GRE

PROJECT ID: 1491-23-71

WITH: 9560-06-71, 9560-06-72

COUNTY: MARINETTE

18

MAY 2023

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.	5	Plan
Section No.	6	Standard Detail Drawings
Section No.	9	Cross Sections

TOTAL SHEETS = 54

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
1491-23-71	WISC 2023368	1

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

PEMBINE - NIAGARA

USH 8 - SCPL NIAGARA

USH 141

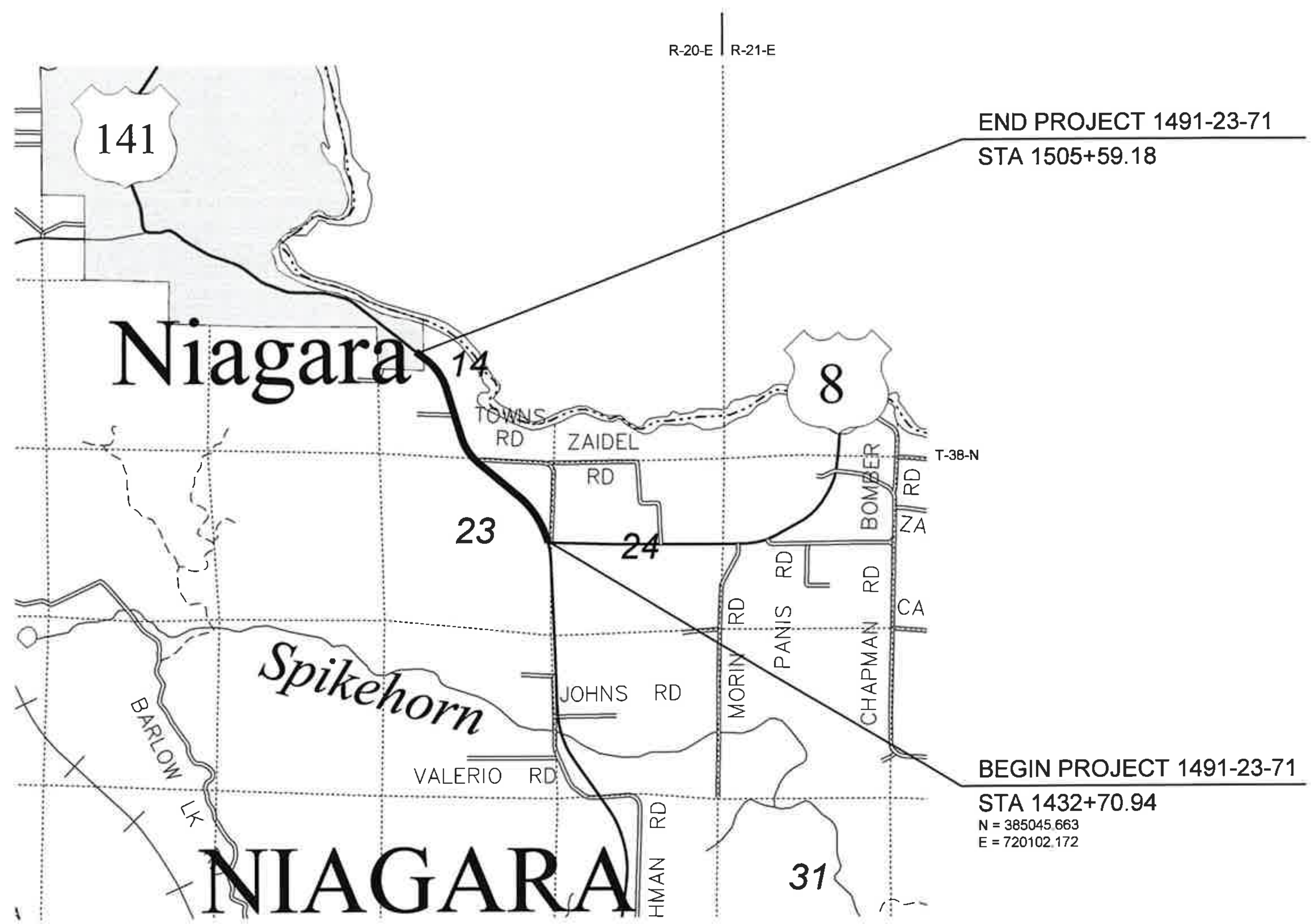
MARINETTE COUNTY

STATE PROJECT NUMBER
1491-23-71

N

DESIGN DESIGNATION 1491-23-71

A.A.D.T.	(2025)	=	5,650
A.A.D.T.	(2045)	=	6,210
D.H.V.		=	
D.D.		=	50/50
T.		=	21.3%
DESIGN SPEED		=	60 MPH
ESALS		=	2,300,000



CONVENTIONAL SYMBOLS

PLAN

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

PROFILE

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

UTILITIES

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

LAYOUT

SCALE 0 — 1 MI

TOTAL NET LENGTH OF CENTERLINE = 1.380 MILES

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

ORIGINAL PLANS PREPARED BY

Westwood

WISCONSIN MICHAEL A. MALCOLM E-30025 Appleton WI PROFESSIONAL ENGINEER

DATE: 1-9-2023 (Professional Engineer Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	Westwood
Designer	Westwood
Project Manager	KURT VOGEZ
Regional Examiner	REGIONAL EXAMINER
Regional Supervisor	BRIAN EDWARDS

APPROVED FOR THE DEPARTMENT

DATE: 1/10/2023 (Signature)

E

FILE NAME : N:\3000965.00\CIVIL 3D\SHEETSPLAN\149123-010101-TI.DWG PLOT DATE : 2/15/2023 7:46 AM PLOT BY : BRANDI SWANSON PLOT NAME :

GENERAL NOTES

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

THE PROJECT REFERENCE LINE IS BASED ON AS-BUILT PLAN AND FIELD INFORMATION. THE LOCATION OF THE REFERNCE LINE MAY VARY SLIGHTLY FROM THE ACTUAL CENTER LINE.

SECTION 2 ORDER OF SHEETS

GENERAL NOTES
PROJECT OVERVIEW
TYPICAL SECTIONS
CONSTRUCTION DETAILS
PAVING DETAILS

UTILITIY CONTACTS

ATC MANAGEMENT, INC. - ELECTRICITY TRANSMISSION
DOUG VOSBERG
2489 RINDEN ROAD
COTTAGE GROVE, WI 53527
608-877-7650
dvosberg@atcllc.com

NSIGHT TELSERVICES - COMMUNICATION LINE
RICK VINCENT
470 SECURITY BOULEVARD
GREEN BAY, WI 54313
920-617-7316
rick.vincent@nsight.com

WE ENERGIES - ELECTRICITY
GEORGE JOHNSEN
800 INDUSTRIAL PARK DRIVE
IRON MOUNTAIN, MI 49801
906-779-2486
MOBILE: 906-282-2868
george.johnsen@we-energies.com

OTHER CONTACTS

WISDOT CONTACT

KURT VOGEL
WISDOT NORTHEAST REGION
944 VANDERPERREN WAY
GREEN BAY, WI 54304
920-362-1732
kurt.vogez@dot.wi.gov

WISDOT REGION SURVEY COORDINATOR

CORMAC MCINNIS
NORTHEAST REGION SUREY COORDINATIOR
944 VANDERPERREN WAY
GREEN BAY, WI 54304
920-492-5638
cormac.mcinnis@dot.wi.gov

DESIGN CONTACT

MIKE MALCOLM
WESTWOOD INFRASTRUCTURE, INC
ONE SYSTEMS DRIVE
APPLETON, WI 54914
920-830-6175
mike.malcolm@westwoodps.com

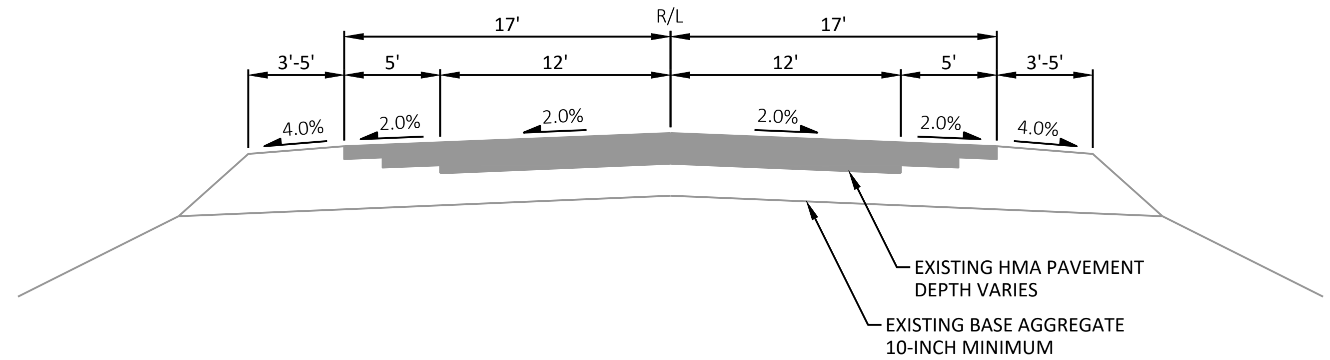
DNR LIAISON

JAMES DOPERALSKI
DNR NORTHEAST REGIONAL HEADQUARTERS
2984 SHAWANO AVENUE
GREEN BAY, WI 54313
920-412-0165
james.doperalski@wisconsin.gov

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

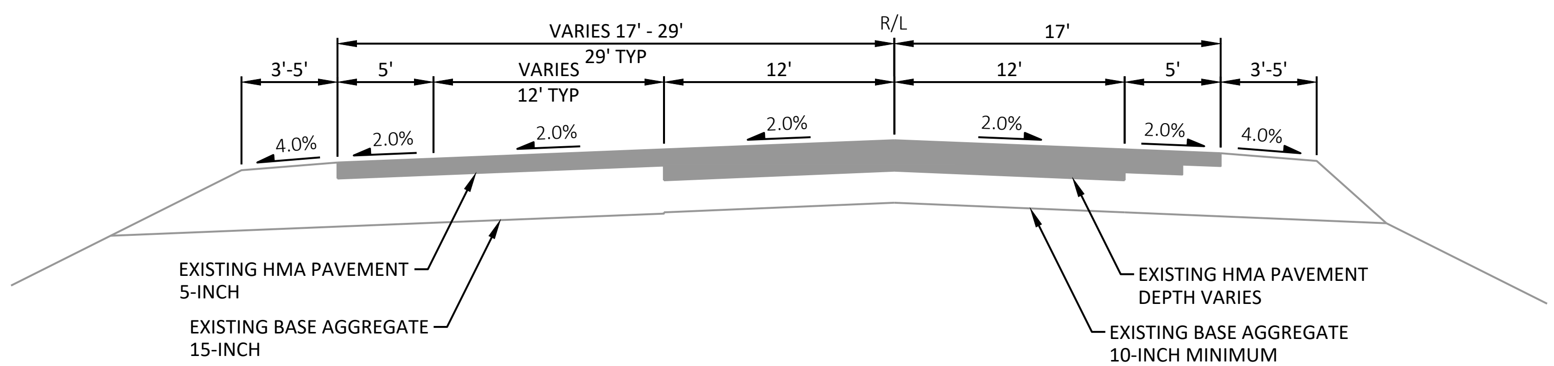
2

PROJECT NO: 1491-23-71	HWY: USH 141	COUNTY: MARINETTE	PROJECT OVERVIEW	SHEET 3	E



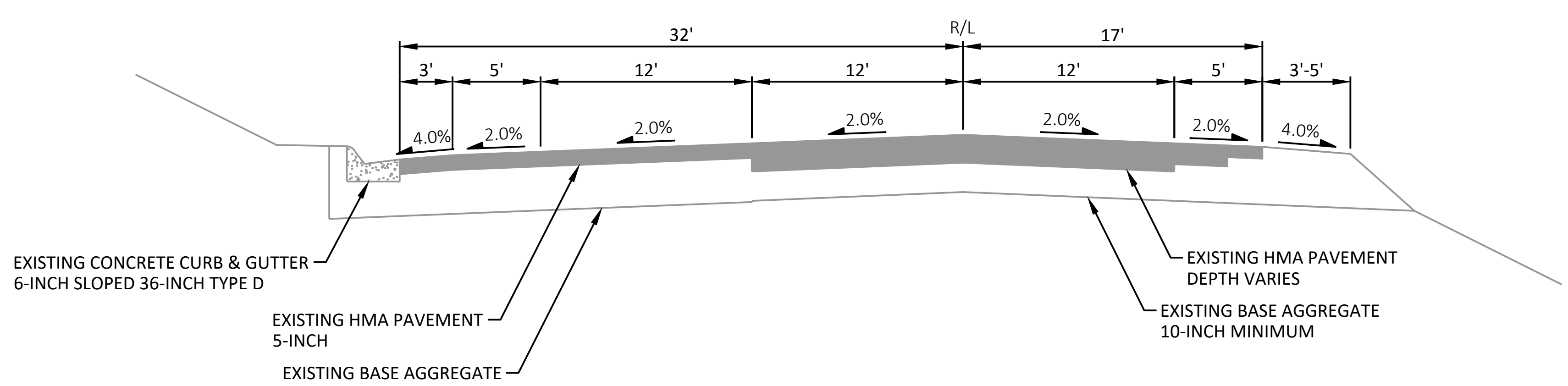
EXISTING TYPICAL SECTION FOR USH 141

STA 1432+80 - STA 1462+54
STA 1503+22 - STA 1505+59



EXISTING TYPICAL SECTION FOR USH 141

STA 1462+54 - STA 1477+10
STA 1480+60 - STA 1503+22

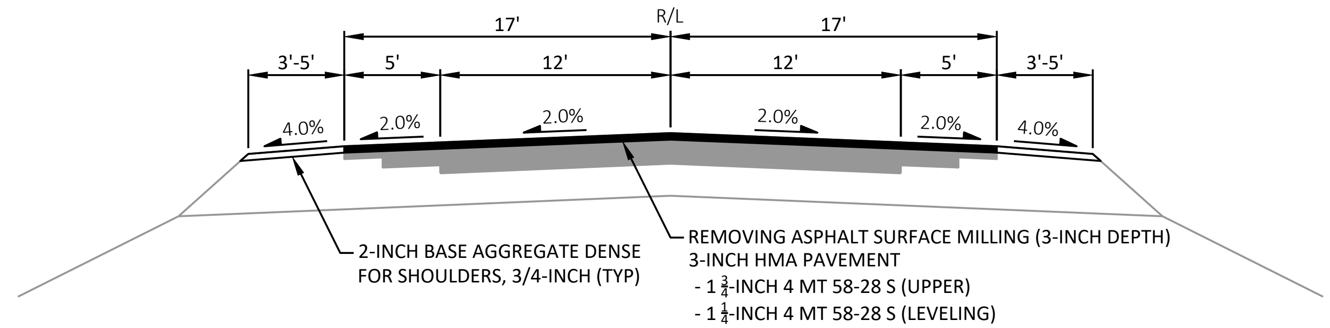


EXISTING TYPICAL SECTION FOR USH 141

STA 1477+10 - STA 1480+60

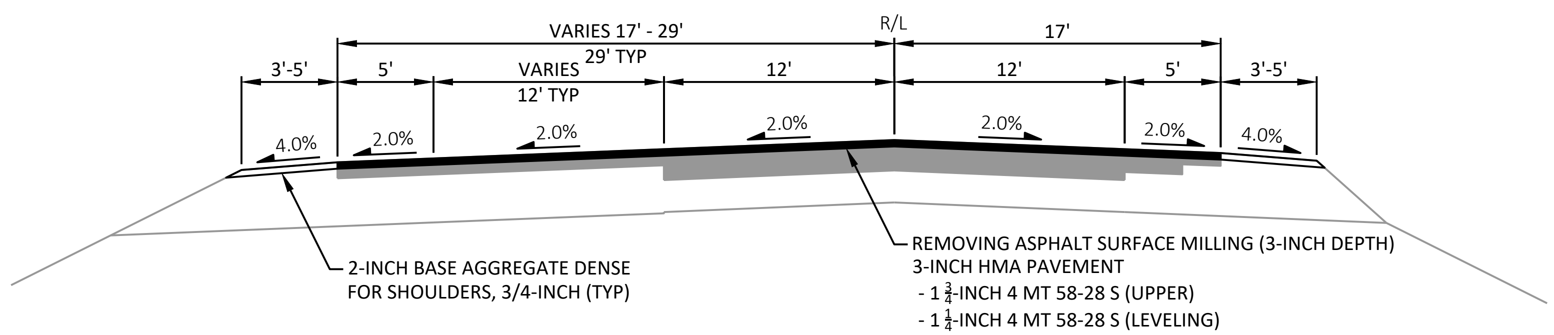
2

2



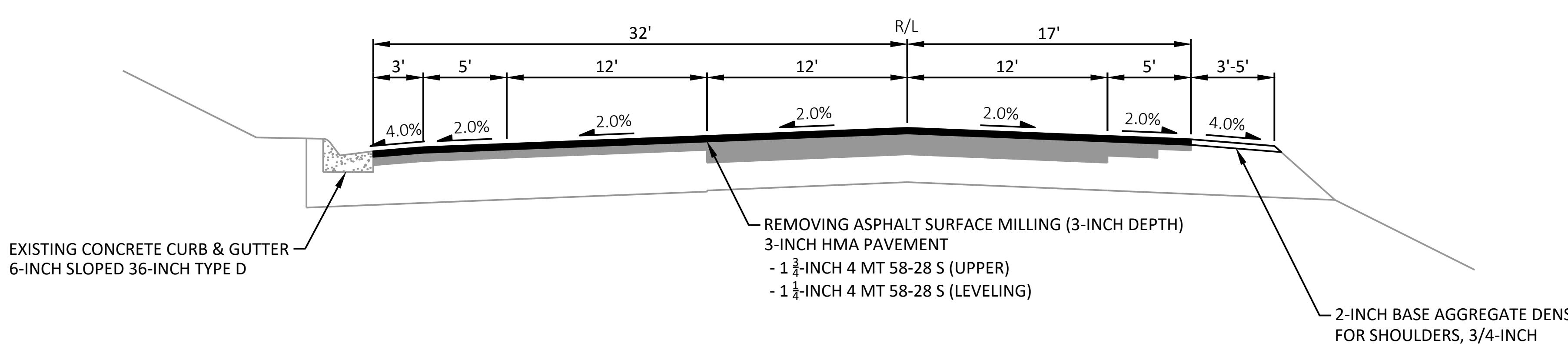
PROPOSED TYPICAL SECTION FOR USH 141

STA 1432+80 - STA 1462+54
STA 1503+22 - STA 1505+59



PROPOSED TYPICAL SECTION FOR USH 141

STA 1462+54 - STA 1477+10
STA 1480+60 - STA 1503+22

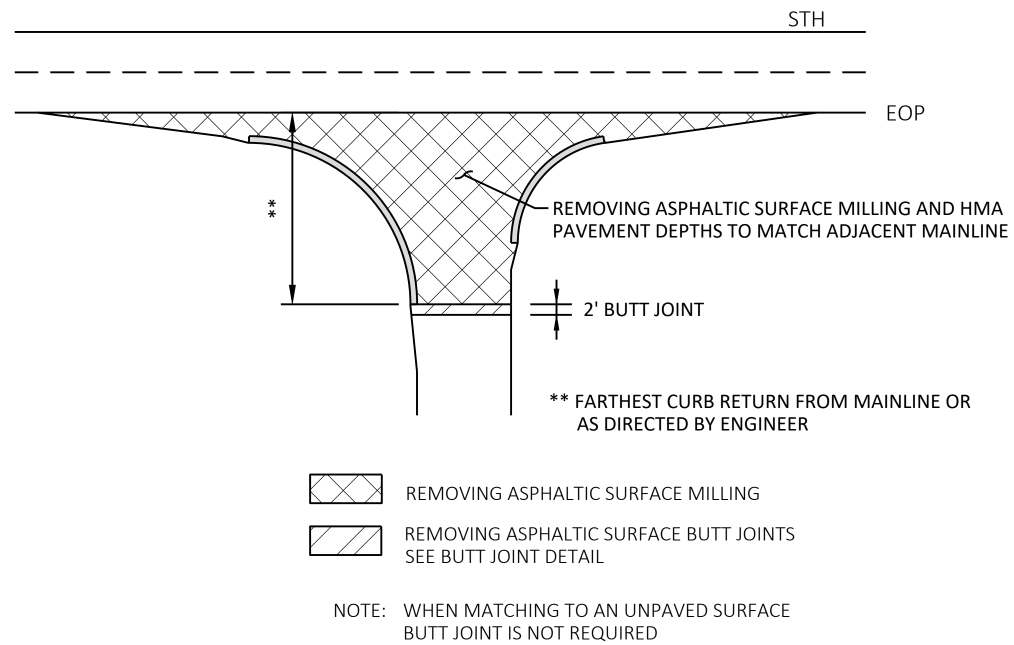


PROPSED TYPICAL SECTION FOR USH 141

STA 1477+10 - STA 1480+60

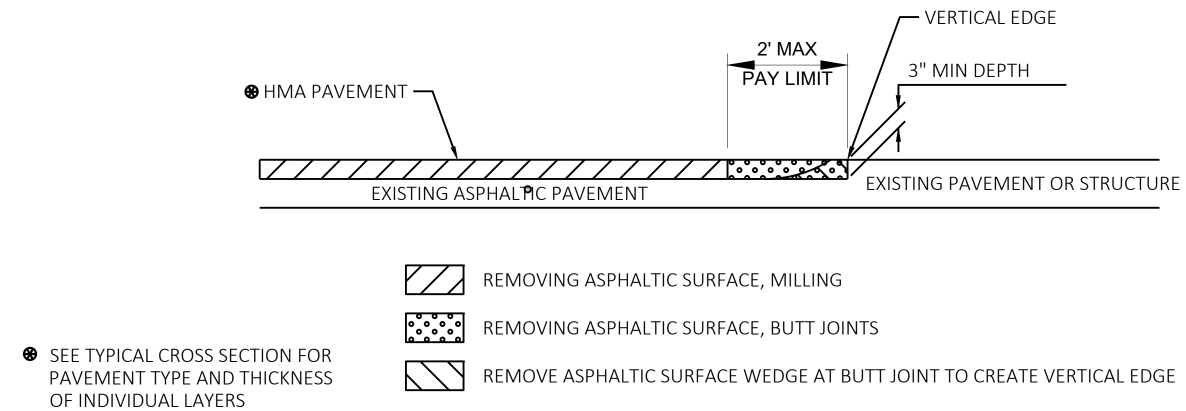
2

2

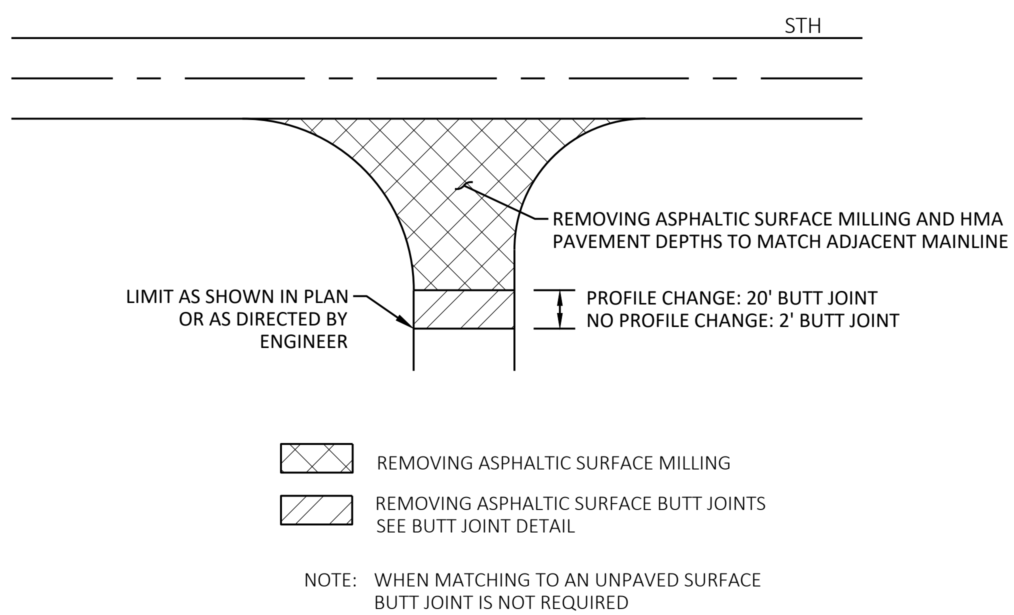


SIDE ROAD WITH CURB AND GUTTER

TOWNS RD

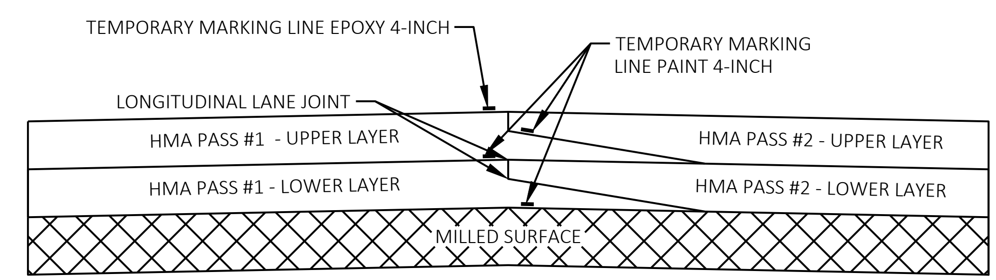


BUTT JOINT DETAIL FOR ASPHALTIC PAVEMENTS (NO PROFILE CHANGE)



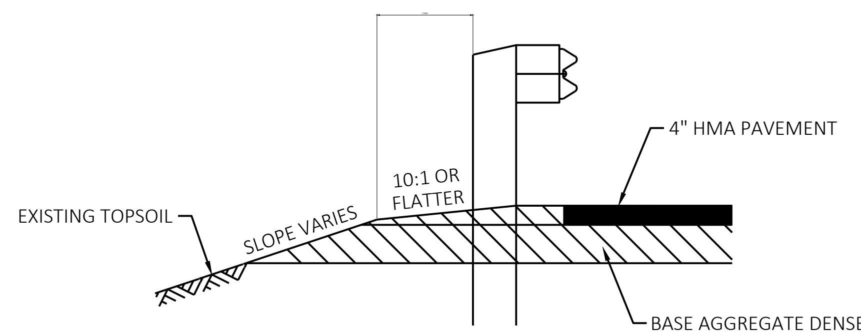
SIDE ROAD WITHOUT CURB AND GUTTER

KNUTSON RD

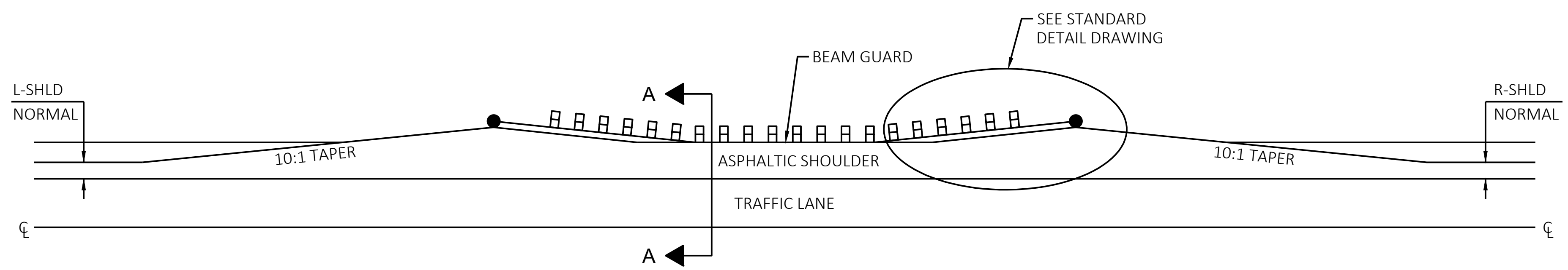


PAVEMENT MARKING DETAIL FOR TAPERED OVERLAPPING JOINTS IN HMA PAVEMENTS

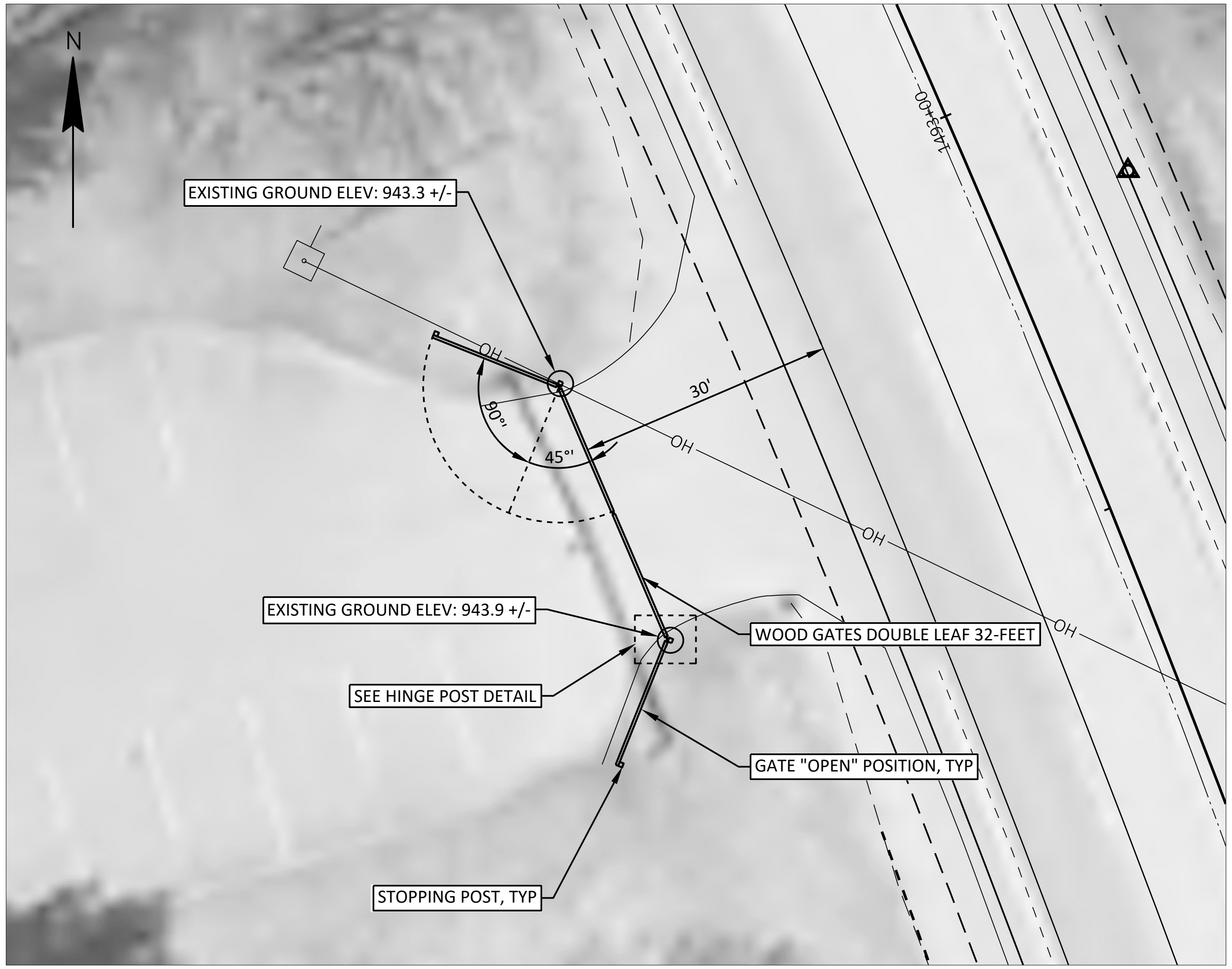
2



SECTION A-A

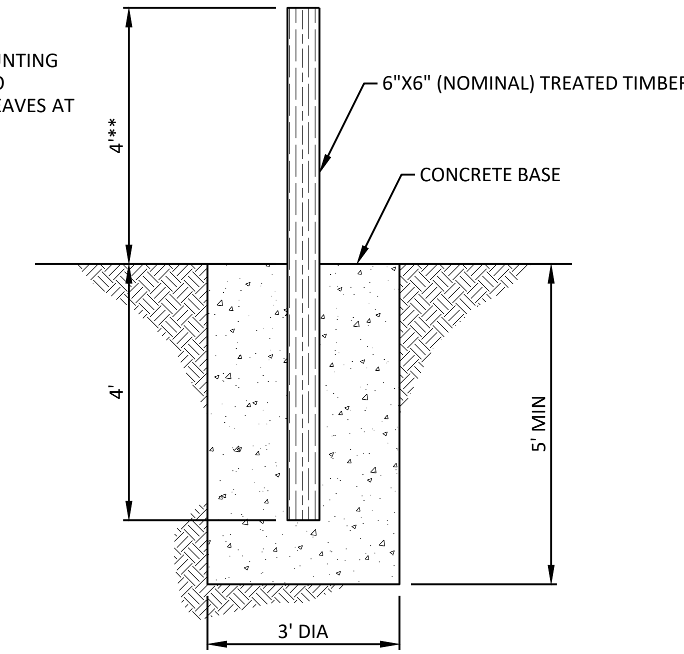


DETAIL FOR ASPHALTIC SHOULDER AT BEAM GUARD

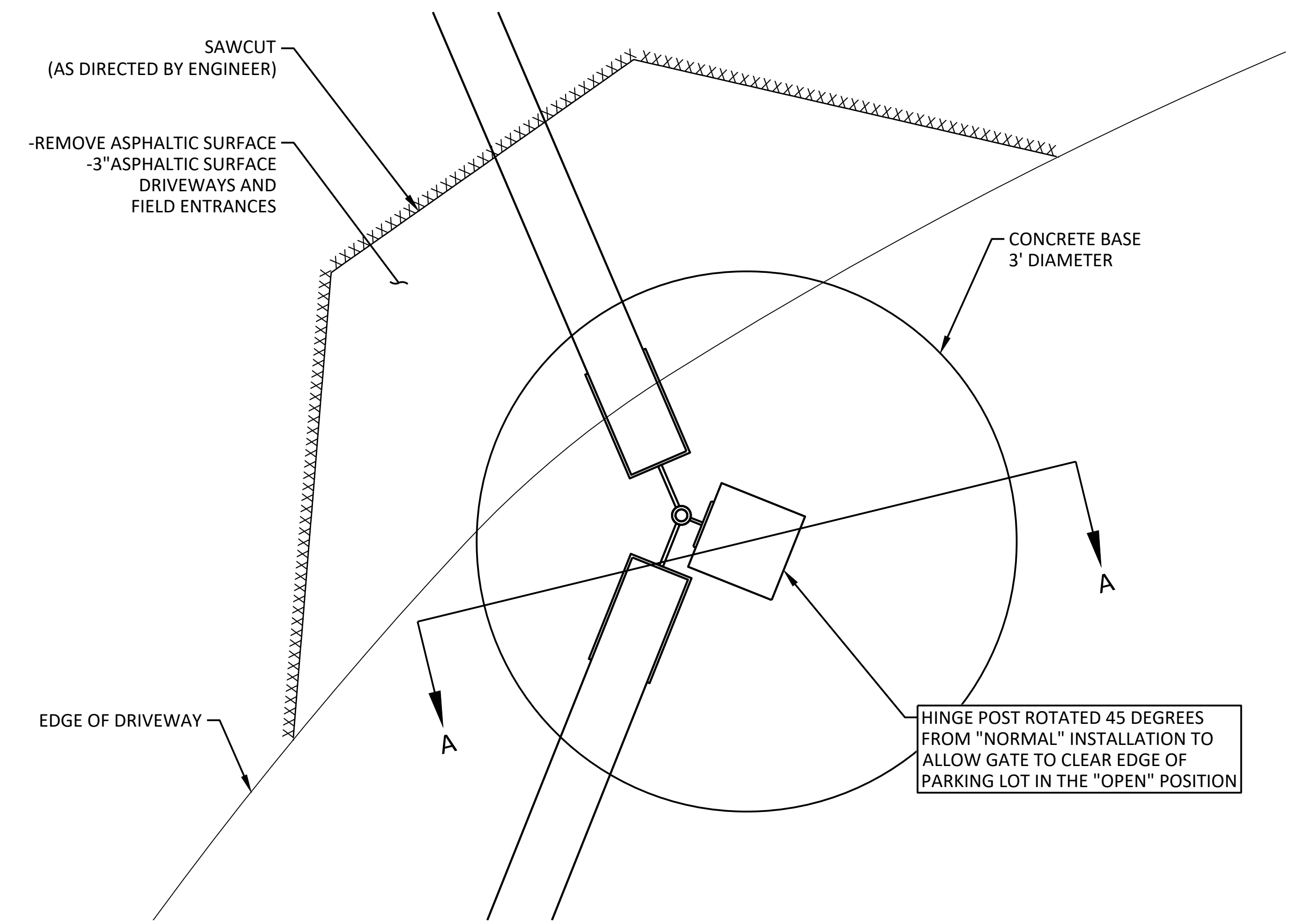


PLAN

** ADJUST TIMBER HEIGHT AND GATE MOUNTING HARDWARE LOCATIONS AS REQUIRED TO OBTAIN INSTALLATION OF BOTH GATE LEAVES AT THE SAME ELEVATION.

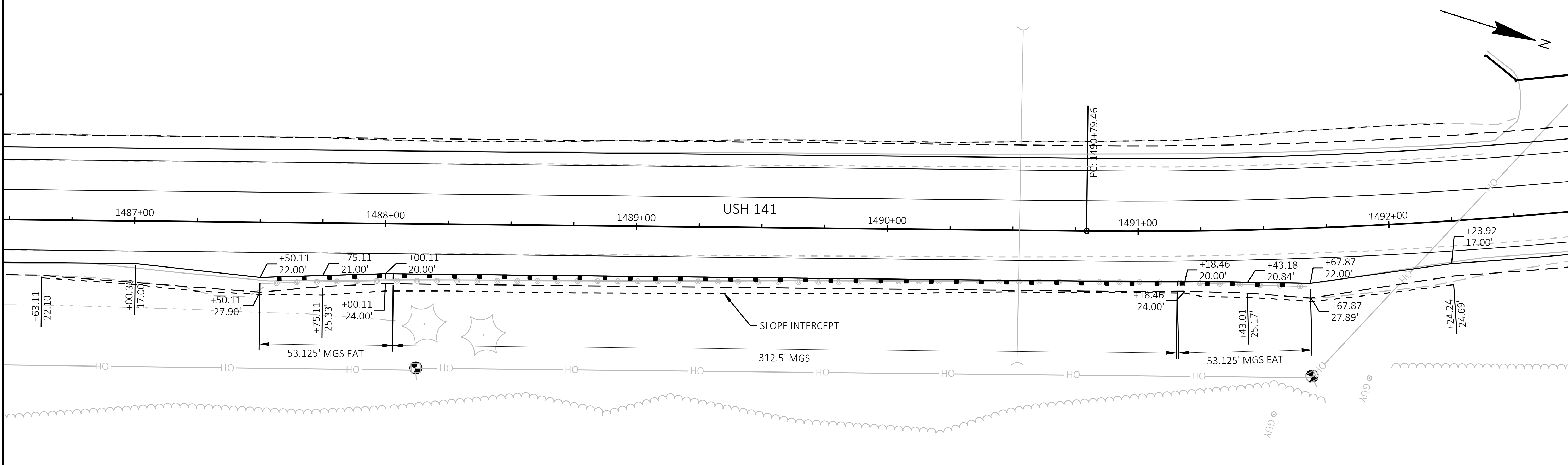


SECTION A-A



HINGE POST DETAIL

PROJECT NO: 1491-23-71	HWY: USH 141	COUNTY: MARINETTE	CONSTRUCTION DETAIL	SHEET 8	E



PROJECT NO: 1491-23-71	HWY: USH 141	COUNTY: MARINETTE	BEAM GUARD DETAIL	SHEET 9	E

Line	Item	Item Description	Unit	Total	Qty 1491-23-71
0004	204.0110	Removing Asphaltic Surface	SY	2.000	2.000
0006	204.0115	Removing Asphaltic Surface Butt Joints	SY	21.000	21.000
0008	204.0120	Removing Asphaltic Surface Milling	SY	34,340.000	34,340.000
0010	204.0165	Removing Guardrail	LF	415.000	415.000
0018	205.0100	Excavation Common	CY	13.000	13.000
0022	211.0101	Prepare Foundation for Asphaltic Paving (project) 01. 1491-23-71	EACH	1.000	1.000
0030	213.0100	Finishing Roadway (project) 01. 1491-23-71	EACH	1.000	1.000
0036	305.0110	Base Aggregate Dense 3/4-Inch	TON	1,040.000	1,040.000
0040	450.4000	HMA Cold Weather Paving	TON	1,200.000	1,200.000
0044	455.0605	Tack Coat	GAL	2,061.000	2,061.000
0048	460.0110.S	HMA Percent Within Limits (PWL) Test Strip Density	EACH	1.000	1.000
0052	460.2005	Incentive Density PWL HMA Pavement	DOL	3,350.000	3,350.000
0054	460.2007	Incentive Density HMA Pavement Longitudinal Joints	DOL	3,640.000	3,640.000
0056	460.2010	Incentive Air Voids HMA Pavement	DOL	5,930.000	5,930.000
0060	460.6224	HMA Pavement 4 MT 58-28 S	TON	5,924.000	5,924.000
0064	465.0110	Asphaltic Surface Patching	TON	100.000	100.000
0066	465.0120	Asphaltic Surface Driveways and Field Entrances	TON	9.000	9.000
0068	465.0425	Asphaltic Shoulder Rumble Strips 2-Lane Rural	LF	8,660.000	8,660.000
0072	465.0475	Asphalt Centerline Rumble Strips 2-Lane Rural	LF	7,279.000	7,279.000
0084	614.2300	MGS Guardrail 3	LF	313.000	313.000
0088	614.2610	MGS Guardrail Terminal EAT	EACH	2.000	2.000
0092	618.0100	Maintenance And Repair of Haul Roads (project) 01. 1491-23-71	EACH	1.000	1.000
0098	619.1000	Mobilization	EACH	0.100	0.100
0100	624.0100	Water	MGAL	6.000	6.000
0126	642.5201	Field Office Type C	EACH	0.100	0.100
0128	643.0300	Traffic Control Drums	DAY	493.000	493.000
0130	643.0420	Traffic Control Barricades Type III	DAY	28.000	28.000
0132	643.0705	Traffic Control Warning Lights Type A	DAY	58.000	58.000
0134	643.0900	Traffic Control Signs	DAY	1,722.000	1,722.000
0136	643.1050	Traffic Control Signs PCMS	DAY	14.000	14.000
0138	643.3105	Temporary Marking Line Paint 4-Inch	LF	39,728.000	39,728.000
0140	643.3120	Temporary Marking Line Epoxy 4-Inch	LF	12,846.000	12,846.000
0142	643.5000	Traffic Control	EACH	0.100	0.100
0146	646.1020	Marking Line Epoxy 4-Inch	LF	13,178.000	13,178.000
0148	646.1040	Marking Line Grooved Wet Ref Epoxy 4-Inch	LF	15,201.000	15,201.000
0150	646.3040	Marking Line Grooved Wet Ref Epoxy 8-Inch	LF	100.000	100.000
0152	646.6120	Marking Stop Line Epoxy 18-Inch	LF	47.000	47.000
0154	646.6464	Cold Weather Marking Epoxy 4-Inch	LF	28,379.000	28,379.000
0156	646.6468	Cold Weather Marking Epoxy 8-Inch	LF	100.000	100.000
0160	650.8000	Construction Staking Resurfacing Reference	LF	7,288.000	7,288.000
0162	650.9911	Construction Staking Supplemental Control (project) 01. 1491-23-71	EACH	1.000	1.000
0170	690.0150	Sawing Asphalt	LF	313.000	313.000
0172	740.0440	Incentive IRI Ride	DOL	13,810.000	13,810.000
0174	ASP.1T0A	On-the-Job Training Apprentice at $5.00/HR	HRS	4,800.000	4,800.000
0176	ASP.1T0G	On-the-Job Training Graduate at $5.00/HR	HRS	4,800.000	4,800.000
0178	SPV.0060	Special 01. Wood Gates Double Leaf 32-Foot	EACH	1.000	1.000

3

REMOVING ASPHALTIC SURFACE

STATION	TO	STATION	ROADWAY	204.0110 REMOVING ASPHALTIC SURFACE	204.0115 REMOVING ASPHALTIC SURFACE BUTT JOINT SY	204.0120 REMOVING ASPHALTIC SURFACE MILLING SY	MILL DEPTH
PROJECT 1491-23-71							
CATEGORY 0010							
1432+71	-	1470+00	USH 141	---	8	16,300	3" DEPTH
1470+00	-	1505+59	USH 141	---	13	18,040	3" DEPTH
WAYSIDE			USH 141	2	---	---	
			PROJECT TOTAL	2	21	34,340	

BASE COURSE

STATION	TO	STATION	LOCATION	305.0110 BASE AGGREGATE DENSE 3/4-INCH TON	624.0100 WATER MGAL
PROJECT 1491-23-71					
CATEGORY 0010					
1432+80	-	1470+00	USH 8	540	3
1470+00	-	1505+59	USH 8	500	3
			PROJECT TOTAL	1,040	6

HMA PAVEMENT PWL TEST STRIP*

	460.0110.S DENSITY EACH	COMMENTS
PROJECT 1491-23-71		
CATEGORY 0010		
	1	
PROJECT TOTALS	1	

*SEE 9560-06-71 FOR VOLUMETRICS

REMOVING GUARDRAIL

STATION	TO	STATION	DIR	LOCATION	204.0165 REMOVING GURADRAIL LF
PROJECT 1491-23-71					
CATEGORY 0010					
1487+52	-	1491+67	RT	USH 141	415
				PROJECT TOTALS	415

PREPARE FOUNDATION FOR ASPHALTIC PAVING

STATION TO STATION	211.0101 (PROJECT) 01. 1491-23-71 EACH
PROJECT 1491-23-71	
CATEGORY 0010	
1432+70.94 - 1505+59.18	1
PROJECT TOTALS	1

3

ASPHALTIC ITEMS

STATION TO STATION			ROADWAY	AREA	455.0605 TACK COAT GAL	460.6224 HMA PAVEMENT 4 MT 58-28 S TON	465.0475 ASPHALTIC CENTERLINE RUMBLE STRIP 2-LANE RURAL TON
PROJECT 1491-23-71							
CATEGORY 0010							
1432+80	-	1470+00	USH 141	SHLD / INT	383	1,100	---
				LANES	595	1,711	3,720
1470+00	-	1505+59	USH 141	SHLD / INT	513	1,476	---
				LANES	569	1,637	3,559
			PROJECT TOTAL		2061	5,924	7,279

ASPHALTIC SURFACE PATCHING

STATION TO STATION	465.0110 ASPHALTIC SURFACE PATCHING TON
PROJECT 1491-23-71	
CATEGORY 0010	
UNDISTRIBUTED	100
PROJECT TOTALS	100

DRIVEWAY CONSTRUCTION*

STATION	ROADWAY	DIR	205.01 EXCAVATION COMMON CY	465.0120 ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES TON
PROJECT 1491-23-71				
CATEGORY 0010				
1478+62	USH 141	LT	13	9
	PROJECT TOTALS		13	9

*BASE AGGREGATE DENSE 3/4-INCH INCLUDED IN THE BASE AGGREGATE TABLE

HMA MIXTURE ACCEPTANCE

STATION RANGES	ROADWAY	LOCATION		MIXTURE USE	UNDERLAYING SURFACE	BID ITEM	TONNAGE	QMP TO BE USED FOR: MIXTURE ACCEPTANCE	QMP TO BE USED FOR: DENSITY ACCEPTANCE
PROJECT 1491-23-71									
CATEGORY 0010									
1432+80 - 1505+59	USH 141	OVERLAY	SHLD / INT	UPPER LAYER	EX HMA PAVT	4 MT 58-28 S	2,576	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	ACCEPTANCE TESTING BY DEPT; NOT ELIGIBLE FOR INCENTIVE OR DISINCENTIVE
			LANES	UPPER LAYER	EX HMA PAVT	4 MT 58-28 S	3,348		INCENTIVE DENSITY PWL HMA PAVEMENT 460.2005

3

ASPHALTIC SHOULDER RUMBLE STRIPS 2-LANE RURAL

STATION	TO	STATION	ROADWAY	DIR	465.0425 LF	NOTES
PROJECT 9560-06-71						
CATEGORY 0010						
1432+80	-	1449+75	USH 141	LT	1,190	
1450+25	-	1453+75	USH 141	LT	270	
1454+75	-	1466+00	USH 141	LT	840	
1466+50	-	1478+25	USH 141	LT	920	
1479+00	-	1480+75	USH 141	LT	70	
1484+25	-	1492+25	USH 141	LT	620	
1493+25	-	1500+75	USH 141	LT	540	
1501+25	-	1505+59	USH 141	LT	330	
1434+20	-	1462+85	USH 141	RT	2,250	
1467+46	-	1468+00	USH 141	RT	20	
1468+50	-	1469+25	USH 141	RT	50	
1469+75	-	1470+75	USH 141	RT	60	
1471+50	-	1478+50	USH 141	RT	560	
1479+25	-	1481+00	USH 141	RT	150	NOTE 1
1495+75	-	1505+59	USH 141	RT	790	

PROJECT TOTAL 8,660

NOTE 1: RIGHT SHOULDER RUBMLE STRIP GAP FROM STA 1481+00 TO 1495+75 DUE TO A DOWNHILL SLOPE OF 4%.

MARKING

STATION TO STATION	LOCATION	643.5000 TRAFFIC CONTROL EACH	646.1020 MARKING LINE EPOXY 4-INCH (YELLOW) LF	646.1040 MARKING LINE GROOVED WET REF EPOXY 4-INCH (WHITE) LF	646.3040 MARKING LINE GROOVED WET REF EPOXY 8-INCH (WHITE) LF	646.6020 MARKING STOP LINE EPOXY 18-INCH LF	646.6464 COLD WEATHER MARKING EPOXY 4-INCH (YELLOW) LF	646.6464 (WHITE) LF	646.6468 COLD WEATHER MARKING EPOXY 8-INCH (WHITE) LF	643.3105 TEMPORARY MARKING LINE PAINT 4-INCH (YELLOW) LF	643.3105 (WHITE) LF	643.3120 TEMPORARY MARKING LINE EPOXY 4-INCH (YELLOW) LF
PROJECT 1491-23-71	CATEGORY 0010											
1430+80 - 1470+00	USH 141	0.1	6,697	7,409	100	31	6,697	7,409	100	19,530	90	6,510
1470+00 - 1505+59	USH 141	0	6,481	7,792	0	16	6,481	7,792	0	19,008	1,100	6,336
	PROJECT SUBTOTALS	0.1	13,178	15,201	100	47	13,178	15,201	100	38,538	1,190	12,846
	PROJECT TOTALS	0.1	13,178	15,201	100	47	28,379		100	39,728		12,846

3

TRAFFIC CONTROL

STAGE	LOCATION	SDD 15D44 APPROX. SERVICE PERIOD DAYS	SDD 15C04 APPROX. SERVICE PERIOD DAYS	643.0300 DRUMS NO.	643.0300 DRUMS DAYS	643.0420 BARRICADES TYPE III NO.	643.0420 BARRICADES TYPE III DAYS	643.0705 WARNING LIGHTS TYPE A NO.	643.0705 WARNING LIGHTS TYPE A DAYS	643.0900 SIGNS NO.	643.0900 SIGNS DAYS	643.1050 SIGNS PCMS NO.	643.1050 SIGNS PCMS DAYS	NOTES
PROJECT 9560-06-71 CATEGORY 0010														
NO DETOUR	USH 141 AT BOP	42	98	0	--	0	--	0	--	8	616	1	7	NOTE 1
	USH 141 AT EOP	42	98	0	--	0	--	0	--	8	616	1	7	NOTE 1
	USH 141 (GROOVED PAVEMENT)	42	98	64	448	5	25	10	50	6	53	0	--	NOTE 2
	USH 141 (SIDE ROADS)	42	98	0	--	0	--	0	--	4	280	0	--	
	UNDISTRIBUTED				45		3		8		157		0	
	CONTRACT TOTALS				493		28		58		1,722		14	

NOTE 1: INSTALL PCMS A MINIMUM OF 7 DAYS PRIOR TO START OF CONSTRUCTION.
REMOVE WHEN CONSTRUCTION STARTS.

NOTE 2: APPROXIMATE SERVICE DAYS FOR BEAMGUARD REPLACEMENT IS 5 DAYS.

BEAM GUARD

STATION	TO	STATION	DIR	ROADWAY	614.2300 MGS GUARDRAIL 3 LF	614.2610 MGS GUARDRAIL TERMINAL EAT EA
PROJECT 1491-23-71						
CATEGORY 0010						
1487+50	-	1491+68	RT	USH 141	312.5	2
				TOTAL	313	2

CONSTRUCTION STAKING

STATION TO STATION	LOCATION	651.8000 CONSTRUCTION STAKING RESURFACING REFERENCE LF	650.9911 CONSTRUCTION STAKING SUPPLEMENTAL CONTROL EACH
PROJECT 1491-23-71			
CATEGORY 0010			
1432+71 - 1505+59	USH 141	7,288	1
	PROJECT TOTALS	7,288	1

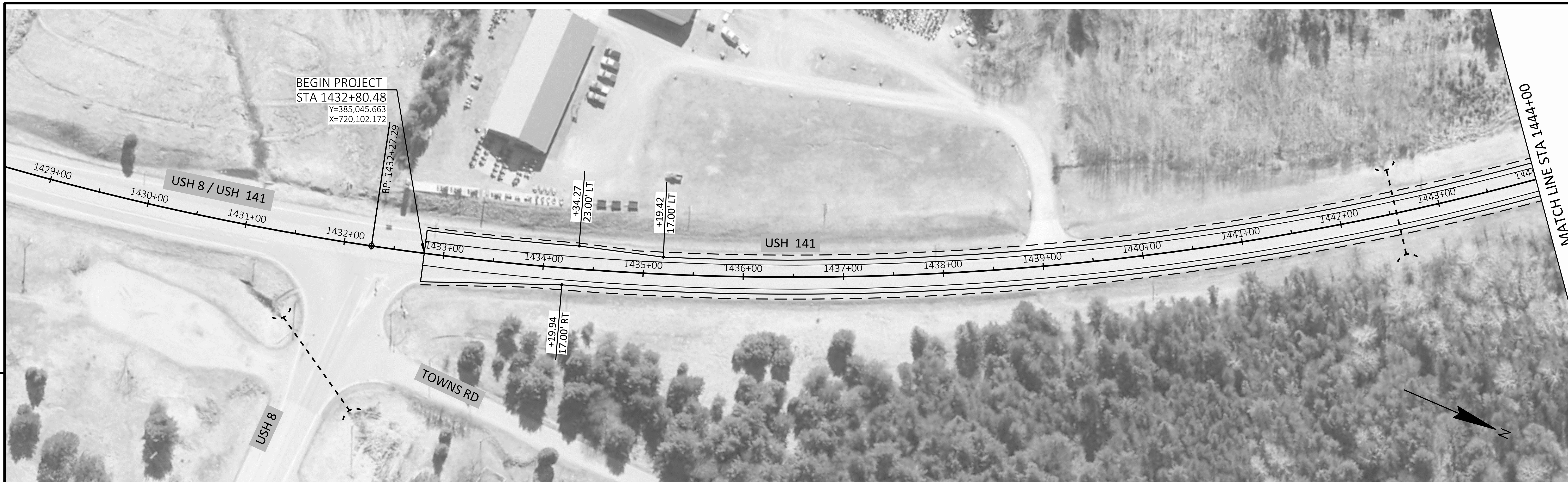
SAWING ASPHALT

LOCATION	ROADWAY	690.0150 SAWING ASPHALT LF
PROJECT 1491-23-71		
CATEGORY 0010		
WAYSIDE	USH 141	312.5
	TOTAL	313

WOOD GATES

LOCATION	SPV.0060.01 WOOD GATES DOUBLE LEAF 32-FOOT EACH
PROJECT 1491-23-71	
CATEGORY 0010	
WAYSIDE	1
PROJECT TOTALS	1

5



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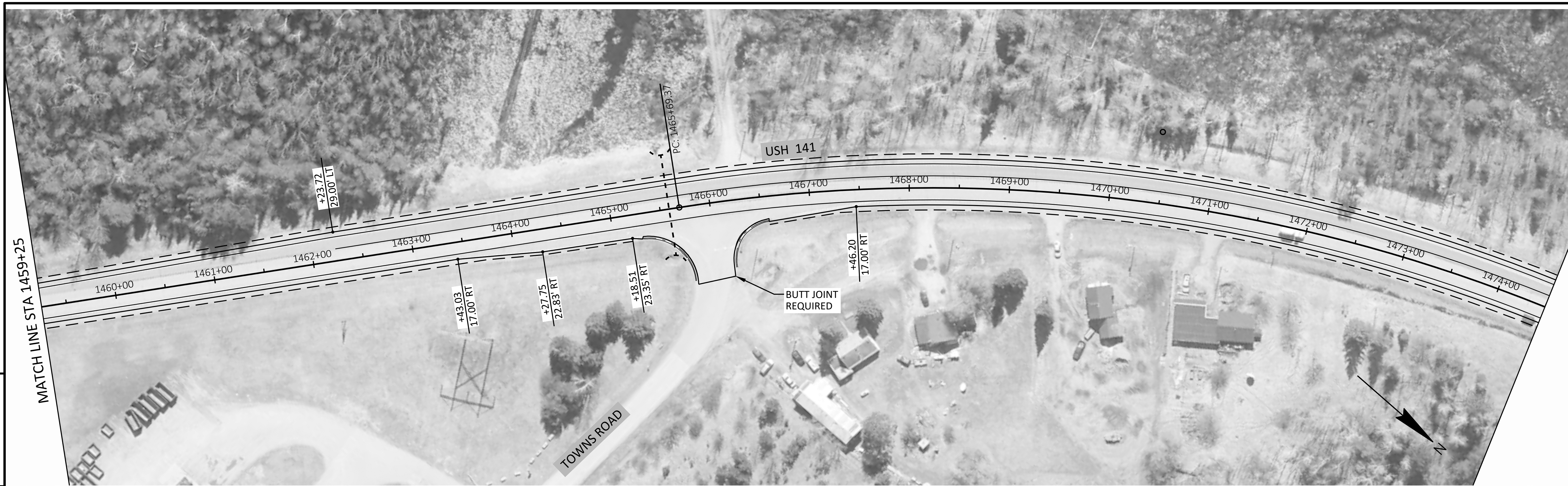
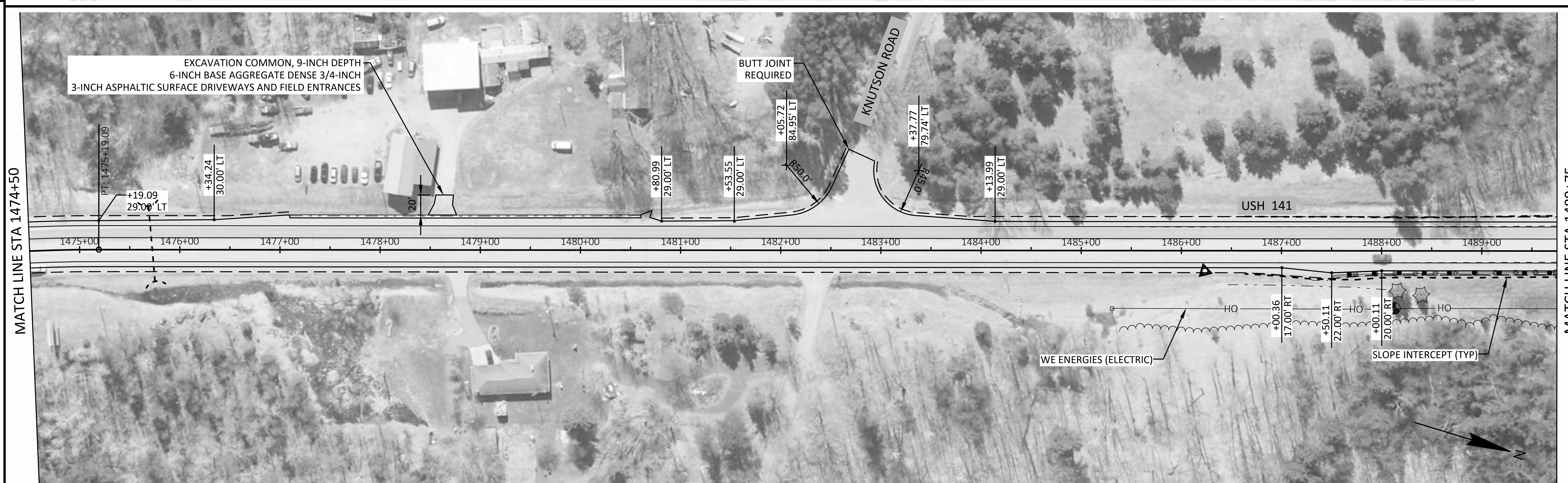
PROJECT NO: 1491-23-71	HWY: USH 141	COUNTY: MARINETTE	PLAN	SHEET 15	E

FILE NAME : N:\3000965.00\CIVIL 3D\SHEETSPLAN\149123-050200-PN.DWG
LAYOUT NAME - 149123-050201-PN
PLOT DATE : 11/30/2022 3:11 PM
PLOT BY : BRANDI SWANSON
PLOT NAME :
PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 44





PROJECT NO: 1491-23-71	HWY: USH 141	COUNTY: MARINETTE	PLAN	SHEET 16	E

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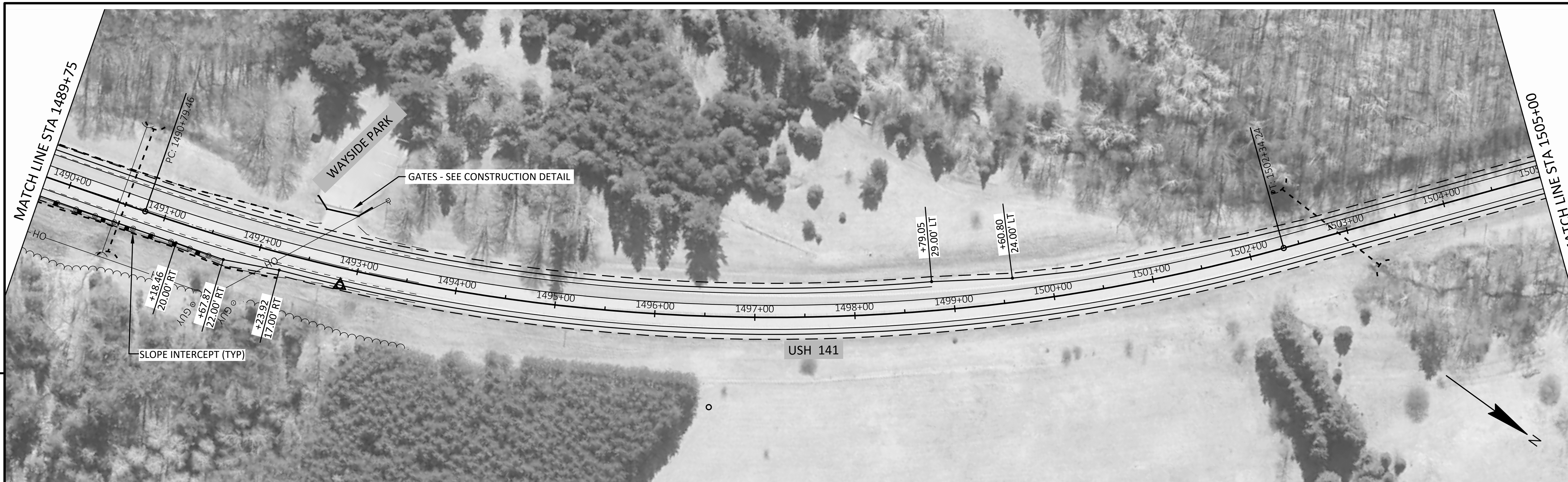
PLOT BY : BRANDI SWANSON
PLOT NAME :
PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 44



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5

PROJECT NO: 1491-23-71	HWY: USH 141	COUNTY: MARINETTE	PLAN	SHEET 17	E

Standard Detail Drawing List

13A10-02A	2-LANE RURAL SHOULDER RUMBLE STRIP, MILLING
13A10-02C	2-LANE RURAL SHOULDER RUMBLE STRIP, MILLING
13A10-02D	2-LANE RURAL SHOULDER RUMBLE STRIP, MILLING
13A11-03A	2-LANE RURAL CENTER LINE RUMBLE STRIP, MILLING
13A11-03B	2-LANE RURAL CENTER LINE RUMBLE STRIP, MILLING
13C19-03	HMA LONGITUDINAL JOINTS
14B42-07A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07D	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B44-04A	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-04B	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-04C	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
15B10-01A	WOOD GATE, DOUBLE LEAF
15B10-01B	WOOD GATE, DOUBLE LEAF
15B10-01C	WOOD GATE, DOUBLE LEAF
15C04-05	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 M.P.H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC
15C05-05	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 M.P.H. OR LESS
15C08-22A	LONGITUDINAL MARKING (MAINLINE)
15C08-22B	TEMPORARY LONGITUDINAL PAVEMENT MARKING
15C11-10B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS
15C12-09A	TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION
15C33-04	STOP LINE AND CROSSWALK PAVEMENT MARKING
15C35-05A	PAVEMENT MARKING (INTERSECTIONS)
15C35-05B	PAVEMENT MARKING AND SIGNING (CLIMBING LANE & PASSING LANE)
15C35-05C	PAVEMENT MARKING AND SIGNING (CLIMBING LANE & PASSING LANE)
15D39-02	TRAFFIC CONTROL, DROP-OFF SIGNING
15D44-02	TRAFFIC CONTROL, SIGNING ON ROADWAYS WITH MILLED SURFACES
15D51-01	TRAFFIC CONTROL, MOBILE OPERATIONS ON AN UNDIVIDED ROADWAY

6

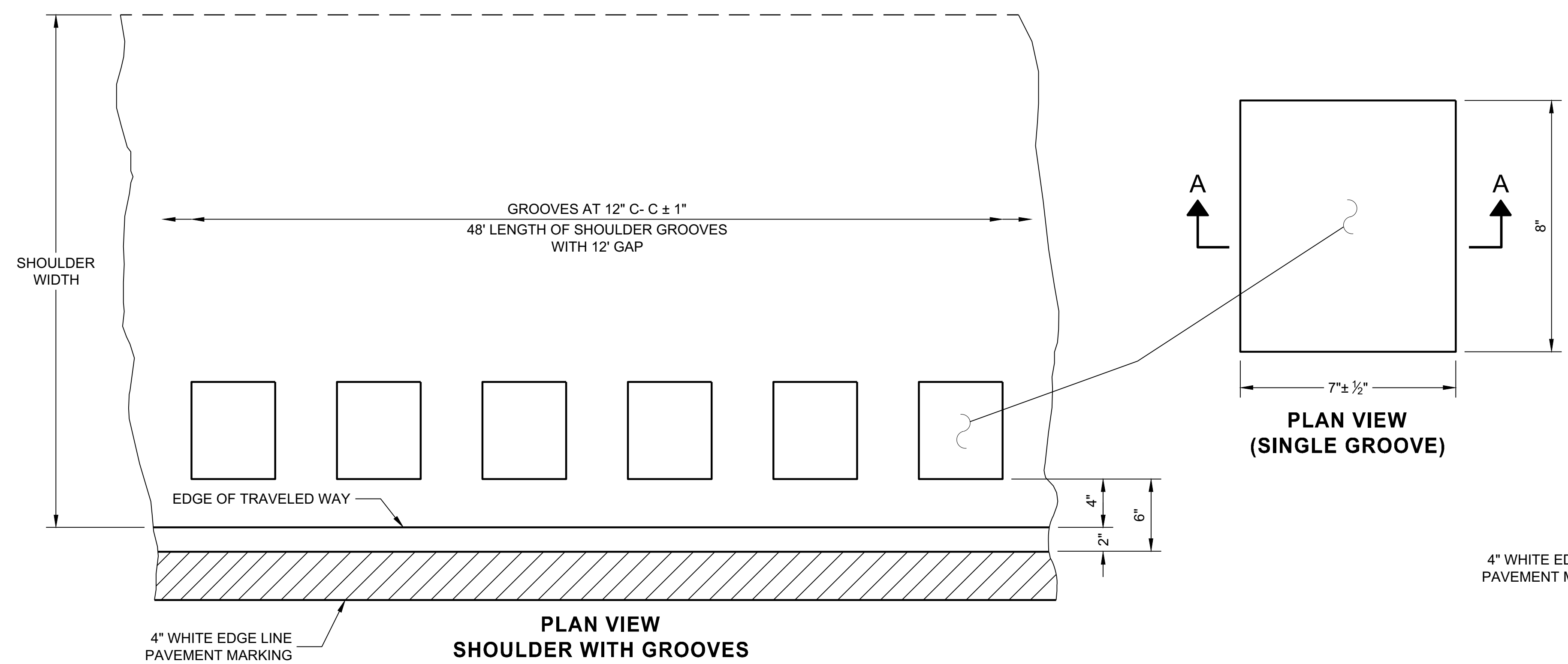
6

GENERAL NOTES

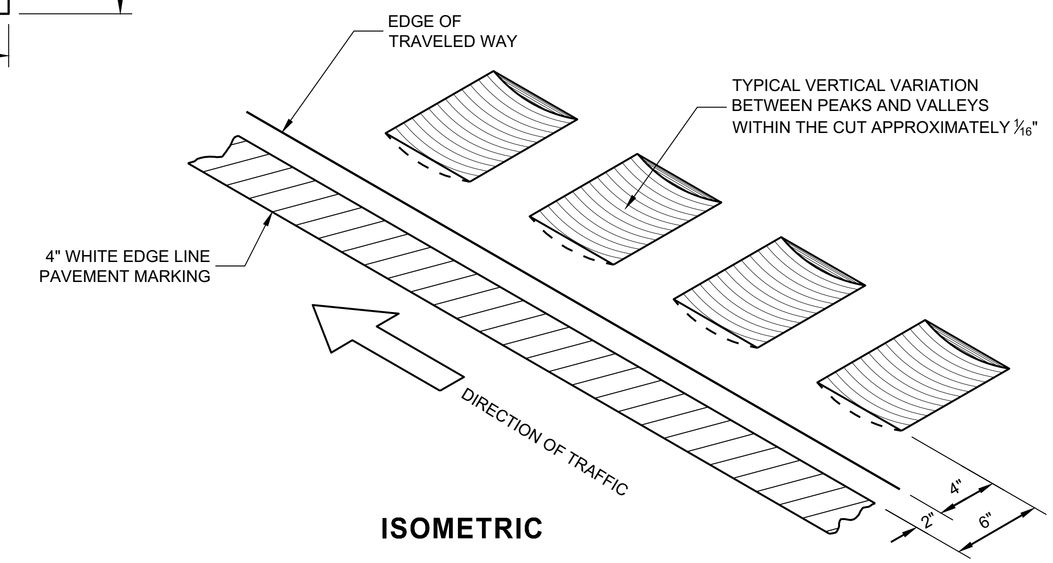
DETAILS OF CONSTRUCTION NO SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

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

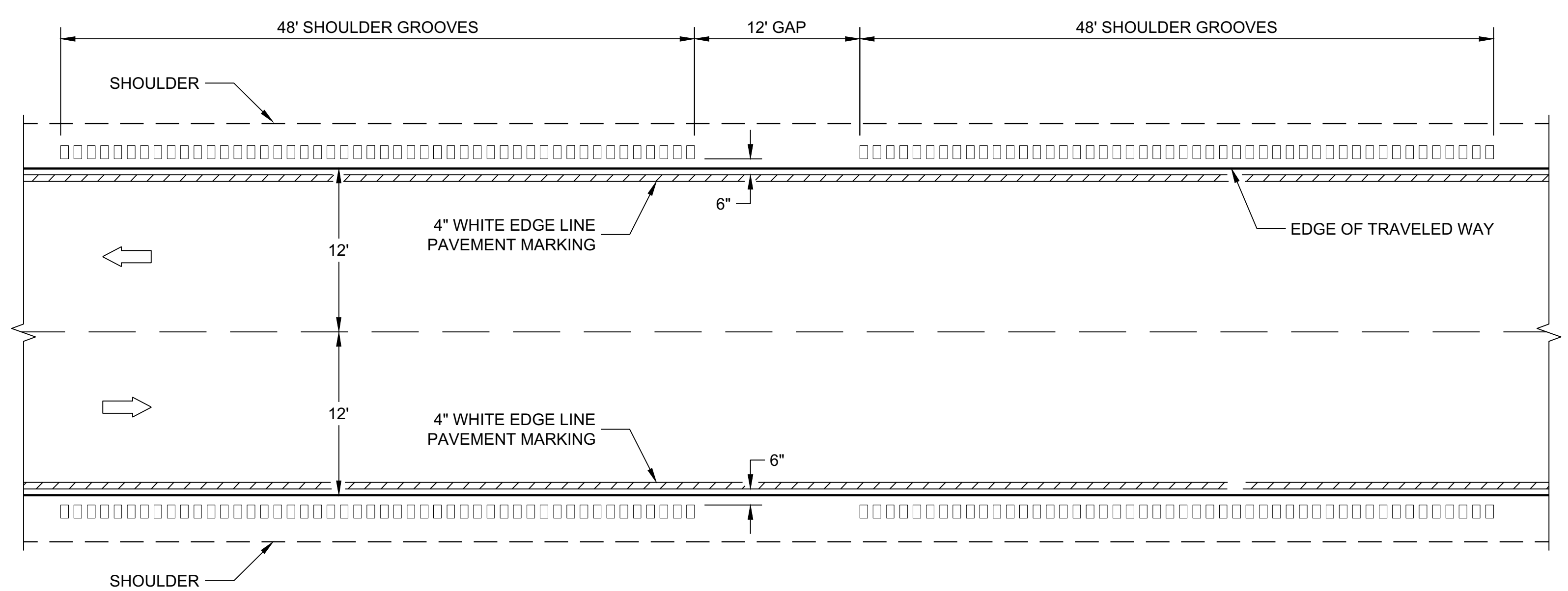
1. SHOULDER GROOVES MAY BE OMITTED IN AREAS WITH HIGH CONCENTRATIONS OF DRIVEWAYS. WHEN DIRECTED BY THE ENGINEER.



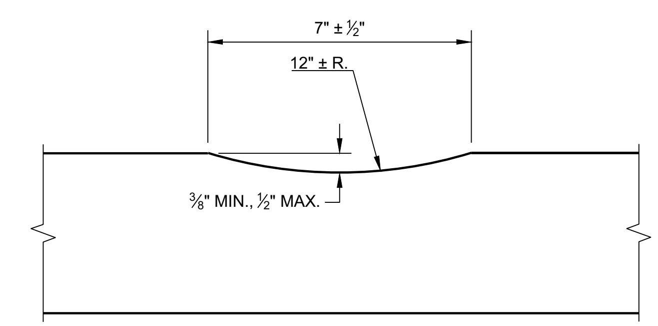
PLACEMENT DETAIL FOR TYPE 1 MILLED RUMBLE STRIP



ISOMETRIC



TYPE 1
2 - LANE SHOULDER RUMBLE STRIP



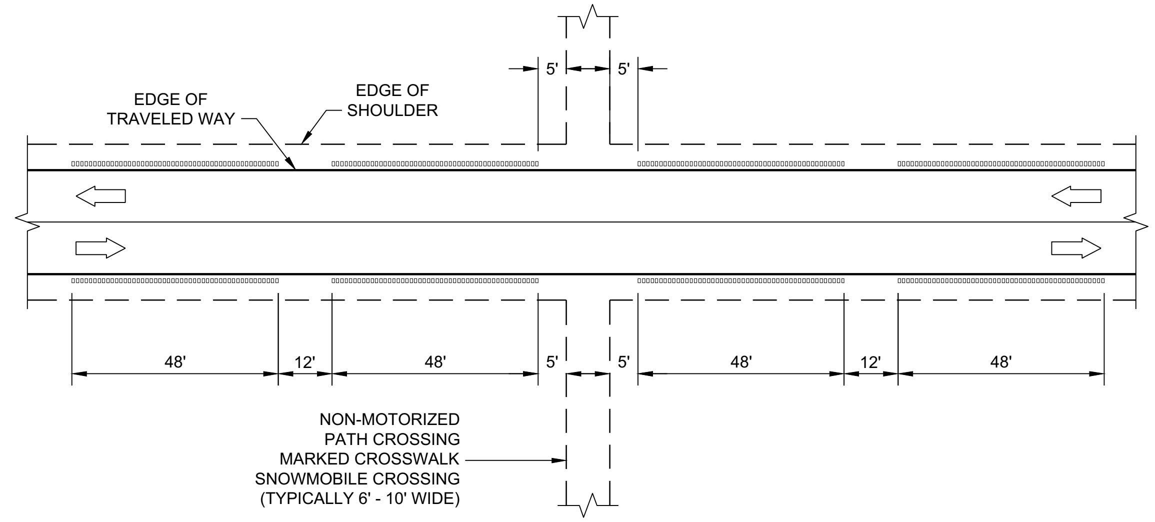
SECTION A - A

2-LANE RURAL SHOULDER RUMBLE STRIP, MILLING

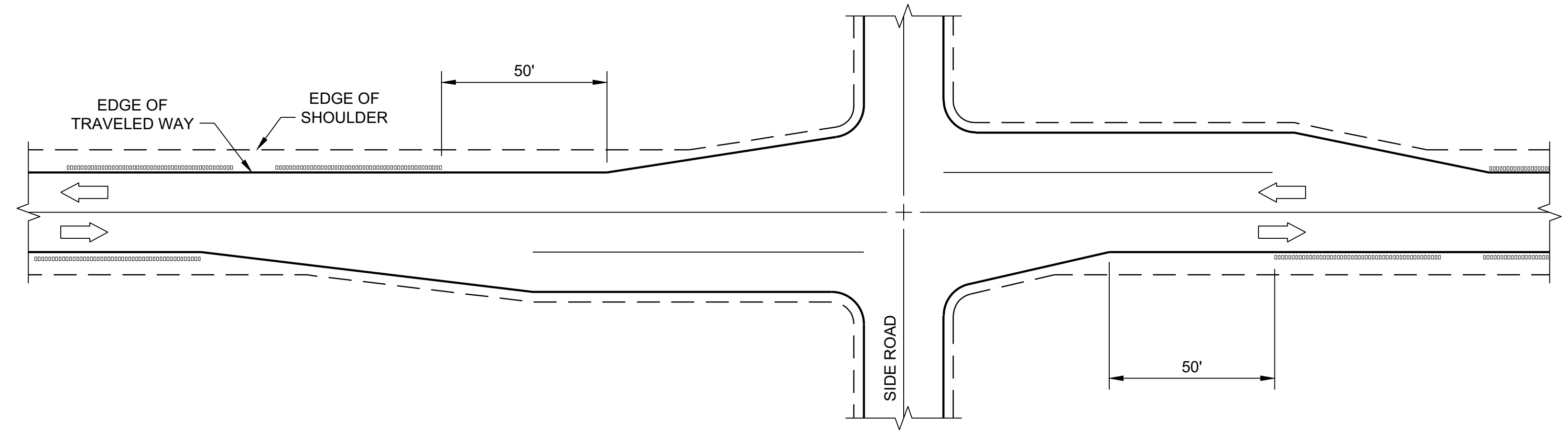
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATI

6

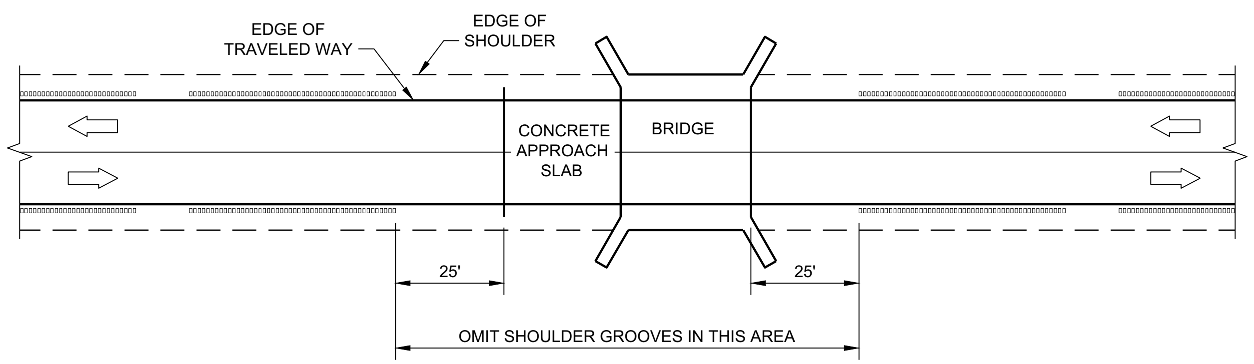
SDD 13A10 - 02a



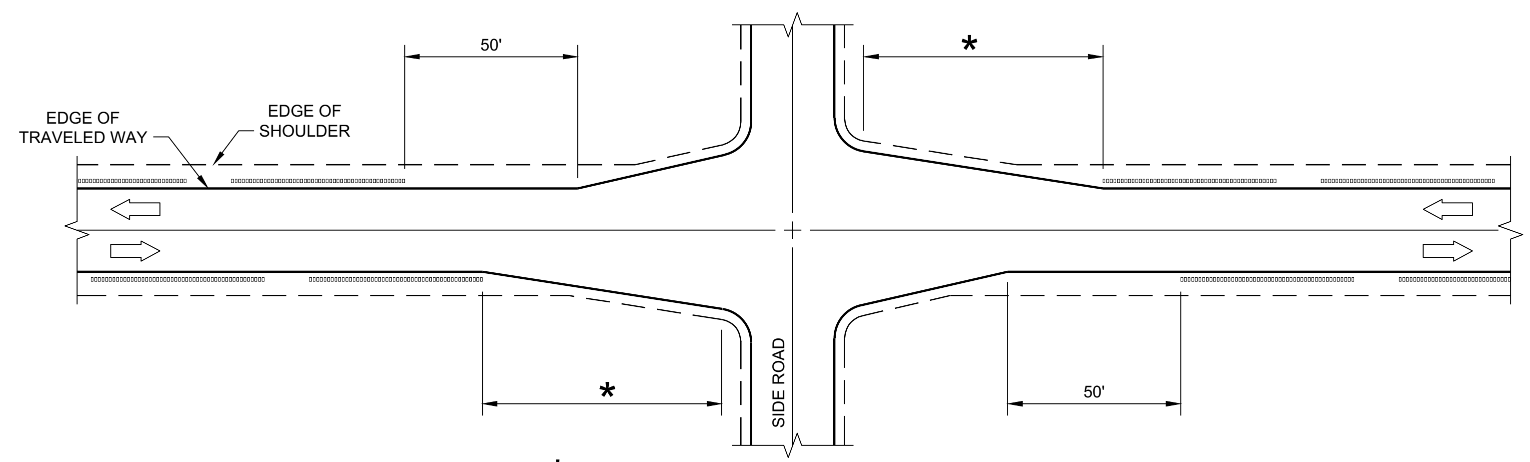
SHOULDER GROOVES AT MISCELLANEOUS CROSSINGS



SHOULDER GROOVES AT RIGHT TURN LANE

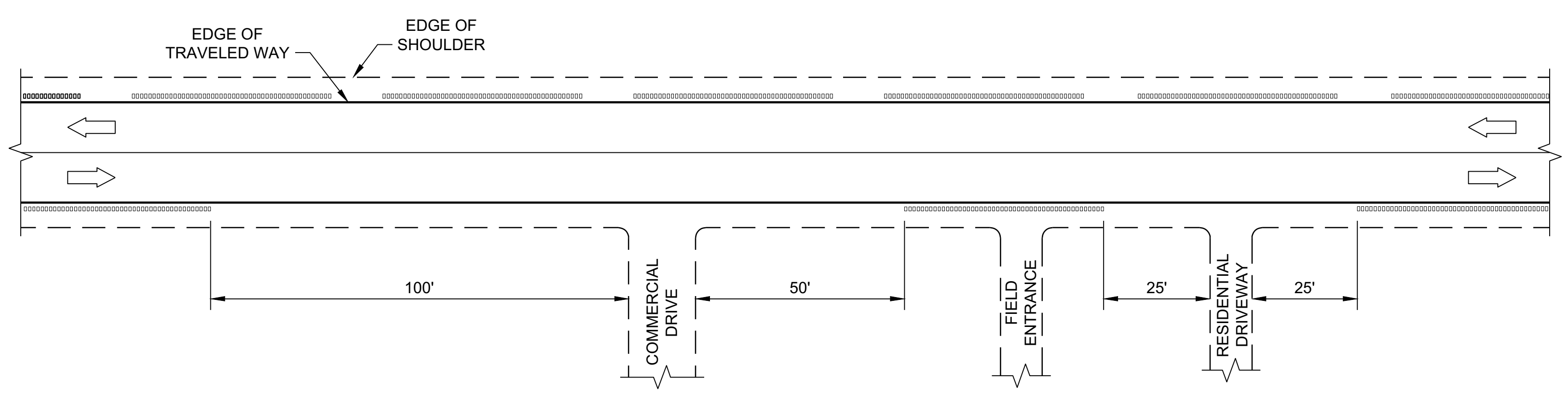


SHOULDER GROOVES AT BRIDGES



* GREATER OF 100' OR APPROACH TAPER LENGTH

SHOULDER GROOVES AT INTERSECTIONS WITH APPROACH TAPER



SHOULDER GROOVES AT DRIVEWAYS (1)

GENERAL NOTES

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

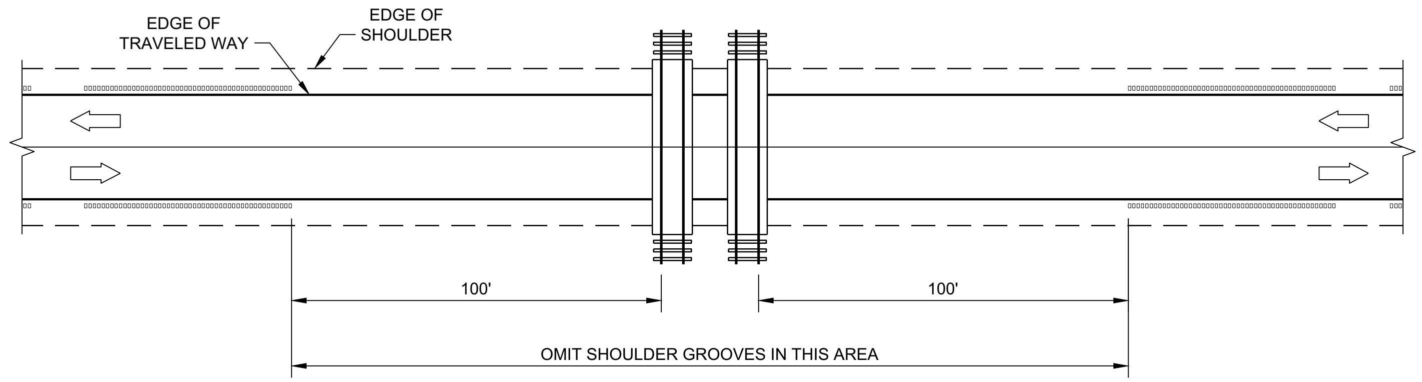
2-LANE RURAL SHOULDER RUMBLE STRIP, MILLING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

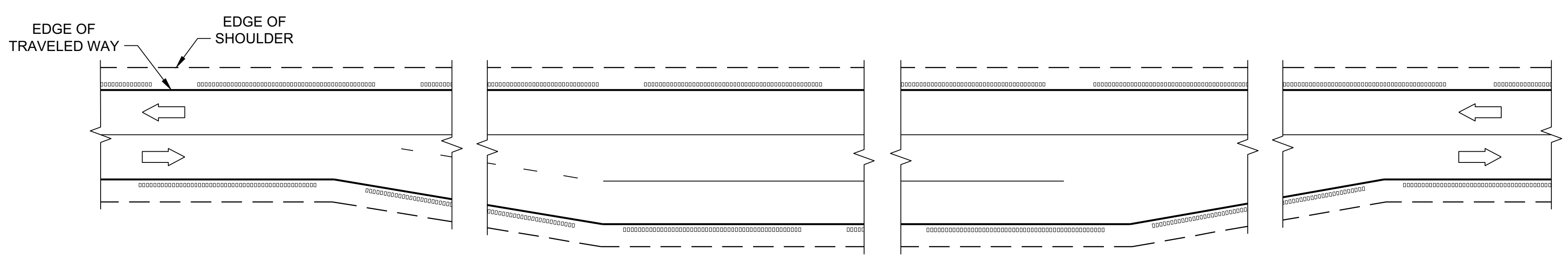
6

SDD 13A10 - 02c

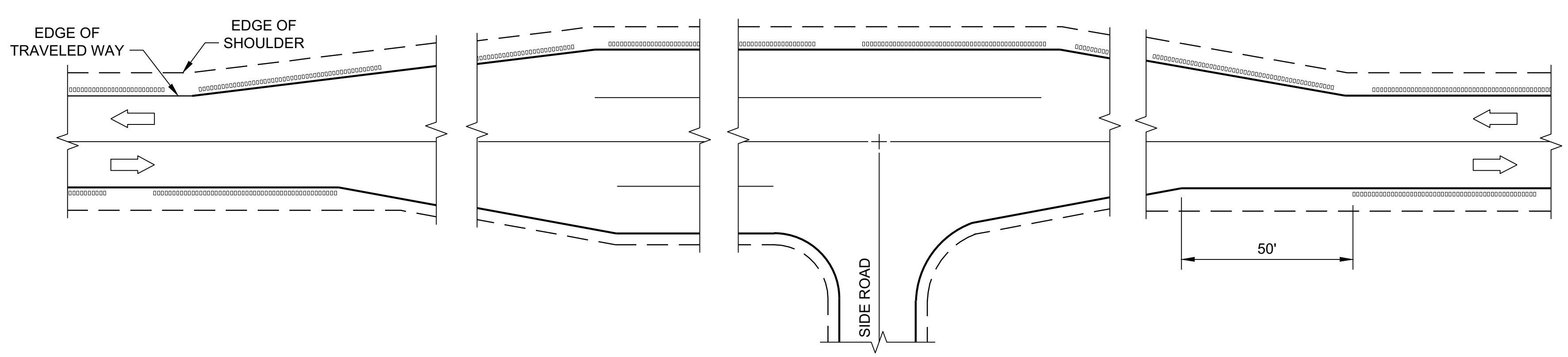
SDD 13A10 - 02c



SHOULDER GROOVES AT RAILROADS



SHOULDER GROOVES AT PASSING AND CLIMBING LANES



SHOULDER GROOVES AT BYPASS LANES

2-LANE RURAL SHOULDER RUMBLE STRIP, MILLING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

7/2018
DATE

/S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT ENGINEER

FHWA

GENERAL NOTES

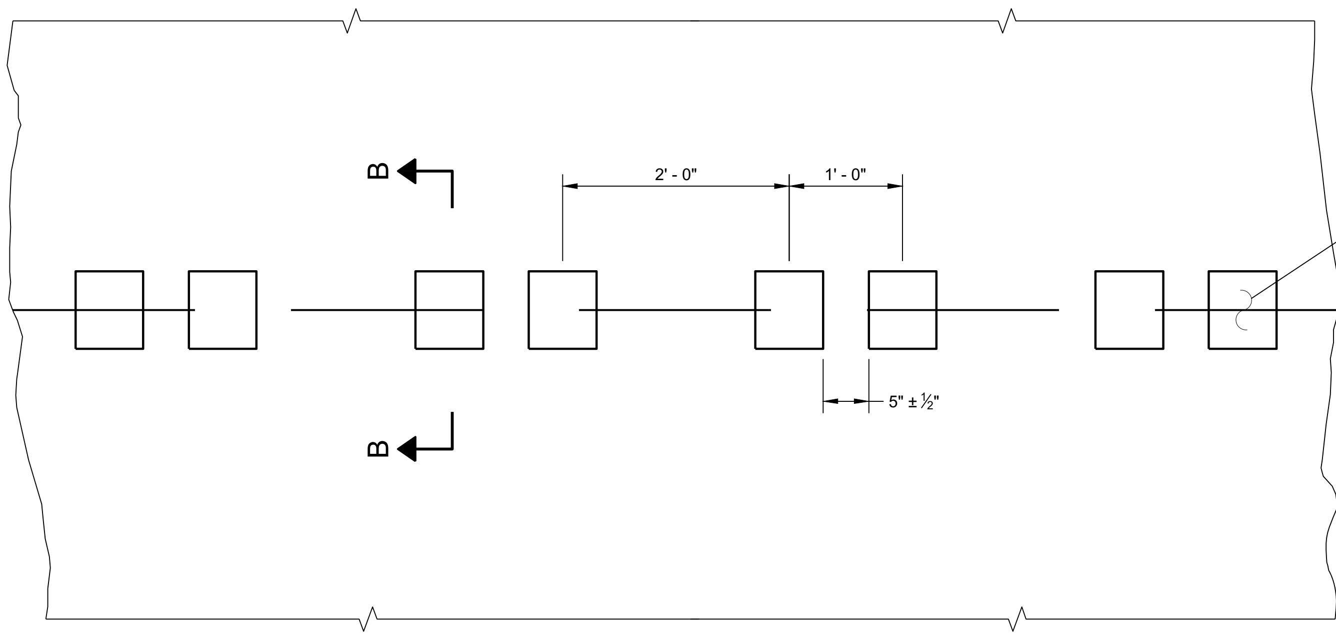
DETAILS OF CONSTRUCTION NO SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

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

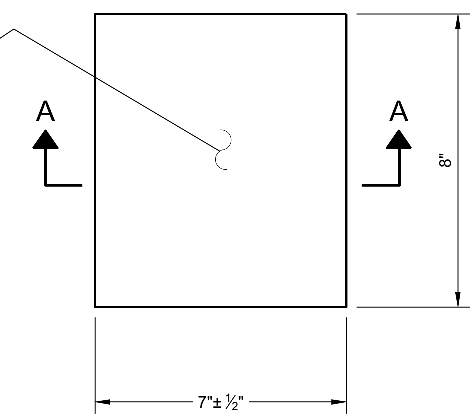
INSTALL PAVEMENT MARKING AFTER THE GROOVES ARE INSTALLED.

SEE SIGNING PLAN FOR SIGN REQUIREMENTS THAT MAY BE NEEDED.

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

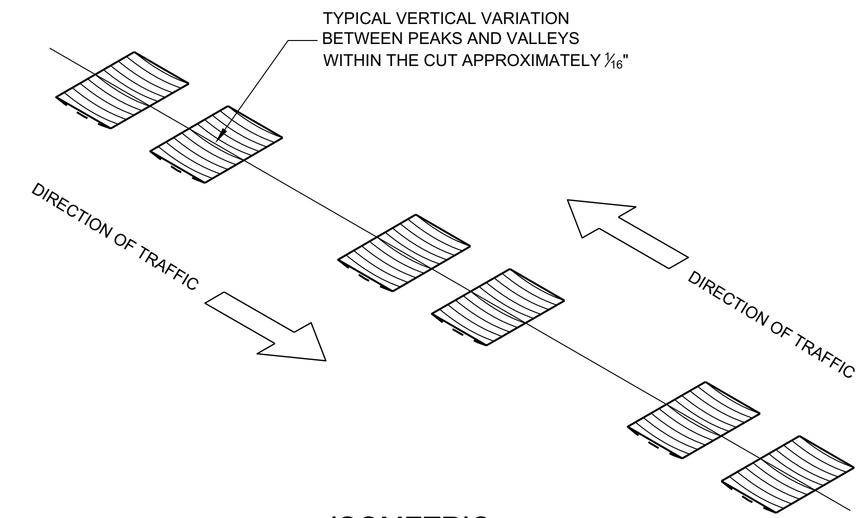


PLAN VIEW
SHOULDER WITH GROOVES



PLAN VIEW
(SINGLE GROOVE)

PLACEMENT DETAIL FOR TYPE 1 MILLED RUMBLE STRIP



ISOMETRIC

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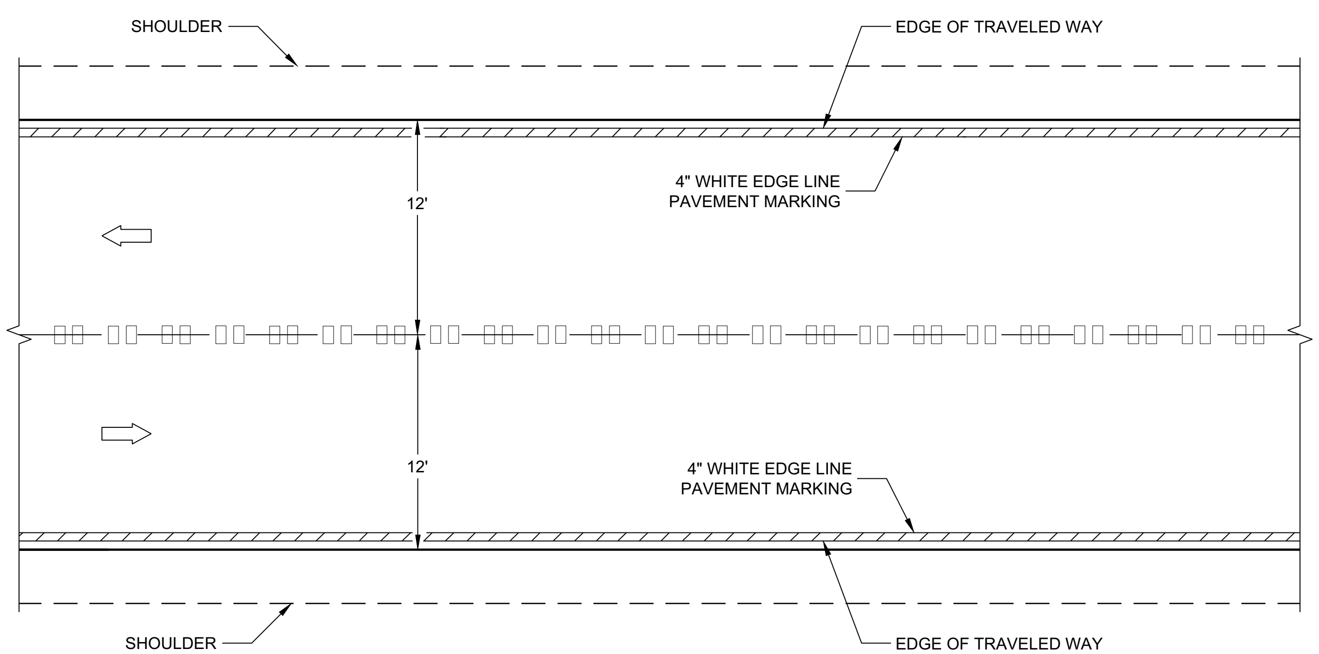
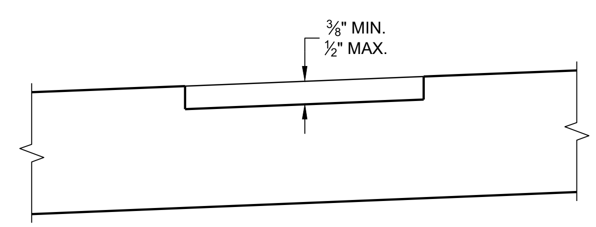
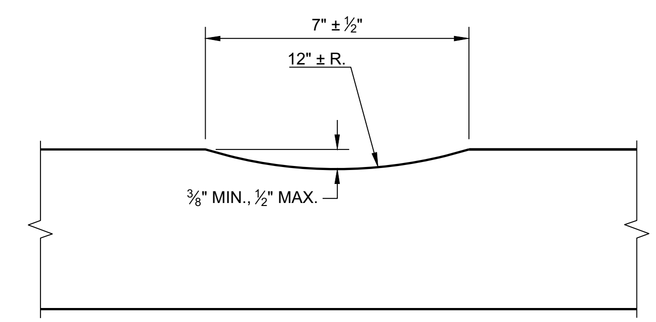


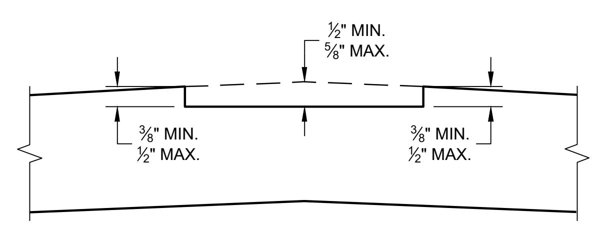
CENTERLINE GROOVES ON TWO-WAY ROADWAYS



SECTION B - B
SUPERELEVATED ROADWAY



SECTION A - A



SECTION B - B
CROWNED ROADWAY

6

2-LANE RURAL
CENTER LINE RUMBLE STRIP,
MILLING

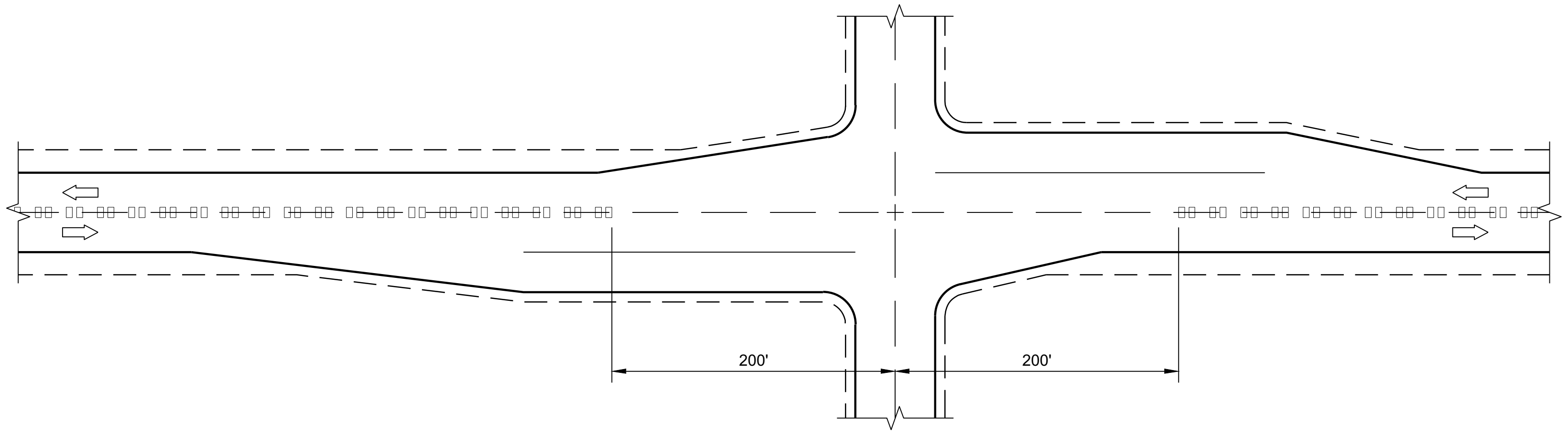
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATI

SDD 13A11 - 03a

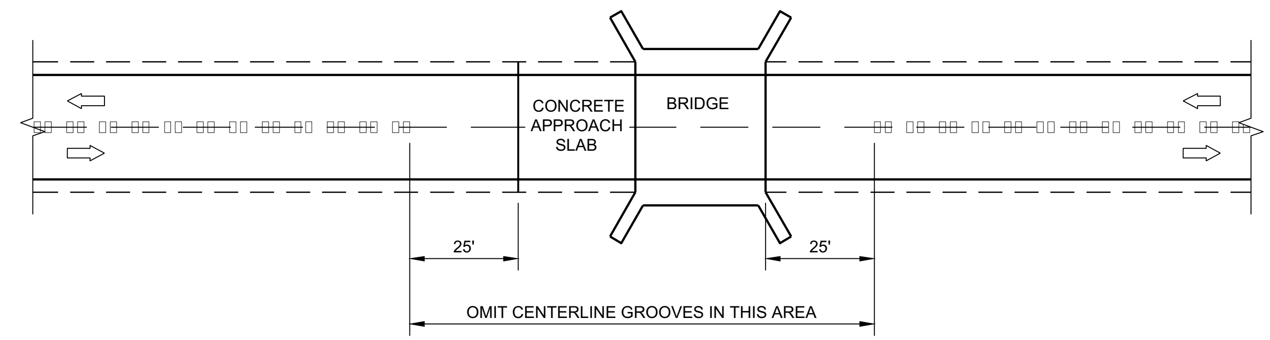
SDD 13A11 - 03a

GENERAL NOTES

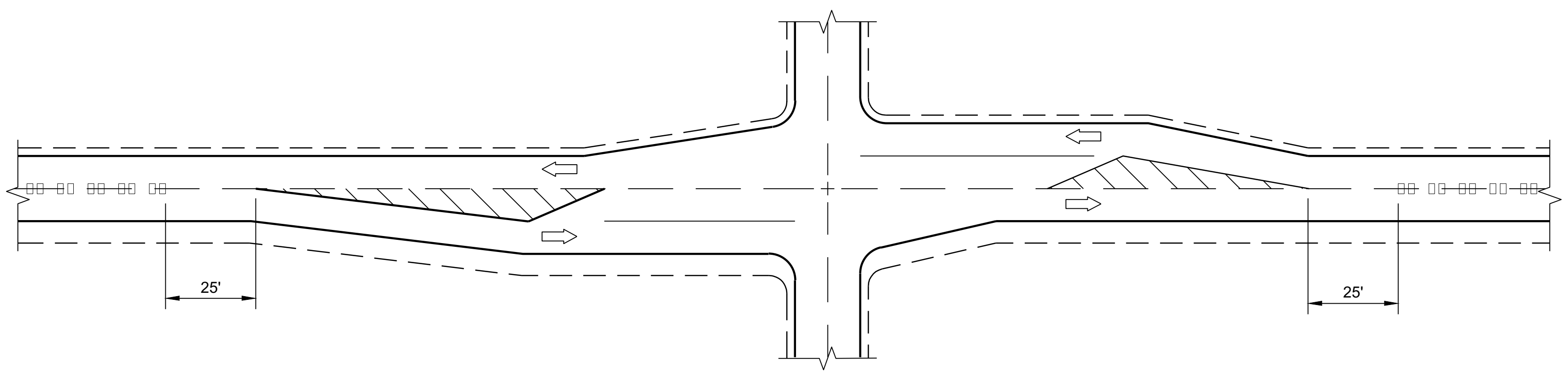
(1) CENTERLINE GROOVES MAY BE OMITTED IN AREAS WITH HIGH CONCENTRATIONS OF DRIVEWAYS. WHEN DIRECTED BY THE ENGINEER.



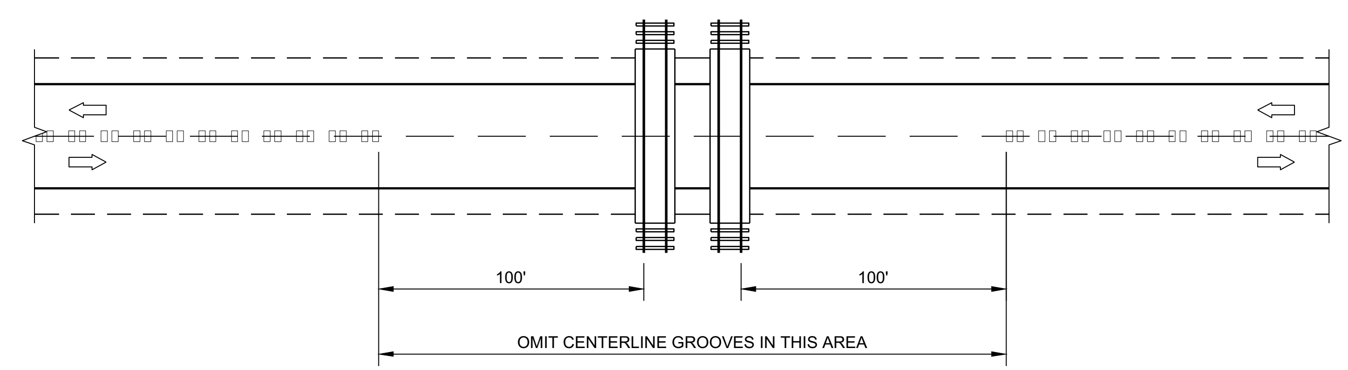
CENTERLINE GROOVES AT INTERSECTIONS



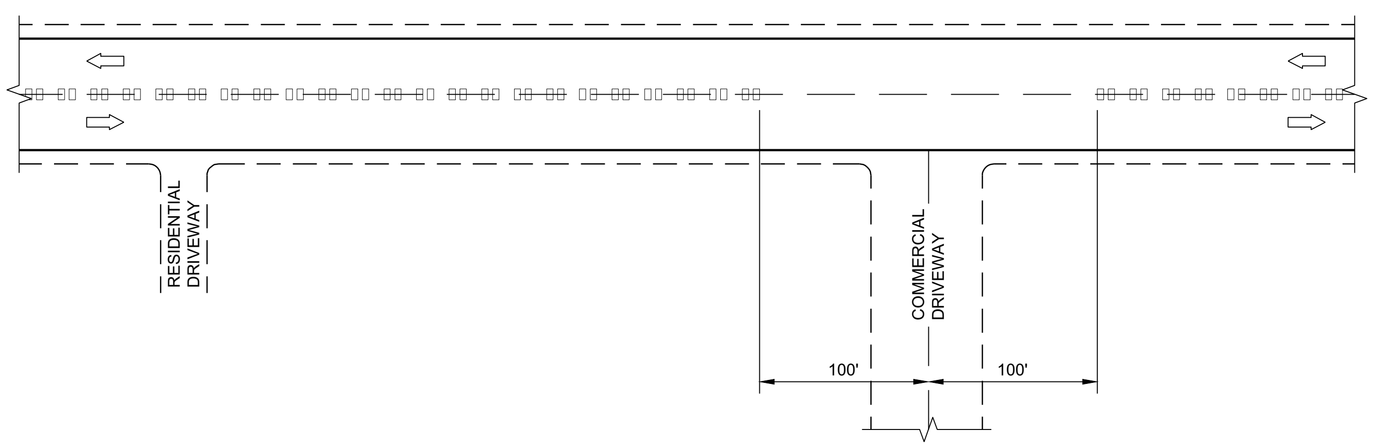
CENTERLINE GROOVES AT BRIDGES



CENTERLINE GROOVES AT INTERSECTIONS (WITH LEFT TURN LANES)



CENTERLINE GROOVES AT RAILROADS



CENTERLINE GROOVES AT DRIVEWAYS (1)

6

6

2-LANE RURAL CENTERLINE RUMBLE STRIP, MILLING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

7/2018 — DATE

/S/ Rodney Taylor — ROADWAY STANDARDS DEVELOPMENT ENGINEER

FHWA

SDD 13A11 - 03b

SDD 13A11 - 03b

GENERAL NOTES

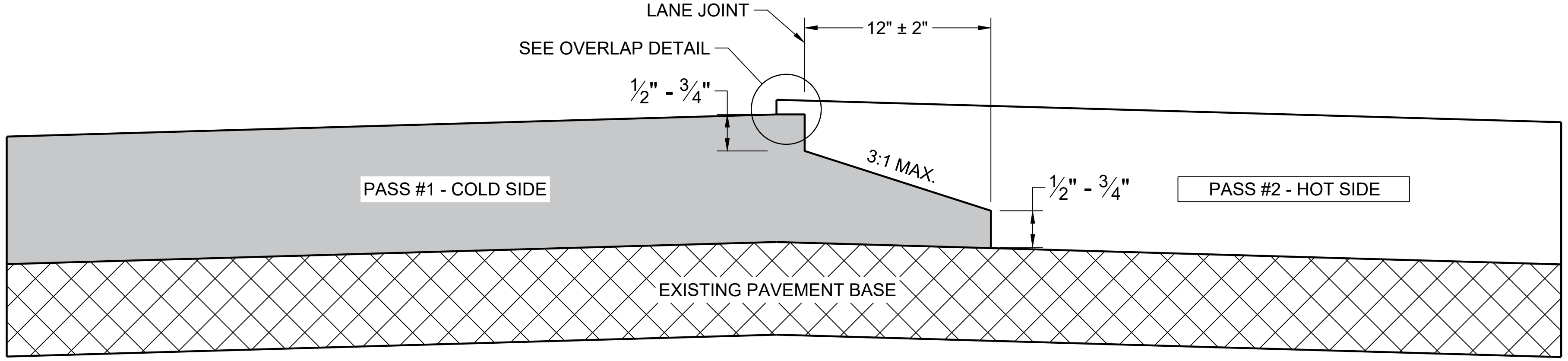
IN ADDITION TO THE DETAILS PROVIDED IN THIS DRAWING, CONFORM TO STANDARD SPECIFICATION 450.3.2.8 FOR WHEN A NOTCHED WEDGE JOINT IS REQUIRED AND FOR GENERAL JOINT CONSTRUCTION REQUIREMENTS.

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

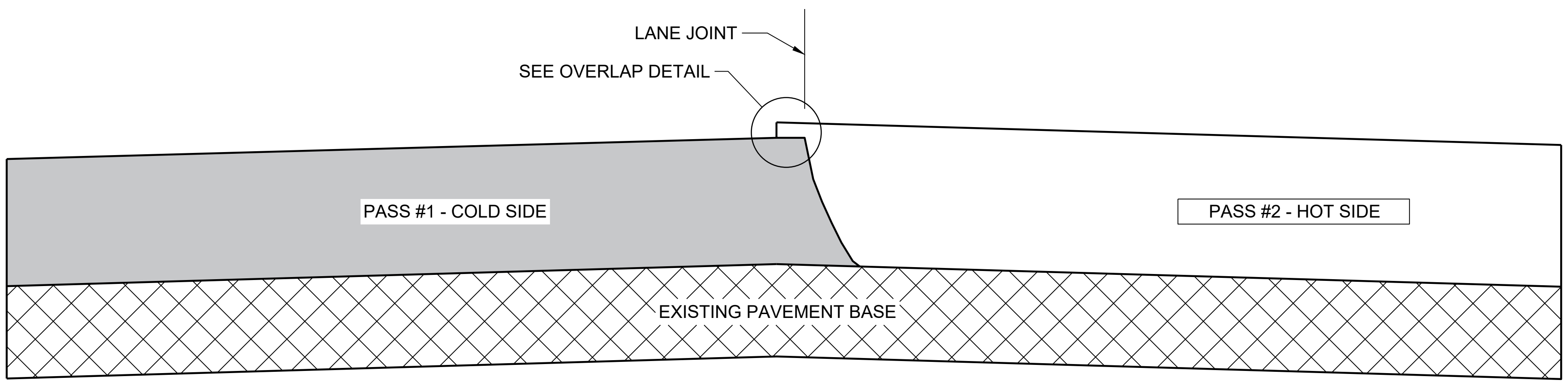
ONLY REMOVE THE LONGITUDINAL NOTCHED WEDGE JOINT FOR SMA PAVEMENT OR AS DIRECTED BY THE ENGINEER TO ADDRESS SPECIFIC LENGTHS OF JOINT DAMAGED BY TRAFFIC.

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

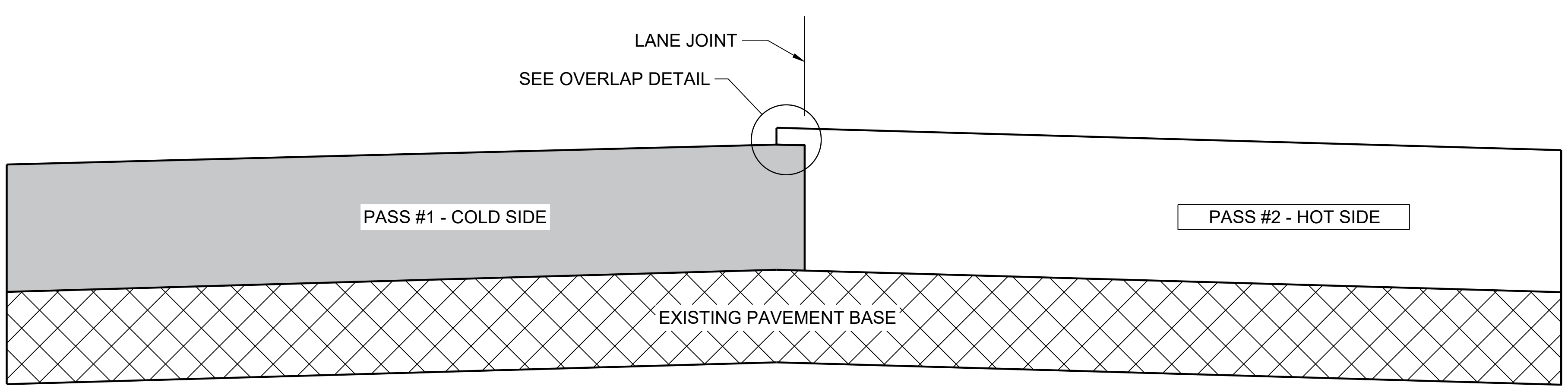
USE LONGITUDINAL MILLED JOINT AS PLANS SHOW OR THE AS THE ENGINEER DIRECTS.



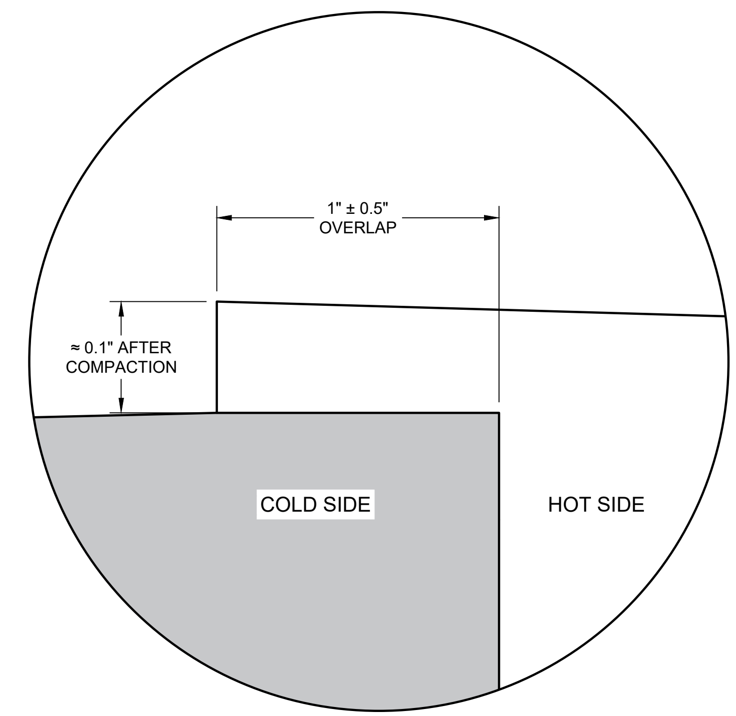
TYPICAL PAVEMENT CROSS SECTION
NOTCHED WEDGE JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT (MILLED)



OVERLAP DETAIL (TYPICAL)

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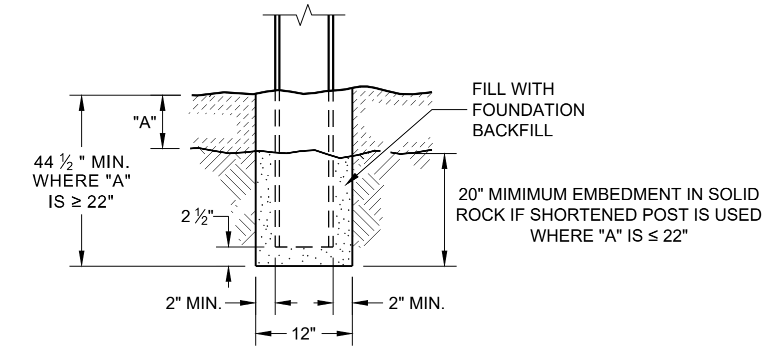
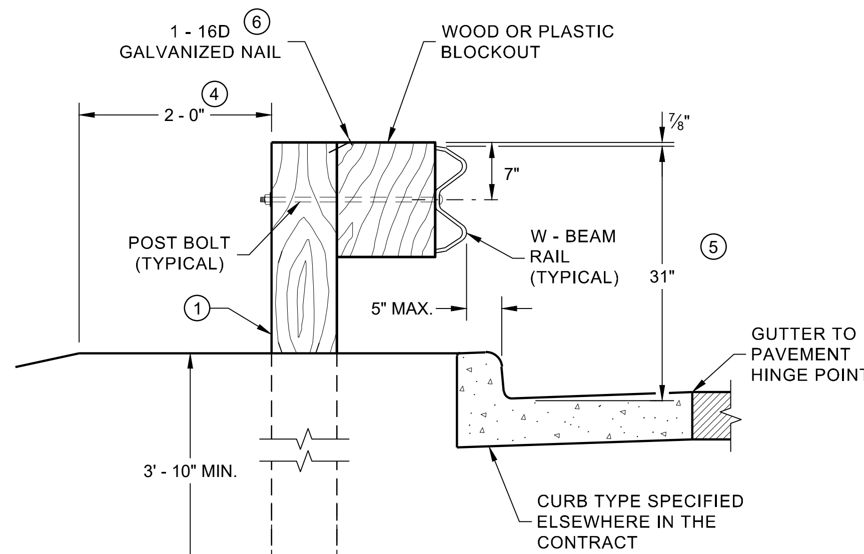
HMA LONGITUDINAL JOINTS
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION
APPROVED November 2020 /S/ Steven Hefel DATE HMA PAVEMENT ENGIN FHWA

SDD 13C19 - 03

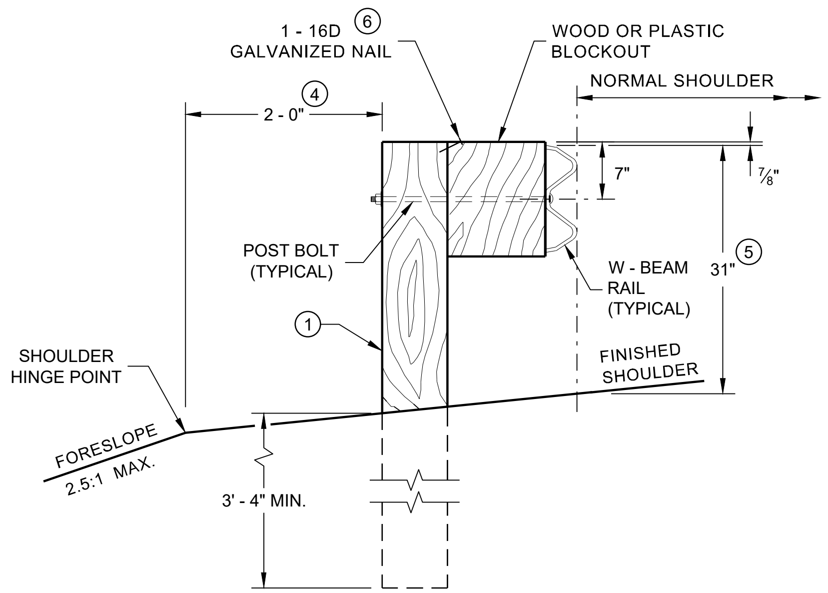
1. WOOD OR STEEL POSTS (w6X9 OR w6X8.5) MAY BE USED. DO NOT INTERMIX WOOD AND STEEL POSTS. INSTALL STEEL POSTS WITH HOLES ON APPROACHING TRAFFIC SIDE.
2. USE WOOD OR APPROVED PLASTIC BLOCKOUTS. WOOD BLOCKOUTS MAY BE CONSTRUCTED OUT OF TWO OR MORE WOOD BLOCKOUTS. SEE ALTERNATE WOOD BLOCKOUT DETAIL. DIMENSIONS OF APPROVED PLASTIC BLOCKOUTS MAY VARY.
3. IF ROCK IS ENCOUNTERED DURING EXCAVATION, PROVIDE A HOLE 12 INCHES IN DIAMETER EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2 1/2" INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS THE TO LENGTH AMD INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT. BACKFILL IS TO BE FREE OF LARGE ROCKS.
4. WHEN THE DISTANCE FROM BACK OF POST TO SHOULDER HINGE POINT IS LESS THAN 2 FEET INSTALL LONGER POST AT HALF POST SPACING (K).
5. FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS ±1". FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27 ¾" TO 32".
6. WHEN USING STEEL POST AND WOOD BLOCKOUTS INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.
7. TOTAL POST LENGTH FOR TYPE K IS 7' - 0". TOTAL POST LENGTH FOR OTHER MGS TYPES IS 6' - 0".



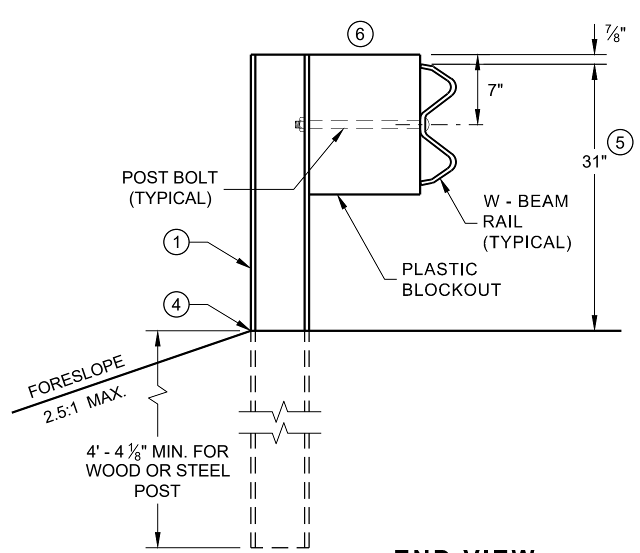
END VIEW
SETTING STEEL OR WOOD POST IN ROCK (3)



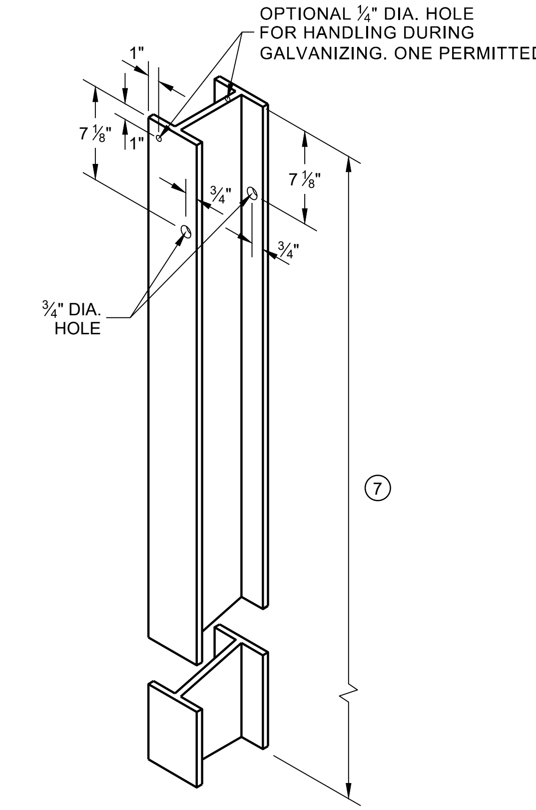
END VIEW
LOCATED ALONG A CURBED ROADWAY



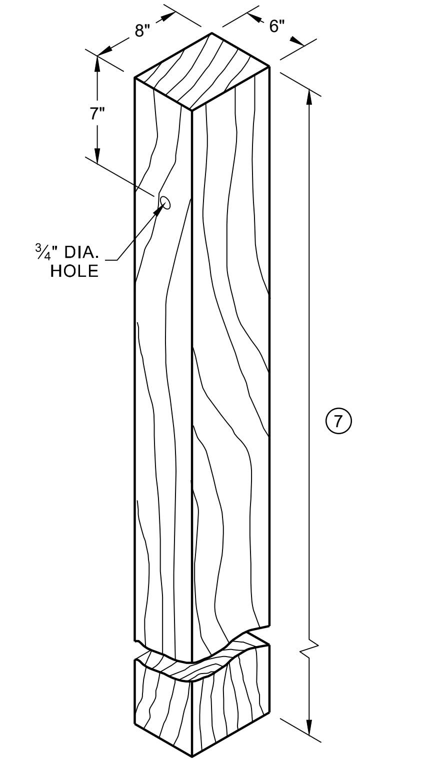
END VIEW
LOCATED ALONG A ROADWAY SHOULDER
STANDARD INSTALLATION



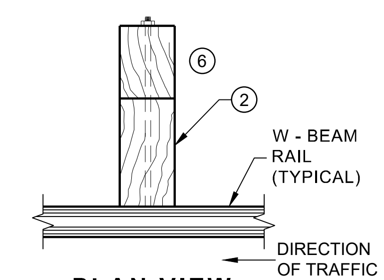
END VIEW
MGS LONGER POST AT HALFPOST SPACING W BEAM (K)



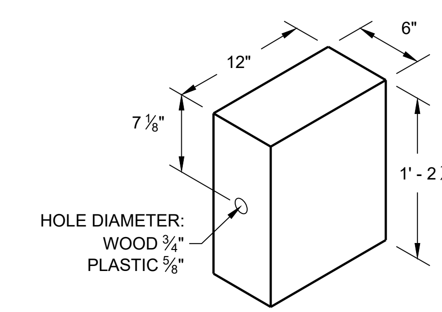
STEEL POST & HOLE PUNCHING DETAIL (W 6 X 9) (1)



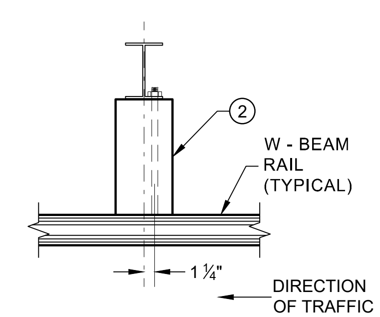
WOOD POST (6" X 8") NOMINAL (1)



PLAN VIEW
WOOD POST, BLOCKOUT & BEAM



WOOD OR PLASTIC BLOCKOUT (2)



PLAN VIEW
STEEL POST, PLASTIC BLOCKOUT & BEAM

6

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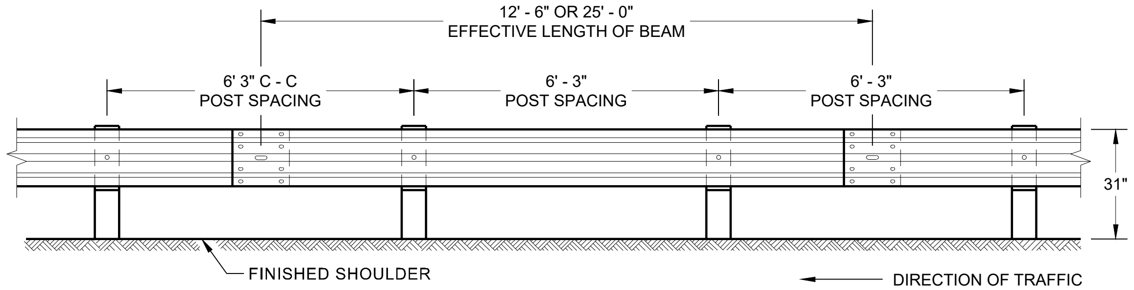
SDD 14B42 - 07a

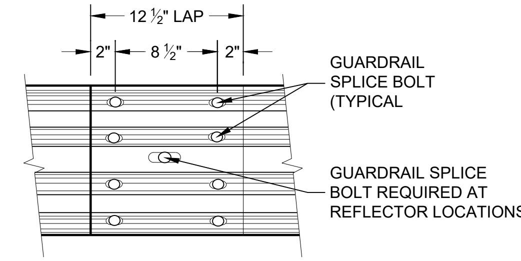
SDD 14B42 - 07a

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



FRONT VIEW
POST SPACING STANDARD INSTALLATION



FRONT VIEW
MID-SPAN BEAM SPLICE

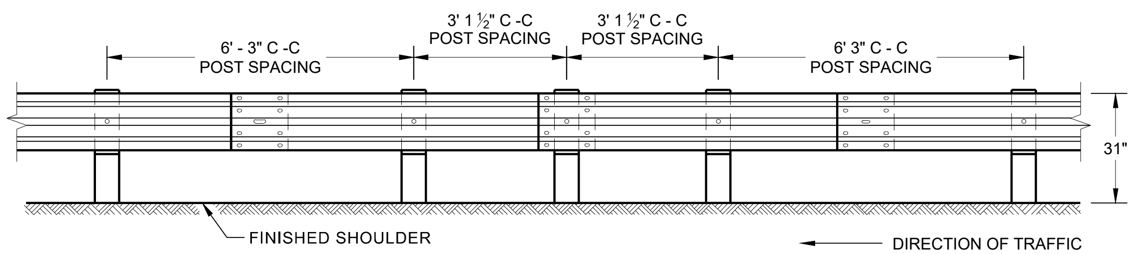
GENERAL NOTES

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

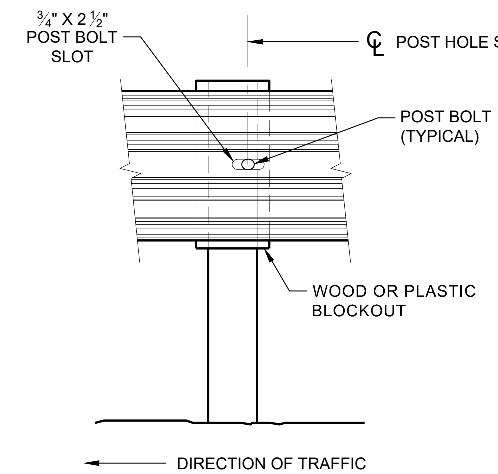
(9) 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.

