

ORDER OF SHEETS

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

TOTAL SHEETS = 72



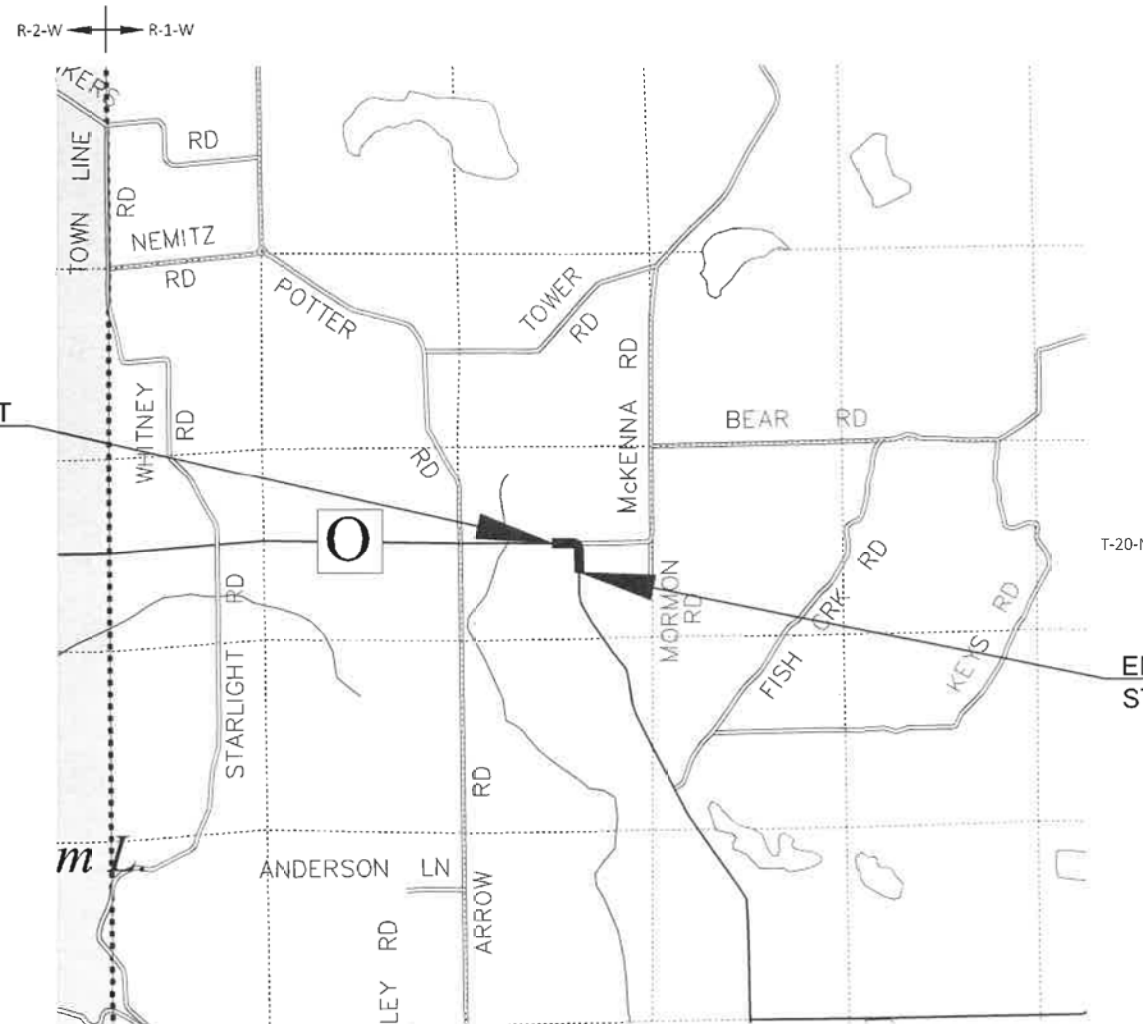
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DESIGN DESIGNATION

A.A.D.T.	=	280 (2024)
A.A.D.T.	=	300 (2044)
D.H.V.	=	N/A
D.D.	=	N/A
T.	=	5%
DESIGN SPEED	=	45 MPH
ESALS	=	N/A

CONVENTIONAL SYMBOLS

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



BEGIN PROJECT
STA 10+90.00
 Y = 66,956.893
 X = 177,119.740

END PROJECT
STA 21+60.00



TOTAL NET LENGTH OF CENTERLINE = 0.203 MI

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

STATE OF WISCONSIN
 DEPARTMENT OF TRANSPORTATION
 PLAN OF PROPOSED IMPROVEMENT
MILLSTON - CTH HH
 MCKENNA ROAD INTERSECTION
CTH O
JACKSON COUNTY

STATE PROJECT NUMBER
7027-00-71

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
7027-00-71	WISC 2023077	1

ACCEPTED FOR
 JACKSON COUNTY
 Date: 7-25-22
 Signature and Title of Official: *Jay Bork*

ORIGINAL PLANS PREPARED BY
CORRE
 ENGINEERING
 MADISON | WAUKESHA | EAU CLAIRE | APPLETON | TOMAH | WITTENBERG

WISCONSIN PROFESSIONAL ENGINEER
 KEVIN L. MEYER
 E-38309-006
 ELK MOUND WI
 7/25/22
 DATE: _____ (Professional Engineer Signature)

STATE OF WISCONSIN
 DEPARTMENT OF TRANSPORTATION

PREPARED BY
 Surveyor: CORRE, INC
 Designer: CORRE, INC
 Project Manager: MATTHEW THORNSEN, PE
 Regional Examiner: TONY YANG, PE
 Regional Supervisor: TYLER RONGSTAD, PE

APPROVED FOR THE DEPARTMENT
 DATE: 7/26/2022
 Signature: _____

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GENERAL NOTES:

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

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

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

THE EXACT LOCATION OF THE EROSION CONTROL DEVICES SHALL BE DETERMINED IN THE FIELD.

BEARINGS SHOWN ON THE PLANS ARE GRID/GROUND/PROJECT BEARINGS TO THE NEAREST SECOND.

A VERTICAL SAWCUT SHALL BE MADE THROUGH EXISTING DRIVEWAYS AND PAVEMENTS AT REMOVAL LIMITS.

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



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

UTILITY CONTACTS

ELECTRICITY

JACKSON ELECTRIC COOPERATIVE
ERIC STEIEN
N6868 CO HWY F
BLACK RIVER FALLS, WI 54615
PHONE: (715) 284-5385
EMAIL: ESTEIE@JACKELEC.COM

COMMUNICATION

LUMEN
TOM MURRAY
333 N. FRONT ST
LA CROSSE, WI 54601
PHONE: (608) 615-4169
TOM.L.MURRAY@LUMEN.COM

DNR LIAISON

DEPARTMENT OF NATURAL RESOURCES
910 STATE HIGHWAY 54
BLACK RIVER FALLS, WI 54615

BRAD BETTHAUSER
PHONE: (715) 213-9064
BRADLEY.BETTHAUSER@WISCONSIN.GOV

DESIGN CONTACT

CORRE, INC.
1802 WARDEN ST
EAU CLAIRE, WI 54703

KEVIN MEYER, P.E.
PHONE: (715) 299-1894
E-MAIL: KMEYER@CORREINC.COM

COUNTY CONTACT

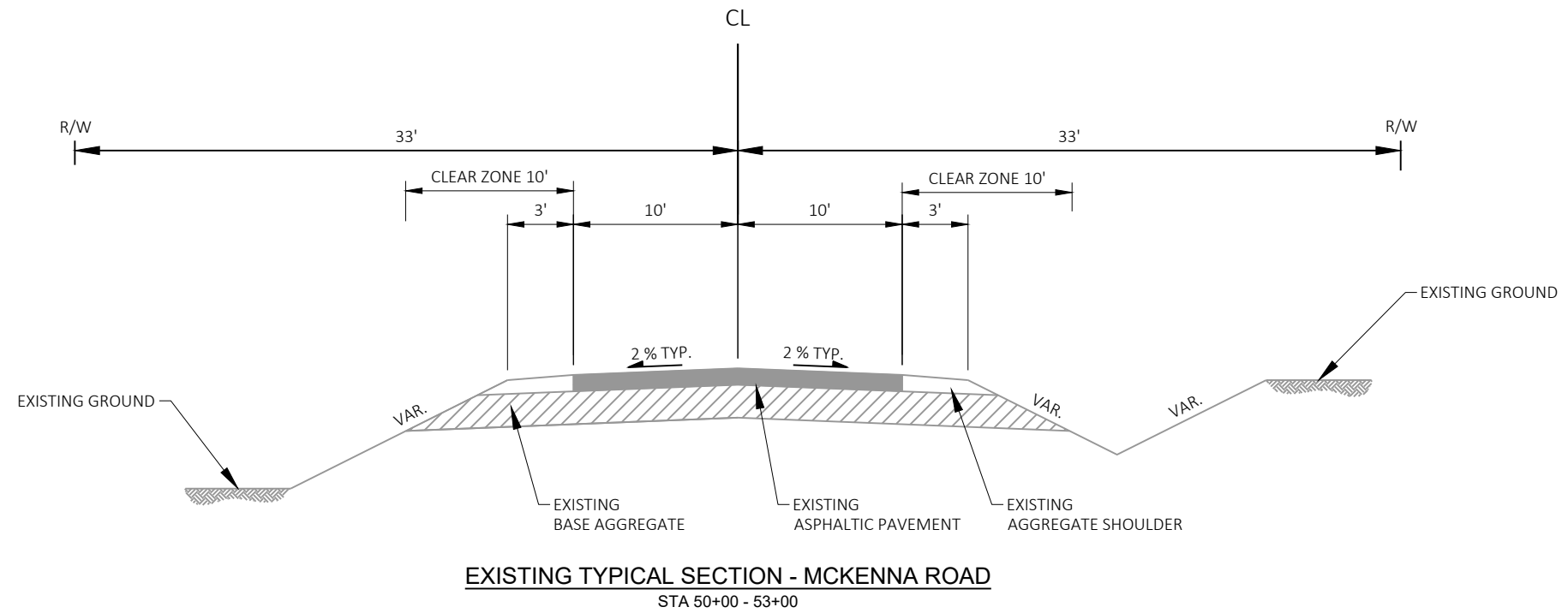
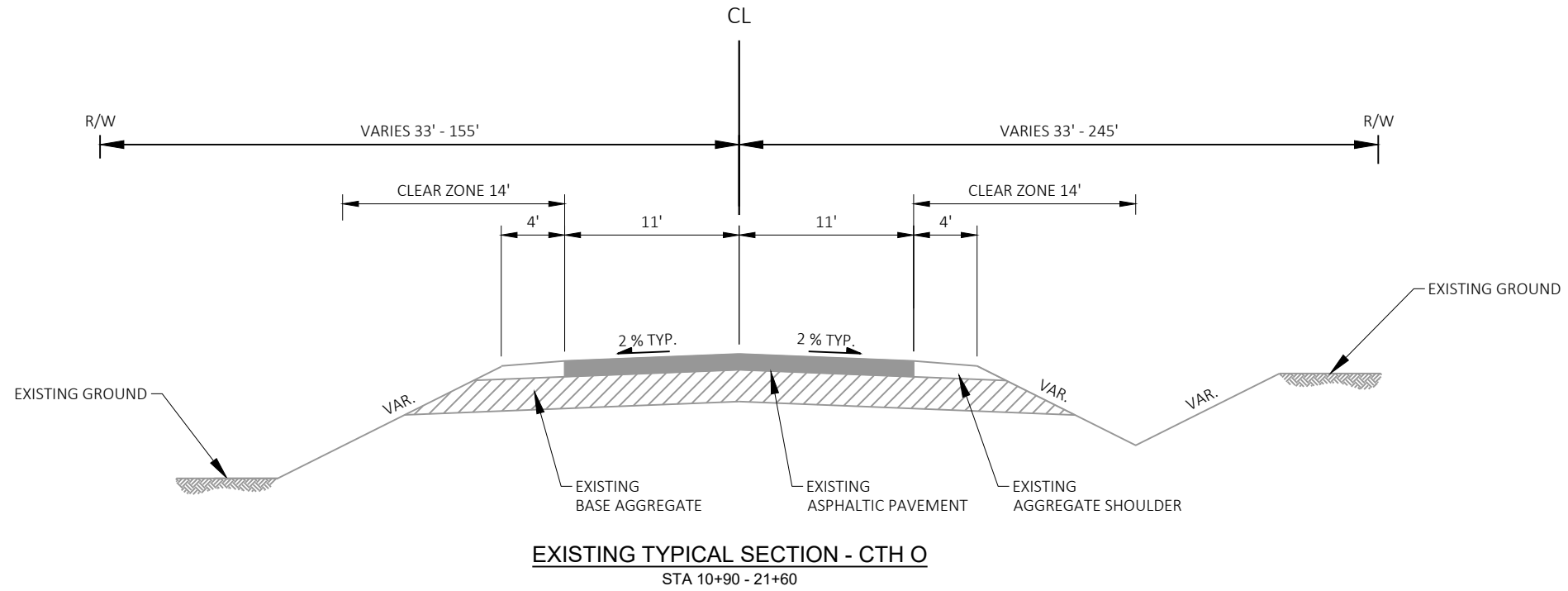
HIGHWAY COMMISSIONER
119 HARRISON ST
BLACK RIVER FALLS, WI 54615

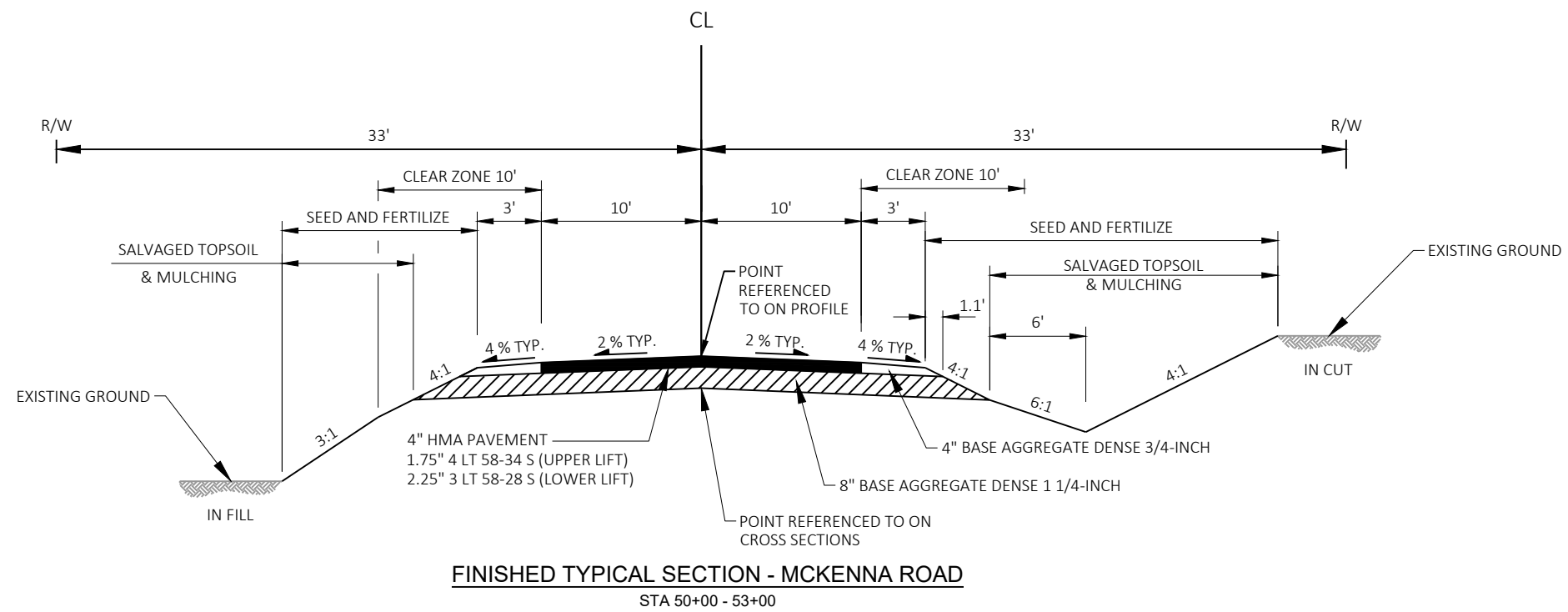
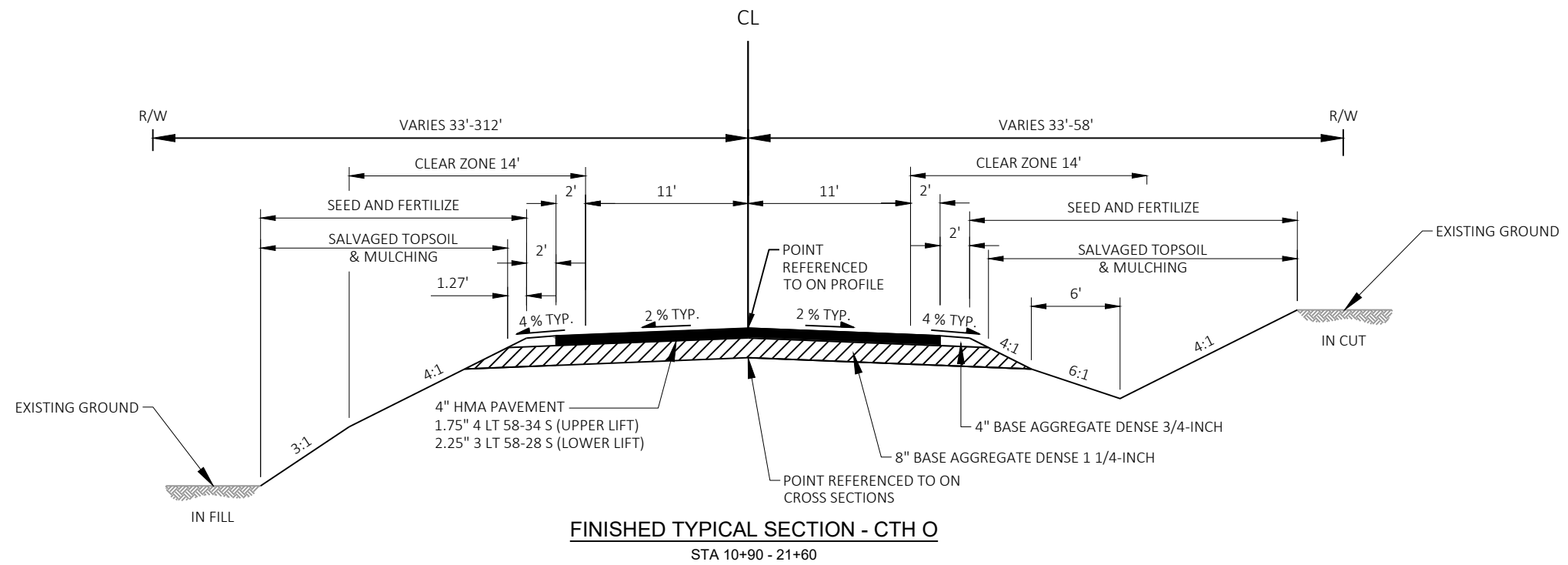
JAY BOREK
PHONE: (715) 637-3755
E-MAIL: JAY.BOREK@CO.JACKSON.WI.US

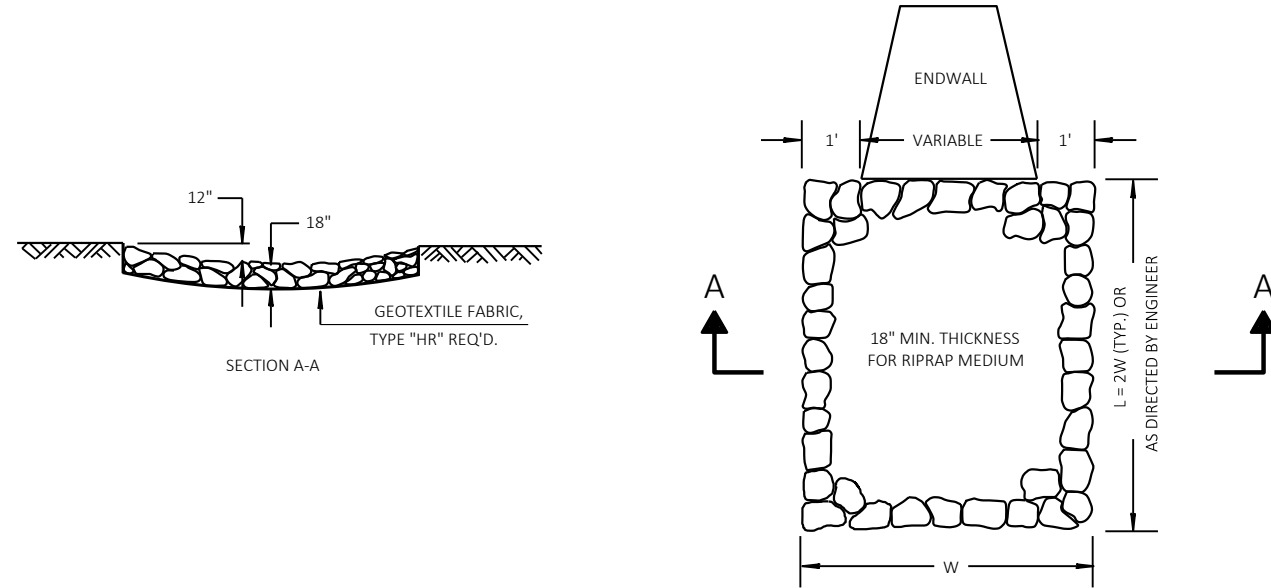
RUNOFF COEFFICIENT TABLE

	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 = 2.0 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 1.0 ACRE







RIPRAP MEDIUM TREATMENT AT CULVERTS

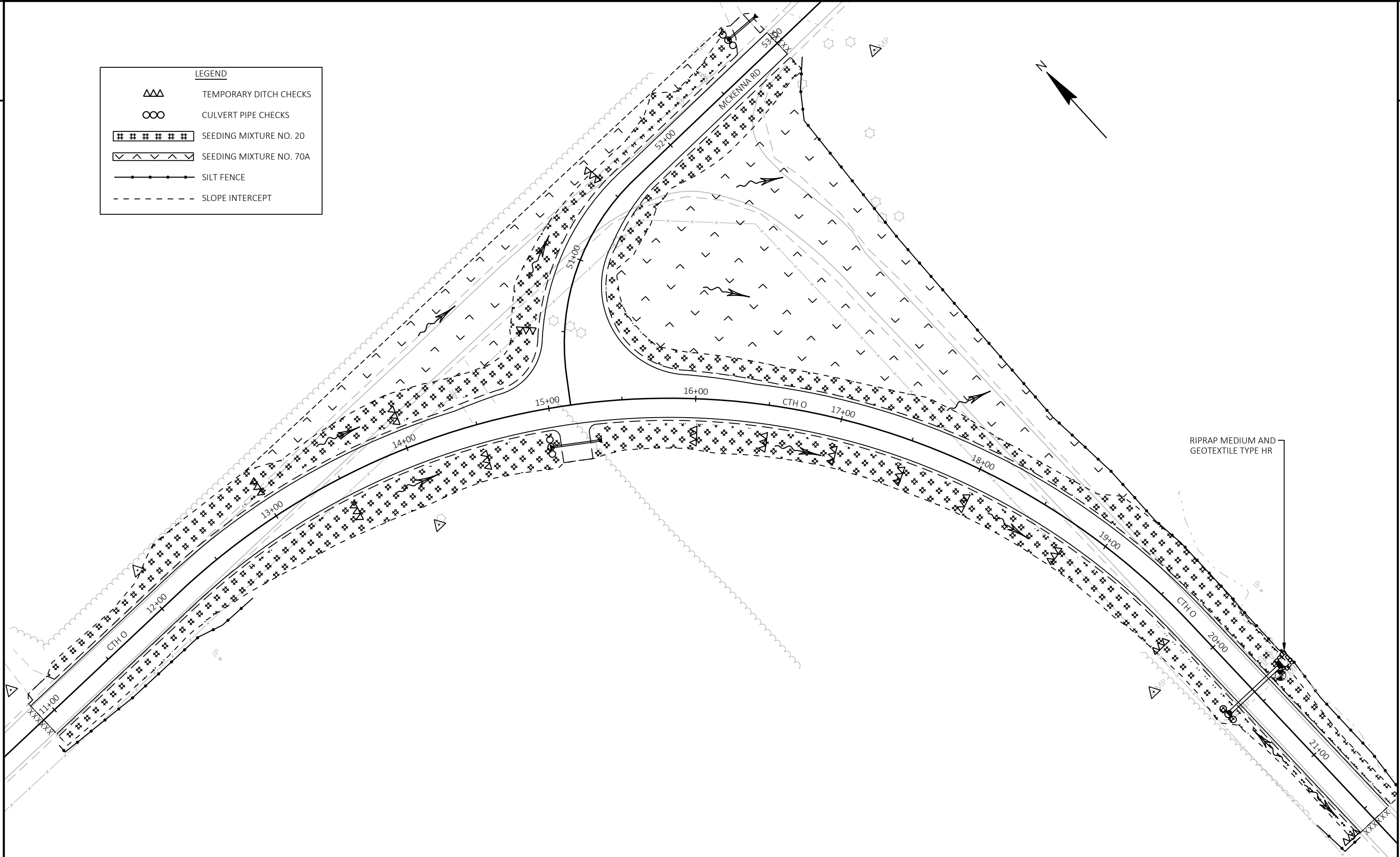
CTH O SUPERELEVATION

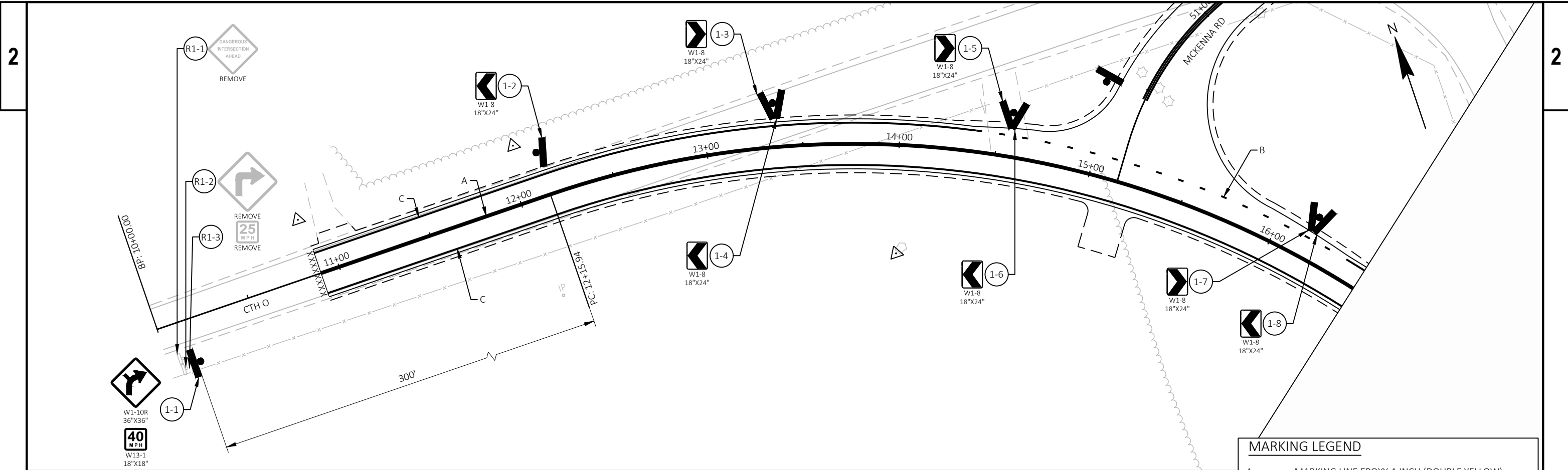
SUPERELEVATION TABLE FOR 'CTH O'					
TRANSITION EVENT POINTS		RATE (FT/FT)			
LOCATION	STATION	LEFT OF CROWNLINE		RIGHT OF CROWNLINE	
		LEFT SHOULDER	LEFT LANE	RIGHT LANE	RIGHT SHOULDER
CURVE 1					
ENDNORMALSHOULDER	10+91.94	-0.04	-0.02	-0.02	-0.04
ENDNORMALCROWN	10+91.94	-0.04	-0.02	-0.02	-0.04
LEVELCROWN	11+33.27	0	0	-0.02	-0.04
REVERSECROWN	11+74.61	0.02	0.02	-0.02	-0.04
LOWSHOULDERMATCH	12+15.94	0.04	0.04	-0.04	-0.04
BEGINFULLSUPER	12+57.27	0.06	0.06	-0.06	-0.06
ENDFULLSUPER	19+36.49	0.06	0.06	-0.06	-0.06
LOWSHOULDERMATCH	19+77.82	0.04	0.04	-0.04	-0.04
REVERSECROWN	20+19.16	0.02	0.02	-0.02	-0.04
LEVELCROWN	20+60.49	0	0	-0.02	-0.04
BEGINNORMALCROWN	21+01.82	-0.04	-0.02	-0.02	-0.04
BEGINNORMALSHOULDER	21+01.82	-0.04	-0.02	-0.02	-0.04

MCKENNA RD SUPERELEVATION

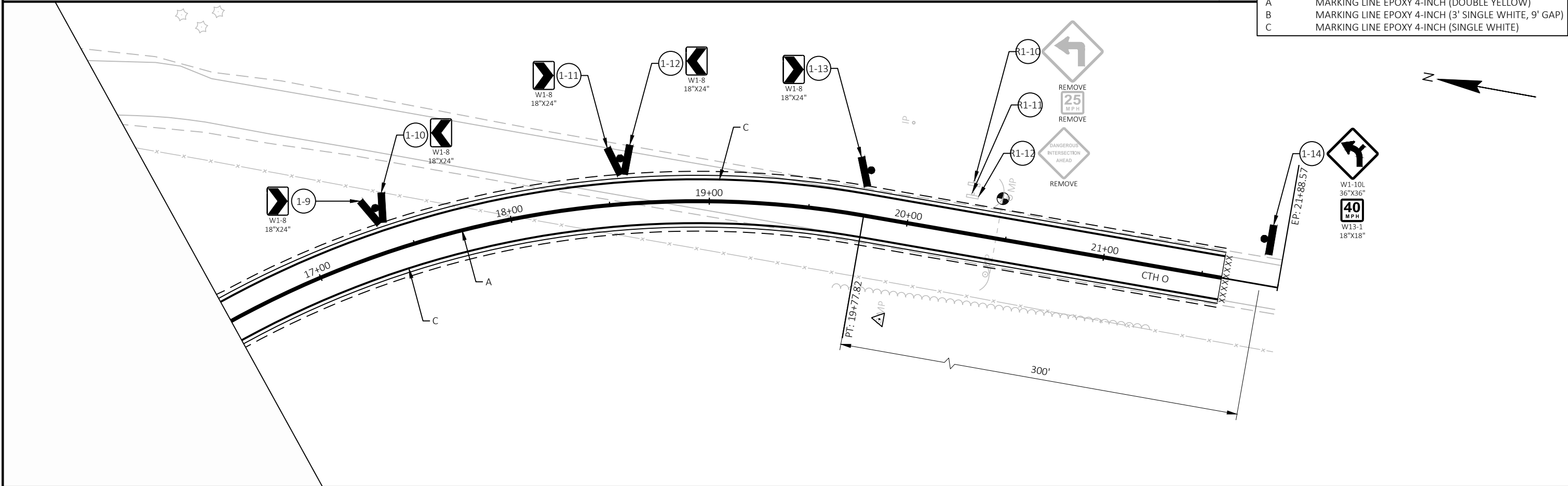
SUPERELEVATION TABLE FOR 'MCKENNA RD'					
TRANSITION EVENT POINTS		RATE (FT/FT)			
LOCATION	STATION	LEFT OF CROWNLINE		RIGHT OF CROWNLINE	
		LEFT SHOULDER	LEFT LANE	RIGHT LANE	RIGHT SHOULDER
CURVE 1					
BEGINFULLSUPER	50+44.95	0.04	0.04	-0.04	-0.04
ENDFULLSUPER	51+42.22	0.04	0.04	-0.04	-0.04
REVERSECROWN	51+78.72	0.02	0.02	-0.02	-0.04
LEVELCROWN	52+15.22	0	0	-0.02	-0.04
BEGINNORMALCROWN	52+51.72	-0.04	-0.02	-0.02	-0.04
BEGINNORMALSHOULDER	52+51.72	-0.04	-0.02	-0.02	-0.04

LEGEND	
△△△	TEMPORARY DITCH CHECKS
○○○	CULVERT PIPE CHECKS
#####	SEEDING MIXTURE NO. 20
∨∧∨∧∨∧∨	SEEDING MIXTURE NO. 70A
—●—●—●—●—	SILT FENCE
- - - - -	SLOPE INTERCEPT

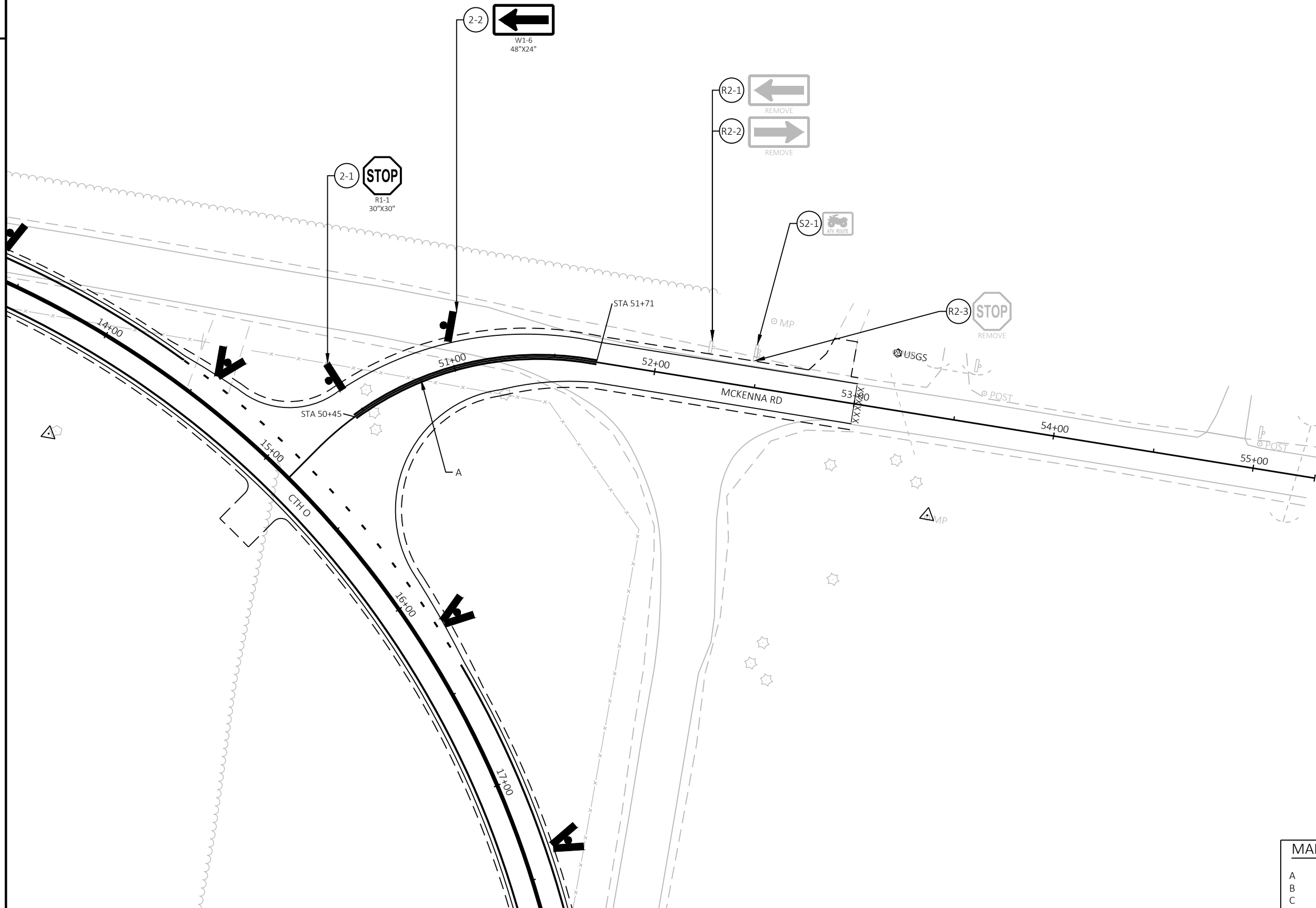




MARKING LEGEND	
A	MARKING LINE EPOXY 4-INCH (DOUBLE YELLOW)
B	MARKING LINE EPOXY 4-INCH (3' SINGLE WHITE, 9' GAP)
C	MARKING LINE EPOXY 4-INCH (SINGLE WHITE)

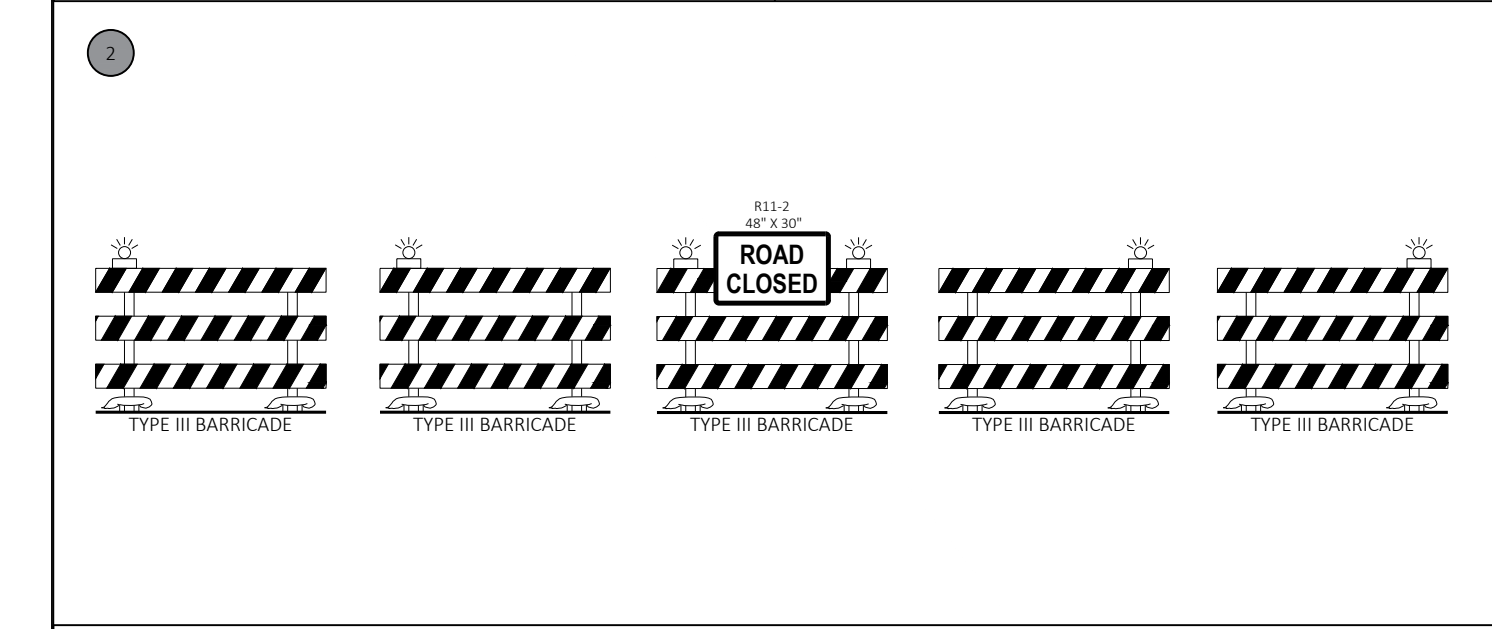
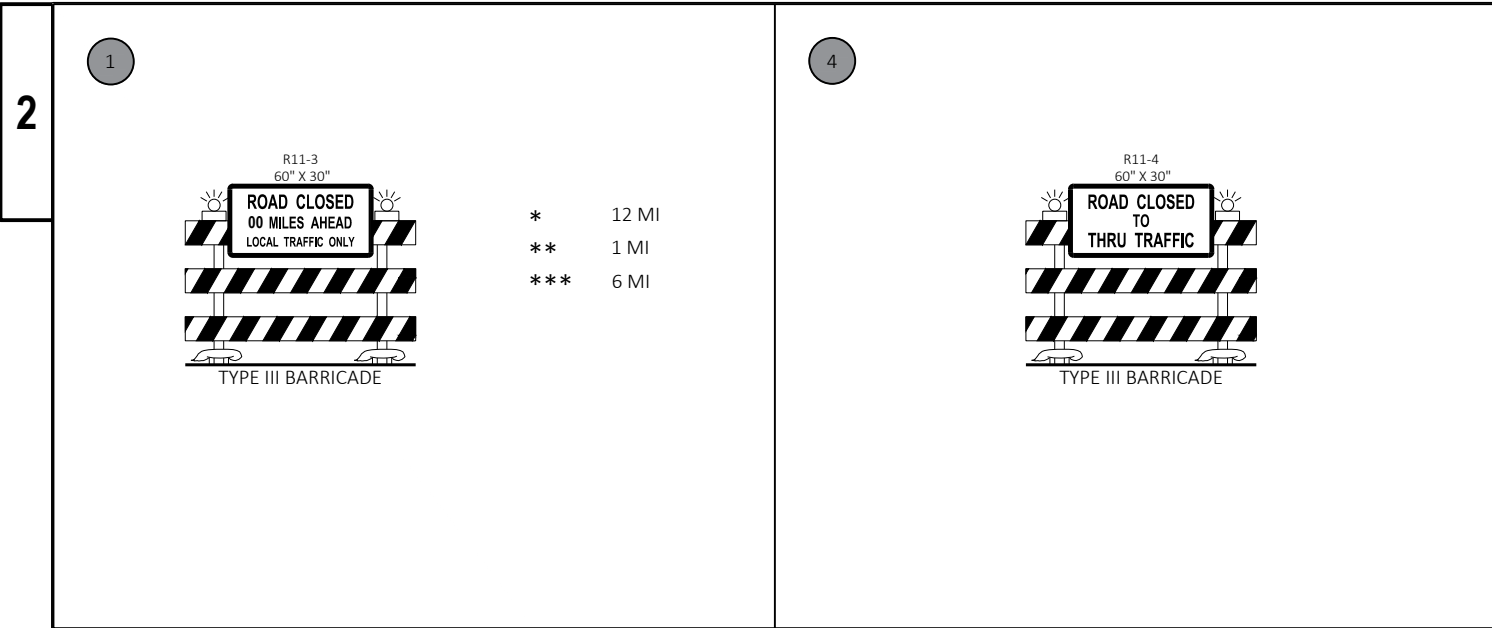


PROJECT NO: 7027-00-71	HWY: CTH 0	COUNTY: JACKSON	PERMANENT SIGNING AND PAVEMENT MARKING	SHEET	E
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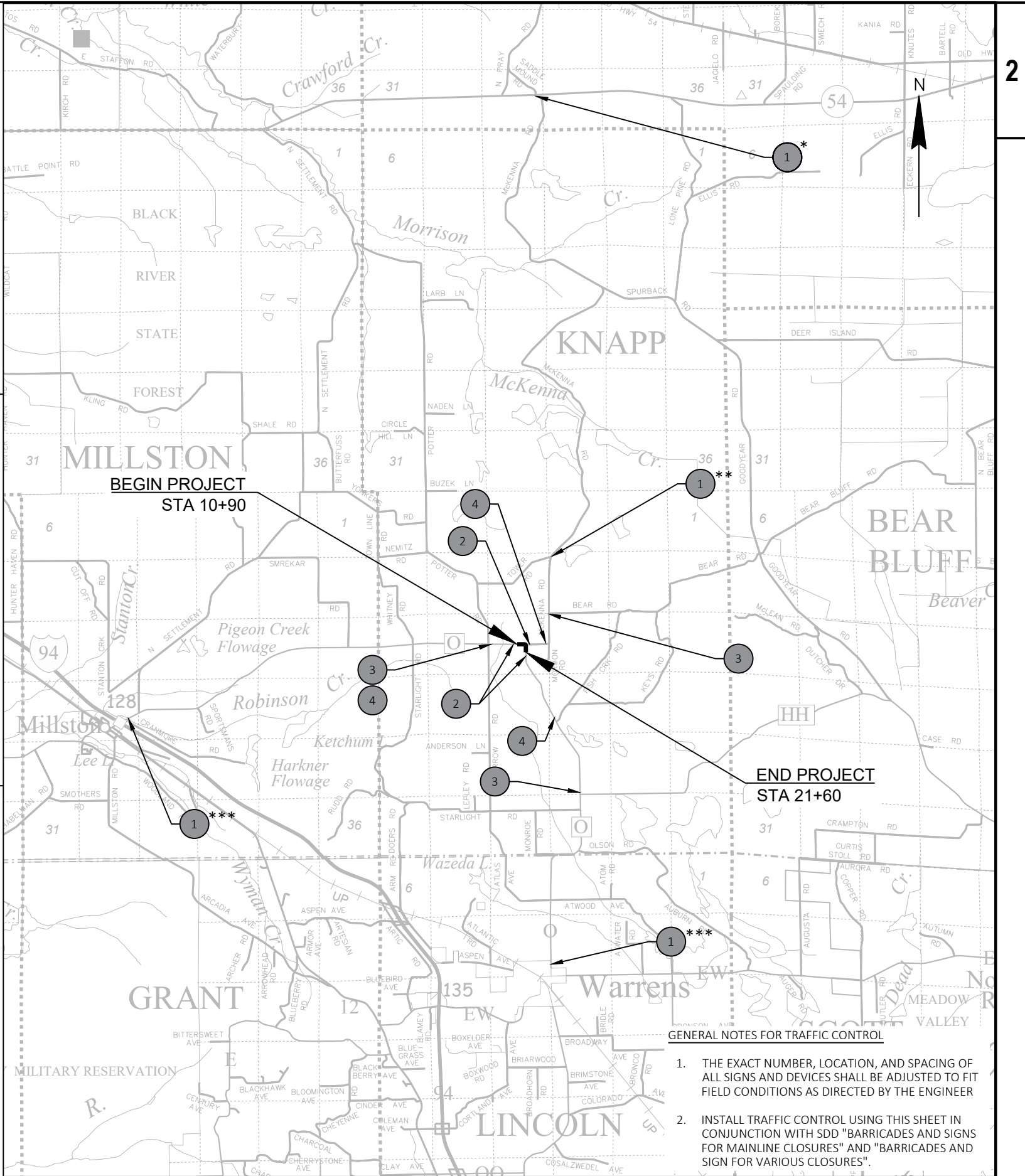
MARKING LEGEND	
A	MARKING LINE EPOXY 4-INCH (DOUBLE YELLOW)
B	MARKING LINE EPOXY 4-INCH (3' SINGLE WHITE, 9' GAP)
C	MARKING LINE EPOXY 4-INCH (SINGLE WHITE)

PROJECT NO: 7027-00-71	HWY: CTH O	COUNTY: JACKSON	PERMANENT SIGNING AND PAVEMENT MARKING	SHEET	E
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PCMS MESSAGING

ONE WEEK IN ADVANCE OF CLOSURE:		DURING CLOSURE:	
FRAME 1	FRAME 2	FRAME 1	FRAME 2
CTH O TO CLOSE	XXXDAY XX XX XX	CTH O CLOSED	USE ALT ROUTE



- GENERAL NOTES FOR TRAFFIC CONTROL**
- THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER
 - INSTALL TRAFFIC CONTROL USING THIS SHEET IN CONJUNCTION WITH SDD "BARRICADES AND SIGNS FOR MAINLINE CLOSURES" AND "BARRICADES AND SIGN FOR VARIOUS CLOSURES".

