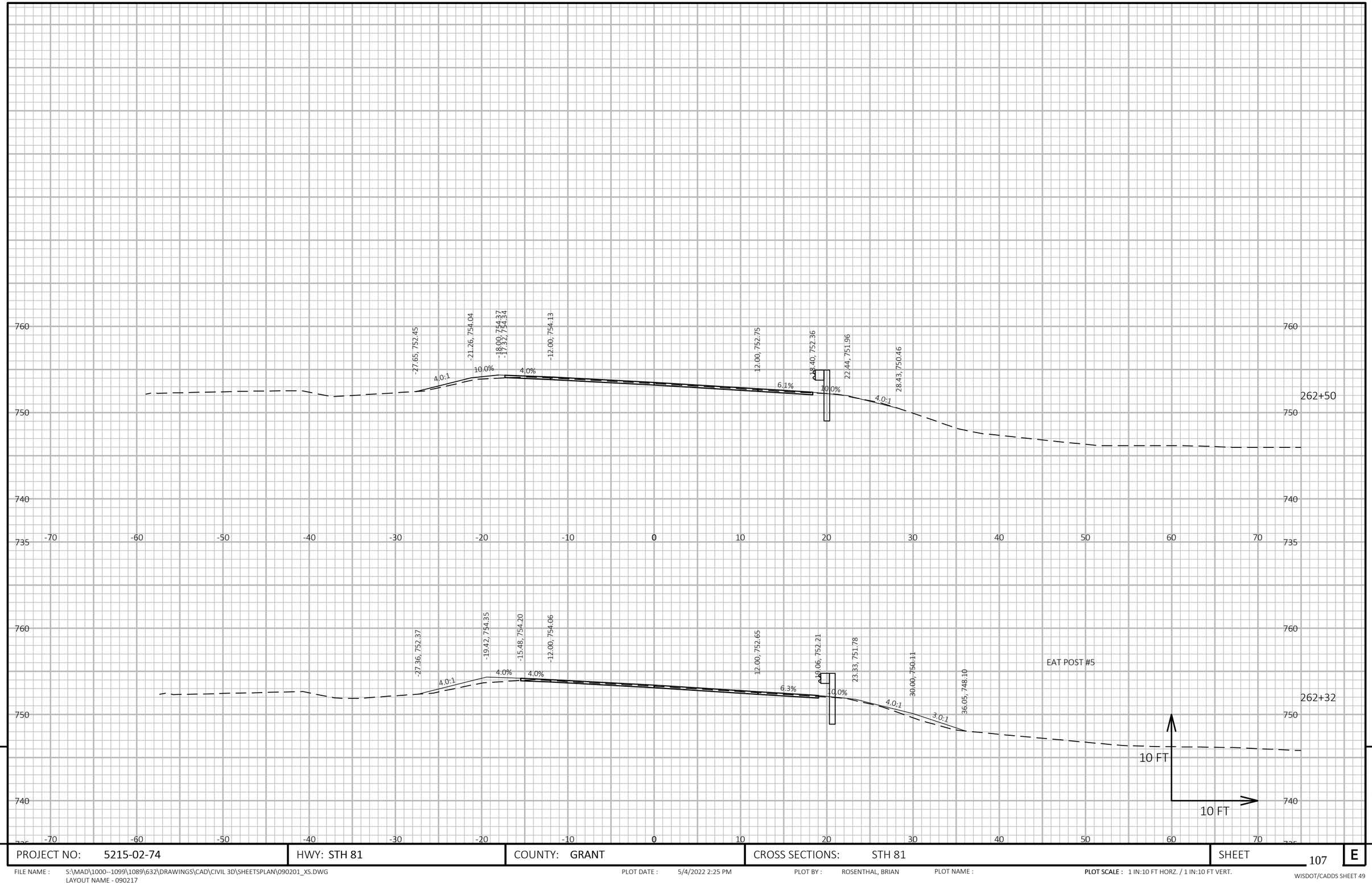


PROJECT NO: 5215-02-74	HWY: STH 81	COUNTY: GRANT	CROSS SECTIONS: STH 81	SHEET 106	E

FILE NAME : S:\MAD\1000--1099\1089\632\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090216

PLOT DATE : 5/4/2022 2:25 PM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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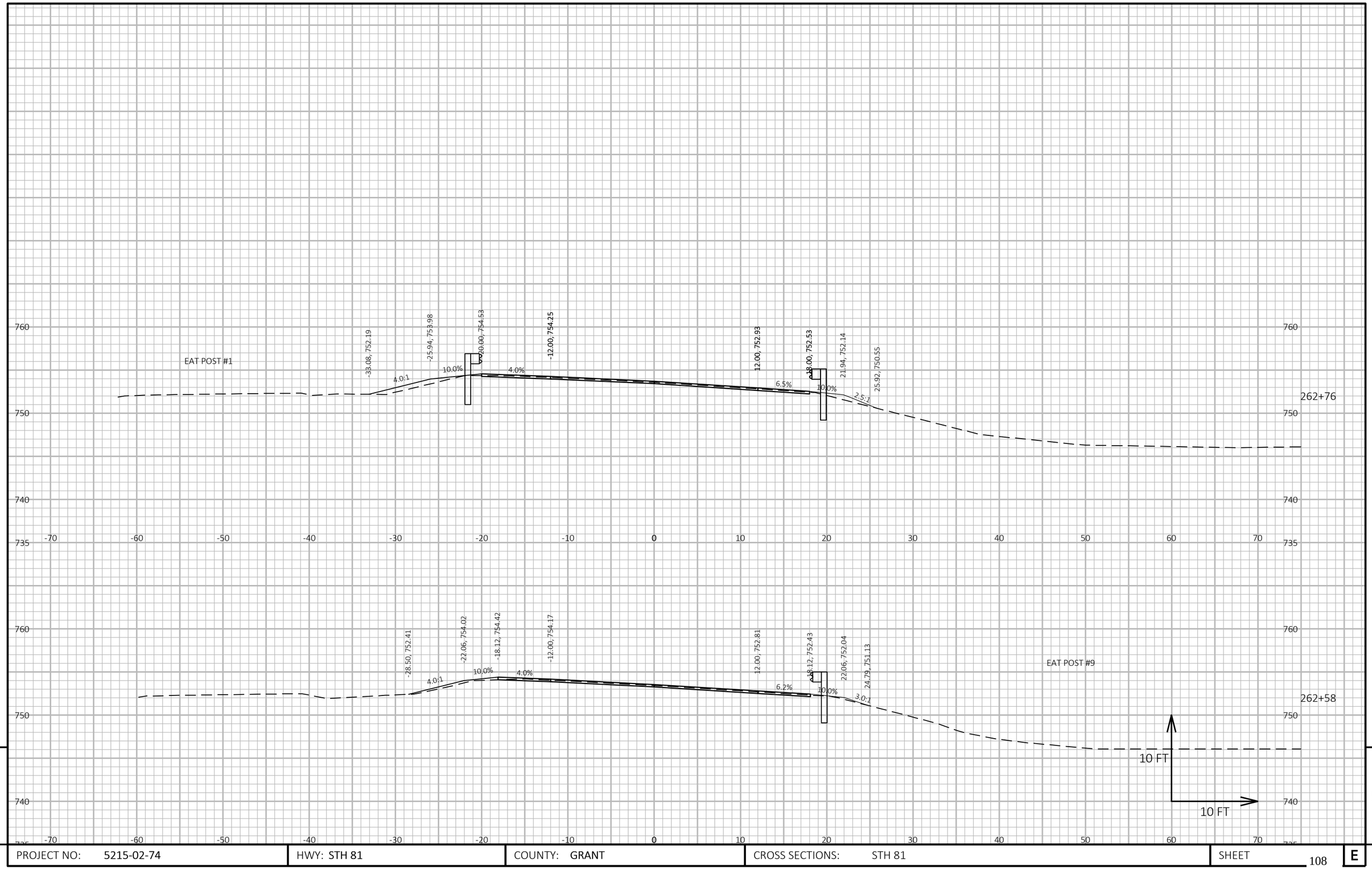
PROJECT NO: 5215-02-74	HWY: STH 81	COUNTY: GRANT	CROSS SECTIONS: STH 81	SHEET 107	E

FILE NAME : S:\MAD\1000--1099\1089\632\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090217

PLOT DATE : 5/4/2022 2:25 PM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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PROJECT NO: 5215-02-74	HWY: STH 81	COUNTY: GRANT	CROSS SECTIONS: STH 81	SHEET 108	E

FILE NAME : S:\MAD\1000--1099\1089\632\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090218

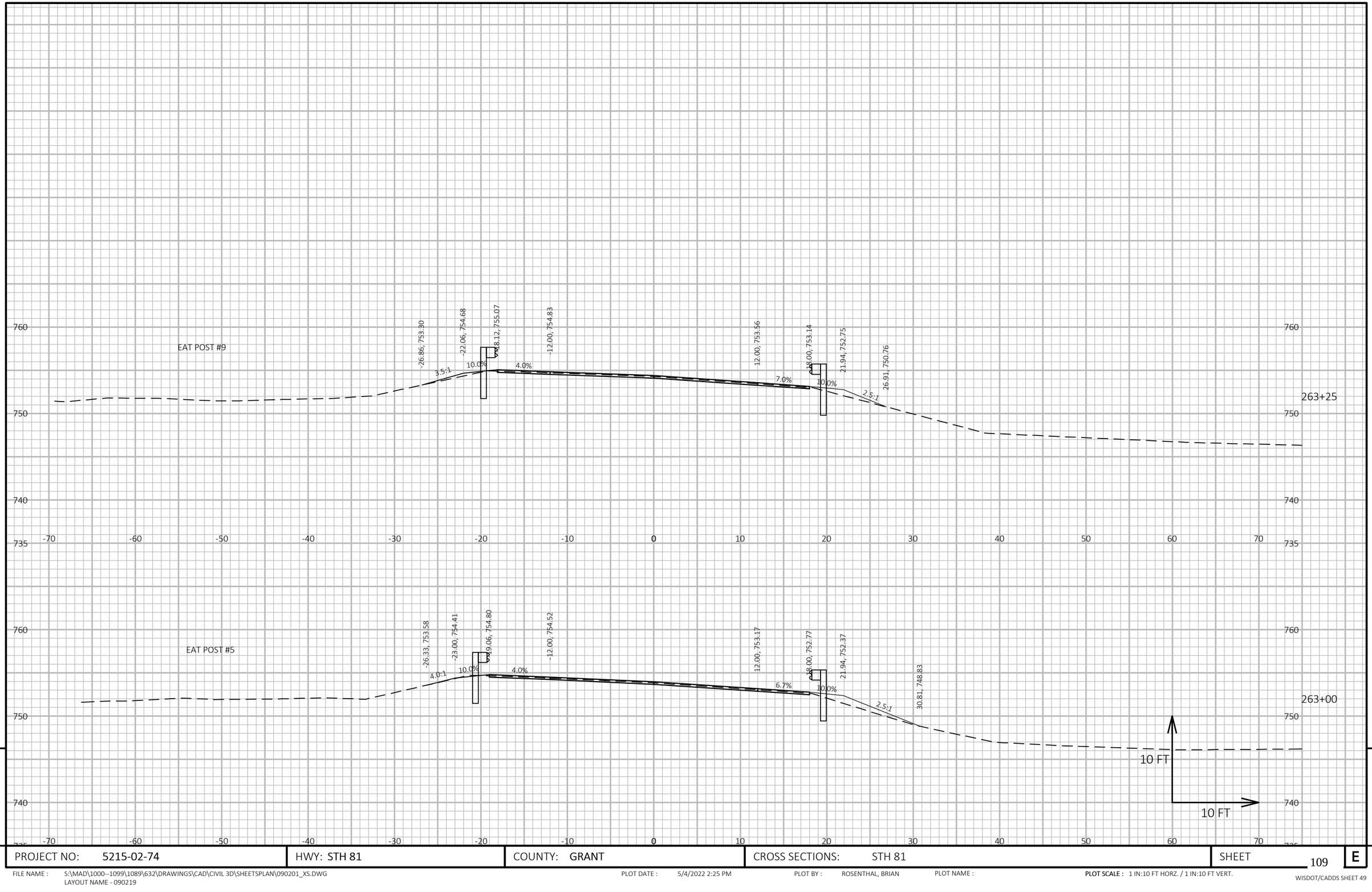
PLOT DATE : 5/4/2022 2:25 PM

PLOT BY : ROSENTHAL, BRIAN

PLOT NAME :

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

WISDOT/CADDS SHEET 49



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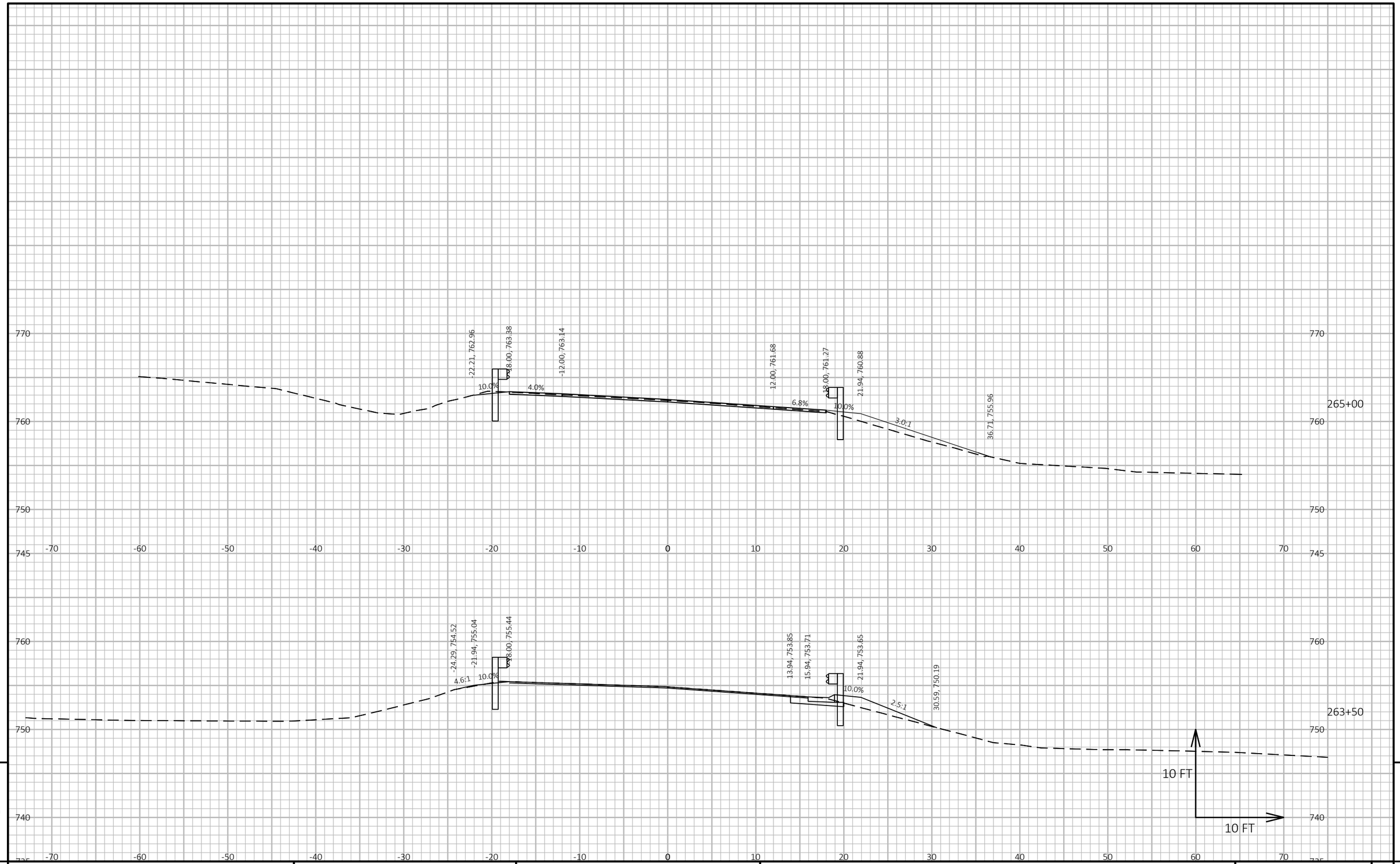
PROJECT NO: 5215-02-74	HWY: STH 81	COUNTY: GRANT	CROSS SECTIONS: STH 81	SHEET 109	E

FILE NAME : S:\MAD\1000--1099\1089\632\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090219

PLOT DATE : 5/4/2022 2:25 PM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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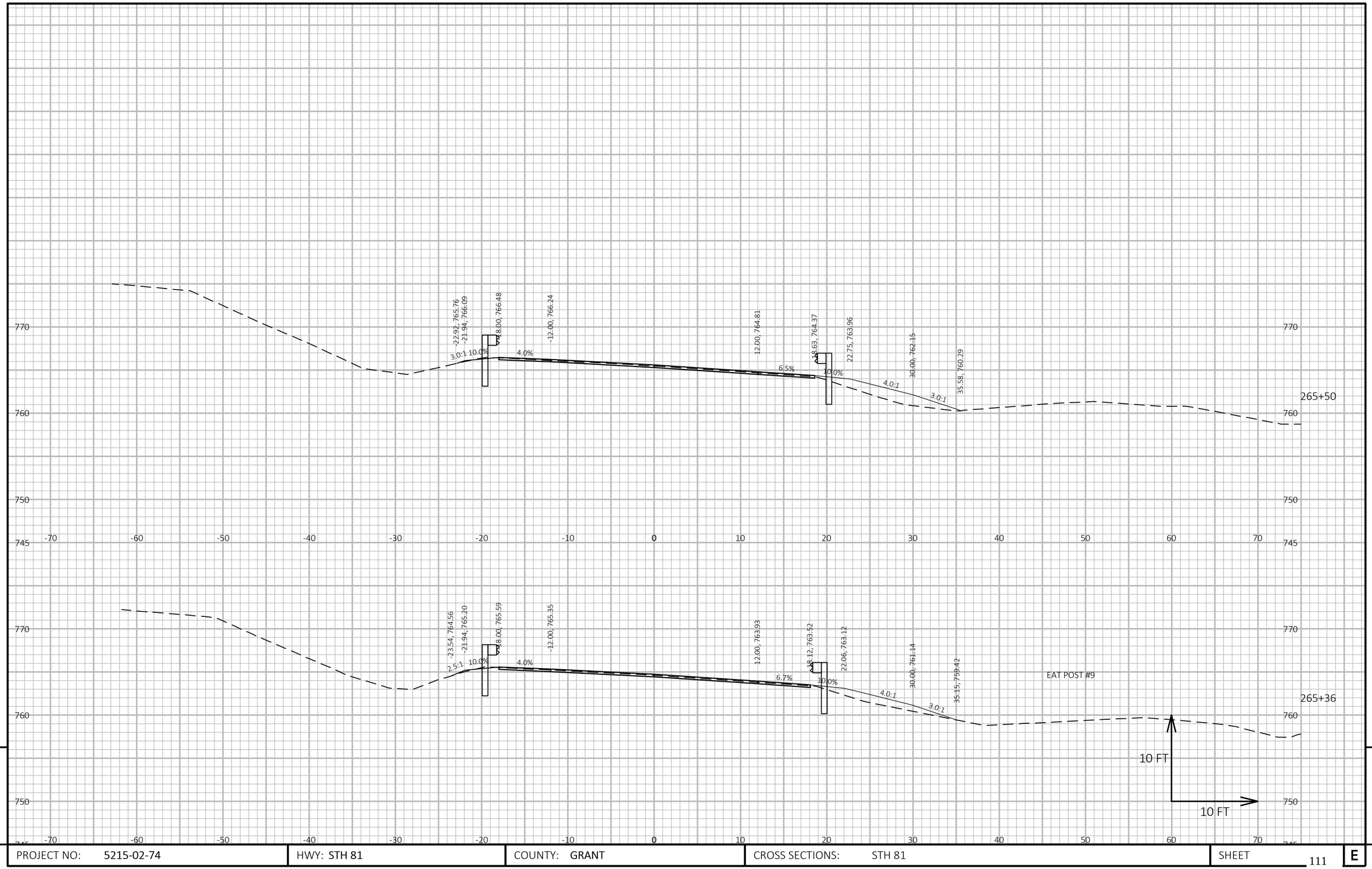
PROJECT NO: 5215-02-74	HWY: STH 81	COUNTY: GRANT	CROSS SECTIONS: STH 81	SHEET 110	E

FILE NAME : S:\MAD\1000--1099\1089\632\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090220

PLOT DATE : 7/27/2022 11:48 AM PLOT BY : JACK, ROBERT A. PLOT NAME :

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

WISDOT/CADDS SHEET 49



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PROJECT NO: 5215-02-74	HWY: STH 81	COUNTY: GRANT	CROSS SECTIONS: STH 81	SHEET 111	E

FILE NAME : S:\MAD\1000--1099\1089\632\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090221

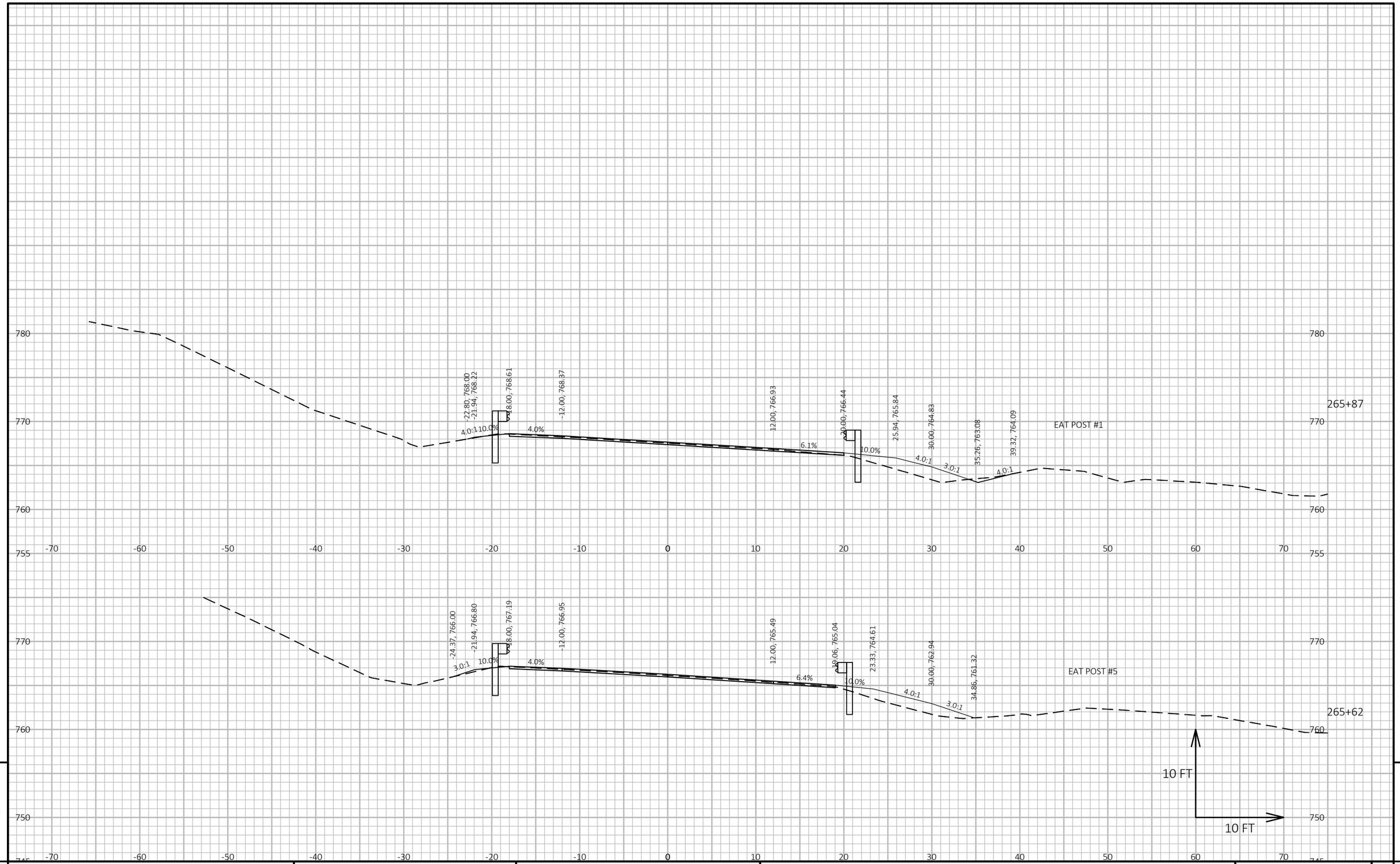
PLOT DATE : 5/4/2022 2:26 PM

PLOT BY : ROSENTHAL, BRIAN

PLOT NAME :

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

WISDOT/CADDS SHEET 49



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PROJECT NO: 5215-02-74	HWY: STH 81	COUNTY: GRANT	CROSS SECTIONS: STH 81	SHEET 112	E

FILE NAME : S:\MAD\1000--1099\1089\632\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090222

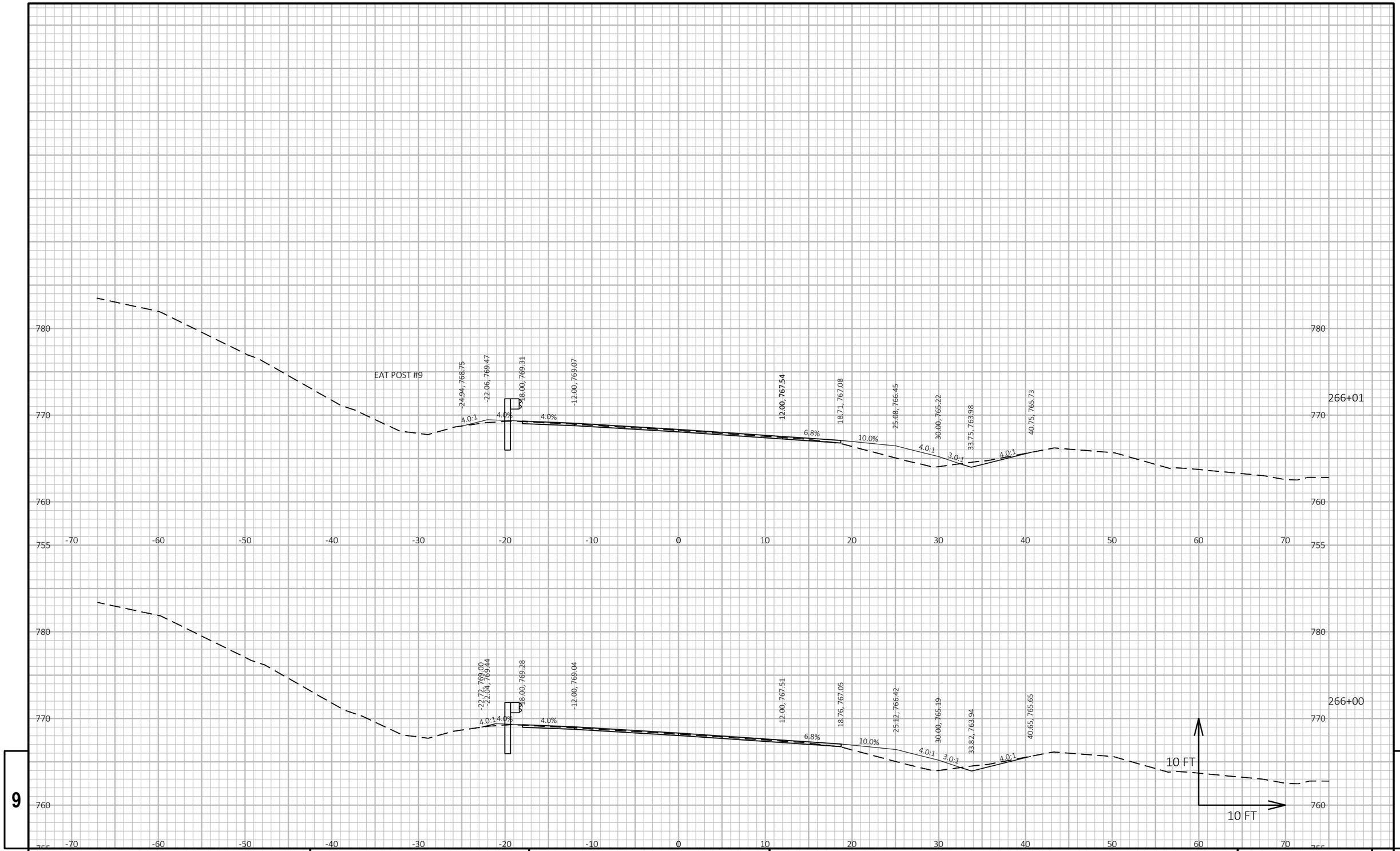
PLOT DATE : 5/6/2022 10:16 AM

PLOT BY : JACK, ROBERT A.