POST BOLTS ARE A 5/8" DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES 5/8" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT AND 5/8" DIAMETER F844 FLAT WASHER. POST BOLTS MAY BE LONGER IF MULTIPLE BLOCKOUTS ARE BEING USED.

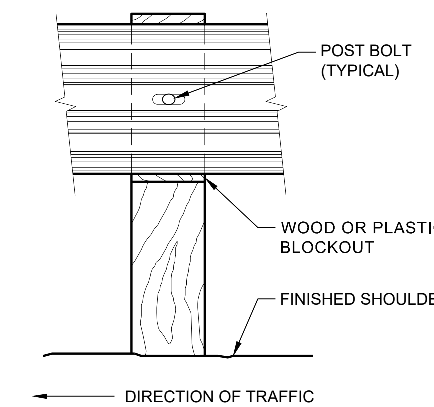
GUARD RAIL SPLICE BOLTS ARE A 5/8" DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES 5/8" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.



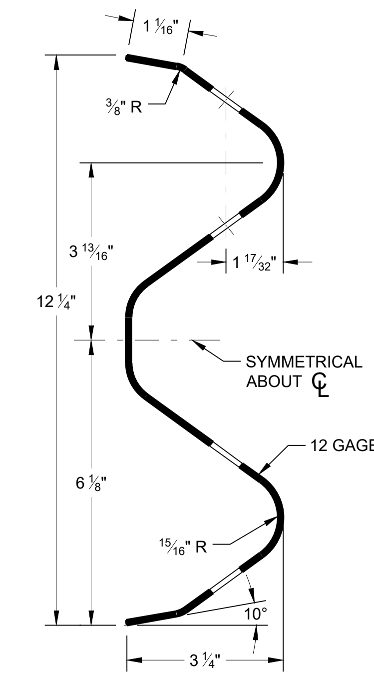
FRONT VIEW
HALF POST SPACING (HS) AND
HALF POST SPACING WITH LONGER POSTS (K)



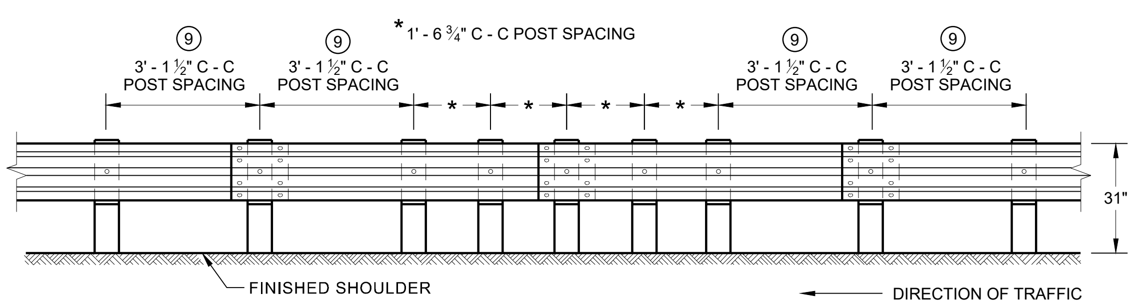
FRONT VIEW AT STEEL POST



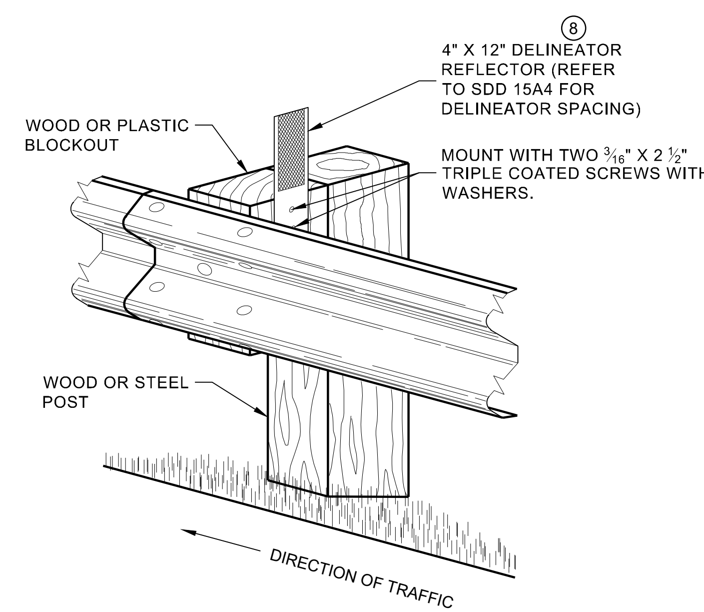
FRONT VIEW AT WOOD POST



SECTION THRU W-BEAM RAIL



FRONT VIEW
QUARTER POST SPACING (QS)

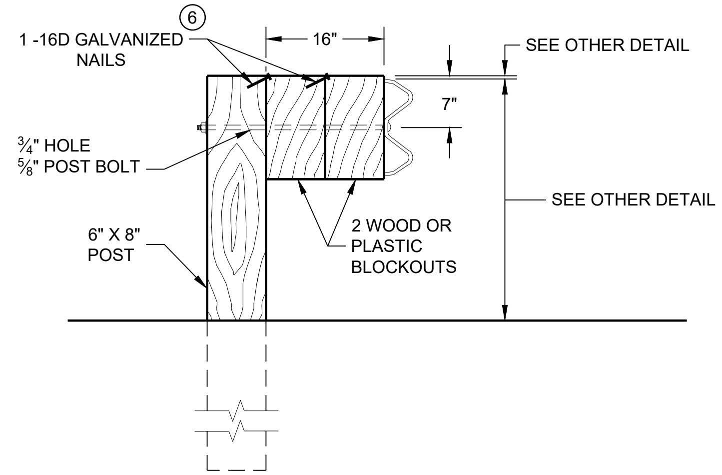


ONE SIDED REFLECTOR DETAIL
AND TYPICAL INSTALLATION

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTAT

6
SDD 14B42 - 07b

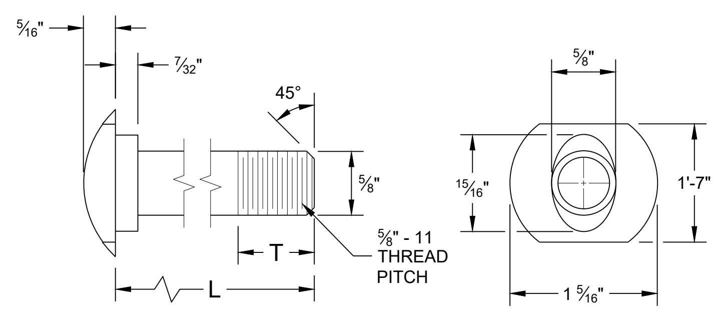


DETAIL FOR 16" BLOCKOUT DEPTH

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

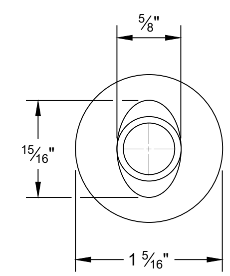
NOTE:

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

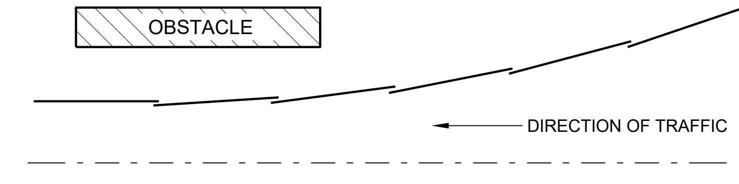


POST BOLT TABLE

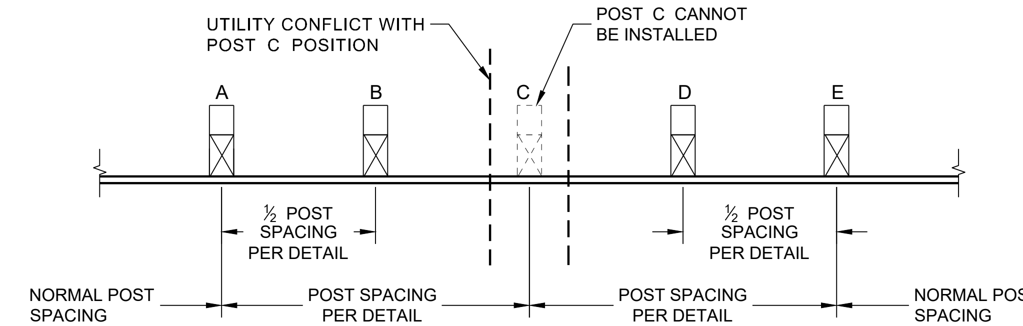
L	T (MIN.)
1 ¼"	1 ⅛"
2"	1 ¾"
10"	4"
14"	4 1⁄16"
18"	4"
21"	4 1⁄16"
25"	4"



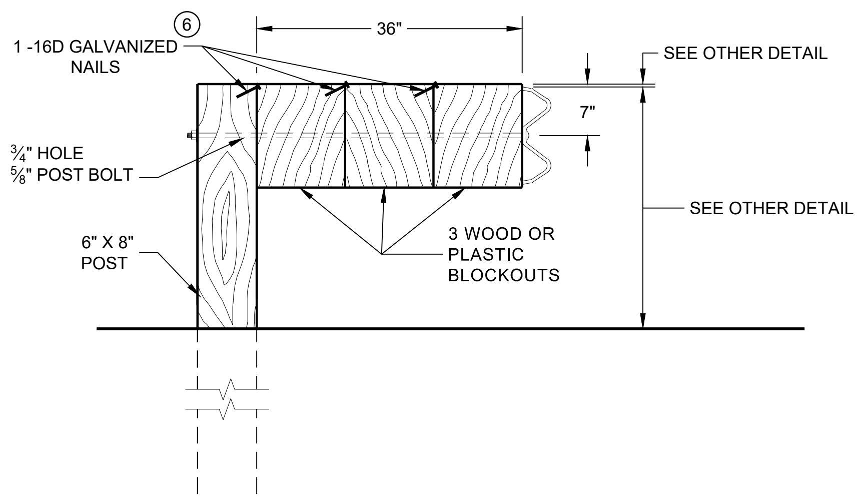
ALTERNATE BOLT HEAD



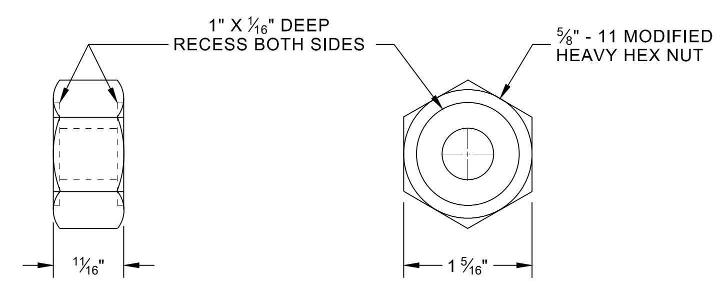
PLAN VIEW
BEAM LAPPING DETAIL



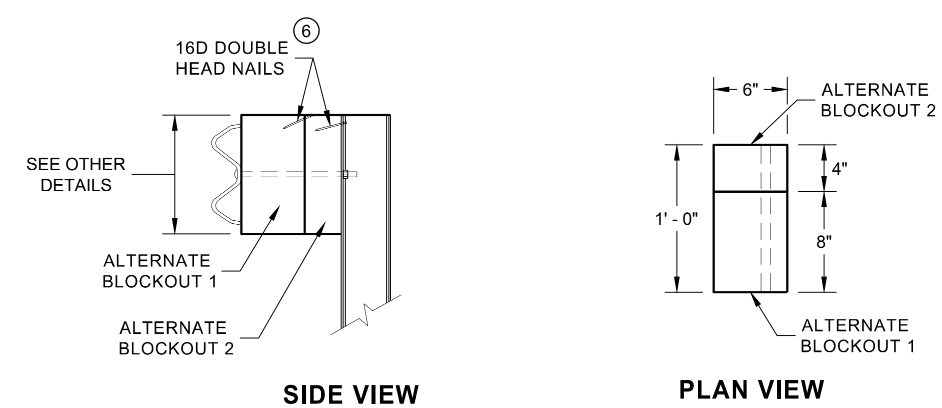
POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION



DETAIL FOR 36" BLOCKOUT DEPTH



POST BOLT, SPLICE BOLT AND RECESS NUT



ALTERNATE WOOD BLOCKOUT DETAIL

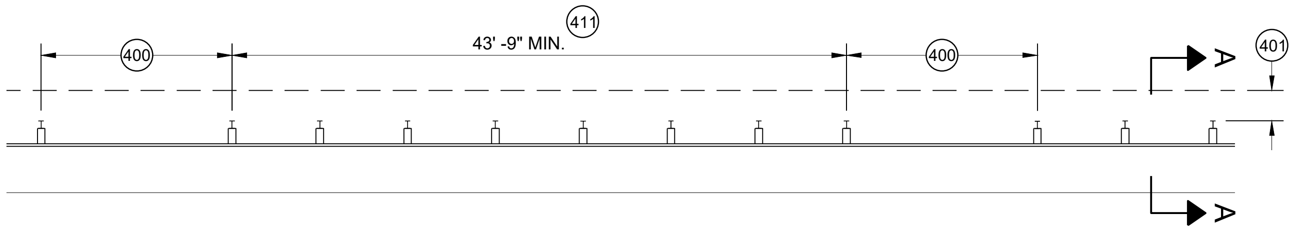
NOTES: UNDER SPECIAL CIRCUMSTANCES, SUCH AS AVOIDING OBSTACLES THAT ARE NOT RELOCATED, IT IS ACCEPTABLE TO INSTALL ADDITIONAL BLOCKOUTS TO OBTAIN UP TO 36" DEPTH FOR ONE OR TWO POSTS IN A SECTION OF GUARDRAIL.

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

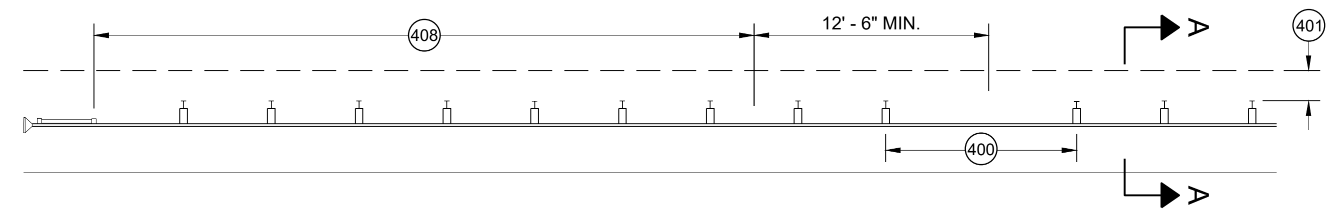
6 WHEN USING STEEL POST AD WOOD BLOCKOUTS, INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

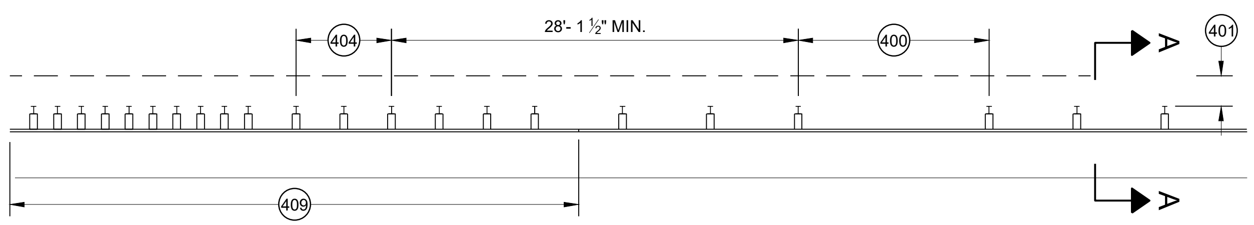
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



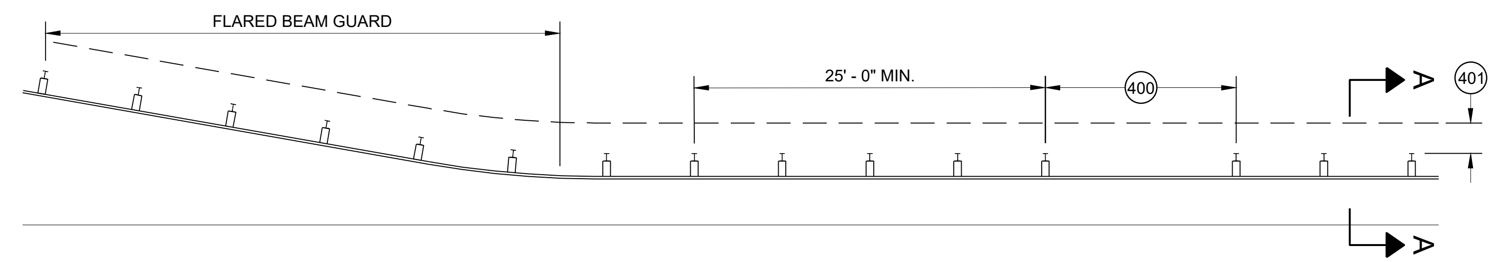
MISSING POST IN MGS GUARDRAIL



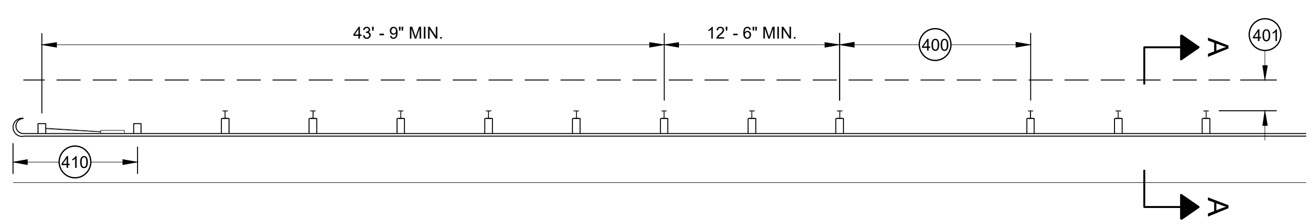
MISSING POST IN MGS GUARDRAIL NEAR EAT



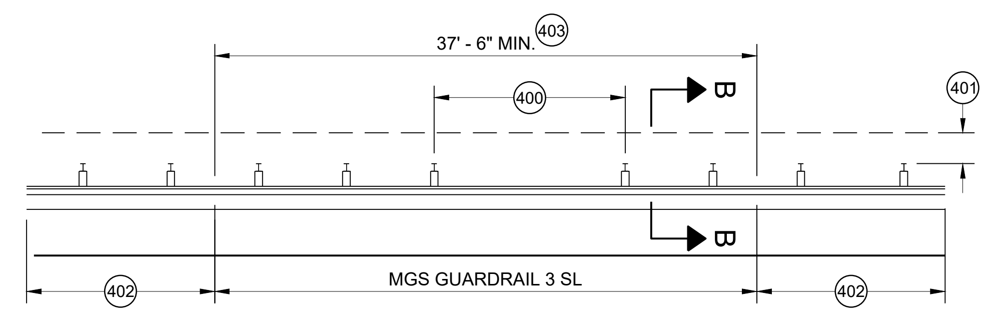
MISSING POST IN MGS GUARDRAIL NEAR AN APPROACH TRANSITION



MISSING POST IN MGS GUARDRAIL NEAR FLARED BEAM GUARD

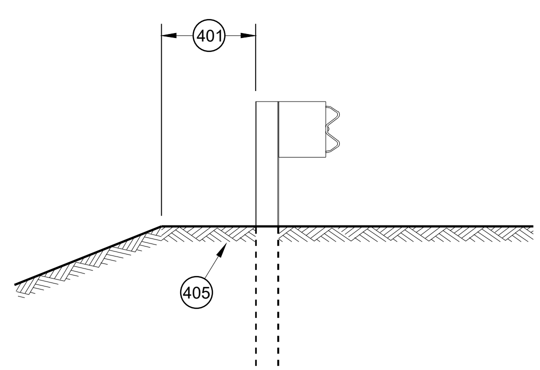


MISSING POST IN MGS GUARDRAIL NEAR A TYPE 2 END TERMINAL

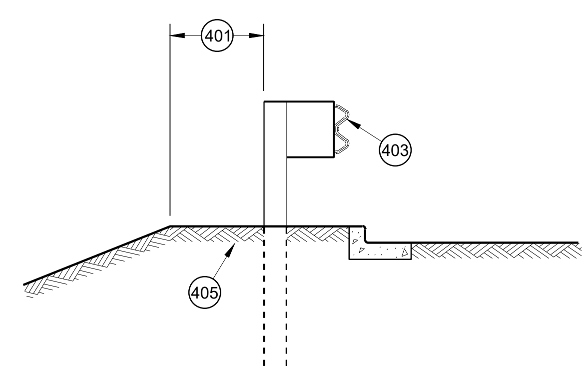


MISSING POST IN SHORT SPAN MGS GUARDRAIL NEAR CURB (SL) (407)

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



SECTION A - A (406)



SECTION B - B (406)

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

GENERAL NOTES

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

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

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

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

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

DIMENSIONS MAY VARY, MANUFACTURER'S INFORMATION.

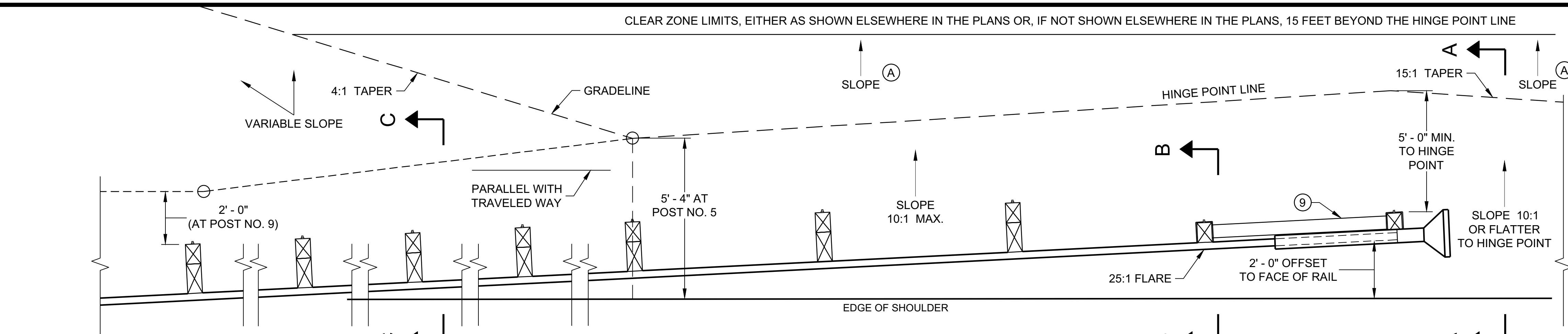
SEE SDD 14B42 FOR MORE INFORMATION.

* DO NOT ATTACH BLOCKOUTS TO POST 1 AND 2.

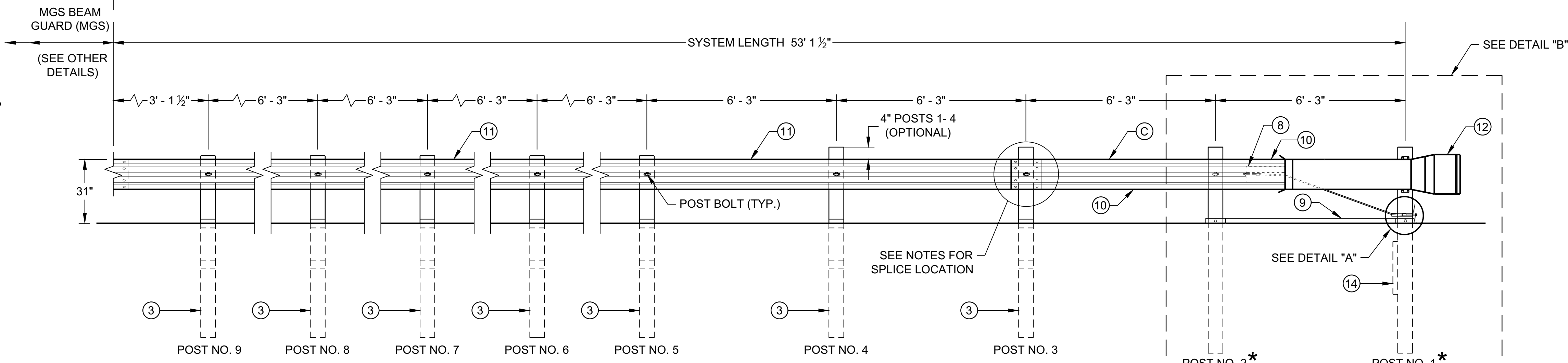
DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

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

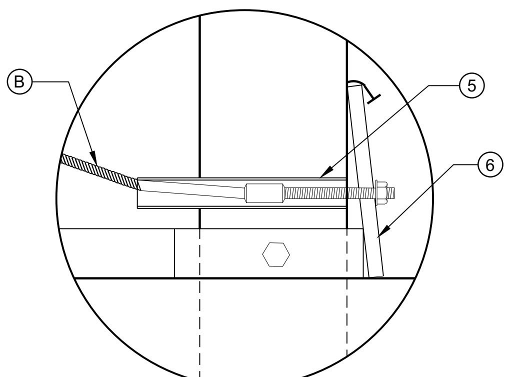
THE CENTER OF THE UPPER 3 ½" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE UP TO A MAXIMUM OF 2" ABOVE GROUND LINE. WOOD BLOCKS ON POSTS NUMBERED 3 THROUGH 9 MAY BE ADJUSTED UP TO 3" ABOVE THE TOP OF POST.



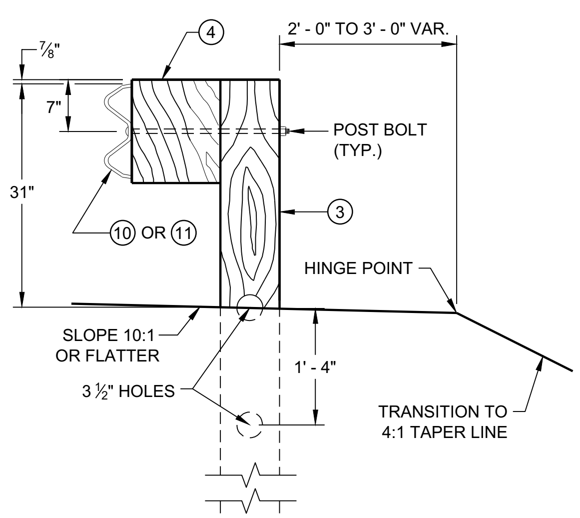
PLAN



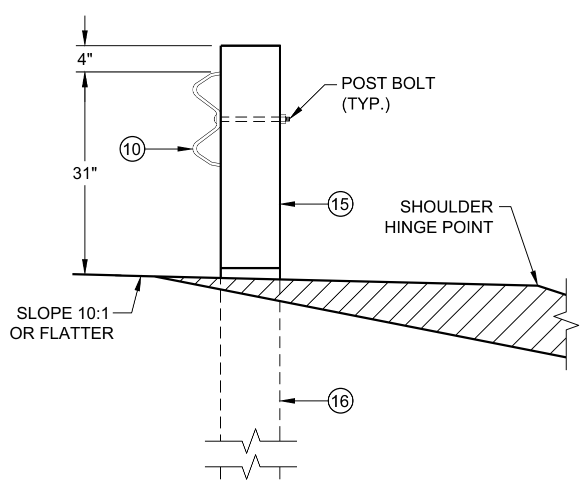
ELEVATION



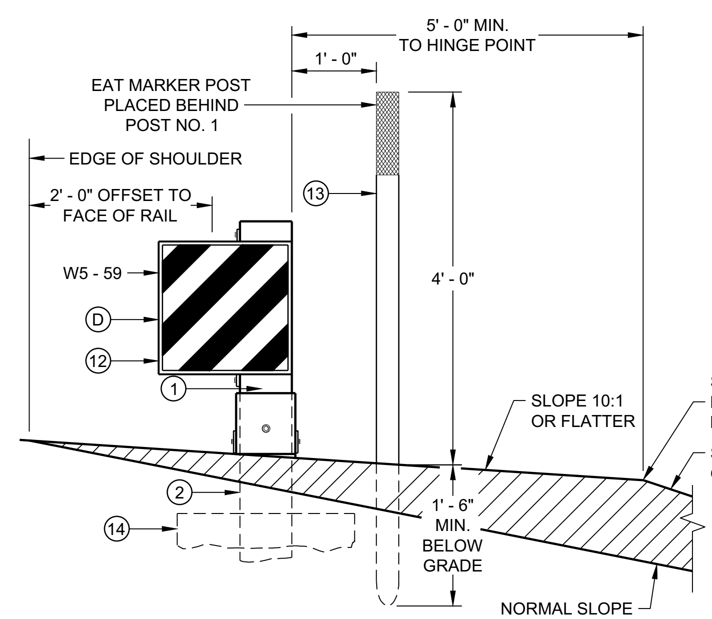
DETAIL "A" (E)



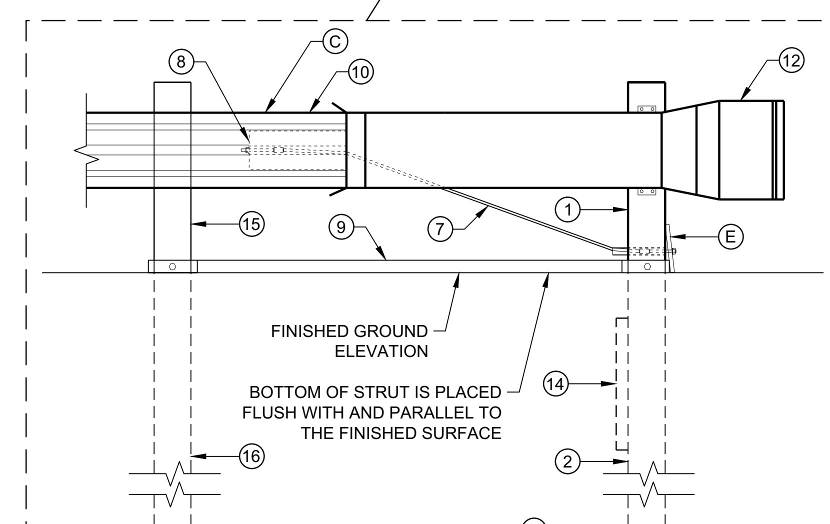
SECTION C - C
TYPICAL AT POST NOS. 3 - 9



SECTION B - B
TYPICAL AT POST NO. 2*



SECTION A - A
TYPICAL AT POST NO. 1*



DETAIL "B" (E)

MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)

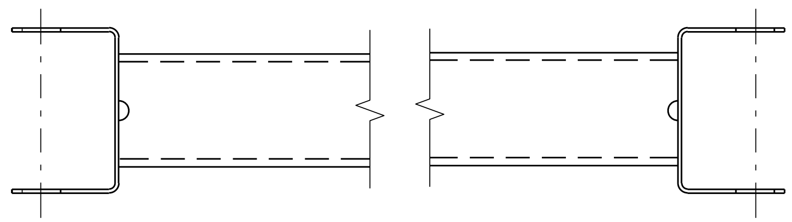
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

SDD 14B44 - 04a

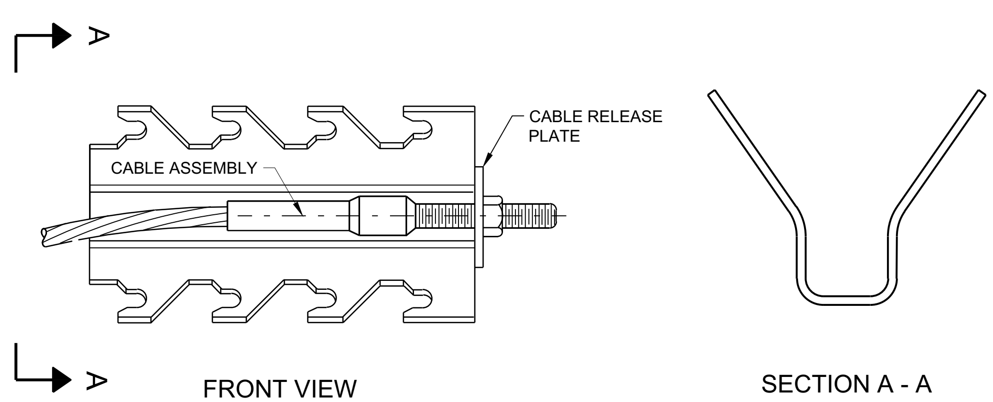
6

BILL OF MATERIALS

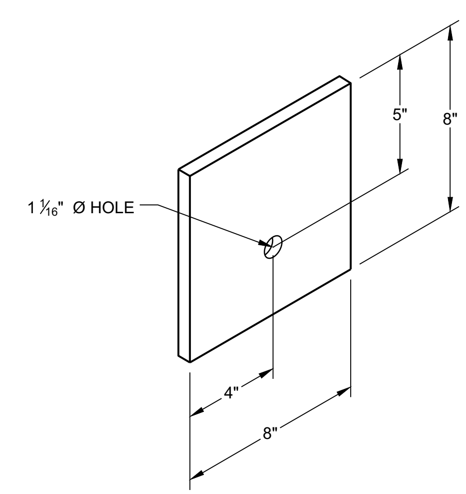
PART NO.	DESCRIPTION MATERIALS PROVIDED BY MGS EAT MANUFACTURER. SEE MANUGACTURER'S DETAILS FOR MORE INFORMATION.
1	UPPER POST NO. 1 6" X 6" TUBE
2	LOWER POST NO. 1
3	WOOD CRT
4	WOOD BLOCKOUT
5	PIPE SLEEVE
6	BEARING PLATE
7	BCT CABLE ASSEMBLY
8	ANCHOR CABLE BOX
9	GROUND STRUT
10	PERFORATED W-BEAM RAIL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



GENERIC GROUND STRUT 9 E



GENERIC ANCHOR CABLE BOX 9 E



BEARING PLATE 6 E

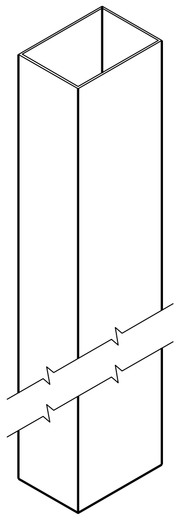
6

6

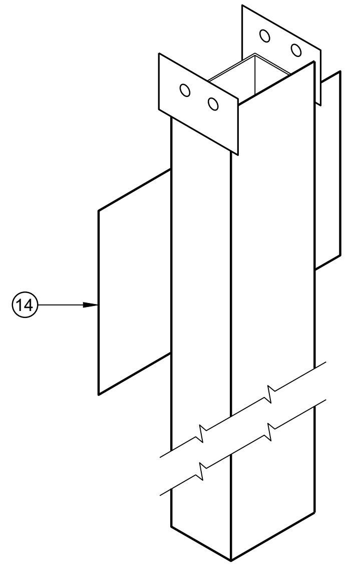
MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

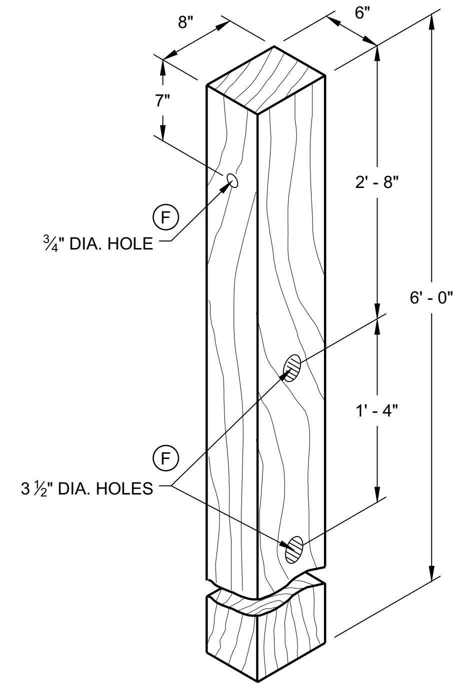
SDD 14B44 - 04b



UPPER POST NO. 1 ① Ⓔ

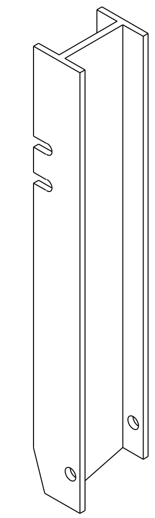


LOWER POST NO. 1 ② Ⓔ

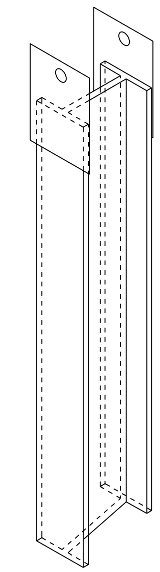


WOOD CRT POST ③ Ⓔ

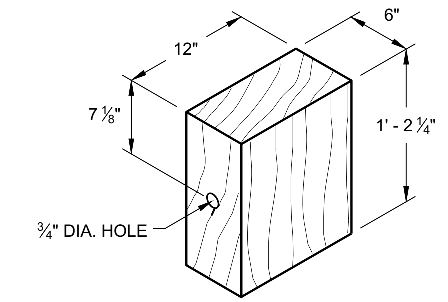
POSTS NUMBER 3-9



UPPER POST NO. 2 ⑮ Ⓔ

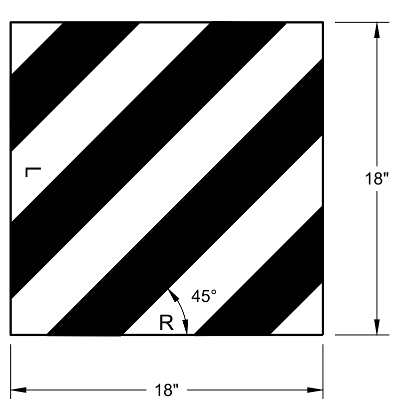


LOWER POST NO. 2 ⑯ Ⓔ



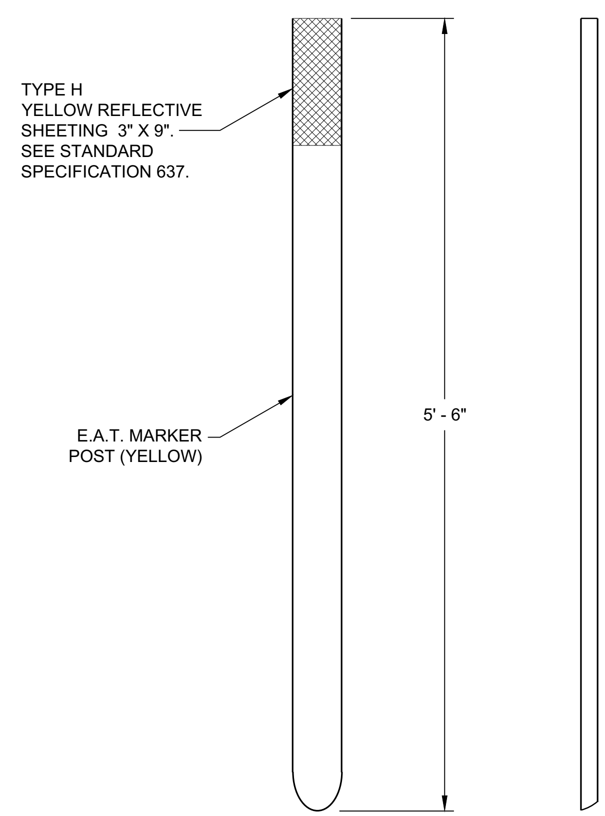
WOOD BLOCKOUT ④

REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2



W5 - 59

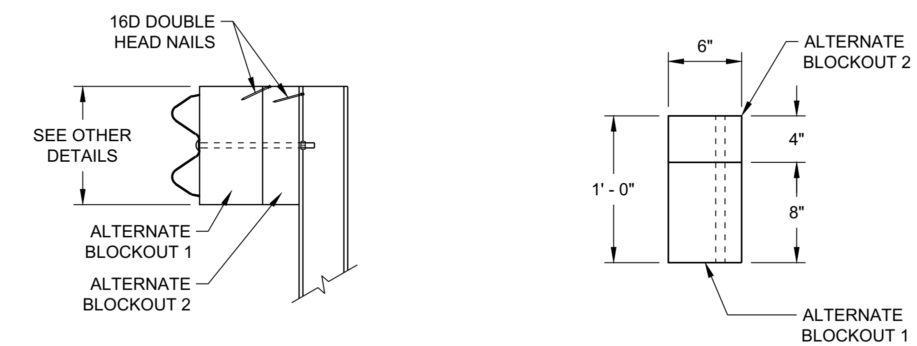
REFLECTIVE SHEETING DETAIL Ⓔ



FRONT VIEW

SIDE VIEW

E.A.T. MARKER POST ⑬



SIDE VIEW

TOP VIEW

ALTERNATE WOOD
BLOCKOUT DETAIL

6

6

SDD 14B44 - 04c

MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)

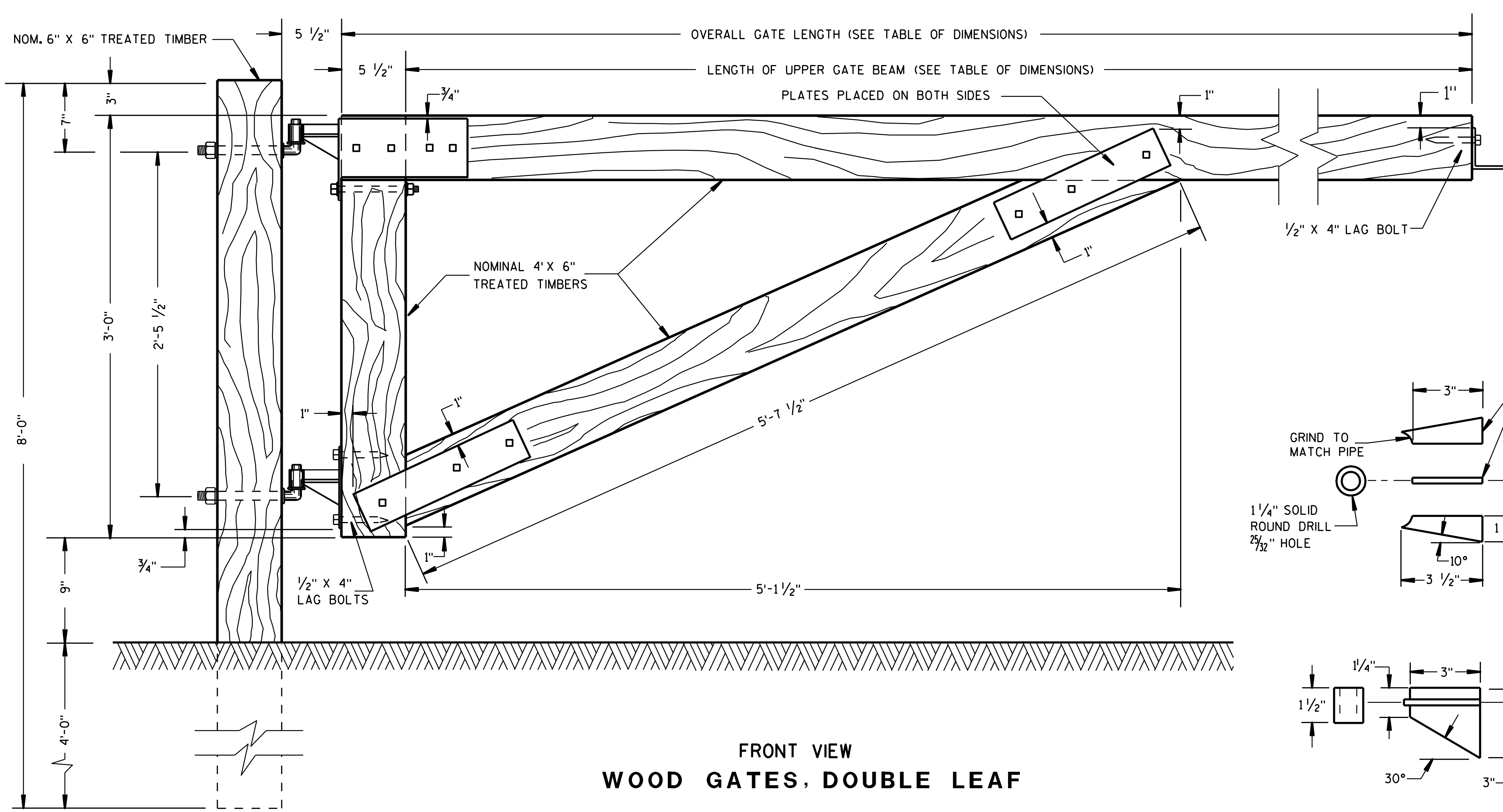
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

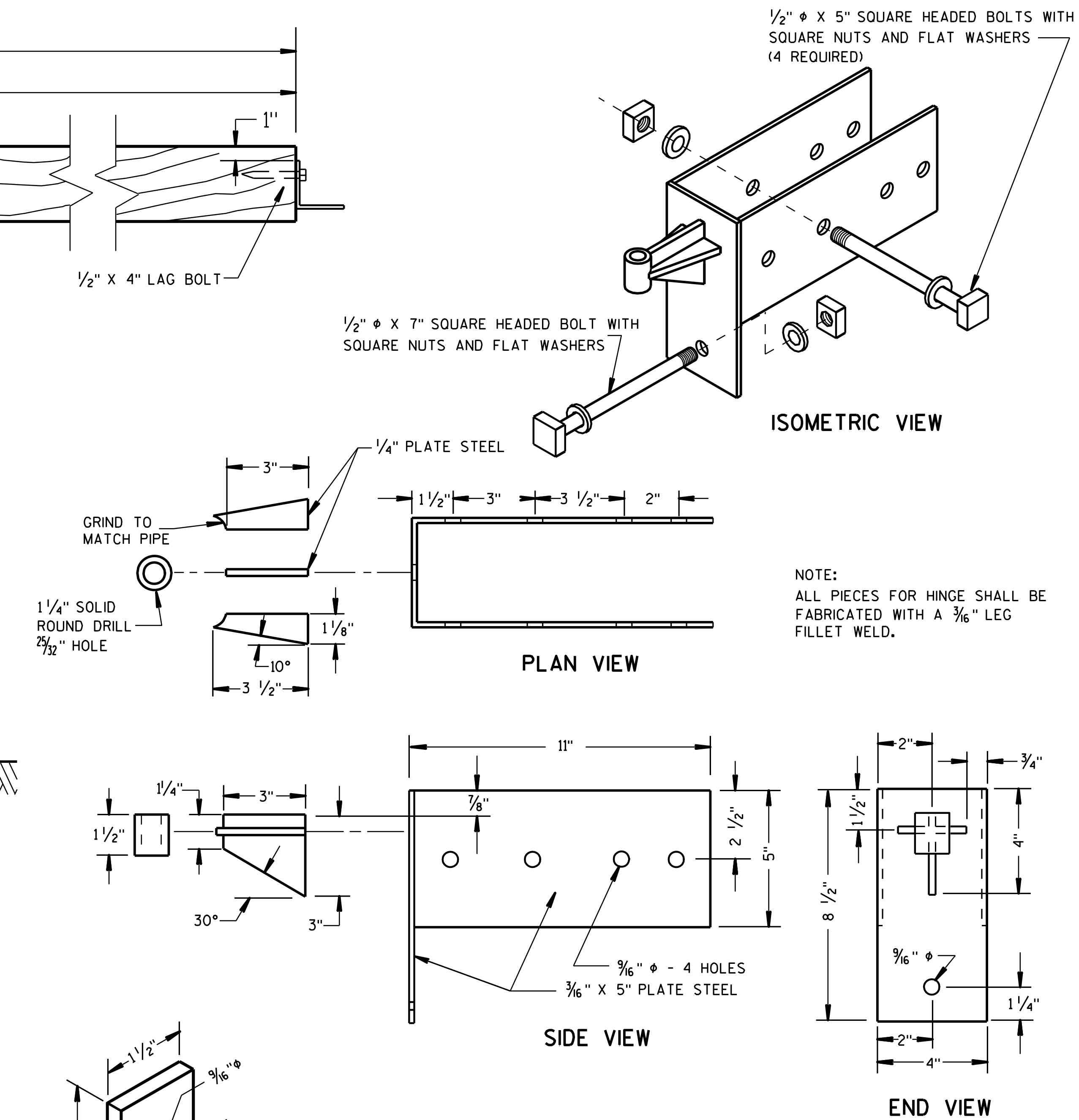
7/2018 /S/ Rodney Taylor
DATE ROADWAY STANDARDS DEVE UNIT SUPERVISOR

FHWA

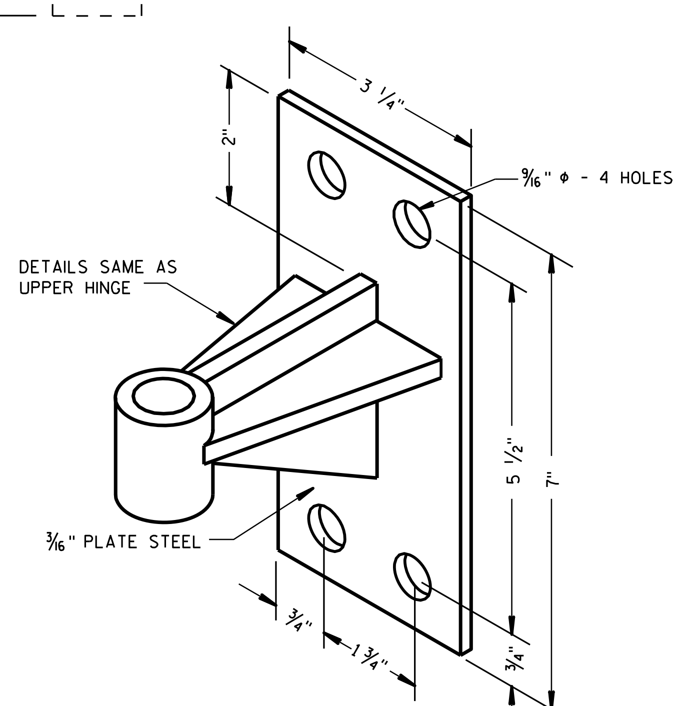
SDD 14B44 - 04c



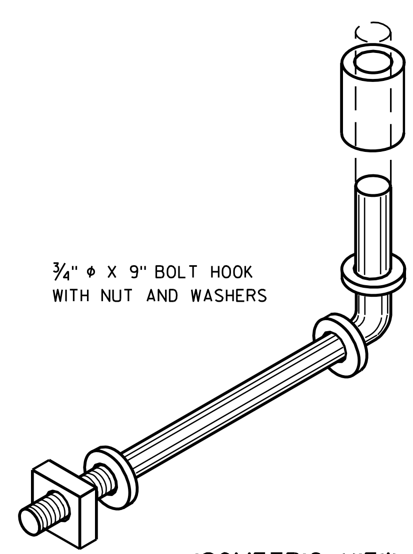
FRONT VIEW
WOOD GATES, DOUBLE LEAF



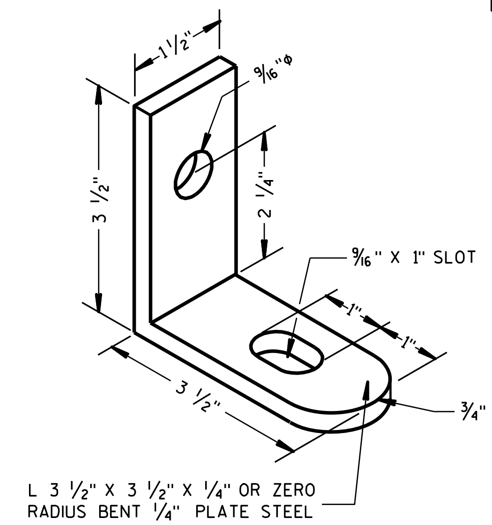
UPPER HINGE DETAIL ASSEMBLY



ISOMETRIC VIEW
LOWER GATE HINGE



ISOMETRIC VIEW
BOLT HOOK



ISOMETRIC VIEW
SWING ARM LOCKING BAR

WOOD GATE, DOUBLE LEAF

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

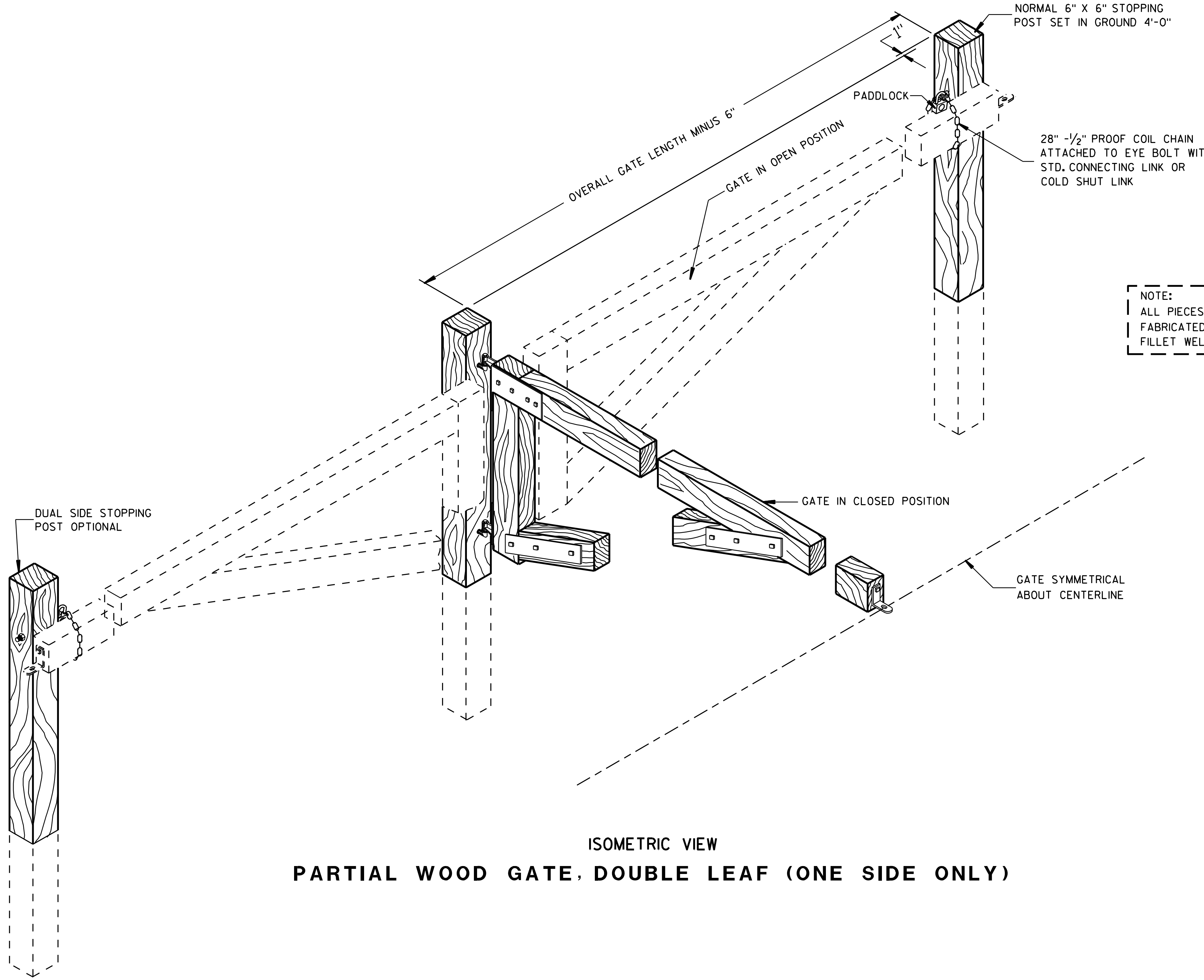
6

6

S.D.D. 15 B 10-1a

S.D.D. 15 B 10-1a

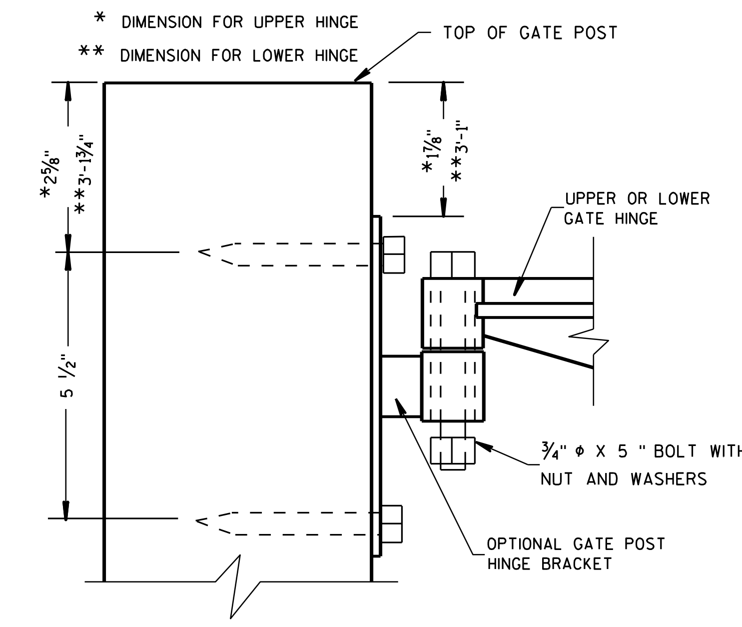
6



ISOMETRIC VIEW

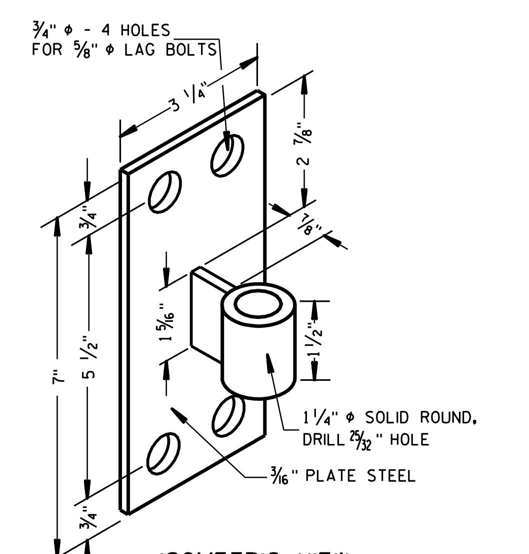
PARTIAL WOOD GATE, DOUBLE LEAF (ONE SIDE ONLY)

NOTE:
ALL PIECES FOR HINGE SHALL BE FABRICATED WITH A 3/16" LEG FILLET WELD.



SIDE VIEW

INSTALLATION FOR OPTION B GATE POST HINGE BRACKET



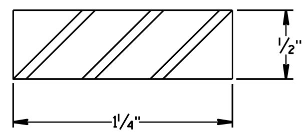
ISOMETRIC VIEW

OPTION B GATE POST HINGE BRACKET

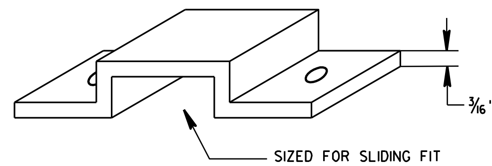
NOTE: TO BE USED IN PLACE OF HOOK BOLT FOR A 16' CLEAR WIDTH OPENING ONLY (USE ON BOTH UPPER & LOWER GATE HINGE ASSEMBLY)

6

WOOD GATE, DOUBLE LEAF
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

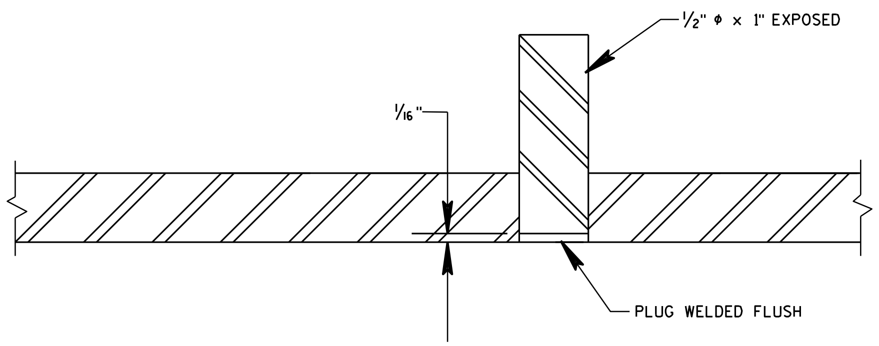


SLIDE BAR CROSS SECTION

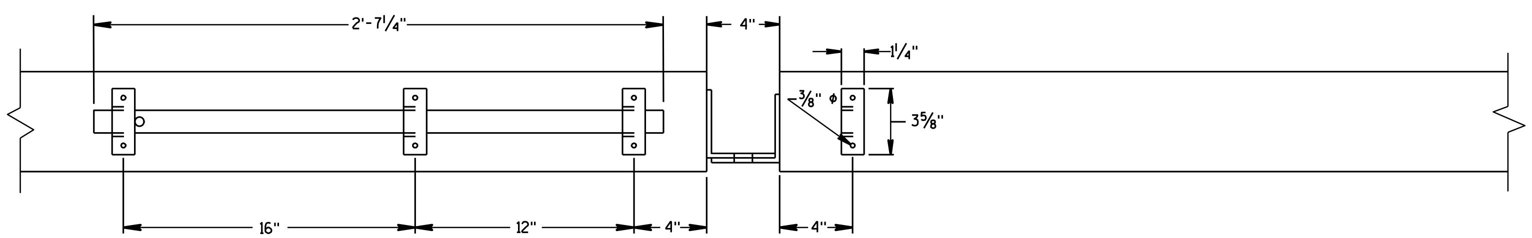


KEYWAY FOR SLIDE BAR

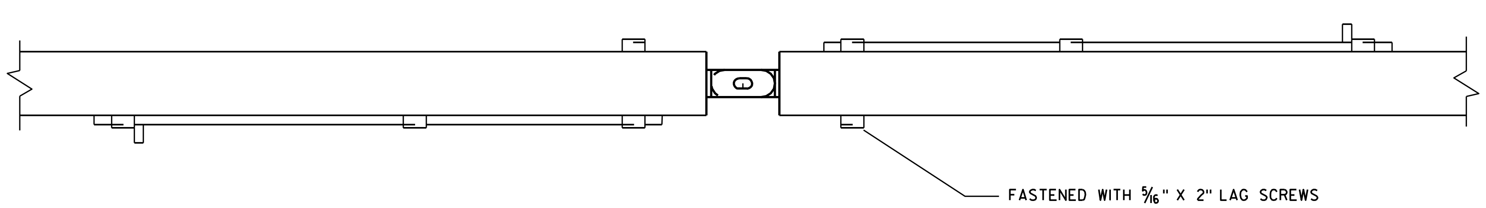
ISOMETRIC VIEW



SECTION FOR SLIDE PIN ASSEMBLY



ELEVATION VIEW



PLAN VIEW

SLIDE BAR ASSEMBLY FOR GATES GREATER THEN 20'-0"

GENERAL NOTES

POSTS SHALL BE SET IN GROUND AT THE DEPTH SHOWN, FILLED AND COMPACTED EVERY 6 INCHES WITH ORIGINAL SUBSOIL.

ALL SAW CUTS AND HOLES DRILLED IN TIMBERS SHALL BE TREATED IN ACCORDANCE WITH SECTION 507.2.2.6 AND WOOD PRESERVATIVE SHALL BE SECTION 507.2.3.4 OF THE STANDARD SPECIFICATIONS.

GATE LOCK CAN BE MASTER KEYED AND SHALL HAVE THE FOLLOWING MINIMUM DIMENSIONS: SHACKLE DIA. OF ⅜", VERTICAL CLEARANCE OF 1½", HORIZONTAL CLEARANCE OF 1⁄32".

ALL METAL SHALL BE PAINTED WITH A ZINC RICH PRIMER AND ONE COAT OF EPOXY FINISH PAINT. A SECOND FINISH COAT SHALL BE FIELD APPLIED AFTER INSTALLATION.

STOPPING POSTS SHALL BE SET AT EACH SIDE AND EQUIPPED WITH LOCKING POST LOCK BAR FOR HOLDING IN POSITION.

ALL TIMBER BRACES AND HINGE ASSEMBLY SHALL BE SHOP FABRICATED.

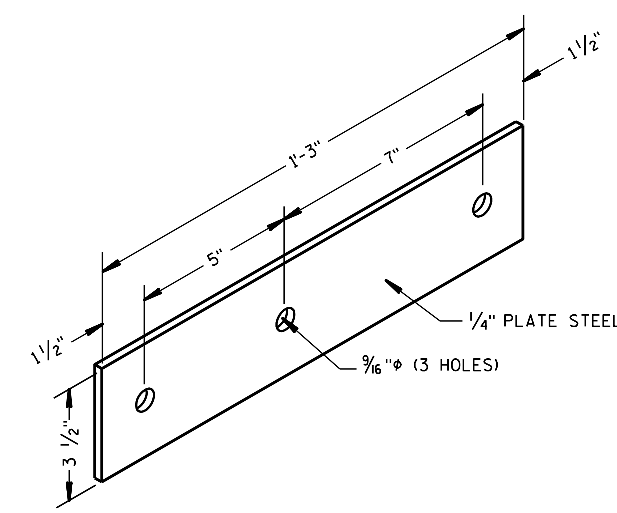
(TABLE OF DIMENSIONS)

CLEAR WIDTH	DISTANCE BETWEEN POSTS	LENGTH OF UPPER GATE BEAM	OVERALL GATE LENGTH
12'-0"	12'-7"	5'-2 ½"	5'-8"
14'-0"	14'-7"	6'-2 ½"	6'-8"
16'-0"	16'-7"	7'-2 ½"	7'-8"
18'-0"	18'-7"	8'-2 ½"	8'-8"
** 20'-0"	20'-7"	9'-2 ½"	9'-8"
** 24'-0"	24'-7"	11'-2 ½"	11'-8"
** 28'-0"	28'-7"	13'-2 ½"	13'-8"
** 30'-0"	30'-7"	14'-2 ½"	14'-8"
** 32'-0"	32'-7"	15'-2 ½"	15'-8"

** FOR A 20' AND UP CLEAR WIDTH OPENING - HINGE BRACKET (OPTION B) IS TO BE USED INSTEAD OF THE BOLT HOOK, AND HINGE POST SHALL BE AT A MIN. DEPTH OF 6'-0" AND SLIDE BAR ASSEMBLY SHALL BE USED.

DESIGN NOTE:

GATE SIZE SHALL BE SPECIFIED AS THE CLEAR WIDTH OF OPENING.



ISOMETRIC VIEW

UPPER AND LOWER SPLICE PLATES

WOOD GATE, DOUBLE LEAF

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

1/5/94 DATE

/S/ Rory L. Rhinesmith
CHIEF METHODS DEVELOPMENT ENGINEER

FHWA

GENERAL NOTES

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

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

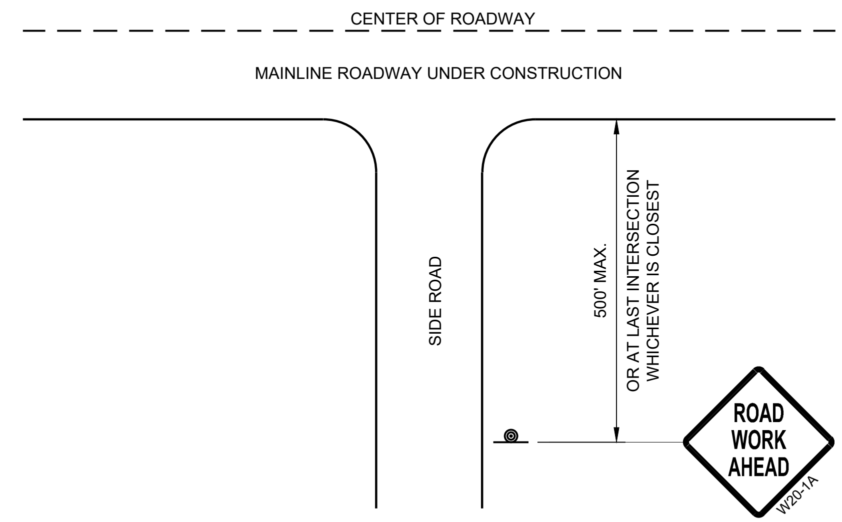
ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

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

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

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

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



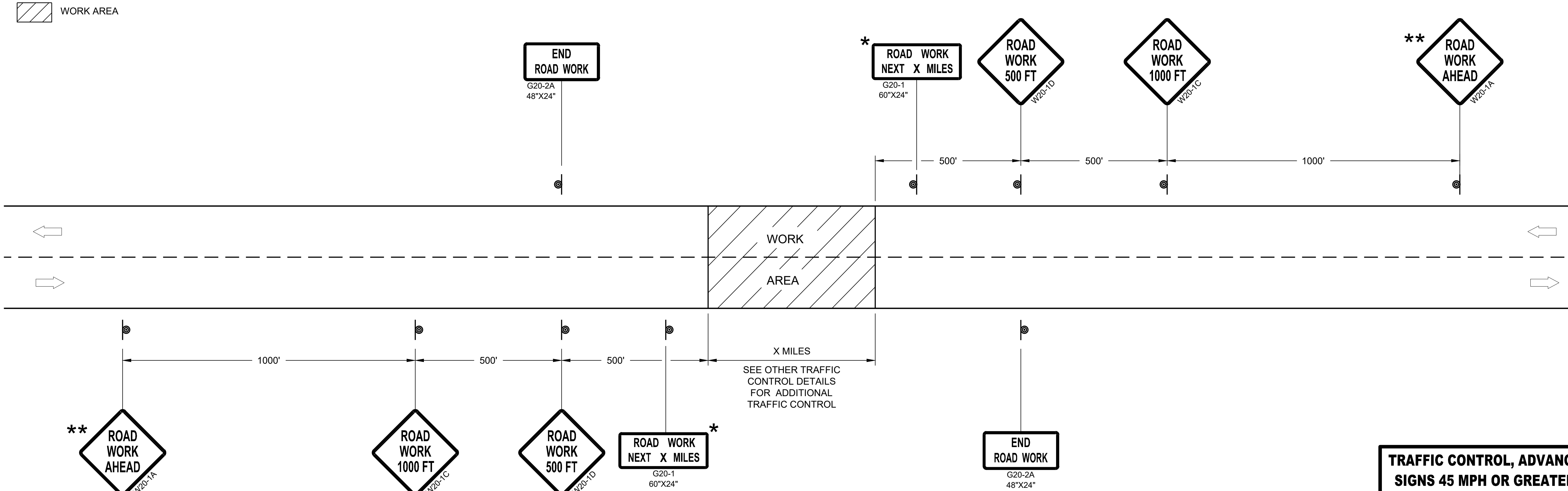
TYPICAL SIDE ROAD APPROACH WARNING SIGN DETAIL

LEGEND

SIGN ON PERMANENT SUPPORT

DIRECTION OF TRAFFIC

WORK AREA



TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45MPH OR GREATER

TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 MPH OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION
APPROVED July 2018 — DATE /S/ Andrew Heidtke — WORK ZONE ENGINEER FHWA

GENERAL NOTES

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

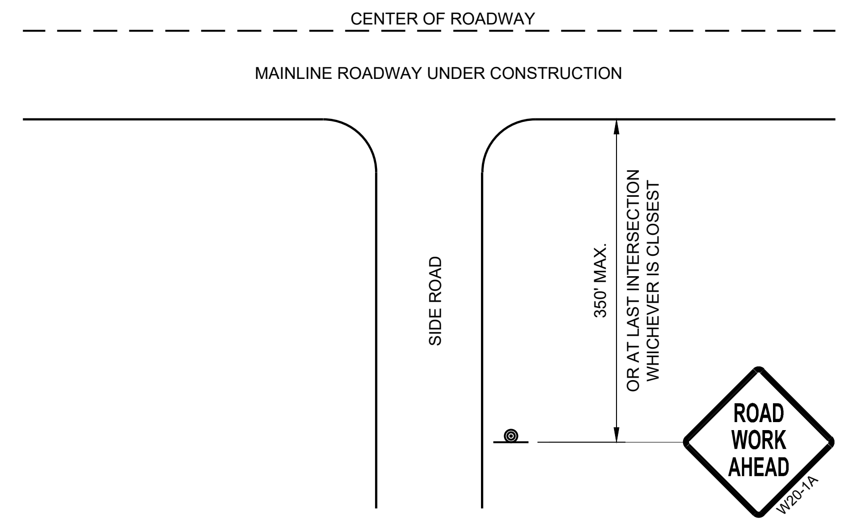
THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

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

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

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

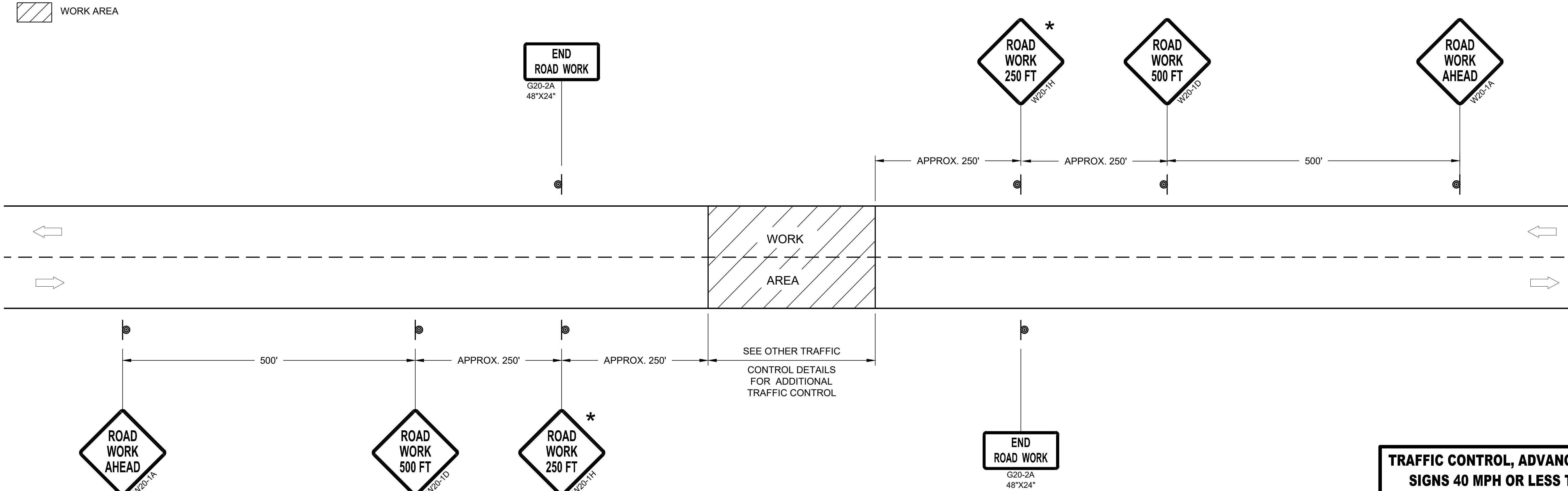
* THE THIRD W20-1 SIGN IS REQUIRED ONLY IF THERE IS AN INTERSECTION BETWEEN THE "ROAD WORK 500 FEET" SIGN AND THE WORK ZONE. ADJUST THE PLACEMENT OF THIS SIGN BASED ON INTERSECTION LOCATION AND OTHER FIELD CONDITIONS.



TYPICAL SIDE ROAD APPROACH WARNING SIGN DETAIL

LEGEND

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



TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40MPH OR LESS

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

SDD 15C05 - 05

GENERAL NOTES

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

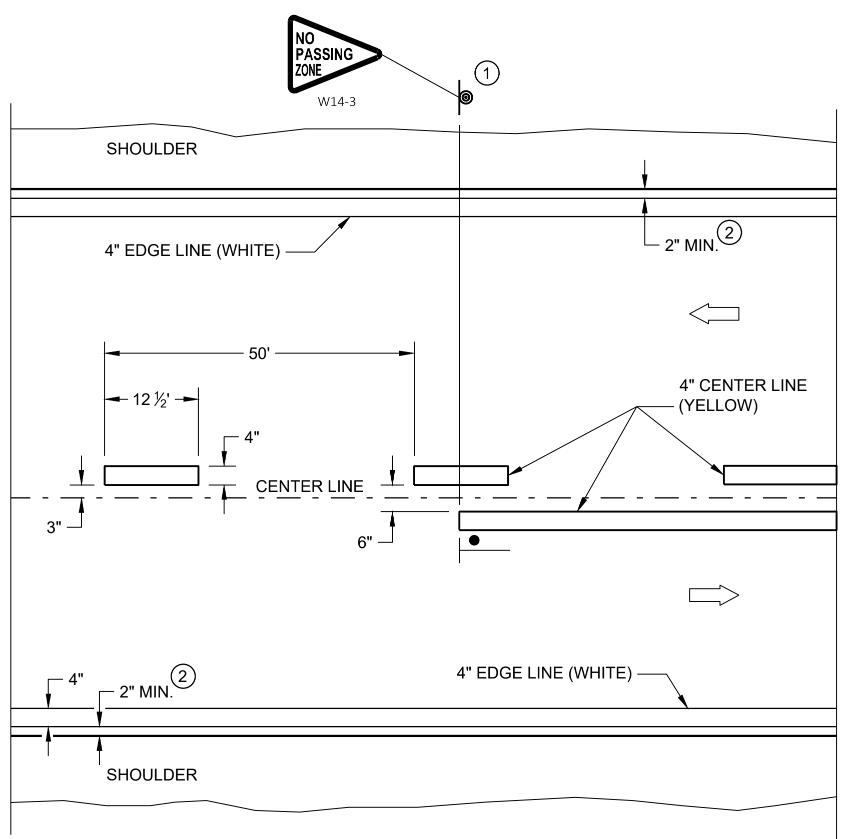
1. LOCATE THE NO PASSING ZONE W14-3 SIGN WITHIN 50 FEET OF THE "T" MARKING
2. MEASURE FROM EDGE OF MARKING TO JOINT LINE. THIS DOES NOT INCLUDE SPACE NEEDED FOR GROOVING OPERATIONS.

LEGEND

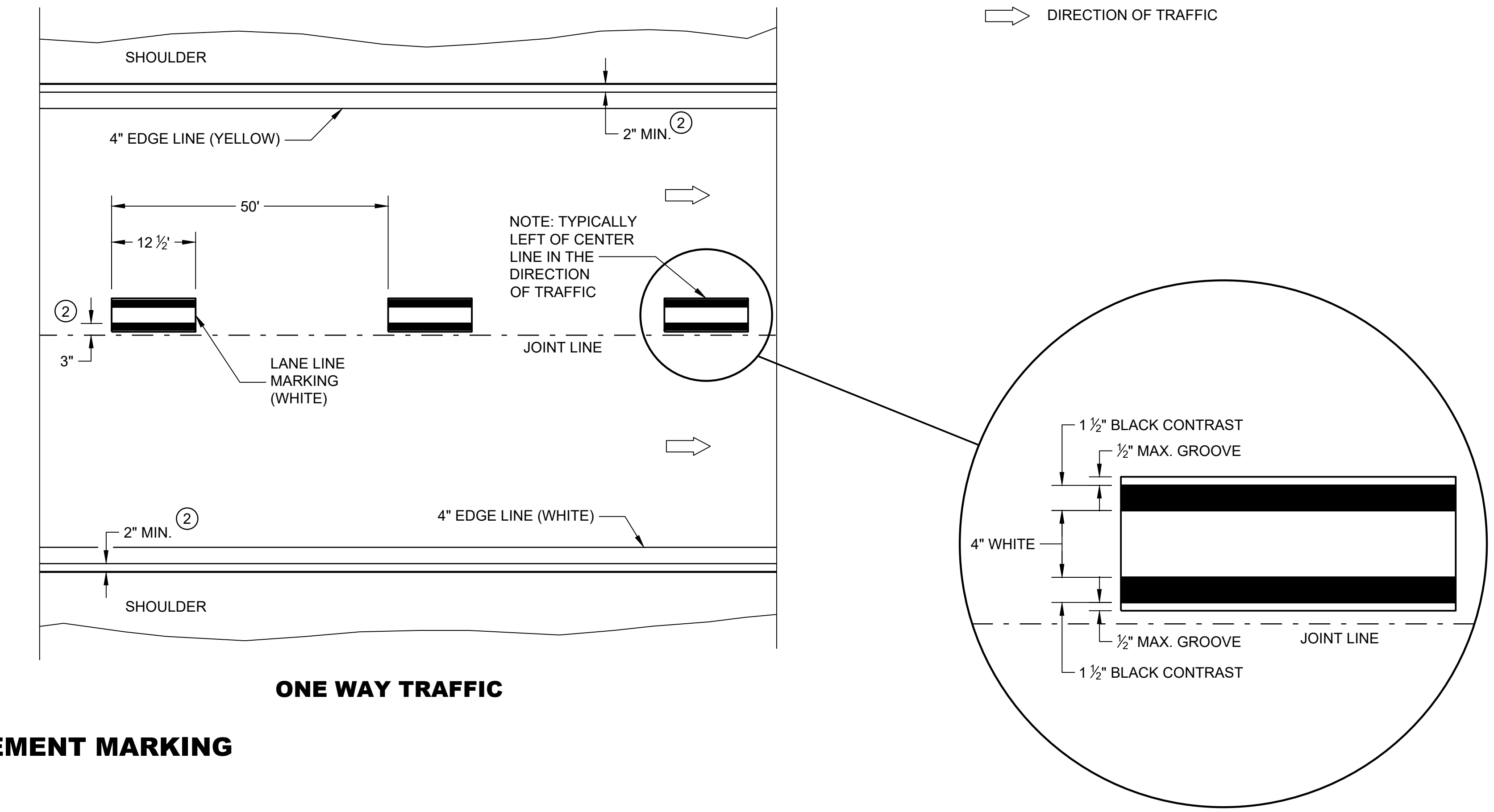
"T" MARKING

SIGN ON PERMANENT SUPPORT

DIRECTION OF TRAFFIC



TWO WAY TRAFFIC



ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING

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PERMANENT LONGITUDINAL PAVEMENT MARKINGS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

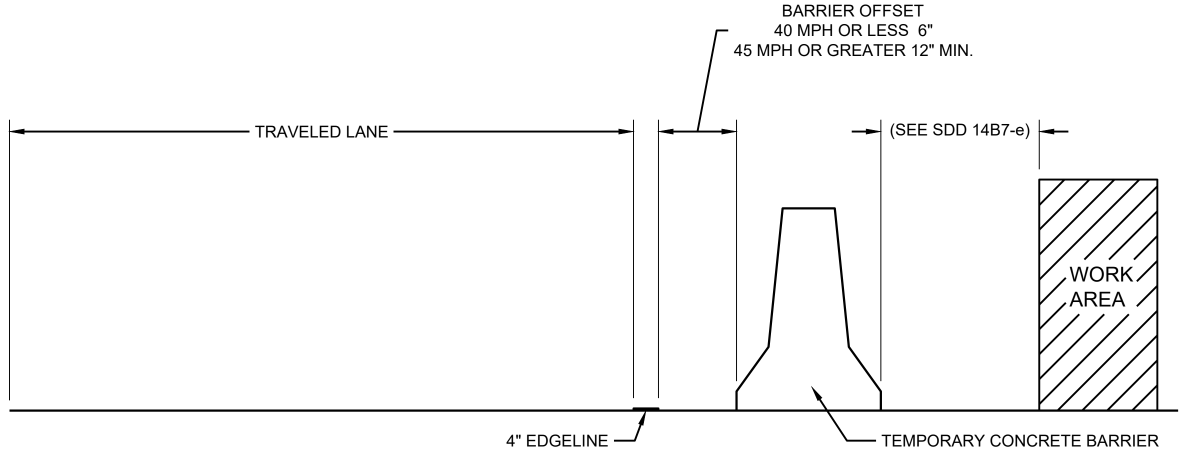
APPROVED

May 2022 — DATE

/S/ Jeannie Silver — STATEWIDE SIGNING AND M ENGINEER

FHWA

SDD 15C08 - 22a



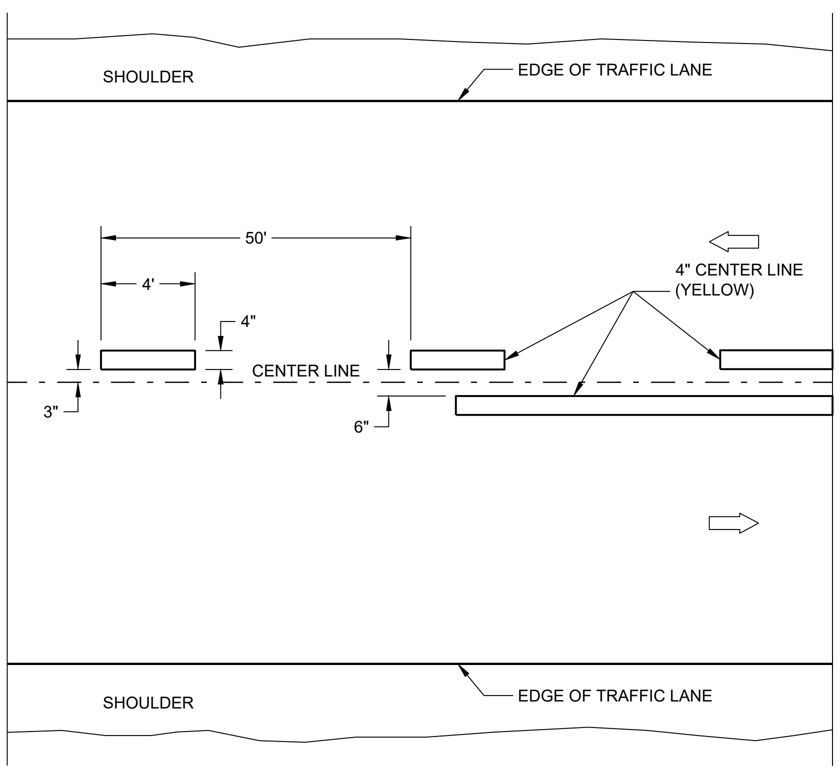
TEMPORARY BARRIER OFFSET FROM EDGELINE

GENERAL NOTES

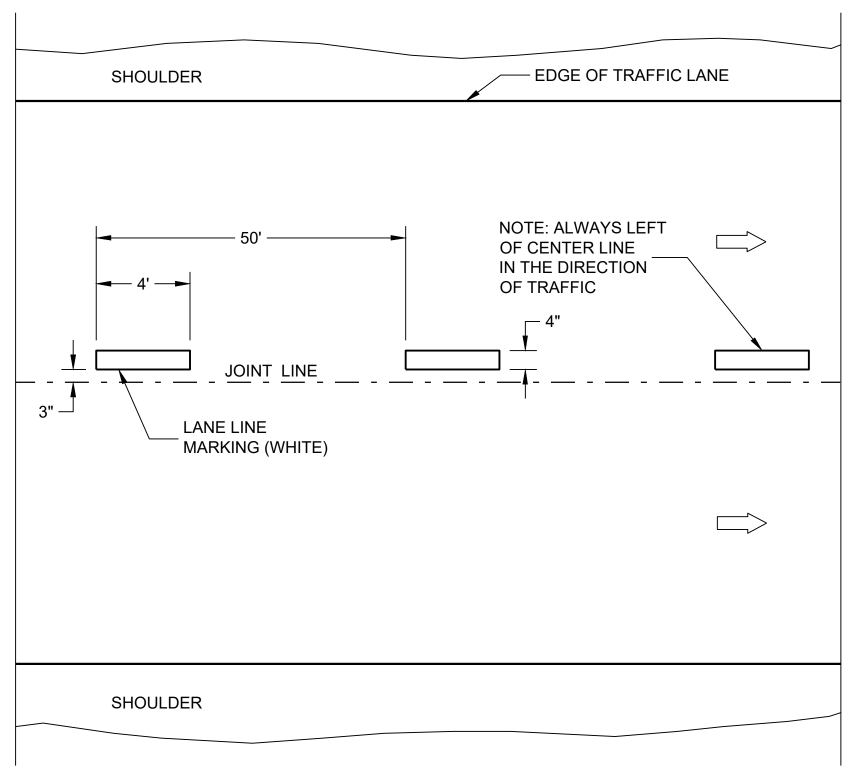
DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS.

LEGEND

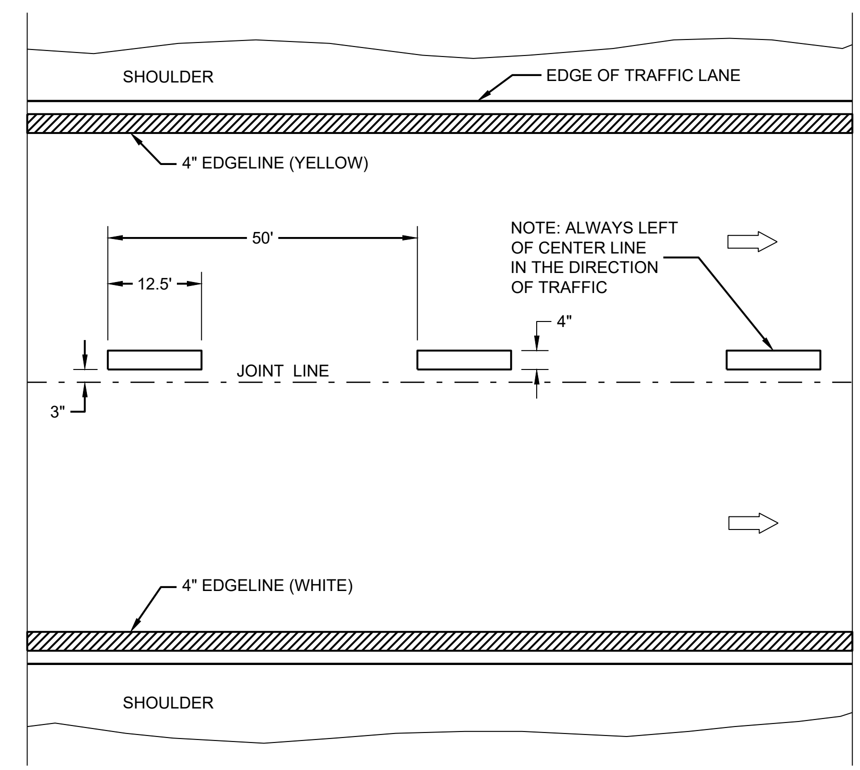
DIRECTION OF TRAFFIC



TWO WAY TRAFFIC



ONE WAY TRAFFIC



FREEWAYS AND EXPRESSWAYS

TEMPORARY PAVEMENT MARKING

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TEMPORARY LONGITUDINAL PAVEMENT MARKING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

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

FHWA

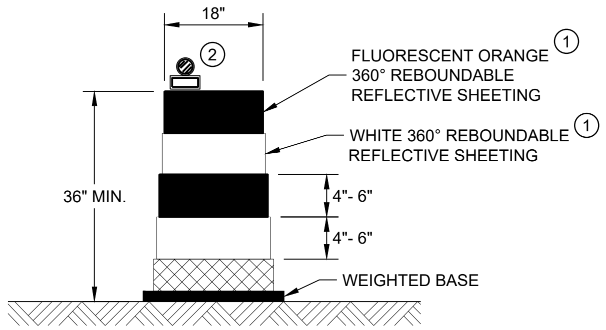
SDD 15C08 - 22b

SDD 15C08 - 22b

GENERAL NOTES

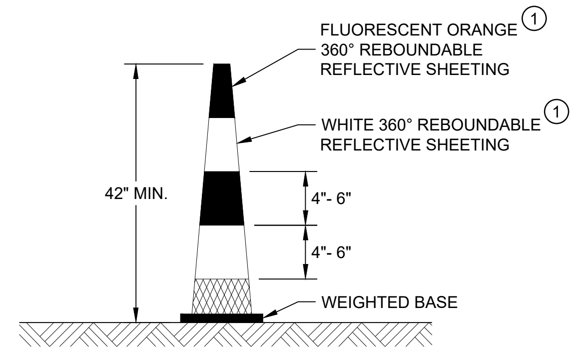
1. REFLECTIVE SHEETING SHALL FOLLOW THE REQUIREMENTS IN THE APPROVED PRODUCTS LISTING FOR SIGN SHEETING.

2. LOCATION OF WARNING LIGHTS WHEN SHOWN ON THE PLAN.



DRUM

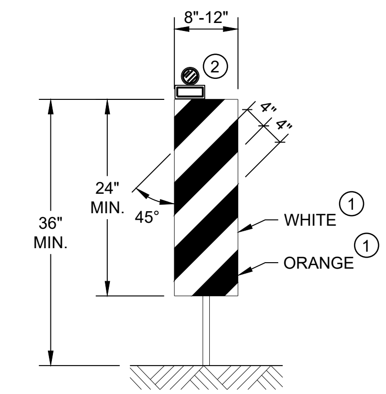
BALLAST WIDTHS
RANGE FROM 24"-36"



42" CONE

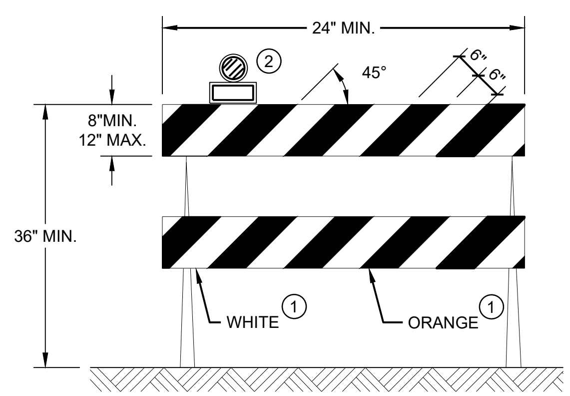
DO NOT USE IN TAPERS
½ SPACING OF DRUMS

BALLAST WIDTHS
RANGE FROM 14"-20"



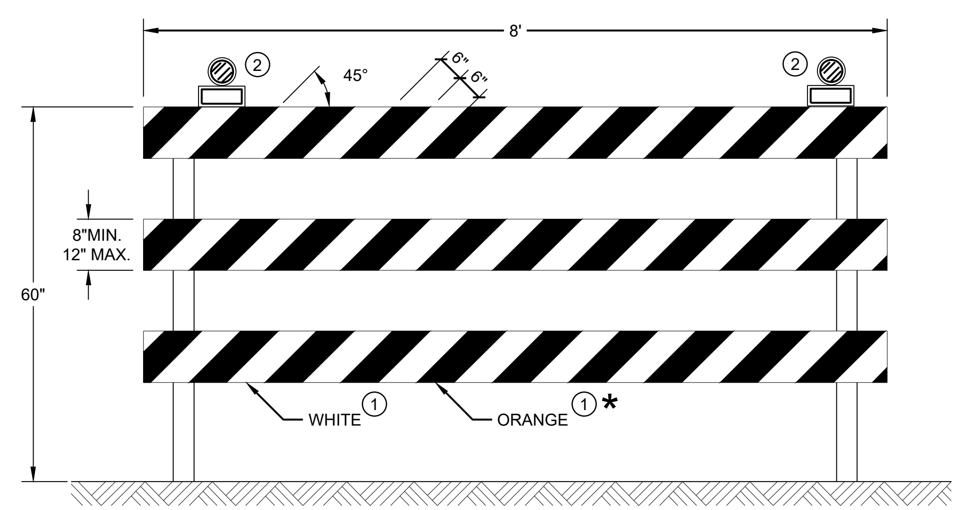
VERTICAL PANEL

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



TYPE II BARRICADE

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



TYPE III BARRICADE

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

* IF USED FOR A PERMANENT APPLICATION USE RED SHEETING.

CHANNELIZING DEVICES
DRUMS, CONES, BARRICADES
AND VERTICAL PANELS

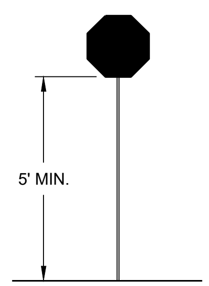
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

SDD 15C11 - 10b

LEGEND

- SIGN ON PORTABLE OR PERMANENT SUPPORT
- TEMPORARY PORTABLE RUMBLE STRIP ARRAY
- DIRECTION OF TRAFFIC
- WORK AREA
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF



STOP/SLOW PADDLE 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.

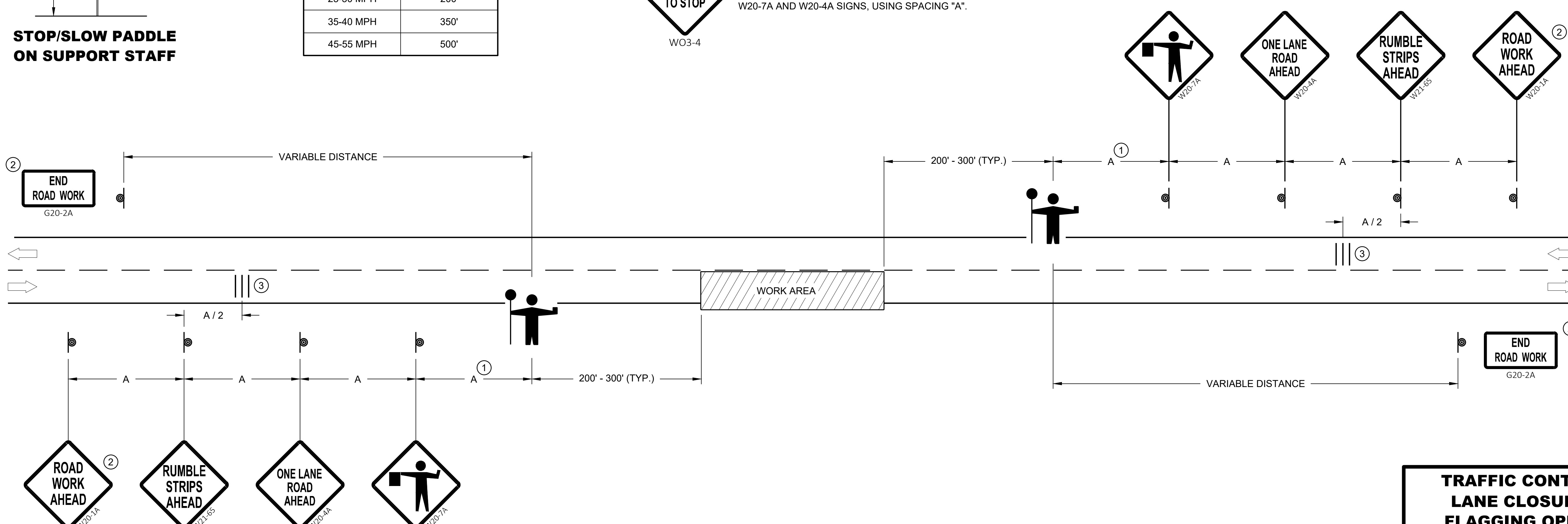
PLACE ADVANCE SIGNING PRIOR TO INSTALLING TEMPORARY RUMBLE STRIPS.

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

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

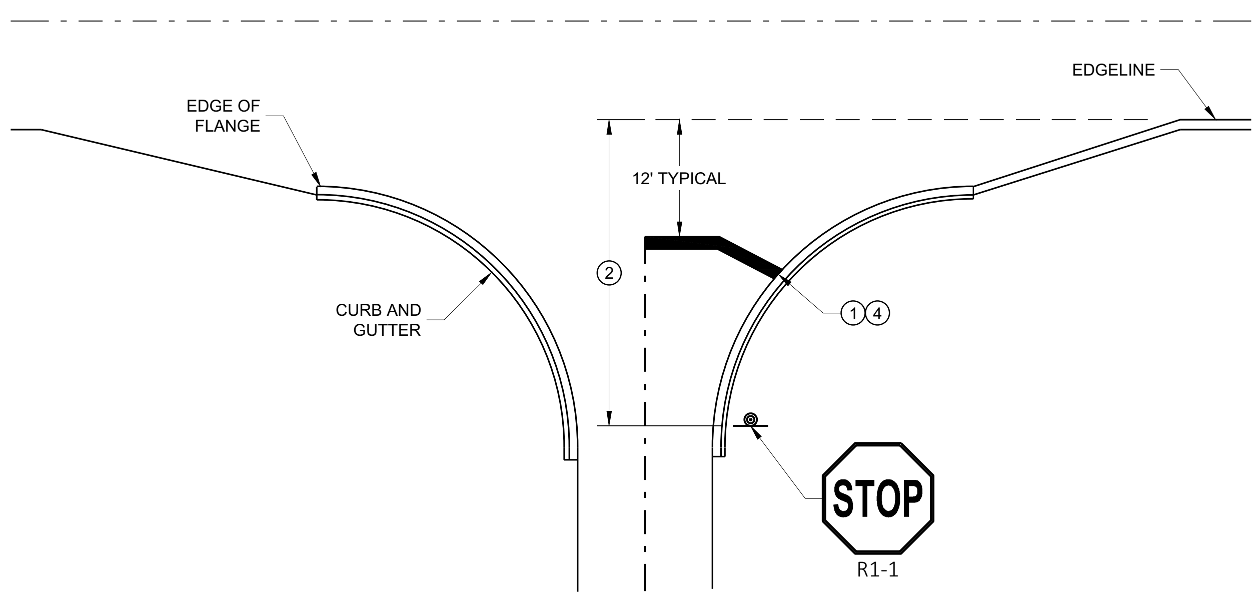
APPROVED
May 2022 — DATE
/S/ Andrew Heidtke — WORK ZONE ENGINEER
FHWA

SDD 15C12 - 09a

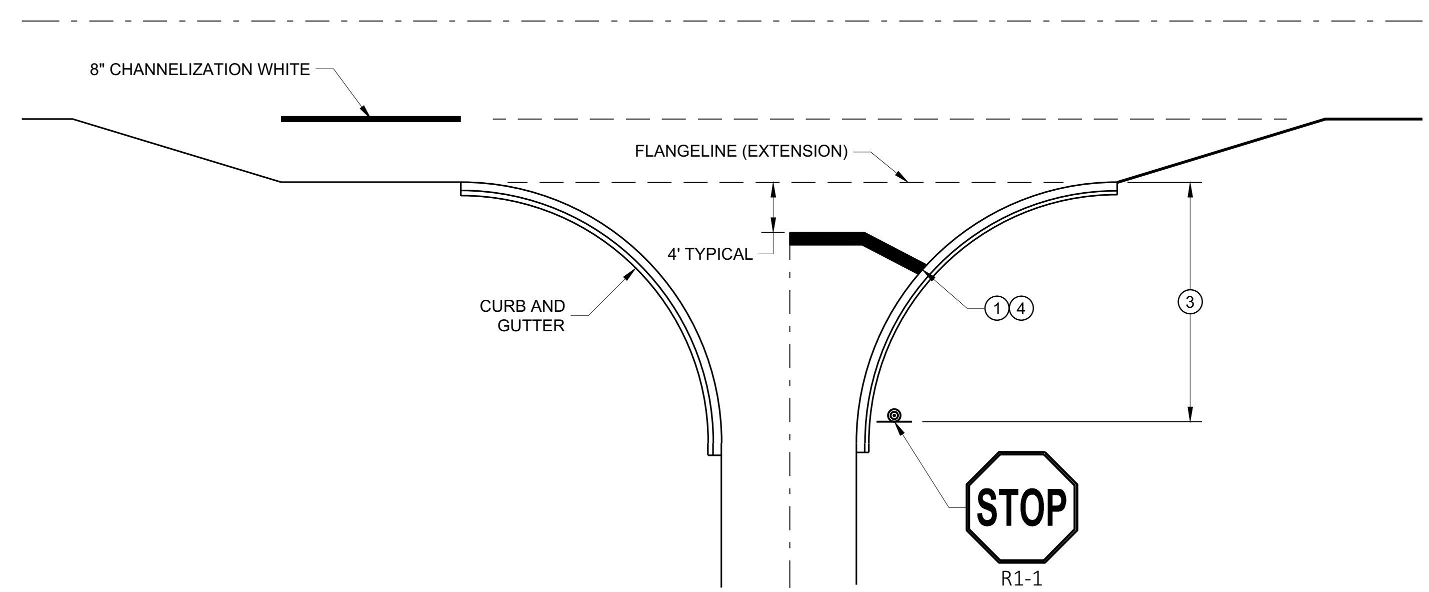
GENERAL NOTES

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

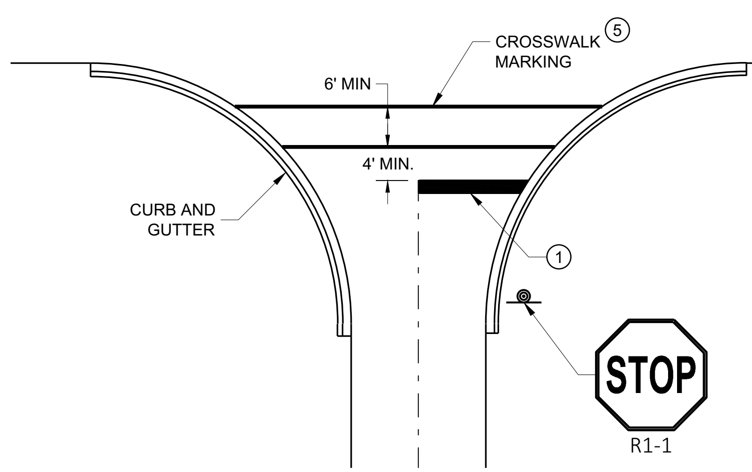
1. 18-INCH STOP LINES MAY BE DELETED OR ADDED BY THE REGION MARKING ENGINEER BASED ON VISIBILITY AND SIGHT LINES.
2. NO STOP LINE IS REQUIRED IF STOP SIGN IS LESS THAN OR EQUAL TO 40 FEET FROM THE EDGELINE.
3. NO STOP LINE IS REQUIRED IF STOP SIGN IS LESS THAN OR EQUAL TO 30 FEET FROM THE FLANGELINE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



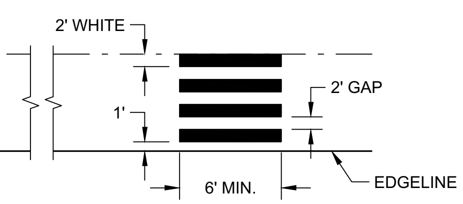
TYPICAL STOP LINE PAVEMENT MARKING WITH CURB AND GUTTER



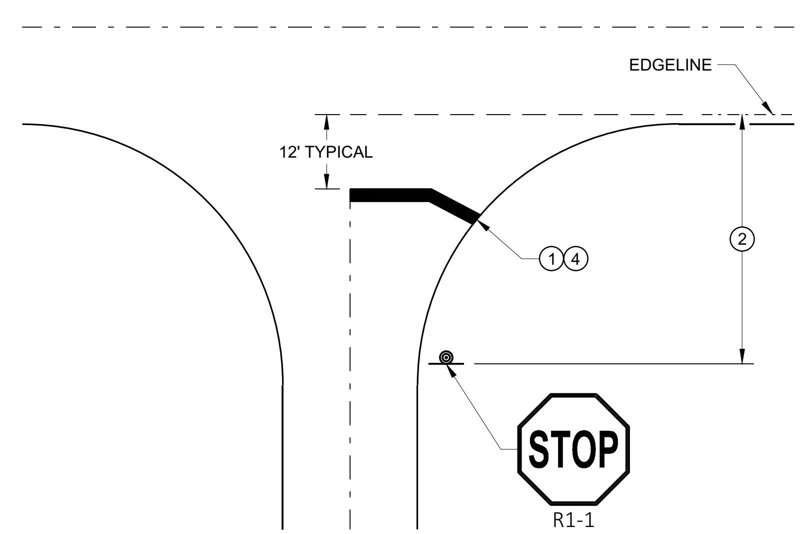
TYPICAL STOP LINE PAVEMENT MARKING FOR SIDEROADS WITH RIGHT TURN LANE



TYPICAL STOP LINE PAVEMENT MARKING FOR SIDEROADS WITH CROSSWALK MARKING



TYPICAL PAVEMENT MARKING FOR MID-BLOCK CROSSWALK (5)



TYPICAL STOP LINE PAVEMENT MARKING WITHOUT CURB AND GUTTER

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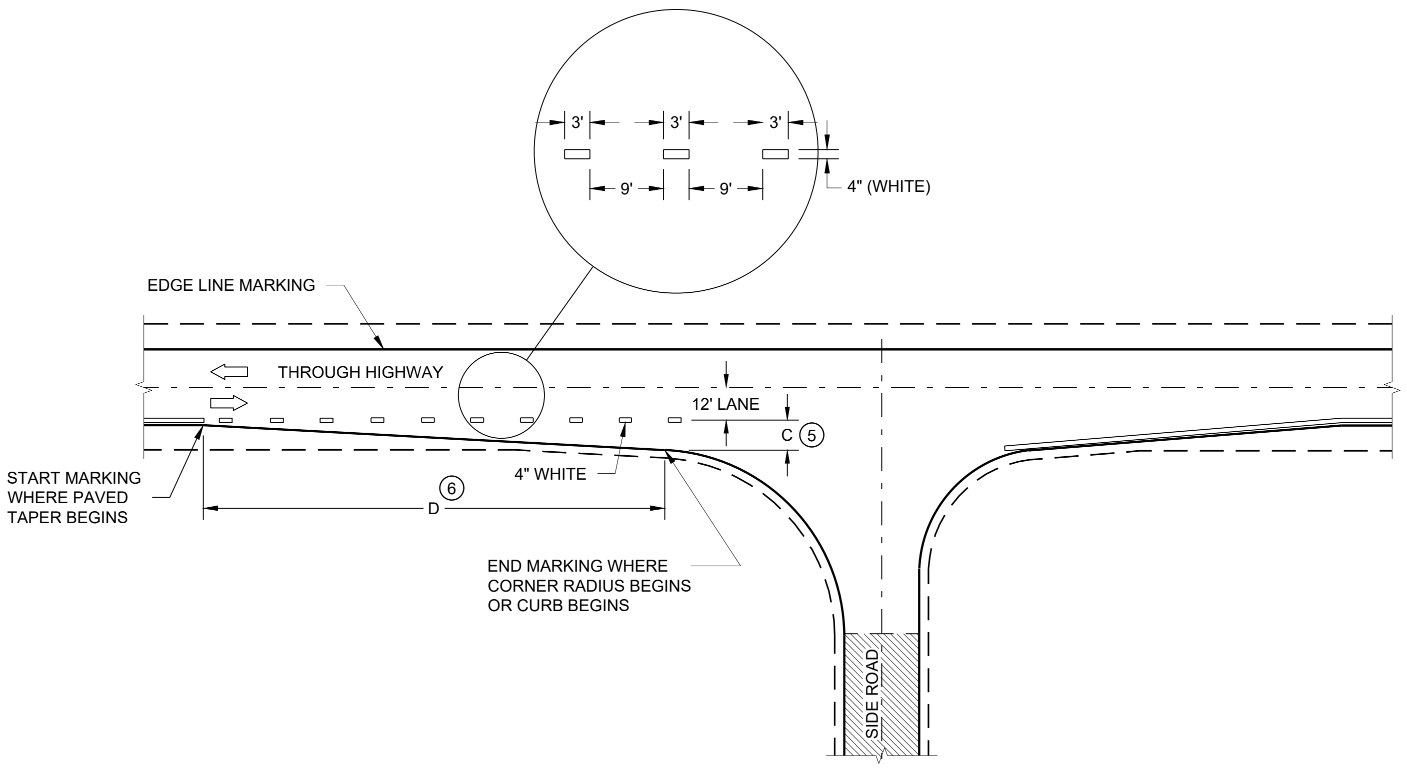
STOP LINE AND CROSSWALK PAVEMENT MARKING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

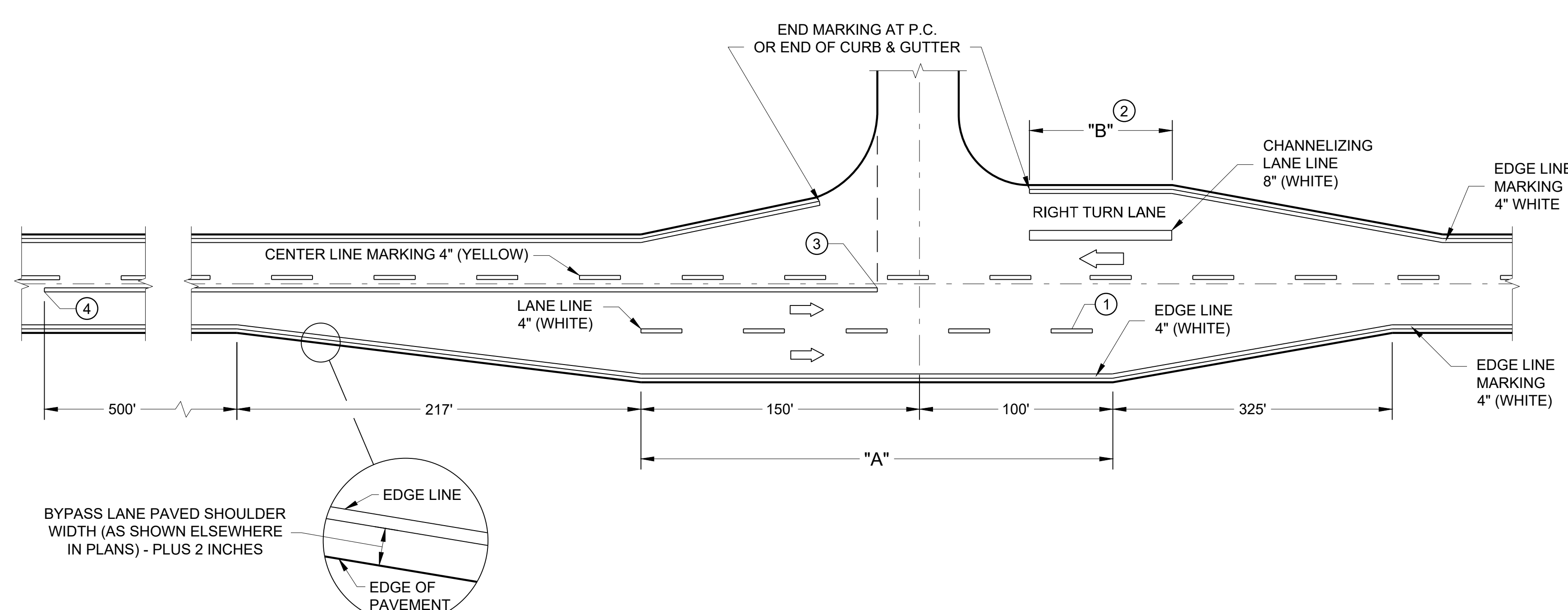
APPROVED
November 2019 — DATE
/S/ Matthew Rauch — STATE SIGNING AND MARKING ENGINEER
FHWA

SDD 15C33 - 04

SDD 15C33 - 04



MINOR INTERSECTION



MAJOR INTERSECTIONS

(INTERSECTION WITH FULL RIGHT TURN LANE OR BYPASS LANE)

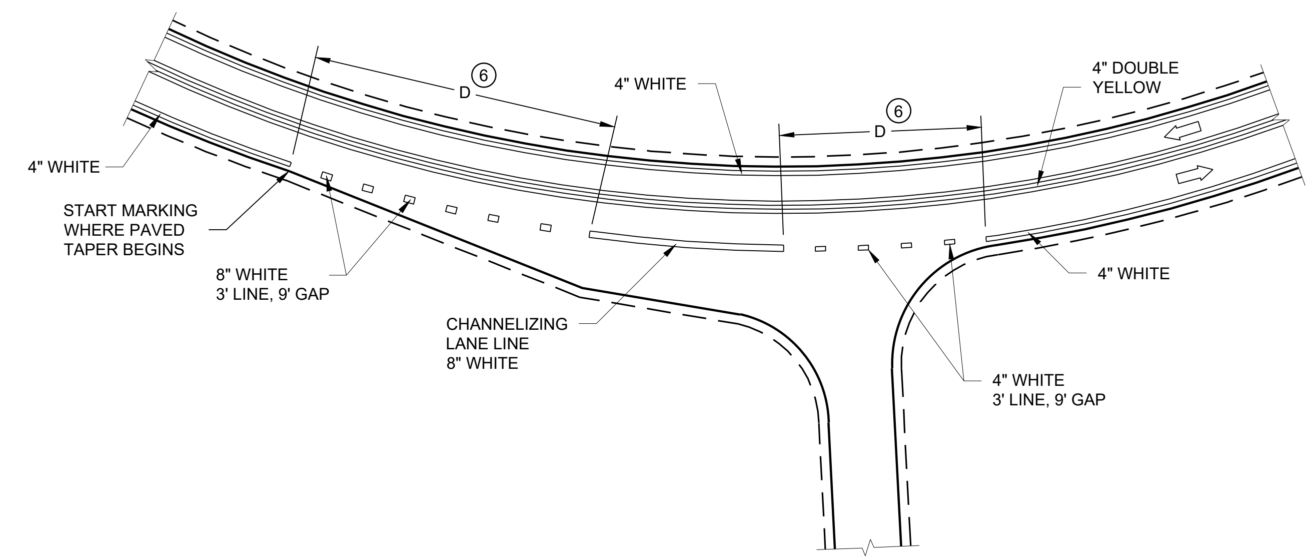
GENERAL NOTES

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

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

LEGEND

⇨ DIRECTION OF TRAVEL



INTERSECTION ON OUTSIDE OF CURVE

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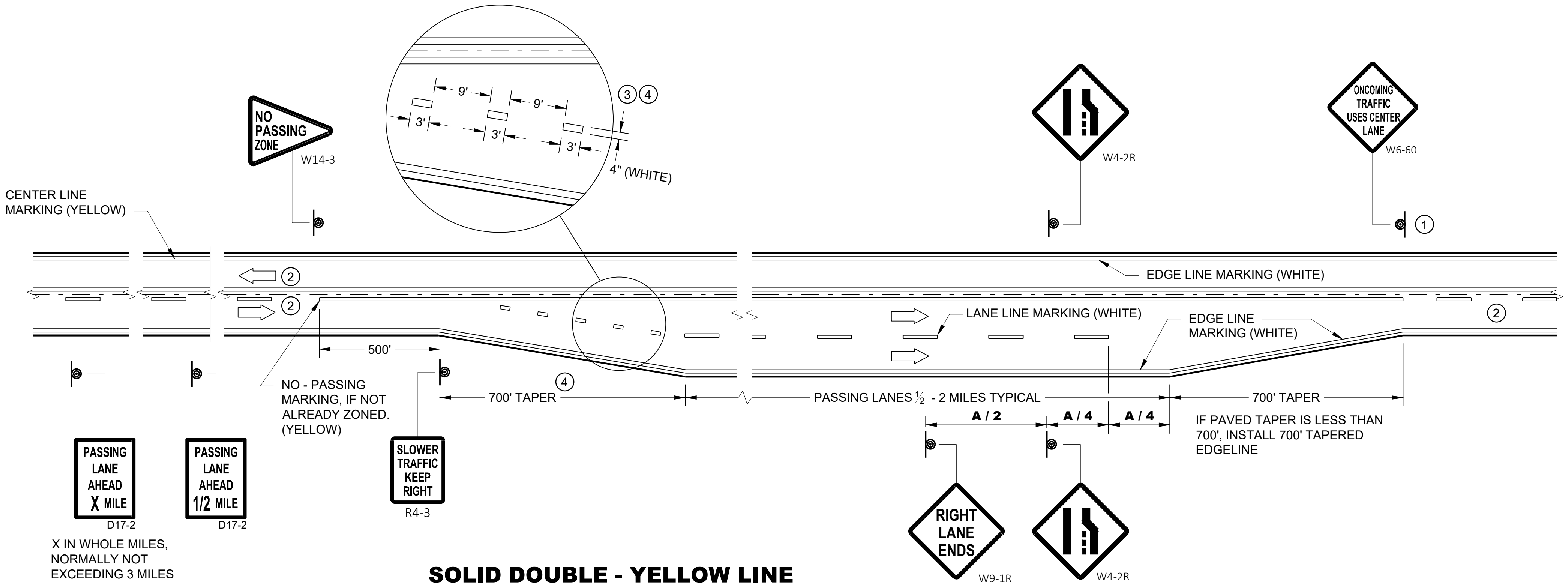
SDD 15C35 - 05a

SDD 15C35 - 05a

PAVEMENT MARKING (INTERSECTIONS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTAT



SOLID DOUBLE - YELLOW LINE
(THROUGHOUT ENTIRE PASSING / CLIMBING LANE)

GENERAL NOTES

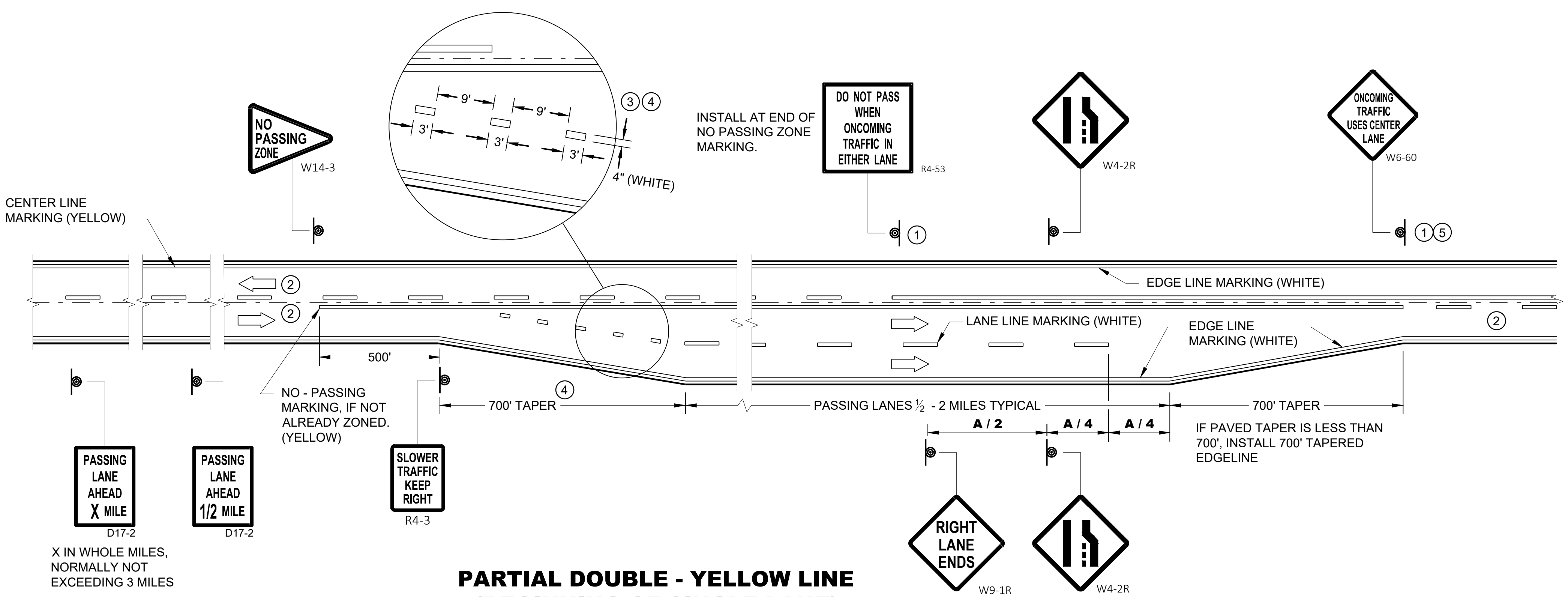
1. SIGN SHALL BE REPEATED AT 1 MILE INCREMENTS OR AT THE DISCRETION OF THE REGIONAL TRAFFIC ENGINEER.
2. THERE MAY BE SOLID YELLOW ON THE CENTERLINE DUE TO SIGHT CONDITIONS.
3. THE TAPER LENGTH OF THE DOTTED LINE PAVEMENT MARKING SHALL BE 700 FEET, 3' LINE, 9' GAP, EXCEPT RETRACE THE EXISTING LINE - GAP PATTERN WHERE EXISTING MARKINGS ARE IN PLACE.
4. WHEN THE ENTRANCE TAPER IS LESS THAN 700 FEET OR THE SHOULDER WIDTH IN THE PASSING / CLIMBING LANE IS LESS THAN THE ADJACENT HIGHWAY, DO NOT INSTALL DOTTED LINE PAVEMENT MARKING.
5. REPEAT EVERY 1 MILE UP UNTIL R4-53.

