

MAD WITH: N/A

PROJECT ID: 1011-00-70

COUNTY: COLUMBIA

AUGUST 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.	4	Right of Way Plat
Section No.	5	Plan and Profile
Section No.	6	Standard Detail Drawings
Section No.	7	Sign Plates
Section No.	8	Structure Plans
Section No.	8	Computer Earthwork Data
Section No.	9	Cross Sections

TOTAL SHEETS = 146

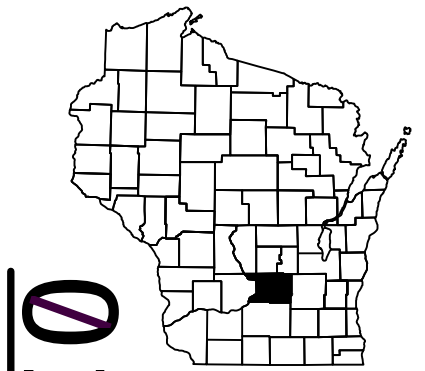
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

MADISON - PORTAGE S COUNTY LN TO 2,500 FT S STH 60 IH 39 COLUMBIA COUNTY

STATE PROJECT NUMBER
1011-00-70

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
1011-00-70	WISC 2023575	1



01

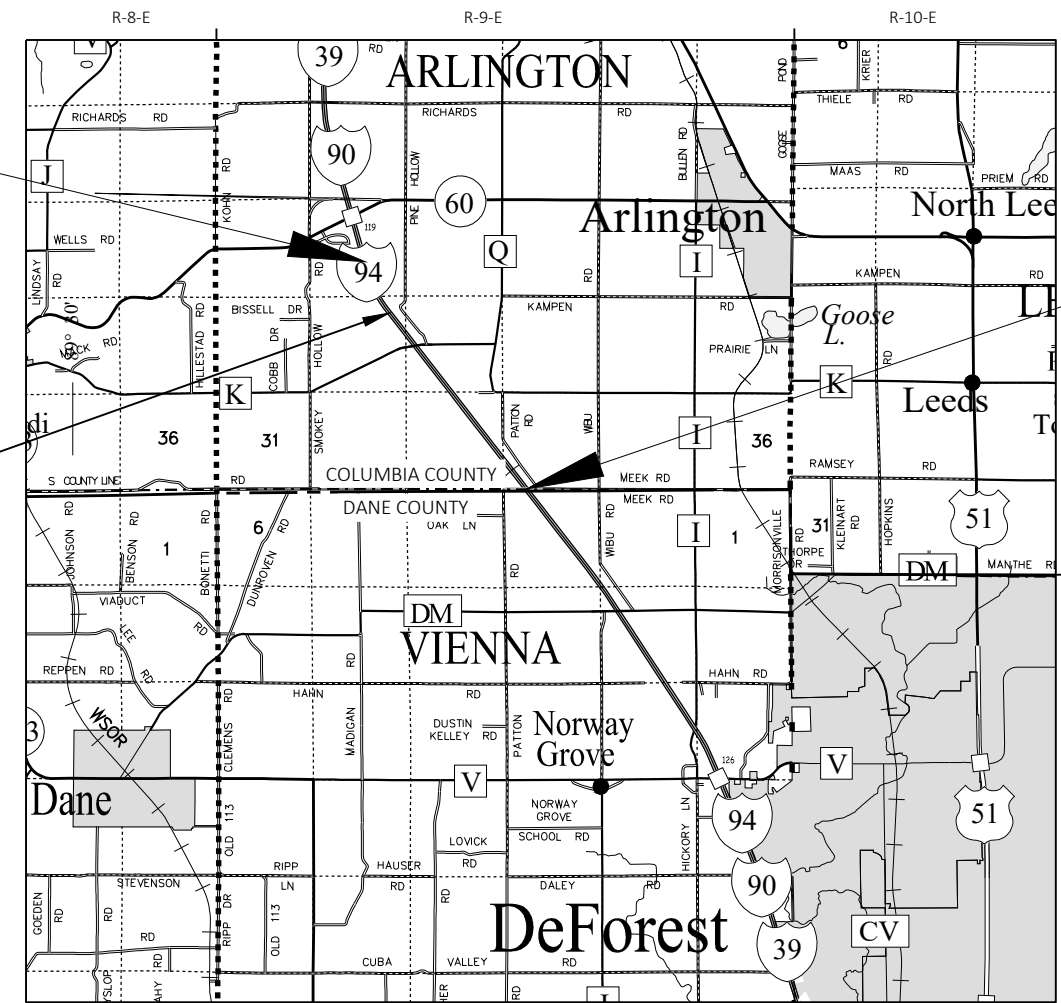
DESIGN DESIGNATION 1011-00-00

A.A.D.T. (2024)	=	60,300
A.A.D.T. (2044)	=	67,400
D.H.V.	=	8,560
D.D.	=	58/42
T.	=	22.7%
DESIGN SPEED	=	70 MPH
ESALS	=	22,000,000

BEGIN PROJECT
STA 1596+00.00'WB'
Y = 317,157.115
X = 539,948.335

EQUATION
STA. 1625+96.55'WB' BK.
STA. 1626+25.56'WB' AH.

END PROJECT
STA 1750+37.69'WB'



LAYOUT
SCALE 0 2 MI
TOTAL NET LENGTH OF CENTERLINE = 2.918 MI

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COORDINATE REFERENCE SYSTEM (WISCRS), COLUMBIA 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 12-A.

CONVENTIONAL SYMBOLS

PLAN	PROFILE
CORPORATE LIMITS	GRADE LINE
PROPERTY LINE	ORIGINAL GROUND
LOT LINE	MARSH OR ROCK PROFILE (To be noted as such)
LIMITED HIGHWAY EASEMENT	SPECIAL DITCH
EXISTING RIGHT OF WAY	GRADE ELEVATION
PROPOSED OR NEW R/W LINE	CULVERT (Profile View)
SLOPE INTERCEPT	UTILITIES
REFERENCE LINE	ELECTRIC
EXISTING CULVERT	FIBER OPTIC
PROPOSED CULVERT (Box or Pipe)	GAS
COMBUSTIBLE FLUIDS	SANITARY SEWER
MARSH AREA	STORM SEWER
WOODED OR SHRUB AREA	TELEPHONE
	WATER
	UTILITY PEDESTAL
	POWER POLE
	TELEPHONE POLE

ORIGINAL PLANS PREPARED BY

DATE 4/17/23

(Professional Engineer Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY	Surveyor	WISDOT/AECOM
Designer	AECOM	
Project Manager	AMY COUGHLIN	
Regional Examiner	SW REGION	
Regional Supervisor	ALEX HAGEN	

APPROVED FOR THE DEPARTMENT

DATE 4/17/2023

Amy Coughlin
(Signature)

GENERAL NOTES:

THERE ARE UTILITY FACILITIES WITHIN THE PROJECT AREA THAT ARE NOT SHOWN ON THE PLANS. THE CONTRACTOR SHALL COORDINATE THEIR CONSTRUCTION ACTIVITIES WITH A CALL TO DIGGERS HOTLINE AND/OR A DIRECT CALL TO THE UTILITIES THAT HAVE FACILITIES IN THE AREA. NOT ALL UTILITIES ARE MEMBERS OF DIGGERS HOTLINE.

BE AWARE THAT ALL EXISTING UNDERGROUND AND ABOVE GROUND STRUCTURES AND FACILITIES WITHIN THE SCOPE OF THIS PROJECT WILL NOT BE LOCATED IN THE PLANS. THE CONTRACTOR IS FULLY RESPONSIBLE FOR LOCATING AND AVOIDING ALL UNDERGROUND AND ABOVE GROUND STRUCTURES AND FACILITIES.

PLAN REMOVAL AREAS ARE APPROXIMATE. EXACT LIMITS SHALL BE DETERMINED IN THE FIELD.

RADII, ELEVATIONS, AND DIMENSIONS ARE GIVEN AT THE PAVEMENT EDGES, UNLESS OTHERWISE NOTED IN THE PLANS.

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

ADJUST TRAFFIC CONTROL DEVICE LOCATIONS TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER. ALL SIGNS SHALL HAVE A MINIMUM MOUNTING HEIGHT OF 5-FEET.

EROSION CONTROL ITEMS SHOWN IN THE MISCELLANEOUS QUANTITIES ARE AT SUGGESTED LOCATIONS. THE ENGINEER MAY MODIFY LOCATIONS TO FIT FIELD CONDITIONS.

WETLANDS, WATERWAYS, AND OTHER ENVIRONMENTALLY SENSITIVE AREAS SHALL BE PROTECTED AT ALL TIMES. DO NOT STORE EQUIPMENT OR MATERIALS NEAR THESE SITES UNLESS APPROVED BY THE ENGINEER.

PAVEMENT MARKING SHALL FOLLOW STANDARD DETAIL DRAWING LONGITUDINAL MARKING (MAINLINE).

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

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

UTILITIES AND OTHER AGENCIES

COMMUNICATIONS

KENNETH M. NINE
AT&T LEGACY - COMMUNICATION LINE
110 N. MAIN ST
CULVER, IN 46511
(574) 936-5682
knine@jmceainc.com

SHAD GARCIA
EVERSTREAM - COMMUNICATION LINE
324 E WISCONSIN AVE, SUITE 730
MILWAUKEE, WI 53202
(414) 522-6685
WI-Relocations@everstream.net
sgarcia@everstream.net

ELECTRICITY

RYAN SMEDEMA
ALLIANT ENERGY - ELECTRICITY
2777 COLUMBIA DR
PORTAGE, WI 53901
(608) 742-0848
ryansmedema@alliantenergy.com
wplroadplans@alliantenergy.com

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

ABBREVIATIONS

AHEAD AH
BACK BK
CENTERLINE CL or C/L
CONCRETE CONC
COUNTY TRUNK HIGHWAY CTH
EXISTING EX
GRID NORTH GN
LEFT LT
POINT OF TANGENCY PT
REFERENCE LINE RL or R/L
POINT OF CURVATURE PC
POINT OF INTERSECTION PI
REQUIRED REQ'D
RIGHT RT
RIGHT OF WAY RW or R/W
SQUARE FEET SF
STATE TRUNK HIGHWAY STH
STATION STA
VOLUME V

WISDOT DESIGN PROJECT MANAGER

AMY COUGHLIN
SOUTHWEST REGION, MADISON OFFICE
2101 WRIGHT ST
MADISON, WI 53704
(608) 245-5358
amy.coughlin@dot.wi.gov

WISDNR

(SOUTHWEST REGION)
ERIC HEGGELUND
3911 FISH HATCHERY RD
FITCHBURG, WI 53711
(608) 275-3301
eric.heggelund@wisconsin.gov

DESIGN CONTACT

AECOM
ZACH LARSON
1350 DEMING WAY, STE 100
MIDDLETON, WI 53562
(608) 828-8165
zachary.larson@aecom.com

WISDOT COMMUNICATIONS CONTACT

WISCONSIN DEPARTMENT OF TRANSPORTATION
JEFF MADSON
433 W ST PAUL AVE, STE 300
MILWAUKEE, WI 53203-3007
(414) 225-3723
Jeffrey.Madson@dot.wi.gov

DETAIL SHEET INDEX

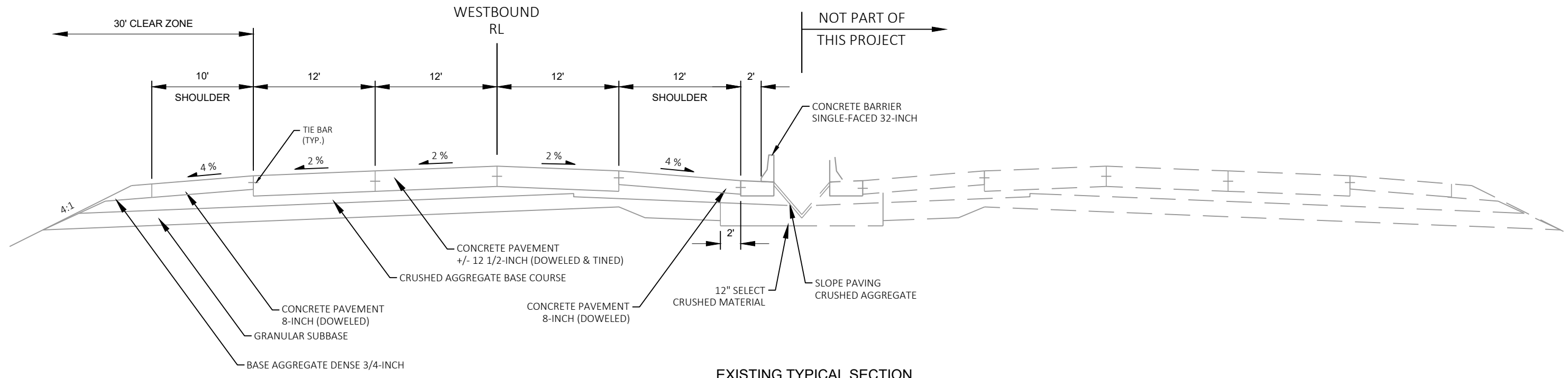
GENERAL NOTES
PROJECT OVERVIEW
TYPICAL SECTIONS
CONSTRUCTION DETAILS
GUARDRAIL DETAILS AND EROSION CONTROL
BUTT JOINT AT MEDIAN SHOULDER OPENING
PAVEMENT MARKINGS
TRAFFIC CONTROL - TYPICAL SECTIONS
ALIGNMENT DETAILS

4-INCH HMA PAVEMENT

LAYER	THICKNESS	BID ITEM
TOP	2-INCHES	HMA PAVEMENT 4 SMA 58-28 V
BOTTOM	2-INCHES	HMA PAVEMENT 4 HT 58-28 H

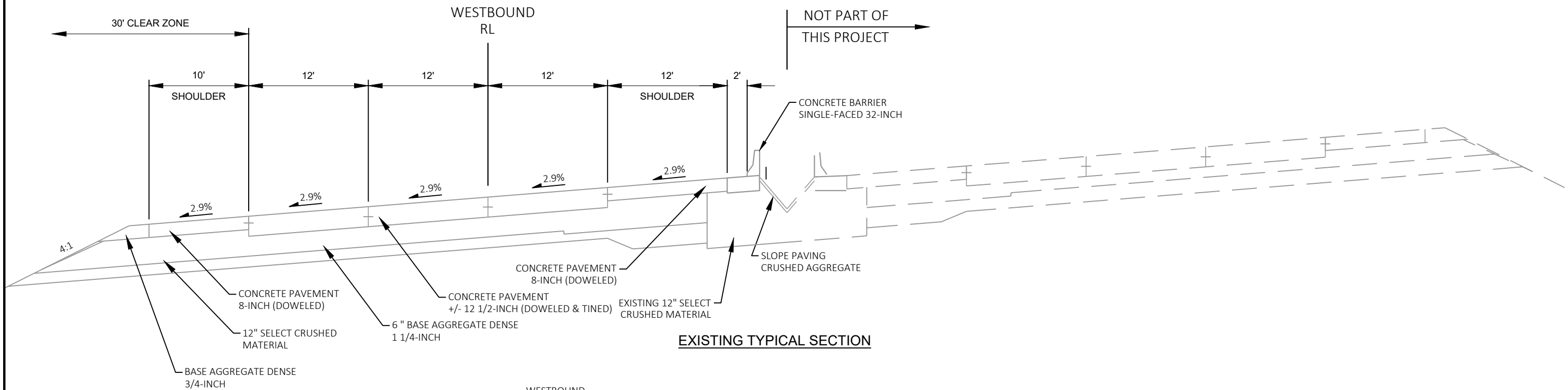


Dial 811 or (800)242-8511
www.DiggersHotline.com



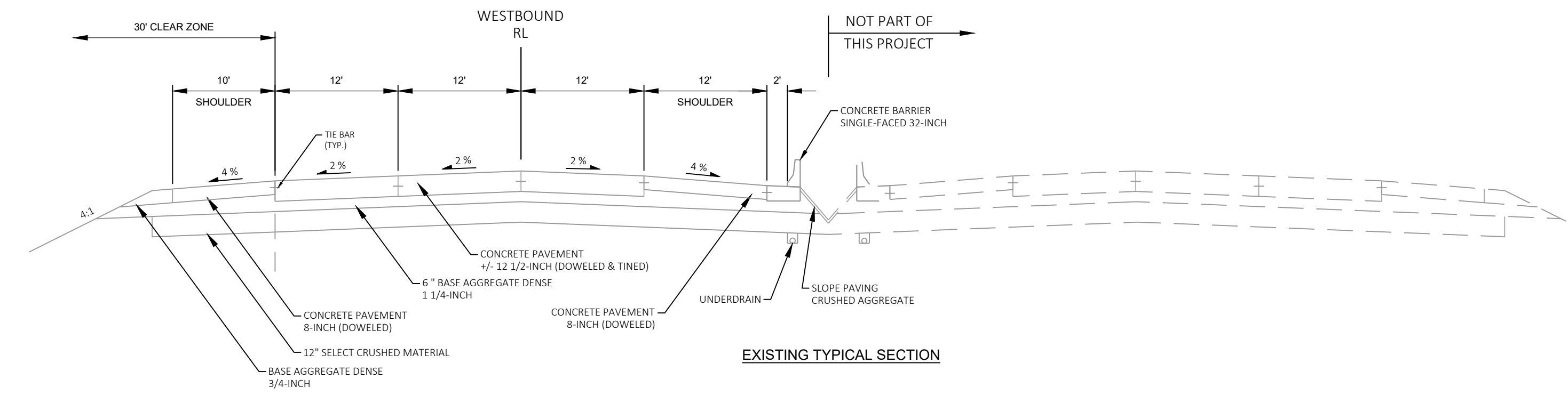
EXISTING TYPICAL SECTION

WESTBOUND
 STA. 1596+00'WB' - 1599+85'WB'
 STA. 1625+68'WB' - 1647+00'WB'
 STA. 1655+00'WB' - 1731+00'WB'

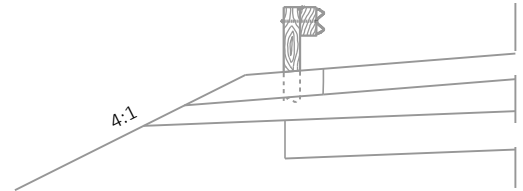


EXISTING TYPICAL SECTION

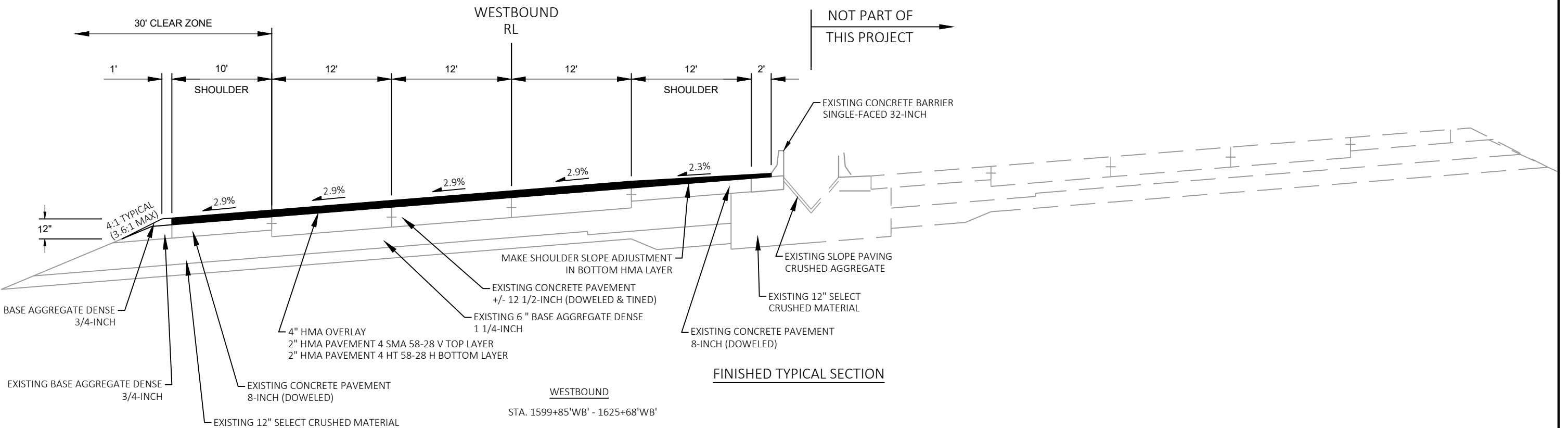
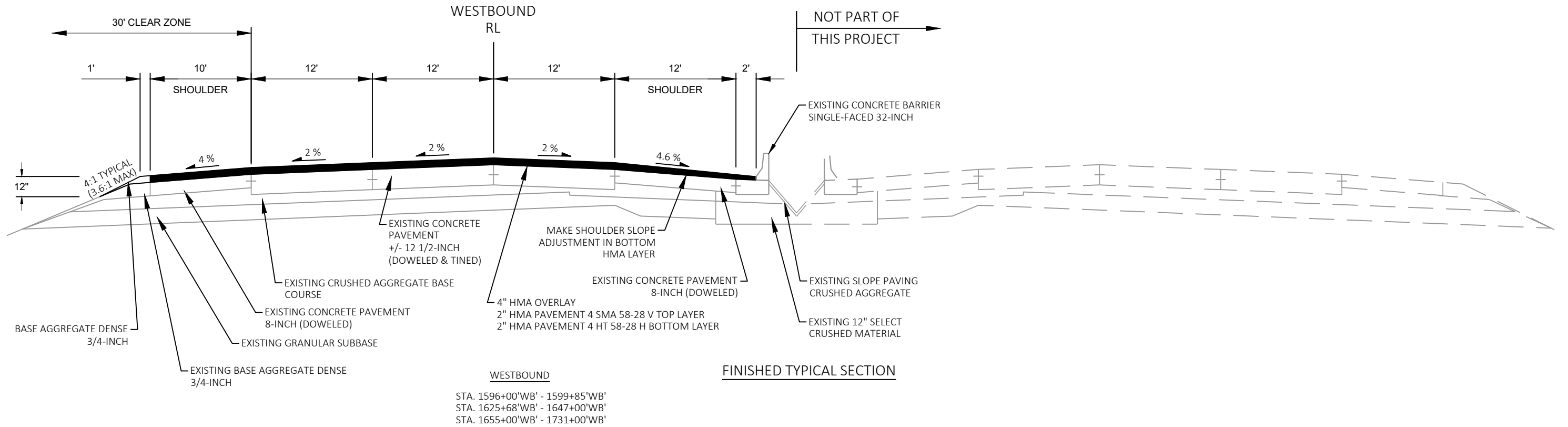
WESTBOUND
 STA. 1599+85'WB' - 1625+68'WB'

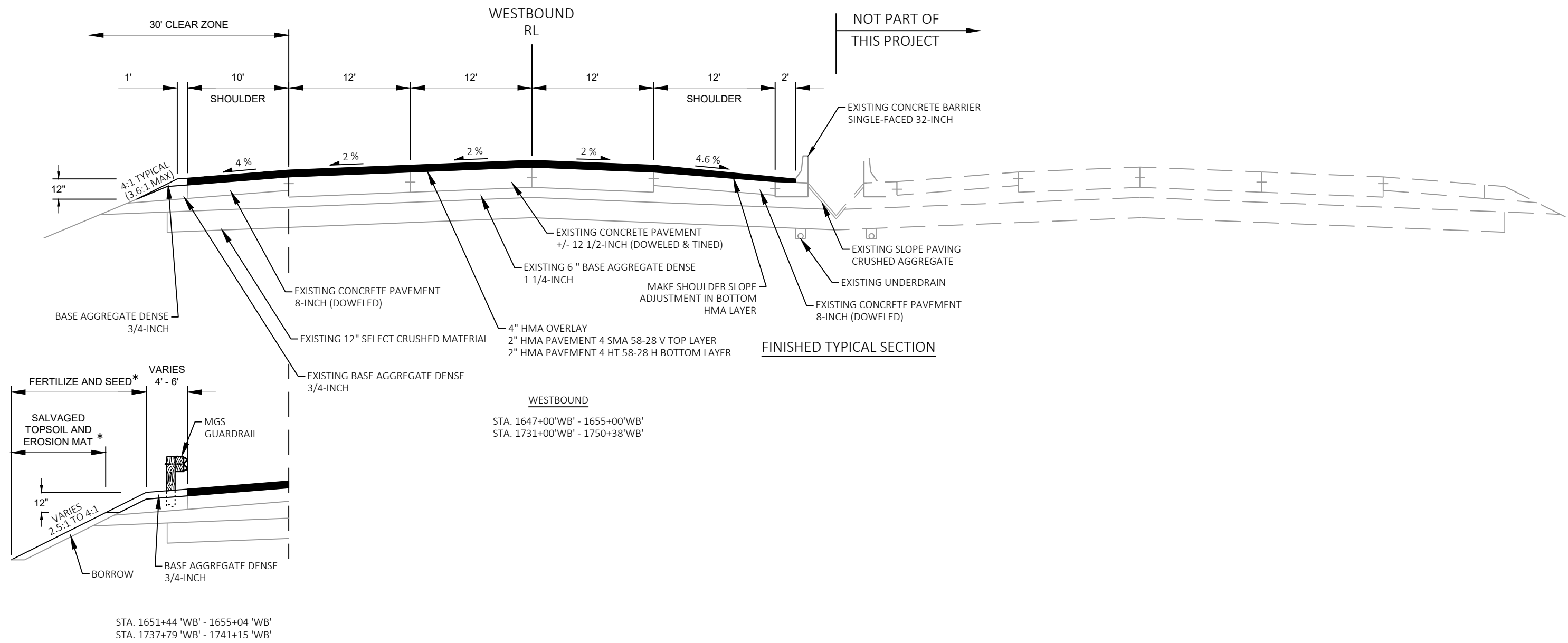


WESTBOUND
 STA. 1647+00'WB' - 1655+00'WB'
 STA. 1731+00'WB' - 1750+38'WB'