PLOT NAME :

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

WISDOT/CADDS SHEET 49



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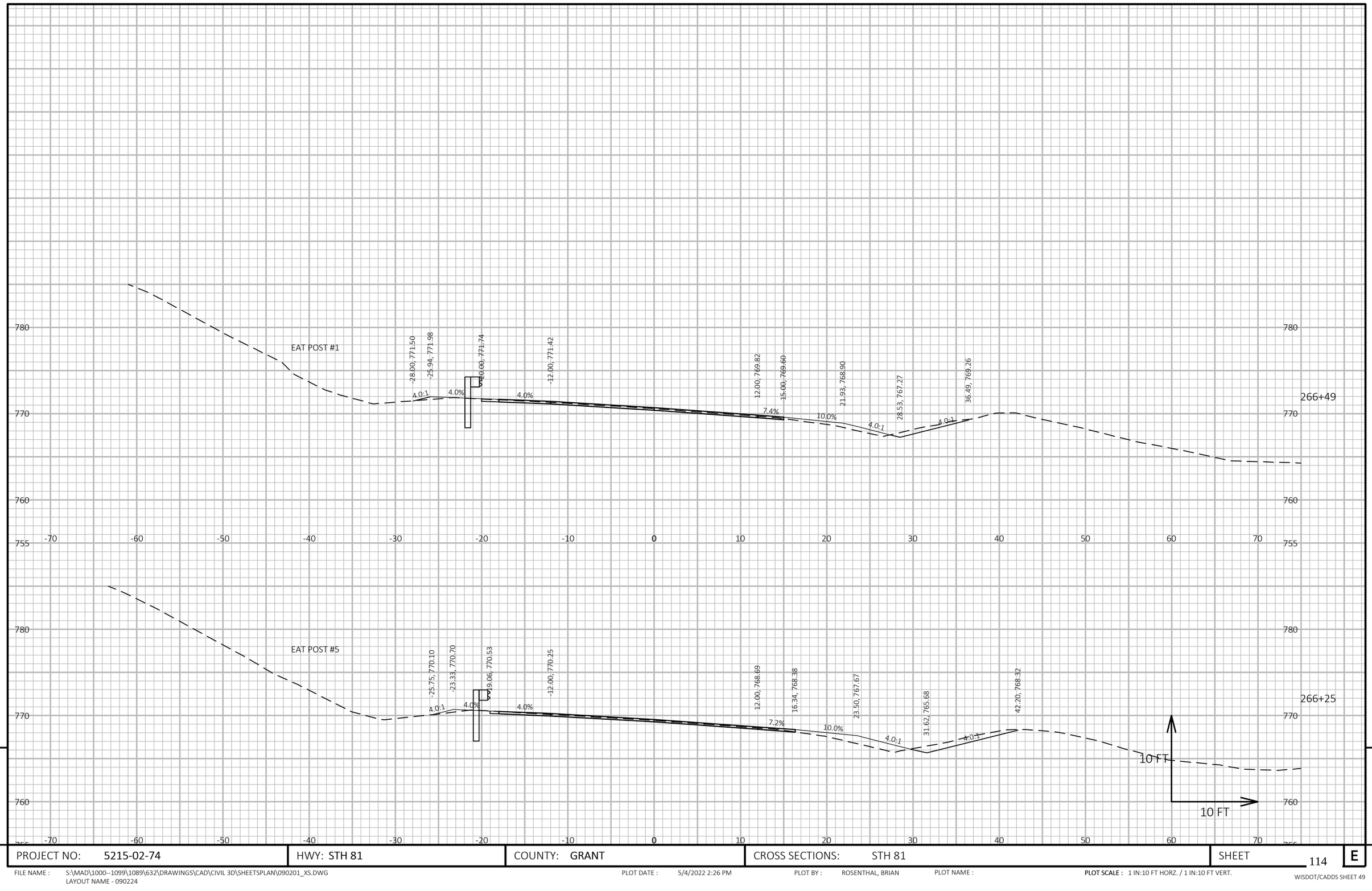
PROJECT NO: 5215-02-74	HWY: STH 81	COUNTY: GRANT	CROSS SECTIONS: STH 81	SHEET 113	E

FILE NAME : S:\MAD\1000--1099\1089\632\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090223

PLOT DATE : 5/6/2022 10:17 AM PLOT BY : JACK, ROBERT A. PLOT NAME :

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

WISDOT/CADDS SHEET 49



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PROJECT NO: 5215-02-74	HWY: STH 81	COUNTY: GRANT	CROSS SECTIONS: STH 81	SHEET 114	E

FILE NAME : S:\MAD\1000--1099\1089\632\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090224

PLOT DATE : 5/4/2022 2:26 PM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

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PROJECT NO: 5215-02-74	HWY: STH 81	COUNTY: GRANT	CROSS SECTIONS: STH 81	SHEET 115	E

FILE NAME : S:\MAD\1000--1099\1089\632\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090225

PLOT DATE : 5/4/2022 2:26 PM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

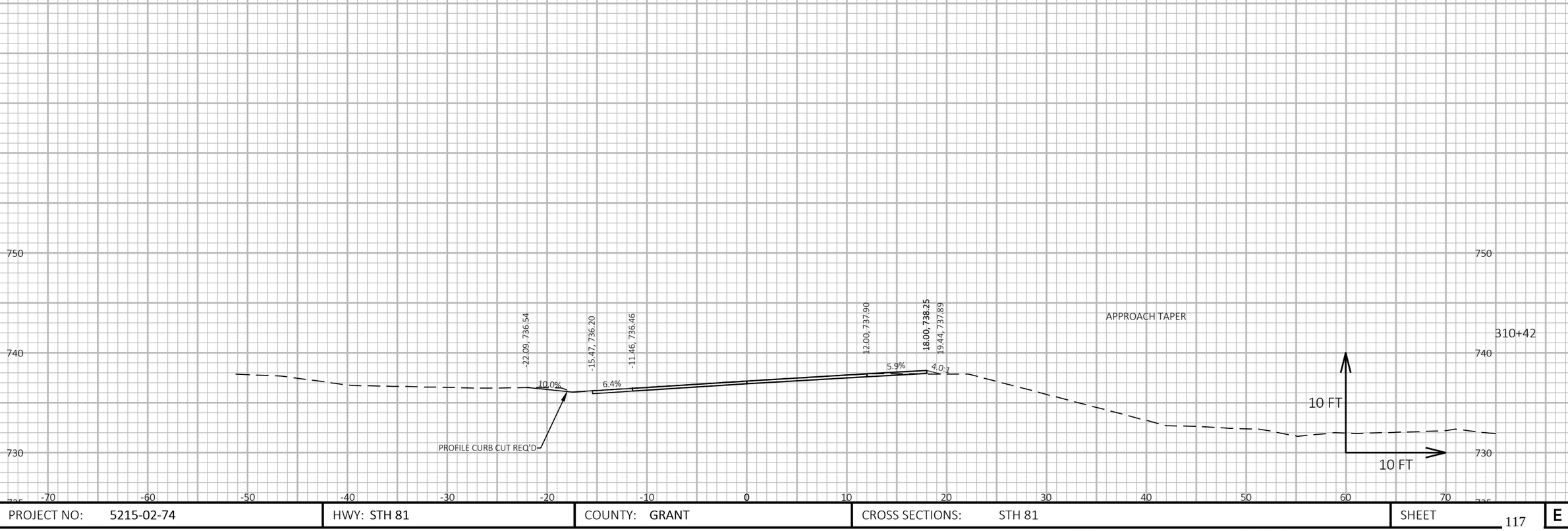
WISDOT/CADDS SHEET 49

PROJECT NO: 5215-02-74	HWY: STH 81	COUNTY: GRANT	CROSS SECTIONS: STH 81	SHEET 116	E

FILE NAME : S:\MAD\1000--1099\1089\632\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090226

PLOT DATE : 5/4/2022 2:26 PM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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PROJECT NO: 5215-02-74	HWY: STH 81	COUNTY: GRANT	CROSS SECTIONS: STH 81	SHEET 117	E

FILE NAME : S:\MAD\1000--1099\1089\632\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090227

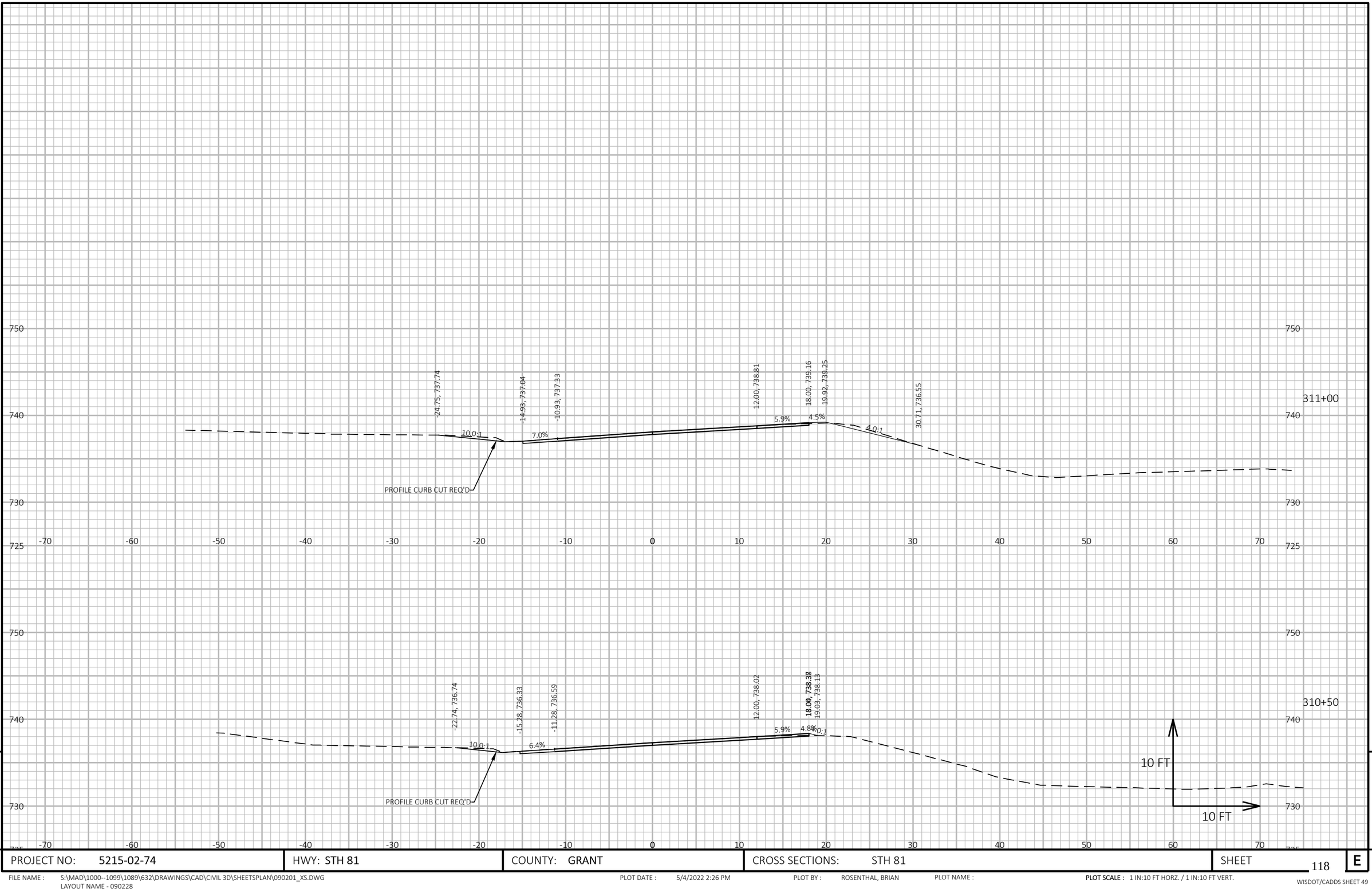
PLOT DATE : 5/4/2022 2:26 PM

PLOT BY : ROSENTHAL, BRIAN

PLOT NAME :

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

WISDOT/CADDS SHEET 49

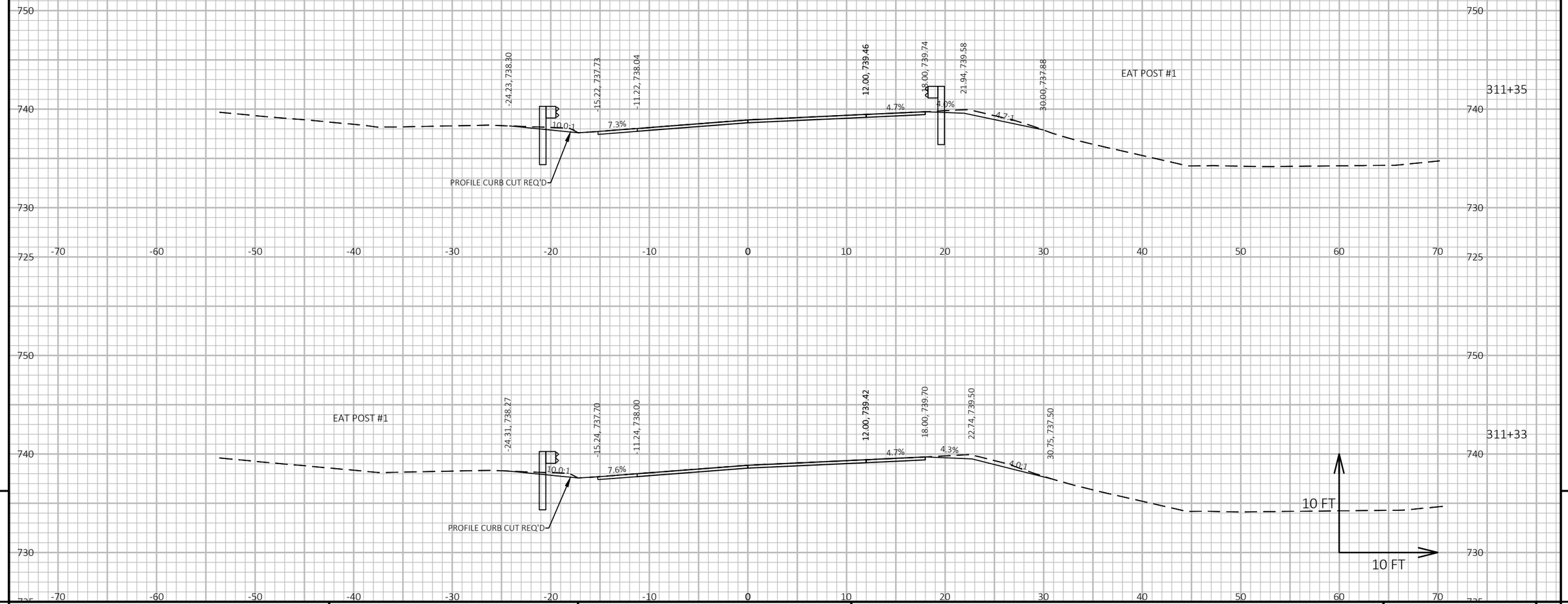


PROJECT NO: 5215-02-74	HWY: STH 81	COUNTY: GRANT	CROSS SECTIONS: STH 81	SHEET 118	E

FILE NAME : S:\MAD\1000--1099\1089\632\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090228

PLOT DATE : 5/4/2022 2:26 PM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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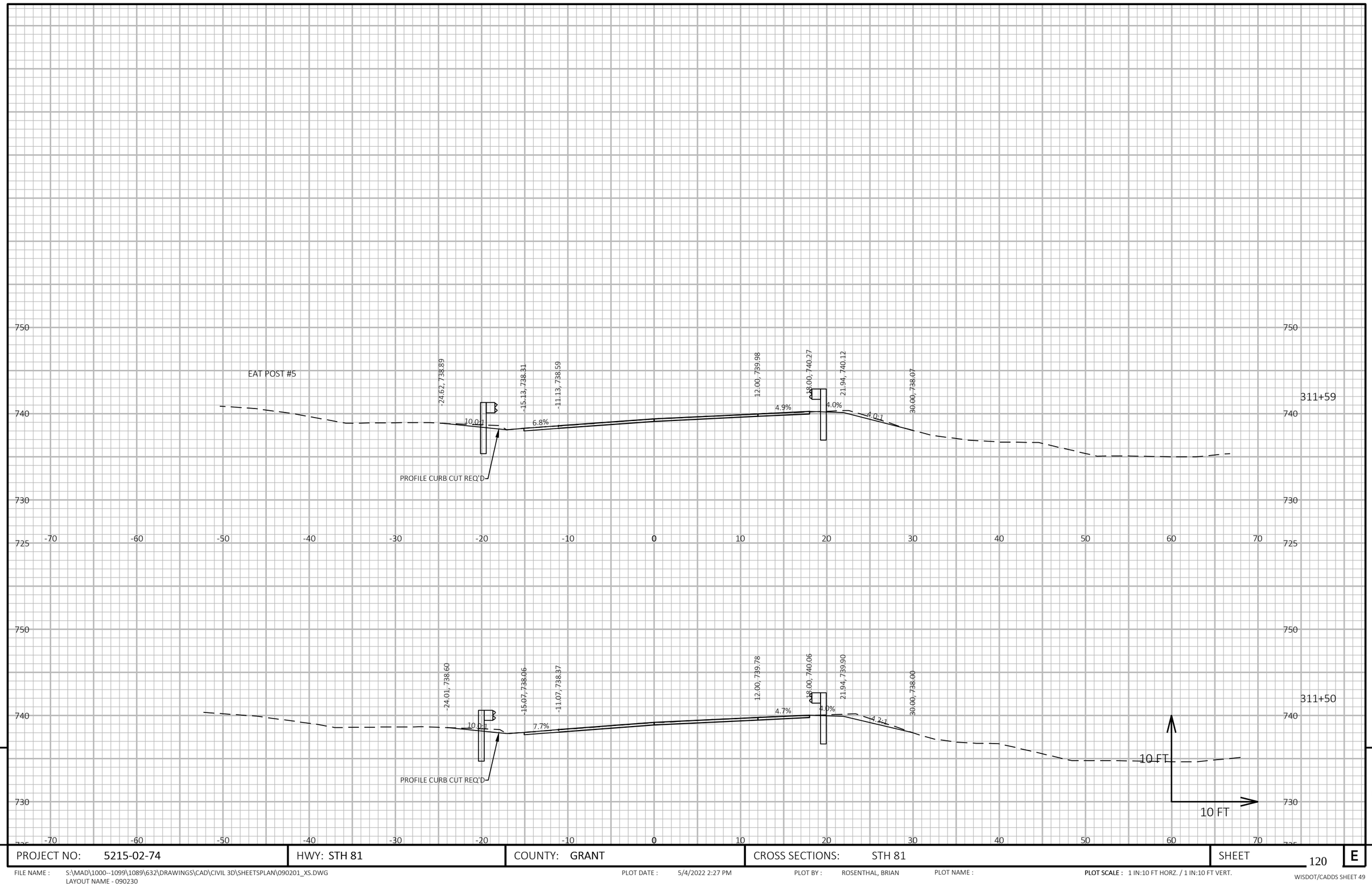
PROJECT NO: 5215-02-74	HWY: STH 81	COUNTY: GRANT	CROSS SECTIONS: STH 81	SHEET 119	E

FILE NAME : S:\MAD\1000--1099\1089\632\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090229

PLOT DATE : 5/5/2022 9:00 AM PLOT BY : JACK, ROBERT A. PLOT NAME :

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

WISDOT/CADDS SHEET 49

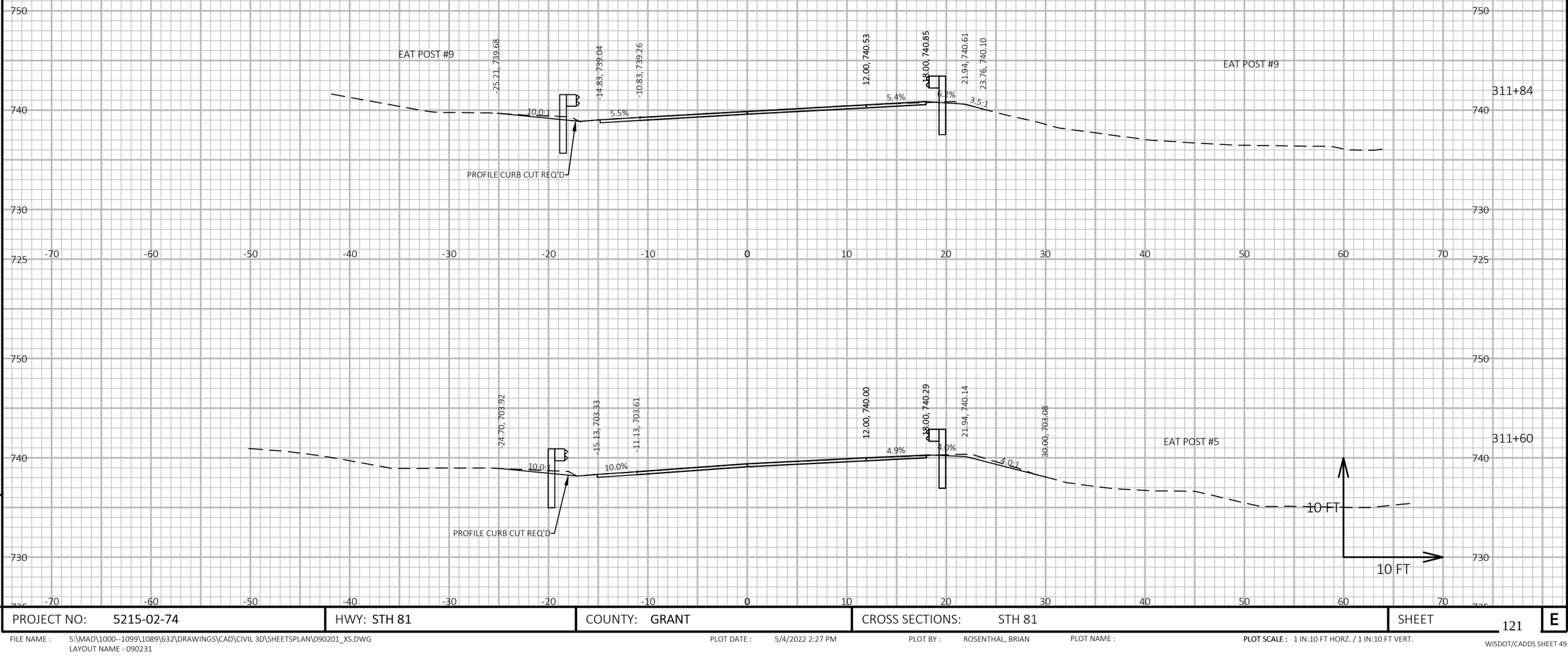


PROJECT NO: 5215-02-74	HWY: STH 81	COUNTY: GRANT	CROSS SECTIONS: STH 81	SHEET 120	E

FILE NAME : S:\MAD\1000--1099\1089\632\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090230

PLOT DATE : 5/4/2022 2:27 PM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



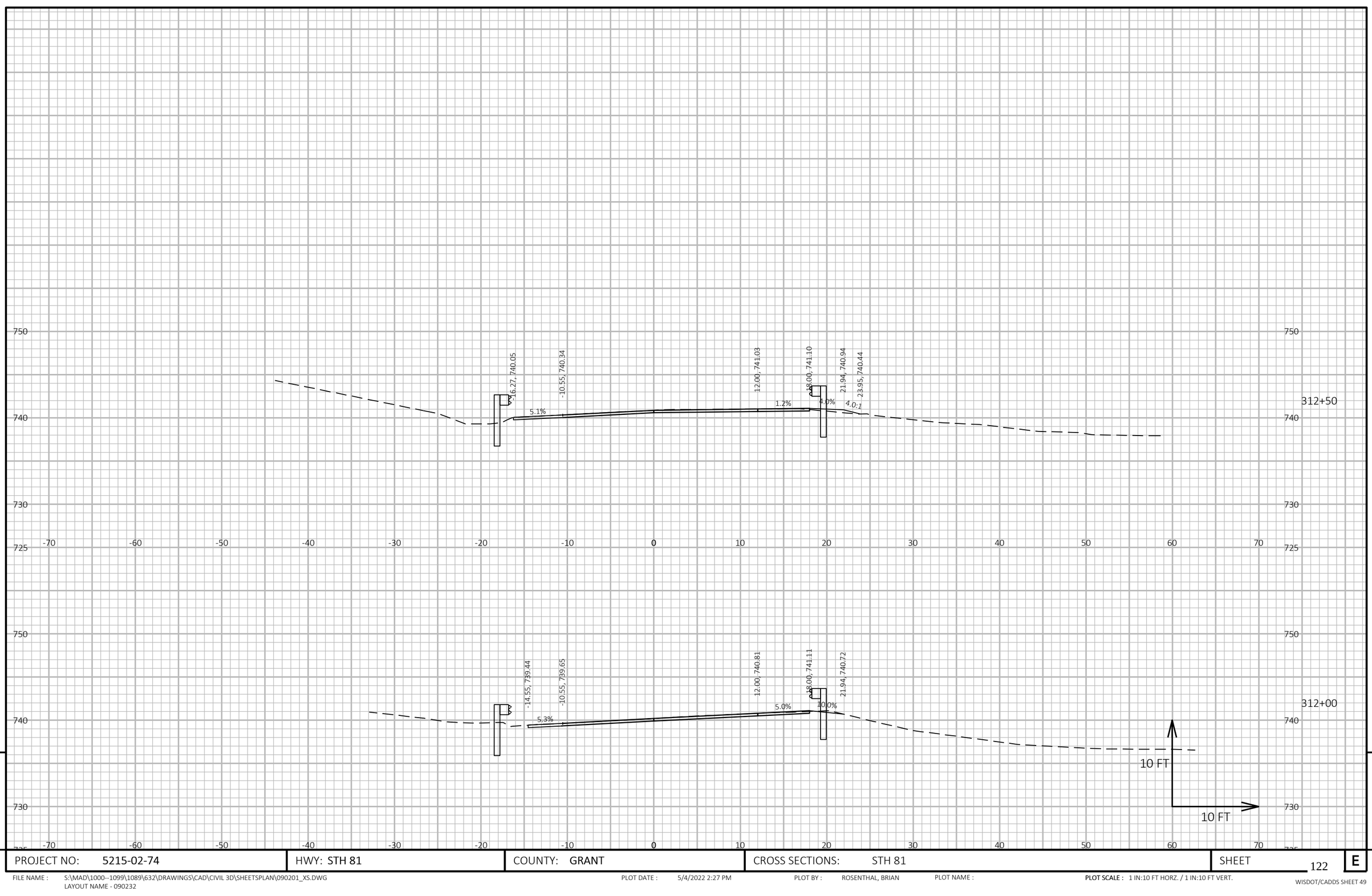
PROJECT NO: 5215-02-74	HWY: STH 81	COUNTY: GRANT	CROSS SECTIONS: STH 81	SHEET 121	E