ARROW SYMBOL (⇨) SHOWS DIRECTION OF TRAVEL

DISTANCE TABLE

POSTED OR 85th PERCENTILE SPEED	DISTANCE "A"
45	775
50	885
55	990

6



PARTIAL DOUBLE - YELLOW LINE
(BEGINNING OF SINGLE LANE)

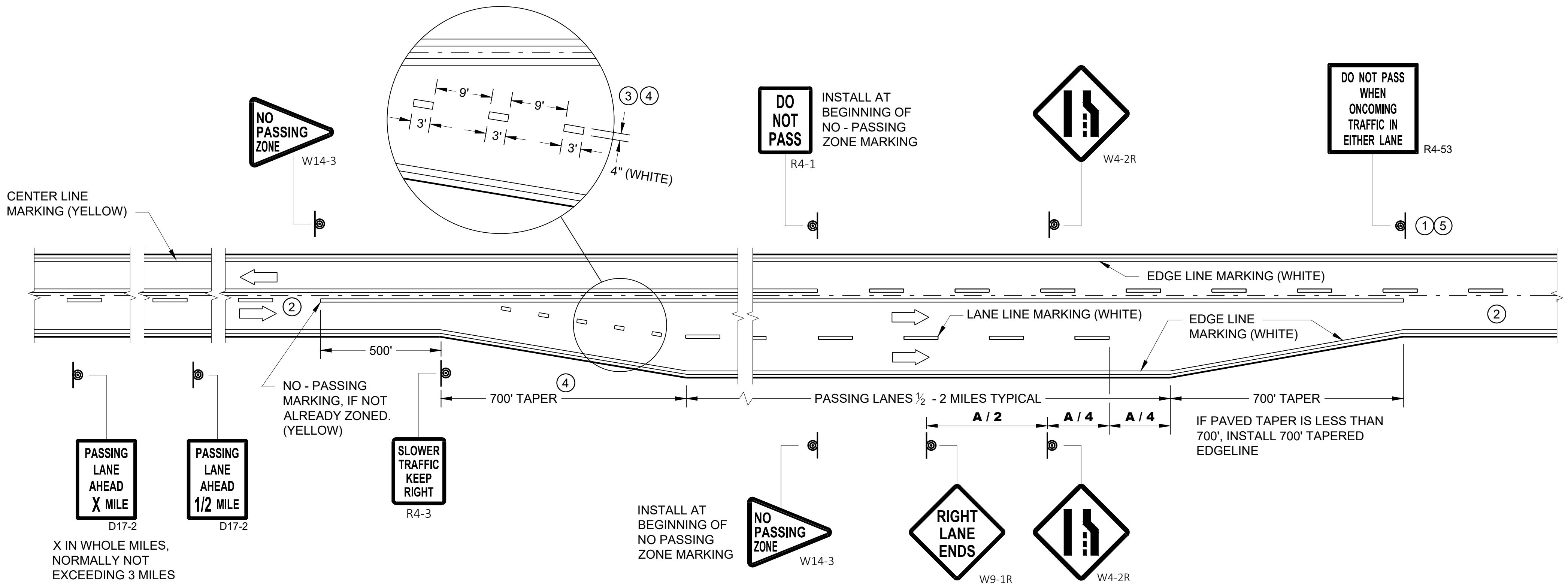
PAVEMENT MARKING & SIGNING (CLIMBING LANE & PASSING LANE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

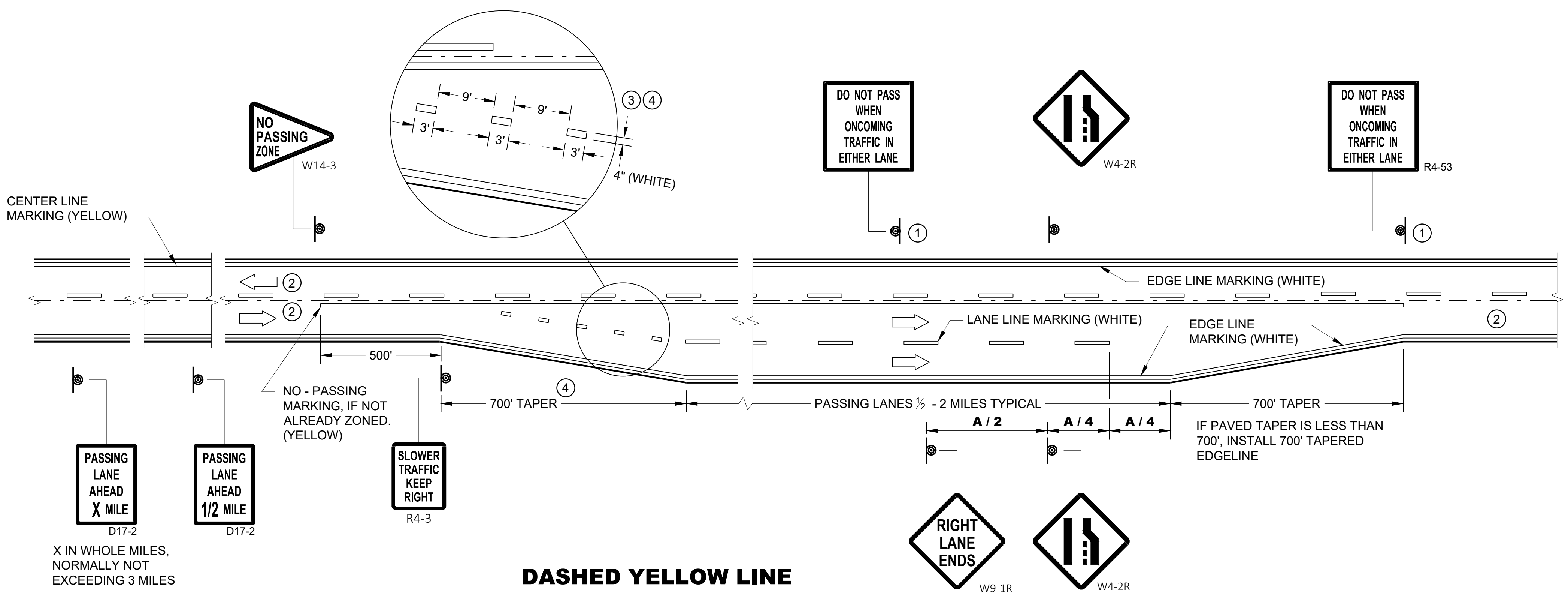
SDD 15C35 - 05b

SDD 15C35 - 05b

6



SOLID DOUBLE - YELLOW LINE
(END OF SINGLE LANE)



DASHED YELLOW LINE
(THROUGHOUT SINGLE LANE)

GENERAL NOTES

1. SIGN SHALL BE REPEATED AT 1 MILE INCREMENTS OR AT THE DISCRETION OF THE REGIONAL TRAFFIC ENGINEER.
2. THERE MAY BE SOLID YELLOW ON THE CENTERLINE DUE TO SIGHT CONDITIONS.
3. THE TAPER LENGTH OF THE DOTTED LINE PAVEMENT MARKING SHALL BE 700 FEET, 3' LINE, 9' GAP, EXCEPT RETRACE THE EXISTING LINE - GAP PATTERN WHERE EXISTING MARKINGS ARE IN PLACE.
4. WHEN THE ENTRANCE TAPER IS LESS THAN 700 FEET OR THE SHOULDER WIDTH IN THE PASSING / CLIMBING LANE IS LESS THAN THE ADJACENT HIGHWAY, DO NOT INSTALL DOTTED LINE PAVEMENT MARKING.
5. REPEAT EVERY ONE MILE UP UNTIL NO PASSING ZONE.

ARROW SYMBOL (⇨) SHOWS DIRECTION OF TRAVEL

DISTANCE TABLE

POSTED OR 85th PERCENTILE SPEED	DISTANCE "A"
45	775
50	885
55	990

6

6

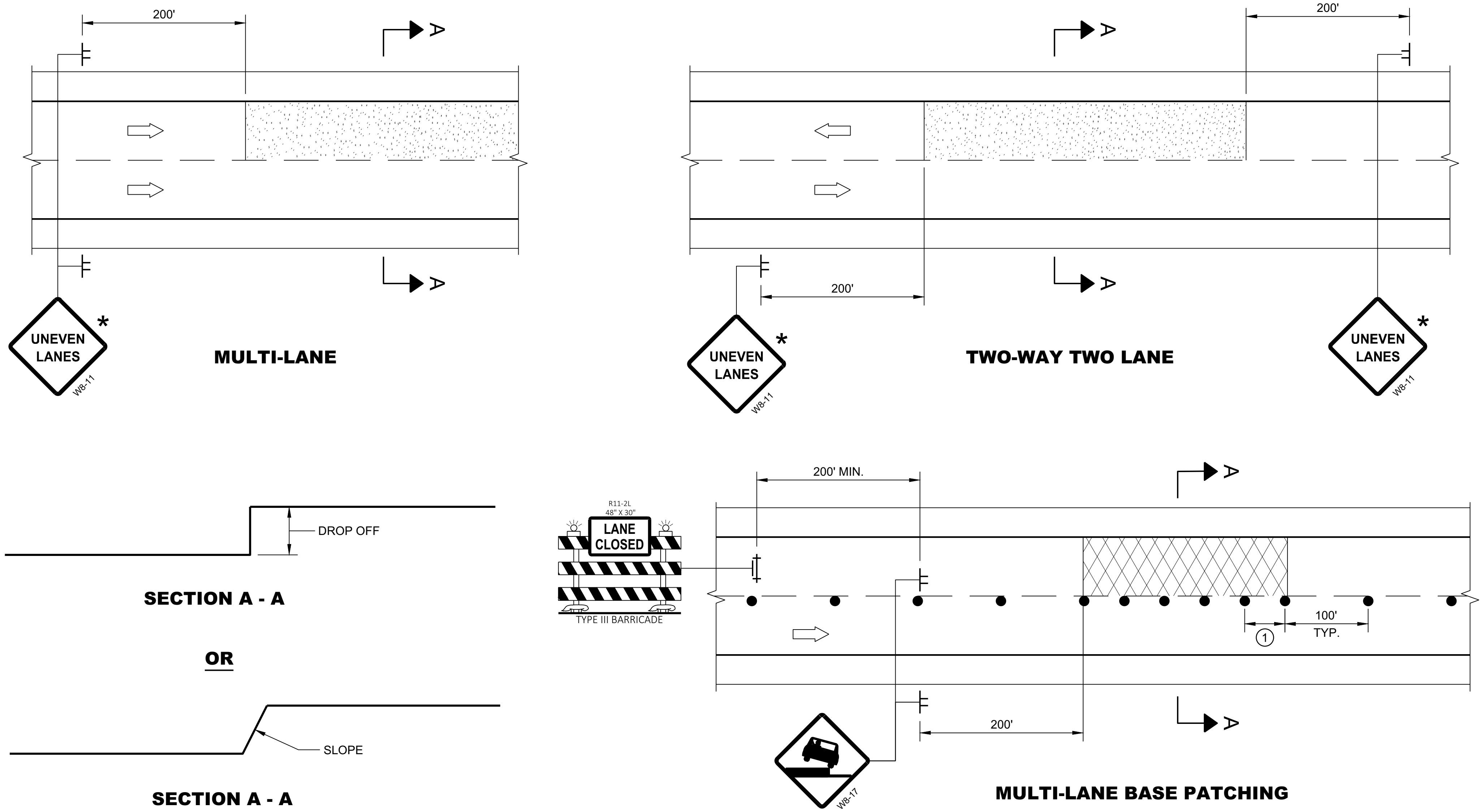
PAVEMNET MARKING & SIGNING (CLIMBING LANE & PASSING LANE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2022 — DATE
/S/ Jeannie Silver — STATE SIGNING AND MARKING ENGINEER
FHWA

SDD 15C35 - 05c

SDD 15C35 - 05c



ADJACENT LANE DROP-OFFS

GENERAL NOTES

FOR SPOT LOCATIONS USE ENGINEERING JUDGEMENT WHEN PLACING ADDITIONAL SIGNS.

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

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

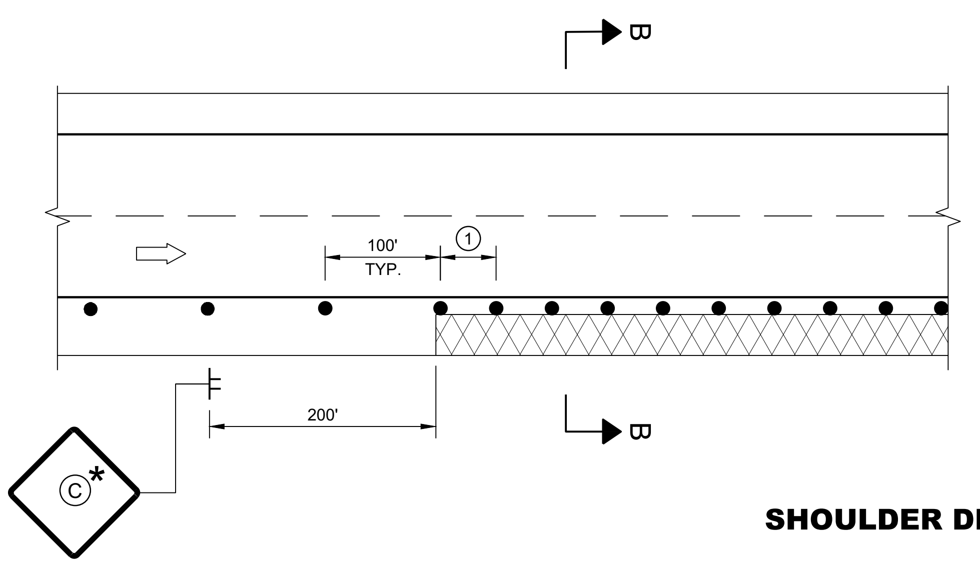
WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

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

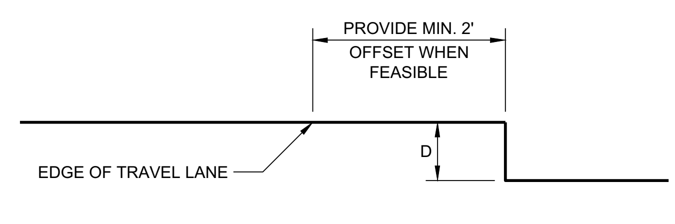
(1) USE CLOSER SPACING WHEN DELINEATING DROP-OFF.

LEGEND

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



SHOULDER DROP-OFFS



SECTION B - B

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

TRAFFIC CONTROL, DROP-OFF SIGNING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
March 2018 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER
FHWA

GENERAL NOTES

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

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

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

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

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

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

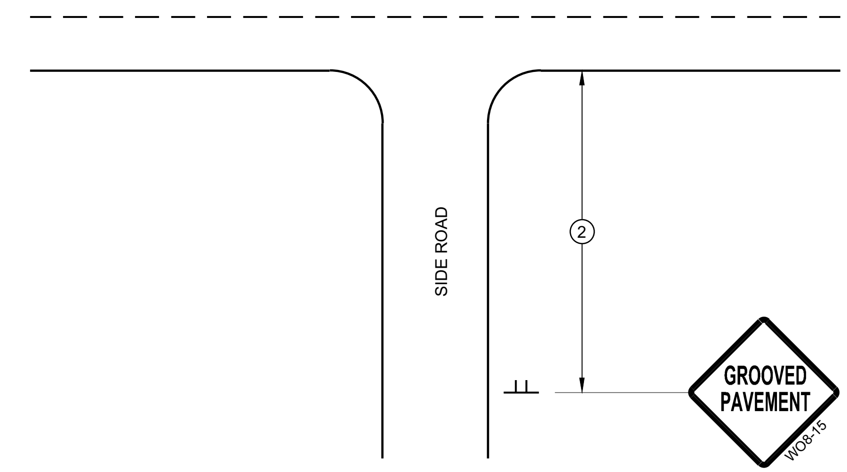
SEE 15C34 FOR ADDITIONAL TRAFFIC CONTROL SIGNING WHEN CENTERLINE PAVEMENT MAKINGS ARE MISSING. 'DO NOT PASS' SIGNS MUST BE INSTALLED ON THE SAME DAY AS MILLING OPERATIONS.

1. PLACE SIGNS 350' IN ADVANCE OF MILLED SURFACES AND AT 1 MILE INTERVALS, OR AS DIRECTED BY THE ENGINEER.
2. PLACE SIGN 200' MIN. FROM INTERSECTION AND 200' MIN. AFTER ADVANCE WARNING SIGN SHOWN IN SDD 15C04.

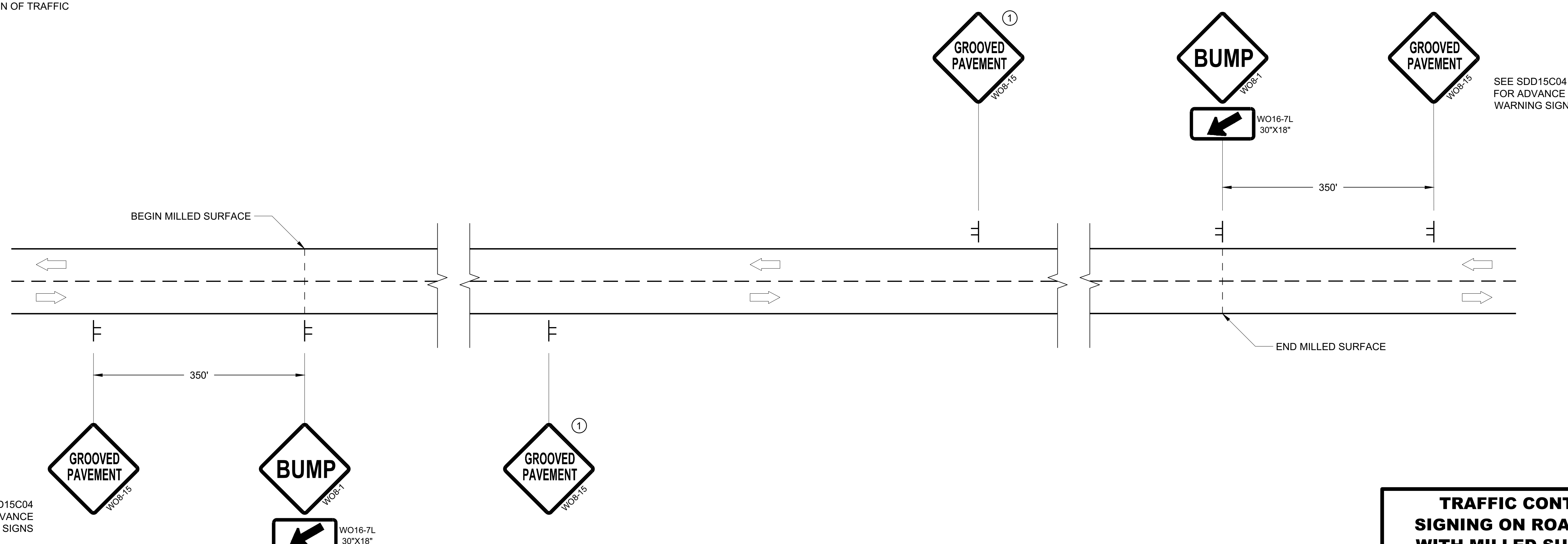
LEGEND

SIGN ON TEMPORARY SUPPORT

DIRECTION OF TRAFFIC



TYPICAL SIDE ROAD APPROACH SIGN DETAIL



DETAIL FOR SIGNING ON MILLED SURFACES

TRAFFIC CONTROL, SIGNING ON ROADWAYS WITH MILLED SURFACES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

LEGEND

V1 WORK VEHICLE

V2 SHADOW VEHICLE

TRUCK MOUNTED ATTENUATOR (TMA)

FLASHING ARROW PANEL (CAUTION)

WORK AREA

DIRECTION OF TRAFFIC

POSTED SPEED PRIOR TO WORK STARTING (MPH)	DECISION SIGHT DISTANCE (D)
0 - 25	550'
30	550'
35	700'
40	700'
45	900'
50	900'
55	1200'

GENERAL NOTES

ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED.

MOBILE IS WORK THAT MOVES CONTINUOUSLY OR MOVES AT LEAST THE DECISION SIGHT DISTANCE EVERY 15 MINUTES.

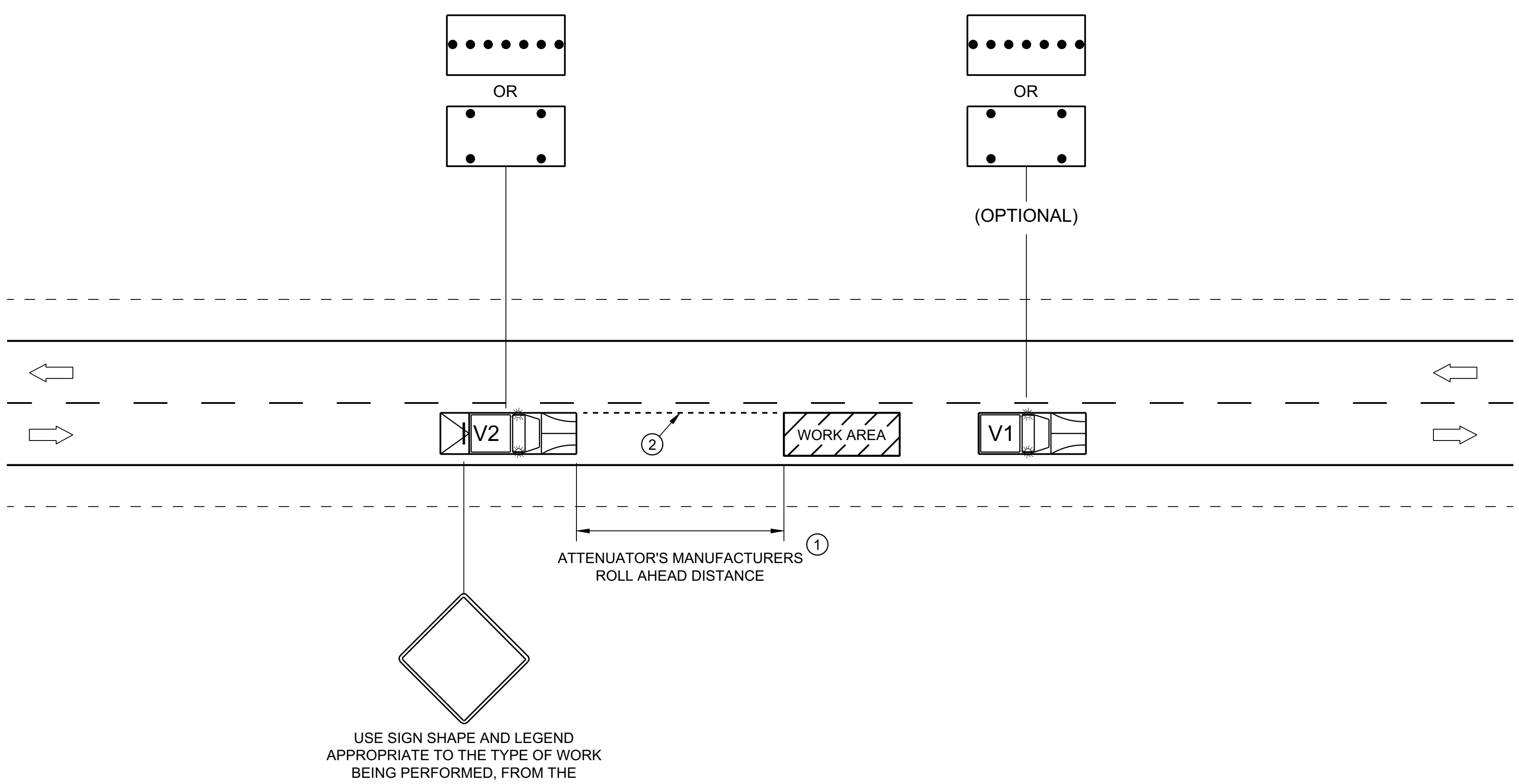
ALL VEHICLES SHALL BE EQUIPPED WITH TWO 360 DEGREE HIGH INTENSITY YELLOW FLASHING LIGHTS OR STROBE LIGHTS AND OPERATED WITH HEADLIGHTS TURNED ON.

ALL ARROW PANELS SHALL BE REAR FACING, TYPE "B" OR "C", AND DISPLAYING THE FLASHING CAUTION MODE. SIGNS PLACED ON VEHICLES MUST NOT OBSCURE THE ARROW PANEL.

USE AN ATTENUATOR ON THE REARMOST VEHICLE THAT BLOCKS ALL OR PART OF THE TRAFFIC LANE.

1 DISTANCE BETWEEN VEHICLES MAY INCREASE FROM THE ATTENUATOR'S ROLL AHEAD BASED ON TERRAIN, SIGHT DISTANCE, AND OTHER FACTORS. WHENEVER ADEQUATE STOPPING SIGHT DISTANCE EXISTS TO THE REAR, SHADOW VEHICLES SHOULD MAINTAIN THE MINIMUM DISTANCE FROM THE WORK VEHICLE AND PROCEED AT THE SAME SPEED AS THE WORK VEHICLE. SHADOW VEHICLES SHOULD SLOW DOWN IN ADVANCE OF VERTICAL OR HORIZONTAL CURVES THAT RESTRICT SIGHT DISTANCE.

2 ALIGN LEFT SIDE OF SHADOW VEHICLE WITH EDGE OF WORK AREA.



6

6

TRAFFIC CONTROL, MOBILE OPERATIONS ON AN UNDIVIDED ROADWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

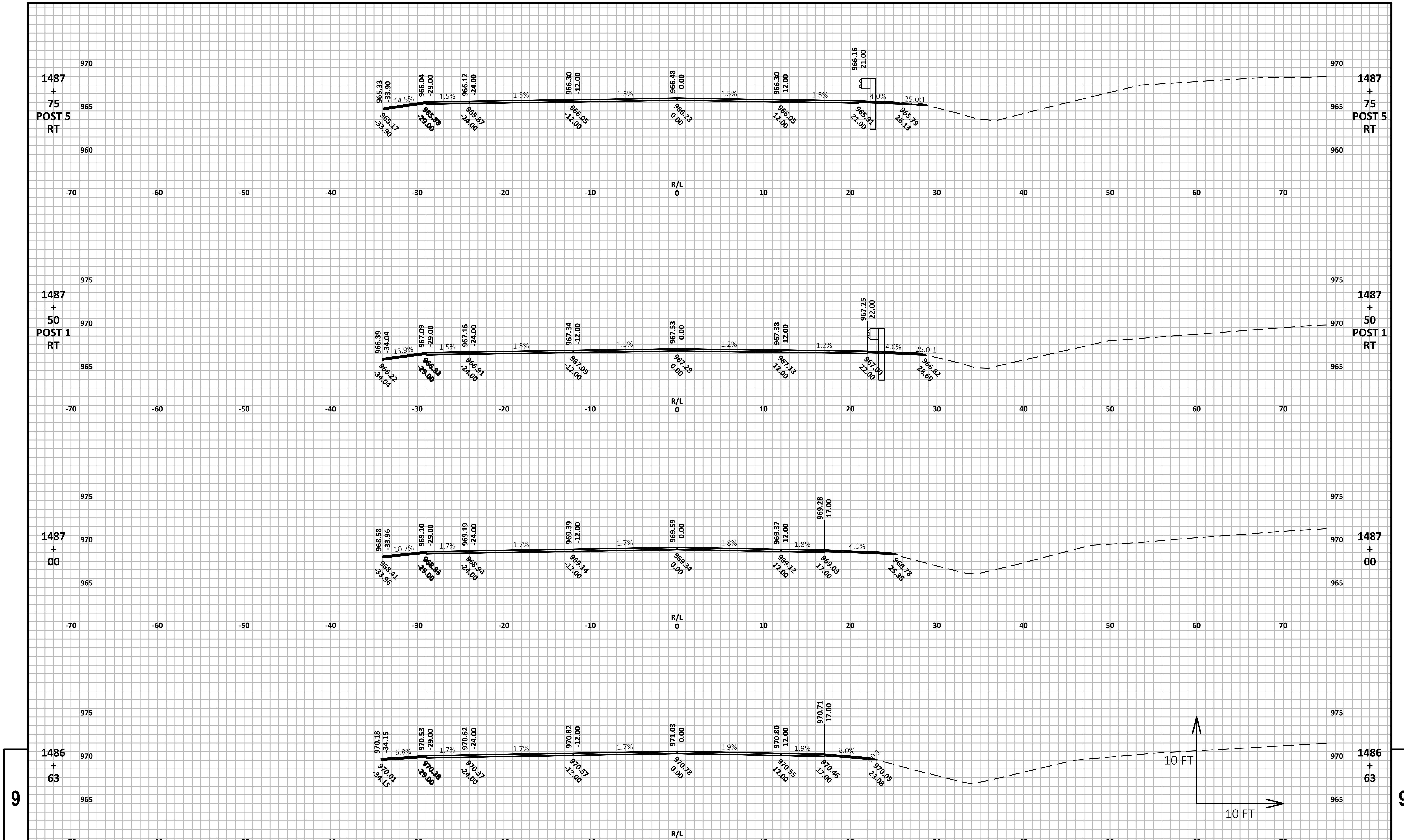
February 2021 — DATE

/S/ Andrew Heidtke — STATEWIDE WORK ZONE SAFETY ENGINEER

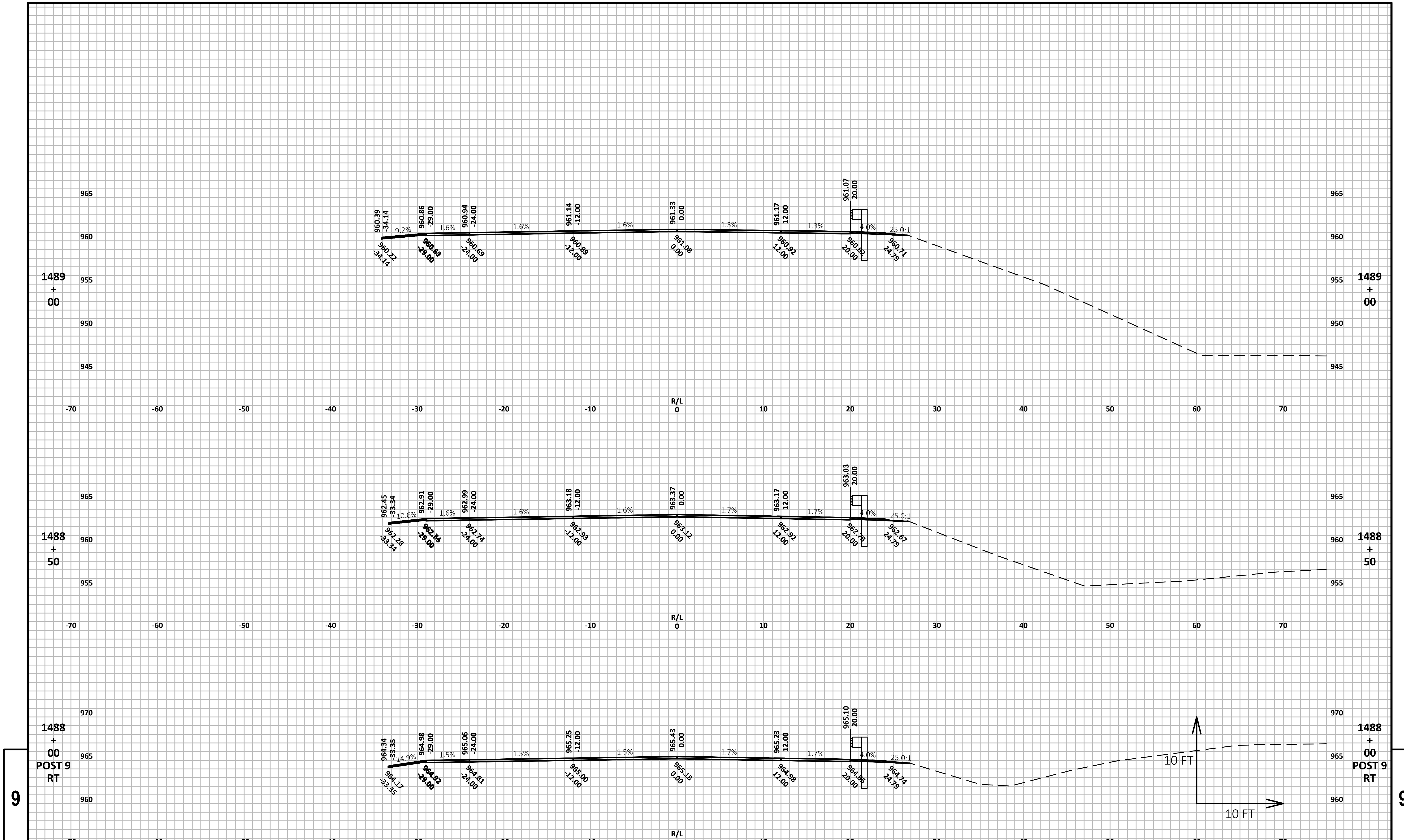
FHWA

SDD 15D51 - 01

SDD 15D51 - 01



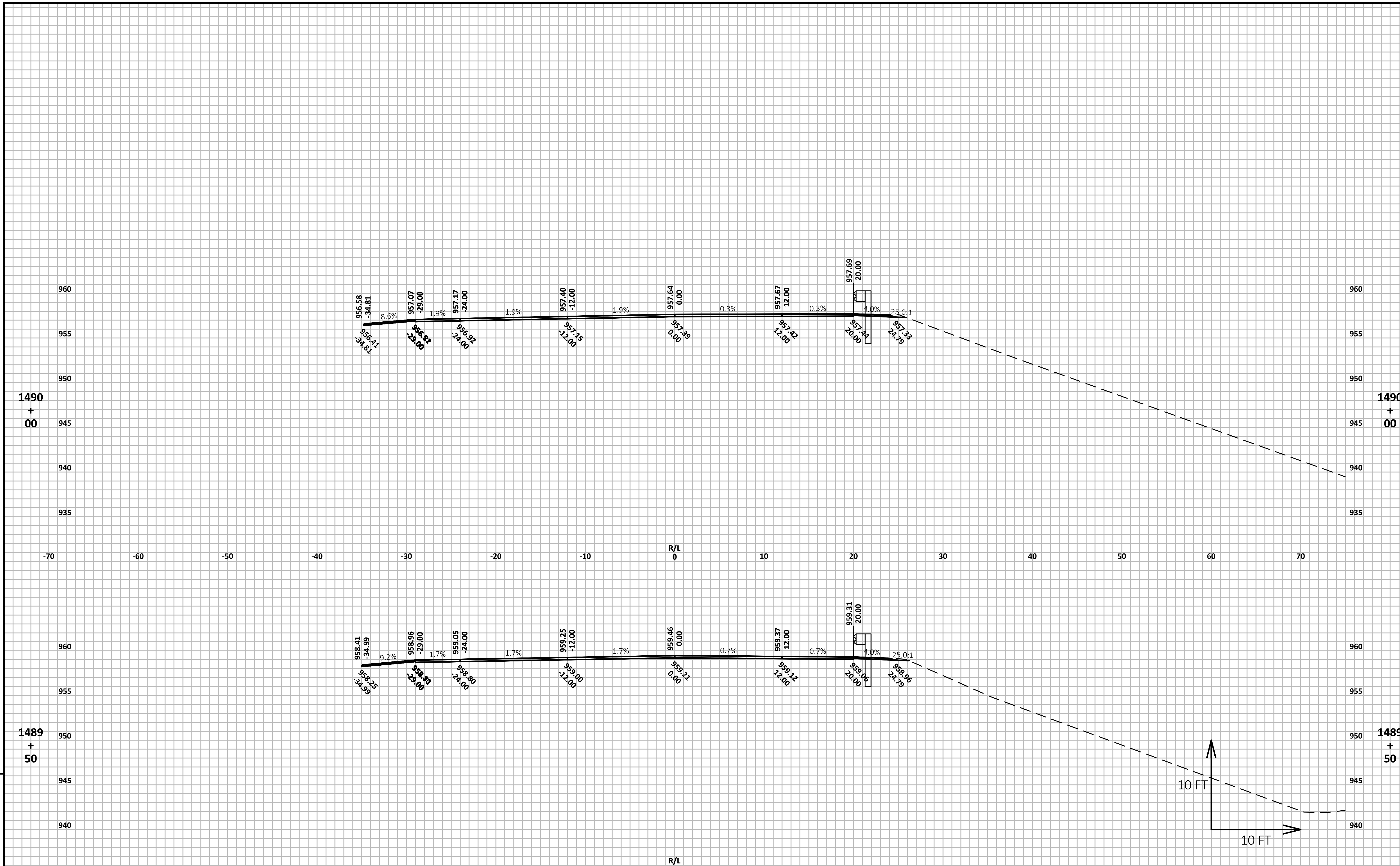
PROJECT NO: 1491-23-71	HWY: USH 141	COUNTY: MARINETTE	CROSS SECTIONS: USH 141	SHEET 48	E



PROJECT NO: 1491-23-71	HWY: USH 141	COUNTY: MARINETTE	CROSS SECTIONS: USH 141	SHEET 49	E

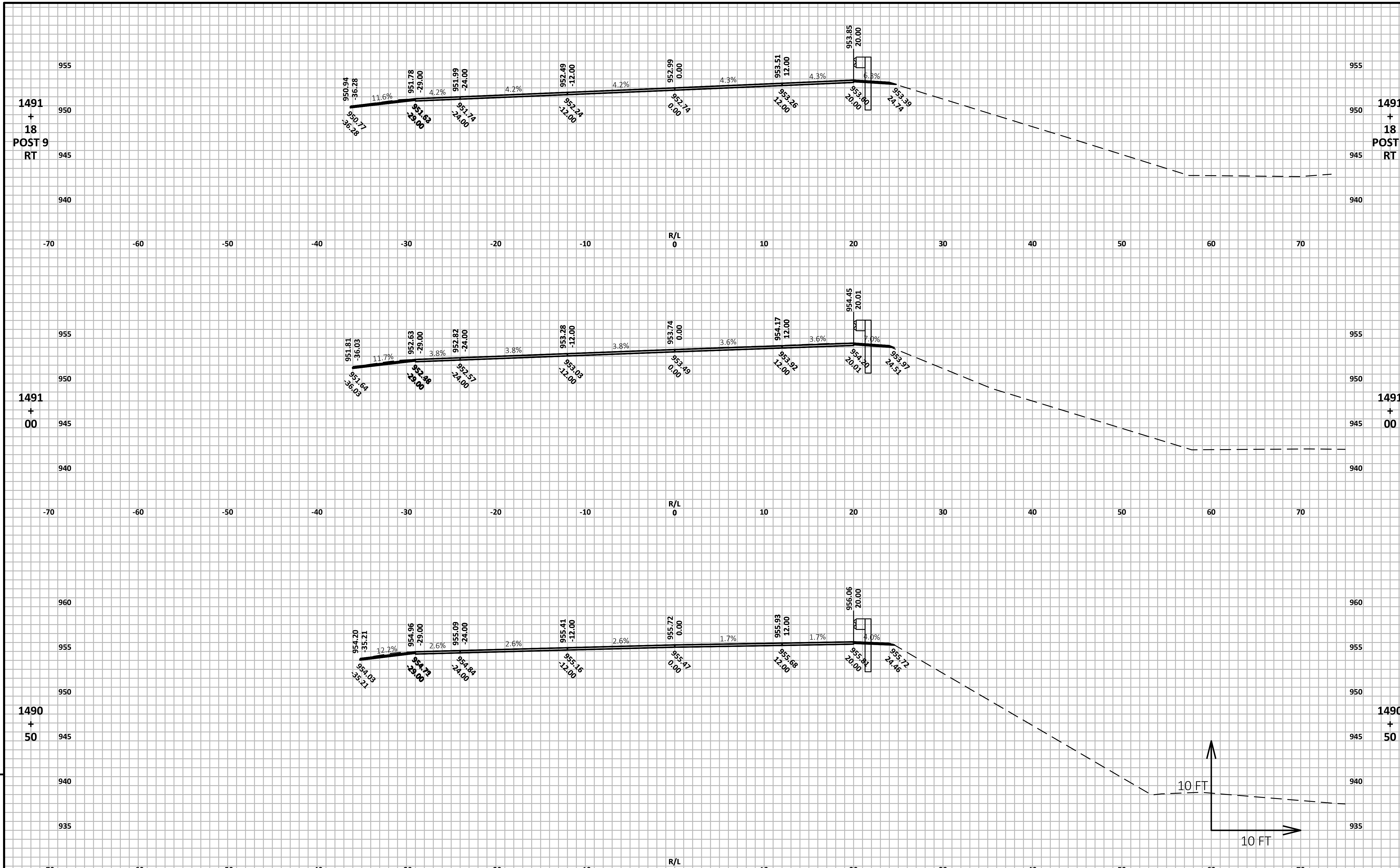
FILE NAME : N:\3000965.00\CIVIL 3D\SHEETSPLAN\149123-090201-XS.DWG
LAYOUT NAME - 149123-090202-xs

PLOT DATE : 11/30/2022 3:33 PM PLOT BY : BRANDI SWANSON PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



PROJECT NO: 1491-23-71	HWY: USH 141	COUNTY: MARINETTE	CROSS SECTIONS: USH 141	SHEET 50	E

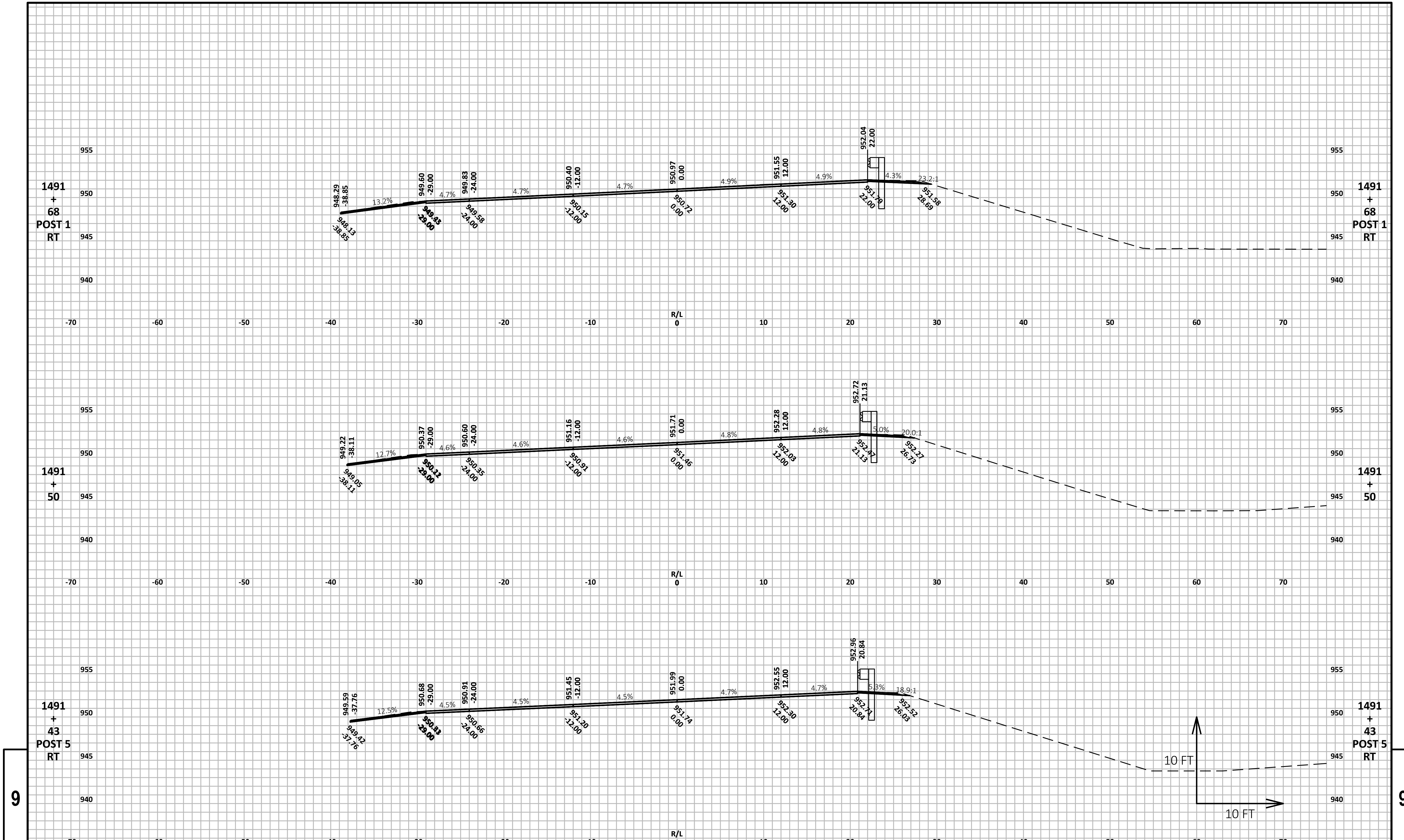
FILE NAME : N:\3000965.00\CIVIL 3D\SHEETSPLAN\149123-090201-XS.DWG
LAYOUT NAME - 149123-090203-xs
PLOT DATE : 11/30/2022 3:33 PM
PLOT BY : BRANDI SWANSON
PLOT NAME :
PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.
WISDOT/CADDS SHEET 49



9

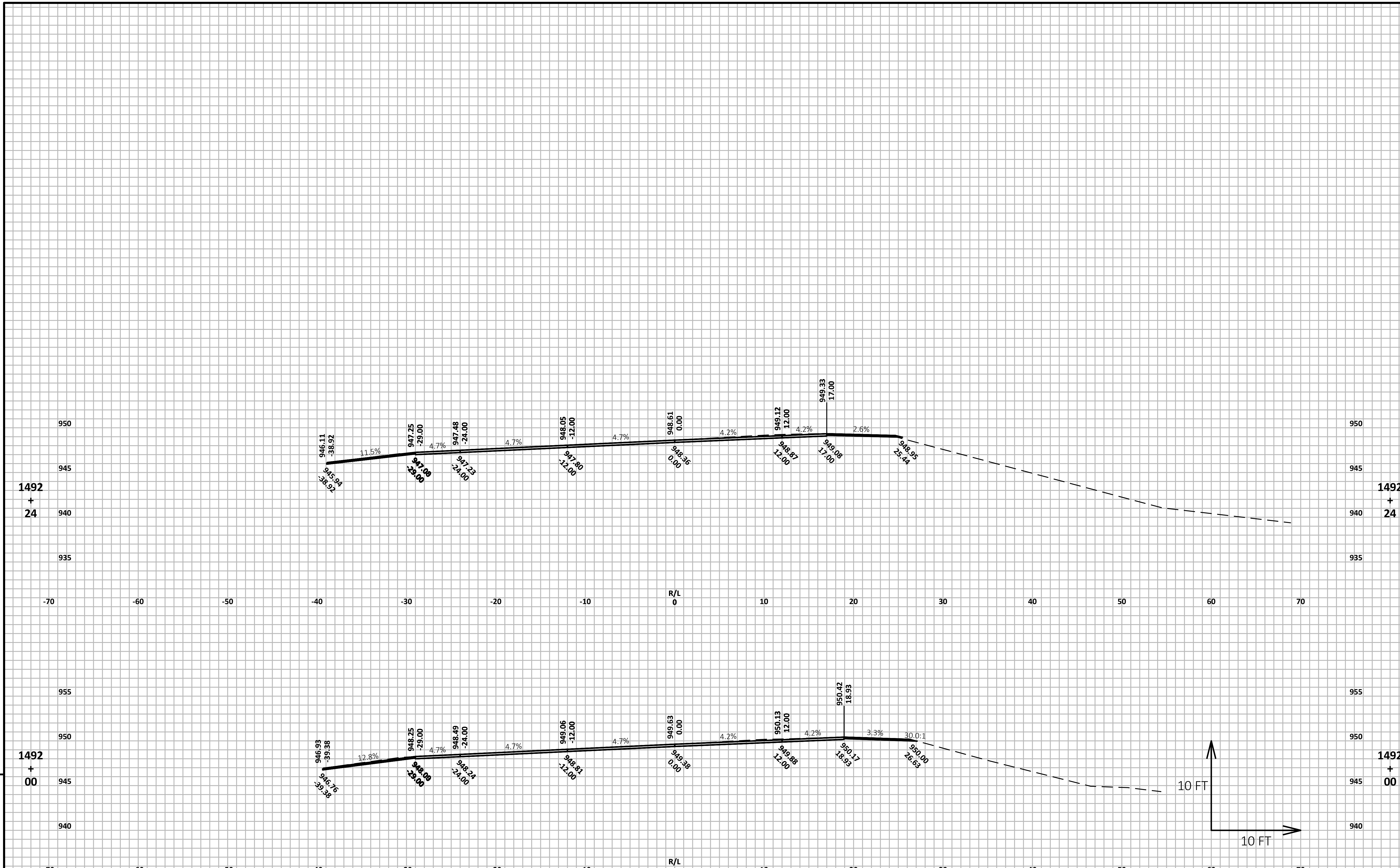
PROJECT NO: 1491-23-71	HWY: USH 141	COUNTY: MARINETTE	CROSS SECTIONS: USH 141	SHEET 51 E

FILE NAME : N:\3000965.00\CIVIL 3D\SHEETSPLAN\149123-090201-XS.DWG
LAYOUT NAME - 149123-090204-xs
PLOT DATE : 11/30/2022 3:34 PM PLOT BY : BRANDI SWANSON PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.
WISDOT/CADDS SHEET 49



PROJECT NO: 1491-23-71	HWY: USH 141	COUNTY: MARINETTE	CROSS SECTIONS: USH 141	SHEET 52	E

FILE NAME : N:\3000965.00\CIVIL 3D\SHEETSPLAN\149123-090201-XS.DWG
LAYOUT NAME - 149123-090205-xs
PLOT DATE : 11/30/2022 3:34 PM PLOT BY : BRANDI SWANSON PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.
WISDOT/CADDS SHEET 49



9

9

PROJECT NO: 1491-23-71	HWY: USH 141	COUNTY: MARINETTE	CROSS SECTIONS: USH 141	SHEET 53	E

FILE NAME : N:\3000965.00\CIVIL 3D\SHEETSPLAN\149123-090201-XS.DWG
LAYOUT NAME - 149123-090206-xs
PLOT DATE : 11/30/2022 3:34 PM
PLOT BY : BRANDI SWANSON
PLOT NAME :
PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.
WISDOT/CADDS SHEET 49

Wisconsin Department of Transportation

Dedicated people creating transportation solutions through innovation and exceptional service.

http://www.dot.wisconsin.gov

GRE

PROJECT ID: 9560-06-71, 9560-06-72
WITH: 1491-23-71

COUNTY: MARINETTE

18

MAY 2023

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.	6	Standard Detail Drawings
Section No.	9	Computer Earthwork Data
Section No.	9	Cross Sections

TOTAL SHEETS = 140

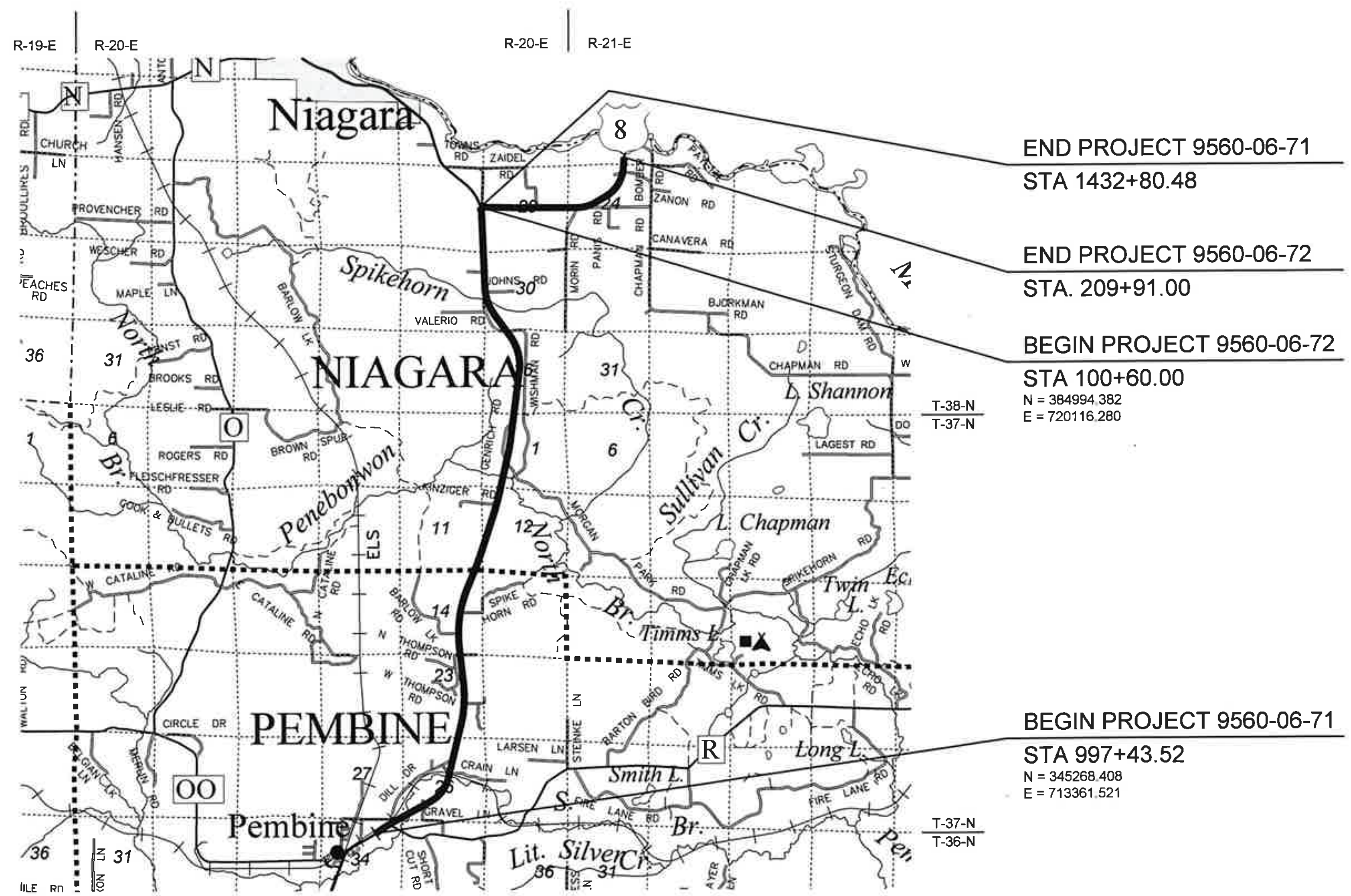
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
9560-06-71	WISC 2023369	1
9560-06-72	WISC 2023370	1

PEMBINE - MICHIGAN STATE LINE

S JCT USH 141 - N JCT USH 141	N JCT USH 141 - MENOMINEE RIVER
USH 8	USH 8
MARINETTE COUNTY	MARINETTE COUNTY
STATE PROJECT NUMBER 9560-06-71	STATE PROJECT NUMBER 9560-06-72



LAYOUT

SCALE 0 2 MI

PROJECT 9560-06-71 LENGTH OF CENTERLINE = 8.246 MILES
PROJECT 9560-06-72 LENGTH OF CENTERLINE = 2.070 MILES
TOTAL NET LENGTH OF CENTERLINE = 10.316 MILES

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

DESIGN DESIGNATION			9560-06-71	9560-06-72
A.A.D.T.	(2025)	=	6,000	2,750
A.A.D.T.	(2045)	=	6,660	3,080
D.H.V.		=		
D.D.		=	50/50	50.50
T.		=	23.6%	11%
DESIGN SPEED		=	60 MPH	60 MPH
ESALS		=	3,200,000	690,000

CONVENTIONAL SYMBOLS

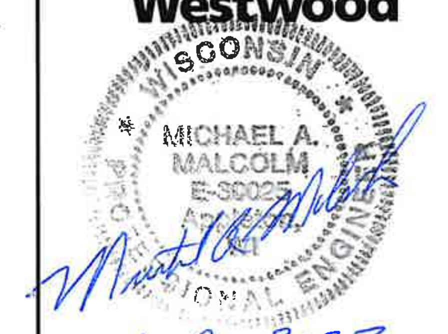
PLAN
CORPORATE LIMITS
PROPERTY LINE
LOT LINE
LIMITED HIGHWAY EASEMENT
EXISTING RIGHT OF WAY
PROPOSED OR NEW R/W LINE
SLOPE INTERCEPT
REFERENCE LINE
EXISTING CULVERT
PROPOSED CULVERT (Box or Pipe)
COMBUSTIBLE FLUIDS (CAUTION)
MARSH AREA
WOODED OR SHRUB AREA

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

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

ORIGINAL PLANS PREPARED BY

Westwood



DATE: 1-9-2023
(Professional Engineer Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	Westwood
Designer	Westwood
Project Manager	KURT VOGEL
Regional Examiner	REGIONAL EXAMINER
Regional Supervisor	BRIAN EDWARDS

APPROVED FOR THE DEPARTMENT

DATE: 1/10/2023 (Signature)

E

FILE NAME : N:\3000939.00\CIVIL 3D\SHEETSPLAN\956006-010101-TI.DWG
PLOT DATE : 2/15/2023 7:43 AM
PLOT BY : BRANDI SWANSON
PLOT NAME :

GENERAL NOTES

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

THE PROJECT REFERENCE LINE IS BASED ON AS-BUILT PLAN AND FIELD INFORMATION. THE LOCATION OF THE REFERNCE LINE MAY VARY SLIGHTLY FROM THE ACTUAL CENTER LINE.

ALL DISTURBED AREAS NOT OTHERWISE SURFACED ARE TO BE TOPSOILED, SEEDED, FERTILIZED AND COVERED WITH EROSION MAT.

SECTION 2 ORDER OF SHEETS

GENERAL NOTES
PROJECT OVERVIEW
TYPICAL SECTIONS
CONSTRUCTION DETAILS

UTILITIY CONTACTS

ATC MANAGEMENT, INC. - ELECTRICITY TRANSMISSION
DOUG VOSBERG
2489 RINDEN ROAD
COTTAGE GROVE, WI 53527
608-877-7650
dvosberg@atcllc.com

BRIGHTSPEED - COMMUNICATION LINE
SCOTT HEINZELMAN
144 NORTH PEARL STREET
BERLIN, WI 54923
605-716-5964
MOBILE: 920-757-4802
scott.heinzelman@brightspeed.com

NSIGHT TELSERVICES - COMMUNICATION LINE
RICK VINCENT
470 SECURITY BOULEVARD
GREEN BAY, WI 54313
920-617-7316
rick.vincent@nsight.com

WE ENERGIES - ELECTRICITY
GEORGE JOHNSEN
800 INDUSTRIAL PARK DRIVE
IRON MOUNTAIN, MI 49801
906-779-2486
MOBILE: 906-282-2868
george.johnsen@we-energies.com

WISCONSIN PUBLIC SERVICE CORPORATION - ELECTRICITY
BRANDON TAYLOR
2850 SOUTH ASHLAND AVENUE
GREEN BAY, WI 54304
715-775-0222
brandon.taylor@wisconsinpublicservice.com

OTHER CONTACTS

WISDOT CONTACT

KURT VOGEL
WISDOT NORTHEAST REGION
944 VANDERPERREN WAY
GREEN BAY, WI 54304
920-362-1732
kurt.vogez@dot.wi.gov

WISDOT REGION SURVEY COORDINATOR

CORMAC MCINNIS
NORTHEAST REGION SUREY COORDINATIOR
944 VANDERPERREN WAY
GREEN BAY, WI 54304
920-492-5638
cormac.mcinnis@dot.wi.gov

DESIGN CONTACT

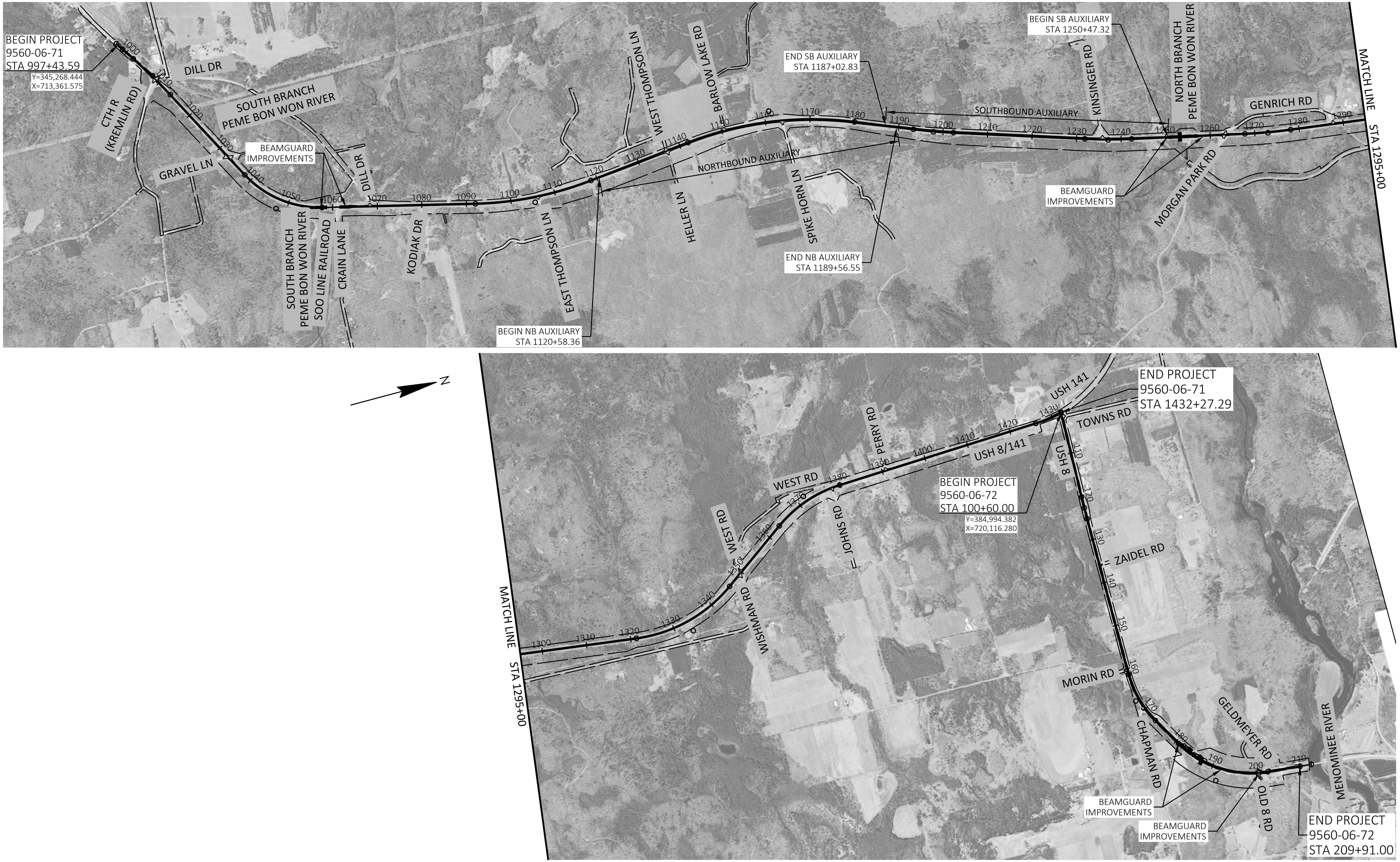
MIKE MALCOLM
WESTWOOD INFRASTRUCTURE, INC
ONE SYSTEMS DRIVE
APPLETON, WI 54914
920-830-6175
mike.malcolm@westwoodps.com

DNR LIAISON

JAMES DOPERALSKI
DNR NORTHEAST REGIONAL HEADQUARTERS
2984 SHAWANO AVENUE
GREEN BAY, WI 54313
920-412-0165
james.doperalski@wisconsin.gov

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

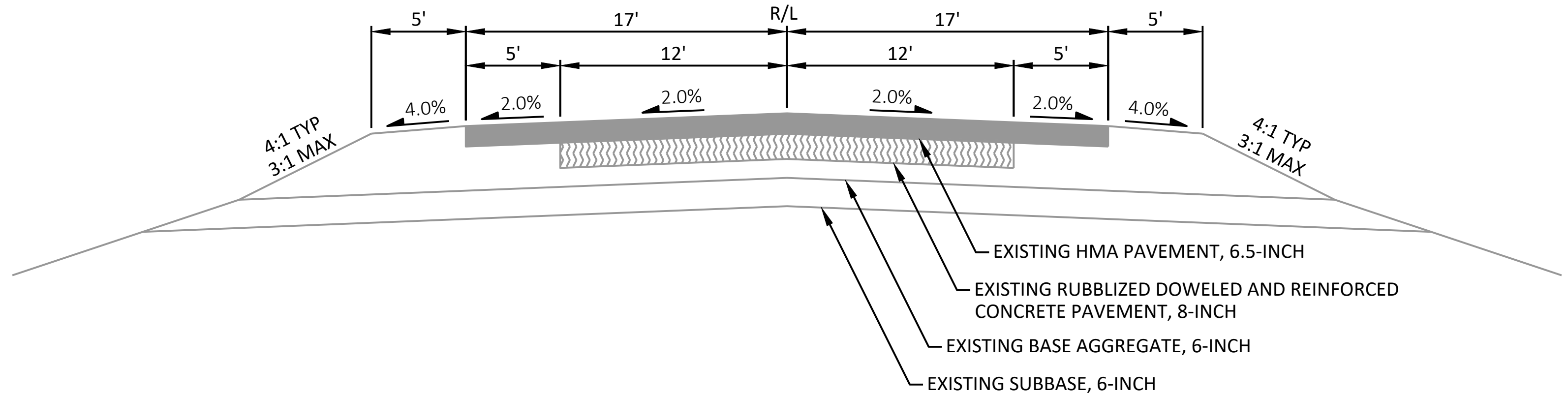
2



2

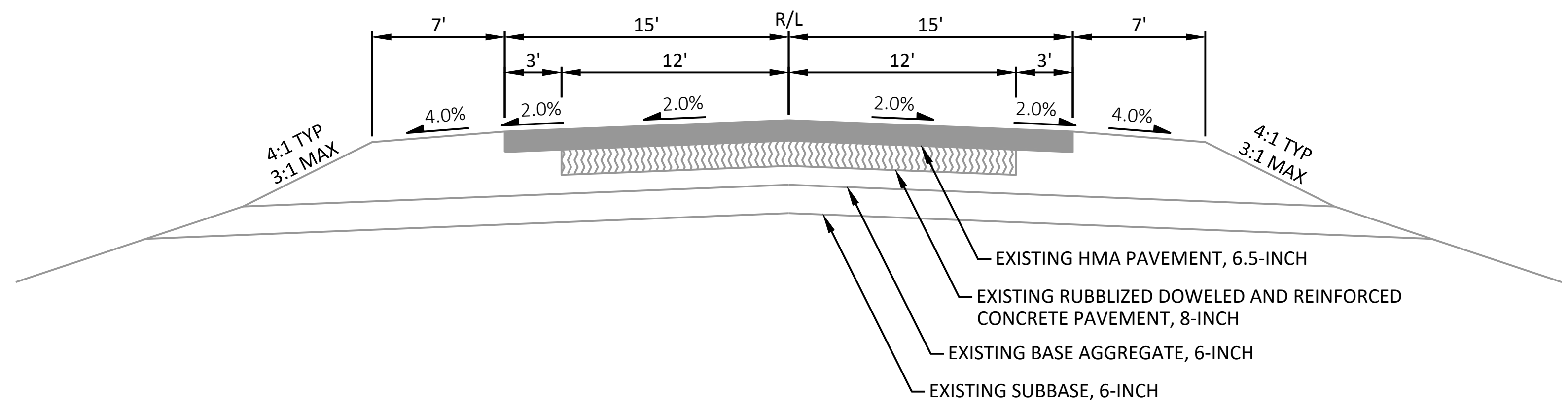
PROJECT NO: 9560-06-71/72	HWY: USH 8	COUNTY: MARINETTE	PROJECT OVERVIEW	SHEET 3	E

FILE NAME : N:\3000939.00\CIVIL 3D\SHEETSPLAN\956006-020201-PO.DWG
LAYOUT NAME - 956006-020201-po
PLOT DATE : 11/17/2022 10:26 AM PLOT BY : BRANDI SWANSON PLOT NAME : PLOT SCALE : 1 IN:2000 FT
WISDOT/CADDS SHEET 42



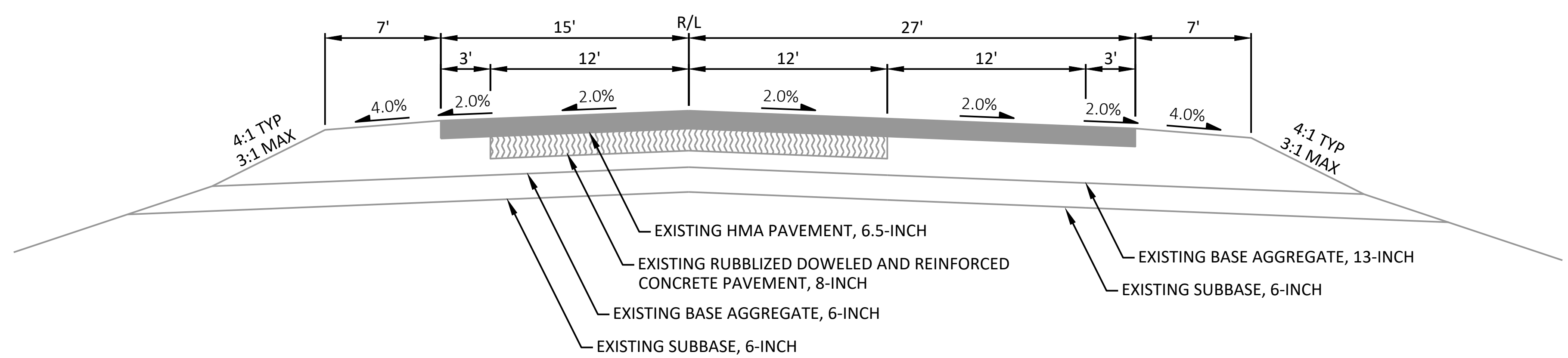
EXISTING TYPICAL SECTION FOR USH 8 / USH 141

STA 997+43 - STA 999+10
STA 1349+63 - STA 1432+80



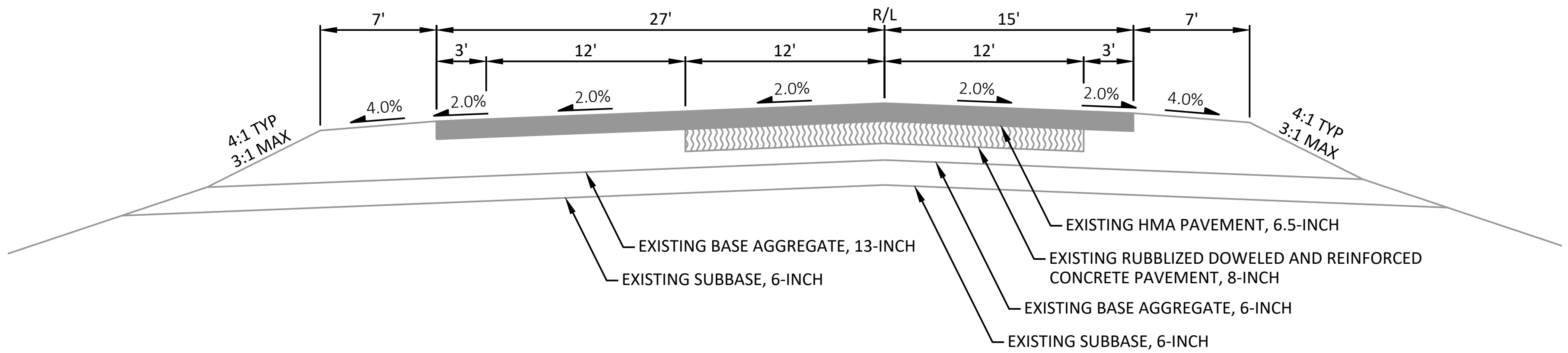
EXISTING TYPICAL SECTION FOR USH 8 / USH 141

STA 999+10 - STA 1120+58
STA 1250+47 - STA 1349+63



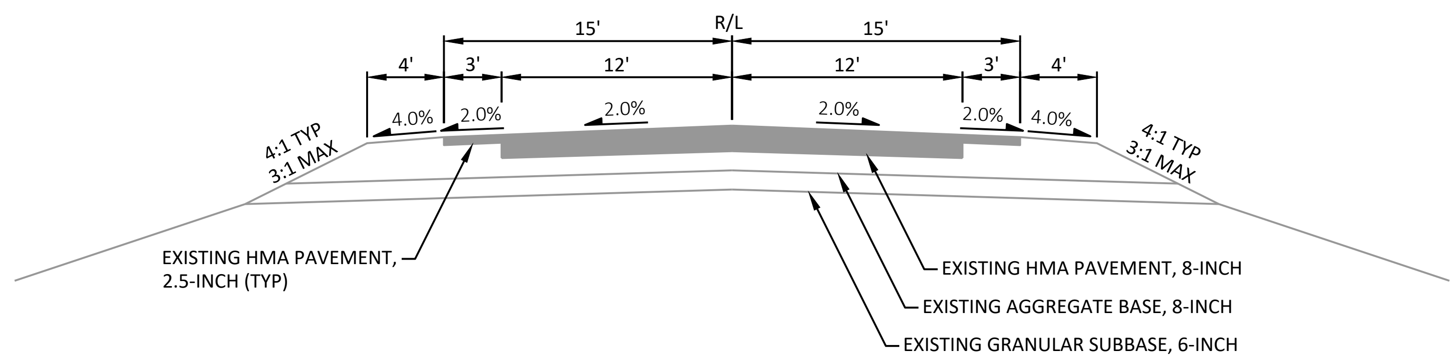
EXISTING TYPICAL SECTION FOR USH 8 / USH 141

STA 1120+58 - STA 1189+57



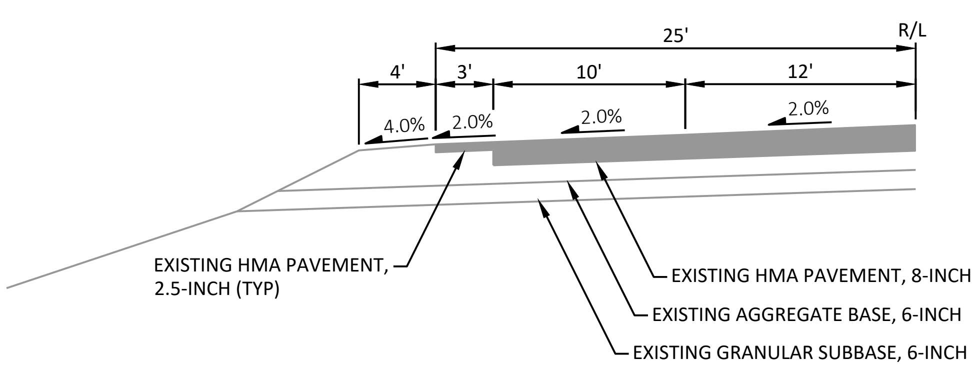
EXISTING TYPICAL SECTION FOR USH 8 / USH 141

STA 1186+03 - STA 1250+47



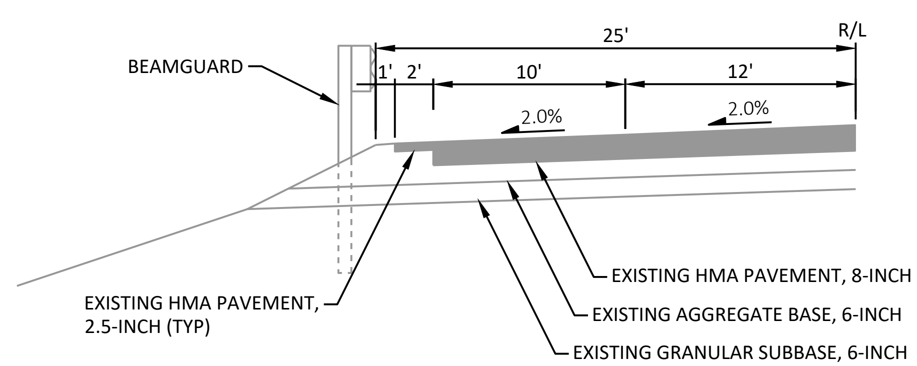
EXISTING TYPICAL SECTION FOR USH 8

STA 100+60 - STA 209+91



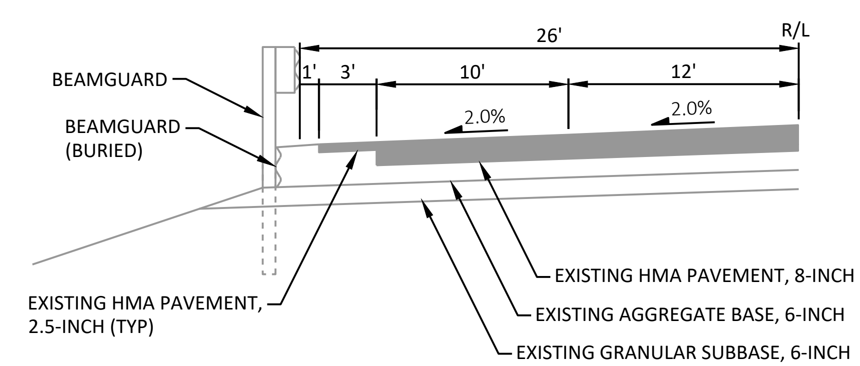
EXISTING TYPICAL HALF-SECTION FOR USH 8

STA 160+04 - STA 180+86, LEFT
STA 188+52 - STA 200+24, LEFT



EXISTING TYPICAL HALF-SECTION FOR USH 8

STA 180+86 - STA 184+47, LEFT



EXISTING TYPICAL HALF-SECTION FOR USH 8

STA 184+47 - STA 188+52, LEFT

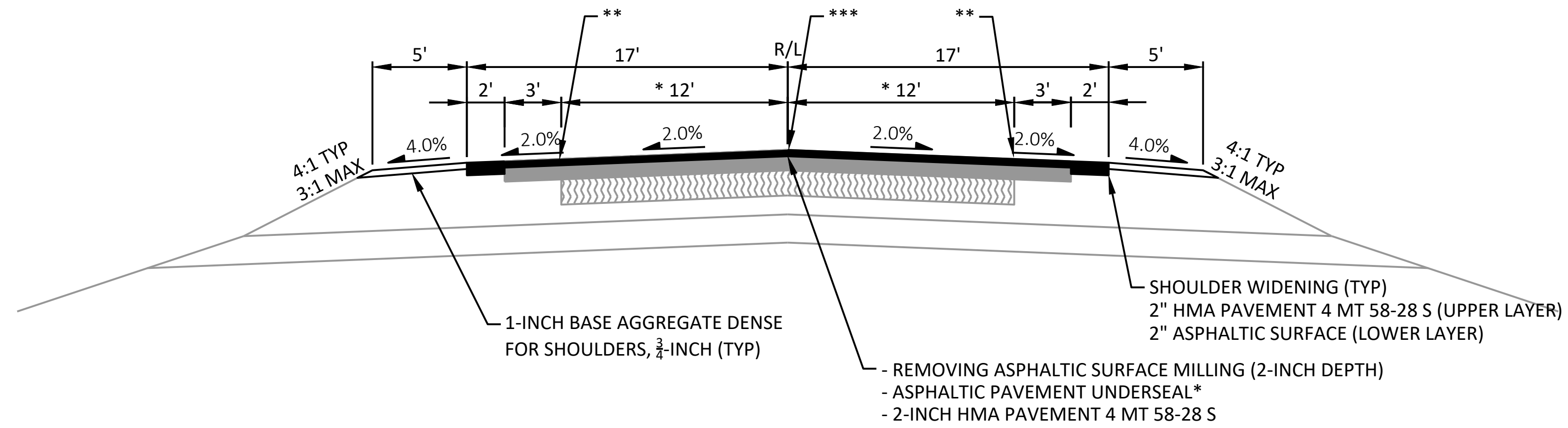
PROJECT NO: 9560-06-71/72	HWY: USH 8	COUNTY: MARINETTE	TYPICAL SECTIONS - EXISTING	SHEET 5	E

2

NOTES:
THE 2" HMA PAVEMENT LOWER LAYER SHOWN FOR WIDENING THE PAVED SHOULDER SHALL BE PLACED FOLLOWING THE REMOVING ASPHALTIC SURFACE MILLING OPERATION. THE 2" UPPER LATER SHOWN FOR WIDENING THE PAVED SHOULDER SHALL BE PLACED INTEGRALLY WITH THE MAINLINE PAVEMENT.

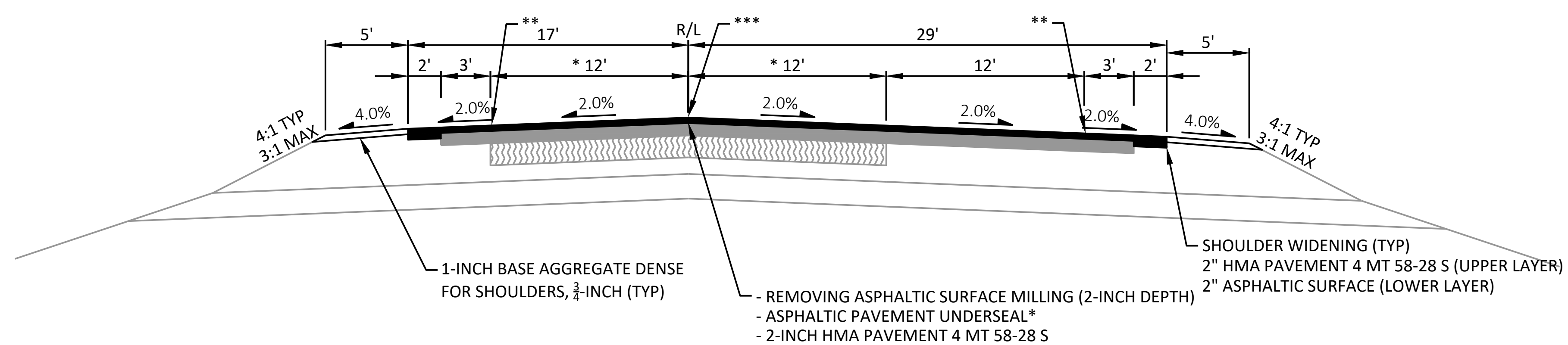
THE LIMITS OF THE PREPARE FOUNDATION FOR ASPHALTIC PAVING BID ITEM EXTEND LATERALLY TO THE OUTSIDE OF THE EXISTING ASPHALT.

THE LIMITS OF THE PREPARE FOUNDATION FOR ASPHALTIC SHOULDER BID ITEM EXTEN LATERALLY BEYOND THE EDGE OF EXITING ASPHALT.



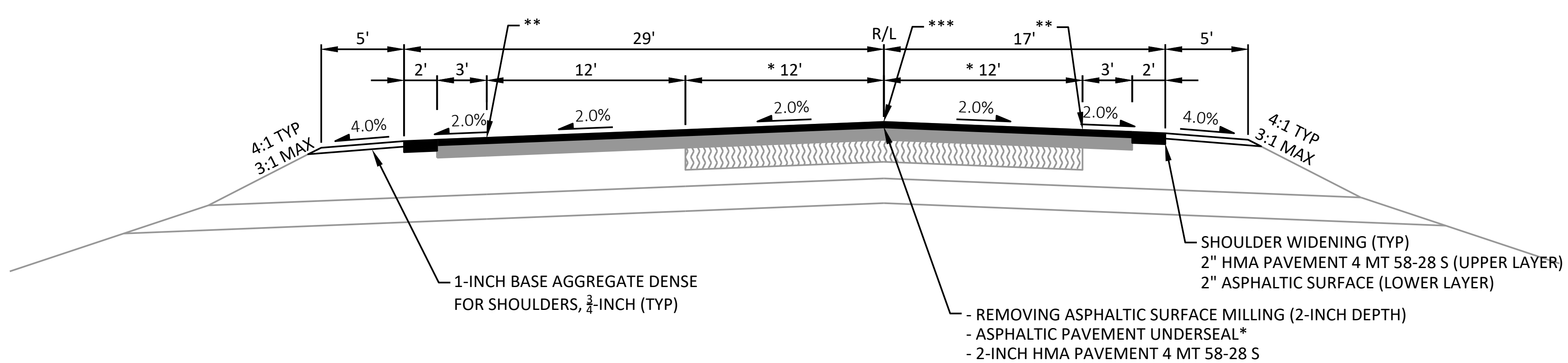
PROPOSED TYPICAL SECTION FOR USH 8 / USH 141
STA 999+10 - STA 1120+58
STA 1250+47 - STA 1349+63

** ASPHALTIC SHOULDER RUMBLE STRIPS 2-LANE RURAL
*** ASPHALTIC CENTERLINE RUMBLE STRIPS 2-LANE RURAL
(SEE MISCELLANEOUS QUANTITIES FOR LOCATIONS)



PROPOSED TYPICAL SECTION FOR USH 8 / USH 141
STA 1120+58 - STA 1189+57

** ASPHALTIC SHOULDER RUMBLE STRIPS 2-LANE RURAL
*** ASPHALTIC CENTERLINE RUMBLE STRIPS 2-LANE RURAL
(SEE MISCELLANEOUS QUANTITIES FOR LOCATIONS)



PROPOSED TYPICAL SECTION FOR USH 8 / USH 141
STA 1186+03 - STA 1250+47

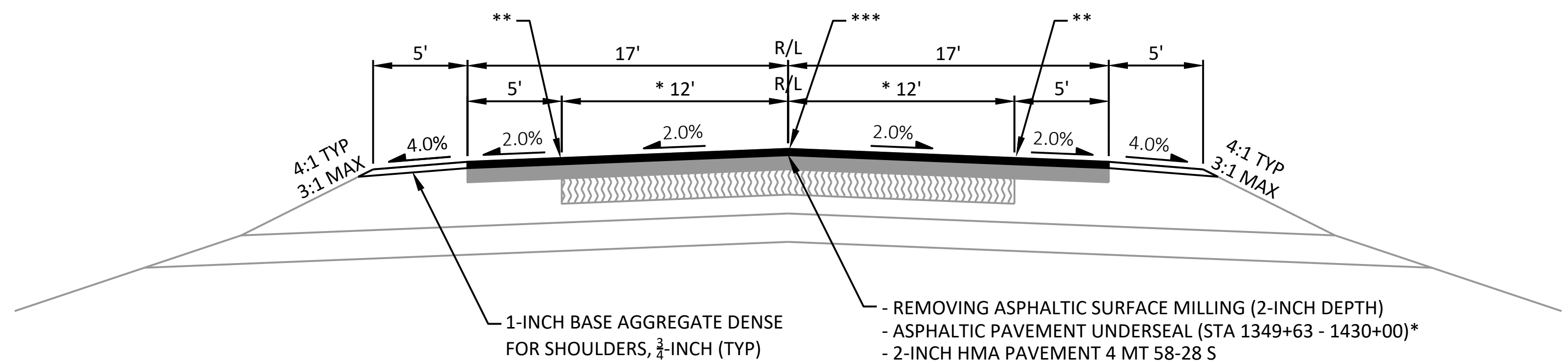
** ASPHALTIC SHOULDER RUMBLE STRIPS 2-LANE RURAL
*** ASPHALTIC CENTERLINE RUMBLE STRIPS 2-LANE RURAL
(SEE MISCELLANEOUS QUANTITIES FOR LOCATIONS)

PROJECT NO: 9560-06-71/72	HWY: USH 8	COUNTY: MARINETTE	TYPICAL SECTIONS - PROPOSED	SHEET 6	E

2

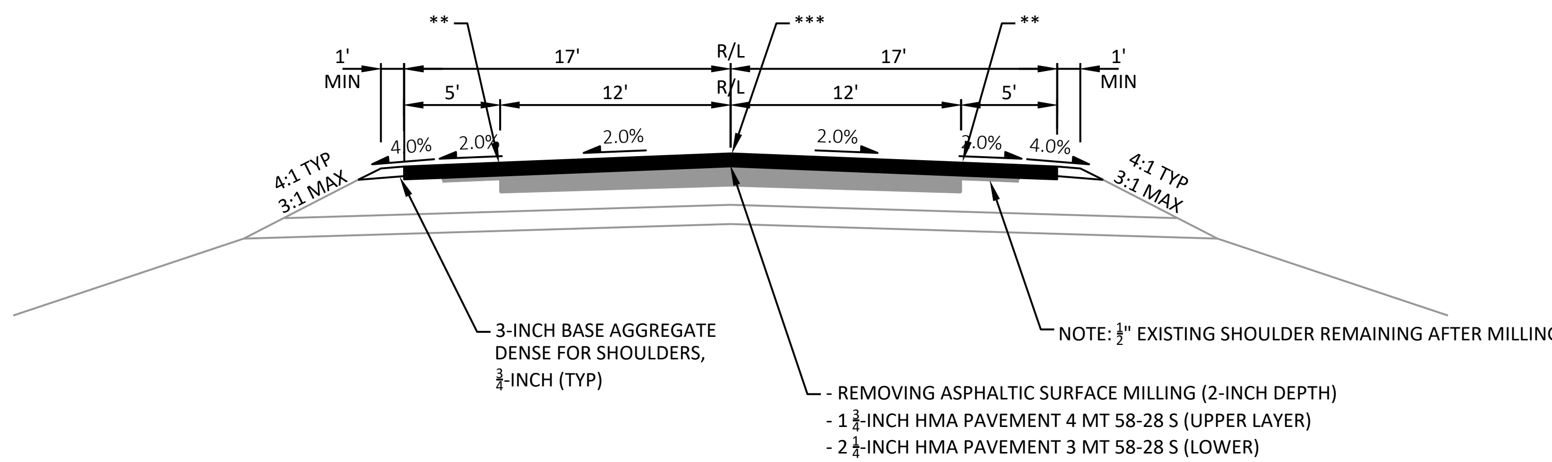
NOTES:
THE LIMITS OF THE PREPARE FOUNDATION FOR ASPHALTIC PAVING BID ITEM EXTEND LATERALLY TO THE OUTSIDE OF THE EXISTING ASPHALT.

THE LIMITS OF THE PREPARE FOUNDATION FOR ASPHALTIC SHOULDER BID ITEM EXTEN LATERALLY BEYOND THE EDGE OF EXITING ASPHALT.



PROPOSED TYPICAL SECTION FOR USH 8 / USH 141
STA 997+43 - STA 999+10
STA 1349+63 - STA 1432+27

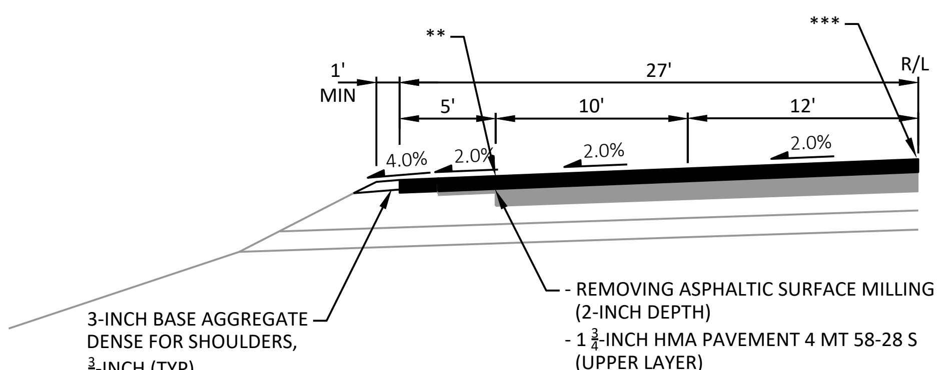
** ASPHALTIC SHOULDER RUMBLE STRIPS 2-LANE RURAL
*** ASPHALTIC CENTERLINE RUMBLE STRIPS 2-LANE RURAL
(SEE MISCELLANEOUS QUANTITIES FOR LOCATIONS)



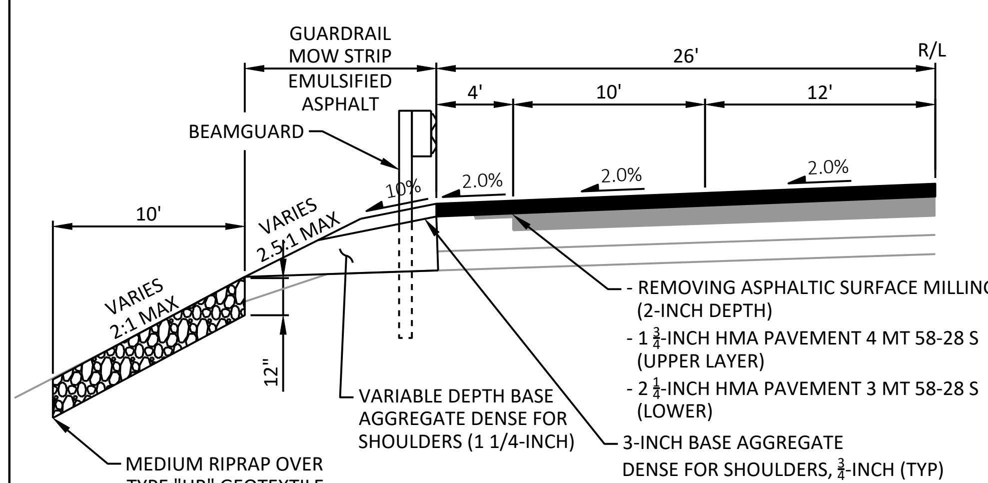
PROPOSED TYPICAL SECTION FOR USH 8
STA 102+50 - STA 209+91

** ASPHALTIC SHOULDER RUMBLE STRIPS 2-LANE RURAL
*** ASPHALTIC CENTERLINE RUMBLE STRIPS 2-LANE RURAL
(SEE MISCELLANEOUS QUANTITIES FOR LOCATIONS)

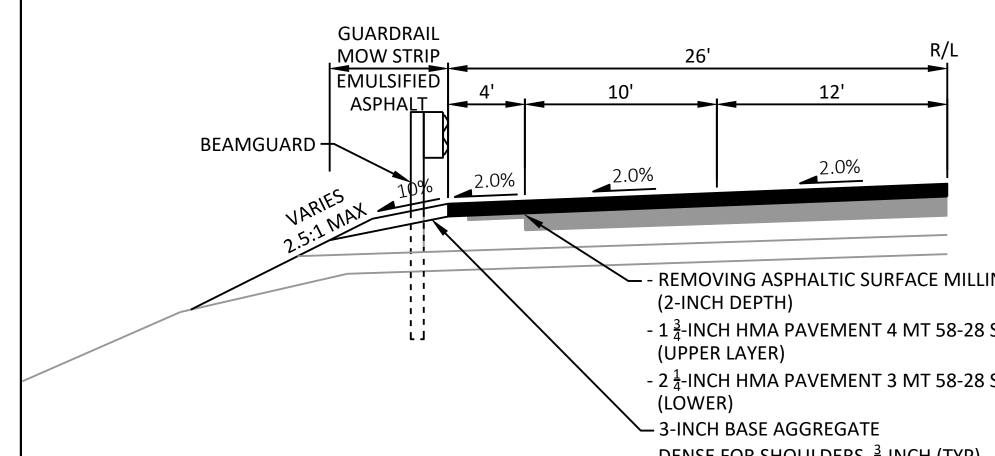
** ASPHALTIC SHOULDER RUMBLE STRIPS 2-LANE RURAL
*** ASPHALTIC CENTERLINE RUMBLE STRIPS 2-LANE RURAL
(SEE MISCELLANEOUS QUANTITIES FOR LOCATIONS)



PROPOSED TYPICAL HALF-SECTION FOR USH 8
STA 160+04 - STA 181+50, LEFT
STA 187+66 - STA 200+24, LEFT

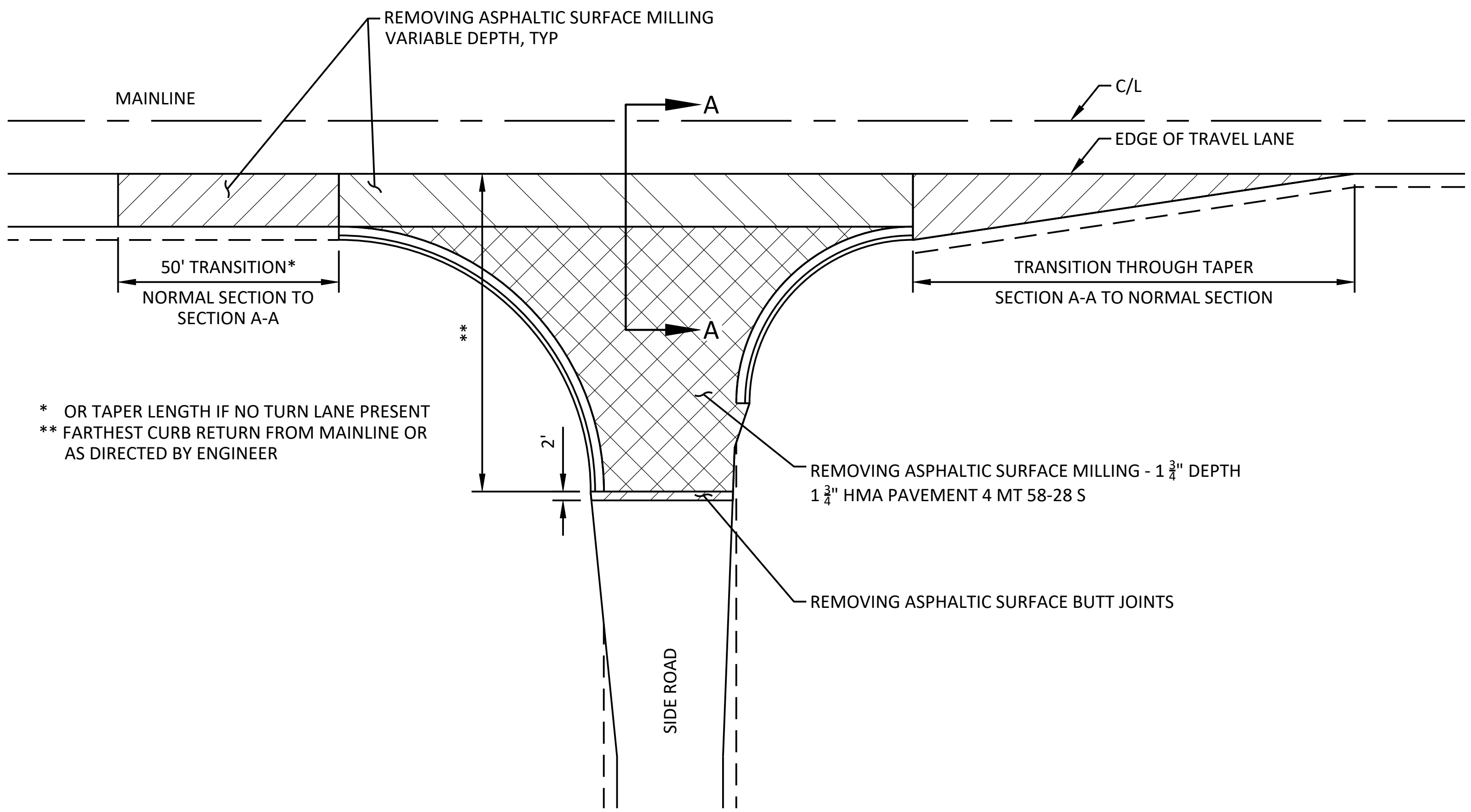


PROPOSED TYPICAL HALF-SECTION FOR USH 8
STA 181+50 - STA 183+50, LEFT
STA 184+80 - STA 187+66, LEFT



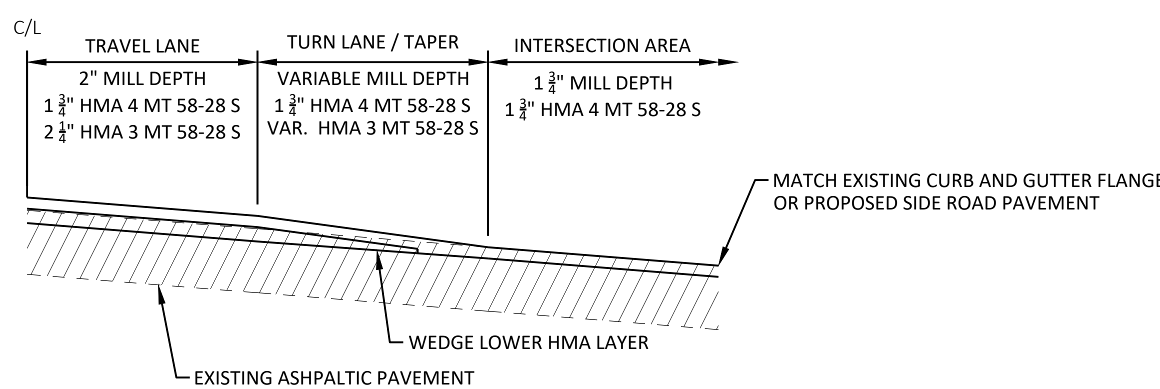
PROPOSED TYPICAL HALF-SECTION FOR USH 8
STA 183+50 - STA 187+66, LEFT

2



* OR TAPER LENGTH IF NO TURN LANE PRESENT
** FARTHEST CURB RETURN FROM MAINLINE OR AS DIRECTED BY ENGINEER

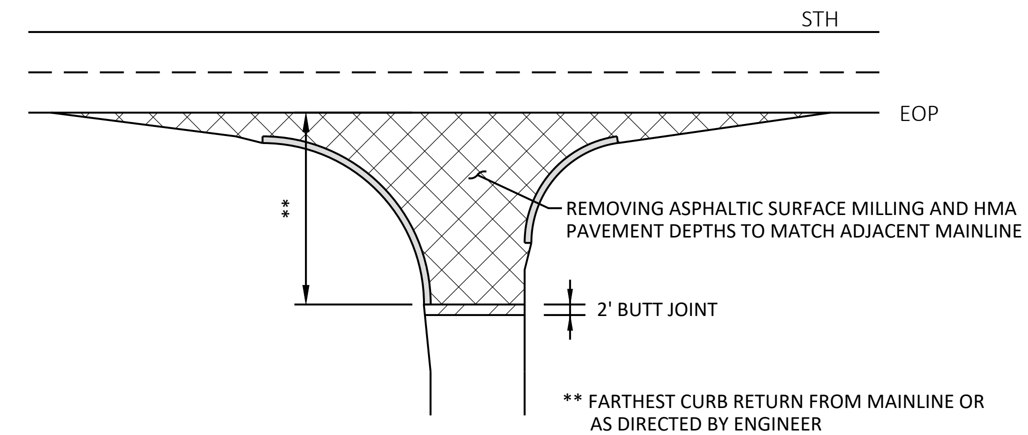
PLAN VIEW



SECTION A-A

SIDE ROAD WITH CURB AND GUTTER (PROFILE CHANGE)

CHAPMAN RD
OLD 8 RD



** FARTHEST CURB RETURN FROM MAINLINE OR AS DIRECTED BY ENGINEER

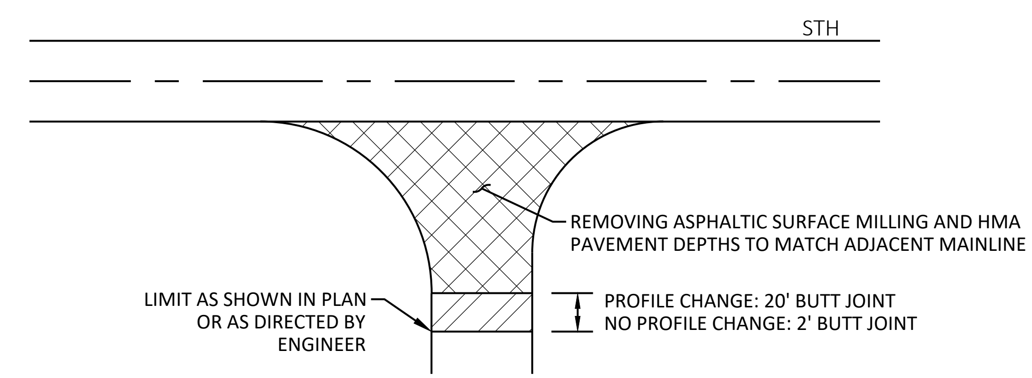
REMOVING ASPHALTIC SURFACE MILLING

REMOVING ASPHALTIC SURFACE BUTT JOINTS
SEE BUTT JOINT DETAIL

NOTE: WHEN MATCHING TO AN UNPAVED SURFACE BUTT JOINT IS NOT REQUIRED

SIDE ROAD WITH CURB AND GUTTER (NO PROFILE CHANGE)

DILL DR (STA 1008+80 LT)	SPIKE HORN LN
CTH R (KREMLIN RD)	MORGAN PARK RD (STA 1263+20 RT)
DILL DR (1068+30 LT)	TOWNS RD



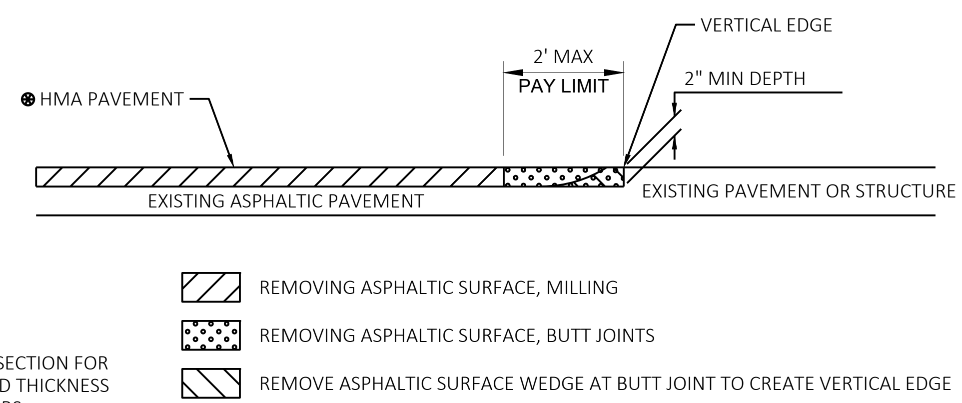
REMOVING ASPHALTIC SURFACE MILLING

REMOVING ASPHALTIC SURFACE BUTT JOINTS
SEE BUTT JOINT DETAIL

NOTE: WHEN MATCHING TO AN UNPAVED SURFACE BUTT JOINT IS NOT REQUIRED

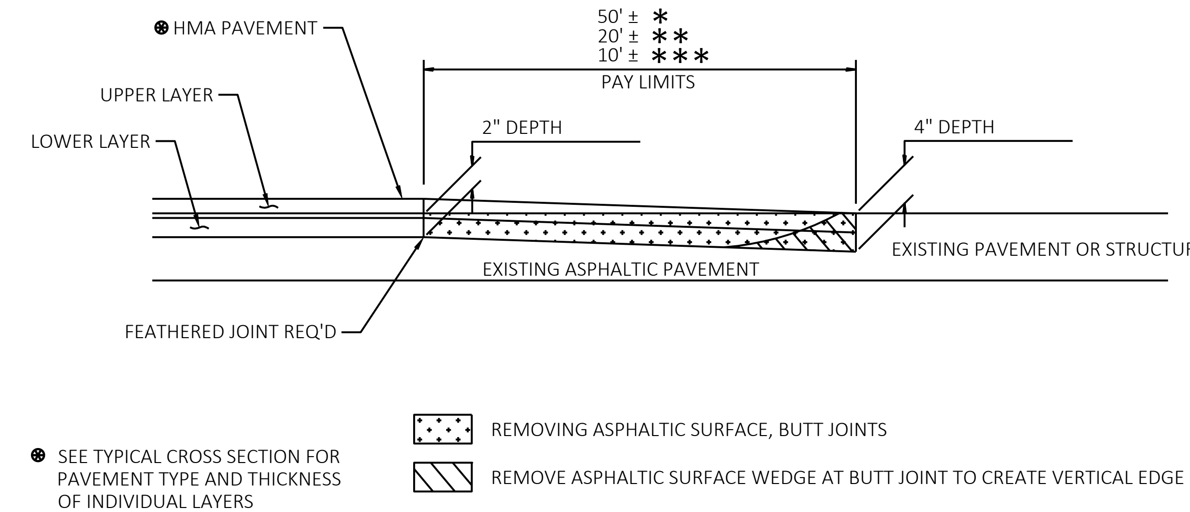
SIDE ROAD WITHOUT CURB AND GUTTER

GRAVEL RD	KINSINGER RD	JOHNS RD
EAST THOMPSON LN	GENRICH RD (STA 1263+50 LT)	PERRY RD
WEST THOMPSON LN	GENRICH RD (STA 1287+60 LT)	ZAIDEL RD
HELLER LN	WISHMAN RD	MORIN RD
BARLOW LAKE RD	WEST RD	GELDMEYER RD



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

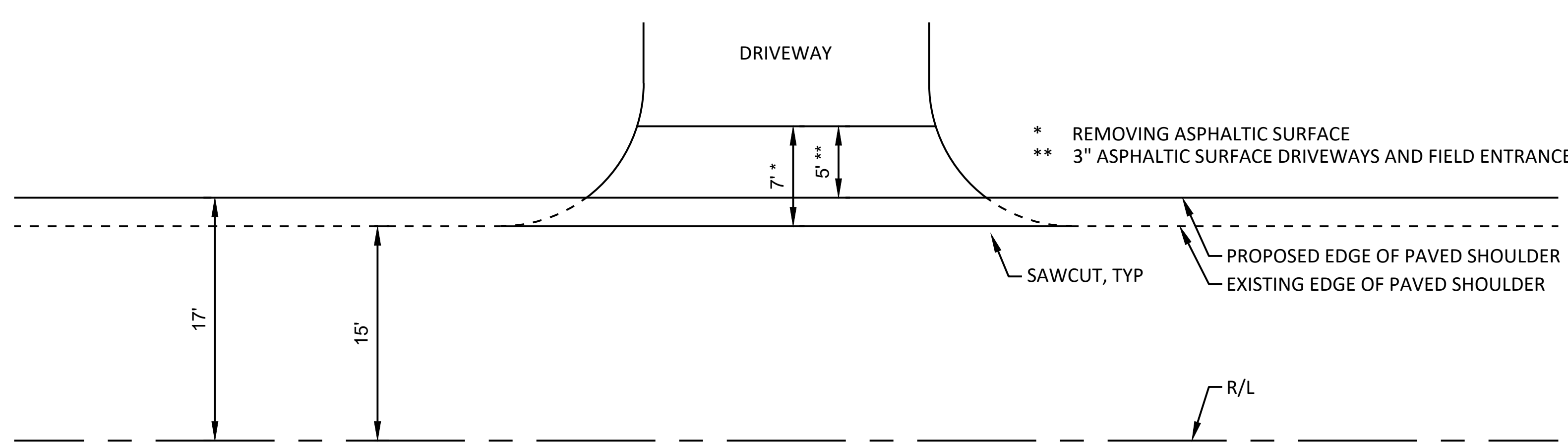
BUTT JOINT DETAIL FOR ASPHALTIC PAVEMENTS (NO PROFILE CHANGE)



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

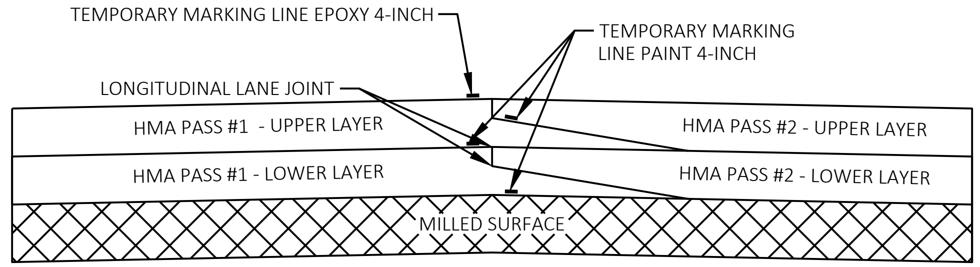
BUTT JOINT DETAIL FOR MILLED ASPHALTIC PAVEMENTS (PROFILE CHANGE)

∗ MAINLINE
∗∗ SIDEROADS
∗∗∗ PRIVATE ENTRANCES

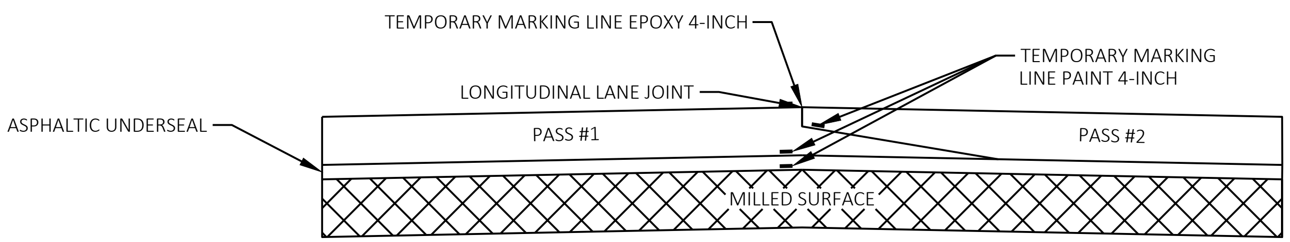


* REMOVING ASPHALTIC SURFACE
** 3" ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES

PAVED DRIVEWAY DETAIL (PAVED SHOULDER WIDENING AREAS)



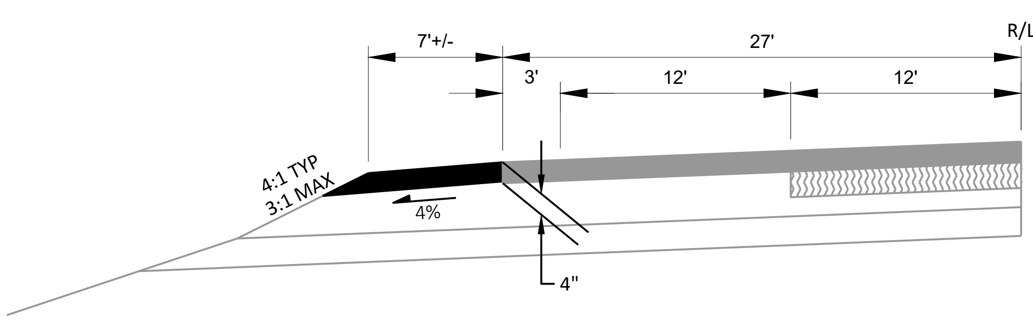
-72 MILL AND OVERLAY SECTION



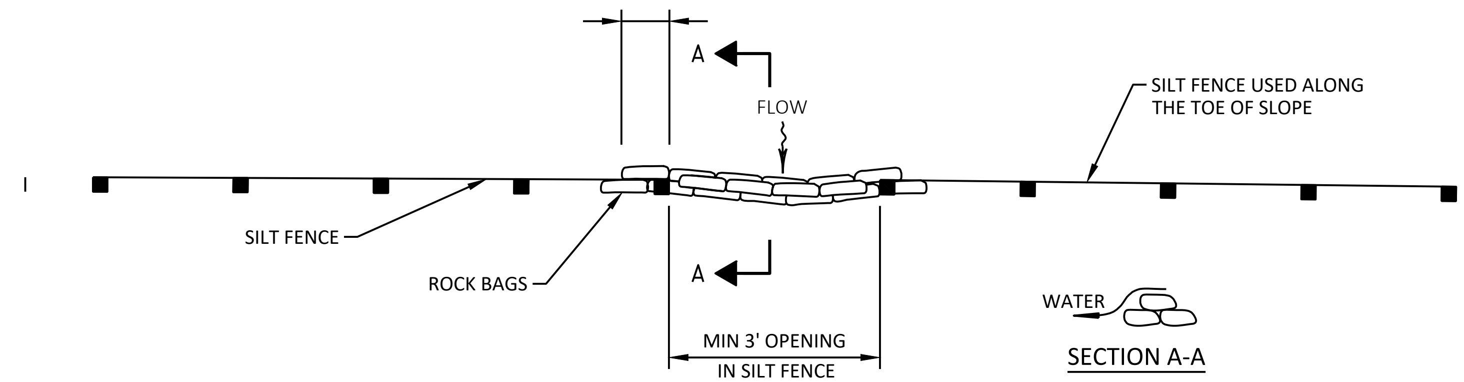
-71 MILL AND OVERLAY SECTION

PAVEMENT MARKING DETAIL FOR TAPERED OVERLAPPING JOINTS IN HMA PAVEMENTS

EXCAVATION COMMON 4" DEPTH AT EDGE OF EXISTING SHOULDER
BASE AGGREGATE DENSE FOR SHOULDERS 3/4-INCH

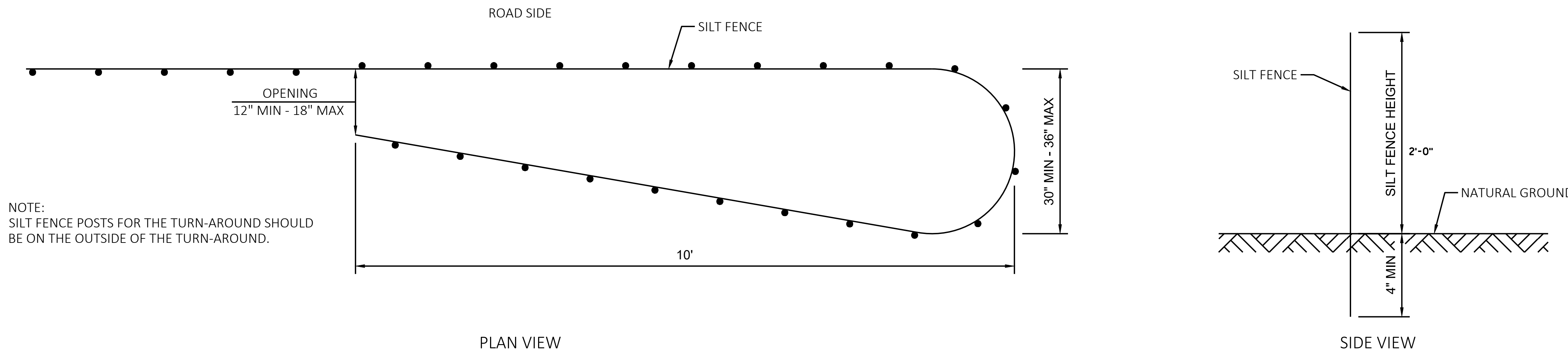


REMOVE AND REPLACE EXISTING SHOULDER AGGREGATE
STA 1220+00 LT - STA 1234+20 LT

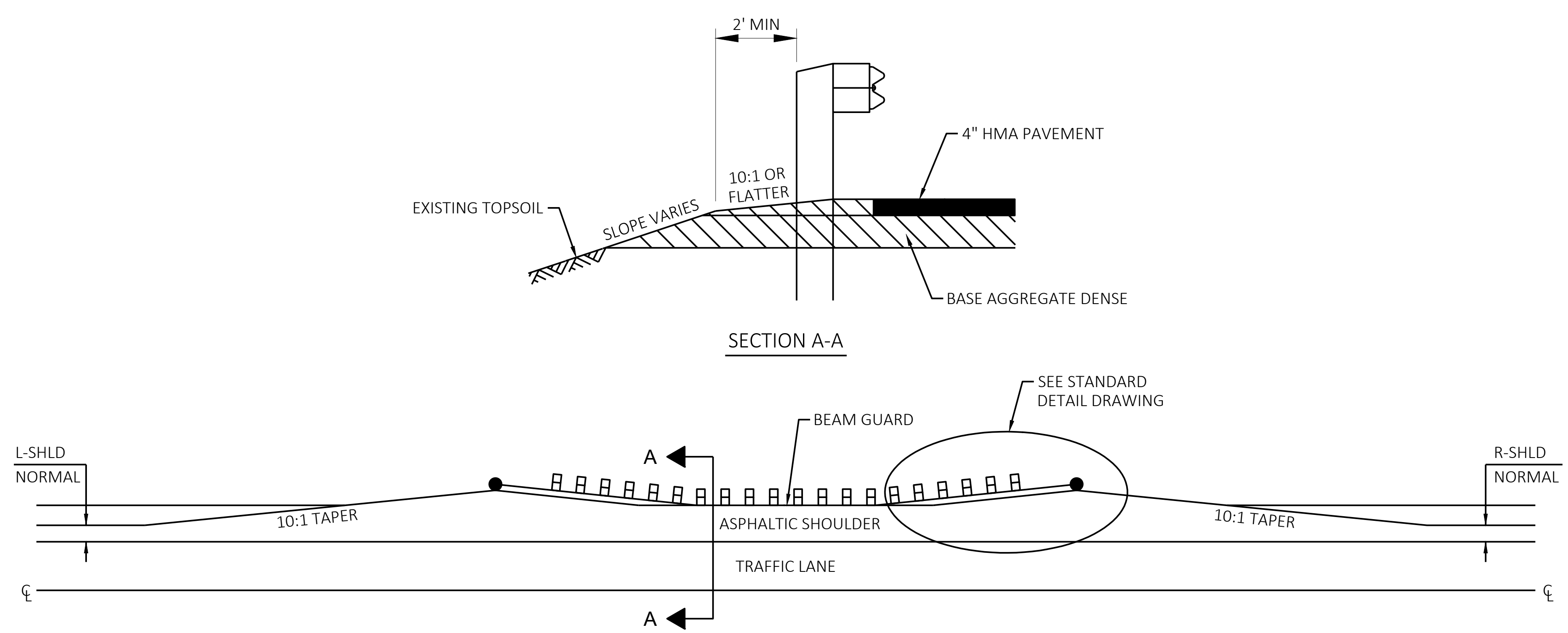


TOP VIEW

ROCK BAGS USED FOR SILT FENCE RELIEF DETAIL



SILT FENCE TURN-AROUND DETAIL



DETAIL FOR ASPHALTIC SHOULDER AT BEAM GUARD

2

LANE DROP PAVEMENT MARKING TAPER
STATION & OFFSET TABLE

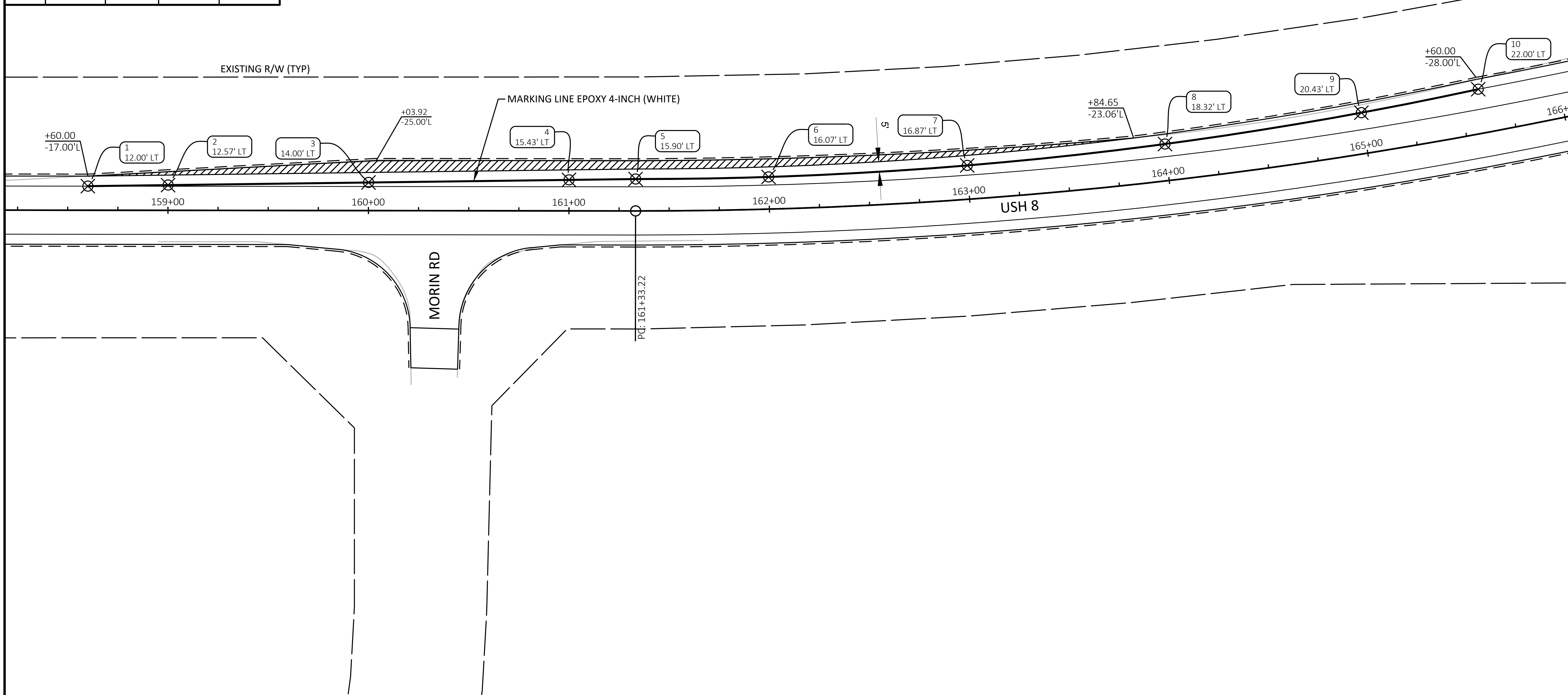
POINT	STATION	OFFSET	Y COORDS	X COORDS
1	158+60.00	12.00' LT	384949.81	725915.70
2	159+00.00	12.57' LT	384950.33	725955.70
3	160+00.00	14.00' LT	384951.63	726055.71
4	161+00.00	15.43' LT	384952.92	726155.71
5	161+33.22	15.90' LT	384953.35	726188.93
6	162+00.00	16.07' LT	384954.40	726255.23
7	163+00.00	16.87' LT	384960.12	726354.34
8	164+00.00	18.32' LT	384970.82	726453.00
9	165+00.00	20.43' LT	384986.43	726550.93
10	165+60.00	22.00' LT	384998.15	726609.23

LEGEND

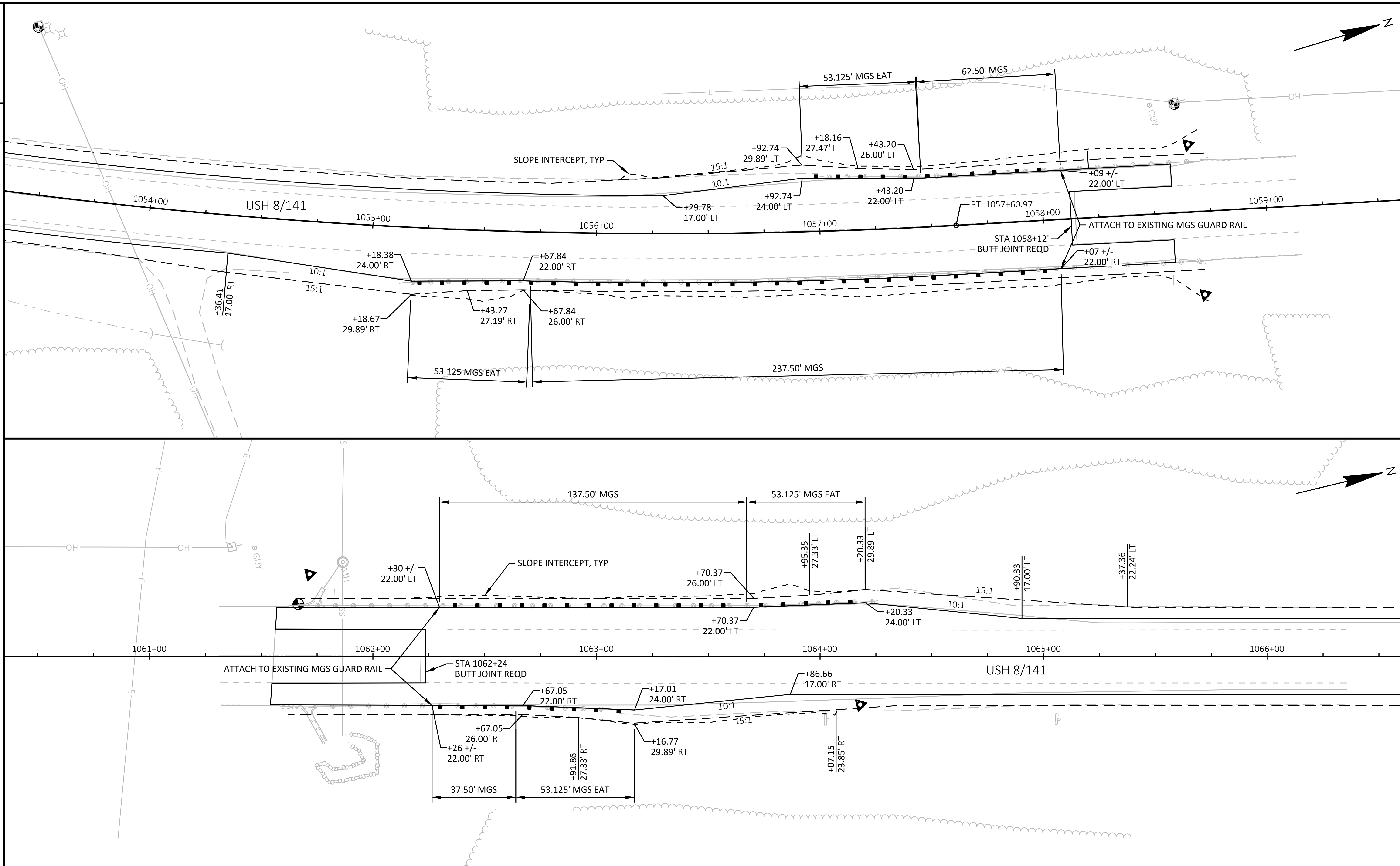
PAVED SHOULDER EXPANSION TO MATCH EXISTING OFFSET

N

2



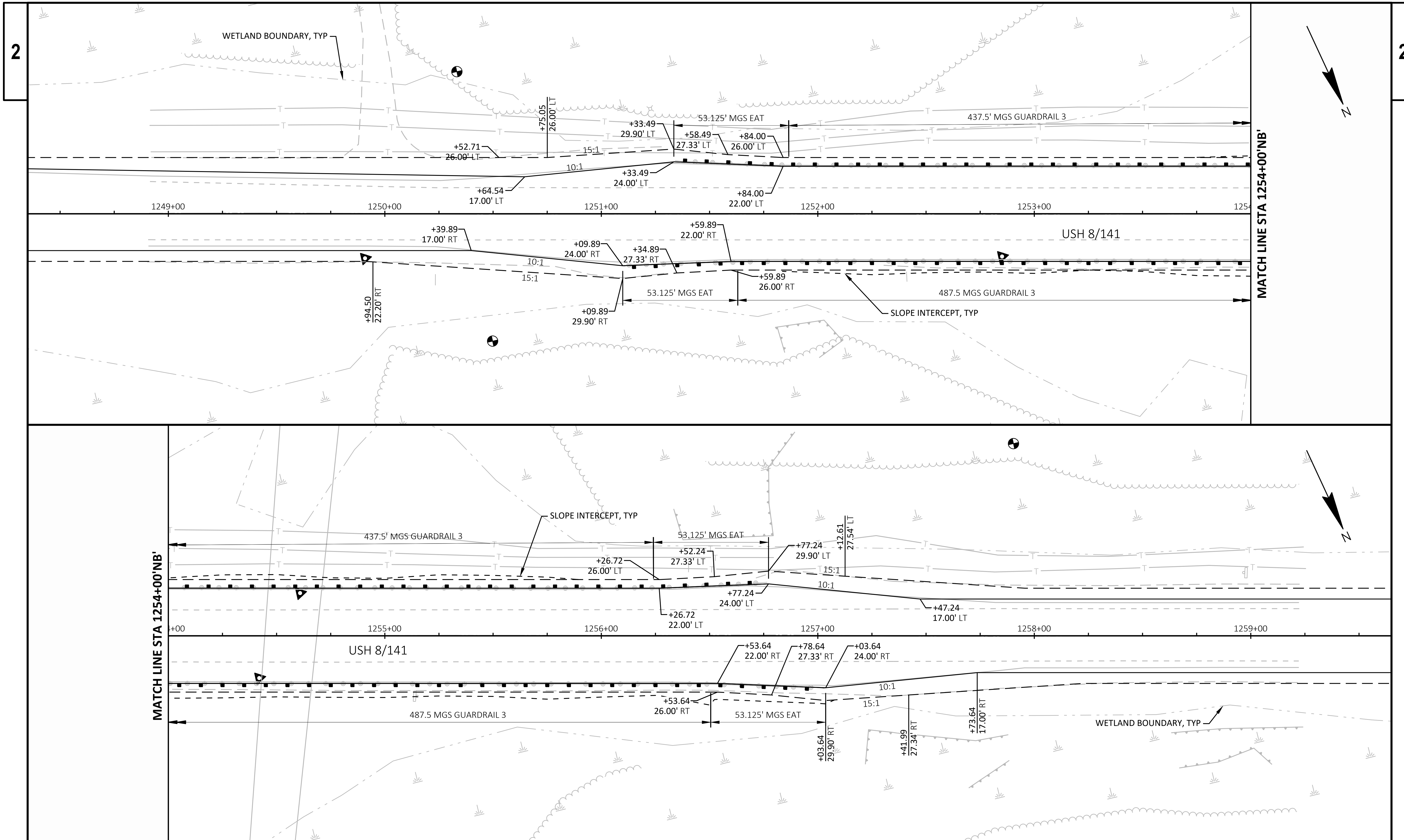
2



2

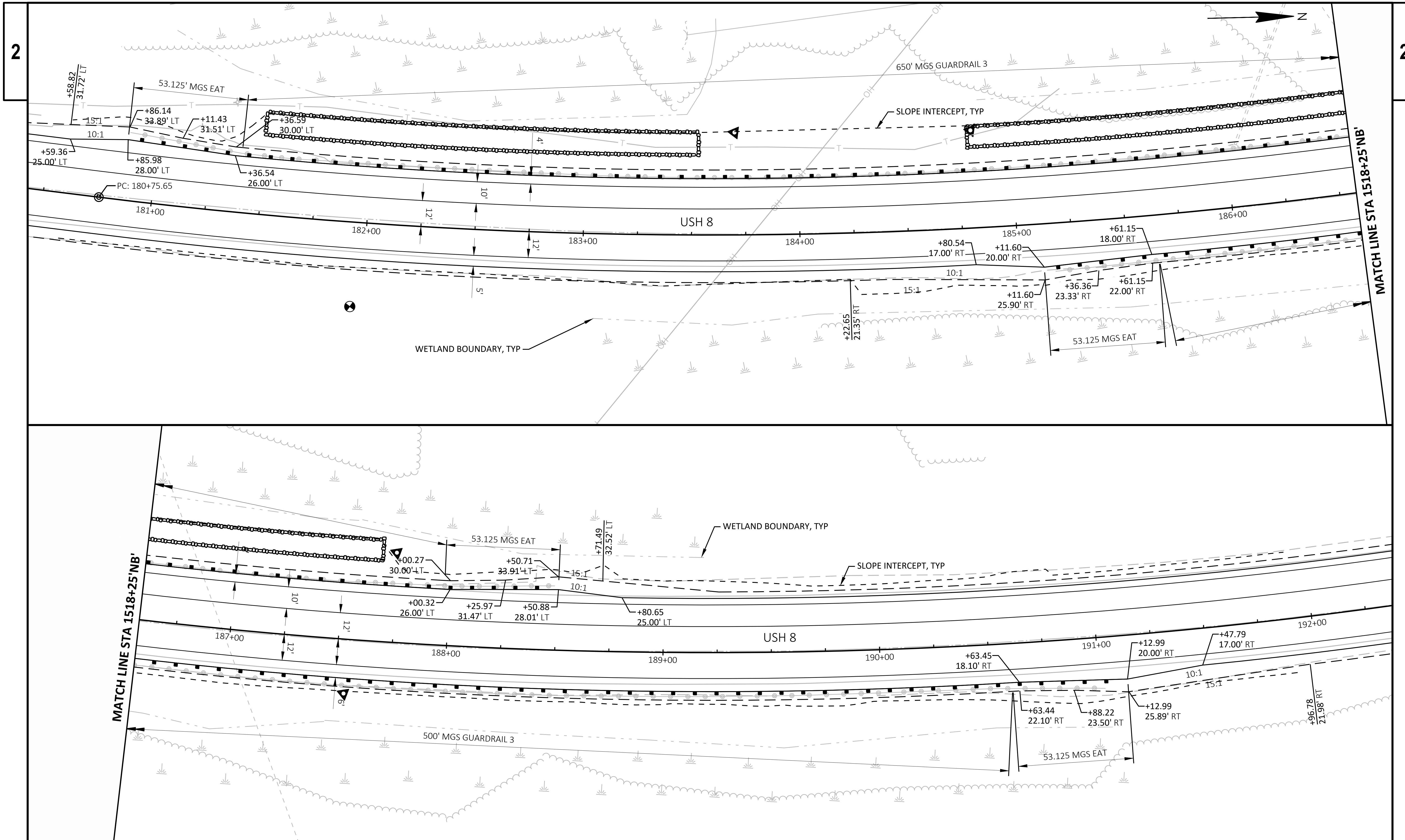
PROJECT NO: 9560-06-71/72	HWY: USH 8	COUNTY: MARINETTE	GUARDRAIL DETAIL - B-38-15	SHEET 13	E