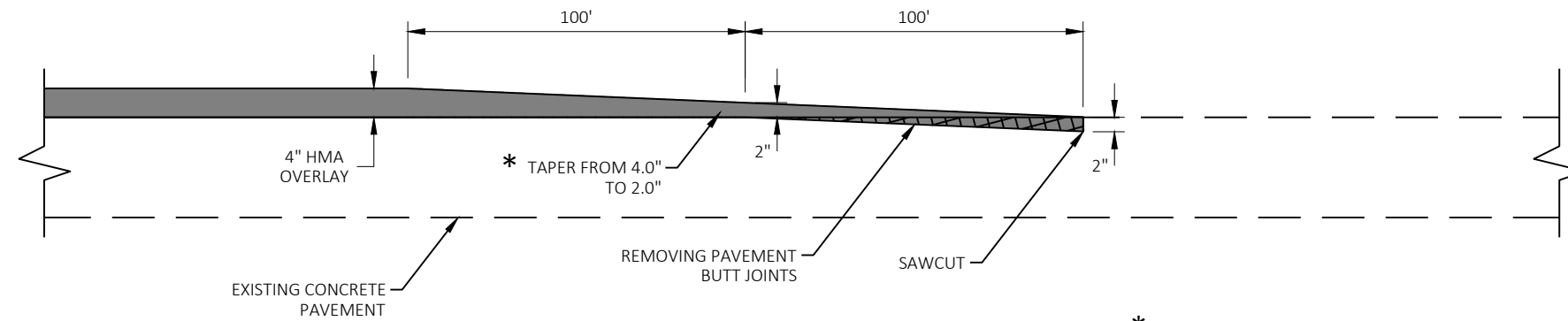


STA. 1651+47 'WB' - 1652+17 'WB'
 STA. 1737+82 'WB' - 1740+65 'WB'



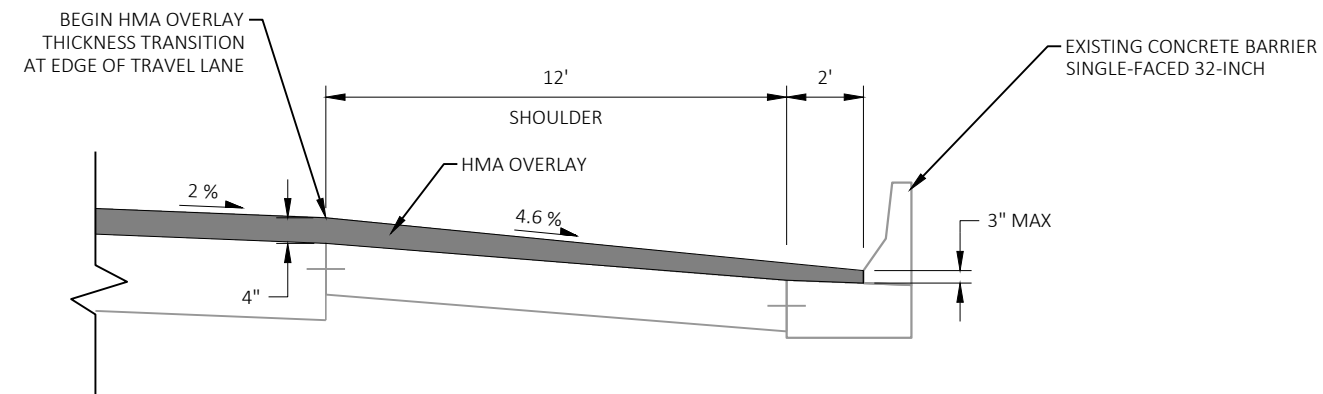


* TO BE PAID FOR UNDER THE "BARRIER SYSTEM GRADING SHAPING FINISHING" ITEM

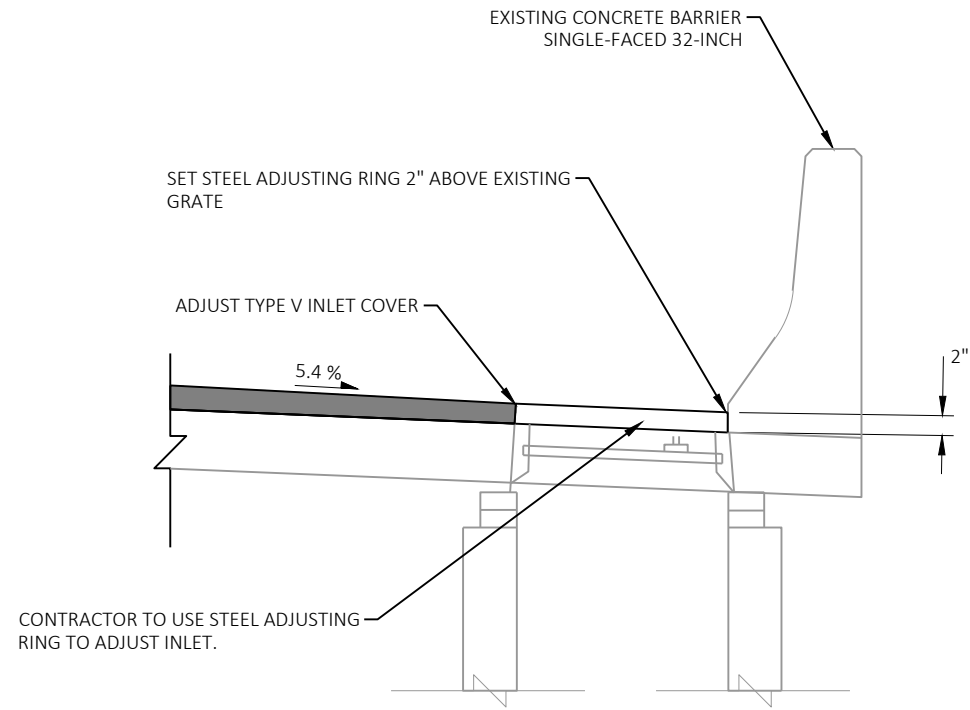


REMOVING CONCRETE PAVEMENT BUTT JOINTS

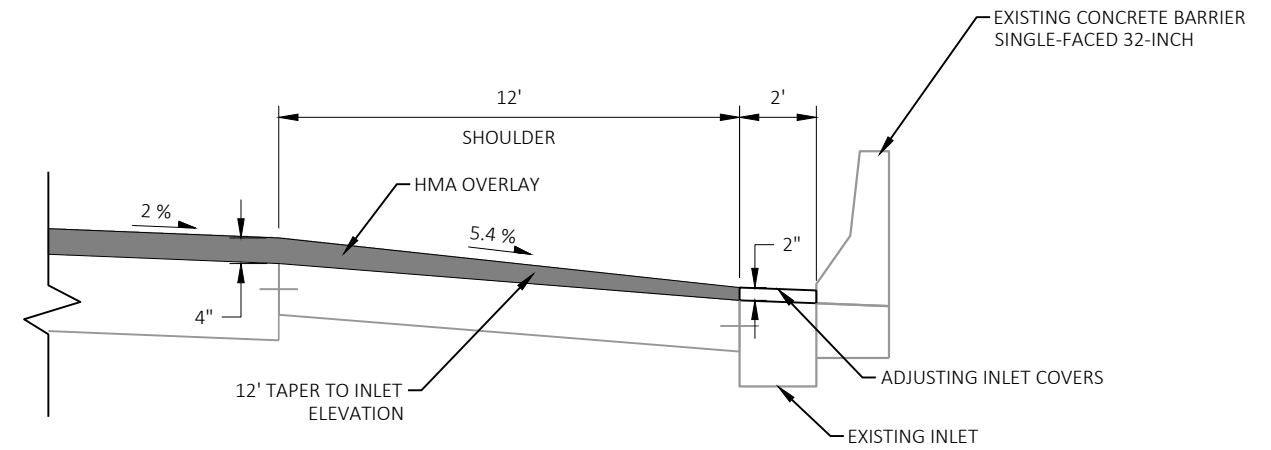
* NOTE: TAPER THICKNESS OF HMA PAVEMENT LOWER LAYER. UPPER LAYER TO MAINTAIN UNIFORM THICKNESS OF 2.0".



MATCH OVERLAY INTO CONCRETE BARRIER WALL

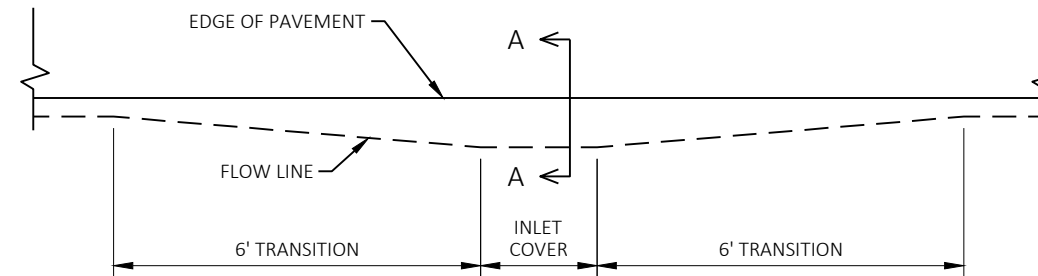


DETAIL OF INLET ADJUSTMENTS AT BARRIER

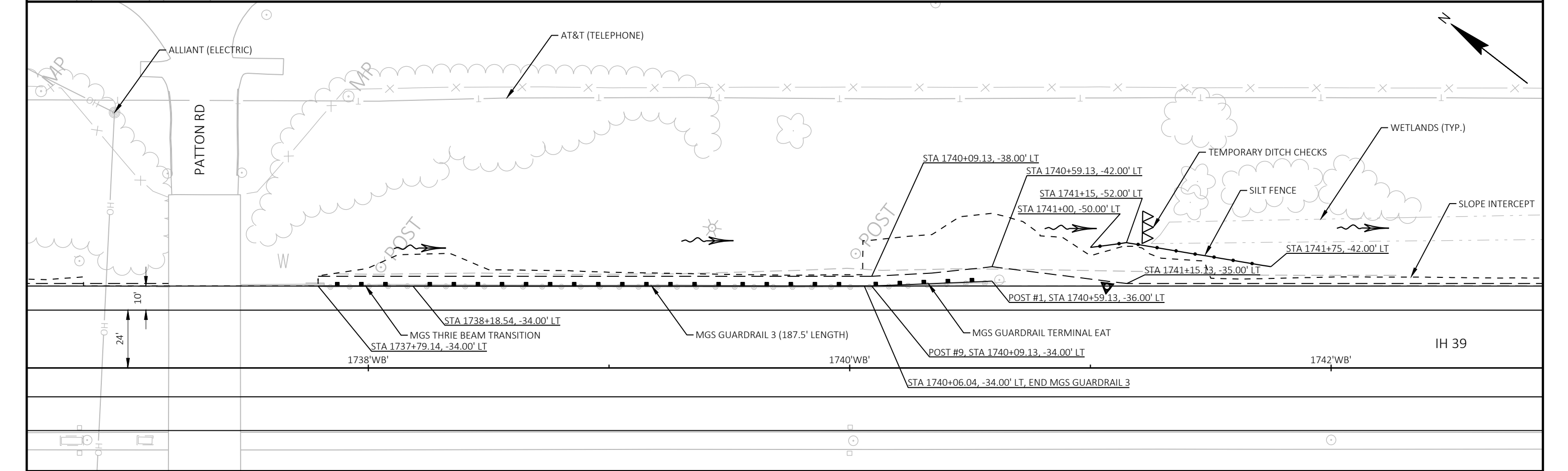
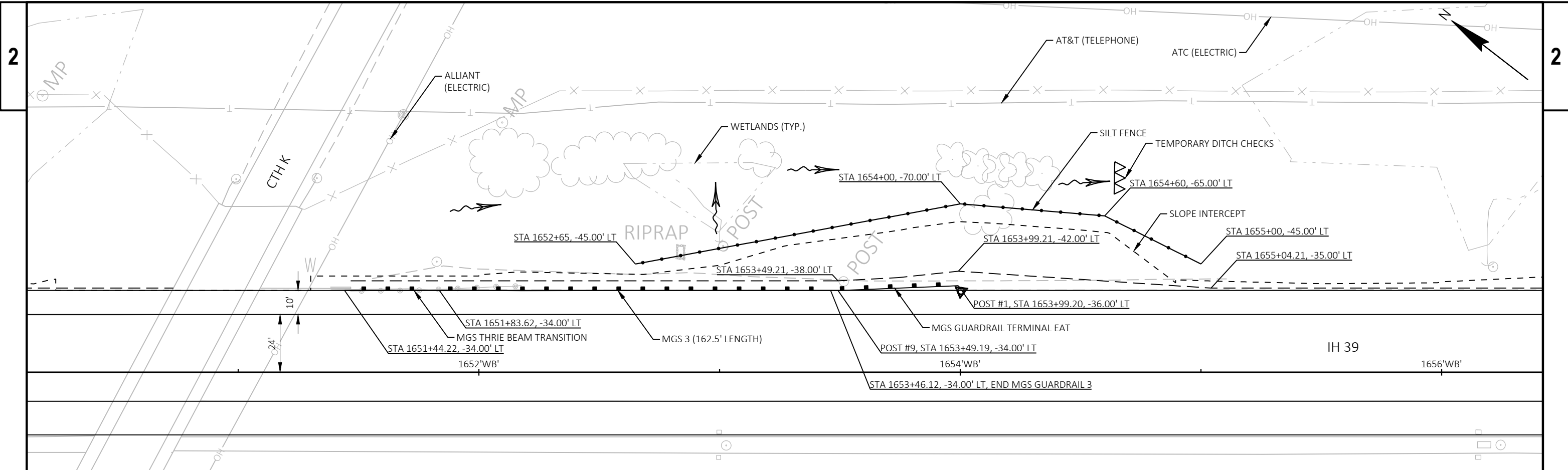


SECTION A - A

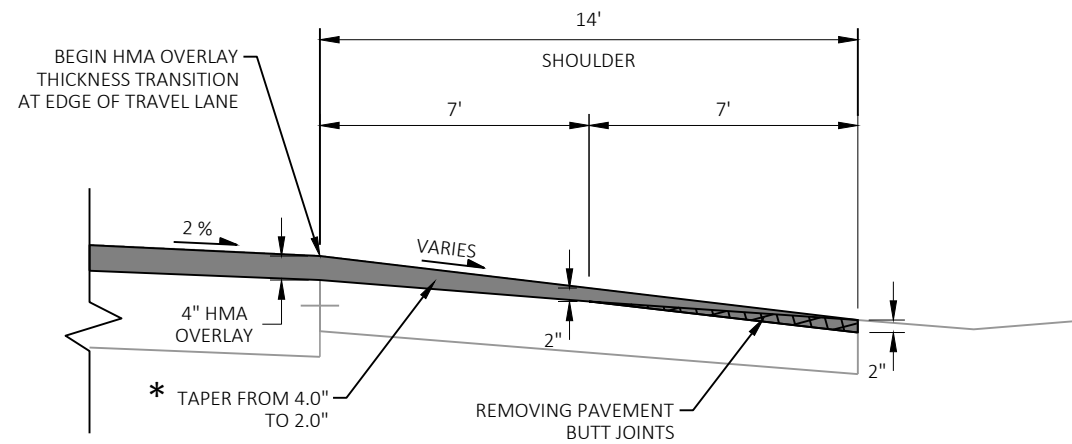
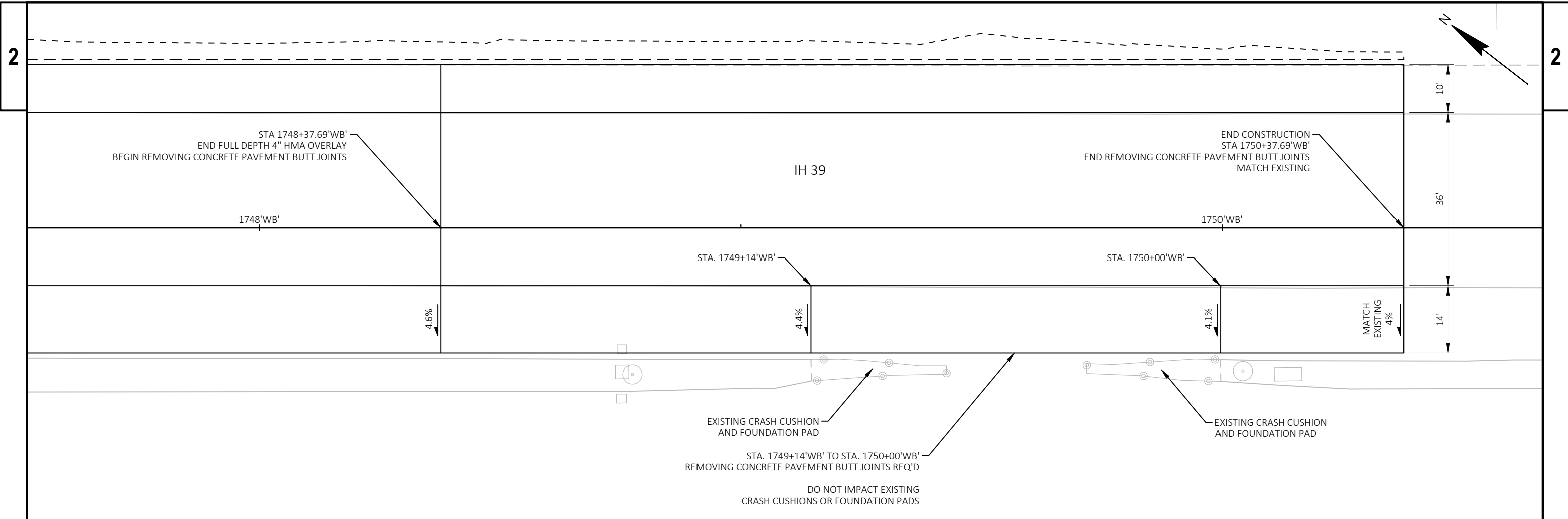
DETAIL OF PAVEMENT TAPER AT INLET LOCATIONS



ELEVATION

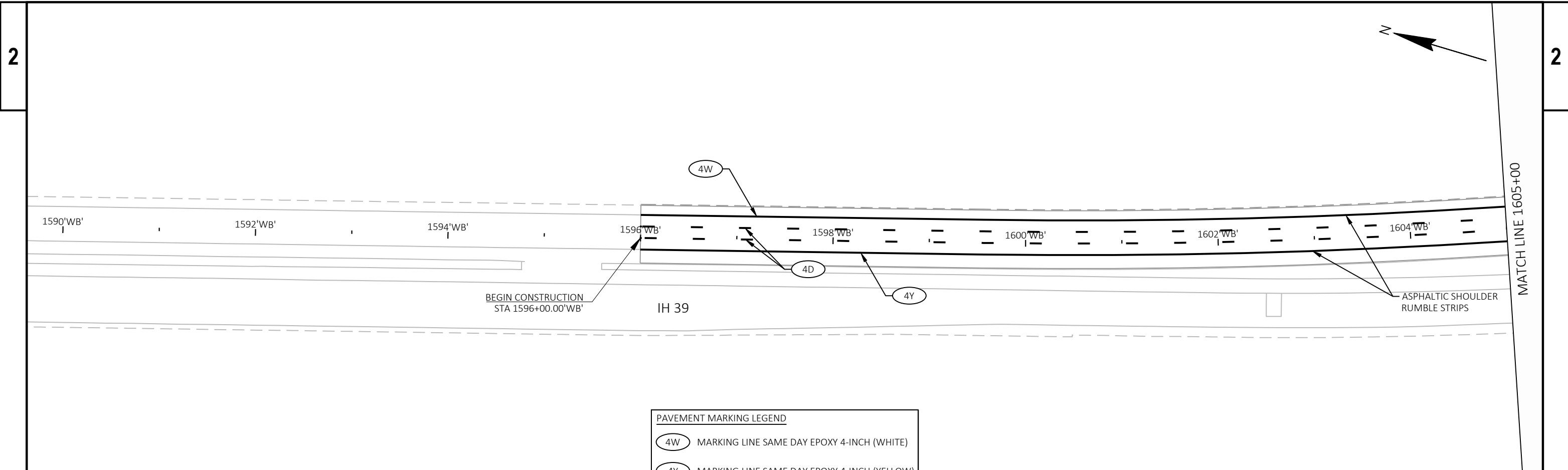


PROJECT NO: 1011-00-70 HWY: IH 39 COUNTY: COLUMBIA GUARDRAIL DETAILS AND EROSION CONTROL SHEET E

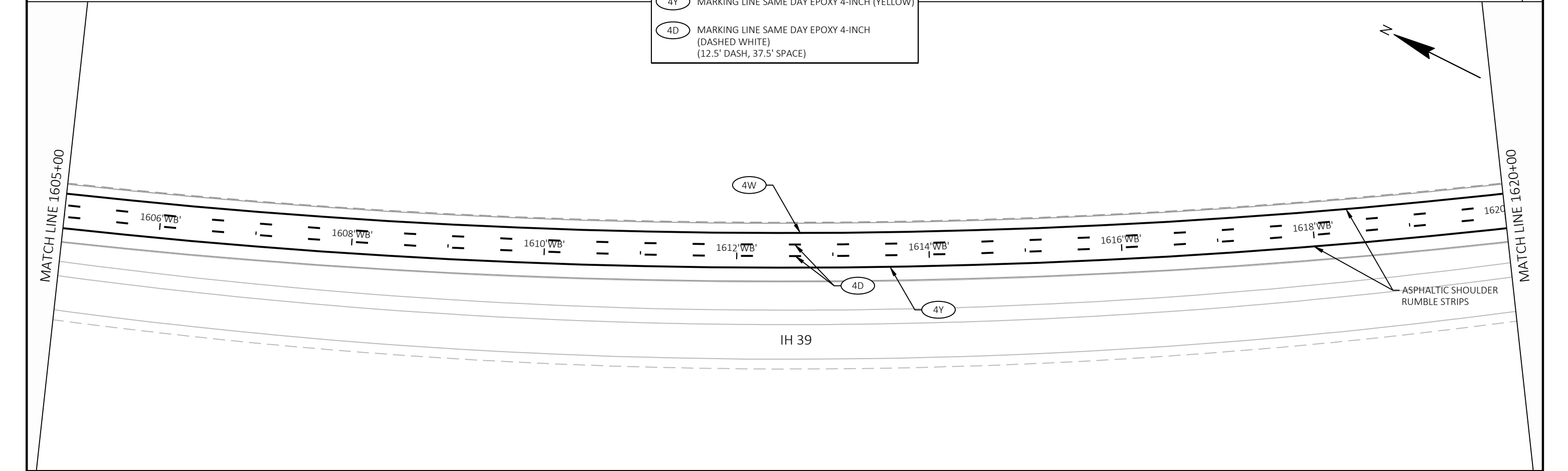


* NOTE: TAPER THICKNESS OF HMA PAVEMENT LOWER LAYER. UPPER LAYER TO MAINTAIN UNIFORM THICKNESS OF 2.0\"/>

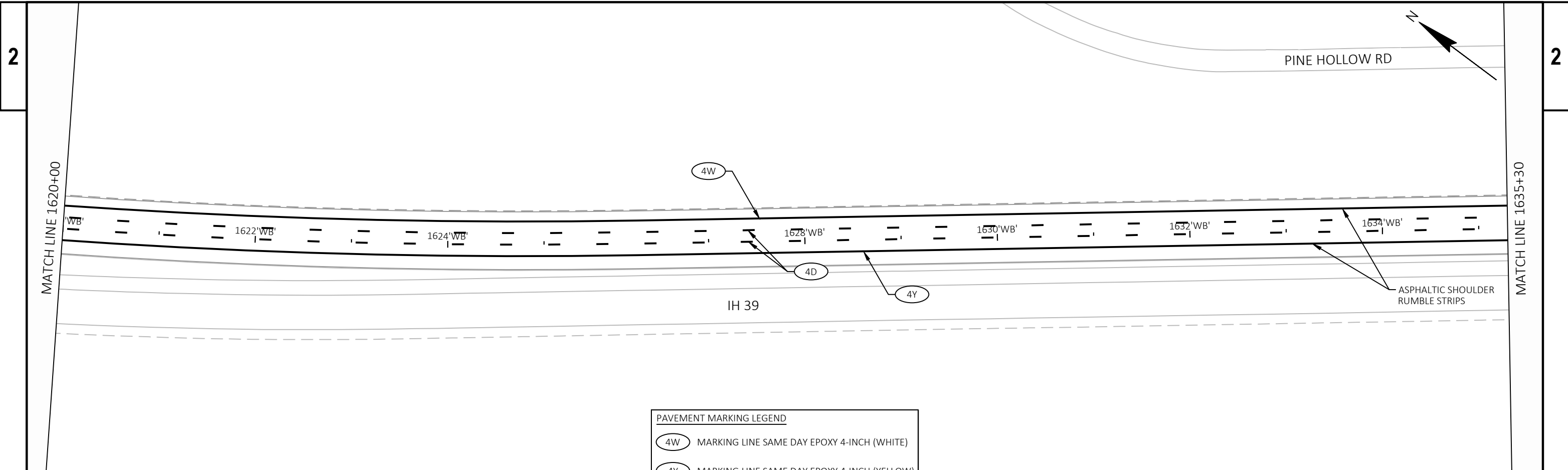
REMOVING CONCRETE PAVEMENT BUTT JOINTS AT MEDIAN SHOULDER OPENING



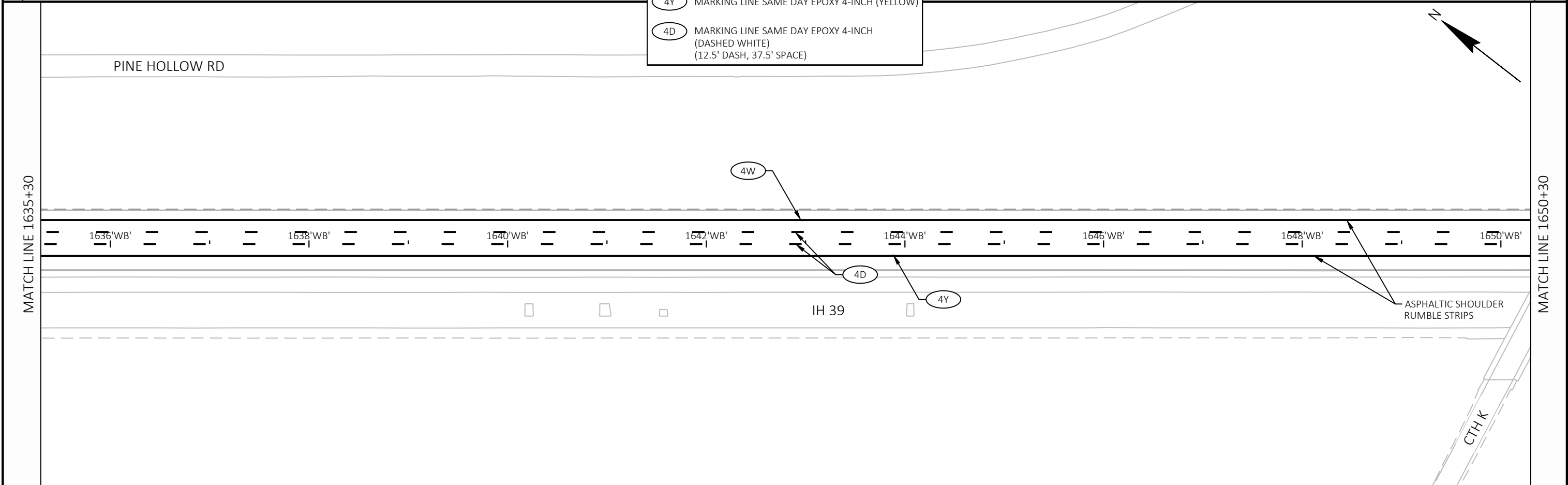
PAVEMENT MARKING LEGEND	
(4W)	MARKING LINE SAME DAY EPOXY 4-INCH (WHITE)
(4Y)	MARKING LINE SAME DAY EPOXY 4-INCH (YELLOW)
(4D)	MARKING LINE SAME DAY EPOXY 4-INCH (DASHED WHITE) (12.5' DASH, 37.5' SPACE)