FILE NAME : S:\MAD\1000--1099\1089\632\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090231

PLOT DATE : 5/4/2022 2:27 PM PLOT BY : ROSENTHAL, BRIAN PLOT NAME :

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

WISDOT/CADDS SHEET 49

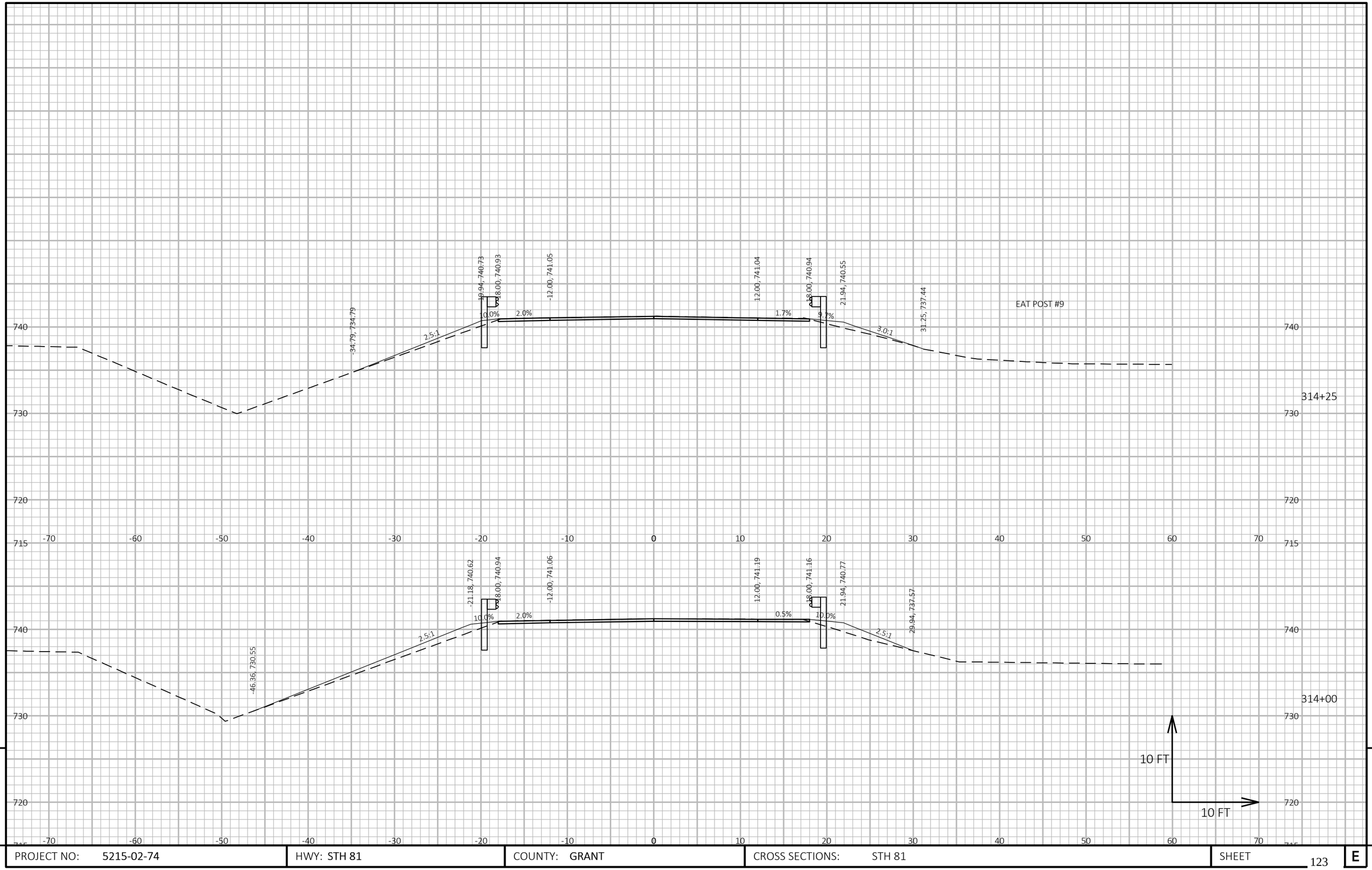


PROJECT NO: 5215-02-74	HWY: STH 81	COUNTY: GRANT	CROSS SECTIONS: STH 81	SHEET 122	E

FILE NAME : S:\MAD\1000--1099\1089\632\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090232

PLOT DATE : 5/4/2022 2:27 PM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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PROJECT NO: 5215-02-74	HWY: STH 81	COUNTY: GRANT	CROSS SECTIONS: STH 81	SHEET 123	E

FILE NAME : S:\MAD\1000--1099\1089\632\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090233

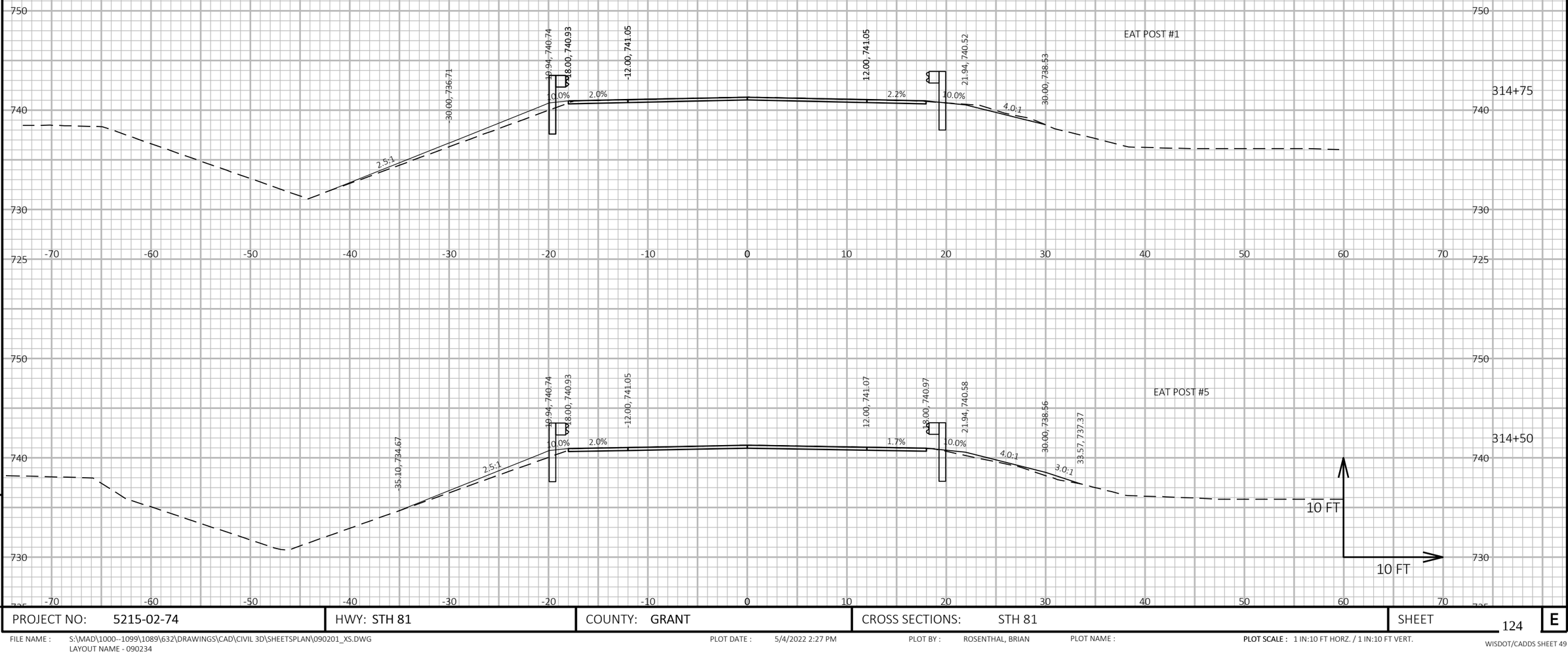
PLOT DATE : 5/4/2022 2:27 PM

PLOT BY : ROSENTHAL, BRIAN

PLOT NAME :

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

WISDOT/CADDS SHEET 49



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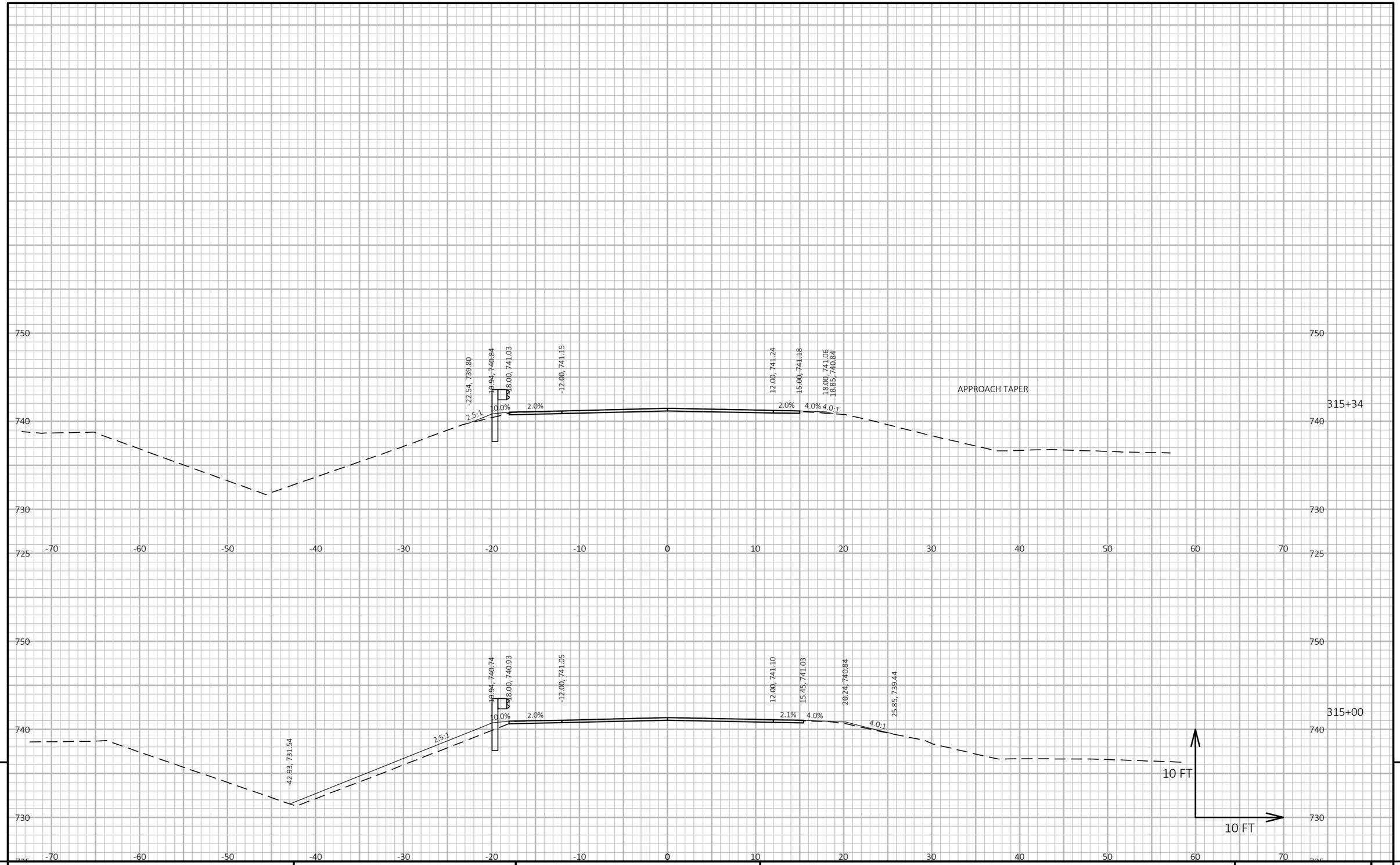
PROJECT NO: 5215-02-74	HWY: STH 81	COUNTY: GRANT	CROSS SECTIONS: STH 81	SHEET 124	E

FILE NAME : S:\MAD\1000--1099\1089\632\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090234

PLOT DATE : 5/4/2022 2:27 PM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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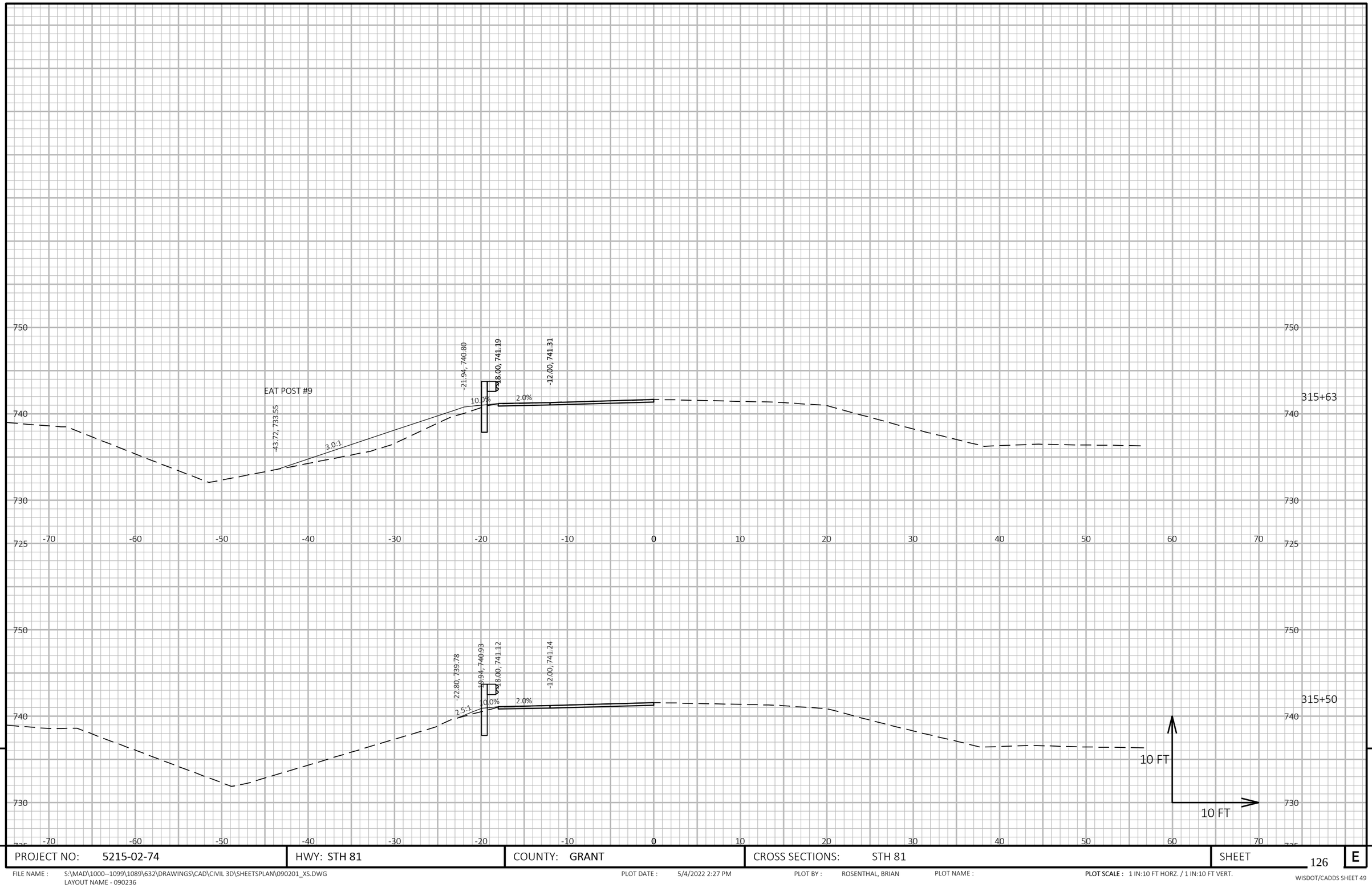
PROJECT NO: 5215-02-74	HWY: STH 81	COUNTY: GRANT	CROSS SECTIONS: STH 81	SHEET 125	E

FILE NAME : S:\MAD\1000--1099\1089\632\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090235

PLOT DATE : 5/4/2022 2:27 PM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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9

PROJECT NO: 5215-02-74	HWY: STH 81	COUNTY: GRANT	CROSS SECTIONS: STH 81	SHEET 126	E

FILE NAME : S:\MAD\1000--1099\1089\632\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090236

PLOT DATE : 5/4/2022 2:27 PM PLOT BY : ROSENTHAL, BRIAN PLOT NAME :

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

WISDOT/CADDS SHEET 49

750
740
730
725
-70 -60 -50 -40 -30 -20 -10 0 10 20 30 40 50 60 70
-39.88, 735.22
3.0:1
-21.94, 741.19
10.0%
-8.00, 741.58
2.0%
-12.00, 741.70
316+00

EAT POST #5

-24.42, 740.21
3.0:1
-21.94, 741.03
10.0%
-8.00, 741.42
2.0%
-12.00, 741.54
315+88

10 FT
10 FT

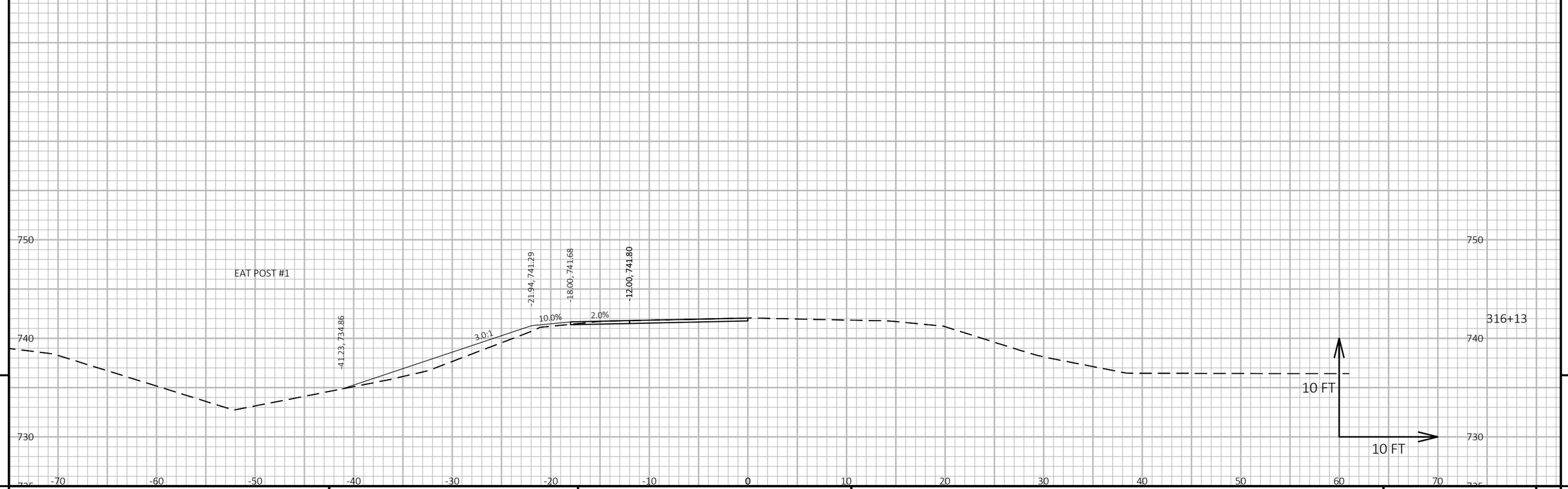
9

PROJECT NO: 5215-02-74	HWY: STH 81	COUNTY: GRANT	CROSS SECTIONS: STH 81	SHEET 127	E

FILE NAME : S:\MAD\1000--1099\1089\632\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090237

PLOT DATE : 5/4/2022 2:28 PM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

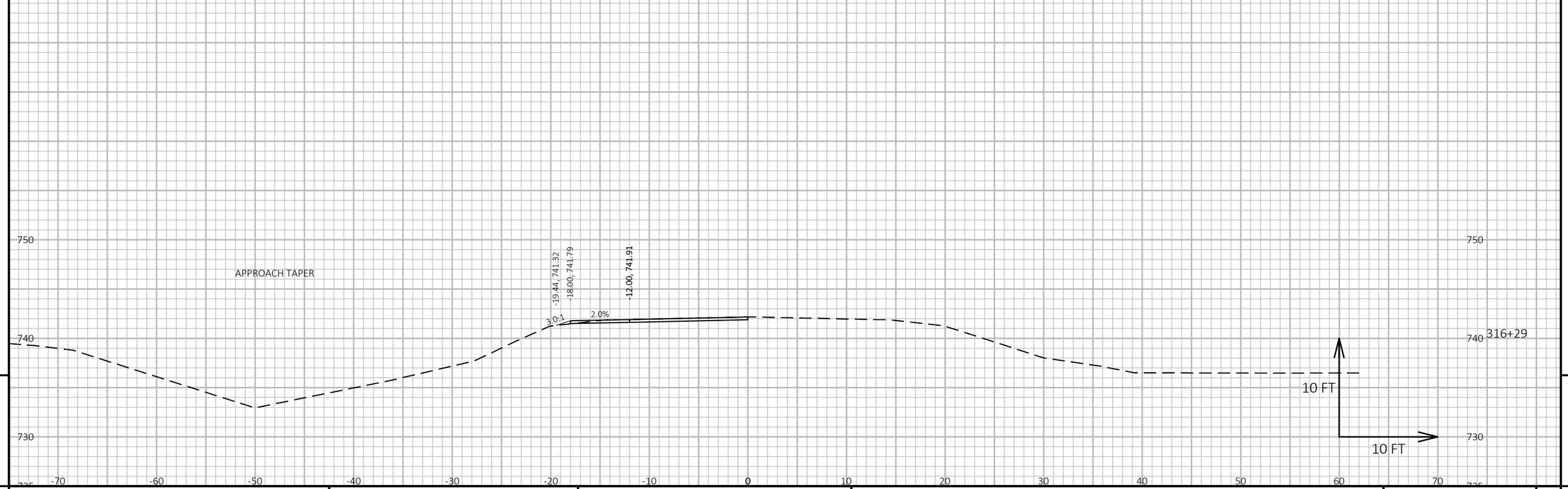
9

PROJECT NO: 5215-02-74	HWY: STH 81	COUNTY: GRANT	CROSS SECTIONS: STH 81	SHEET 128	E

FILE NAME : S:\MAD\1000--1099\1089\632\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090238

PLOT DATE : 5/6/2022 10:28 AM PLOT BY : JACK, ROBERT A. PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



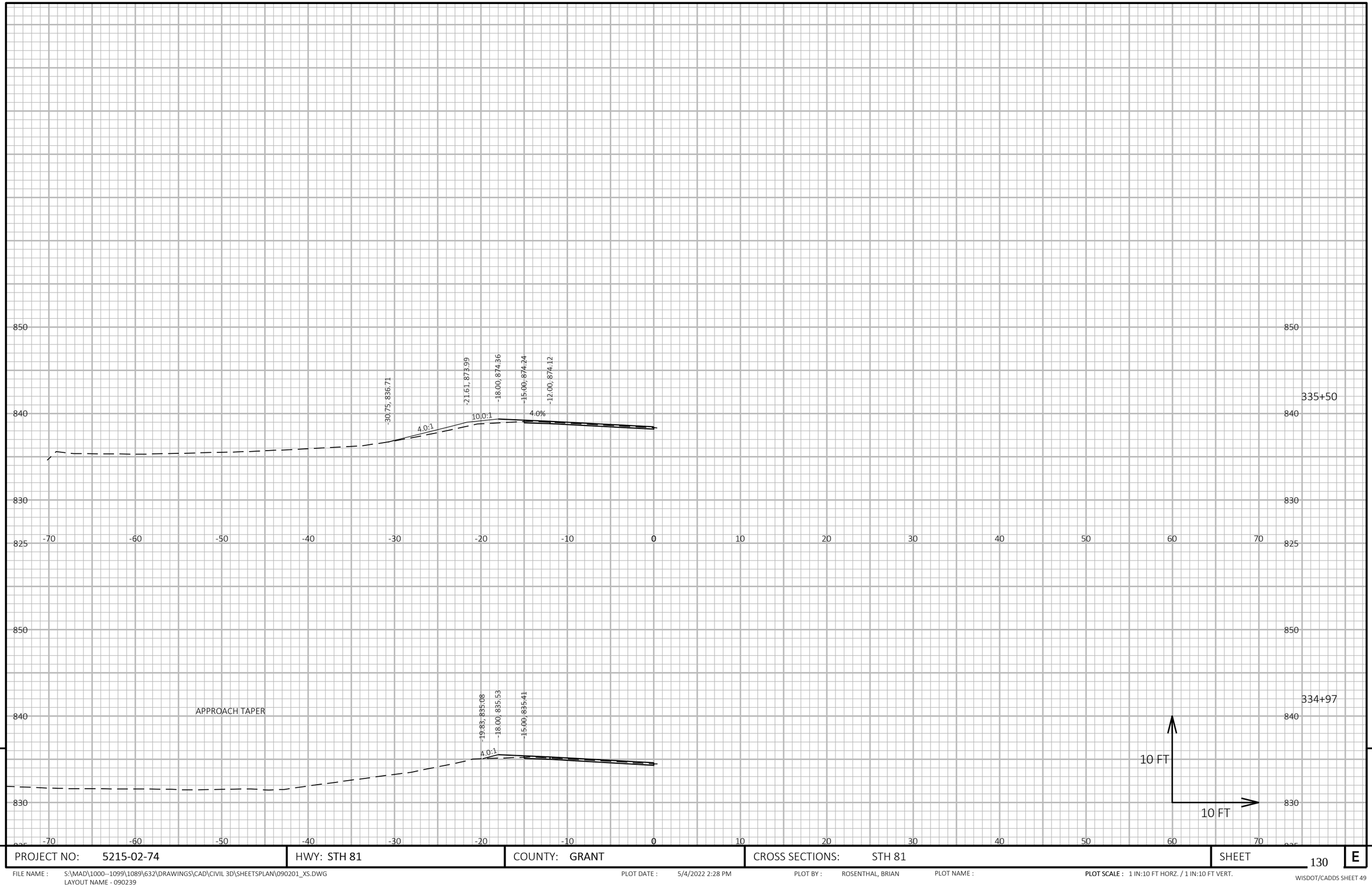
9

9

PROJECT NO: 5215-02-74	HWY: STH 81	COUNTY: GRANT	CROSS SECTIONS: STH 81	SHEET 129	E

FILE NAME : S:\MAD\1000--1099\1089\632\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090238a

PLOT DATE : 5/6/2022 10:31 AM PLOT BY : JACK, ROBERT A. PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



9

9

PROJECT NO: 5215-02-74	HWY: STH 81	COUNTY: GRANT	CROSS SECTIONS: STH 81	SHEET 130	E

FILE NAME : S:\MAD\1000--1099\1089\632\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090239