FILE NAME : N:\3000939.00\CIVIL 3D\SHEETSPLAN\956006-021301-BG.DWG
LAYOUT NAME - 956006-021301-bg
PLOT DATE : 11/30/2022 10:01 AM PLOT BY : ANDY WESTBROOK PLOT NAME : PLOT SCALE : 1 IN:40 FT
WISDOT/CADDS SHEET 44

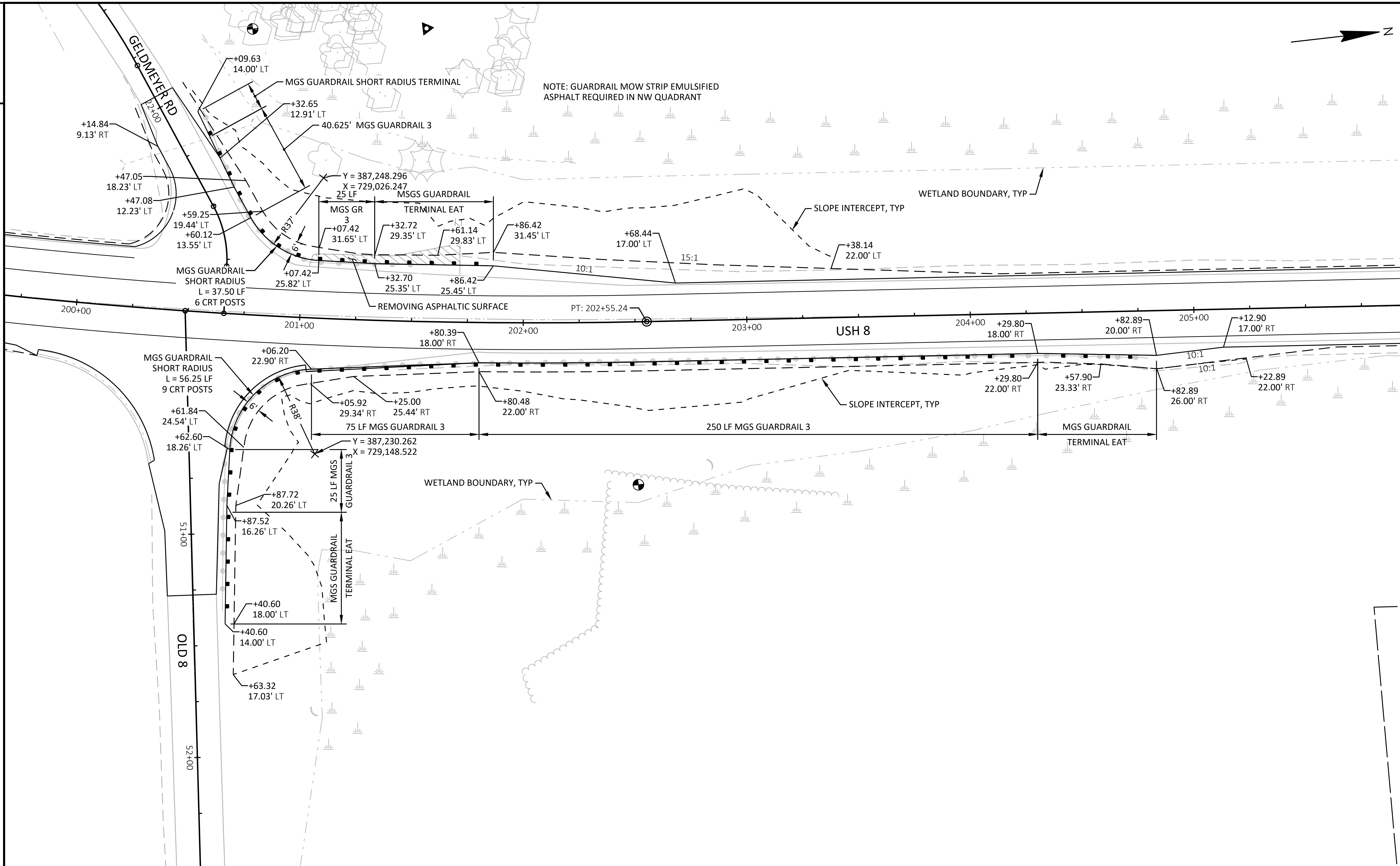


PROJECT NO: 9560-06-71/72	HWY: USH 8	COUNTY: MARINETTE	GUARDRAIL DETAIL - C-38-7	SHEET 14	E

FILE NAME : N:\3000939.00\CIVIL 3D\SHEETSPLAN\956006-021301-BG.DWG
LAYOUT NAME - 956006-021302-bg
PLOT DATE : 11/30/2022 8:32 AM PLOT BY : BRANDI SWANSON PLOT NAME : PLOT SCALE : 1 IN:40 FT
WISDOT/CADDS SHEET 44

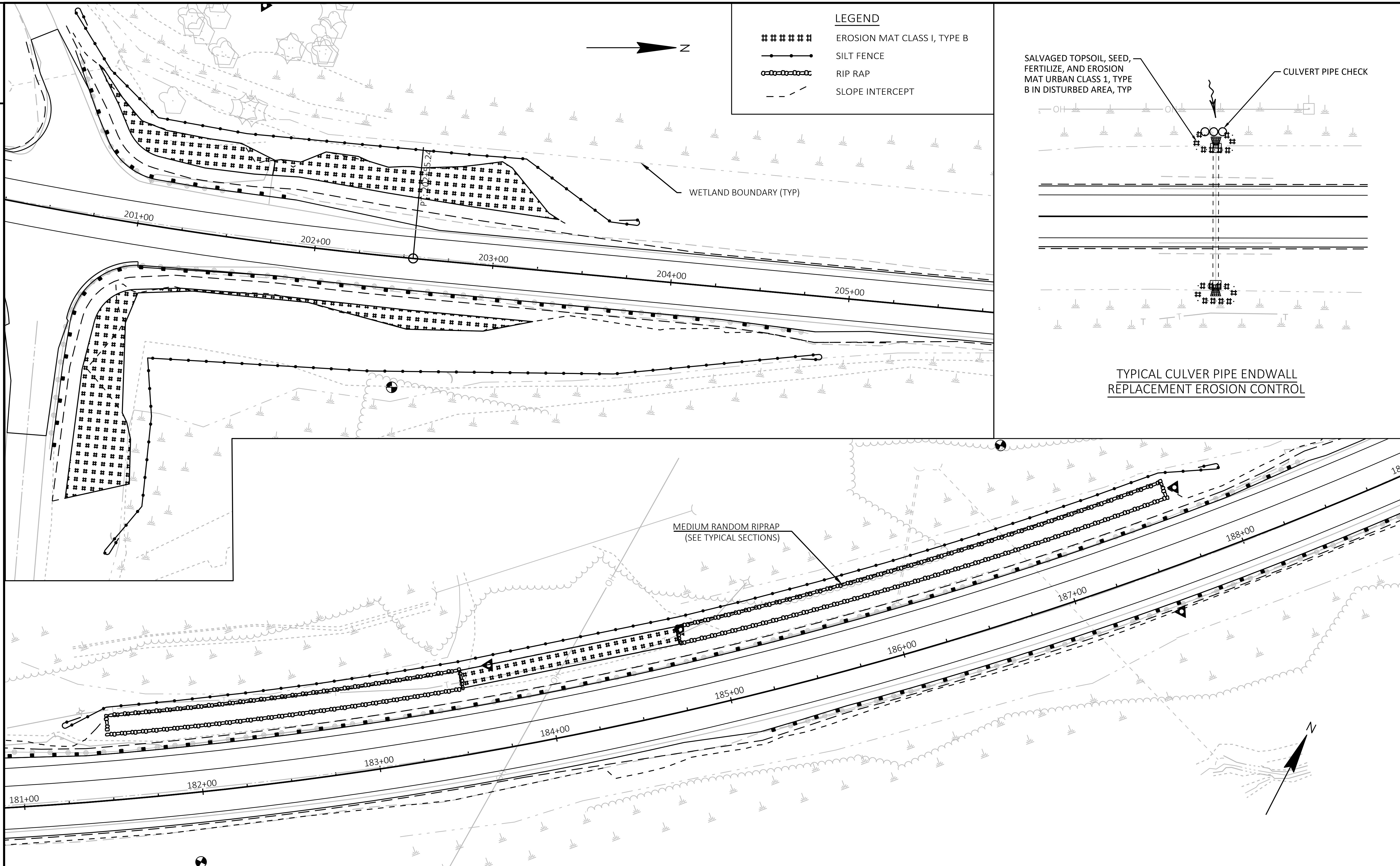


PROJECT NO: 9560-06-71/72	HWY: USH 8	COUNTY: MARINETTE	GUARDRAIL DETAIL - STA 180+60 TO STA 188+50	SHEET 15	E



PROJECT NO: 9560-06-71/72	HWY: USH 8	COUNTY: MARINETTE	GUARDRAIL DETAIL - STA 201+00 TO STA 205+00	SHEET 16	E

FILE NAME : N:\3000939.00\CIVIL 3D\SHEETSPLAN\956006-021301-BG.DWG
LAYOUT NAME - 956006-021304-bg
PLOT DATE : 2/15/2023 7:56 AM
PLOT BY : BRANDI SWANSON
PLOT NAME :
PLOT SCALE : 1 IN:40 FT
WISDOT/CADDS SHEET 44



PROJECT NO: 9560-06-71/72	HWY: USH 8	COUNTY: MARINETTE	EROSION CONTROL	SHEET 17	E

Line	Item	Item Description	Unit	Total	9560-06-71 Qty	9560-06-72 Qty
0002	203.0100	Removing Small Pipe Culverts	EACH	1.000		1.000
0004	204.0110	Removing Asphaltic Surface	SY	403.000	207.000	196.000
0006	204.0115	Removing Asphaltic Surface Butt Joints	SY	332.000	152.000	180.000
0008	204.0120	Removing Asphaltic Surface Milling	SY	220,320.000	176,360.000	43,960.000
0010	204.0165	Removing Guardrail	LF	3,813.000	1,823.000	1,990.000
0012	204.0270	Abandoning Culvert Pipes	EACH	1.000		1.000
0014	204.9060.S	Removing (item description) 01. Removing Apron Endwalls	EACH	5.000		5.000
0016	204.9090.S	Removing (item description) 01. Removing Buried Gaurdrail	LF	450.000		450.000
0018	205.0100	Excavation Common	CY	509.000	300.000	209.000
0020	208.0100	Borrow	CY	447.000		447.000
0024	211.0101	Prepare Foundation for Asphaltic Paving (project) 02. 9560-06-71	EACH	1.000	1.000	
0026	211.0101	Prepare Foundation for Asphaltic Paving (project) 03. 9560-06-72	EACH	1.000		1.000
0028	211.0400	Prepare Foundation for Asphaltic Shoulders	STA	774.000	622.000	152.000
0032	213.0100	Finishing Roadway (project) 02. 9560-06-71	EACH	1.000	1.000	
0034	213.0100	Finishing Roadway (project) 03. 9560-06-72	EACH	1.000		1.000
0036	305.0110	Base Aggregate Dense 3/4-Inch	TON	4,390.000	3,480.000	910.000
0038	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	220.000		220.000
0040	450.4000	HMA Cold Weather Paving	TON	2,400.000	1,200.000	1,200.000
0042	455.0505	Asphaltic Material Seal Coat	GAL	43,327.000	43,327.000	
0044	455.0605	Tack Coat	GAL	17,234.000	11,385.000	5,849.000
0046	460.0105.S	HMA Percent Within Limits (PWL) Test Strip Volumetrics	EACH	1.000	1.000	
0048	460.0110.S	HMA Percent Within Limits (PWL) Test Strip Density	EACH	2.000	1.000	1.000
0050	460.2000	Incentive Density HMA Pavement	DOL	6,050.000		6,050.000
0052	460.2005	Incentive Density PWL HMA Pavement	DOL	16,140.000	13,200.000	2,940.000
0054	460.2007	Incentive Density HMA Pavement Longitudinal Joints	DOL	41,770.000	26,820.000	14,950.000
0056	460.2010	Incentive Air Voids HMA Pavement	DOL	26,710.000	21,860.000	4,850.000
0058	460.6223	HMA Pavement 3 MT 58-28 S	TON	6,254.000		6,254.000
0060	460.6224	HMA Pavement 4 MT 58-28 S	TON	26,779.000	21,822.000	4,957.000
0062	465.0105	Asphaltic Surface	TON	1,595.000	1,595.000	
0064	465.0110	Asphaltic Surface Patching	TON	300.000	200.000	100.000
0066	465.0120	Asphaltic Surface Driveways and Field Entrances	TON	42.000	24.000	18.000
0068	465.0425	Asphaltic Shoulder Rumble Strips 2-Lane Rural	LF	70,840.000	59,150.000	11,690.000
0070	465.0450	Asphaltic Intersection Rumble Strips	SY	78.000		78.000
0072	465.0475	Asphalt Centerline Rumble Strips 2-Lane Rural	LF	52,608.000	41,677.000	10,931.000
0074	520.1030	Apron Endwalls for Culvert Pipe 30-Inch	EACH	4.000		4.000
0076	520.9700.S	Culvert Pipe Liners (size) 01. 30-Inch	LF	191.000		191.000
0078	520.9750.S	Cleaning Culvert Pipes for Liner Verification	EACH	2.000		2.000
0080	606.0200	Riprap Medium	CY	350.000		350.000
0082	614.0397	Guardrail Mow Strip Emulsified Asphalt	SY	663.000		663.000
0084	614.2300	MGS Guardrail 3	LF	2,965.600	1,400.000	1,565.600
0086	614.2350	MGS Guardrail Short Radius	LF	93.800		93.800
0088	614.2610	MGS Guardrail Terminal EAT	EACH	15.000	8.000	7.000
0090	614.2630	MGS Guardrail Short Radius Terminal	EACH	1.000		1.000
0094	618.0100	Maintenance And Repair of Haul Roads (project) 02. 9560-06-71	EACH	1.000	1.000	
0096	618.0100	Maintenance And Repair of Haul Roads (project) 03. 9560-06-72	EACH	1.000		1.000
0098	619.1000	Mobilization	EACH	0.900	0.700	0.200
0100	624.0100	Water	MGAL	29.000	21.000	8.000
0102	625.0500	Salvaged Topsoil	SY	5,830.000		5,830.000
0104	628.1504	Silt Fence	LF	1,800.000		1,800.000

Line	Item	Item Description	Unit	Total	9560-06-71 Qty	9560-06-72 Qty
0106	628.1520	Silt Fence Maintenance	LF	1,800.000		1,800.000
0108	628.1905	Mobilizations Erosion Control	EACH	3.000		3.000
0110	628.1910	Mobilizations Emergency Erosion Control	EACH	4.000		4.000
0112	628.2008	Erosion Mat Urban Class I Type B	SY	1,210.000		1,210.000
0114	628.7555	Culvert Pipe Checks	EACH	10.000	10.000	
0116	628.7570	Rock Bags	EACH	50.000	50.000	
0118	629.0210	Fertilizer Type B	CWT	4.000		4.000
0120	630.0130	Seeding Mixture No. 30	LB	110.000		110.000
0122	630.0500	Seed Water	MGAL	4.000		4.000
0124	633.5200	Markers Culvert End	EACH	4.000		4.000
0126	642.5201	Field Office Type C	EACH	0.900	0.700	0.200
0128	643.0300	Traffic Control Drums	DAY	1,830.000	352.000	1,478.000
0130	643.0420	Traffic Control Barricades Type III	DAY	46.000		46.000
0132	643.0705	Traffic Control Warning Lights Type A	DAY	92.000		92.000
0134	643.0900	Traffic Control Signs	DAY	5,774.000	4,072.000	1,702.000
0136	643.1050	Traffic Control Signs PCMS	DAY	21.000	14.000	7.000
0138	643.3105	Temporary Marking Line Paint 4-Inch	LF	144,988.000	114,587.000	30,401.000
0140	643.3120	Temporary Marking Line Epoxy 4-Inch	LF	46,745.000	36,611.000	10,134.000
0142	643.5000	Traffic Control	EACH	0.900	0.700	0.200
0144	645.0120	Geotextile Type HR	SY	500.000		500.000
0146	646.1020	Marking Line Epoxy 4-Inch	LF	54,831.000	43,767.000	11,064.000
0148	646.1040	Marking Line Grooved Wet Ref Epoxy 4-Inch	LF	108,228.000	86,469.000	21,759.000
0150	646.3040	Marking Line Grooved Wet Ref Epoxy 8-Inch	LF	595.000	520.000	75.000
0152	646.6120	Marking Stop Line Epoxy 18-Inch	LF	26.000		26.000
0154	646.6464	Cold Weather Marking Epoxy 4-Inch	LF	163,059.000	130,236.000	32,823.000
0156	646.6468	Cold Weather Marking Epoxy 8-Inch	LF	595.000	520.000	75.000
0158	650.4500	Construction Staking Subgrade	LF	1,670.000		1,670.000
0160	650.8000	Construction Staking Resurfacing Reference	LF	54,482.000	43,542.000	10,940.000
0164	650.9911	Construction Staking Supplemental Control (project) 02. 9560-06-71	EACH	1.000	1.000	
0166	650.9911	Construction Staking Supplemental Control (project) 03. 9560-06-72	EACH	1.000		1.000
0168	650.9920	Construction Staking Slope Stakes	LF	1,670.000		1,670.000
0170	690.0150	Sawing Asphalt	LF	618.000	374.000	244.000
0172	740.0440	Incentive IRI Ride	DOL	100,850.000	81,250.000	19,600.000
0180	SPV.0195	Special 01. Asphaltic Pavement Underseal	TON	1,140.000	1,140.000	

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EARTHWORK SUMMARY

DIVISION	FROM/TO STATION	LOCATION	205.0100 COMMON EXCAVATION (1) CUT (2)	SALVAGED/UNUSABLE PAVEMENT MATERIAL	AVAILABLE MATERIAL (5)	UNEXPANDED FILL	EXPANDED FILL FACTOR 1.25	MASS ORDINATE +/- (14)	WASTE	208.0100 BORROW
PROJECT 9560-06-71										
CATEGORY 0010										
LT SHOULDER REPLACEMENT	1220+20/1234+20	USH 8 / 141	300	300	0	0	0	0	0	0
		9560-06-71 TOTALS	300							0
PROJECT 9560-06-72										
CATEGORY 0010										
STA 181+50 TO STA 187+65	181+50/187+65	USH 8	185	0	185	38	48	138	138	0
OLD USH 8 INTERSECTION	22+00/22+60	GELDMEYER	2	0	2	16	20	-18	-18	447
	50+40/51+75	OLD USH 8	5	0	5	109	136	-131	-131	
	200+85/205+23	USH 8	17	0	17	252	315	-298	-298	
		9560-06-72 TOTALS	209							447

NOTES:

(2) SALVAGED/UNSUABLE PAVEMENT MATERIAL IS INCLUDED IN CUT.
(5) AVAILABLE MATERIAL = CUT - SALVAGED/UNUSABLE PAVEMENT MATERIAL
(14) 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.

REMOVING ASPHALTIC SURFACE

STATION	TO	STATION	ROADWAY	204.0110 REMOVING ASPHALTIC SURFACE SY	204.0115 REMOVING ASPHALTIC SURFACE BUTT JOINT SY	204.0120 REMOVING ASPHALTIC SURFACE MILLING SY	MILL DEPTH
PROJECT 9560-06-71							
CATEGORY 0010							
997+43	-	1030+00	USH 8	44	20	12,330	2" DEPTH
1030+00	-	1060+00	USH 8	0	17	11,220	2" DEPTH
1060+00	-	1100+00	USH 8	0	12	13,590	2" DEPTH
1100+00	-	1150+00	USH 8	59	23	21,750	2" DEPTH
1150+00	-	1200+00	USH 8	73	13	23,860	2" DEPTH
1200+00	-	1245+00	USH 8	0	7	21,450	2" DEPTH
1245+00	-	1300+00	USH 8	30	21	21,280	2" DEPTH
1300+00	-	1355+00	USH 8	0	13	19,770	2" DEPTH
1355+00	-	1432+85	USH 8	0	25	31,110	2" DEPTH
			PROJECT TOTAL	207	152	176,360	
PROJECT 9560-06-72							
CATEGORY 0010							
100+60	-	149+00	USH 8	88	60	16,630	2" DEPTH
149+00	-	210+00	USH 8	108	120	27,330	2" DEPTH
			PROJECT TOTAL	196	180	43,960	

REMOVING GUARDRAIL

STATION	TO	STATION	DIR	LOCATION	204.0165 REMOVING GUARDRAIL LF
PROJECT 9560-06-71					
CATEGORY 0010					
1057+00	-	1058+09	LT	USH 8	109
1055+12	-	1058+07	RT	USH 8	295
1062+30	-	1064+25	LT	USH 8	195
1062+26	-	1063+10	RT	USH 8	84
1251+32	-	1256+77	LT	USH 8	545
1251+08	-	1257+03	RT	USH 8	595
				PROJECT TOTALS	1,823
PROJECT 9560-06-72					
CATEGORY 0010					
180+86	-	188+49	LT	USH 8	763
185+16	-	191+03	RT	USH 8	587
200+50	-	201+56	LT	USH 8	140
200+73	-	204+79	RT	USH 8	500
				PROJECT TOTAL	1,990

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REMOVING BURIED BEAMGUARD

STATION	TO	STATION	DIR	LOCATION	204.9090.S.01 REMOVING BURIED GUARDRAIL LF
PROJECT 9560-06-72					
CATEGORY 0010					
181+50	-	183+50	LT	STH 8	200
185+00	-	187+50	LT	STH 8	250
				PROJECT TOTALS	450

REMOVING CULVERT PIPE

STATION	TO	STATION	DIR	LOCATION	204.9060.S.01 REMOVING APRON ENDWALL EACH	203.0100 REMOVING SMALL PIPE CULVERTS EACH	204.0270 ABANDONING CULVERT PIPES EACH	COMMENTS
PROJECT 9560-06-72								
CATEGORY 0010								
146+30			RT & LT	USH 8	2	---	---	
175+57			RT & LT	USH 8	2	---	---	
186+04	-	186+36	LT	USH 8	1	1	1	25', 12" CPCS
				PROJECT TOTALS	5	1	1	

PREPARE FOUNDATION FOR ASPHALTIC PAVING

STATION TO STATION	211.0101 (PROJECT) 02. 9560-06-71 EACH	211.0101 (PROJECT) 03. 9560-06-72 EACH
PROJECT 9560-06-71		
CATEGORY 0010		
997+43.52 - 1432+80.48	1	---
PROJECT 9560-06-72		
CATEGORY 0010		
100+60.00 - 20991	---	1
PROJECT TOTALS	1	1

ASPHALTIC SURFACE PATCHING

STATION TO STATION	465.0110 ASPHALTIC SURFACE PATCHING TON
PROJECT 9560-06-71	
CATEGORY 0010	
UNDISTRIBUTED	200
PROJECT TOTALS	200
PROJECT 9560-06-72	
CATEGORY 0010	
UNDISTRIBUTED	100
PROJECT TOTALS	100

BASE COURSE

STATION	TO	STATION	LOCATION	305.0110 BASE AGGREGATE DENSE 3/4-INCH TON	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH TON	624.0100 WATER MGAL	COMMENT
PROJECT 9560-06-71							
CATEGORY 0010							
997+43	-	1030+00	USH 8	220	---	1	
1030+00	-	1060+00	USH 8	210	---	1	
1060+00	-	1100+00	USH 8	270	---	2	
1100+00	-	1150+00	USH 8	340	---	2	
1150+00	-	1200+00	USH 8	480	---	3	
1200+00	-	1245+00	USH 8	310	---	2	
1245+00	-	1349+63	USH 8	880	---	5	
1349+63	-	1355+00	USH 8	40	---	0	
1355+00	-	1432+27	USH 8	530	---	3	
1220+20	-	1234+20	USH 8	200	---	1	GRAVEL SHOULDER REPLACEMENT
			PROJECT TOTALS	3,480	0	21	
PROJECT 9560-06-72							
CATEGORY 0010							
100+60	-	149+00	USH 8	310	---	2	
149+00	-	210+00	USH 8	600	220	5	
			PROJECT TOTALS	910	220	8	

ASPHALTIC ITEMS

STATION	TO	STATION	ROADWAY	AREA	PAVEMENT SECTION	211.0400 PREPARE FOUNDATION FOR ASPHALTIC SHOLDERS STA	455.0505 ASPHALTIC MATERIAL SEAL COAT GAL **	455.0605 TACK COAT GAL	460.6223 HMA PAVEMENT 3 MT 58-28 S TON	460.6224 HMA PAVEMENT 4 MT 58-28 S TON	465.0105 ASPHALTIC SURFACE TONS	465.0120 ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES TONS	465.0475 ASPHALTIC CENTERLINE RUMBLE STRIPS 2-LANE RURAL LF	SPV.0195.01 ASPHALTIC PAVMENT UNDERSEAL TON ***
PROJECT 9560-06-71														
CATEGORY 0010														
997+43	-	1030+00	USH 8	LT SHLD	OVERLAY	31	0	116	---	221	76	---	---	0
				LT LANE		---	1650	261	---	499	---	---	1,950	43
				RT LANE		---	1650	261	---	499	---	---	---	43
				RT SHLD		28	0	131	---	251	70	---	---	0
1030+00	-	1060+00	USH 8	LT SHLD	OVERLAY	23	0	98	---	188	59	---	---	0
				LT LANE		---	1520	240	---	460	---	---	3,000	40
				RT LANE		---	1520	240	---	460	---	---	---	40
				RT SHLD		21	0	105	---	202	55	---	---	0
				RT DWY		---	---	---	---	---	---	5	---	---
1060+00	-	1100+00	USH 8	LT DWY	OVERLAY	---	---	---	---	---	---	4	---	---
				LT SHLD		32	0	137	---	263	81	---	---	0
				LT LANE		---	2027	320	---	613	---	---	4,000	53
				RT LANE		---	2027	320	---	613	---	---	---	53
				RT SHLD		36	0	136	---	260	92	---	---	0
1100+00	-	1150+00	USH 8	LT SHLD	OVERLAY	47	0	163	---	311	117	---	---	0
				LT LANE		---	2533	400	---	767	---	---	5,000	67
				RT LANE		---	2533	400	---	767	---	---	---	67
				RT SHLD		46	0	365	---	701	114	---	---	0
				RT DWY		---	---	---	---	---	---	3	---	---
1150+00	-	1200+00	USH 8	LT DWY	OVERLAY	---	---	---	---	---	---	3	---	---
				LT SHLD		48	0	258	---	495	122	---	---	0
				LT LANE		---	2533	400	---	767	---	---	5,000	67
				RT LANE		---	2533	400	---	767	---	---	---	67
				RT SHLD		47	0	452	---	866	119	---	---	0
				RT DWY		---	---	---	---	---	---	5	---	---
1200+00	-	1245+00	USH 8	LT SHLD	OVERLAY	43	0	506	---	969	107	---	---	0
				LT LANE		---	2280	360	---	690	---	---	4,500	60
				RT LANE		---	2280	360	---	690	---	---	---	60
				RT SHLD		45	0	150	---	288	115	---	---	0
1245+00	-	1300+00	USH 8	LT DWY	OVERLAY	---	---	---	---	---	---	3	---	---
				LT SHLD		44	0	216	---	413	108	---	---	0
				LT LANE		---	2787	440	---	843	---	---	5,500	73
				RT LANE		---	2787	440	---	843	---	---	---	73
				RT SHLD		45	0	203	---	390	114	---	---	0
1300+00	-	1350+00	USH 8	LT SHLD	OVERLAY	44	0	181	---	347	124	---	---	0
				LT LANE		---	2533	400	---	767	---	---	5,000	67
				RT LANE		---	2533	400	---	767	---	---	---	67
				RT SHLD		43	0	182	---	348	122	---	---	0
1355+00	-	1430+00	USH 8	LT SHLD	OVERLAY	---	0	244	---	467	---	---	---	0
				LT LANE		---	3800	600	---	1,150	---	---	7,500	100
				RT LANE		---	3800	600	---	1,150	---	---	---	100
				RT SHLD		---	0	247	---	473	---	---	---	0
1430+00	-	1432+27	USH 8	LT SHLD	OVERLAY	---	0	29	---	55	---	---	---	0
				LT LANE		---	0	18	---	35	---	---	227	0
				RT LANE		---	0	18	---	35	---	---	---	0
				RT SHLD		---	0	61	---	116	---	---	---	0
					PAGE TOTALS	622	43,327	10,855	0	20,806	1,595	24	41,677	1,140

ASPHALTIC ITEMS - CONTINUED

STATION TO STATION	ROADWAY	AREA	PAVEMENT SECTION	211.0400 PREPARE FOUNDATION FOR ASPHALTIC SHOLDERS STA	455.0505 ASPHALTIC MATERIAL SEAL COAT GAL **	455.0605 TACK COAT GAL	460.6223 HMA PAVEMENT 3 MT 58-28 S TON	460.6224 HMA PAVEMENT 4 MT 58-28 S TON	465.0105 ASPHALTIC SURFACE TONS	465.0120 ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES TONS	465.0475 ASPHALTIC CENTERLINE RUMBLE STRIPS 2-LANE RURAL LF	SPV.0195.01 ASPHALTIC PAVMENT UNDERSEAL TON ***
PROJECT 9560-06-71												
CATEGORY 0010												
DILL RD.		INTERSECTION	OVERLAY	---	---	26	---	49	---	---	---	---
CTH R (KREMLIN RD)		INTERSECTION	OVERLAY	---	---	22	---	43	---	---	---	---
N. LEG GRAVEL LN.		INTERSECTION	OVERLAY	---	---	40	---	76	---	---	---	---
S. LEG GRAVEL LN.		INTERSECTION	OVERLAY	---	---	39	---	75	---	---	---	---
DILL RD.		INTERSECTION	OVERLAY	---	---	29	---	55	---	---	---	---
EAST THOMPSON LN.		INTERSECTION	OVERLAY	---	---	26	---	49	---	---	---	---
WEST THOMPSON LN		INTERSECTION	OVERLAY	---	---	34	---	65	---	---	---	---
HELLER LN.		INTERSECTION	OVERLAY	---	---	33	---	64	---	---	---	---
BARLOW LAKE RD.		INTERSECTION	OVERLAY	---	---	18	---	35	---	---	---	---
SPIKE HORN LN.		INTERSECTION	OVERLAY	---	---	29	---	56	---	---	---	---
KINSINGER RD.		INTERSECTION	OVERLAY	---	---	27	---	52	---	---	---	---
GENRICH RD.		INTERSECTION	OVERLAY	---	---	31	---	60	---	---	---	---
MORGAN PARK RD.		INTERSECTION	OVERLAY	---	---	32	---	61	---	---	---	---
GENRICH RD.		INTERSECTION	OVERLAY	---	---	31	---	59	---	---	---	---
WEST RD.		INTERSECTION	OVERLAY	---	---	34	---	65	---	---	---	---
WISHMAN RD.		INTERSECTION	OVERLAY	---	---	38	---	72	---	---	---	---
JOHNS RD.		INTERSECTION	OVERLAY	---	---	19	---	36	---	---	---	---
PERRY RD.		INTERSECTION	OVERLAY	---	---	23	---	44	---	---	---	---
			PAGE TOTALS	0	0	530	0	1,016	0	0	0	0
			PROJECT TOTALS	622	43,327	11,385	0	21,822	1,595	24	41,677	1,140
PROJECT 9560-06-72												
CATEGORY 0010												
100+60 - 149+00	USH 8	LT DWY	OVERLAY	---	---	---	---	---	---	3	---	---
		LT SHLD		43	---	332	344	292	---	---	---	---
		LT LANE		---	---	774	835	649	---	---	4,840	---
		RT LANE		---	---	774	835	649	---	---	---	---
		RT SHLD		47	---	334	346	295	---	---	---	---
		RT DWY		---	---	---	---	---	---	8	---	---
149+00 - 209+91	USH 8	LT DWY	OVERLAY	---	---	---	---	---	---	2	---	---
		LT SHLD		12	---	1,006	1,074	853	---	---	---	---
		LT LANE		---	---	975	1,051	817	---	---	6,091	---
		RT LANE		---	---	975	1,051	817	---	---	---	---
		RT SHLD		48	---	424	444	370	---	---	---	---
		LT DWY		---	---	---	---	---	---	5	---	---
TOWNS RD.		INTERSECTION	OVERLAY	---	---	43	46	36	---	---	---	---
ZAIDEL RD.		INTERSECTION	OVERLAY	---	---	20	22	17	---	---	---	---
NORIN RD.		INTERSECTION	OVERLAY	---	---	29	31	24	---	---	---	---
CHAPMAN RD.		INTERSECTION	OVERLAY	---	---	81	87	68	---	---	---	---
OLD 8		INTERSECTION	OVERLAY	---	---	53	57	45	---	---	---	---
GELDMEYER RD.		INTERSECTION	OVERLAY	1	---	28	31	24	---	---	---	---
		PROJECT TOTALS		152	0	5,849	6,254	4,957	0	18	10,931	0

** ASPHALTIC MATERIAL SEAL COAT ESTIMATED APPLICATION RATE EQUAL TO 0.38 GAL/SY

*** ASPHALTIC PAVEMENT UNDERSEAL ESTIMATED TO BE 23 LBS./SY.

-TACK COAT TO BE UTILIZED ON ASPHALTIC PAVEMENT UNDERSEAL NOT PAVED OVER WITHIN SEVEN DAYS OF APPLICATION. ESTIMATED APPLICATION RATE EQUAL TO 0.07 GAL/SY.

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HMA MIXTURE ACCEPTANCE

STATION RANGES	ROADWAY	LOCATION		MIXTURE USE	UNDERLAYING SURFACE	BID ITEM	TONNAGE	QMP TO BE USED FOR: MIXTURE ACCEPTANCE	DENSITY ACCEPTANCE
PROJECT 9560-06-71									
CATEGORY 0010									
997+00 - 1030+00 1030+00 - 1060+00 1060+00 - 1100+00 1100+00 - 1150+00 1150+00 - 1200+00 1200+00 - 1245+0 1245+00 - 1300+00 1300+00 - 1355+00 1355+00 - 1428+00 1428+00 - 1432+27	USH 8	OVERLAY	LT SHOULDER	UPPER LAYER	EX HMA PAVT	4 MT 58-28 S	3,730	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	ACCEPTANCE TESTING BY DEPT; NOT ELIGIBLE FOR INCENTIVE OR DISINCENTIVE
			LT LANE	UPPER LAYER	EX HMA PAVT	4 MT 58-28 S	6,591		INCENTIVE DENSITY PWL HMA PAVEMENT 460.2005
			RT LANE	UPPER LAYER	EX HMA PAVT	4 MT 58-28 S	6,591		INCENTIVE DENSITY PWL HMA PAVEMENT 460.2005
			RT SHOULDER	UPPER LAYER	EX HMA PAVT	4 MT 58-28 S	3,894		ACCEPTANCE TESTING BY DEPT; NOT ELIGIBLE FOR INCENTIVE OR DISINCENTIVE
ALL INTERSECTIONS		OVERLAY	INTERSECTION	UPPER LAYER	EX HMA PAVT	4 MT 58-28 S	1,016		ACCEPTANCE TESTING BY DEPT; NOT ELIGIBLE FOR INCENTIVE OR DISINCENTIVE

STATION RANGES	ROADWAY	LOCATION		MIXTURE USE	UNDERLAYING SURFACE	BID ITEM	TONNAGE	MIXTURE ACCEPTANCE	DENSITY ACCEPTANCE
PROJECT 9560-06-72									
CATEGORY 0010									
100+60 - 149+00 149+00 - 210+00	USH 8	OVERLAY	LT SHOULDER	LOWER LAYER	EX HMA PAVT	3 MT 58-28 S	1,267	AS PER SS 460	INCENTIVE DENSITY HMA PAVEMENT 460.2000
				UPPER LAYER	3 MT 58-28 S	4 MT 58-28 S	1,015	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	ACCEPTANCE TESTING BY DEPT; NOT ELIGIBLE FOR INCENTIVE OR
			LT LANE	LOWER LAYER	EX HMA PAVT	3 MT 58-28 S	1,886	AS PER SS 460	INCENTIVE DENSITY HMA PAVEMENT 460.2000
				UPPER LAYER	3 MT 58-28 S	4 MT 58-28 S	1,467	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	INCENTIVE DENSITY PWL HMA PAVEMENT 460.2005
			RT LANE	LOWER LAYER	EX HMA PAVT	3 MT 58-28 S	1,886	AS PER SS 460	INCENTIVE DENSITY HMA PAVEMENT 460.2000
				UPPER LAYER	3 MT 58-28 S	4 MT 58-28 S	1,467	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	INCENTIVE DENSITY PWL HMA PAVEMENT 460.2005
			RT SHOULDER	LOWER LAYER	EX HMA PAVT	3 MT 58-28 S	789	AS PER SS 460	INCENTIVE DENSITY HMA PAVEMENT 460.2000
				UPPER LAYER	3 MT 58-28 S	4 MT 58-28 S	665	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	ACCEPTANCE TESTING BY DEPT; NOT ELIGIBLE FOR INCENTIVE OR
ALL INTERSECTIONS		OVERLAY	INTERSECTION	LOWER LAYER	EX HMA PAVT	3 MT 58-28 S	271	AS PER SS 460	INCENTIVE DENSITY HMA PAVEMENT 460.2000
				UPPER LAYER	3 MT 58-28 S	4 MT 58-28 S	211	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	ACCEPTANCE TESTING BY DEPT; NOT ELIGIBLE FOR INCENTIVE OR

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HMA PAVEMENT PWL TEST STRIP

	460.0105.S VOLUMETRICS EACH	460.0110.S DENSITY EACH	COMMENTS
PROJECT 9560-06-71			
CATEGORY 0010			
	1	1	
PROJECT TOTALS	1	1	
PROJECT 9560-06-72			
CATEGORY 0010			
	---	1	
PROJECT TOTALS	0	1	
PROJECT 1491-23-71			
CATEGORY 0010			
	---	1	
PROJECT TOTALS	0	1	
CONTRACT TOTAL	1	3	

ASPHALTIC INTERSECTION RUMBLE STRIPS

STATION	TO	STATION	LOCATION	465.0450 SY
PROJECT 9560-06-72				
CATEGORY 0010				
104+75	-	105+00	USH 8	26
107+00	-	107+25	USH 8	26
110+50	-	110+75	USH 8	26
		PROJECT TOTAL		78

ASPHALTIC SHOULDER RUMBLE STRIPS 2-LANE RURAL

STATION	TO	STATION	ROADWAY	DIR	465.0425 LF
PROJECT 9560-06-71					
CATEGORY 0010					
997+43	-	1007+12	USH 8	LT	---
1010+29	-	1031+10	USH 8	LT	1,670
1035+02	-	1056+30	USH 8	LT	1,690
1065+00	-	1066+57	USH 8	LT	130
1069+85	-	1135+03	USH 8	LT	5,100
1138+33	-	1148+97	USH 8	LT	840
1152+14	-	1234+13	USH 8	LT	6,400
1237+37	-	1250+65	USH 8	LT	1,000
1257+47	-	1261+72	USH 8	LT	340
1264+75	-	1286+09	USH 8	LT	1,690
1289+19	-	1348+24	USH 8	LT	4,650
1351+37	-	1389+30	USH 8	LT	3,020
1392+31	-	1432+27	USH 8	LT	2,880
997+43	-	1005+12	USH 8	RT	---
1010+65	-	1030+68	USH 8	RT	1,600
1034+28	-	1054+37	USH 8	RT	1,580
1063+87	-	1104+80	USH 8	RT	3,220
1107+63	-	1135+51	USH 8	RT	2,180
1138+60	-	1162+09	USH 8	RT	1,770
1165+53	-	1250+40	USH 8	RT	6,580
1257+74	-	1261+79	USH 8	RT	320
1264+88	-	1347+66	USH 8	RT	6,630
1351+02	-	1377+42	USH 8	RT	2,110
1379+26	-	1426+79	USH 8	RT	3,750
			PROJECT TOTAL		59,150
PROJECT 9560-06-72					
CATEGORY 0010					
104+60	-	134+96	USH 8	LT	1,830
136+87	-	180+60	USH 8	LT	3,180
188+80	-	199+65	USH 8	LT	860
202+44	-	207+73	USH 8	LT	420
102+81	-	159+60	USH 8	RT	4,260
161+45	-	168+25	USH 8	RT	390
171+25		180+60	USH 8	RT	750
			PROJECT TOTAL		11,690

CONSTRUCTION STAKING

STATION TO STATION	LOCATION	650.4500 CONSTRUCTION STAKING SUBGRADE LF	650.8000 CONSTRUCTION STAKING RESURFACING REFERENCE LF	650.9911 CONSTRUCTION STAKING SUPPLEMENTAL CONTROL EACH	650.9920 CONSTRUCTION STAKING SLOPE STAKES LF
PROJECT 9560-06-71					
CATEGORY 0010					
997+43 - 1432+85	USH 8	0	43,542	1	0
	PROJECT TOTALS	0	43,542	1	0
PROJECT 9560-06-72					
CATEGORY 0010					
100+60 - 210+00	USH 8	1670	10,940	1	1670
	PROJECT TOTALS	1670	10,940	1	1670

BEAM GUARD

STATION	TO	STATION	DIR	ROADWAY	614.0397 GUARDRAIL MOW STRIP EMULSIFIED ASPHALT SY	614.2300 MGS GUARDRAIL 3 LF	614.2350 MGS GUARDRAIL SHORT RADIUS LF	614.2610 MGS GUARDRAIL TERMINAL EAT EA	614.2630 MGS GUARDRAIL SHORT RADIUS TERMINAL EA
PROJECT 9560-06-71									
CATEGORY 0010									
1055+18	-	1058+71	RT	USH 8	---	237.5	---	1	---
1056+93	-	1058+73	LT	USH 8	---	62.5	---	1	---
1061+62	-	1063+17	RT	USH 8	---	37.5	---	1	---
1061+65	-	1064+20	LT	USH 8	---	137.5	---	1	---
1251+10	-	1257+04	RT	USH 8	---	487.5	---	2	---
1251+33	-	1256+77	LT	USH 8	---	437.5	---	2	---
		PROJECT TOTALS			0	1,400	0	8	0
PROJECT 9560-06-72									
CATEGORY 0010									
180+86	-	188+51	LT	USH 8	573	650.0	---	2	---
185+15	-	191+07	RT	USH 8	---	500.0	---	2	---
200+52	-	201+86	LT	USH 8	90	65.6	37.5	1	1
200+75	-	204+83	RT	USH 8	---	350.0	56.3	2	---
		PROJECT TOTALS			663	1,565.6	93.8	7	1

EROSION CONTROL & LANDSCAPING ITEMS

STATION	TO	STATION	DIR	LOCATION	625.0500 SALVAGED TOPSOIL SY	628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINTENANCE LF	628.1905 MOBILIZATIONS EROSION CONTROL EACH	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EACH	628.2008 EROSION MAT URBAN CLASS I TYPE B SY	628.7555 CULVERT PIPE CHECKS EACH	628.7570 ROCK BAGS EACH	629.0210 FERTILIZER TYPE B CWT	630.0130 SEEDING MIX NO. 30 LB	630.0500 SEED WATER MGAL
PROJECT 9560-06-72															
CATEGORY 0010															
180+50	-	192+00	LT	USH 8	2,120	660	660	1	1	140	---	---	1.34	40	---
180+50	-	192+00	RT	USH 8	670	0	0	---	---	0	---	---	0.42	10	---
200+00	-	206+00	LT	USH 8	900	360	360	1	1	440	---	---	0.57	20	---
200+00	-	206+00	RT	USH 8	1,170	480	480	1	1	430	---	---	0.74	20	---
ENDWALL REPLACEMENTS				USH 8	30	---	---	---	---	---	10	---	---	---	---
				UNDISTRIBUTED	940	300	300	0	1	200	---	50	0.61	20	4
				PROJECT TOTALS	5,830	1,800	1,800	3	4	1,210	10	50	4	110	4

RIPRAP & GEOTEXTILE

STATION	TO	STATION	DIR	LOCATION	606.0200 MEDIUM RIPRAP TON	645.0120 GEOTEXTILE TYPE HR SY
PROJECT 9560-06-72						
CATEGORY 0010						
181+50	-	183+50	LT	USH 8	156	222
185+00	-	187+50	LT	USH 8	194	278
				PROJECT TOTALS	350	500

CULVERT PIPES

STATION	LOCATION	520.9700.S.01 CULVERT PIPE LINERS, 30-INCH LF	520.9750.S.01 CLEANING CULVERT PIPES FOR LINER VERIFICATION EA	520.1030 AEW FOR CULVERT PIPE 30-INCH EACH	633.5200 MARKERS CULVERT END EACH	STEEL THICKNESS (INCHES)	COMMENTS
PROJECT 9560-06-72							
CATEGORY 0010							
146+30	USH 8	81	1	2	2	0.079	EXISTING 30-INCH CMP, 0.5% SLOPE
175+57	USH 8	110	1	2	2	0.079	EXISTING 30-INCH CMP, 2.3% SLOPE
	PROJECT TOTALS	191	2	4	4		

3

MARKING

STATION TO STATION	LOCATION	643.5000 TRAFFIC CONTROL	646.1020 MARKING LINE EPOXY 4-INCH (YELLOW)	646.1040 MARKING LINE GROOVED WET REF EPOXY 4-INCH (WHITE)	646.3040 MARKING LINE GROOVED WET REF EPOXY 8-INCH (WHITE)	646.6020 MARKING STOP LINE EPOXY 18-INCH	646.6464 COLD WEATHER MARKING EPOXY 4-INCH (YELLOW)	646.6464 (WHITE)	646.6468 COLD WEATHER MARKING EPOXY 8-INCH (WHITE)	* 643.3105 TEMPORARY MARKING LINE PAINT 4-INCH (YELLOW)	643.3105 (WHITE)	643.3120 TEMPORARY MARKING LINE EPOXY 4-INCH (YELLOW)
		EACH	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF
PROJECT 9560-06-71	CATEGORY 0010											
997+43 - 1030+00	USH 8 / USH 141	0.7	1,489	6,318	190	0	1,489	6,318	190	2,807	0	936
1030+00 - 1060+00	USH 8 / USH 141	0	5,213	5,742	0	0	5,213	5,742	0	15,102	0	5,034
1060+00 - 1100+00	USH 8 / USH 141	0	2,260	7,873	0	0	2,260	7,873	0	3,210	0	1,070
1100+00 - 1150+00	USH 8 / USH 141	0	4,750	9,355	0	0	4,750	9,355	0	11,700	1,027	3,900
1150+00 - 1200+00	USH 8 / USH 141	0	6,400	10,524	0	0	6,400	10,524	0	16,752	2,223	5,584
1200+00 - 1245+00	USH 8 / USH 141	0	5,625	10,002	0	0	5,625	10,002	0	14,580	1,166	4,860
1245+00 - 1300+00	USH 8 / USH 141	0	2,535	10,751	0	0	2,535	10,751	0	4,800	338	1,600
1300+00 - 1355+00	USH 8 / USH 141	0	6,486	10,738	0	0	6,486	10,738	0	17,208	0	5,736
1355+00 - 1432+85	USH 8 / USH 141	0	9,010	15,167	330	0	9,010	15,167	330	23,674	0	7,891
	PROJECT SUBTOTALS	0.7	43,767	86,469	520	0	43,767	86,469	520	109,832	4,755	36,611
	PROJECT TOTALS	0.7	43,767	86,469	520	0	130,236		520	114,587		36,611
PROJECT 9560-06-72	CATEGORY 0010											
100+60 - 149+00	USH 8	0.2	1,714	9,346	75	26	1,714	9,346	75	2,686	0	895
149+00 - 210+00	USH 8	0	9,350	12,413	0	0	9,350	12,413	0	27,010	706	9,238
	PROJECT SUBTOTALS	0.2	11,064	21,759	75	26	11,064	21,759	75	29,695	706	10,134
	PROJECT TOTALS	0.2	11,064	21,759	75	26	32,823		75	30,401		10,134

*QUANTITY INCLUDES TEMPORARY STRIPING FOR CLIMBING\PASSING LANES ON FINISHED SURFACE

3

TRAFFIC CONTROL

STAGE	LOCATION	SDD 15D44 APPROX. SERVICE PERIOD DAYS	SDD 15C04 APPROX. SERVICE PERIOD DAYS	643.0300 DRUMS NO.	DAYS	643.0420 BARRICADES TYPE III NO.	DAYS	643.0705 WARNING LIGHTS TYPE A NO.	DAYS	643.0900 SIGNS NO.	DAYS	643.1050 SIGNS PCMS NO.	DAYS	NOTES
PROJECT 9560-06-71 CATEGORY 0010														
NO DETOUR	USH 8/USH 141 AT -71 BOP	42	98	0	--	0	--	0	--	8	616	1	7	NOTE 1
	USH 8/USH 141 AT -71 EOP	42	98	0	--	0	--	0	--	8	616	1	7	NOTE 1
	USH 8/USH 141 (GROOVED PAVEMENT)	42	98	64	320	0	--	0	--	12	356	0	--	NOTE 2
	USH 8/USH 141 (SIDE ROADS)	42	98	0	--	0	--	0	--	25	2,114	0	--	
	UNDISTRIBUTED				32		0		0		370		0	
	PROJECT TOTALS				352		0		0		4,072		14	
PROJECT 9560-06-72 CATEGORY 0010														
NO DETOUR	USH 8 AT -72 EOP	42	98	0	--	0	--	0	--	8	616	1	7	NOTE 1
	USH 8 (GROOVED PAVEMENT)	42	98	64	1,344	2	42	4	84	8	231	0	--	NOTE 2 & 3
	USH 8 (SIDE ROADS)	42	98	0	--	0	--	0	--	10	700	0	--	
	UNDISTRIBUTED				134		4		8		155		0	
	PROJECT TOTALS				1,478		46		92		1,702		7	

NOTE 1: INSTALL PCMS A MINIMUM OF 7 DAYS PRIOR TO START OF CONSTRUCTION. REMOVE WHEN CONSTRUCTION STARTS.

NOTE 2: APPROXIMATE SERVICE DAYS FOR BEAMGUARD REPLACEMENT WITHOUT SLOPE REGRADING IS 5 DAYS.

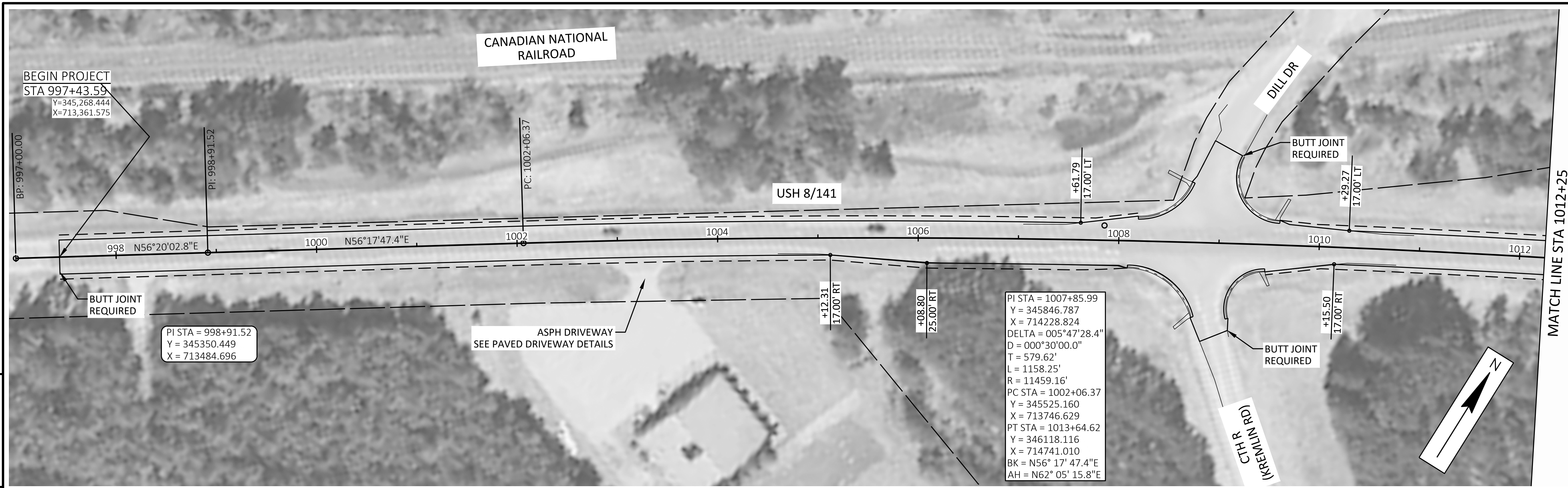
NOTE 3: APPROXIMATE SERVICE DAYS FOR BEAMGUARD REPLACEMENT FROM STATION 180+85 LEFT TO 188+50 LEFT AND FROM STATION 200+50 TO 205+00 LEFT AND RIGHT IS 21 DAYS.

SAWING ASPHALT

STATION	TO	STATION	ROADWAY	690.0150 SAWING ASPHALT LF
PROJECT 9560-06-71				
CATEGORY 0010				
997+43	-	1030+00	USH 8	65
1030+00	-	1060+00	USH 8	0
1060+00	-	1100+00	USH 8	0
1100+00	-	1150+00	USH 8	115
1150+00	-	1200+00	USH 8	136
1200+00	-	1245+00	USH 8	0
1245+00	-	1300+00	USH 8	59
1300+00	-	1355+00	USH 8	0
1355+00	-	1432+85	USH 8	0
			PROJECT TOTAL	374

STATION	TO	STATION	ROADWAY	690.0150 SAWING ASPHALT LF
PROJECT 9560-06-72				
CATEGORY 0010				
100+60	-	149+00	USH 8	138
149+00	-	210+00	USH 8	106
			PROJECT TOTAL	244

5



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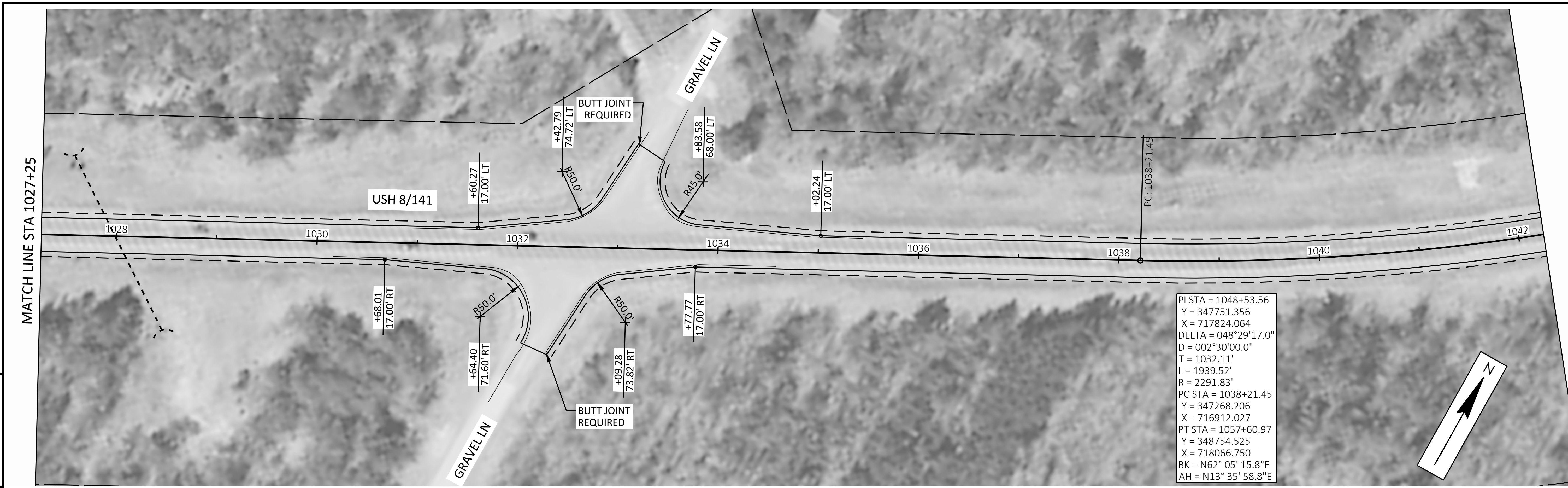
PROJECT NO: 9560-06-71/72	HWY: USH 8	COUNTY: MARINETTE	PLAN - USH 8 & 141	SHEET 29	E

5



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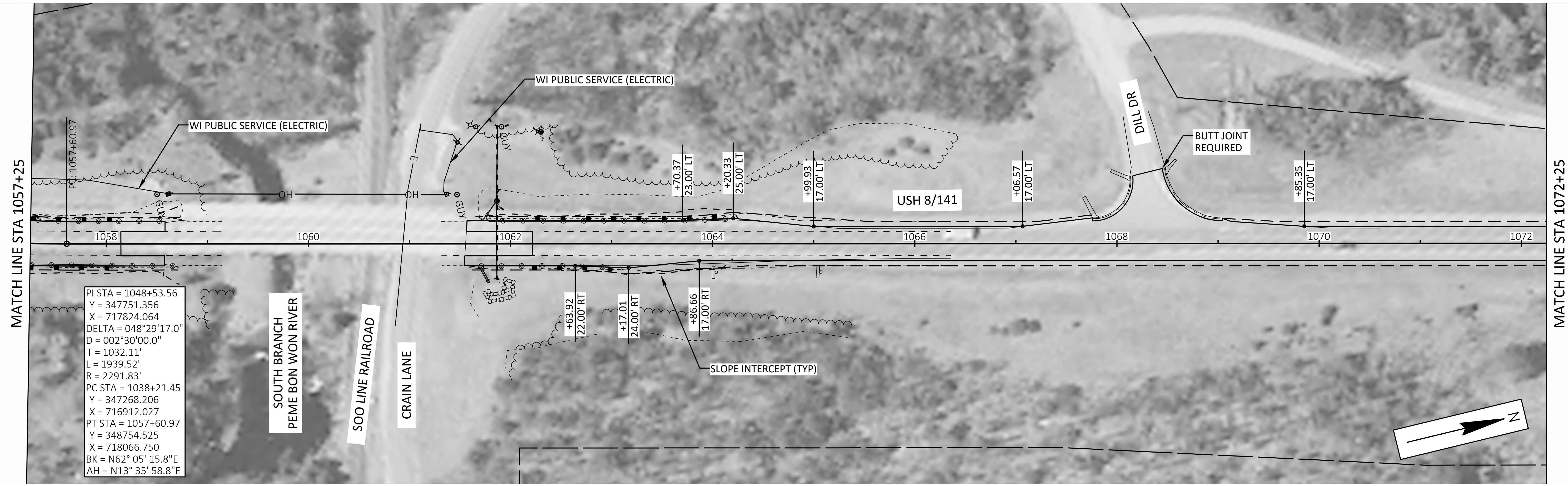

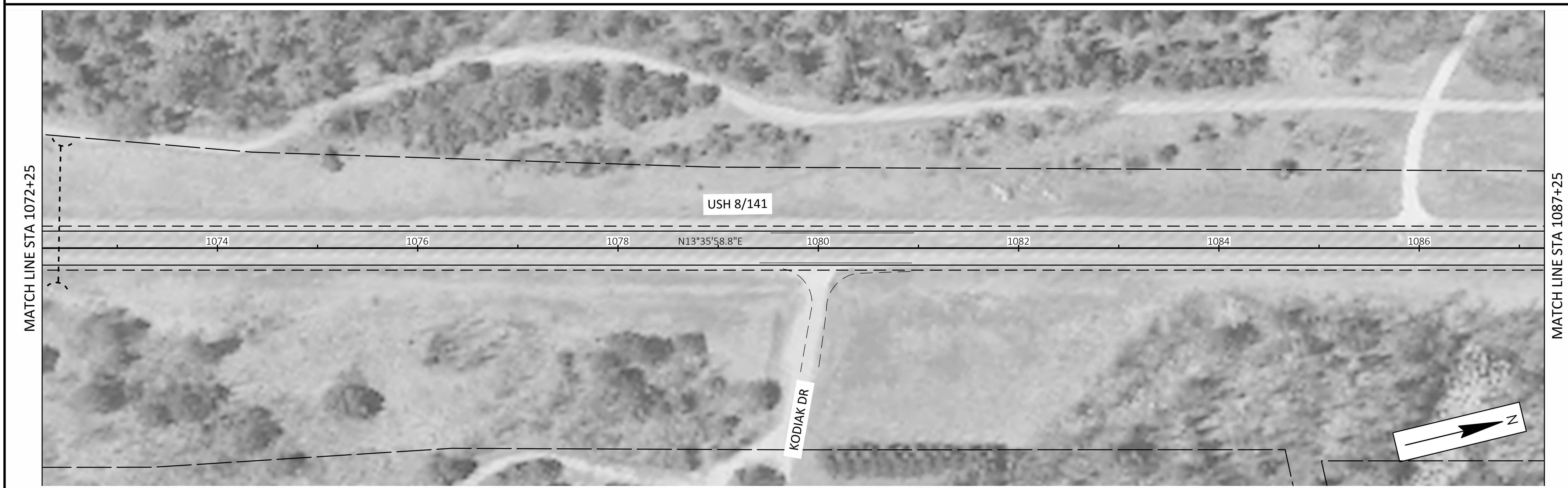

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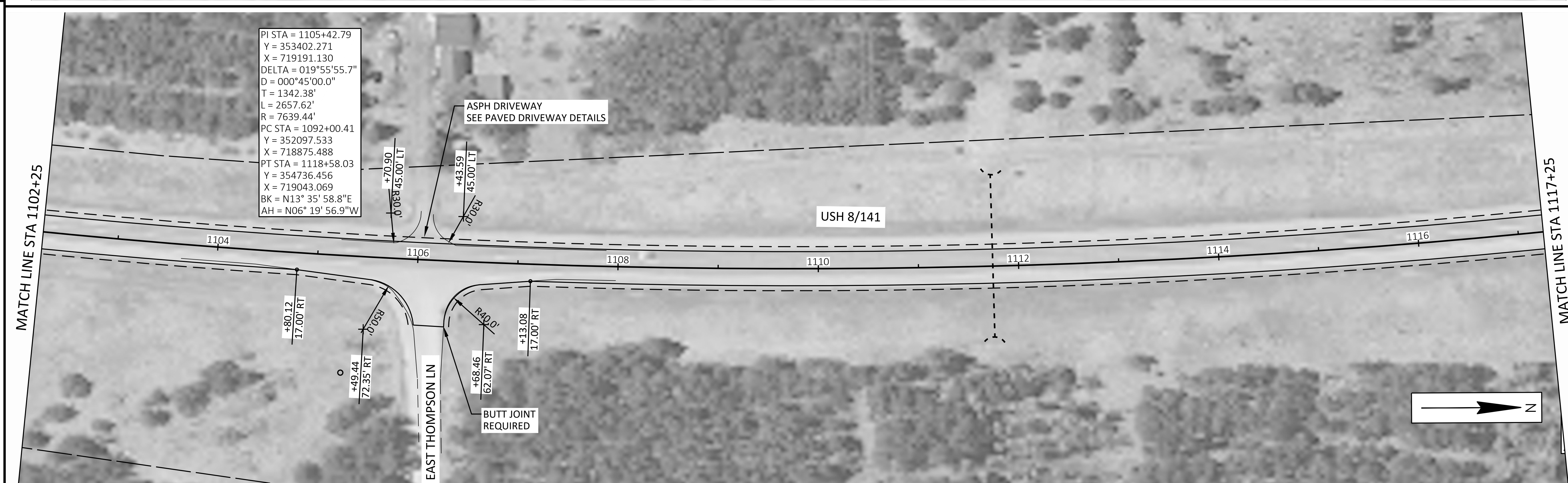

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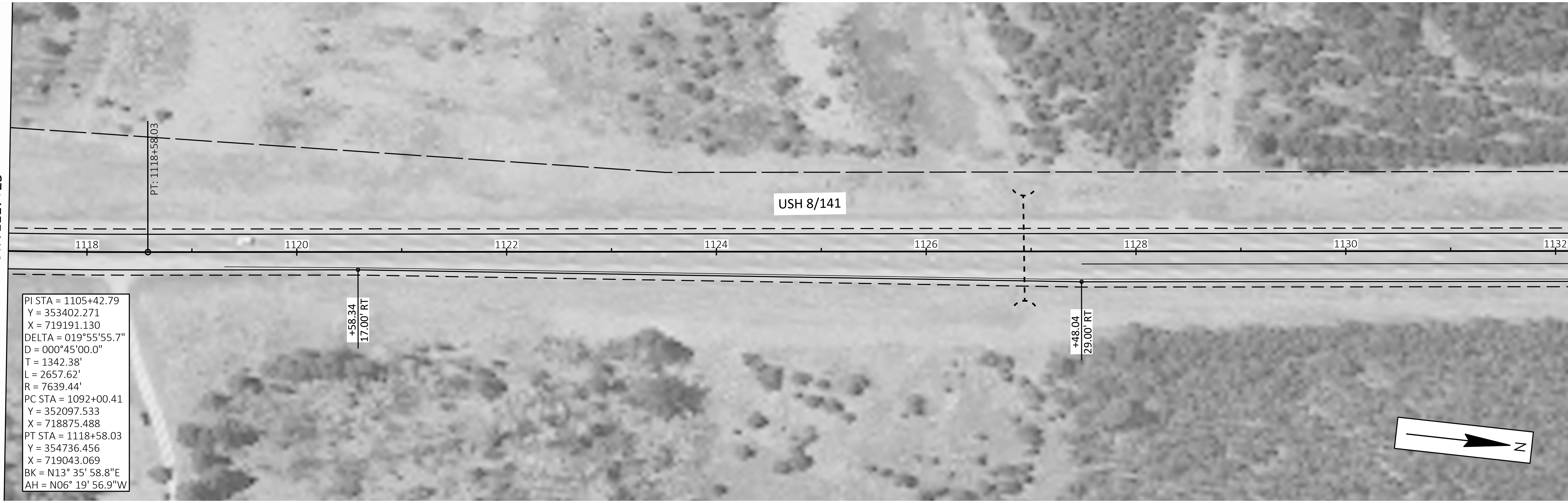

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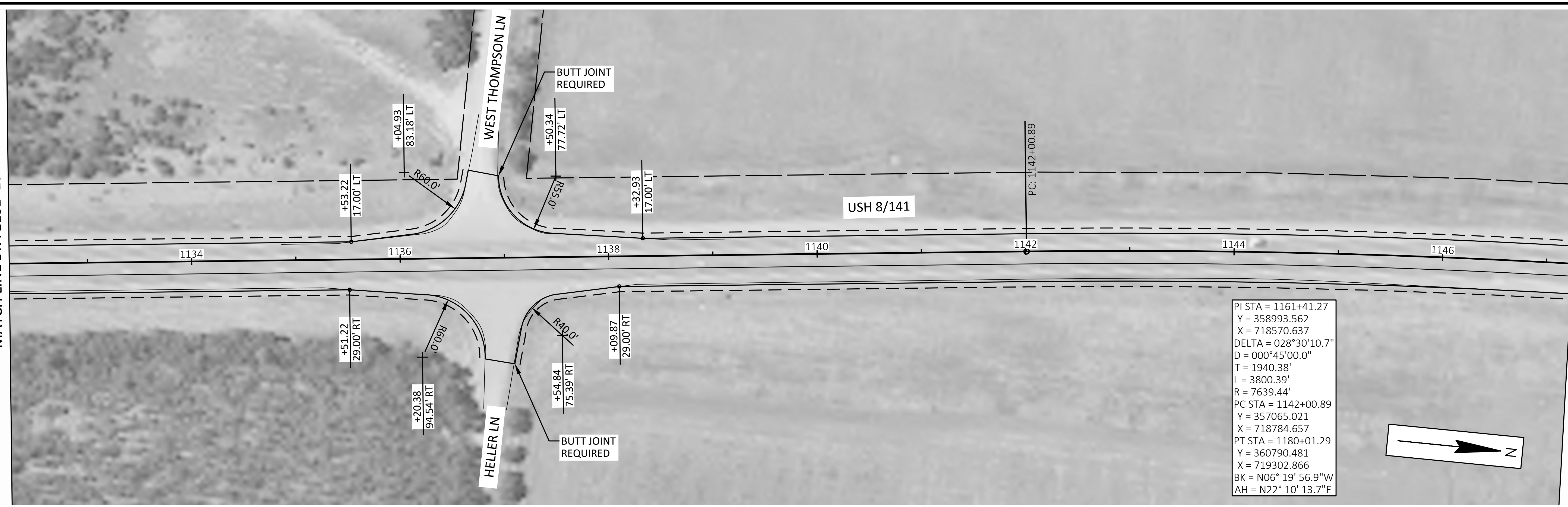

PROJECT NO: 9560-06-71/72	HWY: USH 8	COUNTY: MARINETTE	PLAN - USH 8 & 141	SHEET 33	E

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LAYOUT NAME - 956006-050205-PN
PLOT DATE : 11/18/2022 1:24 PM
PLOT BY : BRANDI SWANSON
PLOT NAME :
PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 44

5

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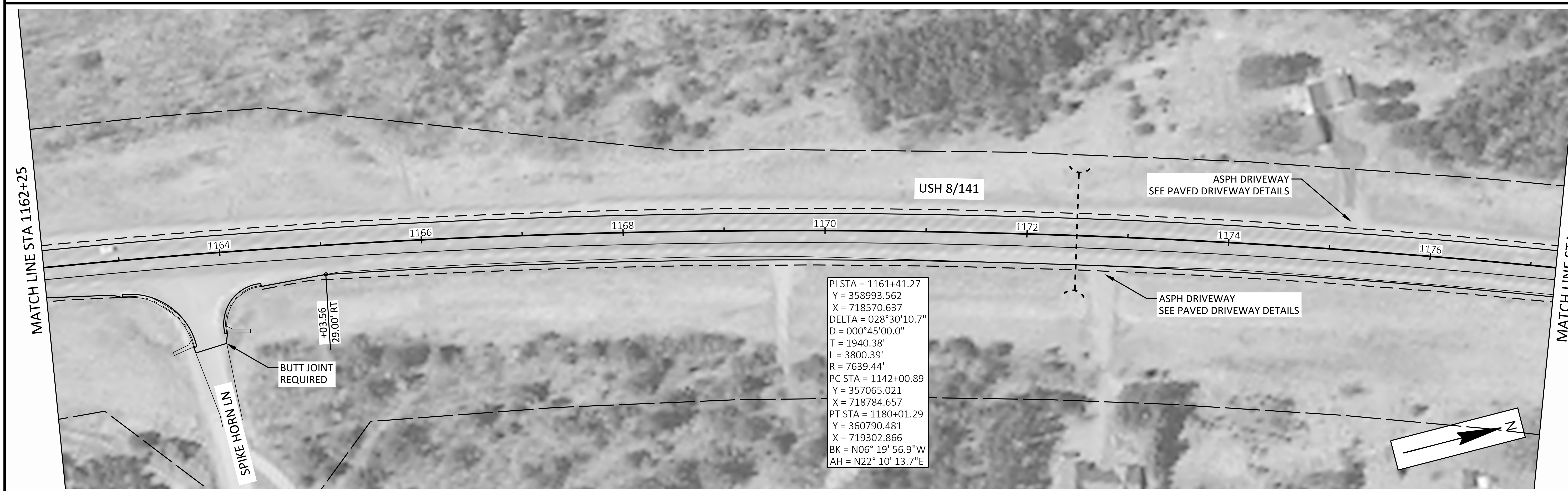

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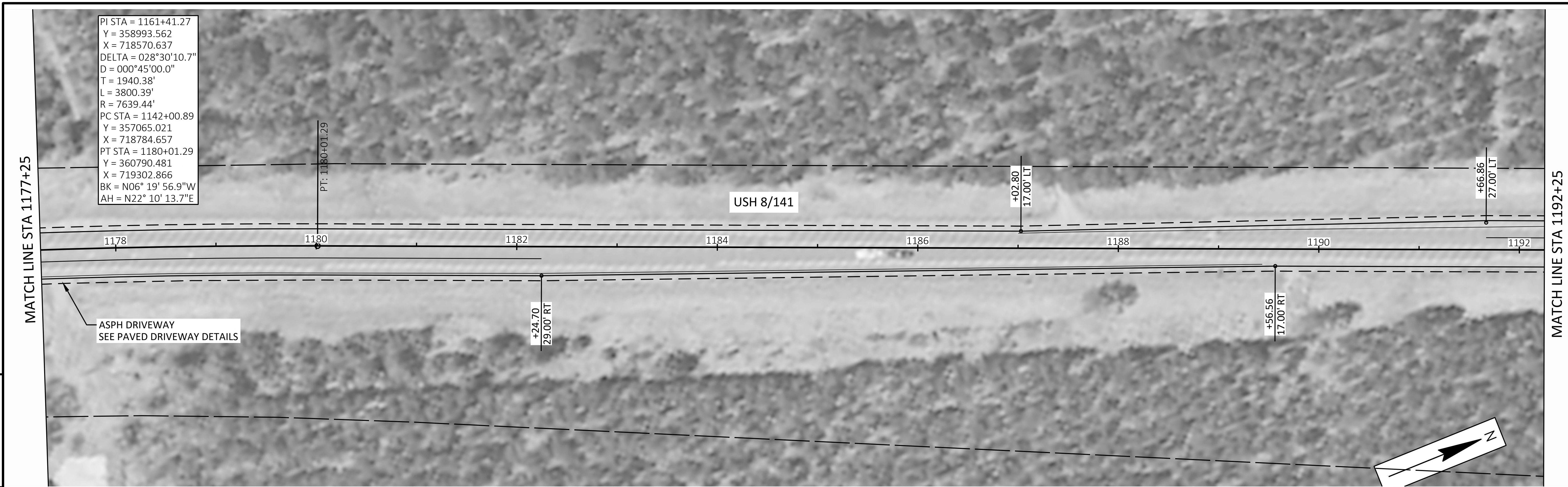

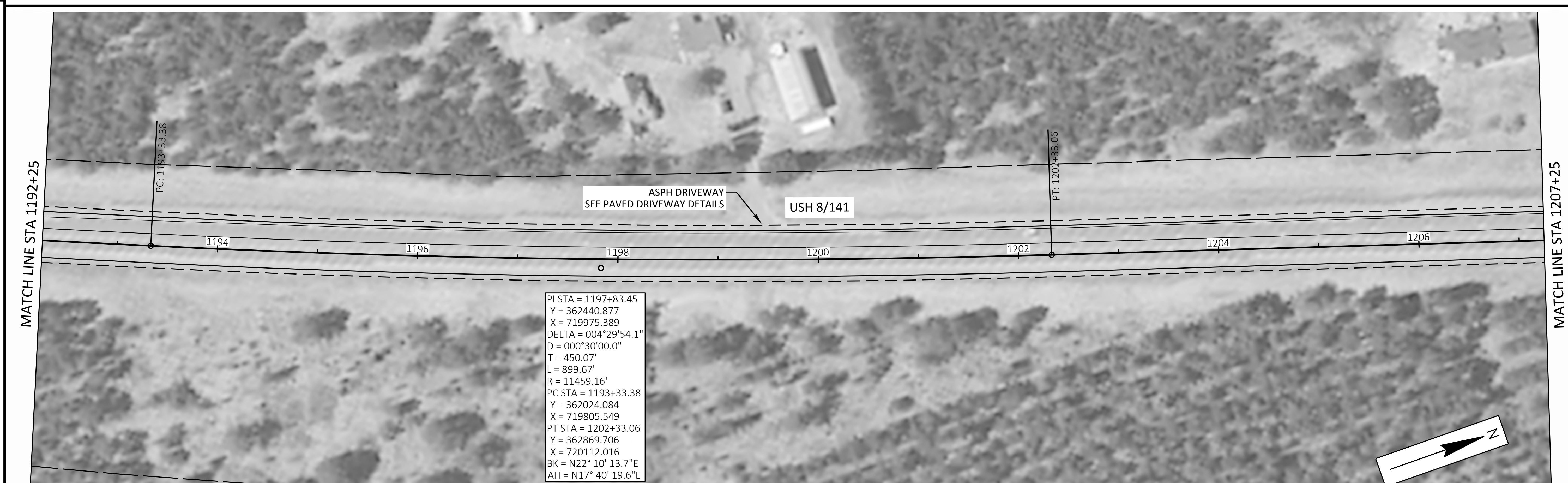

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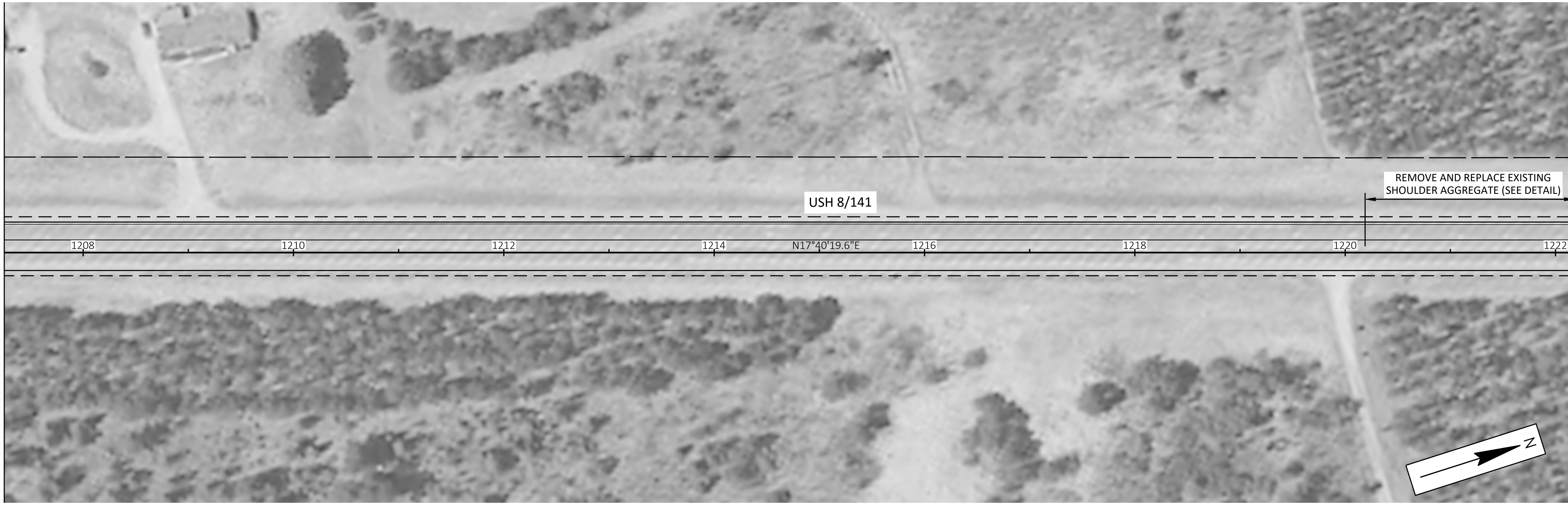

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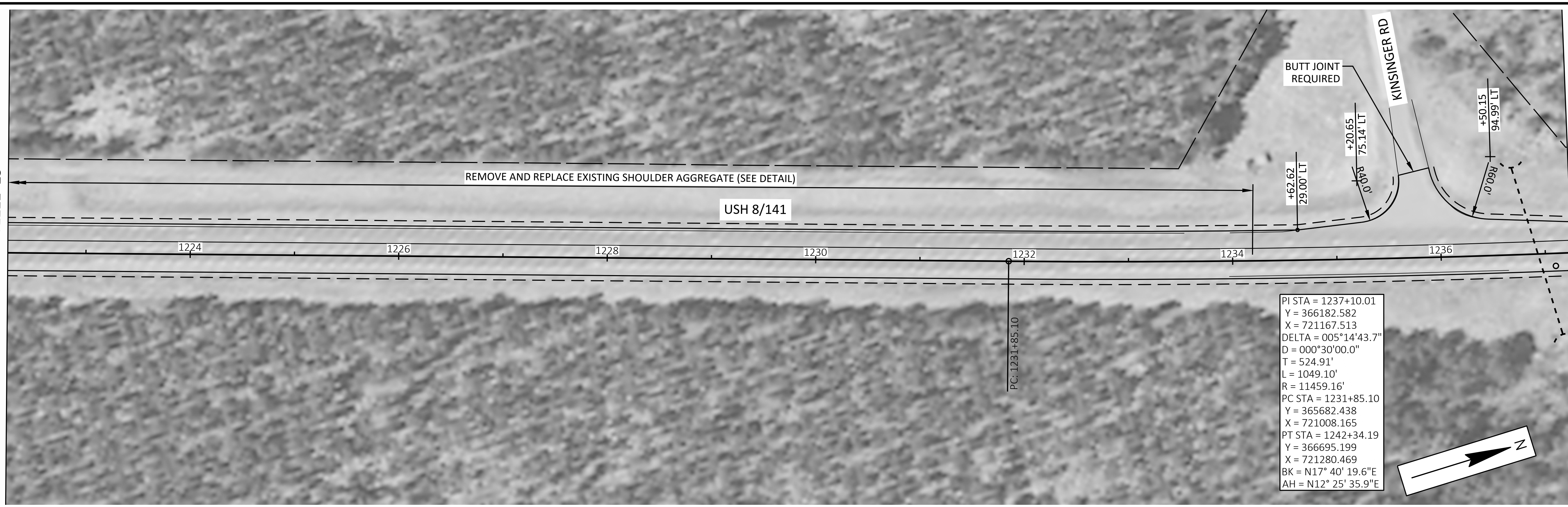

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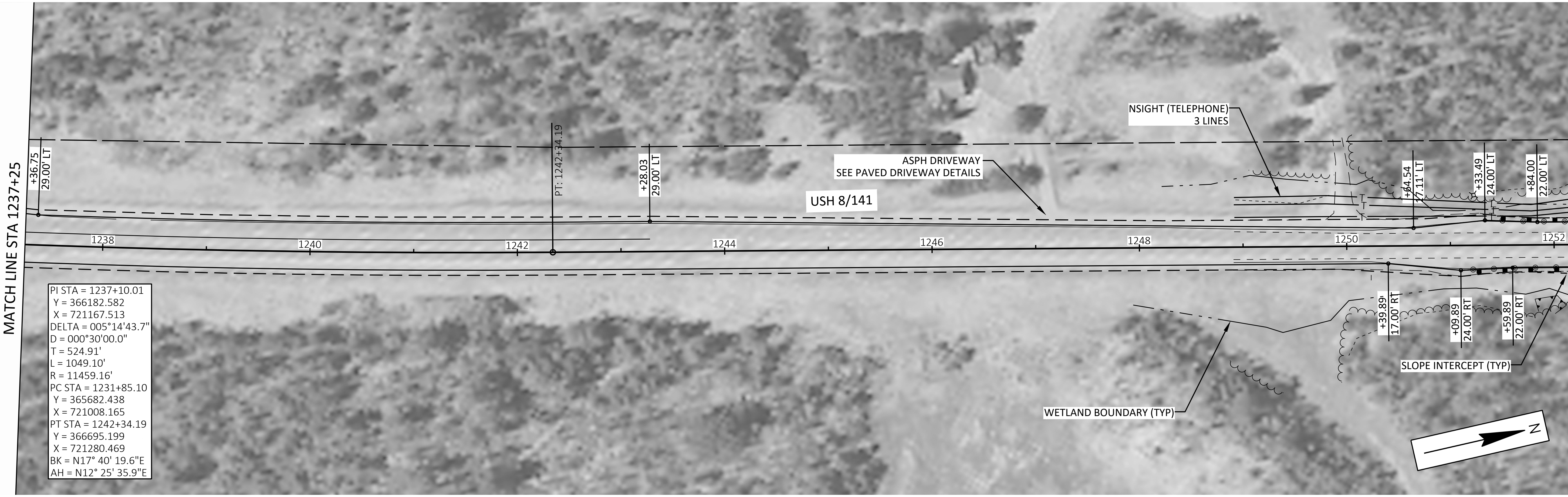

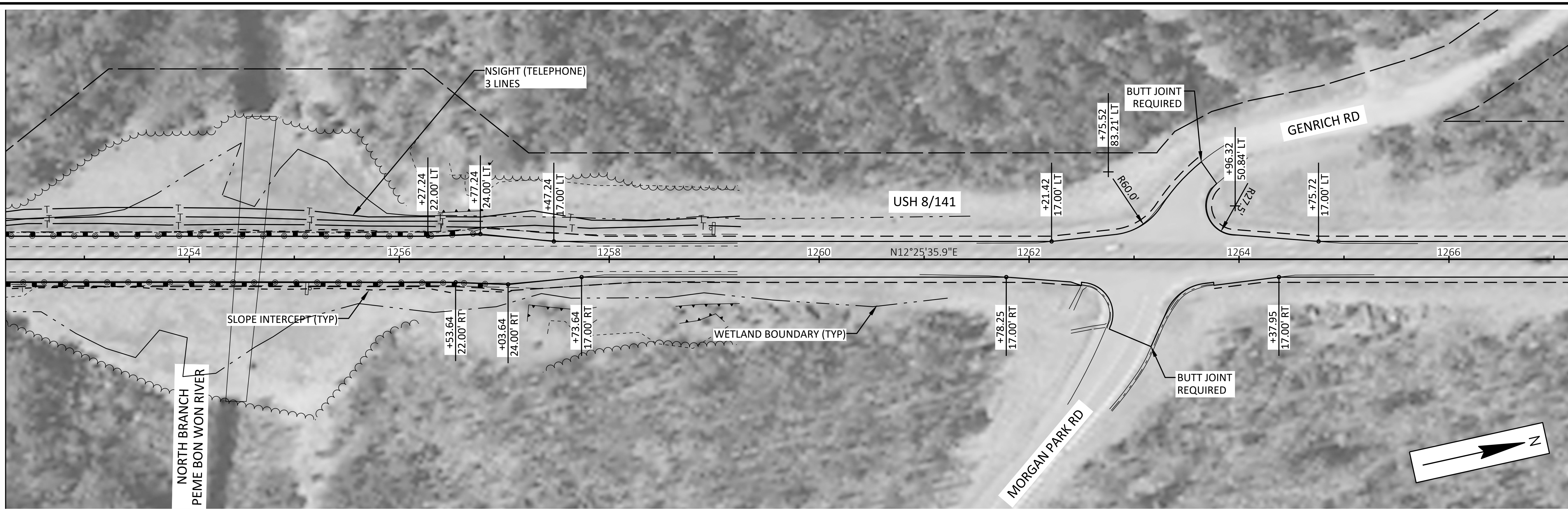

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PROJECT NO: 9560-06-71/72	HWY: USH 8	COUNTY: MARINETTE	PLAN - USH 8 & 141	SHEET 37	E

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LAYOUT NAME - 956006-050209-PN
PLOT DATE : 11/18/2022 1:24 PM PLOT BY : BRANDI SWANSON PLOT NAME : PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 44

5

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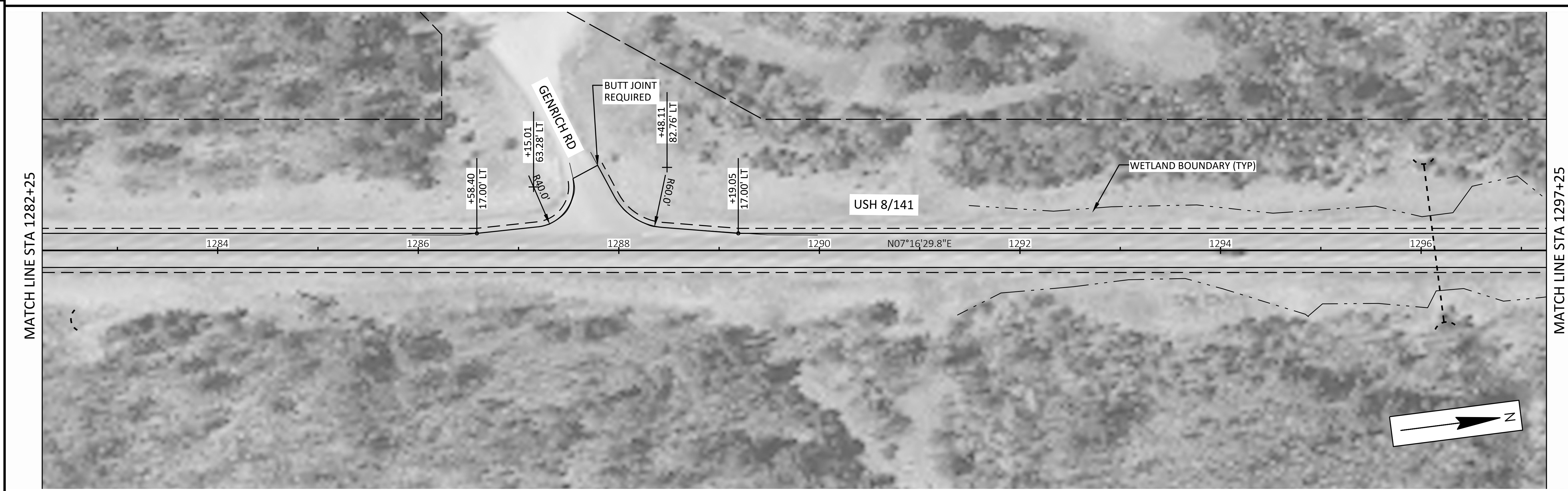

PROJECT NO: 9560-06-71/72	HWY: USH 8	COUNTY: MARINETTE	PLAN - USH 8 & 141	SHEET 38	E

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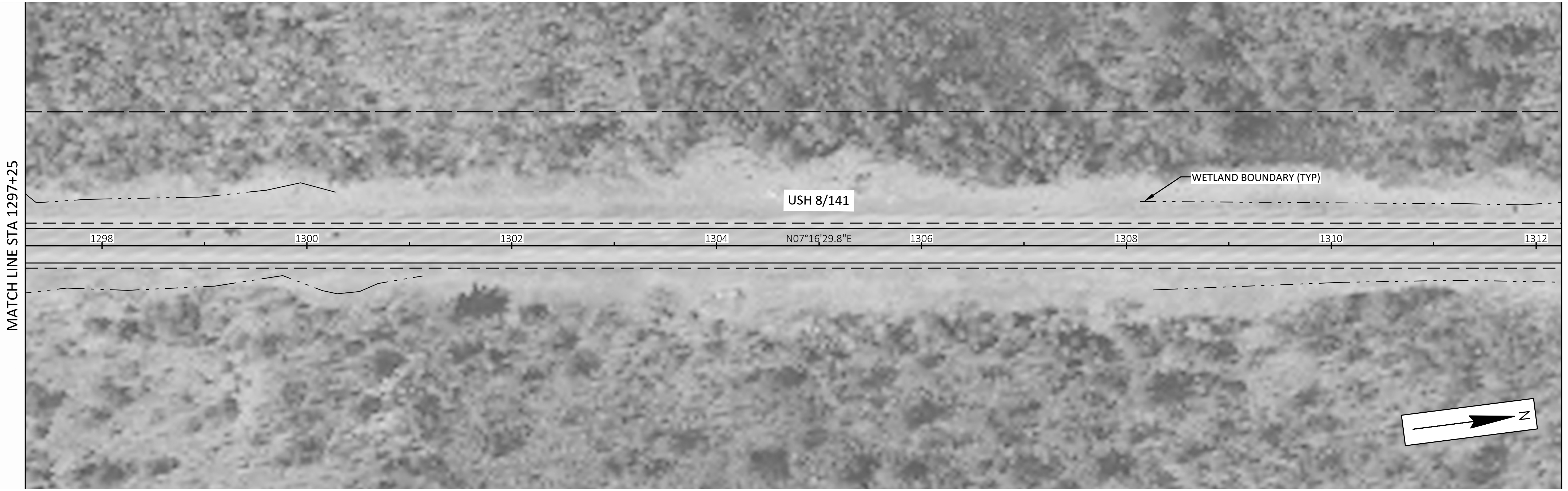
LAYOUT NAME - 956006-050210-PN
PLOT DATE : 11/18/2022 1:25 PM
PLOT BY : BRANDI SWANSON
PLOT NAME :
PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 44

5



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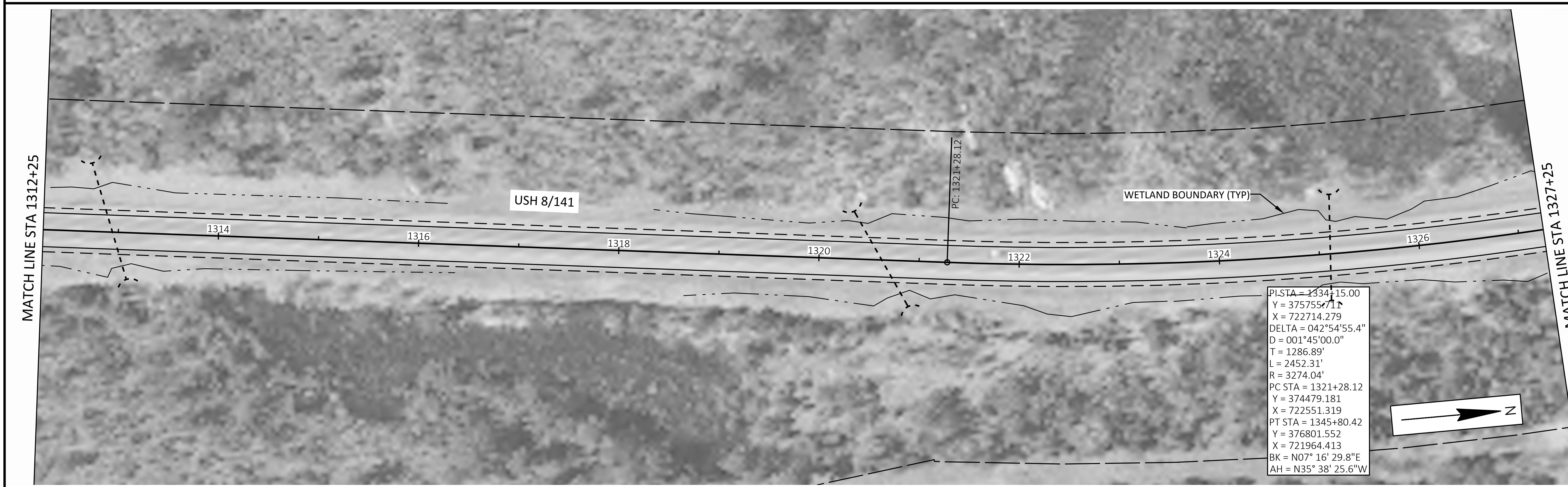

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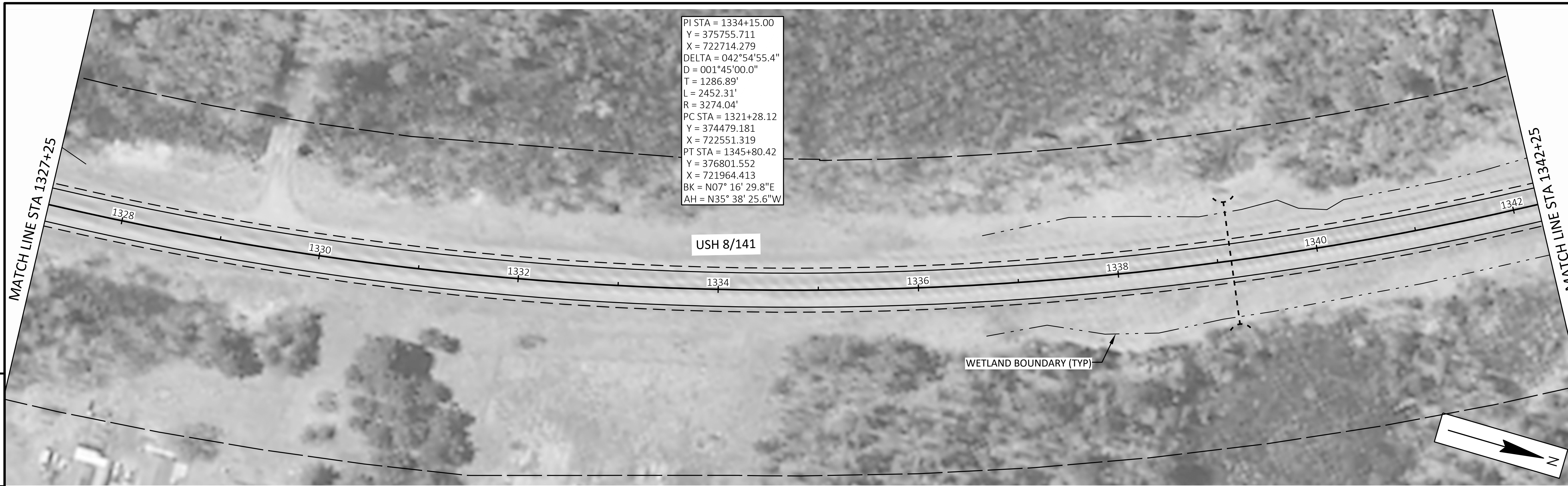

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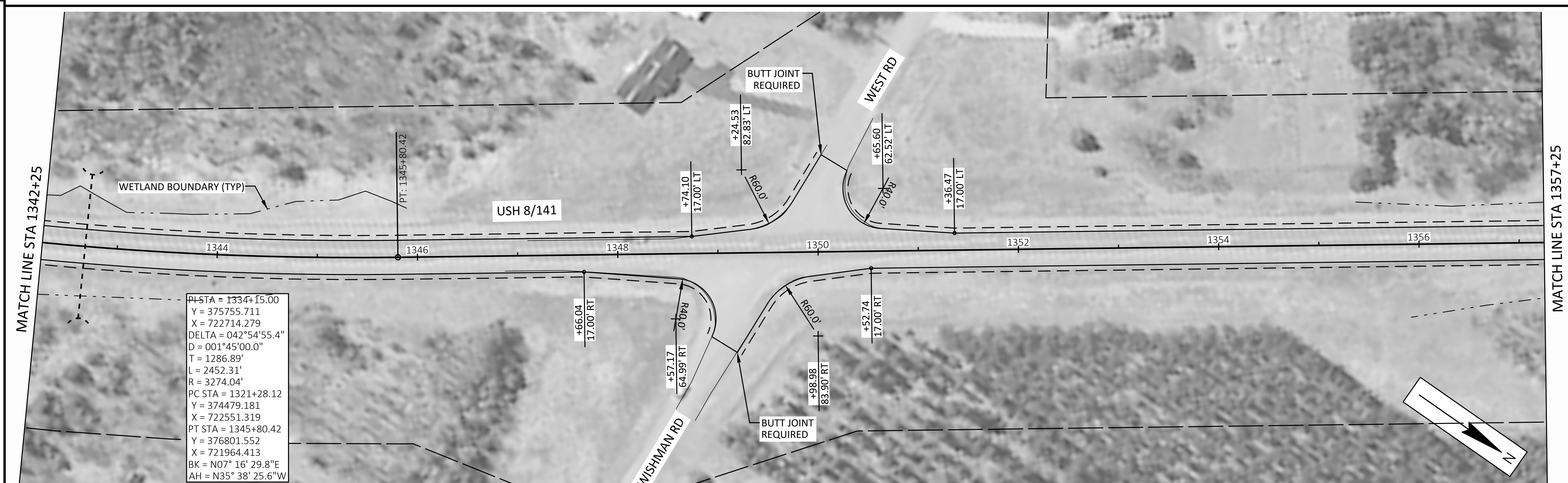

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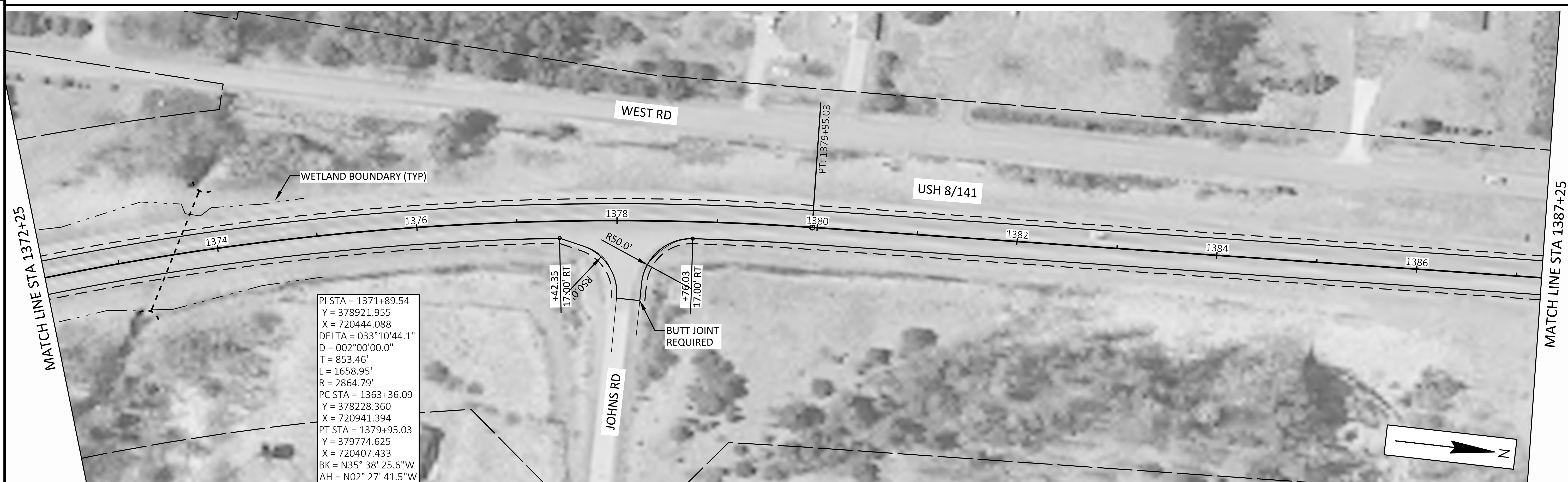

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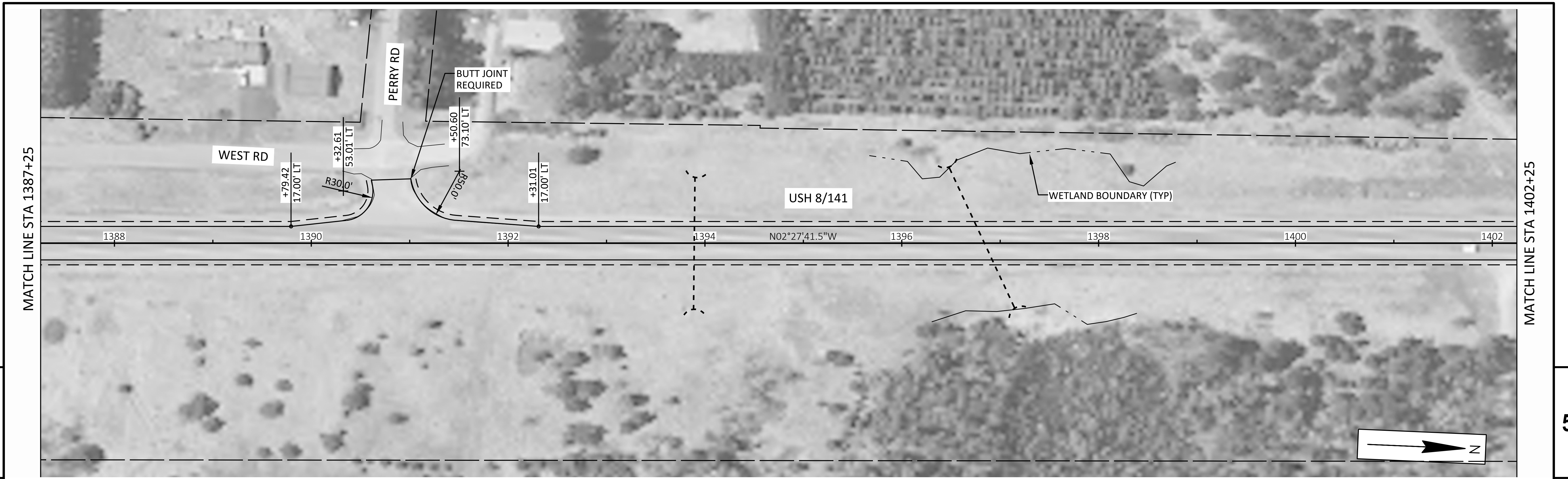
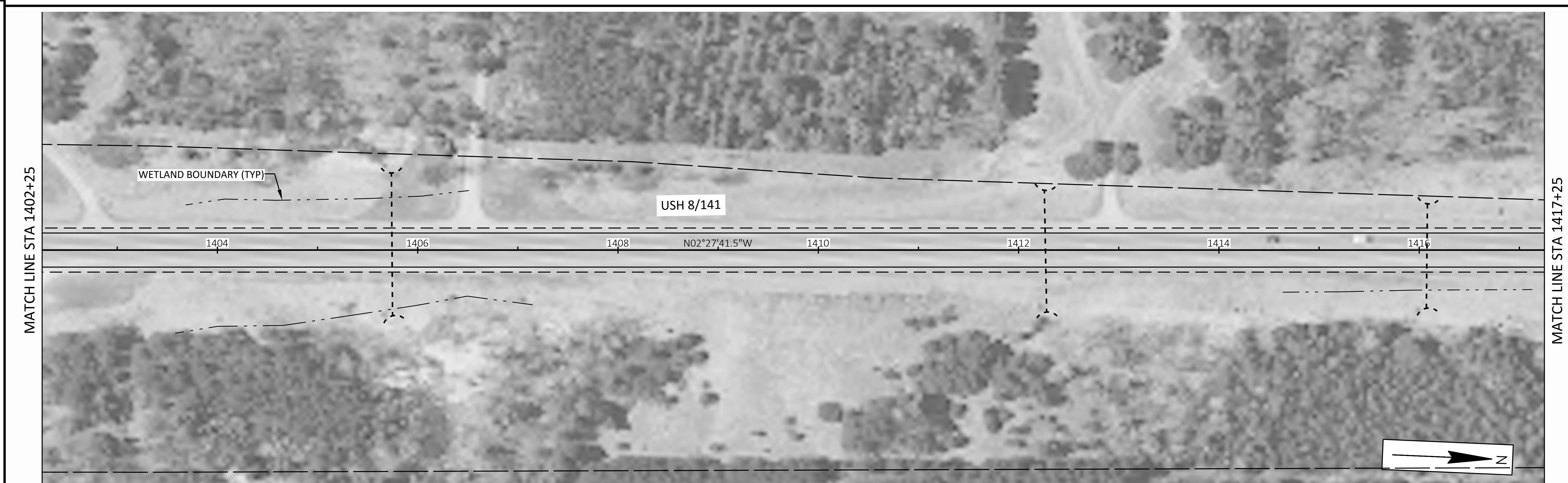
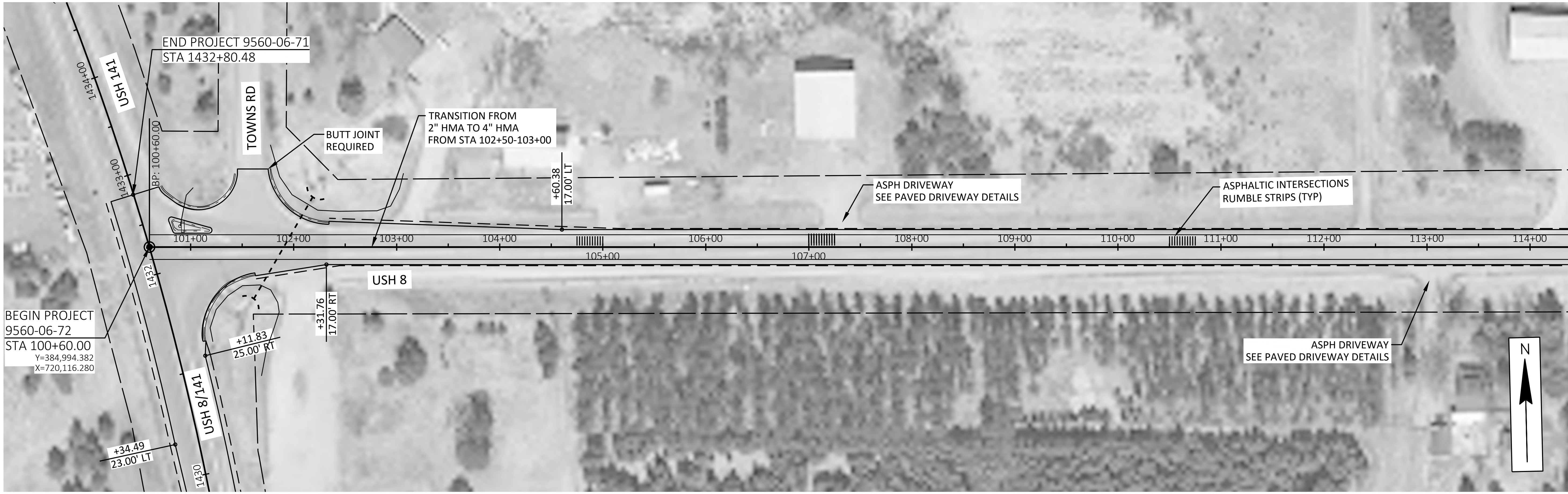
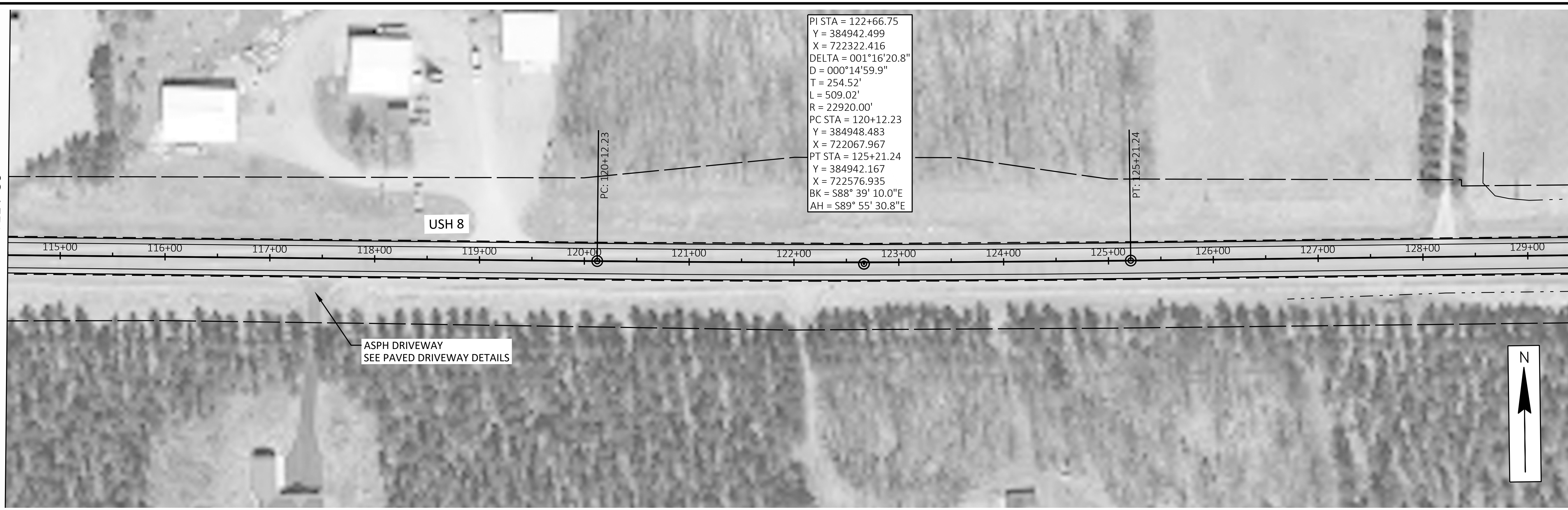




PROJECT NO: 9560-06-71/72	HWY: USH 8	COUNTY: MARINETTE	PLAN - USH 8 & 141	SHEET 42	E

PROJECT NO: 9560-06-71/72	HWY: USH 8	COUNTY: MARINETTE	PLAN - USH 8 & 141	SHEET 43	E





PROJECT NO: 9560-06-71/72	HWY: USH 8	COUNTY: MARINETTE	PLAN - USH 8	SHEET 44	E

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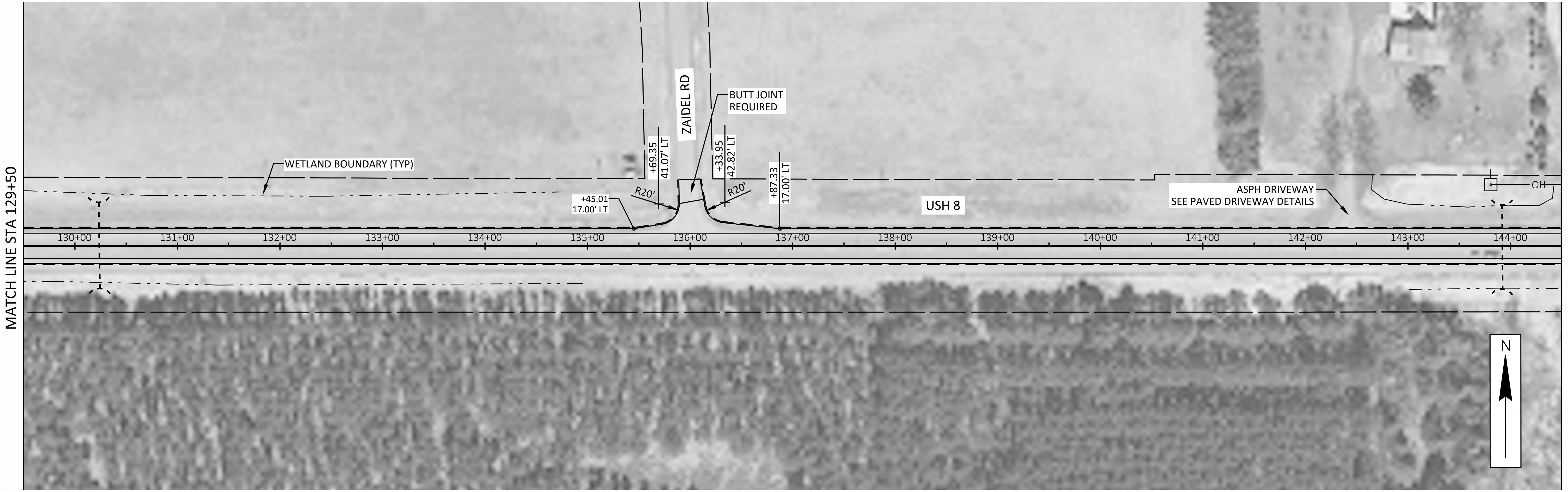
LAYOUT NAME - 956006-050251-pn
PLOT DATE : 11/30/2022 10:53 AM
PLOT BY : BRANDI SWANSON
PLOT NAME :
PLOT SCALE : 1 IN:100 FT



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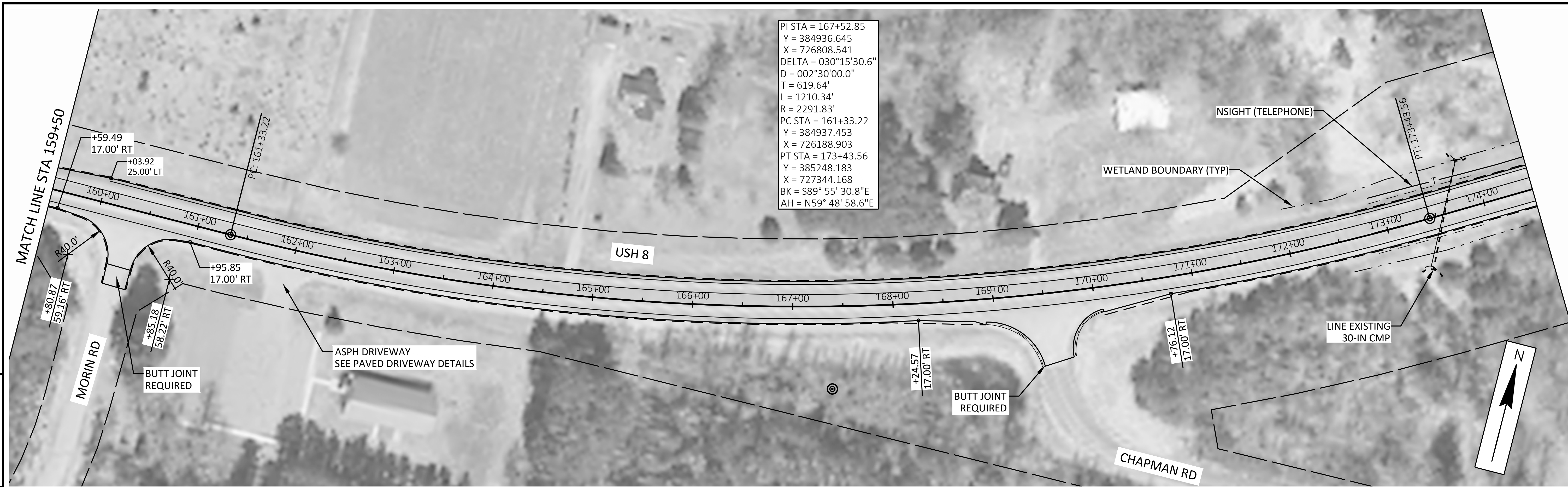
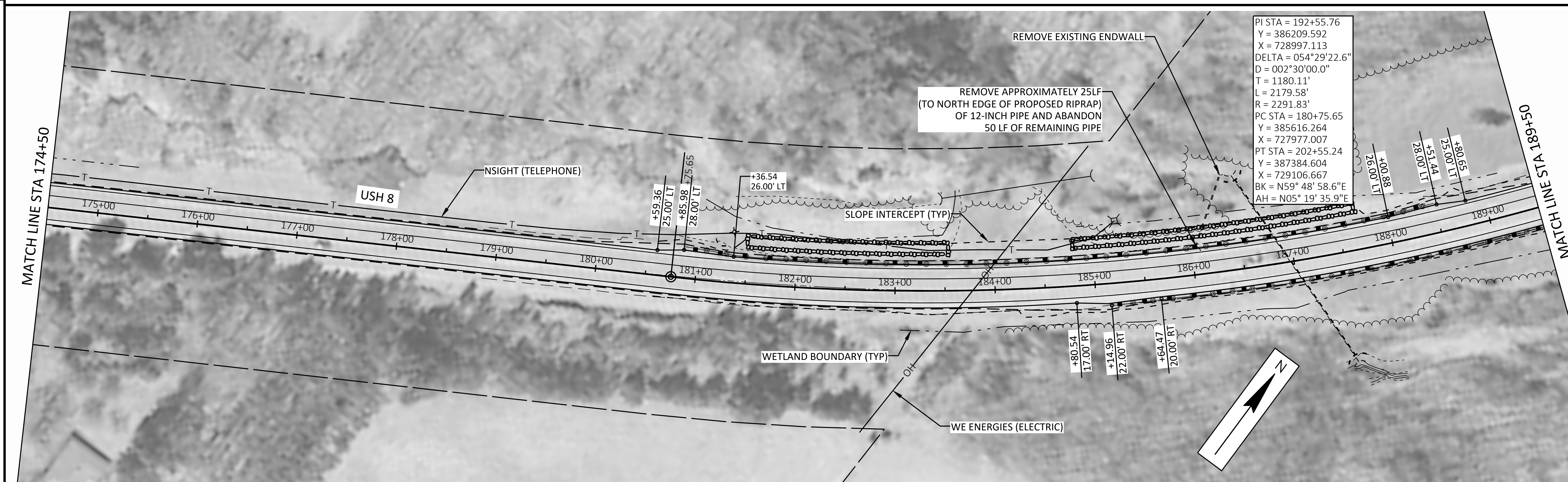
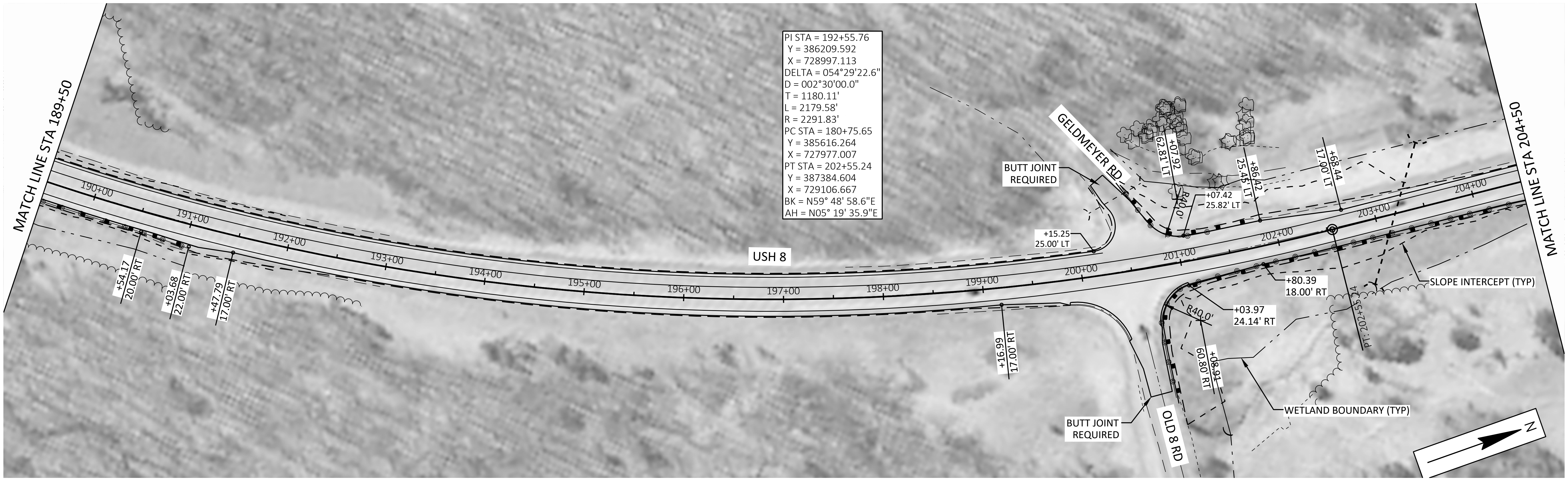




PROJECT NO: 9560-06-71/72	HWY: USH 8	COUNTY: MARINETTE	PLAN - USH 8	SHEET 46	E



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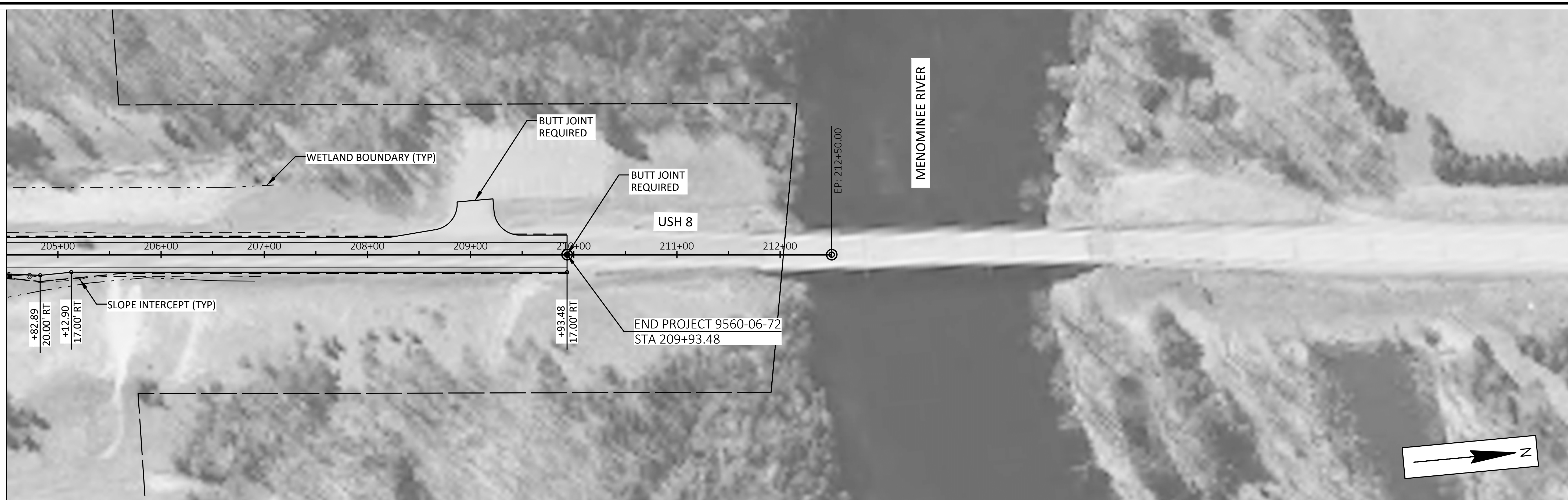
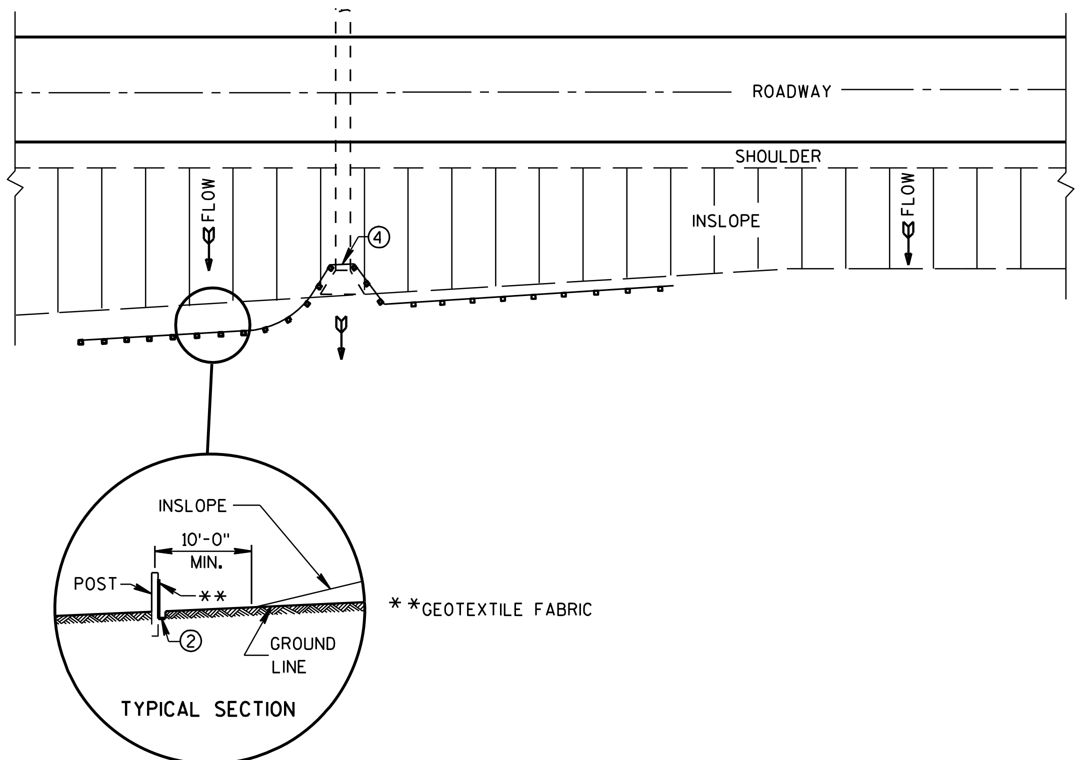


PROJECT NO: 9560-06-71/72	HWY: USH 8	COUNTY: MARINETTE	PLAN - USH 8	SHEET 47	E

Standard Detail Drawing List

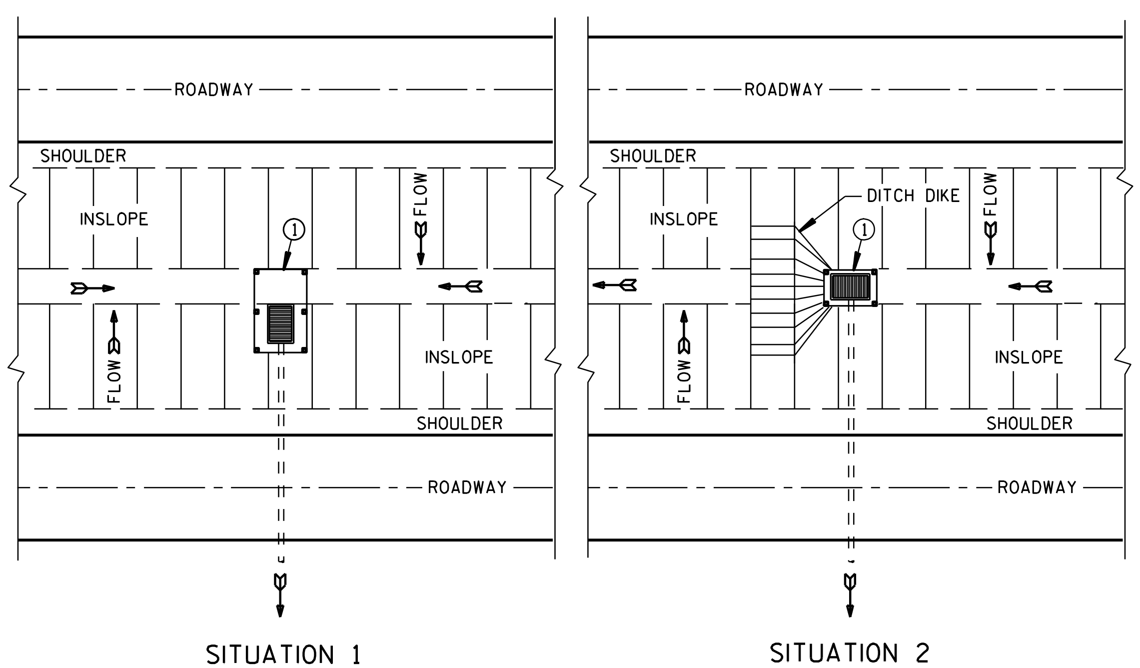
08E09-06	SILT FENCE
08E15-01	CULVERT PIPE CHECK
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
13A08-01	ASPHALTIC RUMBLE STRIPS AT INTERSECTION
13A10-02A	2-LANE RURAL SHOULDER RUMBLE STRIP, MILLING
13A10-02C	2-LANE RURAL SHOULDER RUMBLE STRIP, MILLING
13A10-02D	2-LANE RURAL SHOULDER RUMBLE STRIP, MILLING
13A11-03A	2-LANE RURAL CENTER LINE RUMBLE STRIP, MILLING
13A11-03B	2-LANE RURAL CENTER LINE RUMBLE STRIP, MILLING
13C19-03	HMA LONGITUDINAL JOINTS
14B28-04A	GUARDRAIL MOW STRIP
14B28-04B	GUARDRAIL MOW STRIP
14B42-07A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07D	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B44-04A	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-04B	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-04C	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B53-02A	SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)
14B53-02B	SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)
14B53-02C	SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)
14B53-02D	SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)
14B53-02E	SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)
14B53-02F	SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)
14B53-02G	SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)
14B53-02H	SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)
14B53-02I	SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)
15A03-02A	FLEXIBLE MARKER POST FOR CULVERT END
15A03-02B	FLEXIBLE MARKER POST FOR CULVERT END
15C04-05	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 M.P.H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC
15C05-05	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 M.P.H. OR LESS
15C08-22A	LONGITUDINAL MARKING (MAINLINE)
15C08-22B	TEMPORARY LONGITUDINAL PAVEMENT MARKING
15C11-10B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS
15C12-09A	TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION
15C18-07C	MEDIAN PAVEMENT MARKINGS DOUBLE ARROW WARNING SIGN PLACEMENT
15C33-04	STOP LINE AND CROSSWALK PAVEMENT MARKING
15C35-05A	PAVEMENT MARKING (INTERSECTIONS)
15C35-05B	PAVEMENT MARKING AND SIGNING (CLIMBING LANE & PASSING LANE)
15C35-05C	PAVEMENT MARKING AND SIGNING (CLIMBING LANE & PASSING LANE)
15D39-02	TRAFFIC CONTROL, DROP-OFF SIGNING
15D44-02	TRAFFIC CONTROL, SIGNING ON ROADWAYS WITH MILLED SURFACES
15D51-01	TRAFFIC CONTROL, MOBILE OPERATIONS ON AN UNDIVIDED ROADWAY

6



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



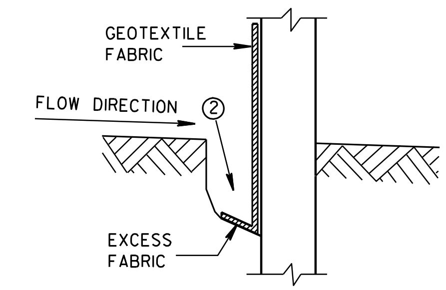
PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

GENERAL NOTES

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

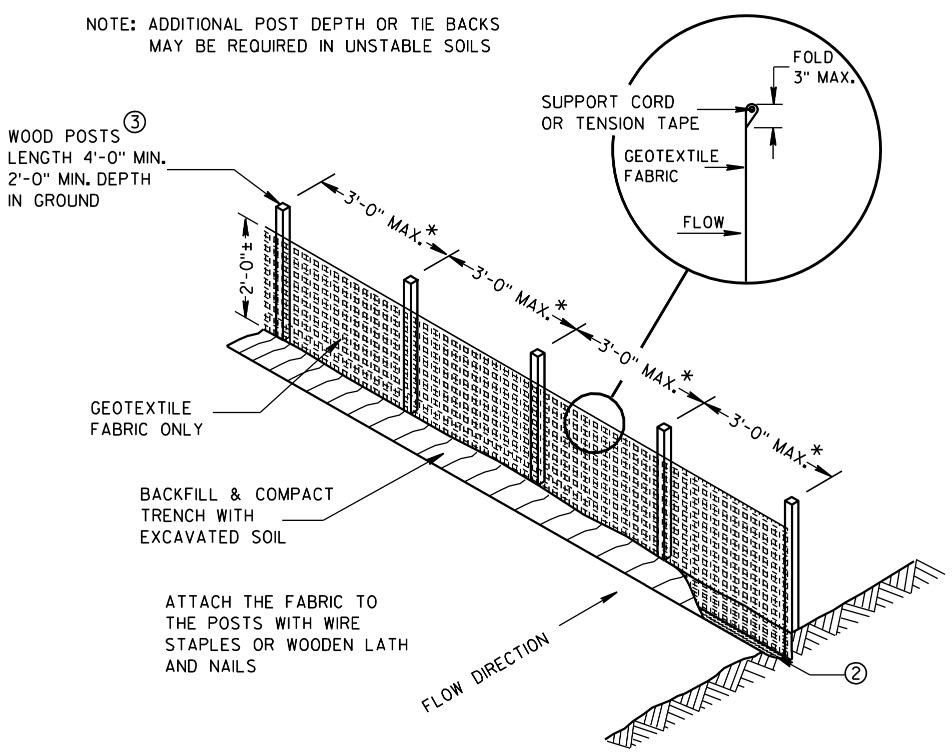
1. HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
2. FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
3. WOOD POSTS SHALL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



TRENCH DETAIL

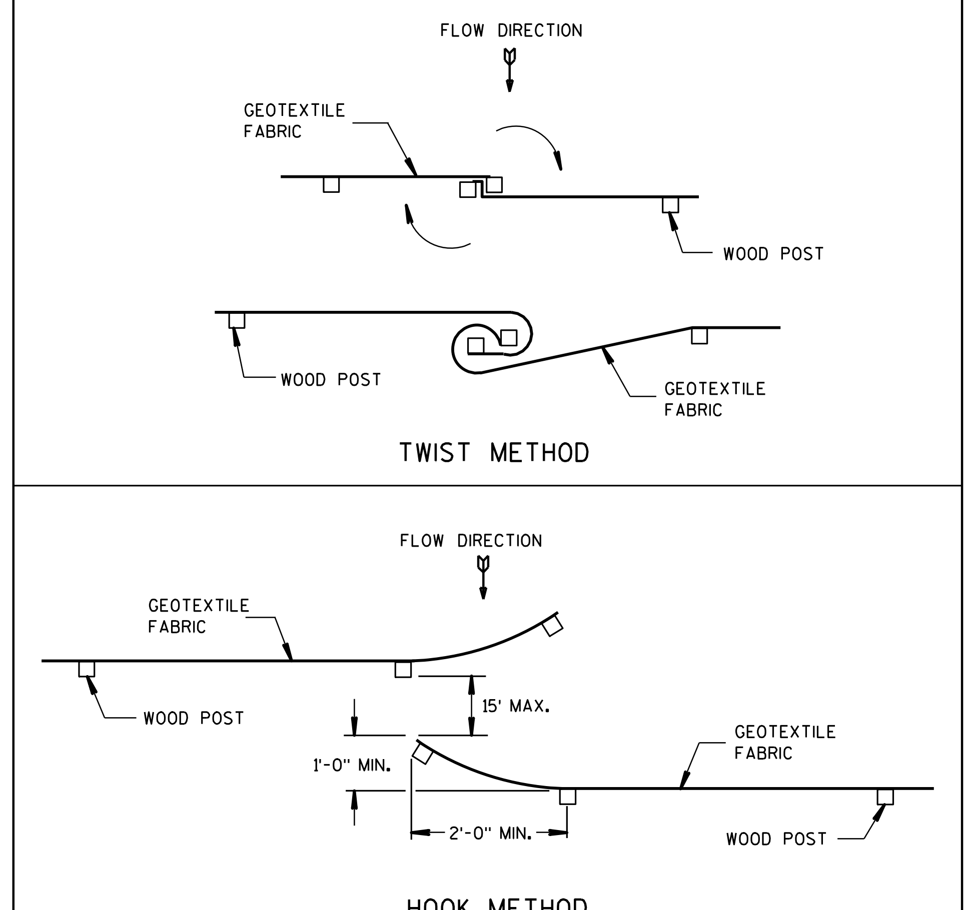
6

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

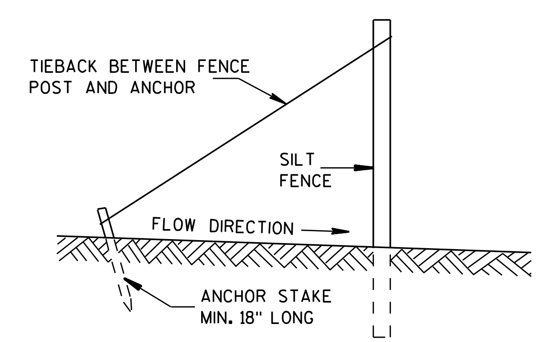


*NOTE: 8'-0" POST SPACING ALLOWED IF A WOVEN GEOTEXTILE FABRIC IS USED.