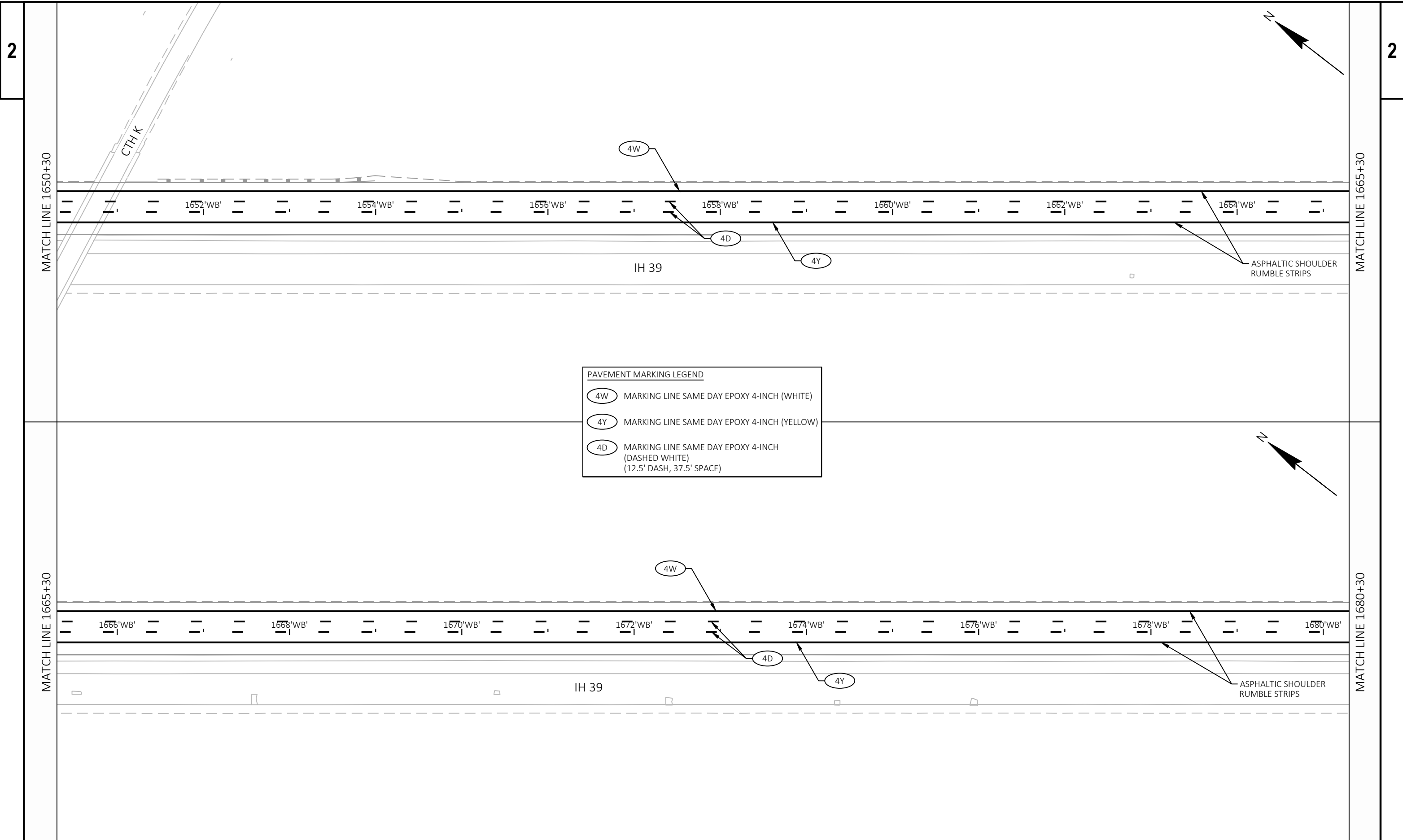
PROJECT NO: 1011-00-70	HWY: IH 39	COUNTY: COLUMBIA	PAVEMENT MARKINGS	SHEET	E
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PAVEMENT MARKING LEGEND	
(4W)	MARKING LINE SAME DAY EPOXY 4-INCH (WHITE)
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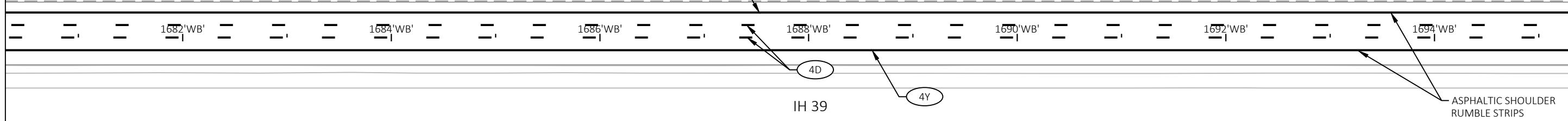
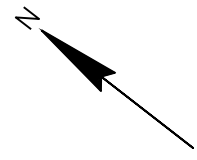
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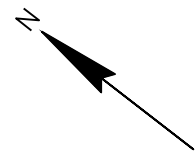
PROJECT NO: 1011-00-70	HWY: IH 39	COUNTY: COLUMBIA	PAVEMENT MARKINGS	SHEET	E
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MATCH LINE 1680+30

MATCH LINE 1695+30

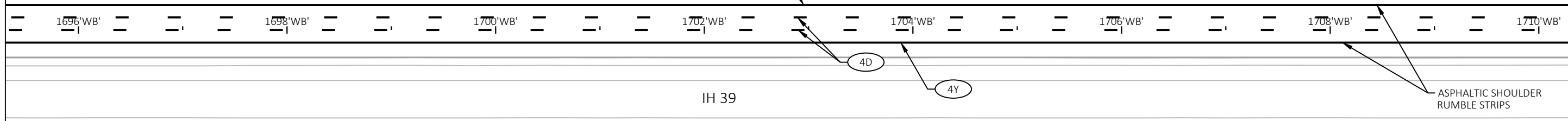


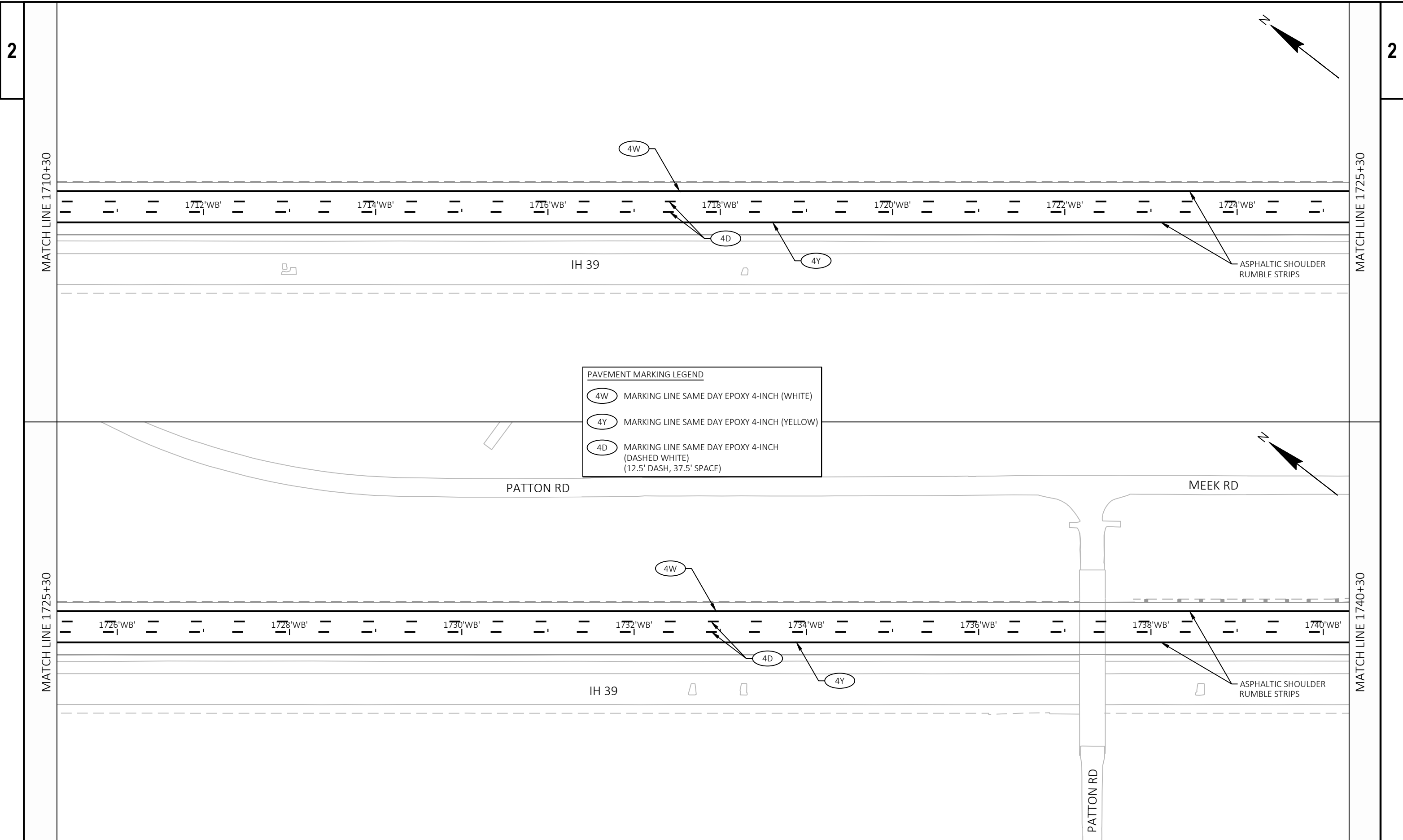
PAVEMENT MARKING LEGEND	
	MARKING LINE SAME DAY EPOXY 4-INCH (WHITE)
	MARKING LINE SAME DAY EPOXY 4-INCH (YELLOW)
	MARKING LINE SAME DAY EPOXY 4-INCH (DASHED WHITE) (12.5' DASH, 37.5' SPACE)



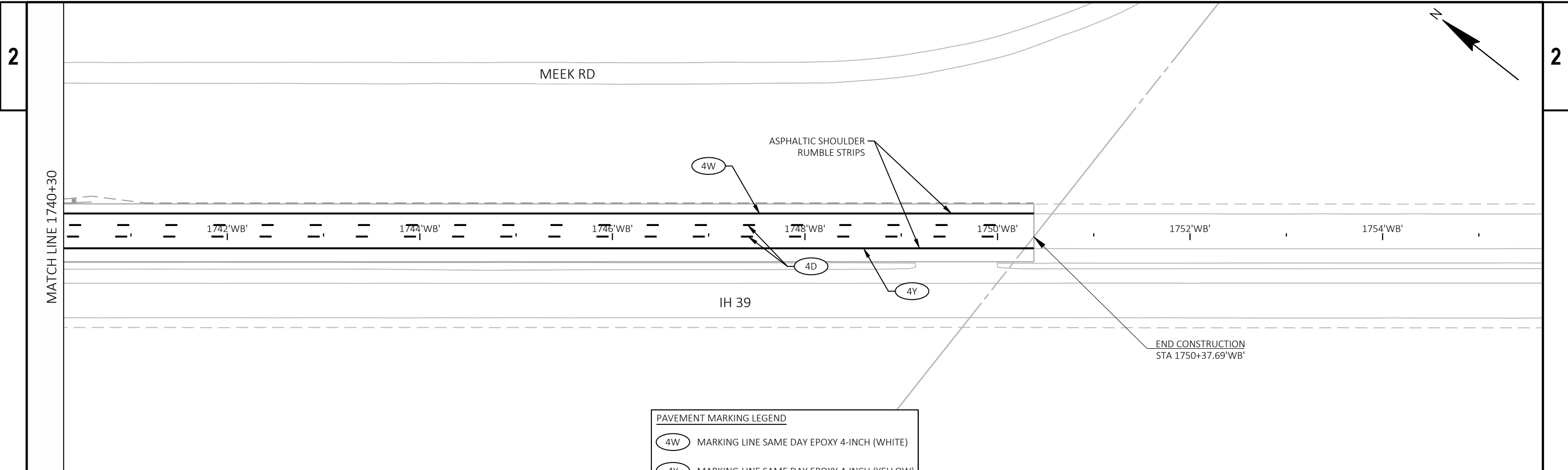
MATCH LINE 1695+30

MATCH LINE 1710+30

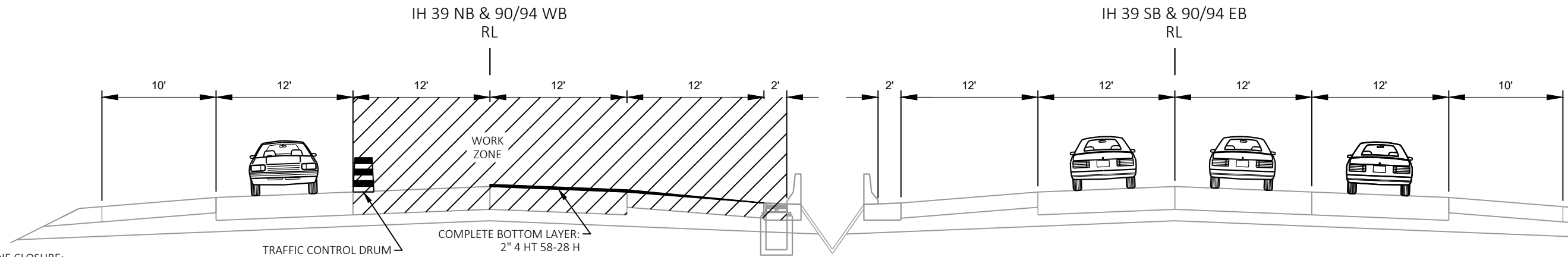




PROJECT NO: 1011-00-70	HWY: IH 39	COUNTY: COLUMBIA	PAVEMENT MARKINGS	SHEET	E
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PAVEMENT MARKING LEGEND	
	MARKING LINE SAME DAY EPOXY 4-INCH (WHITE)
	MARKING LINE SAME DAY EPOXY 4-INCH (YELLOW)
	MARKING LINE SAME DAY EPOXY 4-INCH (DASHED WHITE) (12.5' DASH, 37.5' SPACE)



STAGE 1A DOUBLE LANE CLOSURE:

CONSTRUCTION ACTIVITIES

- 1) COMPLETE INSIDE LANE PATCHING.
- 2) COMPLETE INSIDE LANE AND INSIDE SHOULDER PAVING (FIRST LIFT).
- 3) INSTALL TEMPORARY MARKING LINES PRIOR TO OPENING LANES TO TRAFFIC.

TRAFFIC

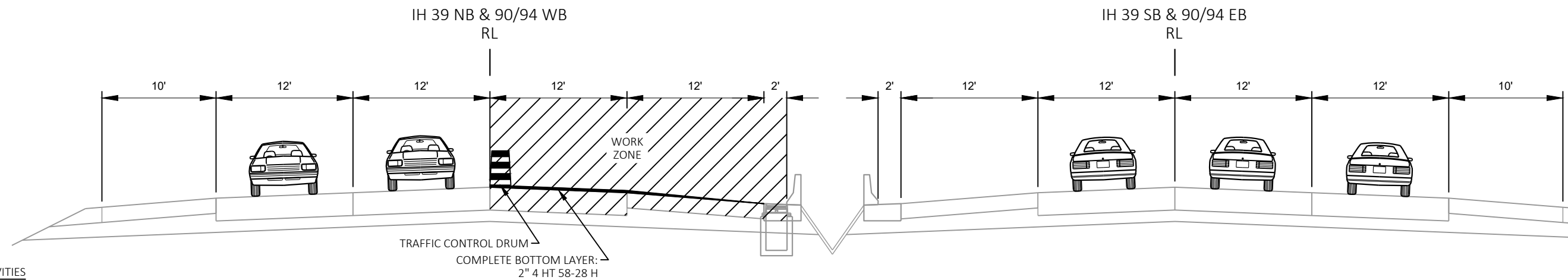
- 1) CENTER AND INSIDE LANES CLOSED DURING THE ALLOWABLE TIMES.

STANDARD DETAIL DRAWINGS REQUIRED

- 1) TRAFFIC CONTROL, DROP OFF SIGNING
- 2) TRAFFIC CONTROL, TWO LANE CLOSURE ON FREEWAY OR EXPRESSWAY, SHORT TERM (LESS THAN 24 HOURS)
- 3) TRAFFIC CONTROL, LANE CLOSURE
- 4) TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION
- 5) TRAFFIC CONTROL, LANE CLOSURE, BASIC TRAFFIC QUEUE WARNING SYSTEM

TRAFFIC CONTROL TYPICAL SECTION

STAGE 1A DOUBLE LANE CLOSURE



STAGE 1A DAYTIME:

CONSTRUCTION ACTIVITIES

- 1) COMPLETE INSIDE LANE AND INSIDE SHOULDER PAVING (FIRST LIFT).
- 2) INSTALL TEMPORARY MARKING LINES PRIOR TO OPENING LANES TO TRAFFIC.

TRAFFIC

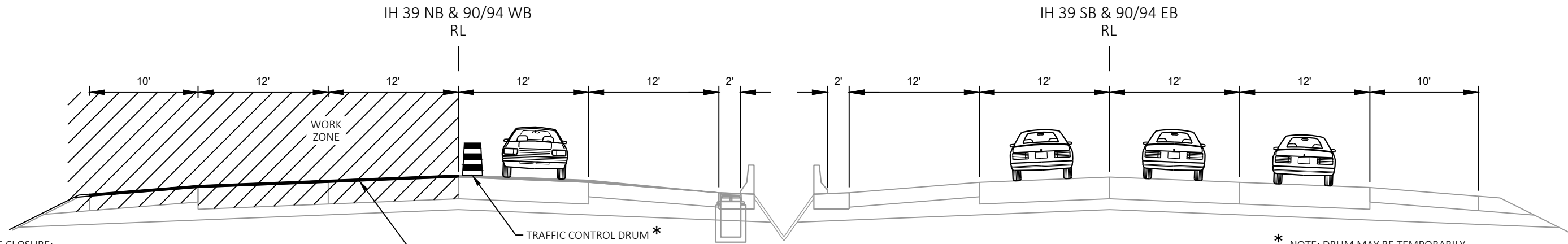
- 1) INSIDE LANE CLOSED DURING THE ALLOWABLE TIMES.
- 2) WHEN OUTSIDE THE ALLOWABLE TIMES FOR LANE CLOSURES, ALL THREE LANES OPEN TO TRAFFIC

STANDARD DETAIL DRAWINGS REQUIRED

- 1) TRAFFIC CONTROL, DROP OFF SIGNING
- 2) TRAFFIC CONTROL, LANE CLOSURE
- 3) TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION
- 4) TRAFFIC CONTROL, SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 M.P.H.
- 5) TRAFFIC CONTROL, LANE CLOSURE, BASIC TRAFFIC QUEUE WARNING SYSTEM

TRAFFIC CONTROL TYPICAL SECTION

STAGE 1A DAYTIME



**STAGE 1B DOUBLE LANE CLOSURE:
CONSTRUCTION ACTIVITIES**

- 1) COMPLETE CENTER LANE AND OUTSIDE LANE PATCHING.
- 2) COMPLETE CENTER LANE, OUTSIDE LANE, AND OUTSIDE SHOULDER PAVING (FIRST LIFT).
- 3) INSTALL TEMPORARY MARKING LINES PRIOR TO OPENING LANES TO TRAFFIC.

TRAFFIC

- 1) CENTER AND OUTSIDE LANES CLOSED DURING THE ALLOWABLE TIMES.

STANDARD DETAIL DRAWINGS REQUIRED

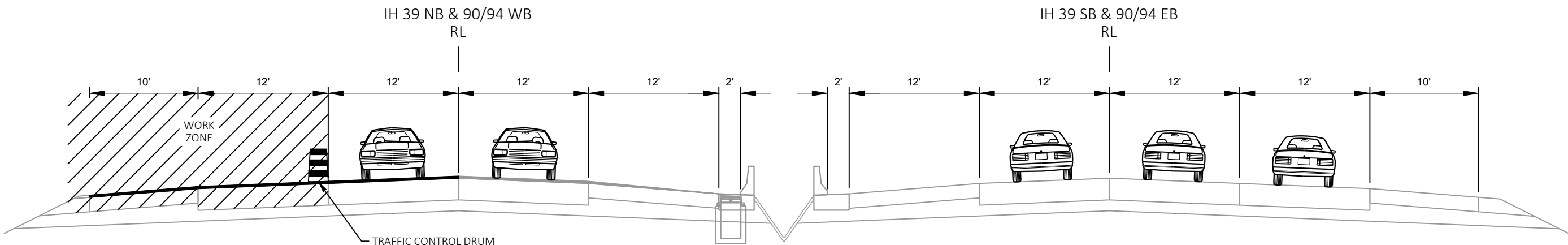
- 1) TRAFFIC CONTROL, DROP OFF SIGNING
- 2) TRAFFIC CONTROL, TWO LANE CLOSURE ON FREEWAY OR EXPRESSWAY, SHORT TERM (LESS THAN 24 HOURS)
- 3) TRAFFIC CONTROL, LANE CLOSURE
- 4) TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION
- 5) TRAFFIC CONTROL, LANE CLOSURE, BASIC TRAFFIC QUEUE WARNING SYSTEM

COMPLETE BOTTOM LAYER:
2" 4 HT 58-28 H

TRAFFIC CONTROL DRUM *

* NOTE: DRUM MAY BE TEMPORARILY
MOVED INTO THE ADJACENT LANE WHILE
PAVING CENTER LANE. IMMEDIATELY MOVE
DRUM BACK TO LOCATION SHOWN AFTER
PAVING OPERATION COMPLETE.