Estimate Of Quantities

7027-00-71

Line	Item	Item Description	Unit	Total	Qty
0002	201.0105	Clearing	STA	1.000	1.000
0004	201.0205	Grubbing	STA	1.000	1.000
0006	203.0100	Removing Small Pipe Culverts	EACH	1.000	1.000
0008	205.0100	Excavation Common	CY	2,102.000	2,102.000
0010	211.0101	Prepare Foundation for Asphaltic Paving (project) 01. 7027-00-71	EACH	1.000	1.000
0012	213.0100	Finishing Roadway (project) 01. 7027-00-71	EACH	1.000	1.000
0014	214.0100	Obliterating Old Road	STA	4.200	4.200
0016	305.0110	Base Aggregate Dense 3/4-Inch	TON	200.000	200.000
0018	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	2,510.000	2,510.000
0020	455.0605	Tack Coat	GAL	250.000	250.000
0022	460.2000	Incentive Density HMA Pavement	DOL	590.000	590.000
0024	460.5223	HMA Pavement 3 LT 58-28 S	TON	515.000	515.000
0026	460.5244	HMA Pavement 4 LT 58-34 S	TON	400.000	400.000
0028	520.1012	Apron Endwalls for Culvert Pipe 12-Inch	EACH	4.000	4.000
0030	520.3312	Culvert Pipe Class III-A 12-Inch	LF	54.000	54.000
0032	521.1228	Apron Endwalls for Pipe Arch Steel 28x20-Inch	EACH	2.000	2.000
0034	521.3728	Pipe Arch Corrugated Steel 28x20-Inch	LF	44.000	44.000
0036	606.0200	Riprap Medium	CY	3.000	3.000
0038	618.0100	Maintenance And Repair of Haul Roads (project) 01. 7027-00-71	EACH	1.000	1.000
0040	619.1000	Mobilization	EACH	1.000	1.000
0042	624.0100	Water	MGAL	60.000	60.000
0044	625.0500	Salvaged Topsoil	SY	12,225.000	12,225.000
0046	627.0200	Mulching	SY	12,225.000	12,225.000
0048	628.1504	Silt Fence	LF	1,100.000	1,100.000
0050	628.1520	Silt Fence Maintenance	LF	1,100.000	1,100.000
0052	628.1905	Mobilizations Erosion Control	EACH	4.000	4.000
0054	628.1910	Mobilizations Emergency Erosion Control	EACH	4.000	4.000
0056	628.2008	Erosion Mat Urban Class I Type B	SY	500.000	500.000
0058	628.7504	Temporary Ditch Checks	LF	175.000	175.000
0060	628.7555	Culvert Pipe Checks	EACH	10.000	10.000
0062	629.0210	Fertilizer Type B	CWT	9.000	9.000
0064	630.0120	Seeding Mixture No. 20	LB	150.000	150.000
0066	630.0171	Seeding Mixture No. 70A	LB	25.000	25.000
0068	630.0200	Seeding Temporary	LB	331.000	331.000
0070	630.0500	Seed Water	MGAL	219.000	219.000
0072	633.5200	Markers Culvert End	EACH	2.000	2.000
0074	634.0612	Posts Wood 4x6-Inch X 12-FT	EACH	8.000	8.000
0076	634.0614	Posts Wood 4x6-Inch X 14-FT	EACH	7.000	7.000
0078	634.0618	Posts Wood 4x6-Inch X 18-FT	EACH	2.000	2.000
0080	637.2210	Signs Type II Reflective H	SF	5.000	5.000
0082	637.2230	Signs Type II Reflective F	SF	67.000	67.000
0084	638.2102	Moving Signs Type II	EACH	1.000	1.000
0086	638.2602	Removing Signs Type II	EACH	9.000	9.000
0088	638.3000	Removing Small Sign Supports	EACH	7.000	7.000
0090	642.5001	Field Office Type B	EACH	1.000	1.000
0092	643.0300	Traffic Control Drums	DAY	1,290.000	1,290.000
0094	643.0420	Traffic Control Barricades Type III	DAY	66.000	66.000
0096	643.0705	Traffic Control Warning Lights Type A	DAY	96.000	96.000
0098	643.0900	Traffic Control Signs	DAY	390.000	390.000

Estimate Of Quantities

7027-00-71

Line	Item	Item Description	Unit	Total	Qty
0100	643.1050	Traffic Control Signs PCMS	DAY	30.000	30.000
0102	643.5000	Traffic Control	EACH	1.000	1.000
0104	645.0120	Geotextile Type HR	SY	11.000	11.000
0106	646.1020	Marking Line Epoxy 4-Inch	LF	4,382.000	4,382.000
0108	650.4500	Construction Staking Subgrade	LF	1,370.000	1,370.000
0110	650.5000	Construction Staking Base	LF	1,370.000	1,370.000
0112	650.6000	Construction Staking Pipe Culverts	EACH	3.000	3.000
0114	650.9911	Construction Staking Supplemental Control (project) 01. 7027-00-71	EACH	1.000	1.000
0116	650.9920	Construction Staking Slope Stakes	LF	1,370.000	1,370.000
0118	690.0150	Sawing Asphalt	LF	64.000	64.000
0120	ASP.1T0A	On-the-Job Training Apprentice at \$5.00/HR	HRS	300.000	300.000
0122	ASP.1T0G	On-the-Job Training Graduate at \$5.00/HR	HRS	300.000	300.000

3

3

CATEGORY	STATION	TO	STATION	LOCATION	201.0105 CLEARING STA	201.0205 GRUBBING STA
0010	15+00	-	16+00	RT	1	1
TOTAL 0010					1	1

CATEGORY	STATION	LOCATION	203.0100 REMOVING SMALL PIPE CULVERTS EACH
0010	20+45	ML	1
TOTAL 0010			1

LOCATION	214.0100 OBLITERATING OLD ROAD STA
CTH O (EAST/WEST)	1.2
CTH O (NORTH/SOUTH)	3.0
TOTAL 0010	4.2

DIVISION	FROM/TO STATION	LOCATION	205.0100 EXCAVATION COMMON (1)		SALVAGED/UNUSABLE PAVEMENT MATERIAL (3)	AVAILABLE MATERIAL (4)	UNEXPANDED FILL	EXPANDED FILL (5)	MASS ORDINATE +/- (6)	WASTE
			CUT (2)	EBS EXCAVATION				FACTOR 1.25		
DIVISION 1 - CTH O	12+15 TO 19+50	CTH O	1,142		0	1,142	677	846	296	296
DIVISION 1 SUBTOTAL			1,142	0	0	1,142	677	846	296	
DIVISION 2 - CTH O	10+90 TO 14+00	CTH O	699		143	556	302	378	179	179
DIVISION 2 - MCKENNA RD	18+10 TO 21+60 50+75 TO 53+00	MCKENNA RD	261		50	211	7	9	202	202
DIVISION 2 SUBTOTAL			960	0	193	767	309	386	381	
GRAND TOTAL			2,102	0	193	1,909	986	1,233	677	677
TOTAL COMMON EXC			2,102							

- NOTES:**
- (1) EXCAVATION COMMON IS THE SUM OF THE CUT AND EBS EXCAVATION COLUMNS. ITEM NUMBER 205.0100
 - (2) SALVAGED/UNUSABLE PAVEMENT MATERIAL IS INCLUDED IN CUT.
 - (3) SALVAGED/UNUSABLE PAVEMENT MATERIAL
 - (4) AVAILABLE MATERIAL = CUT - SALVAGED/UNUSABLE PAVEMENT MATERIAL
 - (5) EXPANDED FILL FACTOR = 1.25
 - (6) THE MASS ORDINATE + OR - QTY CALCULATED FOR THE DIVISION. PLUS QUANTITY INDICATES AN EXCESS OF MATERIAL WITHIN THE DIVISION. MINUS INDICATES A SHORTAGE OF MATERIAL WITHIN THE DIVISION.
 - (7) FACTORS USED TO COMPUTE ANTICIPATED WASTE AND THE COMPUTED WASTE VOLUME IDENTIFIED ARE FOR GENERAL INFORMATION ONLY.
 - (8) ALL QUANTITY IN DIVISION 1 IS FOR WORK TO BE COMPLETED FOR REALIGNMENT SECTION UNDER FLAGGING OPERATIONS
 - (9) ALL QUANTITY IN DIVISION 2 IS FOR WORK TO BE COMPLETED FOR TIE IN WORK DONE DURING FULL CLOSURE

LOCATION	305.0110 BASE AGGREGATE DENSE 3/4-INCH TON	305.0120 BASE AGGREGATE DENSE 1 1/4- INCH TON	624.0100 WATER MGAL
CTH O/MCKENNA RD	200	2,510	60
TOTAL 0010	200	2,510	60

LOCATION	211.0101.01 PREPARE FOUNDATION FOR ASPHALTIC PAVING (PROJECT) (01. 7027-00-71) EACH	455.0605 TACK COAT GAL	460.5223 HMA PAVEMENT 3 LT 58-28 S TON	460.5244 HMA PAVEMENT 4 LT 58-34 S TON	REMARKS
CTH O/MCKENNA RD	-	-	515	-	LOWER LAYER
CTH O/MCKENNA RD	-	250	-	400	UPPER LAYER
CTH O/MCKENNA RD	1	-	-	-	
TOTAL 0010	1	250	515	400	

STATION	LOCATION	520.1012 APRON ENDWALLS FOR CULVERT PIPE 12-INCH EACH	520.3312 CULVERT PIPE CLASS III-A 12- INCH LF	521.1228 APRON ENDWALLS FOR PIPE ARCH STEEL 28X20-INCH EACH	521.3728 PIPE ARCH CORRUGATED STEEL 28X20- INCH LF	633.5200 MARKERS CULVERT END EACH
15+15	CTH O	2	32	-	-	-
20+40	CTH O	-	-	2	44	2
52+92	MCKENNA RD	2	22	-	-	-
TOTAL 0010		4	54	2	44	2

REQUIRED THICKNESS FOR CORRUGATED STEEL CULVERT PIPE = 0.064 INCHES.

3

3

STATION	LOCATION	606.0200 RIPRAP MEDIUM CY	645.0120 GEOTEXTILE TYPE HR SY
20+40	LT	3	11
TOTAL 0010		3	11

STATION TO	STATION	LOCATION	625.0500 SALVAGED TOPSOIL SY	627.0200 MULCHING SY	628.2008 EROSION MAT URBAN CLASS I TYPE B SY	629.0210 FERTILIZER TYPE B CWT	630.0120 SEEDING MIXTURE NO. 20 LB	630.0171 SEEDING MIXTURE NO. 70A LB	630.0200 SEEDING TEMPORARY LB	630.0500 SEED WATER MGAL
10+90 -	21+60	PROJECT	4,440	4,440	-	3	120	-	265	219
10+90 -	21+60	OLD ROADWAY UNDISTRIBUTED (25%)	5,340	5,340	-	4	-	20	-	-
TOTAL 0010			12,225	12,225	500	9	150	25	331	219

STATION	LOCATION	SIGN #	SIGN CODE	SIZE IN X IN	634.0612 POSTS WOOD 4X6-INCH X 12- FT EACH	634.0614 POSTS WOOD 4X6-INCH X 14- FT EACH	634.0618 POSTS WOOD 4X6-INCH X 18- FT EACH	637.2210 SIGNS TYPE II REFLECTIVE H SF	637.2230 SIGNS TYPE II REFLECTIVE F SF	638.2102 MOVING SIGNS TYPE II EACH	638.2602 REMOVING SIGNS TYPE II EACH	638.3000 REMOVING SMALL SIGN SUPPORTS EACH	REMARKS
10+08	RT	R1-1	-	-	-	-	-	-	-	-	1	1	DANGEROUS INTERSECTION AHEAD
10+08	RT	R1-2	-	-	-	-	-	-	-	-	1	1	RIGHT TURN
10+08	RT	R1-3	-	-	-	-	-	-	-	-	1	-	25 MPH
9+16	RT	1-1	W1-10R	36 X 36	-	-	1	-	9.00	-	-	-	ROAD CURVES RIGHT
9+16	RT	1-1	W13-1	18 X 18	-	-	-	-	2.25	-	-	-	40 MPH
12+16	LT	1-2	W1-8	18 X 24	1	-	-	-	3.00	-	-	-	CHEVRON
13+36	LT	1-3	W1-8	18 X 24	1	-	-	-	3.00	-	-	-	CHEVRON
13+36	LT	1-4	W1-8	18 X 24	1	-	-	-	3.00	-	-	-	CHEVRON
14+56	LT	1-5	W1-8	18 X 24	1	-	-	-	3.00	-	-	-	CHEVRON
14+56	LT	1-6	W1-8	18 X 24	1	-	-	-	3.00	-	-	-	CHEVRON
16+17	LT	1-7	W1-8	18 X 24	1	-	-	-	3.00	-	-	-	CHEVRON
16+17	LT	1-8	W1-8	18 X 24	1	-	-	-	3.00	-	-	-	CHEVRON
17+37	LT	1-9	W1-8	18 X 24	-	1	-	-	3.00	-	-	-	CHEVRON
17+37	LT	1-10	W1-8	18 X 24	-	1	-	-	3.00	-	-	-	CHEVRON
18+57	LT	1-11	W1-8	18 X 24	-	1	-	-	3.00	-	-	-	CHEVRON
18+57	LT	1-12	W1-8	18 X 24	-	1	-	-	3.00	-	-	-	CHEVRON
19+78	LT	1-13	W1-8	18 X 24	-	1	-	-	3.00	-	-	-	CHEVRON
22+78	LT	1-14	W1-10L	36 X 36	-	-	1	-	9.00	-	-	-	ROAD CURVES LEFT
22+78	LT	1-14	W13-1	18 X 18	-	-	-	-	2.25	-	-	-	40 MPH
20+30	LT	R1-10	-	-	-	-	-	-	-	-	1	1	LEFT TURN
20+30	LT	R1-11	-	-	-	-	-	-	-	-	1	-	25 MPH
20+30	LT	R1-12	-	-	-	-	-	-	-	-	1	1	DANGEROUS INTERSECTION AHEAD
50+46	LT	2-1	R1-1	30 X 30	-	1	-	5.18	-	-	-	-	STOP
51+00	LT	2-2	W1-6	48 X 24	-	1	-	-	8.00	-	-	-	LEFT ARROW
52+27	LT	R2-1	-	-	-	-	-	-	-	-	1	1	LEFT ARROW
52+27	LT	R2-2	-	-	-	-	-	-	-	-	1	-	RIGHT ARROW
52+50	LT	R2-3	-	-	-	-	-	-	-	-	1	1	STOP
52+50	LT	S2-1	-	-	1	-	-	-	-	1	-	1	ATV ROUTE
TOTAL 0010					8	7	2	5	67	1	9	7	

LOCATION	628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINTENANCE LF	628.7504 TEMPORARY DITCH CHECKS LF	628.7555 CULVERT PIPE CHECKS EACH
PROJECT	880	880	140	8
UNDISTRIBUTED	220	220	35	2
TOTAL 0010	1,100	1,100	175	10

PROJECT NO: 7027-00-71

HWY: CTH O

COUNTY: JACKSON

MISCELLANEOUS QUANTITIES

SHEET

E

3

3

LOCATION	643.0300 TRAFFIC CONTROL DRUMS DAY	643.0420 TRAFFIC CONTROL BARRICADES TYPE III DAY	643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A DAY	643.0900 TRAFFIC CONTROL SIGNS DAY	643.1050 TRAFFIC CONTROL SIGNS PCMS DAY	REMARKS
CTH O & MCKENNA RD	840	-	-	210	-	SHOULDER CLOSURE PER SDD "WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROAD"
SADDLE MOUND RD & MCKENNA RD	-	3	6	3	-	ROAD CLOSED 12 MILES AHEAD
TOWER RD & MCKENNA RD	-	3	6	3	-	ROAD CLOSED 1 MILES AHEAD
N SETTLEMENT RD & CTH O	-	3	6	3	-	ROAD CLOSED 6 MILES AHEAD
N WARRENS LIMIT	-	3	6	3	-	ROAD CLOSED 6 MILES AHEAD
CTH O	-	30	36	6	-	ROAD CLOSED BARRICADES
MCKENNA RD	-	15	18	3	-	ROAD CLOSED BARRICADES
CTH O & POTTER RD	50	3	6	3	10	PCMS BOARD
CTH O & CTH H	50	-	-	-	10	PCMS BOARD
MCKENNA RD & BEAR RD	50	-	-	-	10	PCMS BOARD
MCKENNA RD & MORMON RD	-	3	6	3	-	ROAD CLOSED TO THRU TRAFFIC
CTH O & FISH CREEK RD	-	3	6	3	-	ROAD CLOSED TO THRU TRAFFIC
CTH O & MCKENNA RD	300	-	-	150	-	FLAGGING OPERATIONS PER SDD, "TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION"
TOTAL 0010	1,290	66	96	390	30	

STATION	TO	STATION	LOCATION	646.1020 MARKING LINE EPOXY 4-INCH LF	REMARKS
10+90	-	21+60	CTH O	1,990	WHITE EDGELINE
10+90	-	21+60	CTH O	2,140	YELLOW C/L
50+45	-	51+71	MCKENNA RD	252	YELLOW C/L
TOTAL 0010				4,382	

STATION	LOCATION	690.0150 SAWING ASPHALT LF
10+90	CTH O	22
21+60	CTH O	22
53+00	MCKENNA RD	20
TOTAL 0010		64

STATION	TO	STATION	LOCATION	650.4500 CONSTRUCTION STAKING SUBGRADE LF	650.5000 CONSTRUCTION STAKING BASE LF	650.6000 CONSTRUCTION STAKING PIPE CULVERTS EACH	650.9911.01 CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (PROJECT) (01. 7027-00-71) EACH	650.9920 CONSTRUCTION STAKING SLOPE STAKES LF
10+90	-	21+60	CTH O	1,070	1,070	2	-	1,070
50+00	-	53+00	MCKENNA RD	300	300	1	-	300
-	-	-	PROJECT	-	-	-	1	-
TOTAL 0010				1,370	1,370	3	1	1,370

PROJECT NO: 7027-00-71

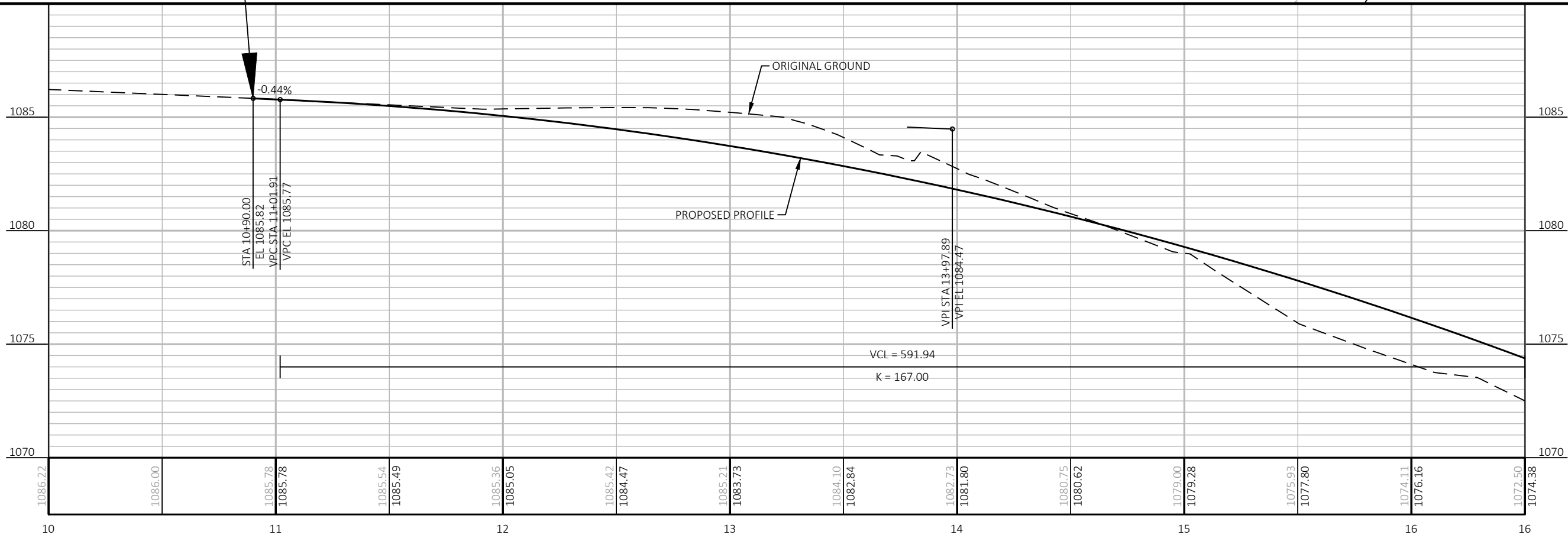
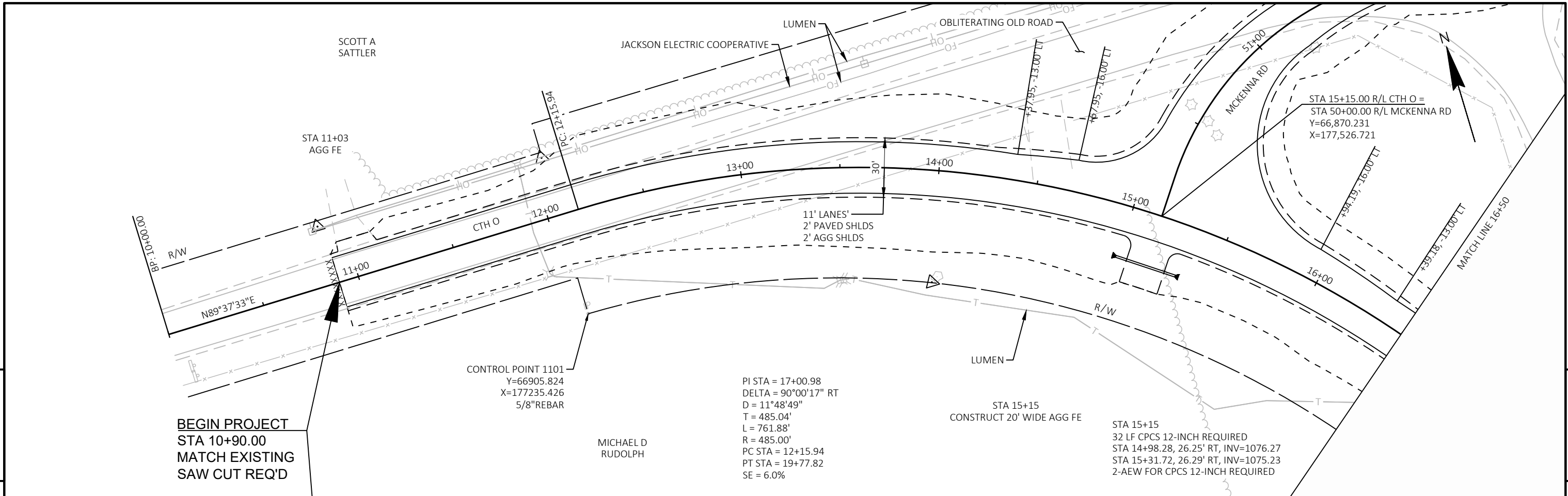
HWY: CTH O

COUNTY: JACKSON

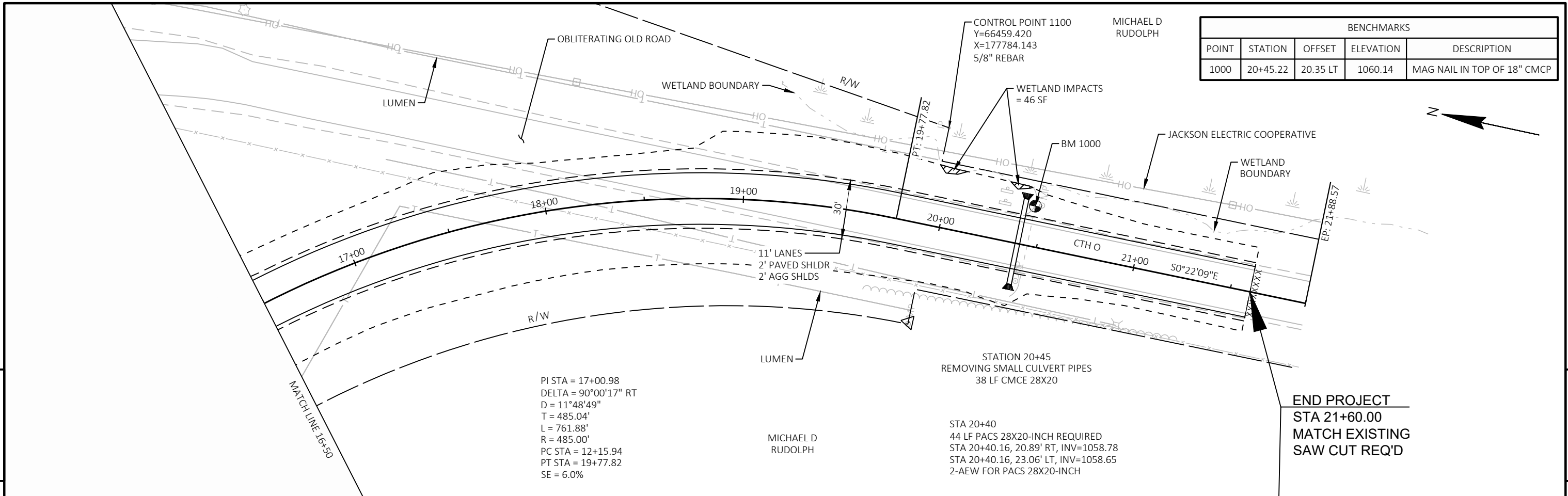
MISCELLANEOUS QUANTITIES

SHEET

E



PROJECT NO: 7027-00-71	HWY: CTH O	COUNTY: JACKSON	PLAN AND PROFILE: CTH O	SHEET 5
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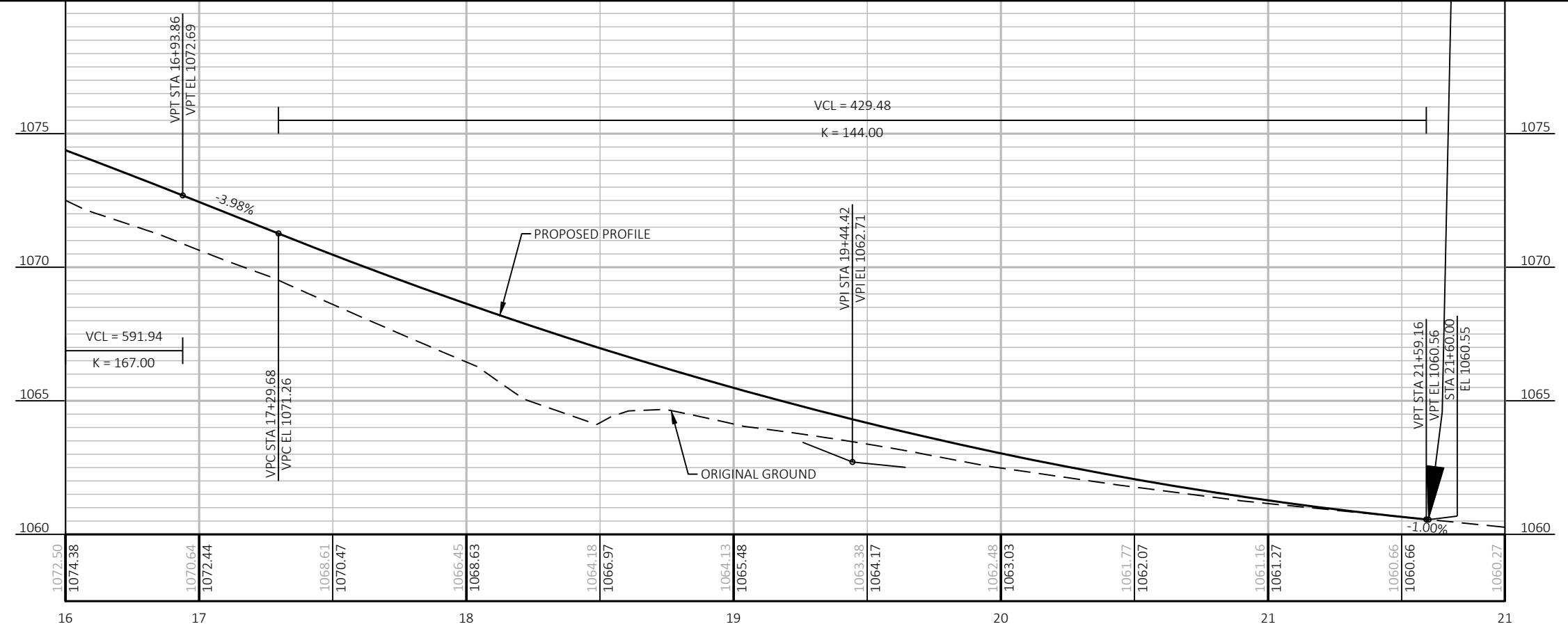
BENCHMARKS				
POINT	STATION	OFFSET	ELEVATION	DESCRIPTION
1000	20+45.22	20.35 LT	1060.14	MAG NAIL IN TOP OF 18" CMCP

PI STA = 17+00.98
 DELTA = 90°00'17" RT
 D = 11°48'49"
 T = 485.04'
 L = 761.88'
 R = 485.00'
 PC STA = 12+15.94
 PT STA = 19+77.82
 SE = 6.0%

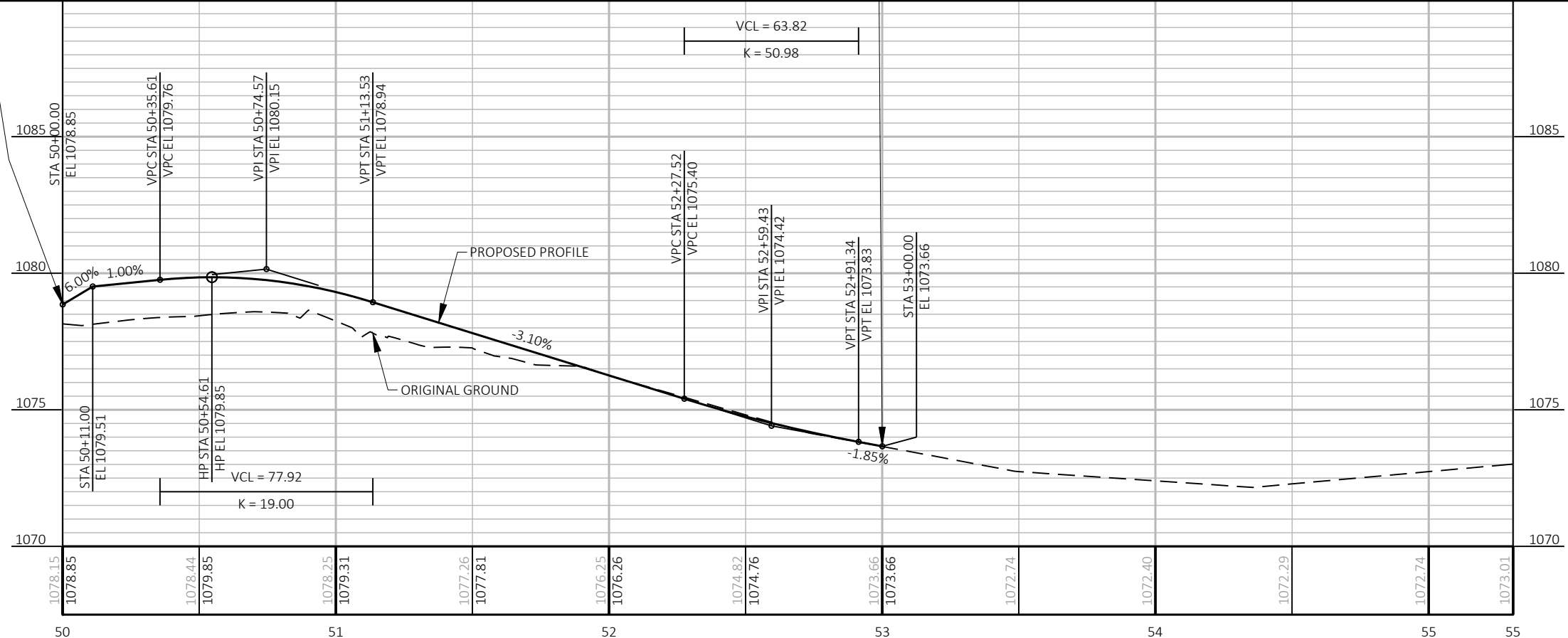
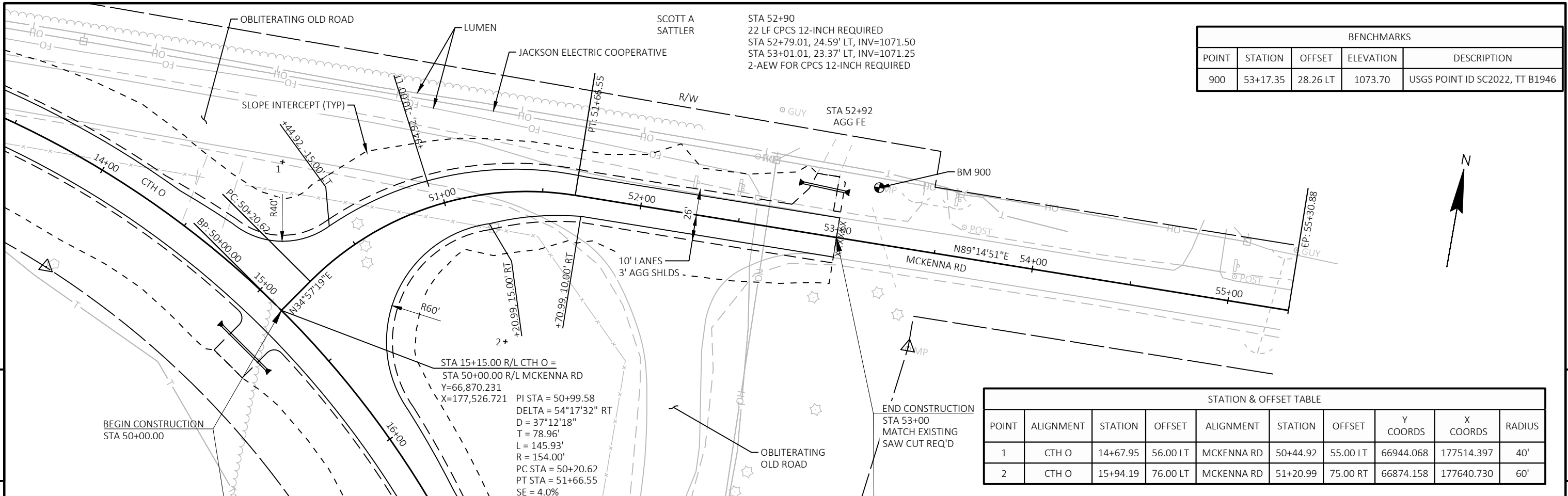
STATION 20+45
 REMOVING SMALL CULVERT PIPES
 38 LF CMCE 28X20

 STA 20+40
 44 LF PACS 28X20-INCH REQUIRED
 STA 20+40.16, 20.89' RT, INV=1058.78
 STA 20+40.16, 23.06' LT, INV=1058.65
 2-AEW FOR PACS 28X20-INCH

END PROJECT
 STA 21+60.00
 MATCH EXISTING
 SAW CUT REQ'D



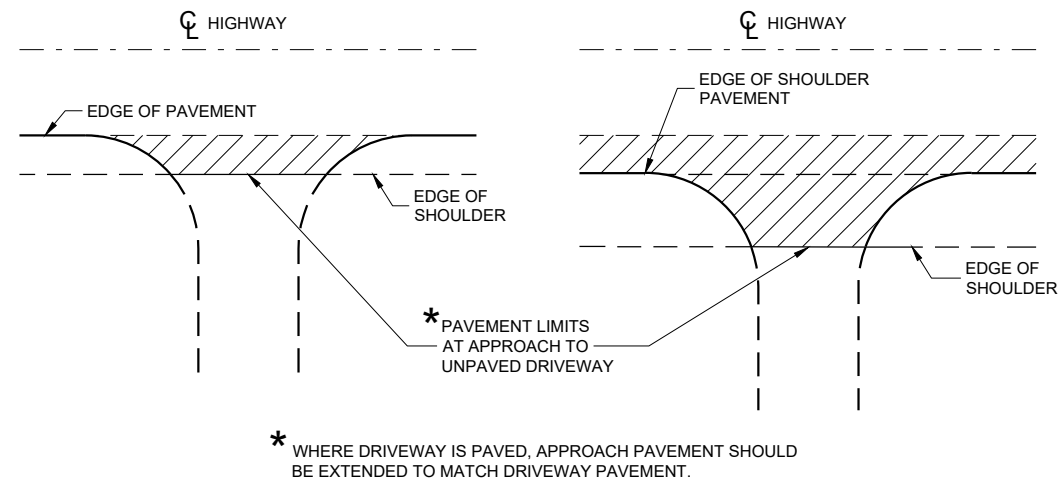
PROJECT NO: 7027-00-71 HWY: CTH O COUNTY: JACKSON PLAN AND PROFILE: CTH O SHEET: E



PROJECT NO: 7027-00-71 HWY: CTH O COUNTY: JACKSON PLAN AND PROFILE: MCKENNA RD SHEET: E

Standard Detail Drawing List

08D21-01	DRIVEWAYS WITHOUT CURB & GUTTER
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E15-01	CULVERT PIPE CHECK
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
08F02-01	APRON ENDWALLS FOR PIPE ARCH AND ELLIPTICAL PIPE
08F04-08	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
09A01-13A	AT-GRADE SIDE ROAD INTERSECTION, TYPES "B1", "B2", "C" AND D AND TEE INTERSECTION BYPASS LANE
13C19-03	HMA LONGITUDINAL JOINTS
15A03-02A	FLEXIBLE MARKER POST FOR CULVERT END
15A03-02B	FLEXIBLE MARKER POST FOR CULVERT END
15C02-08A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-08B	BARRICADES AND SIGNS FOR VARIOUS CLOSURES
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
15C08-20A	LONGITUDINAL MARKING (MAINLINE)
15C11-09B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS
15C12-08	TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION
15C35-04A	PAVEMENT MARKING (INTERSECTIONS)
15D28-04	TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY
15D45-03	TRAFFIC CONTROL, SIGNING ON ROADWAYS WITH LOOSE GRAVEL



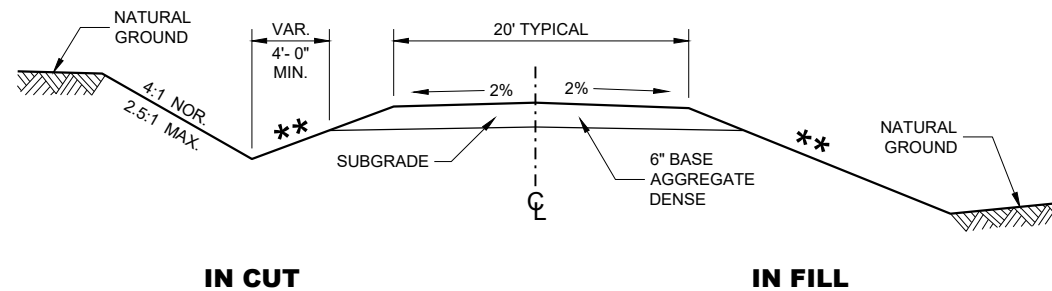
PLAN VIEW

(UNPAVED SHOULDER ON HIGHWAY)

PLAN VIEW

(PAVED SHOULDER ON HIGHWAY)

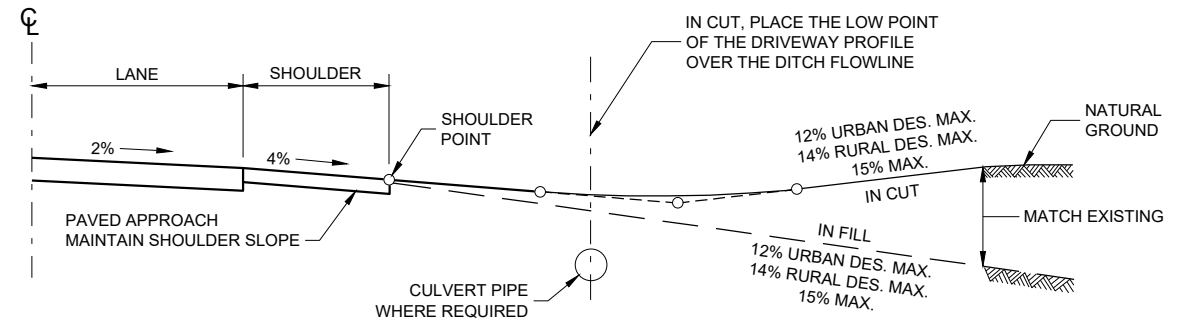
**RURAL DRIVEWAY INTERSECTION DETAIL
(NO CURB AND GUTTER OR SIDEWALK)**



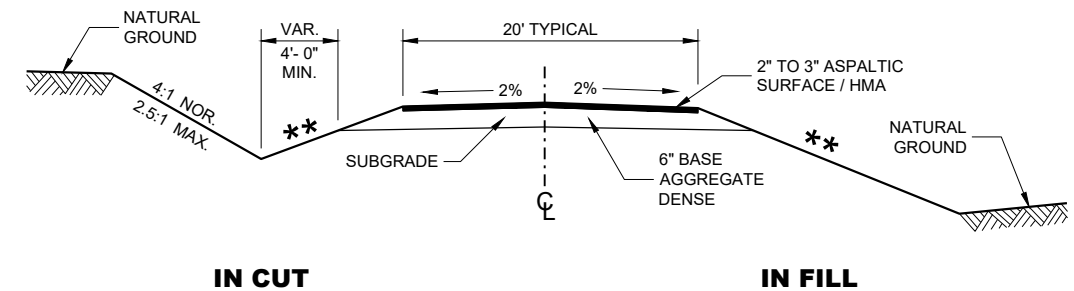
**TYPICAL CROSS SECTION FOR
PRIVATE DRIVE OR FIELD ENTRANCE
AGGREGATE SURFACE**

** SLOPE CAN VARY WITH SPEED. SEE 11-45-30.6.2

POSTED SPEED MPH	MAX. SLOPE
<35	4:1
≥ 35 TO < 60	6:1
≥60	10:1

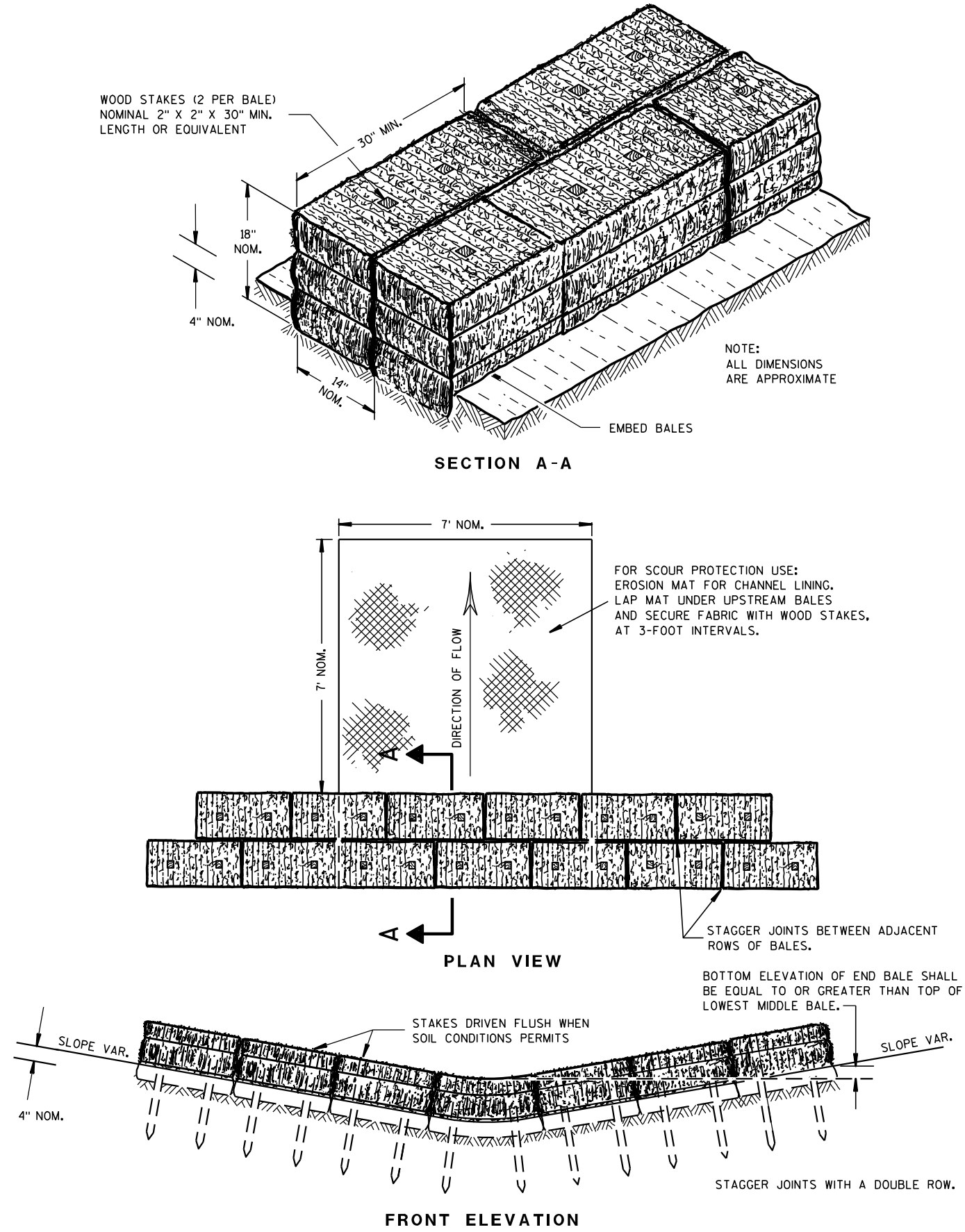


TYPICAL DRIVEWAY PROFILES



**TYPICAL CROSS SECTION FOR
PRIVATE DRIVE OR FIELD ENTRANCE
ASPHALTIC SURFACE**

DRIVEWAYS WITHOUT CURB AND GUTTER	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED December 2017 DATE	/S/ Rodney Taylor ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR
FHWA	

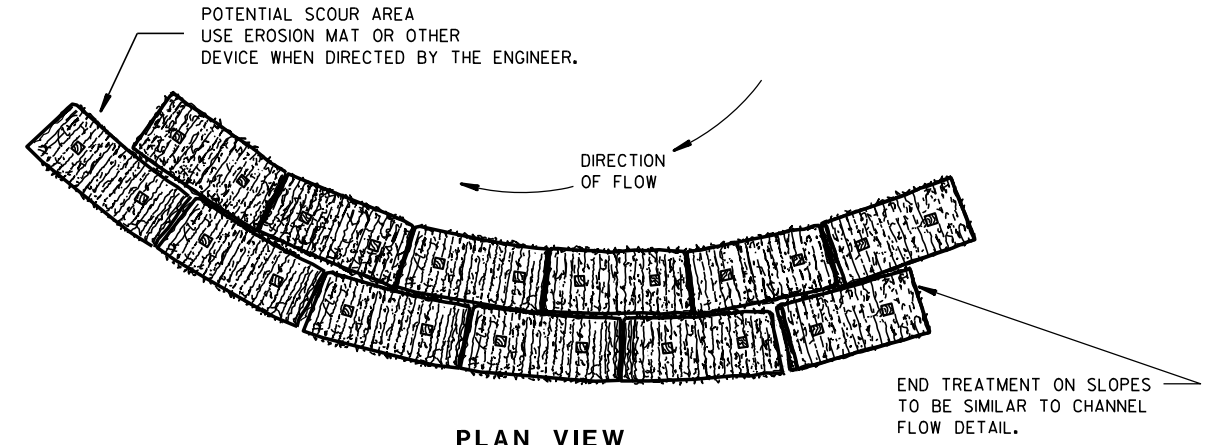


TEMPORARY DITCH CHECK USING EROSION BALES ①

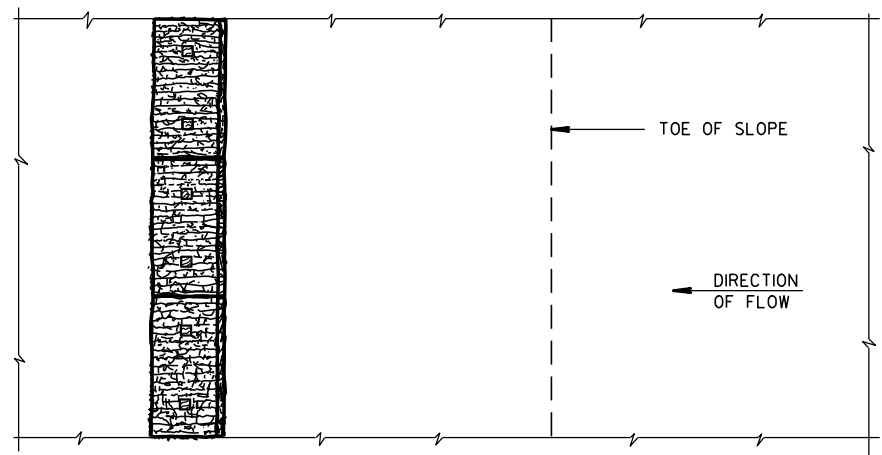
GENERAL NOTES

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.

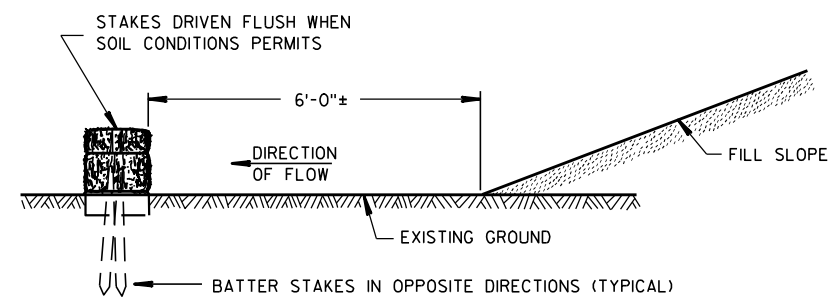
- ① TEMPORARY DITCH CHECKS EITHER EROSION BALES OR MANUFACTURED SHALL BE PAID FOR UNDER THE BID ITEM OF TEMPORARY DITCH CHECK. THE DEPARTMENT WILL NOT PAY FOR TEMPORARY DITCH CHECKS CONSTRUCTED OF A SINGLE ROW OF EROSION BALES.