SILT FENCE



JOINING TWO LENGTHS OF SILT FENCE ⑤

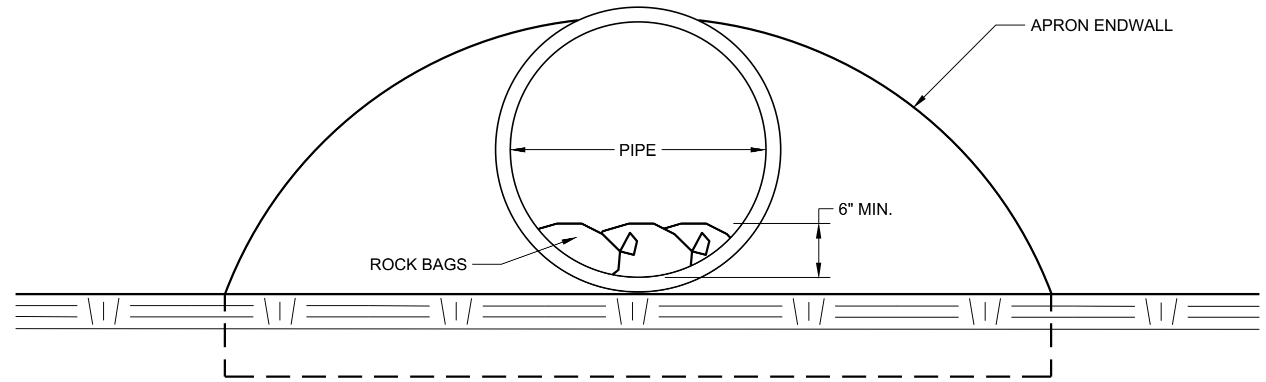


SILT FENCE TIE BACK

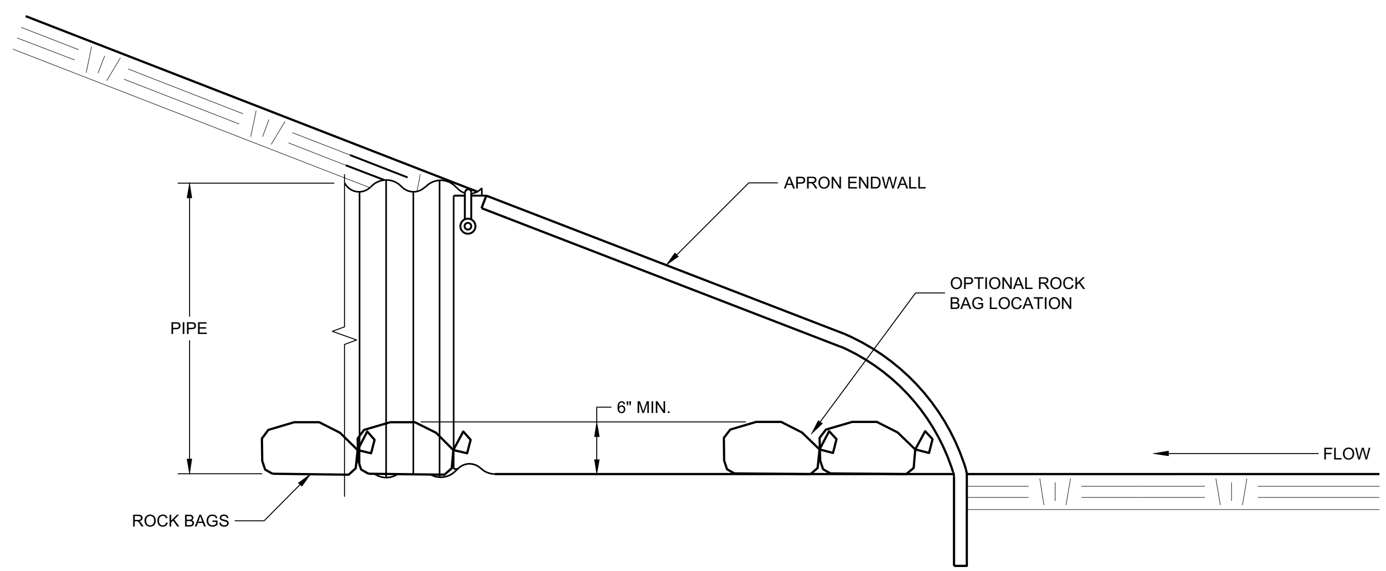
(WHEN REQUIRED BY THE ENGINEER)

6

SILT FENCE
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION
APPROVED 4-29-05 DATE   /S/ Beth Cann... CHIEF ROADWAY DEVELOP... ...INEER 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 ENGI 50

FHWA

6

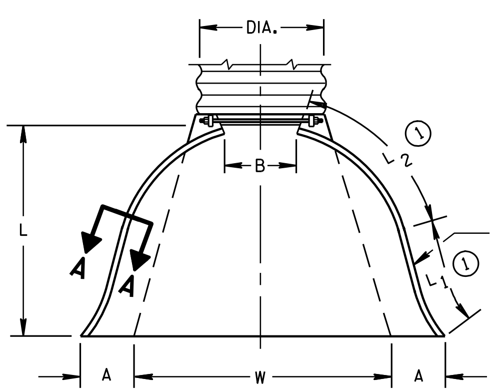
SDD 08E15 - 01

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 ①	L2 ①	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	.109×	.105×	18	33	12	87	—	—	114	2 to 1	3 Pc.
66	.109×	.105×	18	36	12	87	—	—	120	2 to 1	3 Pc.
72	.109×	.105×	18	39	12	87	—	—	126	2 to 1	3 Pc.
78	.109×	.105×	18	42	12	87	—	—	132	1 1/2 to 1	3 Pc.
84	.109×	.105×	18	45	12	87	—	—	138	1 1/2 to 1	3 Pc.
90	.109×	.105×	18	37	12	87	—	—	144	1 1/2 to 1	3 Pc.
96	.109×	.105×	18	35	12	87	—	—	150	1 1/2 to 1	3 Pc.

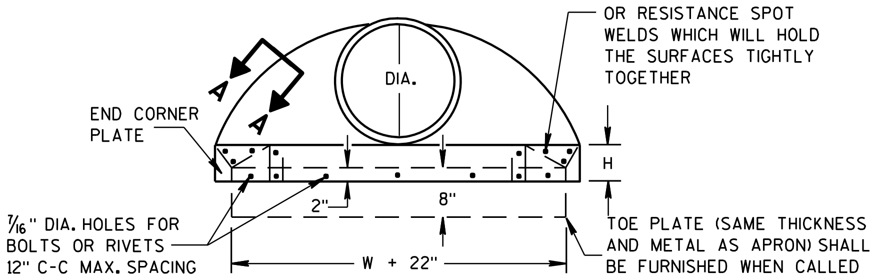
× EXCEPT CENTER PANEL
SEE GENERAL NOTES

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

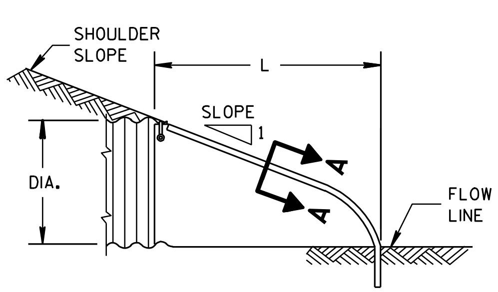
*MINIMUM
**MAXIMUM



PLAN VIEW

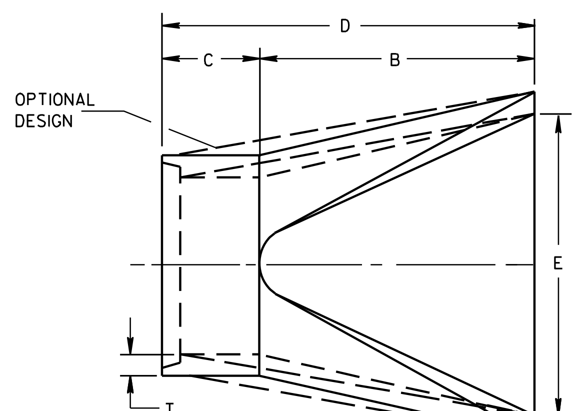


END VIEW

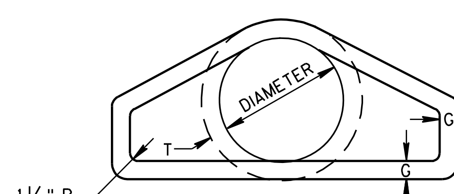


SIDE ELEVATION

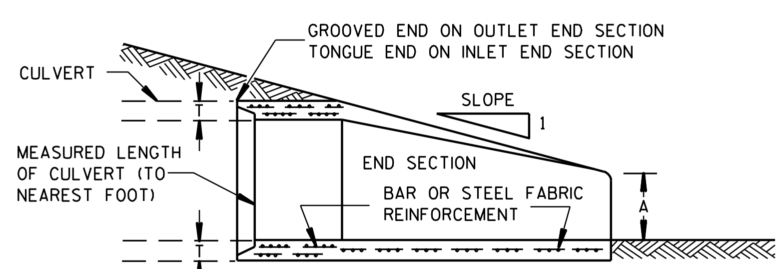
METAL ENDWALLS



PLAN

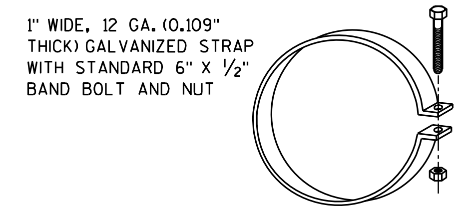


END VIEW



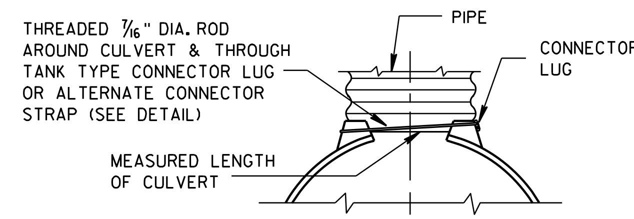
LONGITUDINAL SECTION

CONCRETE ENDWALLS

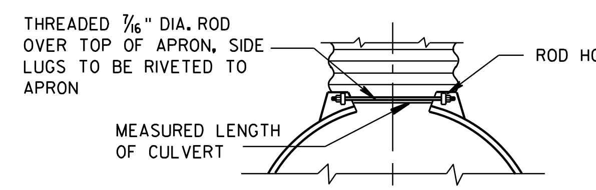


ALTERNATE FOR TYPE 1 CONNECTION

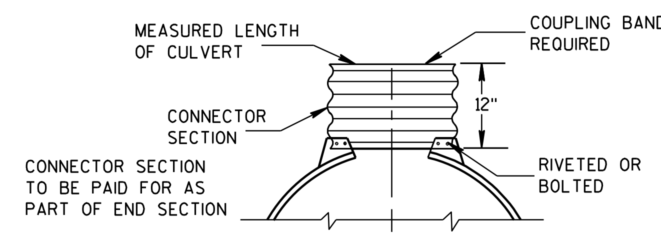
END SECTION CONNECTOR STRAP



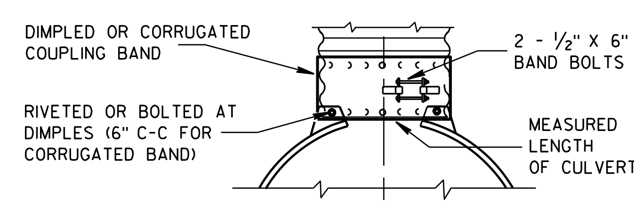
TYPE 1
FOR 12" THRU 24" CORR. PIPE



TYPE 2
FOR 30" THRU 96" CORR. PIPE



TYPE 3
FOR 42" THRU 96" CORR. PIPE



TYPE 5
ALTERNATE FOR:
ALL SIZES CORRUGATED CIRCULAR PIPE

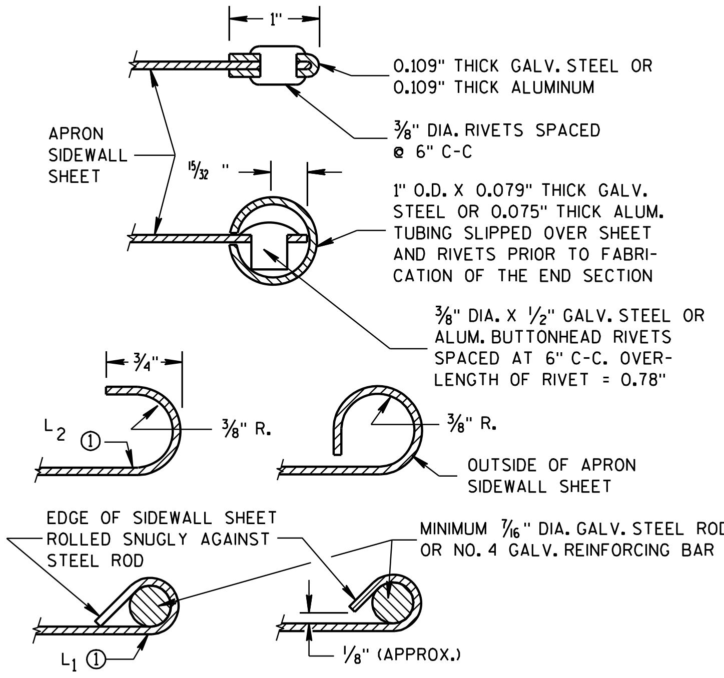
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL, AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

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

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

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

CONNECTION DETAILS



SECTION A-A

GENERAL NOTES

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

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

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

LAP SEAMS SHALL BE TIGHTLY JOINED BY GALVANIZED RIVETS OR BOLTS FOR STEEL UNITS AND ALUMINUM RIVETS AND BOLTS FOR ALUMINUM UNITS. FOR THE 60" THROUGH 96" 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.

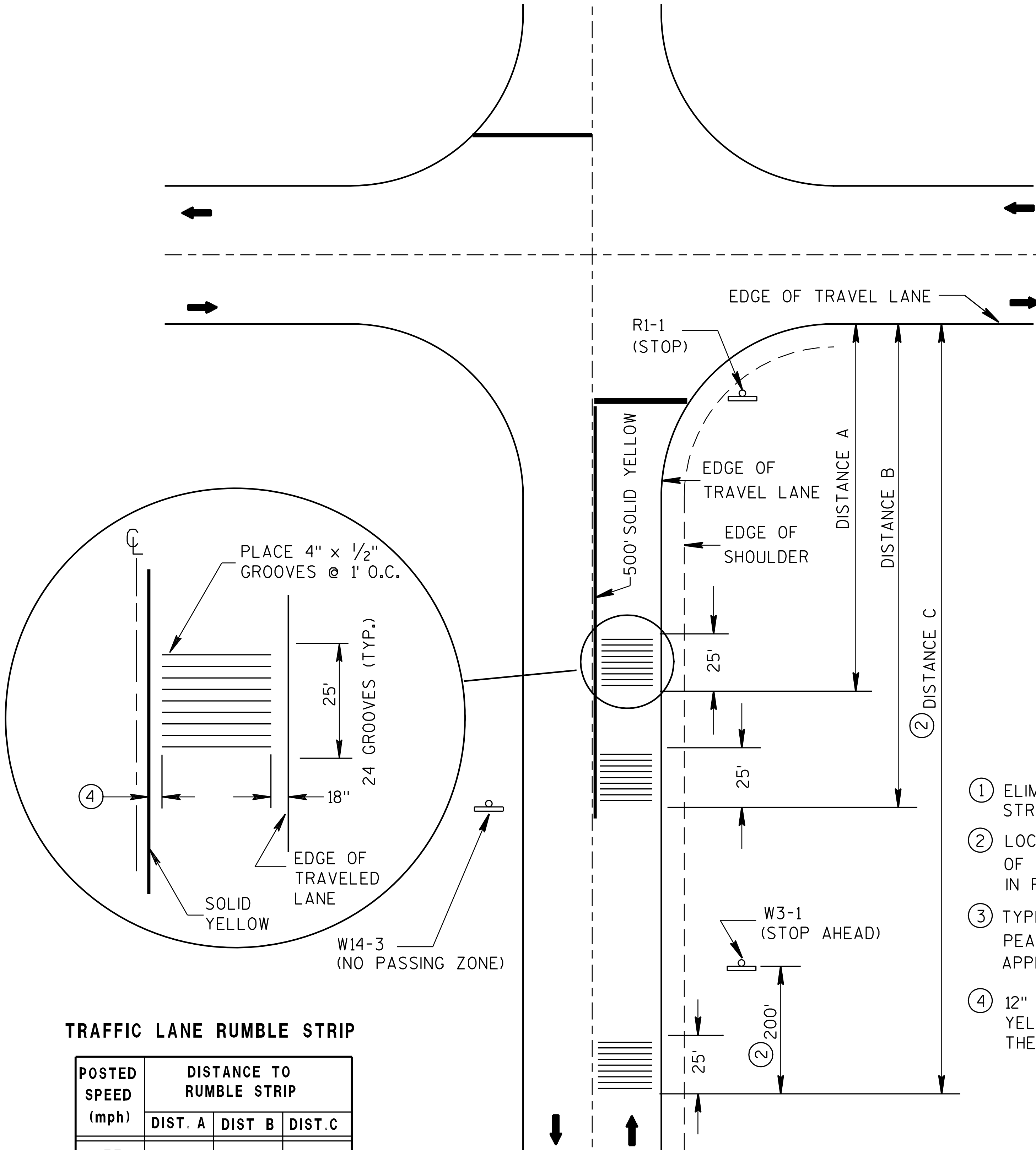
WHERE TWO OR MORE PIPES WITH APRON ENDWALLS ARE LAID ADJACENT TO EACH OTHER, THEY SHALL BE SEPARATED BY A DISTANCE SUFFICIENT TO PROVIDE A MINIMUM CLEARANCE OF 6 INCHES BETWEEN APRON ENDWALLS.

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. Rhi[illegible]
DATE — CHIEF ROADWAY DEVELOP 51 NEER
FHWA



ARROW SYMBOL (➡) SHOWS DIRECTION OF TRAVEL

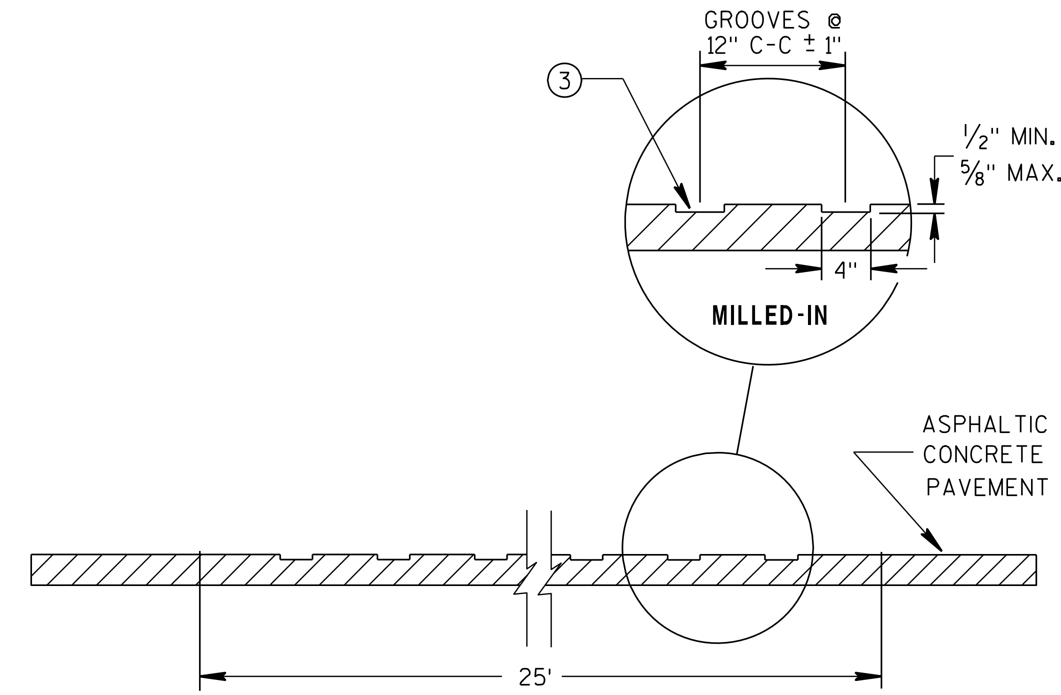
PLAN VIEW

RUMBLE STRIP LOCATION

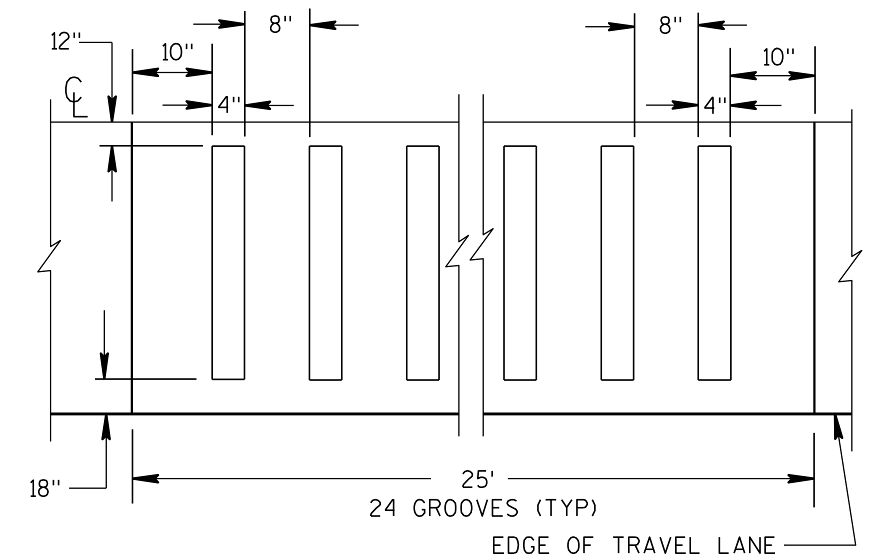
TRAFFIC LANE RUMBLE STRIP

POSTED SPEED (mph)	DISTANCE TO RUMBLE STRIP		
	DIST. A	DIST B	DIST. C
55	425'	650'	1000'
50	325'	450'	800'
45	275'	400'	650'
40	225'	1	550'
35	175'	1	475'
≤30	125'	1	425'

1. ELIMINATE THE MIDDLE SET OF RUMBLE STRIPS.
2. LOCATE RUMBLE STRIP 200' IN ADVANCE OF W3-1 SIGN AS SHOWN. IF W3-1 IS NOT IN PLACE, USE DISTANCE C.
3. TYPICAL VERTICAL VARIATION BETWEEN PEAKS AND VALLEYS WITHIN THE CUT APPROXIMATELY 1/16"
4. 12" CLEAR BETWEEN THE SOLID YELLOW LINE AND THE EDGE OF THE RUMBLE.



ELEVATION VIEW



PLAN VIEW

ASPHALTIC PAVEMENT MILLED-IN

GENERAL NOTES

CONTRACTOR SHALL CONFIRM RUMBLE STRIP LOCATION WITH THE ENGINEER PRIOR TO INSTALLATION. THE ENGINEER MAY MODIFY THE RUMBLE STRIP LOCATION AS FIELD CONDITIONS DICTATE.

WHEN ASPHALTIC PAVEMENT IS NEW IN THE RUMBLE AREA THE CONTRACTOR SHALL ALLOW THE PAVEMENT TO CURE A MINIMUM OF 7 DAYS PRIOR TO RUMBLE INSTALLATION.

PAVEMENT MARKING AND SIGNING DETAILS AND SPECIFICATIONS ARE PROVIDED ELSEWHERE IN THE CONTRACT.

ASPHALTIC RUMBLE STRIPS AT INTERSECTION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8/17/2011 — DATE
/S/ Jerry H. Zo — ROADWAY STANDARDS 152 ENT ENGINEER
FHWA

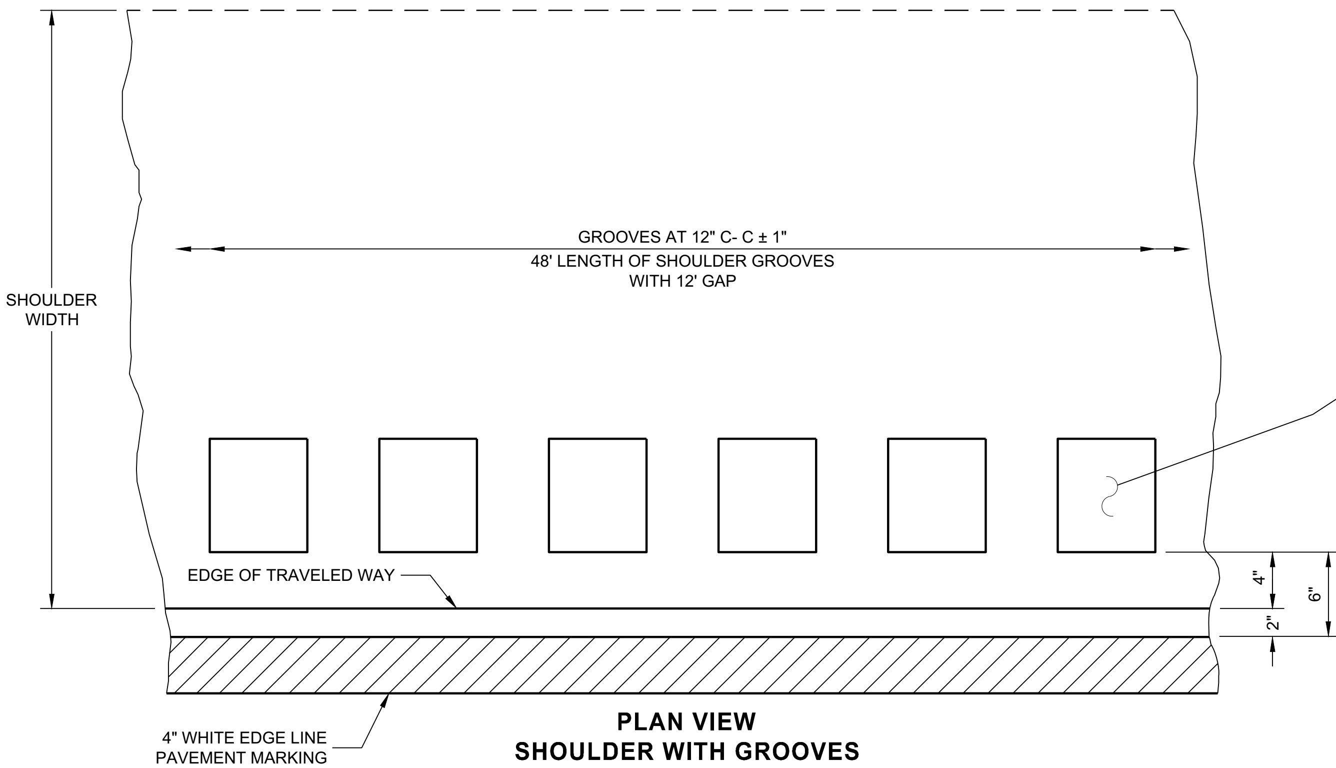
S.D.D. 13 A 8-1
6

GENERAL NOTES

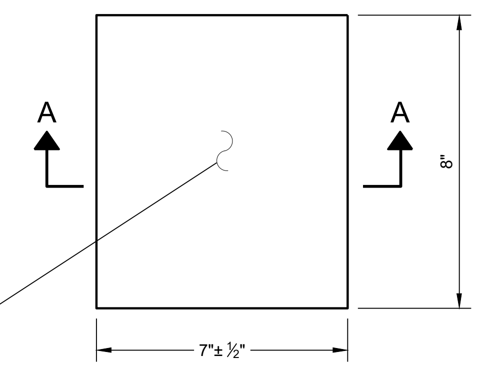
DETAILS OF CONSTRUCTION NO SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

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

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

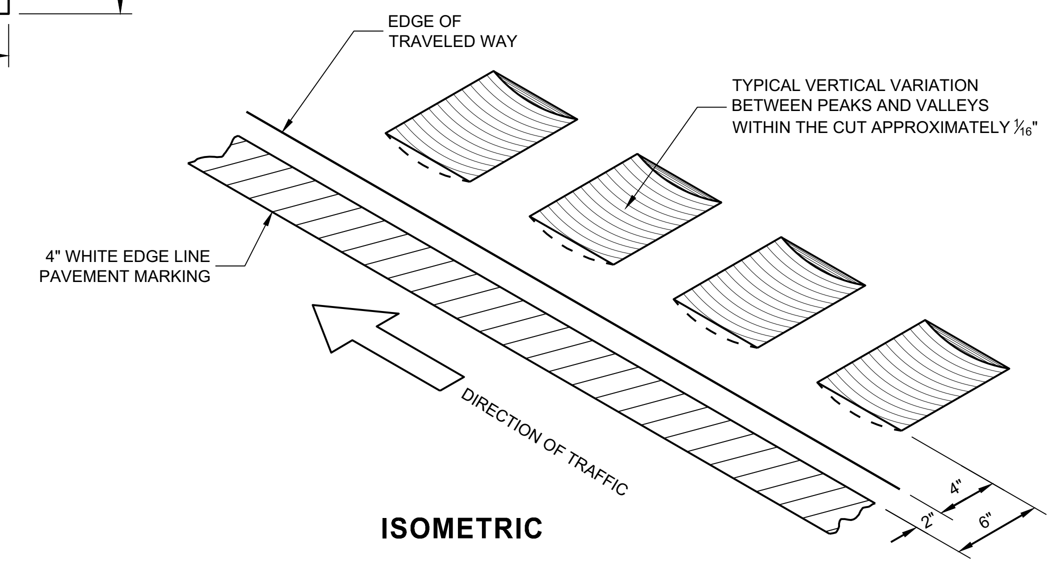


PLAN VIEW
SHOULDER WITH GROOVES

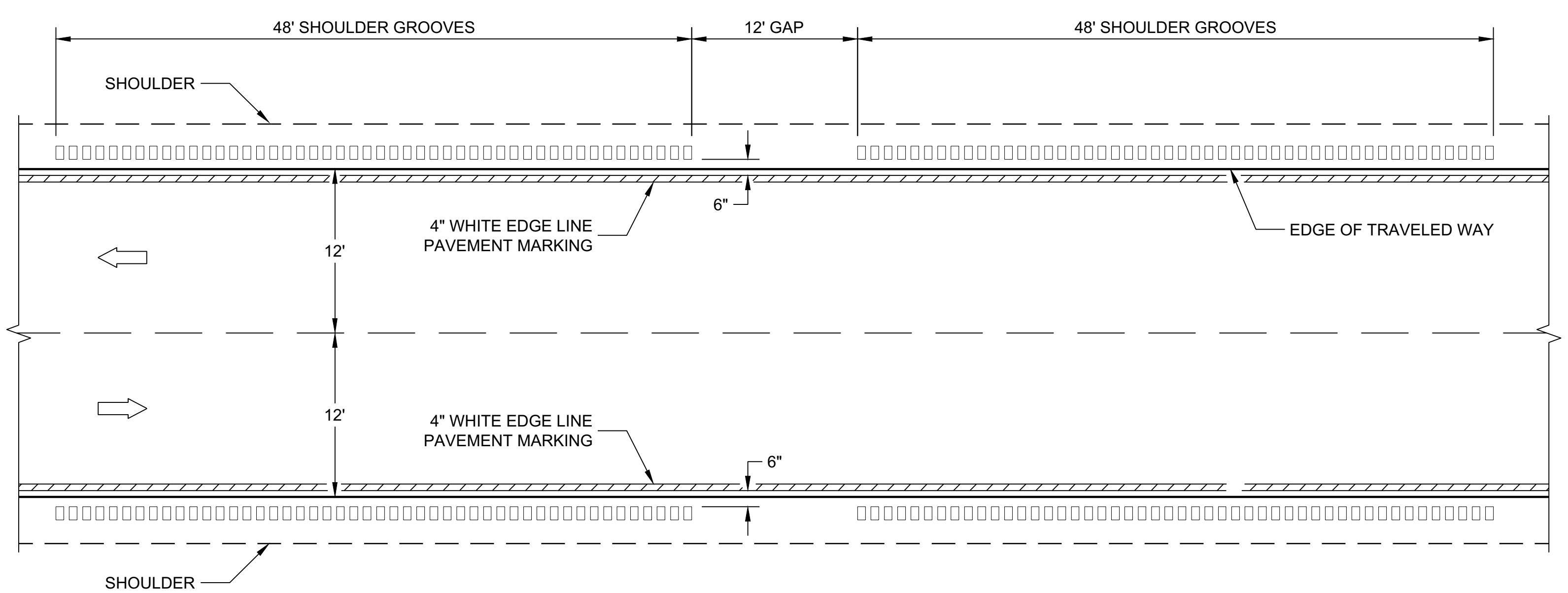


PLAN VIEW
(SINGLE GROOVE)

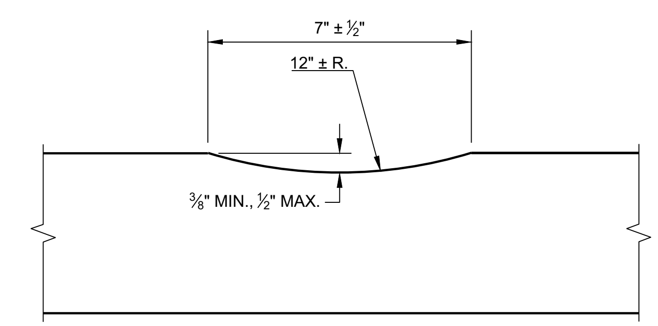
PLACEMENT DETAIL FOR TYPE 1 MILLED RUMBLE STRIP



ISOMETRIC



TYPE 1
2 - LANE SHOULDER RUMBLE STRIP



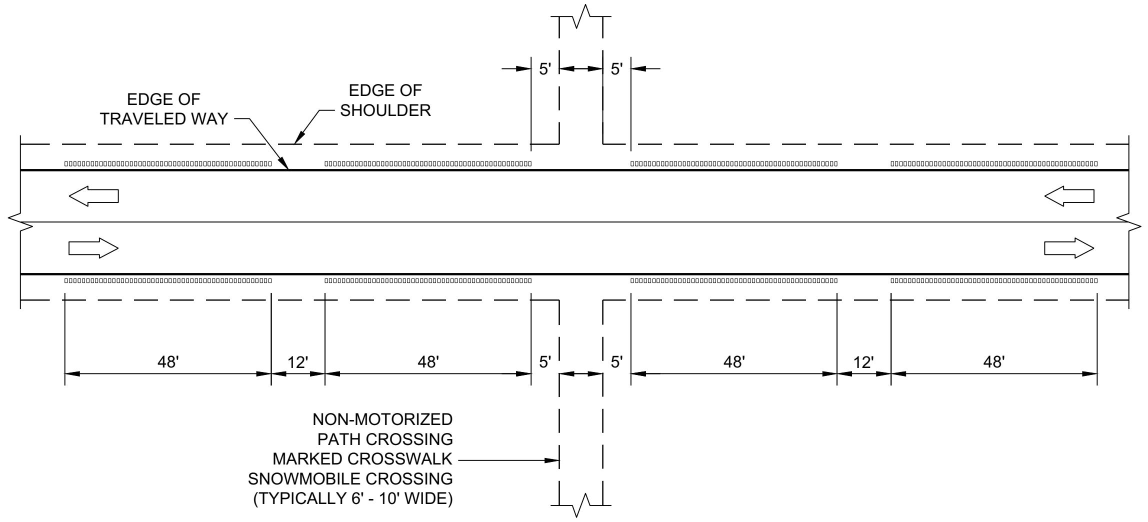
SECTION A - A

2-LANE RURAL SHOULDER RUMBLE STRIP, MILLING

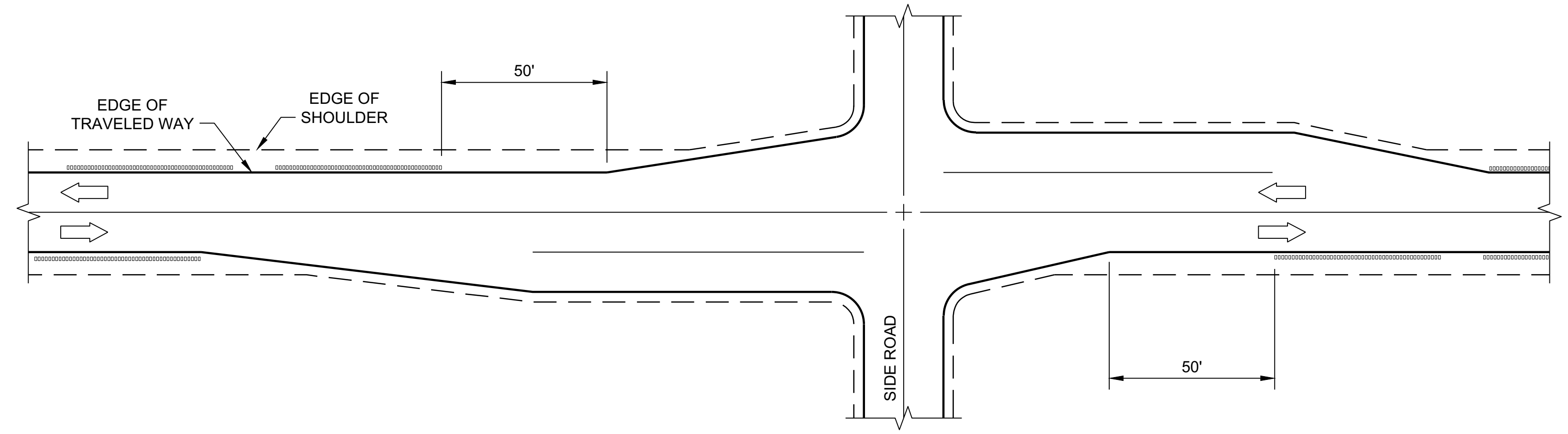
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTA

6

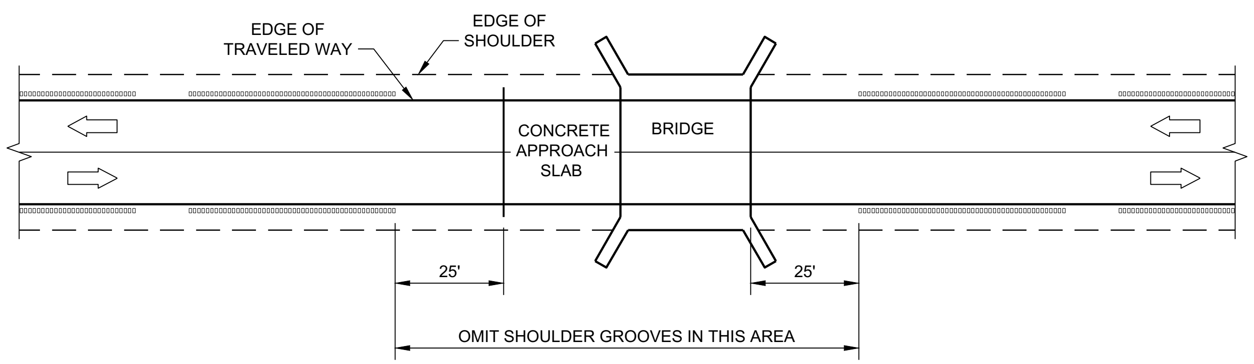
SDD 13A10 - 02a



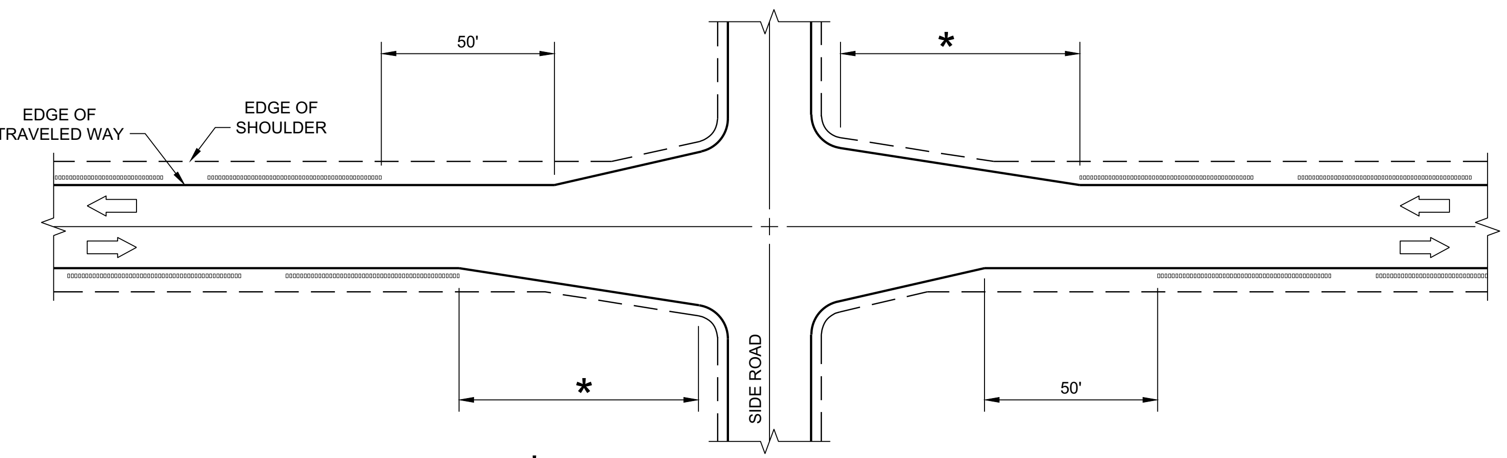
SHOULDER GROOVES AT MISCELLANEOUS CROSSINGS



SHOULDER GROOVES AT RIGHT TURN LANE

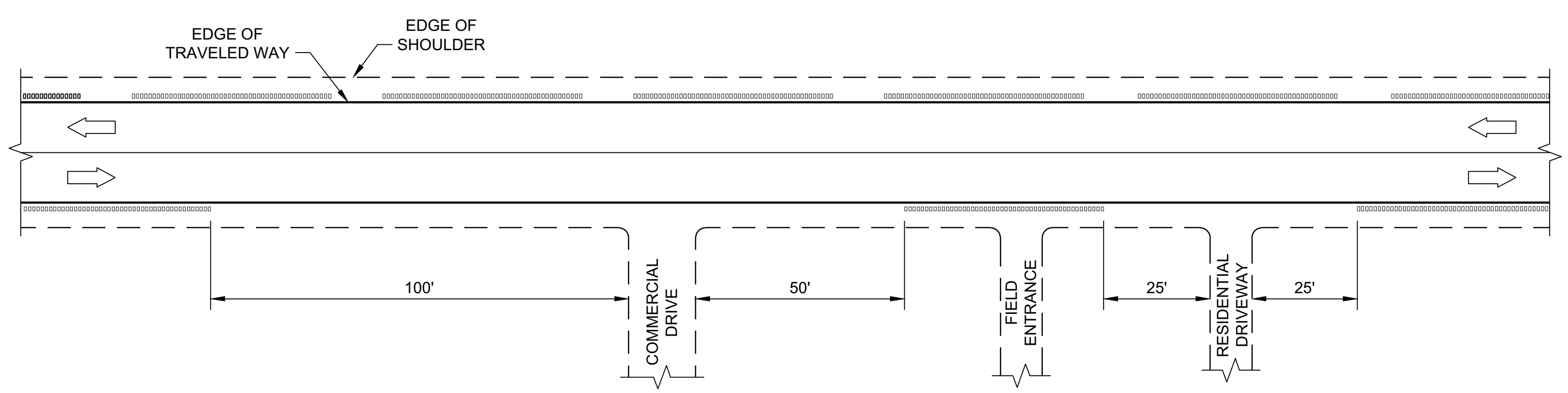


SHOULDER GROOVES AT BRIDGES



* GREATER OF 100' OR APPROACH TAPER LENGTH

SHOULDER GROOVES AT INTERSECTIONS WITH APPROACH TAPER



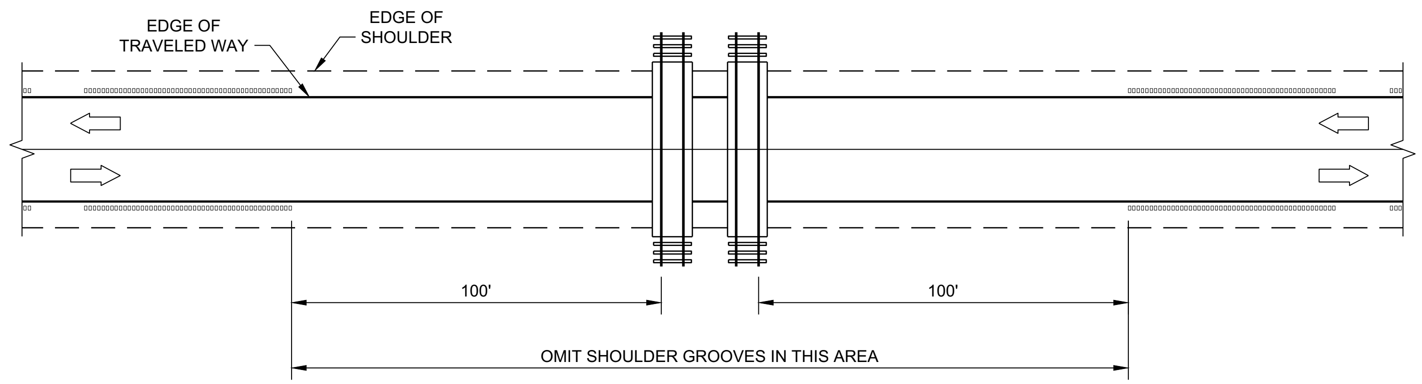
SHOULDER GROOVES AT DRIVEWAYS (1)

GENERAL NOTES

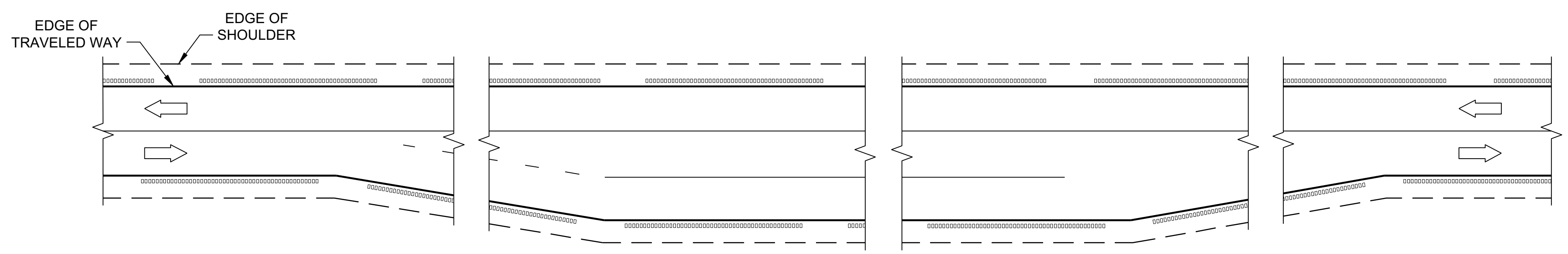
(1) SHOULDER GROOVES MAY BE OMITTED IN AREAS WITH HIGH CONCENTRATIONS OF DRIVEWAYS. WHEN DIRECTED BY THE ENGINEER.

2-LANE RURAL SHOULDER RUMBLE STRIP, MILLING

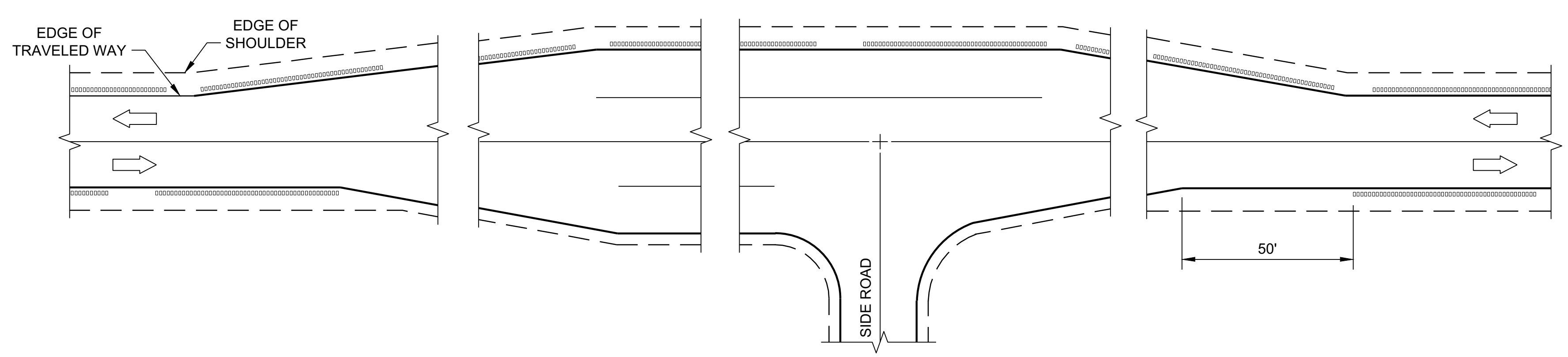
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATI



SHOULDER GROOVES AT RAILROADS



SHOULDER GROOVES AT PASSING AND CLIMBING LANES



SHOULDER GROOVES AT BYPASS LANES

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2-LANE RURAL SHOULDER RUMBLE STRIP, MILLING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

7/2018
DATE

/S/ Rodney Taylor
ROADWAY STANDARDS DEVE
ENGINEER

FHWA

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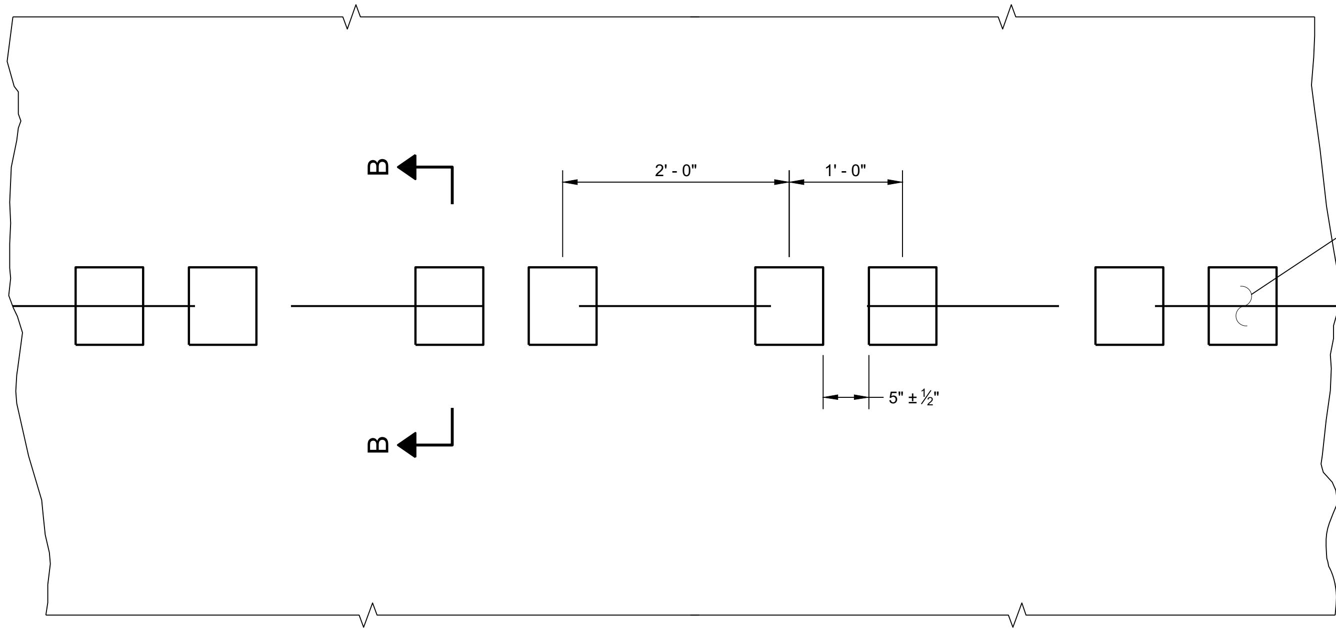
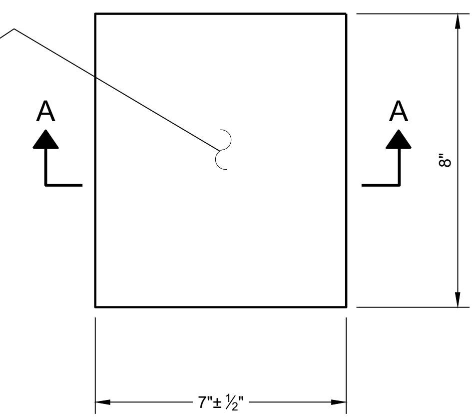


PLAN VIEW
SHOULDER WITH GROOVES



PLAN VIEW
(SINGLE GROOVE)

PLACEMENT DETAIL FOR TYPE 1 MILLED RUMBLE STRIP

GENERAL NOTES

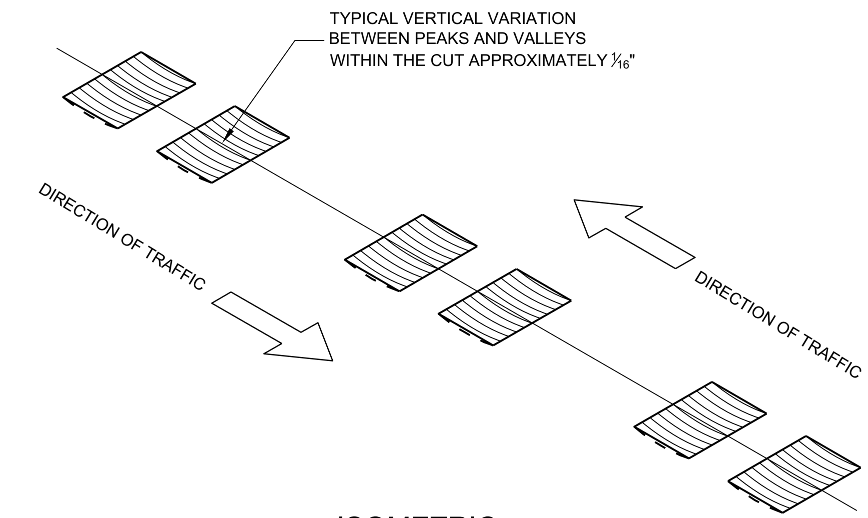
DETAILS OF CONSTRUCTION NO SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

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

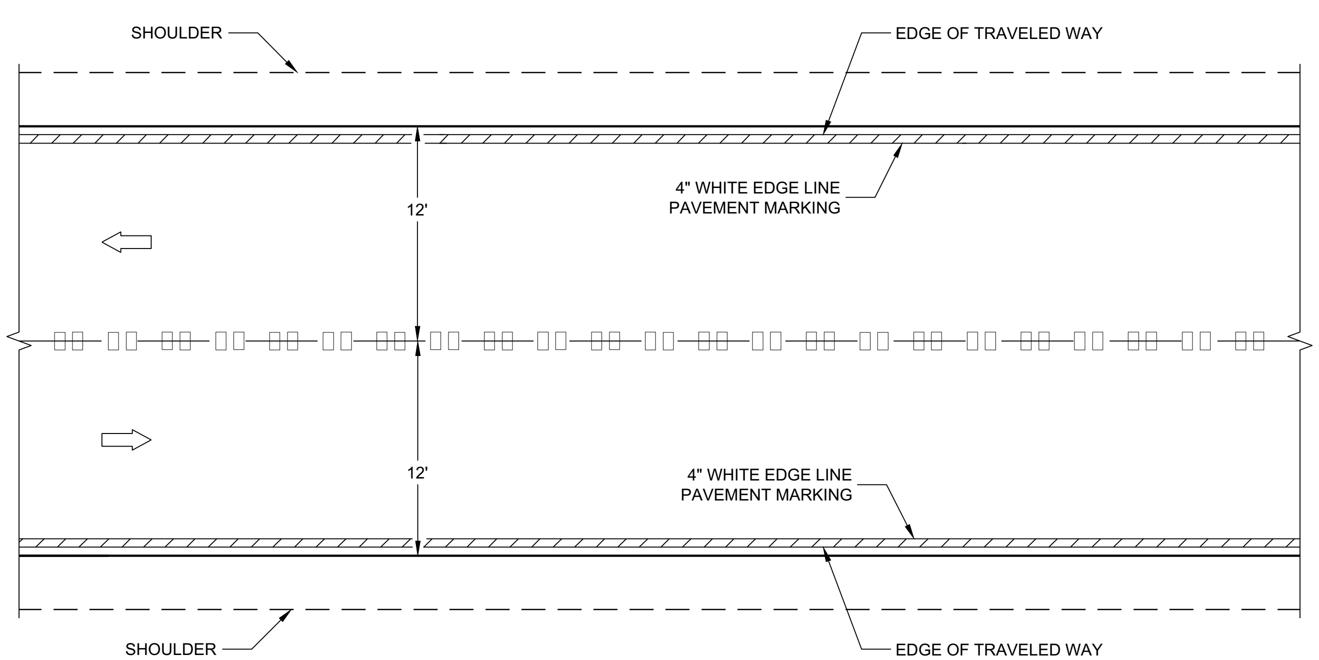
INSTALL PAVEMENT MARKING AFTER THE GROOVES ARE INSTALLED.

SEE SIGNING PLAN FOR SIGN REQUIREMENTS THAT MAY BE NEEDED.

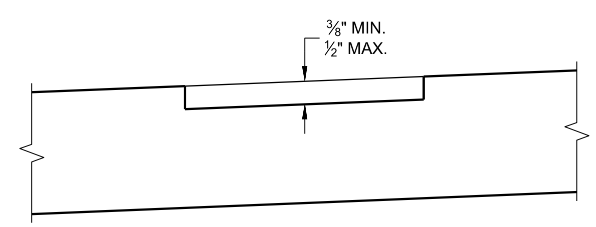
(1) CENTERLINE GROOVES MAY BE OMITTED IN AREAS WITH HIGH CONCENTRATIONS OF DRIVEWAYS. WHEN DIRECTED BY THE ENGINEER.



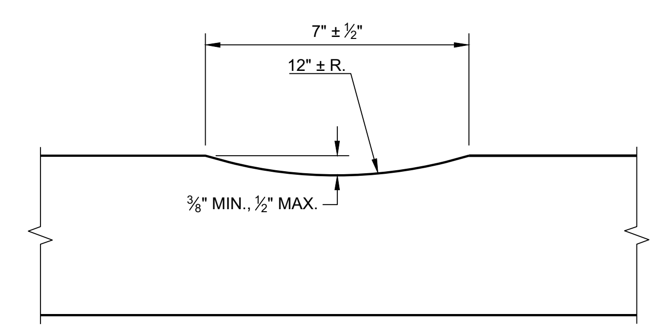
ISOMETRIC



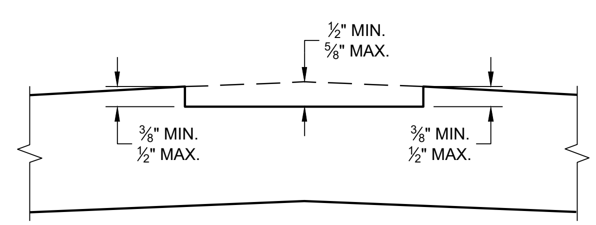
CENTERLINE GROOVES ON TWO-WAY ROADWAYS



SECTION B - B
SUPERELEVATED ROADWAY



SECTION A - A



SECTION B - B
CROWNED ROADWAY

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2-LANE RURAL
CENTER LINE RUMBLE STRIP,
MILLING

STATE OF WISCONSIN
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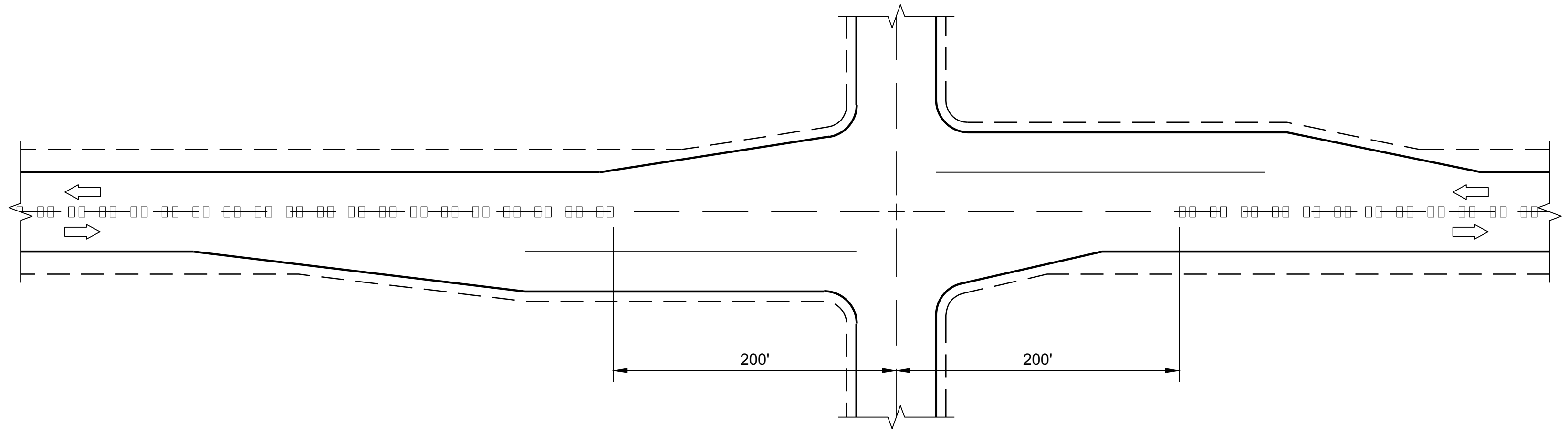
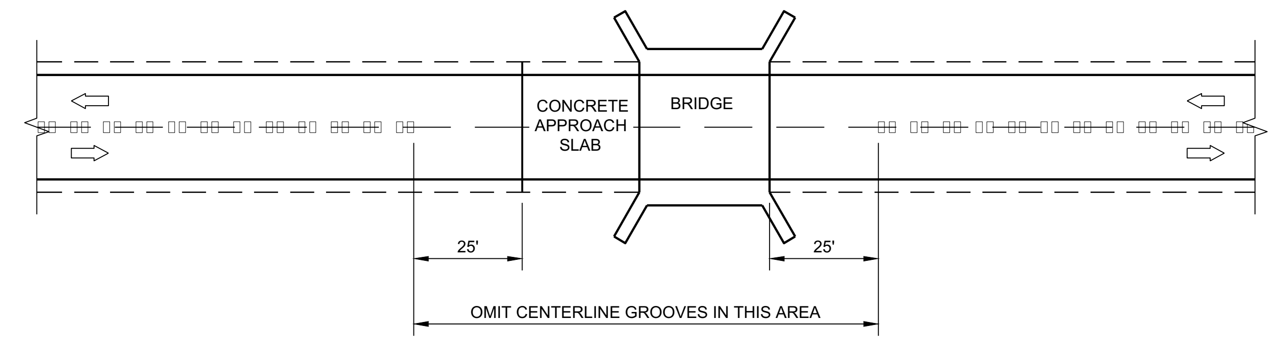
GENERAL NOTES

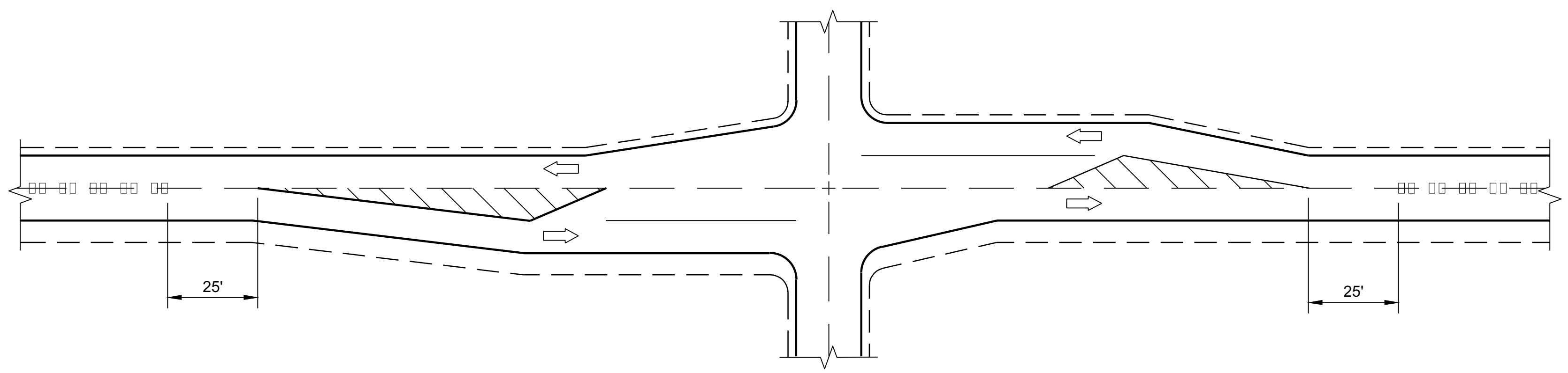
(1) CENTERLINE GROOVES MAY BE OMITTED IN AREAS WITH HIGH CONCENTRATIONS OF DRIVEWAYS. WHEN DIRECTED BY THE ENGINEER.



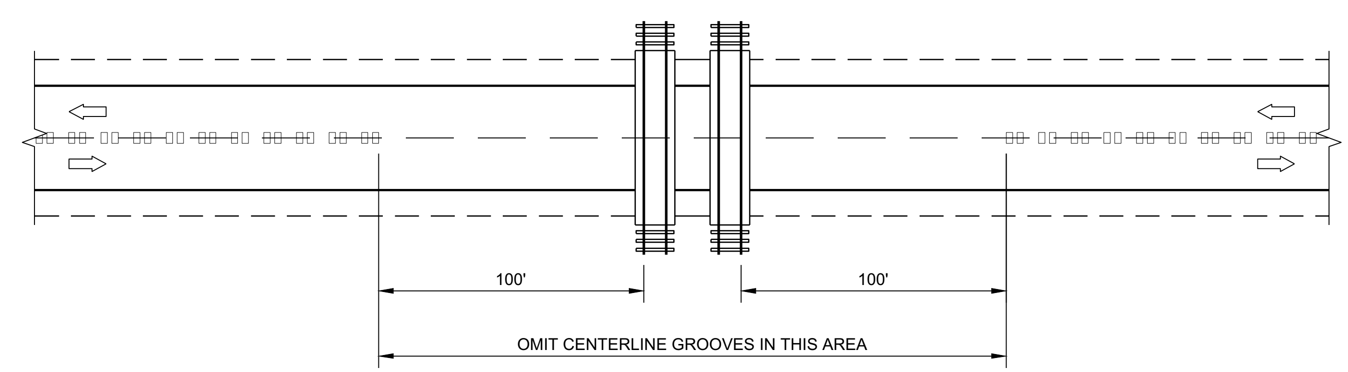
CENTERLINE GROOVES AT INTERSECTIONS



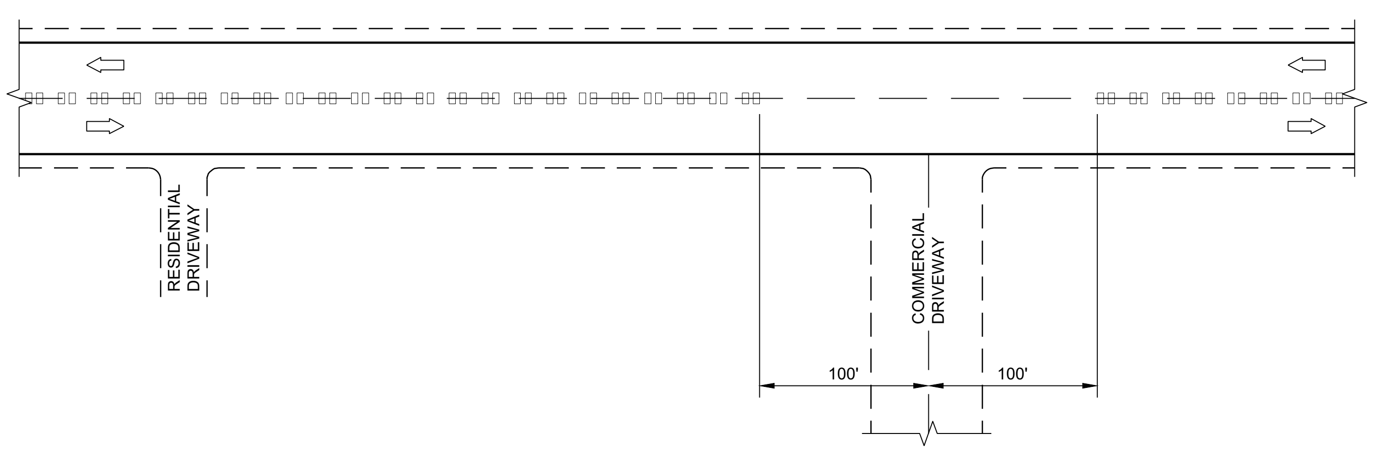
CENTERLINE GROOVES AT BRIDGES



CENTERLINE GROOVES AT INTERSECTIONS (WITH LEFT TURN LANES)



CENTERLINE GROOVES AT RAILROADS



CENTERLINE GROOVES AT DRIVEWAYS (1)

2-LANE RURAL CENTERLINE RUMBLE STRIP, MILLING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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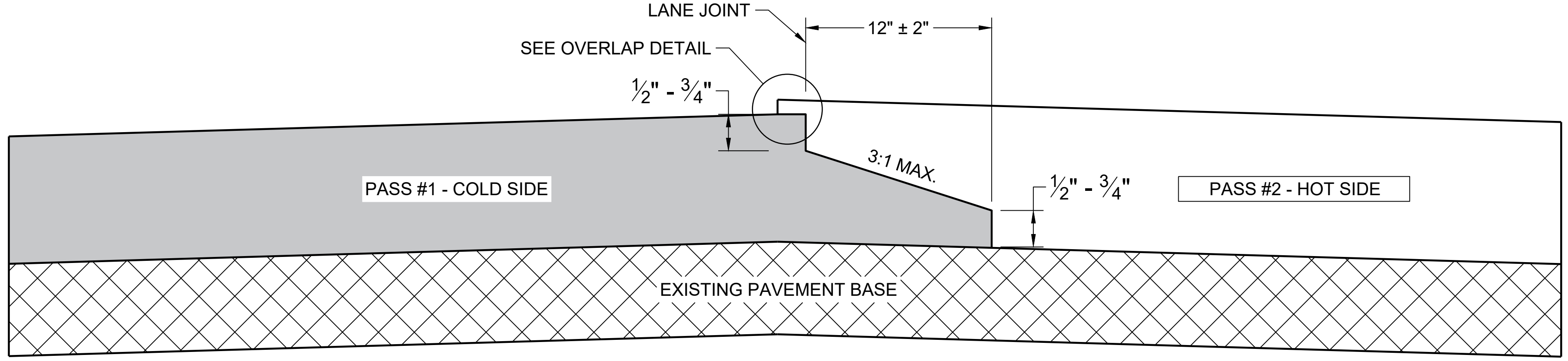
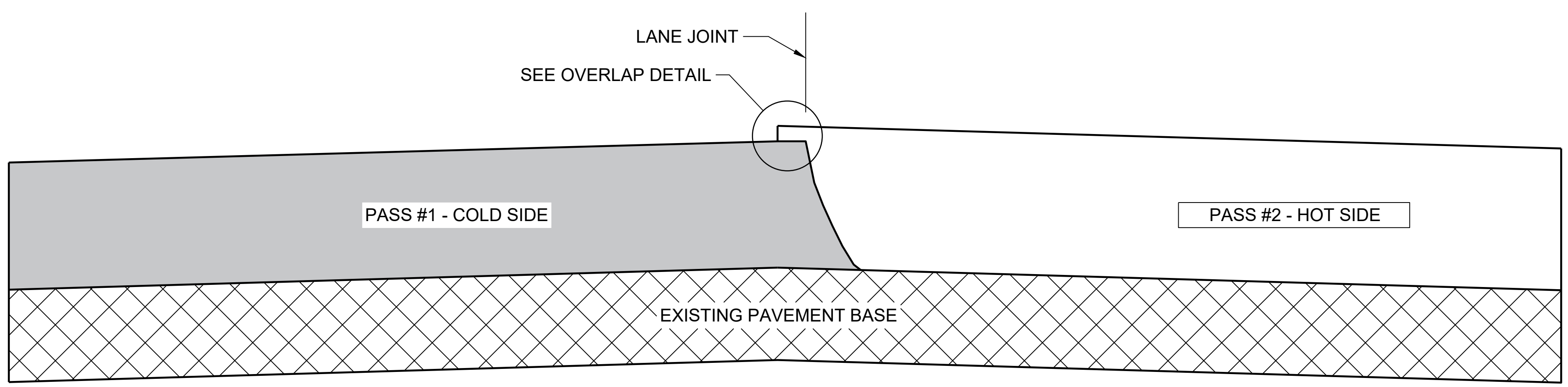
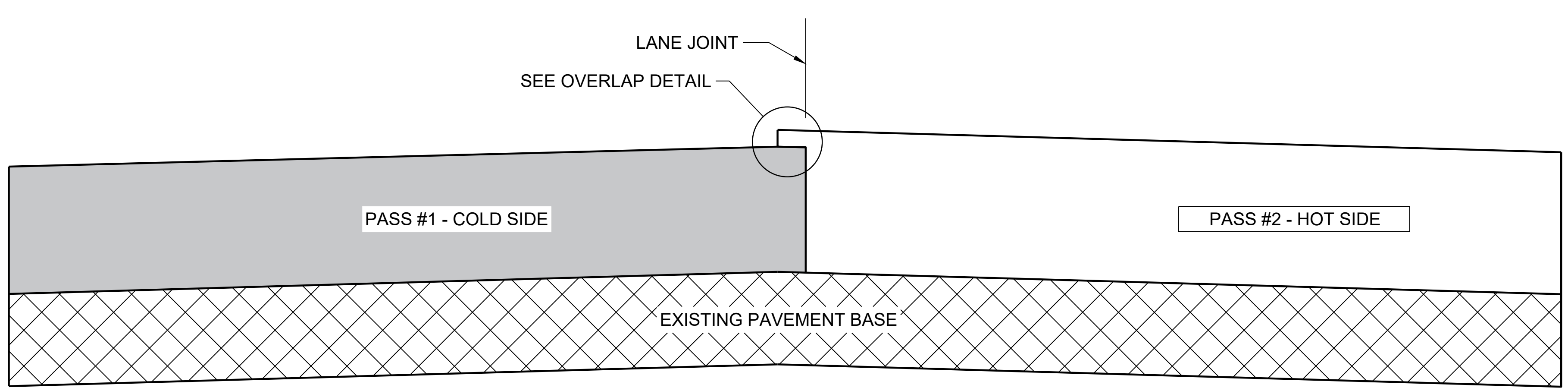


TYPICAL PAVEMENT CROSS SECTION
NOTCHED WEDGE JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT (MILLED)

GENERAL NOTES

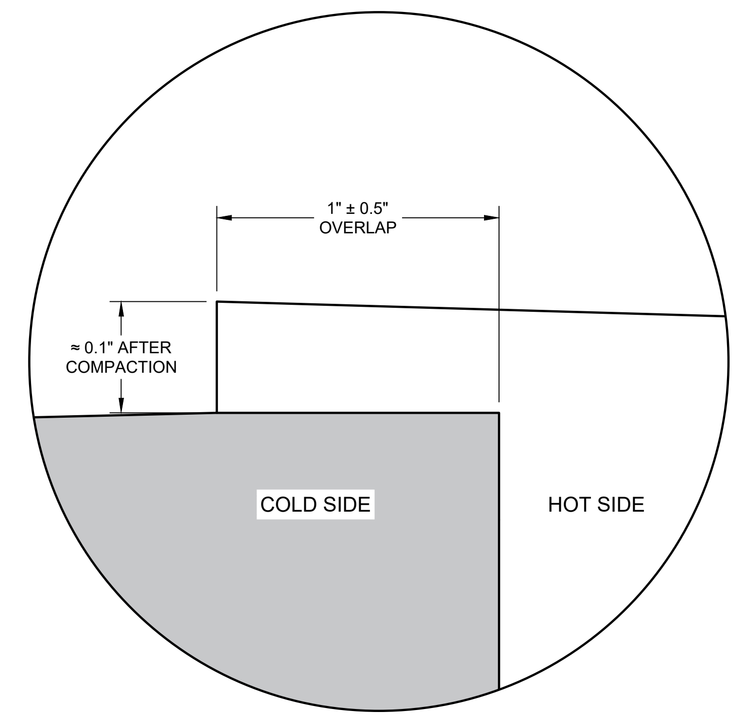
IN ADDITION TO THE DETAILS PROVIDED IN THIS DRAWING, CONFORM TO STANDARD SPECIFICATION 450.3.2.8 FOR WHEN A NOTCHED WEDGE JOINT IS REQUIRED AND FOR GENERAL JOINT CONSTRUCTION REQUIREMENTS.

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

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

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

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



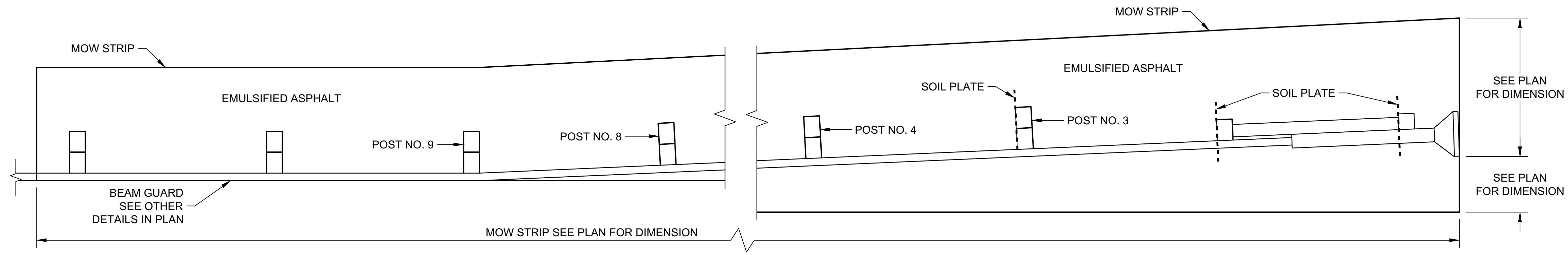
OVERLAP DETAIL (TYPICAL)

HMA LONGITUDINAL JOINTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2020 — DATE
/S/ Steven Hefel — HMA PAVEMENT ENGIN 58

FHWA

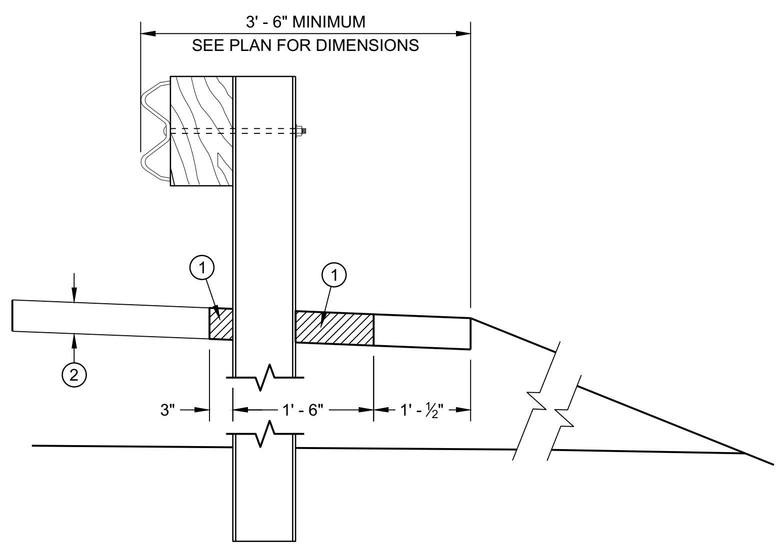


PLAN VIEW
MOW STRIP LAYOUT FOR ENERGY ABSORBING TERMINAL

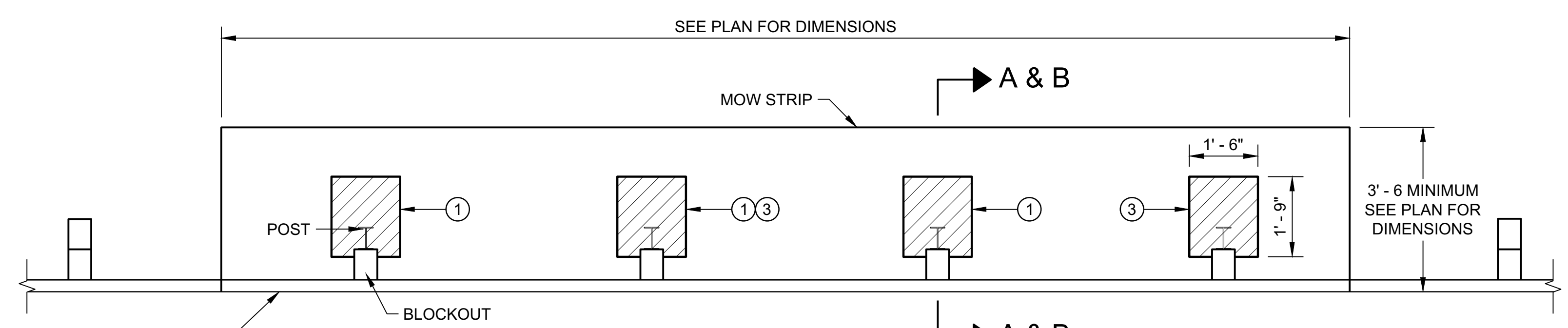
GENERAL NOTES

ONLY USE STEEL POSTS IN CONCRETE AND ASPHALT MOW STRIPS.

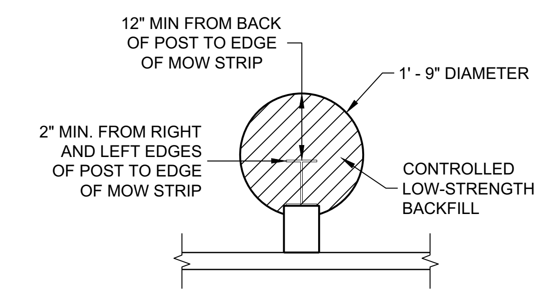
1. CONTROLLED LOW-STRENGTH BACKFILL OR EMULSIFIED ASPHALT.
2. DEPTH OF MOW STRIP:
   ASPHALT - 4"
   CONCRETE - 4"
   EMULSIFIED ASPHALT - 1" OR LESS
3. FOR EMULSIFIED ASPHALT, MOW STRIP STRIP LEAVE OUTS NOT REQUIRED. (TYPICAL FOR ALL POSTS)



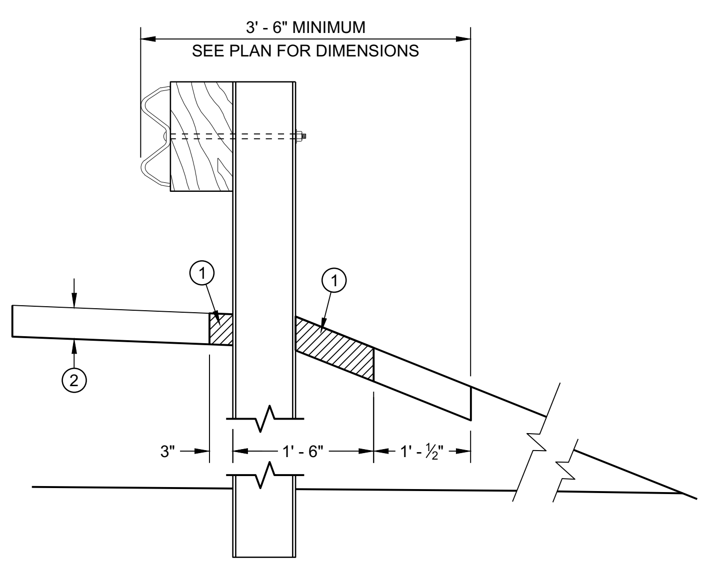
SECTION A - A



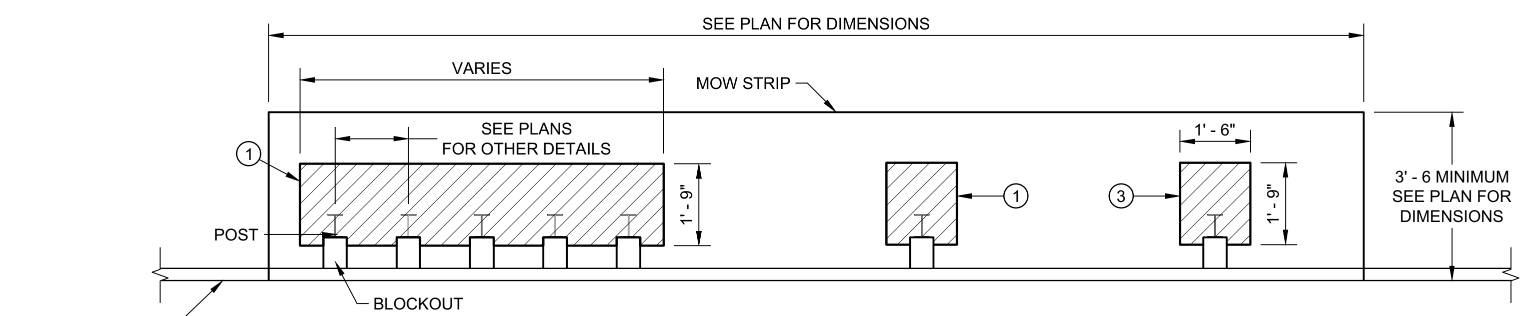
PLAN VIEW
MOW STRIP FOR TYPICAL BLOCKOUT LAYOUT



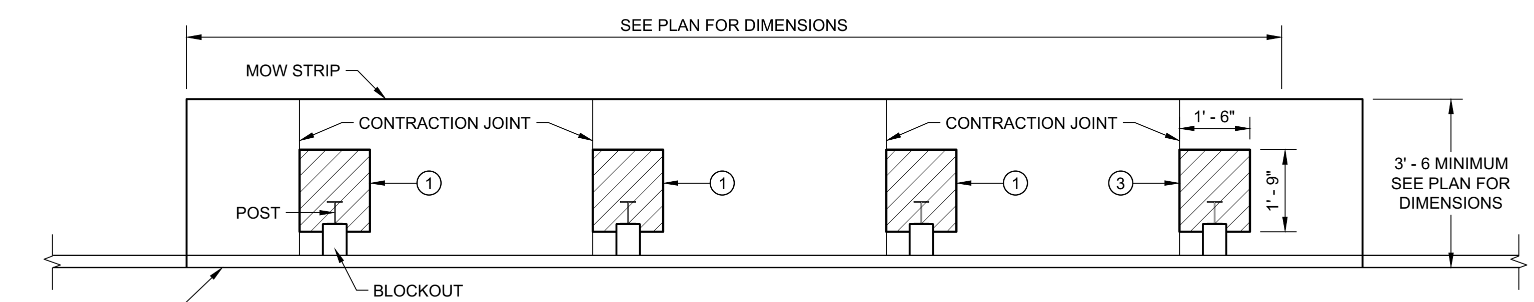
ALTERNATIVE HMA MOW STRIP DESIGN



SECTION B - B



PLAN VIEW
MOW STRIP FOR TIGHT SPACING LAYOUT



PLAN VIEW
JOINT PLACEMENT FOR CONCRETE MOW STRIP

GUARDRAIL MOW STRIP

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTAT

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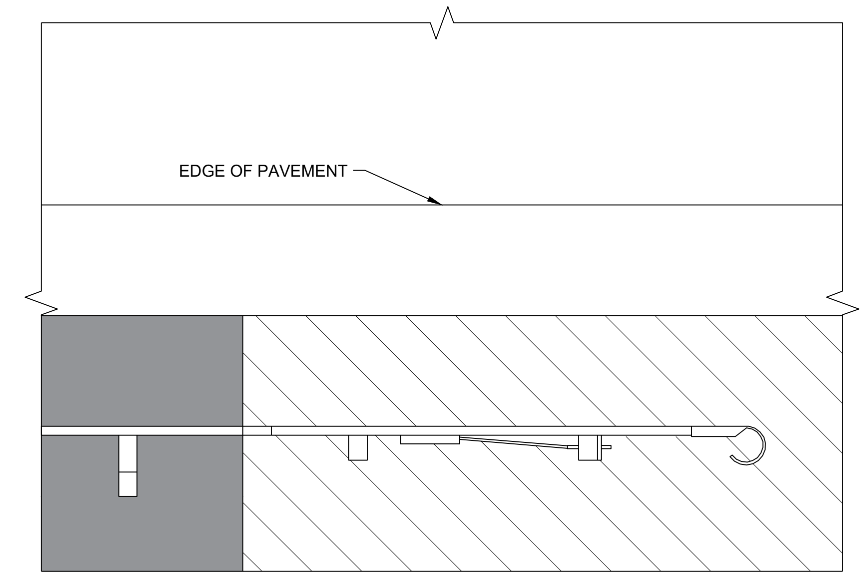
LEGEND

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

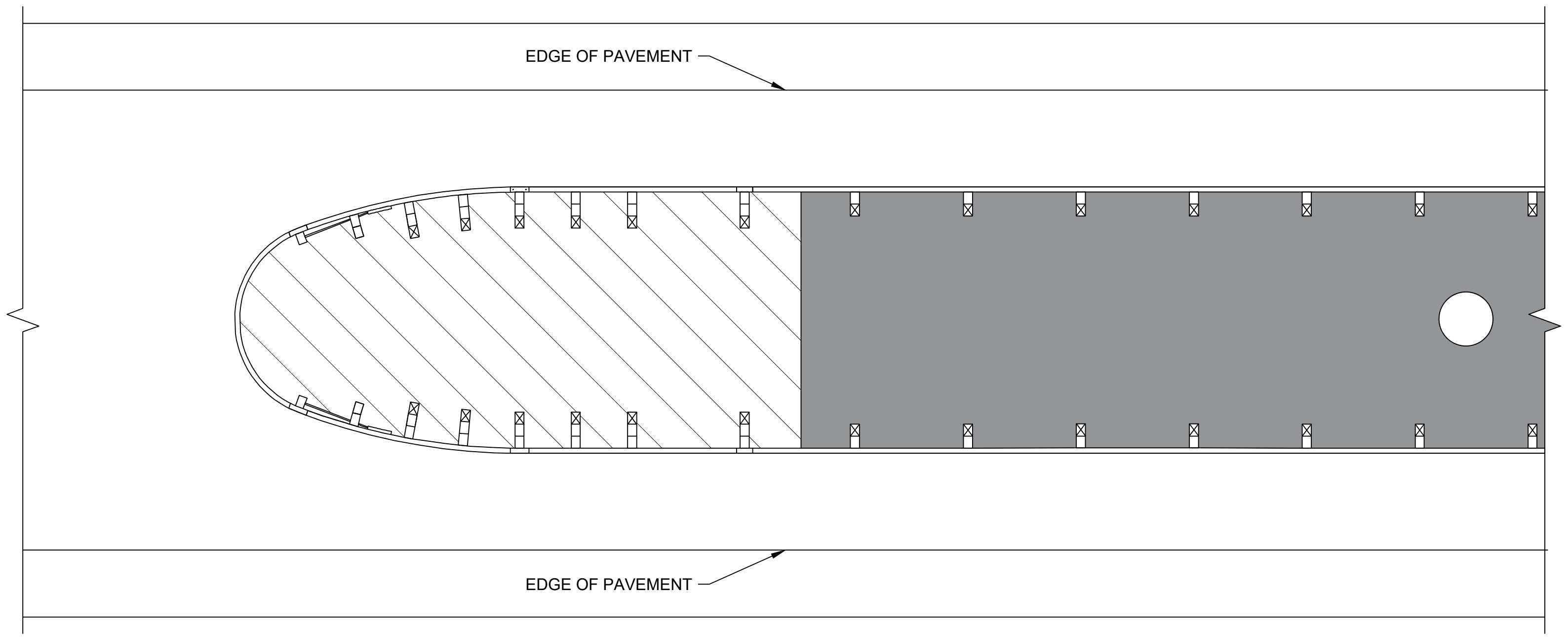
EMULSIFIED ASPHALT MOW STRIP (SEE OTHER DETAILS)

GENERAL NOTES

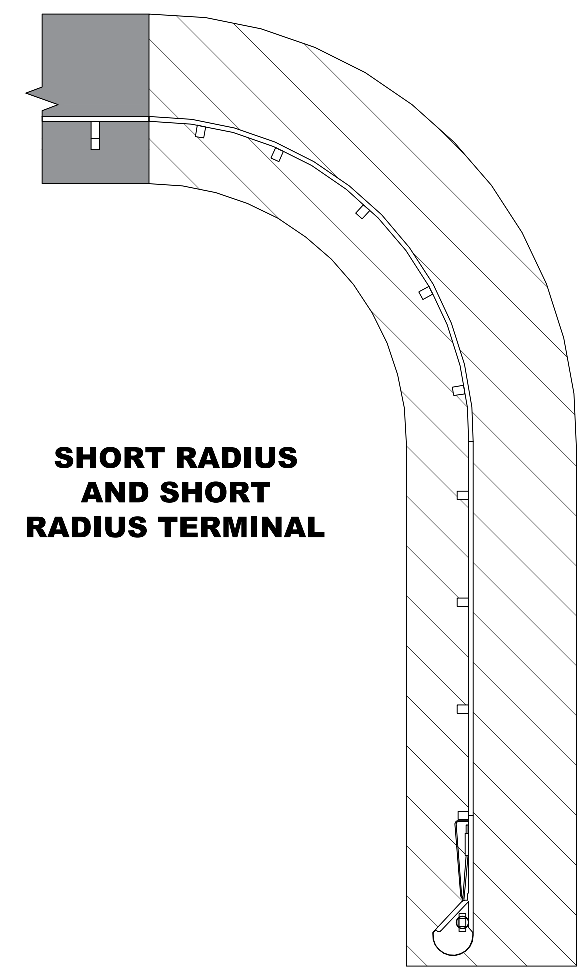
EXISTING THRIE BEAM BULLNOSES MAY HAVE WOOD POSTS. NEW THRIE BEAM BULLNOSE WILL HAVE STEEL POSTS.



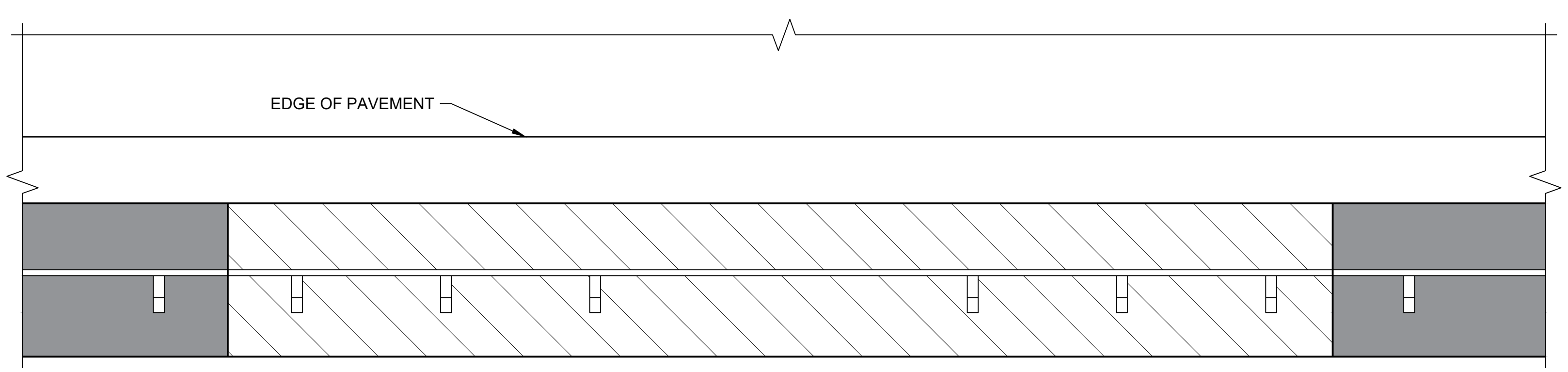
TYPE 2 TERMINAL



THRIE BEAM BULLNOSE



SHORT RADIUS AND SHORT RADIUS TERMINAL



LONG - SPAN

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GUARDRAIL MOW STRIP
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION
APPROVED August 2020 — DATE /S/ Rodney Taylor — ROADWAY STANDARDS DEVELOPMENT ENGINEER FHWA

SDD 14B28 - 04b

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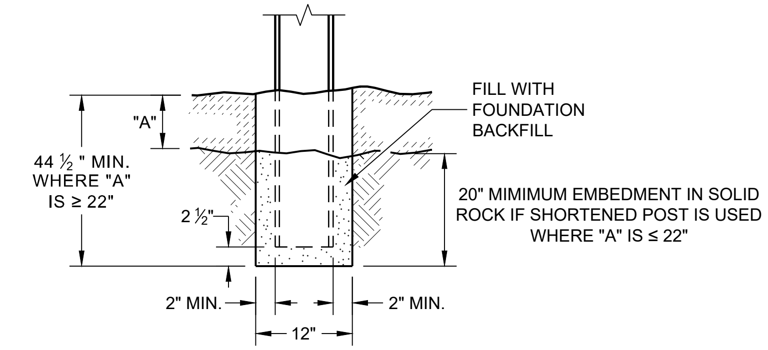
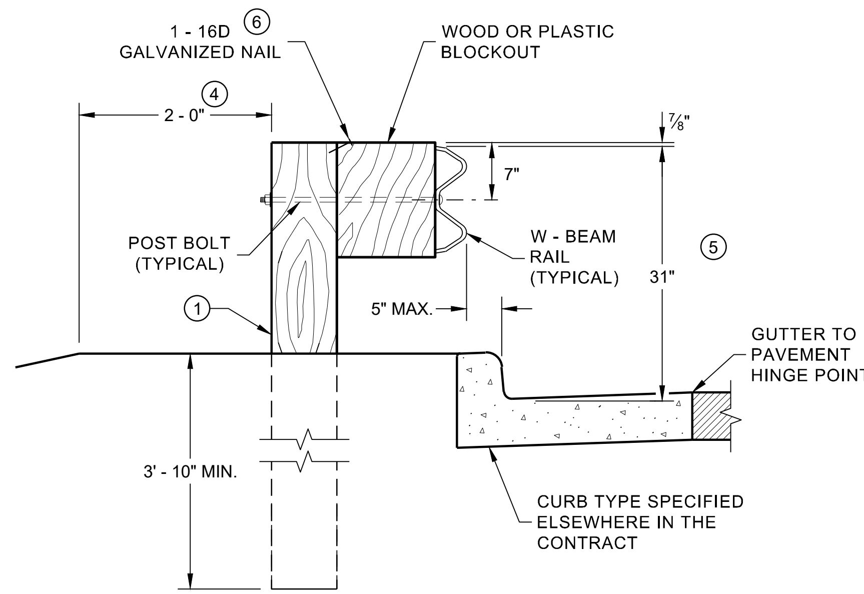
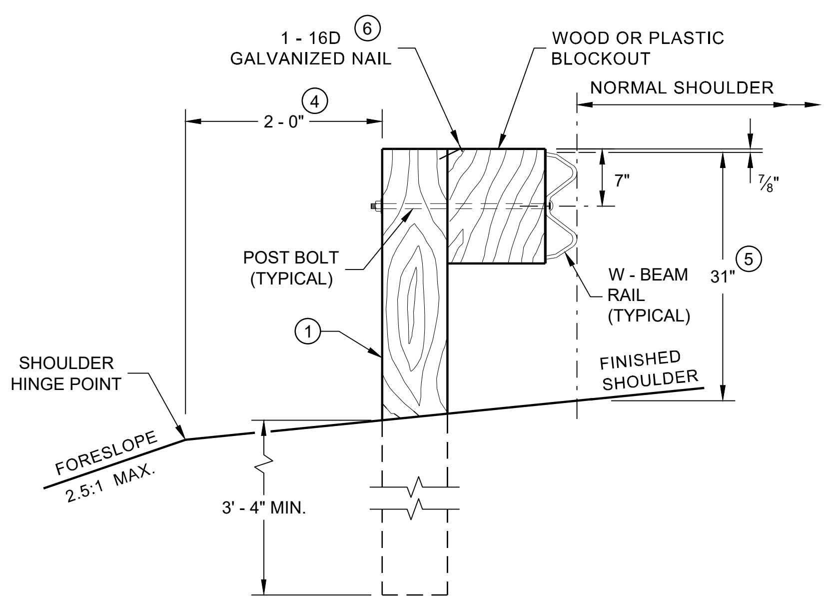
1. WOOD OR STEEL POSTS (w6X9 OR w6X8.5) MAY BE USED. DO NOT INTERMIX WOOD AND STEEL POSTS. INSTALL STEEL POSTS WITH HOLES ON APPROACHING TRAFFIC SIDE.
2. USE WOOD OR APPROVED PLASTIC BLOCKOUTS. WOOD BLOCKOUTS MAY BE CONSTRUCTED OUT OF TWO OR MORE WOOD BLOCKOUTS. SEE ALTERNATE WOOD BLOCKOUT DETAIL. DIMENSIONS OF APPROVED PLASTIC BLOCKOUTS MAY VARY.
3. IF ROCK IS ENCOUNTERED DURING EXCAVATION, PROVIDE A HOLE 12 INCHES IN DIAMETER EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2 1/2" INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS THE TO LENGTH AMD INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT. BACKFILL IS TO BE FREE OF LARGE ROCKS.
4. WHEN THE DISTANCE FROM BACK OF POST TO SHOULDER HINGE POINT IS LESS THAN 2 FEET INSTALL LONGER POST AT HALF POST SPACING (K).
5. FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS ±1". FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27 ¾" TO 32".
6. WHEN USING STEEL POST AND WOOD BLOCKOUTS INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.
7. TOTAL POST LENGTH FOR TYPE K IS 7' - 0". TOTAL POST LENGTH FOR OTHER MGS TYPES IS 6' - 0".



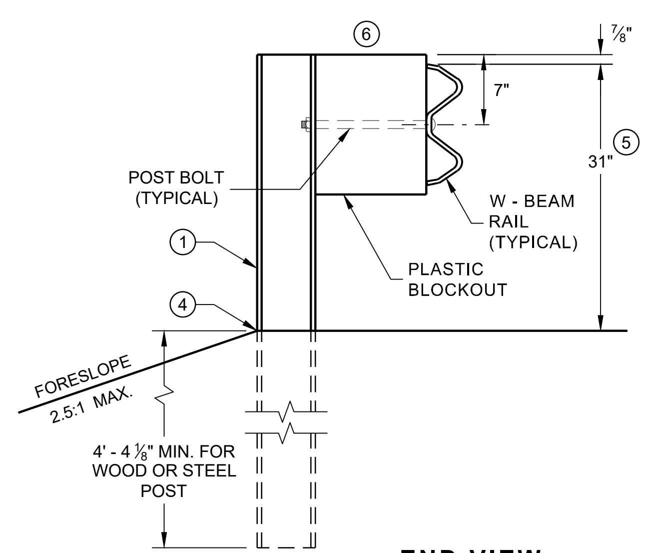
END VIEW
SETTING STEEL OR WOOD POST IN ROCK (3)



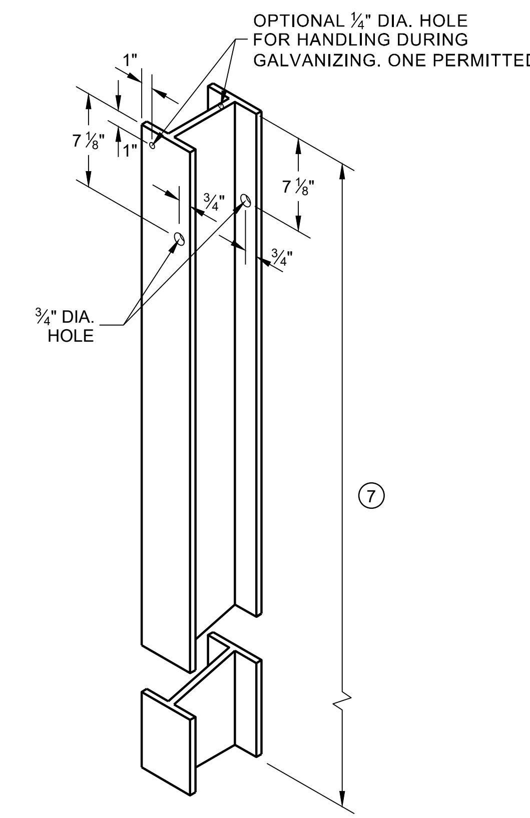
END VIEW
LOCATED ALONG A CURBED ROADWAY



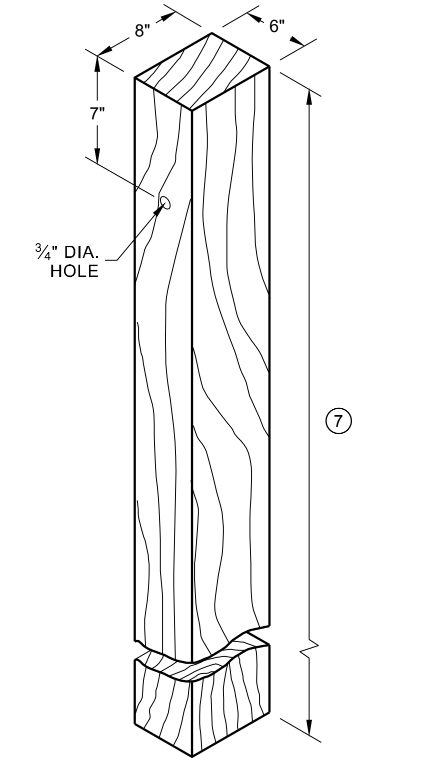
END VIEW
LOCATED ALONG A ROADWAY SHOULDER
STANDARD INSTALLATION



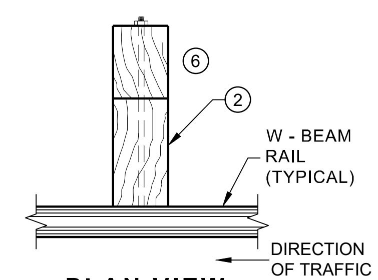
END VIEW
MGS LONGER POST AT HALFPOST SPACING W BEAM (K)



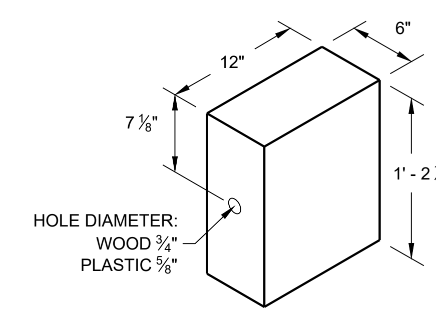
STEEL POST & HOLE PUNCHING DETAIL (W 6 X 9) (1)



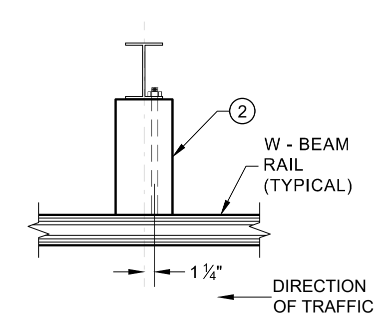
WOOD POST (6" X 8") NOMINAL (1)



PLAN VIEW
WOOD POST, BLOCKOUT & BEAM



WOOD OR PLASTIC BLOCKOUT (2)



PLAN VIEW
STEEL POST, PLASTIC BLOCKOUT & BEAM

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTAT161

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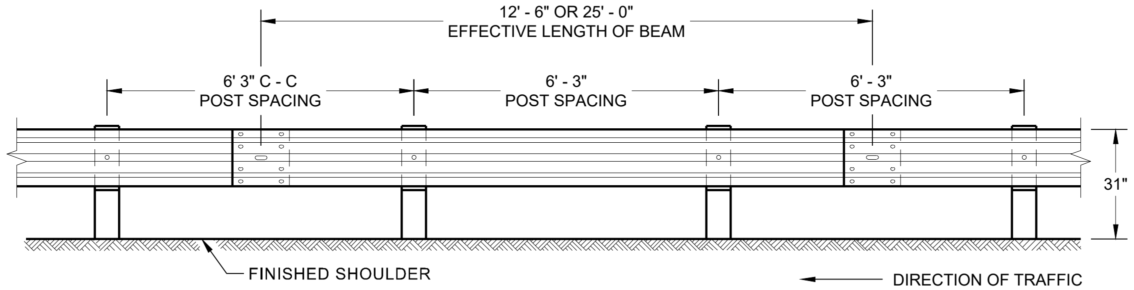
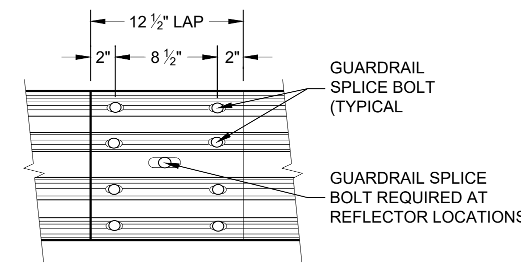


FRONT VIEW
POST SPACING STANDARD INSTALLATION



FRONT VIEW
MID-SPAN BEAM SPLICE

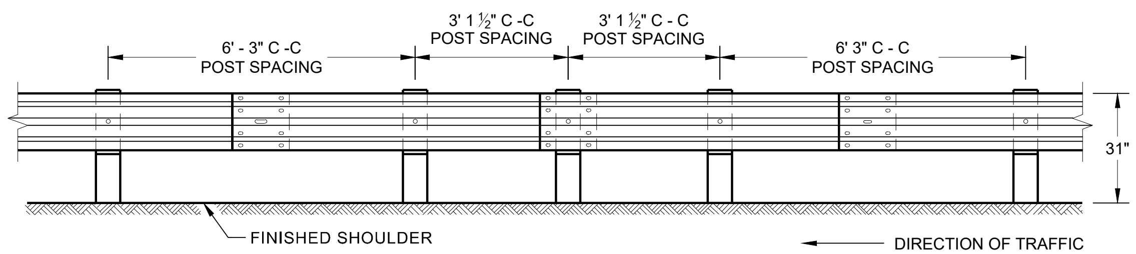
GENERAL NOTES

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

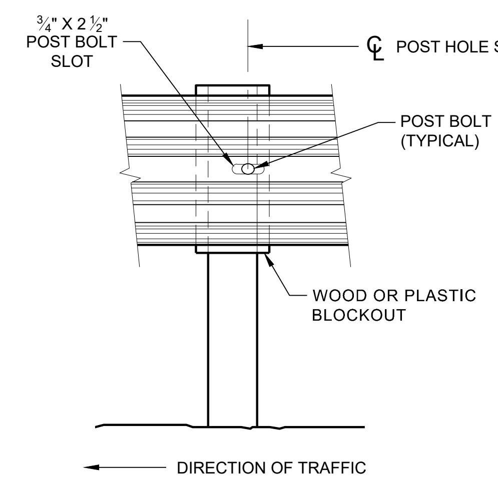
⑨ 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.

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

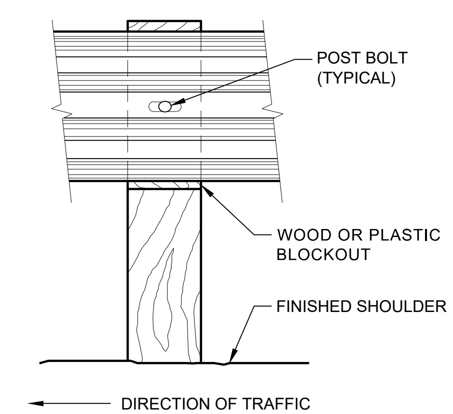
GUARD RAIL SPLICE BOLTS ARE A ⅝" DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES ⅝" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.



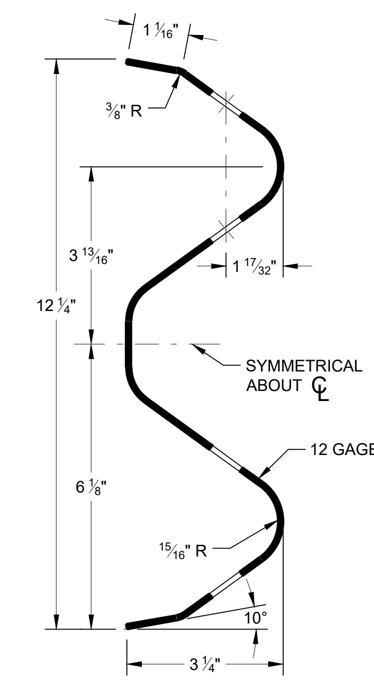
FRONT VIEW
HALF POST SPACING (HS) AND
HALF POST SPACING WITH LONGER POSTS (K)



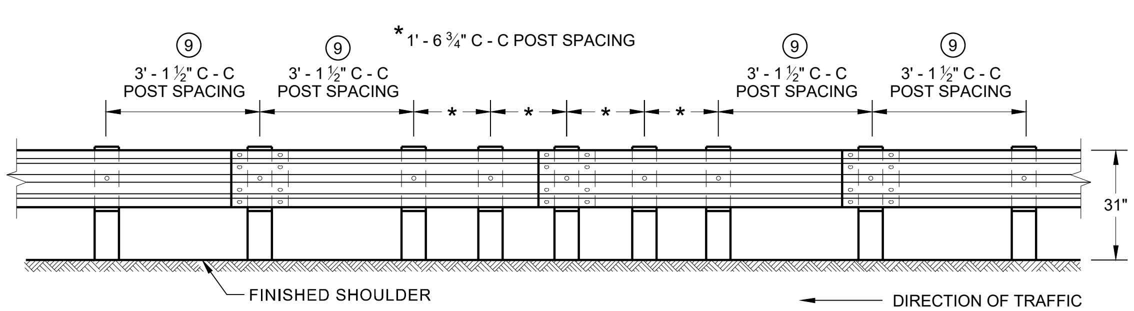
FRONT VIEW AT STEEL POST



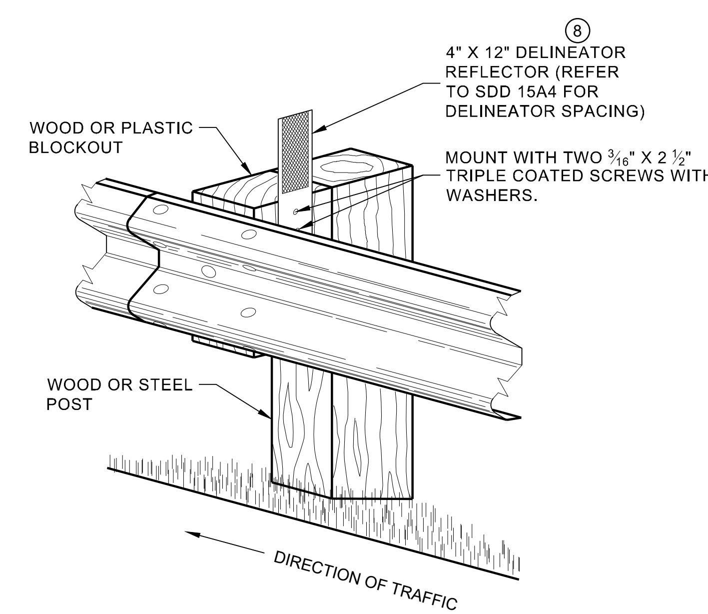
FRONT VIEW AT WOOD POST



SECTION THRU W-BEAM RAIL



FRONT VIEW
QUARTER POST SPACING (QS)



ONE SIDED REFLECTOR DETAIL
AND TYPICAL INSTALLATION

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
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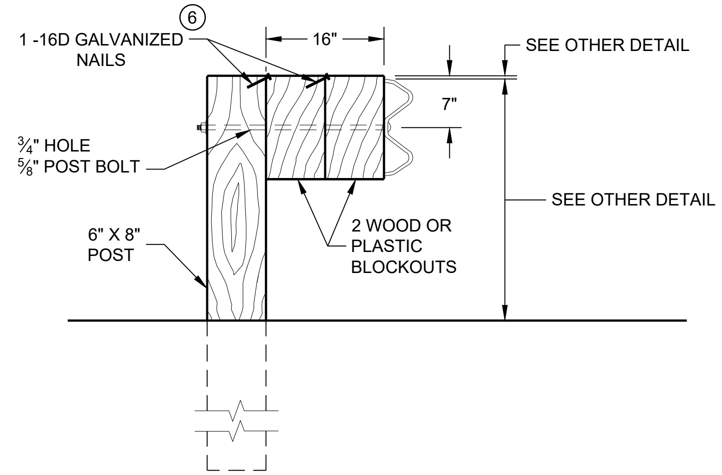
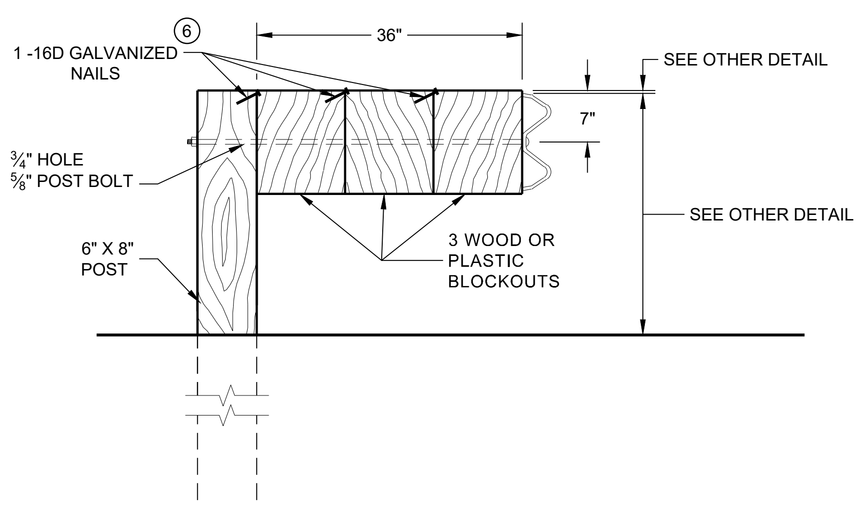


DETAIL FOR 16" BLOCKOUT DEPTH

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



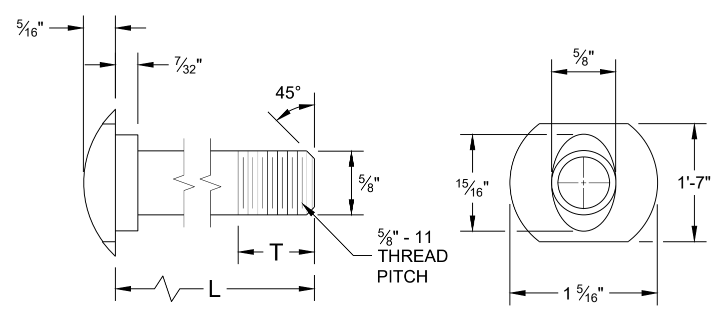
DETAIL FOR 36" BLOCKOUT DEPTH

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

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

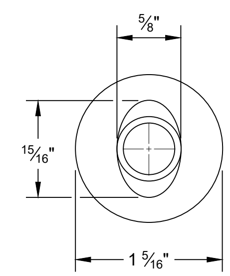
NOTE:

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

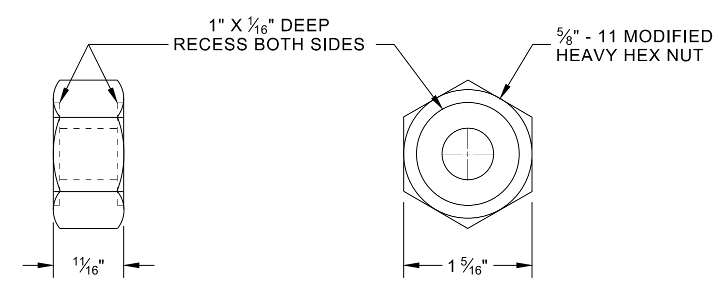


POST BOLT TABLE

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

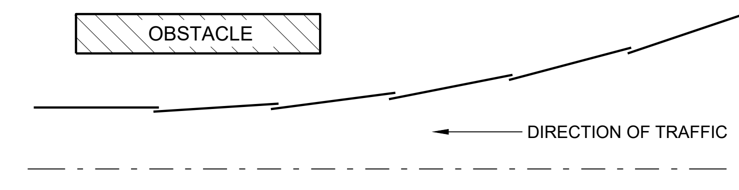


ALTERNATE BOLT HEAD

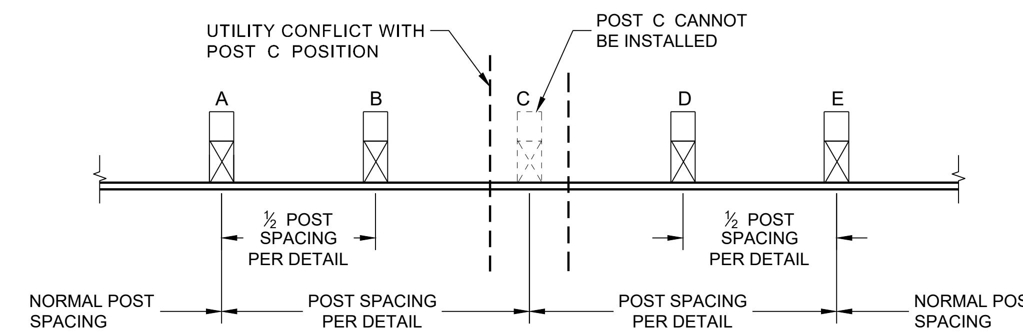


POST BOLT, SPLICE BOLT AND RECESS NUT

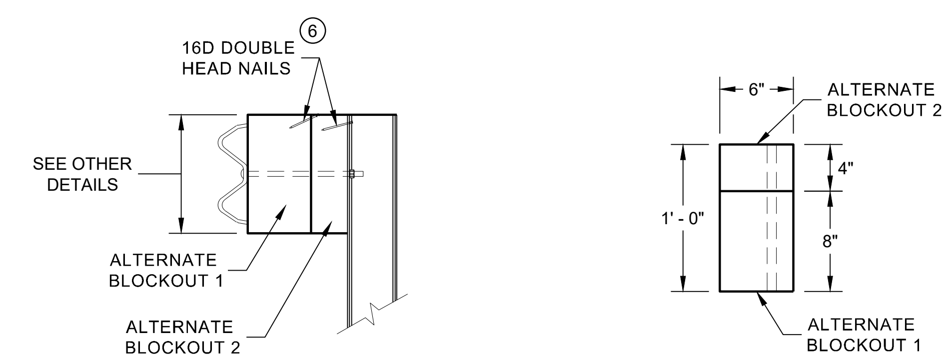
6 WHEN USING STEEL POST AD WOOD BLOCKOUTS, INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.