TRAFFIC CONTROL TYPICAL SECTION
STAGE 1B DOUBLE LANE CLOSURE



STAGE 1B DAYTIME:

CONSTRUCTION ACTIVITIES

- 1) COMPLETE OUTSIDE LANE AND OUTSIDE SHOULDER PAVING (FIRST LIFT).
- 2) INSTALL TEMPORARY MARKING LINES PRIOR TO OPENING LANES TO TRAFFIC.

TRAFFIC

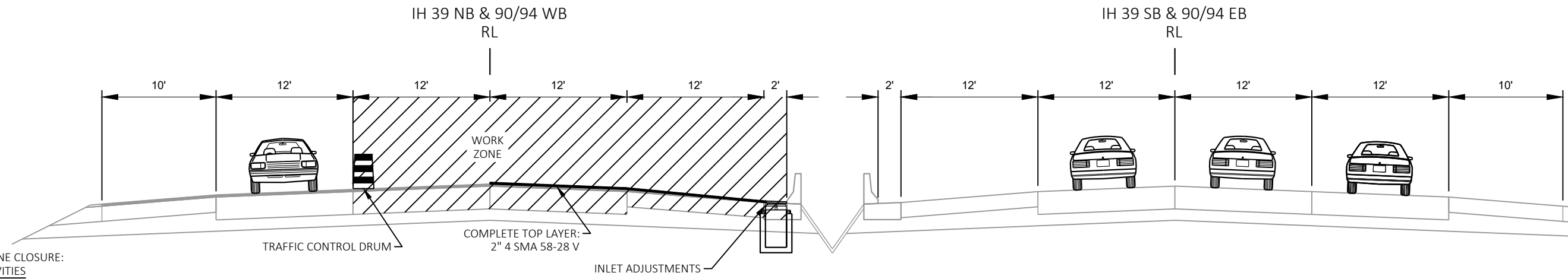
- 1) OUTSIDE LANE CLOSED DURING THE ALLOWABLE TIMES.
- 2) WHEN OUTSIDE THE ALLOWABLE TIMES FOR LANE CLOSURES, ALL THREE LANES OPEN TO TRAFFIC.

STANDARD DETAIL DRAWINGS REQUIRED

- 1) TRAFFIC CONTROL, LANE CLOSURE
- 2) TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION
- 3) TRAFFIC CONTROL, LANE CLOSURE, BASIC TRAFFIC QUEUE WARNING SYSTEM
- 4) TRAFFIC CONTROL, DROP-OFF SIGNING

TRAFFIC CONTROL DRUM

TRAFFIC CONTROL TYPICAL SECTION
STAGE 1B DAYTIME



STAGE 2A DOUBLE LANE CLOSURE:
CONSTRUCTION ACTIVITIES

- 1) COMPLETE INLET ADJUSTMENTS PRIOR TO PAVING SECOND LIFT.
- 2) COMPLETE INSIDE LANE AND INSIDE SHOULDER PAVING (SECOND LIFT).
- 3) INSTALL PERMANENT MARKING LINES PRIOR TO OPENING LANES TO TRAFFIC.

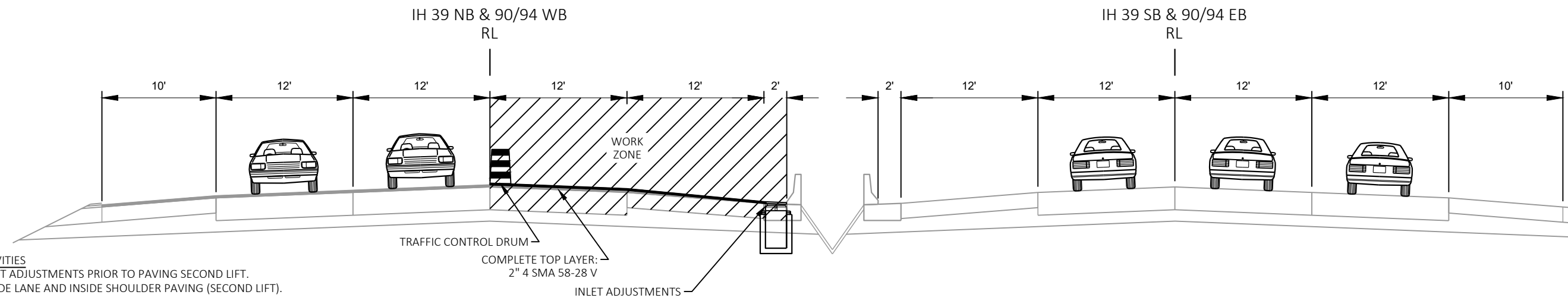
TRAFFIC

- 2) CENTER AND INSIDE LANES CLOSED DURING THE ALLOWABLE TIMES.

STANDARD DETAIL DRAWINGS REQUIRED

- 1) TRAFFIC CONTROL, DROP OFF SIGNING
- 2) TRAFFIC CONTROL, TWO LANE CLOSURE ON FREEWAY OR EXPRESSWAY, SHORT TERM (LESS THAN 24 HOURS)
- 3) TRAFFIC CONTROL, LANE CLOSURE
- 4) TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION
- 5) TRAFFIC CONTROL, LANE CLOSURE, BASIC TRAFFIC QUEUE WARNING SYSTEM

TRAFFIC CONTROL TYPICAL SECTION
STAGE 2A DOUBLE LANE CLOSURE



STAGE 2A DAYTIME:
CONSTRUCTION ACTIVITIES

- 1) COMPLETE INLET ADJUSTMENTS PRIOR TO PAVING SECOND LIFT.
- 2) COMPLETE INSIDE LANE AND INSIDE SHOULDER PAVING (SECOND LIFT).
- 3) INSTALL PERMANENT MARKING LINES PRIOR TO OPENING LANES TO TRAFFIC.

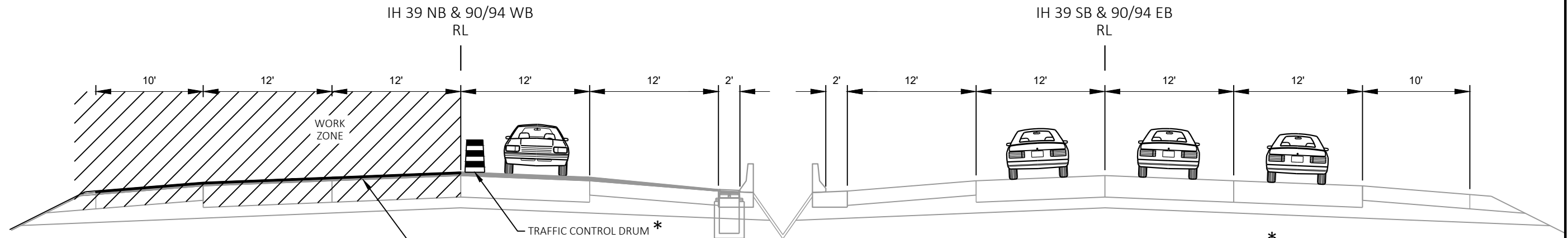
TRAFFIC

- 1) INSIDE LANE CLOSED DURING THE ALLOWABLE TIMES.
- 2) WHEN OUTSIDE THE ALLOWABLE TIMES FOR LANE CLOSURES, ALL THREE LANES OPEN TO TRAFFIC

STANDARD DETAIL DRAWINGS REQUIRED

- 1) TRAFFIC CONTROL, DROP OFF SIGNING
- 2) TRAFFIC CONTROL, LANE CLOSURE
- 3) TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION
- 4) TRAFFIC CONTROL, SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 M.P.H.
- 5) TRAFFIC CONTROL, LANE CLOSURE, BASIC TRAFFIC QUEUE WARNING SYSTEM

TRAFFIC CONTROL TYPICAL SECTION
STAGE 2A DAYTIME



**STAGE 2B DOUBLE LANE CLOSURE:
CONSTRUCTION ACTIVITIES**

- 1) COMPLETE CENTER LANE, OUTSIDE LANE, AND OUTSIDE SHOULDER PAVING (SECOND LIFT).
- 2) INSTALL PERMANENT MARKING LINES PRIOR TO OPENING LANES TO TRAFFIC.

TRAFFIC

- 1) CENTER AND OUTSIDE LANES CLOSED DURING THE ALLOWABLE TIMES.

STANDARD DETAIL DRAWINGS REQUIRED

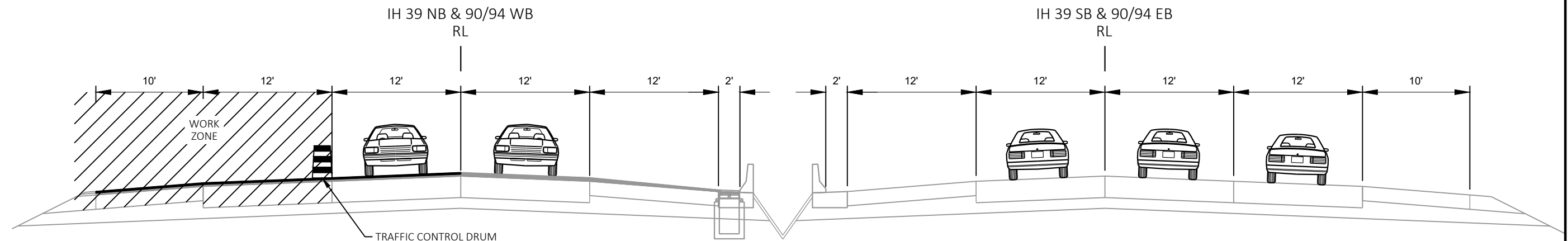
- 1) TRAFFIC CONTROL, DROP OFF SIGNING
- 2) TRAFFIC CONTROL, TWO LANE CLOSURE ON FREEWAY OR EXPRESSWAY, SHORT TERM (LESS THAN 24 HOURS)
- 3) TRAFFIC CONTROL, LANE CLOSURE
- 4) TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION
- 5) TRAFFIC CONTROL, LANE CLOSURE, BASIC TRAFFIC QUEUE WARNING SYSTEM

COMPLETE TOP LAYER:
2" 4 SMA 58-28 V

TRAFFIC CONTROL DRUM *

* NOTE: DRUM MAY BE TEMPORARILY MOVED INTO THE ADJACENT LANE WHILE PAVING CENTER LANE. IMMEDIATELY MOVE DRUM BACK TO LOCATION SHOWN AFTER PAVING OPERATION COMPLETE.

TRAFFIC CONTROL TYPICAL SECTION
STAGE 2B DOUBLE LANE CLOSURE



STAGE 2B DAYTIME:

CONSTRUCTION ACTIVITIES

- 1) COMPLETE OUTSIDE LANE AND OUTSIDE SHOULDER PAVING (SECOND LIFT).
- 2) INSTALL PERMANENT MARKING LINES PRIOR TO OPENING LANES TO TRAFFIC.

TRAFFIC

- 1) OUTSIDE LANE CLOSED DURING THE ALLOWABLE TIMES.
- 2) WHEN OUTSIDE THE ALLOWABLE TIMES FOR LANE CLOSURES, ALL THREE LANES OPEN TO TRAFFIC.

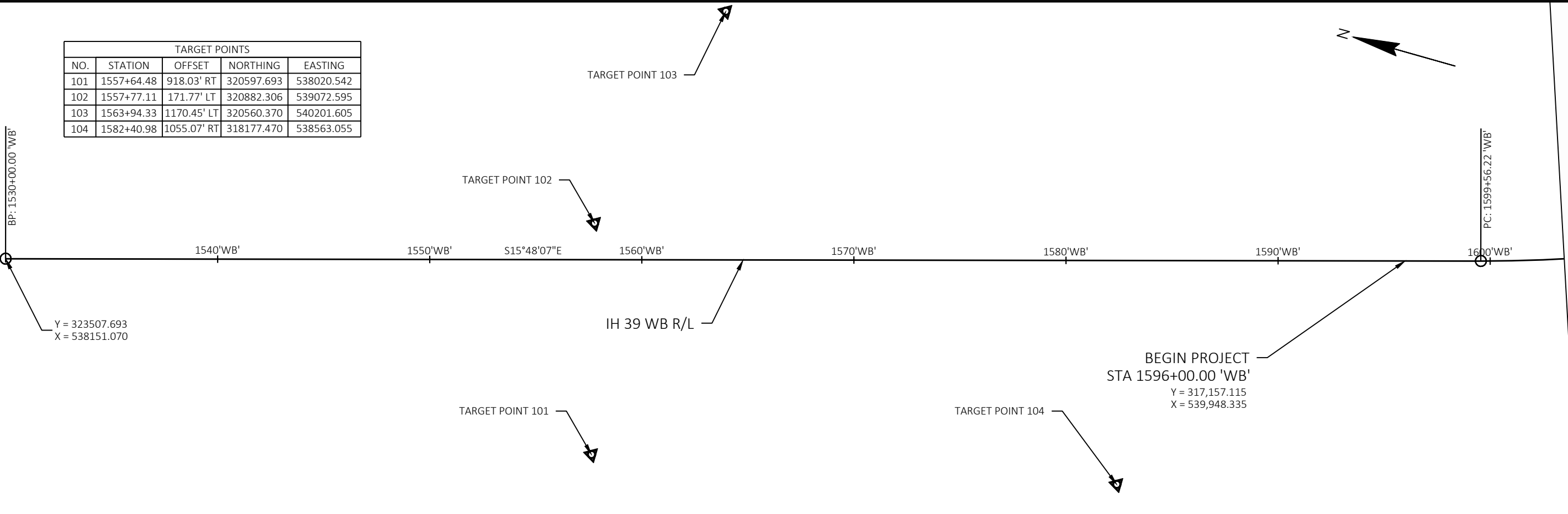
STANDARD DETAIL DRAWINGS REQUIRED

- 1) TRAFFIC CONTROL, LANE CLOSURE
- 2) TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION
- 3) TRAFFIC CONTROL, LANE CLOSURE, BASIC TRAFFIC QUEUE WARNING SYSTEM
- 4) TRAFFIC CONTROL, DROP-OFF SIGNING

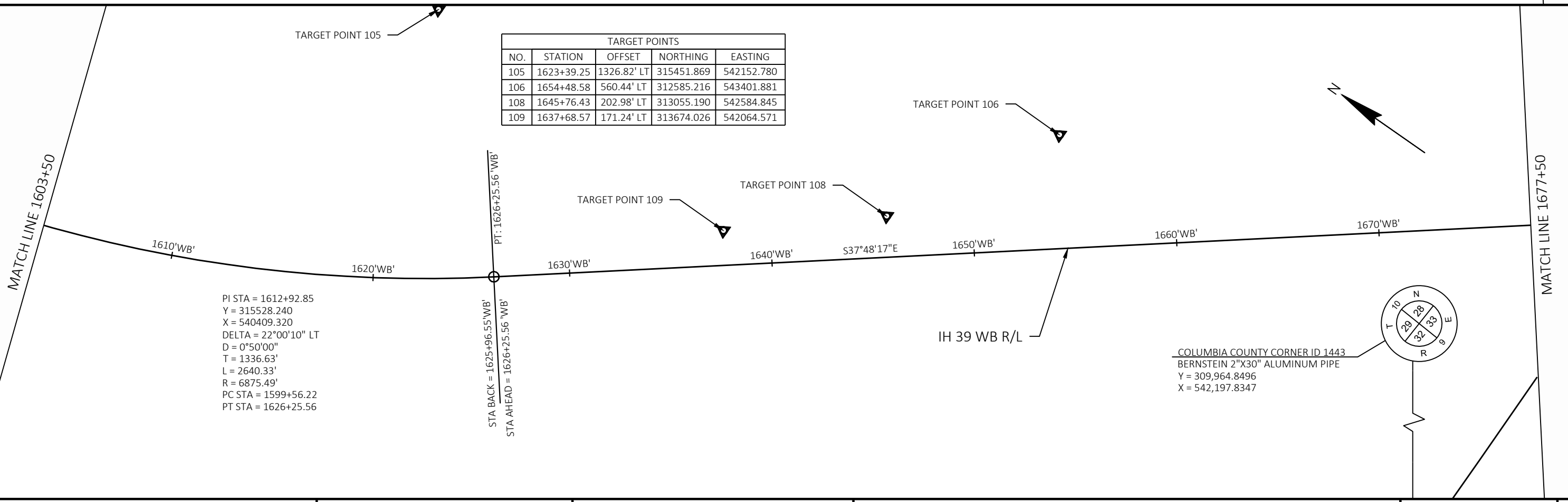
TRAFFIC CONTROL DRUM

TRAFFIC CONTROL TYPICAL SECTION
STAGE 2B DAYTIME

TARGET POINTS				
NO.	STATION	OFFSET	NORTHING	EASTING
101	1557+64.48	918.03' RT	320597.693	538020.542
102	1557+77.11	171.77' LT	320882.306	539072.595
103	1563+94.33	1170.45' LT	320560.370	540201.605
104	1582+40.98	1055.07' RT	318177.470	538563.055



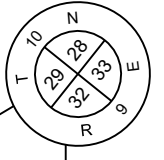
TARGET POINTS				
NO.	STATION	OFFSET	NORTHING	EASTING
105	1623+39.25	1326.82' LT	315451.869	542152.780
106	1654+48.58	560.44' LT	312585.216	543401.881
108	1645+76.43	202.98' LT	313055.190	542584.845
109	1637+68.57	171.24' LT	313674.026	542064.571



PI STA = 1612+92.85
 Y = 315528.240
 X = 540409.320
 DELTA = 22°00'10" LT
 D = 0°50'00"
 T = 1336.63'
 L = 2640.33'
 R = 6875.49'
 PC STA = 1599+56.22
 PT STA = 1626+25.56

STA BACK = 1625+96.55' WB'
 STA AHEAD = 1626+25.56' WB'

COLUMBIA COUNTY CORNER ID 1443
 BERNSTEIN 2"X30" ALUMINUM PIPE
 Y = 309,964.8496
 X = 542,197.8347



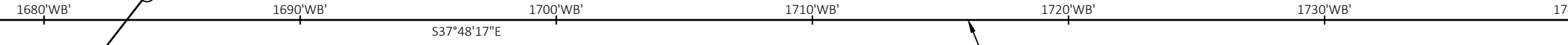
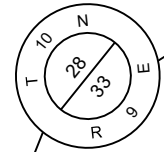
MATCH LINE 1677+50

MATCH LINE 1740+00

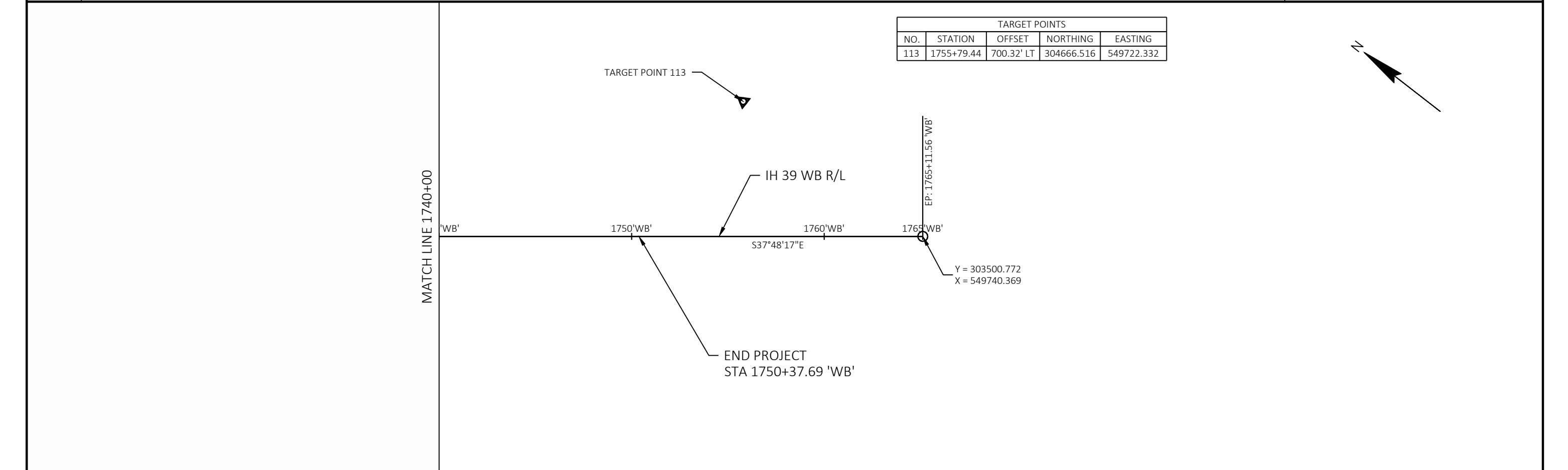
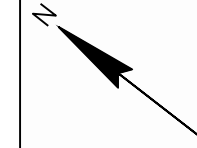
TARGET POINT 111

TARGET POINTS				
NO.	STATION	OFFSET	NORTHING	EASTING
111	1717+14.22	920.80' LT	307855.595	547527.268

COLUMBIA COUNTY CORNER ID 1877
 BERNSTEIN 2"X30" ALUMINUM PIPE
 Y = 309,970.6418
 X = 544,850.3785



IH 39 WB R/L

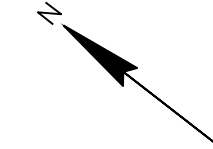


TARGET POINTS				
NO.	STATION	OFFSET	NORTHING	EASTING
113	1755+79.44	700.32' LT	304666.516	549722.332

TARGET POINT 113

IH 39 WB R/L

END PROJECT
STA 1750+37.69 'WB'



Estimate Of Quantities

1011-00-70

Line	Item	Item Description	Unit	Total	Qty
0002	204.0105	Removing Concrete Pavement Butt Joints	SY	1,410.000	1,410.000
0004	204.0126.S	Removing Asphaltic Longitudinal Notched Wedge Joint Milling	LF	30,876.000	30,876.000
0006	204.0165	Removing Guardrail	LF	360.000	360.000
0008	211.0101	Prepare Foundation for Asphaltic Paving (project) 01. 1011-00-70	EACH	1.000	1.000
0010	213.0100	Finishing Roadway (project) 01. 1011-00-70	EACH	1.000	1.000
0012	305.0110	Base Aggregate Dense 3/4-Inch	TON	948.000	948.000
0014	390.0403	Base Patching Concrete Shes	SY	120.000	120.000
0016	416.0610	Drilled Tie Bars	EACH	72.000	72.000
0018	416.0620	Drilled Dowel Bars	EACH	144.000	144.000
0020	450.4000	HMA Cold Weather Paving	TON	4,300.000	4,300.000
0022	455.0605	Tack Coat	GAL	12,250.000	12,250.000
0024	460.0105.S	HMA Percent Within Limits (PWL) Test Strip Volumetrics	EACH	1.000	1.000
0026	460.0110.S	HMA Percent Within Limits (PWL) Test Strip Density	EACH	1.000	1.000
0028	460.0115.S	HMA Pavement Test Strip Volumetrics	EACH	1.000	1.000
0030	460.0120.S	HMA Pavement Test Strip Density	EACH	1.000	1.000
0032	460.2005	Incentive Density PWL HMA Pavement	DOL	13,708.000	13,708.000
0034	460.2007	Incentive Density HMA Pavement Longitudinal Joints	DOL	24,701.000	24,701.000
0036	460.2010	Incentive Air Voids HMA Pavement	DOL	22,210.000	22,210.000
0038	460.7424	HMA Pavement 4 HT 58-28 H	TON	10,670.000	10,670.000
0040	460.8624	HMA Pavement 4 SMA 58-28 V	TON	11,540.000	11,540.000
0042	460.9000.S	Material Transfer Vehicle	EACH	1.000	1.000
0044	465.0425	Asphaltic Shoulder Rumble Strips 2-Lane Rural	LF	30,880.000	30,880.000
0046	611.8115	Adjusting Inlet Covers	EACH	35.000	35.000
0048	614.0010	Barrier System Grading Shaping Finishing	EACH	2.000	2.000
0050	614.2300	MGS Guardrail 3	LF	350.000	350.000
0052	614.2500	MGS Thrie Beam Transition	LF	78.800	78.800
0054	614.2610	MGS Guardrail Terminal EAT	EACH	2.000	2.000
0056	618.0100	Maintenance And Repair of Haul Roads (project) 01.1011-00-70	EACH	1.000	1.000
0058	619.1000	Mobilization	EACH	1.000	1.000
0060	624.0100	Water	MGAL	15.000	15.000
0062	628.1504	Silt Fence	LF	318.000	318.000
0064	628.1520	Silt Fence Maintenance	LF	318.000	318.000
0066	628.1905	Mobilizations Erosion Control	EACH	2.000	2.000
0068	628.1910	Mobilizations Emergency Erosion Control	EACH	2.000	2.000
0070	628.7504	Temporary Ditch Checks	LF	36.000	36.000
0072	642.5001	Field Office Type B	EACH	1.000	1.000
0074	643.0300	Traffic Control Drums	DAY	9,887.000	9,887.000
0076	643.0420	Traffic Control Barricades Type III	DAY	284.000	284.000
0078	643.0705	Traffic Control Warning Lights Type A	DAY	466.000	466.000
0080	643.0715	Traffic Control Warning Lights Type C	DAY	676.000	676.000
0082	643.0800	Traffic Control Arrow Boards	DAY	143.000	143.000
0084	643.0900	Traffic Control Signs	DAY	2,018.000	2,018.000
0086	643.1050	Traffic Control Signs PCMS	DAY	7.000	7.000
0088	643.1205.S	Basic Traffic Queue Warning System	DAY	32.000	32.000
0090	643.3105	Temporary Marking Line Paint 4-Inch	LF	38,600.000	38,600.000
0092	643.4100	Traffic Control Interim Lane Closure	EACH	32.000	32.000
0094	643.5000	Traffic Control	EACH	1.000	1.000
0096	646.4520	Marking Line Same Day Epoxy 4-Inch	LF	38,600.000	38,600.000
0098	646.6464	Cold Weather Marking Epoxy 4-Inch	LF	38,600.000	38,600.000