PLAN VIEW WHEN ALTERING THE DIRECTION OF FLOW



PLAN VIEW

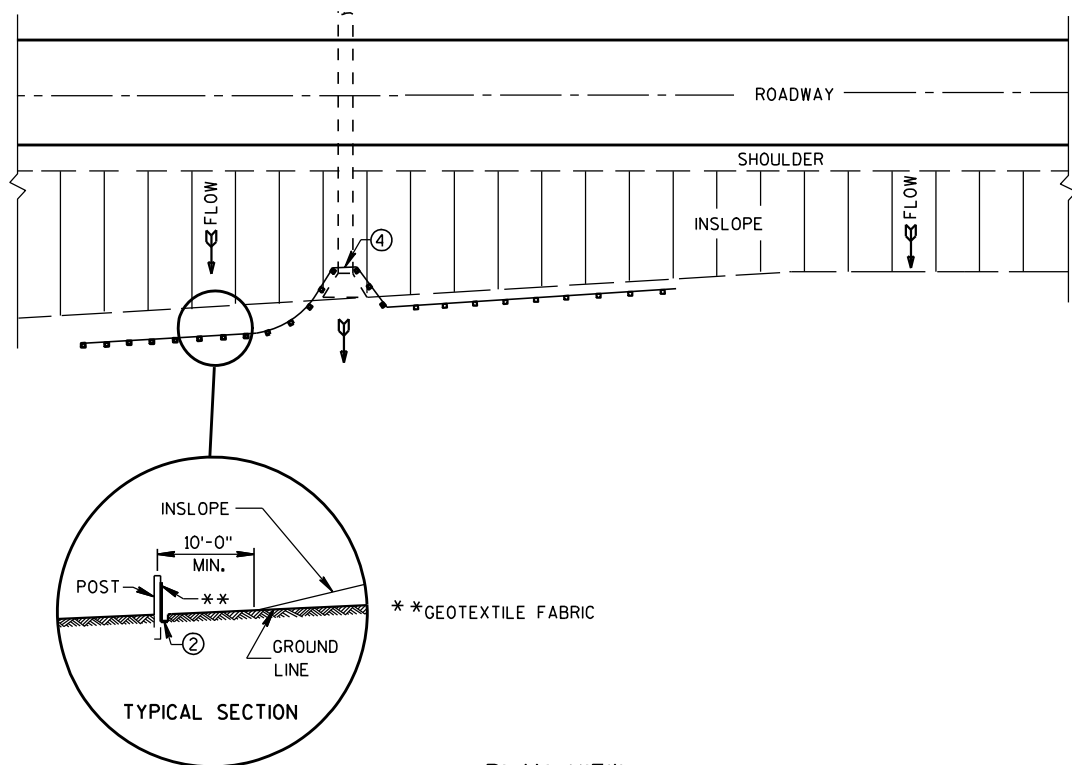


FRONT ELEVATION WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE EROSION BALES FOR SHEET FLOW

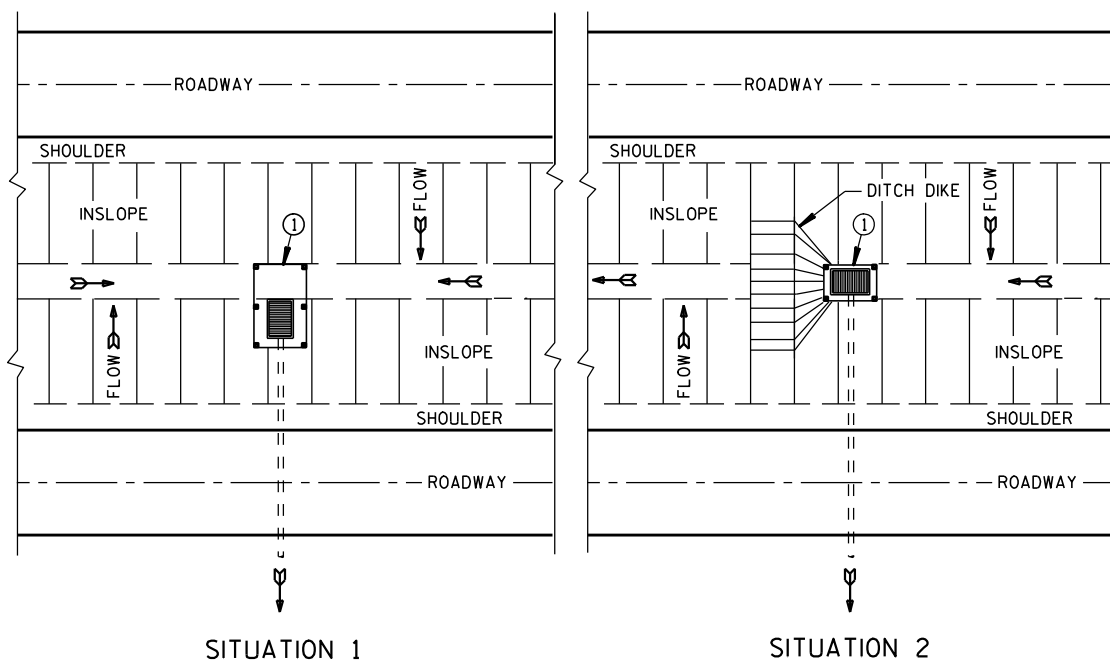
TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

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



PLAN VIEW
TYPICAL APPLICATION OF SILT FENCE

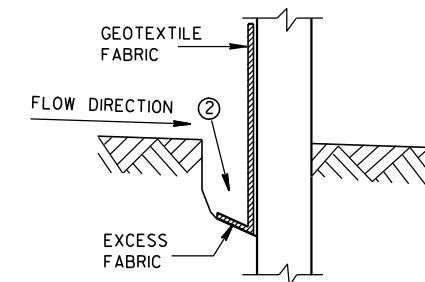


SITUATION 1 SITUATION 2
PLAN VIEW
SILT FENCE AT MEDIAN SURFACE DRAINS

GENERAL NOTES

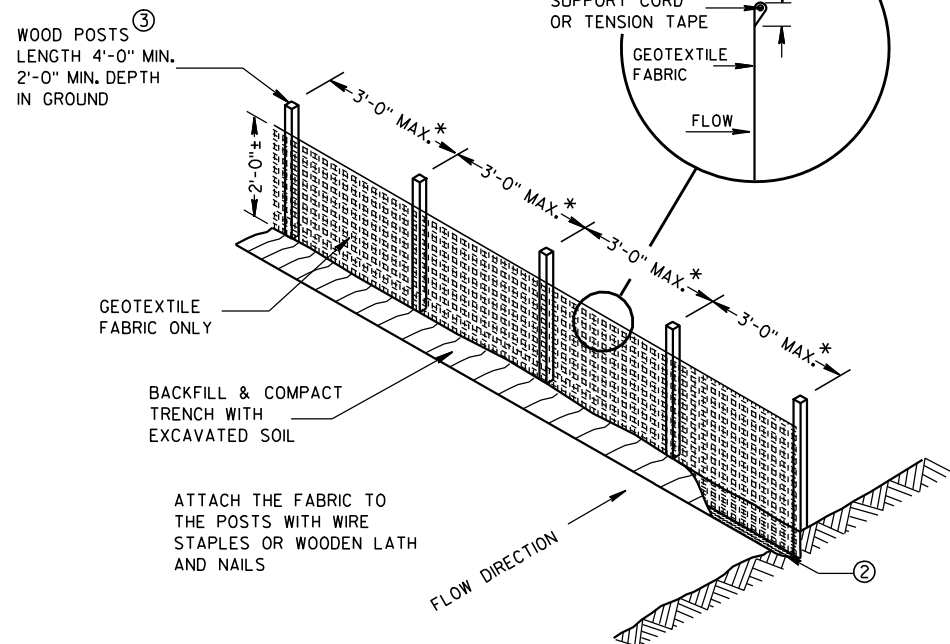
DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

- 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 1 1/8" X 1 1/8" 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.



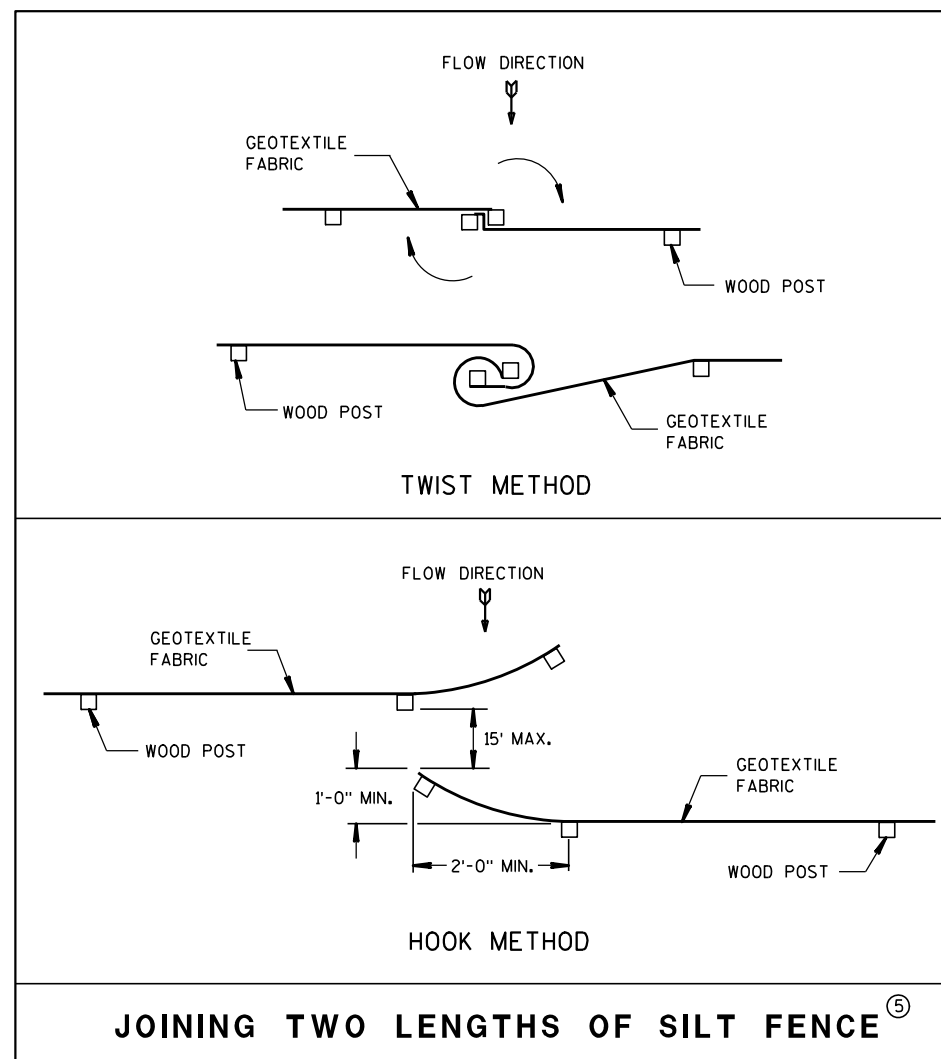
TRENCH DETAIL

NOTE: ADDITIONAL POST DEPTH OR TIE BACKS MAY BE REQUIRED IN UNSTABLE SOILS

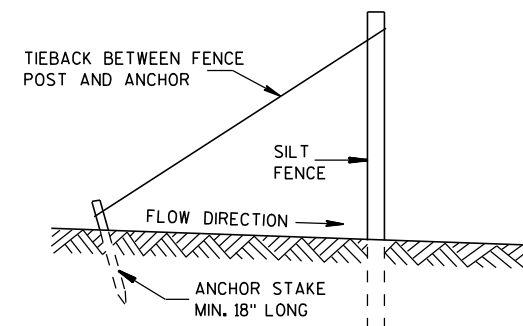


SILT FENCE

* NOTE: 8'-0" POST SPACING ALLOWED IF A WOVEN GEOTEXTILE FABRIC IS USED.



JOINING TWO LENGTHS OF SILT FENCE ⑤

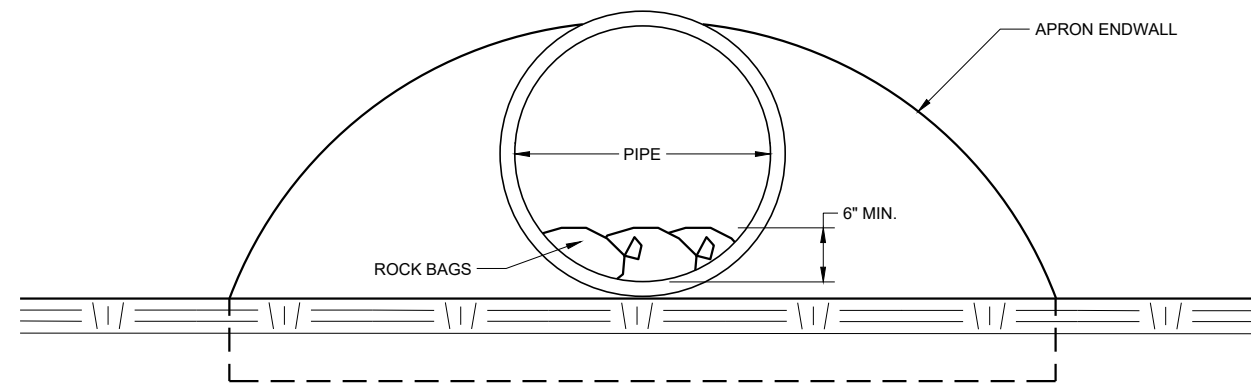


SILT FENCE TIE BACK
(WHEN REQUIRED BY THE ENGINEER)

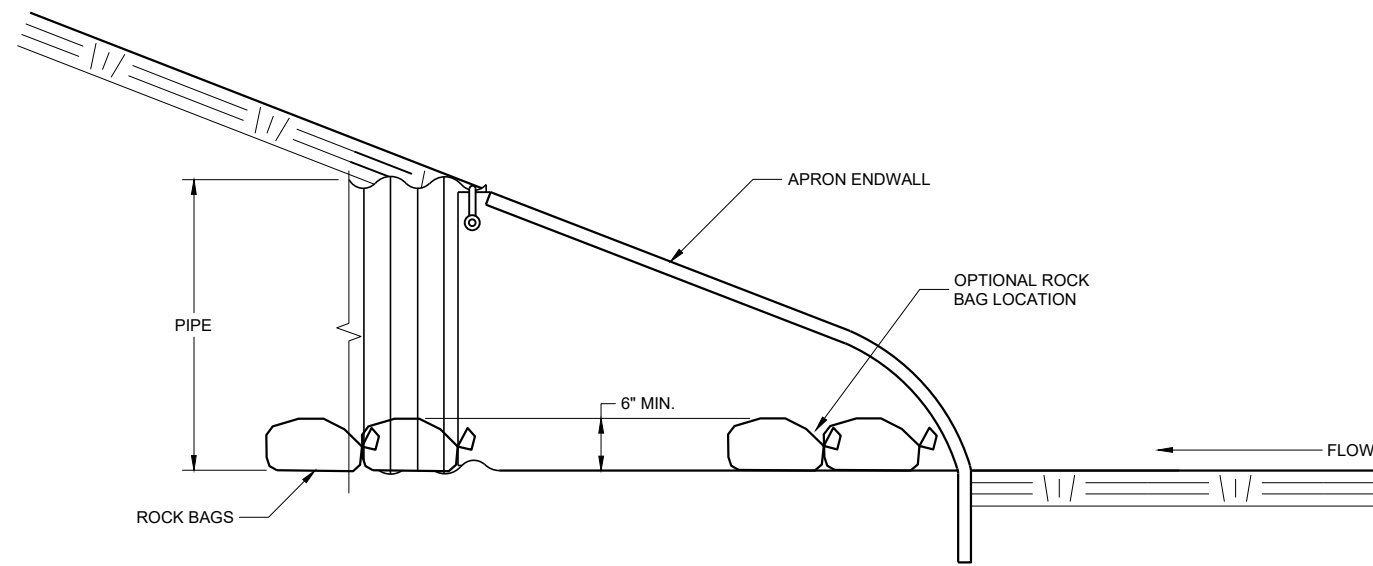
SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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



END VIEW



SIDE VIEW

CULVERT PIPE CHECK
(INSTALL ON INLET END ONLY)

CULVERT PIPE CHECK

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2019 /S/ Daniel Schave
DATE EROSION CONTROL ENGINEER

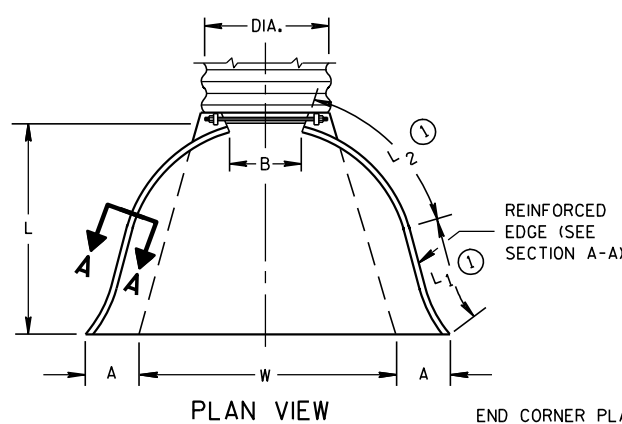
FHWA

METAL APRON ENDWALLS											
PIPE DIA. (IN.)	MIN. THICK. (Inches)		DIMENSIONS (Inches)							APPROX. SLOPE	BODY
	STEEL	ALUM.	A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1	L2	W (±2")		
12	.064	.060	6	6	6	21	12	17 1/2	24	2 1/2 to 1	1 Pc.
15	.064	.060	7	8	6	26	14	21 3/4	30	2 1/2 to 1	1 Pc.
18	.064	.060	8	10	6	31	15	28 1/4	36	2 1/2 to 1	1 Pc.
21	.064	.060	9	12	6	36	18	29 5/8	42	2 1/2 to 1	1 Pc.
24	.064	.075	10	13	6	41	18	37 1/4	48	2 1/2 to 1	1 Pc.
30	.079	.075	12	16	8	51	18	52 1/4	60	2 1/2 to 1	1 Pc.
36	.079	.105	14	19	9	60	24	59 3/4	72	2 1/2 to 1	2 Pc.
42	.109	.105	16	22	11	69	24	75 5/8	84	2 1/2 to 1	2 Pc.
48	.109	.105	18	27	12	78	24	81	90	2 1/4 to 1	3 Pc.
54	.109	.105	18	30	12	84	30	85 1/2	102	2 1/4 to 1	3 Pc.
60	.109x	.105x	18	33	12	87	—	—	114	2 to 1	3 Pc.
66	.109x	.105x	18	36	12	87	—	—	120	2 to 1	3 Pc.
72	.109x	.105x	18	39	12	87	—	—	126	2 to 1	3 Pc.
78	.109x	.105x	18	42	12	87	—	—	132	1 1/2 to 1	3 Pc.
84	.109x	.105x	18	45	12	87	—	—	138	1 1/2 to 1	3 Pc.
90	.109x	.105x	18	37	12	87	—	—	144	1 1/2 to 1	3 Pc.
96	.109x	.105x	18	35	12	87	—	—	150	1 1/2 to 1	3 Pc.

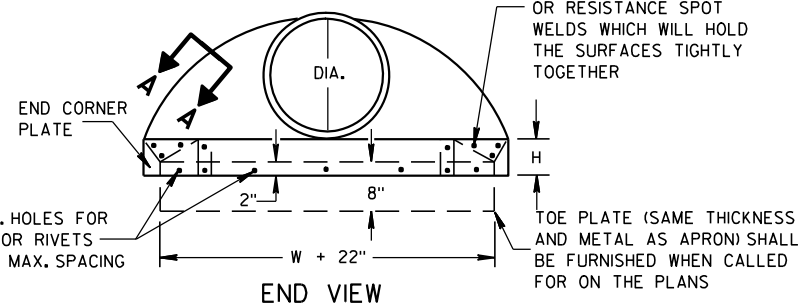
* EXCEPT CENTER PANEL SEE GENERAL NOTES

REINFORCED CONCRETE APRON ENDWALLS									
PIPE DIA. (IN.)	DIMENSIONS (Inches)							APPROX. SLOPE	
	T	A	B	C	D	E	G		
12	2	4	24	48 1/8	72 1/8	24	2	3 to 1	
15	2 1/4	6	27	46	73	30	2 1/4	3 to 1	
18	2 1/2	9	27	46	73	36	2 1/2	3 to 1	
21	2 3/4	9	36	37 1/2	73 1/2	42	2 3/4	3 to 1	
24	3	9 1/2	43 1/2	30	73 1/2	48	3	3 to 1	
27	3 1/4	10 1/2	49 1/2	24	73 1/2	54	3 1/4	3 to 1	
30	3 1/2	12	54	19 3/4	73 1/2	60	3 1/2	3 to 1	
36	4	15	63	34 3/4	97 3/4	72	4	3 to 1	
42	4 1/2	21	63	35	98	78	4 1/2	3 to 1	
48	5	24	72	26	98	84	5	3 to 1	
54	5 1/2	27	65	33 1/4-35	98 1/4-100	90	5 1/2	2 1/2 to 1	
60	6	30-35	60	39	99	96	5	2 to 1	
66	6 1/2	24-30	72-78	21-27	99	102	5 1/2	2 to 1	
72	7	24-36	78	21	99	108	6	2 to 1	
78	7 1/2	24-36	78	21	99	114	6 1/2	2 to 1	
84	8	36	90 1/2	21	111 1/2	120	6 1/2	1 1/2 to 1	
90	8 1/2	41	87 1/2	24	111 1/2	132	6 1/2	1 1/2 to 1	

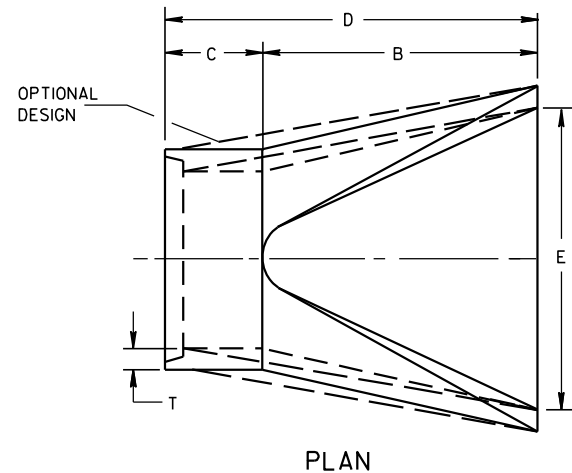
* MINIMUM
** MAXIMUM



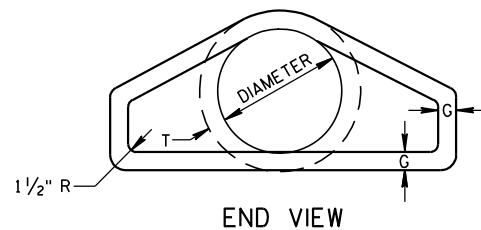
END CORNER PLATES MAY BE FASTENED TO APRON PROPER BY BOLTS, RIVETS, OR RESISTANCE SPOT WELDS WHICH WILL HOLD THE SURFACES TIGHTLY TOGETHER



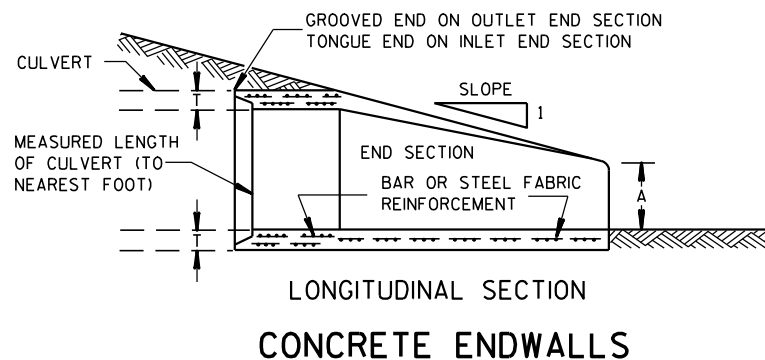
SIDE ELEVATION
METAL ENDWALLS



PLAN

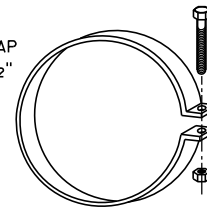


END VIEW

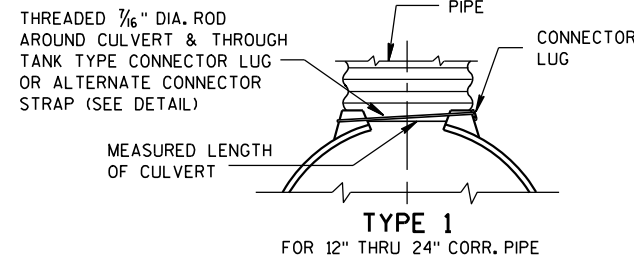


LONGITUDINAL SECTION
CONCRETE ENDWALLS

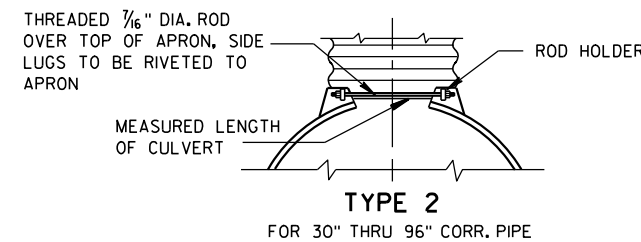
1" WIDE, 12 GA. (0.109" THICK) GALVANIZED STRAP WITH STANDARD 6" X 1/2" BAND BOLT AND NUT



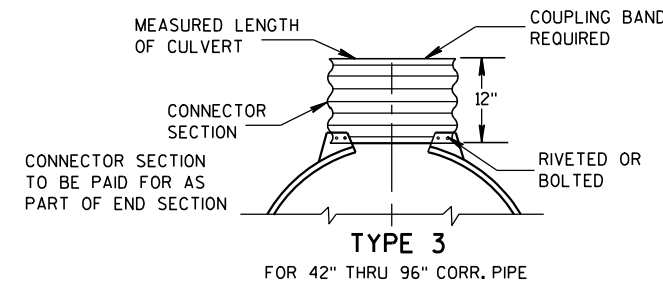
ALTERNATE FOR TYPE 1 CONNECTION
END SECTION CONNECTOR STRAP



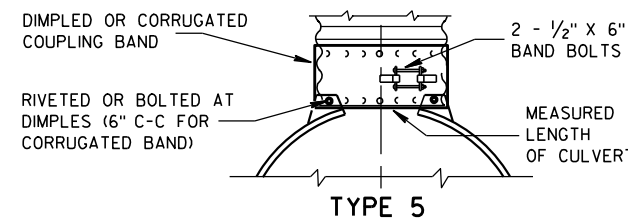
TYPE 1
FOR 12" THRU 24" CORR. PIPE



TYPE 2
FOR 30" THRU 96" CORR. PIPE



TYPE 3
FOR 42" THRU 96" CORR. PIPE



ALTERNATE FOR:
ALL SIZES CORRUGATED CIRCULAR PIPE

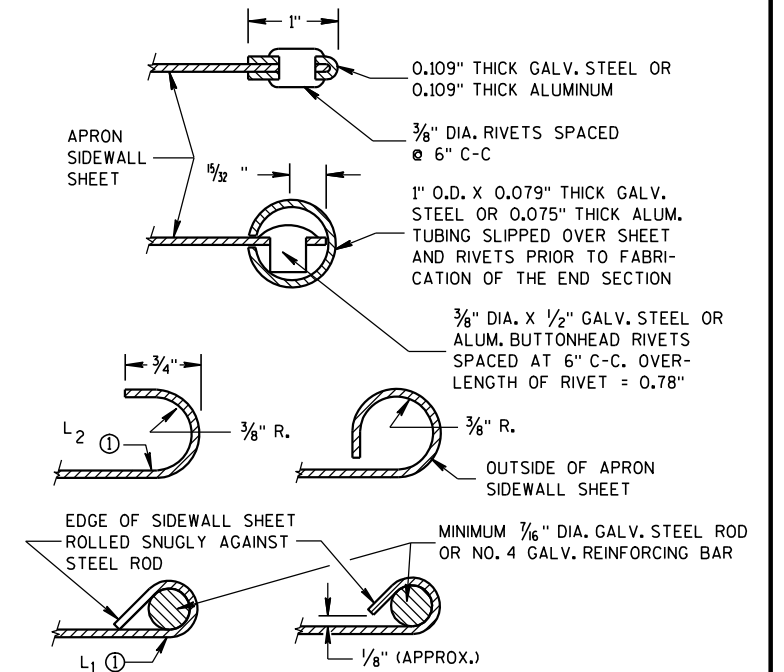
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL, AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

FOR CIRCUMFERENTIALLY CORRUGATED PIPE USE ENDWALL CONNECTION DETAILS 1, 2, 3 OR 5 AS APPLICABLE.

FOR HELICALLY CORRUGATED PIPE USE ENDWALL CONNECTION DETAILS 1, 2 OR 5.

FOR HELICALLY CORRUGATED PIPES WITH TWO CIRCUMFERENTIAL CORRUGATIONS AT EACH END USE ENDWALL CONNECTION DETAILS 1, 2 OR 3.

CONNECTION DETAILS



SECTION A-A

GENERAL NOTES

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

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

ALL THREE PIECE STEEL APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.109" SIDES AND 0.138" CENTER PANELS. ALL THREE PIECE ALUMINUM APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.105" SIDES AND 0.134" CENTER PANELS. THE WIDTH OF CENTER PANELS SHALL BE GREATER THAN 20 PERCENT OF THE PIPE PERIMETER.

LAP SEAMS SHALL BE TIGHTLY JOINED BY GALVANIZED RIVETS OR BOLTS FOR STEEL UNITS AND ALUMINUM RIVETS AND BOLTS FOR ALUMINUM UNITS. FOR THE 60" THROUGH 96" DIAMETER APRON ENDWALL SIZES, THE REINFORCED EDGES AND CENTER PANEL SEAMS SHALL BE FURTHER REINFORCED WITH GALVANIZED STEEL OR ALUMINUM STIFFENER ANGLES. THE ANGLES SHALL BE ATTACHED BY GALVANIZED NUTS AND BOLTS FOR STEEL UNITS AND ALUMINUM NUTS AND BOLTS FOR ALUMINUM UNITS.

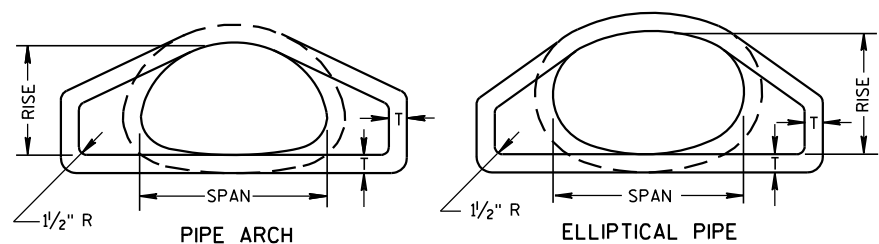
WHERE TWO OR MORE PIPES WITH APRON ENDWALLS ARE LAID ADJACENT TO EACH OTHER, THEY SHALL BE SEPARATED BY A DISTANCE SUFFICIENT TO PROVIDE A MINIMUM CLEARANCE OF 6 INCHES BETWEEN APRON ENDWALLS.

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

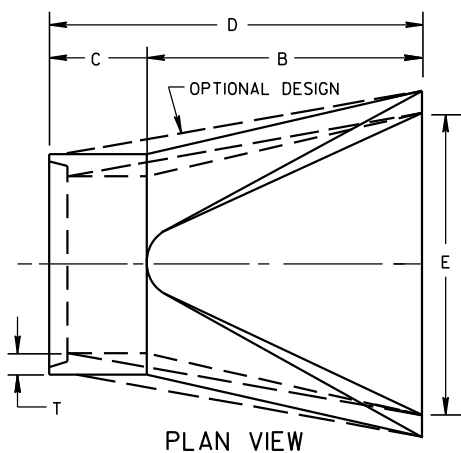
APRON ENDWALLS FOR
CULVERT PIPE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

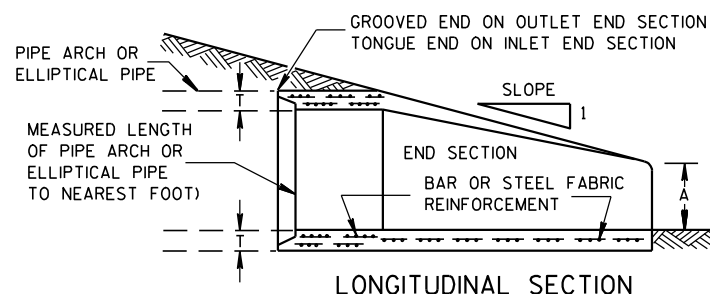
APPROVED
11/30/94 /S/ Rory L. Rhinesmith
DATE CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA



END VIEW

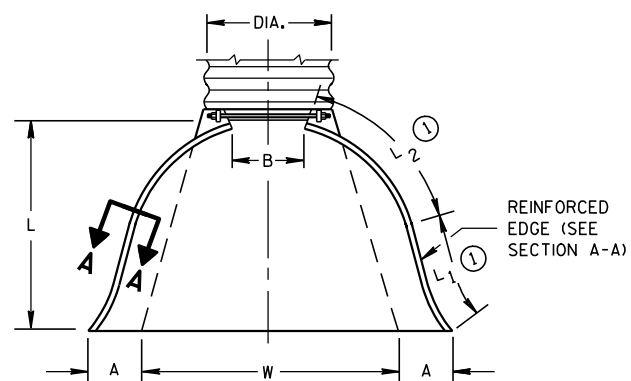


PLAN VIEW



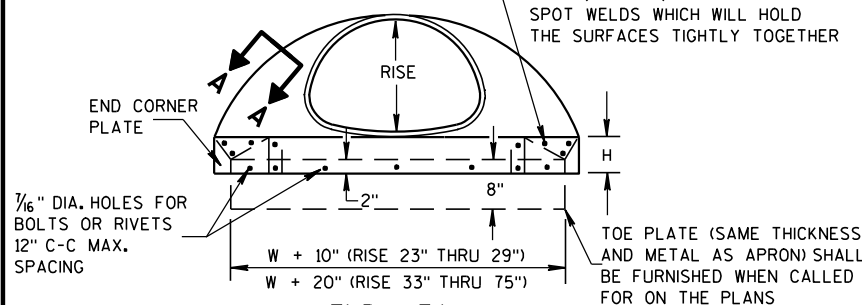
LONGITUDINAL SECTION

CONCRETE ENDWALLS

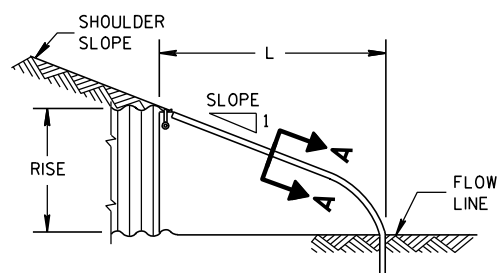


PLAN VIEW

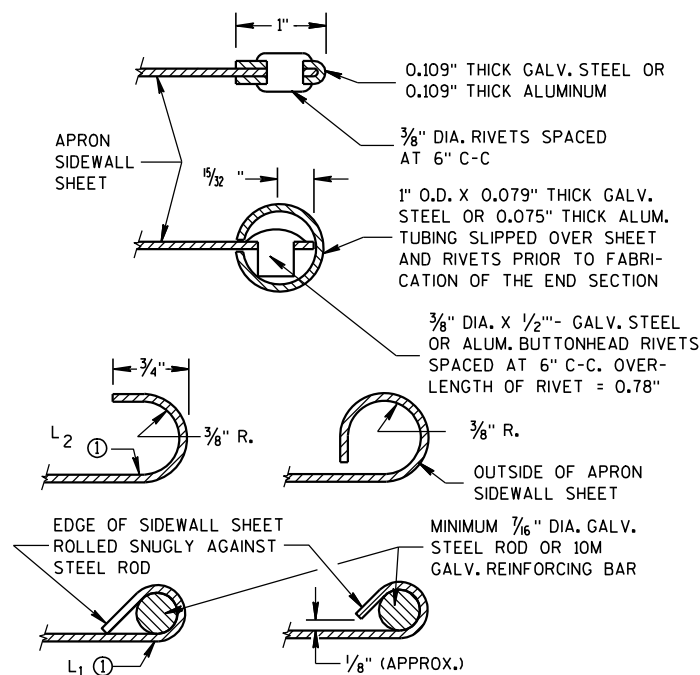
END CORNER PLATES MAY BE FASTENED TO APRON PROPER BY BOLTS, RIVETS, OR RESISTANCE SPOT WELDS WHICH WILL HOLD THE SURFACES TIGHTLY TOGETHER



END VIEW



SIDE ELEVATION
METAL ENDWALLS



SECTION A-A

2- 2/3" X 1/2" CORRUGATIONS													
EQUIV. DIA. (Inches)	(Inches)		MIN. THICK. (Inches)		DIMENSIONS (Inches)							APPROX. SLOPE	BODY
	SPAN	RISE	STEEL	ALUM.	A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 (⊙)	L2 (⊙)	W (±2")		
15	17	13	.064	.060	7	9	6	19	14	16	30	2 1/2 to 1	1 Pc.
18	21	15	.064	.060	7	10	6	23	14	19 3/8	36	2 1/2 to 1	1 Pc.
21	24	18	.064	.060	8	12	6	28	18	21 3/4	42	2 1/2 to 1	1 Pc.
24	28	20	.064	.060	9	14	6	32	18	27 1/2	48	2 1/2 to 1	1 Pc.
30	35	24	.079	.075	10	16	6	39	18	37 5/8	60	2 1/2 to 1	1 Pc.
36	42	29	.079	.075	12	18	8	46	24	45 3/8	75	2 1/2 to 1	1 Pc.
42	49	33	.109	.105	13	21	9	53	24	54 3/4	85	2 1/2 to 1	2 Pc.
48	57	38	.109	.105	18	26	12	63	24	68	90	2 1/2 to 1	3 Pc.
54	64	43	.109	.105	18	30	12	70	24	72 3/4	102	2 1/4 to 1	3 Pc.
60	71	47	.109*	.105*	18	33	12	77	30	82 1/4	114	2 1/4 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)		MIN. THICK. (Inches)		DIMENSIONS (Inches)							APPROX. SLOPE	BODY
	SPAN	RISE	STEEL	ALUM.	A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 (⊙)	L2 (⊙)	W (±2")		
48	53	41	.109	.105	18	26	12	63	24	72 3/4	90	2 1/2 to 1	2 Pc.
54	60	46	.109	.105	18	30	12	70	30	82 1/4	102	2 to 1	2 Pc.
60	66	51	.109*	.105*	18	33	12	77	—	—	114	1 1/2 to 1	3 Pc.
66	73	55	.109*	.105*	18	36	12	77	—	—	126	1 1/2 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	1 1/2 to 1	3 Pc.
84	95	67	.109*	.105*	22	34	12	77	—	—	162	1 1/2 to 1	3 Pc.
90	103	71	.109*	.105*	22	38	12	77	—	—	174	1 1/2 to 1	3 Pc.
96	112	75	.109*	.105*	24	40	12	77	—	—	174	1 1/2 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)									APPROX. SLOPE
	**SPAN	**RISE	T	A	B	C	D	E		
24	29	18	3	8 1/2	39	33	72	48	3 to 1	
30	36	22	3 1/2	9 1/2	50	46	96	60	3 to 1	
36	44	27	4	11 1/8	60	36	96	72	3 to 1	
42	51	31	4 1/2	15 1/8	60	36	96	78	3 to 1	
48	58	36	5	21	60	36	96	84	3 to 1	
54	65	40	5 1/2	25 1/2	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	28 1/2	83	19	102	144	2 to 1	

REINFORCED CONCRETE ELLIPTICAL PIPE										
EQUIV. DIA. (Inches)	DIMENSIONS (Inches)									APPROX. SLOPE
	**SPAN	**RISE	T	A	B	C	D	E		
24	30	19	3 1/4	8 1/2	39	33	72	48	3 to 1	
30	38	24	3 3/4	9 1/2	54	18	72	60	3 to 1	
36	45	29	4 1/2	11 1/8	60	24	84	72	2 1/2 to 1	
42	53	34	5	15 3/4	60	36	96	78	2 1/2 to 1	
48	60	38	5 1/2	21	60	36	96	84	2 1/2 to 1	
54	68	43	6	25 1/2	60	36	96	90	2 1/2 to 1	
60	76	48	6 1/2	30	60	36	96	96	2 1/2 to 1	

**NOMINAL SIZE

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.

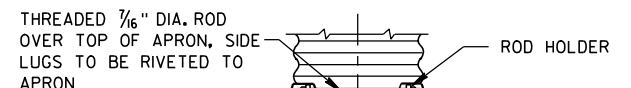
CONCRETE APRON ENDWALLS MAY NOT BE USED WITH GALVANIZED STEEL OR ALUMINUM CULVERT PIPE OR VISE VERSA. GALVANIZED STEEL OR ALUMINUM APRON ENDWALLS SHALL NORMALLY BE INSTALLED ON CULVERT PIPE OF THE SAME METAL.

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.

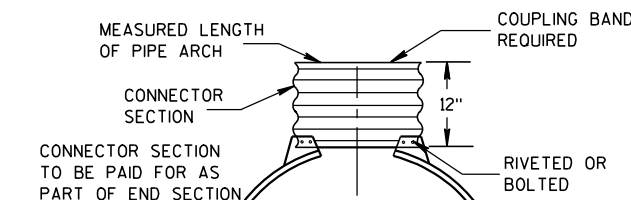
WHERE TWO OR MORE PIPES WITH APRON ENDWALLS ARE LAID ADJACENT TO EACH OTHER, THEY SHALL BE SEPARATED BY A DISTANCE SUFFICIENT TO PROVIDE A MINIMUM CLEARANCE OF 6 INCHES BETWEEN APRON ENDWALLS.

Ⓛ 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.



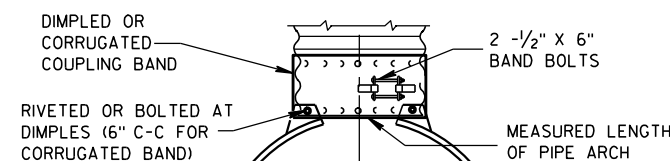
TYPE 2

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

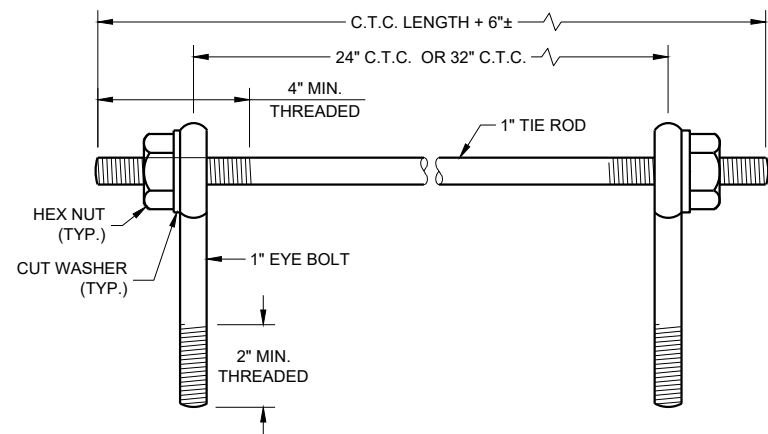
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL, AND CORRUGATED BAND FITS INSIDE ENDWALL.

CONNECTION DETAILS

**APRON ENDWALLS FOR
PIPE ARCH AND
ELLIPTICAL PIPE**

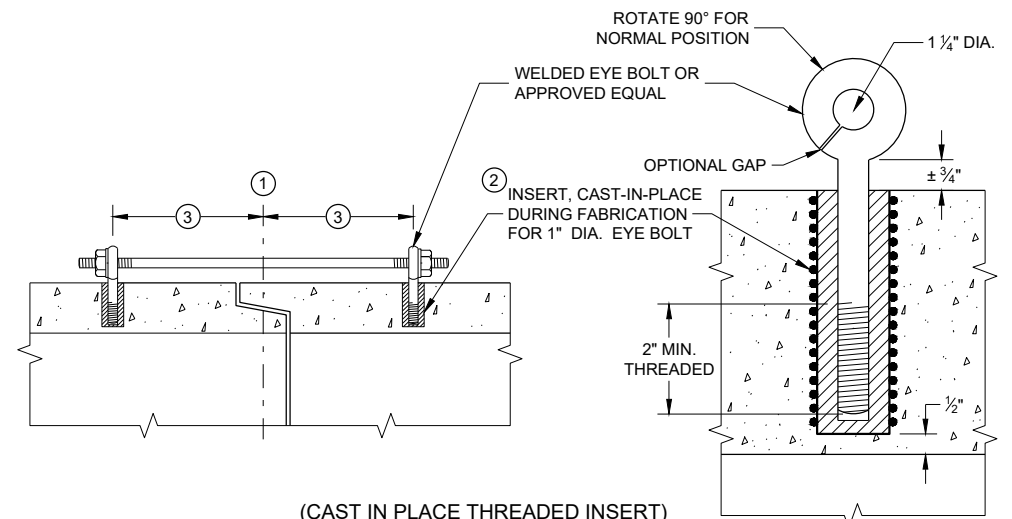
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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



EYE BOLTS AND TIE ROD

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



(CAST IN PLACE THREADED INSERT)
LONGITUDINAL SECTIONS

GENERAL NOTES

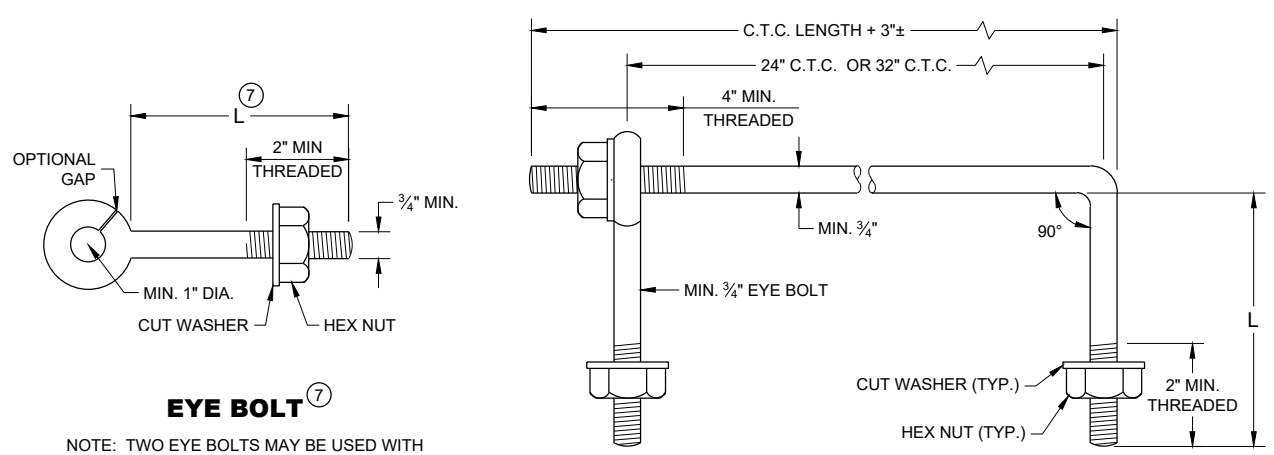
DETAILS OF CONSTRUCTION, MATERIALS, AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

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.

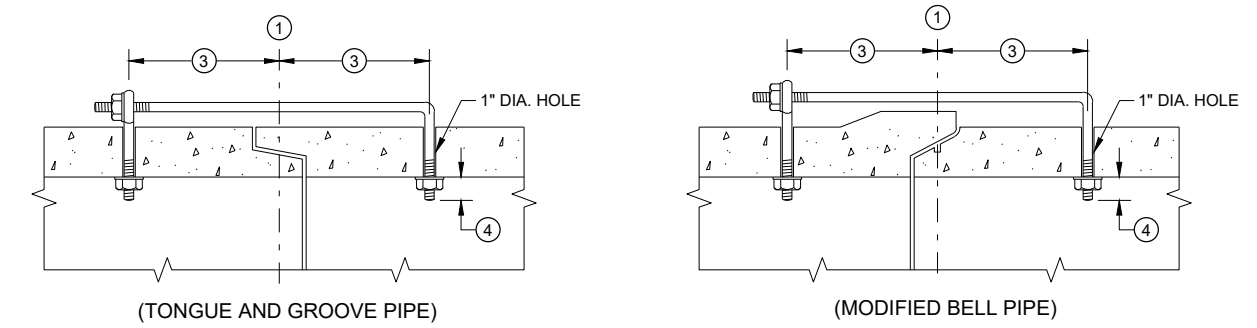
JOINT TIES TO BE HOT-DIP GALVANIZED PER ASTM A 153.