PLAN VIEW
BEAM LAPPING DETAIL



POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION



SIDE VIEW

PLAN VIEW

ALTERNATE WOOD BLOCKOUT DETAIL

6

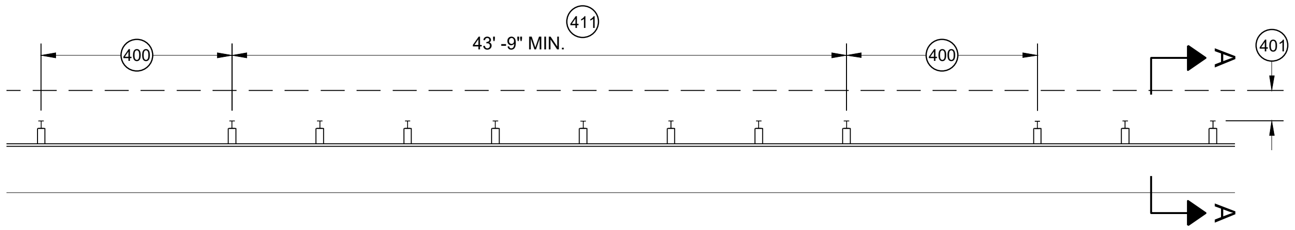
6

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

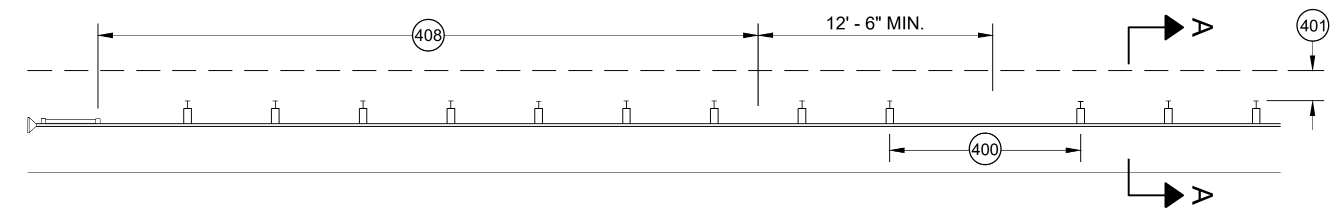
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

SDD 14B42 - 07c

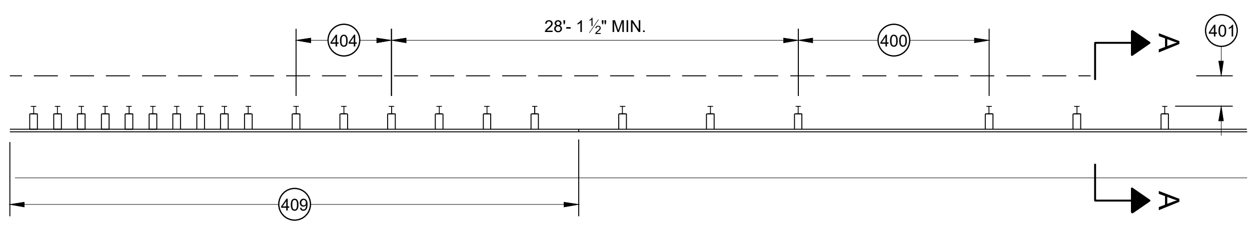
SDD 14B42 - 07c



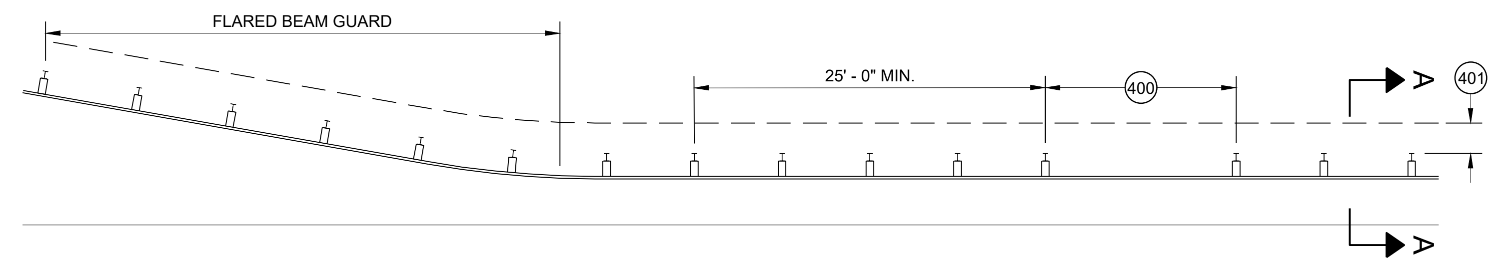
MISSING POST IN MGS GUARDRAIL



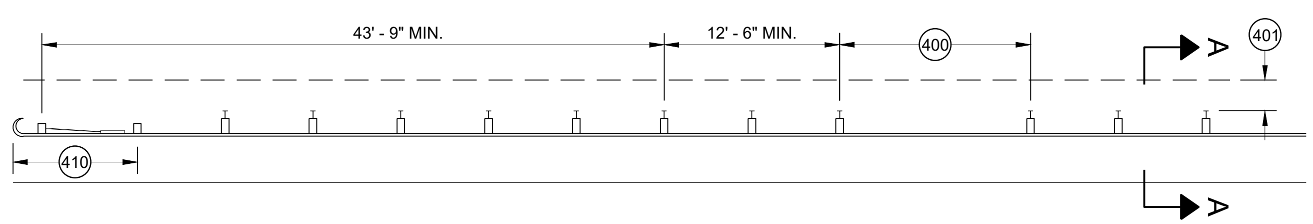
MISSING POST IN MGS GUARDRAIL NEAR EAT



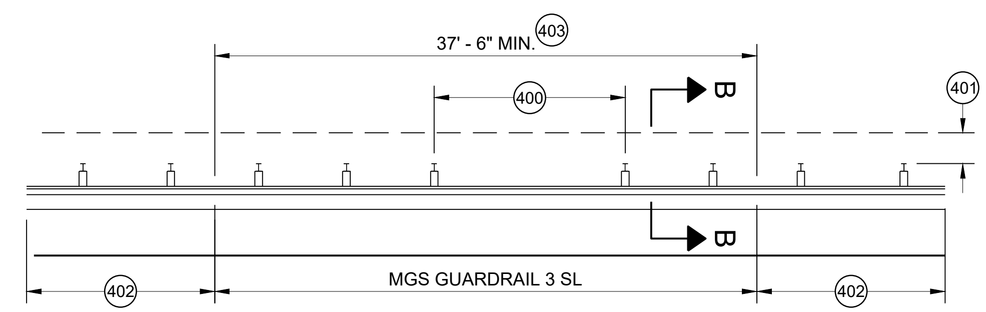
MISSING POST IN MGS GUARDRAIL NEAR AN APPROACH TRANSITION



MISSING POST IN MGS GUARDRAIL NEAR FLARED BEAM GUARD

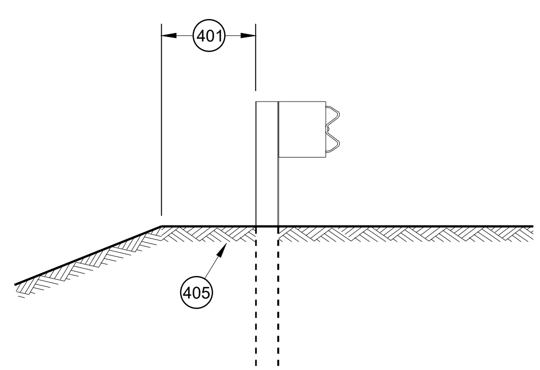


MISSING POST IN MGS GUARDRAIL NEAR A TYPE 2 END TERMINAL

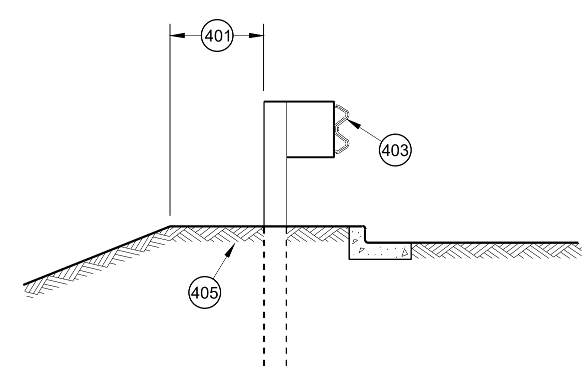


MISSING POST IN SHORT SPAN MGS GUARDRAIL NEAR CURB (SL) 407

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



SECTION A - A 406



SECTION B - B 406

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

GENERAL NOTES

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

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

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

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

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

DIMENSIONS MAY VARY, MANUFACTURER'S INFORMATION.

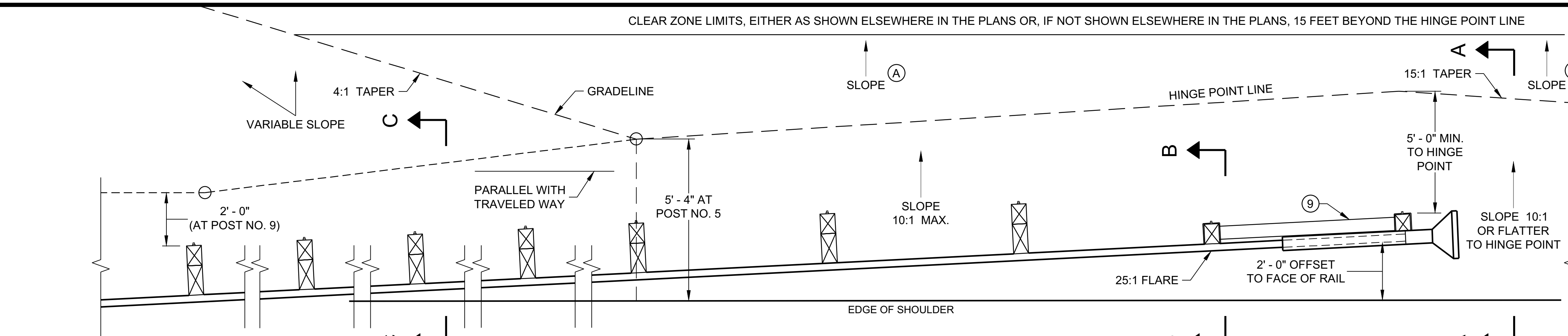
SEE SDD 14B42 FOR MORE INFORMATION.

* DO NOT ATTACH BLOCKOUTS TO POST 1 AND 2.

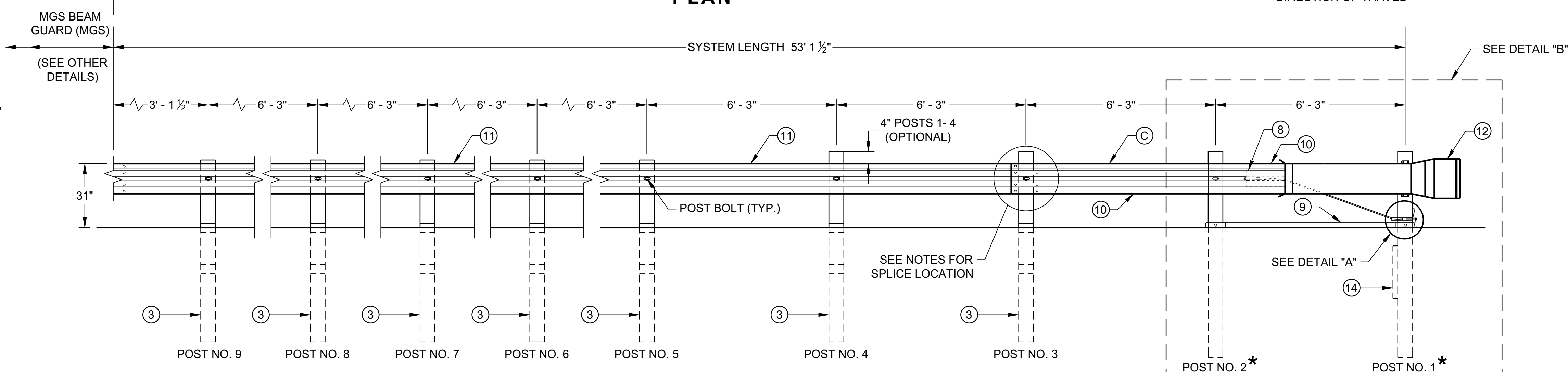
DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

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

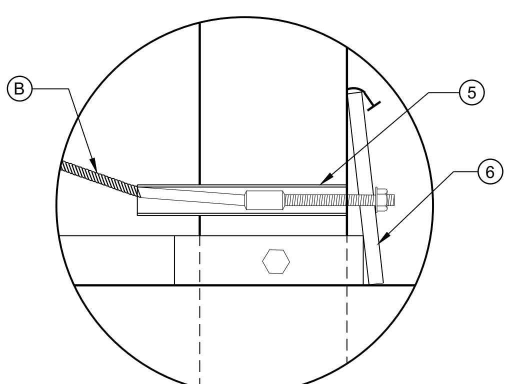
THE CENTER OF THE UPPER 3 ½" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE UP TO A MAXIMUM OF 2" ABOVE GROUND LINE. WOOD BLOCKS ON POSTS NUMBERED 3 THROUGH 9 MAY BE ADJUSTED UP TO 3" ABOVE THE TOP OF POST.



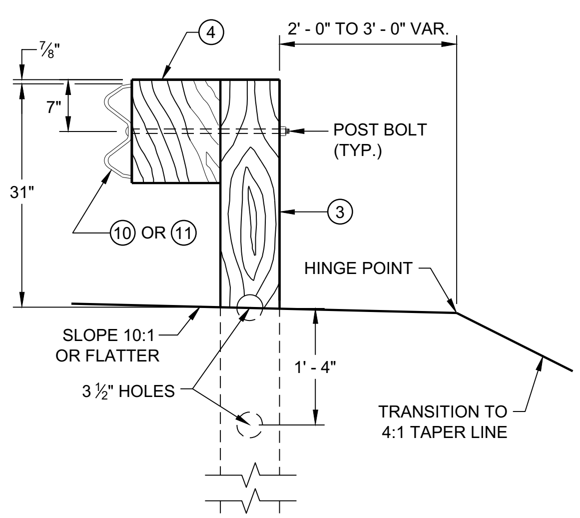
PLAN



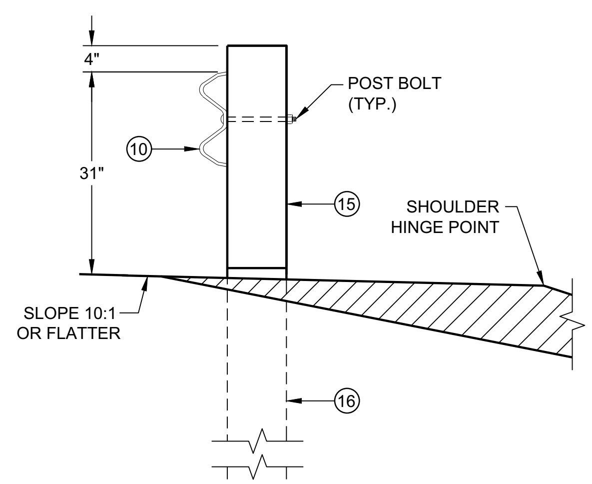
ELEVATION



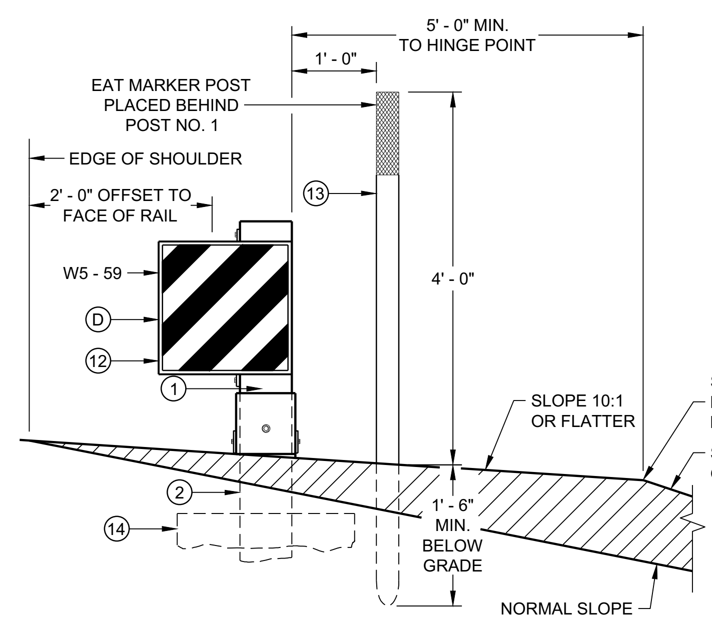
DETAIL "A" (E)



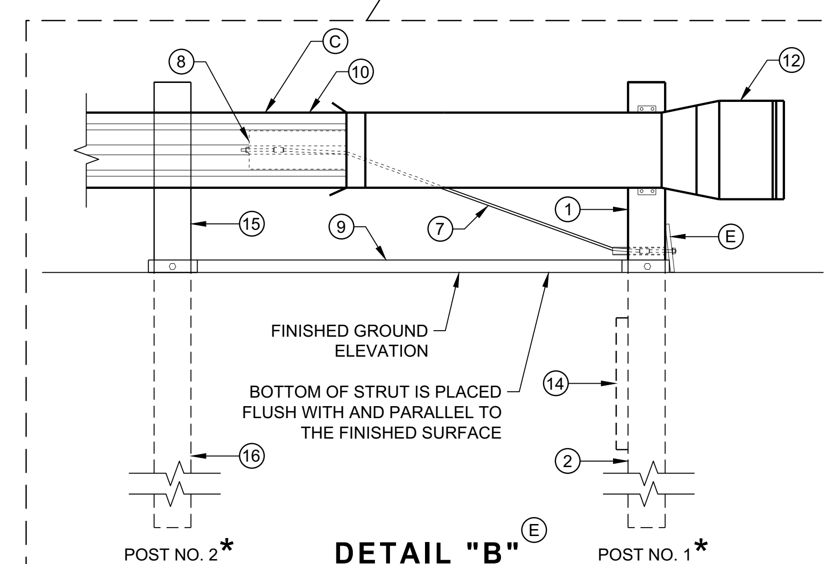
SECTION C - C
TYPICAL AT POST NOS. 3 - 9



SECTION B - B
TYPICAL AT POST NO. 2*



SECTION A - A
TYPICAL AT POST NO. 1*



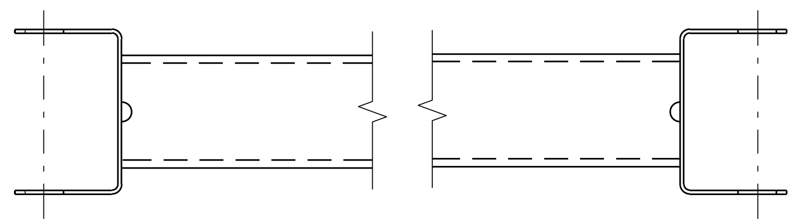
DETAIL "B" (E)

MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)

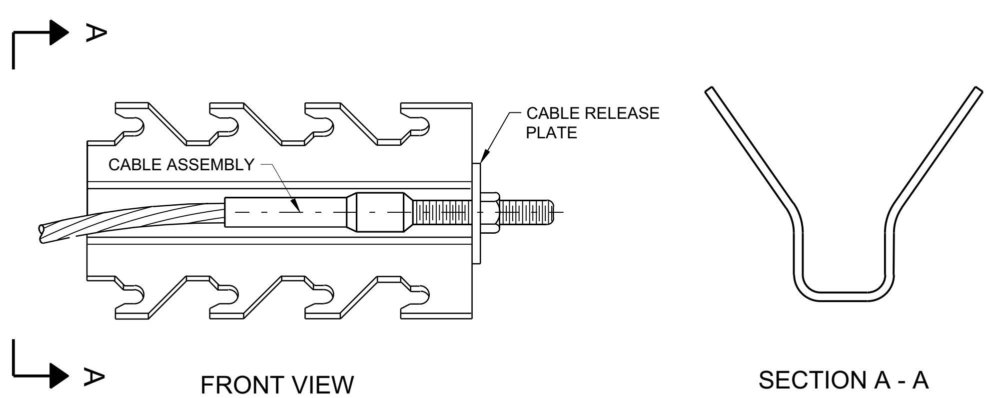
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

BILL OF MATERIALS

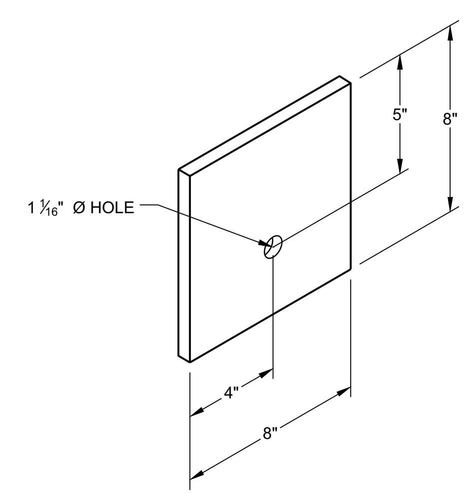
PART NO.	DESCRIPTION MATERIALS PROVIDED BY MGS EAT MANUFACTURER. SEE MANUGACTURER'S DETAILS FOR MORE INFORMATION.
1	UPPER POST NO. 1 6" X 6" TUBE
2	LOWER POST NO. 1
3	WOOD CRT
4	WOOD BLOCKOUT
5	PIPE SLEEVE
6	BEARING PLATE
7	BCT CABLE ASSEMBLY
8	ANCHOR CABLE BOX
9	GROUND STRUT
10	PERFORATED W-BEAM RAIL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



GENERIC GROUND STRUT 9 E



GENERIC ANCHOR CABLE BOX 9 E



BEARING PLATE 6 E

6

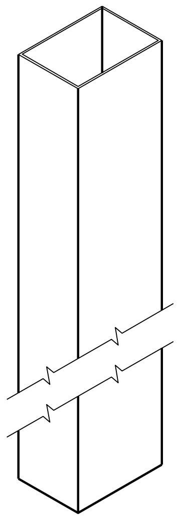
6

SDD 14B44 - 04b

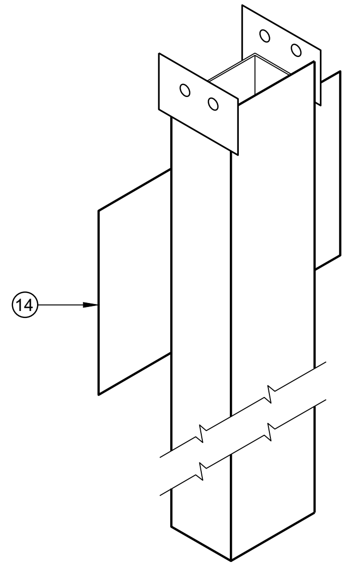
SDD 14B44 - 04b

MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)

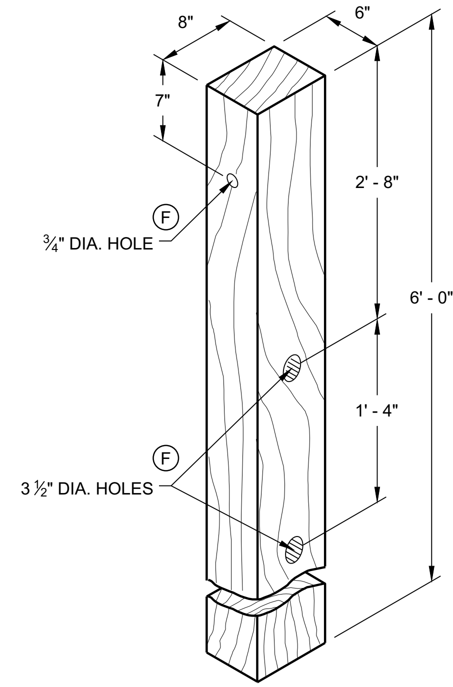
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATI 66



UPPER POST NO. 1 ① Ⓔ

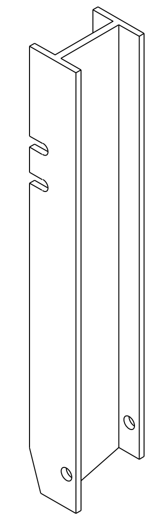


LOWER POST NO. 1 ② Ⓔ

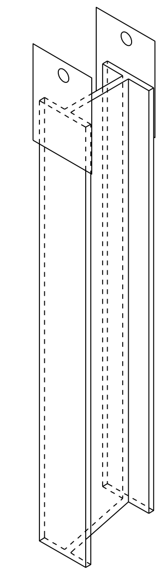


WOOD CRT POST ③ Ⓔ

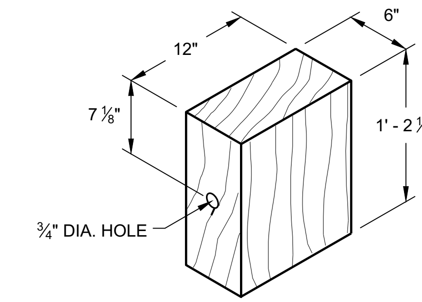
POSTS NUMBER 3-9



UPPER POST NO. 2 ⑮ Ⓔ

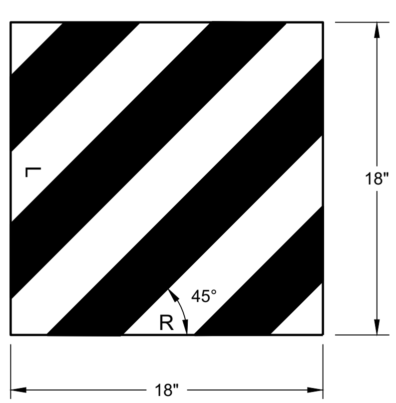


LOWER POST NO. 2 ⑯ Ⓔ



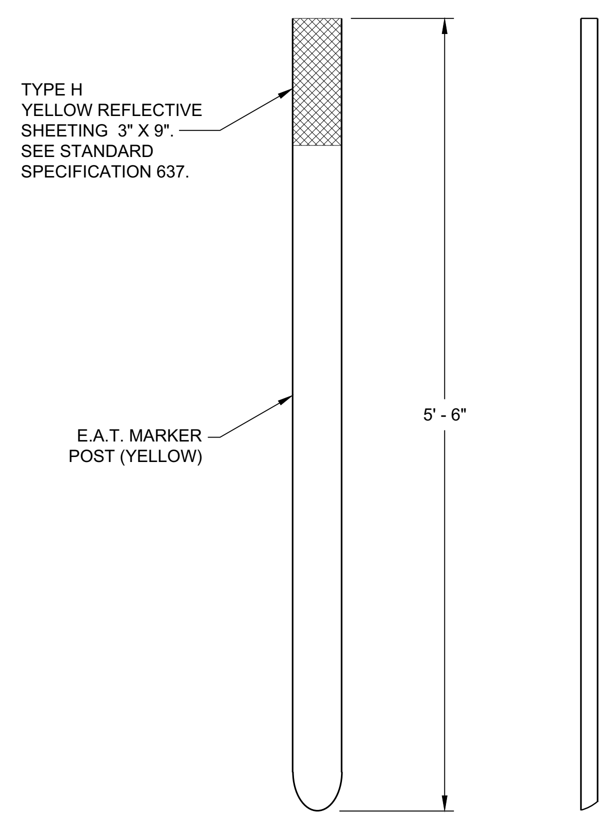
WOOD BLOCKOUT ④

REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2



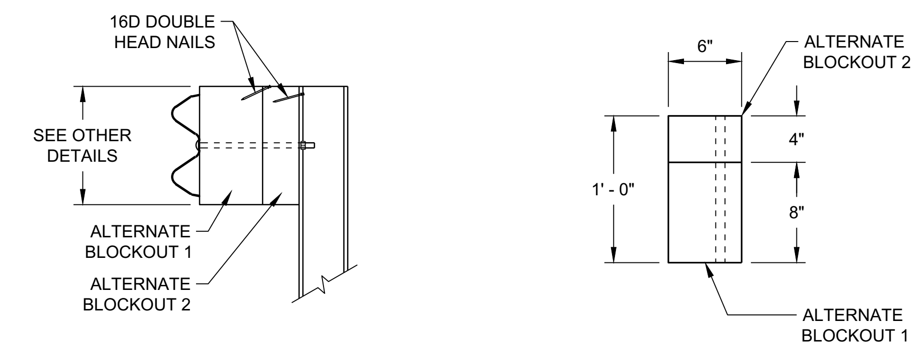
W5 - 59

REFLECTIVE SHEETING DETAIL Ⓔ



FRONT VIEW SIDE VIEW

E.A.T. MARKER POST ⑬



SIDE VIEW TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL

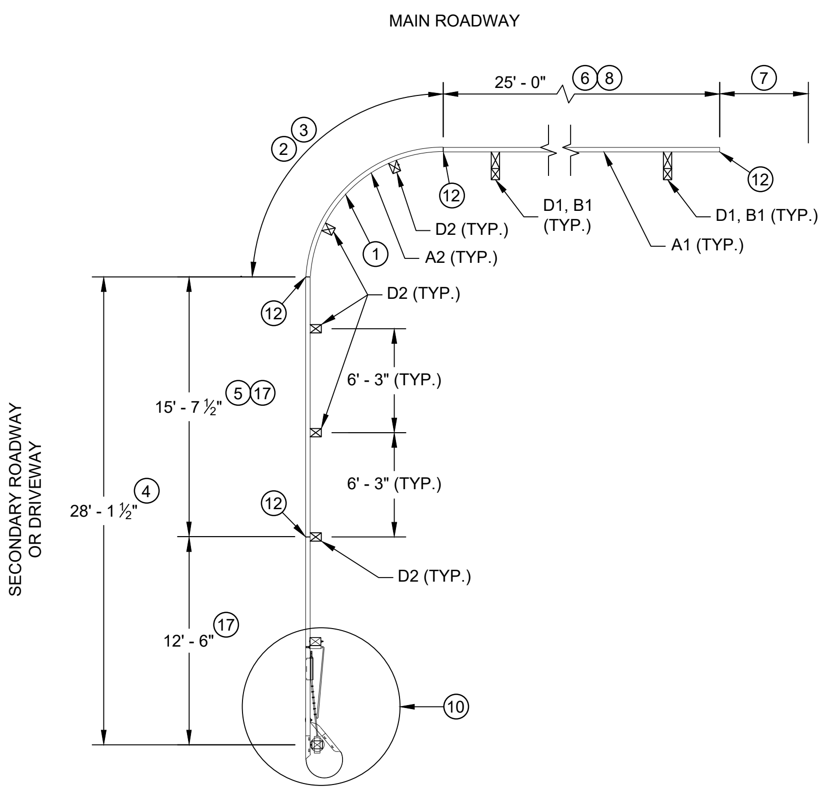
6

6

SDD 14B44 - 04c

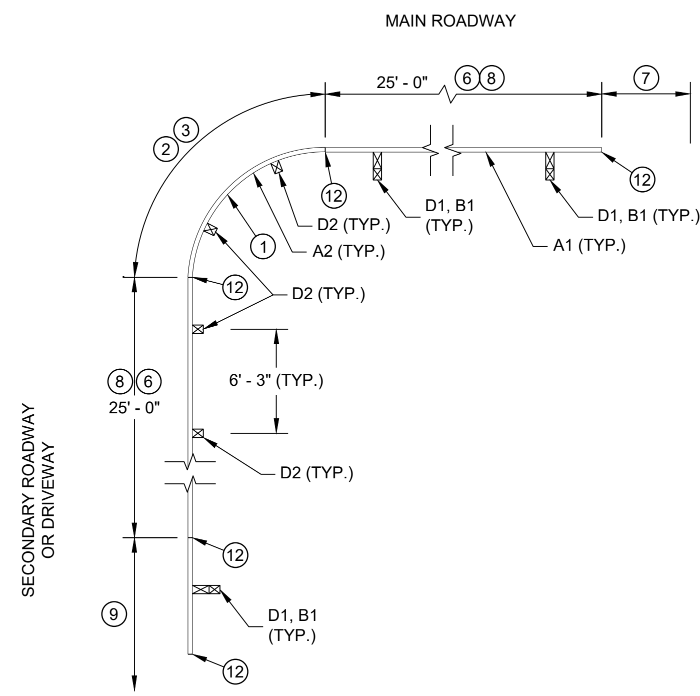
SDD 14B44 - 04c

MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION
APPROVED 7/2018 /S/ Rodney Taylor DATE ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR FHWA



PLAN VIEW

SHORT RADIUS BEAM GUARD WITH SHORT RADIUS TERMINAL ON SECONDARY ROAD OR DRIVEWAY

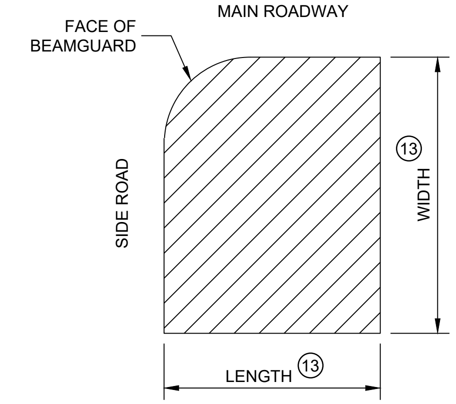


PLAN VIEW

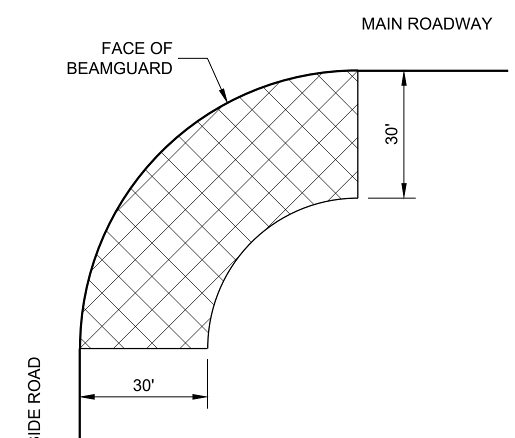
SHORT RADIUS BEAM GUARD WITH EAT, ADDITIONAL BEAM GUARD OR TRANSITION TO RIGID BARRIER ON SECONDARY ROAD OR DRIVEWAY

TABLE FOR RADIUS OF 32' AND LESS

RADIUS (FT)	LENGTH (FT)	WIDTH (FT)
8	25	15
16	30	15
24	40	20
32	50	30



AREA FREE OF FIXED OBJECTS FOR RADIUS 32' AND LESS 16



AREA FREE OF FIXED OBJECTS FOR RADIUS GREATER THAN 32'

GENERAL NOTES

SEE PLANS FOR OTHER BARRIER SYSTEM AND LOCATION SPECIFICS.

SEE SDD 14B42 FOR MORE INFORMATION ON BEAM GUARD INSTALLATION, PARTS, MATERIALS, AND INSTALLATION INFORMATION.

GALVANIZE PARTS AFTER FABRICATION.

WELDING TO FOLLOW CURRENT REQUIREMENTS OF THE AMERICAN WELDING SOCIETY STRUCTURAL WELDING CODE ANSI / AWS D1.1.

UNLESS NOTED OTHERWISE, ALL PLATES ARE FLAT AND FREE OF WARP.

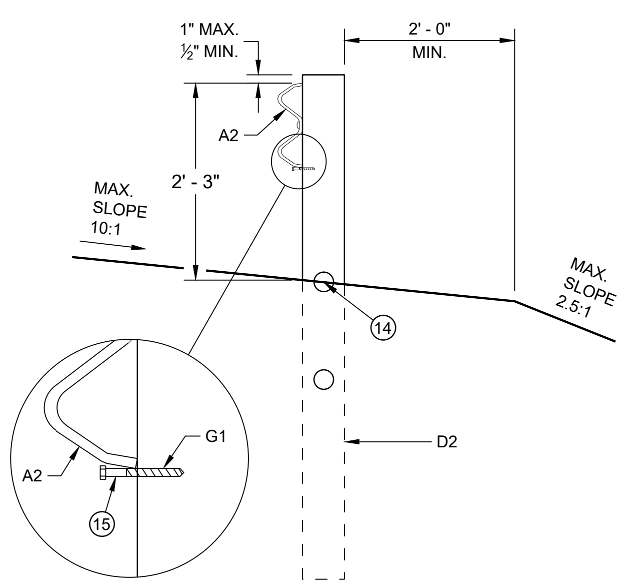
UNLESS NOTED OTHERWISE, ALL EDGES ARE SMOOTH, STRAIGHT AND VERTICAL.

ALL CUTS AND HOLES, EXCEPT IN BEAM GUARD RAIL ARE TO BE MACHINED OR MACHINE FLAME CUT.

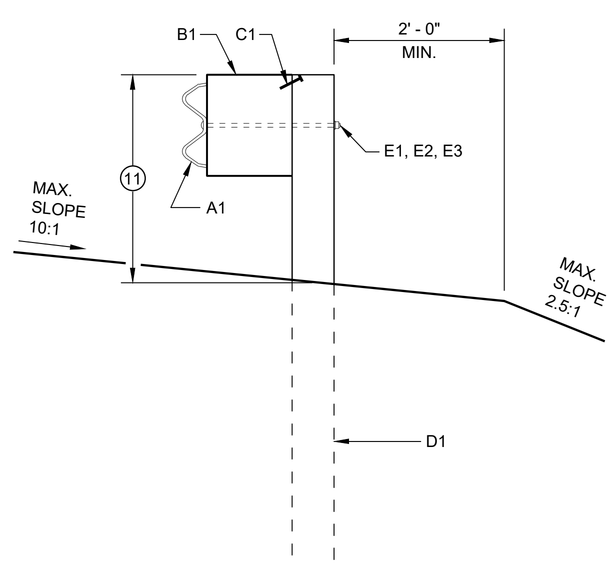
UNLESS NOTED OTHERWISE, CUT OR PROVIDE BOLTS THAT ARE ¼" TO ½" BEYOND THE NUT.

DRAWINGS ARE NOT TO SCALE.

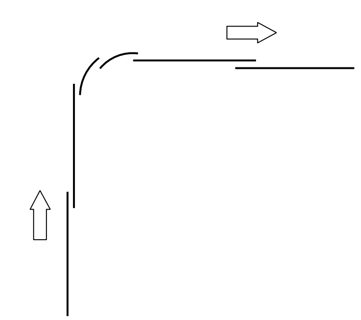
1. RADIUS MEASURE FROM INSIDE OF RAIL. LENGTH OF BEAM GUARD SHORT RADIUS GUARD MEASURED ALONG TRAFFIC SIDE OF RAIL. RADIUS BETWEEN 8 FEET TO 150 FEET. SEE PLAN FOR REQUIRED RADIUS. BEAM GUARD RAIL IN RADIUS IS SHOP BENT. ODD RAIL LENGTH OR FIELD CUTS MAY BE REQUIRED.
2. CONTROLLED RELEASE TERMINAL (CRT) POSTS ARE USED IN THE RADIUS. CONTROLLED RELEASE TERMINAL (CRT) POSTS ARE SPACED 6' - 3". SEE PLAN FOR NUMBER OF CONTROLLED RELEASE (CRT) POSTS.
3. WITHIN RADIUS BEAM GUARD RAILS ARE NOT BOLTED TO POSTS. BEAM GUARD RAIL IS RESTED ON TOP OF LAG SCREW.
4. MINIMUM LENGTH OF BEAM GUARD ALONG SIDE ROAD OR DRIVEWAY TO INSTALL SHORT RADIUS TERMINAL. BEAM GUARD IS PAID WITH BEAM GUARD ITEM.
5. ODD LENGTH OF BEAM GUARD REQUIRED TO INSTALL SHORT RADIUS TERMINAL.
6. MINIMUM AMOUNT OF BEAM GUARD TO BE INSTALLED PRIOR TO TRANSITION TO RIGID BARRIER. ADDITIONAL BEAM GUARD, OR EAT. BEAM GUARD PAID FOR WITH BEAM GUARD ITEM. SEE PLANS FOR MORE DETAIL.
7. BEAM GUARD, EAT, OR TRANSITION TO RIGID BARRIER. SEE PLAN.
8. TOP OF BEAM GUARD BY THE RADIUS IS 27". HEIGHT OF BEAM GUARD IS 31" BY TRANSITION TO RIGID BARRIER, ADDITIONAL BEAM GUARD OR EAT.
9. ADDITIONAL BEAM GUARD, EAT OR TRANSITION TO RIGID BARRIER. BEAM GUARD SHOWN. SEE PLAN FOR DETAILS.
10. SHORT RADIUS TERMINAL (SEE OTHER DETAILS).
11. HEIGHT VARIES. SEE NOTE 8 AND 8.
12. BEAM GUARD RAIL SPLICE LOCATION. SPLICE LOCATION REQUIRES PART F1 AND F2. SEE SDD 14B42 FOR DETAILS.
13. SEE TABLE FOR VALUES.
14. MAXIMUM HEIGHT FOR CENTER OF HOLE IS ¾" ABOVE FINISHED GROUND ±1".
15. DRILL POST $^{15}/_{64}$" DIA. PILOT HOLE. DO NOT HAMMER LAG SCREW INTO POST.
16. SMALL SIGNS ON BREAKAWAY HARDWARE ARE ACCEPTABLE.
17. TOP OF RAIL HEIGHT IS 27" WHEN USING A SHORT RADIUS TERMINAL (CRT).



CONTROLLED RELEASE TERMINAL POST (CRT) IN RADIUS



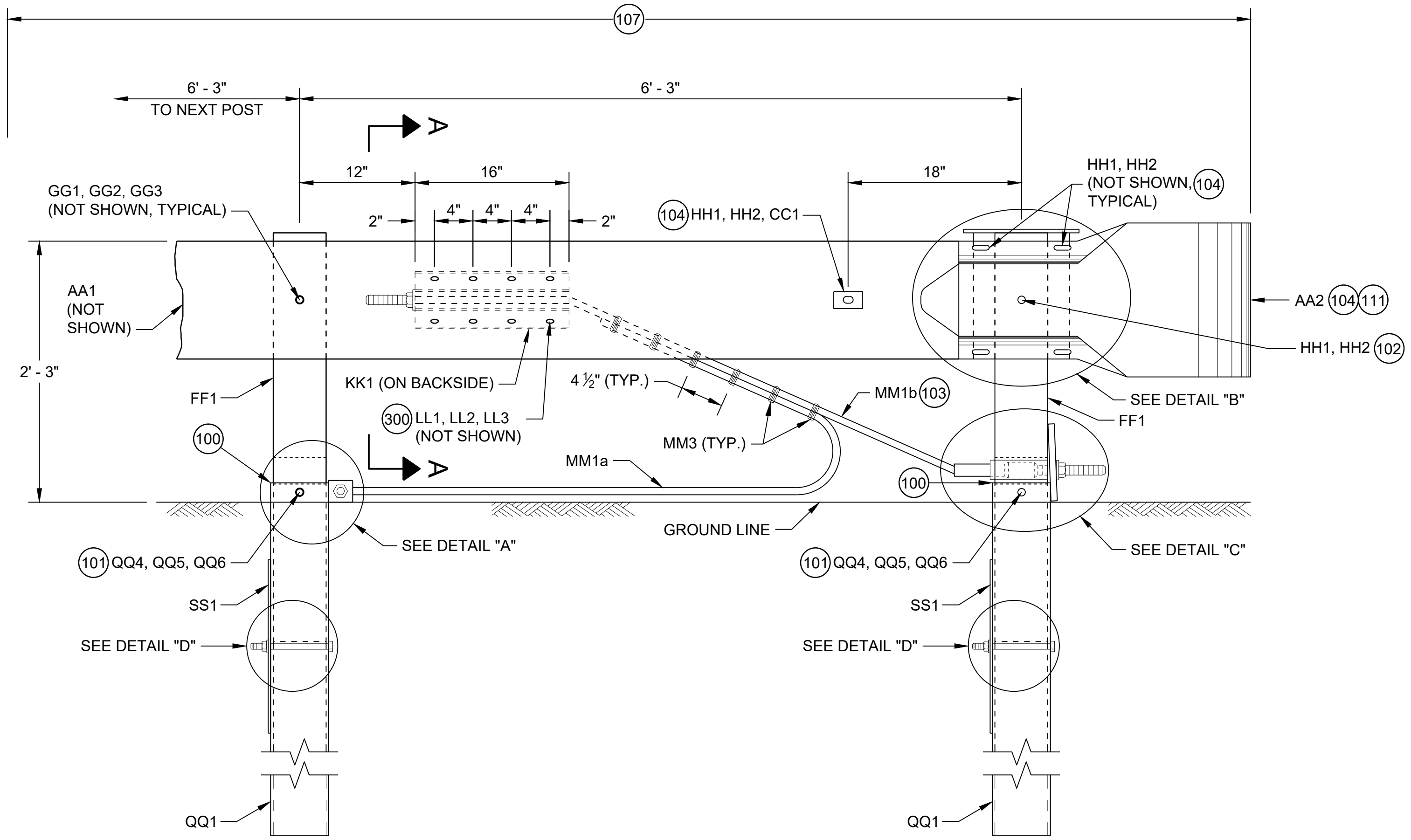
BEAM GUARD POSTS IN HEIGHT TRANSITION



LAP SPLICE DETAIL

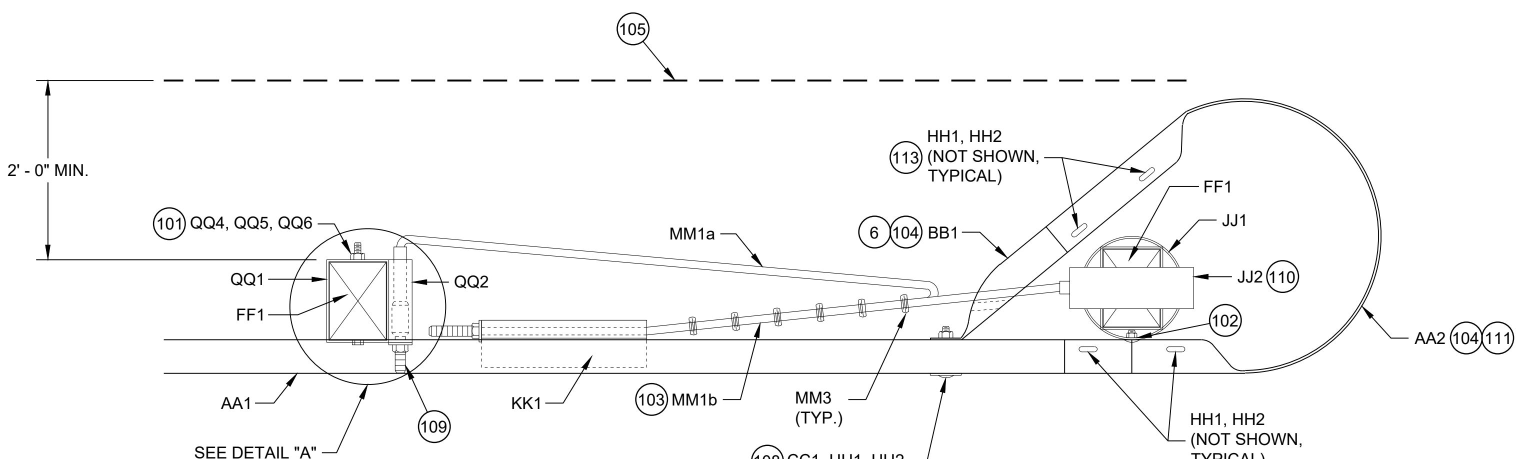
SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTA



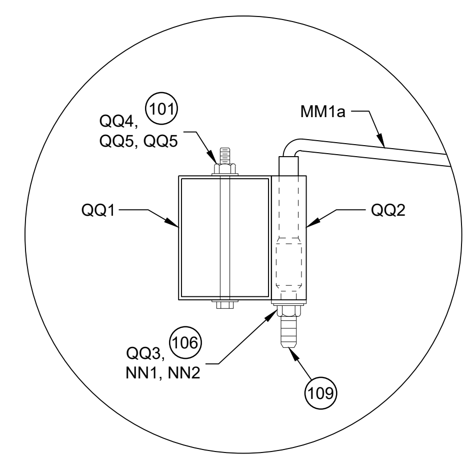
PROFILE VIEW

SHORT RADIUS TERMINAL



TOP VIEW

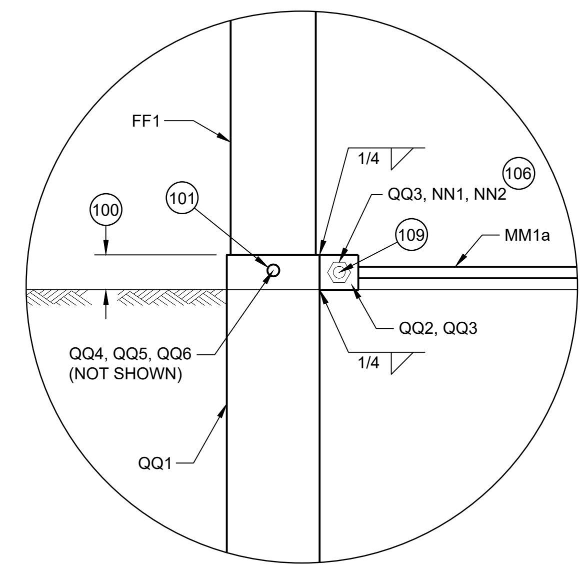
SHORT RADIUS TERMINAL



TOP VIEW

DETAIL "A"

(WOOD BREAKAWAY AND BEAM GUARD RAIL POSTS NOT SHOWN)



PROFILE VIEW

DETAIL "A"

GENERAL NOTES

(100) TOP OF FOUNDATION TUBE 2 INCHES MAXIMUM ABOVE FINISHED GROUND.

(101) WASHERS REQUIRED BETWEEN BOLT HEAD AND FOUNDATION TUBE AND BETWEEN NUT AND FOUNDATION TUBE.

(102) SPLICE BOLT AND NUT CONNECTS BEAM GUARD RAIL, W-BEAM SECTION BUFFER, AND STEEL PIPE ASSEMBLY. NO WASHER REQUIRED. SEE DETAIL "B".

(103) CABLE IS TAUT.

(104) ADJUST AA2 AND BB1 TO FIT.

(105) BREAK POINT OF SHOULDER.

(106) TACK WELD CABLE CONNECTOR TUBE PLATE TO CABLE CONNECTION TUBE. SEE DETAIL "A" PROFILE VIEW.

(107) PAY LIMIT FOR BEAM GUARD.

(108) SQUARE WASHER BETWEEN HEAD OF BOLT AND TRAFFIC FACE OF BEAM GUARD. ROUND WASHER REQUIRED BETWEEN NUT AND BB1.

(109) CUT OR PROVIDE THREADED STUD THAT IS FLUSH WITH FACE OF BEAM GUARD RAIL KK1 (PLUS OR MINUS ½" TOLERANCE). DEBURR AFTER CUTTING.

(110) SEE STEEL PIPE ASSEMBLY DETAILS.

(111) ATTACH UU2 WITH UU3. SHOP APPLY UU1 TO UU2.

(112) FOUR (4) HH1 AND HH2 REQUIRED TO ATTACH AA1 TO AA2.

(113) FOUR (4) HH1 AND HH2 REQUIRED TO ATTACH AA2 TO BB1.

SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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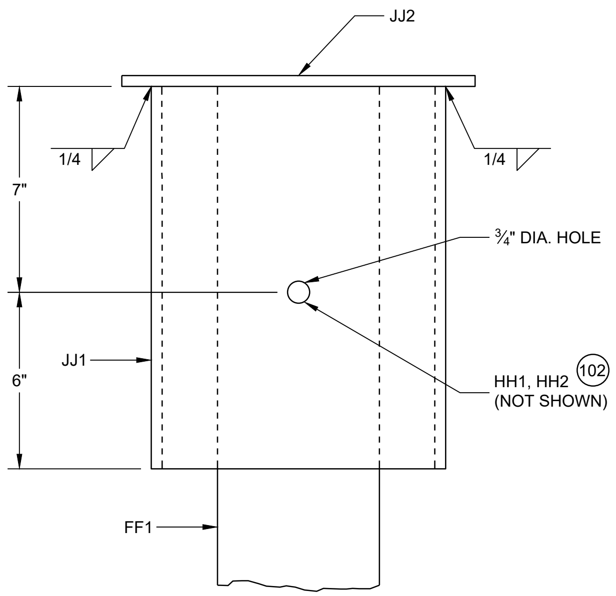
SDD 14B53 - 02b

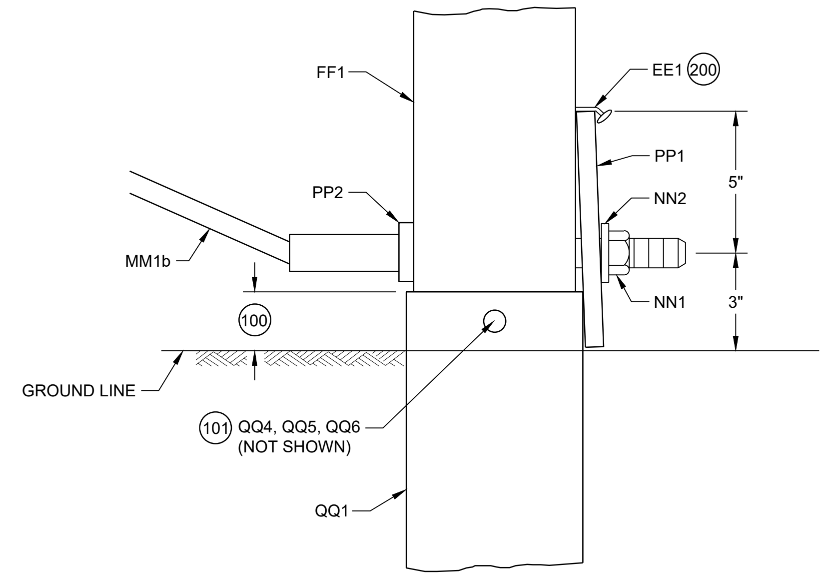
GENERAL NOTES

200 TWO (2) NAILS SPACED 4 INCHES CENTER TO CENTER.



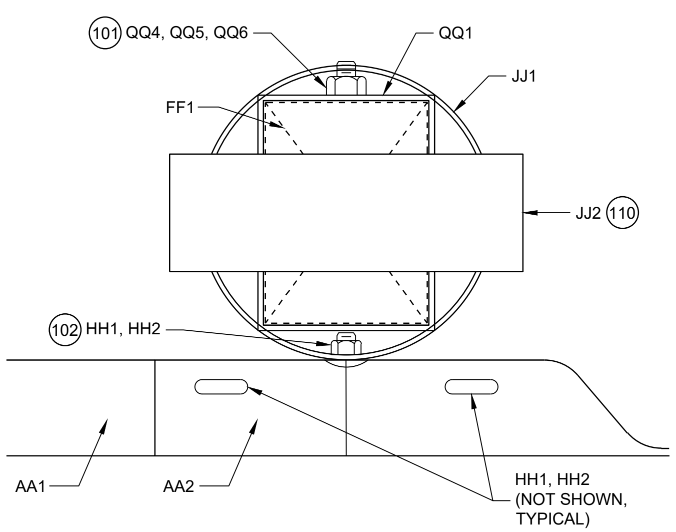
PROFILE VIEW

DETAIL "B"
STEEL PIPE ASSEMBLY
(BEAM GUARD AND W BEAM END SECTION NOT SHOWN)



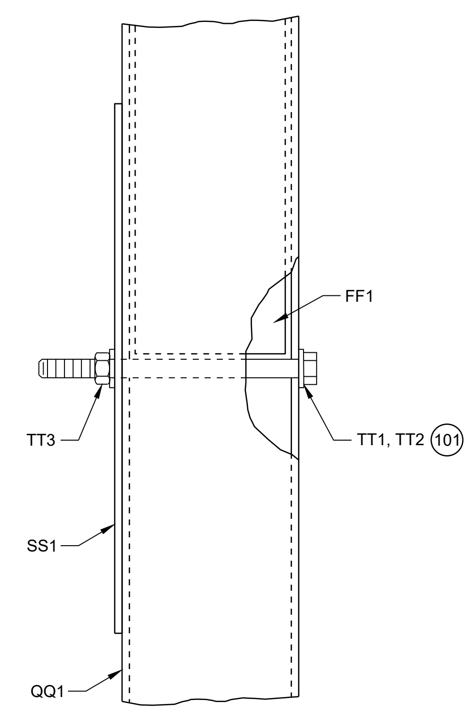
PROFILE VIEW

DETAIL "C"



PLAN VIEW

DETAIL "B"
STEEL PIPE ASSEMBLY



PROFILE VIEW

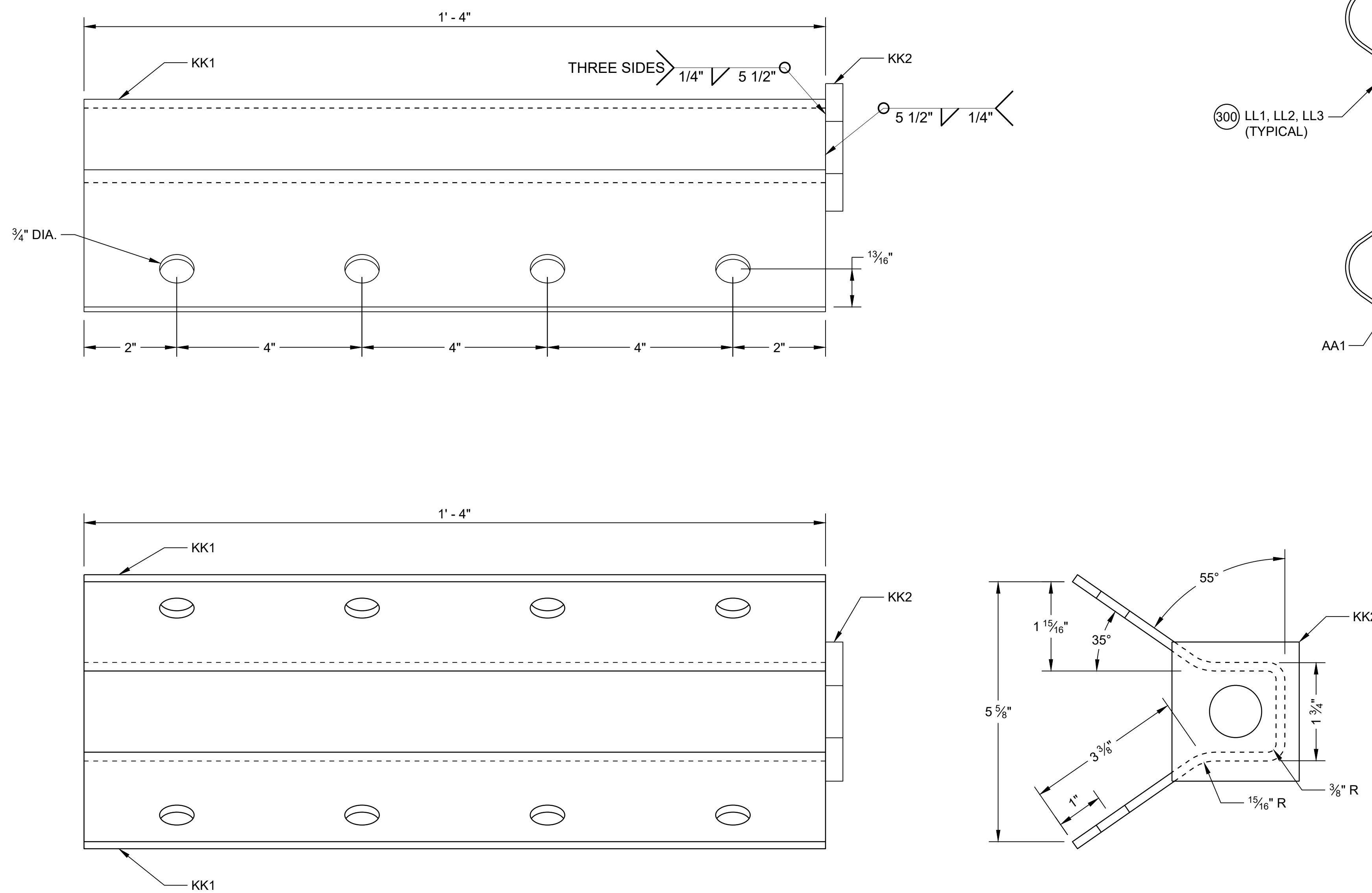
DETAIL "D"

SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)

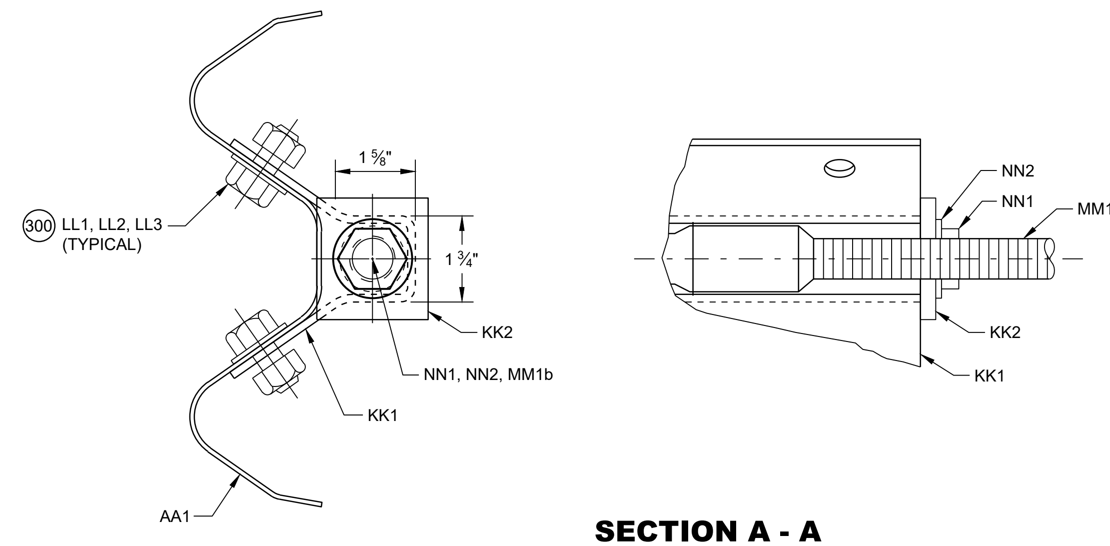
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTA

GENERAL NOTES

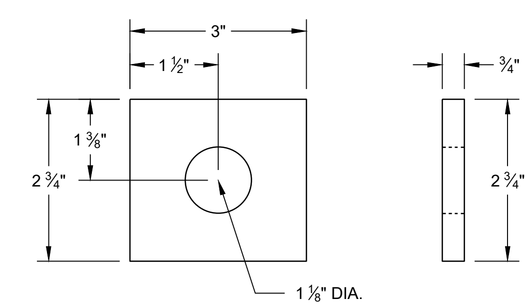
(300) WASHERS REQUIRED BETWEEN BOLT HEAD AND BEAM GUARD RAIL AND BETWEEN NUT AND ANCHOR BRACKET. EIGHT (8) LL1 AND LL3 REQUIRED. SIXTEEN (16) LL2 REQUIRED.



ANCHOR BRACKET (KK1, KK2)



SECTION A - A



ANCHOR BRACKET BEARING PLATE (KK2)

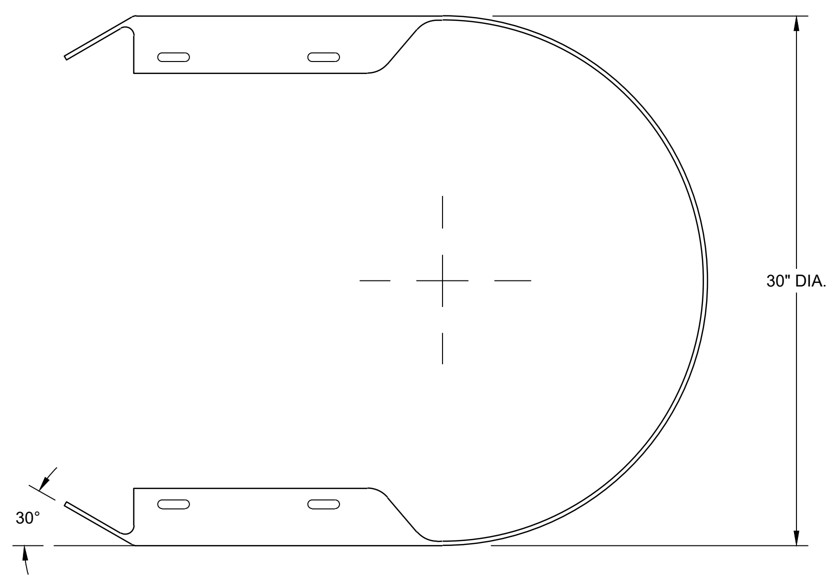
SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTAT 171

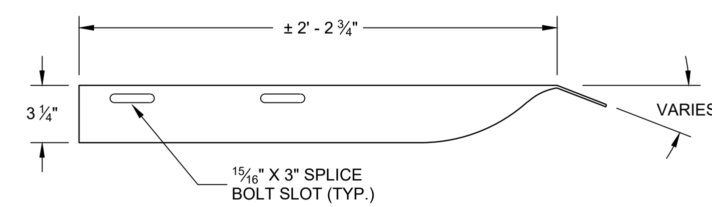
GENERAL NOTES

(400) CROSS SECTION OF PART IS TO FIT OVER AA1 .

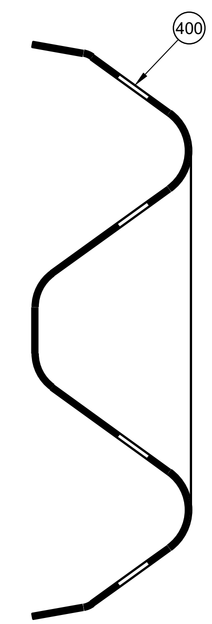
(401) CROSS SECTION OF PART IS TO FIT OVER OR UNDER AA1 .



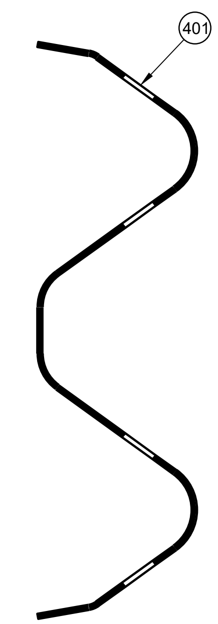
TOP VIEW



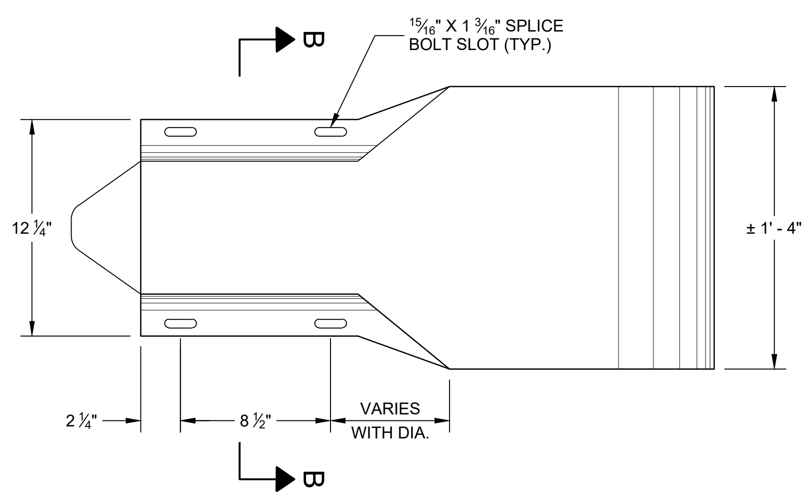
TOP VIEW



SECTION B -B

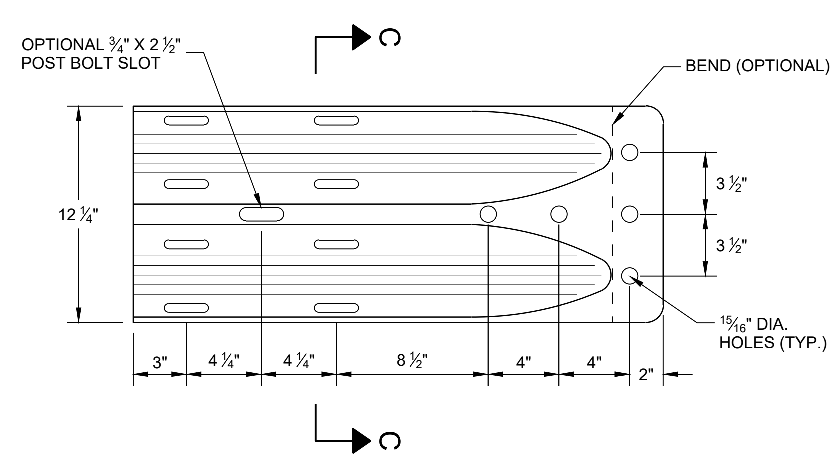


SECTION C -C



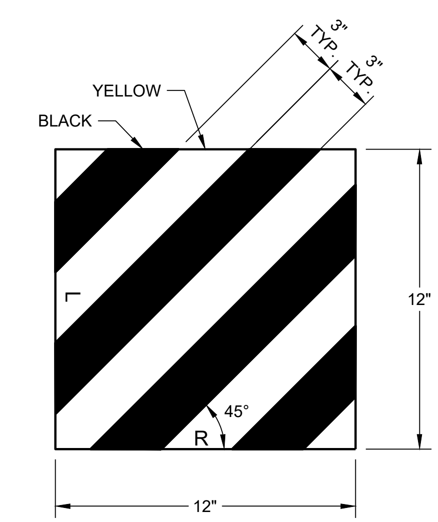
PROFILE VIEW

W BEAM
END SECTION BUFFER (AA2)



PROFILE VIEW

W BEAM
TERMINAL CONNECTOR (BB1)



REFLECTIVE SHEETING (UU1, UU2)

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SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

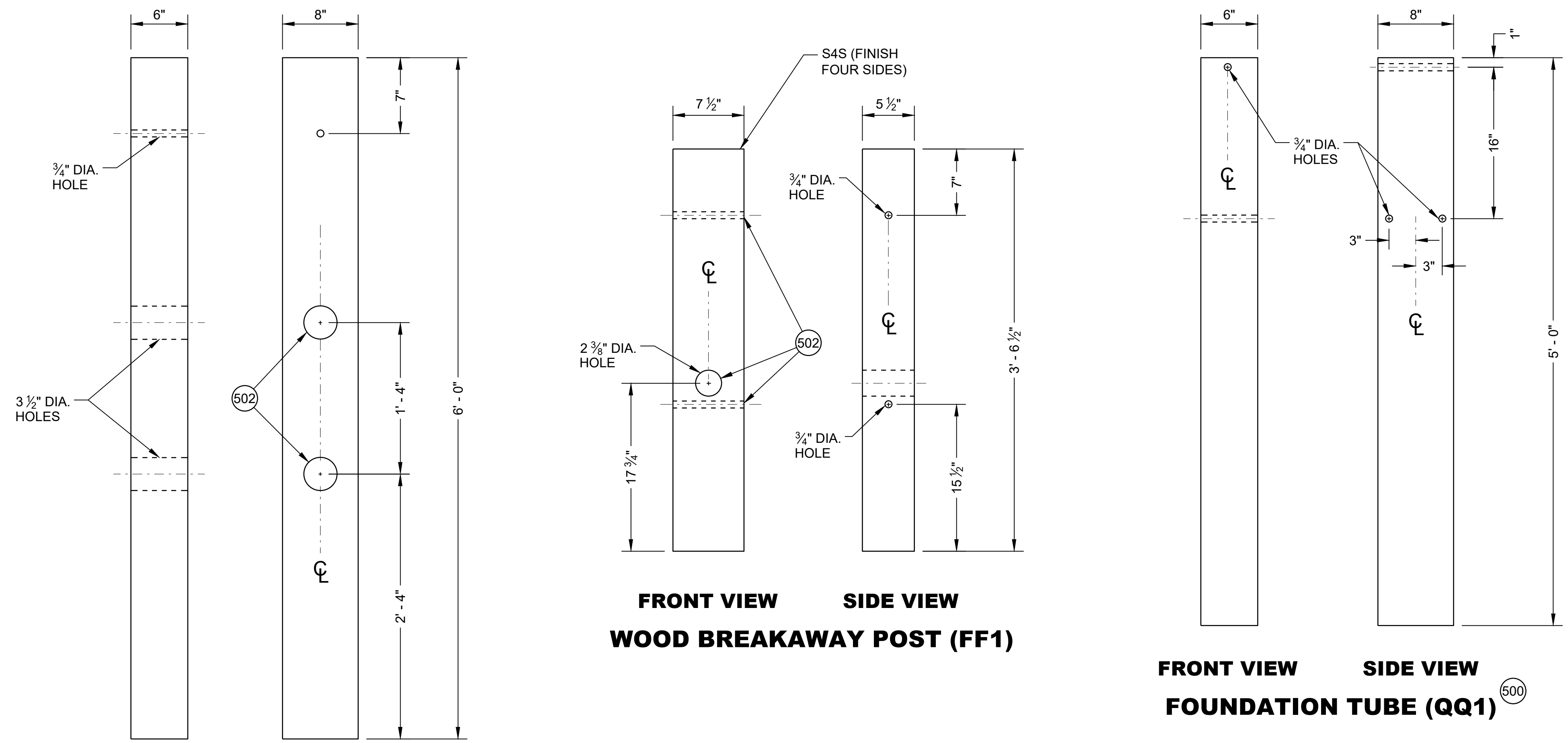
GENERAL NOTES

(500) SEE DETAIL "D" FOR LOCATION AND ATTACHMENT OF SS1.

(501) FOR MM1a THREADED STUD ONLY REQUIRED ON ONE END. SWAGED FITTING REQUIRED.

(502) LOCATE HOLES ON THE CENTERLINE OF THE SIDE OF THE POST.

(503) MM1a MAY HAVE ONE THREADED STUD 4 INCHES LONG. SEE NOTE (109).



FRONT VIEW SIDE VIEW

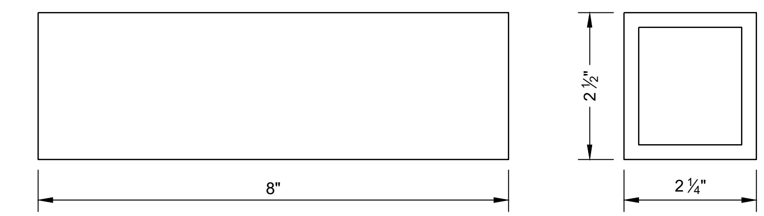
CONTROLLED RELEASE POST (CRT) (DD2)

FRONT VIEW SIDE VIEW

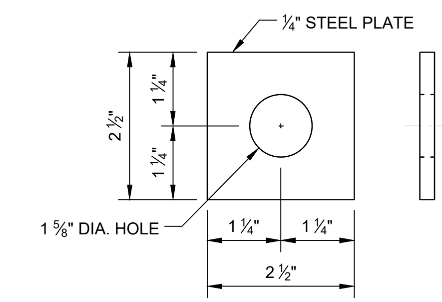
WOOD BREAKAWAY POST (FF1)

FRONT VIEW SIDE VIEW

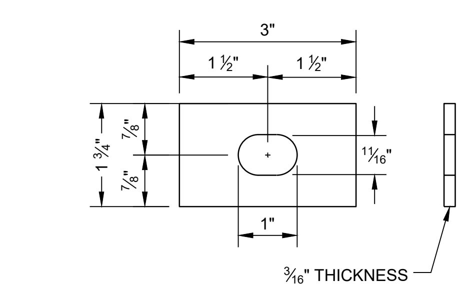
FOUNDATION TUBE (QQ1) (500)



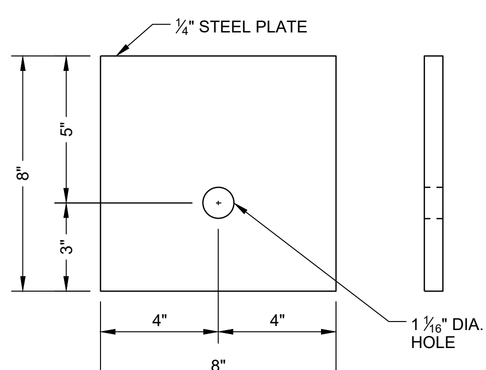
FOUNDATION TUBE - ANCHOR CABLE TUBE (QQ2)



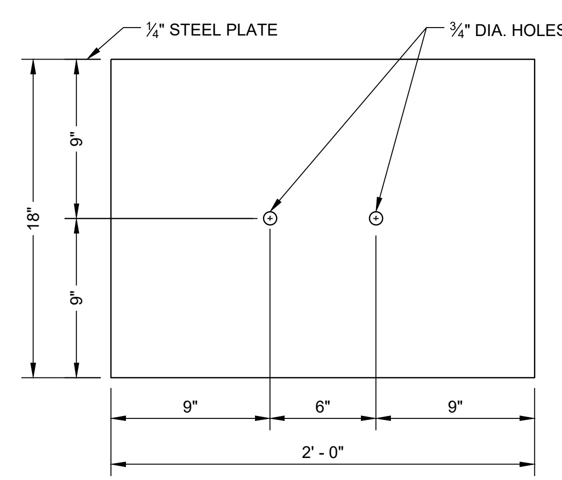
ANCHOR CABLE TUBE END PLATE (QQ3)



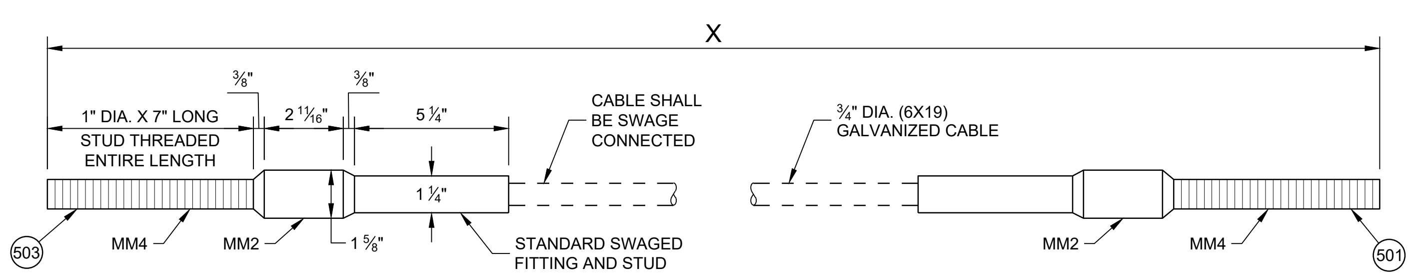
RECTANGULAR PLATE WASHER (CC1)



BEARING PLATE (PP1)



SOIL PLATE (SS1)



CABLE ASSEMBLY (MM1a, MM1b)

"X" LENGTH

MM1b	9' - 0"
MM1b	6' - 8"

SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTA173

SDD 14B53 - 02f

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BILL OF MATERIALS - SHORT RADIUS BEAM GUARD (MGS)

PART	DESCRIPTION	MATERIALS SPECIFICATIONS	NOTES
A1	BEAM GUARD RAIL	AASHTO M180, CLASS A, TYPE 2	
		APPROVED PRODUCER	
A2	BEAM GUARD RAIL - SHOP BENT	INDICATE ON BACK OF RAIL THE RADIUS THAT RAIL WAS BENT TO. SHOP BEND RADIUS IS TO THE NEAREST FOOT. FOLLOW AASHTO M180 ON HOW TO MARK RADIUS INFORMATION.	
		AASHTO M180, CLASS A, TYPE 2	
		APPROVED PRODUCER	
B1	BLOCK - WOOD	WISDOT SPEC. 614	SEE SDD 14B42
C1	NAIL	ASTM A153 HOT DIP CLASS D	
		ASTM F1667 TYPE 1 STYLE 12 (16 DOUBLE HEAD)	
D1	POST-STRONG POST-WOOD	WISDOT SPEC. 614	SEE SDD 14B42
D2	POST-CRT-WOOD	WISDOT SPEC. 614	
E1	POST BOLT	ASTM A307 GRADE A OR SAE J429 GRADE 2	$\frac{5}{8}$" DIA. SEE SDD 14B42 FOR BOLT GEOMETRY
		AASHTO M180	
		GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1	
		UNC	
E2	POST BOLT - WASHER	ASTM F436 TYPE 1 (HARDEN TYPICALLY USED WITH STEEL) OR ASTM F844 (UNHARDENED TYPICALLY WITH WOOD)	$\frac{5}{8}$" DIA.
		GALV. AASHTO M111 / ASTM A 123 OR GALV. HOT DIP. TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329	
E3	POST BOLT - NUT	AASHTO M180 DOUBLE RECESSED HEAVY HEX HEAD	$\frac{5}{8}$" DIA. SEE SDD 14B42 FOR BOLT GEOMETRY
		GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1	
		UNC	
		OVER TAPPED NUTS OVER-SIZE AS SPECIFIED IN AASHTO 291 / ASTM A 563	
		ASTM A563 GRADE A HEAVY HEX HEAD	
F1	SPLICE BOLT	GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1	$\frac{5}{8}$" DIA. SEE SDD 14B42 FOR BOLT GEOMETRY
		ASTM A307 GRADE A OR SAE J429 GRADE 2	
		UNC	
		AASHTO M180	

PART	DESCRIPTION	MATERIALS SPECIFICATIONS	NOTES
F2	SPLICE BOLT - NUT	ASTM A563 GRADE A	$\frac{5}{8}$" DIA. SEE SDD 14B42 FOR BOLT GEOMETRY
		AASHTO M180 DOUBLE RECESSED HEAVY HEX HEAD	
		GALV. HOT DIP TO AASHTO M232 CLASS C/ASTM A153 CLASS C/ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1/ASTM B695 CLASS 50, TYPE 1	
		OVER TAPPED NUTS OVER-SIZE AS SPECIFIED IN AASHTO 291 / ASTM A 563	
		UNC	
G1	LAG SCREW	ASTM A308 GRADE A ASTM A153 CLASS D	$\frac{1}{2}$" DIA. 6" LONG
H1	DELINEATOR - BEAM GUARD		SEE SDD 14B42 FOR MORE INFORMATION
H2	DELINEATION - SHEETING	YELLOW OR WHITE	
		WISDOT SPEC 637 TYPE SH	
		APPROVED PRODUCT LIST	
J1	FOUNDATION BACKFILL	STANDARD SPEC. 614	
AA1	BEAM GUARD RAIL - PUNCHED	AASHTO M180, CLASS A, TYPE 2	
		APPROVED PRODUCER	
AA2	BEAM GUARD RAIL - END SECTION BUFFER	AASHTO M180, CLASS A, TYPE 2	
		APPROVED PRODUCER	
BB1	BEAM GUARD RAIL - TERMINAL CONNECTOR MODIFIED	AASHTO M180, CLASS A, TYPE 2	
		APPROVED PRODUCER	
CC1	SHORT RADIUS - SQUARE WASHER	AASHTO M180	
		GALV. AASHTO M111 / ASTM A123	
EE1	NAIL	ASTM A153 HOT DIP CLASS D	
		ASTM F1667 TYPE 1 STYLE 12 (16 DOUBLE HEADED)	
FF1	POST - BCT - WOOD	S4S FINISH ON 4 SIDES	
		WISDOT SPEC. 614	
GG1	POST BOLT	ASTM A307 GRADE A OR SAE J429 GRADE 2	$\frac{3}{8}$" DIA. SEE SDD 14B42 FOR BOLT GEOMETRY
		AASHTO M180	
		GALV. HOT DIP TO AASHTO M232 CLASS C/ASTM A153 CLASS C/ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1/ASTM B695 CLASS 50, TYPE 1	
		UNC	
GG2	POST BOLT - WASHER	ASTM F436 TYPE 1 (HARDEN TYPICALLY USED WITH STEEL) OR ASTM F844 (UNHARDENED TYPICALLY WITH WOOD)	$\frac{3}{8}$" DIA.
		GALV. AASHTO M111 / ASTM A 123 OR GALV. HOT DIP. TO AASHTO M232 CLASS C/ASTM A153 CLASS C / ASTM F2329	

SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATI 74

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SDD 14B53 - 02g

BILL OF MATERIALS - SHORT RADIUS BEAM GUARD (MGS)

PART	DESCRIPTION	MATERIALS SPECIFICATIONS	NOTES
GG3	POST BOLT - NUT	ASTM A563 GRADE A AASHTO M180 DOUBLE RECESSED HEAVY HEX HEAD GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1 UNC OVER TAPPED NUTS OVER-SIZE AS SPECIFIED IN AASHTO 291 / ASTM A 563 ASTM A563 GRADE A HEAVY HEX HEAD	⅜" DIA. SEE 14B42 FOR GEOMETRY
HH1	SPLICE BOLT	GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1 ASTM A307 GRADE A OR SAE J429 GRADE 2 UNC AASHTO M180 HEAD GEOMETRY	⅜" DIA. SEE SDD 14B42 FOR BOLT GEOMETRY
HH2	SPLICE BOLT - NUT	ASTM A563 GRADE A AASHTO M180 DOUBLE RECESSED HEAVY HEX HEAD GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1 OVER TAPPED NUTS OVER-SIZE AS SPECIFIED IN AASHTO 291 / ASTM A 563 UNC	⅜" DIA. SEE SDD 14B42 FOR BOLT GEOMETRY
JJ1	PIPE - STEEL	ASTM A53 GALVANIZED GRADE B SCHEDULE 40	10" O.D.
JJ2	TOP PLATE	ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI OR ASTM A709 MAX STRENGTH 50 KSI OR ASTM A992 MAX STRENGTH 50 KSI GALV. AASHTO M111 / ASTM A123	DIMENSIONS ⅜" X 4" X 1' - 0"
KK1	ANCHOR BRACKET	ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI OR ASTM A709 MAX STRENGTH 50 KSI OR ASTM A992 MAX STRENGTH 50 KSI GALV. AASHTO M111 / ASTM A123	
KK2	ANCHOR BRACKET - BEARING PLATE	ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI OR ASTM A709 MAX STRENGTH 50 KSI OR ASTM A992 MAX STRENGTH 50 KSI GALV. AASHTO M111 / ASTM A123	
LL1	ANCHOR BRACKET - BOLT	ASTM A307 GRADE B HEAVY HEX HEAD OR SAE J429 GRADE 2 HEAVY HEX HEAD GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1 UNC	⅝" DIA.

PART	DESCRIPTION	MATERIALS SPECIFICATIONS	NOTES
LL2	ANCHOR BRACKET - WASHER	ASTM F436 TYPE 1 (HARDEN WASHER ONLY) GALV. AASHTO M111 / ASTM A123 OR GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329	⅝" DIA.
LL3	ANCHOR BRACKET - NUT	ASTM A563 GRADE A GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1 OVER TAPPED NUTS OVER-SIZE AS SPECIFIED IN AASHTO 291 / ASTM A 563 UNC	⅝" DIA.
MM1a	ANCHOR CABLE	AASHTO M30 / ASTM A741 INDEPENDENT WIRE CORE (IWRC) OR WIRE STRAND CORE (WCS), IMPROVED PLOW STEEL (IPS), 6X19, TYPE II OR IIc CLASS C ZINC COATED	
MM1b	ANCHOR CABLE	AASHTO M30 / ASTM A741 INDEPENDENT WIRE CORE (IWRC) OR WIRE STRAND CORE (WCS), IMPROVED PLOW STEEL (IPS), 6X19, TYPE II OR IIc CLASS C ZINC COATED	
MM2	ANCHOR CABLE - SWAGE FITTING	ASTM A576 GRADE 1035 SWAGE FITTINGS ARE TO BE FACTORY SWEDGED. WITH A BREAKING STRENGTH 40,000 LBS. GALV. AASHTO M111 / ASTM A123 ASME B30.26 FORGED, CAST, OR DIE STAMPED WITH THE FOLLOWING INTO CONNECTION: NAME OF MANUFACTURER OR TRADEMARK OF CONNECTION'S MANUFACTURER, SIZE OR RATED LOAD, GRADE.	
MM3	WIRE ROPE CABLE CLAMPS	FF-C-450D TYPE 1 CLASS 1 ASTM A153 HOT DIP CLASS D	¾"
MM4	ANCHOR CABLE - SWAGE FITTING - STUD	ASTM F3125 GRADE A325 TYPE 1 OR SAE GRADE 5 OR ASTM A449 TYPE 1 HEAVY HEX HEAD GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1 UNC	
NN1	ANCHOR CABLE - NUT	ASTM A563 GRADE A AASHTO M180 DOUBLE RECESSED HEAVY HEX HEAD GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1 OVER TAPPED NUTS OVER-SIZE AS SPECIFIED IN AASHTO 291 / ASTM A 563 UNC	1" DIA.
NN2	ANCHOR CABLE - NUT - WASHER	ASTM F436 TYPE 1 (HARDEN WASHER ONLY) GALV. AASHTO M111 / ASTM A123 OR GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329	1" DIA.

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SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTA

SDD 14B53 - 02h

BILL OF MATERIALS - SHORT RADIUS BEAM GUARD (MGS)

PART	DESCRIPTION	MATERIALS SPECIFICATIONS	NOTES
PP1	BEARING PLATE AT POST	ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI OR ASTM A709 MAX STRENGTH 50 KSI OR ASTM A992 MAX STRENGTH 50 KSI GALV. AASHTO M111 / ASTM A123	
PP2	PIPE - STEEL	ASTM A53 GALVANIZED GRADE B SCHEDULE 40	2" DIA. x 6" LONG
QQ1	FOUNDATION TUBE	ASTM A500 GRADE B GALV. AASHTO M111 / ASTM A123	8" X 6" X 3⁄16"
QQ2	SHORT RADIUS - FOUNDATION TUBE - ANCHOR CABLE - TUBE	ASTM A500 GRADE B GALV. AASHTO M111 / ASTM A123	DIMENSIONS 2 1⁄2" X 2 1⁄4" X 1⁄4" X 8"
QQ3	SHORT RADIUS - SOIL TUBE - ANCHOR CABLE - TUBE - END PLATE	ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI OR ASTM A709 MAX STRENGTH 50 KSI OR ASTM A992 MAX STRENGTH 50 KSI GALV. AASHTO M111 / ASTM A123	DIMENSIONS 2 1⁄2" X 2 1⁄2" X 1⁄4"
QQ4	GROUND STRUT AND YOKE - BOLT	GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1 ASTM A307 GRADE B HEAVY HEX HEAD OR SAE J429 GRADE 2 HEAVY HEX HEAD UNC	5⁄8 DIA.
QQ5	GROUND PLATE AND YOKE - WASHER	ASTM F436 TYPE 1 (HARDEN WASHER ONLY) GALV. AASHTO M111 / ASTM A123 OR GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329	5⁄8 DIA.
QQ6	GROUND STRUT AND YOKE - NUT	HEAVY HEX UNC ASTM A563 GRADE A OVER TAPPED NUTS AS SPECIFIED IN AASHTO 291 / ASTM A 563 GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1	5⁄8 DIA.

PART	DESCRIPTION	MATERIALS SPECIFICATIONS	NOTES
SS1	SOIL PLATE	ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI OR ASTM A709 MAX STRENGTH 50 KSI OR ASTM A992 MAX STRENGTH 50 KSI GALV. AASHTO M111 / A123	
TT1	SOIL PLATE - BOLT	ASTM A307 GRADE B HEAVY HEX HEAD OR SAE J429 GRADE 2 HEAVY HEX HEAD GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1 UNC	5⁄8 DIA.
TT2	SOIL PLATE - WASHER	ASTM F436 TYPE 1 (HARDEN WASHER ONLY) GALV. AASHTO M111 / ASTM A123 OR GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329	5⁄8 DIA.
TT3	SOIL PLATE - NUT	GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1	5⁄8 DIA.
UU1	OBJECT MARKER - SHEETING	MUTCD / WISDOT OBJECT MARKER TYPE 3 WISDOT SPEC 637 TYPE F APPROVED PRODUCT LIST	PATTERN AND COLOR FOR SHEETING. SHEETING TYPE FOR MARKER.
UU2	OBJECT MARKER - ALUMINUM PLATE	WISDOT SPEC 637 ALUMINUM PLATE	MATERIAL AND THICKNESS OF MATERIALS
UU3	OBJECT MARKER - SCREWS	STAINLESS SELF-TAPPING SCREWS	
VV1	FOUNDATION BACKFILL	WISDOT SPEC 614	

SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2022 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

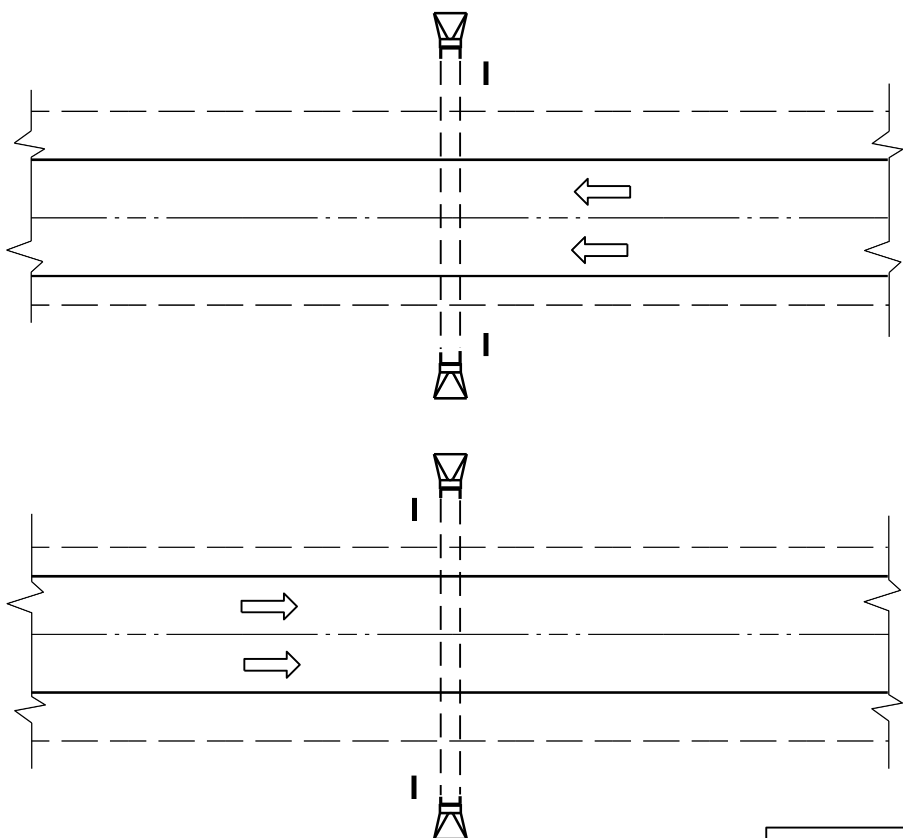
6

SDD 14B53 - 02i

6

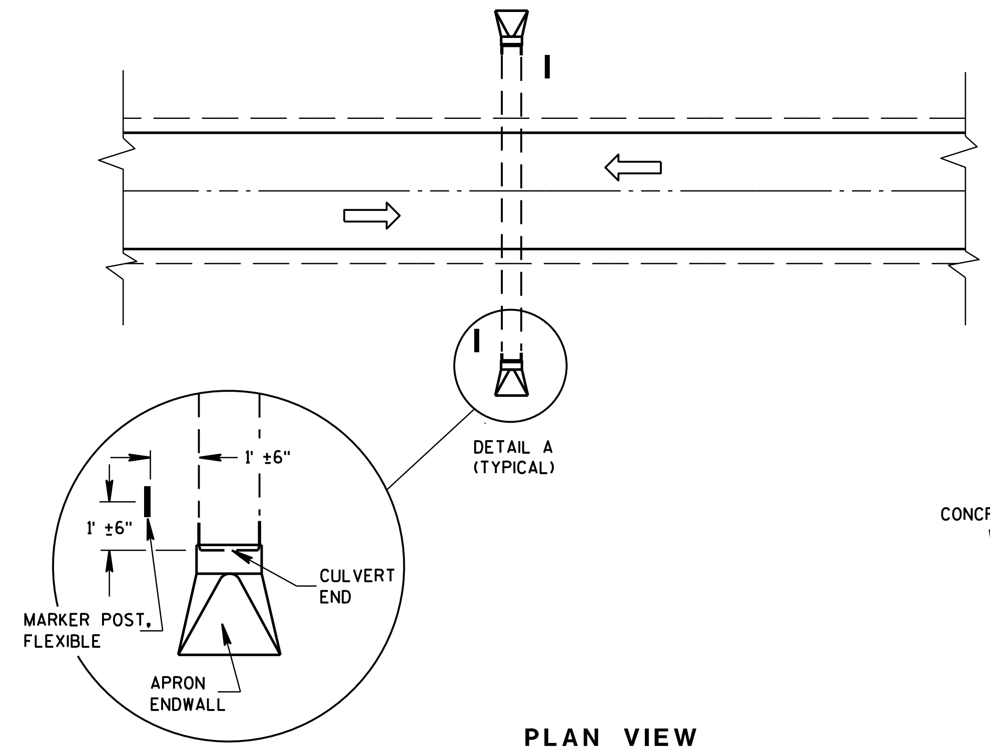
GENERAL NOTES

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

DIVIDED HIGHWAY

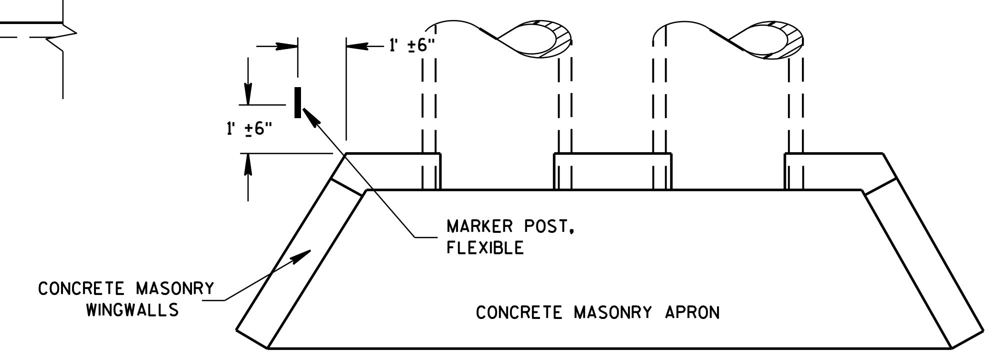


DETAIL A
(TYPICAL)

PLAN VIEW

UNDIVIDED HIGHWAY

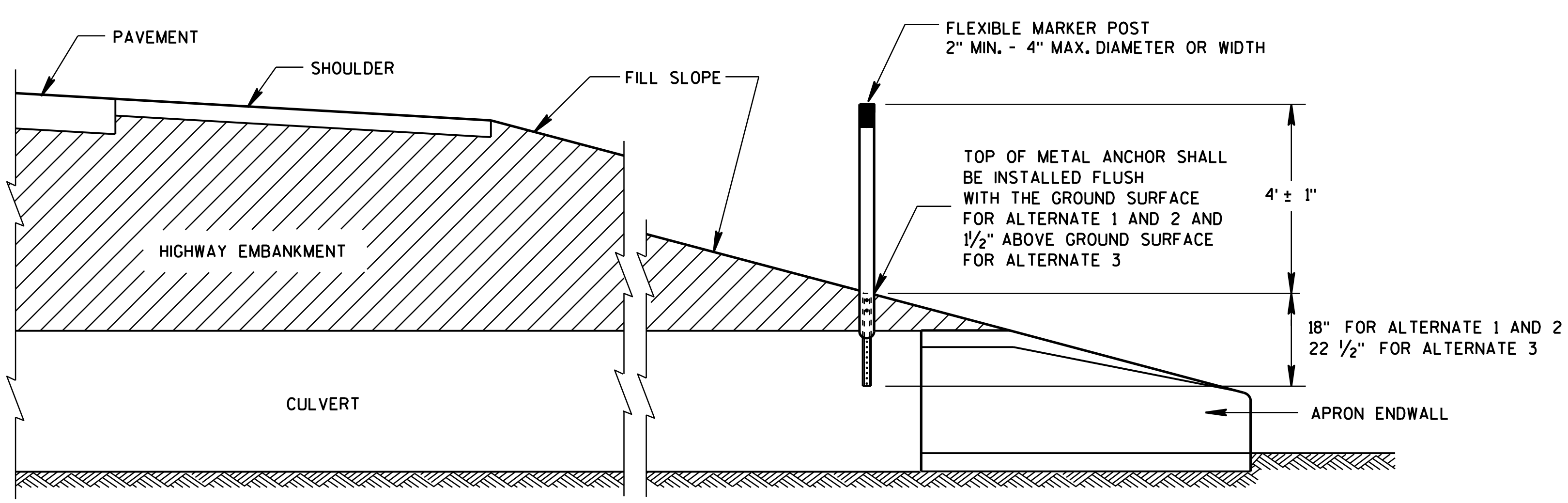
I	MARKER POST, FLEXIBLE
⇨	DIRECTION OF TRAFFIC FLOW



PLAN VIEW

CONCRETE MASONRY ENDWALLS FOR CULVERT PIPE AND PIPE ARCH

FLEXIBLE MARKER POST LOCATION



CROSS SECTION

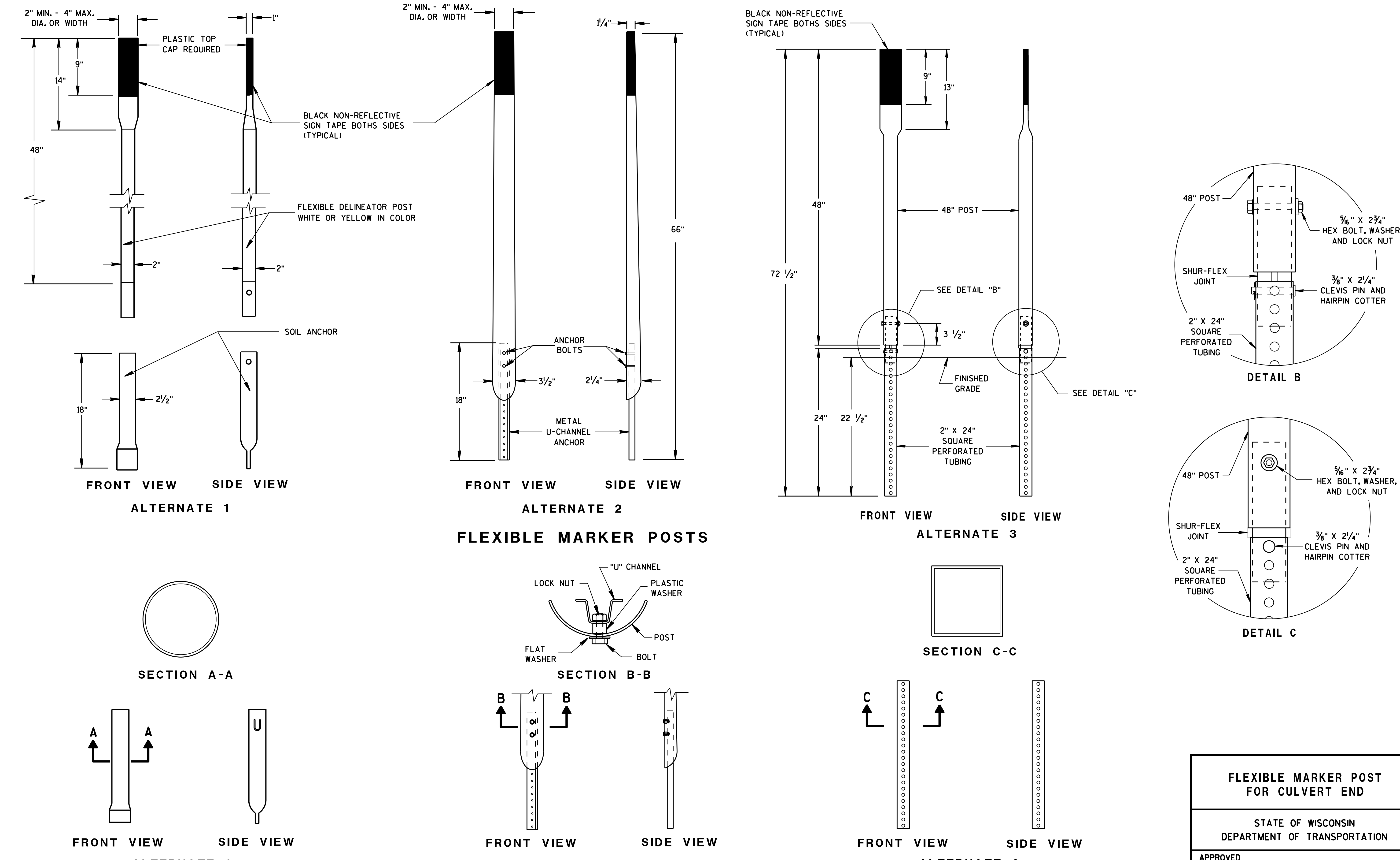
FLEXIBLE MARKER POST

6

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

FLEXIBLE MARKER POST FOR CULVERT END
STATE OF WISCONSIN DEPARTMENT OF TRANSPOR

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



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
FHWA

GENERAL NOTES

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

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

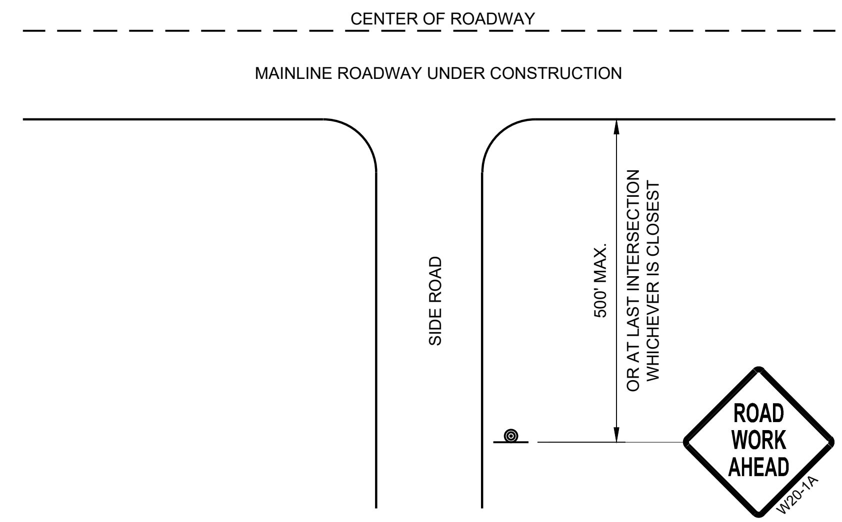
ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

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

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

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

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



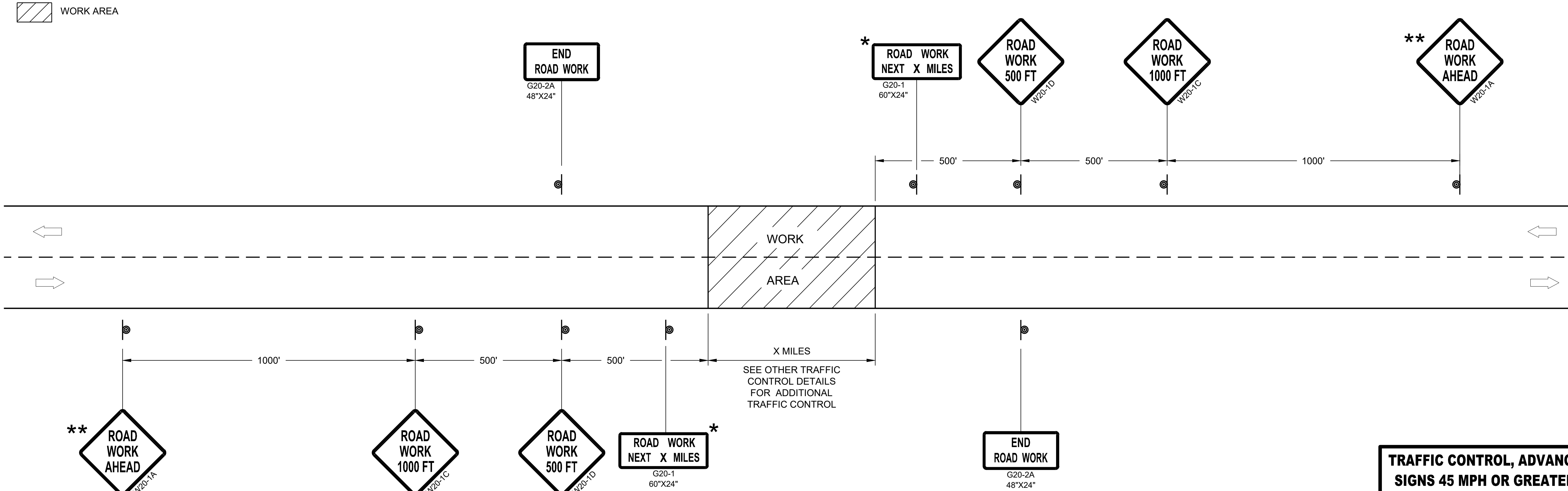
TYPICAL SIDE ROAD APPROACH WARNING SIGN DETAIL

LEGEND

SIGN ON PERMANENT SUPPORT

DIRECTION OF TRAFFIC

WORK AREA



TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45MPH OR GREATER

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6
SDD 15C04 - 05

GENERAL NOTES

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

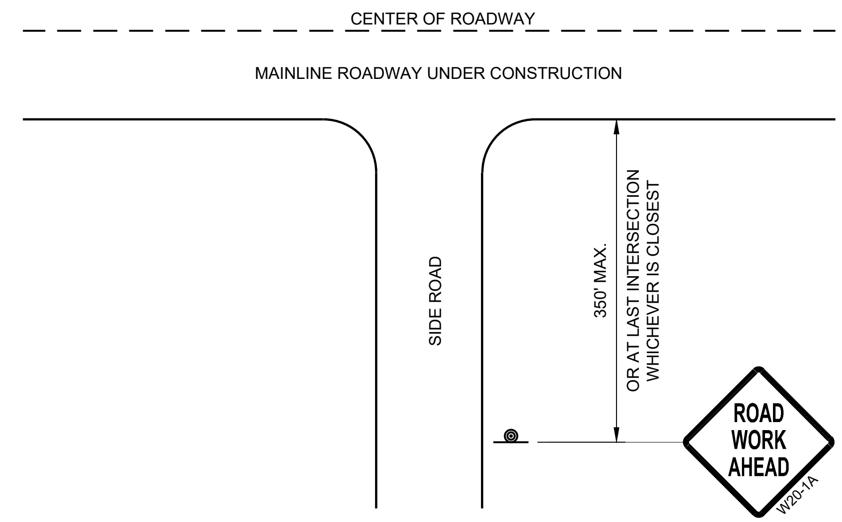
THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

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

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

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

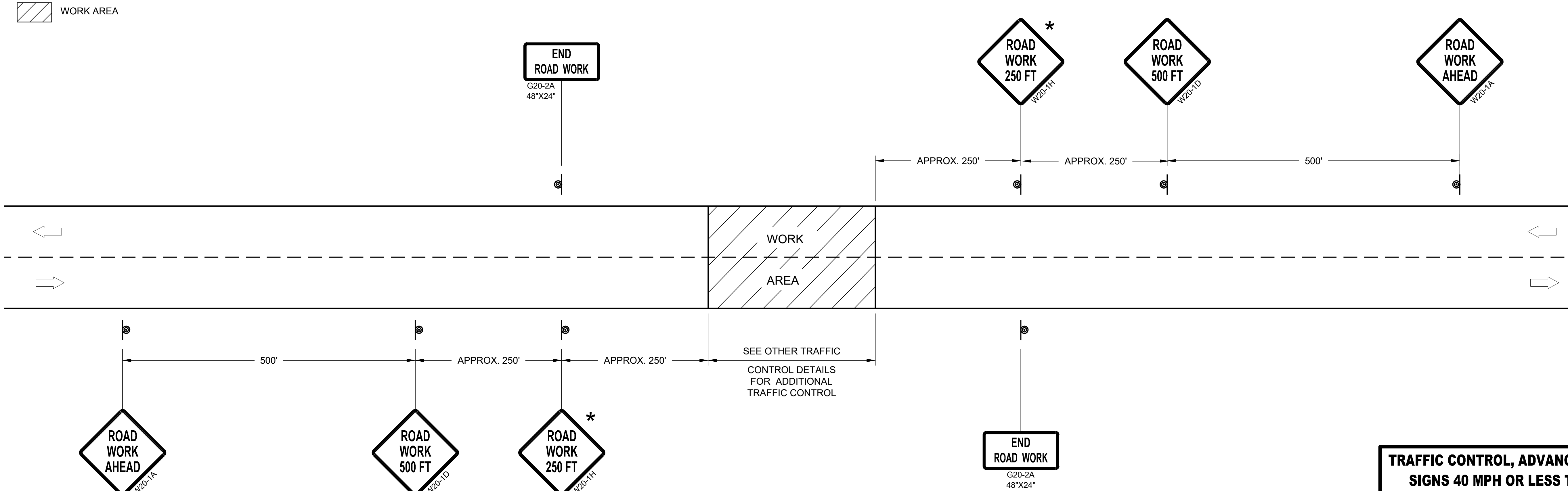
* THE THIRD W20-1 SIGN IS REQUIRED ONLY IF THERE IS AN INTERSECTION BETWEEN THE "ROAD WORK 500 FEET" SIGN AND THE WORK ZONE. ADJUST THE PLACEMENT OF THIS SIGN BASED ON INTERSECTION LOCATION AND OTHER FIELD CONDITIONS.



TYPICAL SIDE ROAD APPROACH WARNING SIGN DETAIL

LEGEND

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



TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40MPH OR LESS

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

July 2018 — DATE

/S/ Andrew Heidtke — WORK ZONE ENGINEER 80

FHWA

6
SDD 15C05 - 05

GENERAL NOTES

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

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

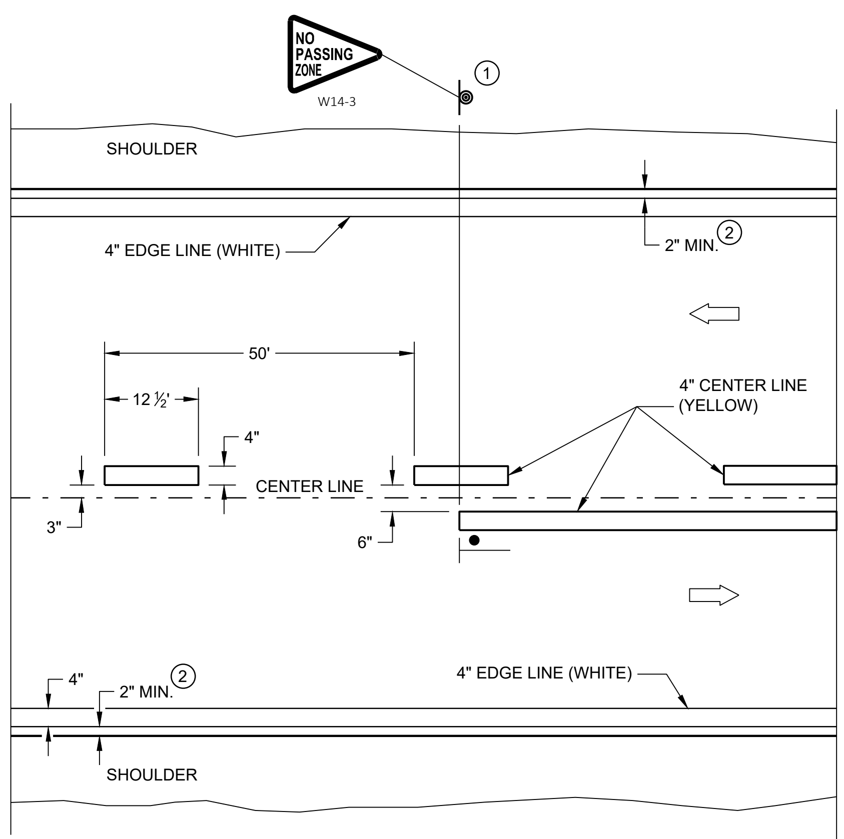
2 MEASURE FROM EDGE OF MARKING TO JOINT LINE. THIS DOES NOT INCLUDE SPACE NEEDED FOR GROOVING OPERATIONS.

LEGEND

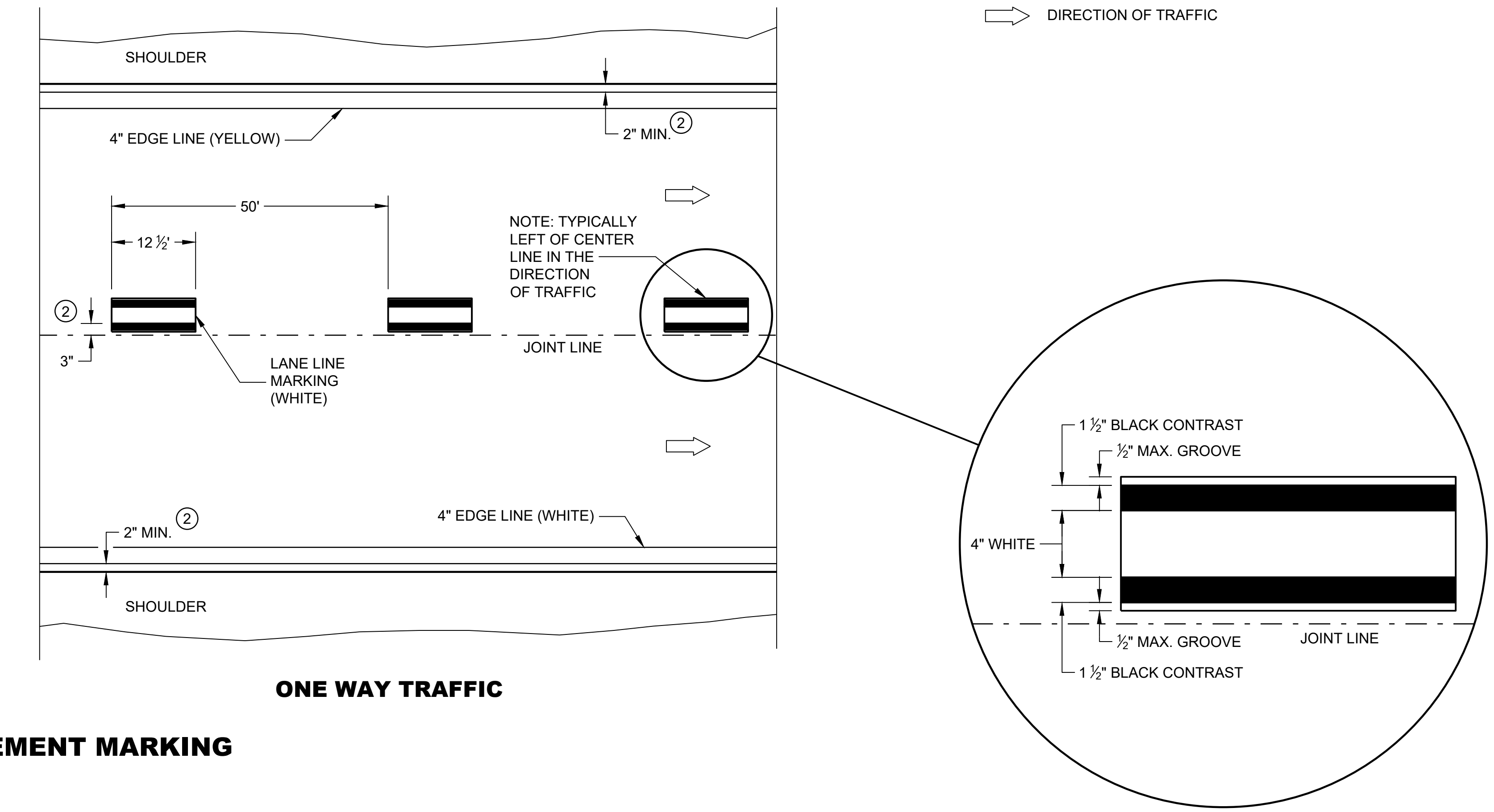
"T" MARKING

SIGN ON PERMANENT SUPPORT

DIRECTION OF TRAFFIC



TWO WAY TRAFFIC



ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING

PERMANENT LONGITUDINAL PAVEMENT MARKINGS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

May 2022 — DATE

/S/ Jeannie Silver — STATEWIDE SIGNING AND M ENGINEER

FHWA

6

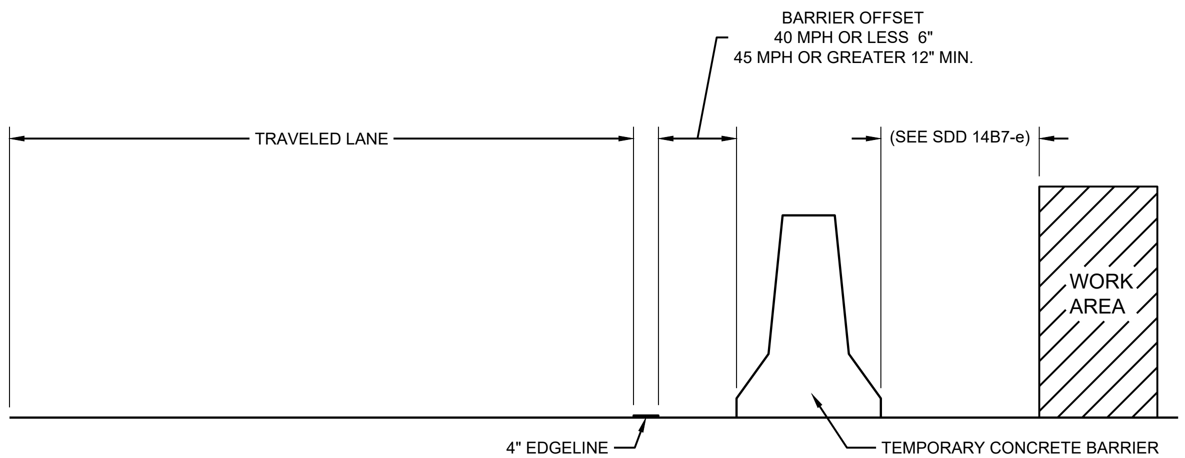
SDD 15C08 - 22a

GENERAL NOTES

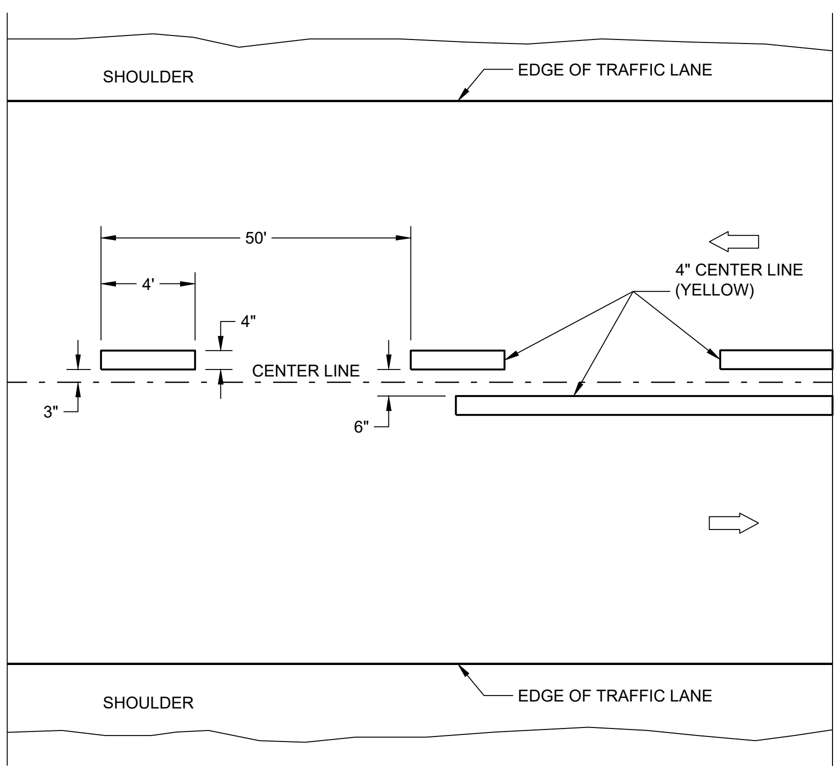
DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS.