Estimate Of Quantities

1011-00-70

Line	Item	Item Description	Unit	Total	Qty
0100	650.8000	Construction Staking Resurfacing Reference	LF	15,438.000	15,438.000
0102	650.9911	Construction Staking Supplemental Control (project) 01. 1011-00-70	EACH	1.000	1.000
0104	690.0250	Sawing Concrete	LF	396.000	396.000
0106	740.0440	Incentive IRI Ride	DOL	5,848.000	5,848.000
0108	ASP.1T0A	On-the-Job Training Apprentice at \$5.00/HR	HRS	200.000	200.000
0110	ASP.1T0G	On-the-Job Training Graduate at \$5.00/HR	HRS	200.000	200.000

REMOVING CONCRETE PAVEMENT BUTT JOINTS

			204.0105 REMOVING CONCRETE PAVEMENT BUTT JOINTS	
STATION	-	STATION	LOCATION	SY
1596+00	-	1597+00	IH 39	670
1749+38	-	1750+38	IH 39	670
1749+14	-	1750+00	MEDIAN SHOULDER	70
PROJECT TOTALS				1,410

REMOVING GUARDRAIL

			204.0165 REMOVING GUARDRAIL	
STATION	-	STATION	OFFSET	LF
1651+45	-	1652+18	LT	74
1737+79	-	1740+65	RT	286
PROJECT TOTALS				360

REMOVING ASPHALTIC LONGITUDINAL NOTCHED WEDGE JOINT MILLING

				204.0126.S REMOVING ASPHALTIC LONGITUDINAL NOTCHED WEDGE JOINT MILLING
STATION	-	STATION	LOCATION	LF
1596+00	-	1750+38	IH 39, MAINLINE	30,876
PROJECT TOTALS				30,876

BASE AGGREGATE DENSE

			305.0110 BASE AGGREGATE DENSE 3/4-INCH	624.0100 WATER	
STATION	-	STATION	LOCATION	TON	MGAL
1596+00	-	1651+44	IH 39, SHOULDER	258	3.9
1651+44	-	1655+04	IH 39, GUARDRAIL AREA SHOULDER	72	1.1
1655+04	-	1737+79	IH 39, SHOULDER	385	5.8
1737+79	-	1741+15	IH 39, GUARDRAIL AREA SHOULDER	67	1.1
1741+15	-	1750+38	IH 39, SHOULDER	43	0.7
			UNDISTRIBUTED	124	1.9
PROJECT TOTALS				948	15

BASE PATCHING CONCRETE SHES

		390.0403 BASE PATCHING CONCRETE SHES	416.0610 DRILLED TIE BARS EACH	416.0620 DRILLED DOWEL BARS EACH	690.0250 SAWING CONCRETE LF
STATION	-	STATION	LOCATION	SY	LF
			IH 39, MAINLINE	120	72
				144	396
PROJECT TOTALS				120	72
				144	396

ASPHALTIC ITEMS

STATION	-	STATION	LOCATION	450.4000 HMA COLD WEATHER PAVING TON	455.0605 TACK COAT GAL	460.7424 HMA PAVEMENT 4 HT 58-28 H TON	460.8624 HMA PAVEMENT 4 SMA 58-28 V TON	460.0105.S HMA PWL TEST STRIP VOLUMETRICS EACH	460.0110.S HMA PWL TEST STRIP DENSITY EACH	460.0115.S HMA PAVEMENT TEST STRIP VOLUMETRICS EACH	460.0120.S HMA PAVEMENT TEST STRIP DENSITY EACH	460.9000.S MATERIAL TRANSFER VEHICLE EACH	NOTES
1596+00	-	1598+00	IH 39, BUTT JOINT LOCATION	40	100	40	150	--	--	--	--	--	
1598+00	-	1748+38	IH 39, MAINLINE	2,600	7,230	6,740	6,740	--	--	--	--	--	
1598+00	-	1748+38	IH 39, SHOULDER, LT	730	2,010	1,880	1,880	--	--	--	--	--	
1598+00	-	1748+38	IH 39, SHOULDER, RT	890	2,810	1,970	2,620	--	--	--	--	--	
1748+38	-	1750+38	IH 39, BUTT JOINT LOCATION	40	100	40	150	--	--	--	--	--	
PROJECT LIMITS			TEST STRIP	--	--	--	--	1	--	--	--	--	ONE PER HMA MIX TYPE
PROJECT LIMITS			TEST STRIP	--	--	--	--	--	1	--	--	--	ONE PER MAT OF HMA
PROJECT LIMITS			TEST STRIP	--	--	--	--	--	--	1	1	--	ONE PER SMA MIX TYPE
PROJECT LIMITS			IH 39	--	--	--	--	--	--	--	--	1	
PROJECT TOTALS				4,300	12,250	10,670	11,540	1	1	1	1	1	

PWL MIXTURE USE TABLE

STATION	LOCATION	MIXTURE USE	UNDERLYING SURFACE	BID ITEM	TONS	THICKNESS	QUALITY MANAGEMENT PROGRAM TO BE USED FOR:	
							DENSITY ACCEPTANCE	MIXTURE ACCEPTANCE
1596+00 - 1750+38	IH 39, MAINLINE	UPPER LAYER	4 HT 58-28 H	4 SMA 59-28 V	7,040	2"	INCENTIVE DENSITY PWL HMA PAVEMENT 460.2005	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010
1596+00 - 1750+38	IH 39, SHOULDERS	UPPER LAYER	4 HT 58-28 H	4 SMA 59-28 V	4,500	2"	ACCEPTANCE TESTING BY THE DEPARTMENT; NOT ELIGIBLE FOR INCENTIVE	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010
1596+00 - 1750+38	IH 39, MAINLINE	LOWER LAYER	CONCRETE PAVEMENT	4 HT 58-28 H	6,820	2"	INCENTIVE DENSITY PWL HMA PAVEMENT 460.2005	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010
1596+00 - 1750+38	IH 39, SHOULDERS	LOWER LAYER	CONCRETE PAVEMENT	4 HT 58-28 H	3,850	2"	ACCEPTANCE TESTING BY THE DEPARTMENT; NOT ELIGIBLE FOR INCENTIVE	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010

ADJUSTING INLET COVERS

611.8115
ADJUSTING
INLET
COVERS
EACH

STATION	OFFSET	EACH
1596+51	RT	1
1635+49	RT	1
1640+19	RT	1
1644+51	RT	1
1653+00	RT	1
1656+15	RT	1
1659+02	RT	1
1662+00	RT	1
1665+19	RT	1
1668+00	RT	1
1671+00	RT	1
1674+19	RT	1
1678+00	RT	1
1682+20	RT	1
1685+00	RT	1
1688+00	RT	1
1692+16	RT	1
1695+00	RT	1
1698+00	RT	1
1701+13	RT	1
1705+00	RT	1
1709+17	RT	1
1712+00	RT	1
1715+00	RT	1
1718+76	RT	1
1722+00	RT	1
1726+14	RT	1
1728+17	RT	1
1730+00	RT	1
1734+00	RT	1
1736+80	RT	1
1740+00	RT	1
1743+00	RT	1
1745+18	RT	1
1748+75	RT	1

PROJECT TOTALS 35

NOTE: CONTRACTOR TO USE STEEL ADJUSTING RING TO ADJUST INLET.

ASPHALTIC RUMBLE STRIPS

465.0425
ASPHALTIC
SHOULDER
RUMBLE STRIPS

STATION	-	STATION	LOCATION	LF
1596+00	-	1750+38	LT	15,440
1596+00	-	1750+38	RT	15,440
PROJECT TOTALS				30,880

GUARDRAIL

		614.0010 BARRIER SYSTEM GRADING SHAPING FINISHING	614.2300 MGS GUARDRAIL 3	614.2500 MGS THRIE BEAM TRANSITION	614.2610 MGS GUARDRAIL TERMINAL EAT		
STATION	-	STATION	OFFSET	EACH	LF	LF	EACH
1651+44	-	1653+99	LT	1	---	---	---
1651+44	-	1651+84	LT	---	---	39.4	---
1651+84	-	1653+46	LT	---	162.5	---	---
1653+46	-	1653+99	LT	---	---	---	1
1737+79	-	1740+59	LT	1	---	---	---
1737+79	-	1738+19	LT	---	---	39.4	---
1738+19	-	1740+06	LT	---	187.5	---	---
1740+06	-	1740+59	LT	---	---	---	1
PROJECT TOTALS				2	350.0	78.8	2

BARRIER SYSTEM GRADING SHAPING FINISHING, ITEM 614.0010 *

STATION	-	STATION	LOCATION	BORROW CY	SALVAGED TOPSOIL SY	FERTILIZER TYPE A CWT	SEEDING MIXTURE NO. 70A LB	SEEDING NURSE CROP LB	SEED WATER MGAL	EROSION MAT CLASS II TYPE B SY	CONSTRUCTION STAKNG SLOPE STAKES LF
1651+44	-	1655+04	LT	120	413	1	2	3	9	413	360
1737+79	-	1741+60	LT	30	313	1	1	2	7	313	381
PROJECT TOTALS				150	726	2	3	5	16	726	741

* ITEMS AND QUANTITIES IN THIS TABLE LISTED FOR BID INFORMATION ONLY

EROSION CONTROL MOBILIZATION

PROJECT	628.1905	628.1910
	MOBILIZATIONS EROSION CONTROL EACH	MOBILIZATION EMERGENCY EROSION CONTROL EACH
IH 39	2	2
PROJECT TOTALS	2	2

EROSION CONTROL

STATION		STATION	OFFSET	628.1504	628.1520	628.7504
				SILT FENCE LF	SILT FENCE MAINTENANCE LF	TEMPORARY DITCH CHECKS LF
1652+65	-	1655+00	LT	242	242	--
1654+75	-	1654+75	LT	--	--	18
1741+00	-	1741+75	LT	76	76	--
1741+25	-	1741+25	LT	--	--	18
PROJECT TOTALS				318	318	36

TRAFFIC CONTROL - DRUMS, BARRICADES, WARNING LIGHTS, ARROW BOARDS, AND SIGNS

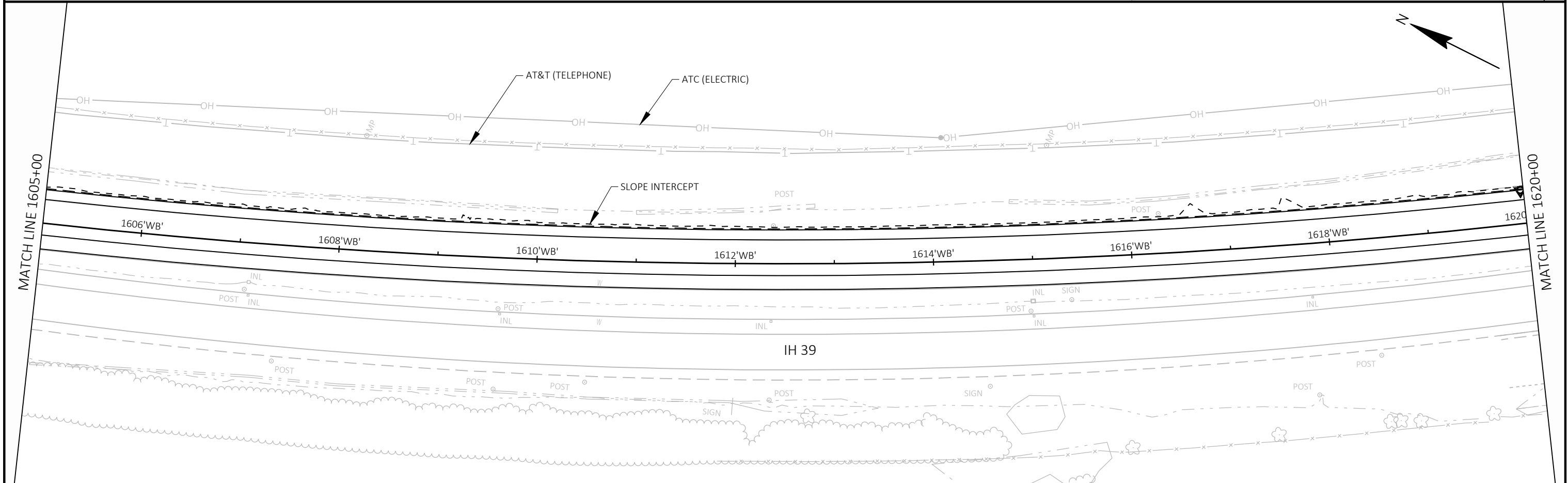
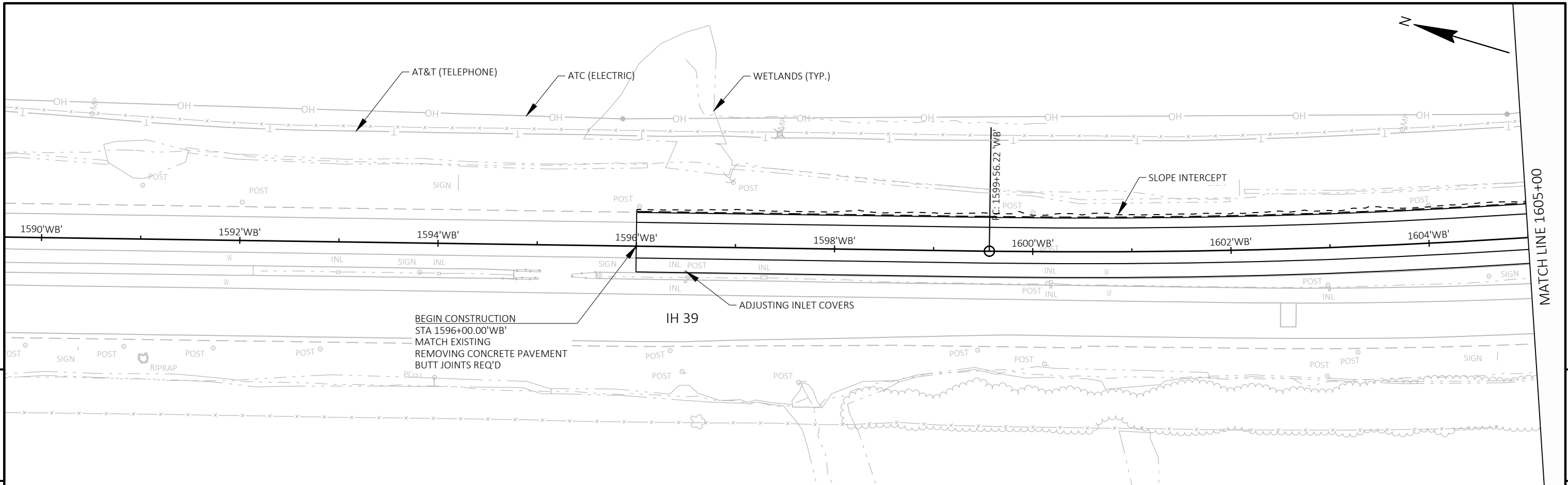
ROADWAY	DAYS IN SERVICE	643.0300		643.0420		643.0705		643.0715		643.0800		643.0900		643.1050		643.1205.S	643.4100
		TRAFFIC CONTROL DRUMS NO.	(DAY)	TRAFFIC CONTROL BARRICADES TYPE III NO.	(DAY)	TRAFFIC CONTROL WARNING LIGHTS TYPE A NO.	(DAY)	TRAFFIC CONTROL WARNING LIGHTS TYPE C NO.	(DAY)	TRAFFIC CONTROL ARROW BOARDS NO.	(DAY)	TRAFFIC CONTROL SIGNS NO.	(DAY)	TRAFFIC CONTROL PCMS NO.	(DAY)	TRAFFIC QUEUE WARNING SYSTEM (DAYS)	TRAFFIC CONTROL INTERIM LANE CLOSURE (EACH)
IH 39 PRE WARNING																	
WB	7	5	35	--	--	--	--	--	--	--	--	--	--	1	7	--	--
												PCMS MESSAGE: ROAD WORK BEGINS XXXDAY X/X/XX					
IH 39 - STAGE 1A																	
DOUBLE LANE CLOSURE	4	200	800	7	28	8	32	26	104	3	12	33	132	--	--	4	4
SHOULDER CLOSURE	12	55	660	--	--	--	--	--	--	1	12	16	192	--	--	--	--
IH 39 - STAGE 1B																	
DOUBLE LANE CLOSURE	6	185	1,110	5	30	6	36	26	156	3	18	31	186	--	--	6	6
SHOULDER CLOSURE	15	40	600	--	--	--	--	--	--	1	15	16	240	--	--	--	--
IH 39 - STAGE 2A																	
DOUBLE LANE CLOSURE	4	200	800	7	28	8	32	26	104	3	12	33	132	--	--	4	4
SINGLE LANE CLOSURE	4	276	1,104	14	56	28	112	13	52	2	8	37	148	--	--	4	4
SHOULDER CLOSURE	12	55	660	--	--	--	--	--	--	1	12	16	192	--	--	--	--
IH 39 - STAGE 2B																	
DOUBLE LANE CLOSURE	6	185	1,110	5	30	5	30	26	156	3	18	30	180	--	--	6	6
SINGLE LANE CLOSURE	8	276	2,208	14	112	28	224	13	104	2	16	37	296	--	--	8	8
SHOULDER CLOSURE	20	40	800	--	--	--	--	--	--	1	20	16	320	--	--	--	--
PROJECT TOTALS		9,887		284		466		676		143		2,018		7		32	32

PAVEMENT MARKING ITEMS

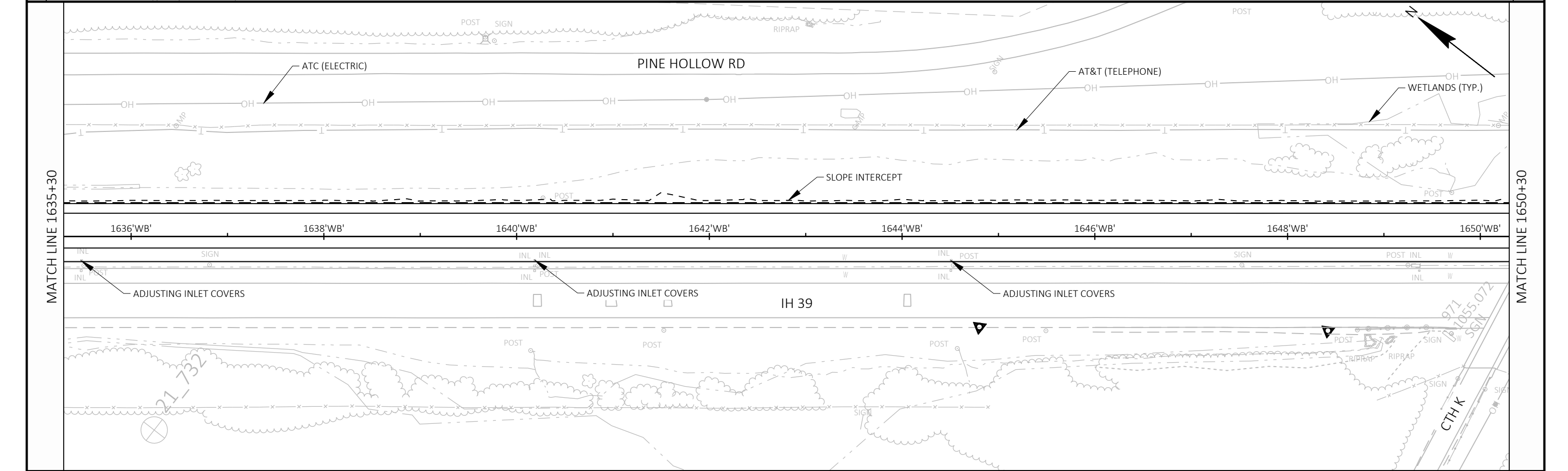
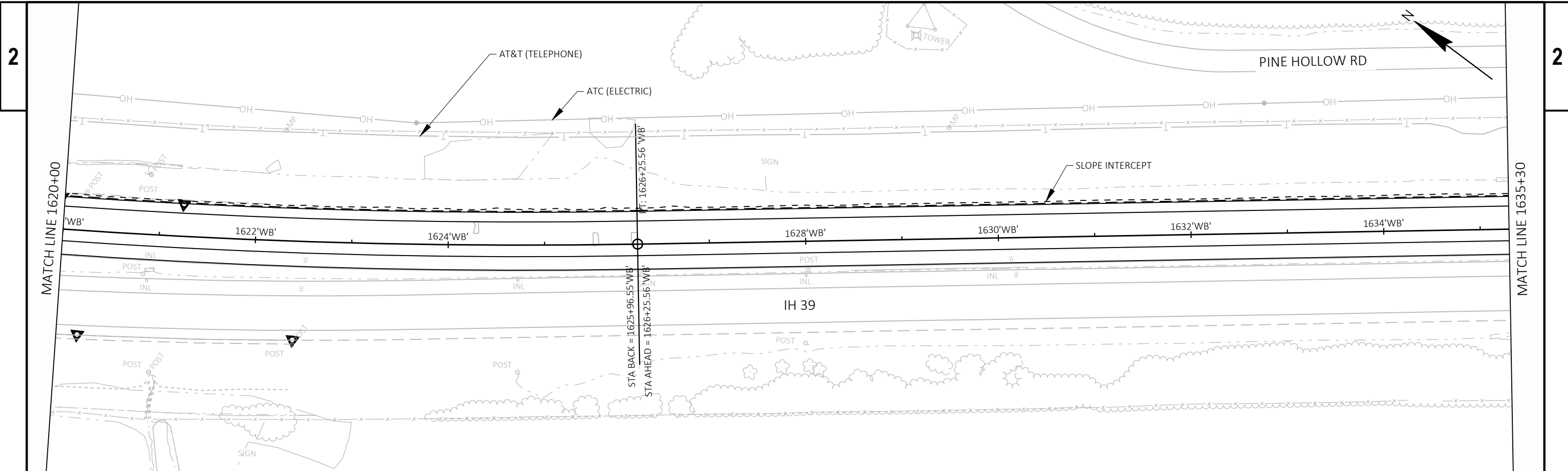
STATION - STATION	TYPE	643.3105 TEMPORARY MARKING LINE PAINT 4-INCH		646.4520 MARKING LINE SAME DAY EPOXY 4-INCH		646.6464 COLD WEATHER MARKING EPOXY 4-INCH	
		YELLOW	WHITE	YELLOW	WHITE	YELLOW	WHITE
		LF		LF		LF	
1596+00 - 1750+38	EDGE LINE (SOLID)	15,440	15,440	15,440	15,440	15,440	15,440
1596+00 - 1750+38	CENTERLINE (DASHED)	---	7,720	---	7,720	---	7,720
PROJECT TOTALS		38,600		38,600		38,600	