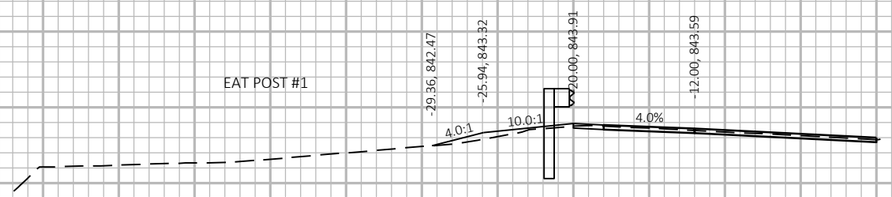
PLOT DATE : 5/4/2022 2:28 PM

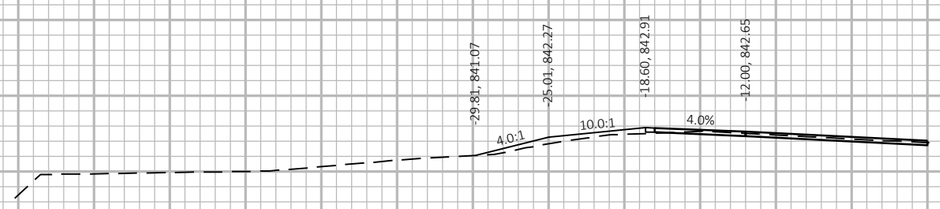
PLOT BY : ROSENTHAL, BRIAN

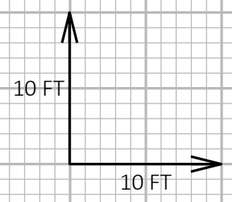
PLOT NAME :

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

WISDOT/CADDS SHEET 49







336+14

336+00

9

9

PROJECT NO: 5215-02-74	HWY: STH 81	COUNTY: GRANT	CROSS SECTIONS: STH 81	SHEET 131	E

FILE NAME : S:\MAD\1000--1099\1089\632\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090240

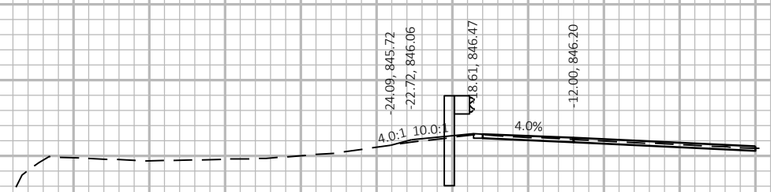
PLOT DATE : 5/4/2022 2:28 PM

PLOT BY : ROSENTHAL, BRIAN

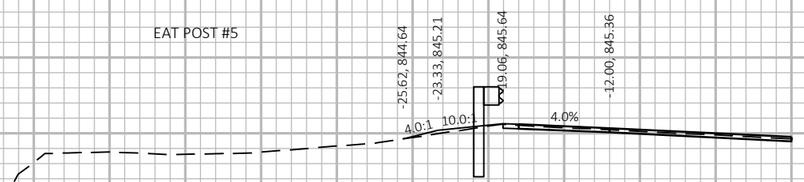
PLOT NAME :

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

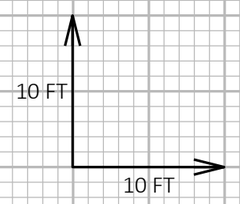
WISDOT/CADDS SHEET 49



336+50



336+38



PROJECT NO: 5215-02-74	HWY: STH 81	COUNTY: GRANT	CROSS SECTIONS: STH 81	SHEET 132	E

FILE NAME : S:\MAD\1000--1099\1089\632\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090241

PLOT DATE : 5/4/2022 2:28 PM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

860
850
840
835
-70 -60 -50 -40 -30 -20 -10 0 10 20 30 40 50 60 70

-22.59, 849.54
-21.94, 849.80
-8.00, 850.19
-12.00, 849.95
10.0%
4.0%

337+00

EAT POST #9

-23.75, 846.59
-23.06, 847.02
-8.12, 847.41
-12.00, 847.17
4.0:1
10.0:1
4.0%

336+63

10 FT
10 FT

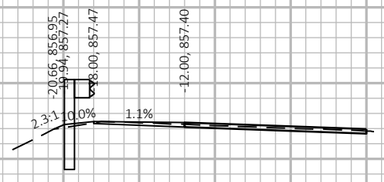
9

PROJECT NO: 5215-02-74	HWY: STH 81	COUNTY: GRANT	CROSS SECTIONS: STH 81	SHEET 133	E

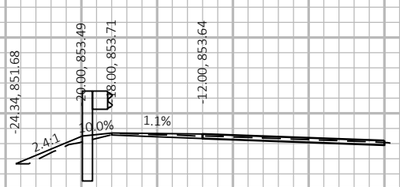
FILE NAME : S:\MAD\1000--1099\1089\632\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090242

PLOT DATE : 5/4/2022 2:28 PM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

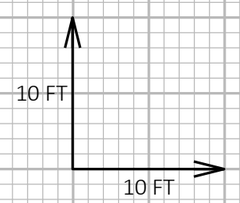
WISDOT/CADDS SHEET 49



338+00



337+50

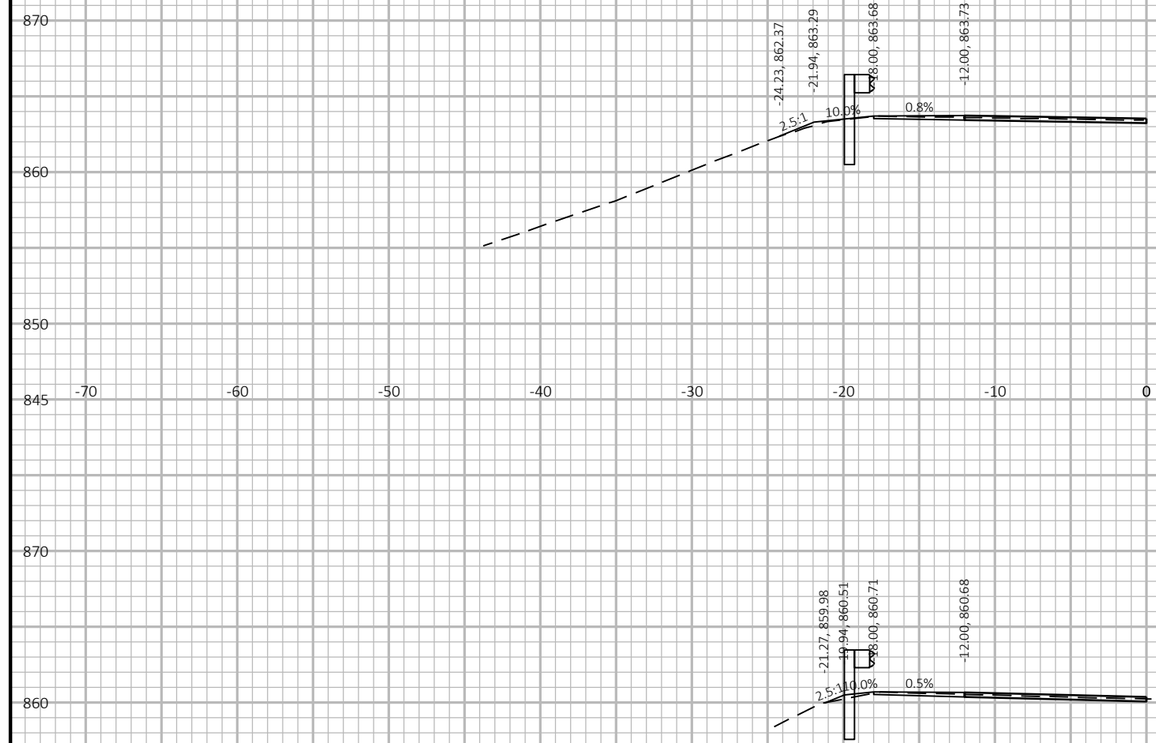


PROJECT NO: 5215-02-74	HWY: STH 81	COUNTY: GRANT	CROSS SECTIONS: STH 81	SHEET 134	E

FILE NAME : S:\MAD\1000--1099\1089\632\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090243

PLOT DATE : 5/4/2022 2:29 PM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

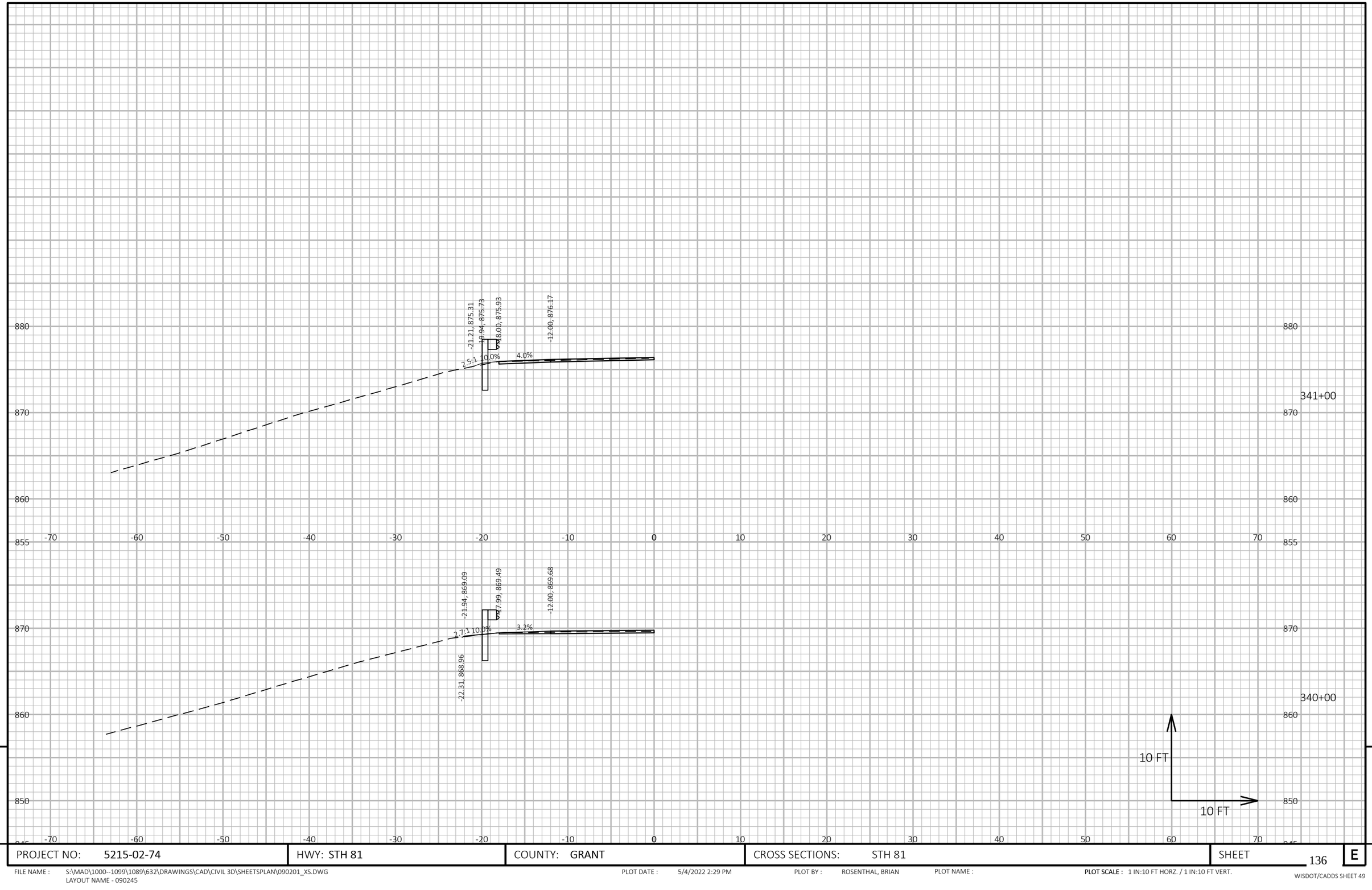


PROJECT NO: 5215-02-74	HWY: STH 81	COUNTY: GRANT	CROSS SECTIONS: STH 81	SHEET 135	E

FILE NAME : S:\MAD\1000--1099\1089\632\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090244

PLOT DATE : 5/4/2022 2:29 PM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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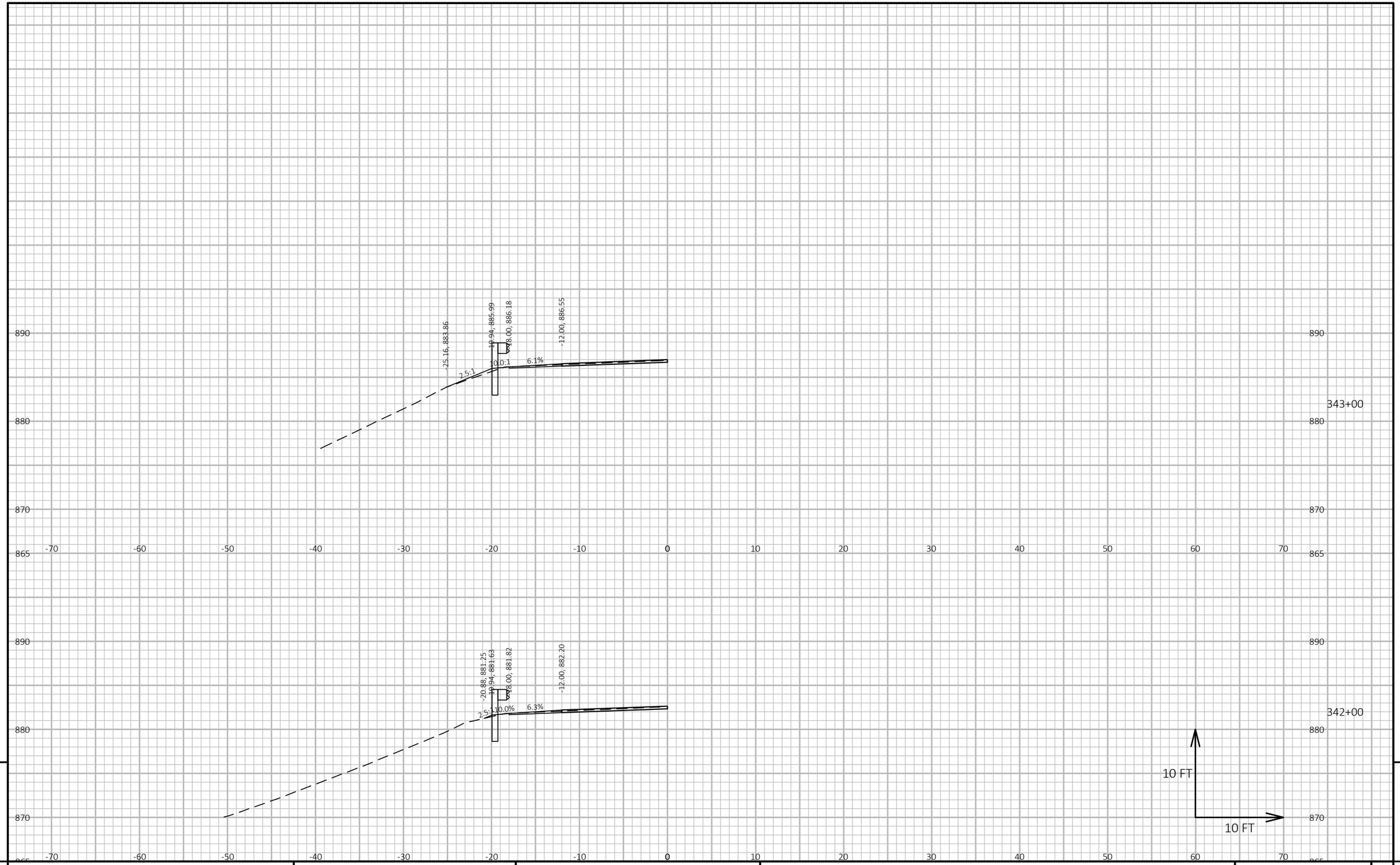
PROJECT NO: 5215-02-74	HWY: STH 81	COUNTY: GRANT	CROSS SECTIONS: STH 81	SHEET 136	E

FILE NAME : S:\MAD\1000--1099\1089\632\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090245

PLOT DATE : 5/4/2022 2:29 PM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

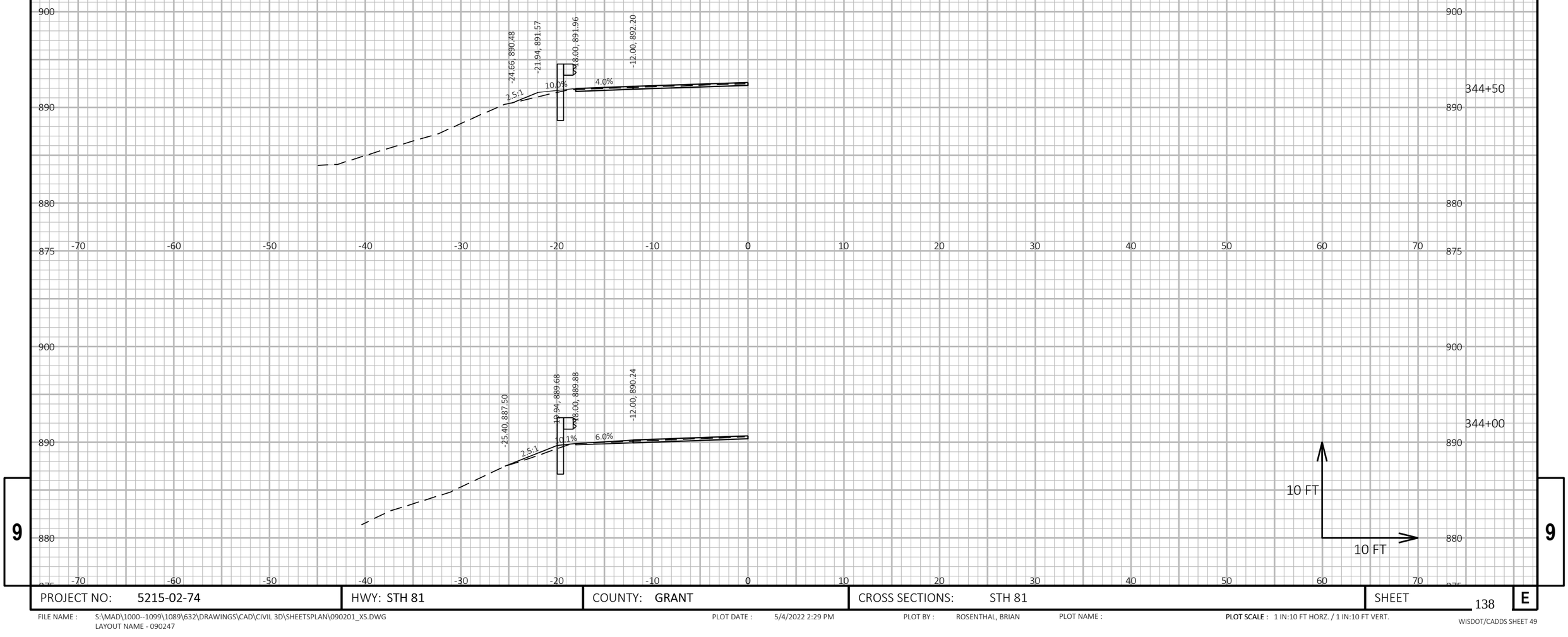


PROJECT NO: 5215-02-74	HWY: STH 81	COUNTY: GRANT	CROSS SECTIONS: STH 81	SHEET 137	E

FILE NAME : S:\MAD\1000--1099\1089\632\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090246

PLOT DATE : 5/4/2022 2:29 PM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

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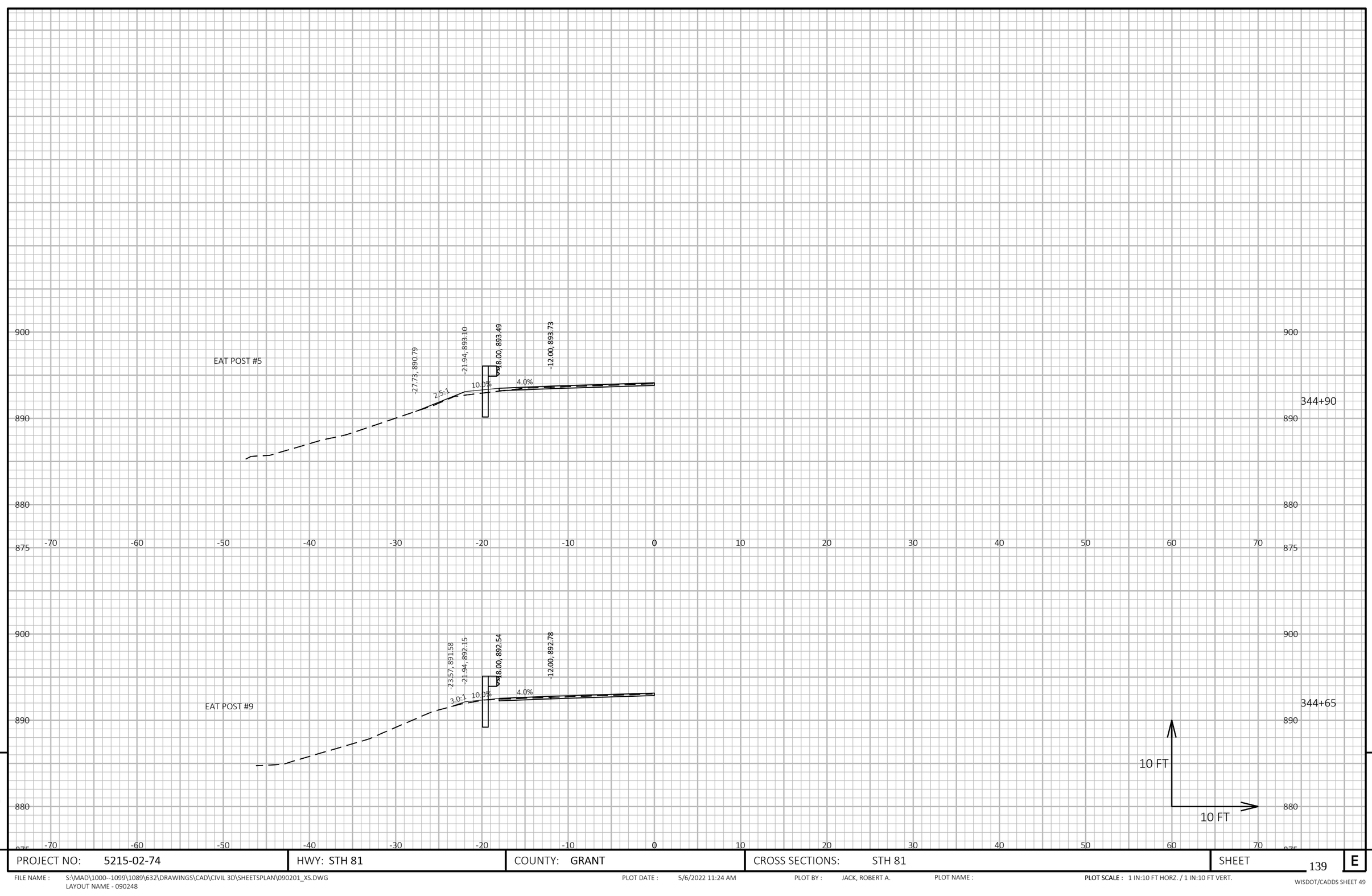
PROJECT NO: 5215-02-74	HWY: STH 81	COUNTY: GRANT	CROSS SECTIONS: STH 81	SHEET 138	E

FILE NAME : S:\MAD\1000--1099\1089\632\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090247

PLOT DATE : 5/4/2022 2:29 PM PLOT BY : ROSENTHAL, BRIAN PLOT NAME :

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

WISDOT/CADDS SHEET 49



9

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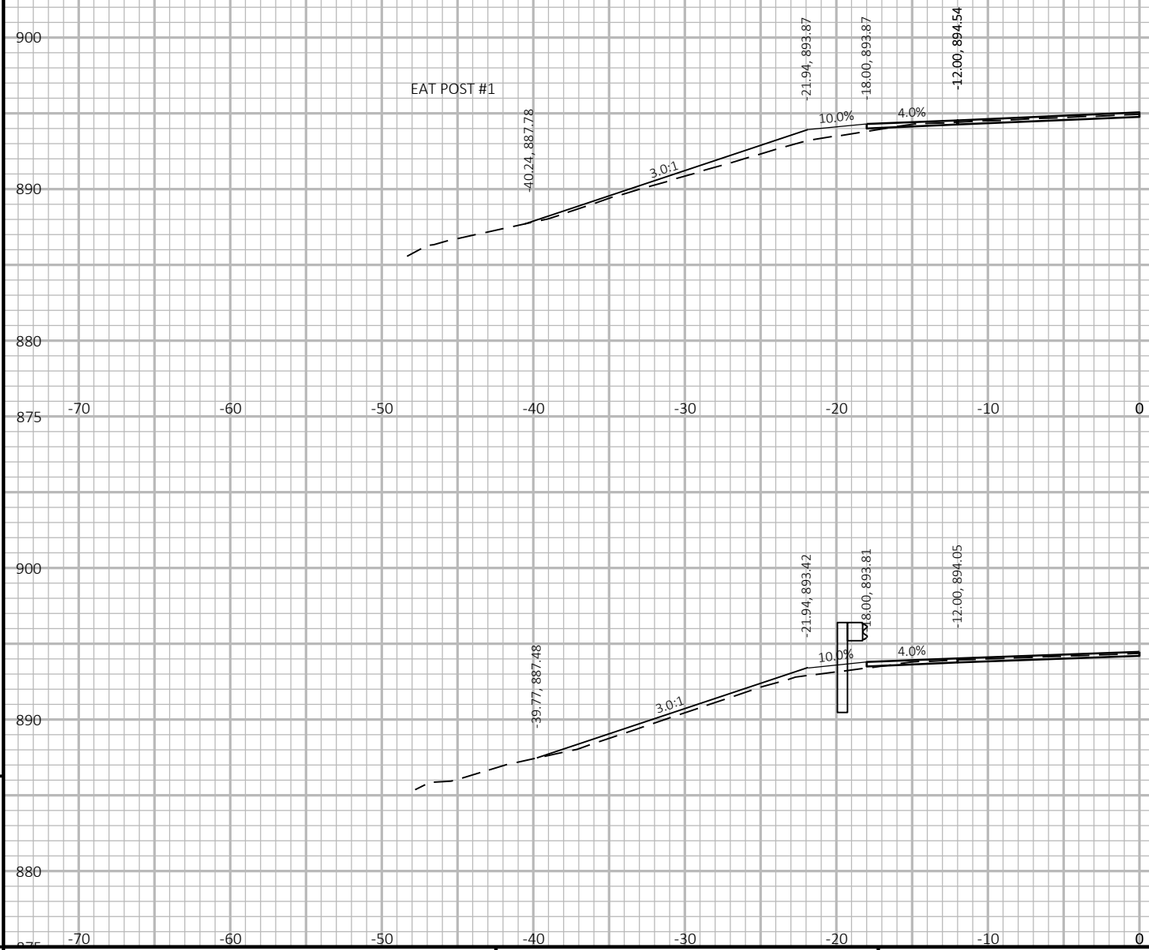
PROJECT NO: 5215-02-74	HWY: STH 81	COUNTY: GRANT	CROSS SECTIONS: STH 81	SHEET 139	E

FILE NAME : S:\MAD\1000--1099\1089\632\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090248

PLOT DATE : 5/6/2022 11:24 AM PLOT BY : JACK, ROBERT A. PLOT NAME :