- 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 1/2 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 AND TIE ROD

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



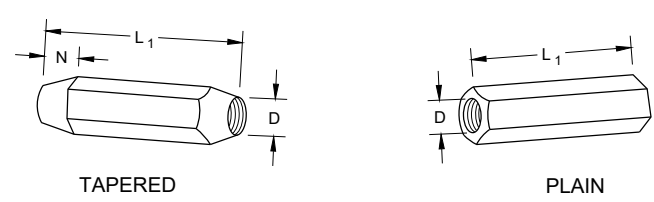
LONGITUDINAL SECTION
(JOINT TIES FOR 18" TO 66" DIA. CONCRETE PIPE)

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

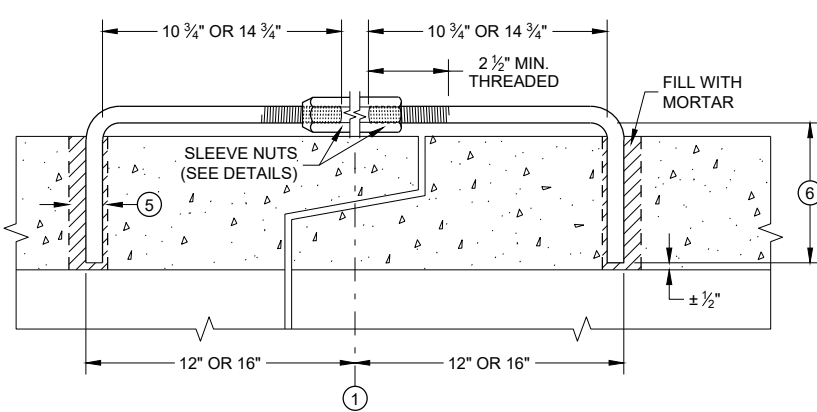
ADJUSTABLE TIE ROD TABLE

PIPE DIAMETER	TIE ROD DIAMETER	D	L ₁	N
12 - 60	5/8	5/8	5	1/2
66 - 84	3/4	3/4	5	1/2
90 - 144	1	1	7	1 1/16

DIMENSIONS SHOWN ARE IN INCHES

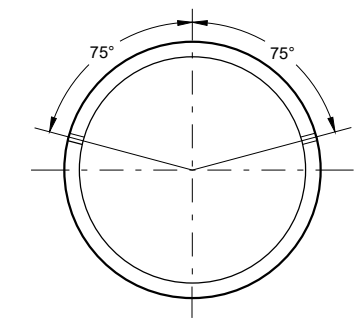


RIGHT AND LEFT THREADS SLEEVE NUTS



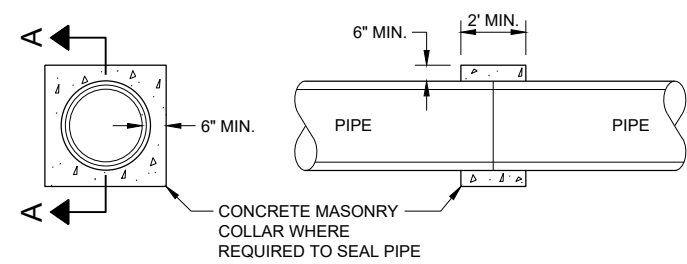
LONGITUDINAL SECTION

ADJUSTABLE TIE ROD (ALTERNATE NO. 3)



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

TRANSVERSE SECTION

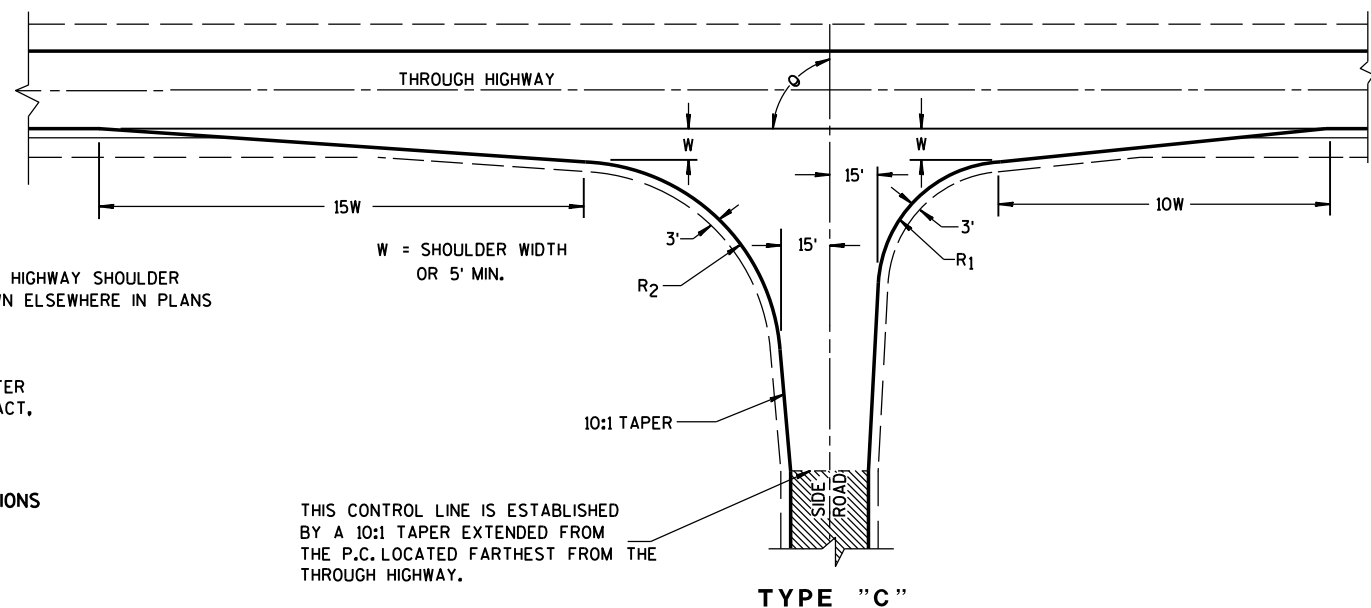
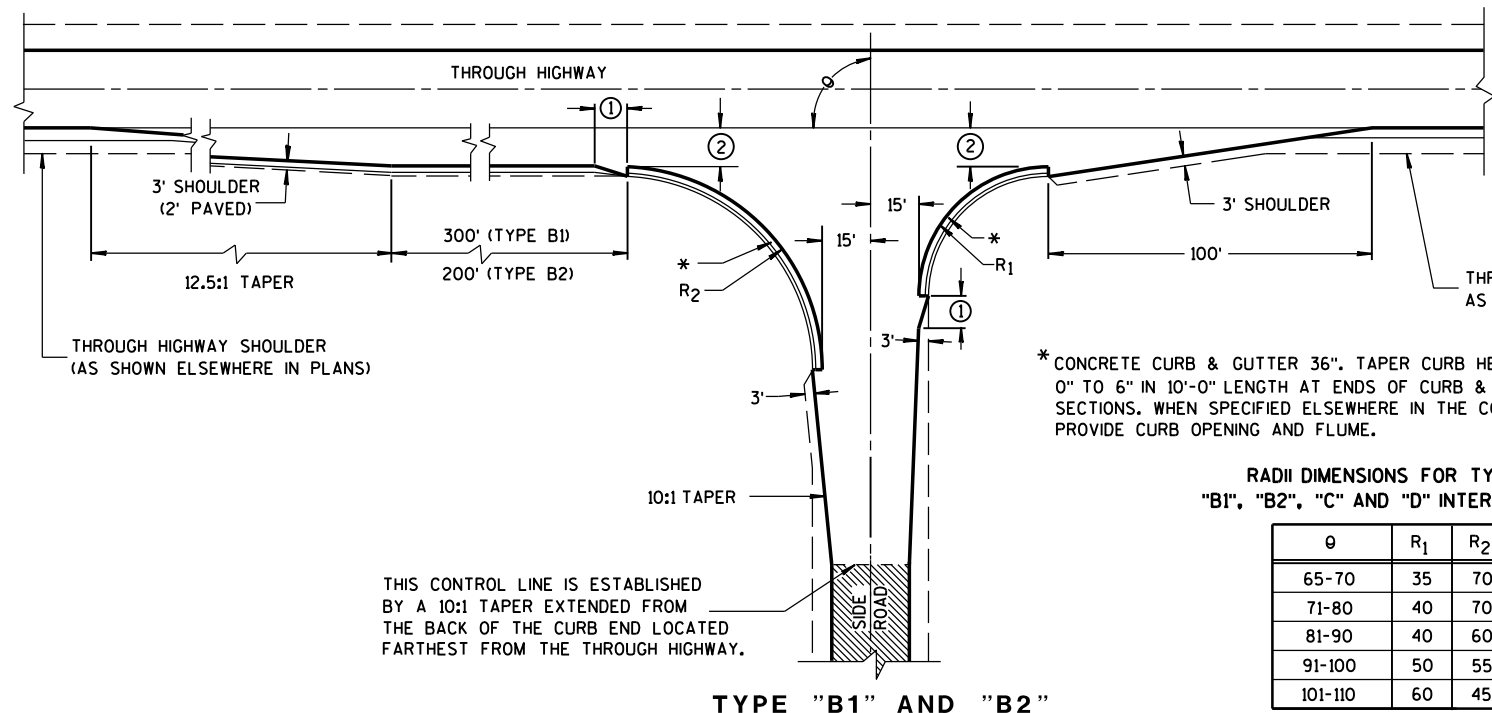


SECTION A - A
CONCRETE COLLAR DETAIL

JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2021 DATE /S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT ENGINEER



GENERAL NOTES

DESIGNS MAY BE USED INTERCHANGEABLY IN COMBINATION OR SEPARATELY FOR ANY ONE COMPLETE INTERSECTION DEPENDING UPON INTERSECTION ANGLE AND SURFACING OF EACH APPROACH ROADWAY.

SIDE ROAD SURFACING NOTE

WHEN THE SIDE ROAD IS NOT PRESENTLY PAVED, PAVEMENT SHALL BE PLACED TO THE LIMITS SHOWN UNLESS OTHERWISE PROVIDED IN THE CONTRACT. WHERE THE CONSTRUCTION LIMITS ARE BEYOND THE PAVING LIMITS, CRUSHED AGGREGATE SURFACING SHALL BE PLACED BETWEEN THE PAVING LIMITS AND CONSTRUCTION LIMITS.

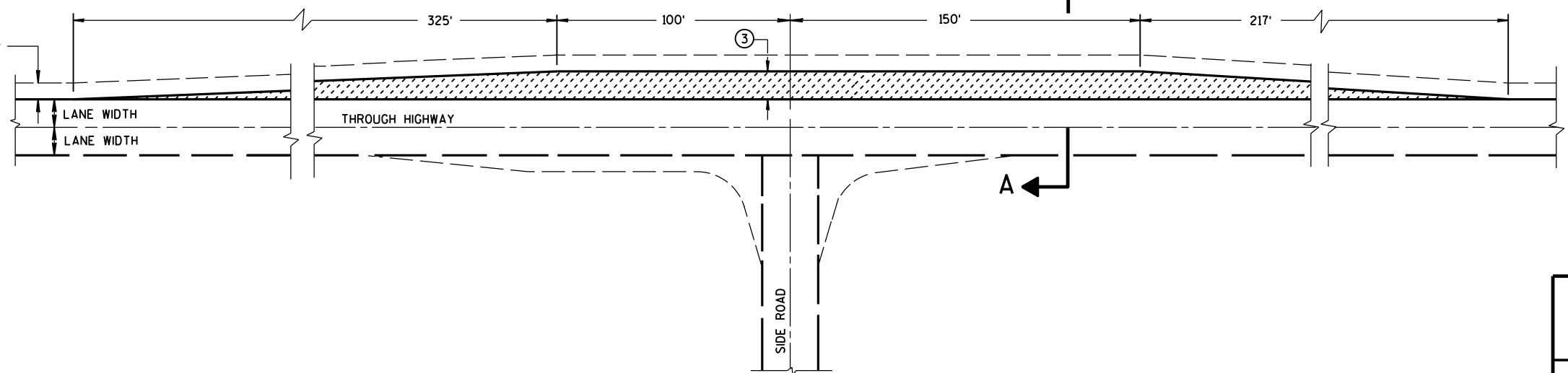
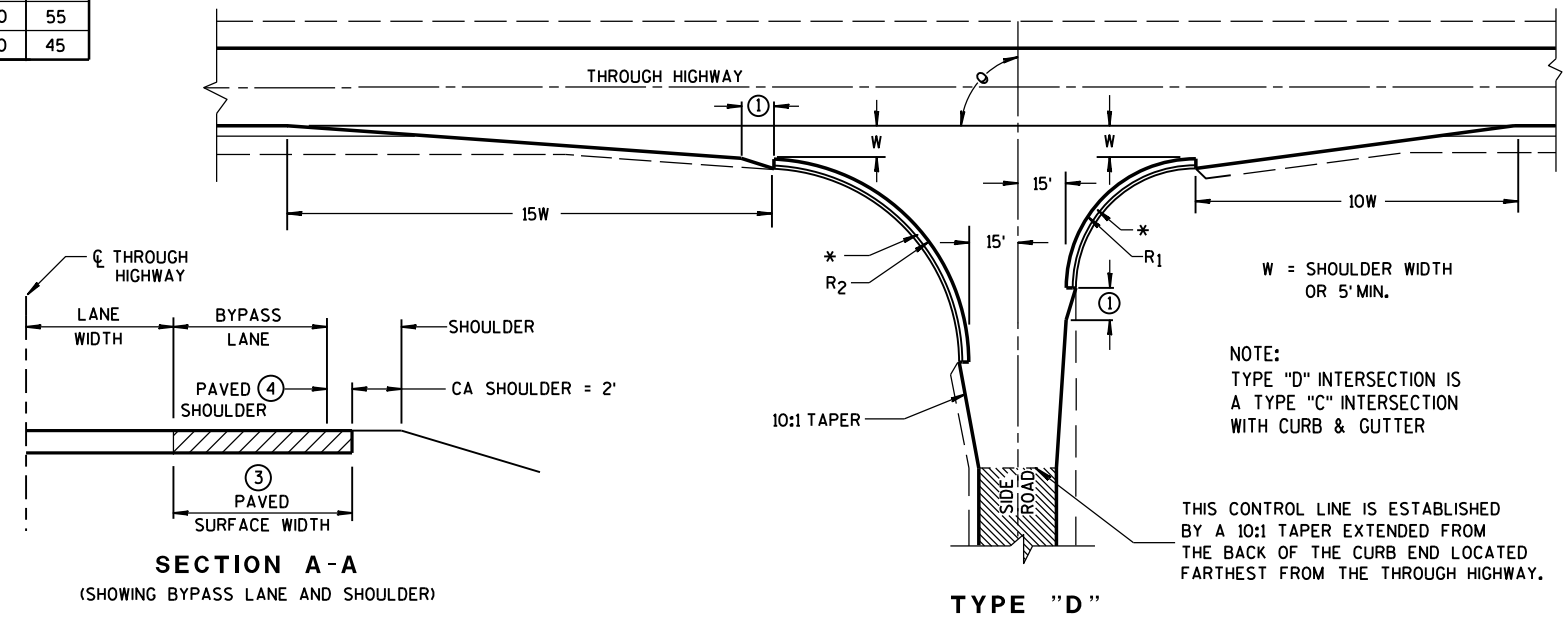
WHEN THE SIDE ROAD IS PRESENTLY PAVED, NEW PAVEMENT SHALL BE PLACED TO THE LIMITS OF DESIGN AS SHOWN AND BEYOND, IF NECESSARY, TO MEET EXISTING PAVEMENT.

WHEN THE SIDE ROAD IS THE CONSTRUCTION PROJECT, THE INTERSECTION SURFACING SHALL BE THE SAME AS FOR THE PROJECT.

EXISTING PAVED SURFACE

BYPASS LANE

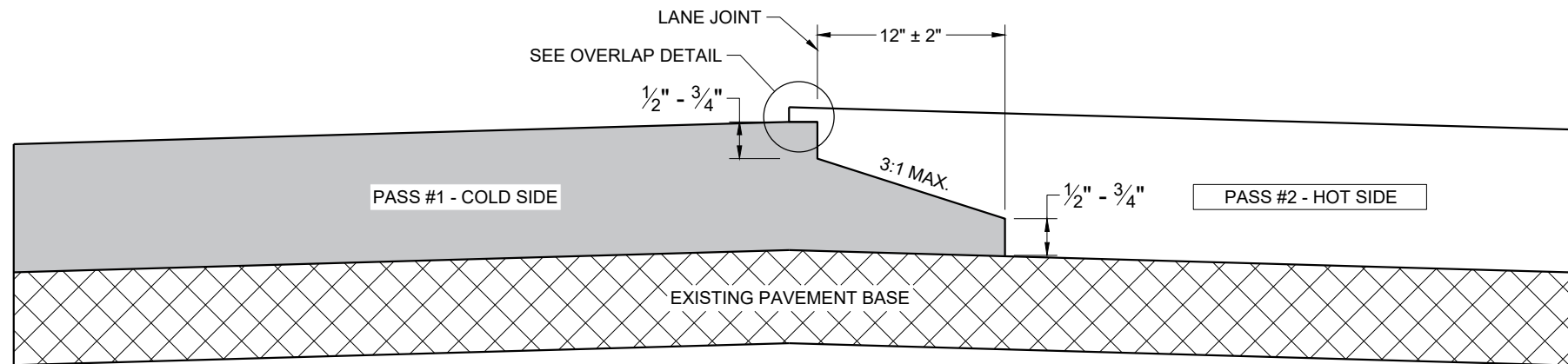
- ① 10-FT TYPICAL.
- ② 12-FT** PLUS ADDITIONAL WIDTH FOR BIKE LANE IF SHOWN ELSEWHERE IN THE PLAN.
- **10-FT MAY BE USED ON TYPE B2 ON RESURFACING PROJECTS IF SPECIFIED IN THE CONTRACT.
- ③ BYPASS LANE PAVED SURFACE WIDTH OUTSIDE OF TRAVEL LANE
-ASPHALT = 12-FT PLUS PAVED SHOULDER WIDTH.
-PC CPNCRETE = 13-FT PLUS PAVED SHOULDER WIDTH.
- ④ BYPASS LANE PAVED SHOULDER WIDTH = THE GREATER OF 1-FT OR THE PAVED SHOULDER WIDTH OF THE THROUGH HIGHWAY.



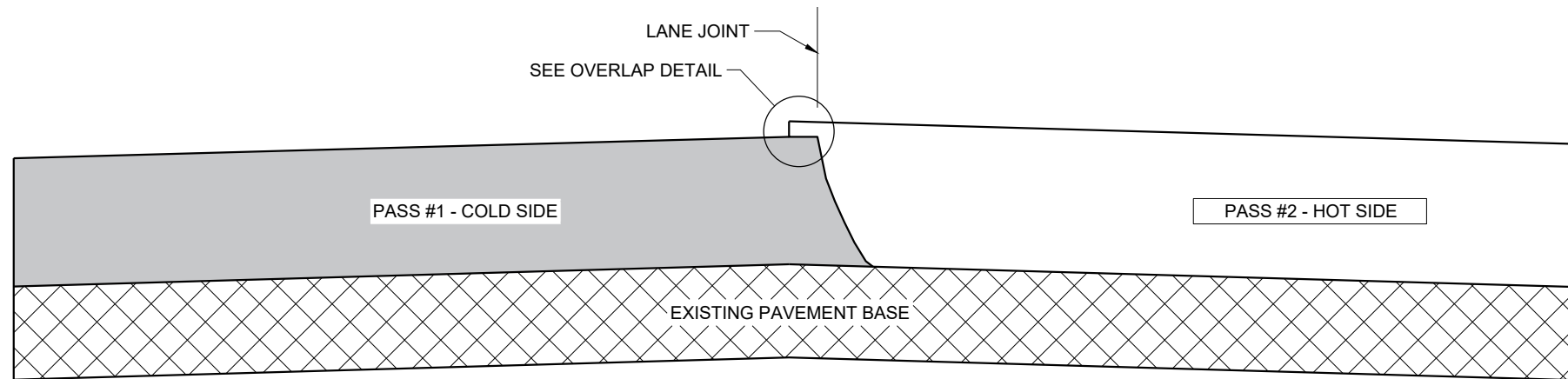
TEE INTERSECTION BYPASS LANE DETAIL

AT-GRADE SIDE ROAD INTERSECTION, TYPES "B1", "B2", "C" AND "D" AND TEE INTERSECTION BYPASS LANE

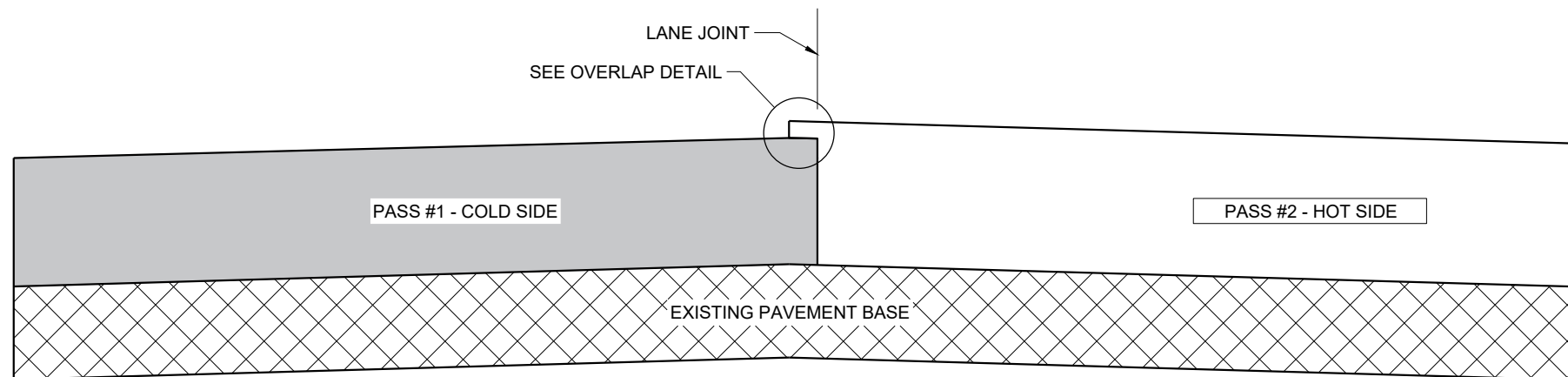
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION



**TYPICAL PAVEMENT CROSS SECTION
NOTCHED WEDGE JOINT**



**TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT**



**TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT (MILLED)**

GENERAL NOTES

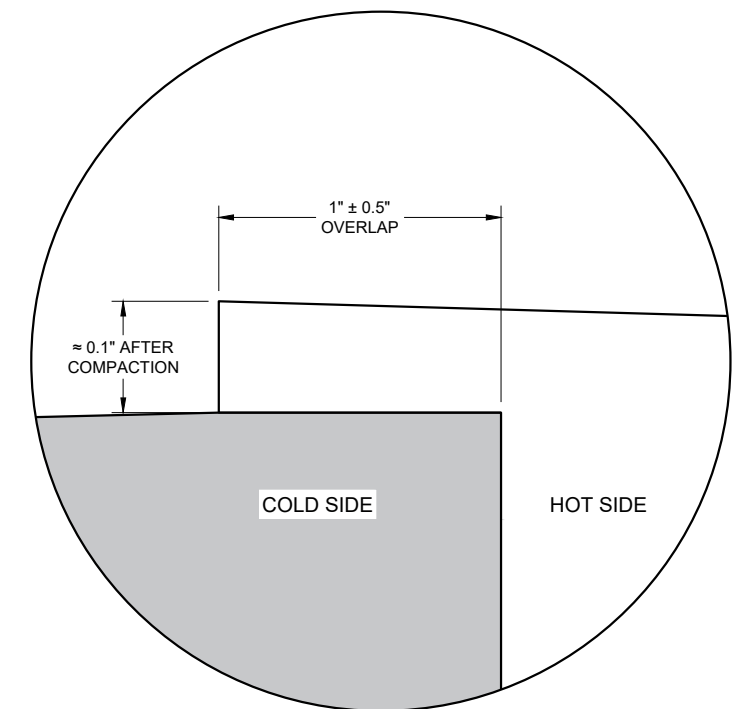
IN ADDITION TO THE DETAILS PROVIDED IN THIS DRAWING, CONFORM TO STANDARD SPECIFICATION 450.3.2.8 FOR WHEN A NOTCHED WEDGE JOINT IS REQUIRED AND FOR GENERAL JOINT CONSTRUCTION REQUIREMENTS.

FOR ALL LONGITUDINAL JOINTS, ENSURE THE PAVER SCREED OVERLAPS THE PREVIOUSLY PLACED PAVEMENT BY $1" \pm 0.5"$ 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)

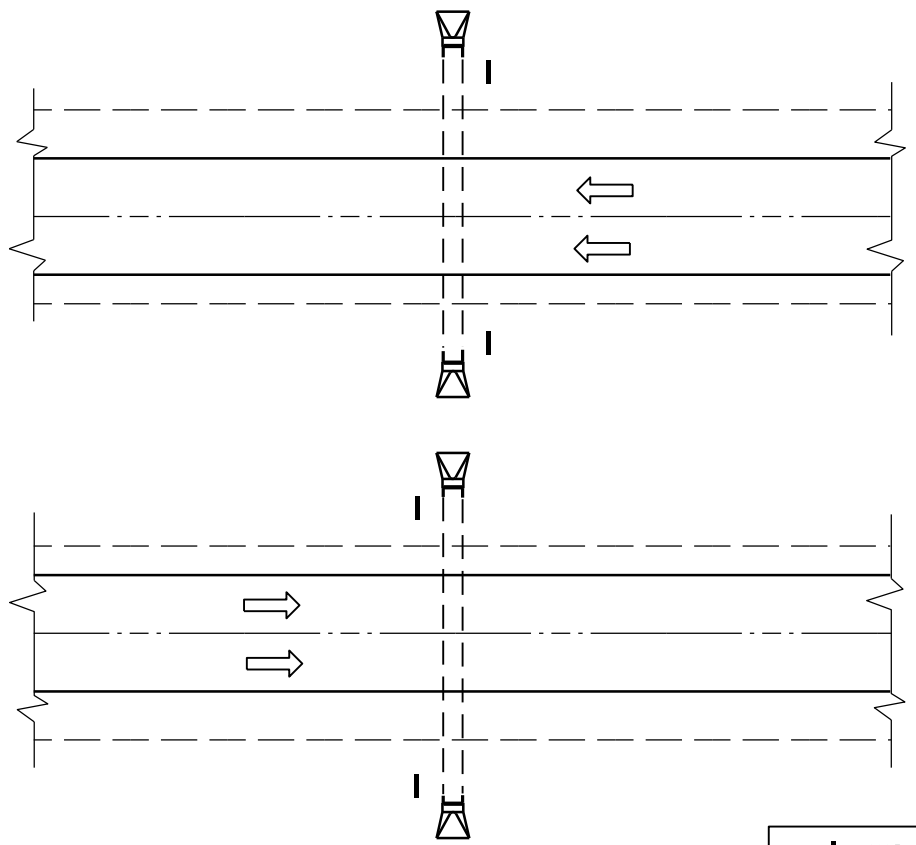
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6

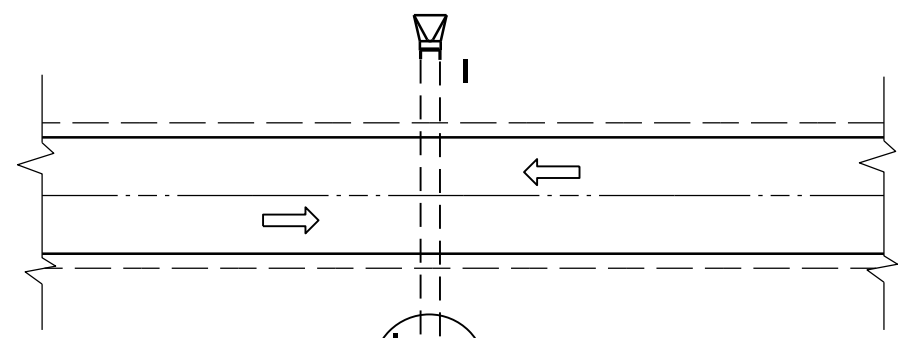
SDD 13C19 - 03

SDD 13C19 - 03

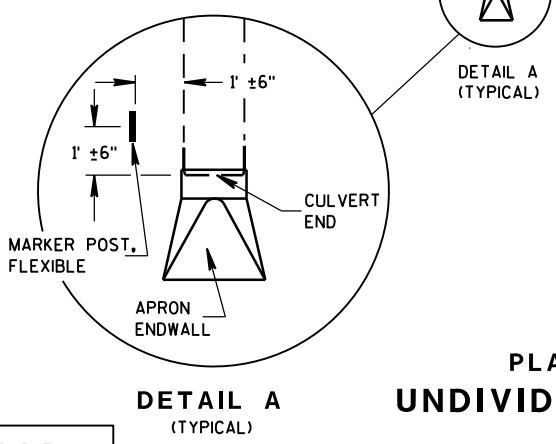
HMA LONGITUDINAL JOINTS	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED November 2020 DATE	/S/ Steven Hefel HMA PAVEMENT ENGINEER
FHWA	



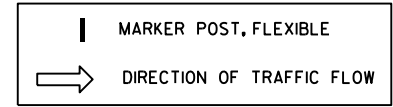
PLAN VIEW
DIVIDED HIGHWAY



PLAN VIEW
UNDIVIDED HIGHWAY

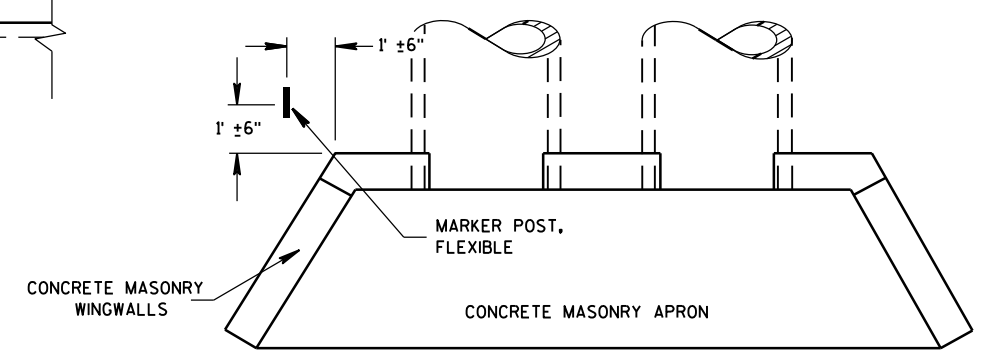


DETAIL A
(TYPICAL)



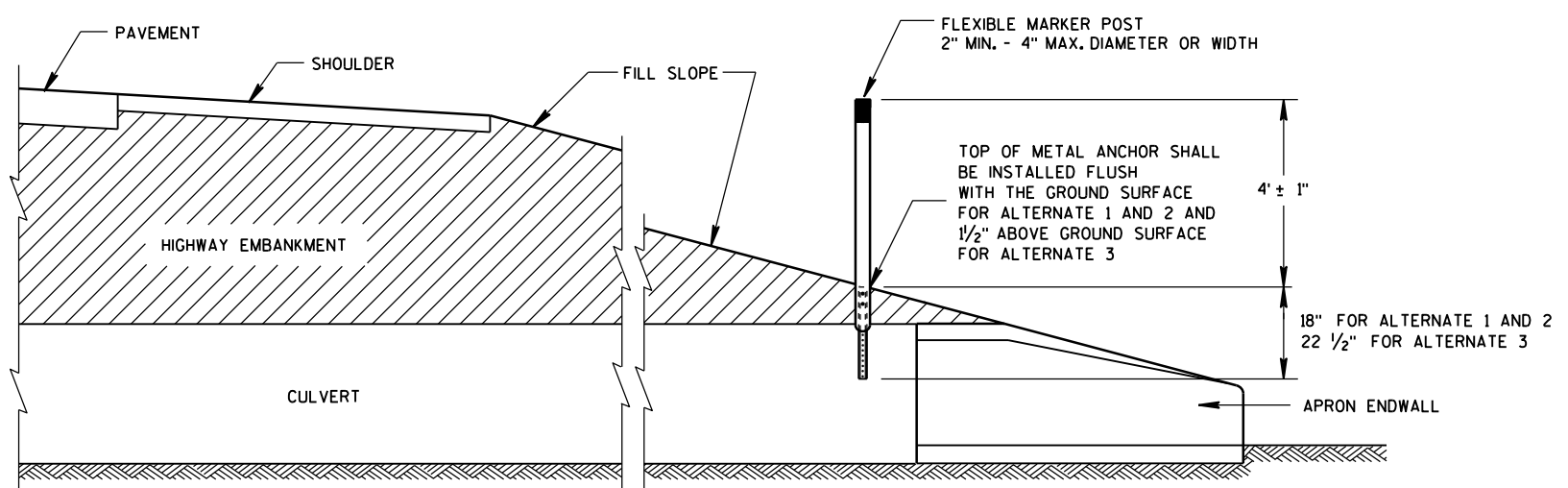
GENERAL NOTES

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**

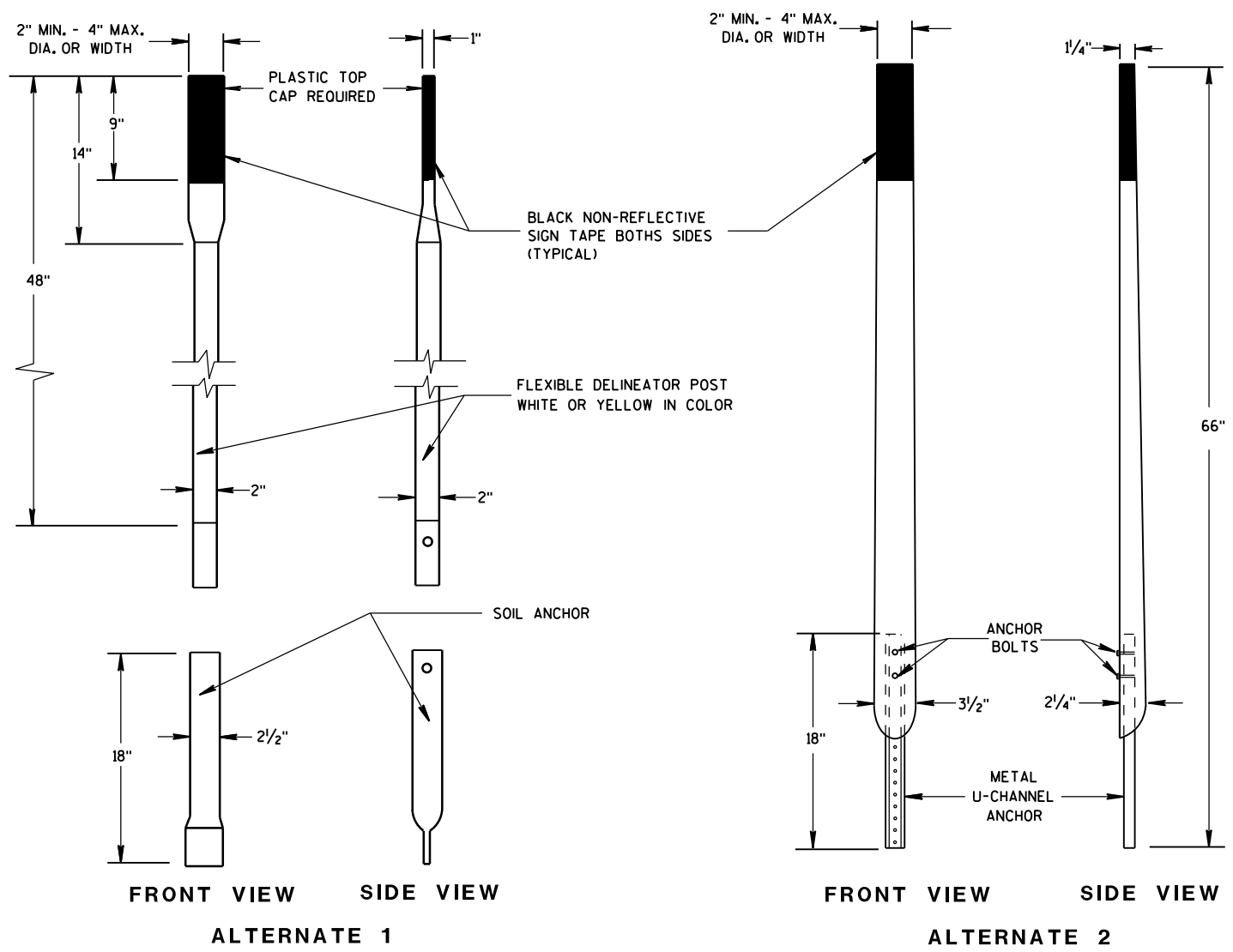
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

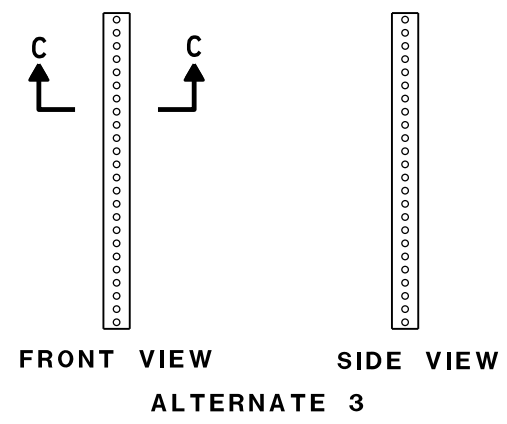
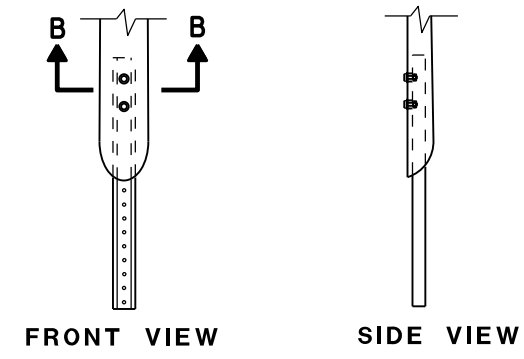
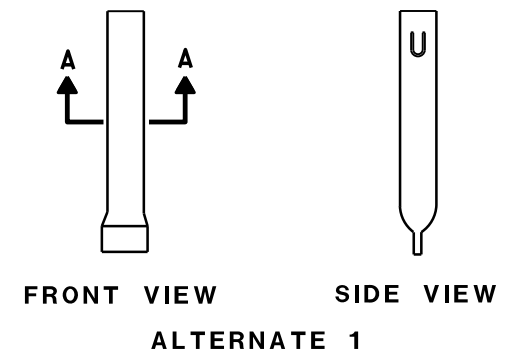
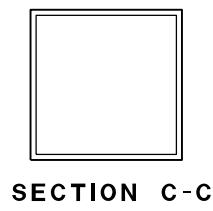
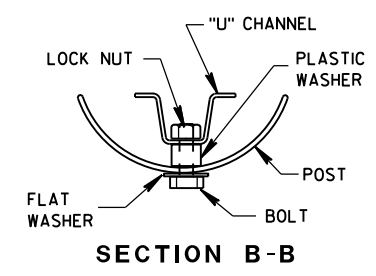
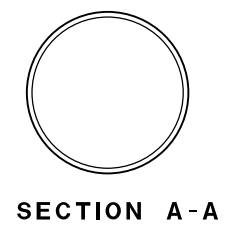
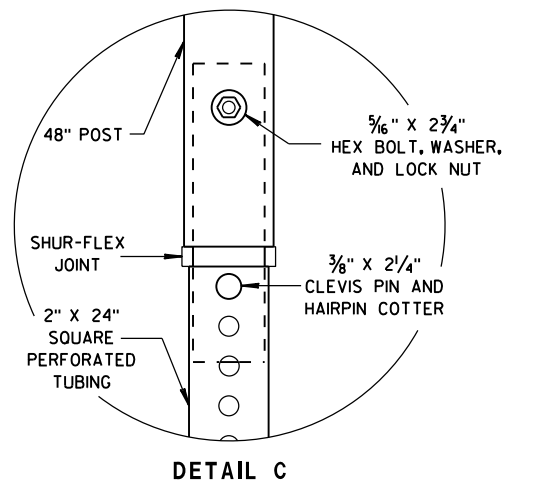
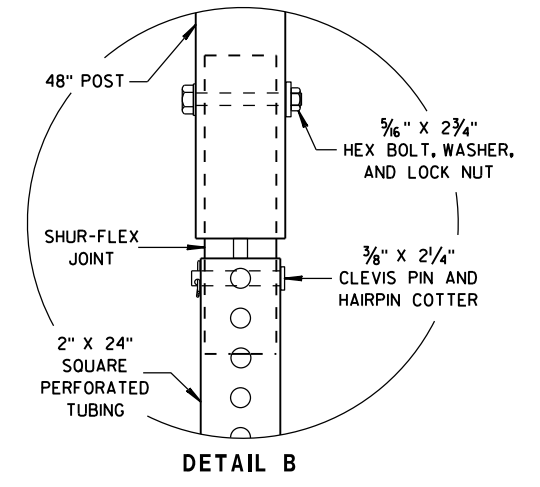
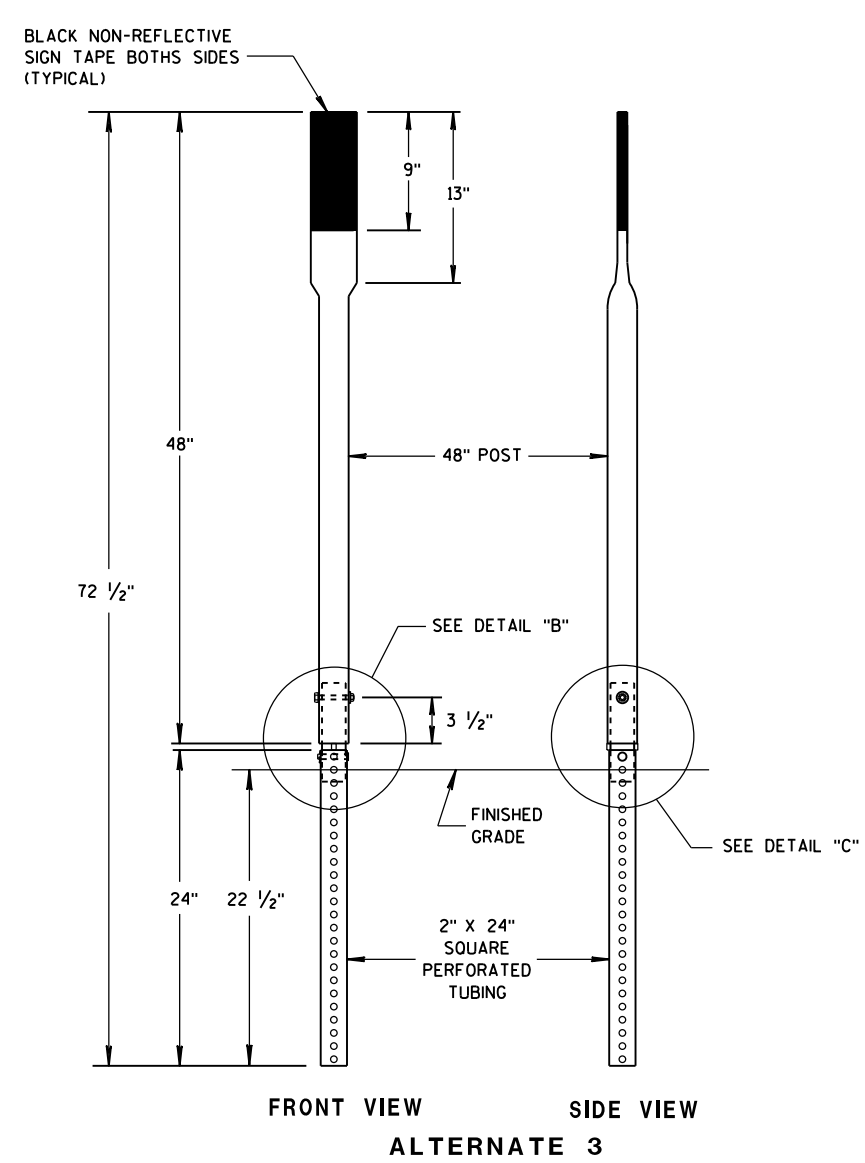
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S.D.D. 15 A 3-2a

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

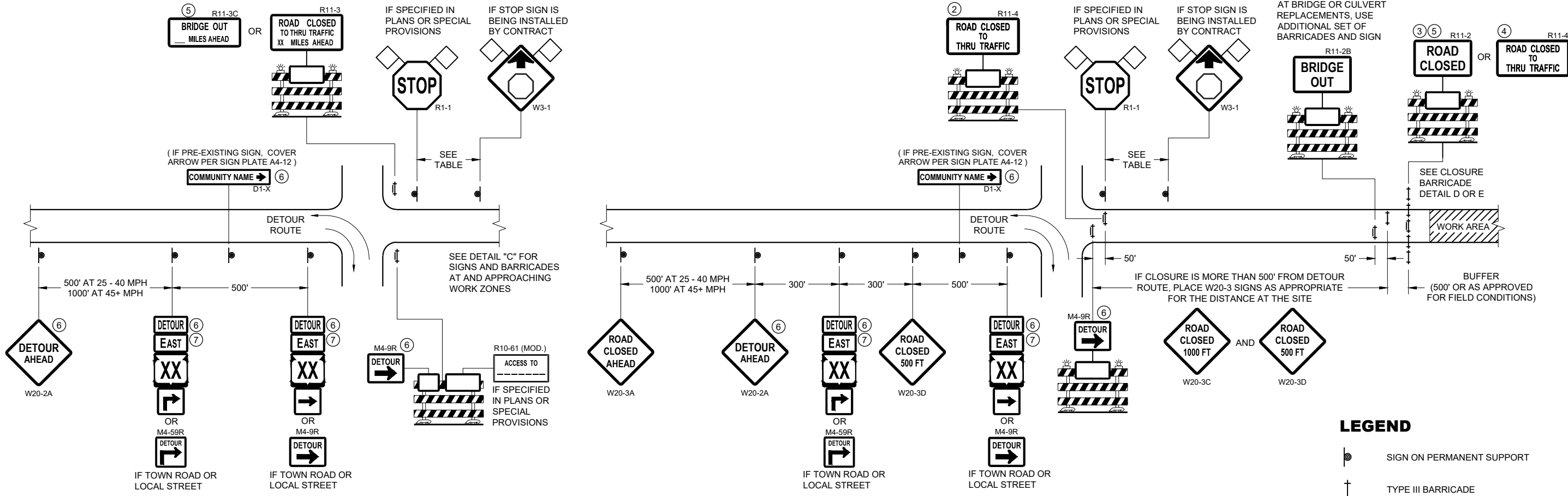


FLEXIBLE MARKER POSTS



FLEXIBLE MARKER POST ANCHORS

FLEXIBLE MARKER POST FOR CULVERT END	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 10/1/2012 DATE	/S/ Travis Feltes STATE TRAFFIC ENGINEER OF DESIGN
FHWA	



**DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR**

WORK ZONE GREATER THAN OR EQUAL TO 1/2 MILE FROM
DETOUR ROUTE (1000 FEET IF URBAN)

**DETAIL B
MAINLINE CLOSURE WITH POSTED DETOUR**

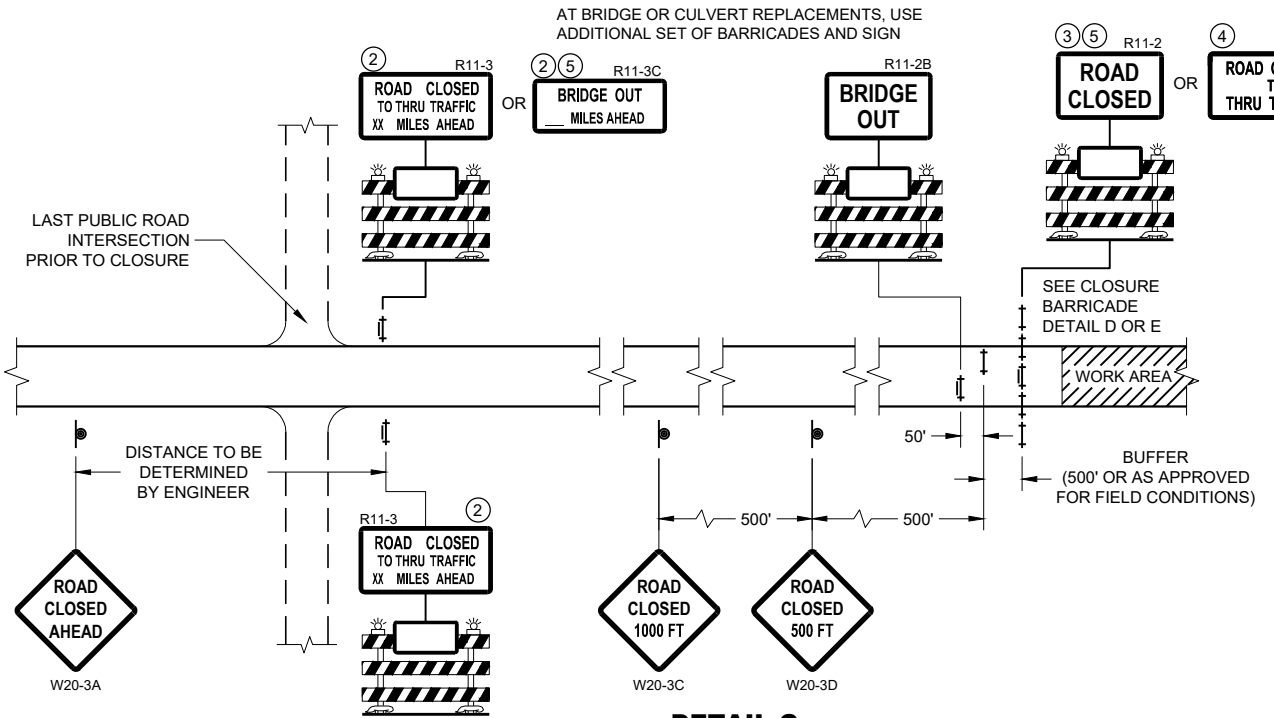
WORK ZONE LESS THAN 1/2 MILE FROM
DETOUR ROUTE (1000 FEET IF URBAN)

LEGEND

- SIGN ON PERMANENT SUPPORT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)
- WORK AREA
- FLAGS, 16" X 16" MIN. (ORANGE)

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

- M4 - 8
- M3 - X
- M1 - 4
- M1 - 6
- M1 - 5A
- M05 - 1
- M06 - 1



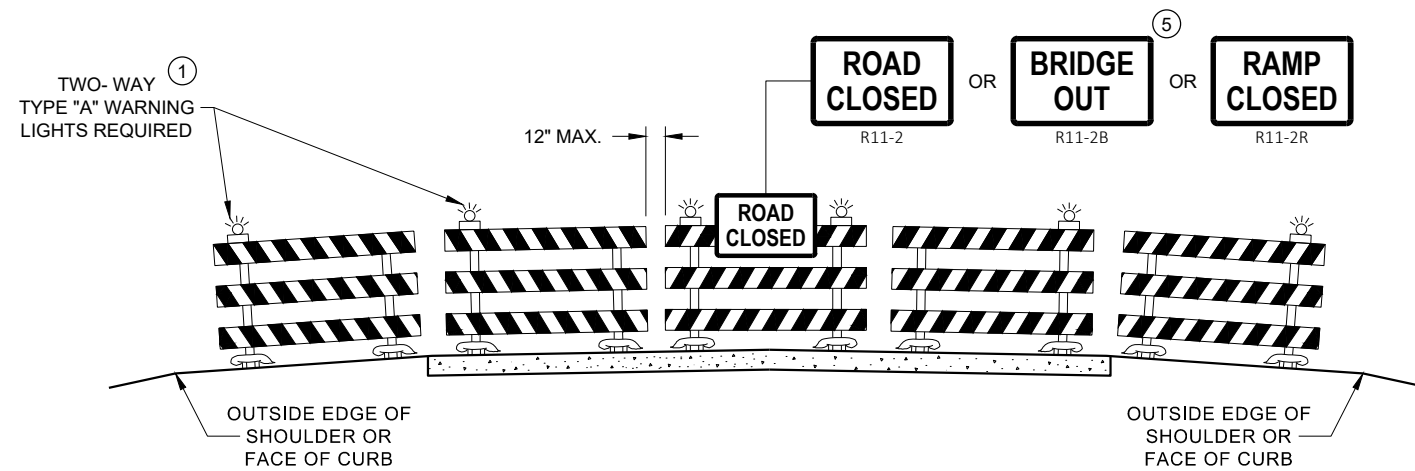
**DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR**

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

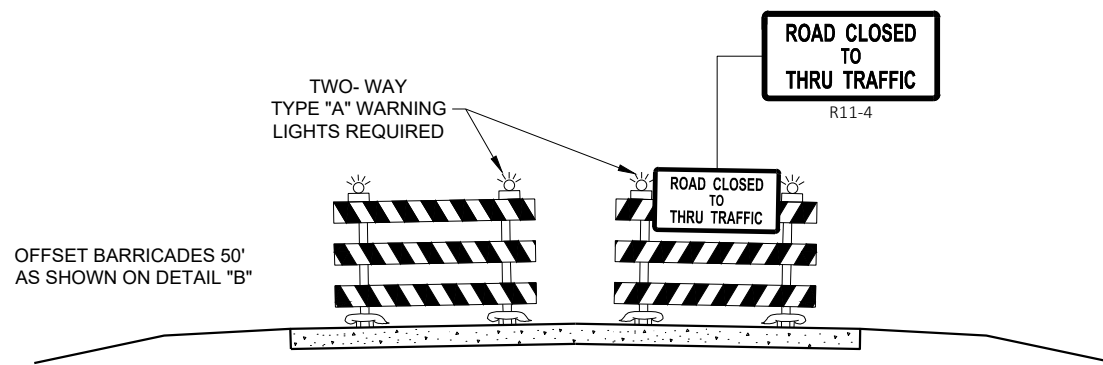
**BARRICADES AND SIGNS
FOR MAINLINE CLOSURES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2020 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER
FHWA



**DETAIL D
ROAD CLOSURE BARRICADE DETAIL
APPROACH VIEW**



**DETAIL E
LANE CLOSURE BARRICADE DETAIL
APPROACH VIEW**

SEE SDD 15C2 - SHEET "a" FOR LEGEND

GENERAL NOTES

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

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

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

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

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

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

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

THE R11 - 2, R11 - 3, M4 - 9, R11 - 4, AND R10 - 61 SIGNS PLACED ON THE BARRICADES SHALL COVER NO MORE THAN THE TOP RAIL. THE SIGNS SHALL NOT COVER ANY PORTION OF THE MIDDLE RAIL OR BOTTOM RAILS.