CONSTRUCTION STAKING

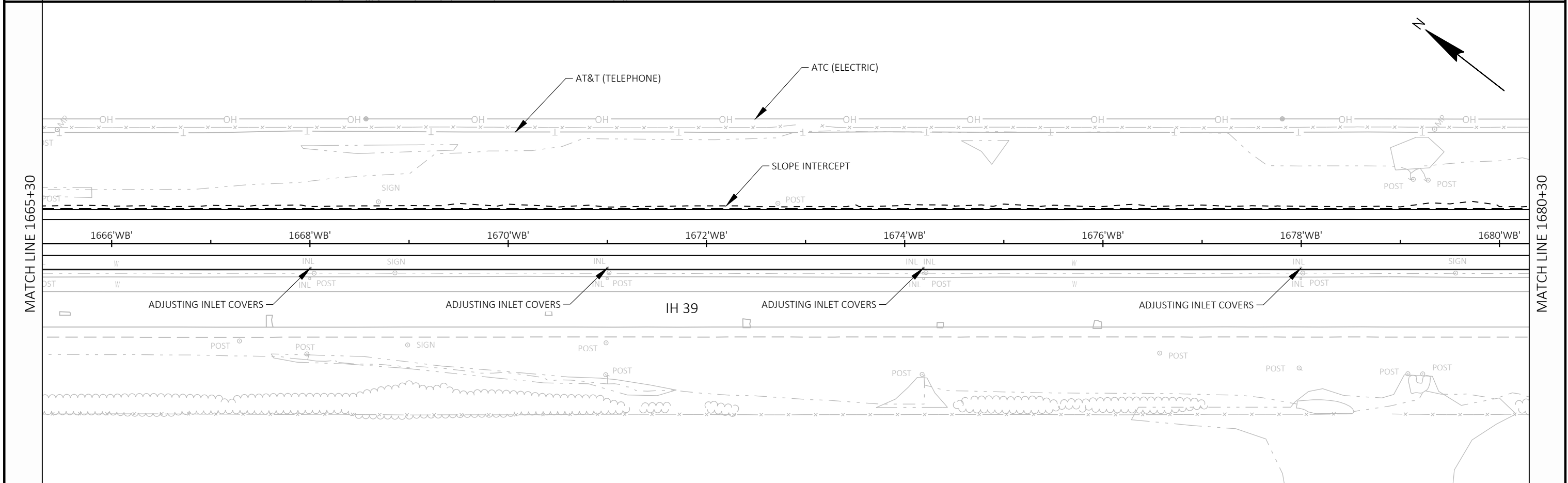
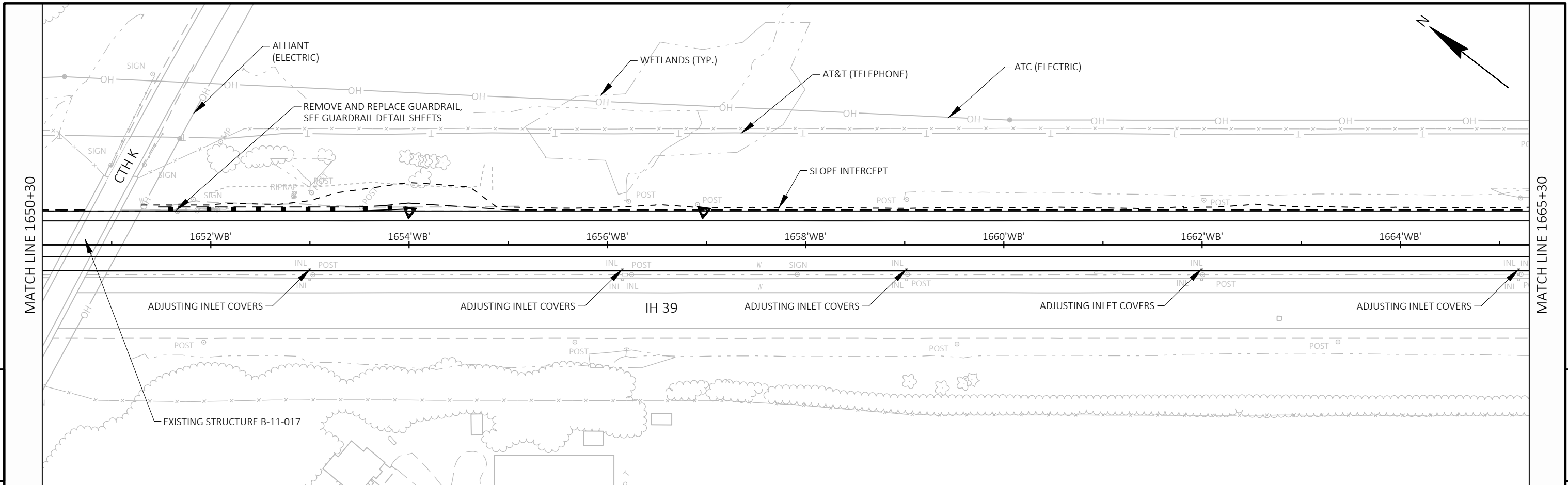
STATION - STATION	LOCATION	650.8000	650.9911
		CONSTRUCTION STAKING RESURFACING REFERENCE LF	CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (PROJECT) EACH
1596+00 - 1750+38	IH 39	15,438	---
PROJECT TOTALS		15,438	1



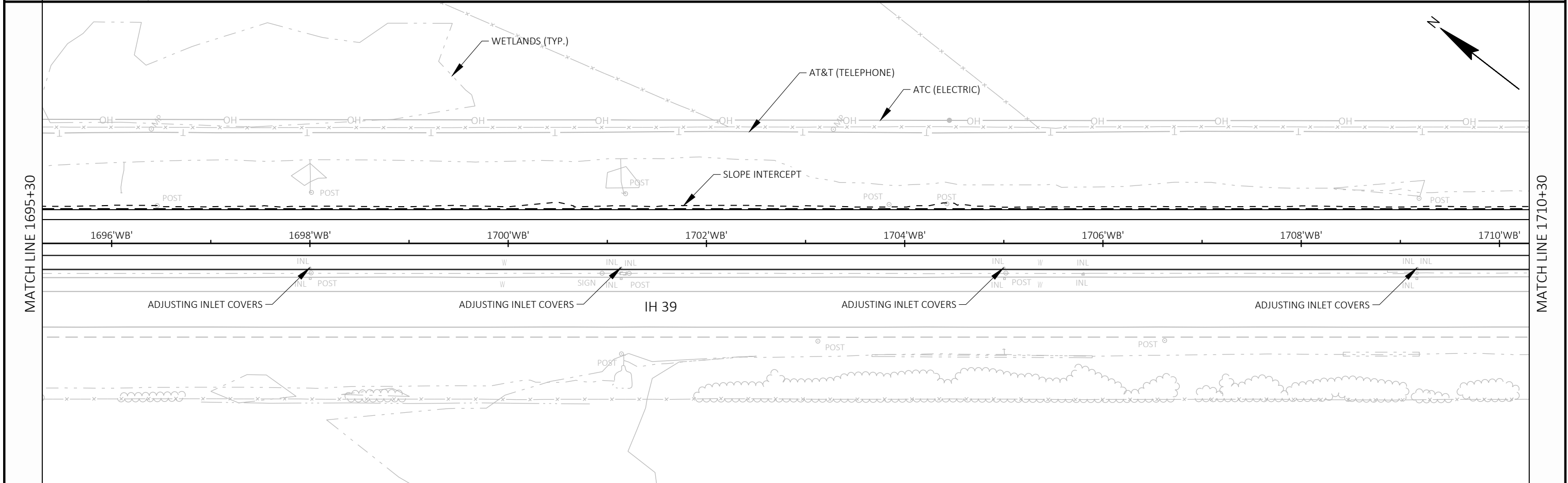
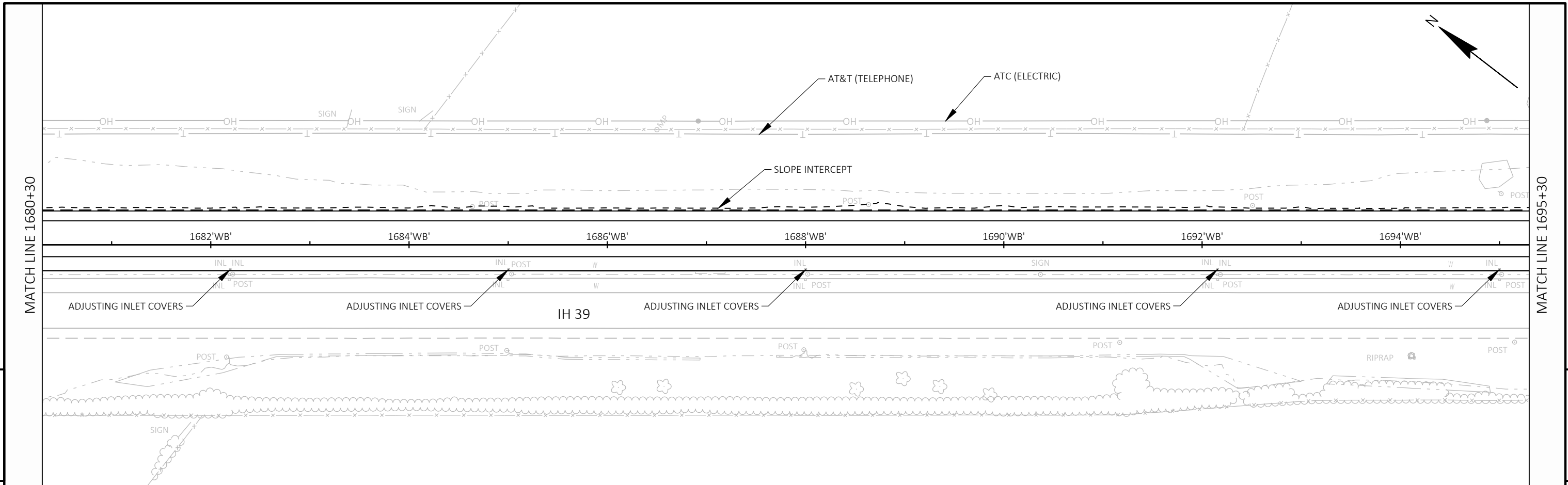
PROJECT NO: 1011-00-70	HWY: IH 39	COUNTY: COLUMBIA	PLAN SHEETS	SHEET	E
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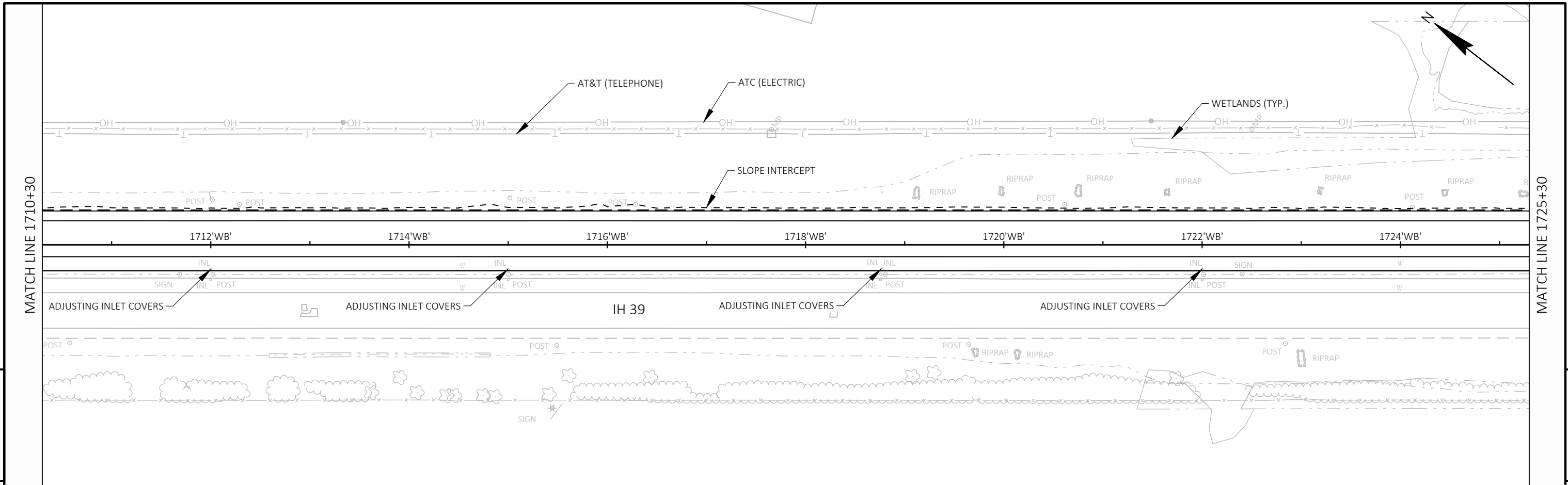
PROJECT NO: 1011-00-70	HWY: IH 39	COUNTY: COLUMBIA	PLAN SHEETS	SHEET	E
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PROJECT NO: 1011-00-70	HWY: IH 39	COUNTY: COLUMBIA	PLAN SHEETS	SHEET	E
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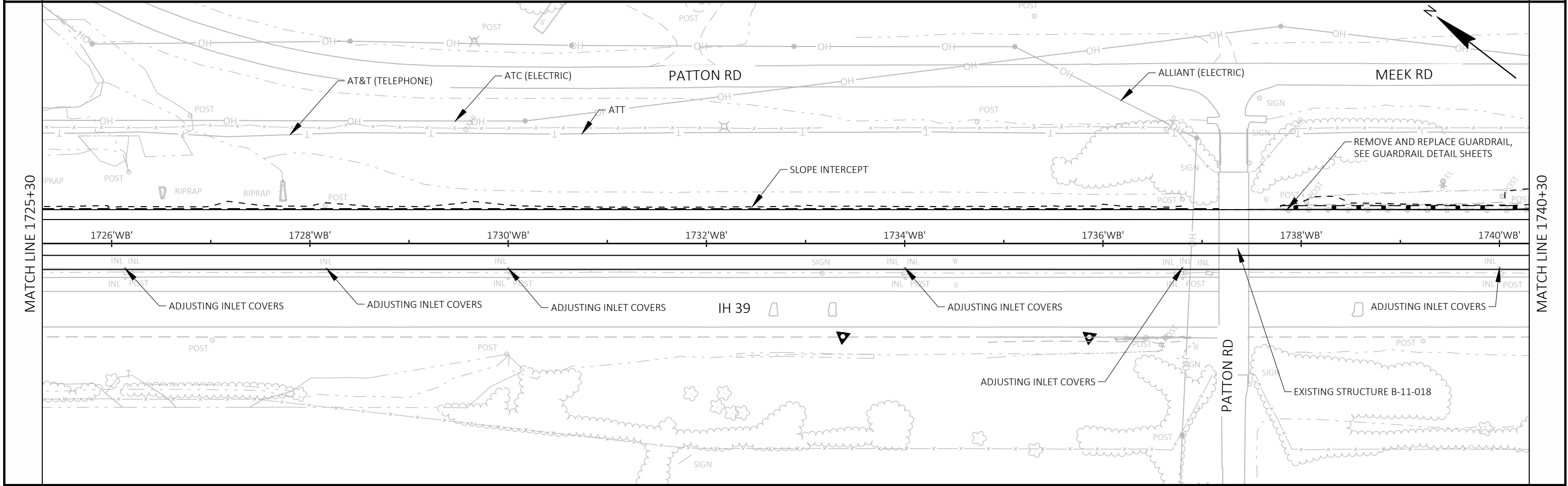


PROJECT NO: 1011-00-70	HWY: IH 39	COUNTY: COLUMBIA	PLAN SHEETS	SHEET	E
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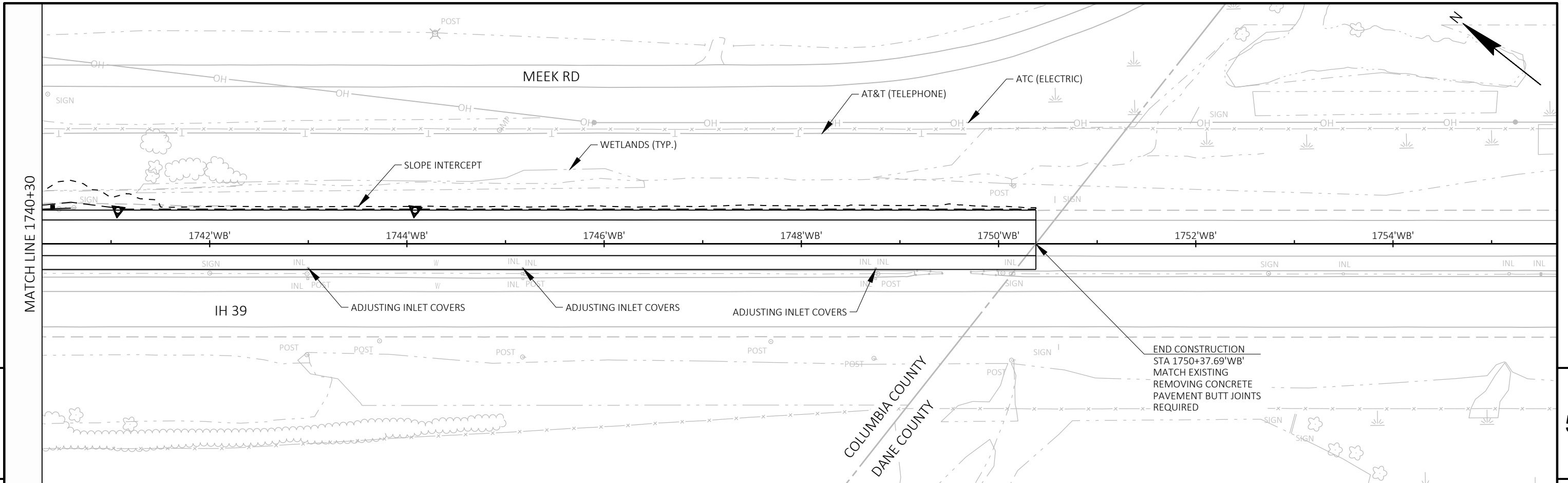


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PROJECT NO: 1011-00-70	HWY: IH 39	COUNTY: COLUMBIA	PLAN SHEETS	SHEET	E
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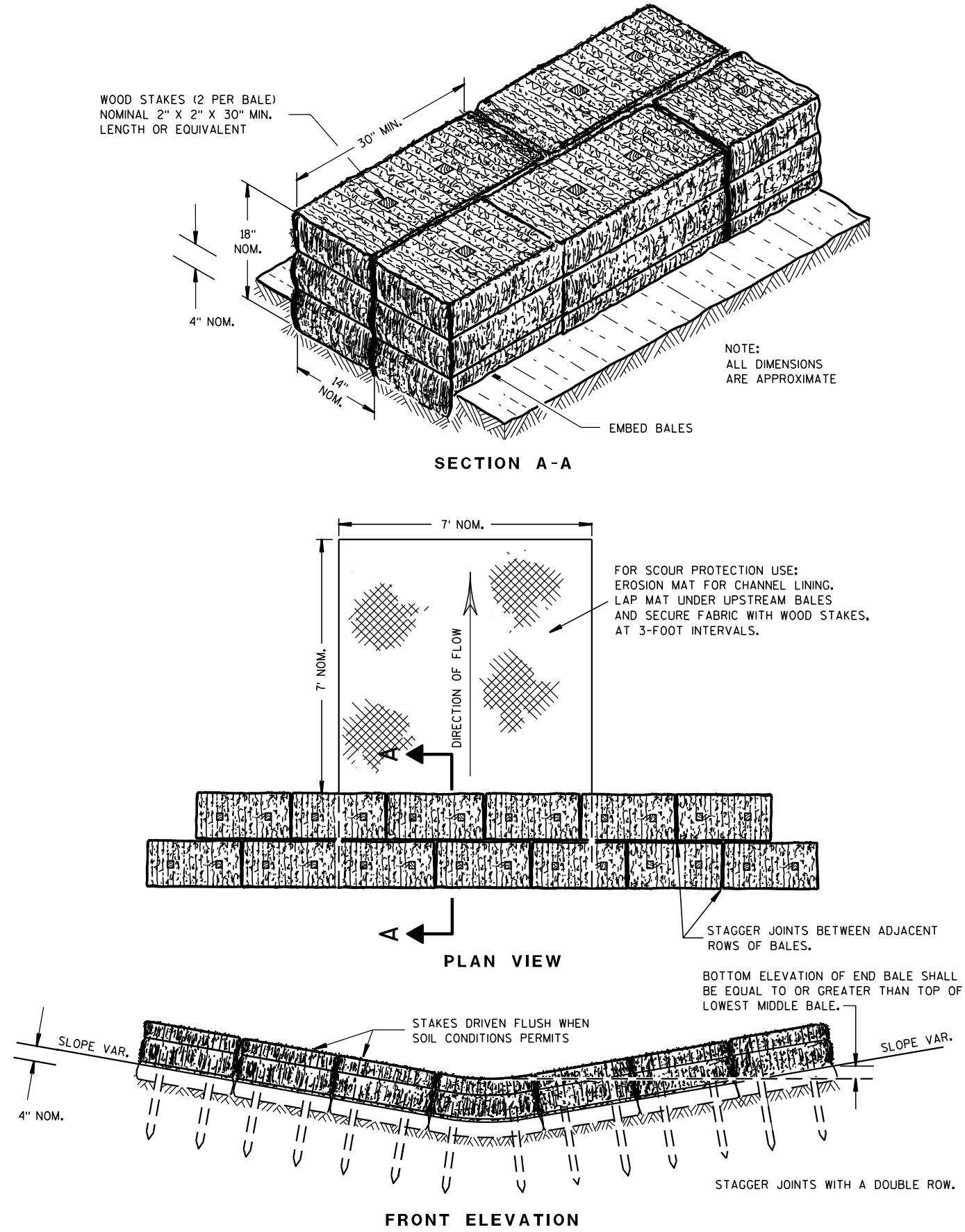
5

5

PROJECT NO: 1011-00-70	HWY: IH 39	COUNTY: COLUMBIA	PLAN SHEETS	SHEET	E
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Standard Detail Drawing List

08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
13A05-05A	SHOULDER RUMBLE STRIP, MILLING
13A05-05B	SHOULDER RUMBLE STRIP, MILLING
13C01-19	CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES
13C11-14B	RURAL DOWELED CONCRETE PAVEMENT
13C14-07A	BASE PATCHING CONCRETE
13C14-07B	BASE PATCHING CONCRETE
13C14-07C	BASE PATCHING CONCRETE
13C19-03	HMA LONGITUDINAL JOINTS
14B42-07A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07D	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B44-04A	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-04B	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-04C	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B45-05A	MIDWEST GUARDRAIL SYSTEM THREE BEAM TRANSITION (MGS)
14B45-05B	MIDWEST GUARDRAIL SYSTEM THREE BEAM TRANSITION (MGS)
14B45-05C	MIDWEST GUARDRAIL SYSTEM THREE BEAM TRANSITION (MGS)
14B45-05D	MIDWEST GUARDRAIL SYSTEM THREE BEAM TRANSITION (MGS)
14B45-05E	MIDWEST GUARDRAIL SYSTEM THREE BEAM TRANSITION (MGS)
14B45-05F	MIDWEST GUARDRAIL SYSTEM THREE BEAM TRANSITION (MGS)
14B45-05G	MIDWEST GUARDRAIL SYSTEM THREE BEAM TRANSITION (MGS)
14B45-05H	MIDWEST GUARDRAIL SYSTEM THREE BEAM TRANSITION (MGS)
14B45-05I	MIDWEST GUARDRAIL SYSTEM THREE BEAM TRANSITION (MGS)
14B45-05J	MIDWEST GUARDRAIL SYSTEM THREE BEAM TRANSITION (MGS)
14B45-05K	MIDWEST GUARDRAIL SYSTEM THREE BEAM TRANSITION (MGS)
14B45-05L	MIDWEST GUARDRAIL SYSTEM THREE BEAM TRANSITION (MGS)
15C08-22B	TEMPORARY LONGITUDINAL PAVEMENT MARKING
15C11-10B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS
15D12-10A	TRAFFIC CONTROL, LANE CLOSURE
15D12-10B	TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION
15D12-10D	TRAFFIC CONTROL, LANE CLOSURE, BASIC TRAFFIC QUEUE WARNING SYSTEM
15D14-05	TRAFFIC CONTROL, TWO LANE CLOSURE ON FREEWAY OR EXPRESSWAY, SHORT-TERM (LESS THAN 24 HOURS)
15D27-03	TRAFFIC CONTROL, SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH
15D39-02	TRAFFIC CONTROL, DROP-OFF SIGNING
15D47-02B	TRAFFIC CONTROL, INGRESS/EGRESS WITHOUT BARRIER

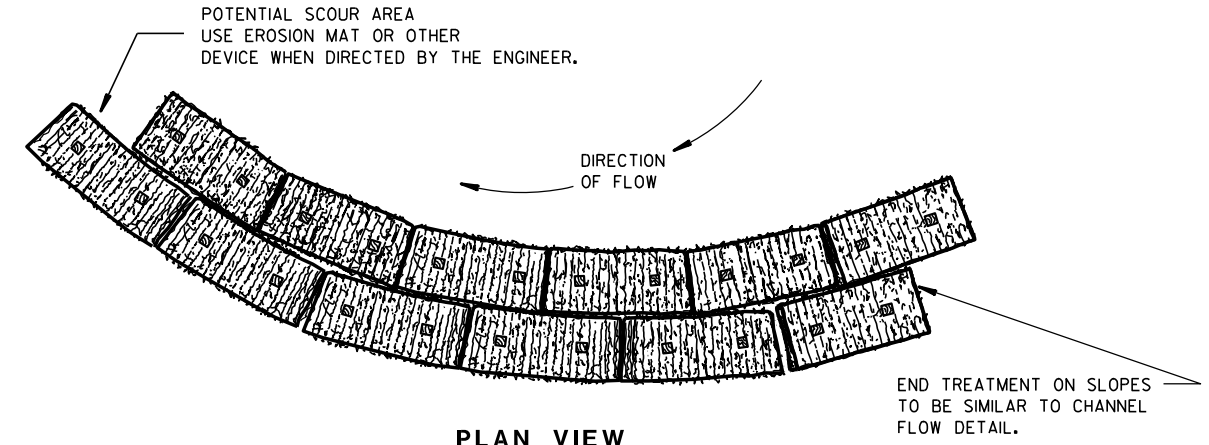


TEMPORARY DITCH CHECK USING EROSION BALES ①

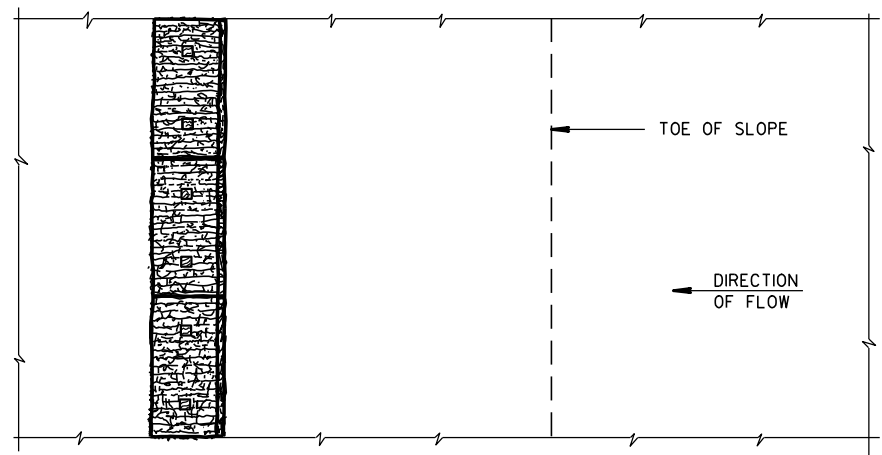
GENERAL NOTES

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

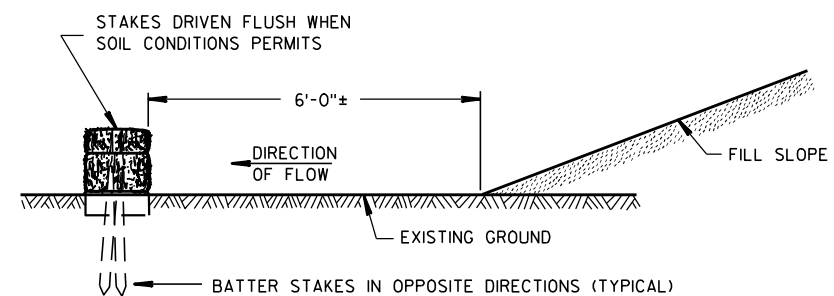
- ① TEMPORARY DITCH CHECKS EITHER EROSION BALES OR MANUFACTURED SHALL BE PAID FOR UNDER THE BID ITEM OF TEMPORARY DITCH CHECK. THE DEPARTMENT WILL NOT PAY FOR TEMPORARY DITCH CHECKS CONSTRUCTED OF A SINGLE ROW OF EROSION BALES.