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

WISDOT/CADDS SHEET 49



9

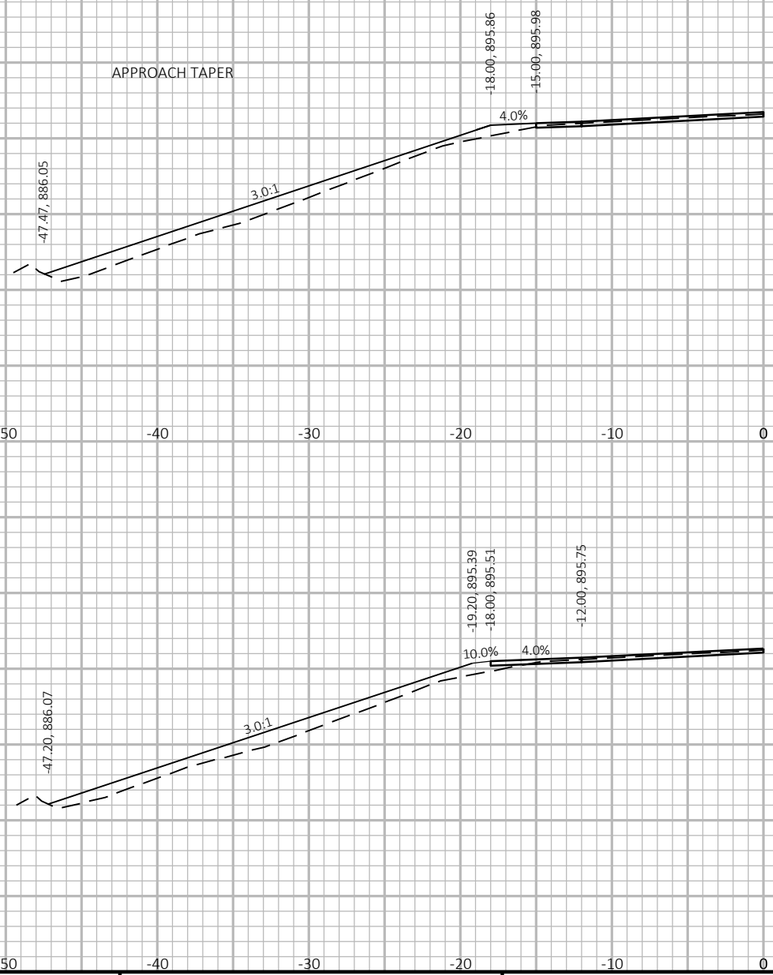
9

PROJECT NO: 5215-02-74	HWY: STH 81	COUNTY: GRANT	CROSS SECTIONS: STH 81	SHEET 140	E

FILE NAME : S:\MAD\1000--1099\1089\632\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090249

PLOT DATE : 5/4/2022 2:29 PM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

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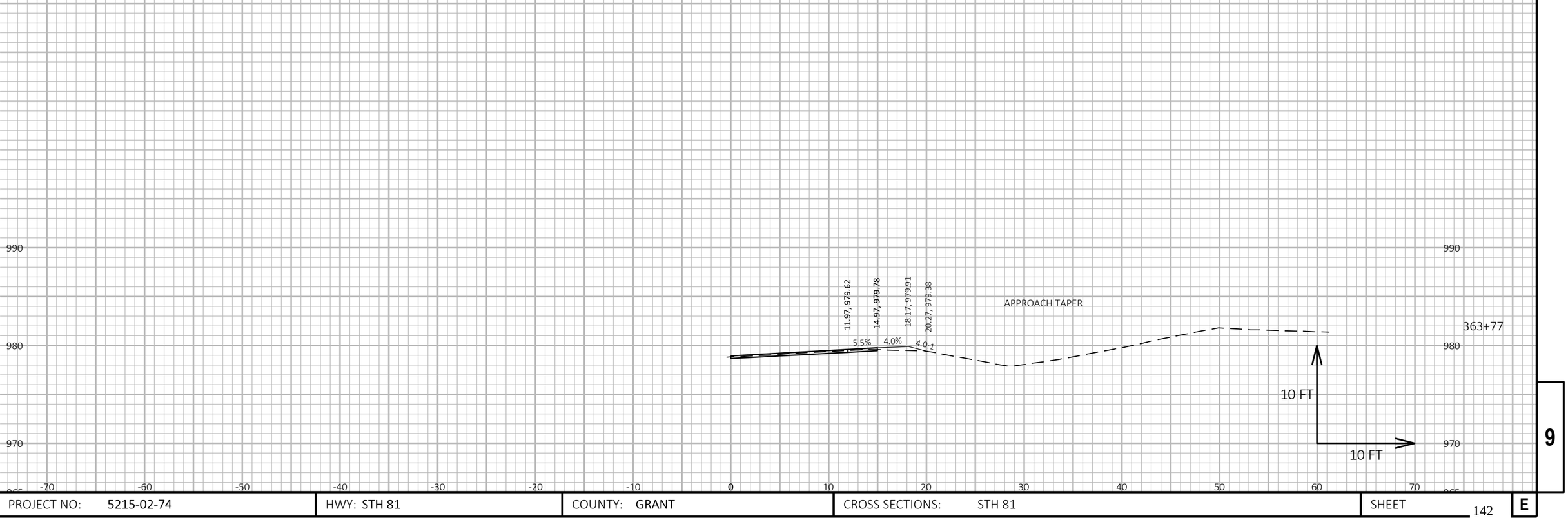
PROJECT NO: 5215-02-74	HWY: STH 81	COUNTY: GRANT	CROSS SECTIONS: STH 81	SHEET 141	E

FILE NAME : S:\MAD\1000--1099\1089\632\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090250

PLOT DATE : 5/4/2022 2:29 PM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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PROJECT NO: 5215-02-74	HWY: STH 81	COUNTY: GRANT	CROSS SECTIONS: STH 81	SHEET 142	E

FILE NAME : S:\MAD\1000--1099\1089\632\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090251

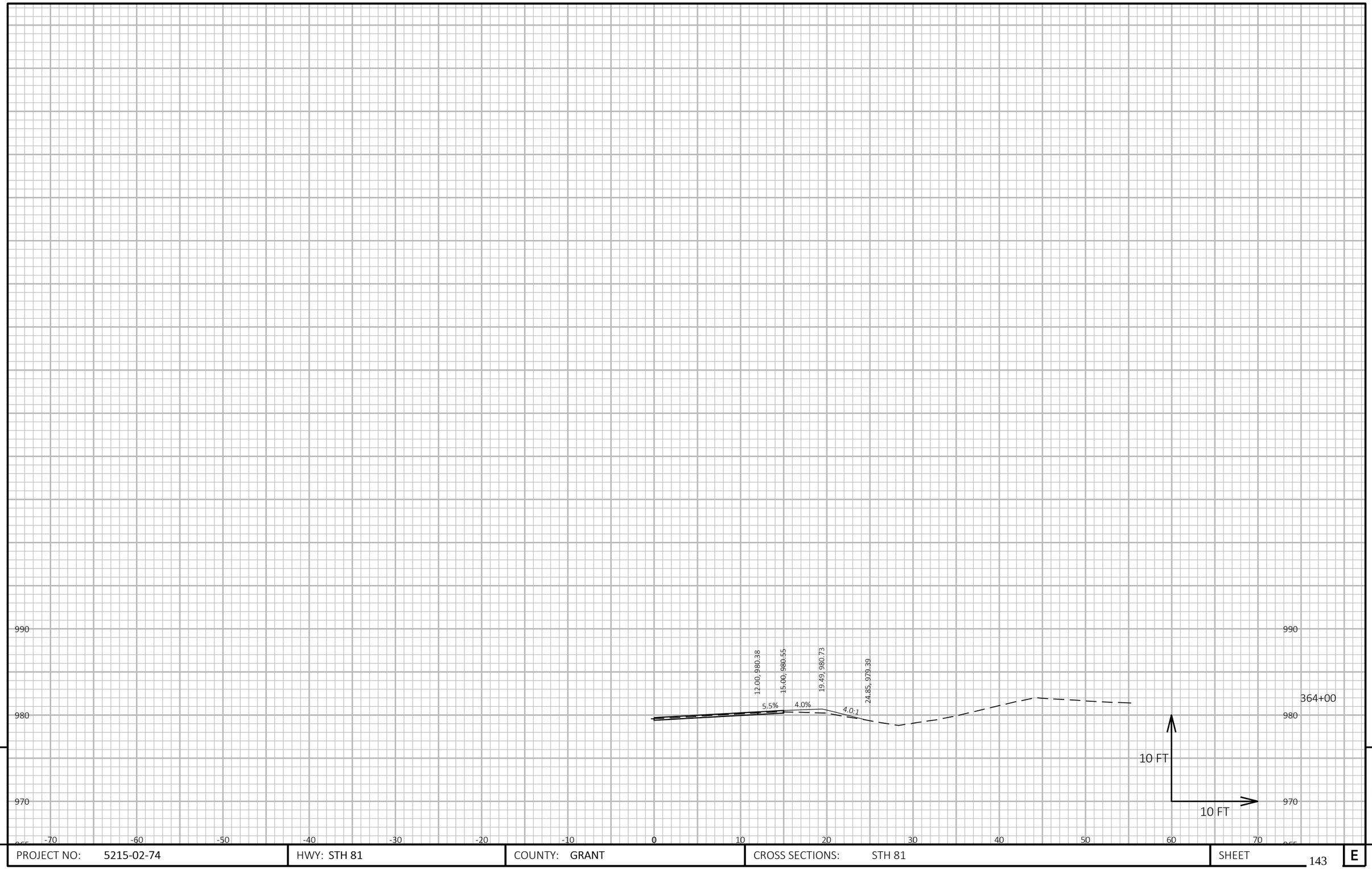
PLOT DATE : 5/4/2022 2:30 PM

PLOT BY : ROSENTHAL, BRIAN

PLOT NAME :

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

WISDOT/CADDS SHEET 49



9

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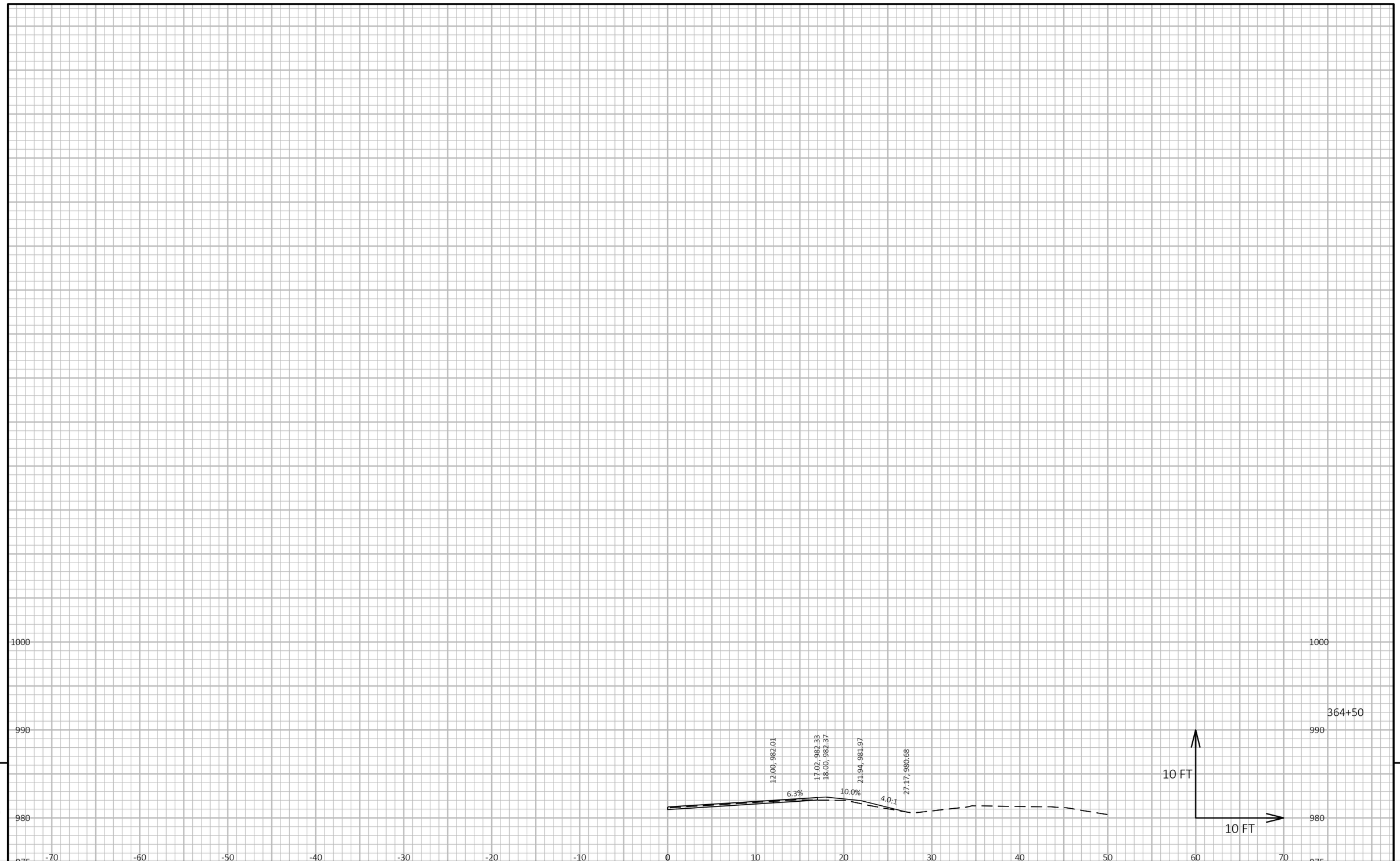
PROJECT NO: 5215-02-74	HWY: STH 81	COUNTY: GRANT	CROSS SECTIONS: STH 81	SHEET 143	E

FILE NAME : S:\MAD\1000--1099\1089\632\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090252

PLOT DATE : 5/4/2022 2:30 PM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

9

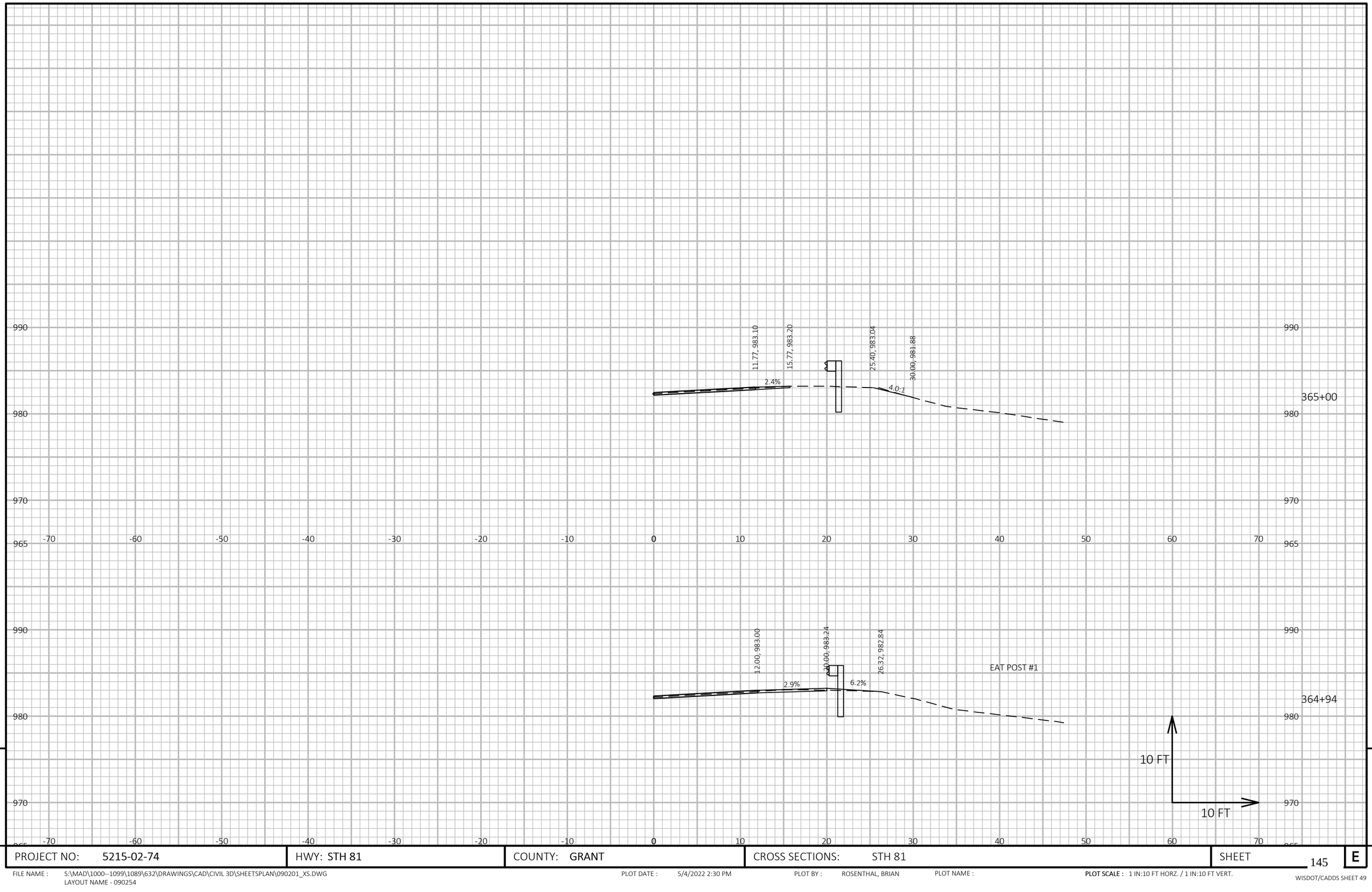
PROJECT NO: 5215-02-74	HWY: STH 81	COUNTY: GRANT	CROSS SECTIONS: STH 81	SHEET 144	E

FILE NAME : S:\MAD\1000--1099\1089\632\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090253

PLOT DATE : 5/5/2022 9:02 AM PLOT BY : JACK, ROBERT A. PLOT NAME :

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

WISDOT/CADDS SHEET 49



PROJECT NO: 5215-02-74	HWY: STH 81	COUNTY: GRANT	CROSS SECTIONS: STH 81	SHEET 145	E

FILE NAME : S:\MAD\1000--1099\1089\632\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090254

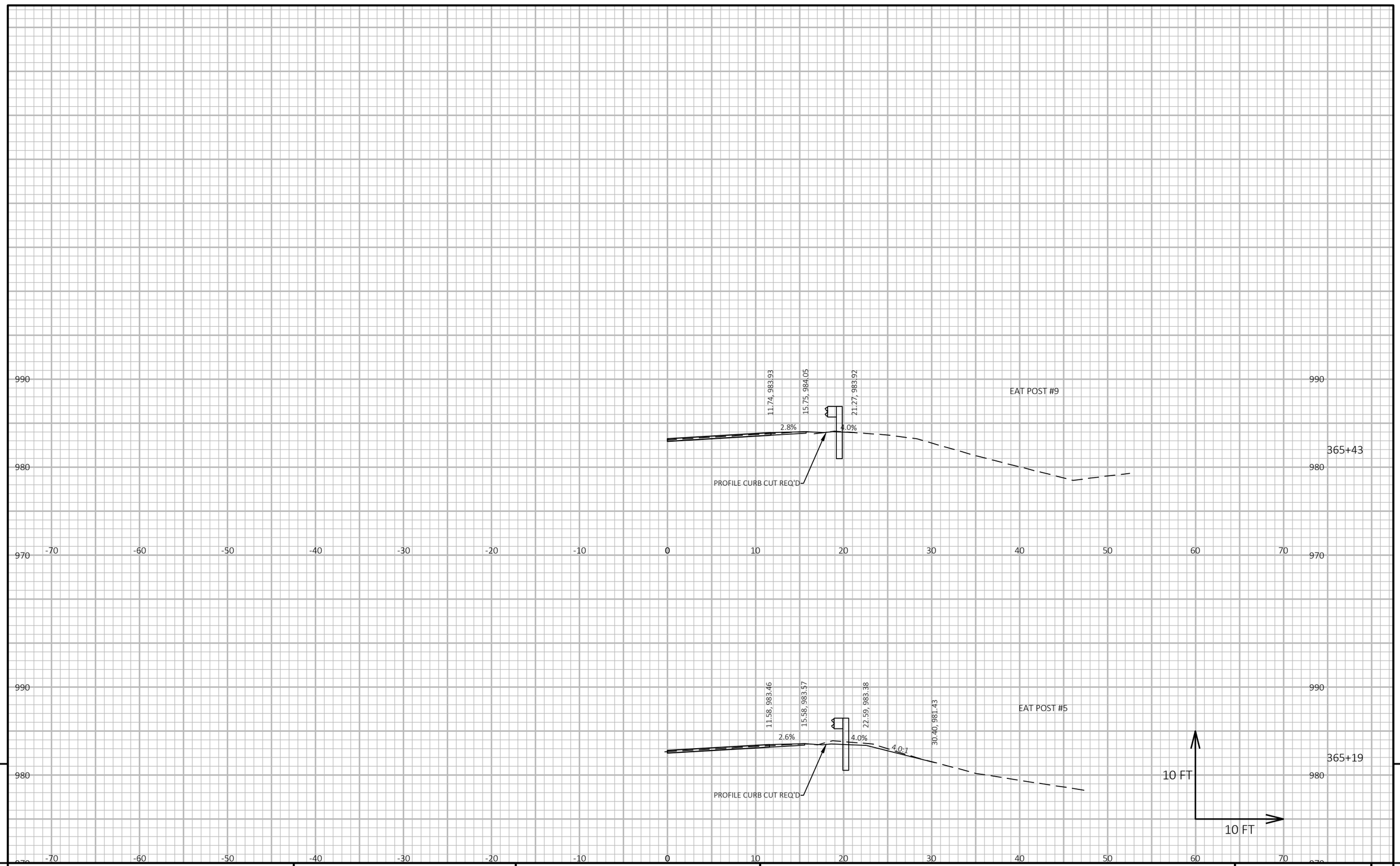
PLOT DATE : 5/4/2022 2:30 PM

PLOT BY : ROSENTHAL, BRIAN

PLOT NAME :

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

WISDOT/CADDS SHEET 49

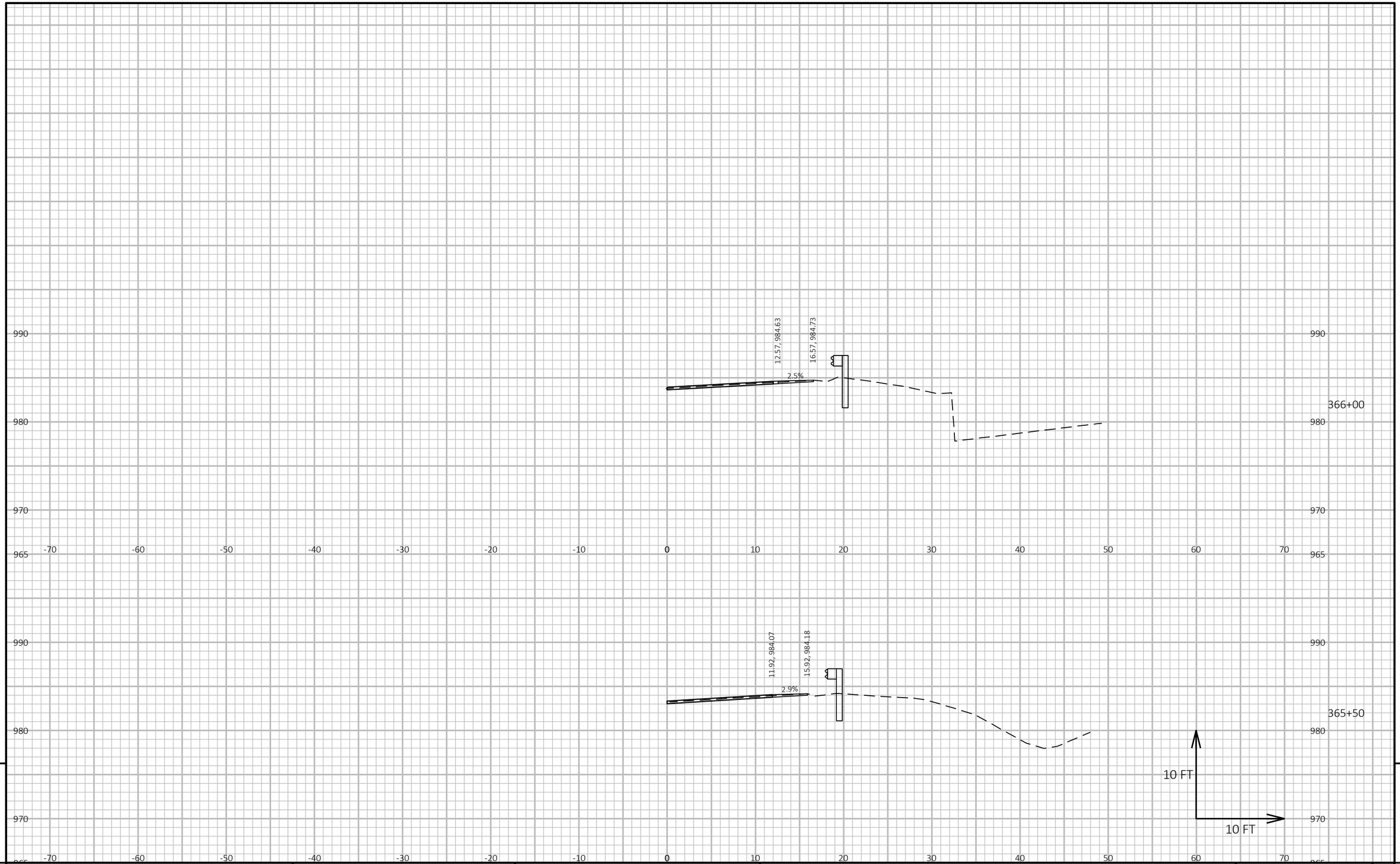


PROJECT NO: 5215-02-74	HWY: STH 81	COUNTY: GRANT	CROSS SECTIONS: STH 81	SHEET 146 E

FILE NAME : S:\MAD\1000--1099\1089\632\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090255