LEGEND

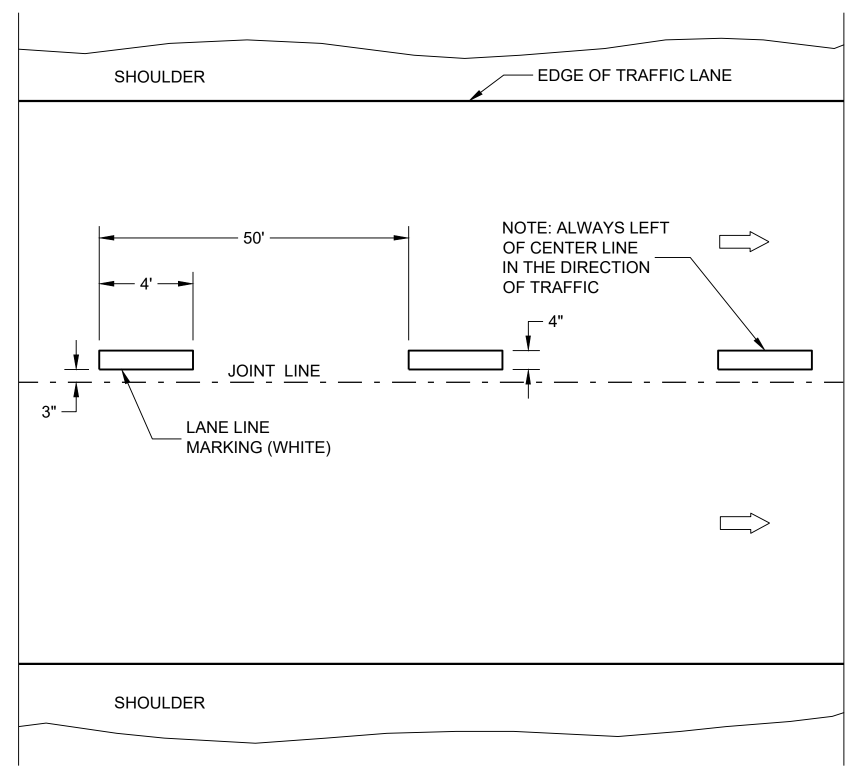
⇨ DIRECTION OF TRAFFIC



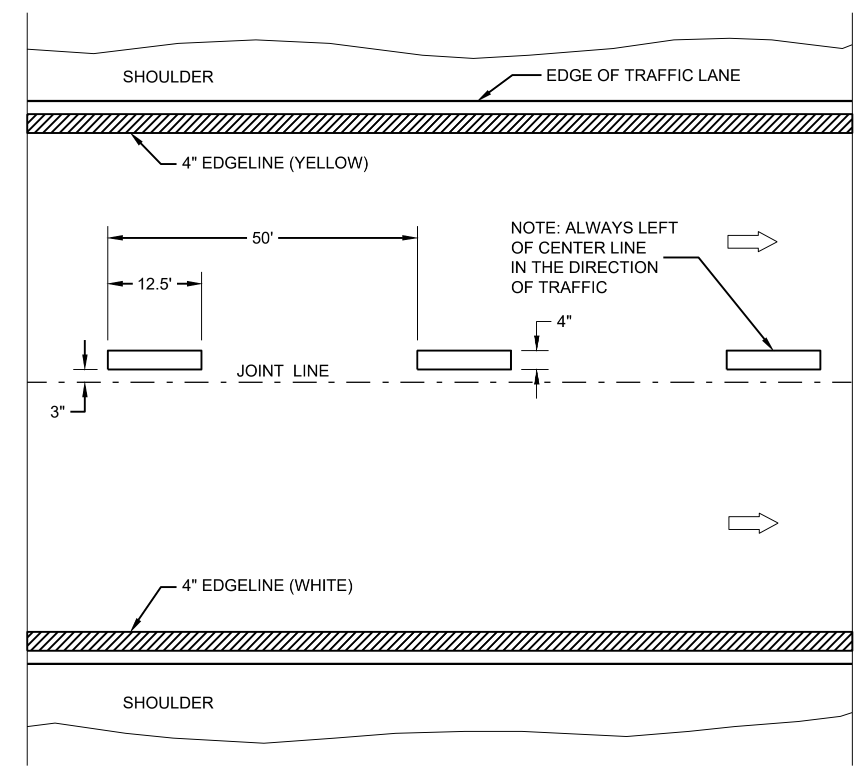
TEMPORARY BARRIER OFFSET FROM EDGELINE



TWO WAY TRAFFIC



ONE WAY TRAFFIC



FREEWAYS AND EXPRESSWAYS

TEMPORARY PAVEMENT MARKING

TEMPORARY LONGITUDINAL PAVEMENT MARKING

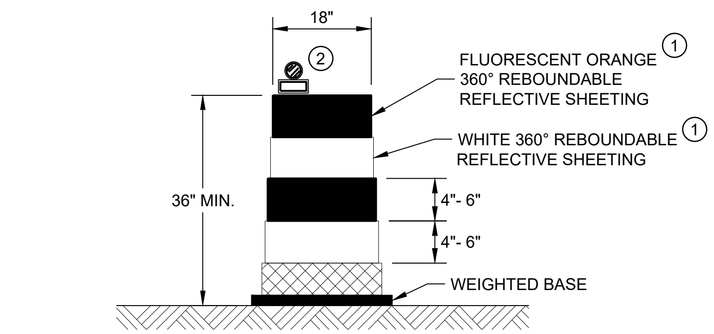
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

GENERAL NOTES

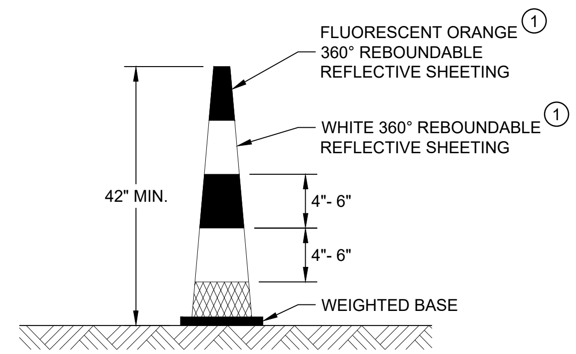
(1) REFLECTIVE SHEETING SHALL FOLLOW THE REQUIREMENTS IN THE APPROVED PRODUCTS LISTING FOR SIGN SHEETING.

(2) LOCATION OF WARNING LIGHTS WHEN SHOWN ON THE PLAN.



DRUM

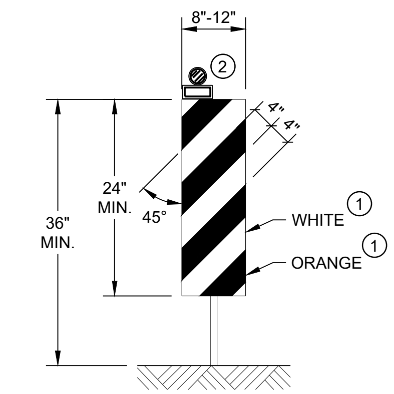
BALLAST WIDTHS
RANGE FROM 24"-36"



42" CONE

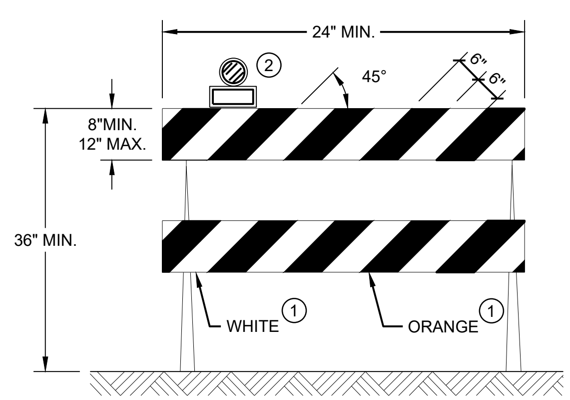
DO NOT USE IN TAPERS
½ SPACING OF DRUMS

BALLAST WIDTHS
RANGE FROM 14"-20"



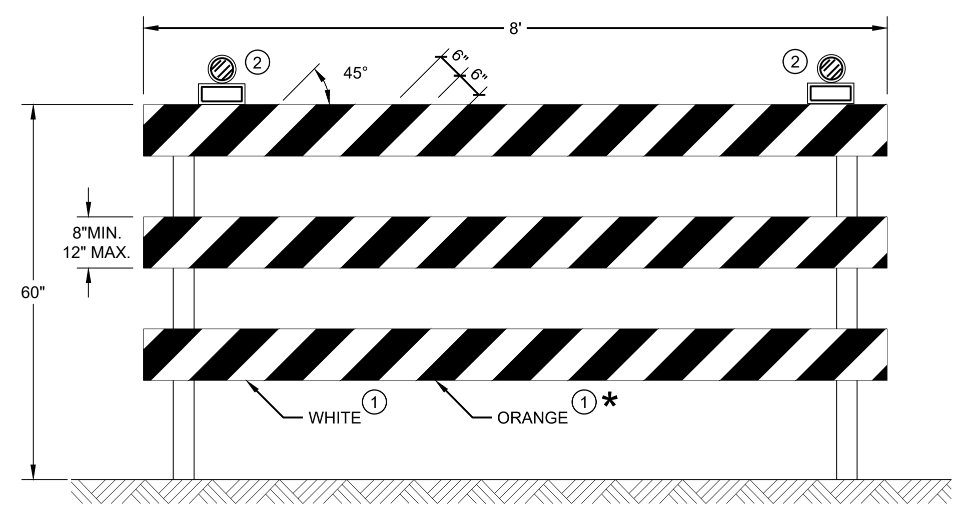
VERTICAL PANEL

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



TYPE II BARRICADE

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



TYPE III BARRICADE

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

* IF USED FOR A PERMANENT APPLICATION USE RED SHEETING.

CHANNELIZING DEVICES
DRUMS, CONES, BARRICADES
AND VERTICAL PANELS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

SDD 15C11 - 10b

LEGEND

- SIGN ON PORTABLE OR PERMANENT SUPPORT
- TEMPORARY PORTABLE RUMBLE STRIP ARRAY
- DIRECTION OF TRAFFIC
- WORK AREA
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF

GENERAL NOTES

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

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

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

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

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

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

FLAGGING

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

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

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

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

TEMPORARY PORTABLE RUMBLE STRIPS

UTILIZE TEMPORARY PORTABLE RUMBLE STRIPS ON ALL FLAGGING OPERATIONS.

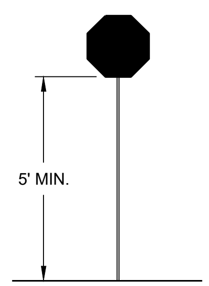
(3) EACH TEMPORARY PORTABLE RUMBLE STRIP ARRAY CONSISTS OF THREE RUMBLE STRIPS PLACED TRANSVERSE ACROSS THE LANE AT THE LOCATIONS SHOWN. WITHIN EACH ARRAY, SPACING BETWEEN RUMBLE STRIPS SHALL BE 15 FEET ON CENTER

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

INSTALL TEMPORARY RUMBLE STRIPS PER MANUFACTURER'S RECOMMENDATIONS.

PLACE ADVANCE SIGNING PRIOR TO INSTALLING TEMPORARY RUMBLE STRIPS.

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

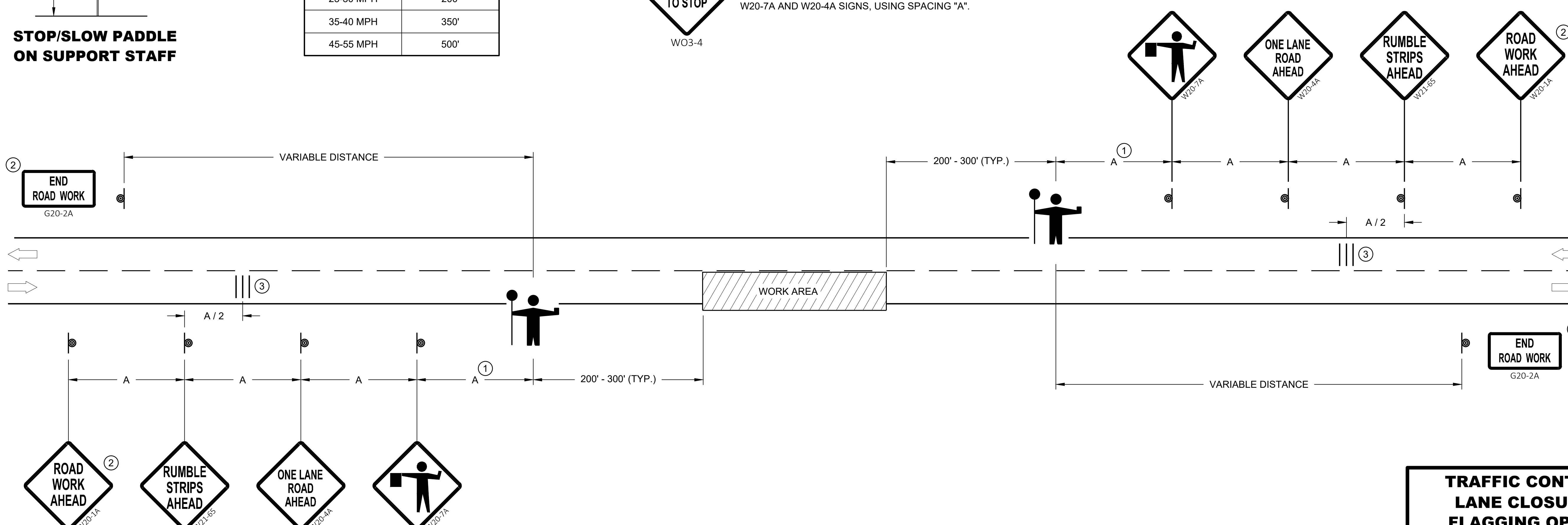


STOP/SLOW PADDLE ON SUPPORT STAFF

SIGN AND TEMPORARY RUMBLE STRIP ARRAY SPACING TABLE

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

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



TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION
APPROVED May 2022 /S/ Andrew Heidtke DATE WORK ZONE ENGINEER FHWA

REQUIREMENTS FOR EDGE LINES		
POSTED SPEED	IS THERE CONTINUOUS LIGHTING?	
	YES	NO
≤ 30 MPH	NO	OPTIONAL
35 OR 40 MPH	OPTIONAL	RECOMMENDED
≥ 45 MPH	RECOMMENDED	REQUIRED

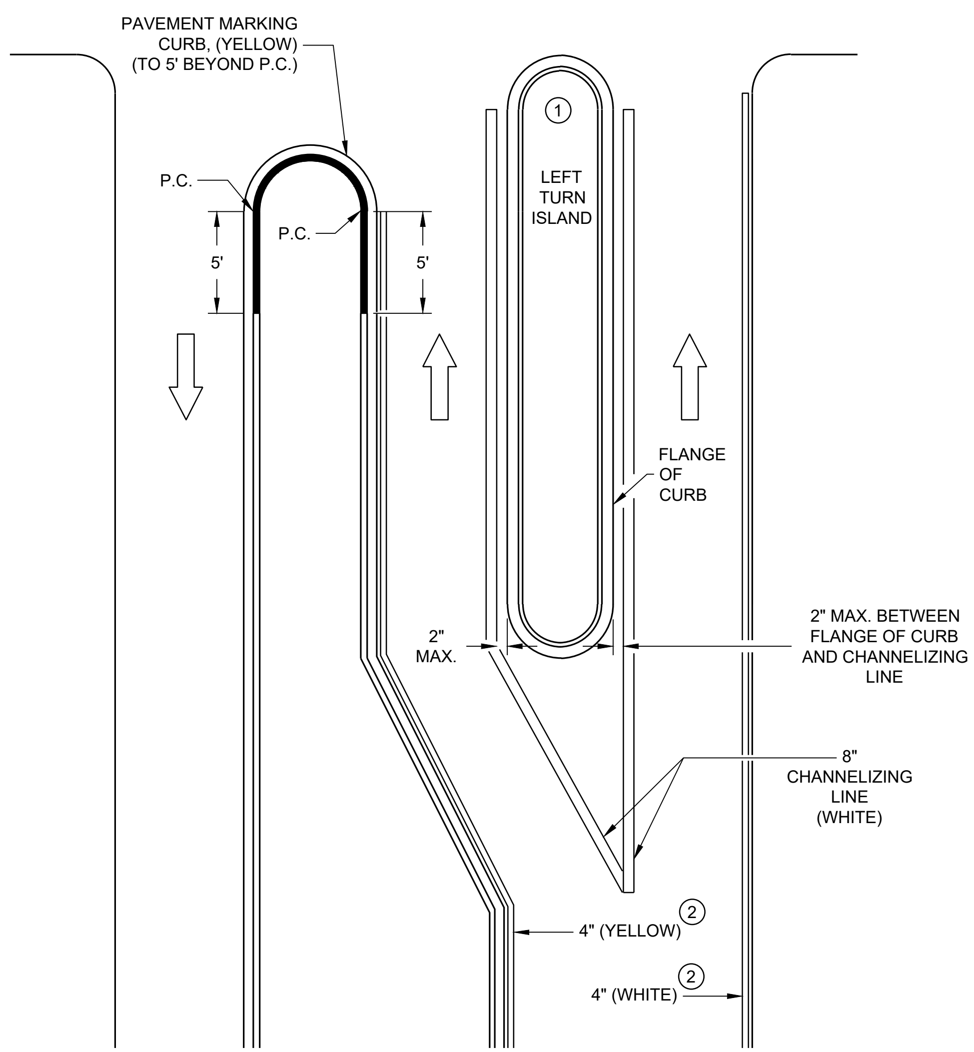
GENERAL NOTES

APPLIES TO ISLANDS AT LEFT TURNS AT ONE WAY ROADWAYS AS WELL.

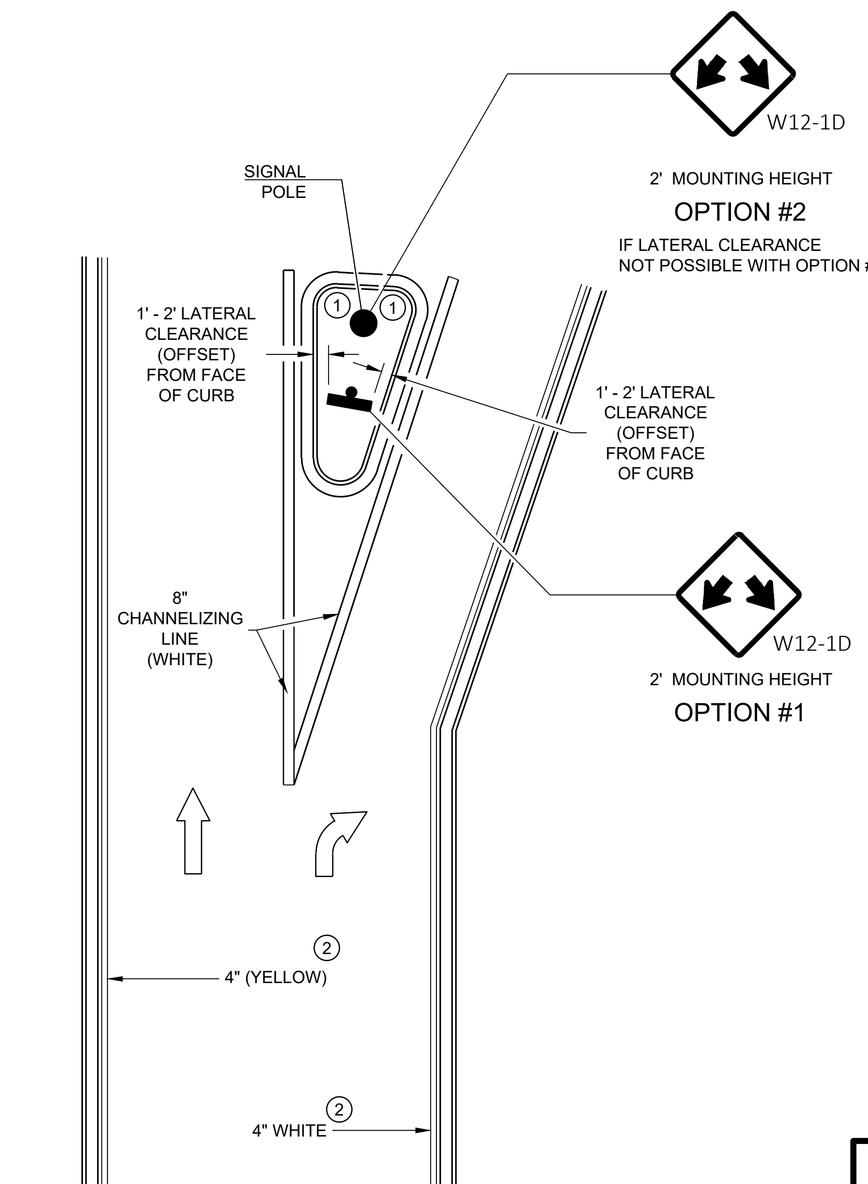
SEE MISCELLANEOUS QUANTITIES FOR SIGN SIZE.

1. MARK CURB NOSES YELLOW.
2. MARK ACCORDING TO TABLE.

DIRECTION OF TRAVEL



LEFT TURN & MEDIAN ISLAND



RIGHT TURN ISLAND

MEDIAN PAVEMENT MARKINGS, DOUBLE ARROW WARNING SIGN PLACEMENT

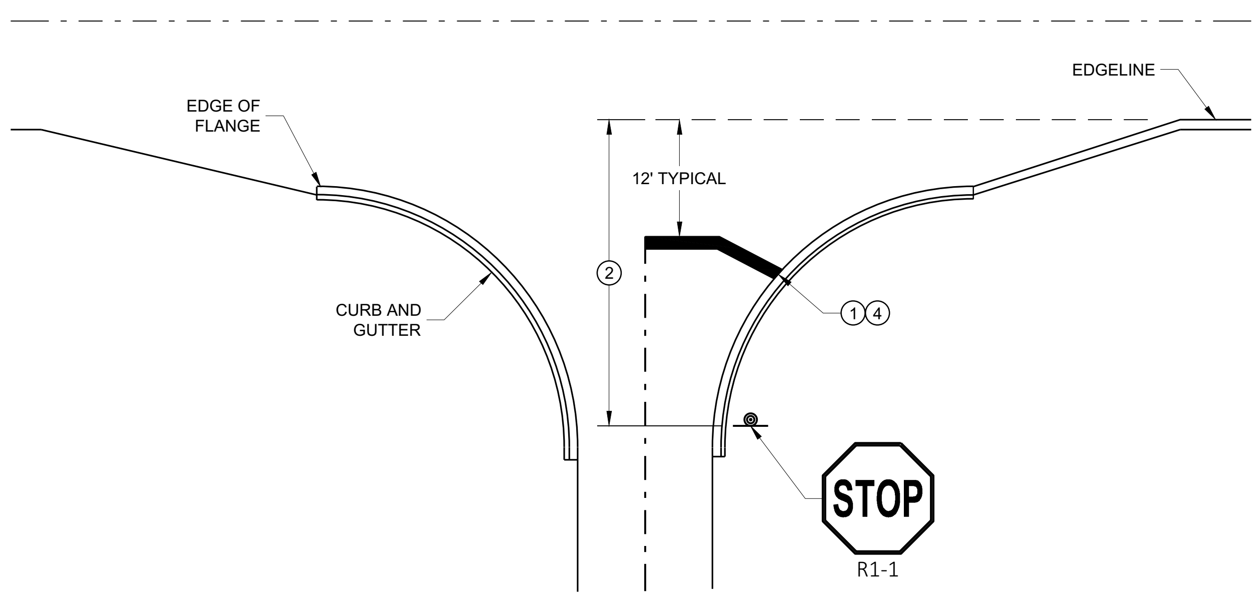
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2022 /S/ Jeannie Silver
DATE STATE SIGNING AND MARKING ENGINEER
FHWA

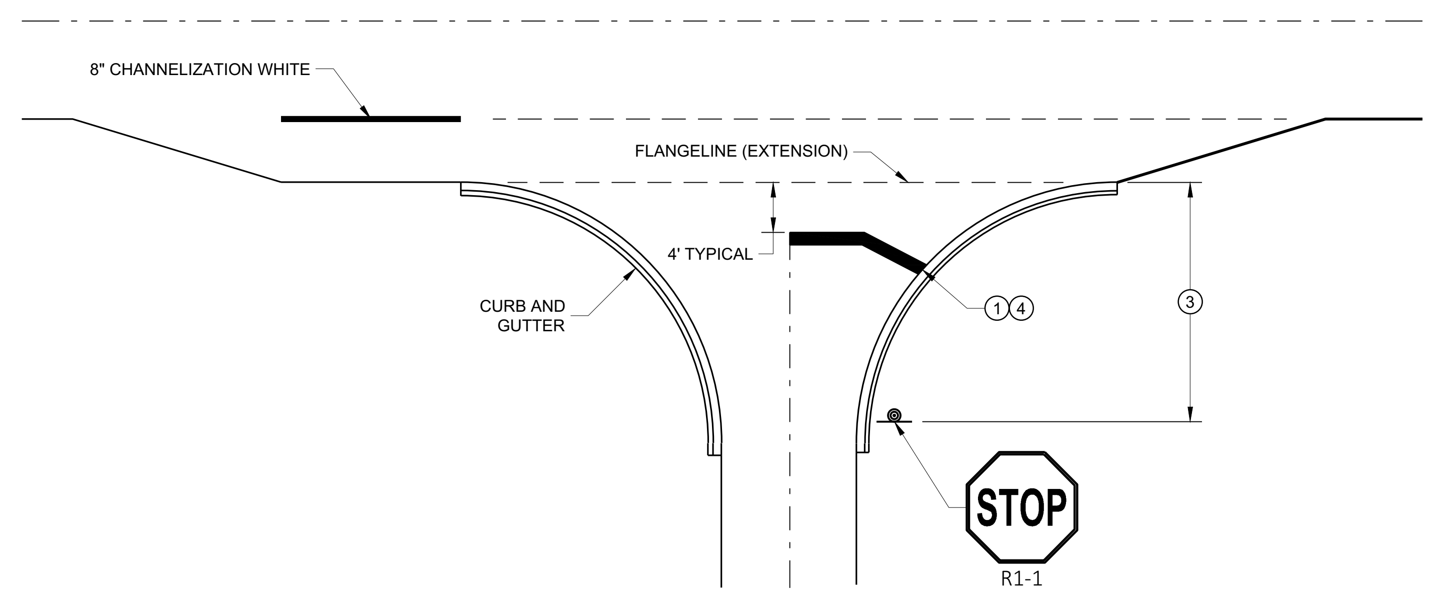
GENERAL NOTES

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

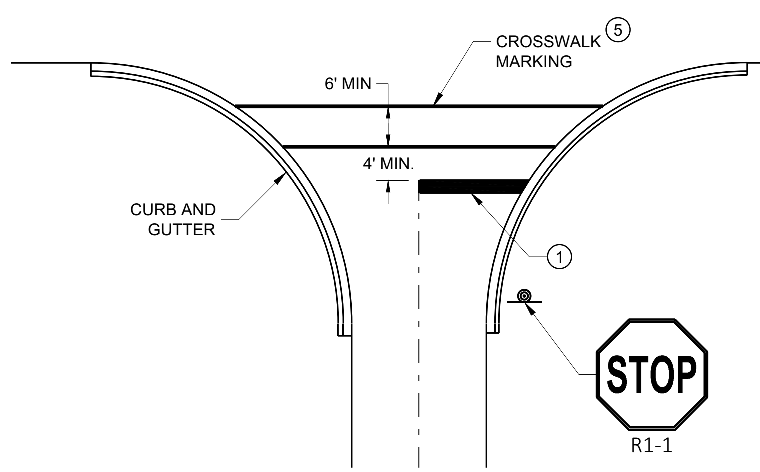
1. 18-INCH STOP LINES MAY BE DELETED OR ADDED BY THE REGION MARKING ENGINEER BASED ON VISIBILITY AND SIGHT LINES.
2. NO STOP LINE IS REQUIRED IF STOP SIGN IS LESS THAN OR EQUAL TO 40 FEET FROM THE EDGELINE.
3. NO STOP LINE IS REQUIRED IF STOP SIGN IS LESS THAN OR EQUAL TO 30 FEET FROM THE FLANGELINE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



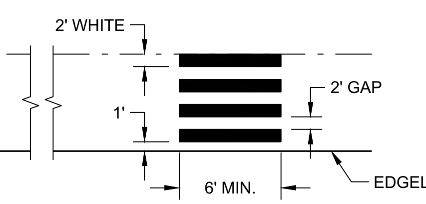
TYPICAL STOP LINE PAVEMENT MARKING WITH CURB AND GUTTER



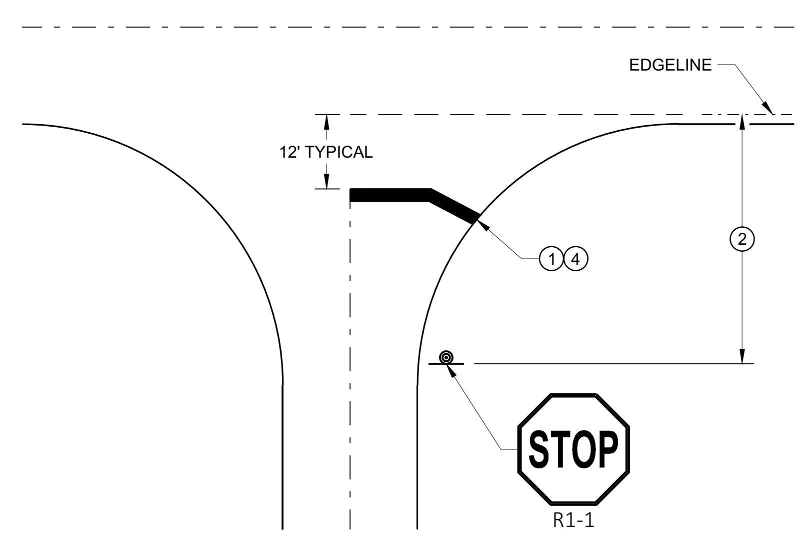
TYPICAL STOP LINE PAVEMENT MARKING FOR SIDEROADS WITH RIGHT TURN LANE



TYPICAL STOP LINE PAVEMENT MARKING FOR SIDEROADS WITH CROSSWALK MARKING



TYPICAL PAVEMENT MARKING FOR MID-BLOCK CROSSWALK 5



TYPICAL STOP LINE PAVEMENT MARKING WITHOUT CURB AND GUTTER

STOP LINE AND CROSSWALK PAVEMENT MARKING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2019 — DATE
/S/ Matthew Rauch — STATE SIGNING AND MARKING ENGINEER

FHWA

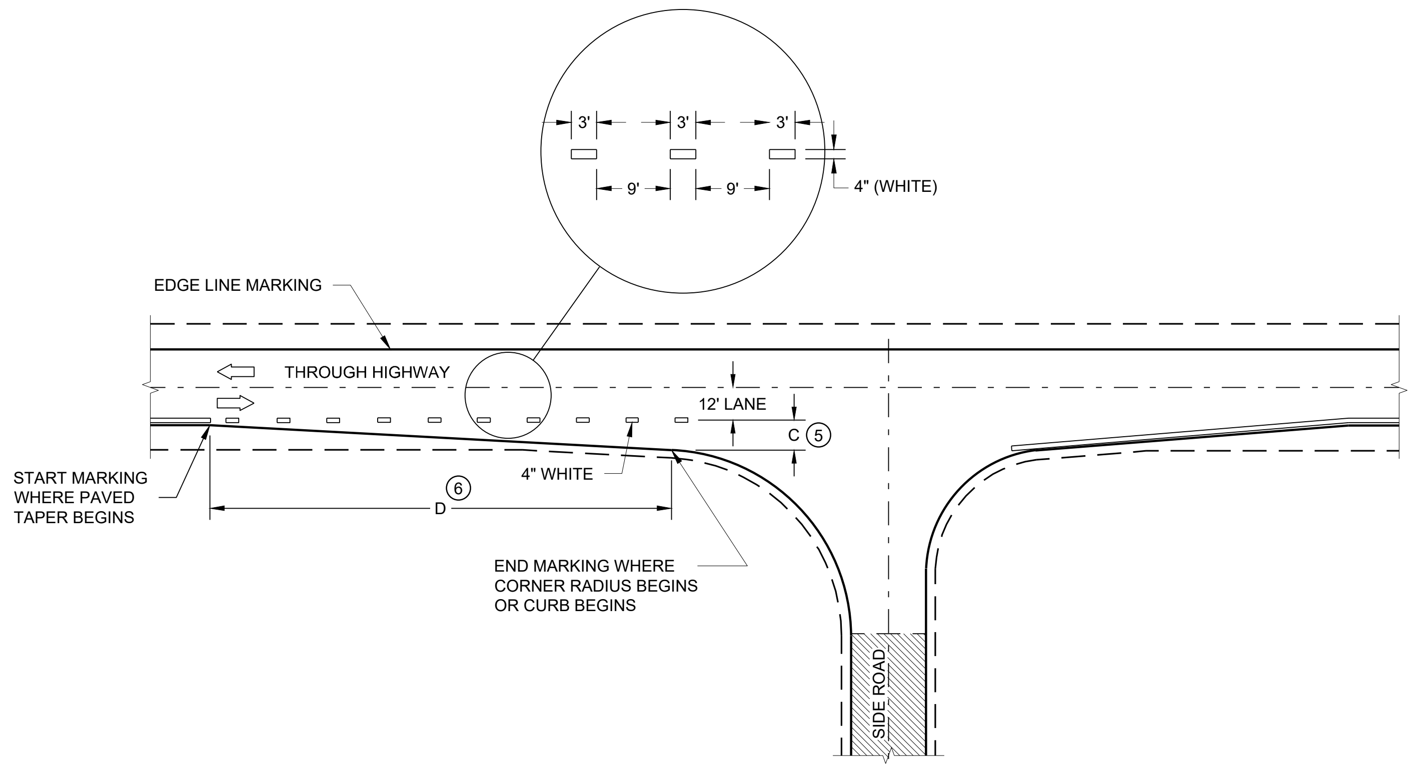
GENERAL NOTES

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

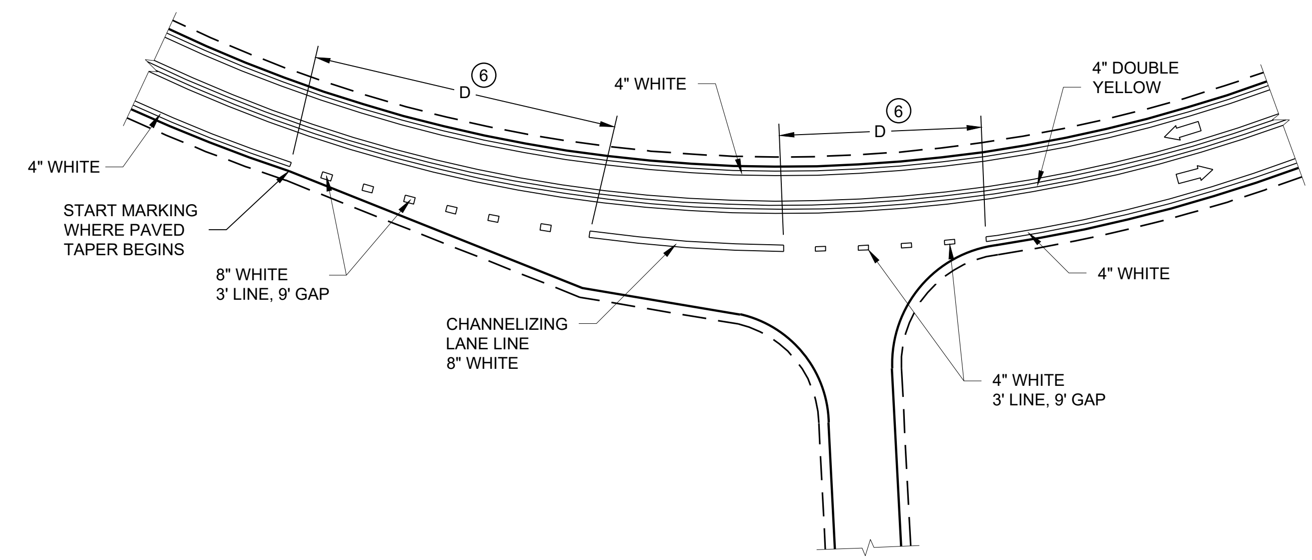
1. WHEN DISTANCE "A" IS LESS THAN 250 FEET, OMIT LANE LINE.
2. WHEN DISTANCE "B" IS LESS THAN 100 FEET, OMIT CHANNELIZING LANE LINE.
3. BARRIER LINE ENDS AT SIDE ROAD PAVEMENT / SURFACE EDGE EXTENSION.
4. BARRIER LINE STARTS 500 FEET PRIOR TO THE BYPASS TAPER.
5. WHEN DISTANCE "C" IS LESS THAN 4 FEET,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

LEGEND

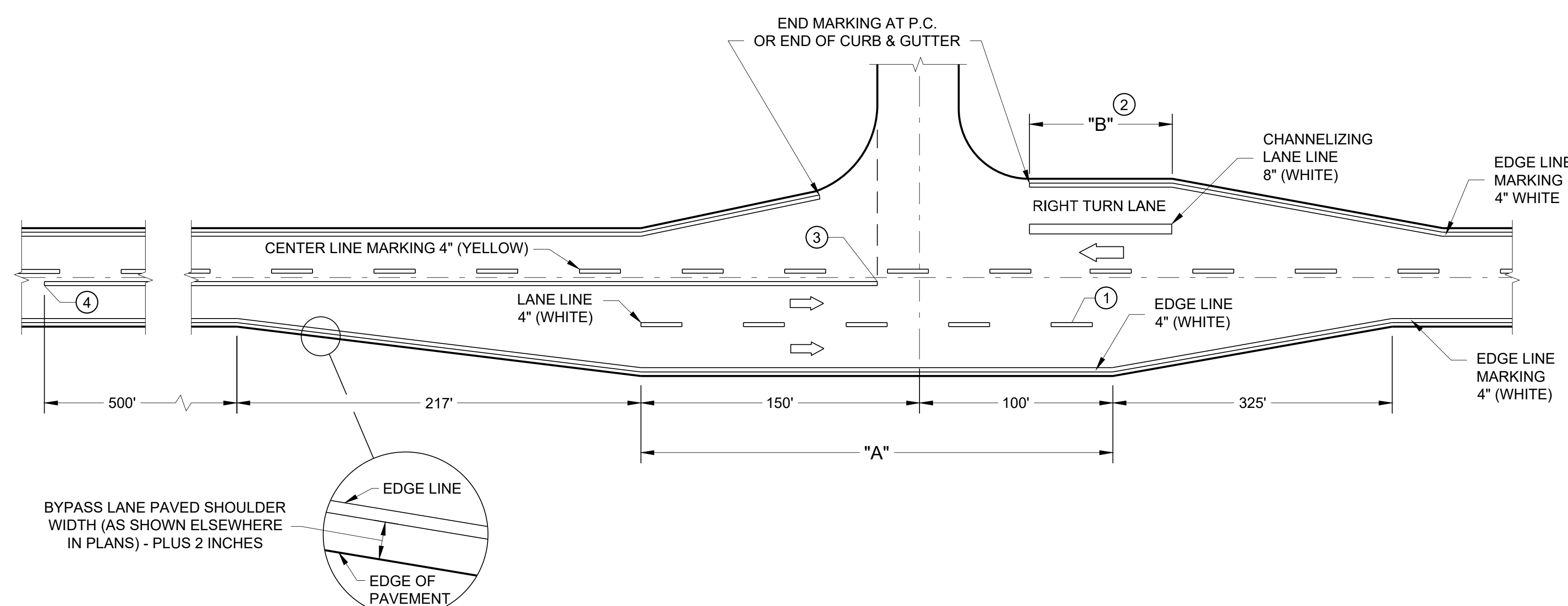
⇨ DIRECTION OF TRAVEL



MINOR INTERSECTION



INTERSECTION ON OUTSIDE OF CURVE



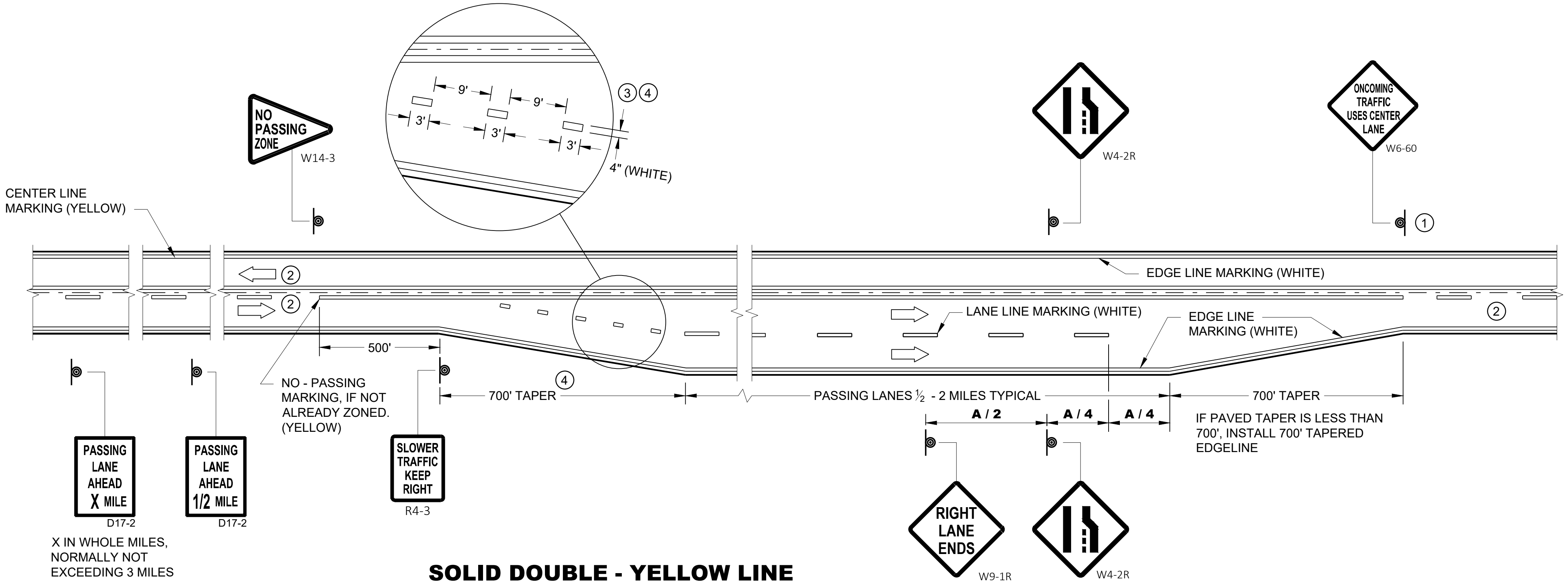
MAJOR INTERSECTIONS
(INTERSECTION WITH FULL RIGHT TURN LANE OR BYPASS LANE)

6

6

PAVEMENT MARKING (INTERSECTIONS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



SOLID DOUBLE - YELLOW LINE
(THROUGHOUT ENTIRE PASSING / CLIMBING LANE)

GENERAL NOTES

① SIGN SHALL BE REPEATED AT 1 MILE INCREMENTS OR AT THE DISCRETION OF THE REGIONAL TRAFFIC ENGINEER.

② THERE MAY BE SOLID YELLOW ON THE CENTERLINE DUE TO SIGHT CONDITIONS.

③ THE TAPER LENGTH OF THE DOTTED LINE PAVEMENT MARKING SHALL BE 700 FEET, 3' LINE, 9' GAP, EXCEPT RETRACE THE EXISTING LINE - GAP PATTERN WHERE EXISTING MARKINGS ARE IN PLACE.

④ WHEN THE ENTRANCE TAPER IS LESS THAN 700 FEET OR THE SHOULDER WIDTH IN THE PASSING / CLIMBING LANE IS LESS THAN THE ADJACENT HIGHWAY, DO NOT INSTALL DOTTED LINE PAVEMENT MARKING.

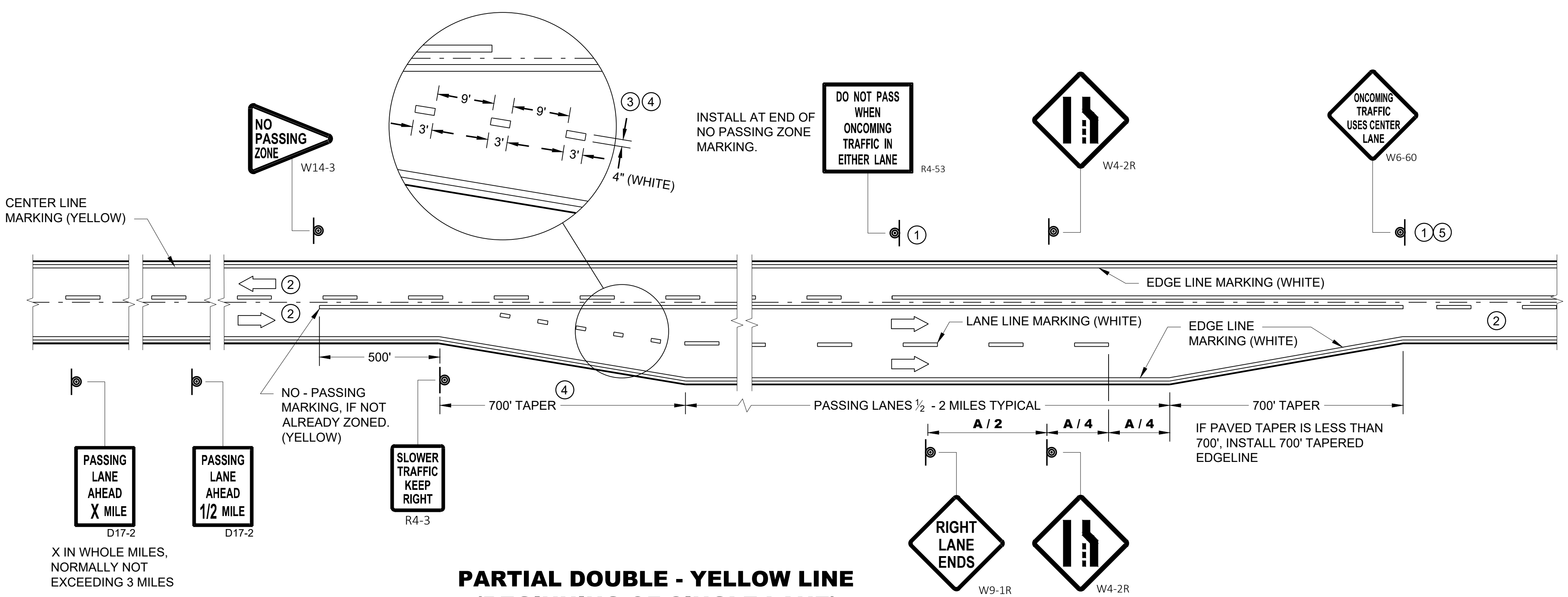
⑤ REPEAT EVERY 1 MILE UP UNTIL R4-53.

ARROW SYMBOL (⇨) SHOWS DIRECTION OF TRAVEL

DISTANCE TABLE

POSTED OR 85th PERCENTILE SPEED	DISTANCE "A"
45	775
50	885
55	990

6



PARTIAL DOUBLE - YELLOW LINE
(BEGINNING OF SINGLE LANE)

PAVEMENT MARKING & SIGNING (CLIMBING LANE & PASSING LANE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

SDD 15C35 - 05b

SDD 15C35 - 05b

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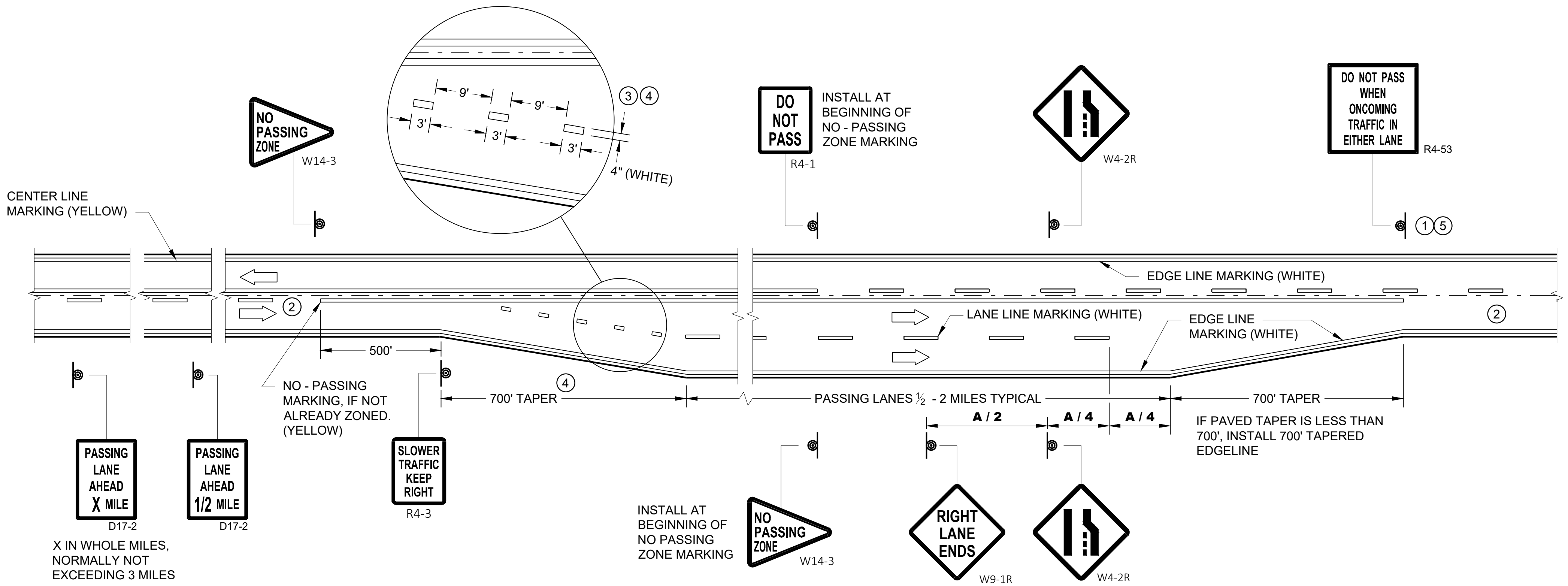
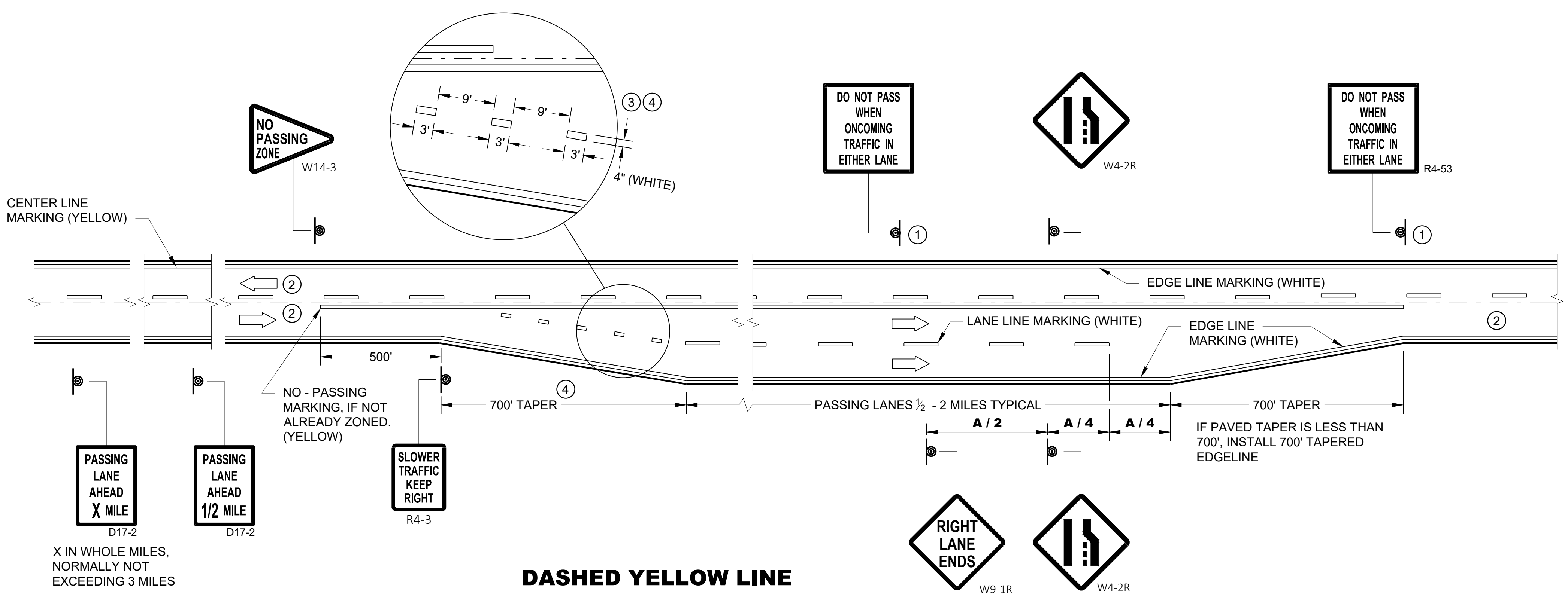


SOLID DOUBLE - YELLOW LINE
(END OF SINGLE LANE)



DASHED YELLOW LINE
(THROUGHOUT SINGLE LANE)

GENERAL NOTES

1. SIGN SHALL BE REPEATED AT 1 MILE INCREMENTS OR AT THE DISCRETION OF THE REGIONAL TRAFFIC ENGINEER.
2. THERE MAY BE SOLID YELLOW ON THE CENTERLINE DUE TO SIGHT CONDITIONS.
3. THE TAPER LENGTH OF THE DOTTED LINE PAVEMENT MARKING SHALL BE 700 FEET, 3' LINE, 9' GAP, EXCEPT RETRACE THE EXISTING LINE - GAP PATTERN WHERE EXISTING MARKINGS ARE IN PLACE.
4. WHEN THE ENTRANCE TAPER IS LESS THAN 700 FEET OR THE SHOULDER WIDTH IN THE PASSING / CLIMBING LANE IS LESS THAN THE ADJACENT HIGHWAY, DO NOT INSTALL DOTTED LINE PAVEMENT MARKING.
5. REPEAT EVERY ONE MILE UP UNTIL NO PASSING ZONE.

ARROW SYMBOL (⇨) SHOWS DIRECTION OF TRAVEL

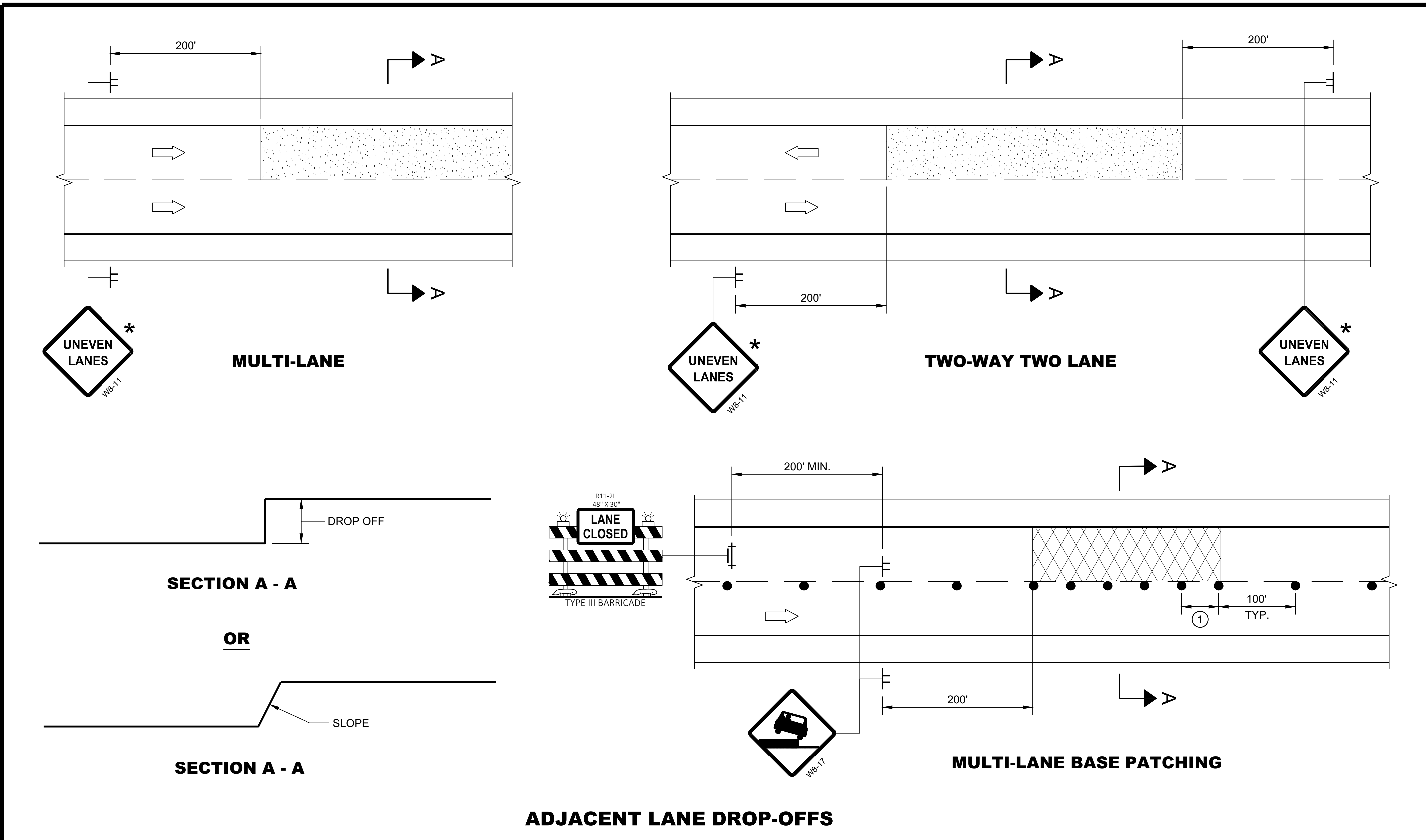
DISTANCE TABLE

POSTED OR 85th PERCENTILE SPEED	DISTANCE "A"
45	775
50	885
55	990

PAVEMNET MARKING & SIGNING (CLIMBING LANE & PASSING LANE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2022
DATE
/S/ Jeannie Silver
STATE SIGNING AND MARKING ENGINEER
FHWA



GENERAL NOTES

FOR SPOT LOCATIONS USE ENGINEERING JUDGEMENT WHEN PLACING ADDITIONAL SIGNS.

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

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

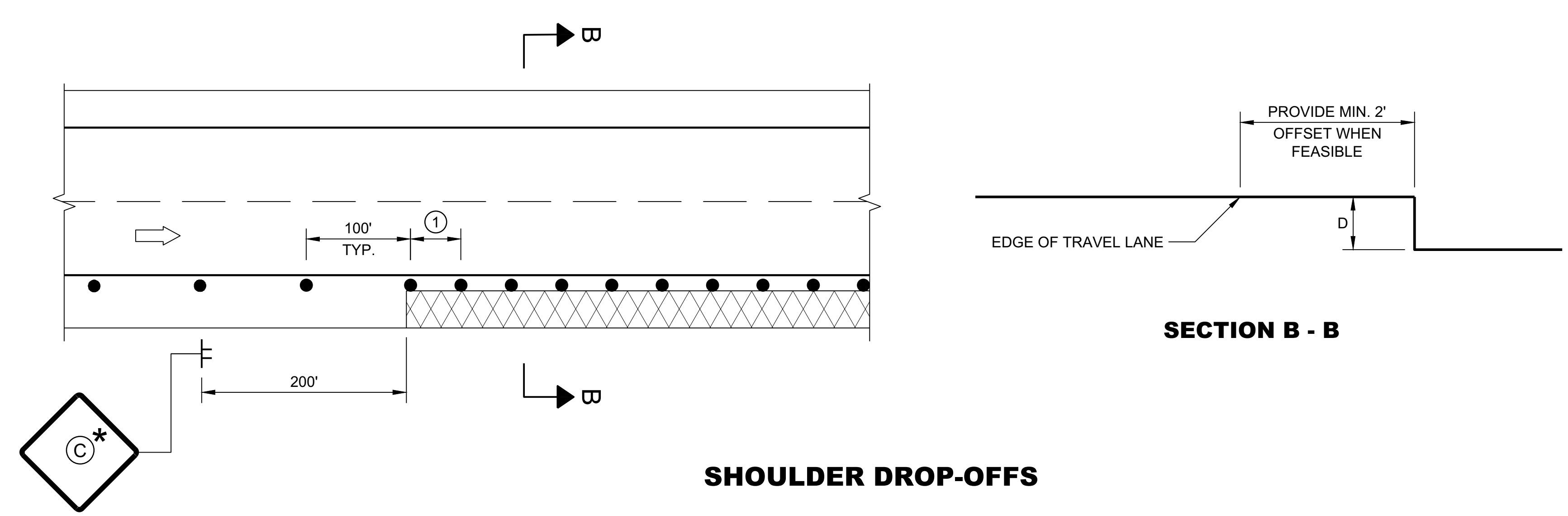
WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

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

1 USE CLOSER SPACING WHEN DELINEATING DROP-OFF.

LEGEND

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



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

TRAFFIC CONTROL, DROP-OFF SIGNING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
March 2018 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER 90
FHWA

SDD 15D39 - 02

6

GENERAL NOTES

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

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

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

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

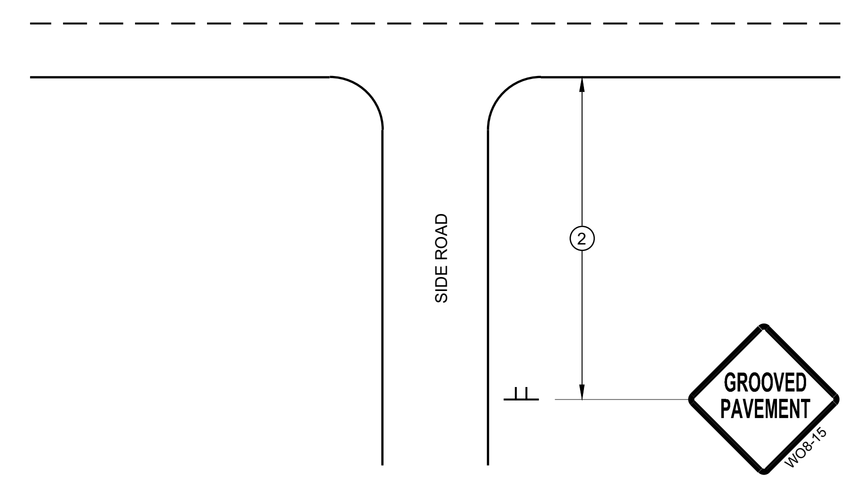
THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.

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

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

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

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

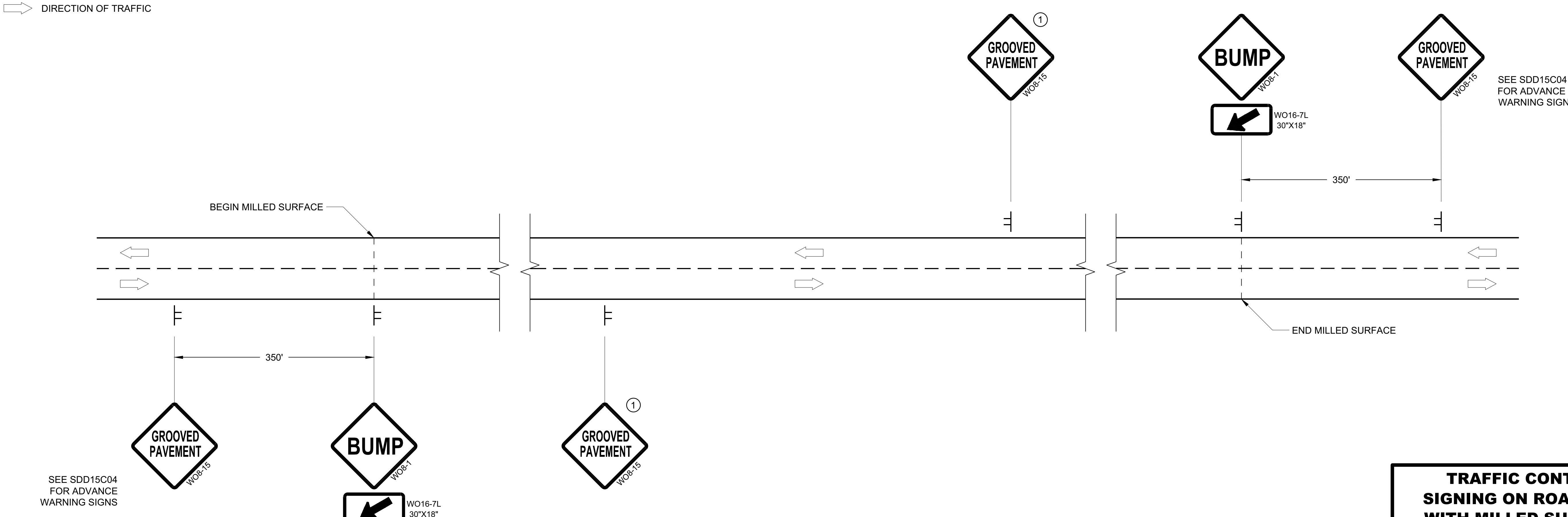


TYPICAL SIDE ROAD APPROACH SIGN DETAIL

LEGEND

SIGN ON TEMPORARY SUPPORT

DIRECTION OF TRAFFIC



DETAIL FOR SIGNING ON MILLED SURFACES

6

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TRAFFIC CONTROL, SIGNING ON ROADWAYS WITH MILLED SURFACES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

91

SDD 15D44 - 02

SDD 15D44 - 02

LEGEND

V1	WORK VEHICLE
V2	SHADOW VEHICLE
	TRUCK MOUNTED ATTENUATOR (TMA)
	FLASHING ARROW PANEL (CAUTION)
	WORK AREA
	DIRECTION OF TRAFFIC

POSTED SPEED PRIOR TO WORK STARTING (MPH)	DECISION SIGHT DISTANCE (D)
0 - 25	550'
30	550'
35	700'
40	700'
45	900'
50	900'
55	1200'

GENERAL NOTES

ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED.

MOBILE IS WORK THAT MOVES CONTINUOUSLY OR MOVES AT LEAST THE DECISION SIGHT DISTANCE EVERY 15 MINUTES.

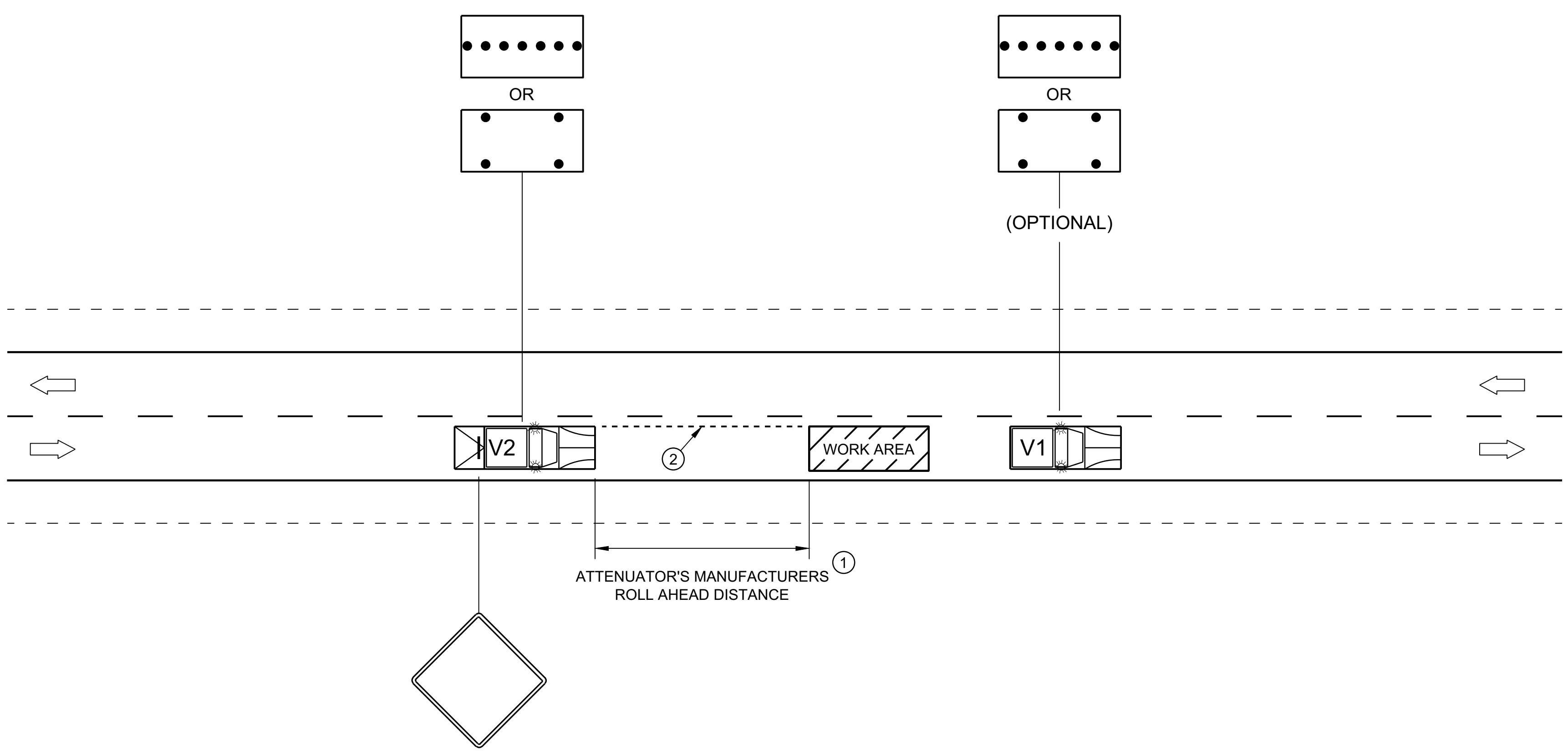
ALL VEHICLES SHALL BE EQUIPPED WITH TWO 360 DEGREE HIGH INTENSITY YELLOW FLASHING LIGHTS OR STROBE LIGHTS AND OPERATED WITH HEADLIGHTS TURNED ON.

ALL ARROW PANELS SHALL BE REAR FACING, TYPE "B" OR "C", AND DISPLAYING THE FLASHING CAUTION MODE. SIGNS PLACED ON VEHICLES MUST NOT OBSCURE THE ARROW PANEL.

USE AN ATTENUATOR ON THE REARMOST VEHICLE THAT BLOCKS ALL OR PART OF THE TRAFFIC LANE.

1 DISTANCE BETWEEN VEHICLES MAY INCREASE FROM THE ATTENUATOR'S ROLL AHEAD BASED ON TERRAIN, SIGHT DISTANCE, AND OTHER FACTORS. WHENEVER ADEQUATE STOPPING SIGHT DISTANCE EXISTS TO THE REAR, SHADOW VEHICLES SHOULD MAINTAIN THE MINIMUM DISTANCE FROM THE WORK VEHICLE AND PROCEED AT THE SAME SPEED AS THE WORK VEHICLE. SHADOW VEHICLES SHOULD SLOW DOWN IN ADVANCE OF VERTICAL OR HORIZONTAL CURVES THAT RESTRICT SIGHT DISTANCE.

2 ALIGN LEFT SIDE OF SHADOW VEHICLE WITH EDGE OF WORK AREA.



TRAFFIC CONTROL, MOBILE OPERATIONS ON AN UNDIVIDED ROADWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2021 — DATE
/S/ Andrew Heidtke — STATEWIDE WORK ZONE SAFETY ENGINEER
FHWA

6

SDD 15D51 - 01

EARTHWORK DETAIL USH 8 STA 181+50 - STA 191+86

STATION	AREA (SF)		INCREMENTAL VOL (CY) (UNADJ)		CUMULATIVE VOL (CY)		
	CUT	FILL	CUT	FILL	CUT 1.00	EXPANDED FILL 1.25	MASS ORDINATE
180+59	0	0	0	0	0	0	0
180+86	0	0	0	0	0	0	0
181+00	0	0	0	0	0	0	0
181+11	0	0	0	0	0	0	0
181+37	0	0	0	0	0	0	0
181+50	24	0	6	0	6	0	6
182+00	11	1	32	1	38	1	37
182+50	9	1	18	1	56	3	54
183+00	9	2	16	2	72	5	67
183+50	11	0	18	2	90	8	83
184+00	0	3	10	3	100	11	89
184+50	0	3	0	6	100	19	81
185+00	8	1	8	4	108	24	84
185+12	8	0	4	0	112	24	88
185+36	8	2	7	1	119	25	94
185+50	8	2	4	1	123	26	97
185+61	8	2	3	1	126	28	99
186+00	8	2	11	3	137	31	106
186+50	7	2	14	3	151	35	116
187+00	6	3	12	5	163	41	122
187+50	9	1	14	4	177	46	131
188+01	0	0	8	1	185	48	138
188+26	0	0	0	0	185	48	138
188+51	0	0	0	0	185	48	138
189+00	0	0	0	0	185	48	138
189+50	0	0	0	0	185	48	138
190+00	0	0	0	0	185	48	138
190+63	0	0	0	0	185	48	138
190+88	0	0	0	0	185	48	138
191+13	0	0	0	0	185	48	138
191+50	0	0	0	0	185	48	138
191+86	0	0	0	0	185	48	138

EARTHWORK DETAIL GELDMEYER RD

STATION	AREA (SF)		INCREMENTAL VOL (CY) (UNADJ)		CUMULATIVE VOL (CY)		
	CUT	FILL	CUT	FILL	CUT 1.00	EXPANDED FILL 1.25	MASS ORDINATE
22+00	2	0	0	0	0	0	0
22+10	2	1	1	0	1	0	1
22+25	1	3	1	1	2	1	1
22+50	0	16	0	9	2	13	-11
22+60	0	17	0	6	2	20	-18

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EARTHWORK DETAIL OLD USH 8

STATION	AREA (SF)		INCREMENTAL VOL (CY) (UNADJ)		CUMULATIVE VOL (CY)		
	CUT	FILL	CUT	FILL	CUT 1.00	EXPANDED FILL 1.25	MASS ORDINATE
50+40	0	8	0	0	0	0	0
50+64	2	11	1	8	1	10	-9
50+75	2	12	1	5	2	16	-14
50+91	1	11	1	7	3	25	-22
51+00	1	26	0	6	3	33	-30
51+16	1	44	1	21	4	59	-55
51+41	1	35	1	37	5	105	-100
51+50	1	31	0	11	5	119	-114
51+75	0	0	0	14	5	136	-131

EARTHWORK DETAIL USH 8 STA 200+85 - 205+23

STATION	AREA (SF)		INCREMENTAL VOL (CY) (UNADJ)		CUMULATIVE VOL (CY)		
	CUT	FILL	CUT	FILL	CUT 1.00	EXPANDED FILL 1.25	MASS ORDINATE
200+85	0	42	0	0	0	0	0
201+08	3	36	1	33	1	41	-40
201+36	3	23	3	31	4	80	-76
201+61	8	3	5	12	9	95	-86
201+86	3	9	5	6	14	103	-89
202+00	2	28	1	10	15	115	-100
202+50	0	32	2	56	17	185	-168
203+00	0	42	0	69	17	271	-254
203+38	0	2	0	31	17	310	-293
203+50	0	1	0	1	17	311	-294
204+00	0	1	0	2	17	314	-297
204+33	0	1	0	1	17	315	-298
204+58	0	0	0	0	17	315	-298
204+83	0	0	0	0	17	315	-298
205+00	0	0	0	0	17	315	-298
205+23	0	0	0	0	17	315	-298

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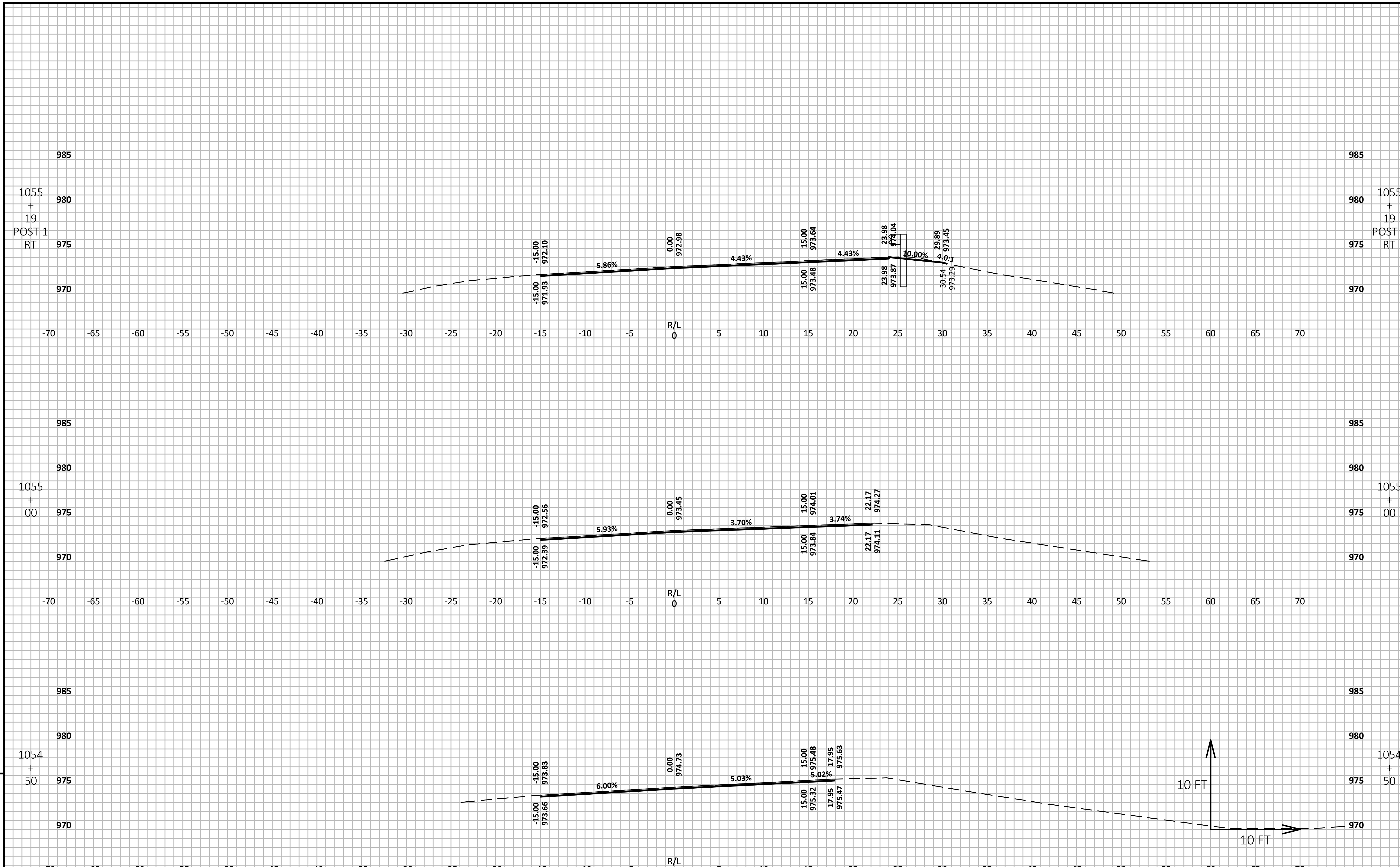

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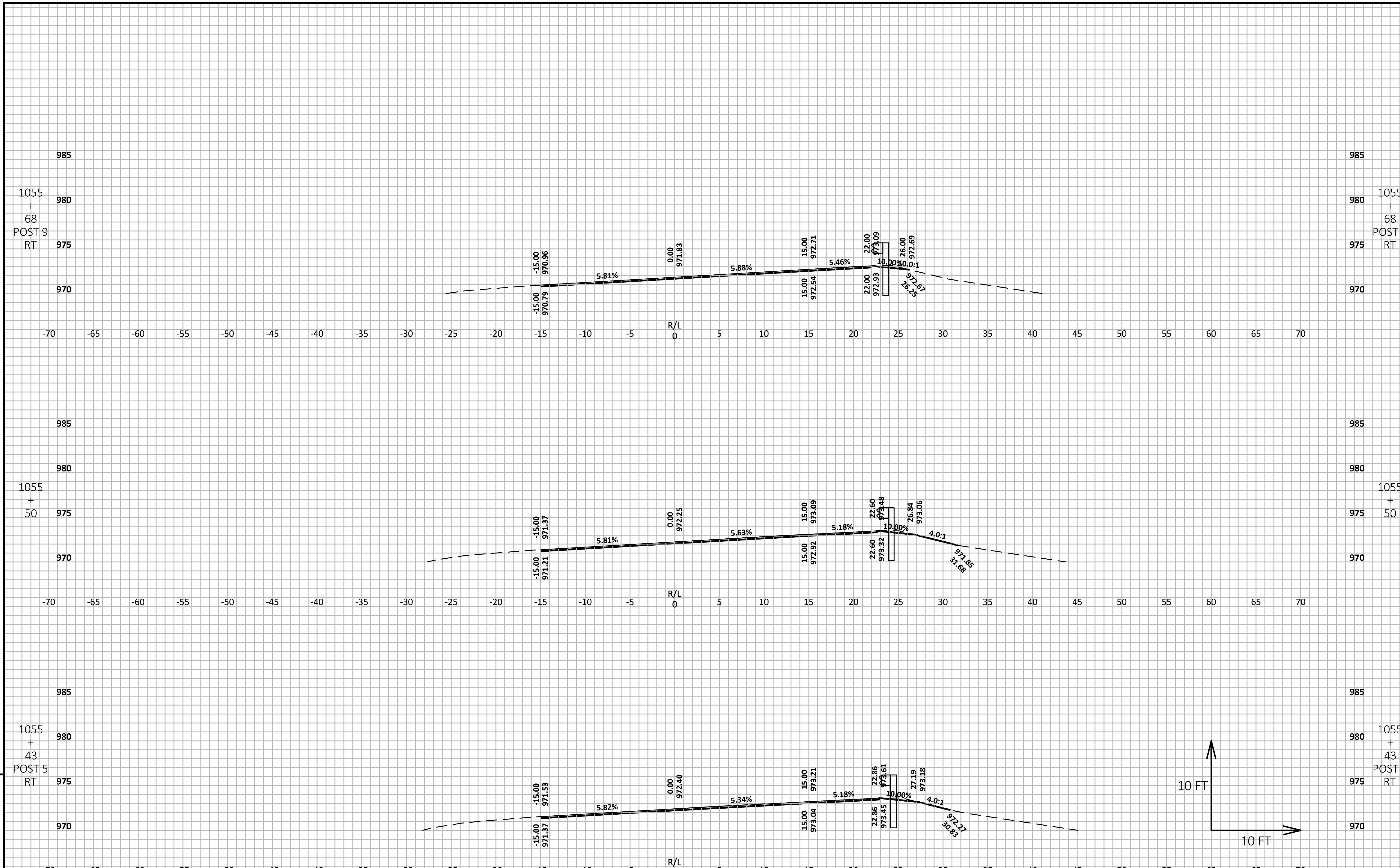
PROJECT NO: 9560-06-71/72	HWY: USH 8	COUNTY: MARINETTE	CROSS SECTIONS: BEAM GUARD - BRIDGE	SHEET 95	E

FILE NAME : N:\3000939.00\CIVIL 3D\SHEETSPLAN\956006-090201-XS.DWG
LAYOUT NAME - 956006-090101-xs

PLOT DATE : 11/30/2022 9:30 AM PLOT BY : ANDY WESTBROOK PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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PROJECT NO: 9560-06-71/72	HWY: USH 8	COUNTY: MARINETTE	CROSS SECTIONS: BEAM GUARD - BRIDGE	SHEET 96	E

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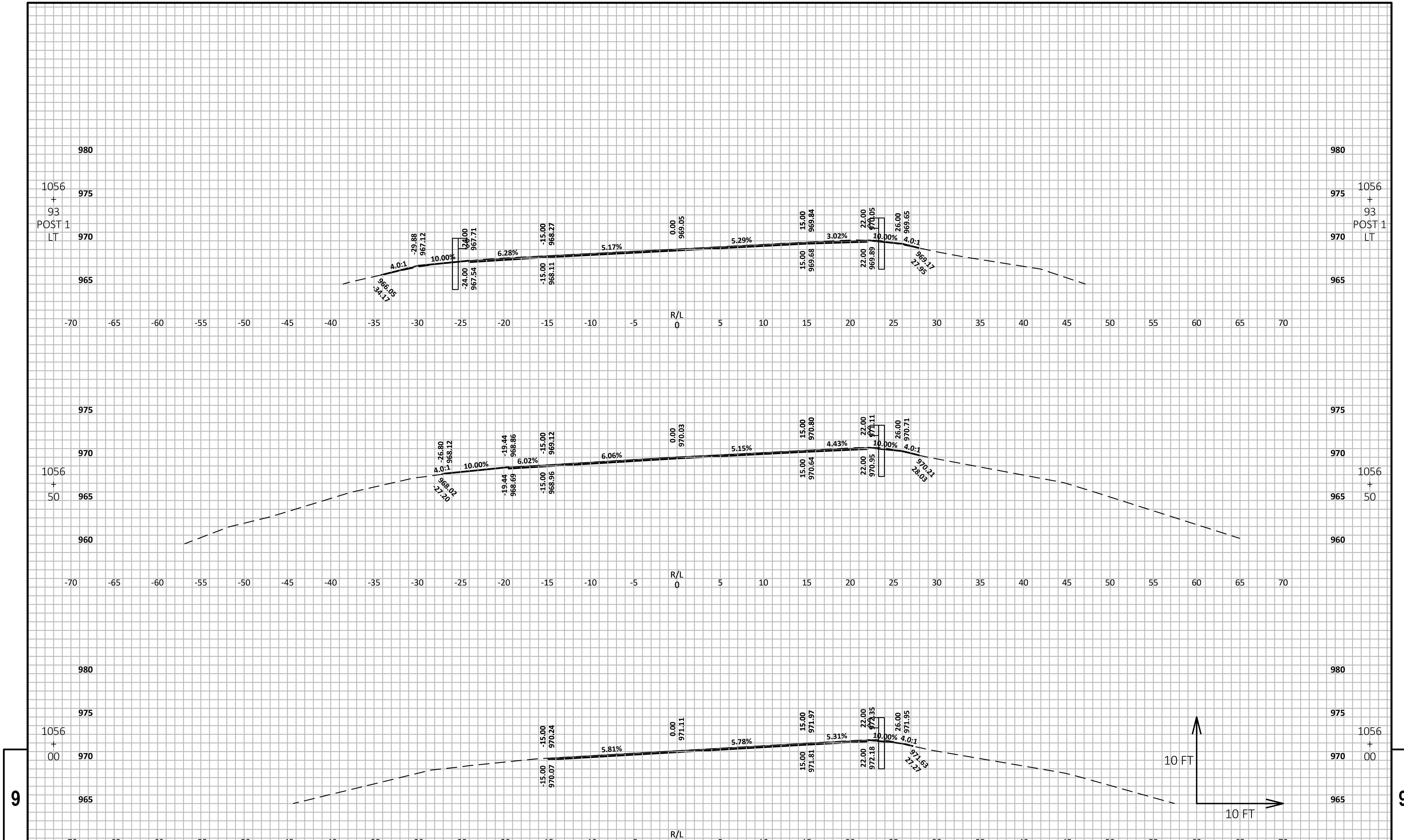
LAYOUT NAME - 956006-090102-xs
PLOT DATE : 11/30/2022 9:30 AM
PLOT BY : ANDY WESTBROOK
PLOT NAME :
PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.
WISDOT/CADDS SHEET 49



PROJECT NO: 9560-06-71/72	HWY: USH 8	COUNTY: MARINETTE	CROSS SECTIONS: BEAM GUARD - BRIDGE	SHEET 97	E

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LAYOUT NAME - 956006-090103-xs
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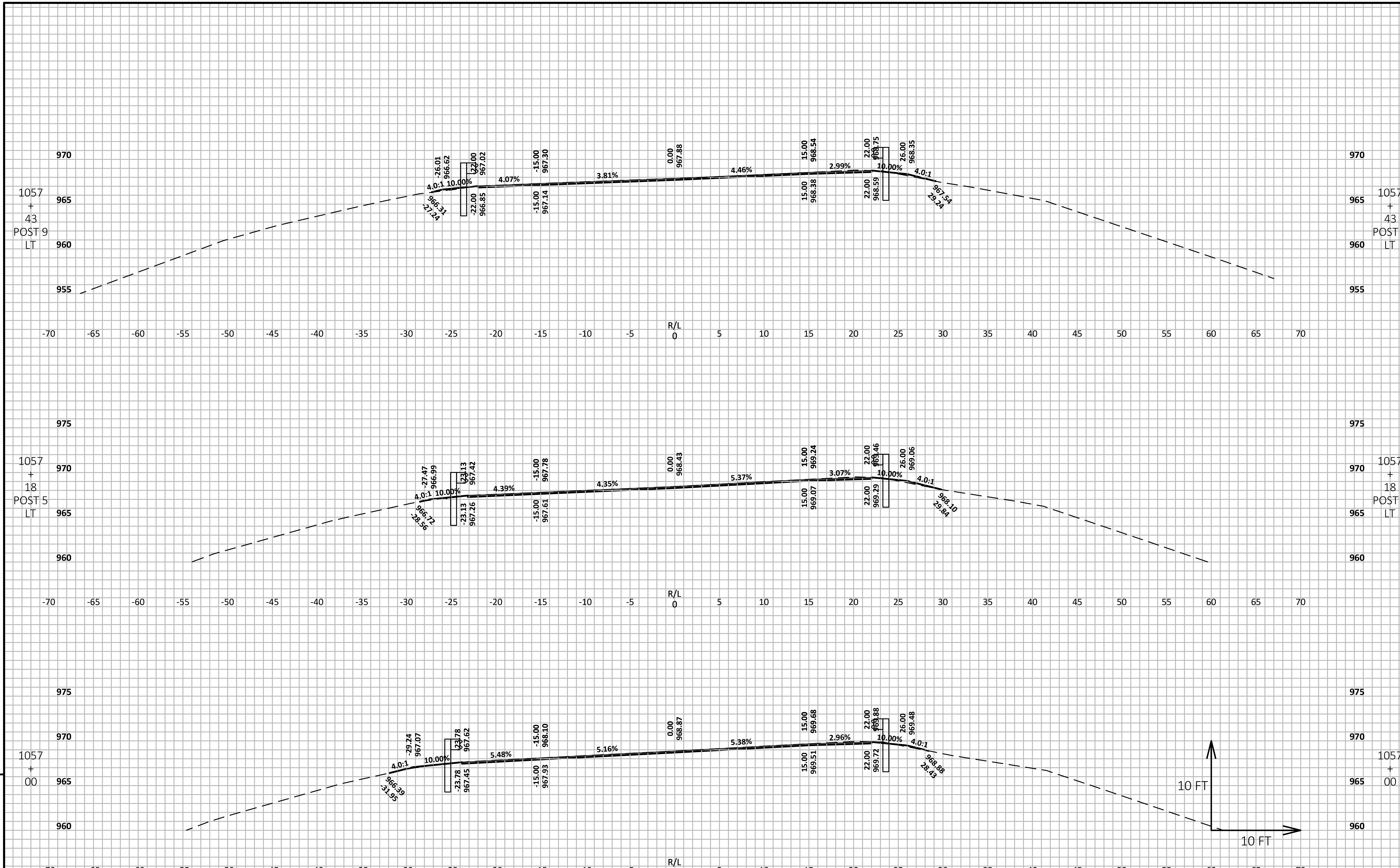
PLOT NAME :
PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.
WISDOT/CADDS SHEET 49



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PROJECT NO: 9560-06-71/72	HWY: USH 8	COUNTY: MARINETTE	CROSS SECTIONS: BEAM GUARD - BRIDGE	SHEET 98	E

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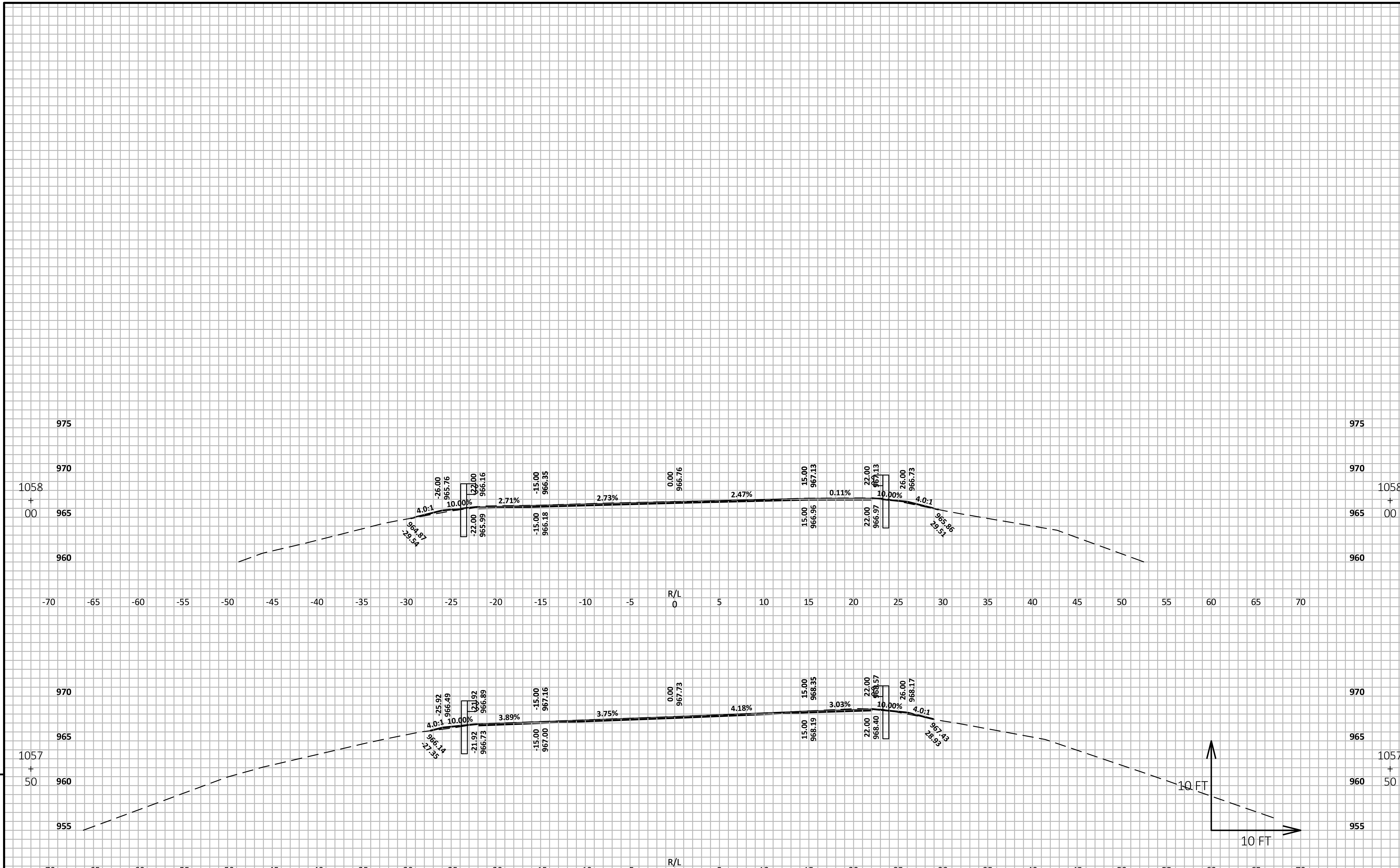
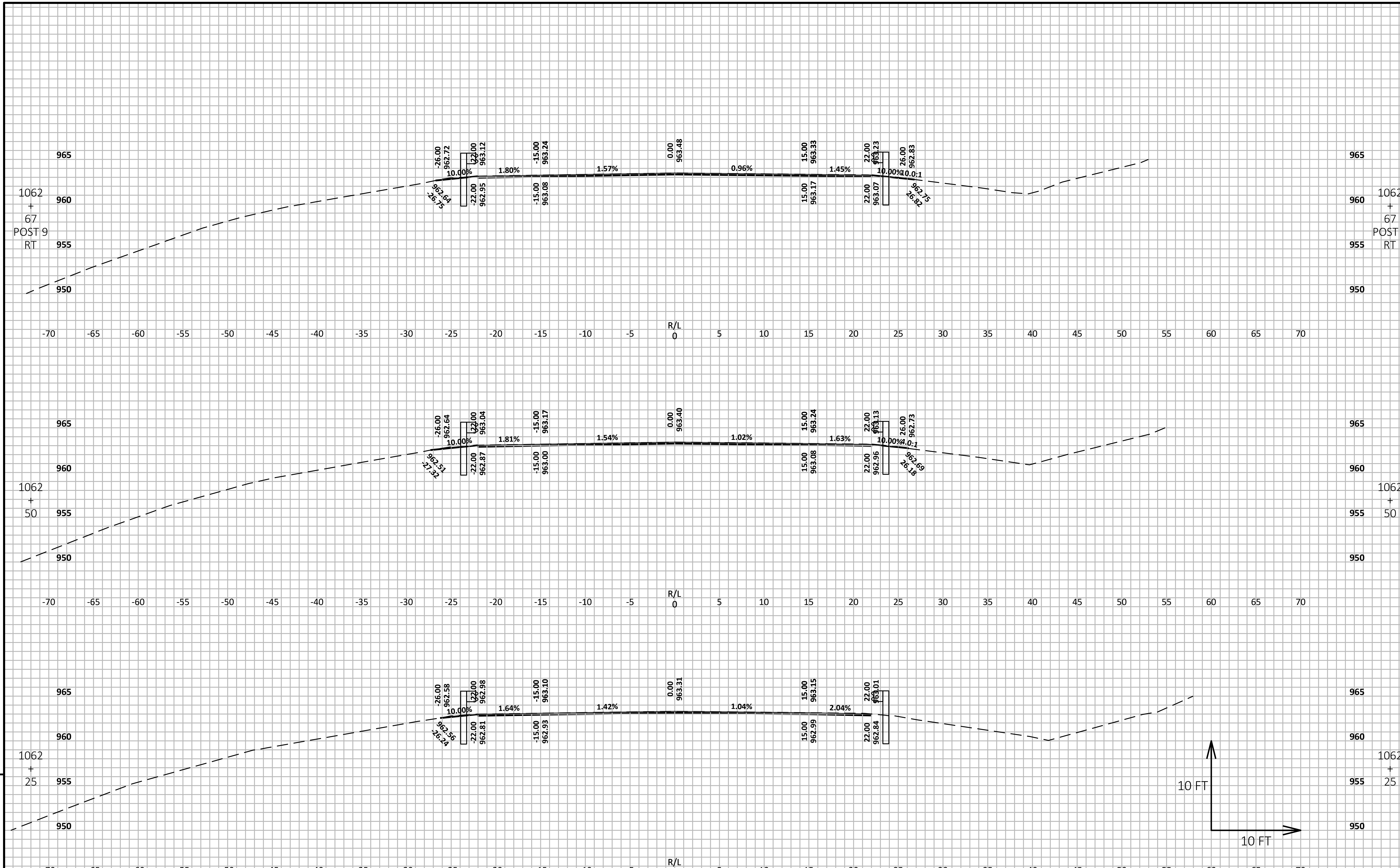
PLOT NAME :
PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.
WISDOT/CADDS SHEET 49



PROJECT NO: 9560-06-71/72	HWY: USH 8	COUNTY: MARINETTE	CROSS SECTIONS: BEAM GUARD - BRIDGE	SHEET 99	E



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PROJECT NO: 9560-06-71/72	HWY: USH 8	COUNTY: MARINETTE	CROSS SECTIONS: BEAM GUARD - BRIDGE	SHEET 100	E

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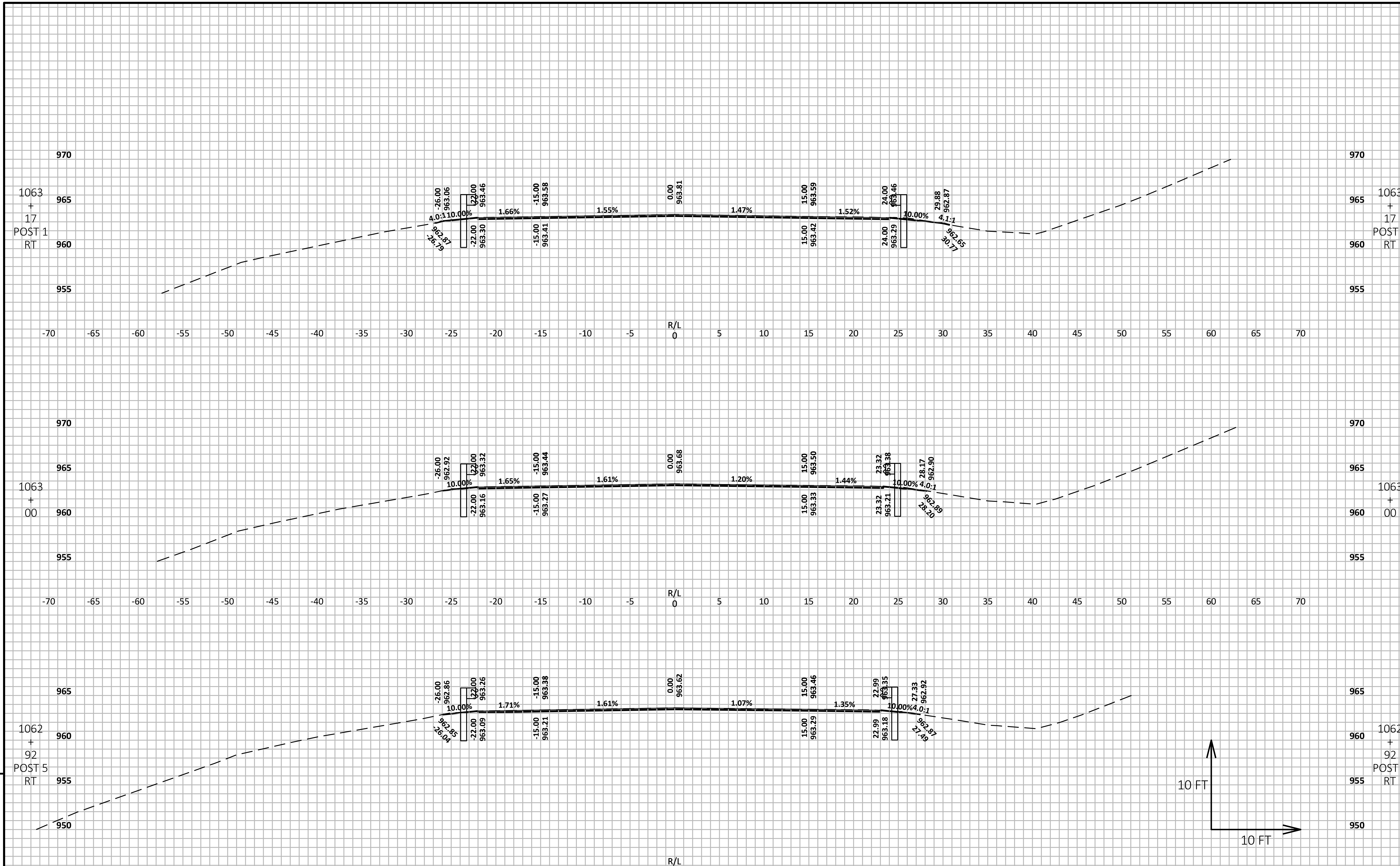
WISDOT/CADDS SHEET 49



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PROJECT NO: 9560-06-71/72	HWY: USH 8	COUNTY: MARINETTE	CROSS SECTIONS: BEAM GUARD - BRIDGE	SHEET 101	E

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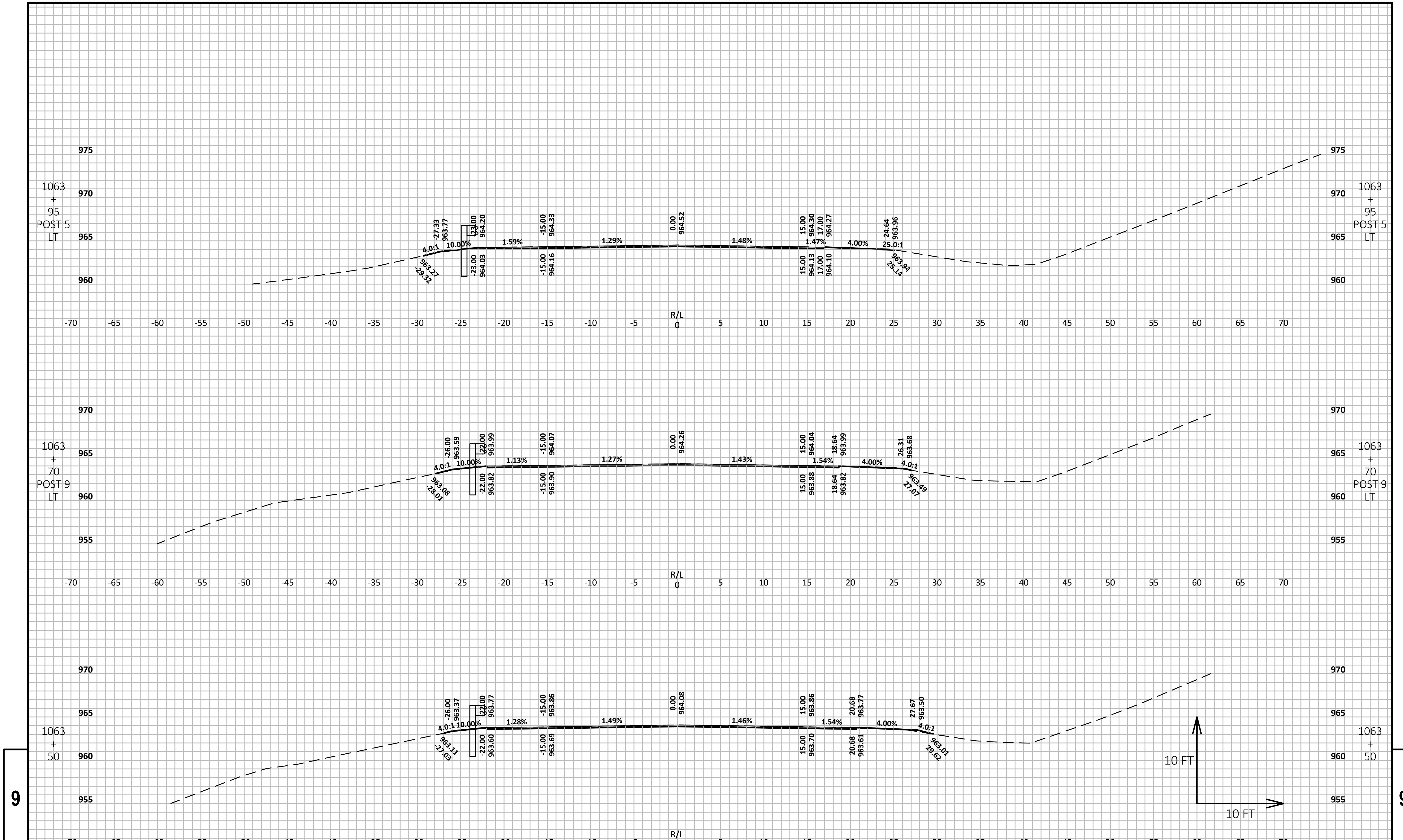
LAYOUT NAME - 956006-090107-xs

PLOT DATE : 11/30/2022 9:30 AM PLOT BY : ANDY WESTBROOK PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



PROJECT NO: 9560-06-71/72	HWY: USH 8	COUNTY: MARINETTE	CROSS SECTIONS: BEAM GUARD - BRIDGE	SHEET 102	E

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LAYOUT NAME - 956006-090108-xs
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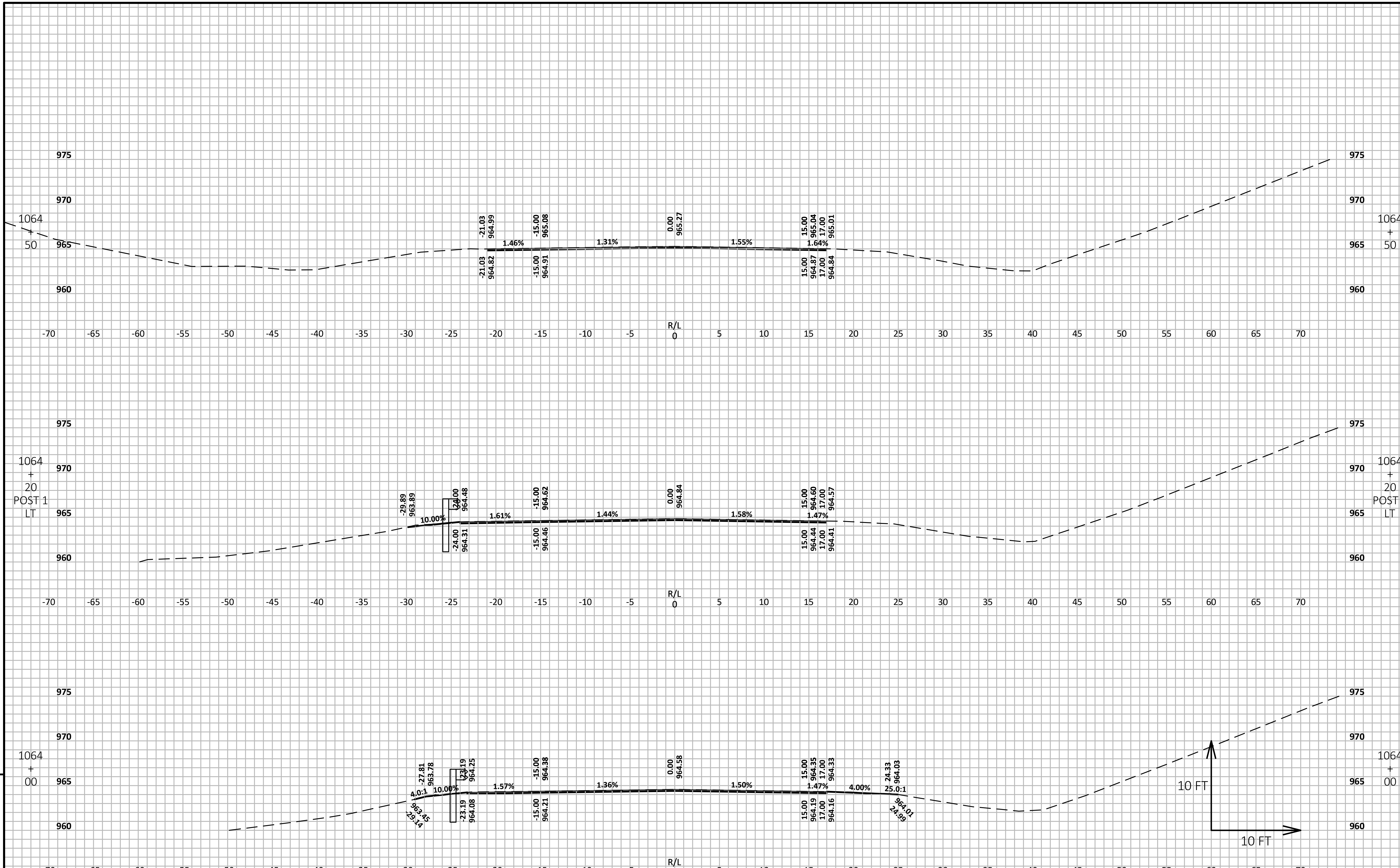

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PROJECT NO: 9560-06-71/72	HWY: USH 8	COUNTY: MARINETTE	CROSS SECTIONS: BEAM GUARD - BRIDGE	SHEET 103	E

FILE NAME : N:\3000939.00\CIVIL 3D\SHEETSPLAN\956006-090201-XS.DWG
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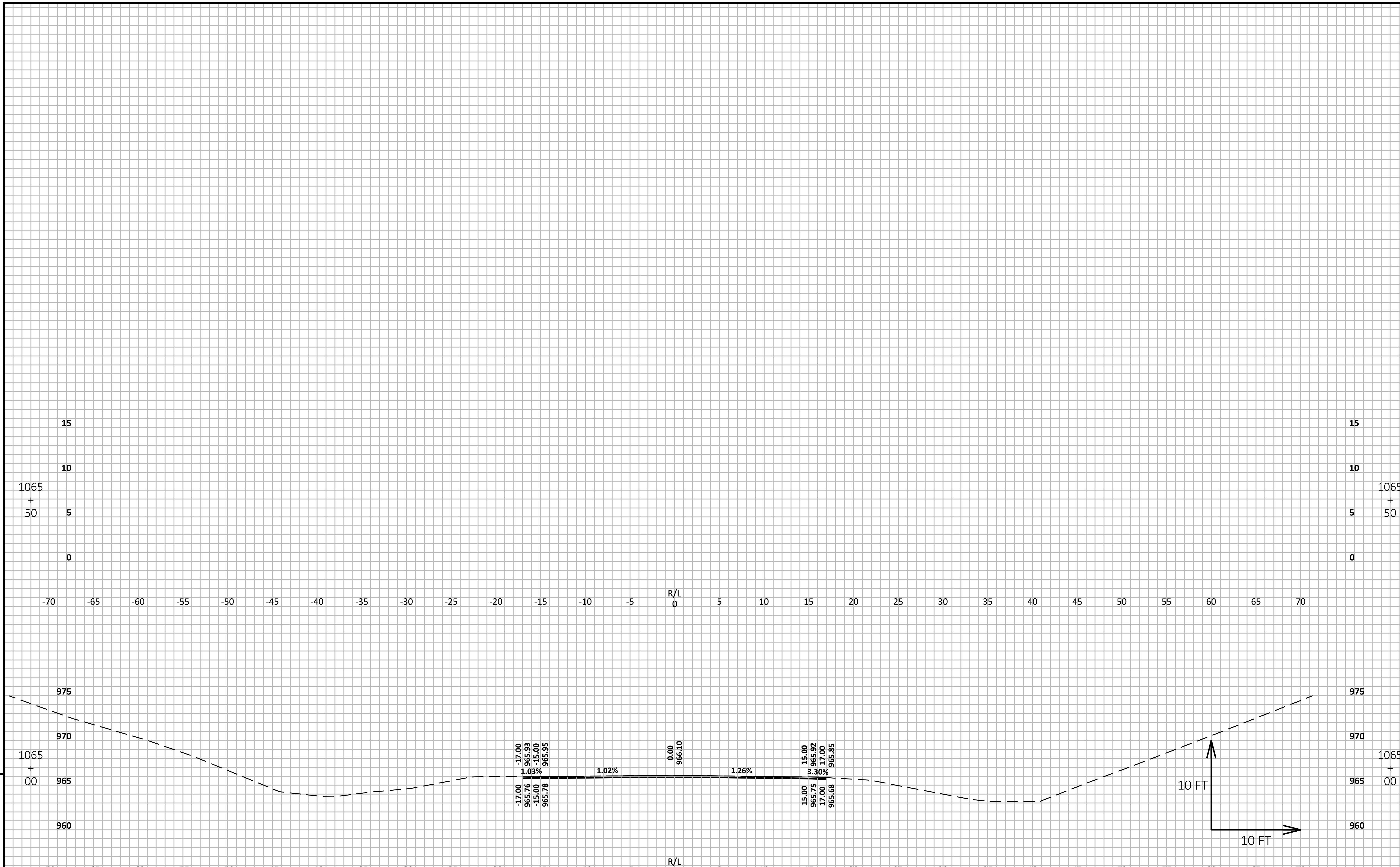
PLOT DATE : 11/30/2022 9:30 AM PLOT BY : ANDY WESTBROOK PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT. WISDOT/CADDS SHEET 49



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PROJECT NO: 9560-06-71/72	HWY: USH 8	COUNTY: MARINETTE	CROSS SECTIONS: BEAM GUARD - BRIDGE	SHEET 104	E

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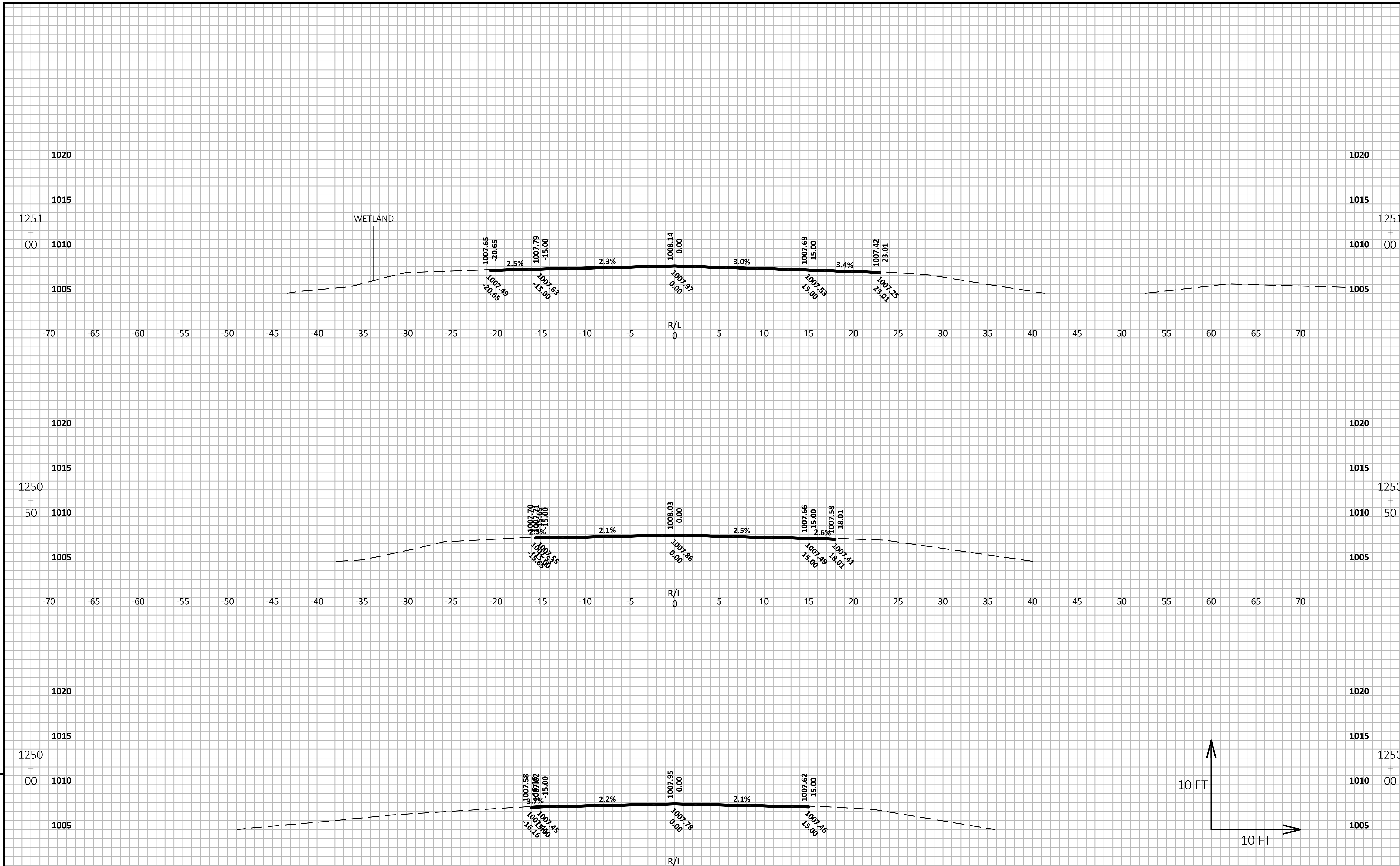
LAYOUT NAME - 956006-090110-xs
PLOT DATE : 11/30/2022 9:31 AM
PLOT BY : ANDY WESTBROOK
PLOT NAME :
PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.
WISDOT/CADDS SHEET 49



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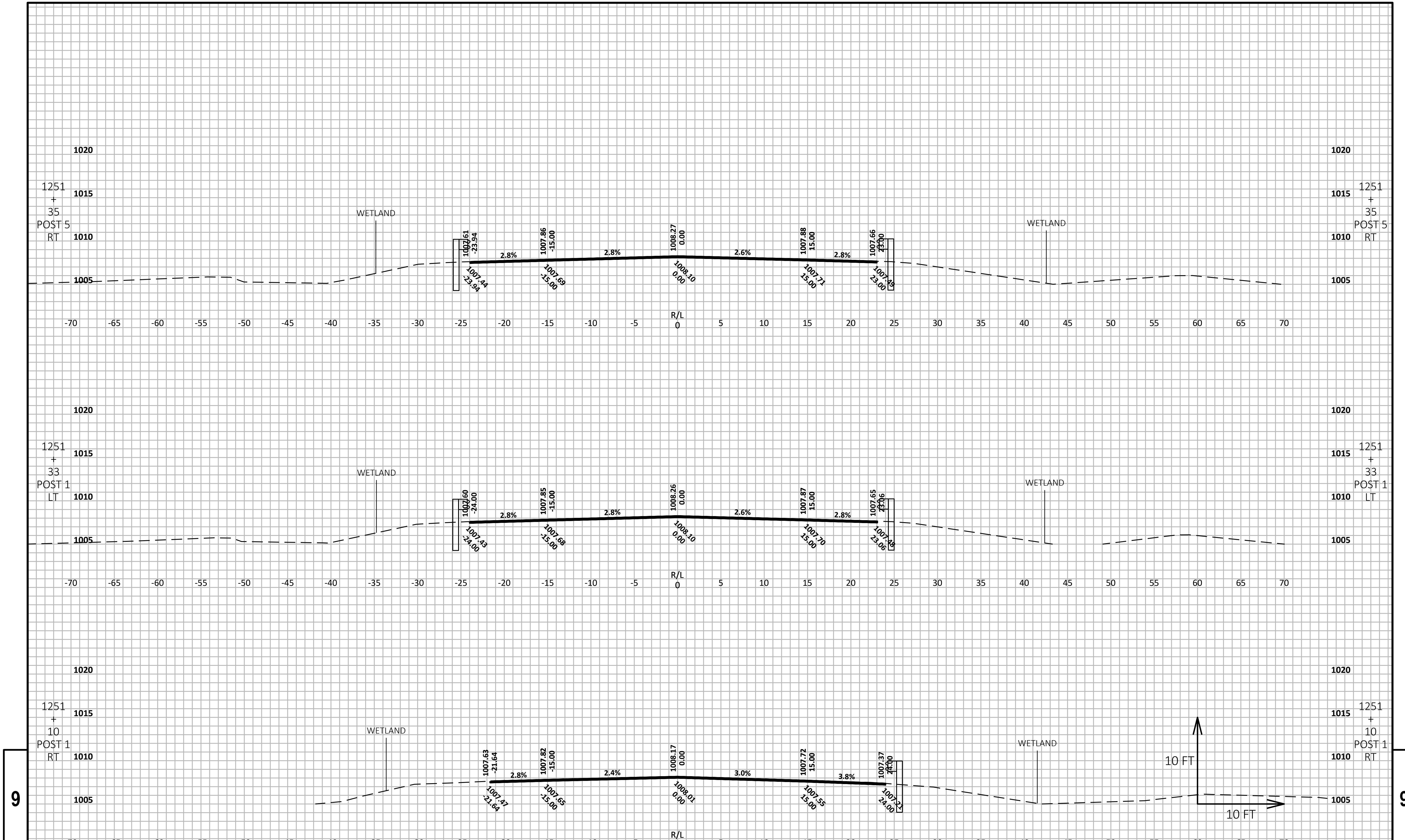
PROJECT NO: 9560-06-71/72	HWY: USH 8	COUNTY: MARINETTE	CROSS SECTIONS: BEAM GUARD - BOX CULVERT	SHEET 105	E

FILE NAME : N:\3000939.00\CIVIL 3D\SHEETSPLAN\956006-090201-XS.DWG
LAYOUT NAME - 956006-090201-xs

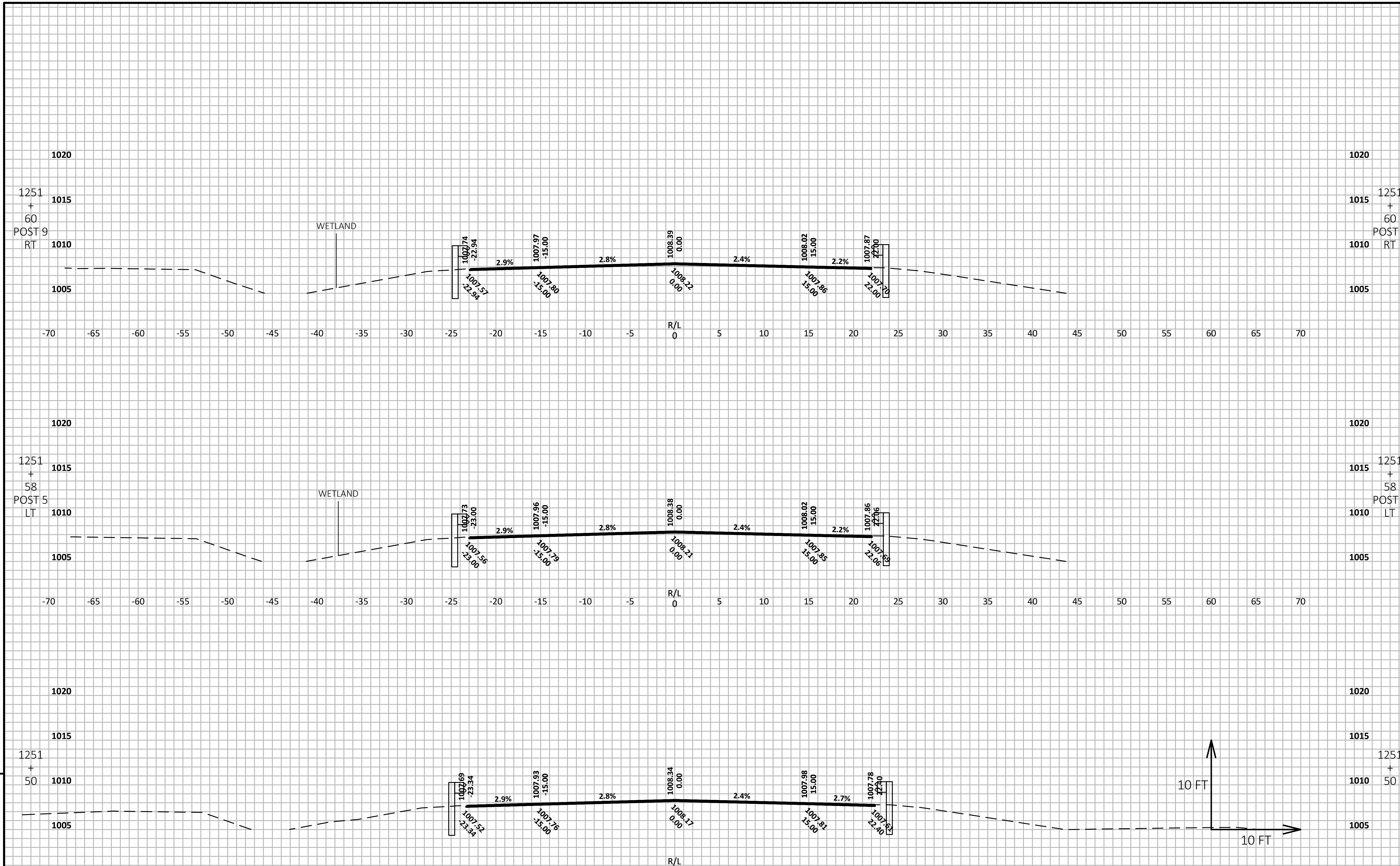
PLOT DATE : 11/18/2022 1:41 PM PLOT BY : BRANDI SWANSON PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



PROJECT NO: 9560-06-71/72	HWY: USH 8	COUNTY: MARINETTE	CROSS SECTIONS: BEAM GUARD - BOX CULVERT	SHEET 106	E

FILE NAME : N:\3000939.00\CIVIL 3D\SHEETSPLAN\956006-090201-XS.DWG
LAYOUT NAME - 956006-090202-xs
PLOT DATE : 11/18/2022 1:41 PM
PLOT BY : BRANDI SWANSON
PLOT NAME :
PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.
WISDOT/CADDS SHEET 49



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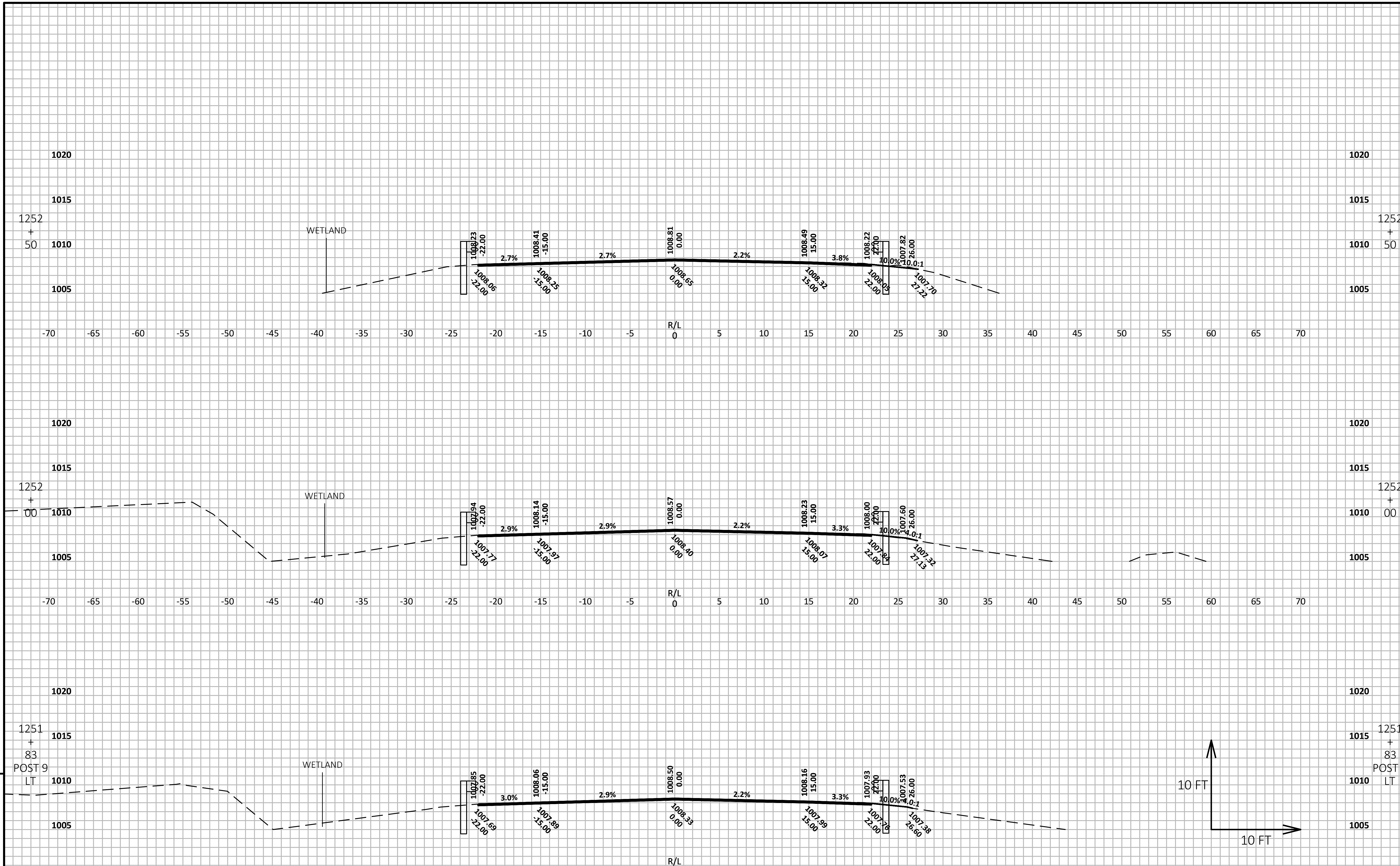
PROJECT NO: 9560-06-71/72	HWY: USH 8	COUNTY: MARINETTE	CROSS SECTIONS: BEAM GUARD - BOX CULVERT	SHEET 107	E