PLAN VIEW WHEN ALTERING THE DIRECTION OF FLOW



PLAN VIEW

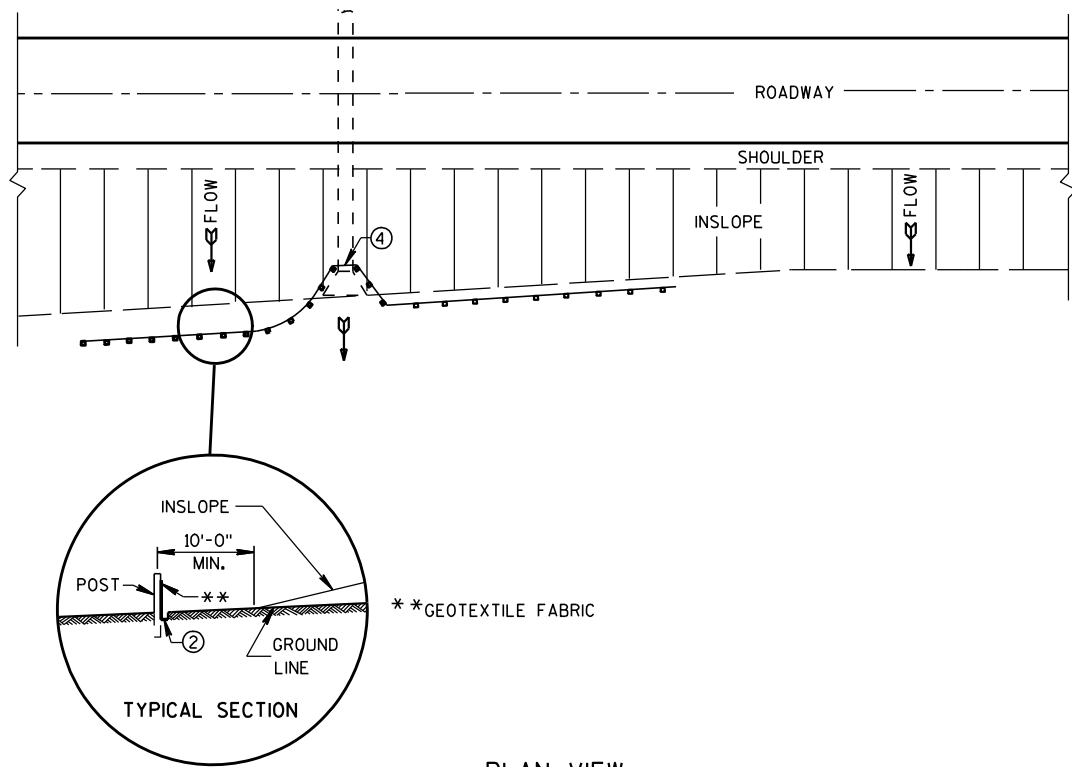


FRONT ELEVATION WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE EROSION BALES FOR SHEET FLOW

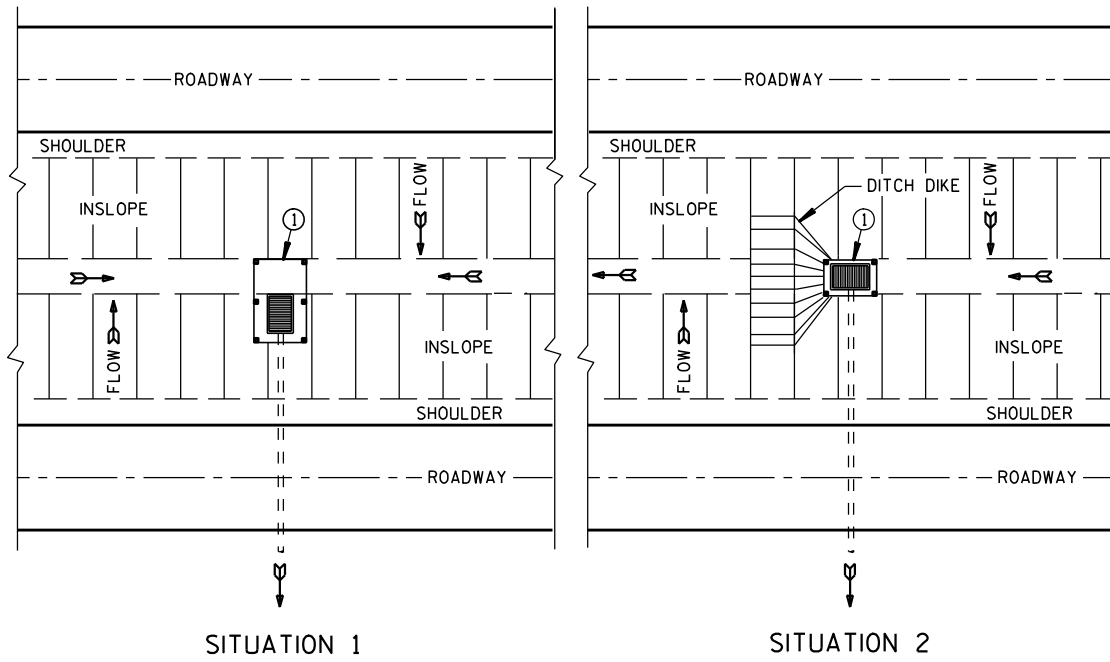
TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

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



PLAN VIEW
TYPICAL APPLICATION OF SILT FENCE

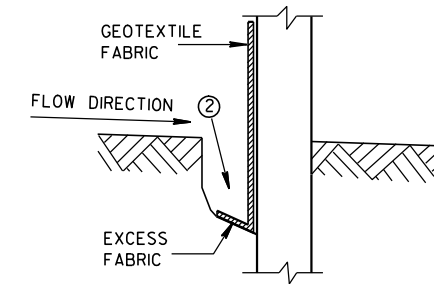


SITUATION 1 SITUATION 2
PLAN VIEW
SILT FENCE AT MEDIAN SURFACE DRAINS

GENERAL NOTES

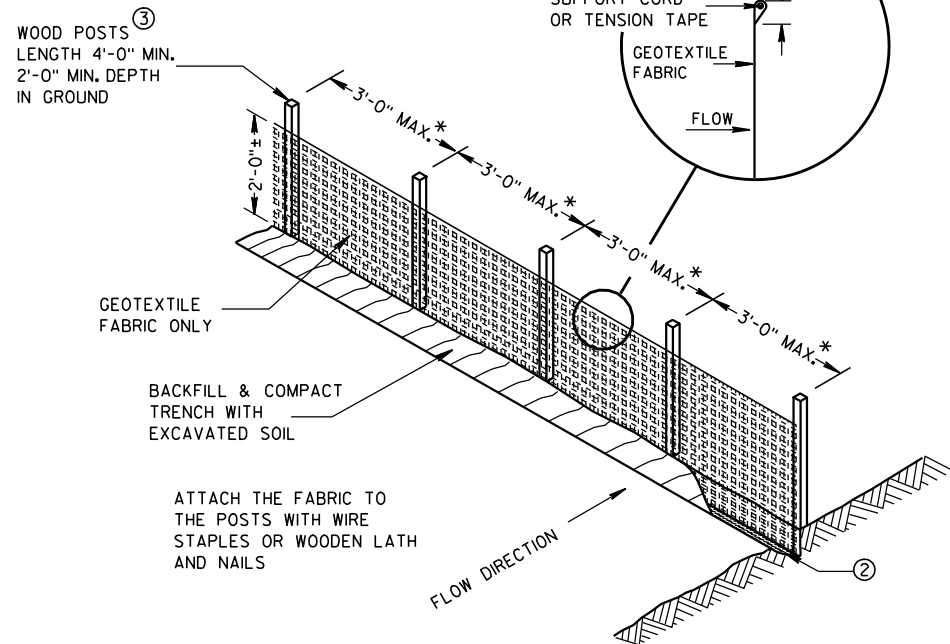
DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

- ① HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
- ② FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
- ③ WOOD POSTS SHALL BE A MINIMUM SIZE OF 1 1/8" X 1 1/8" OF OAK OR HICKORY.
- ④ SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.
- ⑤ CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.



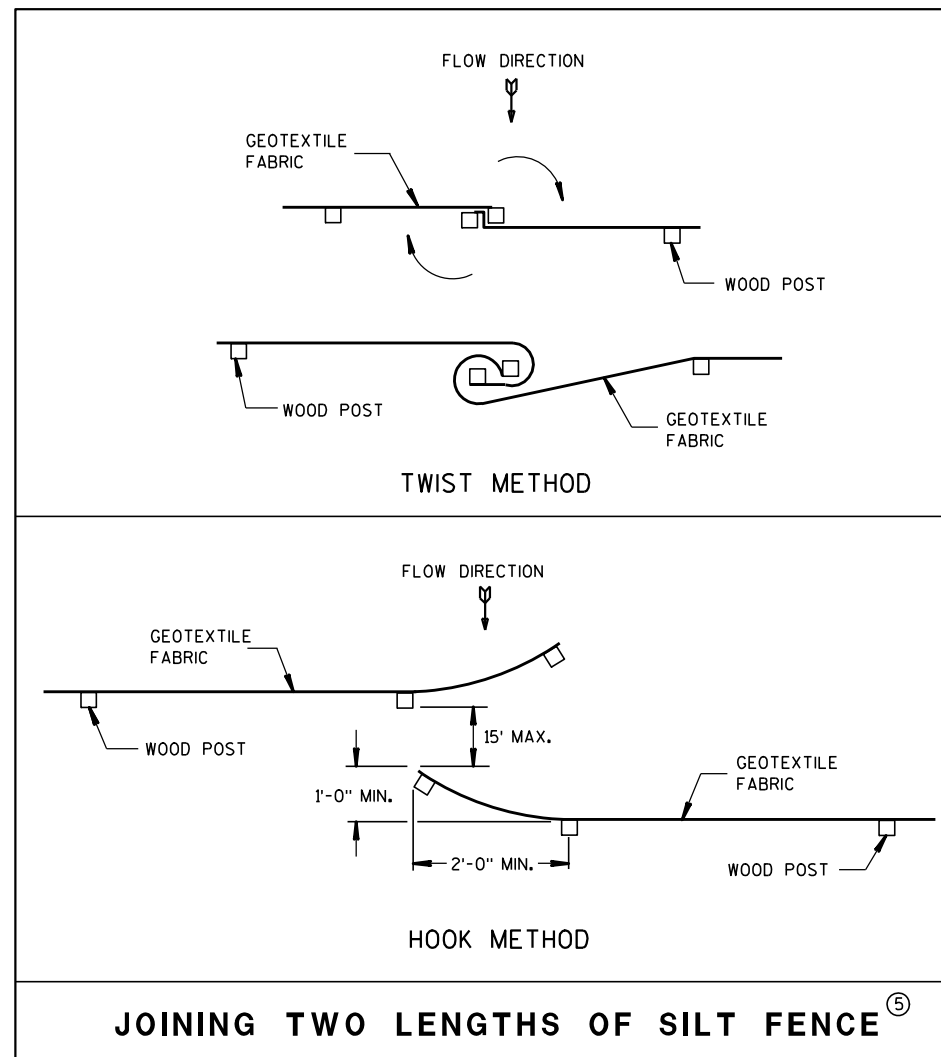
TRENCH DETAIL

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

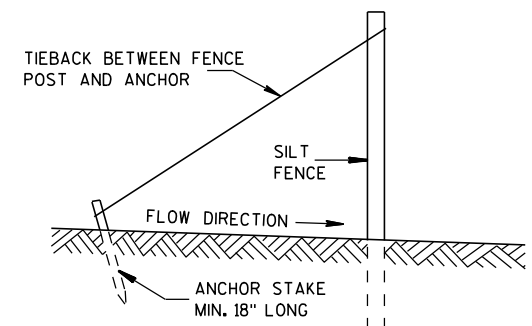


SILT FENCE

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



JOINING TWO LENGTHS OF SILT FENCE ⑤

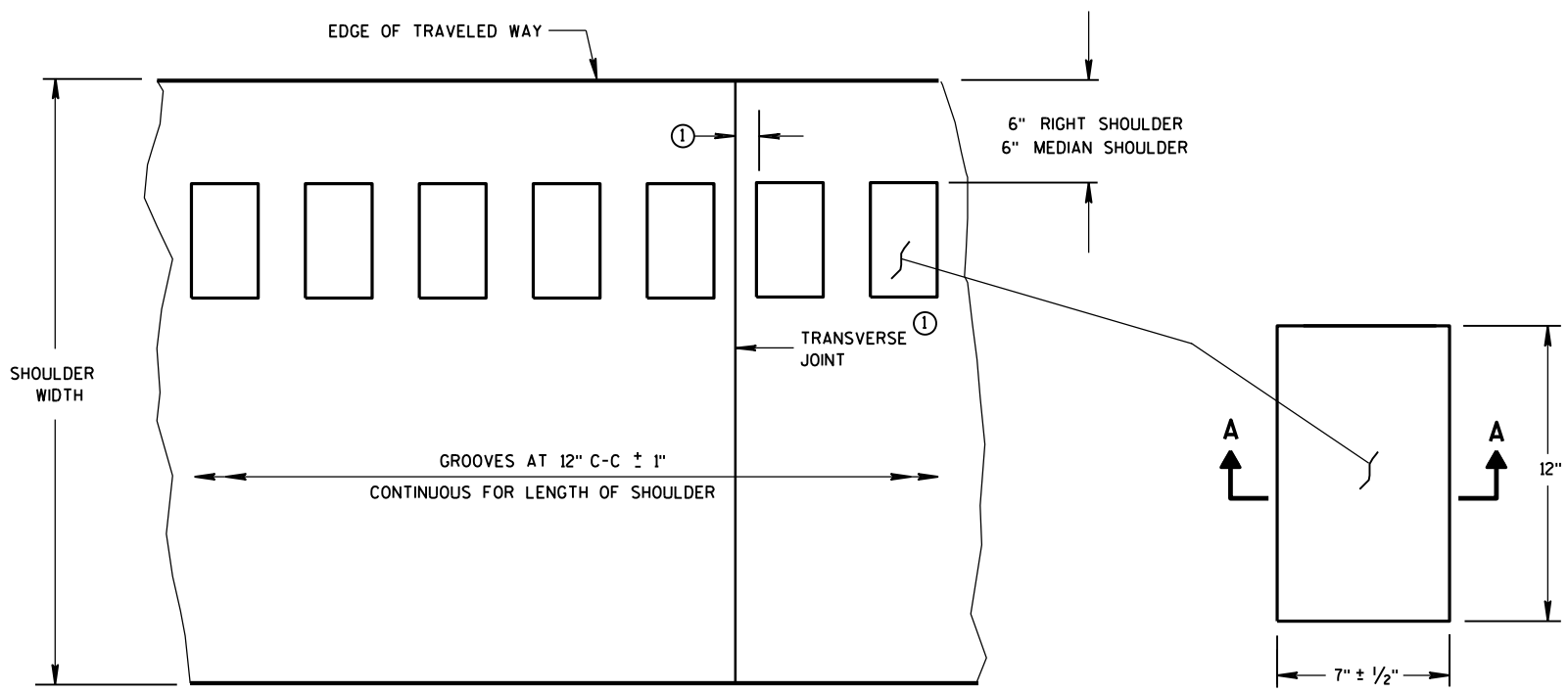


SILT FENCE TIE BACK
(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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



PLAN VIEW
SHOULDER WITH GROOVES

PLAN VIEW
(SINGLE GROOVE)

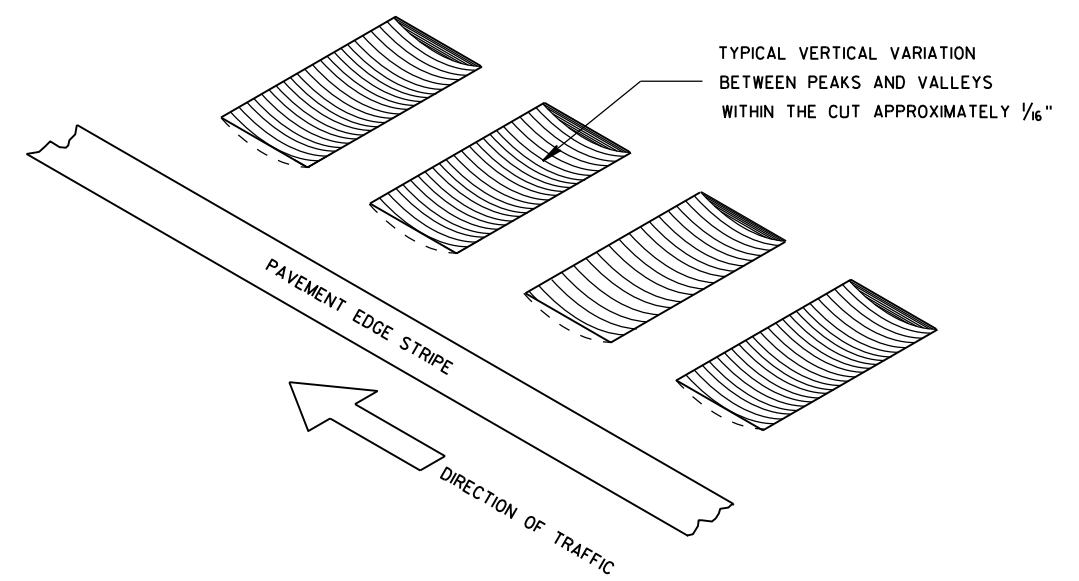
PLACEMENT DETAIL FOR MILLED RUMBLE STRIP

GENERAL NOTES

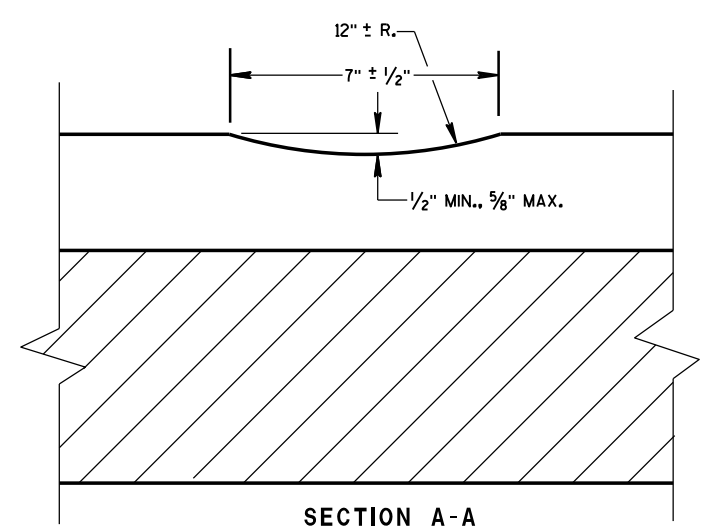
DETAILS OF CONSTRUCTION SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

RUMBLE STRIPS ON EXPRESSWAYS
DO NOT INSTALL RUMBLE STRIPS ACROSS SIDE ROAD INTERSECTIONS, COMMERCIAL DRIVEWAYS, PRIVATE DRIVEWAYS OR ADJACENT TO RIGHT TURN LANES, LEFT TURN LANES, TURN LANE TAPERS, BRIDGE DECKS, BRIDGE APPROACHES, OR 100 FEET IN ADVANCE OF RAILROAD CROSSING. THE ATTACHED STANDARD DETAIL DRAWING SHOWS THE LOCATION OF THE RUMBLE STRIPS AT INTERCHANGE AREAS.

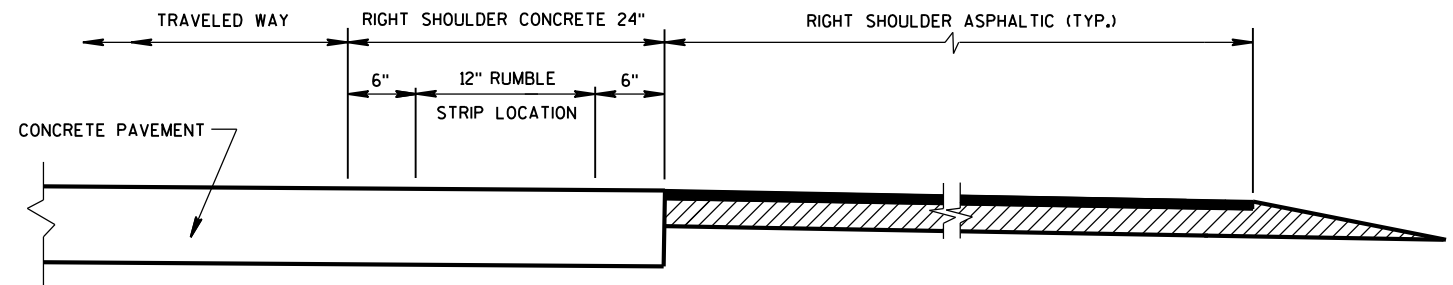
① CONCRETE PAVEMENT - RUMBLE STRIPS SHALL BE A MINIMUM OF 6" AWAY FROM TRANSVERSE JOINTS.