PLOT DATE : 5/4/2022 2:30 PM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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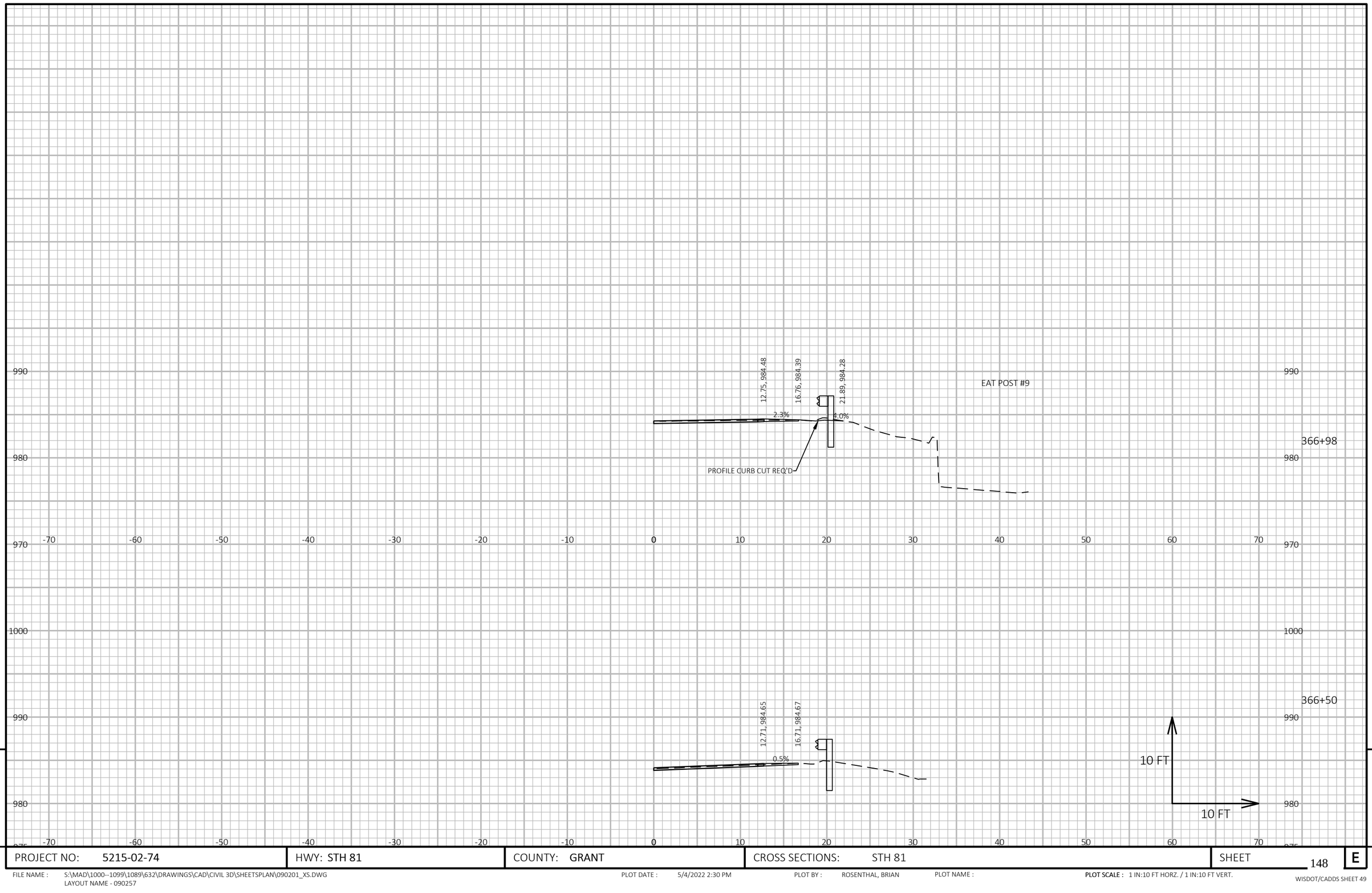
PROJECT NO: 5215-02-74	HWY: STH 81	COUNTY: GRANT	CROSS SECTIONS: STH 81	SHEET 147	E

FILE NAME : S:\MAD\1000--1099\1089\632\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090256

PLOT DATE : 5/4/2022 2:30 PM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

9

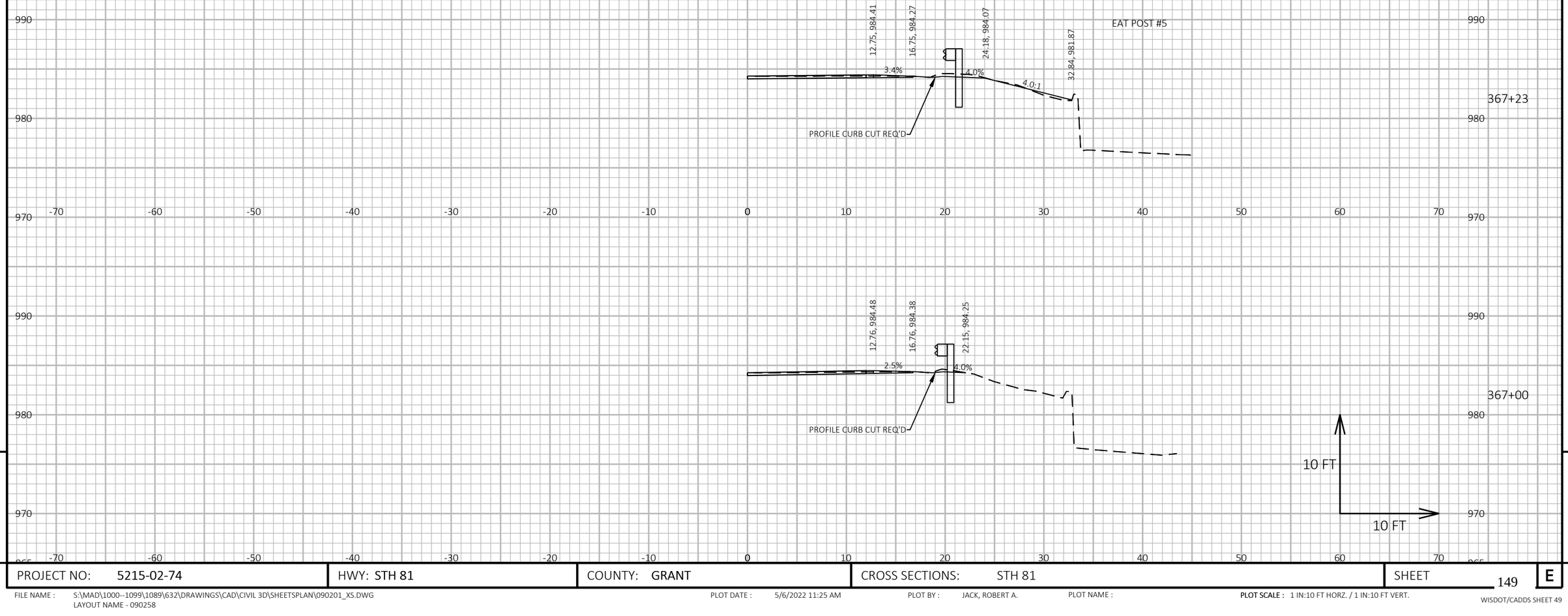
PROJECT NO: 5215-02-74	HWY: STH 81	COUNTY: GRANT	CROSS SECTIONS: STH 81	SHEET 148	E

FILE NAME : S:\MAD\1000--1099\1089\632\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090257

PLOT DATE : 5/4/2022 2:30 PM PLOT BY : ROSENTHAL, BRIAN PLOT NAME :

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

WISDOT/CADDS SHEET 49



9

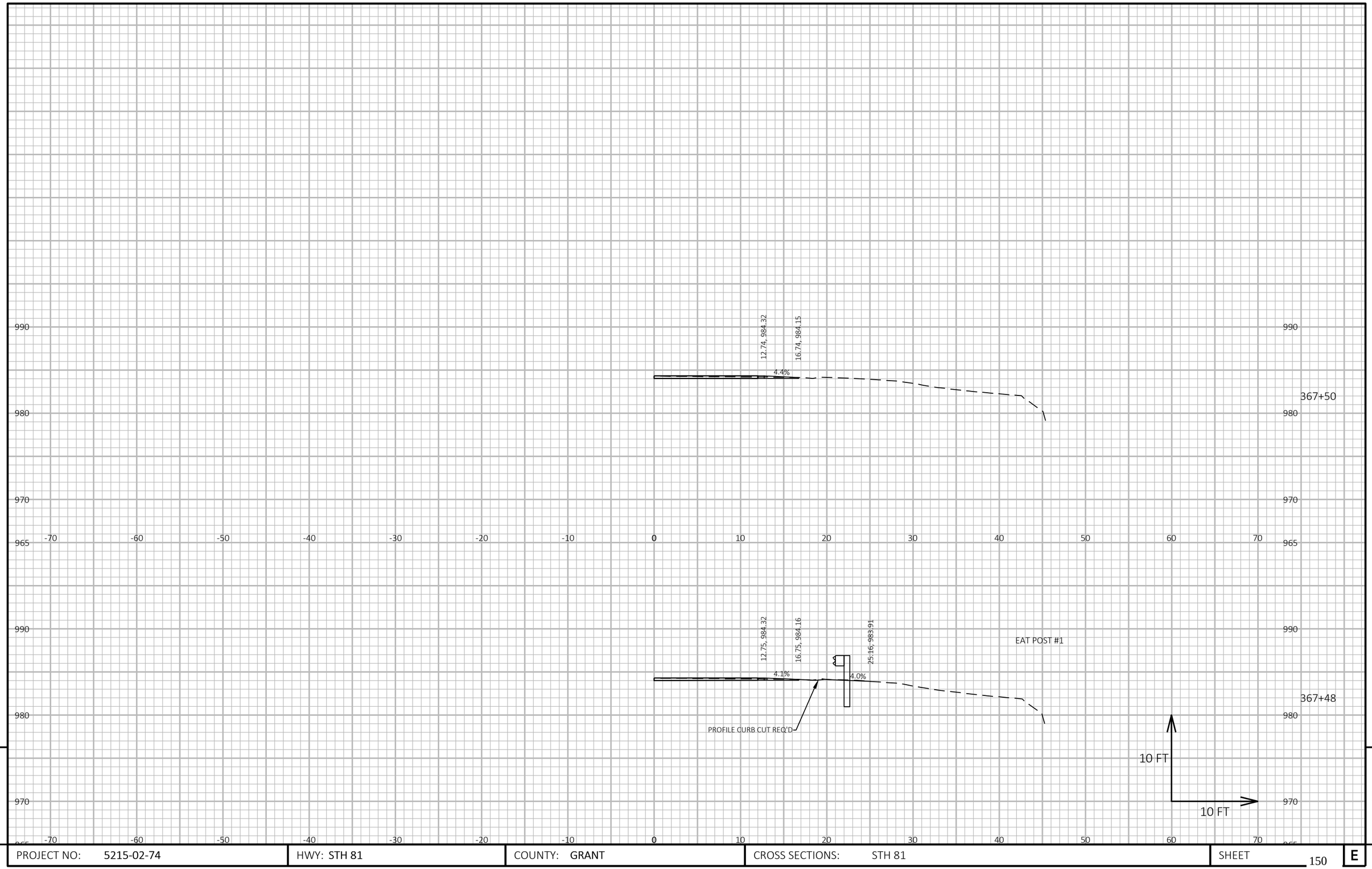
9

PROJECT NO: 5215-02-74	HWY: STH 81	COUNTY: GRANT	CROSS SECTIONS: STH 81	SHEET 149	E

FILE NAME : S:\MAD\1000--1099\1089\632\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090258

PLOT DATE : 5/6/2022 11:25 AM PLOT BY : JACK, ROBERT A. PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

PROJECT NO: 5215-02-74	HWY: STH 81	COUNTY: GRANT	CROSS SECTIONS: STH 81	SHEET 150	E

9

FILE NAME : S:\MAD\1000--1099\1089\632\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090259

PLOT DATE : 5/4/2022 2:31 PM

PLOT BY : ROSENTHAL, BRIAN

PLOT NAME :

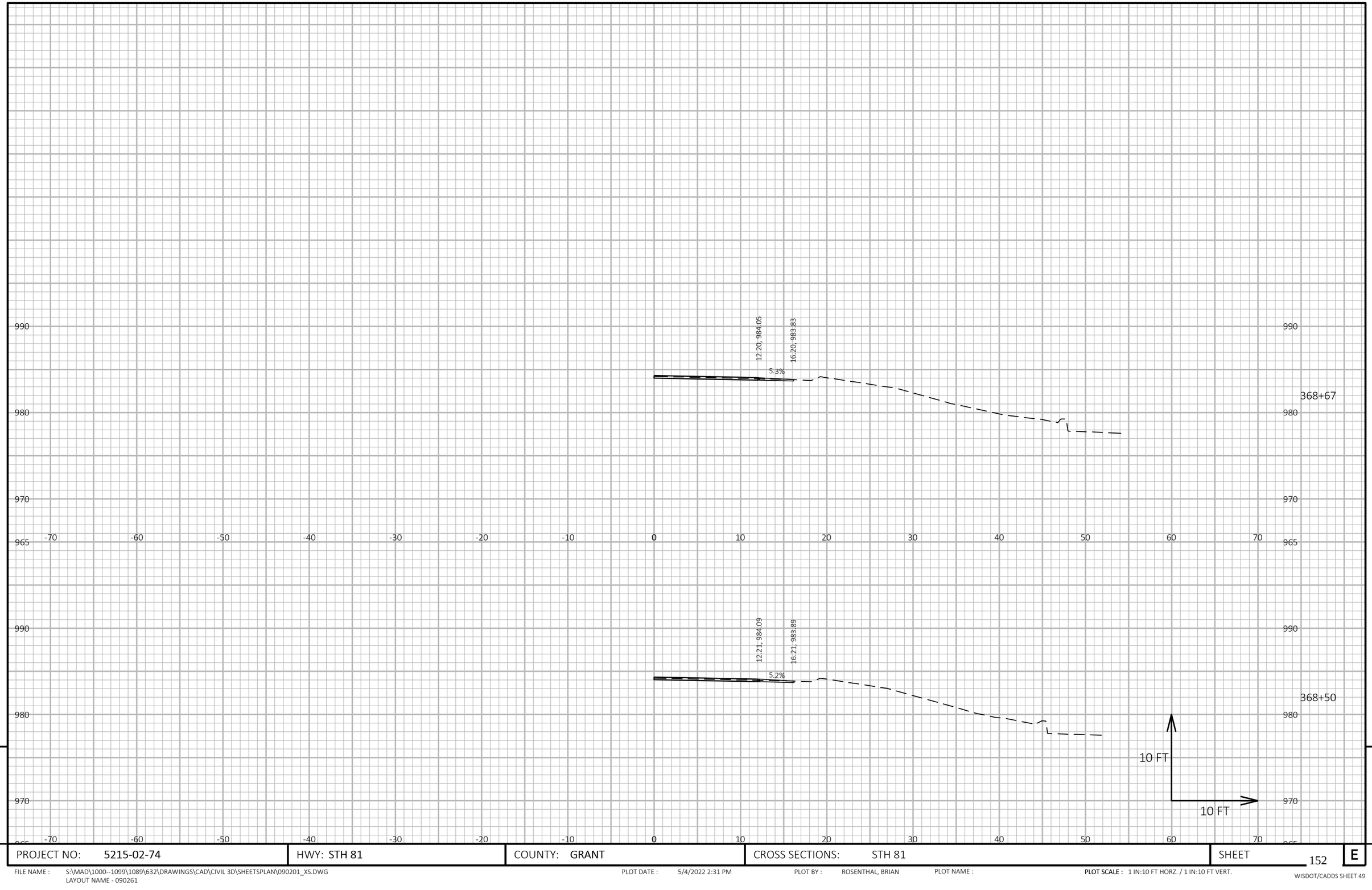
PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

990
980
970
965
-70
-60
-50
-40
-30
-20
-10
0
10
20
30
40
50
60
70
12.76, 984.23
16.76, 984.05
4.6%
368+00
10 FT
10 FT
9
9

PROJECT NO: 5215-02-74	HWY: STH 81	COUNTY: GRANT	CROSS SECTIONS: STH 81	SHEET 151	E

FILE NAME : S:\MAD\1000--1099\1089\632\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090260
PLOT DATE : 5/4/2022 2:31 PM
PLOT BY : ROSENTHAL, BRIAN
PLOT NAME :
PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.
WISDOT/CADDS SHEET 49



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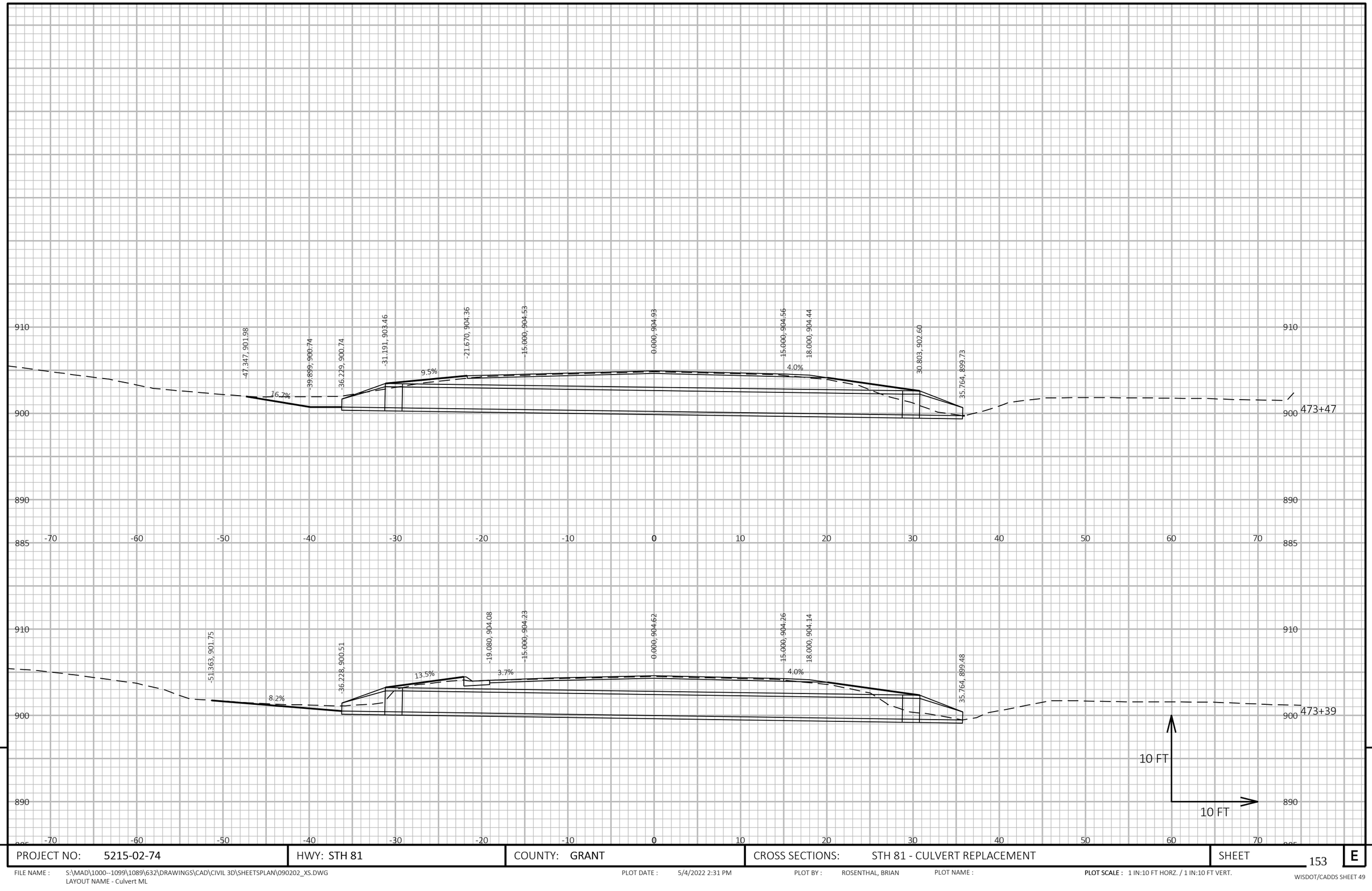
PROJECT NO: 5215-02-74	HWY: STH 81	COUNTY: GRANT	CROSS SECTIONS: STH 81	SHEET 152	E

FILE NAME : S:\MAD\1000--1099\1089\632\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090261

PLOT DATE : 5/4/2022 2:31 PM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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PROJECT NO: 5215-02-74	HWY: STH 81	COUNTY: GRANT	CROSS SECTIONS: STH 81 - CULVERT REPLACEMENT	SHEET 153	E

FILE NAME : S:\MAD\1000--1099\1089\632\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090202_XS.DWG
LAYOUT NAME - Culvert ML

PLOT DATE : 5/4/2022 2:31 PM

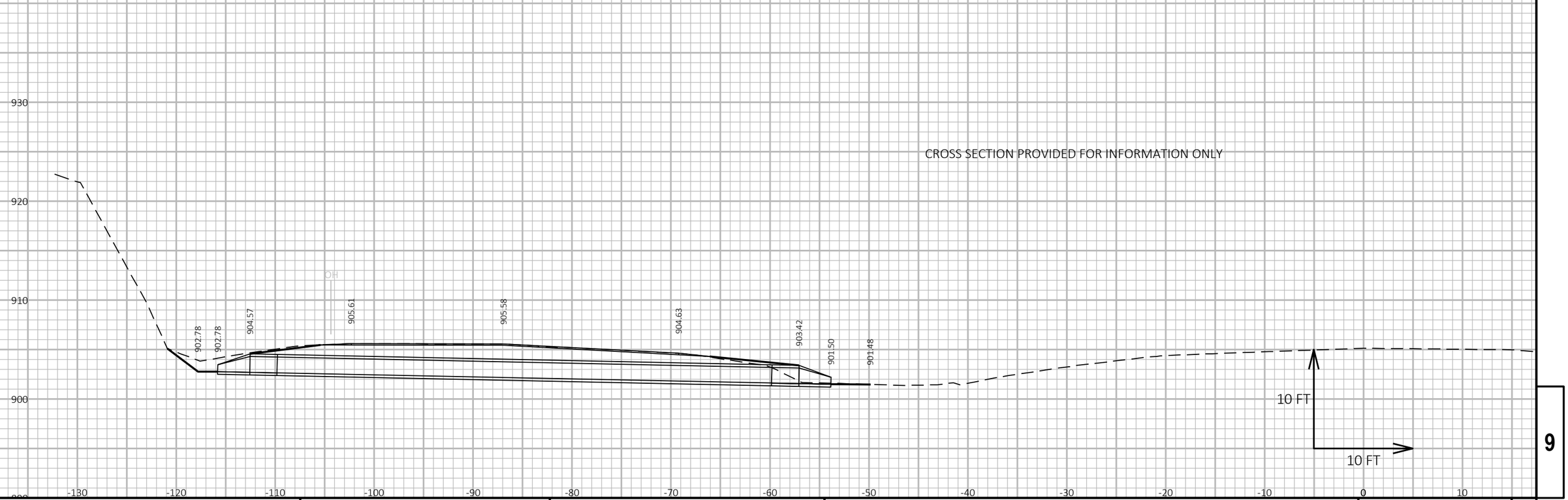
PLOT BY : ROSENTHAL, BRIAN

PLOT NAME :

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

WISDOT/CADDS SHEET 49

CROSS SECTION PROVIDED FOR INFORMATION ONLY



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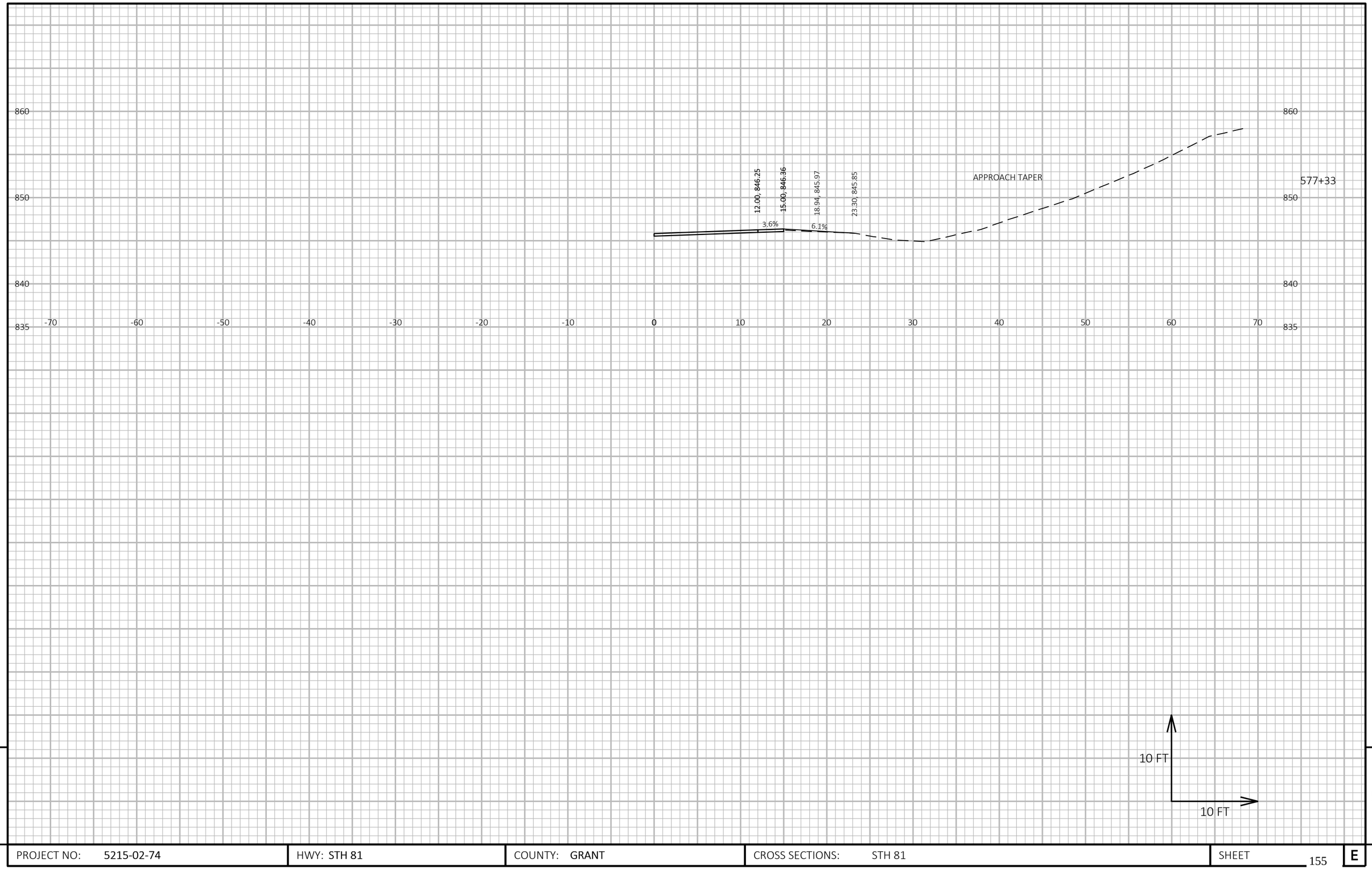
PROJECT NO: 5215-02-74	HWY: STH 81	COUNTY: GRANT	CROSS SECTIONS: BUDWORTH SCHOOL RD - CULVERT REPLACEMENT	SHEET 154	E

FILE NAME : S:\MAD\1000--1099\1089\632\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090202_XS.DWG
LAYOUT NAME - Culvert Budworth

PLOT DATE : 5/4/2022 2:31 PM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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PROJECT NO: 5215-02-74	HWY: STH 81	COUNTY: GRANT	CROSS SECTIONS: STH 81	SHEET 155	E

FILE NAME : S:\MAD\1000--1099\1089\632\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090262