FILE NAME : N:\3000939.00\CIVIL 3D\SHEETSPLAN\956006-090201-XS.DWG
LAYOUT NAME - 956006-090203-xs
PLOT DATE : 11/18/2022 1:41 PM PLOT BY : BRANDI SWANSON PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.
WISDOT/CADDS SHEET 49



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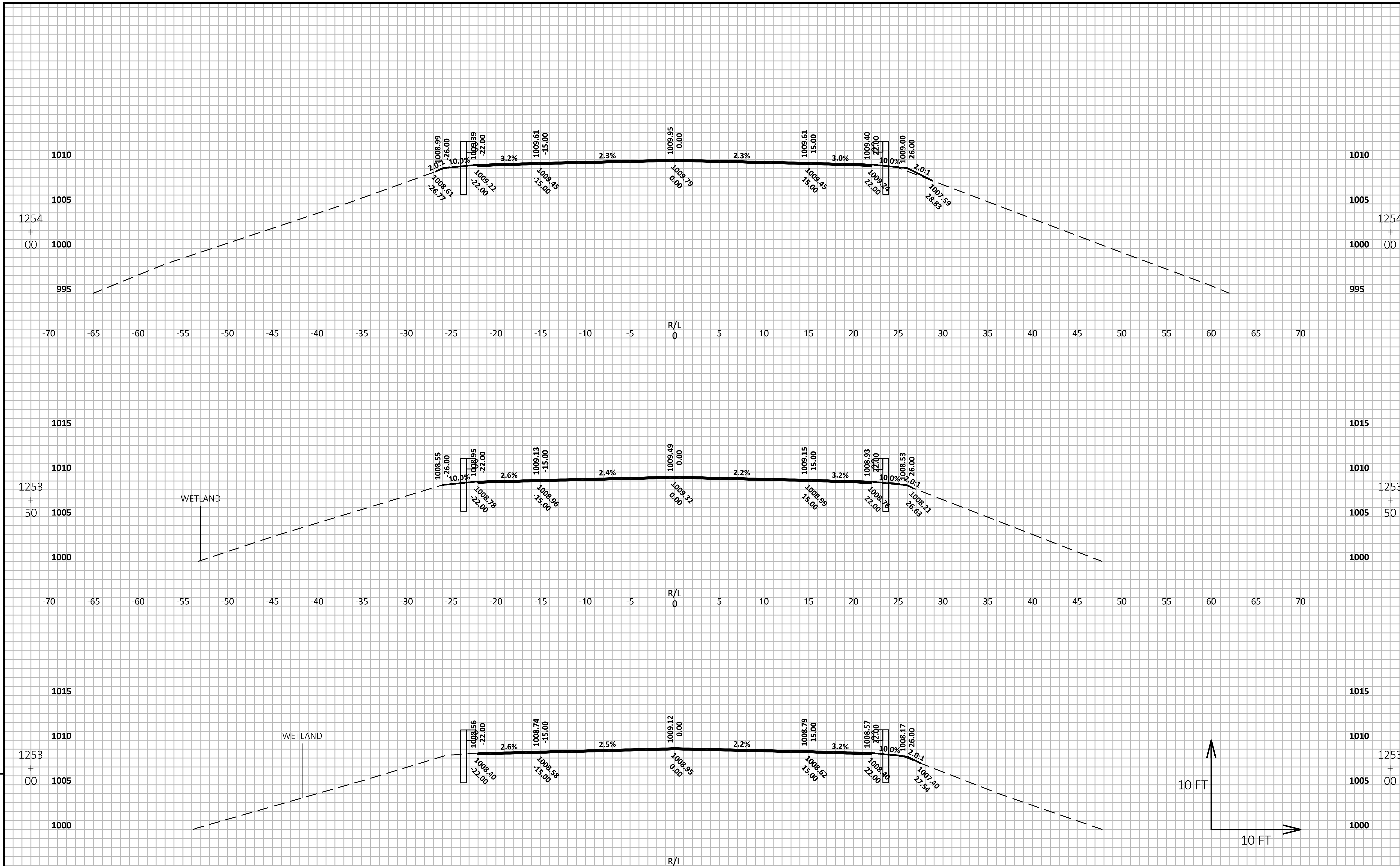
PROJECT NO: 9560-06-71/72	HWY: USH 8	COUNTY: MARINETTE	CROSS SECTIONS: BEAM GUARD - BOX CULVERT	SHEET 108	E

FILE NAME : N:\3000939.00\CIVIL 3D\SHEETSPLAN\956006-090201-XS.DWG
LAYOUT NAME - 956006-090204-xs
PLOT DATE : 11/18/2022 1:41 PM PLOT BY : BRANDI SWANSON PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.
WISDOT/CADDS SHEET 49



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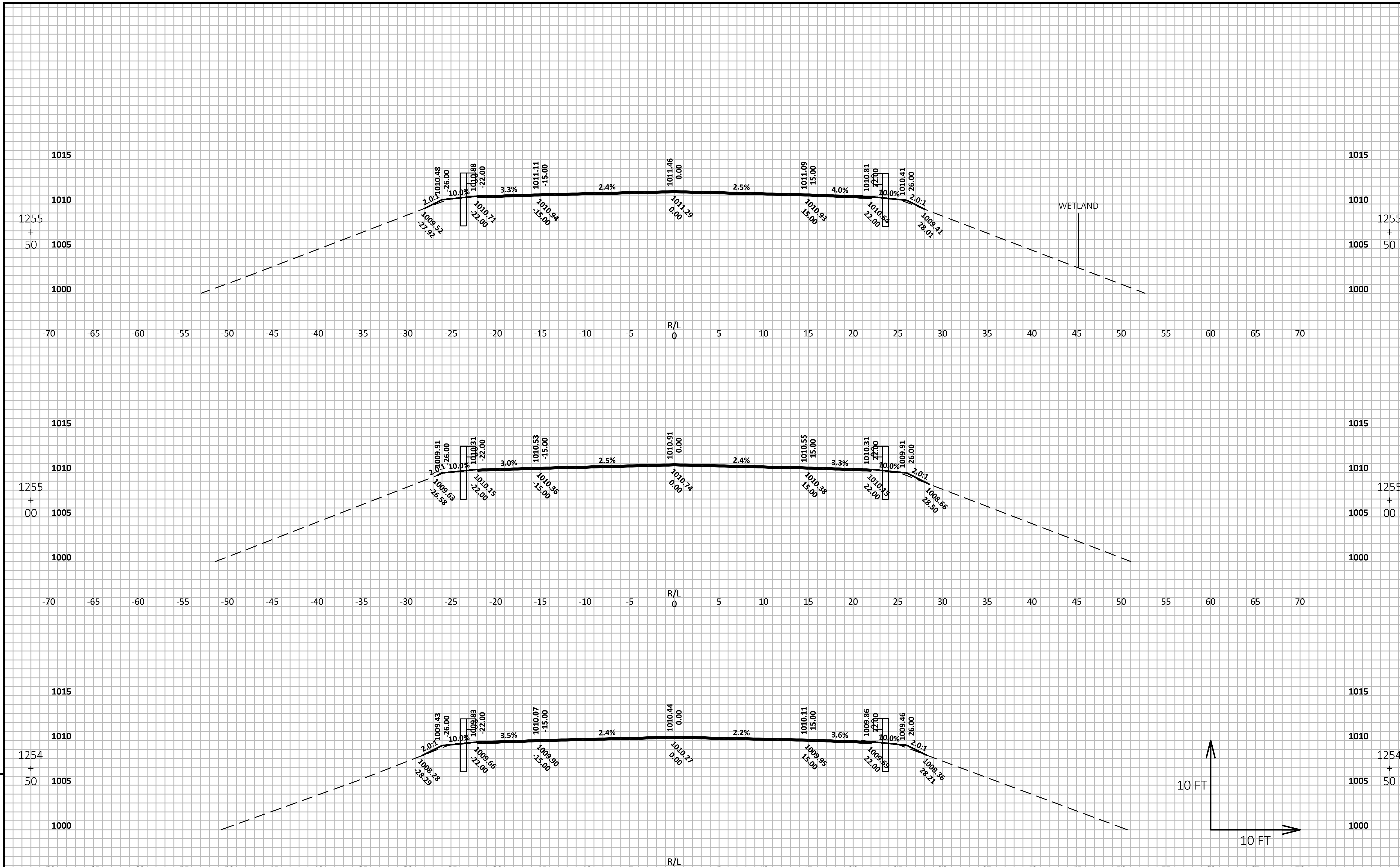
PROJECT NO: 9560-06-71/72	HWY: USH 8	COUNTY: MARINETTE	CROSS SECTIONS: BEAM GUARD - BOX CULVERT	SHEET 109	E

FILE NAME : N:\3000939.00\CIVIL 3D\SHEETSPLAN\956006-090201-XS.DWG
LAYOUT NAME - 956006-090205-xs

PLOT DATE : 11/18/2022 1:41 PM PLOT BY : BRANDI SWANSON PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

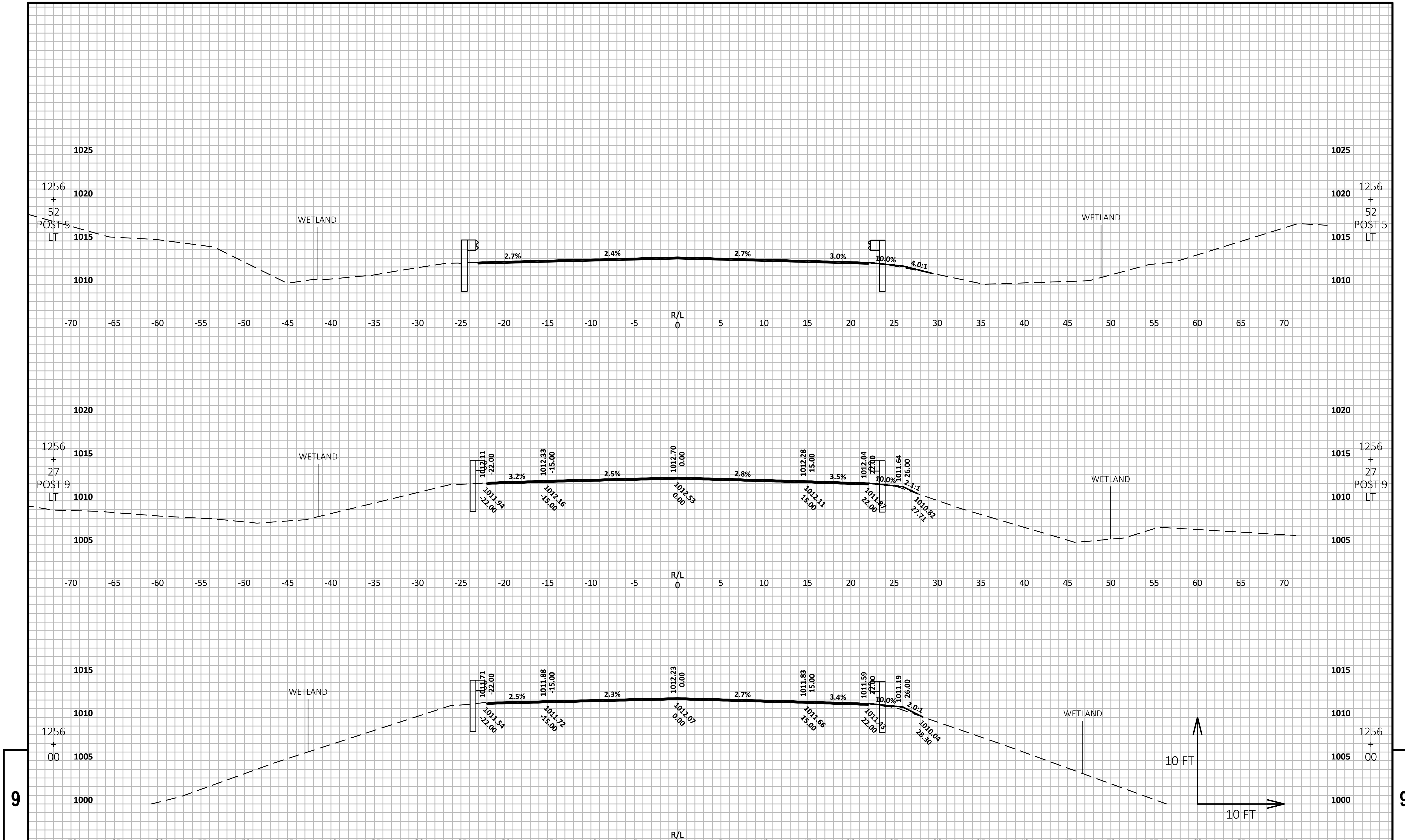


PROJECT NO: 9560-06-71/72	HWY: USH 8	COUNTY: MARINETTE	CROSS SECTIONS: BEAM GUARD - BOX CULVERT	SHEET 110	E

FILE NAME : N:\3000939.00\CIVIL 3D\SHEETSPLAN\956006-090201-XS.DWG
LAYOUT NAME - 956006-090206-xs

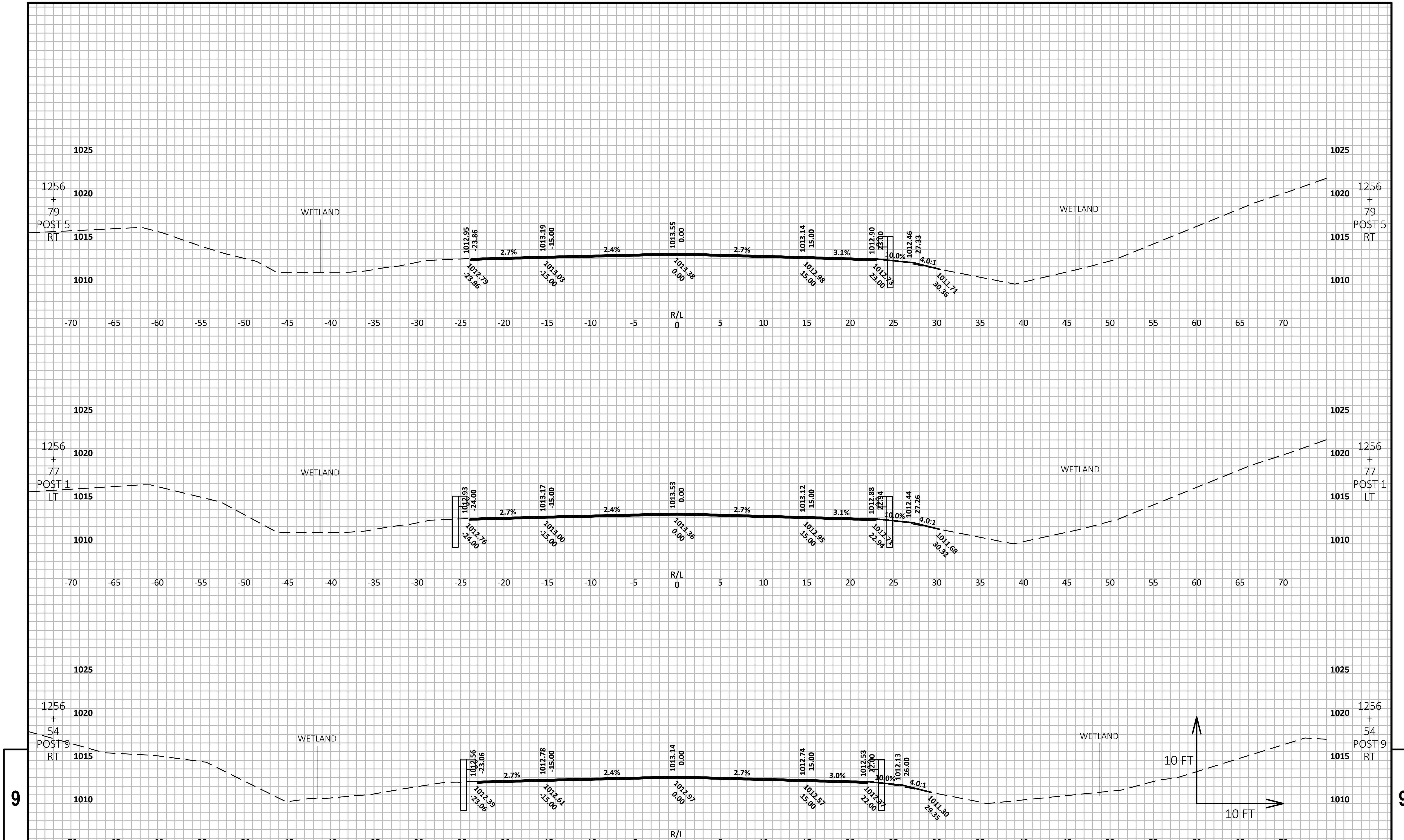
PLOT DATE : 11/18/2022 1:41 PM PLOT BY : BRANDI SWANSON PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



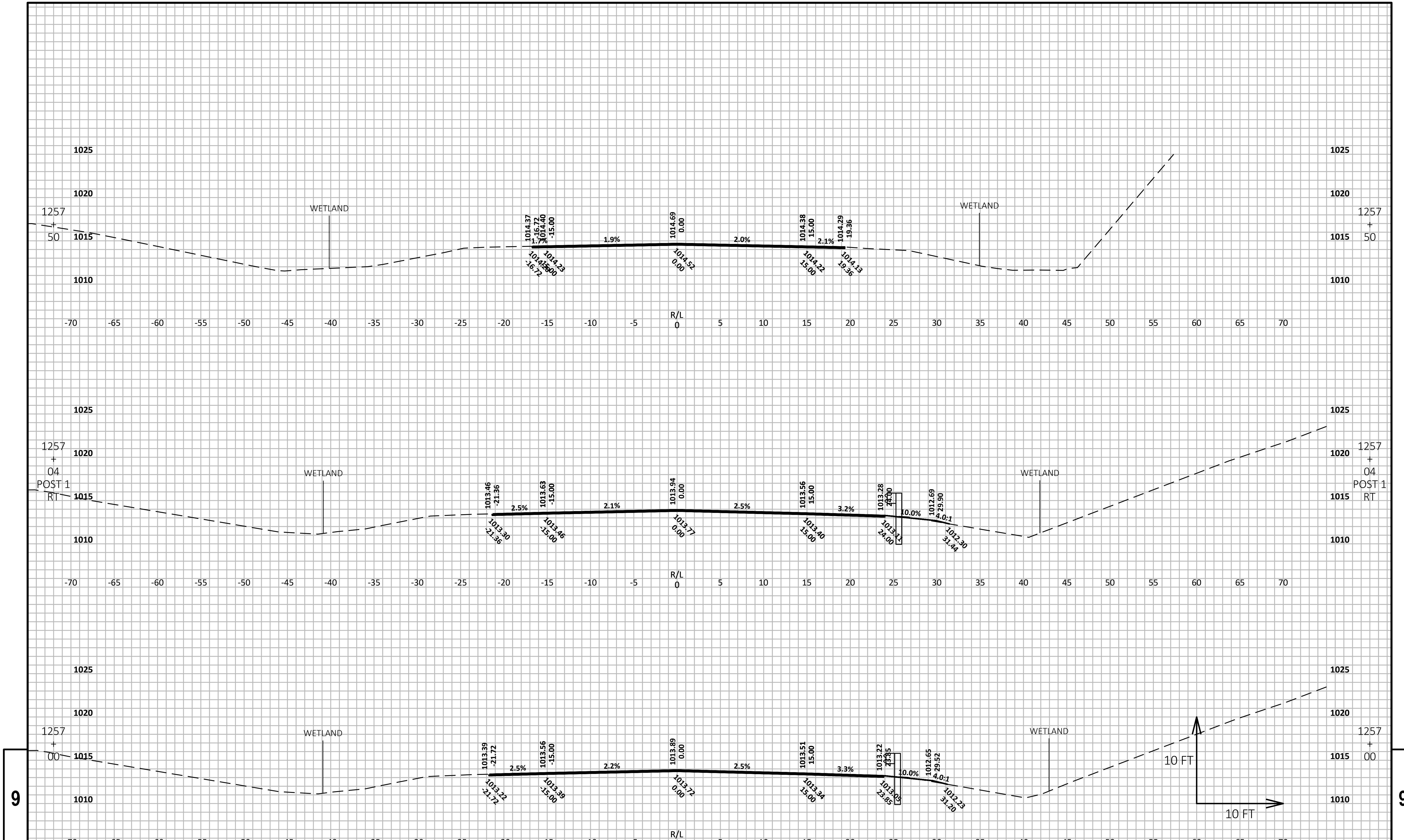
PROJECT NO: 9560-06-71/72	HWY: USH 8	COUNTY: MARINETTE	CROSS SECTIONS: BEAM GUARD - BOX CULVERT	SHEET 111	E

FILE NAME : N:\3000939.00\CIVIL 3D\SHEETSPLAN\956006-090201-XS.DWG
LAYOUT NAME - 956006-090207-xs
PLOT DATE : 11/18/2022 1:41 PM
PLOT BY : BRANDI SWANSON
PLOT NAME :
PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.
WISDOT/CADDS SHEET 49



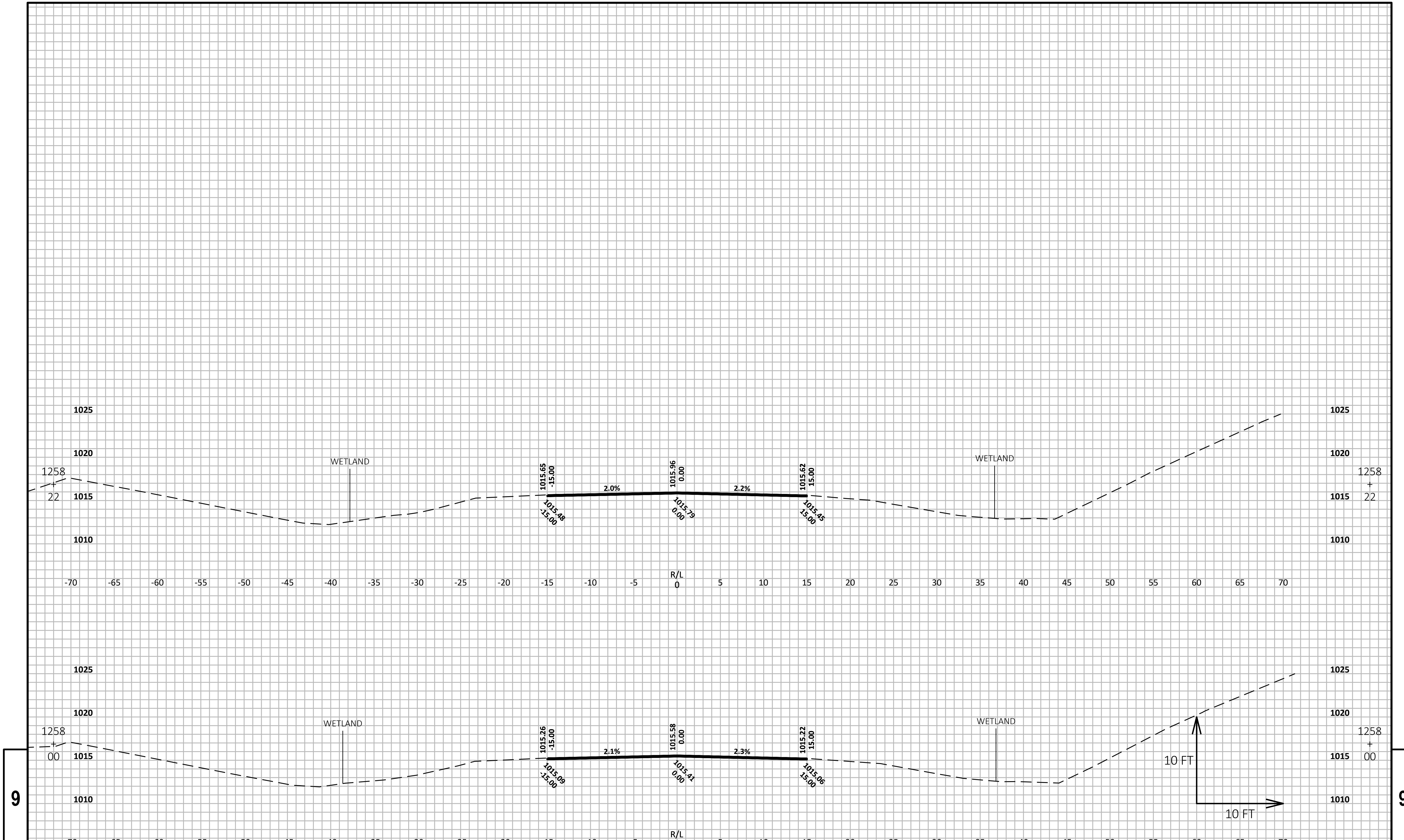
PROJECT NO: 9560-06-71/72	HWY: USH 8	COUNTY: MARINETTE	CROSS SECTIONS: BEAM GUARD - BOX CULVERT	SHEET 112	E

FILE NAME : N:\3000939.00\CIVIL 3D\SHEETSPLAN\956006-090201-XS.DWG
LAYOUT NAME - 956006-090208-xs
PLOT DATE : 11/18/2022 1:41 PM PLOT BY : BRANDI SWANSON PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.
WISDOT/CADDS SHEET 49



PROJECT NO: 9560-06-71/72	HWY: USH 8	COUNTY: MARINETTE	CROSS SECTIONS: BEAM GUARD - BOX CULVERT	SHEET 113	E

FILE NAME : N:\3000939.00\CIVIL 3D\SHEETSPLAN\956006-090201-XS.DWG
LAYOUT NAME - 956006-090209-xs
PLOT DATE : 11/18/2022 1:41 PM
PLOT BY : BRANDI SWANSON
PLOT NAME :
PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.
WISDOT/CADDS SHEET 49

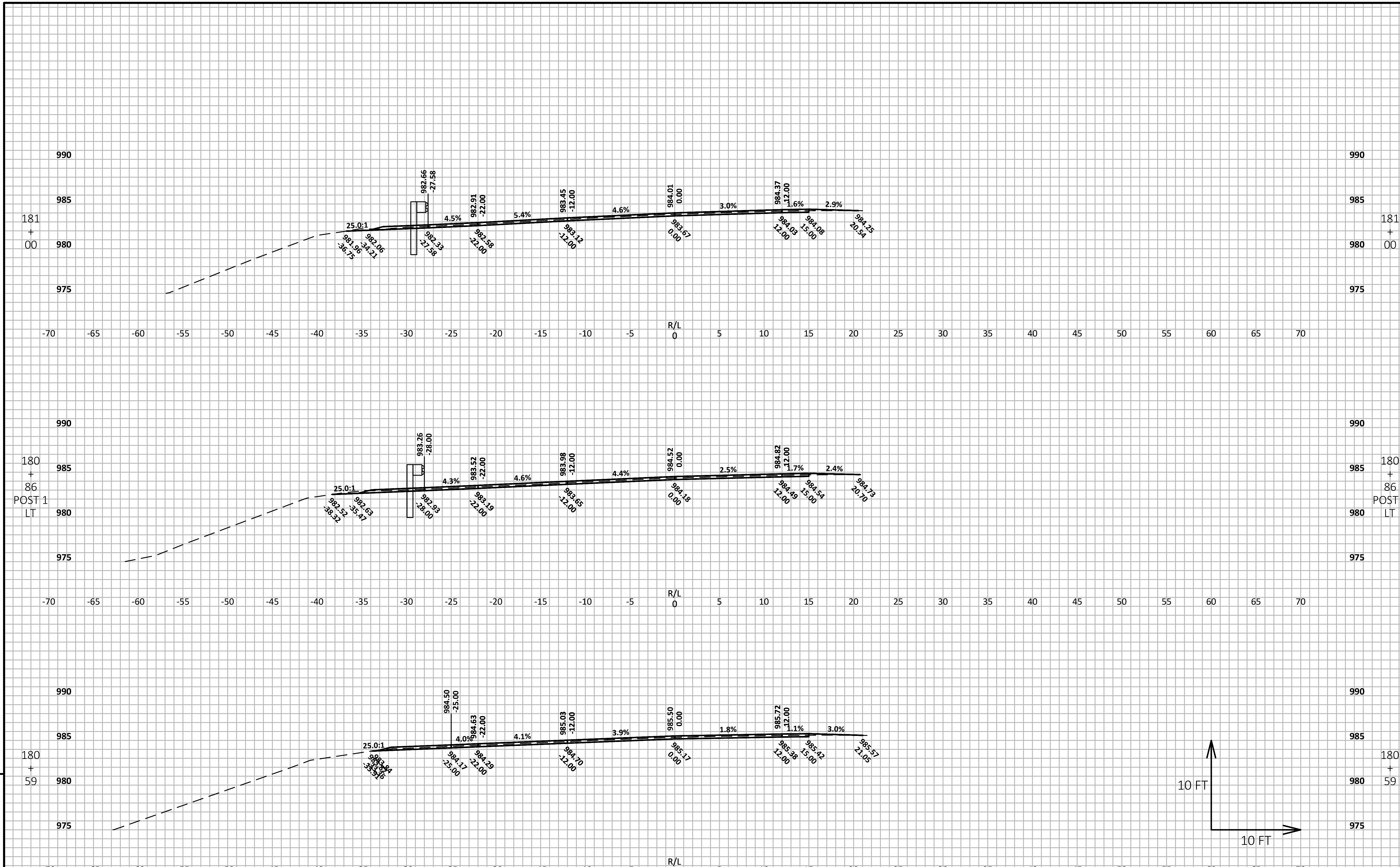


PROJECT NO: 9560-06-71/72	HWY: USH 8	COUNTY: MARINETTE	CROSS SECTIONS: BEAM GUARD - BOX CULVERT	SHEET 114	E

FILE NAME : N:\3000939.00\CIVIL 3D\SHEETSPLAN\956006-090201-XS.DWG
LAYOUT NAME - 956006-090210-xs

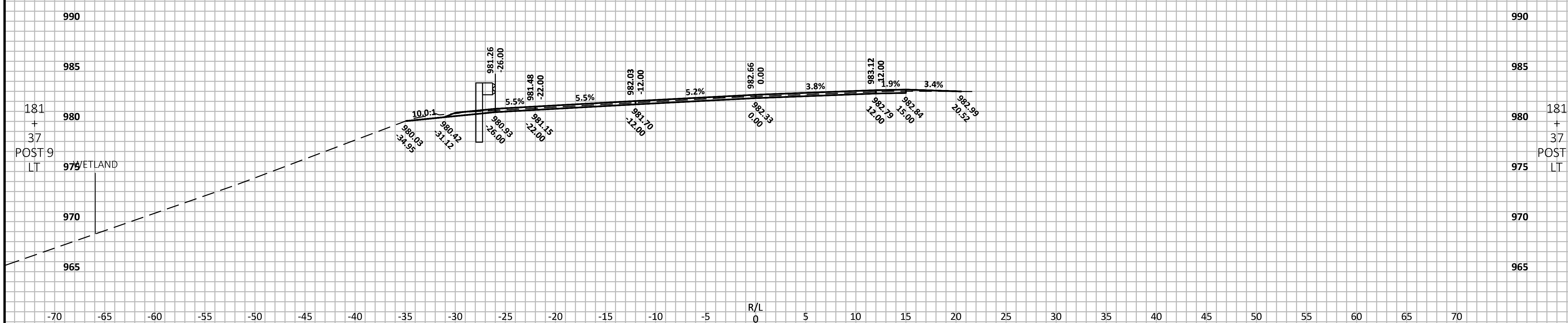
PLOT DATE : 11/18/2022 1:41 PM PLOT BY : BRANDI SWANSON PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

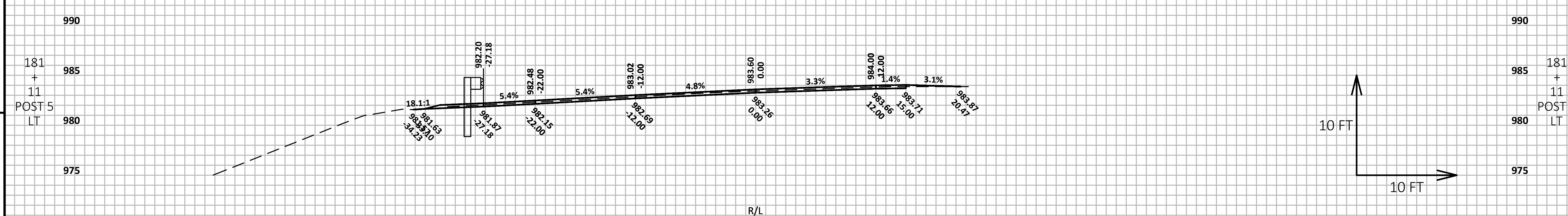
WISDOT/CADDS SHEET 49



PROJECT NO: 9560-06-71/72	HWY: USH 8	COUNTY: MARINETTE	CROSS SECTIONS: BEAM GUARD - STA 180+60 - STA 191+85	SHEET 115	E

FILE NAME : N:\3000939.00\CIVIL 3D\SHEETSPLAN\956006-090201-XS.DWG
LAYOUT NAME - 956006-090220-xs
PLOT DATE : 11/18/2022 1:41 PM PLOT BY : BRANDI SWANSON PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.
WISDOT/CADDS SHEET 49





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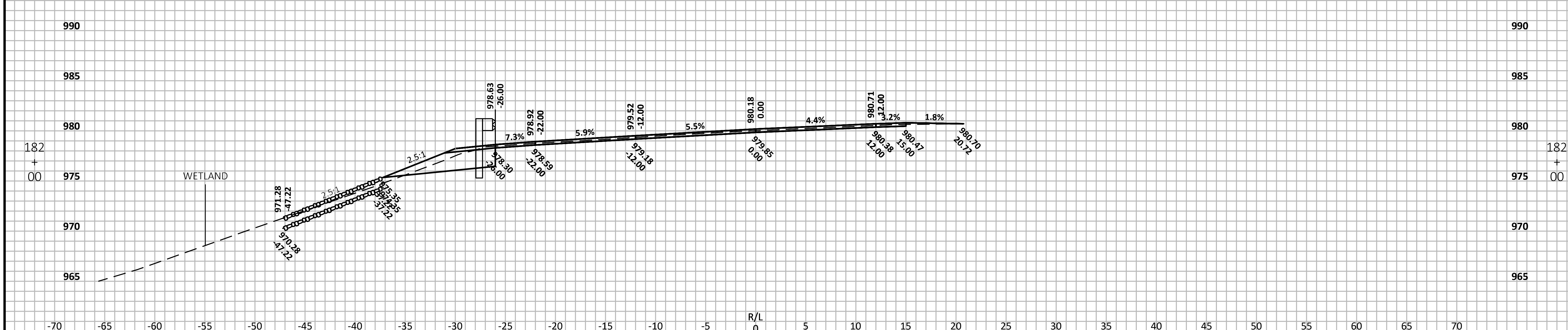
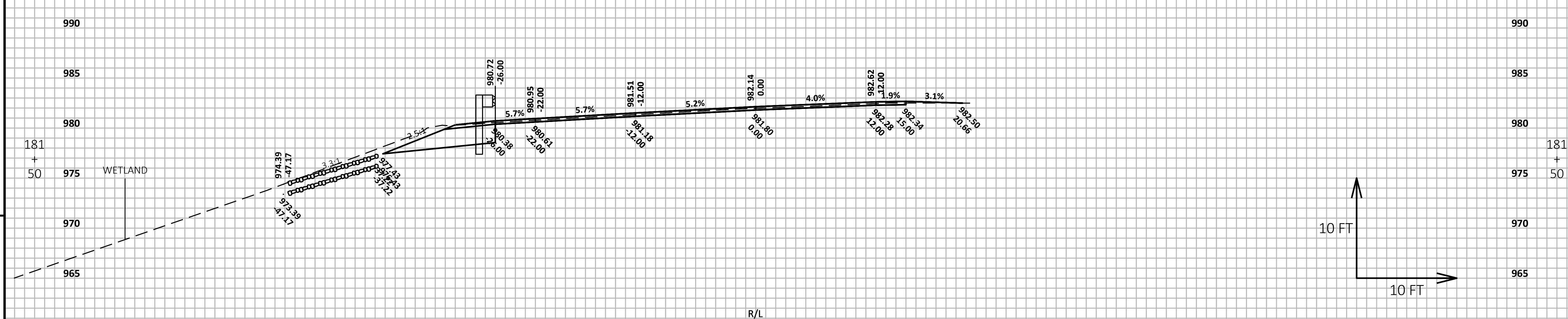
PROJECT NO: 9560-06-71/72	HWY: USH 8	COUNTY: MARINETTE	CROSS SECTIONS: BEAM GUARD - STA 180+60 - STA 191+85	SHEET 116	E

FILE NAME : N:\3000939.00\CIVIL 3D\SHEETSPLAN\956006-090201-XS.DWG
LAYOUT NAME - 956006-090221-xs

PLOT DATE : 11/18/2022 1:42 PM PLOT BY : BRANDI SWANSON PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49





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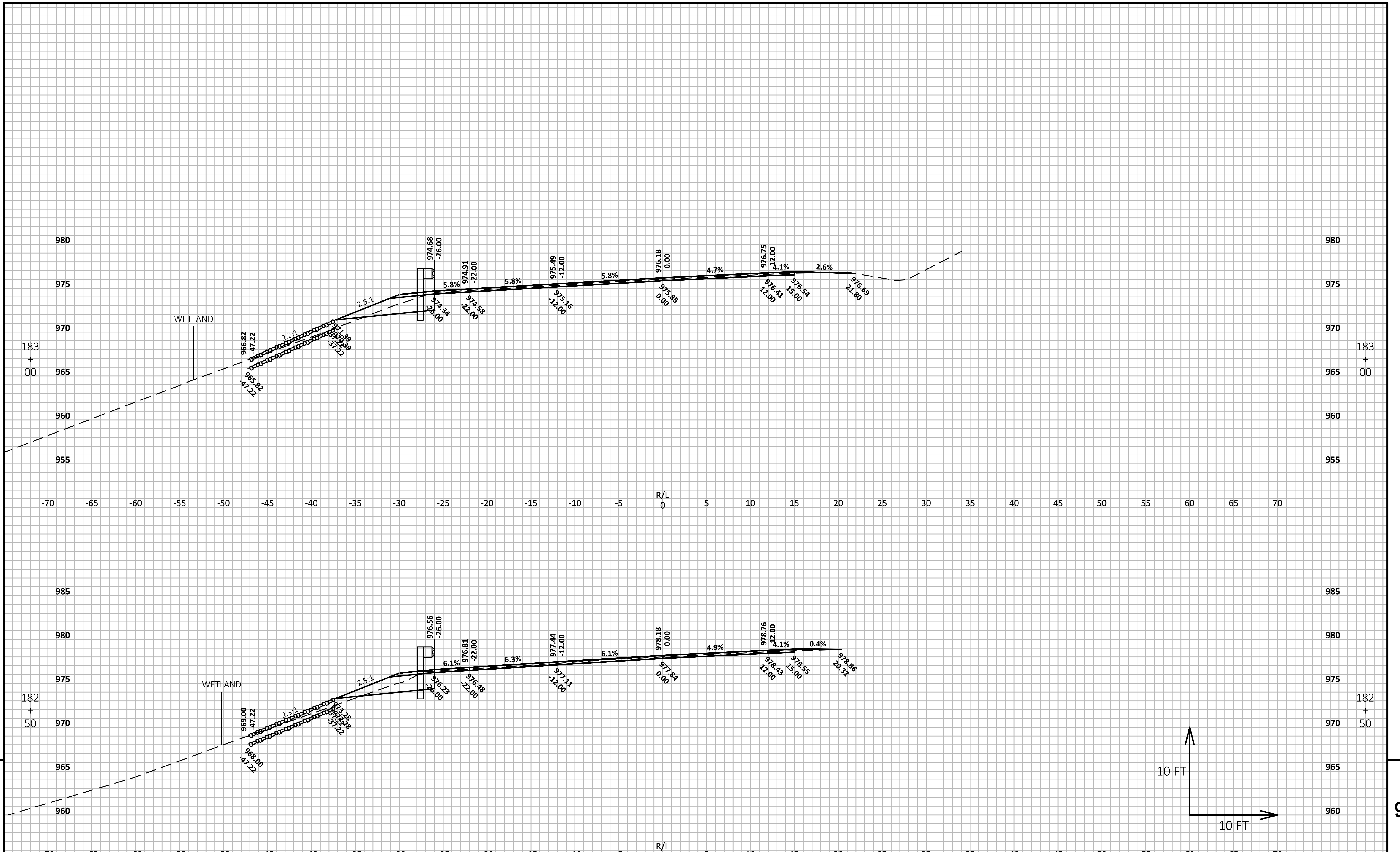
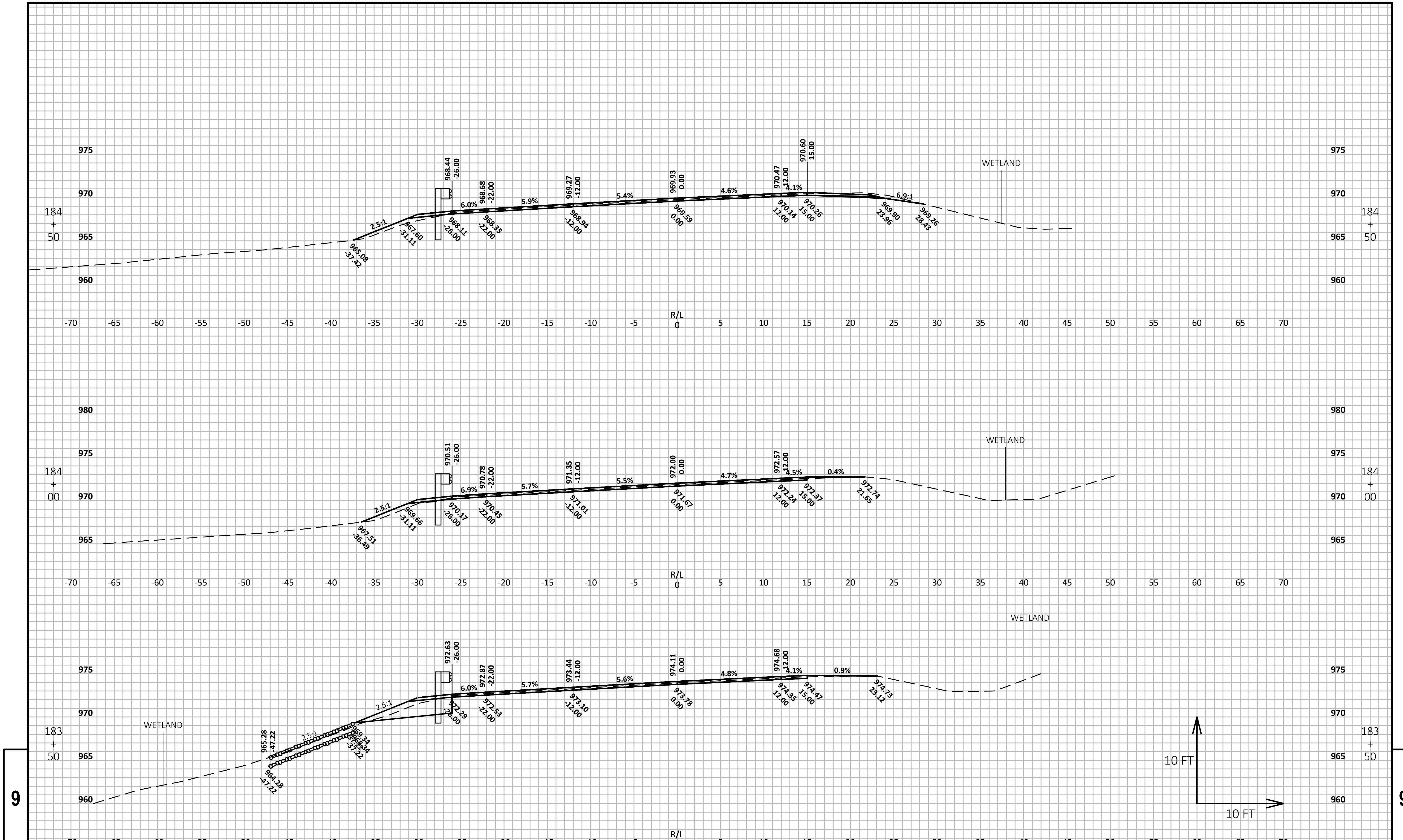
PROJECT NO: 9560-06-71/72	HWY: USH 8	COUNTY: MARINETTE	CROSS SECTIONS: BEAM GUARD - STA 180+60 - STA 191+85	SHEET 117	E



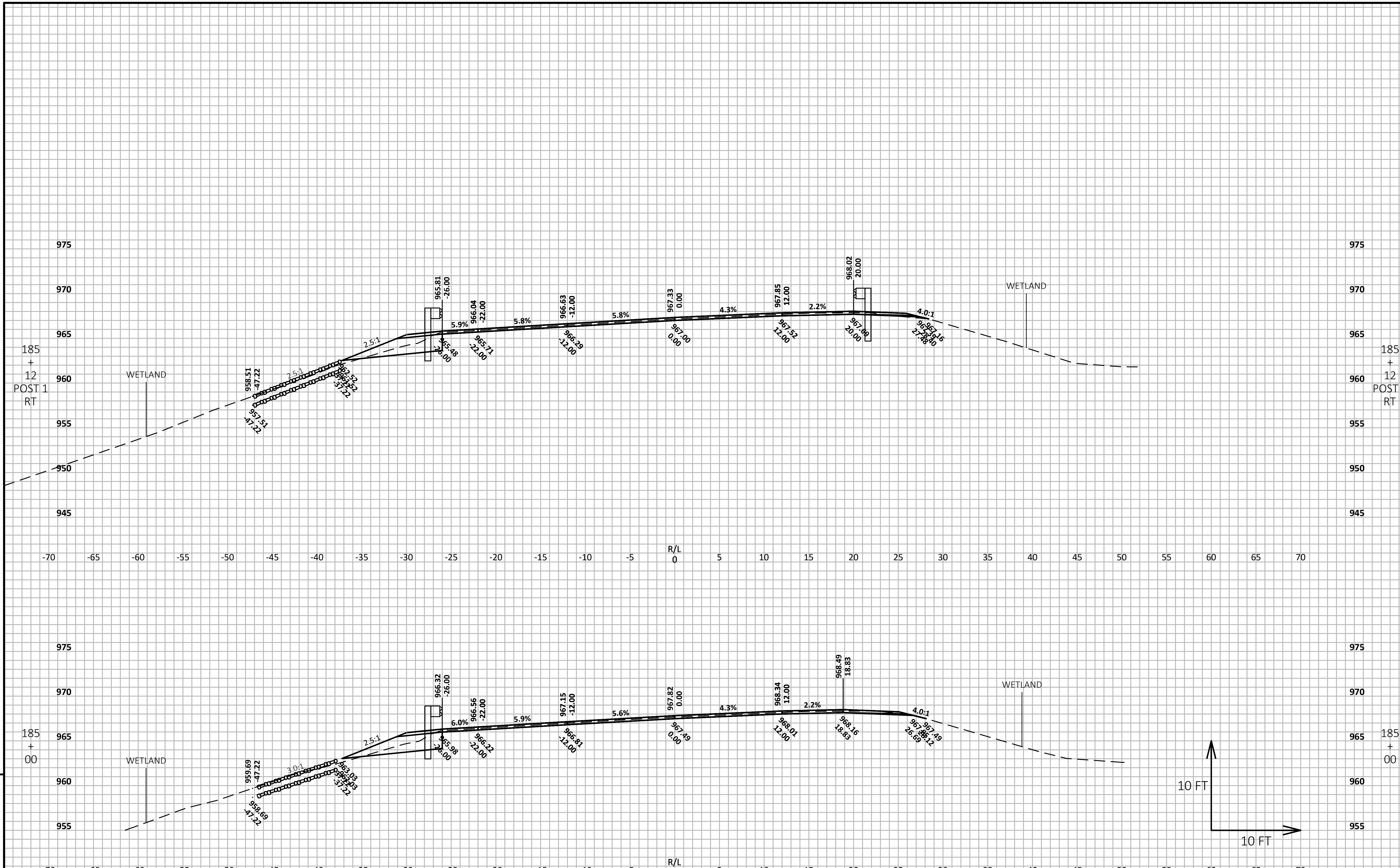
PROJECT NO: 9560-06-71/72	HWY: USH 8	COUNTY: MARINETTE	CROSS SECTIONS: BEAM GUARD - STA 180+60 - STA 191+85	SHEET 118	E

FILE NAME : N:\3000939.00\CIVIL 3D\SHEETSPLAN\956006-090201-XS.DWG
LAYOUT NAME - 956006-090223-xs
PLOT DATE : 11/18/2022 1:42 PM
PLOT BY : BRANDI SWANSON
PLOT NAME :
PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.
WISDOT/CADDS SHEET 49



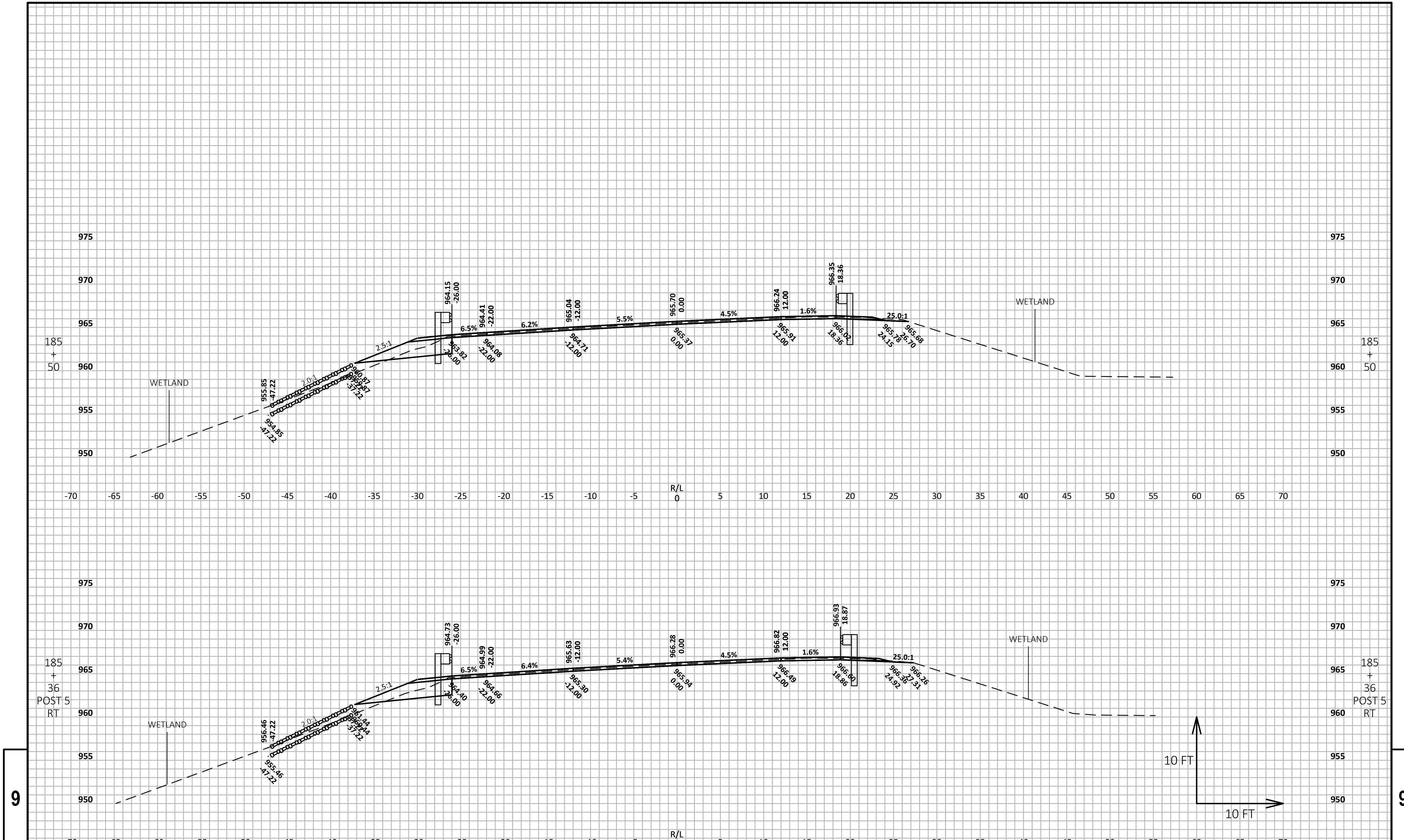
PROJECT NO: 9560-06-71/72	HWY: USH 8	COUNTY: MARINETTE	CROSS SECTIONS: BEAM GUARD - STA 180+60 - STA 191+85	SHEET 119	E

FILE NAME : N:\3000939.00\CIVIL 3D\SHEETSPLAN\956006-090201-XS.DWG
LAYOUT NAME - 956006-090224-xs
PLOT DATE : 11/18/2022 1:42 PM
PLOT BY : BRANDI SWANSON
PLOT NAME :
PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.
WISDOT/CADDS SHEET 49



PROJECT NO: 9560-06-71/72 | HWY: USH 8 | COUNTY: MARINETTE | CROSS SECTIONS: BEAM GUARD - STA 180+60 - STA 191+85 | SHEET 120 | E

FILE NAME : N:\3000939.00\CIVIL 3D\SHEETSPLAN\956006-090201-XS.DWG
LAYOUT NAME - 956006-090225-xs
PLOT DATE : 11/18/2022 1:42 PM PLOT BY : BRANDI SWANSON PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.
WISDOT/CADDS SHEET 49



PROJECT NO: 9560-06-71/72	HWY: USH 8	COUNTY: MARINETTE	CROSS SECTIONS: BEAM GUARD - STA 180+60 - STA 191+85	SHEET 121	E

FILE NAME : N:\3000939.00\CIVIL 3D\SHEETSPLAN\956006-090201-XS.DWG
LAYOUT NAME - 956006-090226-xs
PLOT DATE : 11/18/2022 1:42 PM
PLOT BY : BRANDI SWANSON
PLOT NAME :
PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.
WISDOT/CADDS SHEET 49

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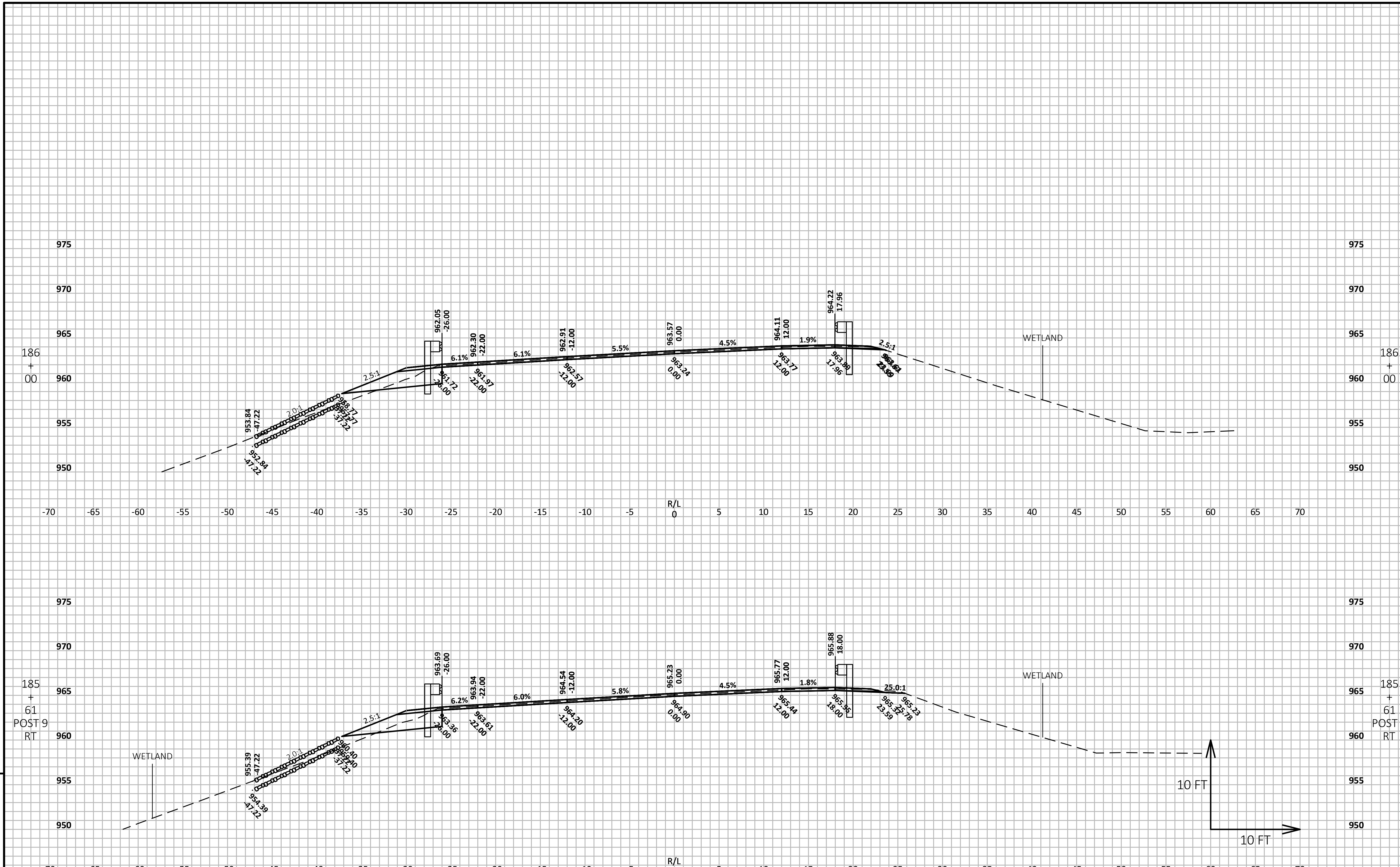

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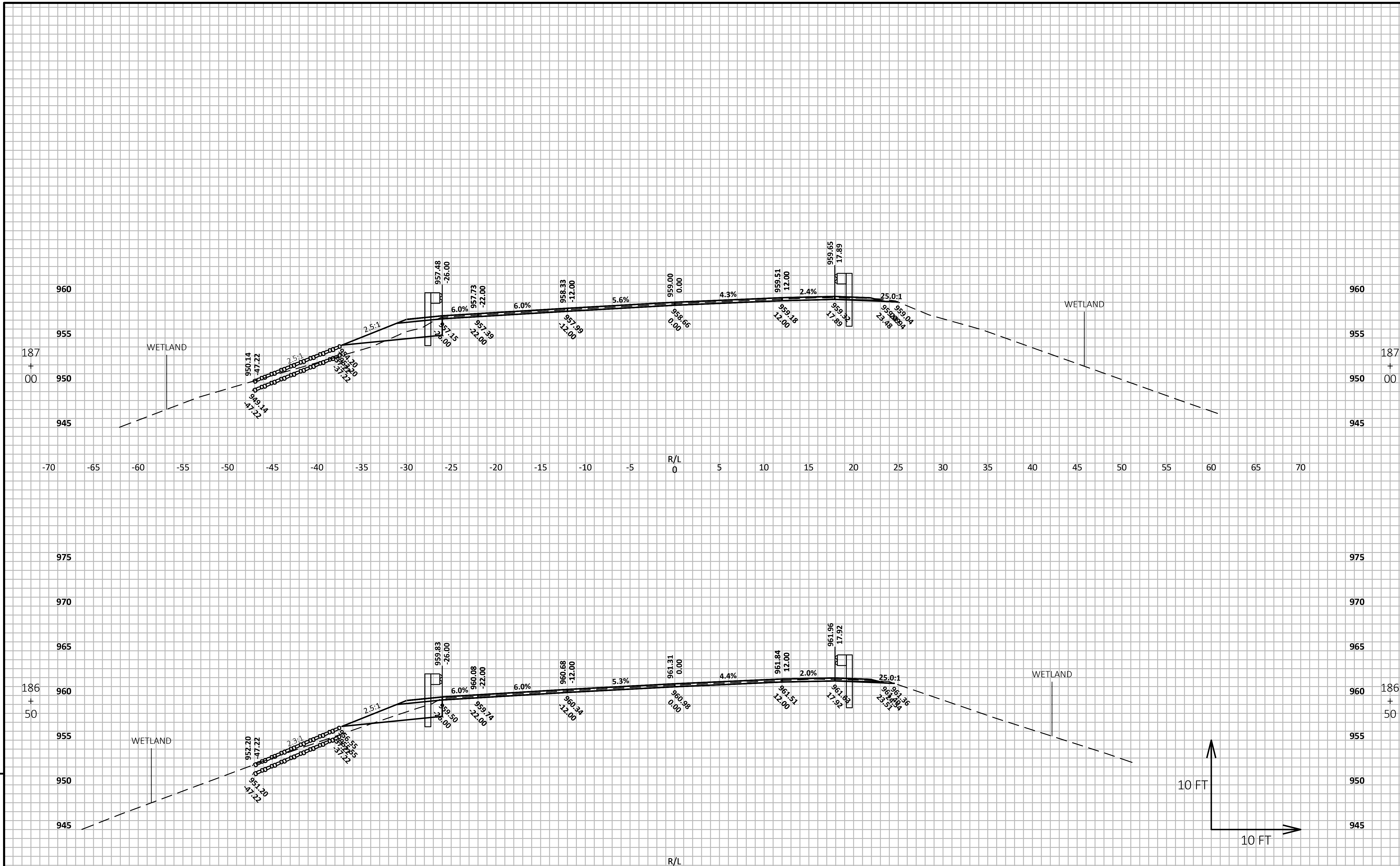
PROJECT NO: 9560-06-71/72	HWY: USH 8	COUNTY: MARINETTE	CROSS SECTIONS: BEAM GUARD - STA 180+60 - STA 191+85	SHEET 122	E

FILE NAME : N:\3000939.00\CIVIL 3D\SHEETSPLAN\956006-090201-XS.DWG
LAYOUT NAME - 956006-090227-xs
PLOT DATE : 11/18/2022 1:42 PM PLOT BY : BRANDI SWANSON PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.
WISDOT/CADDS SHEET 49



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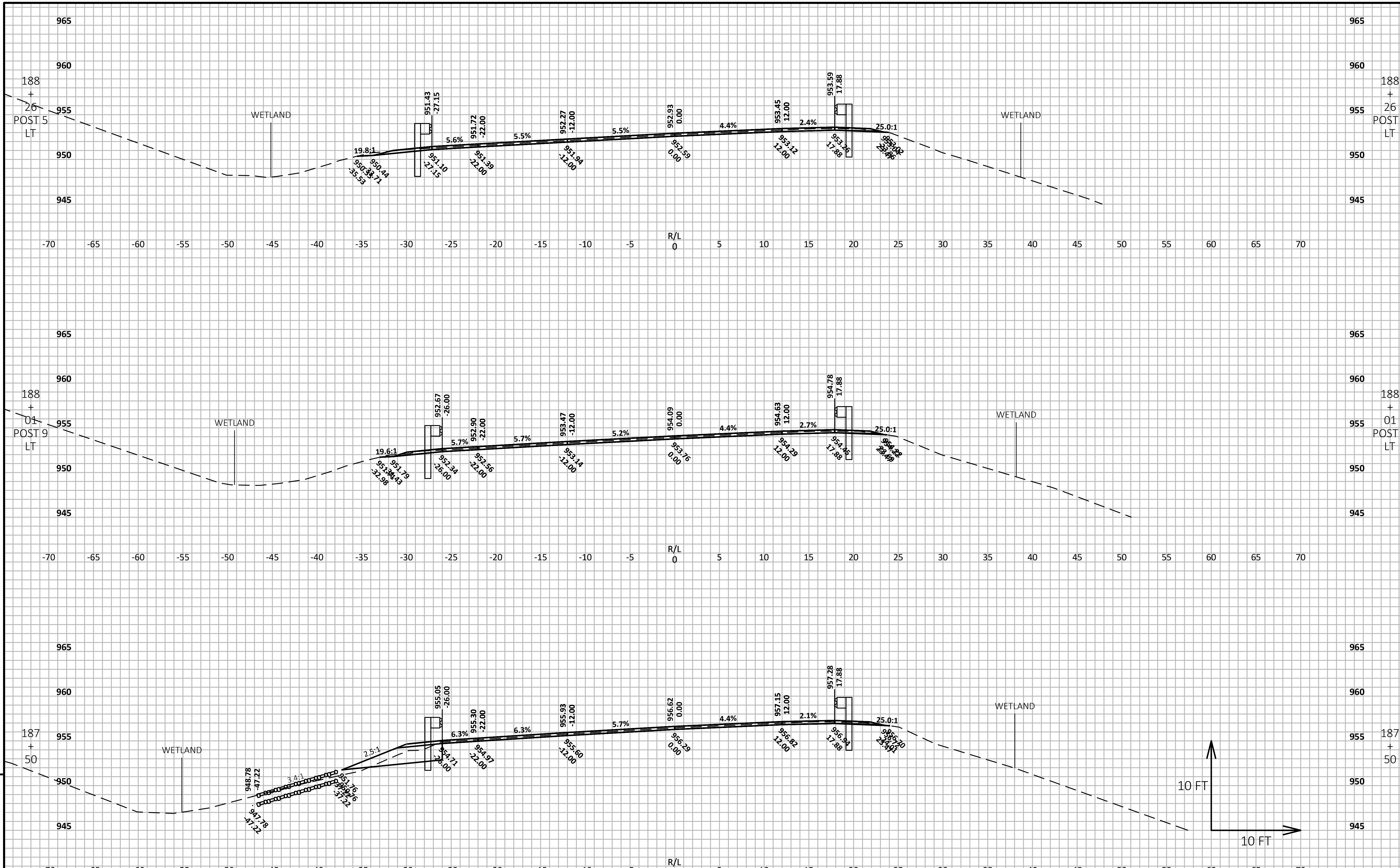
PROJECT NO: 9560-06-71/72	HWY: USH 8	COUNTY: MARINETTE	CROSS SECTIONS: BEAM GUARD - STA 180+60 - STA 191+85	SHEET 123	E

FILE NAME : N:\3000939.00\CIVIL 3D\SHEETSPLAN\956006-090201-XS.DWG
LAYOUT NAME - 956006-090228-xs
PLOT DATE : 11/18/2022 1:42 PM PLOT BY : BRANDI SWANSON PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.
WISDOT/CADDS SHEET 49

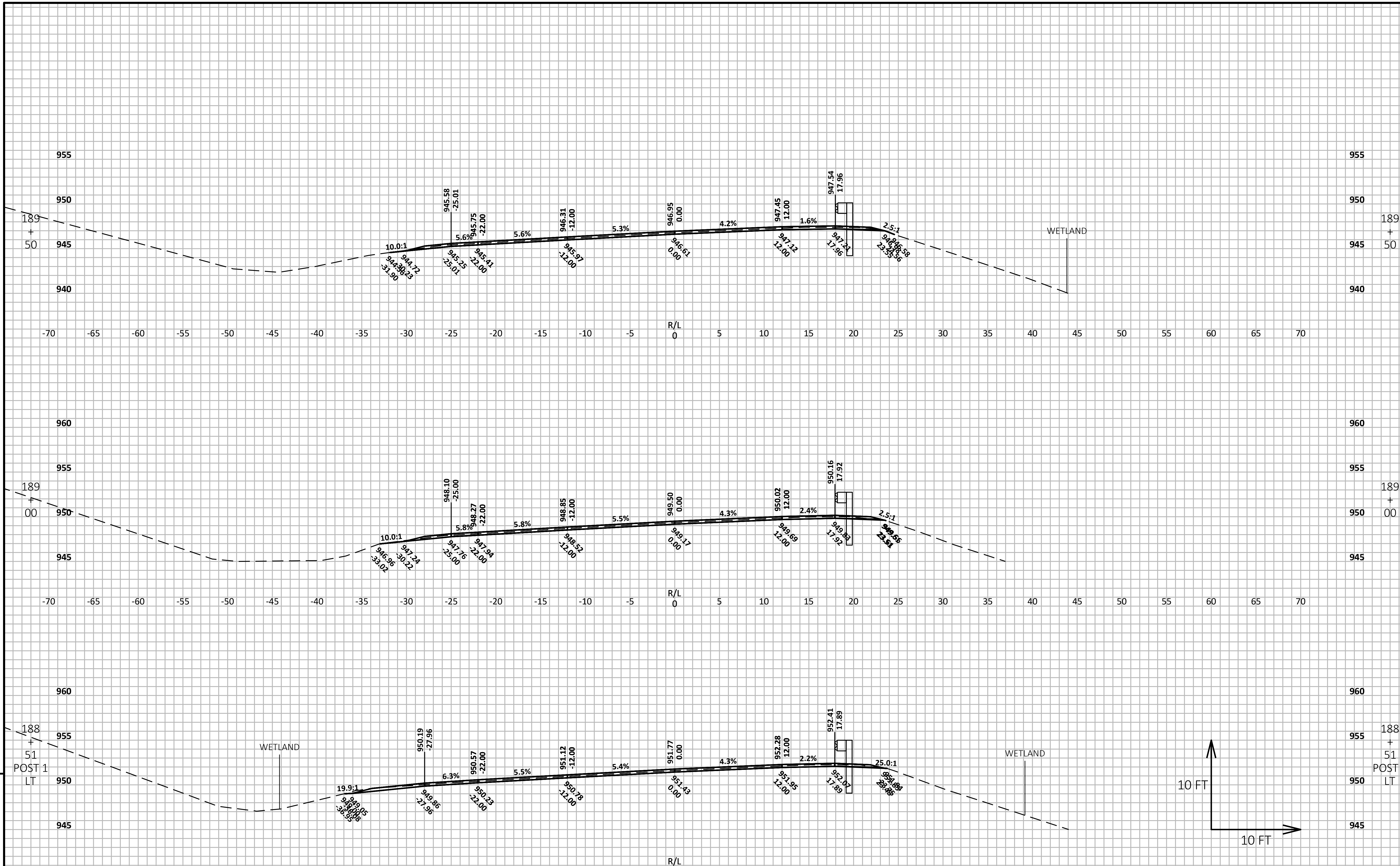


PROJECT NO: 9560-06-71/72	HWY: USH 8	COUNTY: MARINETTE	CROSS SECTIONS: BEAM GUARD - STA 180+60 - STA 191+85	SHEET 124	E

FILE NAME : N:\3000939.00\CIVIL 3D\SHEETSPLAN\956006-090201-XS.DWG
LAYOUT NAME - 956006-090229-xs

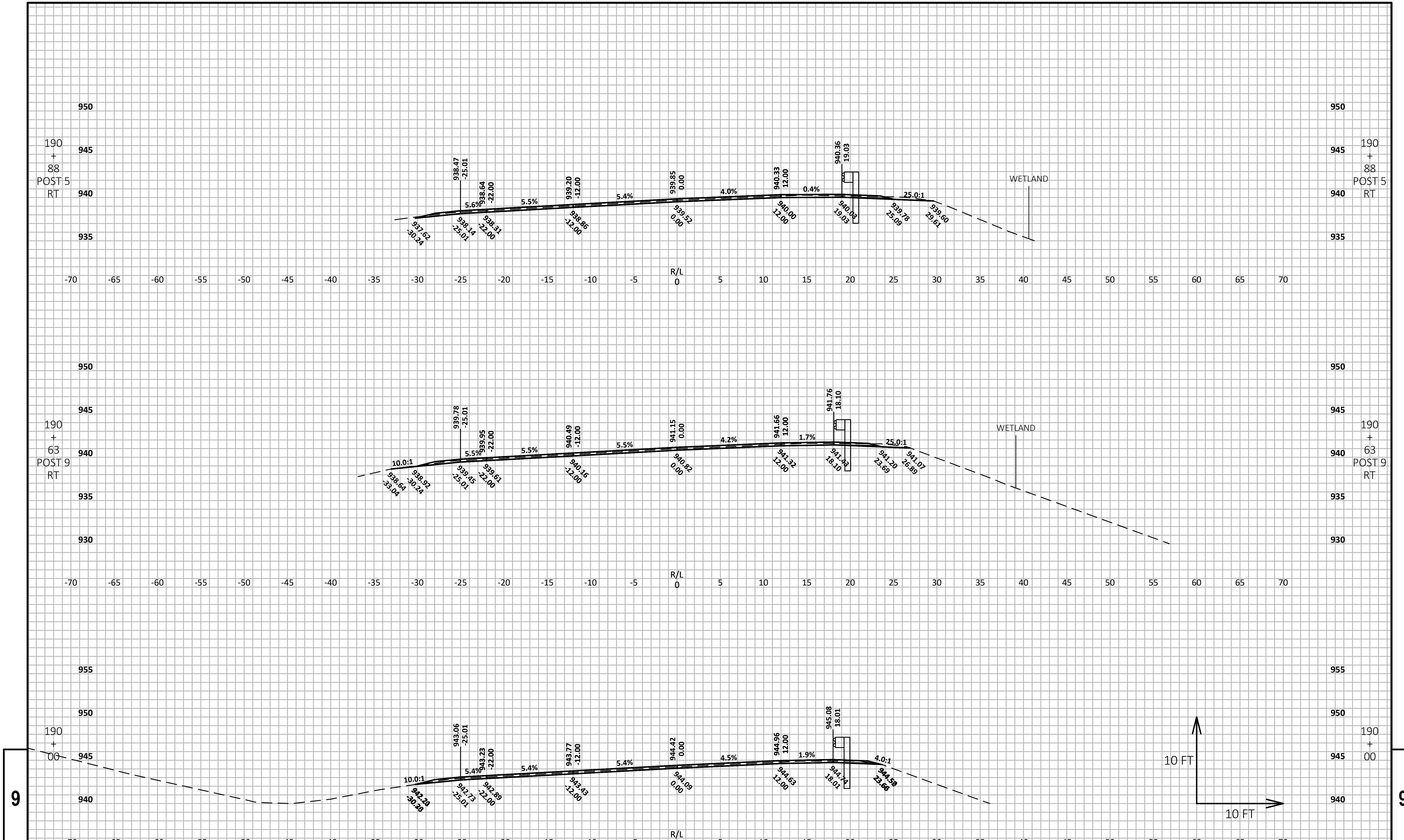
PLOT DATE : 11/18/2022 1:42 PM PLOT BY : BRANDI SWANSON PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

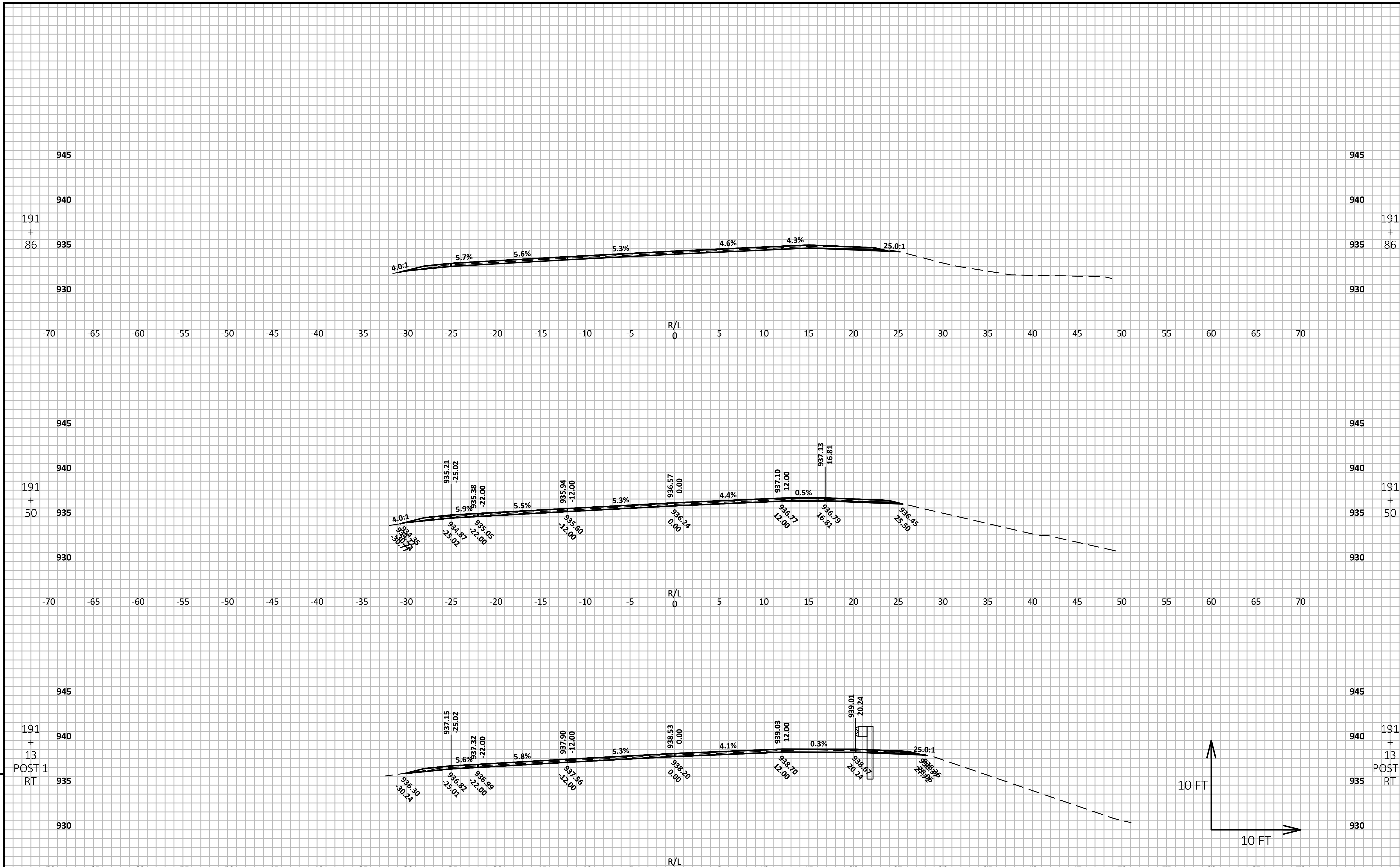


PROJECT NO: 9560-06-71/72	HWY: USH 8	COUNTY: MARINETTE	CROSS SECTIONS: BEAM GUARD - STA 180+60 - STA 191+85	SHEET 125	E

FILE NAME : N:\3000939.00\CIVIL 3D\SHEETSPLAN\956006-090201-XS.DWG
LAYOUT NAME - 956006-090230-xs
PLOT DATE : 11/18/2022 1:42 PM PLOT BY : BRANDI SWANSON PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.
WISDOT/CADDS SHEET 49



PROJECT NO: 9560-06-71/72	HWY: USH 8	COUNTY: MARINETTE	CROSS SECTIONS: BEAM GUARD - STA 180+60 - STA 191+85	SHEET 126	E



PROJECT NO: 9560-06-71/72	HWY: USH 8	COUNTY: MARINETTE	CROSS SECTIONS: BEAM GUARD - STA 180+60 - STA 191+85	SHEET 127	E

FILE NAME : N:\3000939.00\CIVIL 3D\SHEETSPLAN\956006-090201-XS.DWG
LAYOUT NAME - 956006-090232-xs
PLOT DATE : 11/18/2022 1:42 PM PLOT BY : BRANDI SWANSON PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.
WISDOT/CADDS SHEET 49

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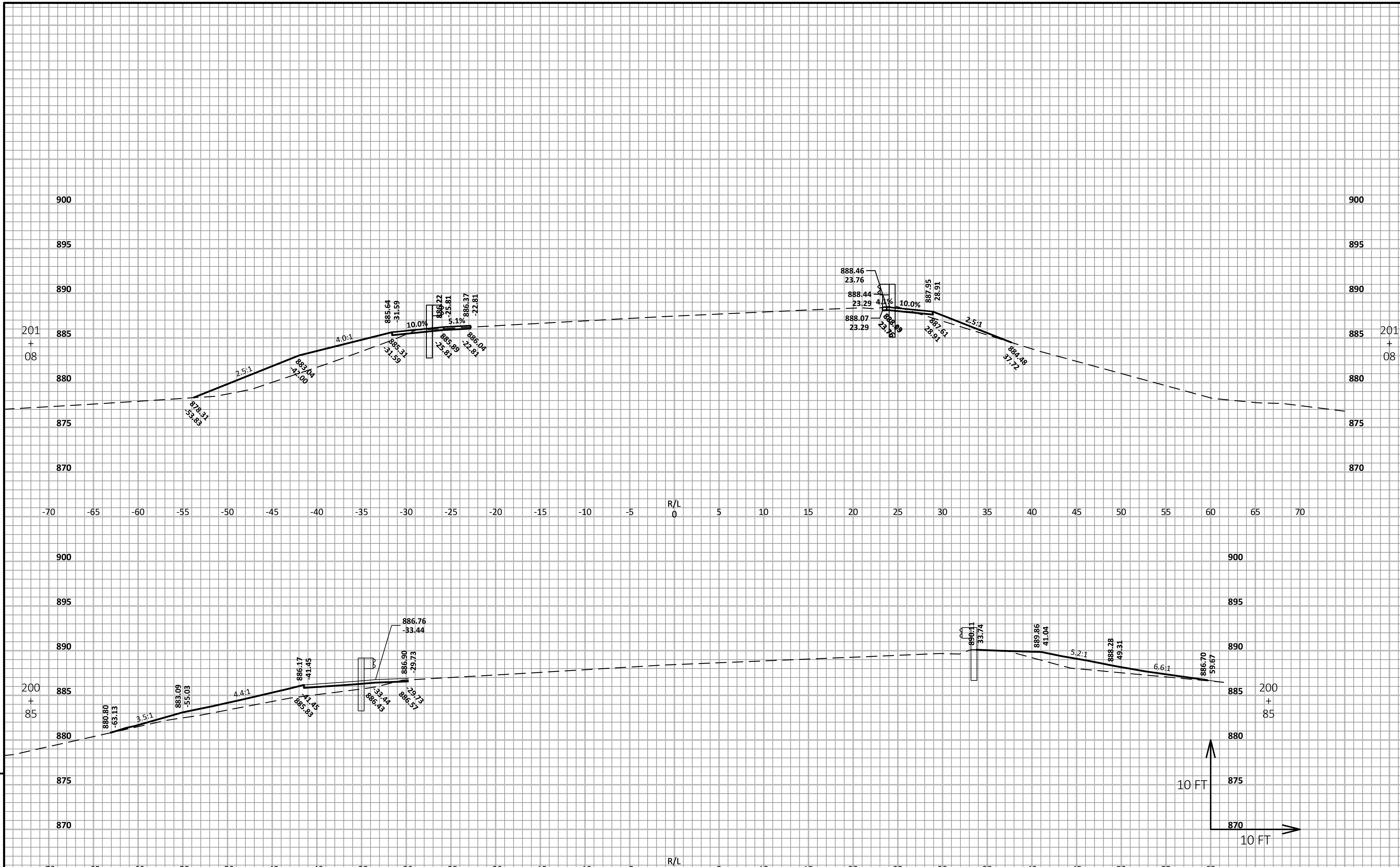

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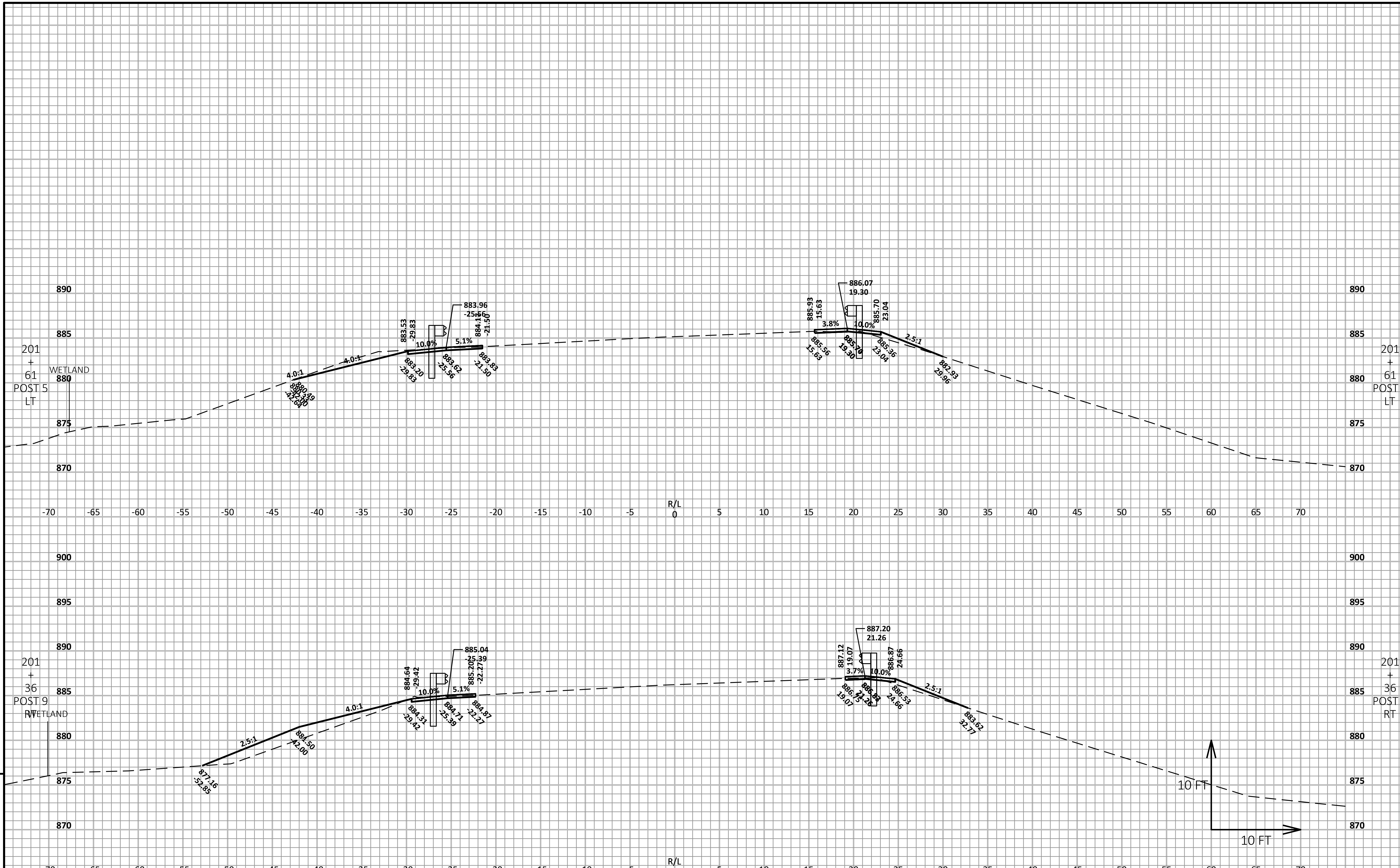
PROJECT NO: 9560-06-71/72	HWY: USH 8	COUNTY: MARINETTE	CROSS SECTIONS: BEAM GUARD - STA 200+85 - STA 205+30	SHEET 128	E

FILE NAME : N:\3000939.00\CIVIL 3D\SHEETSPLAN\956006-090201-XS.DWG
LAYOUT NAME - 956006-090240-xs
PLOT DATE : 2/17/2023 12:23 PM PLOT BY : ANDY WESTBROOK PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.
WISDOT/CADDS SHEET 49

9



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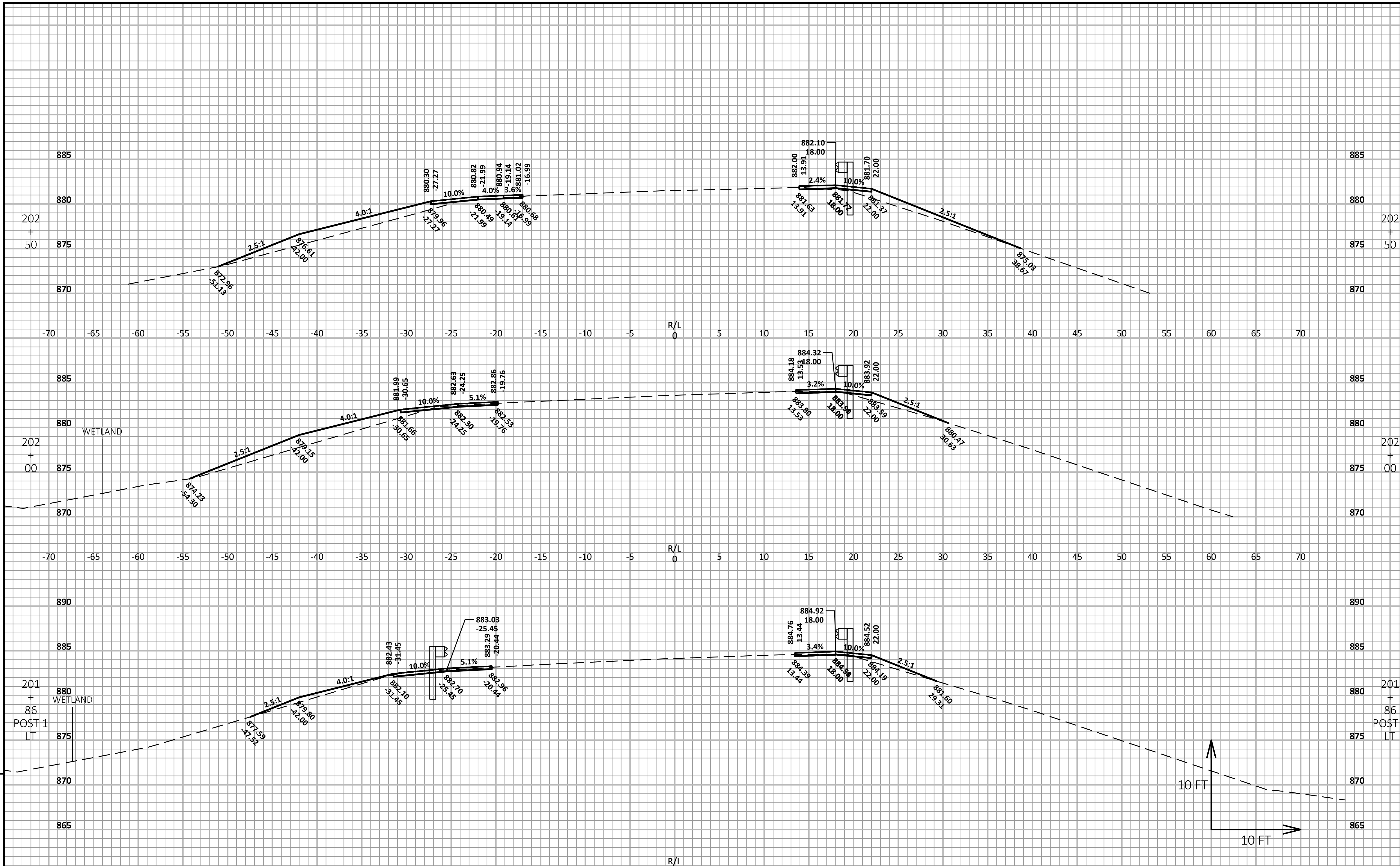
PROJECT NO: 9560-06-71/72	HWY: USH 8	COUNTY: MARINETTE	CROSS SECTIONS: BEAM GUARD - STA 200+85 - STA 205+30	SHEET 129	E

FILE NAME : N:\3000939.00\CIVIL 3D\SHEETSPLAN\956006-090201-XS.DWG
LAYOUT NAME - 956006-090241-xs
PLOT DATE : 2/17/2023 12:23 PM
PLOT BY : ANDY WESTBROOK
PLOT NAME :
PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.
WISDOT/CADDS SHEET 49



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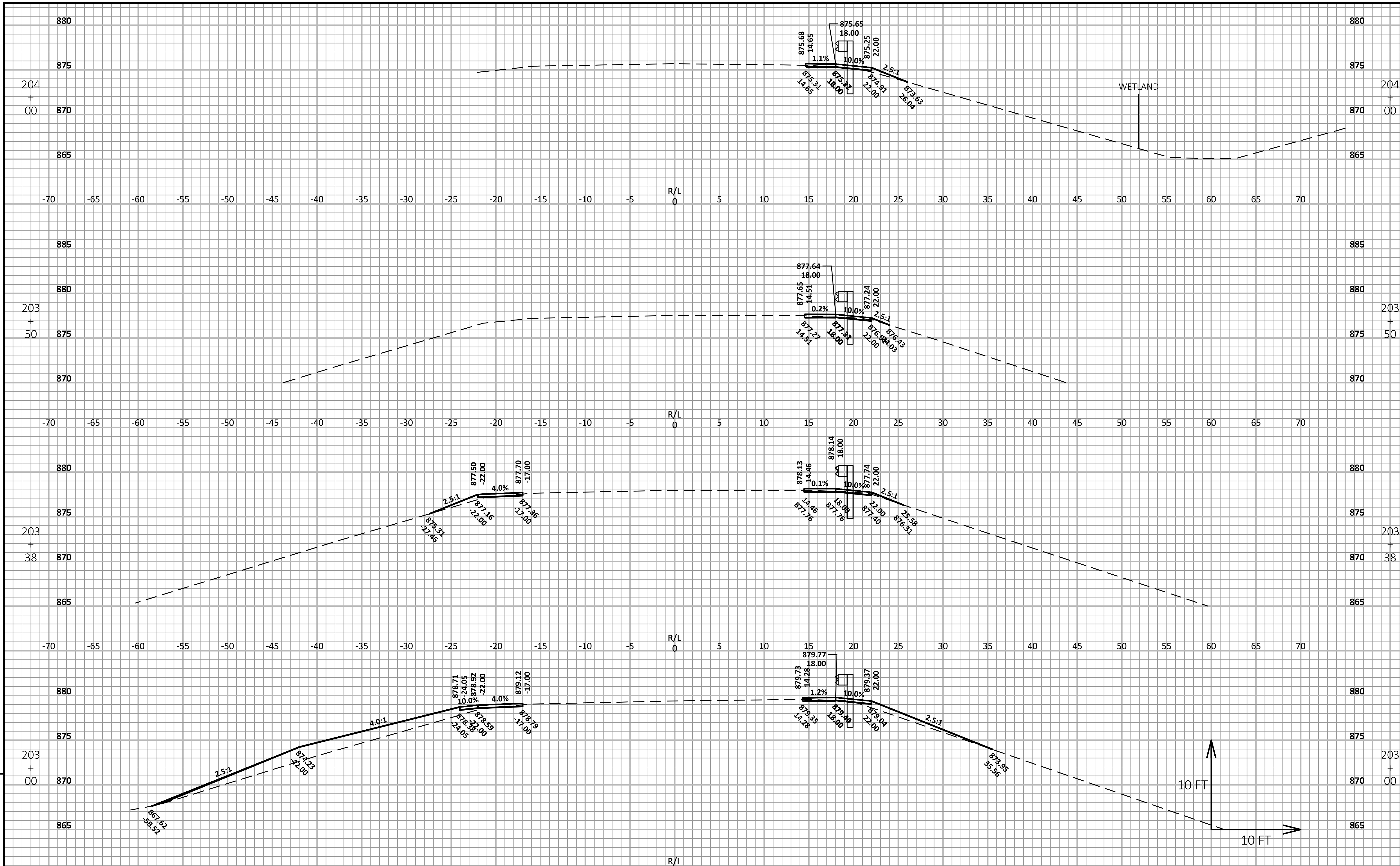
PROJECT NO: 9560-06-71/72	HWY: USH 8	COUNTY: MARINETTE	CROSS SECTIONS: BEAM GUARD - STA 200+85 - STA 205+30	SHEET 130	E

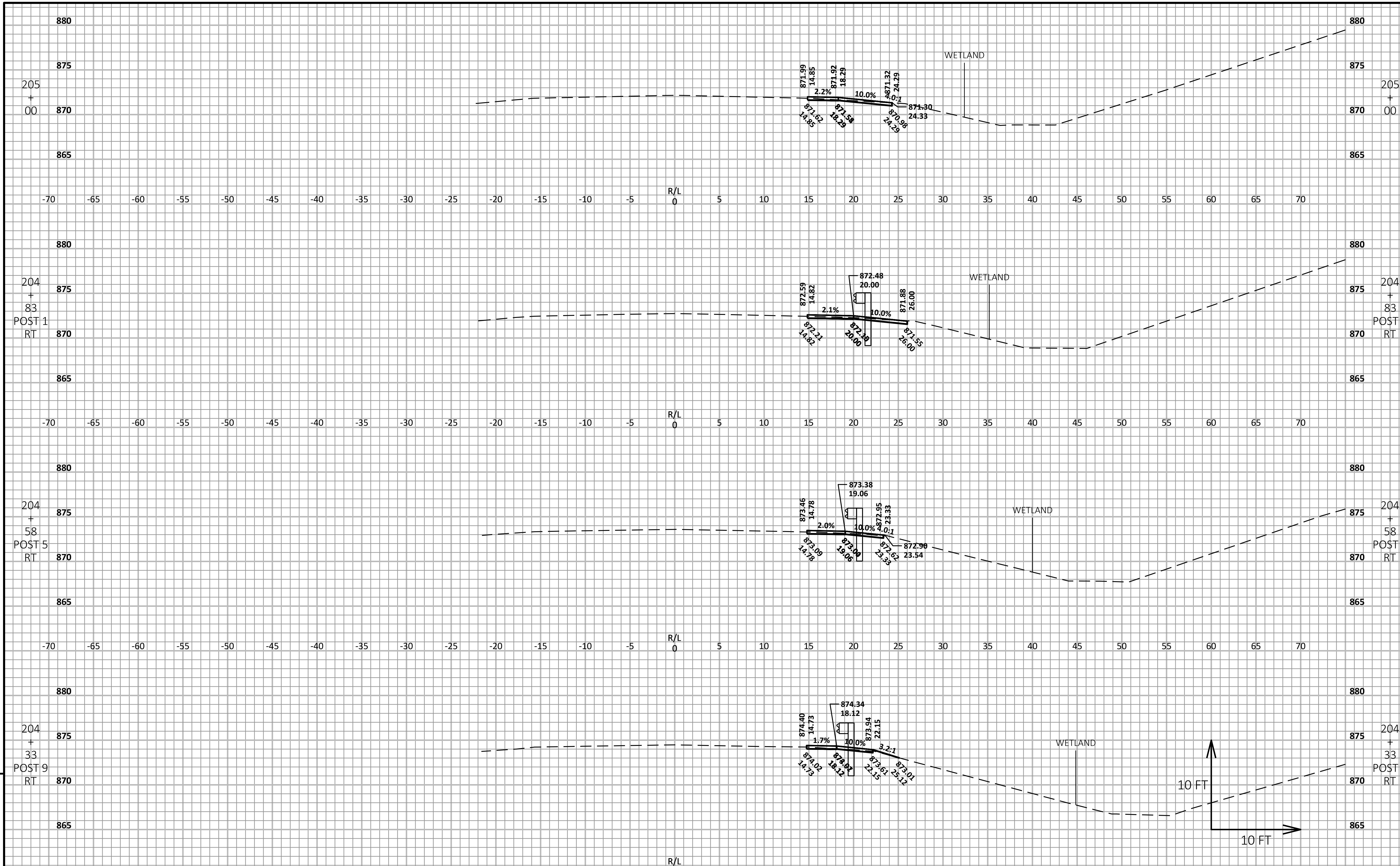


PROJECT NO: 9560-06-71/72	HWY: USH 8	COUNTY: MARINETTE	CROSS SECTIONS: BEAM GUARD - STA 200+85 - STA 205+30	SHEET 131	E

FILE NAME : N:\3000939.00\CIVIL 3D\SHEETSPLAN\956006-090201-XS.DWG
LAYOUT NAME - 956006-090243-xs

PLOT DATE : 2/17/2023 12:23 PM PLOT BY : ANDY WESTBROOK PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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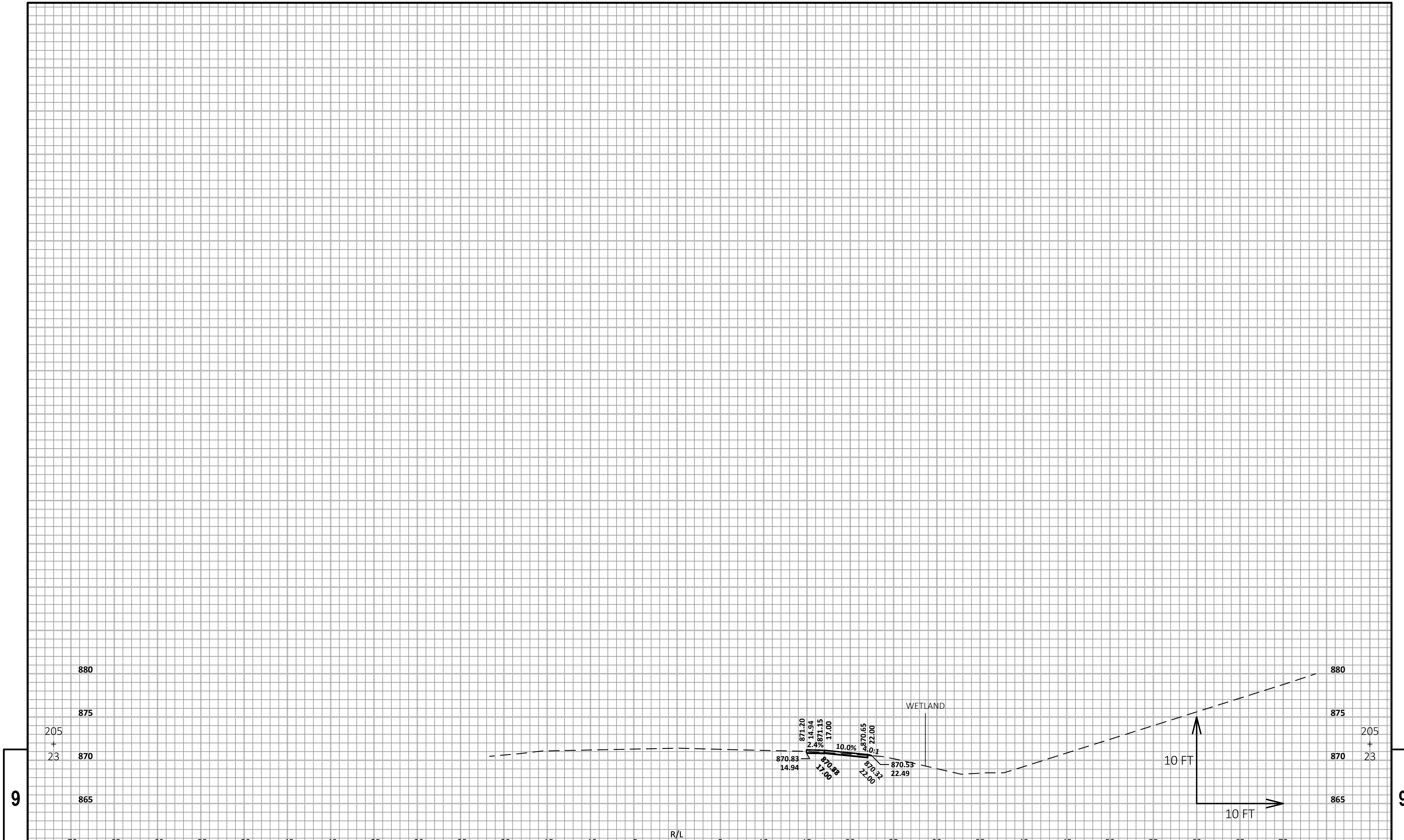
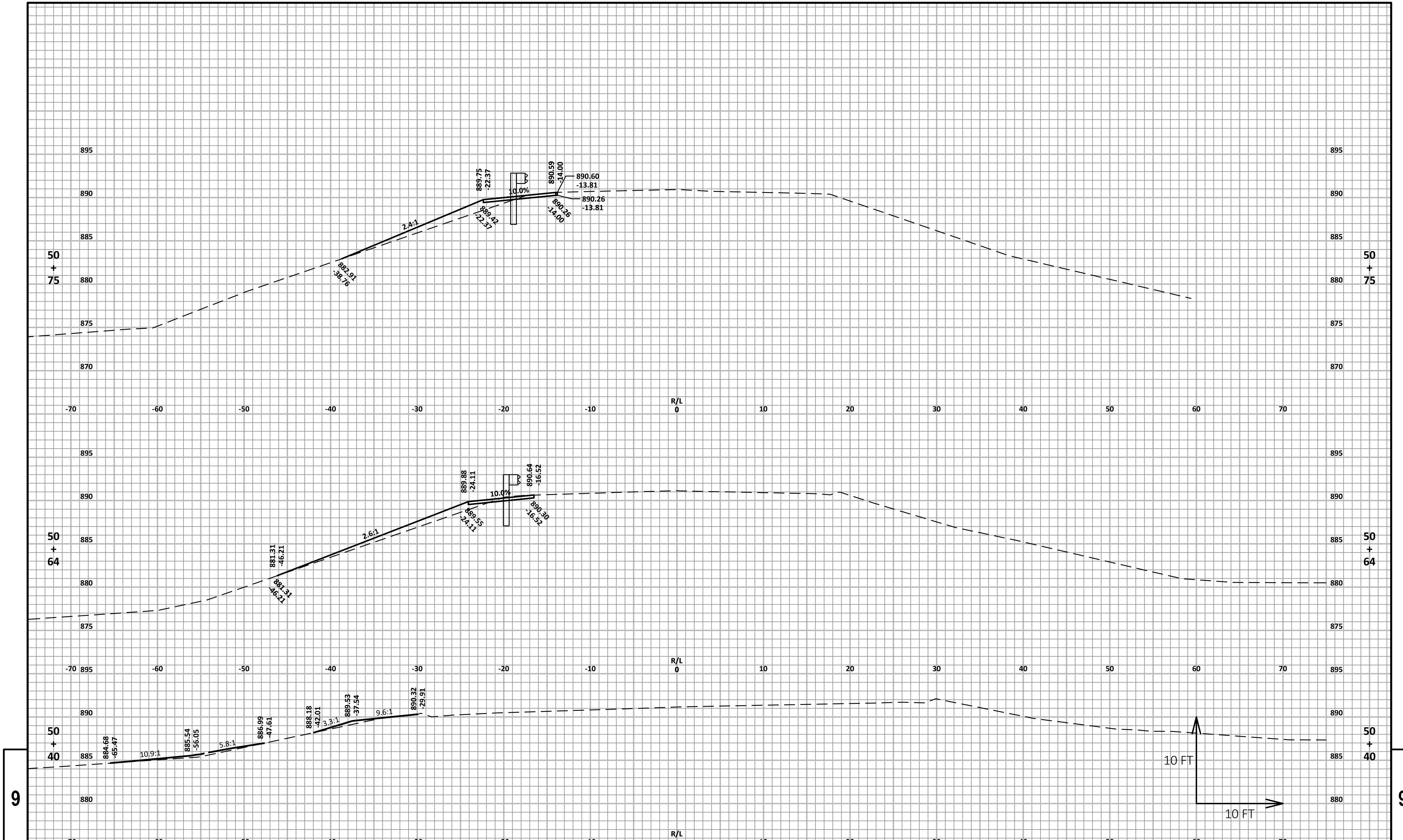
PROJECT NO: 9560-06-71/72	HWY: USH 8	COUNTY: MARINETTE	CROSS SECTIONS: BEAM GUARD - STA 200+85 - STA 205+30	SHEET 132	E

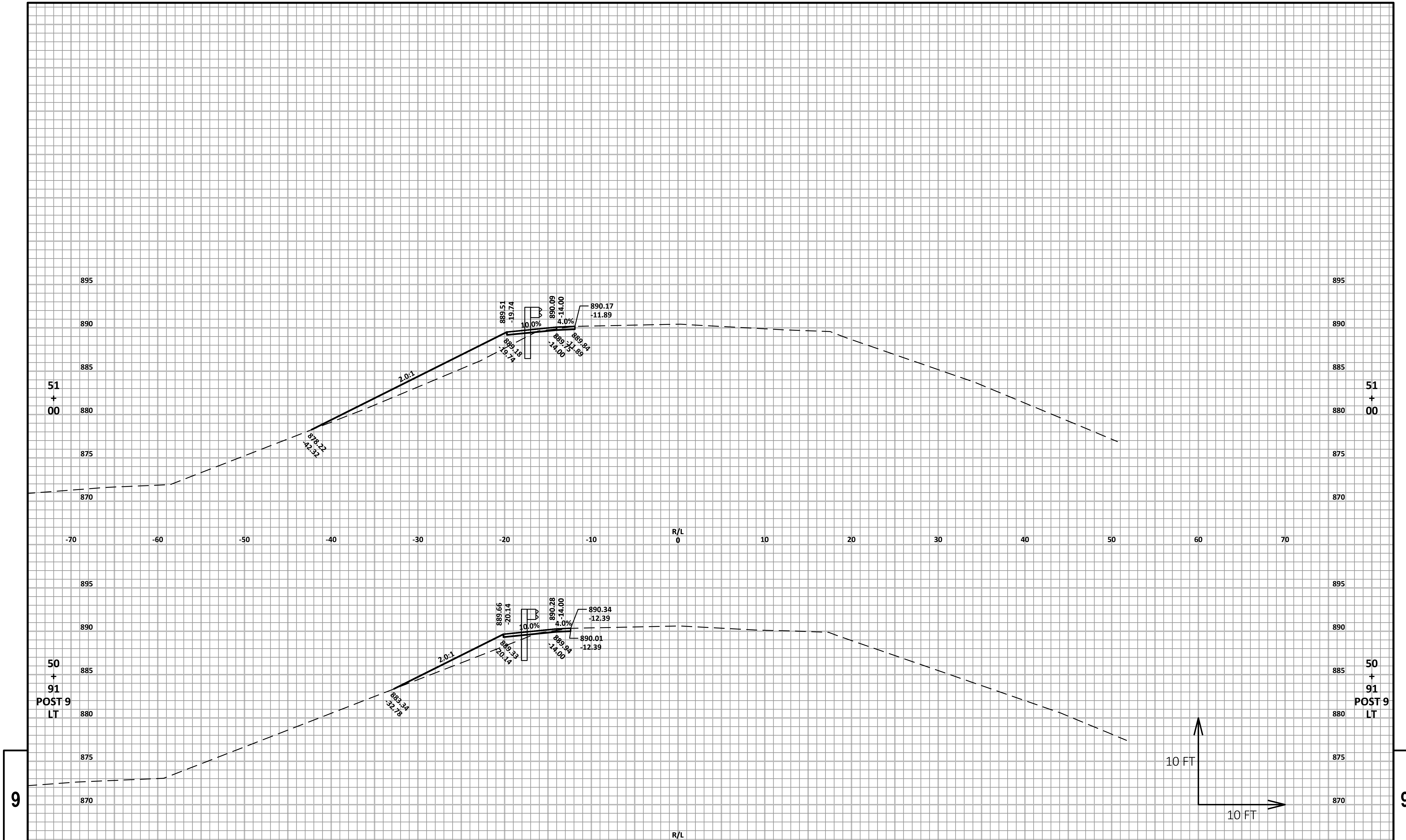
FILE NAME : N:\3000939.00\CIVIL 3D\SHEETSPLAN\956006-090201-XS.DWG
LAYOUT NAME - 956006-090244-xs
PLOT DATE : 2/17/2023 12:23 PM
PLOT BY : ANDY WESTBROOK
PLOT NAME :
PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.
WISDOT/CADDS SHEET 49



PROJECT NO: 9560-06-71/72	HWY: USH 8	COUNTY: MARINETTE	CROSS SECTIONS: BEAM GUARD - STA 200+85 - STA 205+30	SHEET 133	E



PROJECT NO: 9560-06-71/72	HWY: USH 8	COUNTY: MARINETTE	CROSS SECTIONS: OLD STH 8	SHEET 134	E

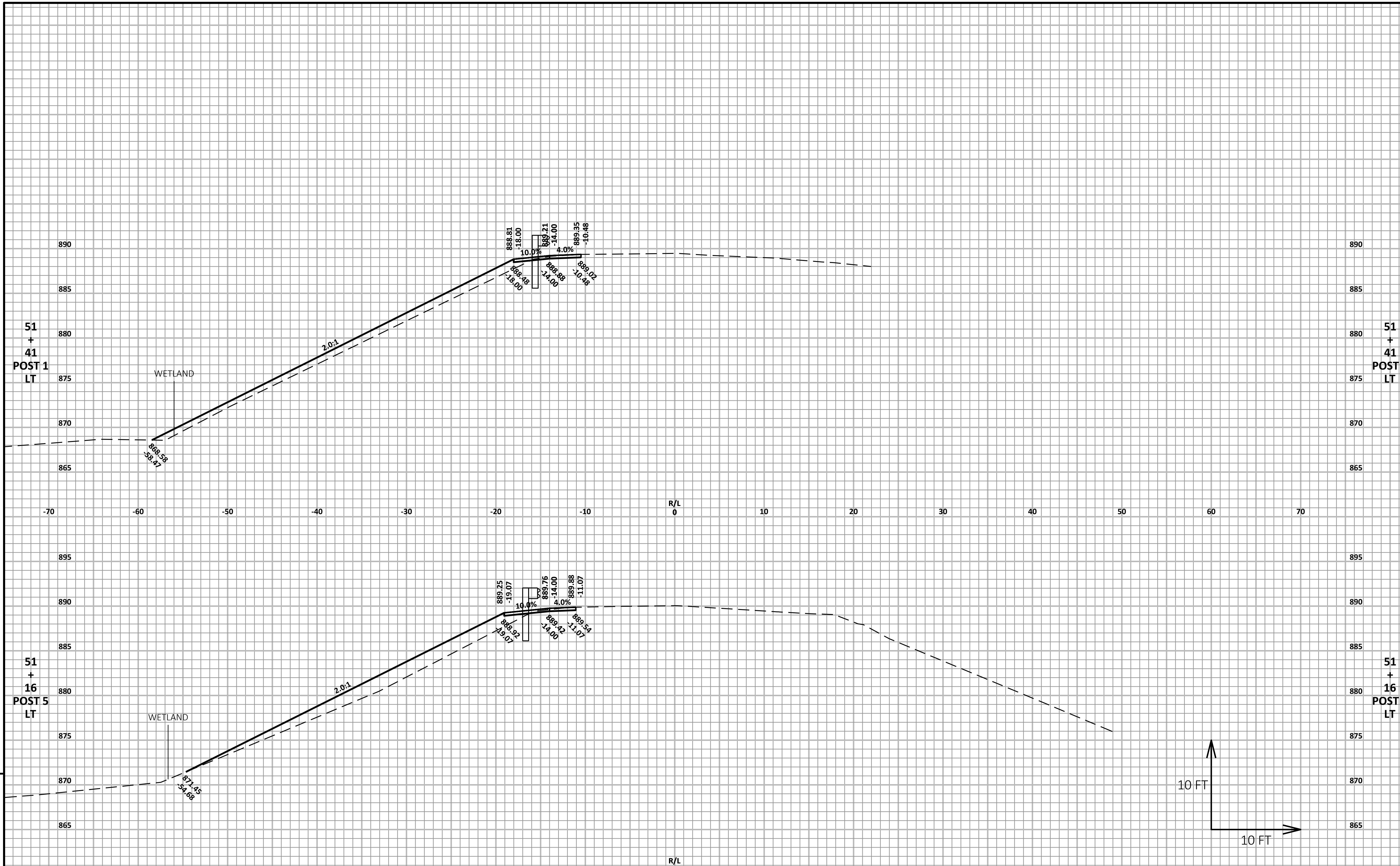


PROJECT NO: 9560-06-71/72	HWY: USH 8	COUNTY: MARINETTE	CROSS SECTIONS: OLD STH 8	SHEET 135	E

FILE NAME : N:\3000939.00\CIVIL 3D\SHEETSPLAN\956006-090201-XS.DWG
LAYOUT NAME - 956006-020302-xs

PLOT DATE : 2/17/2023 12:27 PM PLOT BY : ANDY WESTBROOK PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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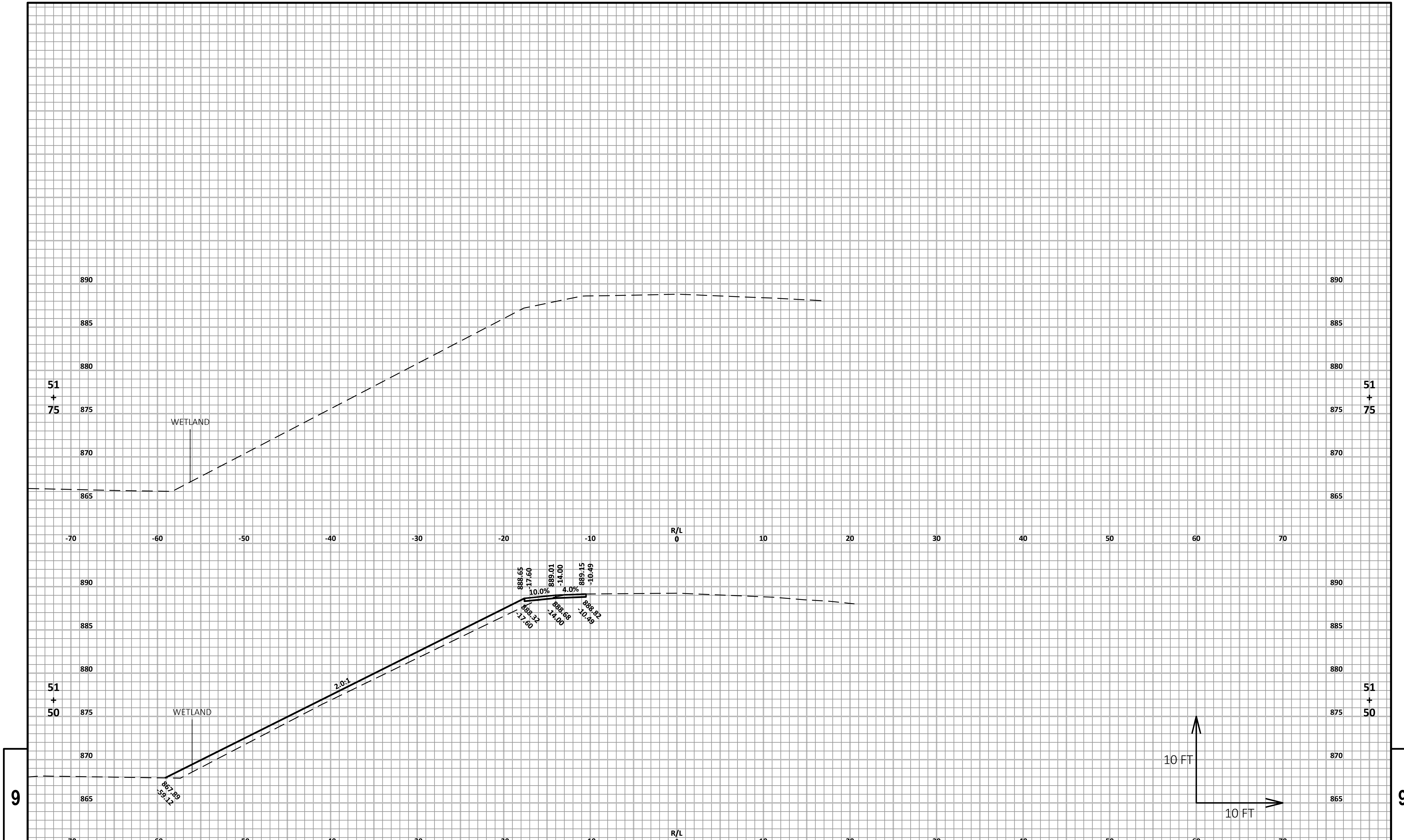
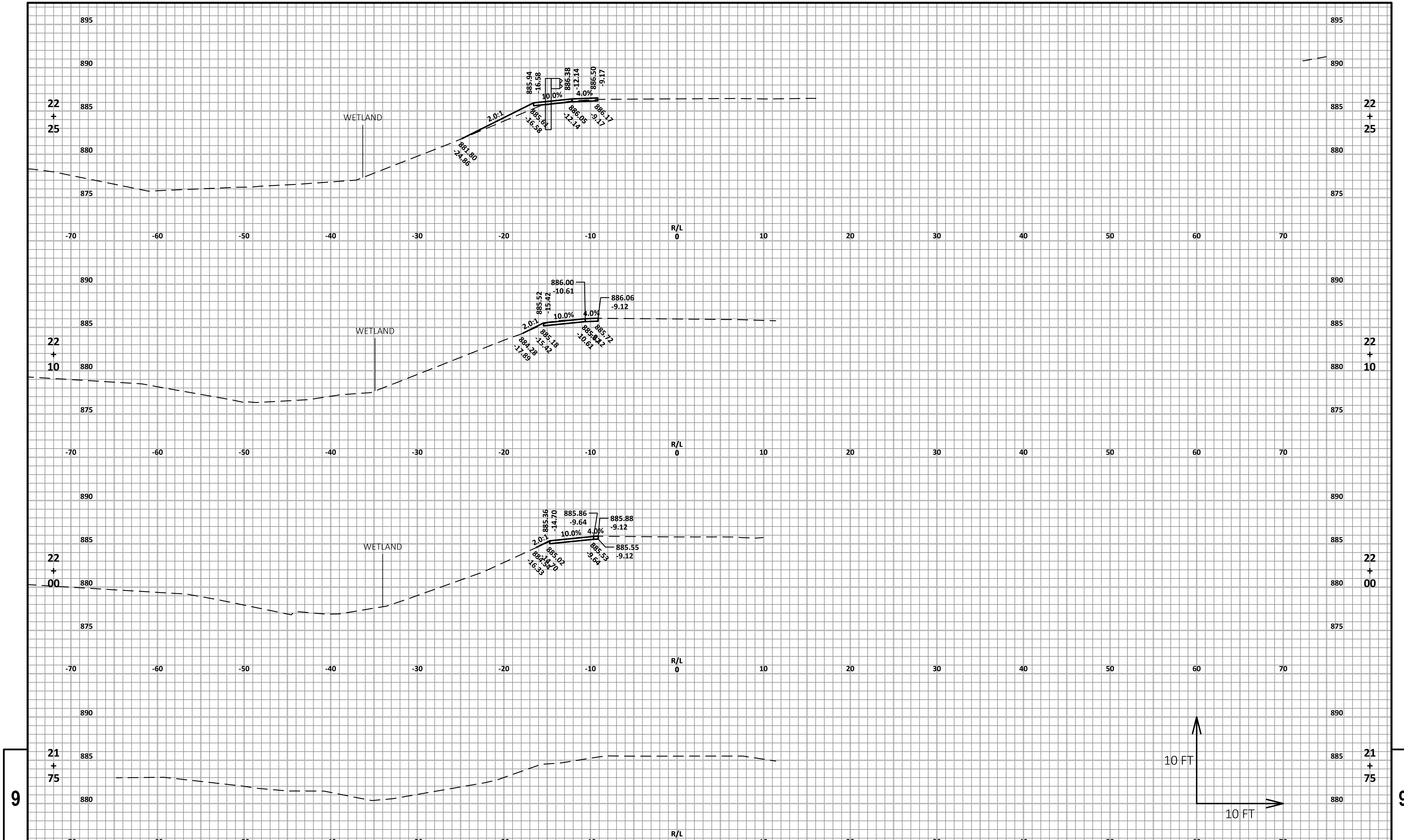
PROJECT NO: 9560-06-71/72	HWY: USH 8	COUNTY: MARINETTE	CROSS SECTIONS: OLD STH 8	SHEET 136	E

FILE NAME : N:\3000939.00\CIVIL 3D\SHEETSPLAN\956006-090201-XS.DWG
LAYOUT NAME - 956006-020303-xs
PLOT DATE : 2/17/2023 12:27 PM
PLOT BY : ANDY WESTBROOK
PLOT NAME :
PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.
WISDOT/CADDS SHEET 49



PROJECT NO: 9560-06-71/72	HWY: USH 8	COUNTY: MARINETTE	CROSS SECTIONS: OLD STH 8	SHEET 137	E

FILE NAME : N:\3000939.00\CIVIL 3D\SHEETSPLAN\956006-090201-XS.DWG
LAYOUT NAME - 956006-020304-xs
PLOT DATE : 2/17/2023 12:27 PM
PLOT BY : ANDY WESTBROOK
PLOT NAME :
PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.
WISDOT/CADDS SHEET 49



PROJECT NO: 9560-06-71/72	HWY: USH 8	COUNTY: MARINETTE	CROSS SECTIONS: GELDMEYER RD.	SHEET 138	E

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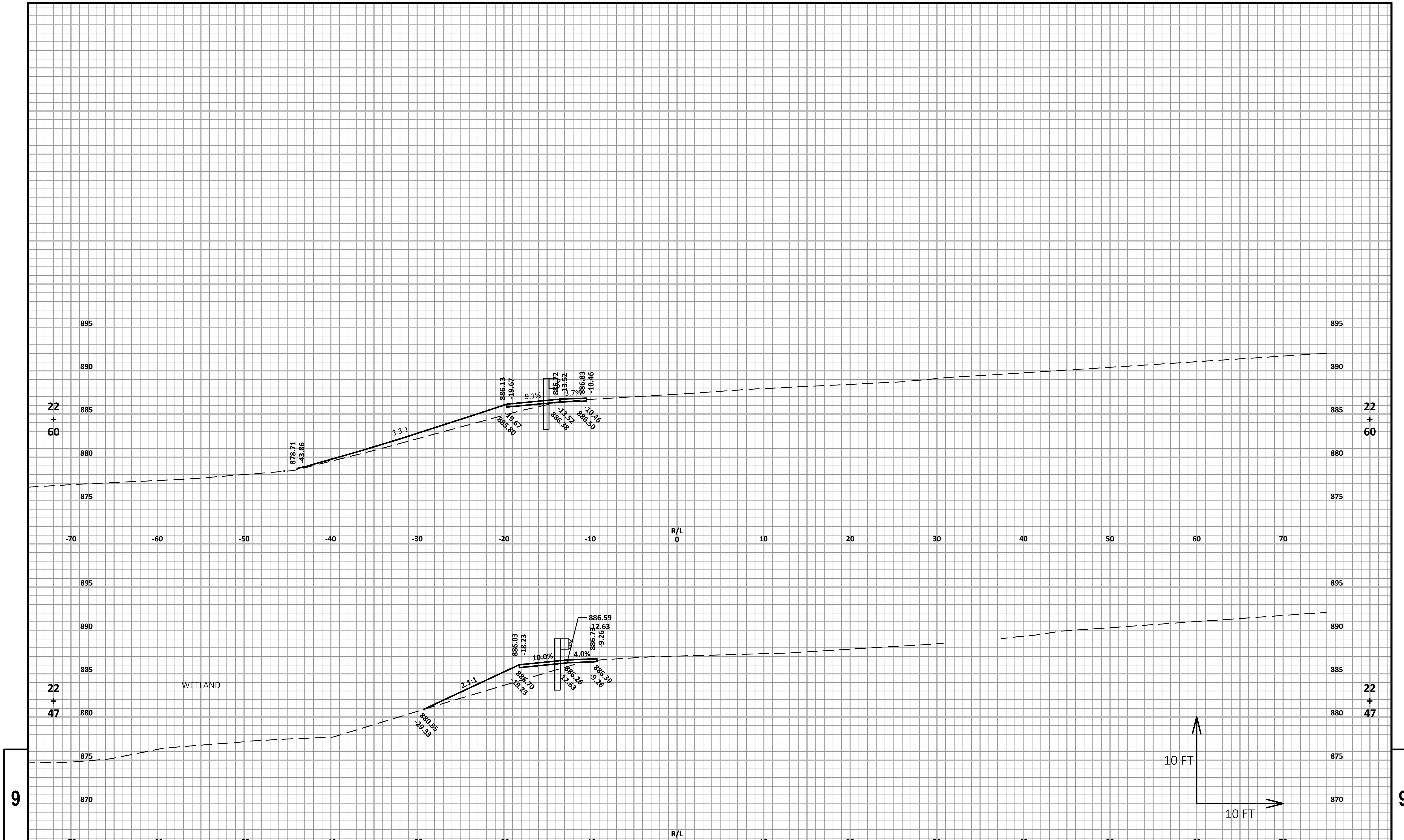
LAYOUT NAME - 956006-090351-xs
PLOT DATE : 2/17/2023 12:24 PM
PLOT BY : ANDY WESTBROOK
PLOT NAME :
PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.
WISDOT/CADDS SHEET 49



PROJECT NO: 9560-06-71/72	HWY: USH 8	COUNTY: MARINETTE	CROSS SECTIONS: GELDMEYER RD.	SHEET 139	E

FILE NAME : N:\3000939.00\CIVIL 3D\SHEETSPLAN\956006-090201-XS.DWG
LAYOUT NAME - 956006-090352-xs
PLOT DATE : 2/17/2023 12:24 PM
PLOT BY : ANDY WESTBROOK
PLOT NAME :
PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.
WISDOT/CADDS SHEET 49

Wisconsin Department of Transportation

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