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

ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:

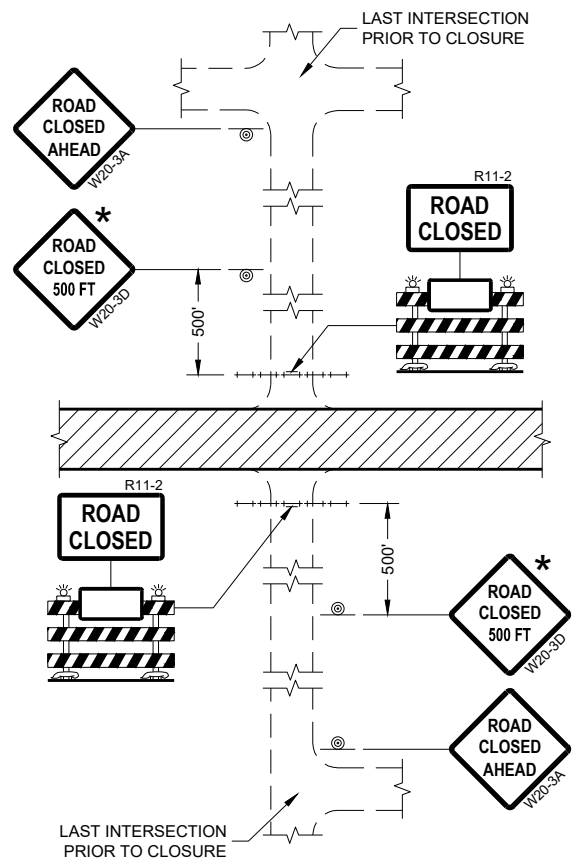
- R11 - 2 SHALL BE 48" X 30"
- R11 - 3 SHALL, R11 - 4 AND R10 - 61 SHALL BE 60" X 30"
- M4 - 9 SHALL BE 30" X 24"
- M3 - X SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M4 - 8 SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M1 - 4, M1 - 5A AND M1 - 6 SHALL BE 24" X 24" (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS)
- MO5 - 1 AND MO6 - 1 SHALL BE 21" X 21" (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS)
- D1 - X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.
- R1 - 1 SHALL BE 36" X 36"

- ① TWO WARNING LIGHTS SHALL BE PROVIDED ON THE CENTER BARRICADE AND A MINIMUM OF ONE WARNING LIGHT SHALL BE PROVIDED ON EACH OF THE OTHER BARRICADES WITHIN THE ROADWAY LIMITS. SPACING OF THE WARNING LIGHTS SHALL BE UNIFORM TO THE EDGE OF ROADWAY AS SHOWN (APPROX. 8 FOOT LIGHT SPACING).
- ② THESE SIGNS AND BARRICADES ARE NOT REQUIRED IF ROAD CLOSURE BEGINS AT AN INTERSECTION.
- ③ FOR ROAD CLOSURE WITHOUT LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL "D".
- ④ FOR ROAD CLOSURE WITH LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL "E".
- ⑤ FOR BRIDGE OR CULVERT REPLACEMENTS, SUBSTITUTE "BRIDGE OUT" INSTEAD OF "ROAD CLOSED" ON R11 - 2 AND R11 - 3 SIGNS.
- ⑥ INSTALL DETOUR AND COMMUNITY GUIDE SIGNS AND ARROWS ONLY IF SPECIFIED IN THE CONTRACT. IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. MODIFY EXISTING SIGNS WHERE POSSIBLE. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. IF DETOUR SIGNS ARE BEING INSTALLED BY OTHERS, PLACE THE CONTRACTED TRAFFIC CONTROL SIGNS TO ALLOW FOR PLACEMENT OF ALL WARNING, DETOUR AND GUIDE SIGNS AS SHOWN.
- ⑦ "EAST" CARDINAL DIRECTION MARKERS AND RIGHT TURN ARROWS ARE SHOWN. USE OTHER CARDINAL DIRECTIONS AND ARROWS AS APPROPRIATE.

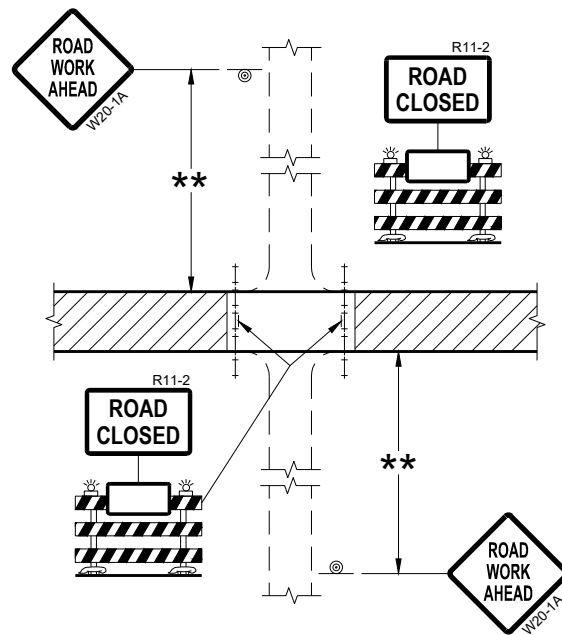
**BARRICADES AND SIGNS
FOR
VARIOUS CLOSURES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

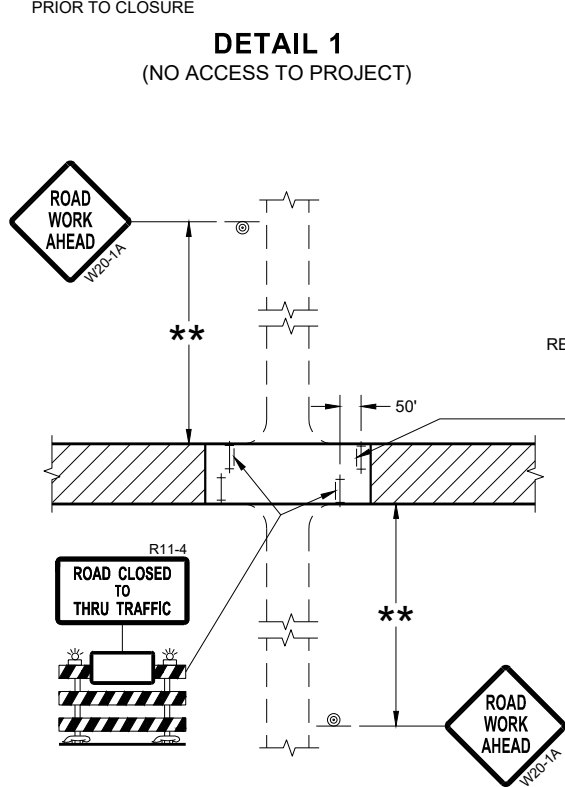
APPROVED
February 2020 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER
FHWA



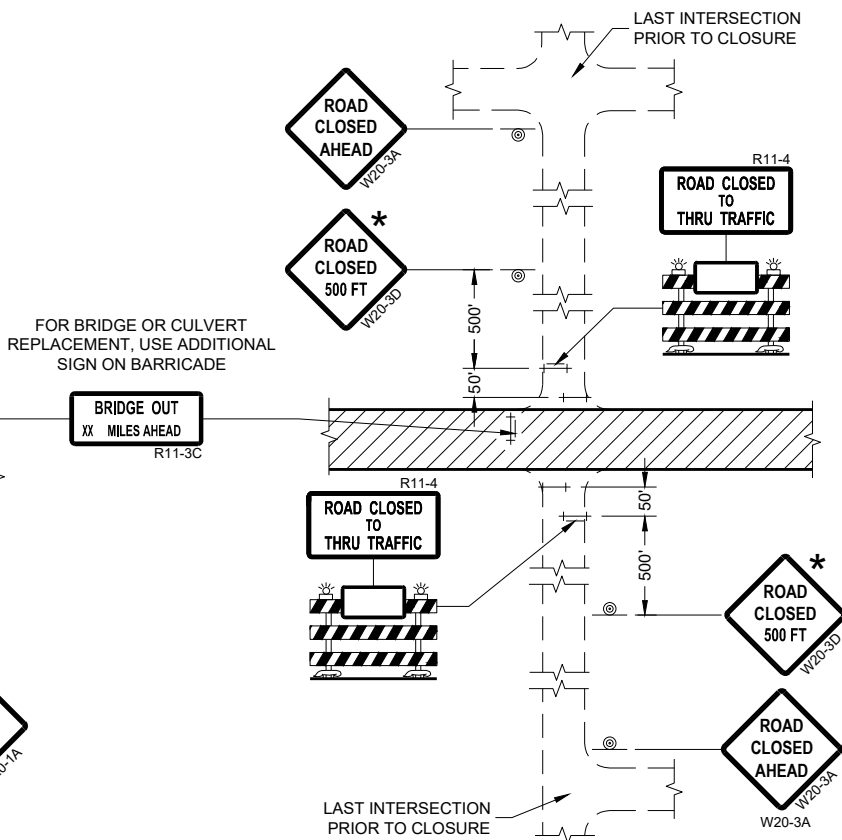
DETAIL 1
(NO ACCESS TO PROJECT)



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



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



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

GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

- * OMIT THE "ROAD CLOSED 500 FT." SIGN IF THE LAST INTERSECTION IS 500 FEET OR LESS FROM THE WORK ZONE.
- ** 500' MAX. OR AT LAST INTERSECTION, WHICHEVER IS CLOSEST.

LEGEND

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

**BARRICADES AND SIGNS
FOR
SIDEROAD CLOSURES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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.

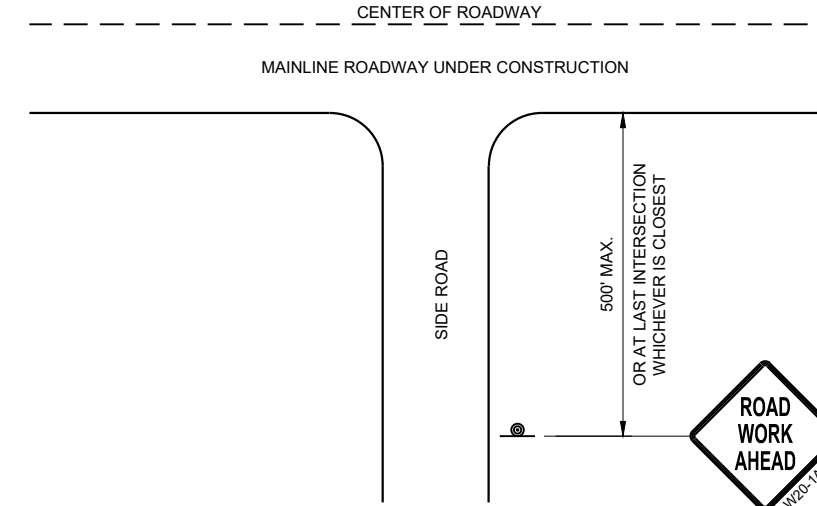
SIGNS THAT WILL BE IN PLACE LESS THAN SEVEN CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

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.

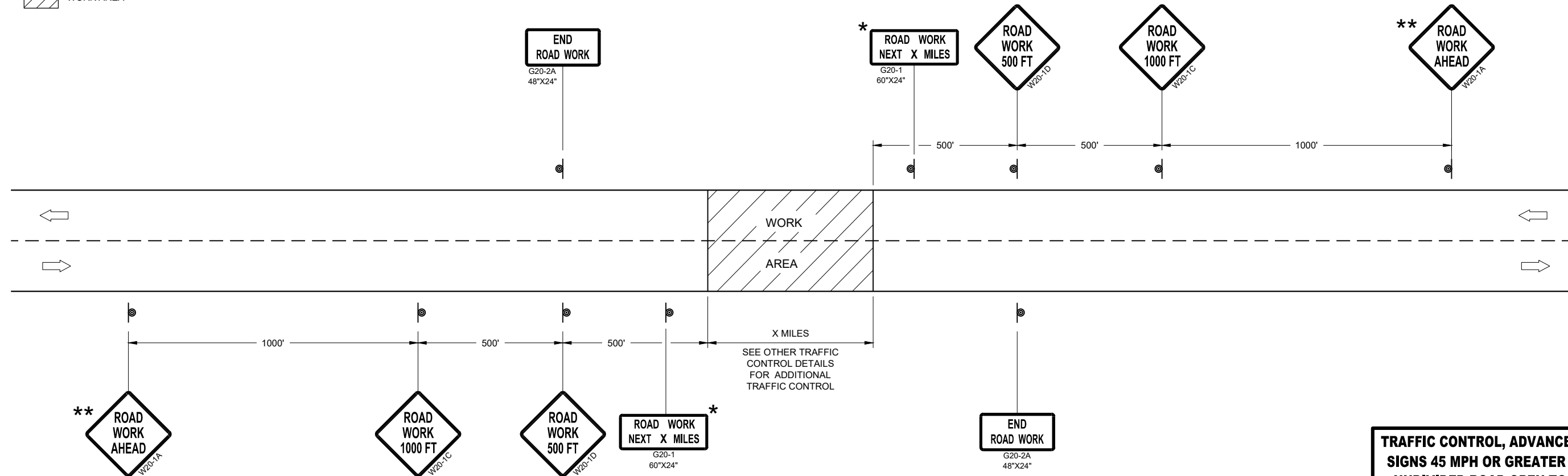
- * OMIT G20-1 SIGNS IF LENGTH OF WORK AREA IS 2 MILES OR LESS
- ** PLACE AN ADDITIONAL W20-1A "ROAD WORK AHEAD" SIGN IF WORK AREA WITHIN THE PROJECT IS SEPARATED BY MORE THAN 2 MILES FROM PREVIOUS WORK AREA.

LEGEND

-  SIGN ON PERMANENT SUPPORT
-  DIRECTION OF TRAFFIC
-  WORK AREA



TYPICAL SIDE ROAD APPROACH WARNING SIGN DETAIL



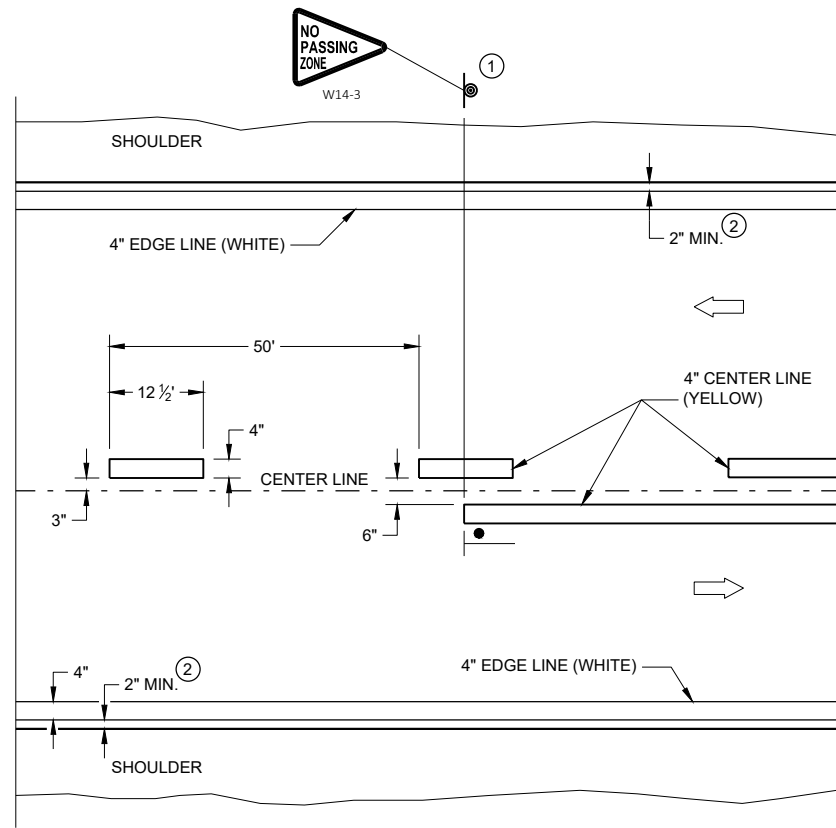
TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45MPH OR GREATER

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

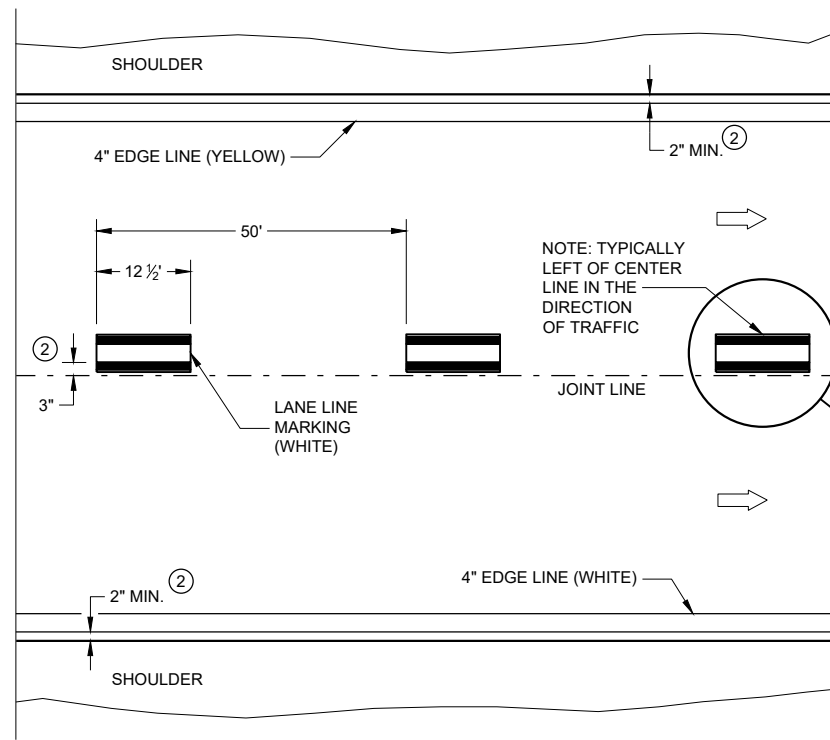
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA

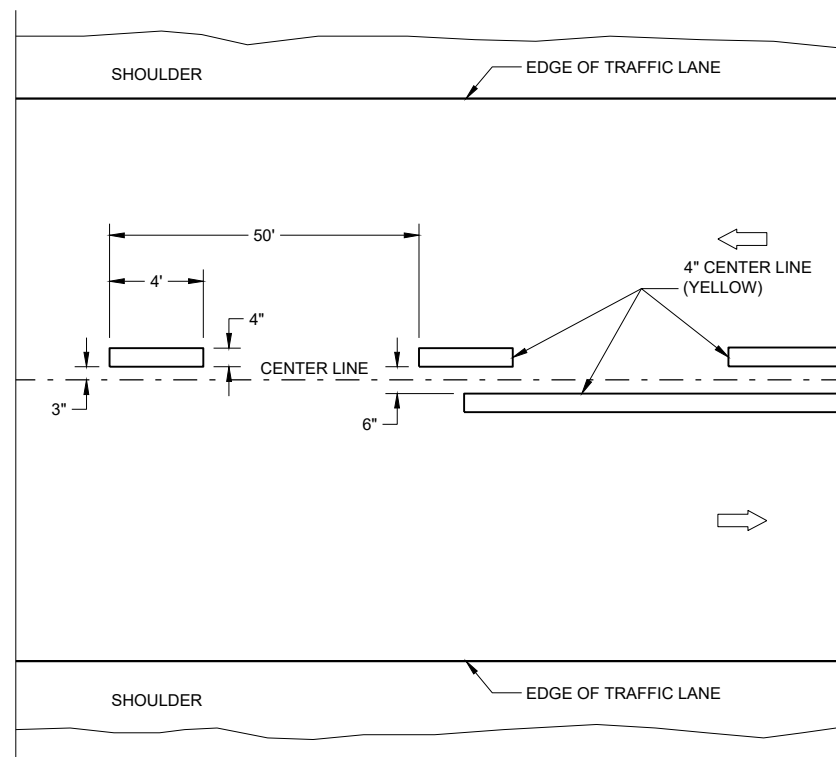


TWO WAY TRAFFIC

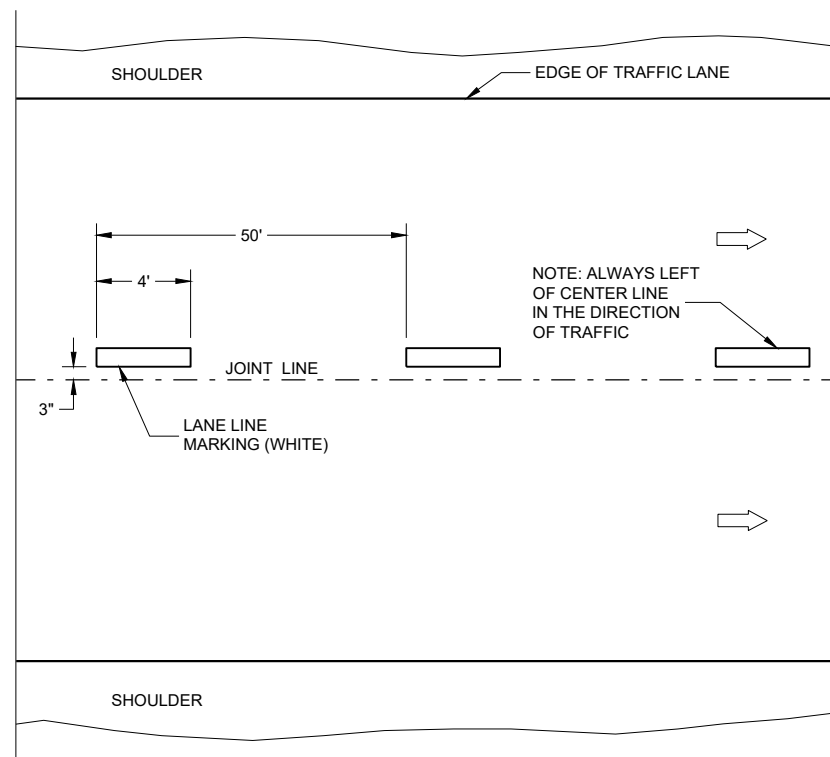


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY PAVEMENT MARKING

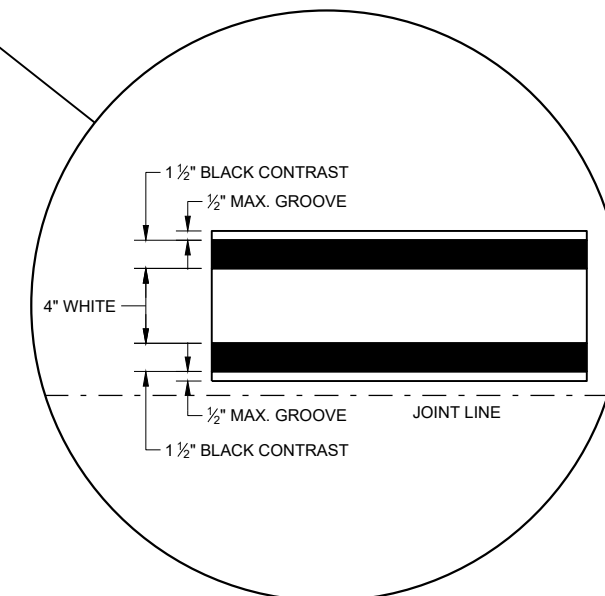
GENERAL NOTES

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

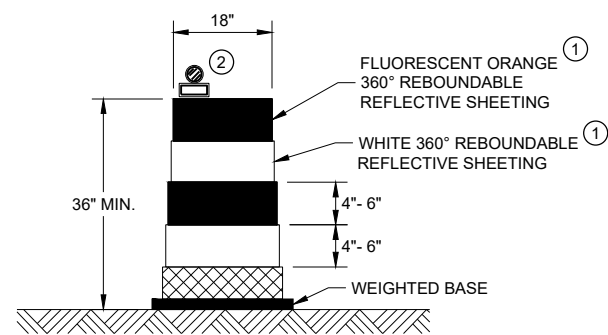
- |—"T" MARKING
- SIGN ON PERMANENT SUPPORT
- DIRECTION OF TRAFFIC



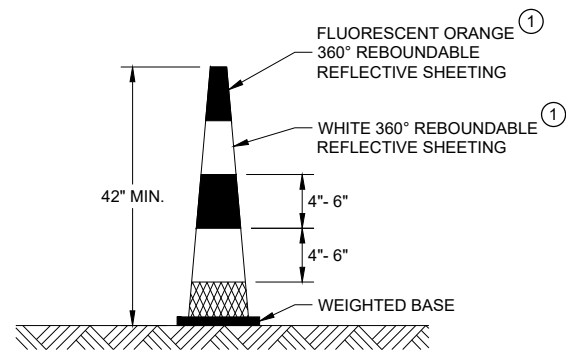
**LONGITUDINAL MARKING
(MAINLINE)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2020 /S/ Matthew Rauch
DATE STATEWIDE SIGNING AND MARKING
ENGINEER

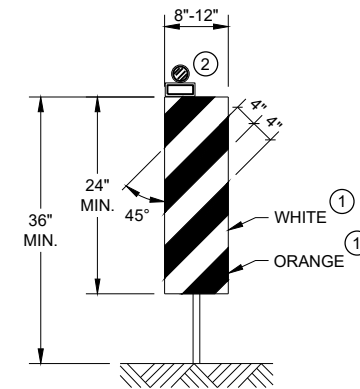


DRUM



42" CONE

DO NOT USE IN TAPERS
 1/2 SPACING OF DRUMS

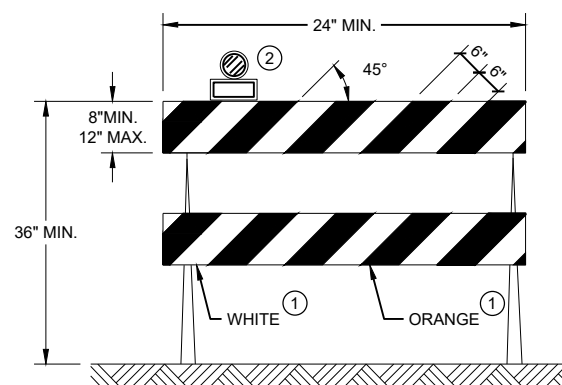


VERTICAL PANEL

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

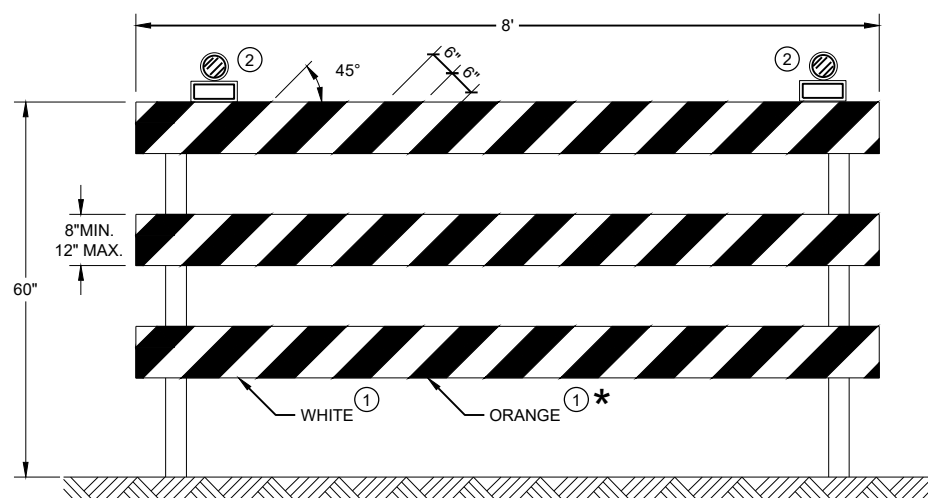
GENERAL NOTES

- 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.



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 ENGINEER
FHWA	

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.

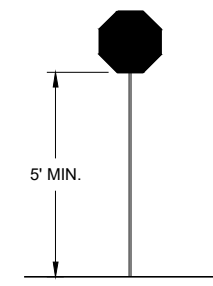
- ③ EACH TEMPORARY PORTABLE RUMBLE STRIP ARRAY CONSISTS OF THREE RUMBLE STRIPS PLACED TRANSVERSE ACROSS THE LANE AT THE LOCATIONS SHOWN. WITHIN EACH ARRAY, SPACING BETWEEN RUMBLE STRIPS SHALL BE 15 FEET ON CENTER

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.



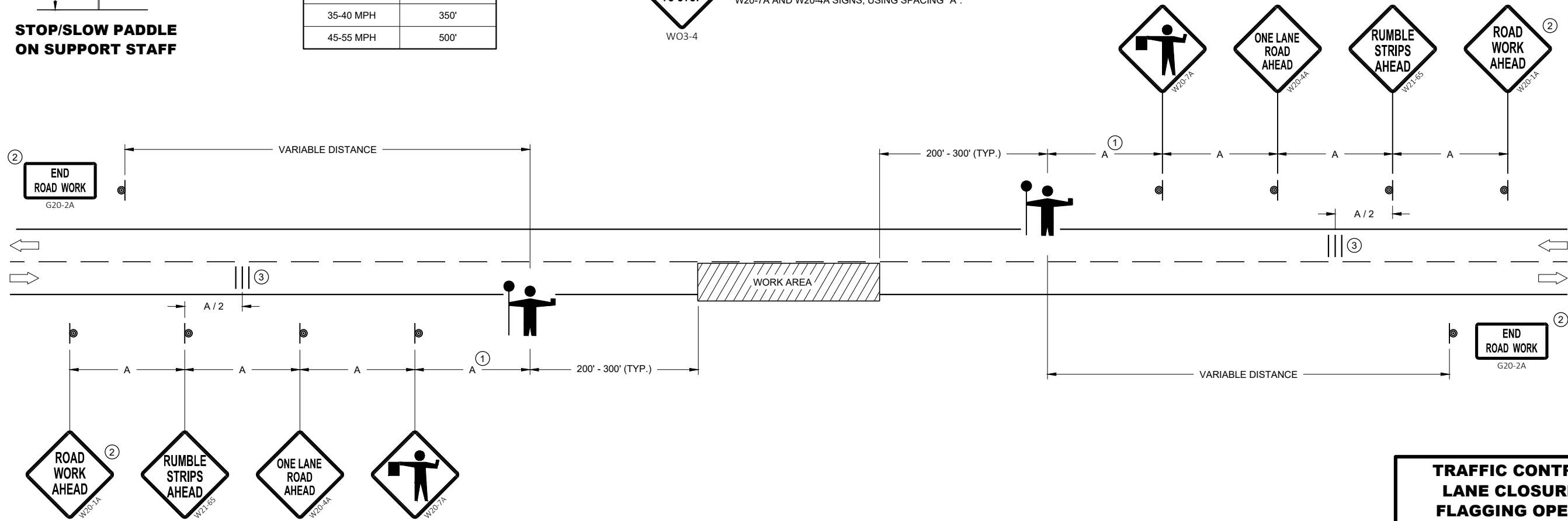
STOP/SLOW PADDLE ON SUPPORT STAFF

SIGN AND TEMPORARY RUMBLE STRIP ARRAY SPACING TABLE

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



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
November 2021 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER

FHWA

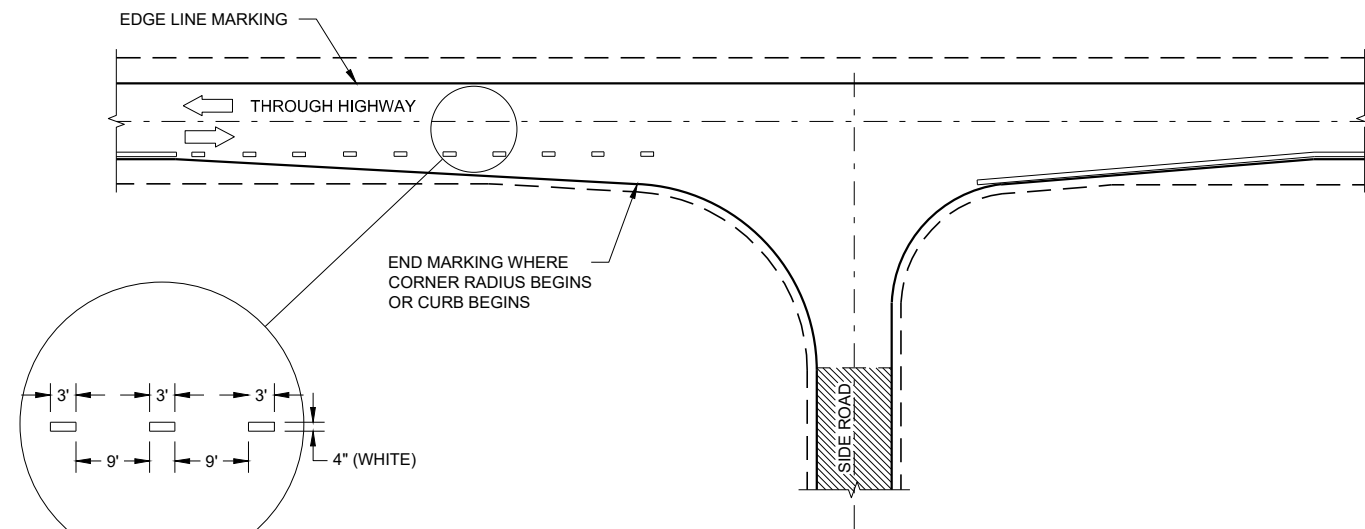
GENERAL NOTES

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

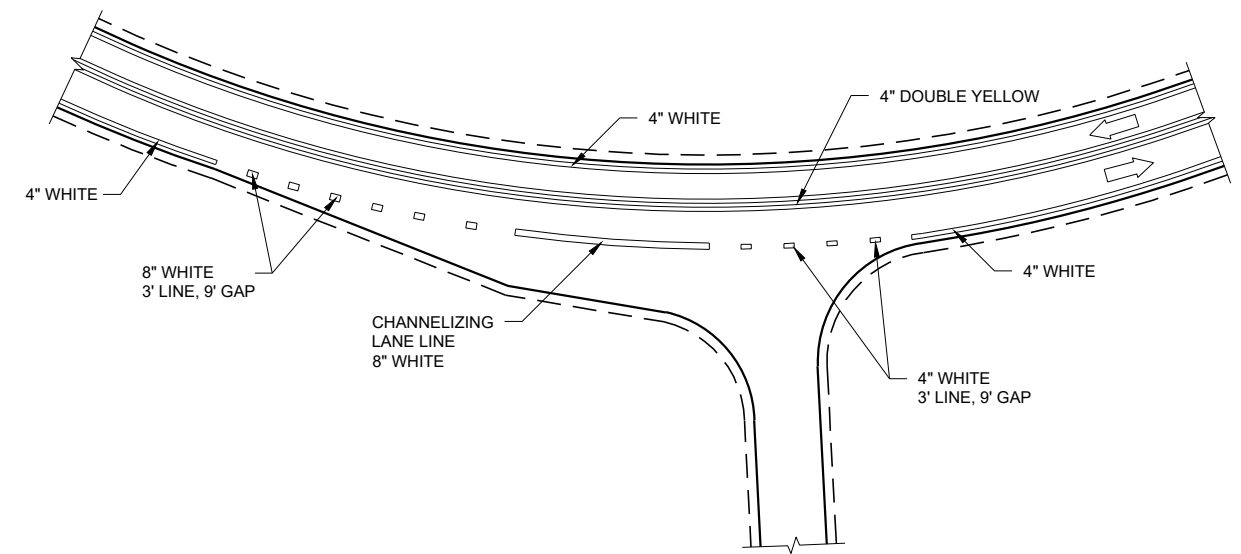
- ① WHEN DISTANCE "A" IS LESS THAN 250 FEET, OMIT LANE LINE.
- ② WHEN DISTANCE "B" IS LESS THAN 100 FEET, OMIT CHANNELIZING LANE LINE.
- ③ BARRIER LINE ENDS AT SIDE ROAD PAVEMENT / SURFACE EDGE EXTENSION.
- ④ BARRIER LINE STARTS 500 FEET PRIOR TO THE BYPASS TAPER.

LEGEND

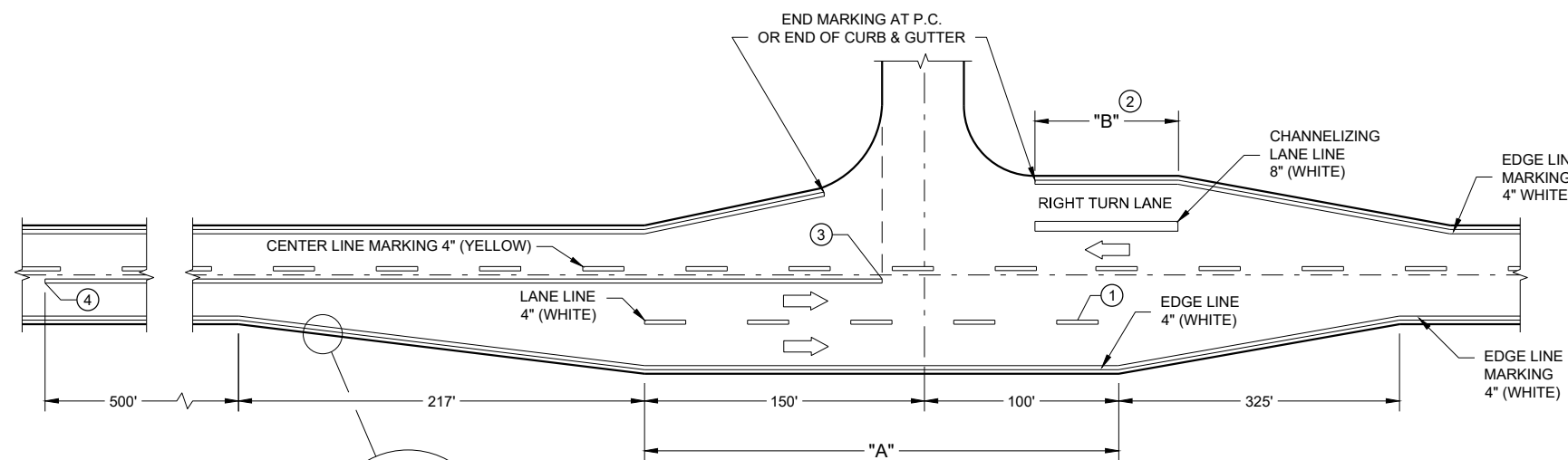
➡ DIRECTION OF TRAVEL



MINOR INTERSECTION



INTERSECTION ON OUTSIDE OF CURVE







**MAJOR INTERSECTIONS
(INTERSECTION WITH FULL RIGHT TURN LANE OR BYPASS LANE)**

**PAVEMENT MARKING
(INTERSECTIONS)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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.

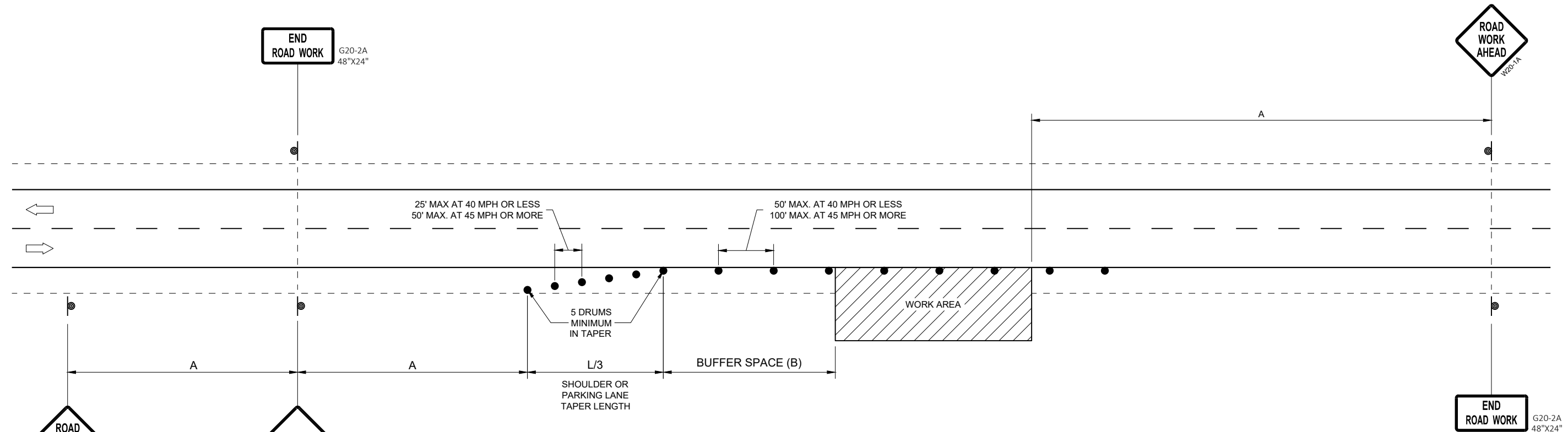
CHANNELIZING DEVICES PLACED ADJACENT TO WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

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.

6

6



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'

OR
IF TRAFFIC CONTROL DEVICES
ENCROACH ONTO TRAVELED WAY, USE



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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2020 /S/ Andrew Heidtke
DATE STATEWIDE WORK ZONE TRAFFIC SAFETY ENGINEER

FHWA

SDD 15D28 - 04

SDD 15D28 - 04

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.

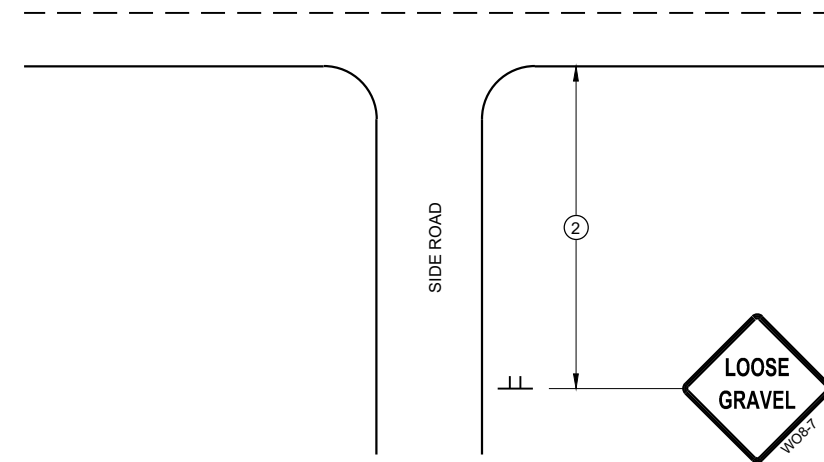
ALL SIGNS INAPPROPRIATE TO THE STATUS OF THE CONTROL ZONE, INCLUDING PRE-EXISTING SIGNS IN THE VICINITY, SHALL BE COVERED OR REMOVED AS DIRECTED BY THE ENGINEER.

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.

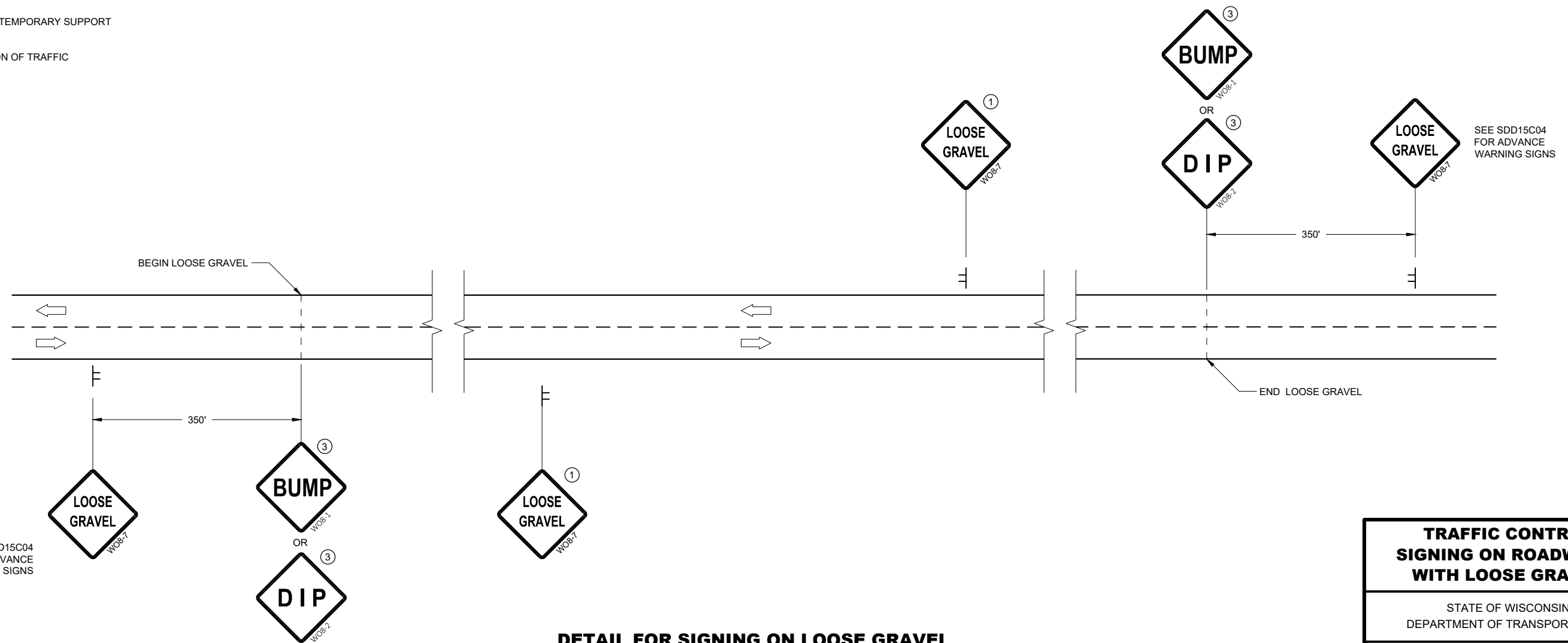
- ① PLACE SIGNS 350' IN ADVANCE OF CHIP SEALED OR LOOSE GRAVEL SURFACES AND AT 1 MILE INTERVALS, OR AS DIRECTED BY THE ENGINEER.
- ② PLACE SIGN 200' MIN. FROM INTERSECTION AND 200' MIN. AFTER ADVANCE WARNING SIGN SHOWN IN SDD 15C04.
- ③ ADD WO8-1 OR WO8-2 SIGN WHEN THE CONDITION IS PRESENT.