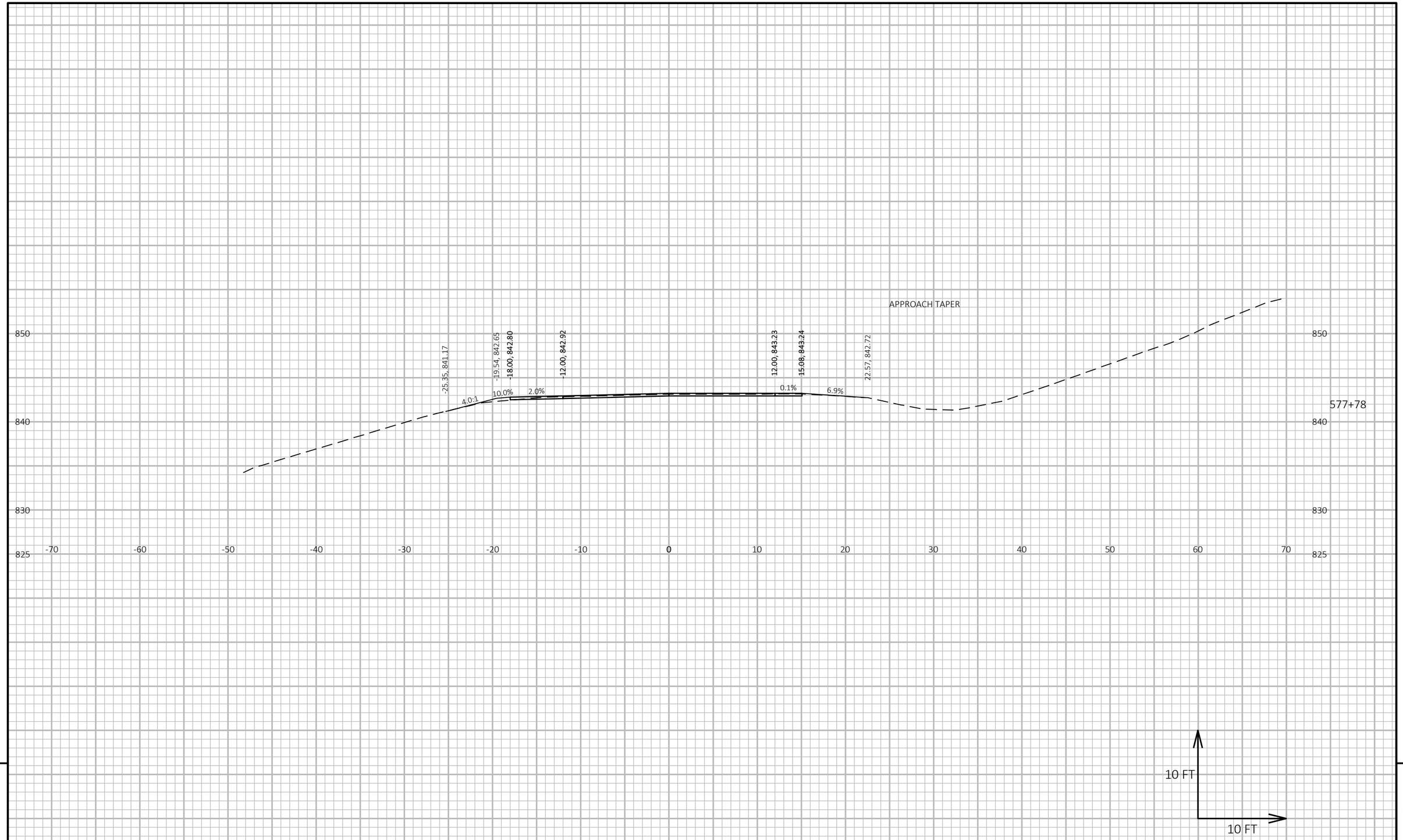
PLOT DATE : 5/4/2022 2:33 PM

PLOT BY : ROSENTHAL, BRIAN

PLOT NAME :

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

WISDOT/CADDS SHEET 49



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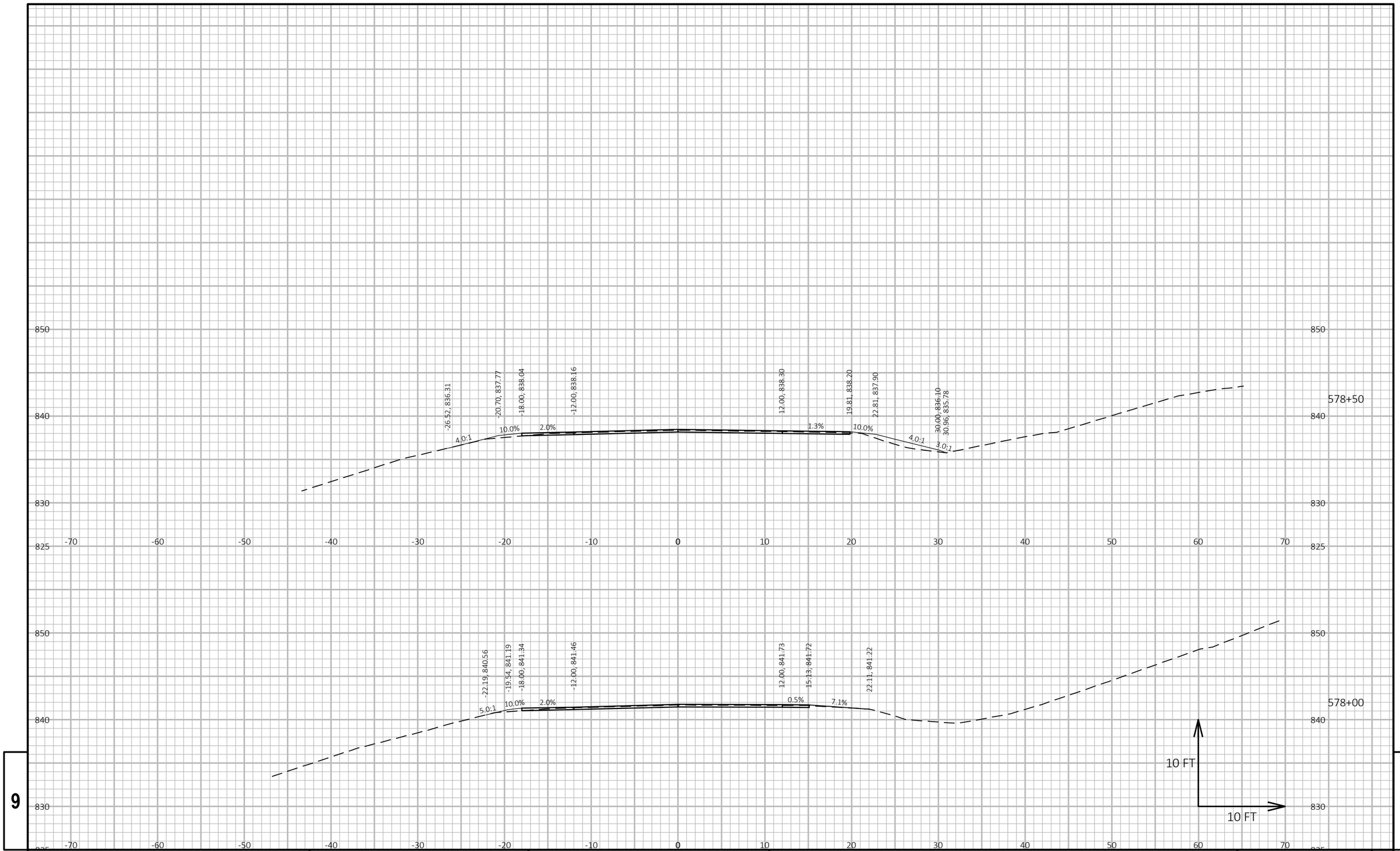
PROJECT NO: 5215-02-74	HWY: STH 81	COUNTY: GRANT	CROSS SECTIONS: STH 81	SHEET 156	E

FILE NAME : S:\MAD\1000--1099\1089\632\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090263

PLOT DATE : 5/4/2022 2:33 PM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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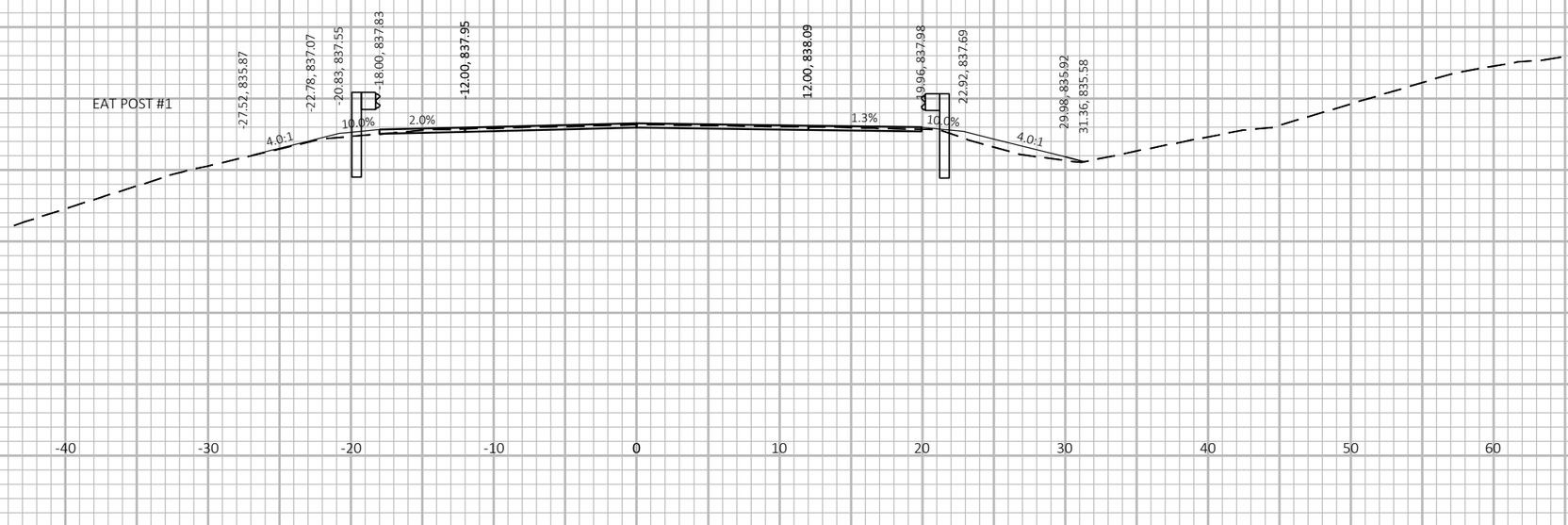
PROJECT NO: 5215-02-74	HWY: STH 81	COUNTY: GRANT	CROSS SECTIONS: STH 81	SHEET 157	E

FILE NAME : S:\MAD\1000--1099\1089\632\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090264

PLOT DATE : 5/4/2022 2:33 PM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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PROJECT NO: 5215-02-74	HWY: STH 81	COUNTY: GRANT	CROSS SECTIONS: STH 81	SHEET 158	E

FILE NAME : S:\MAD\1000--1099\1089\632\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090265

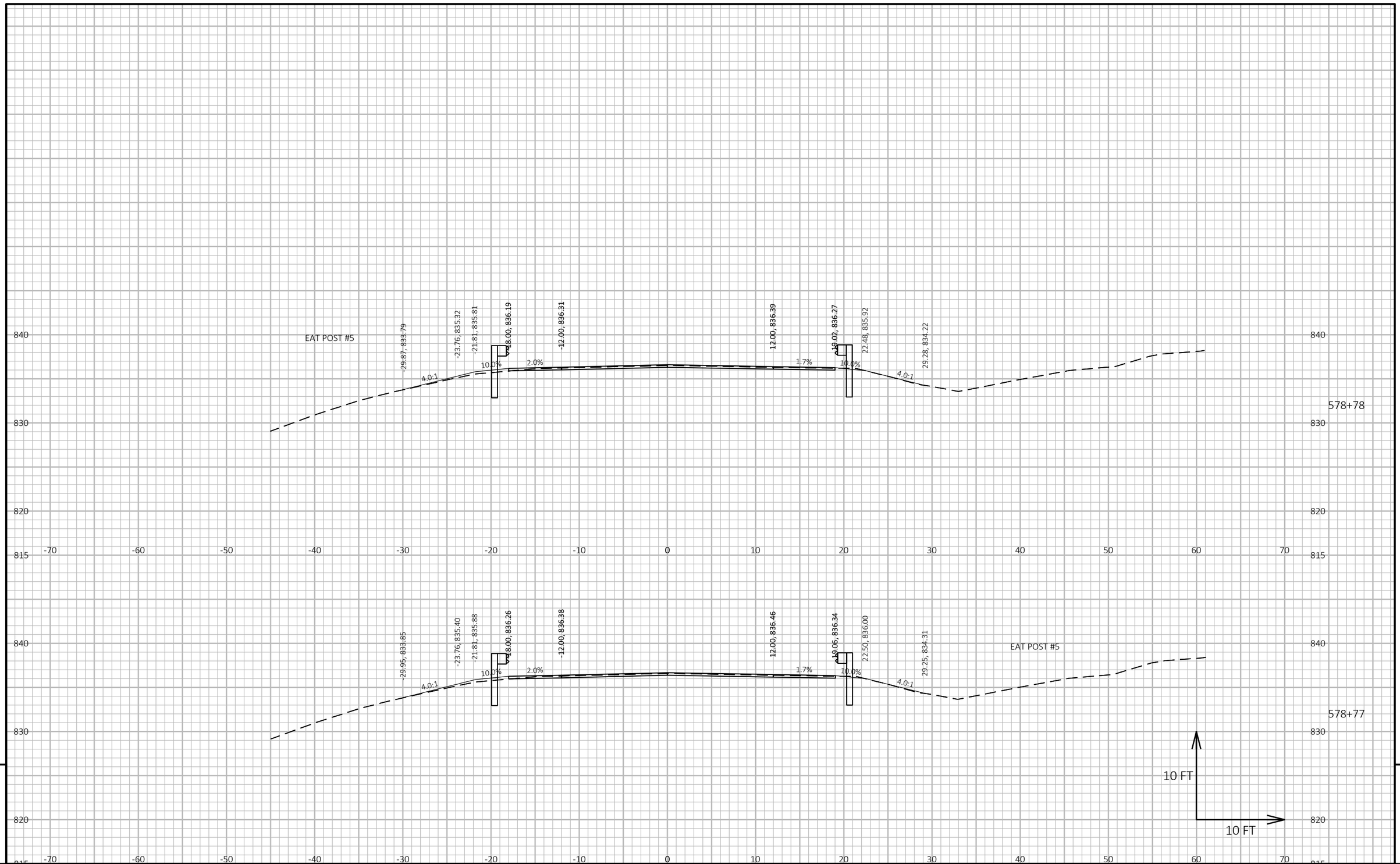
PLOT DATE : 7/20/2022 1:51 PM

PLOT BY : ROSENTHAL, BRIAN

PLOT NAME :

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

WISDOT/CADDS SHEET 49



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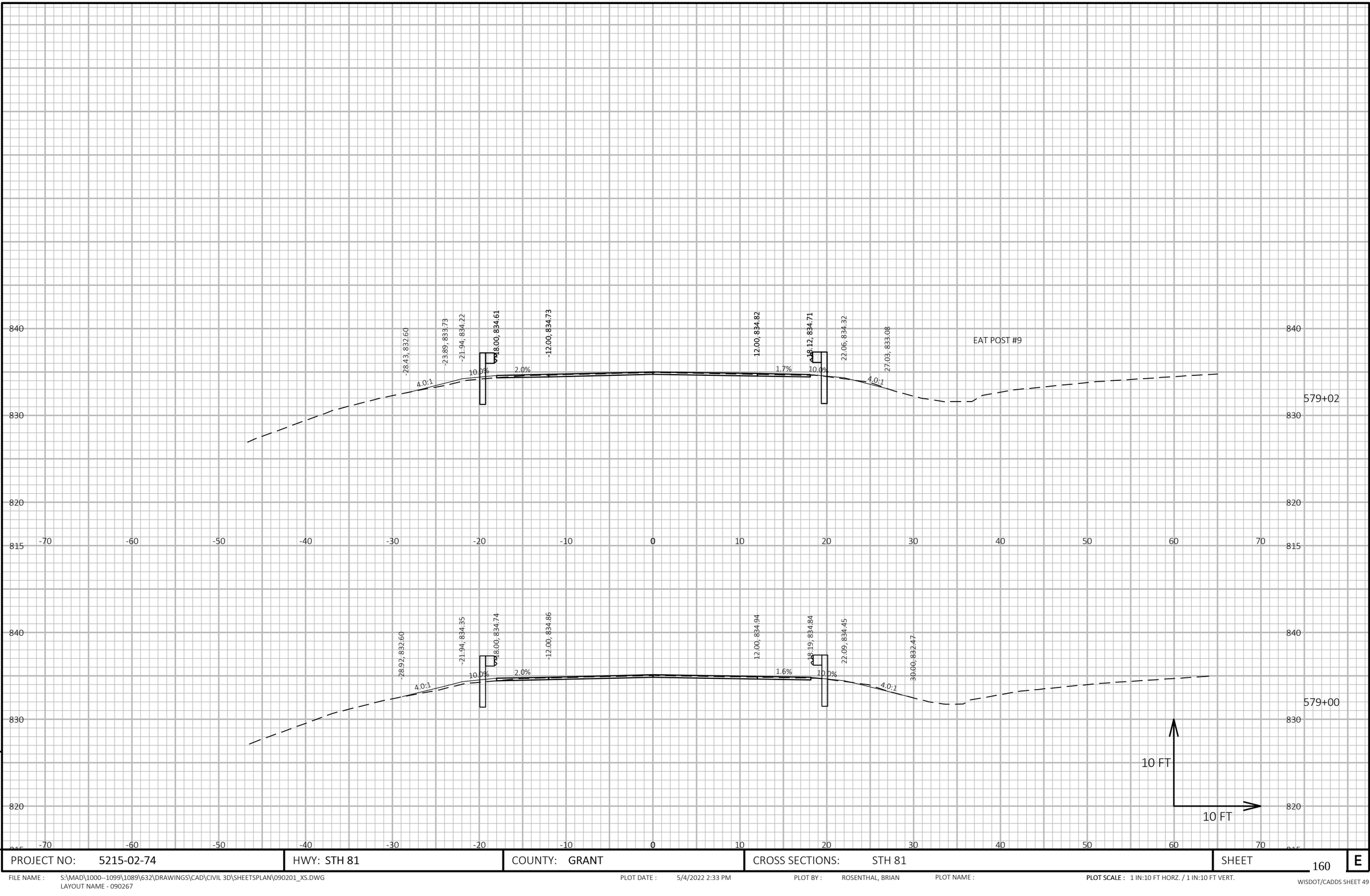
PROJECT NO: 5215-02-74	HWY: STH 81	COUNTY: GRANT	CROSS SECTIONS: STH 81	SHEET 159	E

FILE NAME : S:\MAD\1000--1099\1089\632\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090266

PLOT DATE : 5/6/2022 11:26 AM PLOT BY : JACK, ROBERT A. PLOT NAME :

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

WISDOT/CADDS SHEET 49



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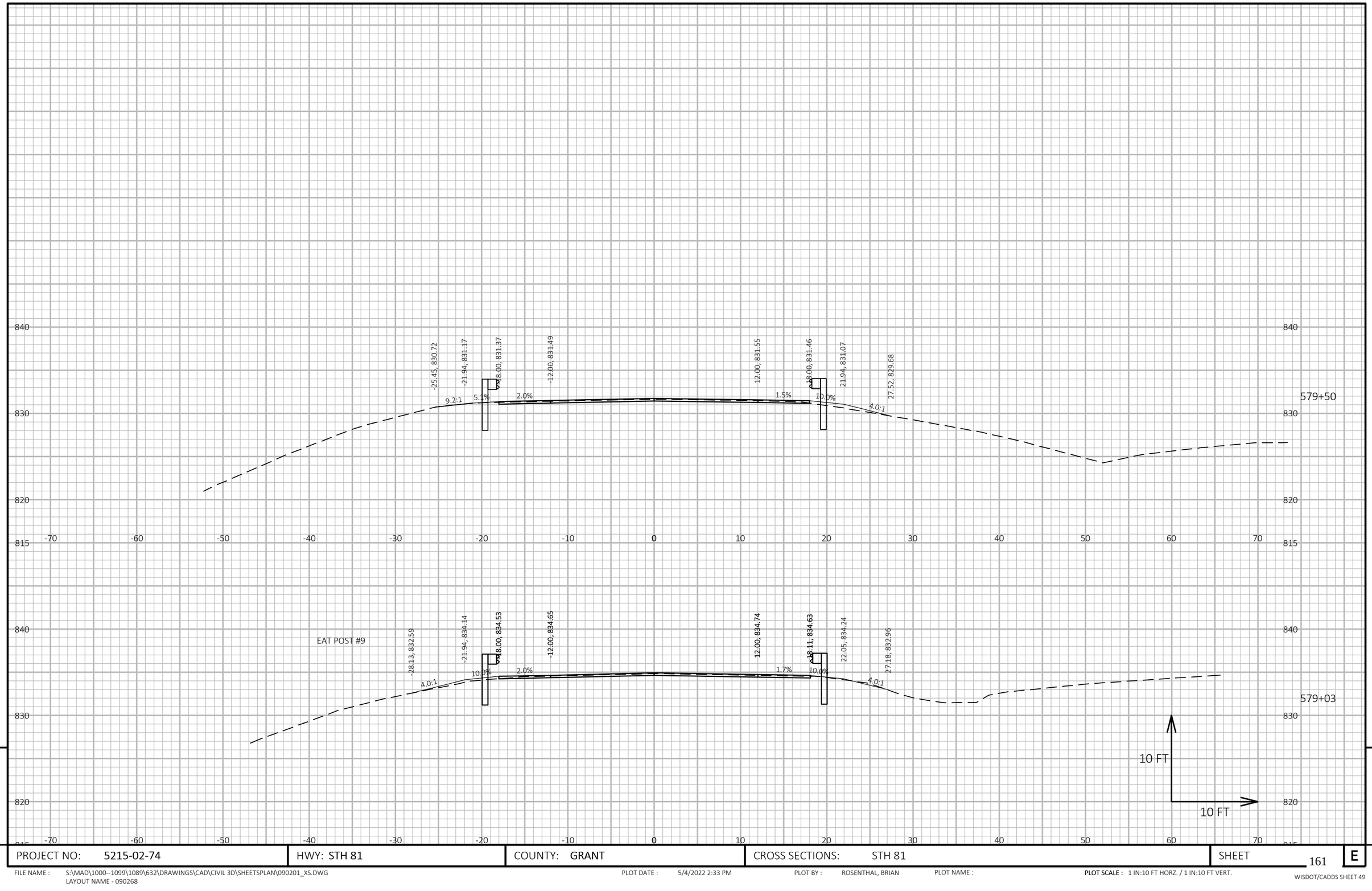
PROJECT NO: 5215-02-74	HWY: STH 81	COUNTY: GRANT	CROSS SECTIONS: STH 81	SHEET 160	E

FILE NAME : S:\MAD\1000--1099\1089\632\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090267

PLOT DATE : 5/4/2022 2:33 PM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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PROJECT NO: 5215-02-74	HWY: STH 81	COUNTY: GRANT	CROSS SECTIONS: STH 81	SHEET 161	E

FILE NAME : S:\MAD\1000--1099\1089\632\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090268

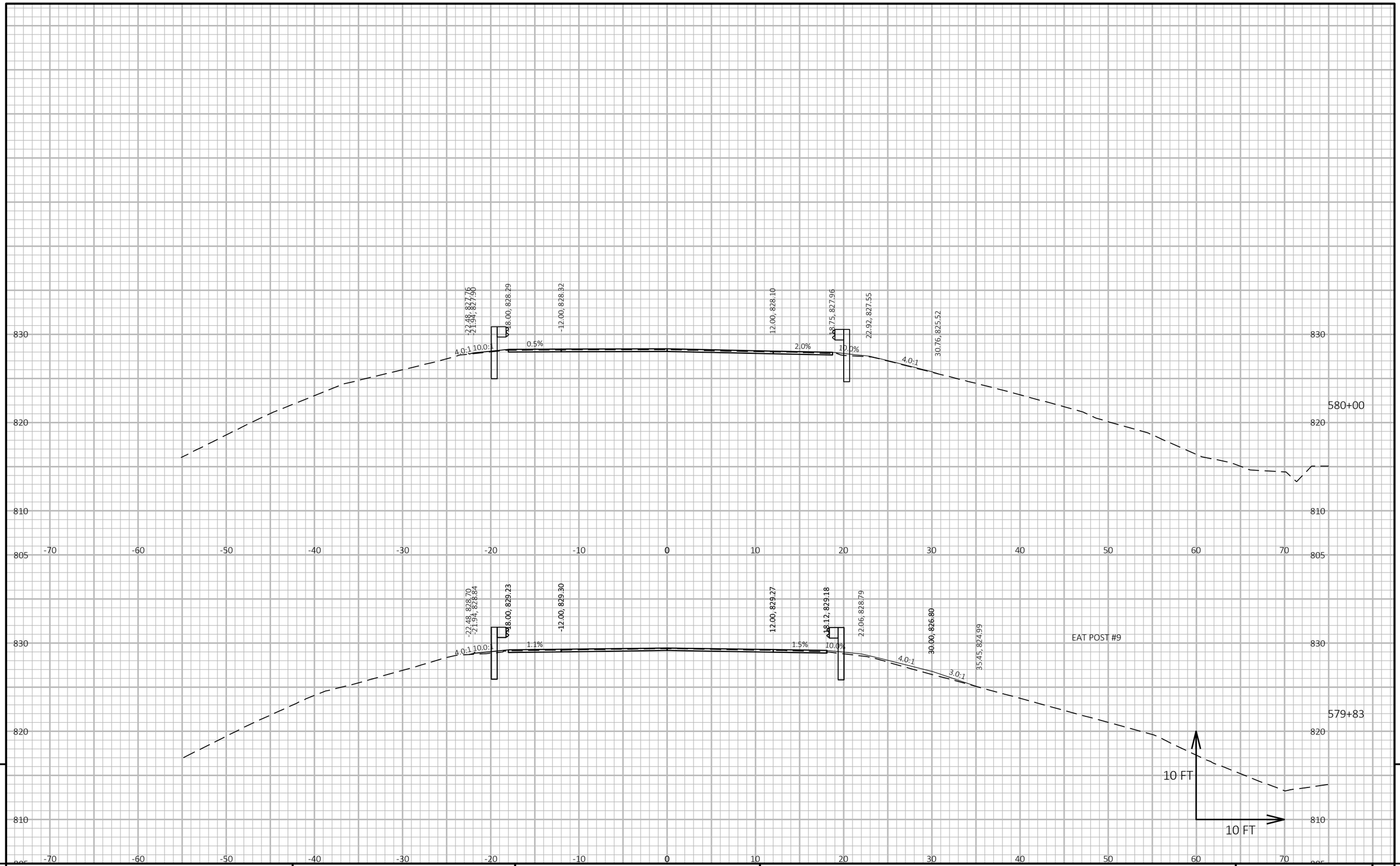
PLOT DATE : 5/4/2022 2:33 PM

PLOT BY : ROSENTHAL, BRIAN

PLOT NAME :