LEGEND

- ⊥ SIGN ON TEMPORARY SUPPORT
- ➡ DIRECTION OF TRAFFIC



TYPICAL SIDE ROAD APPROACH SIGN DETAIL



SEE SDD15C04 FOR ADVANCE WARNING SIGNS

SEE SDD15C04 FOR ADVANCE WARNING SIGNS

DETAIL FOR SIGNING ON LOOSE GRAVEL OR CHIP SEALED SURFACES

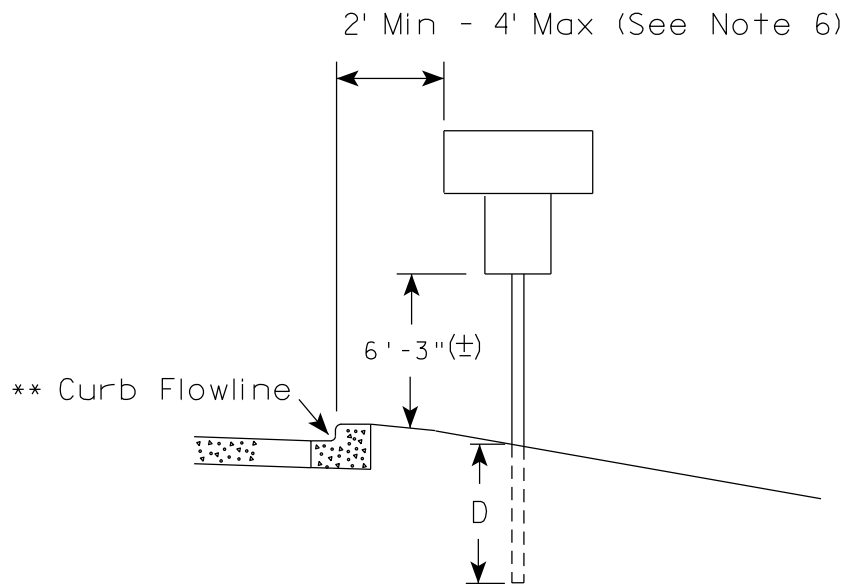
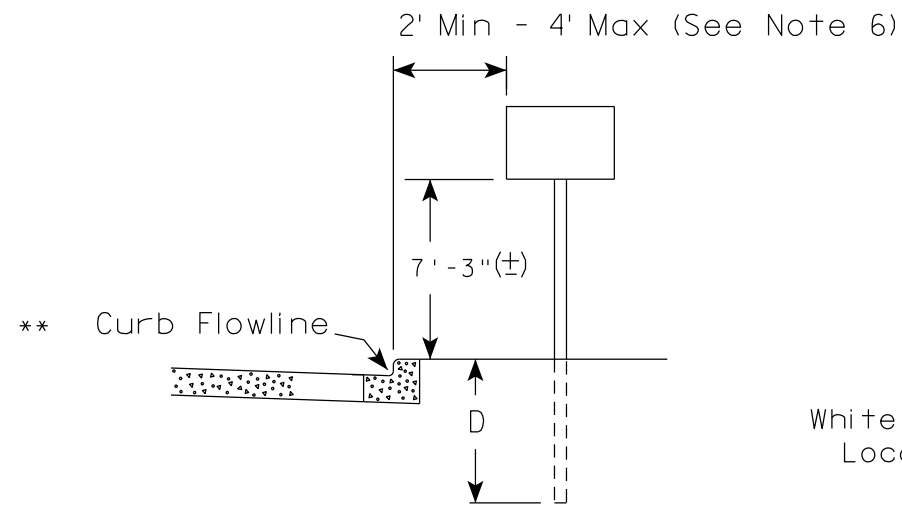
TRAFFIC CONTROL SIGNING ON ROADWAYS WITH LOOSE GRAVEL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

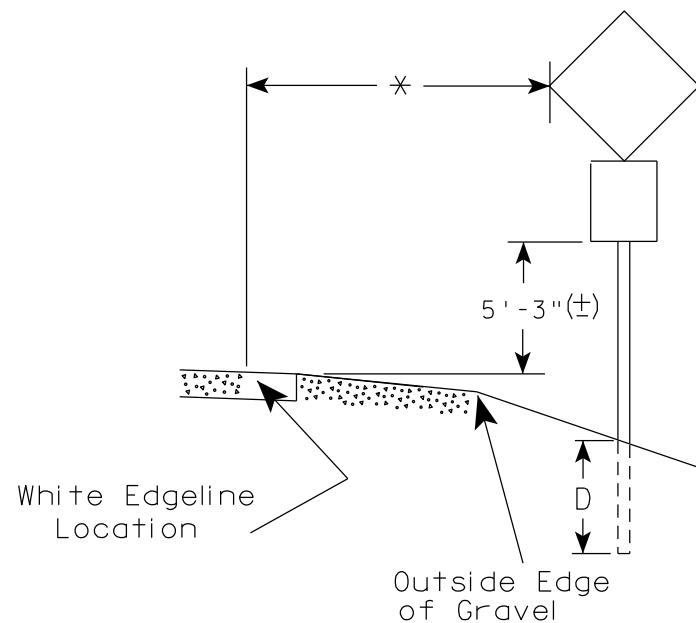
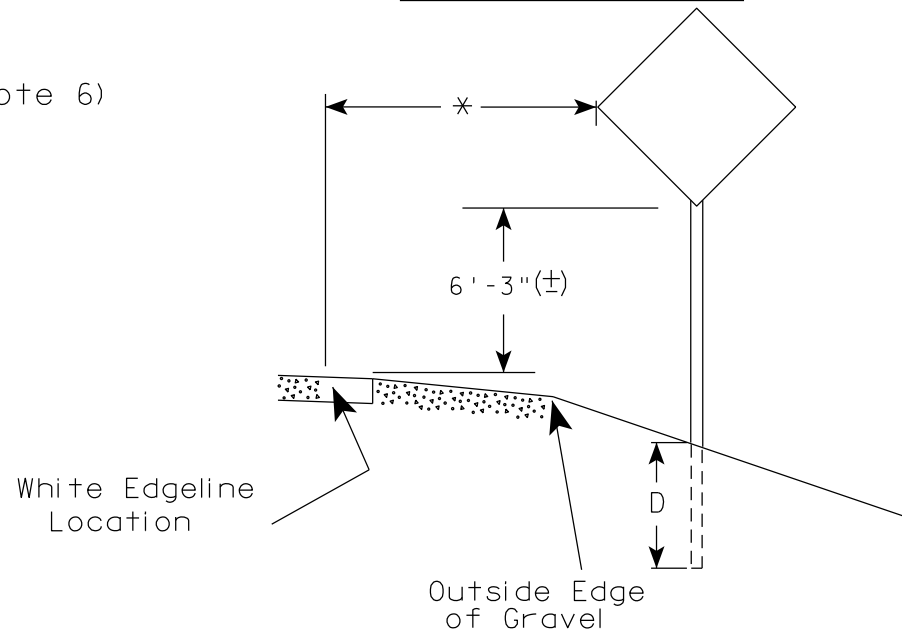
APPROVED
February 2021 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER

FHWA

URBAN AREA



RURAL AREA (See Note 2)



GENERAL NOTES

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

POST EMBEDMENT DEPTH

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

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

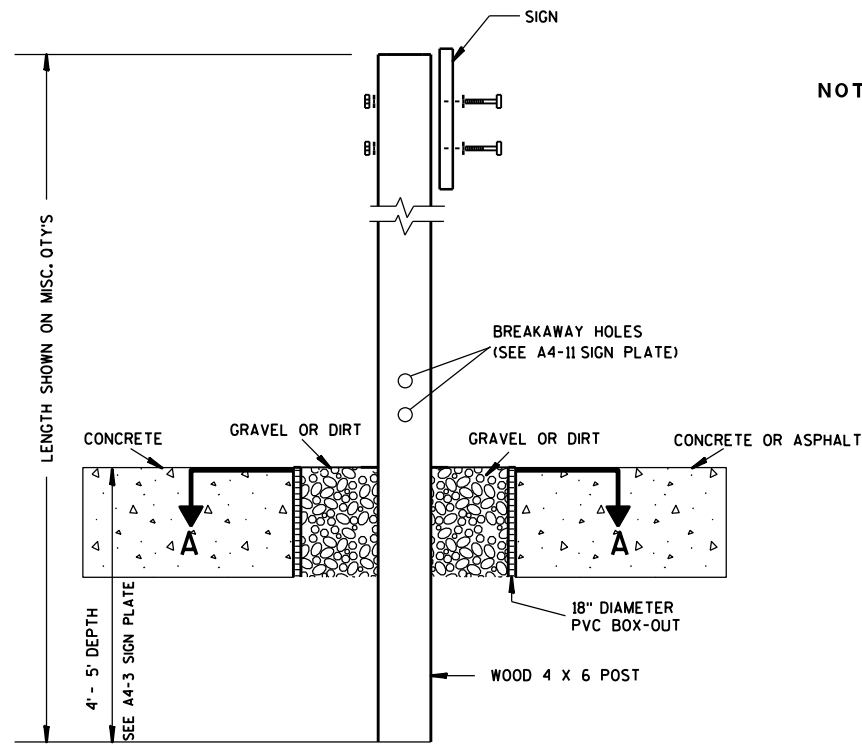
* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.

TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

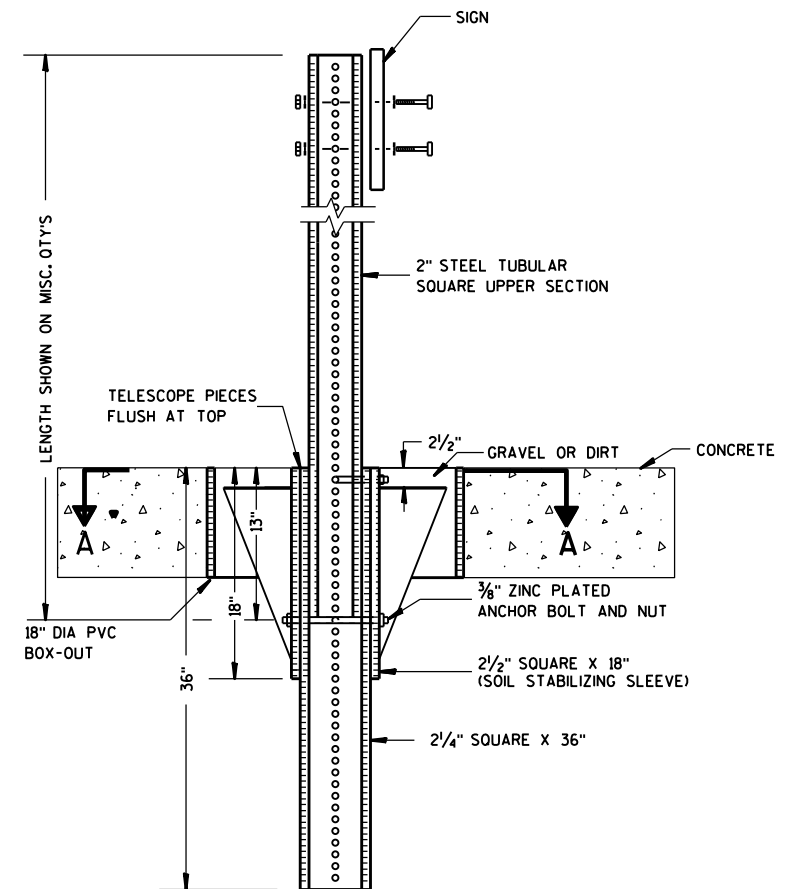
DATE 5/13/2020 PLATE NO. A4-3.22



ELEVATION VIEW

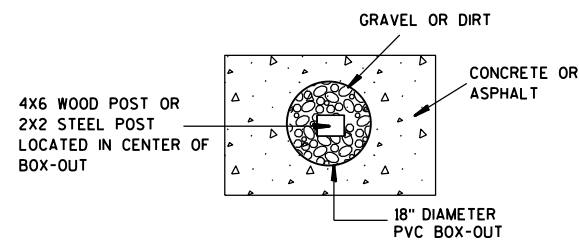
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

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



ELEVATION VIEW

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



PLAN VIEW

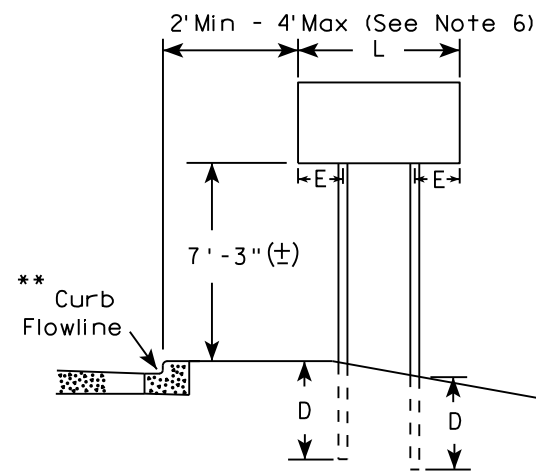
FOR NEW CONCRETE/ ASPHALT INSTALLATIONS

SIGN POST BOX-OUTS A4-3B	
<small>WISCONSIN DEPT OF TRANSPORTATION</small>	
APPROVED <i>Matthew R. Rauch</i> <small>for State Traffic Engineer</small>	
<small>DATE 1/27/14</small>	<small>PLATE NO. A4-3B.1</small>

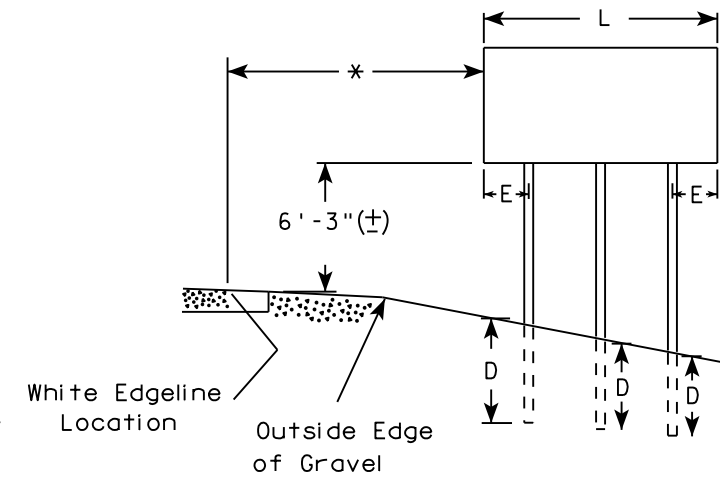
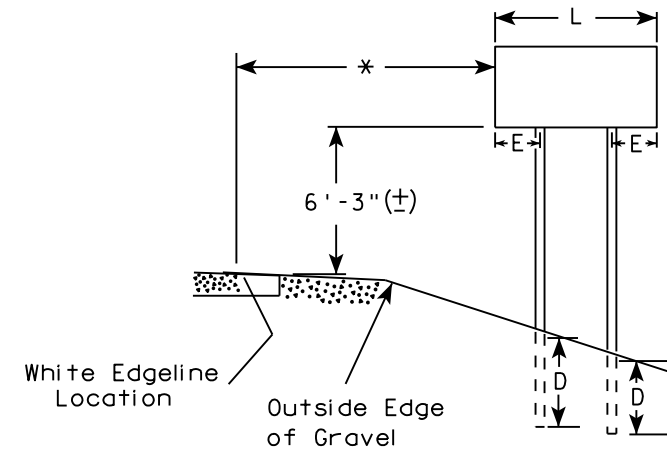
GENERAL NOTES

1. For 3 or 4 post installations, individual post spacing shall be greater than 3'-6".
2. See tables below for required number of posts.
3. For expressways and freeways, mounting height is 7'-3" (±) or 6'-3" (±) depending upon existence of sub-sign.
4. The (±) tolerance for mounting height is 3 inches.
5. J-Assemblies are considered to be one sign for mounting height.
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. Folding signs shall be mounted at a height of 5'-3" (±) or as directed by the engineer.
8. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4'-3" (±).

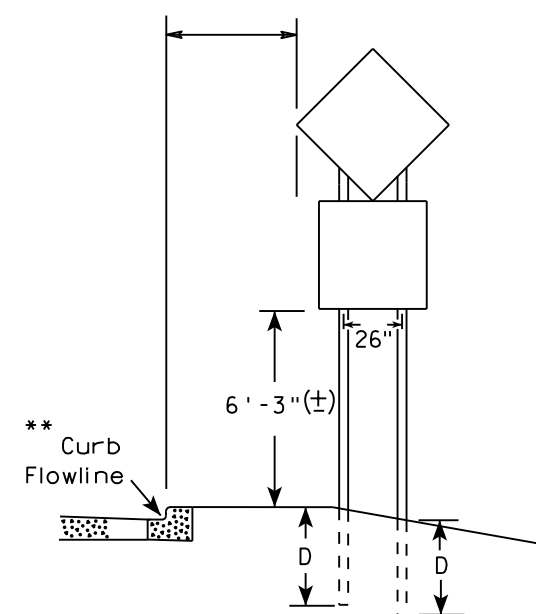
URBAN AREA



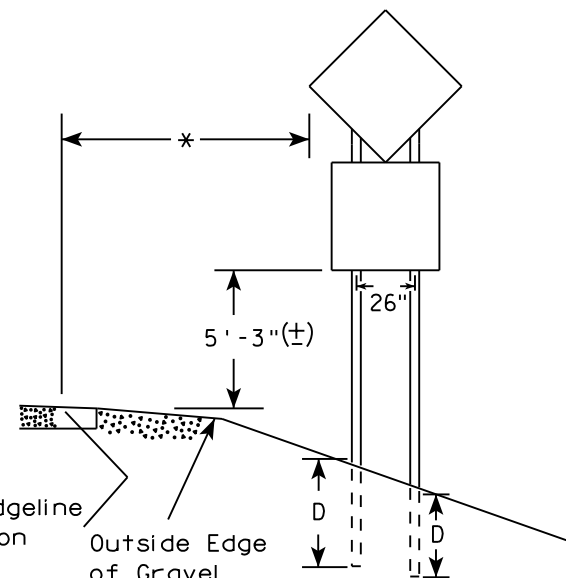
RURAL AREA (See Note 3)



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



48" DIAMOND WARNING SIGN



48" DIAMOND WARNING SIGN

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

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

*** See A4-3 sign plate for signs 4' or less in width and less than 20 S.F. in area.

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

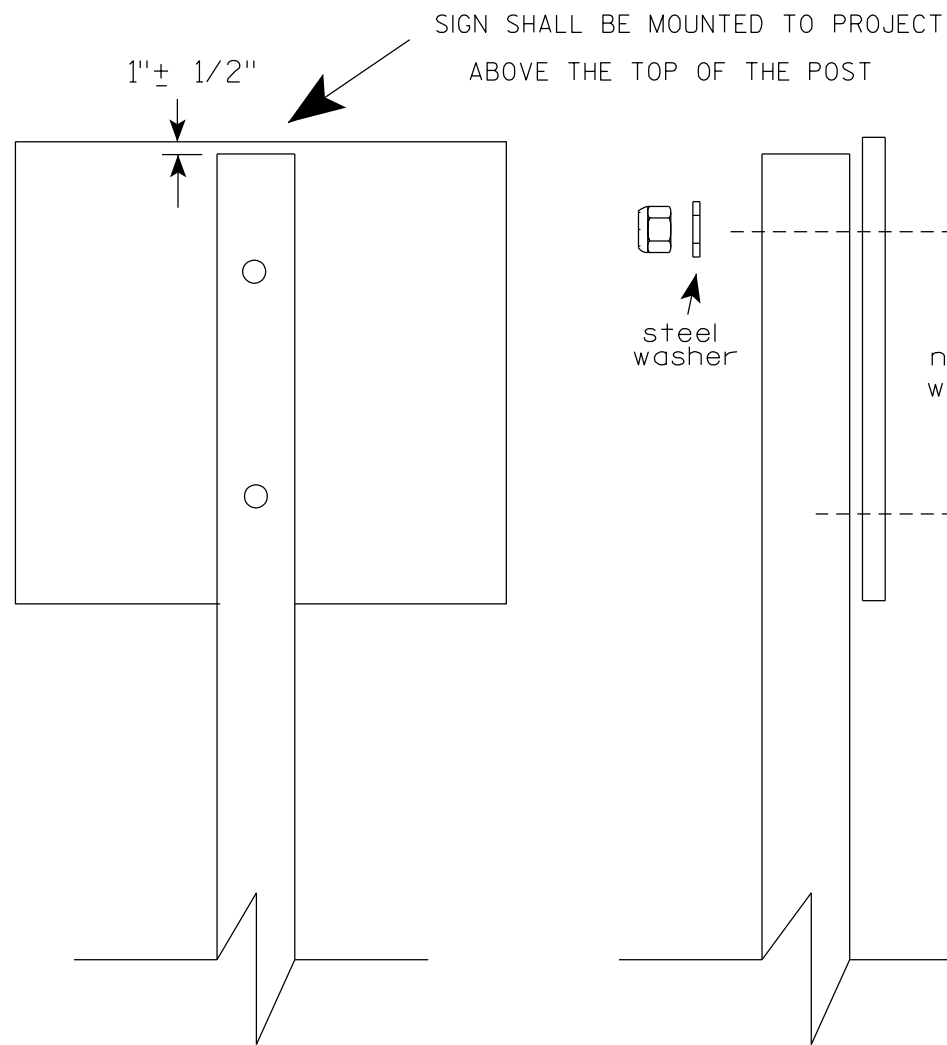
SIGN SHAPE OTHER THAN DIAMOND (THREE POSTS REQUIRED)	
L	E
Greater than 108" to 144"	12"

POST EMBEDMENT DEPTH

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

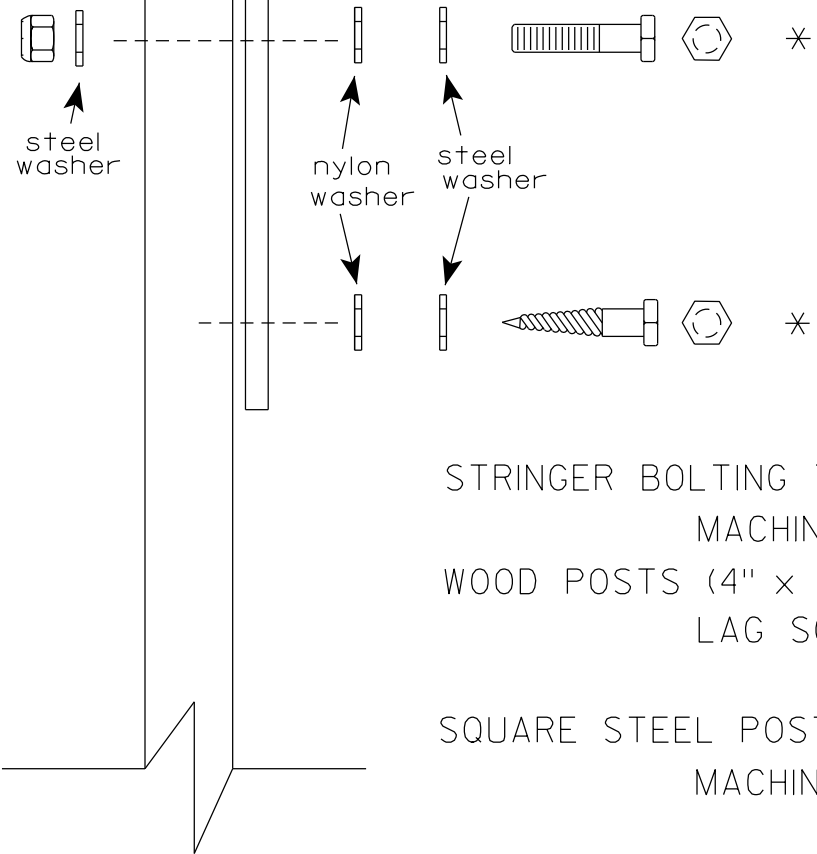
TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

WISCONSIN DEPT OF TRANSPORTATION
 APPROVED *Matthew R. Rauch*
 For State Traffic Engineer
 DATE 8/21/17 PLATE NO. A4-4.15



SIGN SHALL BE MOUNTED TO PROJECT ABOVE THE TOP OF THE POST

1"± 1/2"



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

- a. Hot dip galvanized in accordance with ASTM Designation: A 153, Class D, or SC 3
- b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.

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

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

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

WOOD POSTS (4" x 6")

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

SQUARE STEEL POSTS (2" x 2")

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

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

WASHERS (ALL POSTS) -

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

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

ATTACHMENT OF SIGNS TO POSTS

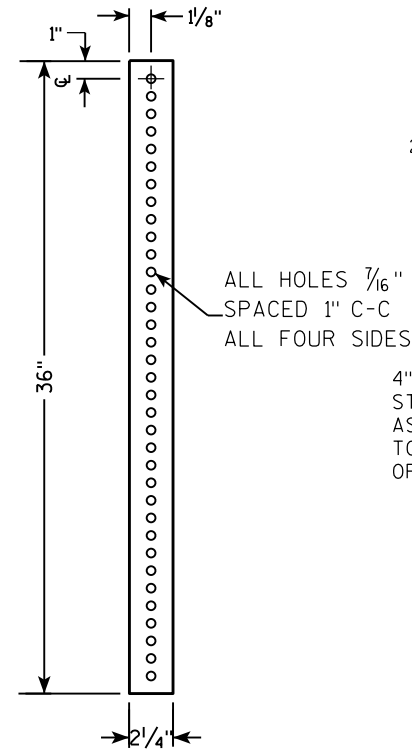
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R Rauch*
For State Traffic Engineer

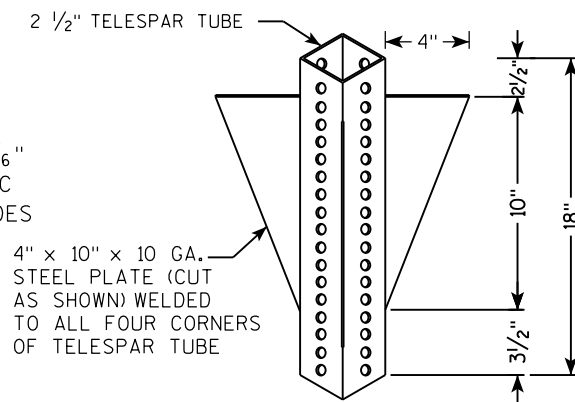
DATE 4/1/2020 PLATE NO. A4-8.9

**TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM**

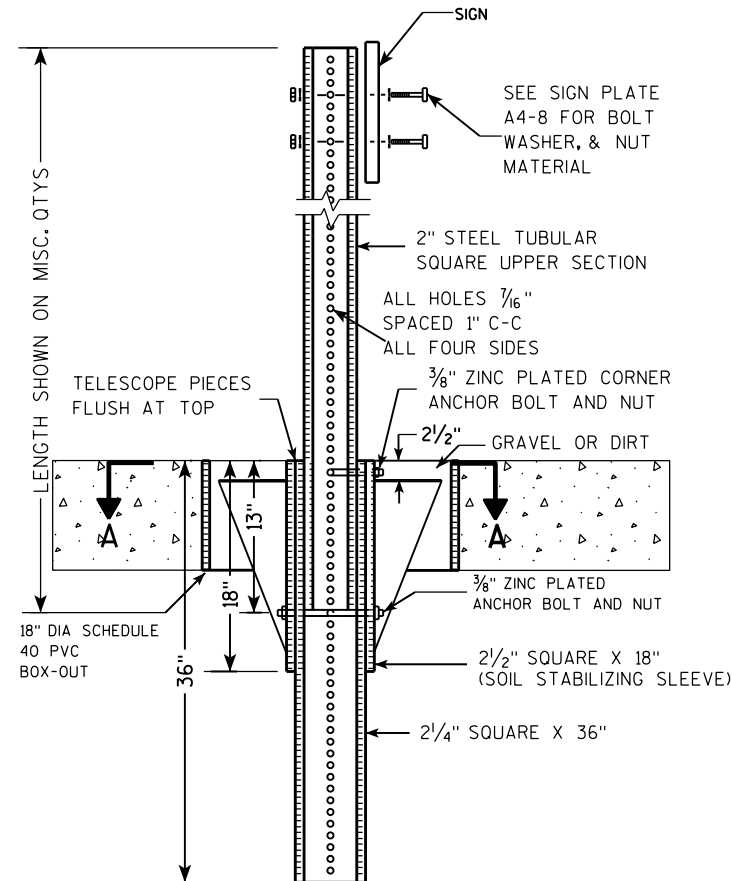
2 1/4" SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH



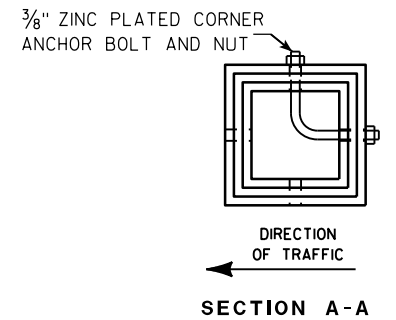
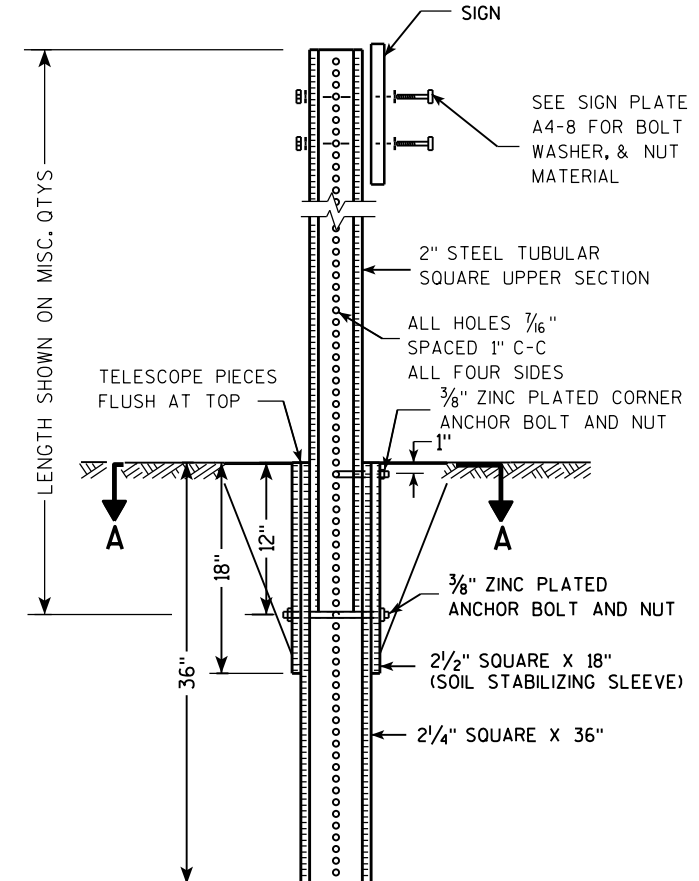
2 1/2" SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH



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



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



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

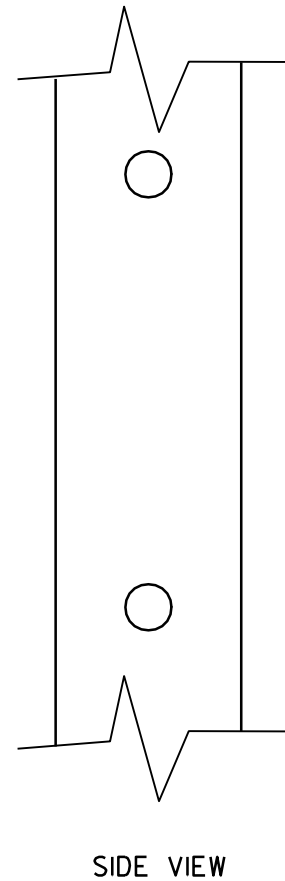
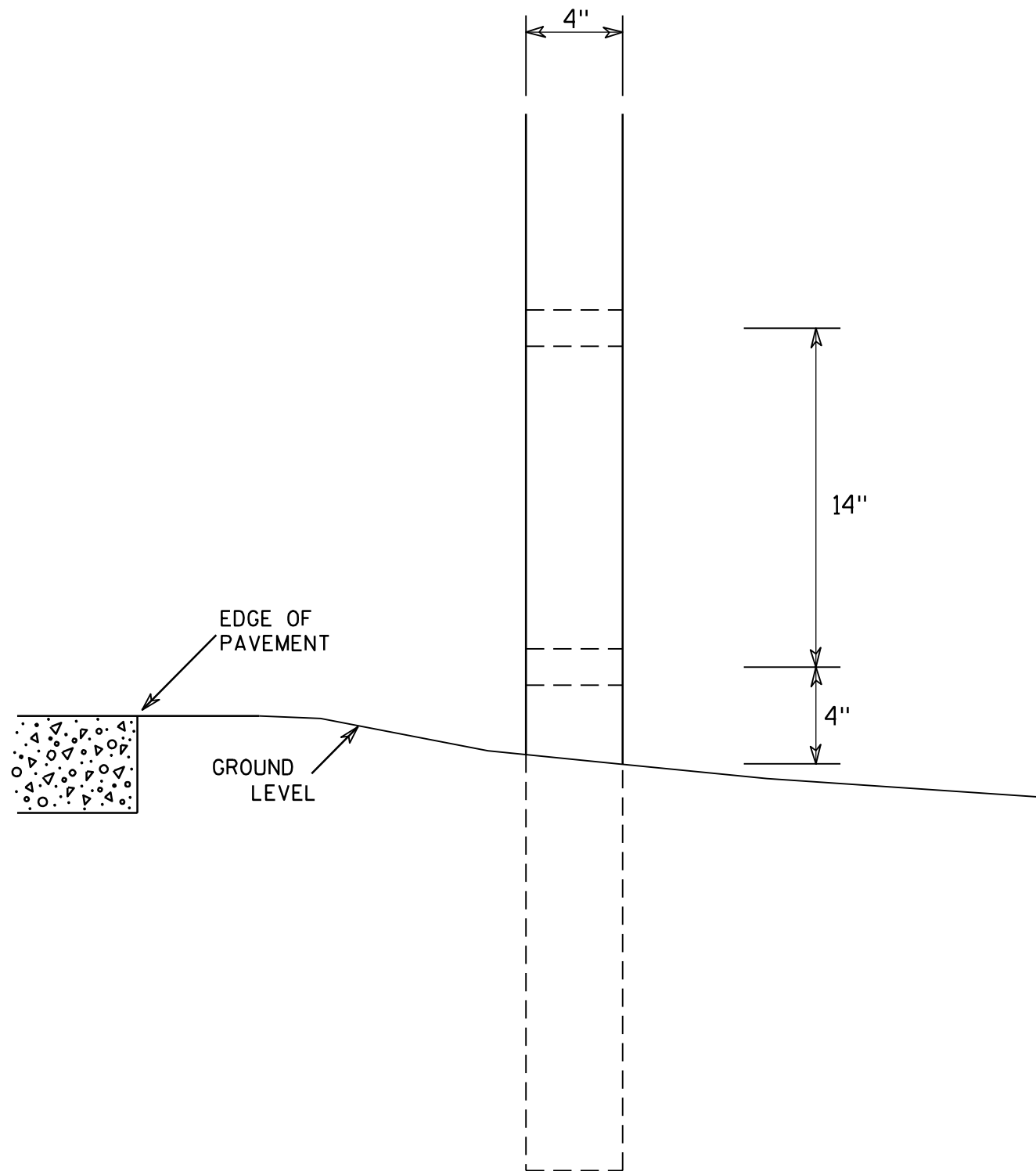
Signs wider than 3 feet or larger than 9 sq. ft shall be mounted on multiple posts (see above table).

**TUBULAR STEEL
SIGN POST
A4-9**

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 2/05/15 PLATE NO. A4-9.9




GENERAL NOTES

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

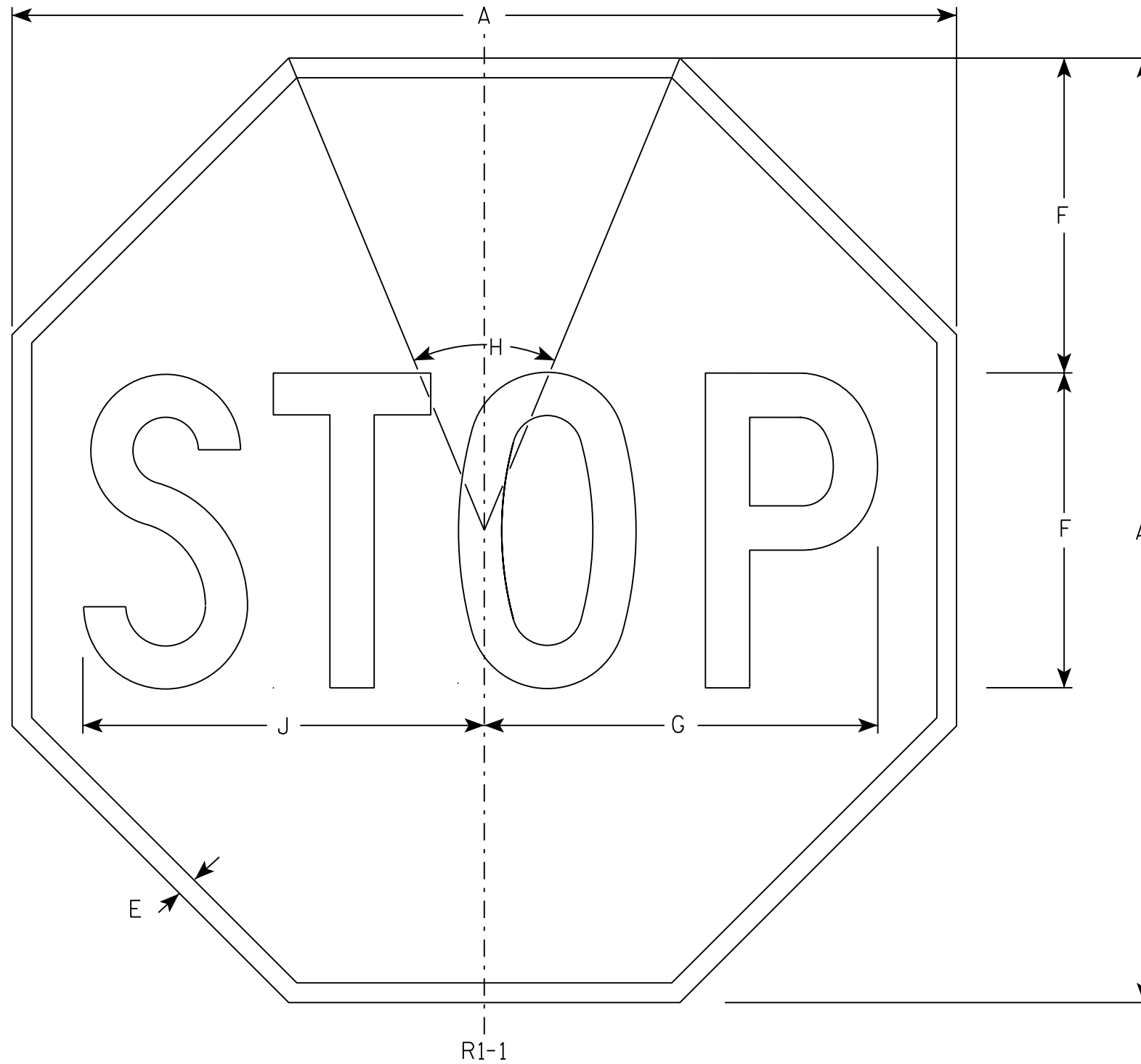
7

7

4 X 6 WOOD POST MODIFICATIONS	
<i>WISCONSIN DEPT OF TRANSPORTATION</i>	
APPROVED	 <small>for State Traffic Engineer</small>
DATE <u>3/27/97</u>	PLATE NO. <u>A4-11.2</u>

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - Red
Message - White
3. Message Series - C



R1-1

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30				5/8	10	12 1/2	45°		12 3/4																	5.18
2S	30				5/8	10	12 1/2	45°		12 3/4																	5.18
2M	36				3/4	12	15	45°		15 3/8																	7.46
3	36				3/4	12	15	45°		15 3/8																	7.46
4	48				1	16	20	45°		20 1/2																	13.25
5	48				1	16	20	45°		20 1/2																	13.25
6	18				3/8	6	7 3/4	45°		7 3/4																	1.86
7	12				1/4	4	5	45°		5 1/8																	0.78

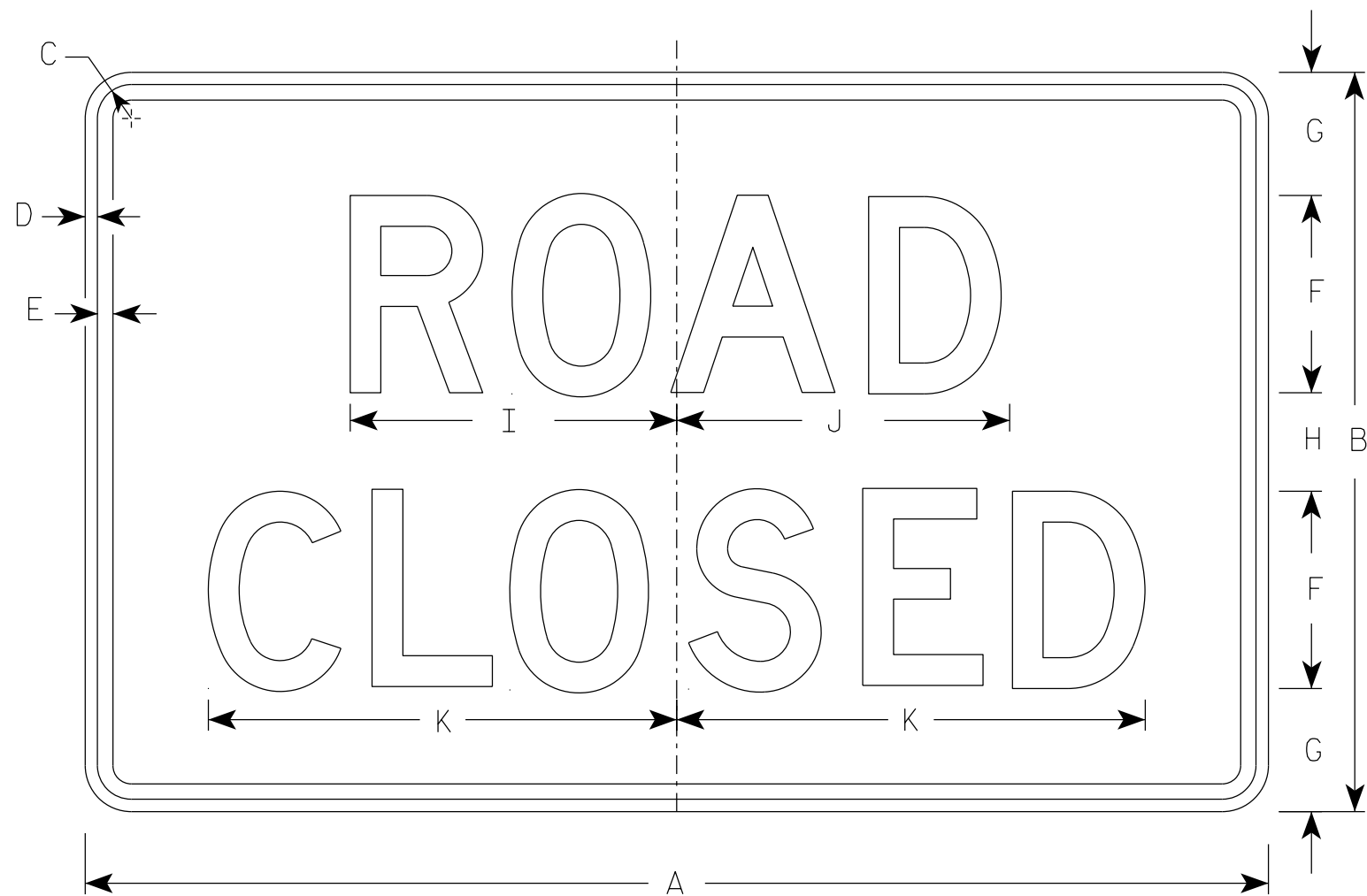
STANDARD SIGN
R1-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 11/12/15 PLATE NO. R1-1.13

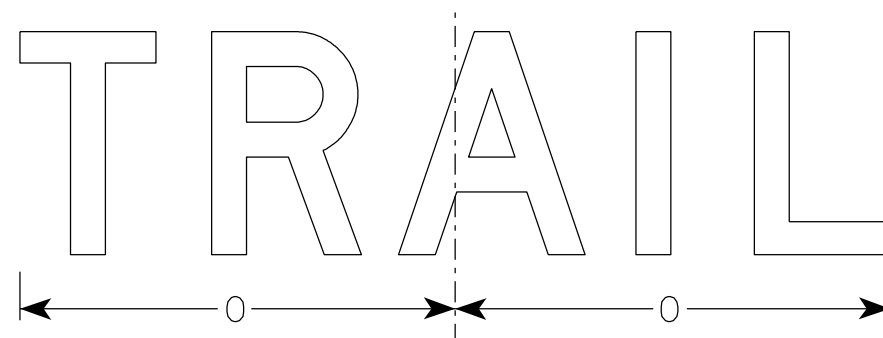
PROJECT NO: _____ HWY: _____ COUNTY: _____ SHEET NO: **E**



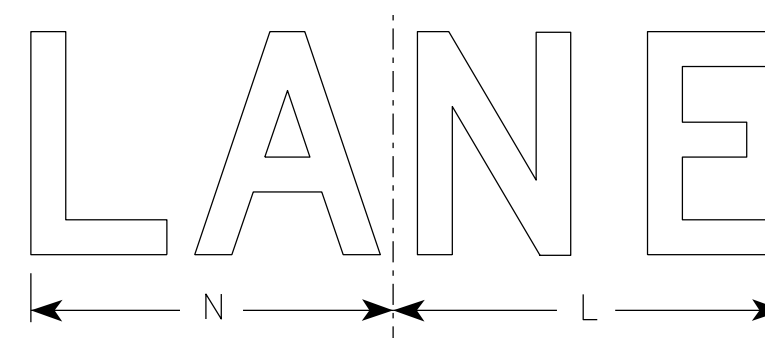
R11-2



R11-2R



R11-2T



R11-2L

NOTES

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

7

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13	15 5/8												10.0
2M	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13	15 5/8												10.0
3	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13	15 5/8												10.0
4	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13	15 5/8												10.0
5	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13	15 5/8												10.0

STANDARD SIGN
R11-2

WISCONSIN DEPT OF TRANSPORTATION

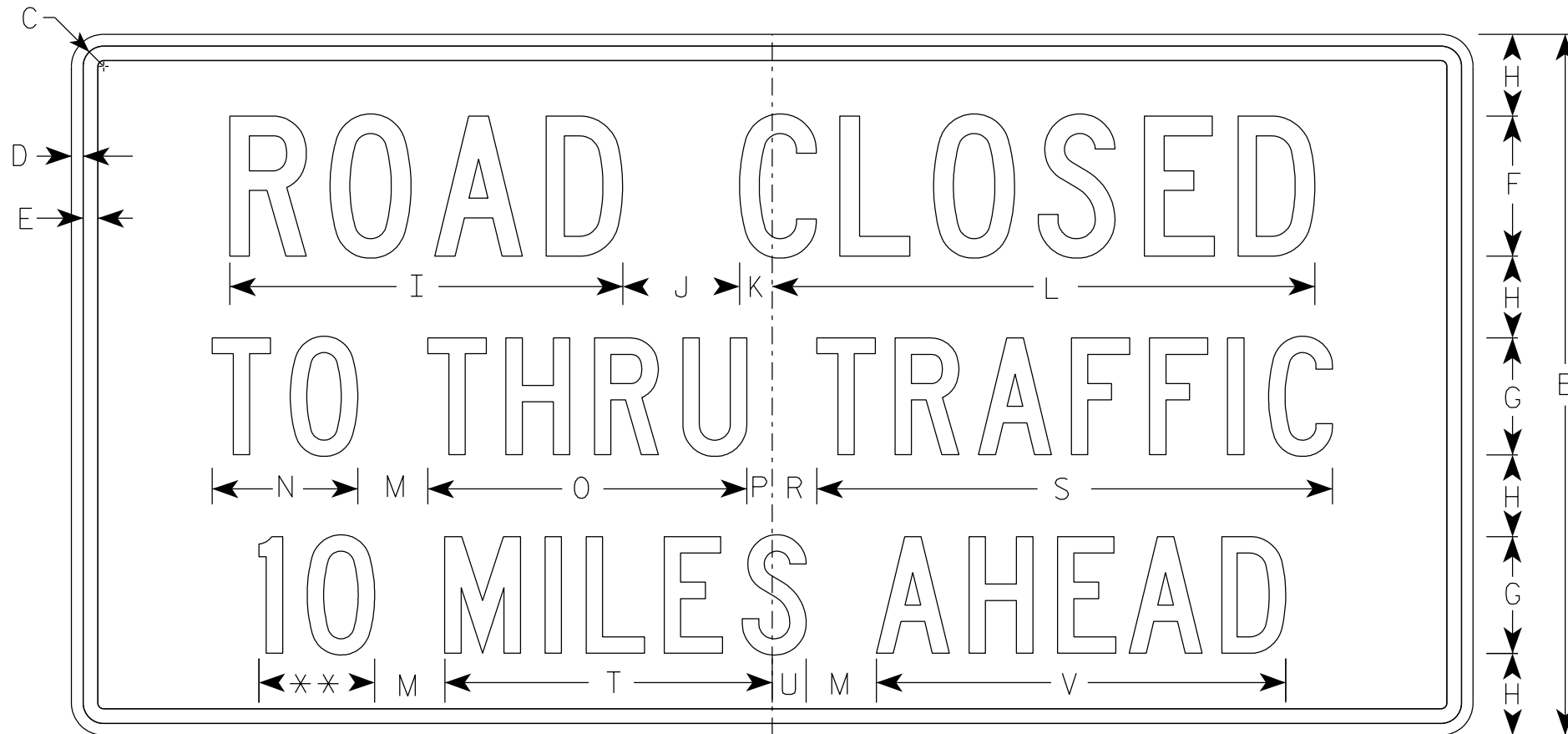
APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 3/29/2021 PLATE NO. R11-2.11

PROJECT NO: _____ HWY: _____ COUNTY: _____ SHEET NO: **E**

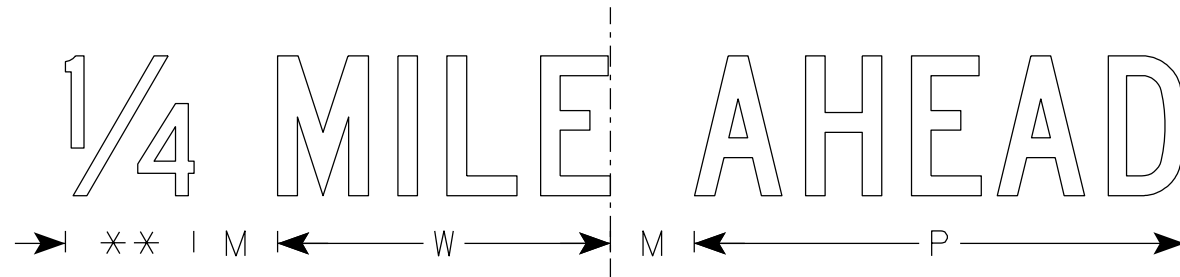
NOTES

1. Sign is Type II - Type H Reflective
2. Color:
Background - White
Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate numerals to nearest quarter mile and optically adjust spacing to achieve proper balance.



R11-3

** See Note 5



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	v	W	X	Y	Z	Area sq. ft.
1	36	18	1 1/4	3/8	3/8	4	3	2	11 1/4	3	1 1/8	15 3/8	2	3 3/4	8 1/4	5/8		1 3/8	13 1/4	8 3/8	7/8	10 1/2	7 1/8			4.5	
2S	60	30	1 3/8	1/2	5/8	6	5	3 1/2	16 7/8	5	1 3/8	23 1/4	3	6 1/4	13 5/8	1 1/8		1 7/8	22 1/8	14	1 1/2	17 1/2	11 7/8			12.5	
2M	60	30	1 3/8	1/2	5/8	6	5	3 1/2	16 7/8	5	1 3/8	23 1/4	3	6 1/4	13 5/8	1 1/8		1 7/8	22 1/8	14	1 1/2	17 1/2	11 7/8			12.5	
3																											
4																											
5																											

STANDARD SIGN
R11-3

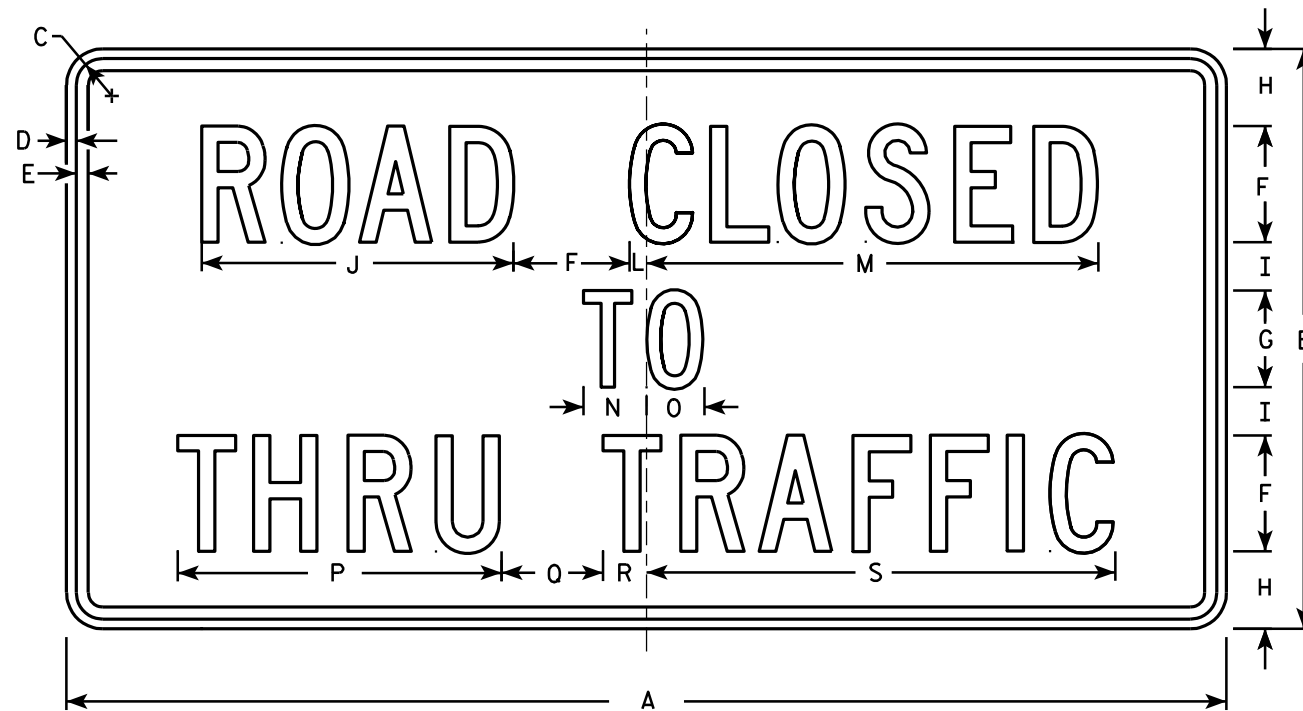
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 6/14/2021 PLATE NO. R11-3.9

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - White
Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.



R11-4

7

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	60	30	1 3/8	1/2	5/8	6	5	4	2 1/2	16 1/8		7/8	23 3/8	3 1/4	3	16 3/4	5 1/4	2 1/4	24 1/4								12.5
2M	60	30	1 3/8	1/2	5/8	6	5	4	2 1/2	16 1/8		7/8	23 3/8	3 1/4	3	16 3/4	5 1/4	2 1/4	24 1/4								12.5
3																											
4																											
5																											

STANDARD SIGN
R11 - 4

WISCONSIN DEPT OF TRANSPORTATION

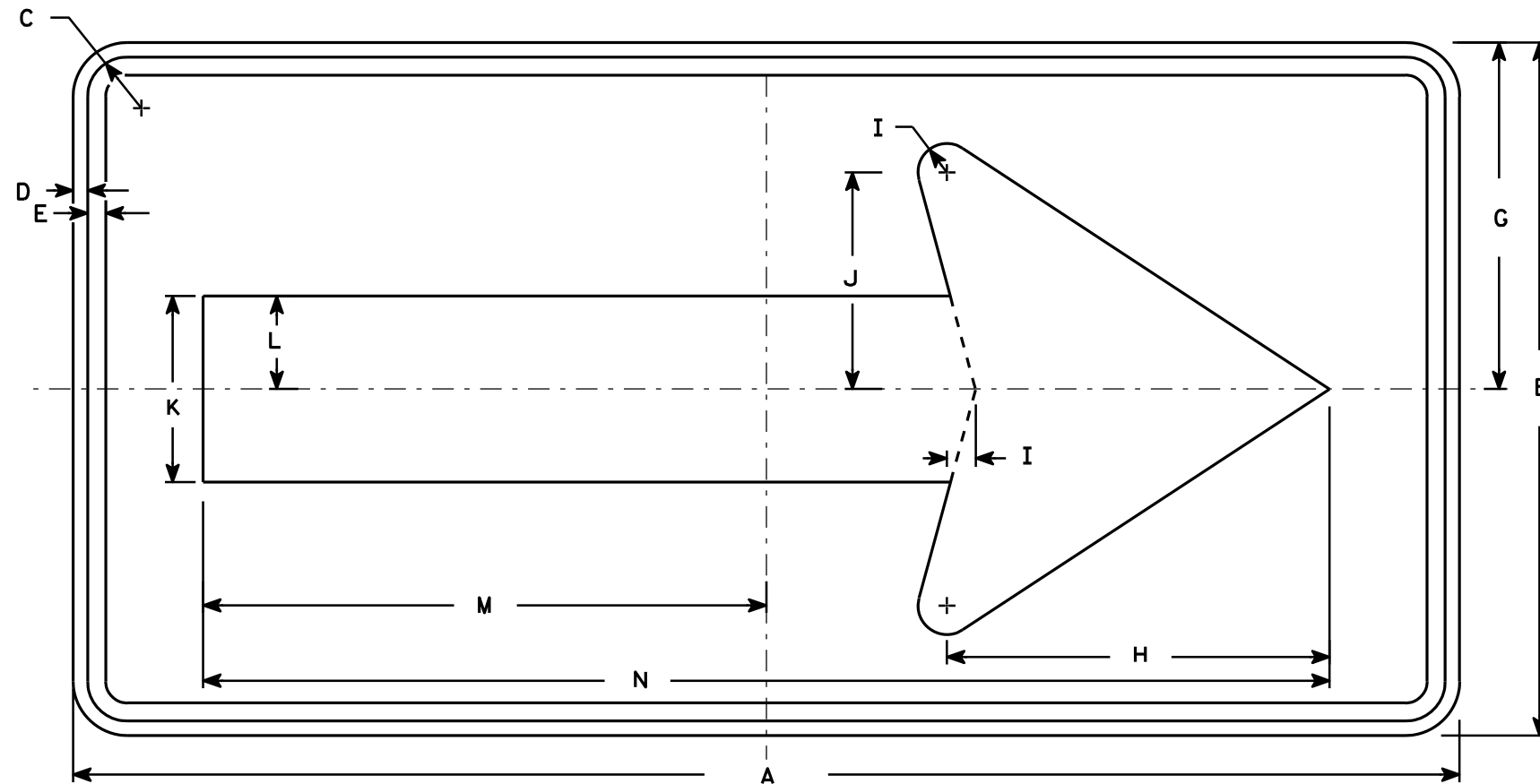
APPROVED *Matthew R. Raush*
for State Traffic Engineer

DATE 4/1/11 PLATE NO. R11-4.3

PROJECT NO: _____ HWY: _____ COUNTY: _____ SHEET NO: _____ E

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - Yellow
Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.



W1-6

7

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36	18	1 1/8	3/8	3/8		9	10	3/4	5 5/8	4 3/4	2 3/8	14 5/8	29 1/4													4.5
2S	48	24	1 3/8	1/2	5/8		12	13 1/4	1	7 1/2	6 1/2	3 1/4	19 1/2	39													8.0
2M	48	24	1 3/8	1/2	5/8		12	13 1/4	1	7 1/2	6 1/2	3 1/4	19 1/2	39													8.0
3	60	30	1 3/8	1/2	5/8		15	16 1/4	1 1/4	9 1/4	8	4	24 3/8	48 3/4													12.5
4	60	30	1 3/8	1/2	5/8		15	16 1/4	1 1/4	9 1/4	8	4	24 3/8	48 3/4													12.5
5	96	48	2 1/4	3/4	1		24	26 1/2	2	15	13	6 1/2	39	78													32.0

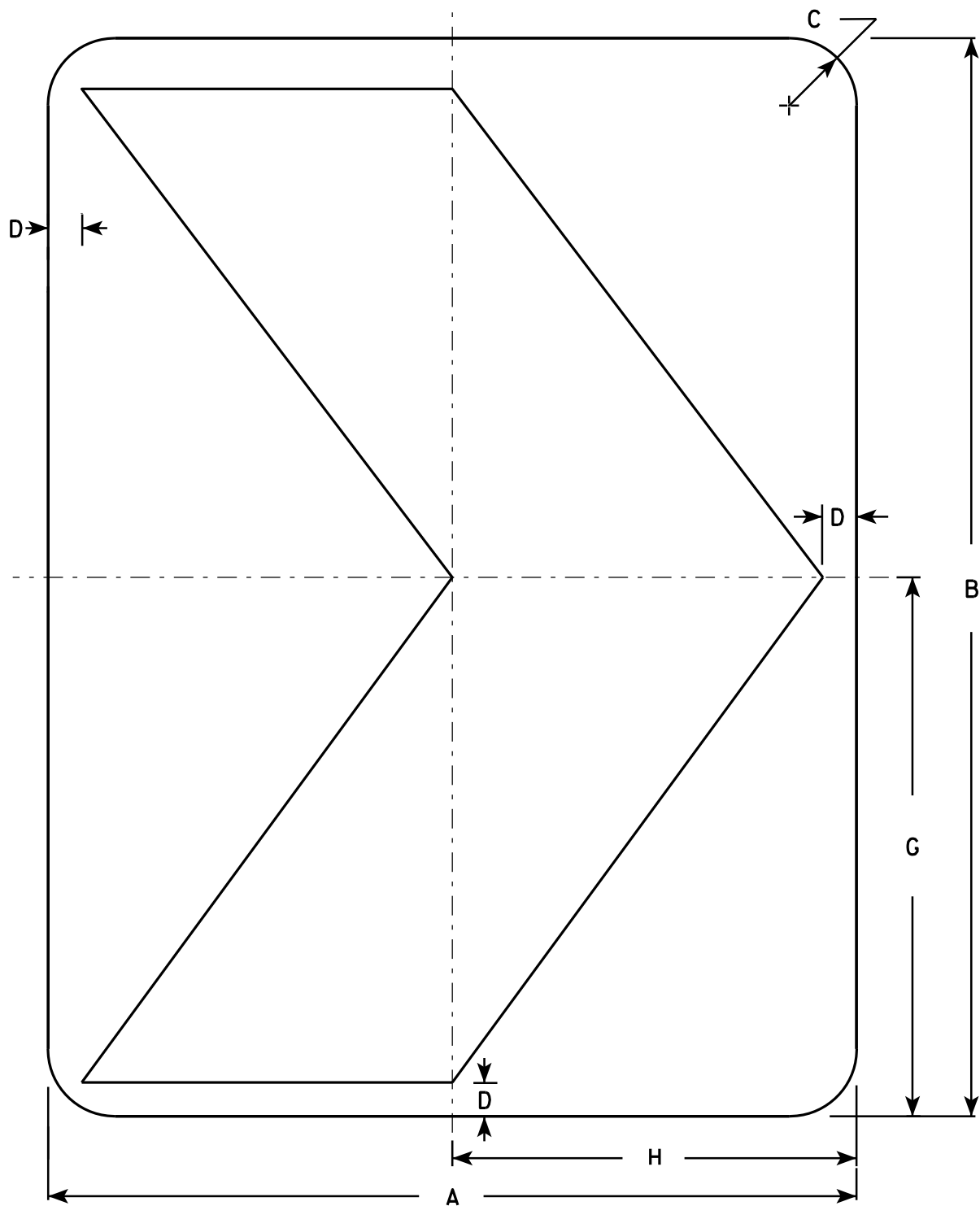
STANDARD SIGN
W1-6

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 6/7/10 PLATE NO. W1-6.8

PROJECT NO: _____ HWY: _____ COUNTY: _____ SHEET NO: _____



NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - Yellow
Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

7

7

W1-8

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	12	18	1 1/2	1/2			9	6																			1.5
2S	18	24	1 1/2	3/4			12	9																			3.0
2M	18	24	1 1/2	3/4			12	9																			3.0
3	24	30	1 1/2	1			15	12																			5.0
4	30	36	1 7/8	1 1/4			18	15																			7.5
5	36	48	2 1/4	1 1/2			24	18																			12.0

STANDARD SIGN
W1-8

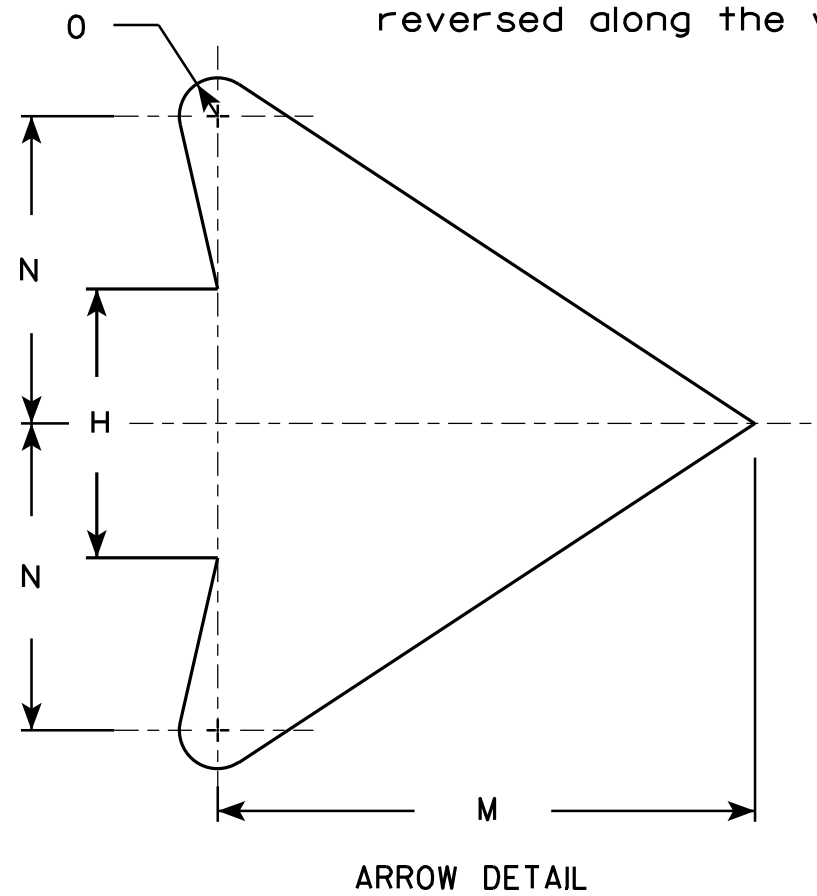
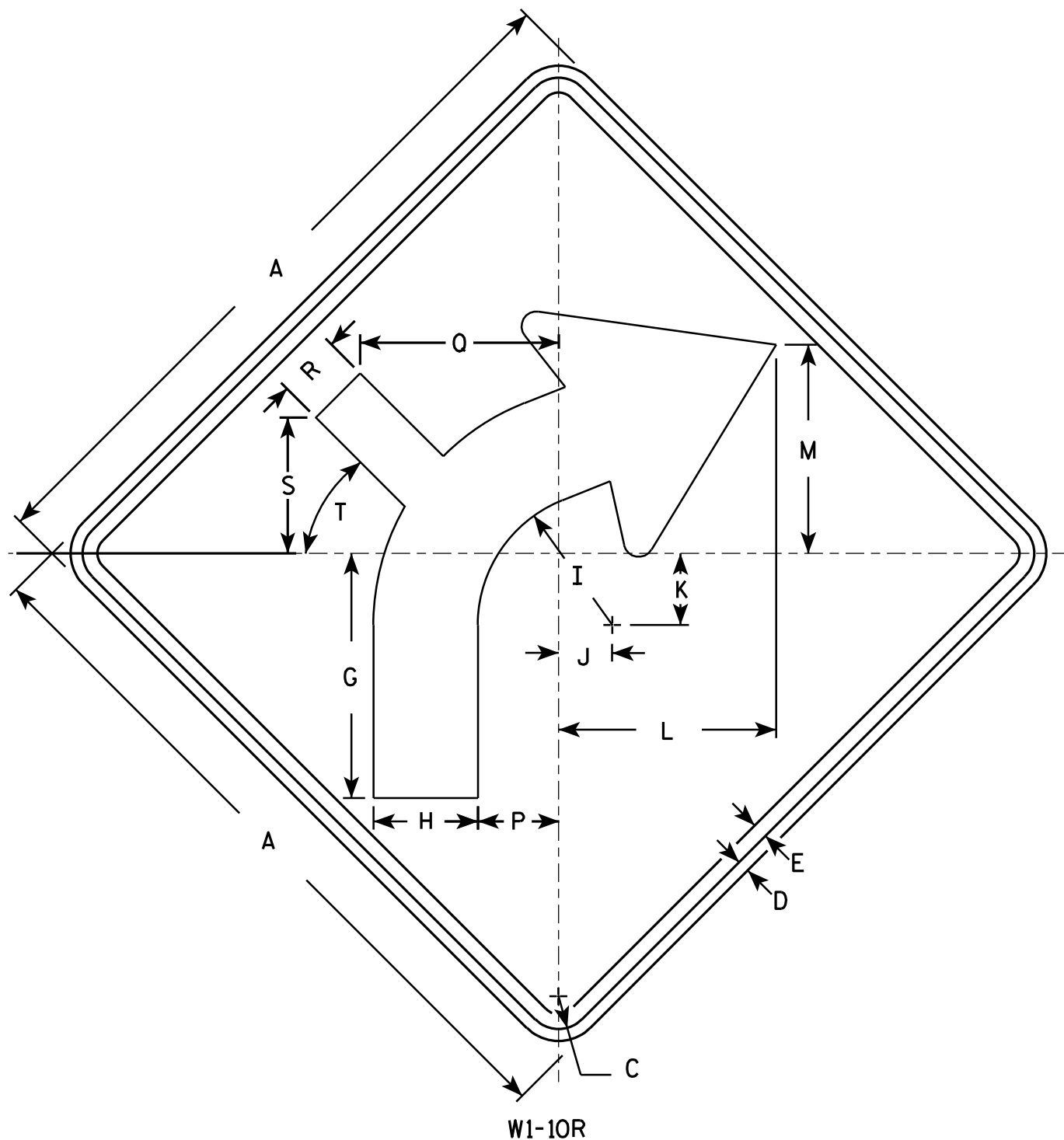
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 6/7/10 PLATE NO. W1-8.6

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - Yellow
Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. W1-10L is the same as W1-10R except the arrow is reversed along the vertical centerline.



7

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24		1 1/8	3/8	1/2		8 1/4	3 1/2	4 1/2	1 3/4	2 3/8	7 1/4	7	4	1/2	2 5/8	6 5/8	2 1/8	4 1/2	45°							4.0
2S	30		1 3/8	1/2	5/8		10 1/4	4 3/8	5 5/8	2 1/4	3	9 1/8	8 3/4	5	5/8	3 3/8	8 3/8	2 5/8	5 3/4	45°							6.25
2M	36		1 5/8	5/8	3/4		12 3/8	5 1/4	6 3/4	2 5/8	3 1/2	10 7/8	10 1/2	6	3/4	4	10	3 1/4	6 7/8	45°							9.0
3	36		1 5/8	5/8	3/4		12 3/8	5 1/4	6 3/4	2 5/8	3 1/2	10 7/8	10 1/2	6	3/4	4	10	3 1/4	6 7/8	45°							9.0
4	36		1 5/8	5/8	3/4		12 3/8	5 1/4	6 3/4	2 5/8	3 1/2	10 7/8	10 1/2	6	3/4	4	10	3 1/4	6 7/8	45°							9.0
5	48		2 1/4	3/4	1		16 1/2	7	9	3 1/2	4 5/8	14 1/2	14	8	1	5 3/8	13 1/4	4 1/4	9 1/8	45°							16.0

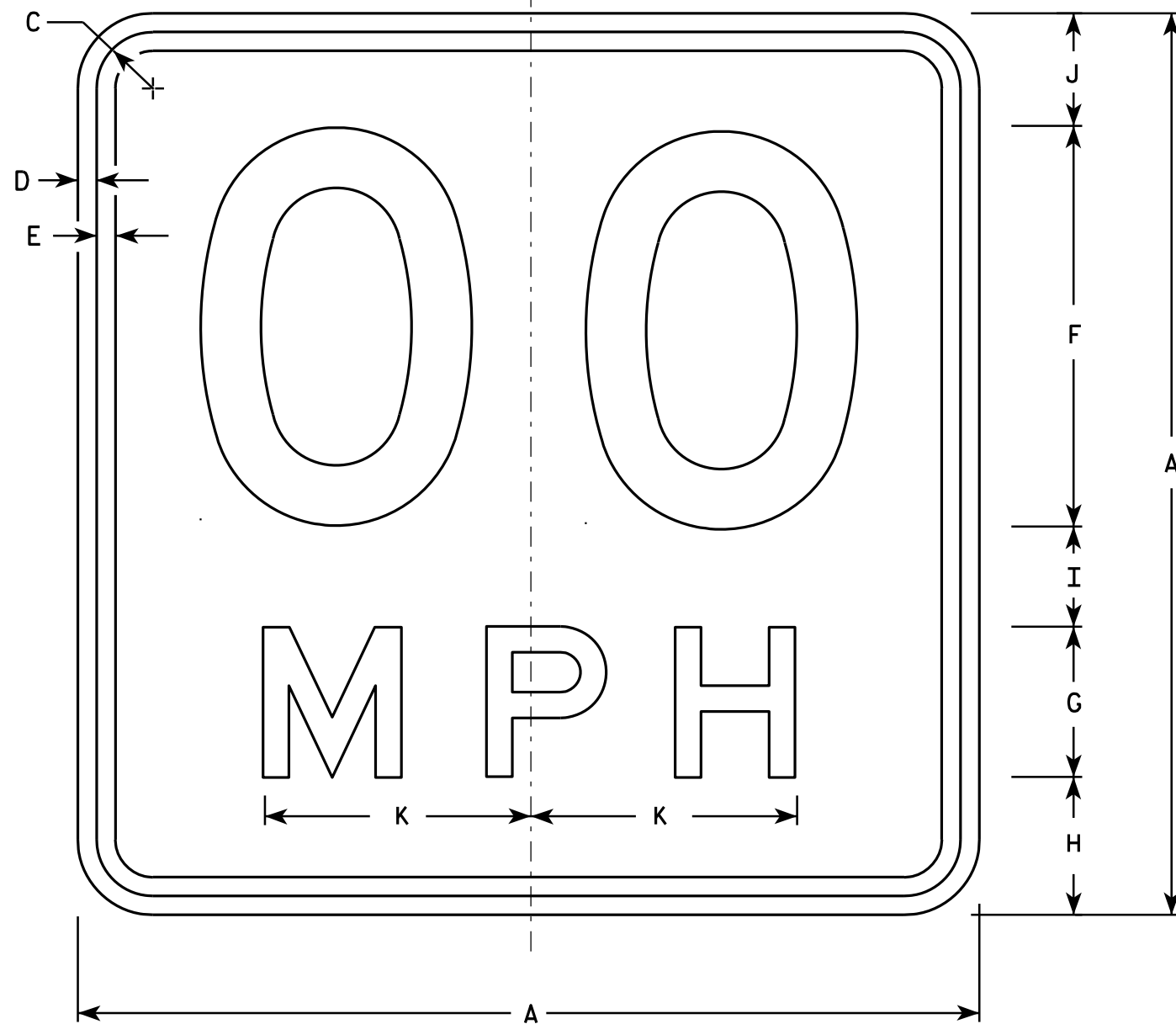
STANDARD SIGN
W1-10

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 5/17/12 PLATE NO. W1-10.3

PROJECT NO: _____ HWY: _____ COUNTY: _____ SHEET NO: _____ E



NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - Yellow
Message - Black
3. Message Series - See Note 6
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate numerals and optically space about centerline to achieve proper balance.
6. Line 1 is Series D
Line 2 is Series E

W13-1

* For 30" x 30" Warning Signs, use 18" x 18" W13-1 signs.
For 36" x 36" Warning Signs, use 24" x 24" W13-1 signs.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	18		1 1/8	3/8	3/8	8	3	2 3/4	2	2 1/4	5 3/8																2.25
* 2S	18		1 1/8	3/8	3/8	8	3	2 3/4	2	2 1/4	5 3/8																2.25
* 2M	18		1 1/8	3/8	3/8	8	3	2 3/4	2	2 1/4	5 3/8																2.25
3	24		1 1/8	3/8	1/2	10	4	4	2 3/4	3 1/4	6 5/8																4.00
4	36		1 5/8	5/8	3/4	16	6	5 1/2	4	4 1/2	10 5/8																9.00
5	36		1 5/8	5/8	3/4	16	6	5 1/2	4	4 1/2	10 5/8																9.00

STANDARD SIGN

W13-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 5/31/12 PLATE NO. W13-1.16

PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E

DIVISION 1 -- CTH O

STATION	DISTANCE	AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)			CUMULATIVE VOL (CY)		
		CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	EXPANDED FILL	MASS ORDINATE
12+15.943	0.00	6.80	0.00	0.00	0	0	0	0	0	0
12+50	34.06	20.36	0.00	0.00	17	0	0	17	0	17
13+00	50.00	57.88	0.00	0.00	72	0	0	89	0	89
13+50	50.00	98.51	0.00	0.00	145	0	0	234	0	234
14+00	50.00	128.36	0.00	0.00	210	0	0	444	0	444
14+50	50.00	95.45	0.00	1.25	207	0	1	651	1	650
15+00	50.00	83.29	0.00	0.00	165	0	1	816	3	814
15+50	50.00	26.18	0.00	105.96	101	0	98	917	125	792
16+00	50.00	16.30	0.00	56.41	39	0	150	956	313	644
16+50	50.00	20.65	0.00	42.28	34	0	91	990	426	564
17+00	50.00	15.07	0.00	40.16	33	0	76	1,023	521	502
17+50	50.00	18.83	0.00	48.25	31	0	82	1,054	624	430
18+00	50.00	14.24	0.00	50.42	31	0	91	1,085	738	348
18+50	50.00	11.76	0.00	16.65	24	0	62	1,109	815	294
19+00	50.00	9.06	0.00	4.27	19	0	19	1,128	839	289
19+50	50.00	5.68	0.00	2.75	14	0	6	1,142	846	296

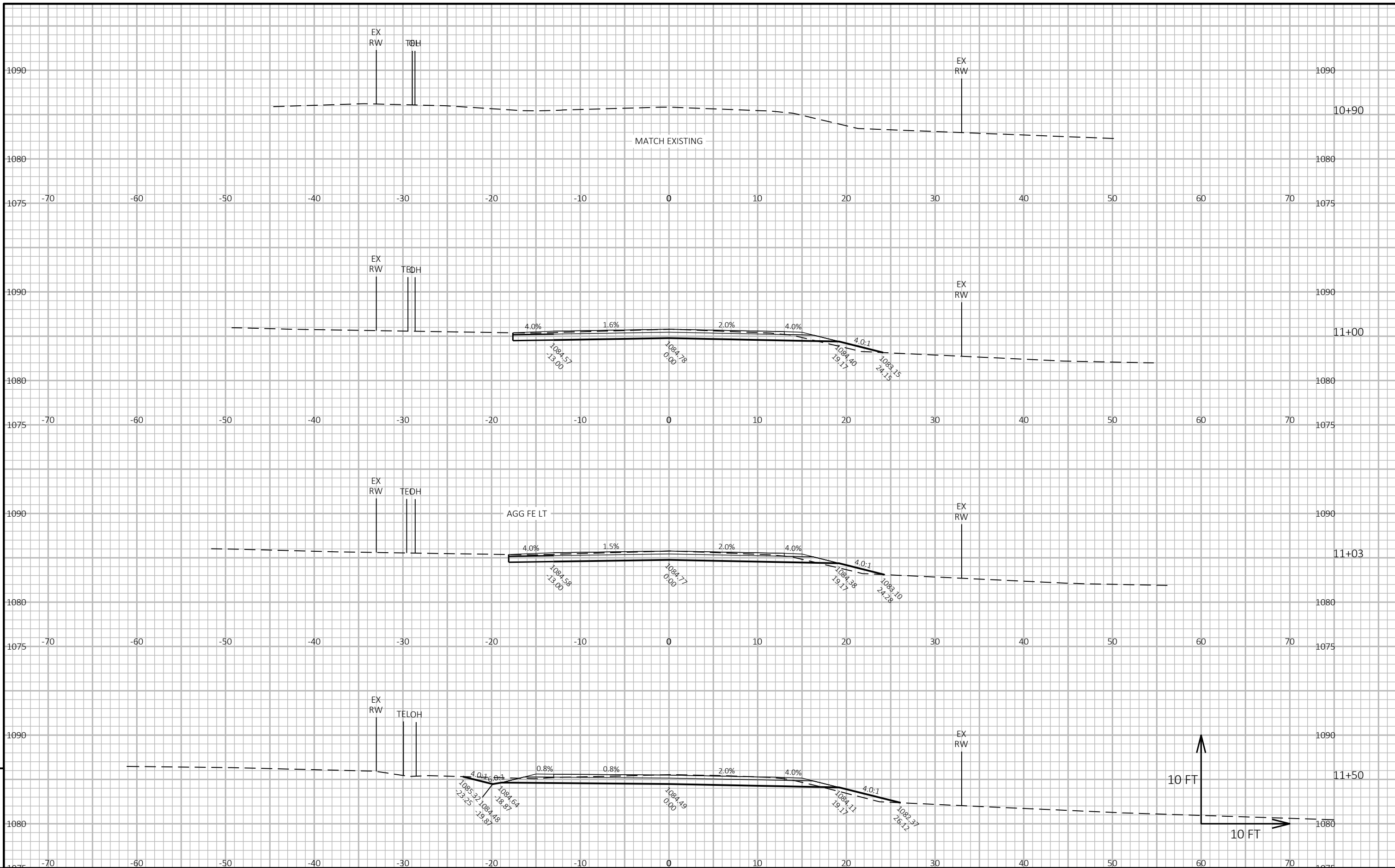
DIVISION 2 -- CTH O

STATION	DISTANCE	AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)			CUMULATIVE VOL (CY)		
		CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	EXPANDED FILL	MASS ORDINATE
10+90	0.00	25.66	7.50	2.22	0	0	0	0	0	0
11+00	10.00	27.34	7.50	2.56	10	3	1	10	1	6
11+50	50.00	30.94	7.50	3.18	54	14	5	64	8	40
12+00	50.00	37.94	7.50	2.60	64	14	5	128	14	83
12+50	50.00	63.74	7.50	0.00	94	14	2	222	16	161
13+00	50.00	71.43	7.50	0.00	125	14	0	347	16	272
13+50	50.00	67.93	7.50	0.00	129	14	0	476	16	387
14+00	50.00	35.21	7.50	0.00	96	14	0	572	16	469
WORK COMPLETED PRIOR TO CLOSURE (DIVISION 1)										
18+10	0.00	0.00	0.00	5.09	0	0	0	572	16	469
18+50	40.00	2.32	2.32	18.97	2	2	18	574	39	446
19+00	50.00	0.00	0.00	37.67	2	2	52	576	104	381
19+50	50.00	0.37	0.37	46.31	0	0	78	576	201	284
20+00	50.00	8.04	7.50	33.33	8	7	74	584	294	192
20+50	50.00	15.57	7.50	15.25	22	14	45	606	350	144
21+00	50.00	23.80	7.50	2.38	36	14	16	642	370	146
21+50	50.00	26.44	7.50	2.69	47	14	5	689	376	173
21+60	10.00	26.28	7.50	2.93	10	3	1	699	378	179

DIVISION 2 -- MCKENNA RD

STATION	DISTANCE	AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)			CUMULATIVE VOL (CY)		
		CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	EXPANDED FILL	MASS ORDINATE
50+75	0.00	17.69	6.00	0.00	0	0	0	0	0	0
51+00	25.00	16.66	6.00	0.57	16	6	0	16	0	10
51+50	50.00	11.34	6.00	1.89	26	11	2	42	3	23
52+00	50.00	43.61	6.00	0.55	51	11	2	93	5	60
52+50	50.00	49.80	6.00	1.08	86	11	2	179	8	133
53+00	50.00	39.17	6.00	0.00	82	11	1	261	9	202

Notes:	
1 - CUT	CUT INCLUDES SALVAGED/UNUSABLE PAVEMENT MATERIAL
2 - SALVAGED/UNUSABLE PAVEMENT MATERIAL	THIS DOES NOT SHOW UP IN CROSS SECTIONS
3 - FILL	DOES NOT INCLUDE UNUSABLE PAVEMENT EXC VOLUME
4 - MASS ORDINATE	(CUT + SALVAGED PAV) * (FILL * FILL FACTOR)



PROJECT NO: 7027-00-71

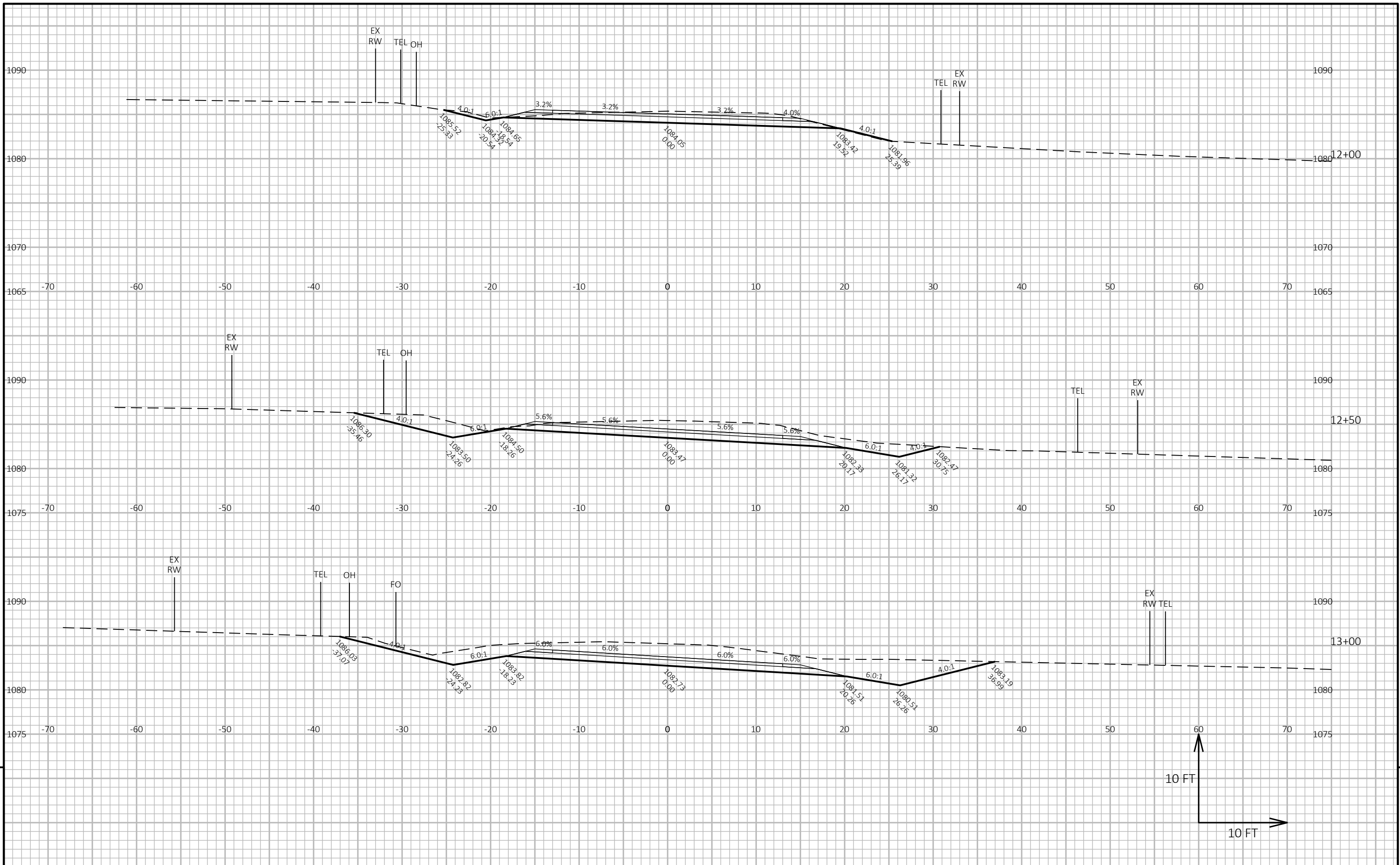
HWY: CTH O

COUNTY: JACKSON

CROSS SECTIONS: CTH O

SHEET

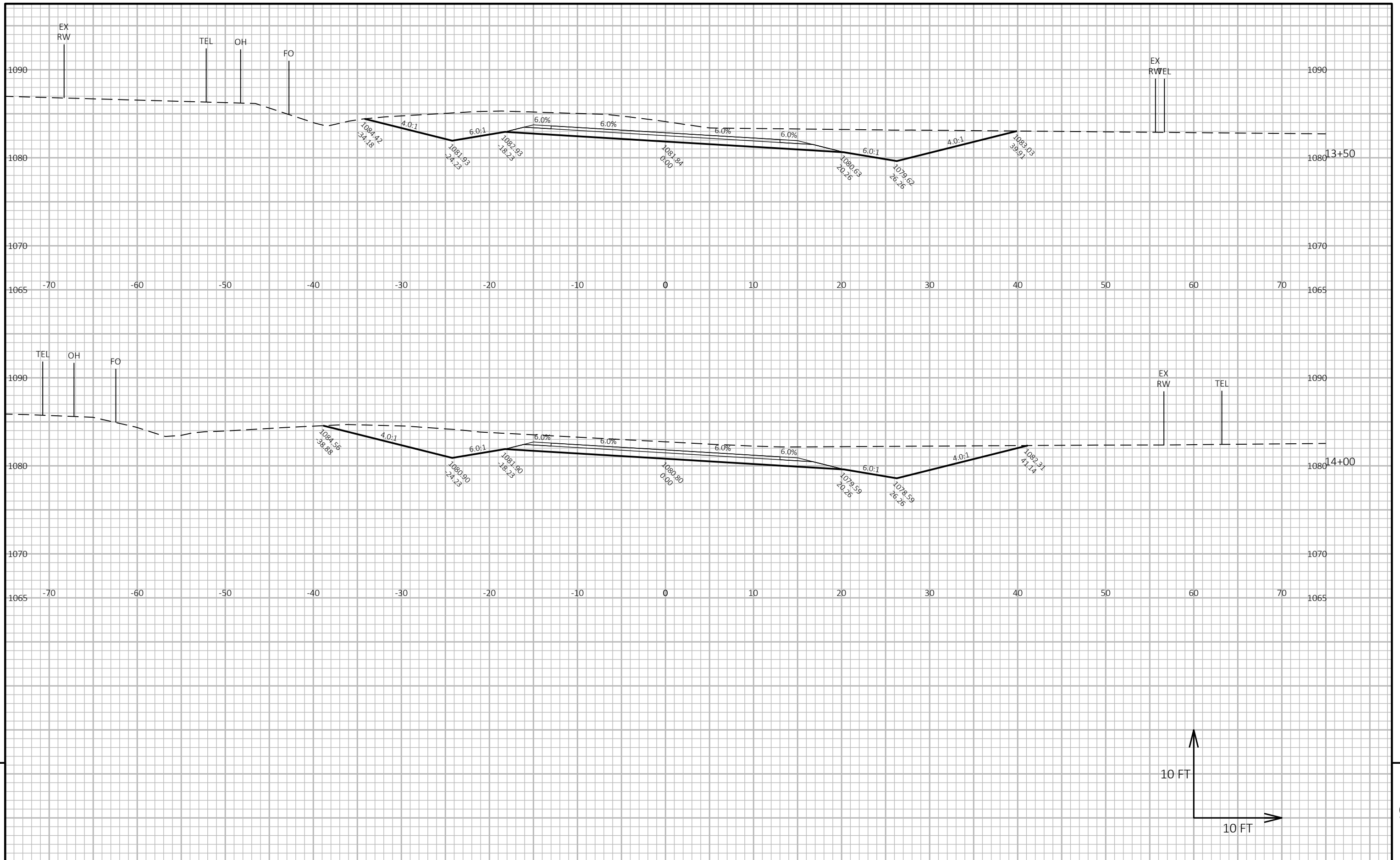
E



9

9

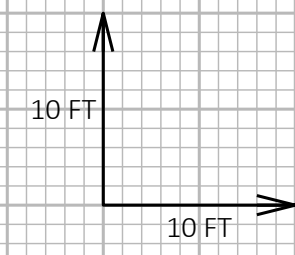
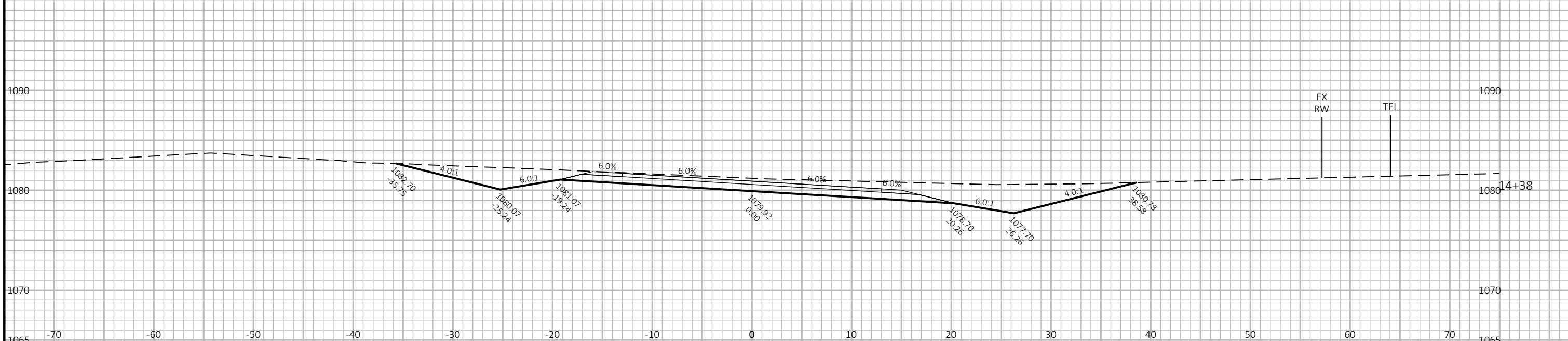
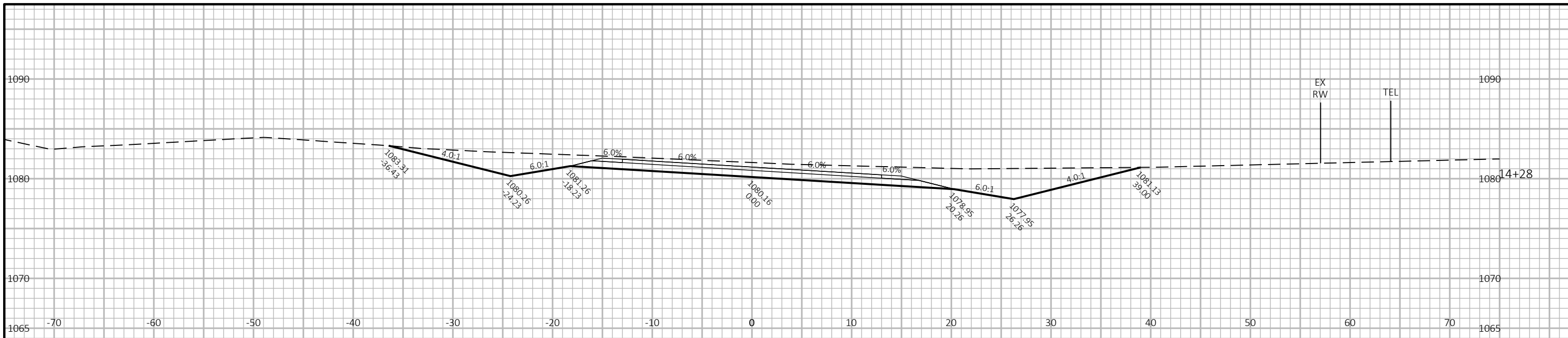
PROJECT NO: 7027-00-71	HWY: CTH O	COUNTY: JACKSON	CROSS SECTIONS: CTH O	SHEET	E
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9

9

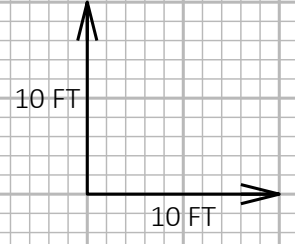
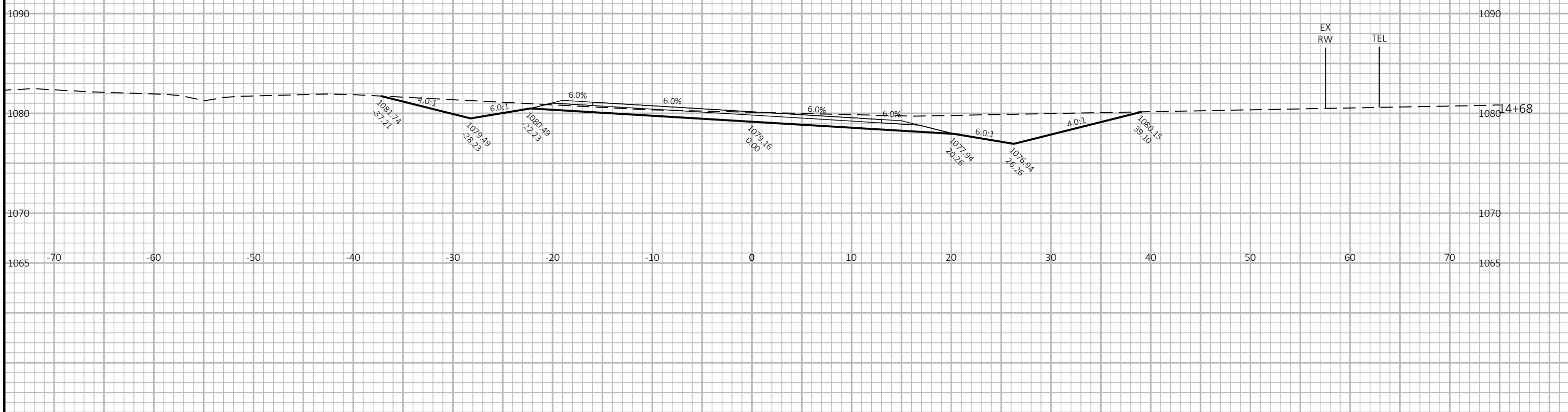
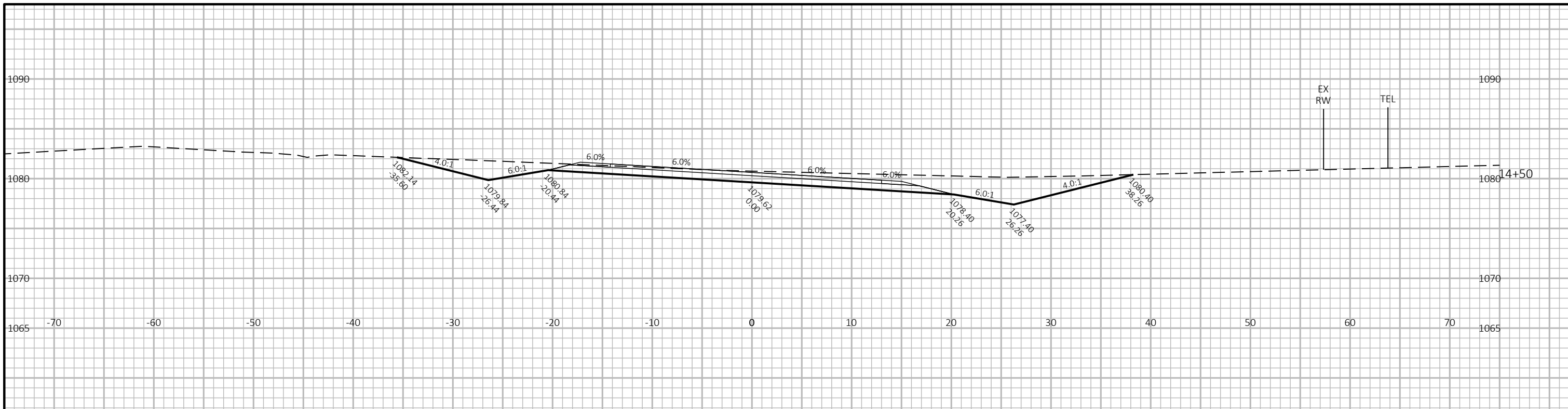
PROJECT NO: 7027-00-71	HWY: CTH O	COUNTY: JACKSON	CROSS SECTIONS: CTH O	SHEET	E
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9