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

WISDOT/CADDS SHEET 49



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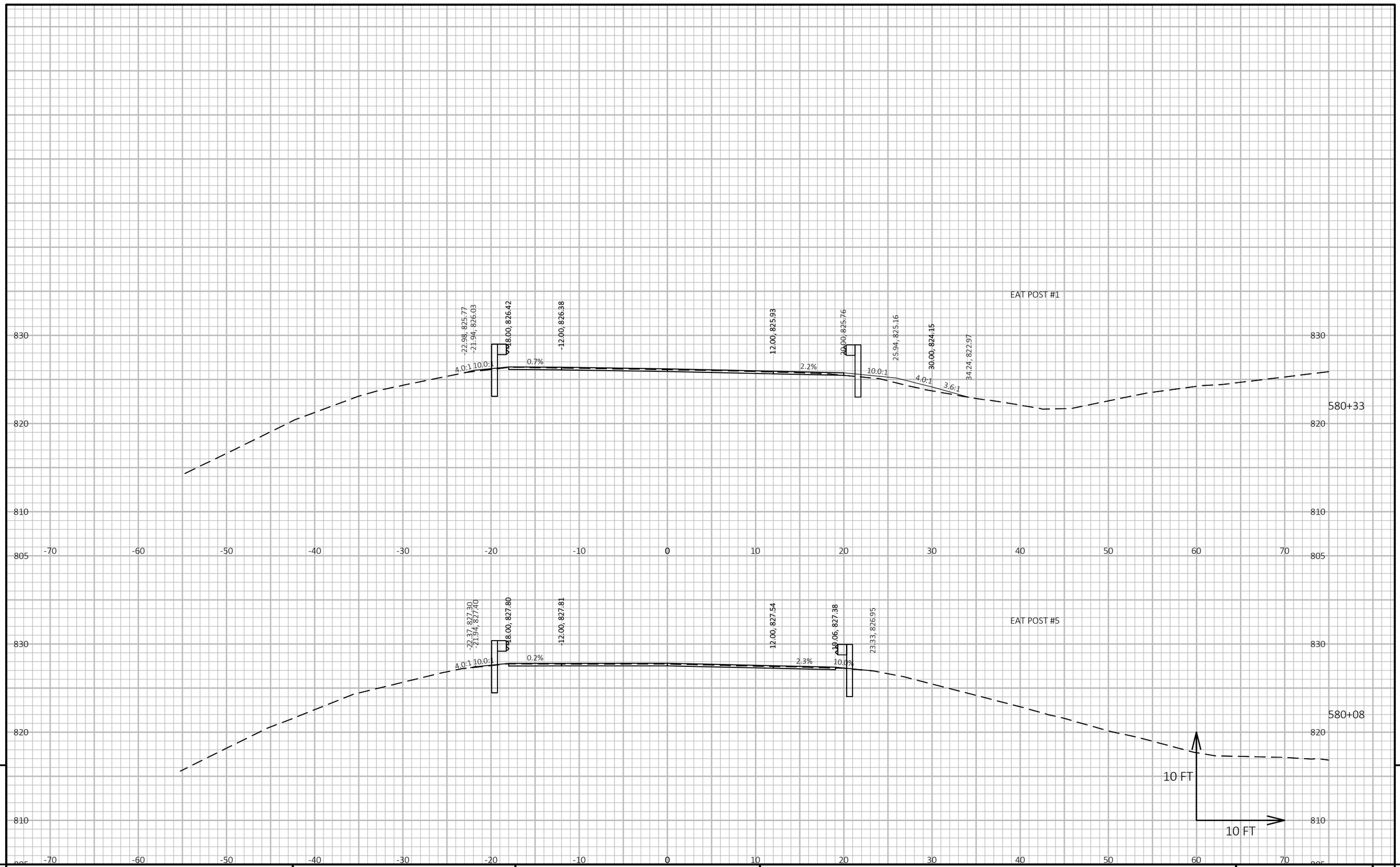
PROJECT NO: 5215-02-74	HWY: STH 81	COUNTY: GRANT	CROSS SECTIONS: STH 81	SHEET 162	E

FILE NAME : S:\MAD\1000--1099\1089\632\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090269

PLOT DATE : 5/4/2022 2:33 PM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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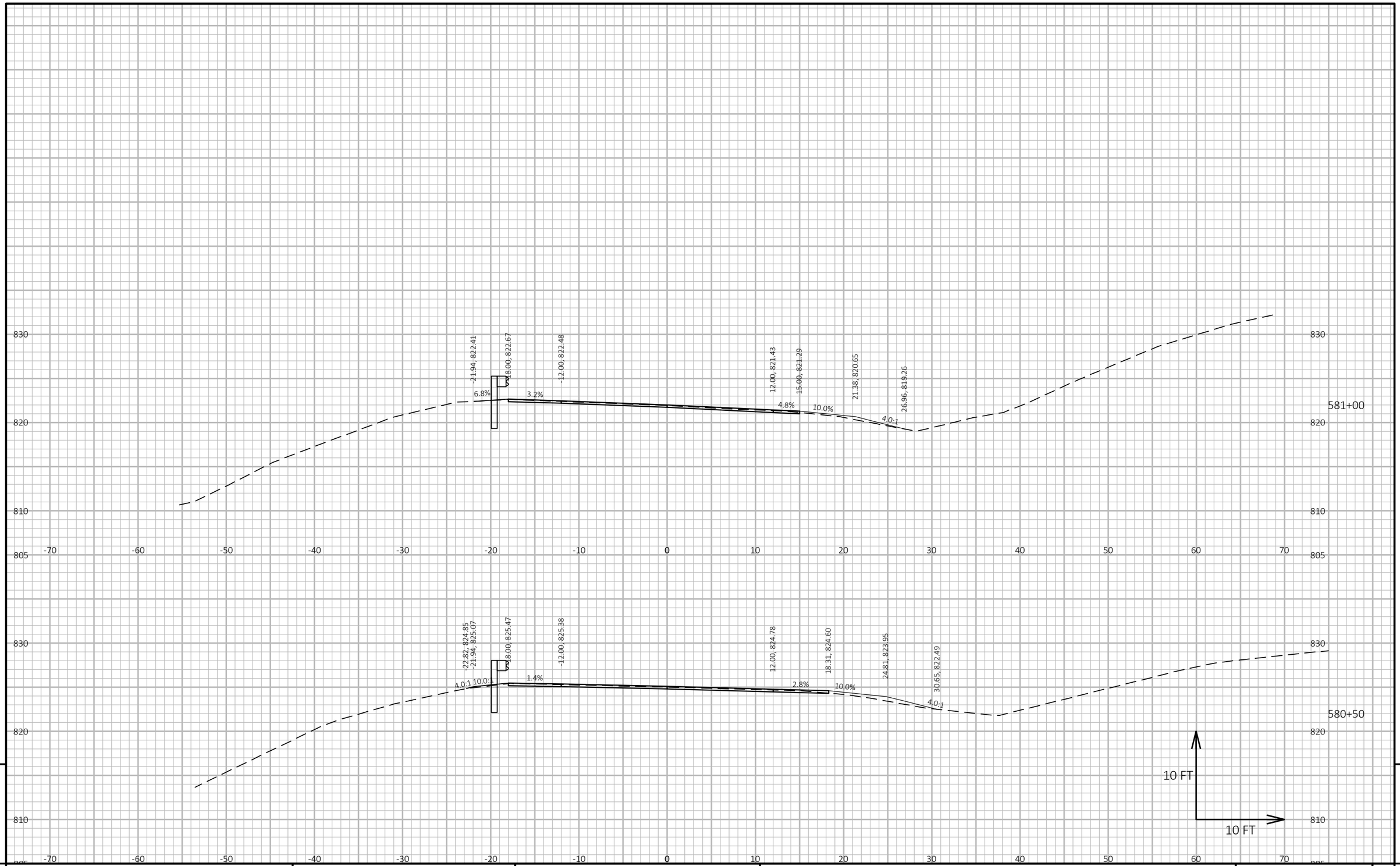
PROJECT NO: 5215-02-74	HWY: STH 81	COUNTY: GRANT	CROSS SECTIONS: STH 81	SHEET 163	E

FILE NAME : S:\MAD\1000--1099\1089\632\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090270

PLOT DATE : 5/5/2022 9:18 AM PLOT BY : JACK, ROBERT A. PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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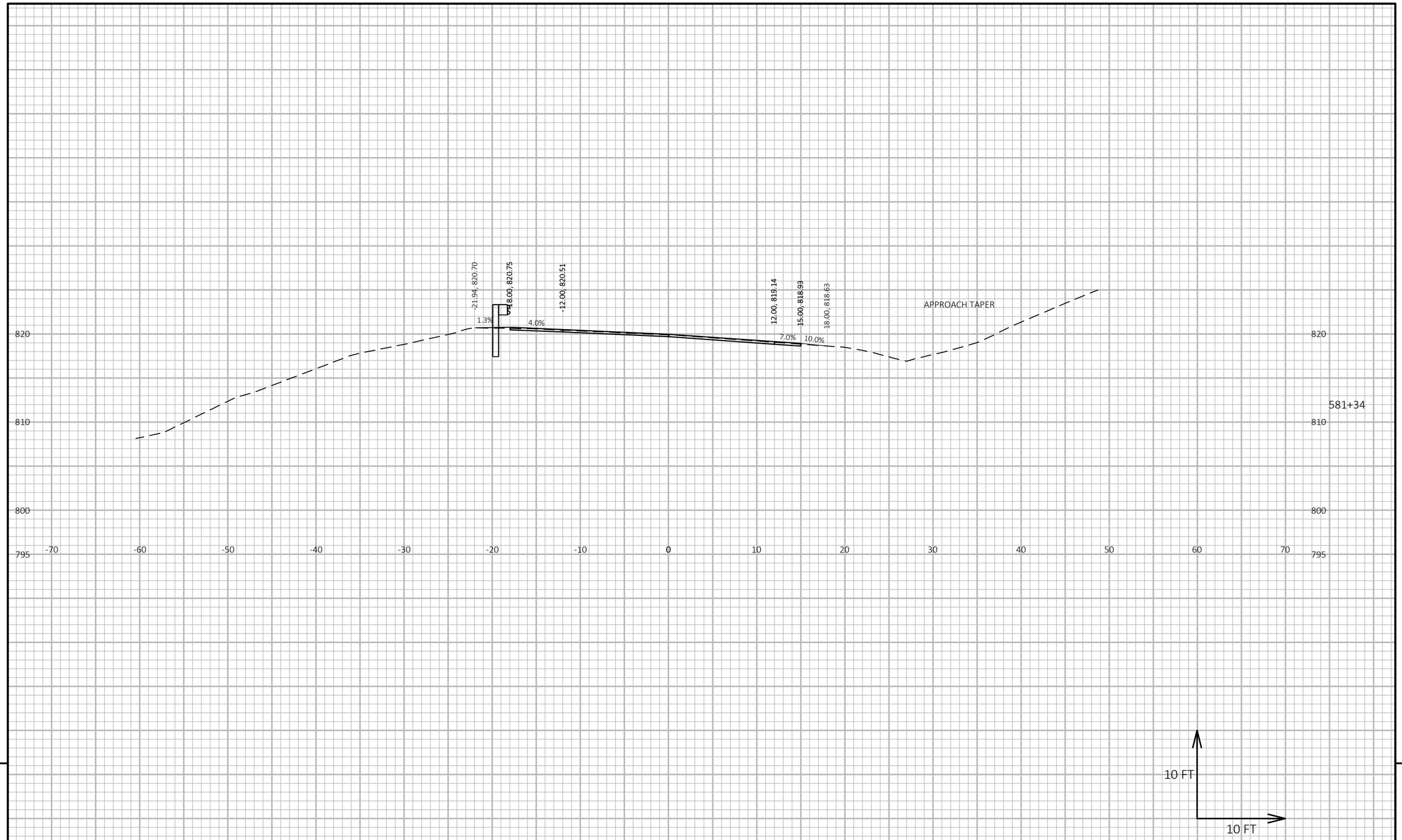
PROJECT NO: 5215-02-74	HWY: STH 81	COUNTY: GRANT	CROSS SECTIONS: STH 81	SHEET 164	E

FILE NAME : S:\MAD\1000--1099\1089\632\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090271

PLOT DATE : 5/4/2022 2:34 PM PLOT BY : ROSENTHAL, BRIAN PLOT NAME :

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

WISDOT/CADDS SHEET 49



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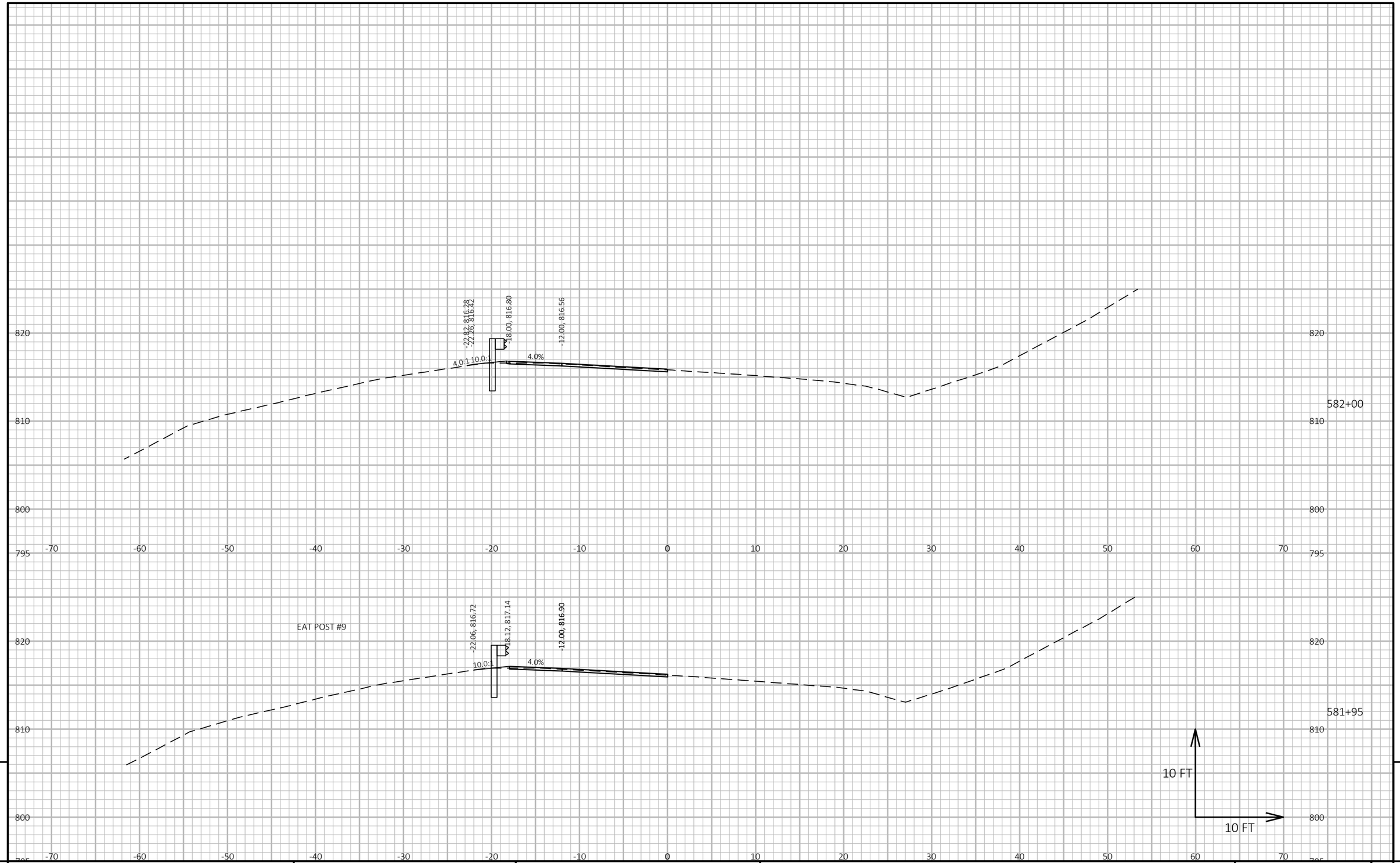
PROJECT NO: 5215-02-74	HWY: STH 81	COUNTY: GRANT	CROSS SECTIONS: STH 81	SHEET 165	E

FILE NAME : S:\MAD\1000--1099\1089\632\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090272

PLOT DATE : 5/4/2022 2:34 PM PLOT BY : ROSENTHAL, BRIAN PLOT NAME :

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

WISDOT/CADDS SHEET 49



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PROJECT NO: 5215-02-74	HWY: STH 81	COUNTY: GRANT	CROSS SECTIONS: STH 81	SHEET 166	E

FILE NAME : S:\MAD\1000--1099\1089\632\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090273

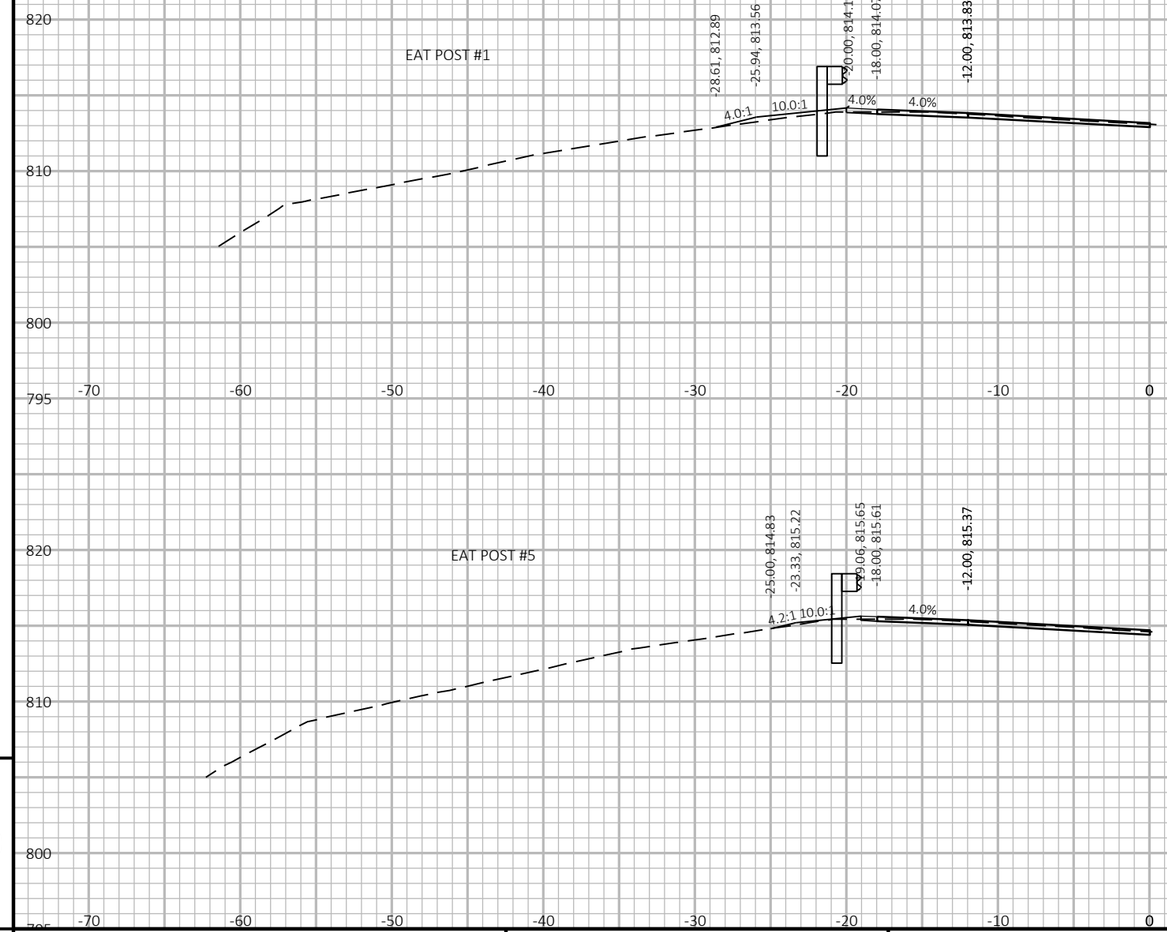
PLOT DATE : 5/4/2022 2:34 PM

PLOT BY : ROSENTHAL, BRIAN

PLOT NAME :

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

WISDOT/CADDS SHEET 49



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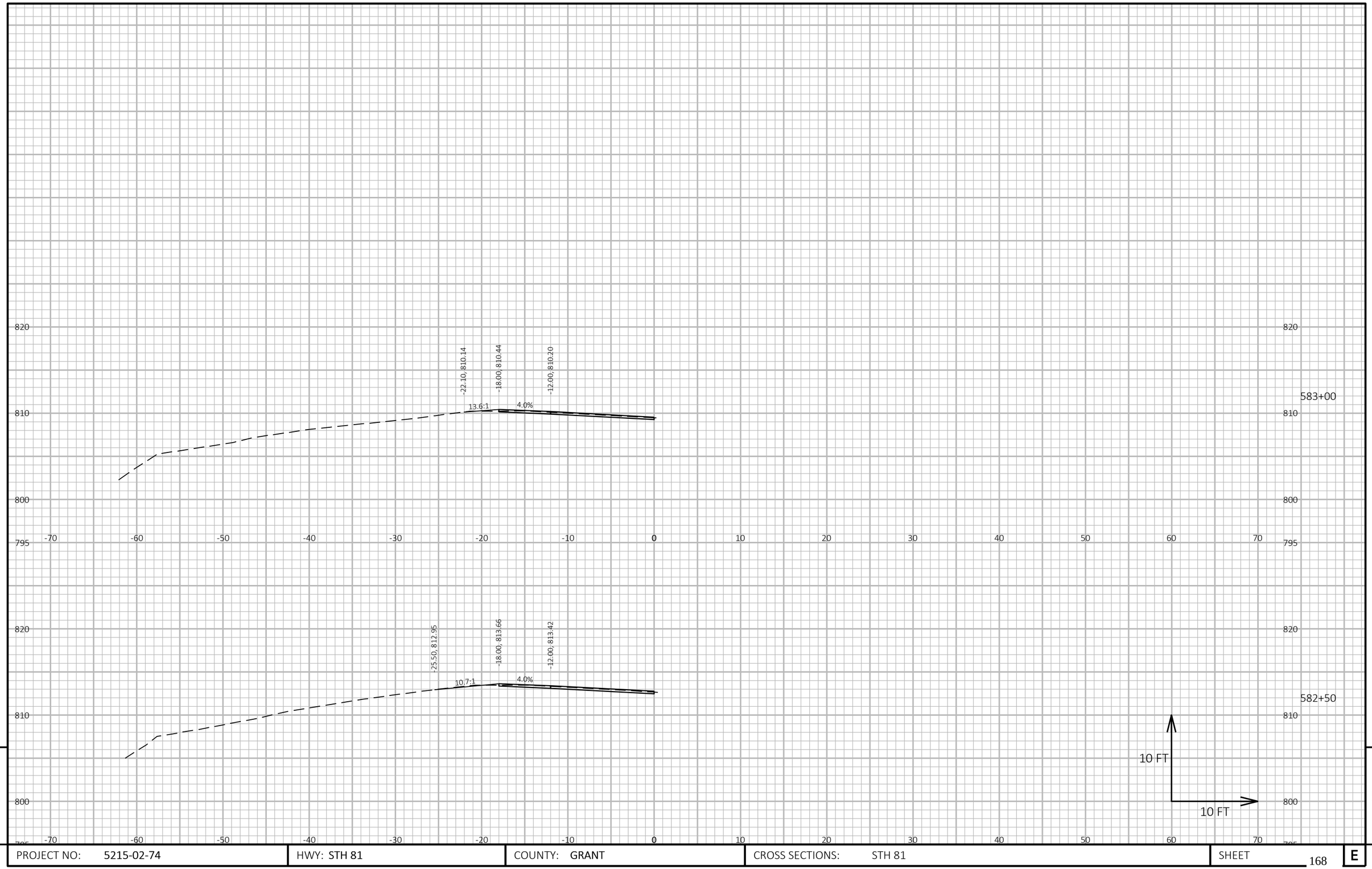
PROJECT NO: 5215-02-74	HWY: STH 81	COUNTY: GRANT	CROSS SECTIONS: STH 81	SHEET 167	E

FILE NAME : S:\MAD\1000--1099\1089\632\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090274

PLOT DATE : 5/4/2022 2:34 PM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

9



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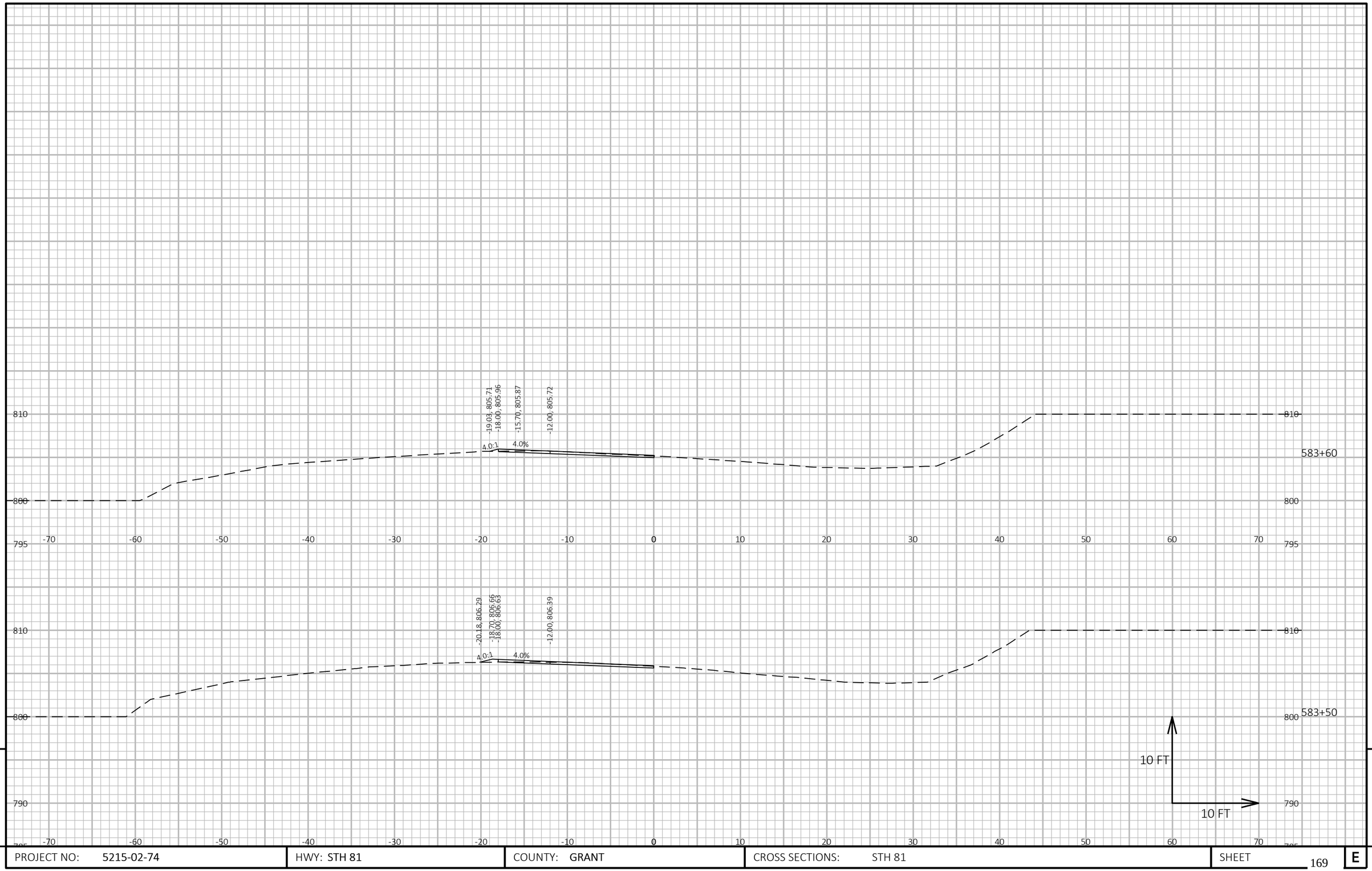
PROJECT NO: 5215-02-74	HWY: STH 81	COUNTY: GRANT	CROSS SECTIONS: STH 81	SHEET 168	E

FILE NAME : S:\MAD\1000--1099\1089\632\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090275

PLOT DATE : 5/4/2022 2:34 PM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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PROJECT NO: 5215-02-74	HWY: STH 81	COUNTY: GRANT	CROSS SECTIONS: STH 81	SHEET 169	E

FILE NAME : S:\MAD\1000--1099\1089\632\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090276

PLOT DATE : 5/4/2022 2:34 PM

PLOT BY : ROSENTHAL, BRIAN

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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