9

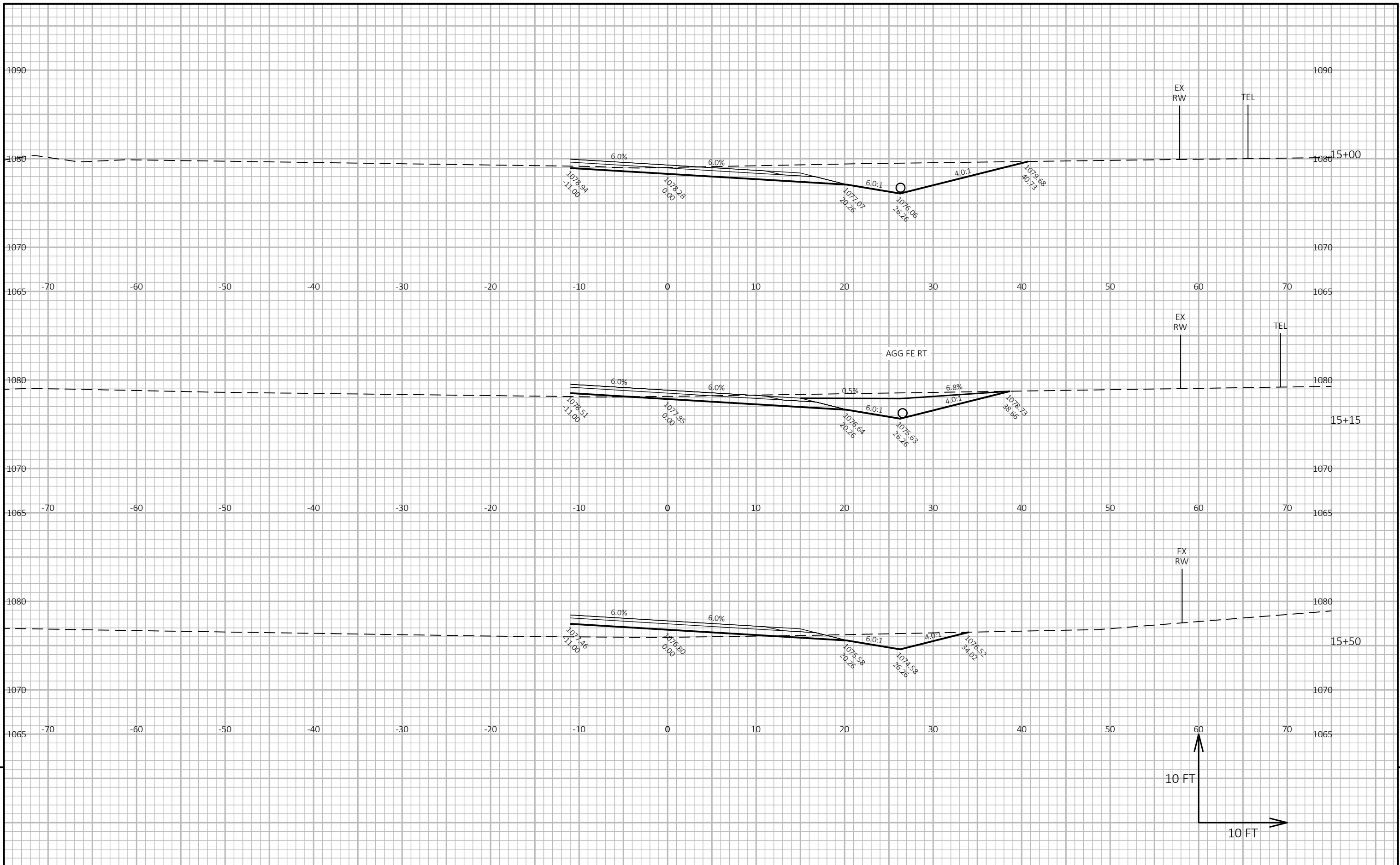
PROJECT NO: 7027-00-71	HWY: CTH O	COUNTY: JACKSON	CROSS SECTIONS: CTH O	SHEET	E
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9

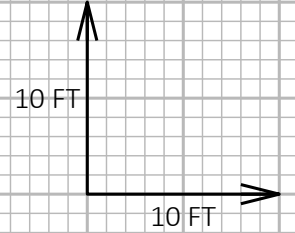
9

PROJECT NO: 7027-00-71	HWY: CTH O	COUNTY: JACKSON	CROSS SECTIONS: CTH O	SHEET	E
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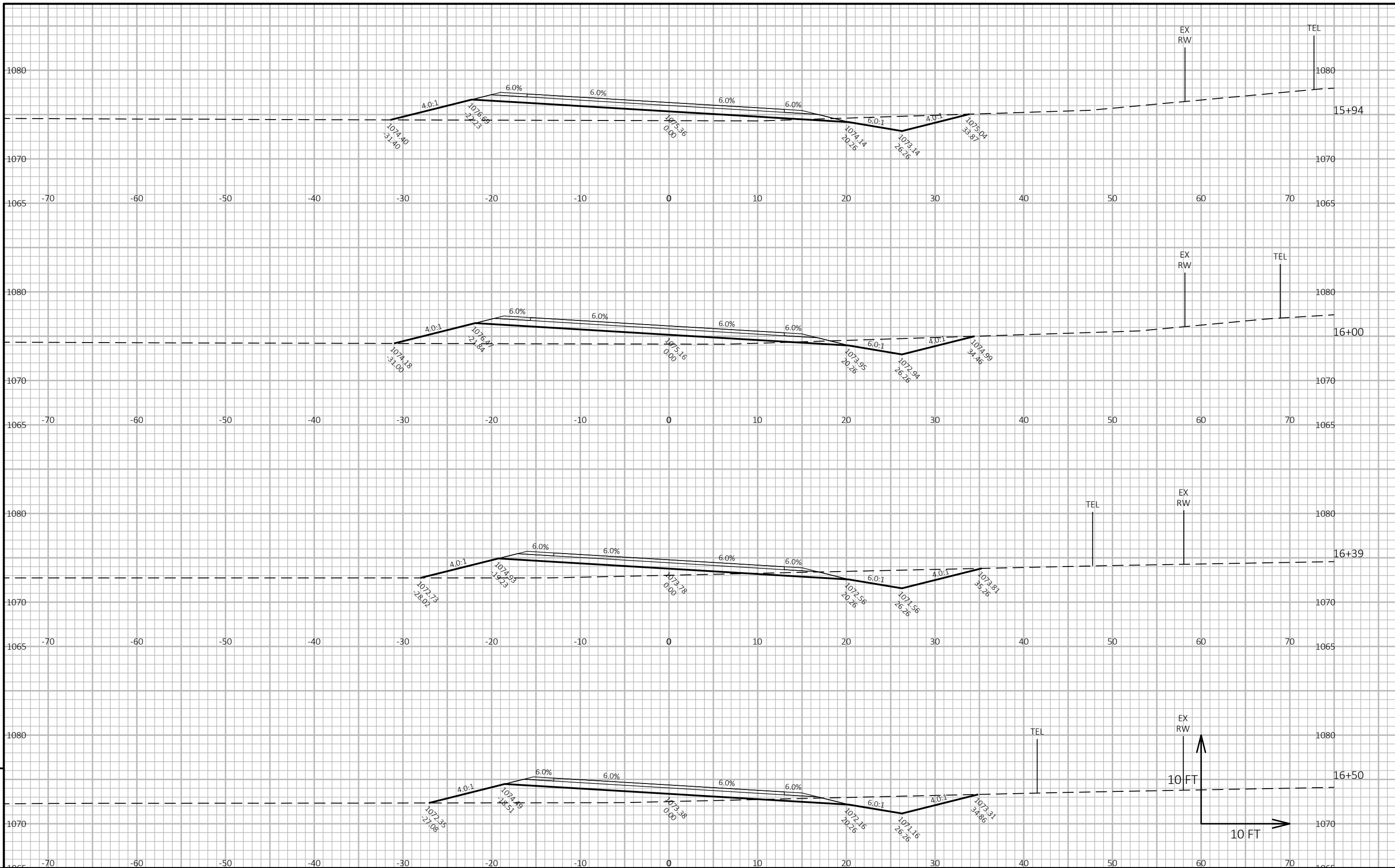


9

9



PROJECT NO: 7027-00-71	HWY: CTH O	COUNTY: JACKSON	CROSS SECTIONS: CTH O	SHEET	E
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PROJECT NO: 7027-00-71

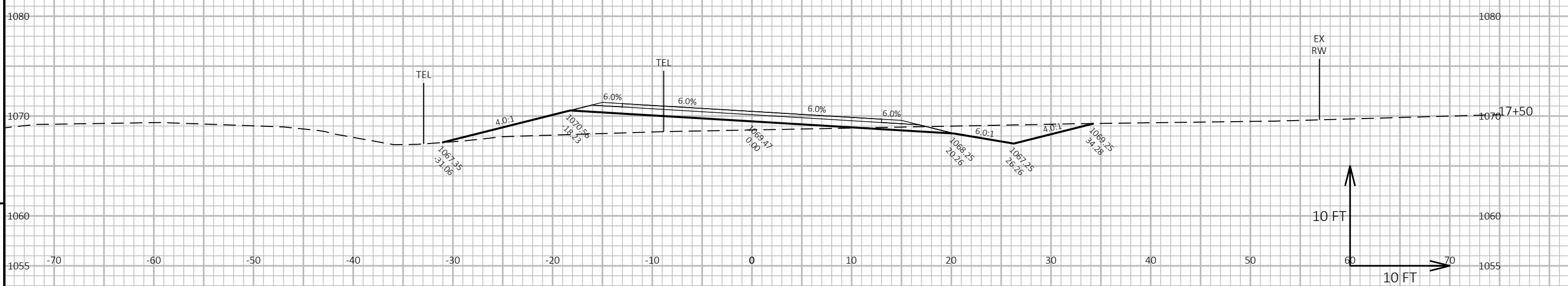
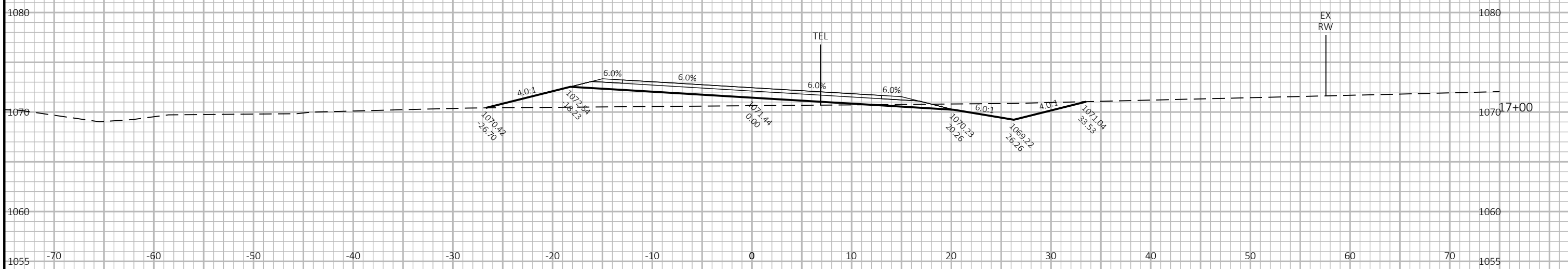
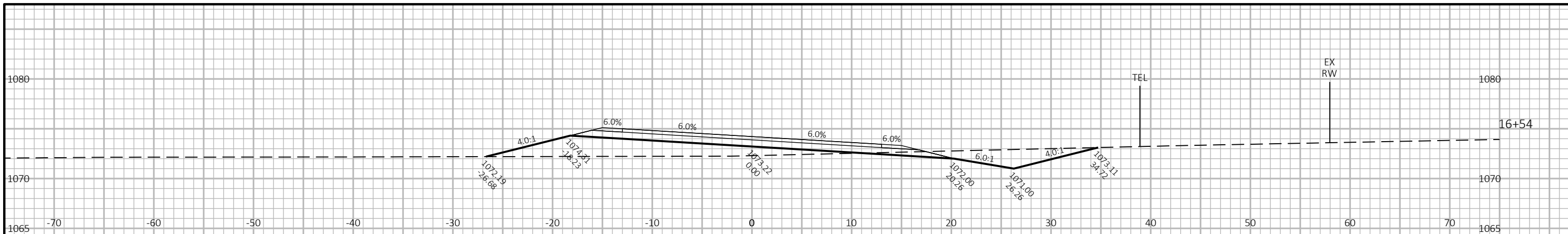
HWY: CTH O

COUNTY: JACKSON

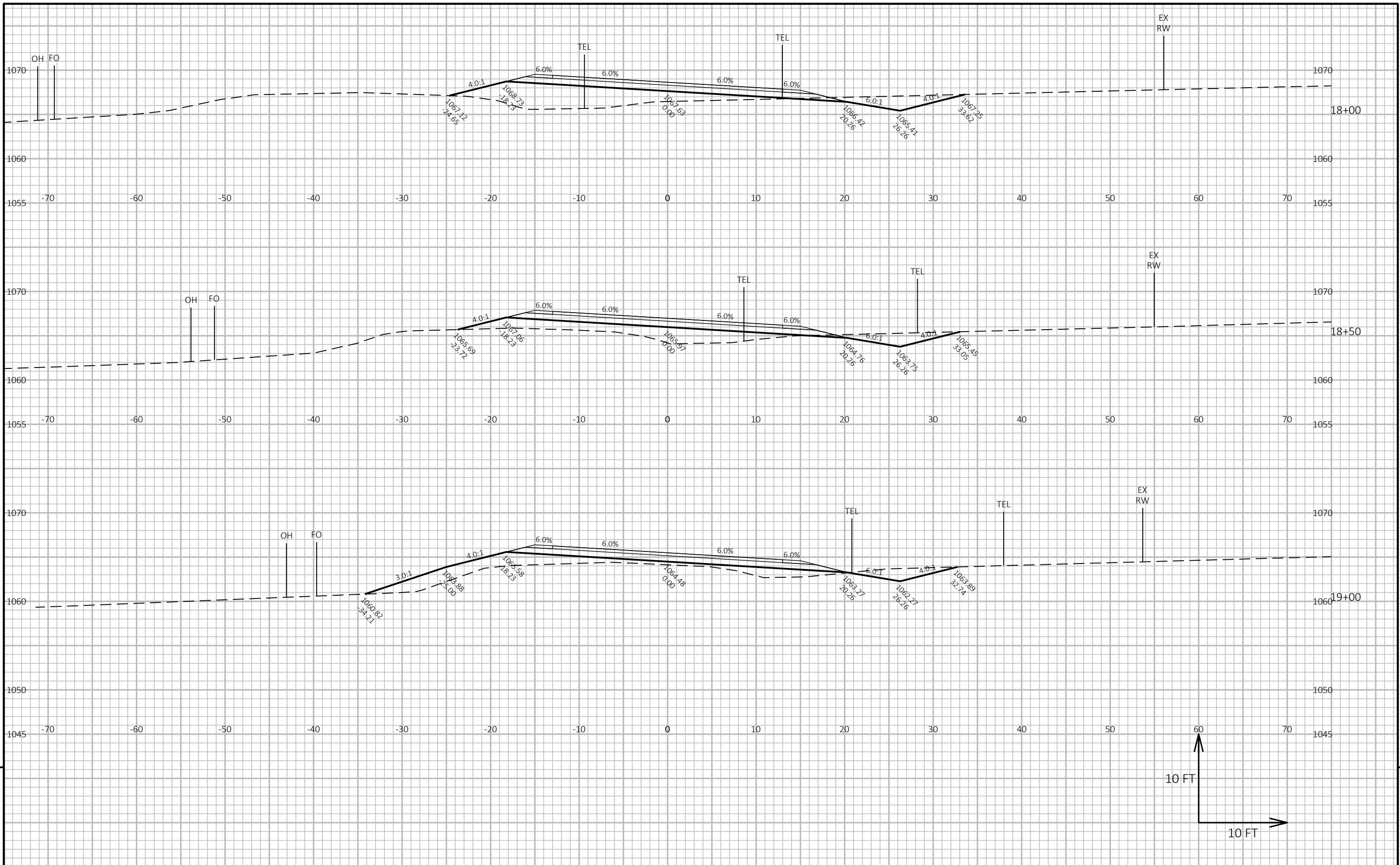
CROSS SECTIONS: CTH O

SHEET

E



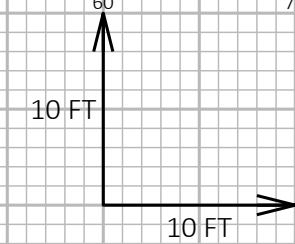
PROJECT NO: 7027-00-71 HWY: CTH O COUNTY: JACKSON CROSS SECTIONS: CTH O SHEET E

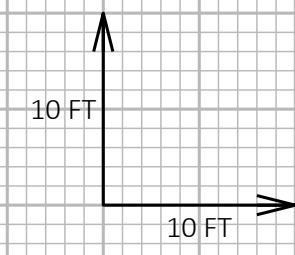
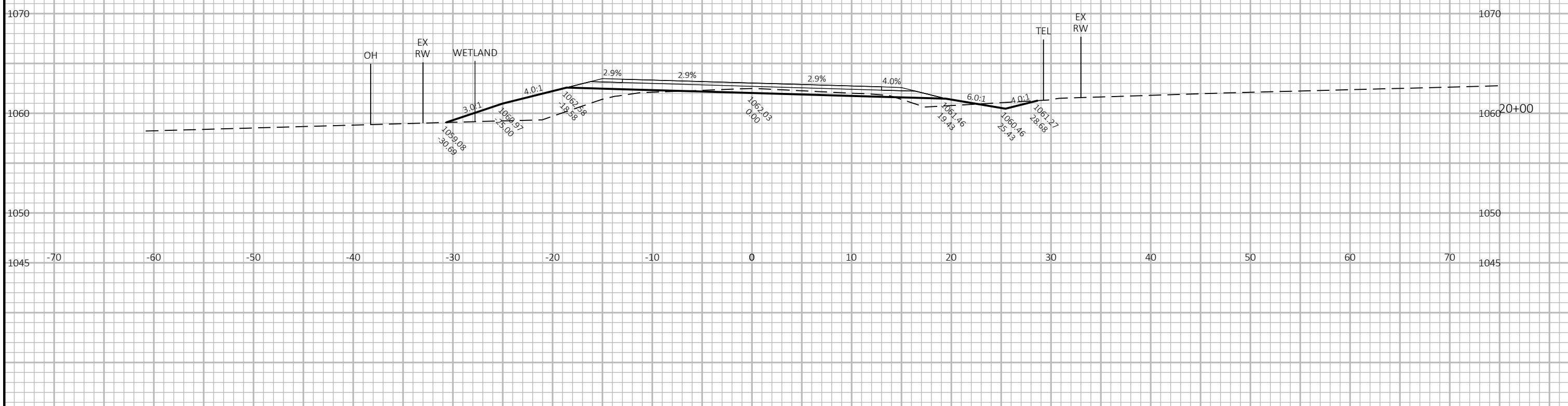
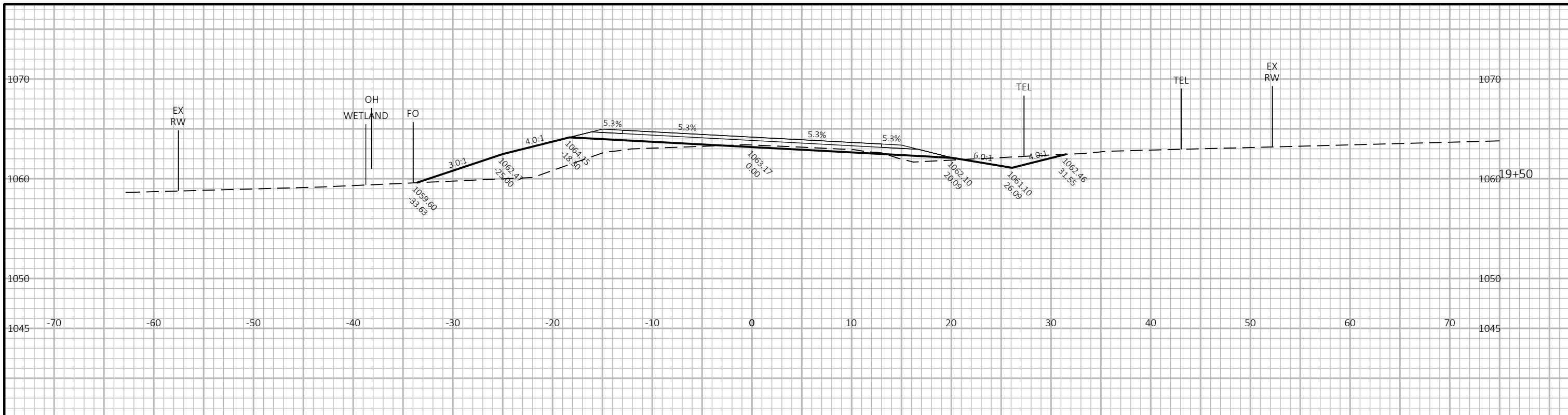


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PROJECT NO: 7027-00-71	HWY: CTH O	COUNTY: JACKSON	CROSS SECTIONS: CTH O	SHEET	E
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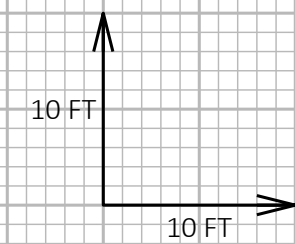
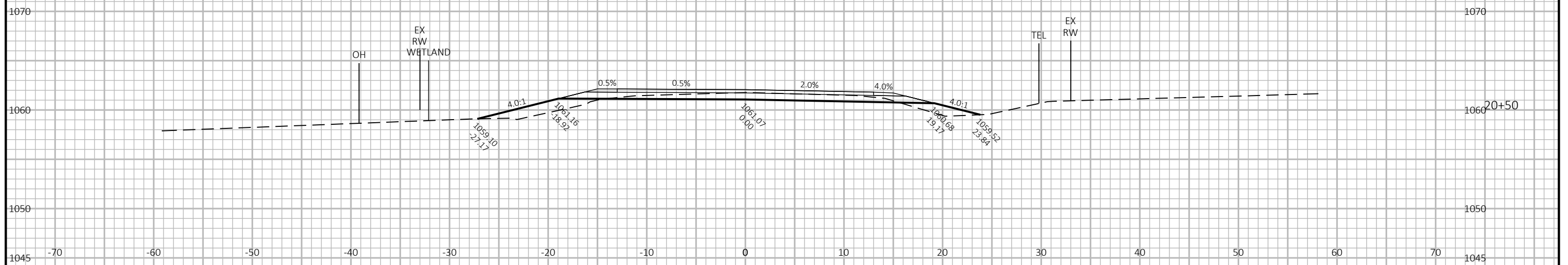
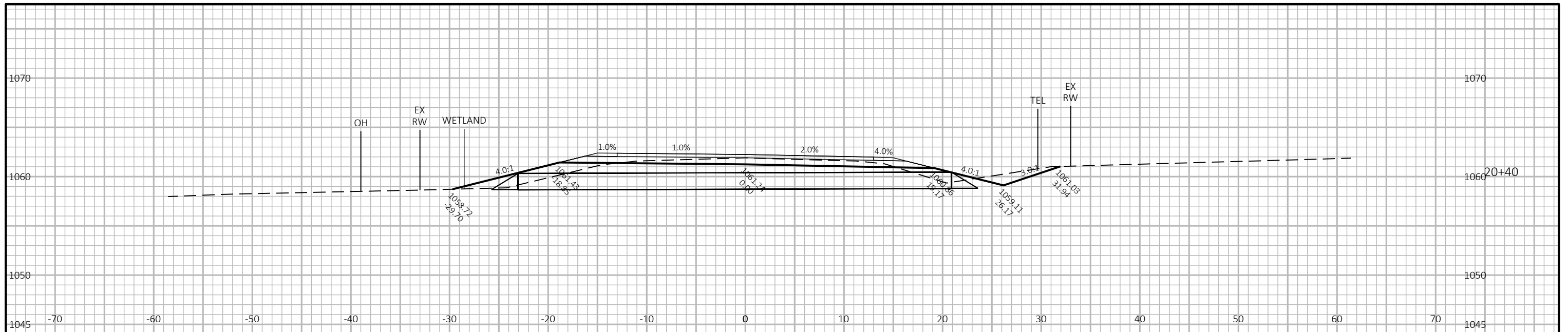




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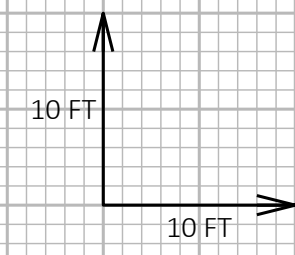
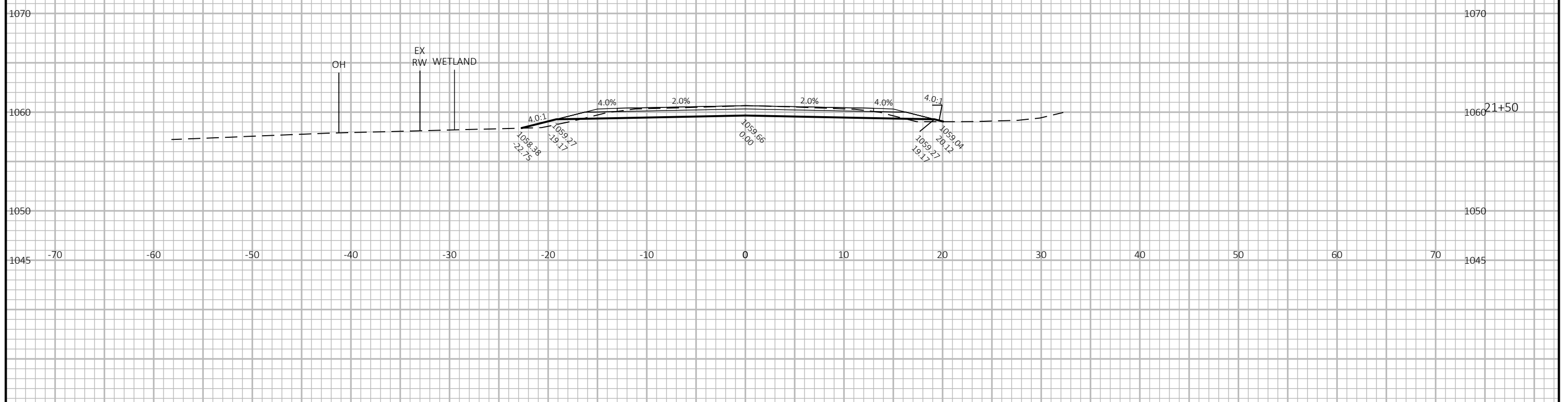
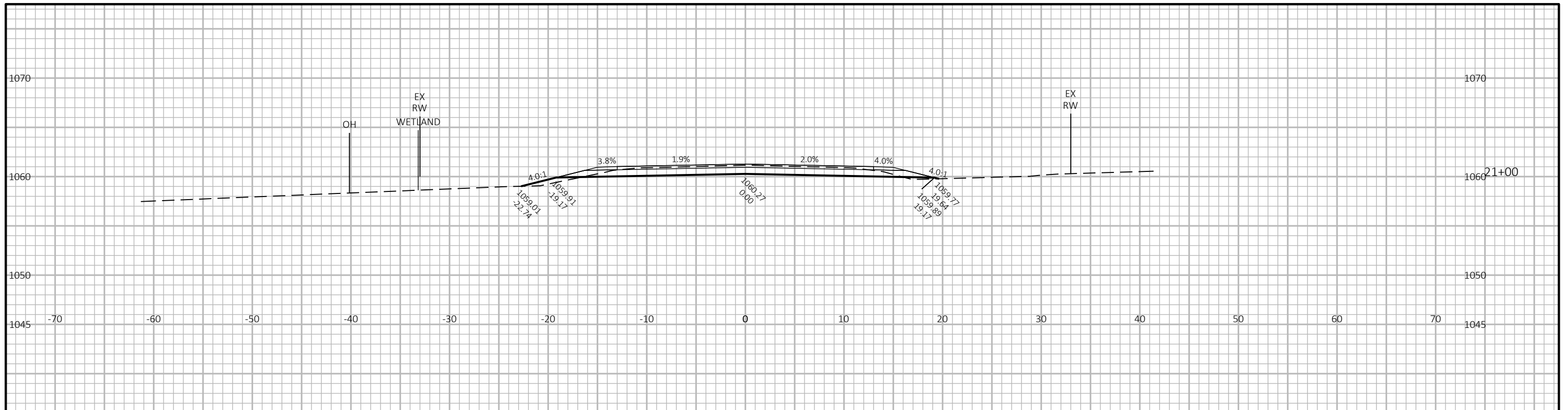
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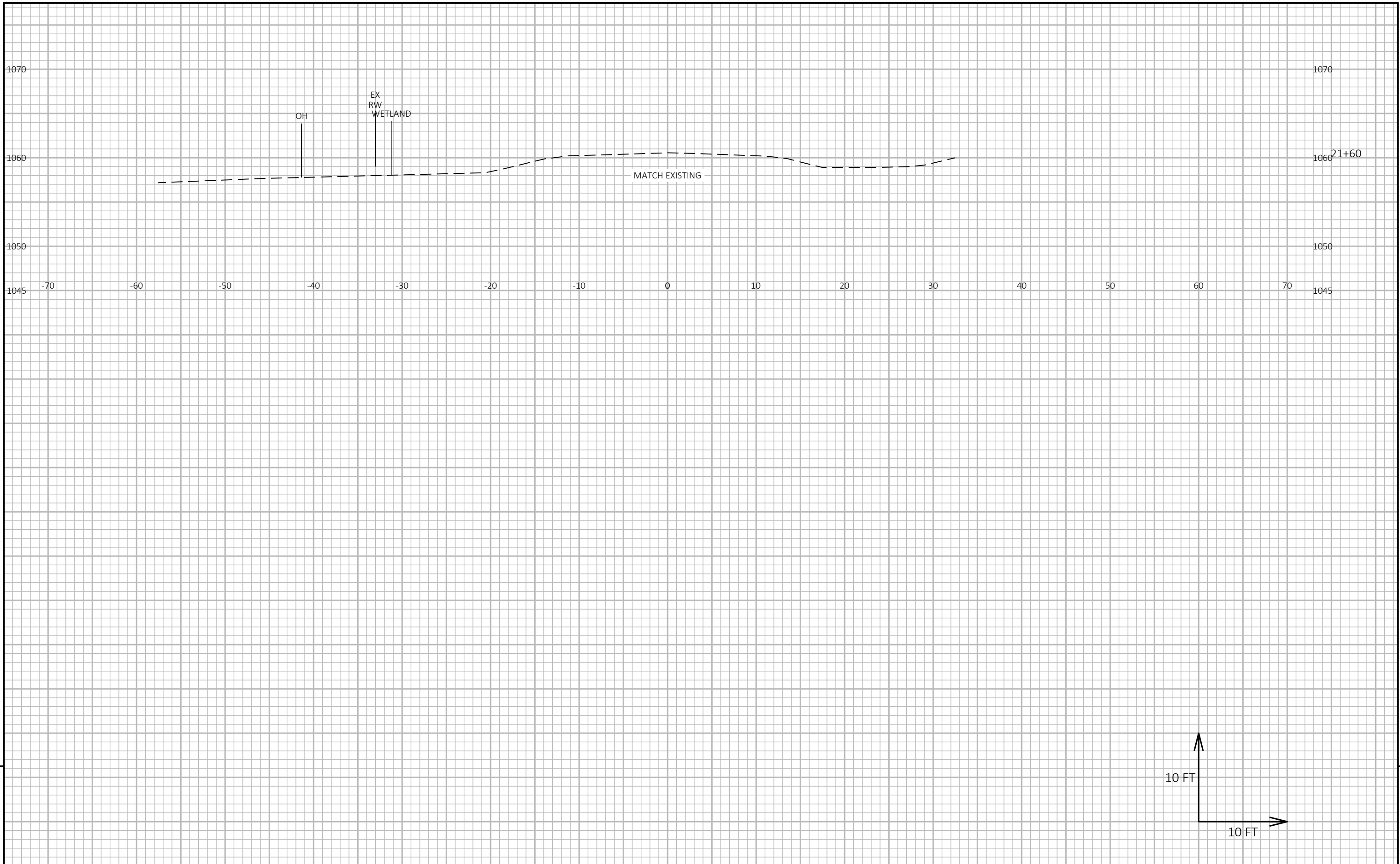
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PROJECT NO: 7027-00-71	HWY: CTH O	COUNTY: JACKSON	CROSS SECTIONS: CTH O	SHEET	E
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PROJECT NO: 7027-00-71

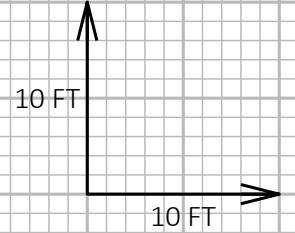
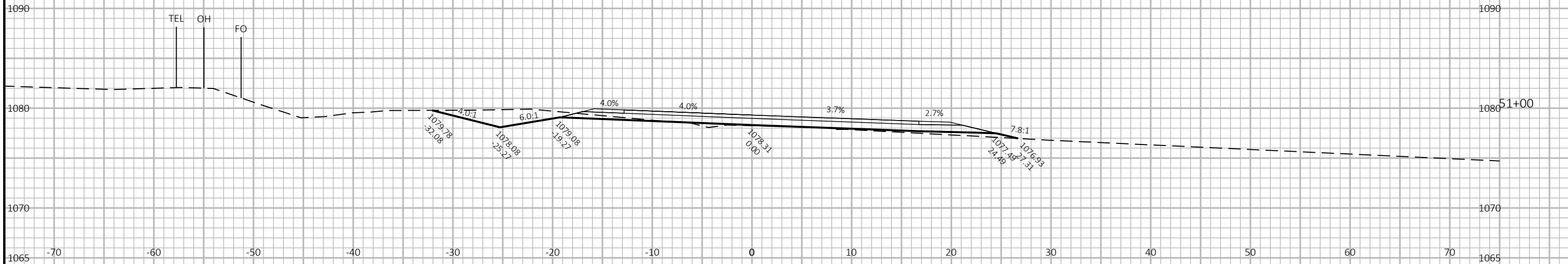
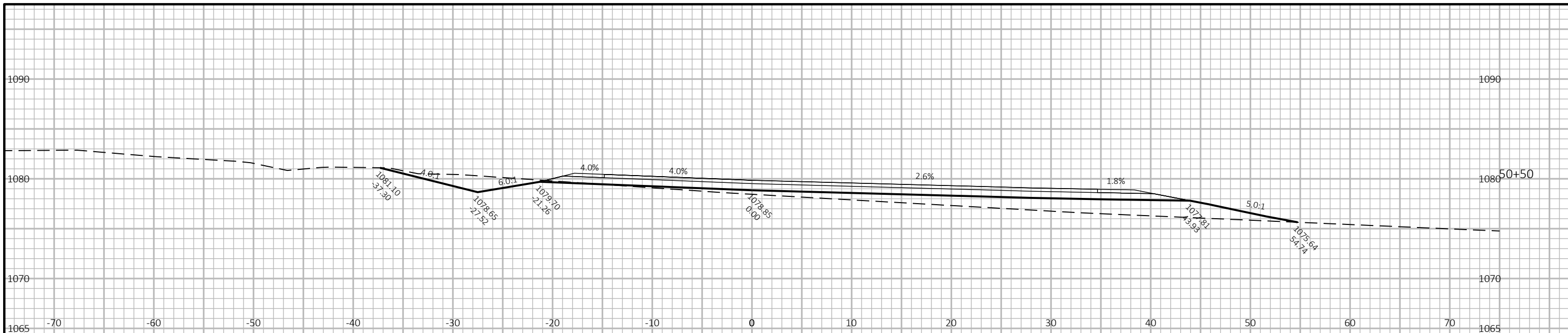
HWY: CTH O

COUNTY: JACKSON

CROSS SECTIONS: CTH O

SHEET

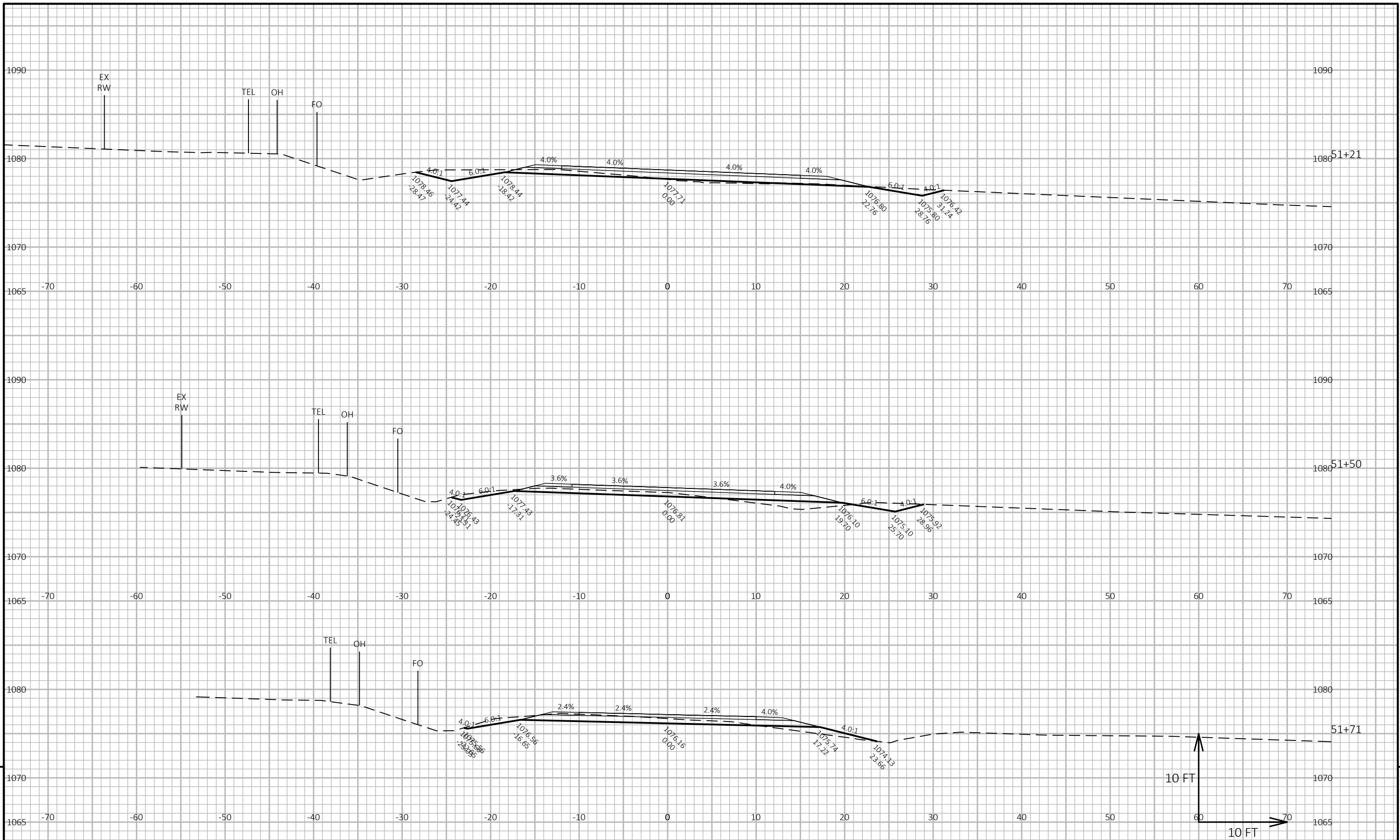
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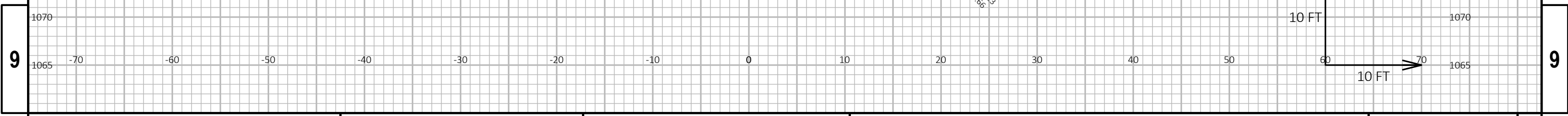
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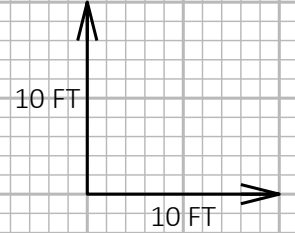
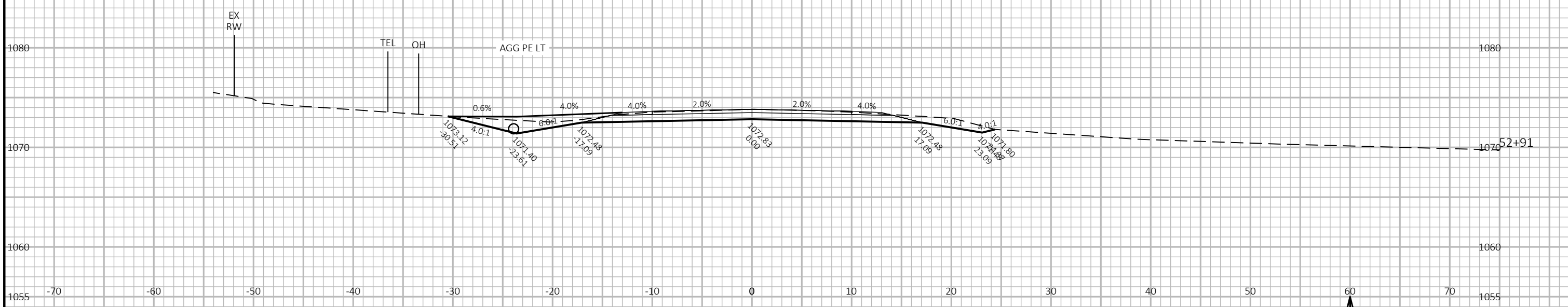
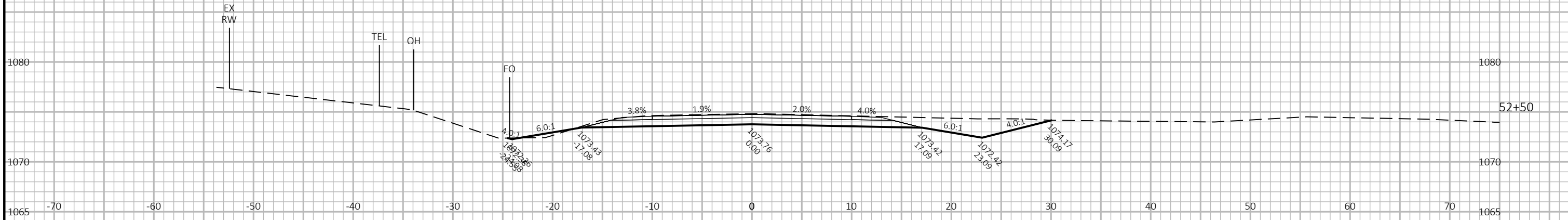
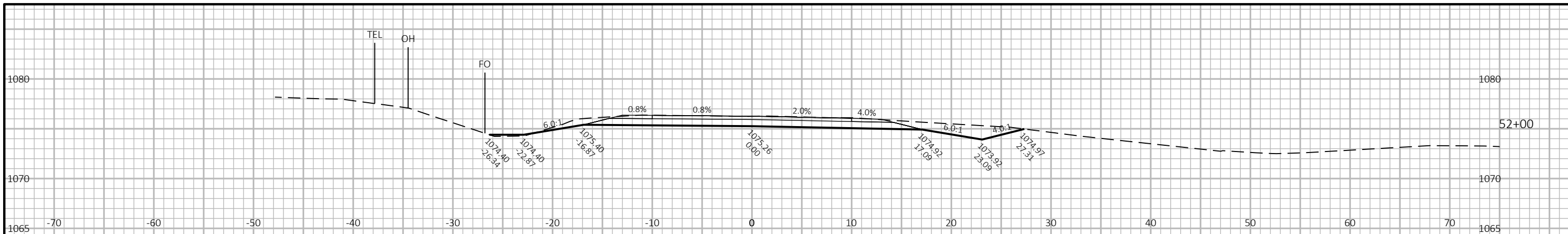
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PROJECT NO: 7027-00-71	HWY: CTH O	COUNTY: JACKSON	CROSS SECTIONS: MCKENNA RD	SHEET	E
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PROJECT NO: 7027-00-71	HWY: CTH O	COUNTY: JACKSON	CROSS SECTIONS: MCKENNA RD	SHEET
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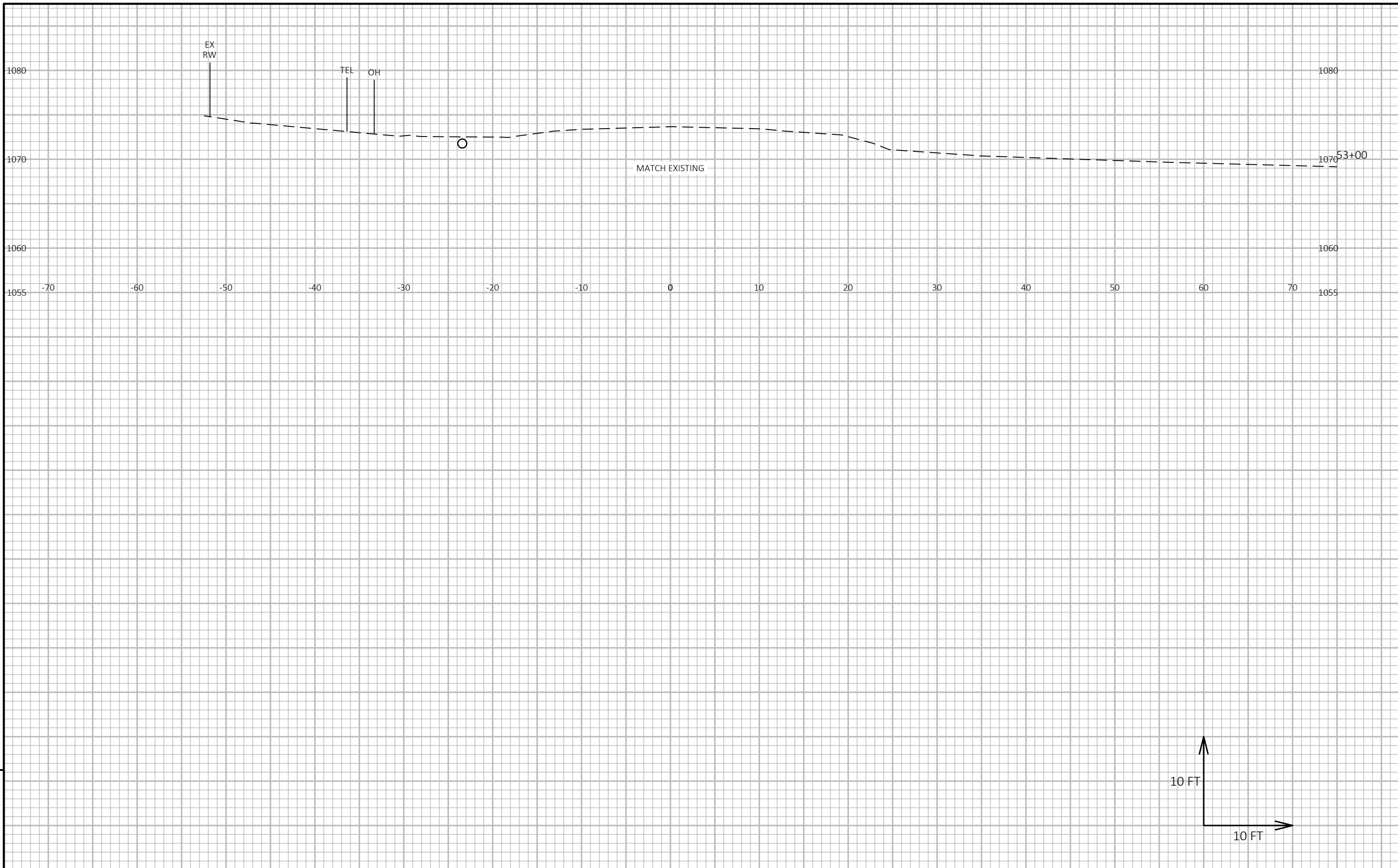




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PROJECT NO: 7027-00-71	HWY: CTH O	COUNTY: JACKSON	CROSS SECTIONS: MCKENNA RD	SHEET	E
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PROJECT NO: 7027-00-71

HWY: CTH O

COUNTY: JACKSON

CROSS SECTIONS: MCKENNA RD

SHEET

E



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