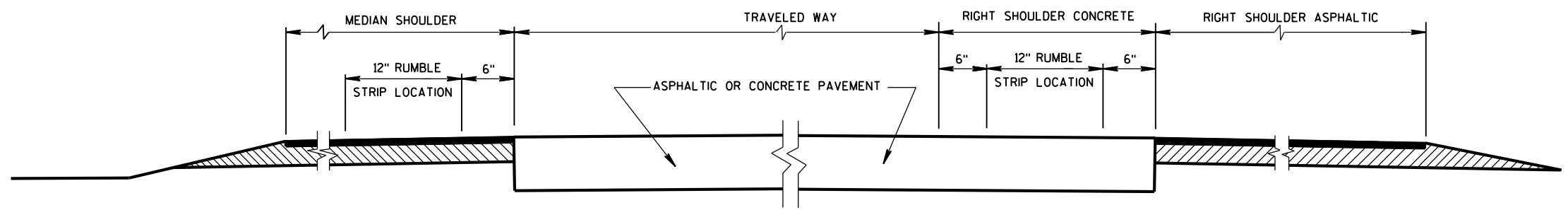
ISOMETRIC



SECTION A-A



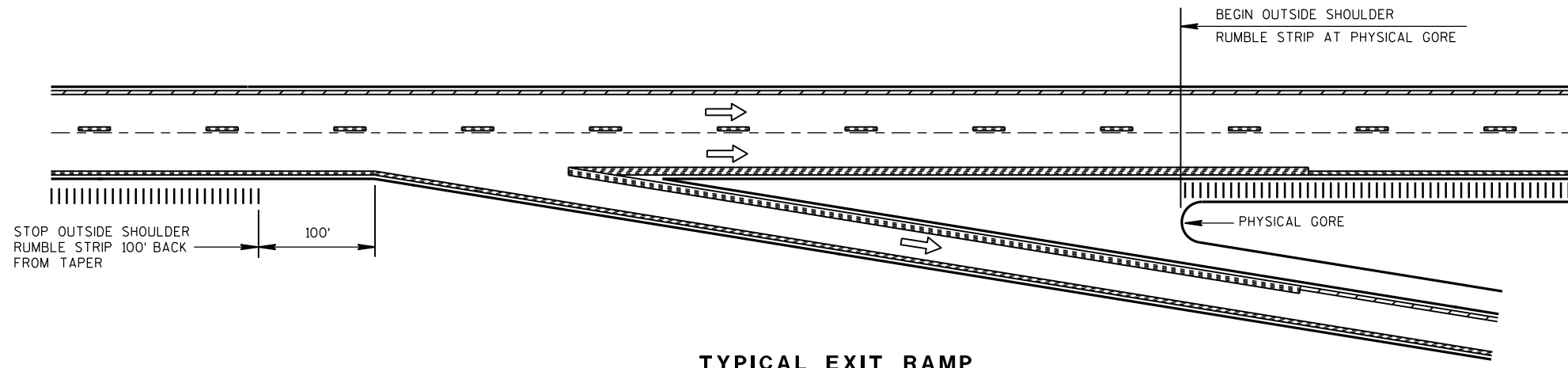
SECTION VIEW
CONCRETE PAVEMENT EXTENDS INTO RIGHT SHOULDER)



SECTION VIEW
TYPICAL LOCATIONS OF SHOULDER RUMBLE STRIPS
IN RURAL DIVIDED HIGHWAYS
(ONE ROADWAY IS SHOWN)

SHOULDER RUMBLE STRIP,
MILLING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

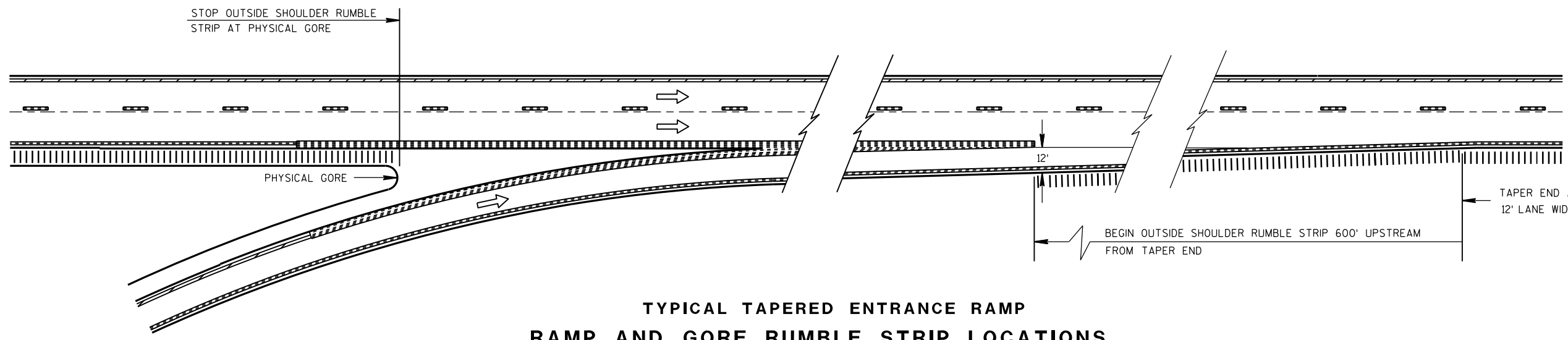


TYPICAL EXIT RAMP

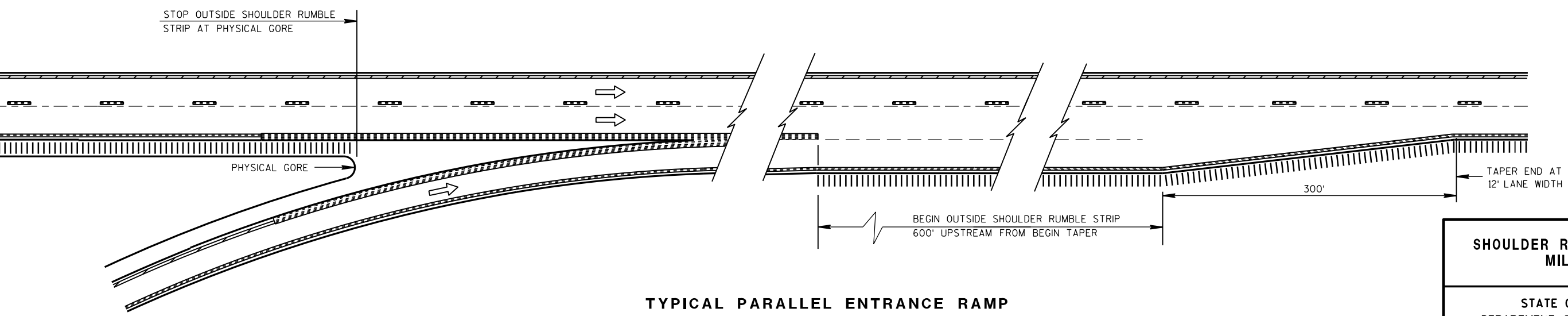
NOTES:

NO RUMBLE STRIP ON EXIT, DIRECTIONAL, OR ENTRANCE RAMP, EXCEPT NEAR THE ENTRANCE TAPER END AND ALONG THE PARALLEL RAMP AREA AS SHOWN.
 PAVEMENT MARKING DETAILS AND SPECIFICATIONS ARE PROVIDED ELSEWHERE IN THE CONTRACT.

NOTE:
 ARROW SYMBOL (→) SHOWS DIRECTION OF TRAVEL



TYPICAL TAPERED ENTRANCE RAMP
 RAMP AND GORE RUMBLE STRIP LOCATIONS



TYPICAL PARALLEL ENTRANCE RAMP
 RAMP AND GORE RUMBLE STRIP LOCATIONS

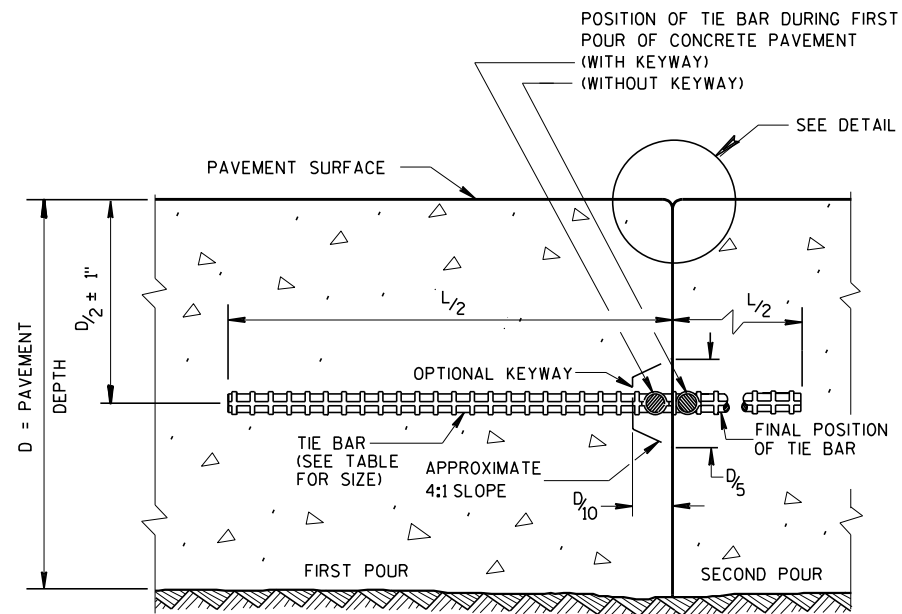
6

6

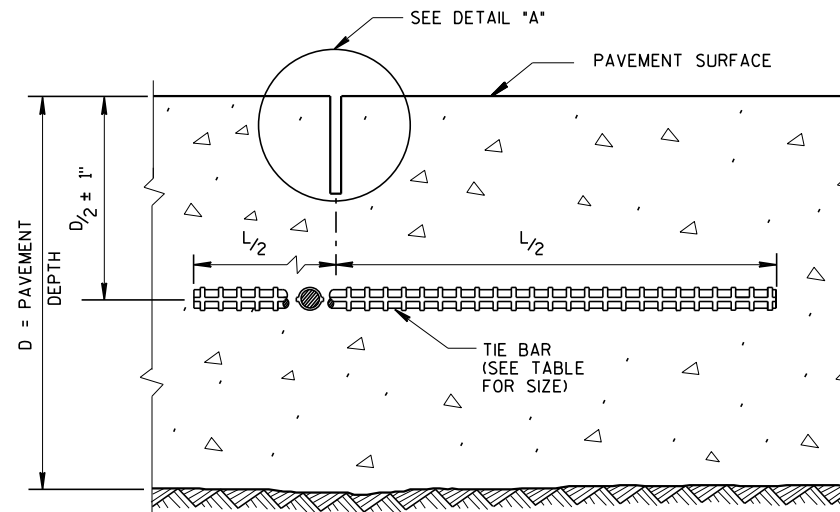
S.D.D. 13 A 5-5b

S.D.D. 13 A 5-5b

SHOULDER RUMBLE STRIP, MILLING	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED DATE 12/17/2012	/s/ Jerry H. Zogg ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA	



CONSTRUCTION JOINT



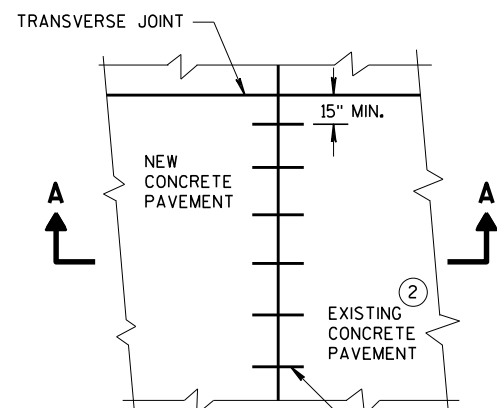
SAWED JOINT

GENERAL NOTES

CREATE A LONGITUDINAL JOINT FOR PAVEMENT WIDTHS GREATER THAN 15 FEET.

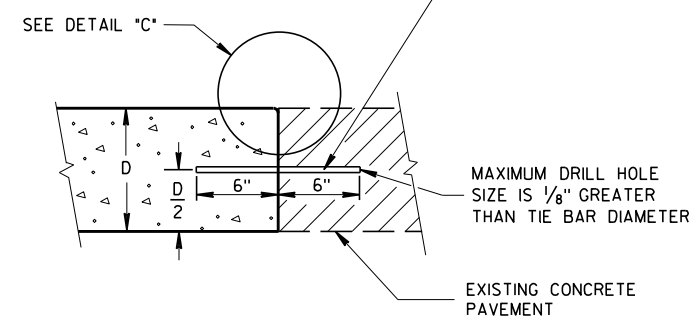
CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

- ① ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.
- ② PAVEMENT THAT WAS IN PLACE PRIOR TO THE CONTRACT.

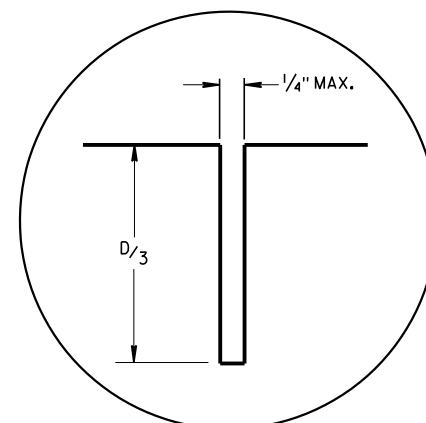


PLAN VIEW

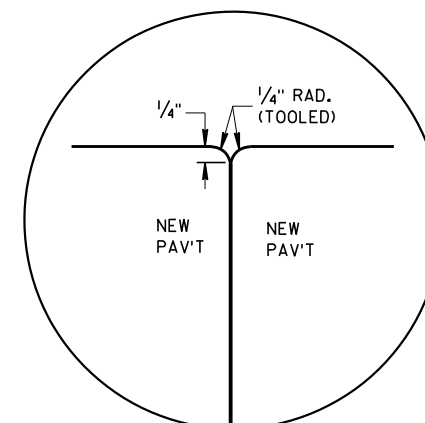
NO. 6 TIE BARS SPACED 30" C-C, INSTALLED PERPENDICULAR TO THE LONGITUDINAL JOINT. ①



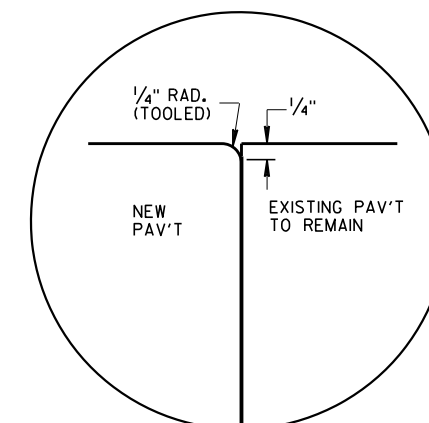
**SECTION A-A
LONGITUDINAL CONSTRUCTION JOINT
TIE BARS ANCHORED
INTO EXISTING PAVEMENT**



DETAIL "A"



DETAIL "B"



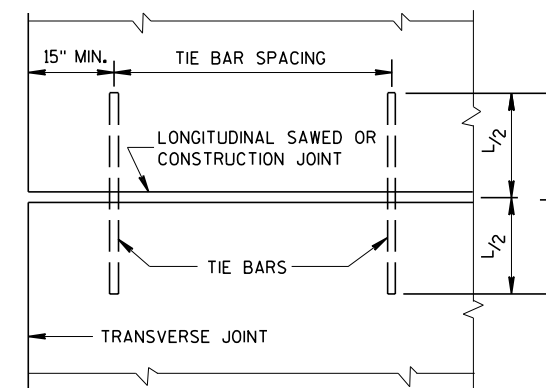
DETAIL "C"

TIE BAR TABLE

PAVEMENT DEPTH (D)	TIE BAR SIZE	TIE BAR LENGTH (L)	MAX. TIE BAR SPACING
< 10 1/2"	NO. 4	30"	36"
≥ 10 1/2"	NO. 5	36"	36"
	NO. 4 *	30"	24" **

* SUBSTITUTE BENT BARS AT LONGITUDINAL JOINTS WHEN EQUIPMENT LIMITATIONS DURING CONSTRUCTION WARRANT (e.g. AUXILIARY LANES OR TURN LANES)

** CONFORM TO 15" MINIMUM SPACING FROM TRANSVERSE JOINTS; SPACING BETWEEN TIE BARS WILL BE 30" AT TRANSVERSE JOINTS.

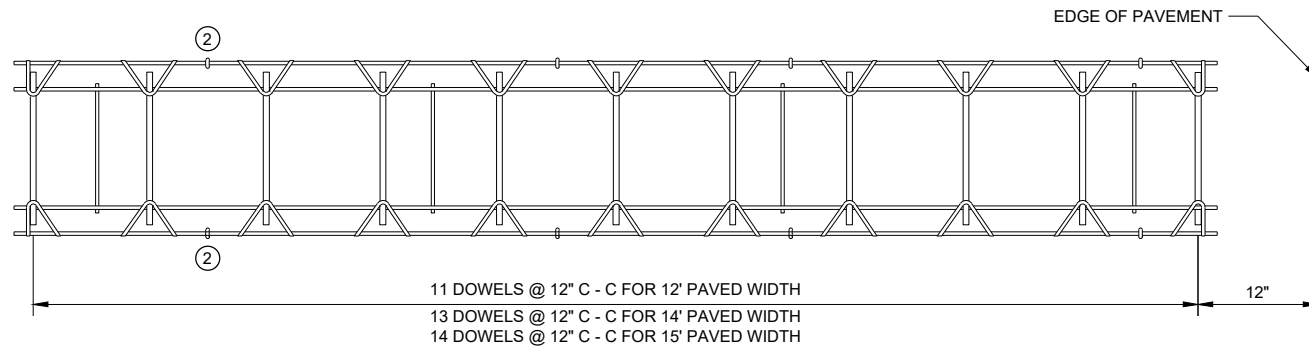


**PLAN VIEW
SHOWING LOCATION OF TIE BARS**

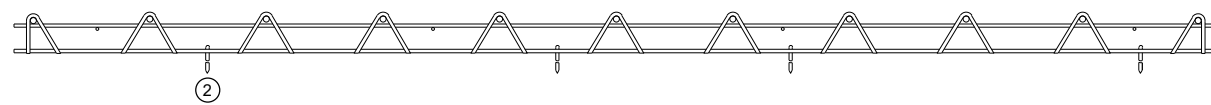
**CONCRETE PAVEMENT
LONGITUDINAL JOINTS AND TIES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
March 2018 /S/ Peter Kemp, P.E.
DATE PAVEMENT SUPERVISOR
FHWA



PLAN VIEW

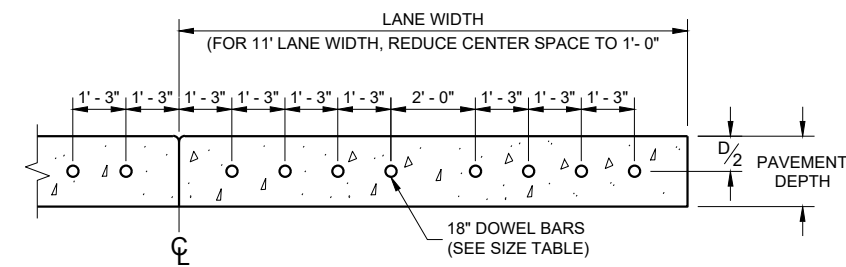


SIDE VIEW
(NORMAL TO CENTERLINE)

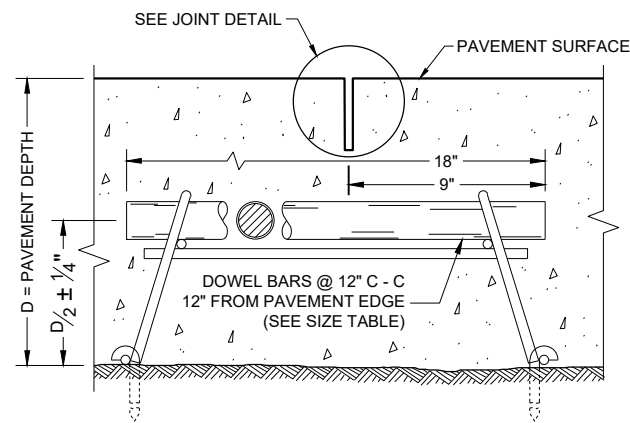
CONTRACTION JOINT DOWEL ASSEMBLY ①

GENERAL NOTES

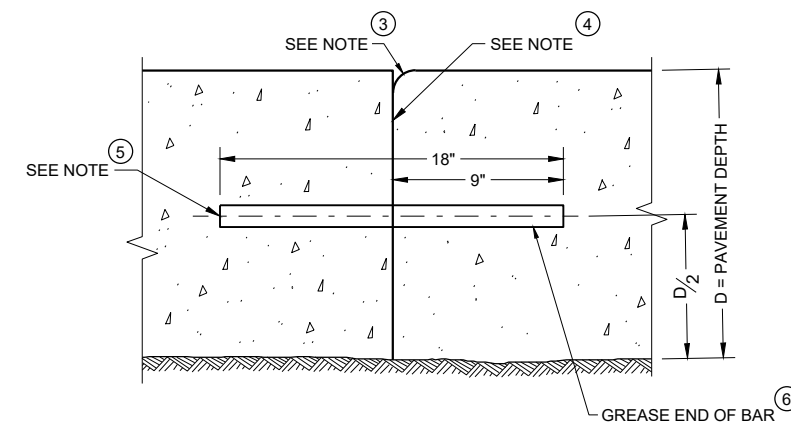
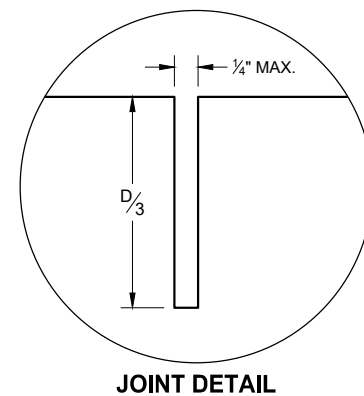
- ① OBTAIN THE ENGINEER'S APPROVAL FOR THE USE OF ALTERNATIVE DESIGNS OF THE DOWEL ASSEMBLY. USE MECHANICAL DOWEL BAR INSERTERS OR DOWEL ASSEMBLIES WHEN CONSTRUCTION JOINTS.
- ② SECURE BASKETS WITH ANCHORS TO HOLD DOWEL BARS IN THE CORRECT POSITION AND ALIGNMENT. TYPE, LOCATION, NUMBER AND LENGTH OF ANCHORS ARE DEPENDENT UPON FIELD CONDITIONS.
- ③ FORM OR SAW CONSTRUCTION JOINTS. PROVIDE A ¼" RADIUS AT FORMED JOINTS.
- ④ PROVIDE A SMOOTH VERTICAL FACE FOR THE ENTIRE DEPTH OF THE PAVEMENT WHEN FORMING CONSTRUCTION JOINTS.
- ⑤ INSTALL DOWEL BARS AT CONSTRUCTION JOINTS BY FORMING OR DRILLING. INSTALL FORMED DOWEL BARS 12 INCHES C - C AND 12 INCHES FROM PAVEMENT EDGE. REMOVE EXCESS CONCRETE FROM THE FREE END OF THE DOWEL BAR IF DOWEL BARS ARE FORMED THROUGH A HEADER BOARD. INSTALL DRILLED DOWEL BARS ACCORDING TO THE "DRILLED DOWEL BAR CONSTRUCTION JOINT" DETAIL.
- ⑥ APPLY A THIN UNIFORM COATING OF SURFACE TREATMENT TO THE FREE END OF DOWEL BARS TO PREVENT BONDING.
- ⑦ ANCHOR DOWEL BARS AND TIE BARS INTO DRILLED HOLES WITH AN EPOXY. MAXIMUM DRILLED HOLE SIZE IS ⅛" GREATER THAN DOWEL BAR DIAMETER, 9 INCHES IN LENGTH.



DRILLED DOWEL BAR CONSTRUCTION JOINT ⑦



DOWELED CONTRACTION JOINT

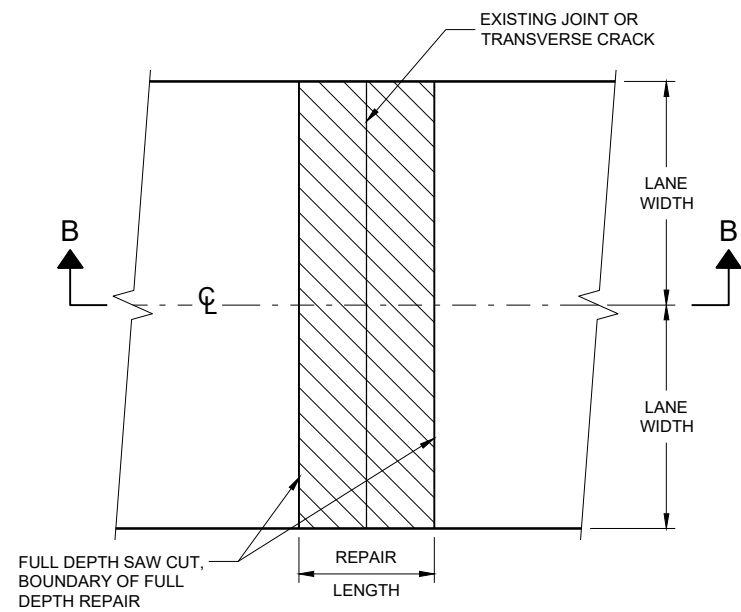


TRANSVERSE CONSTRUCTION JOINT

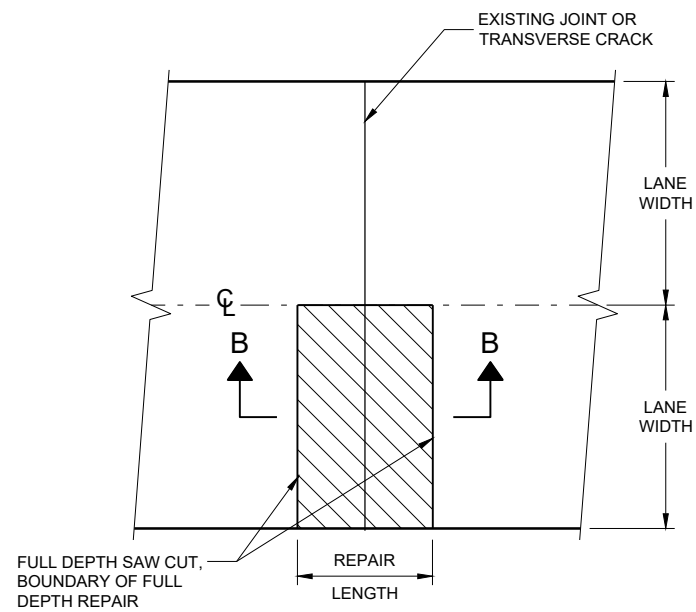
**RURAL DOWELED
CONCRETE PAVEMENT**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2022 /S/ Peter Kemp P.E.
DATE PAVEMENT SUPERVISOR

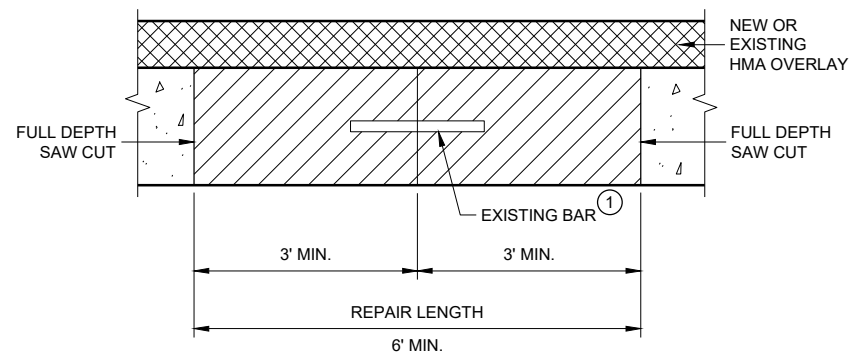


**PLAN VIEW
DOUBLE LANE REPAIR**



**PLAN VIEW
SINGLE LANE REPAIR**

FULL DEPTH CONCRETE PAVEMENT REMOVAL



**SECTION B - B
CONCRETE REMOVAL**

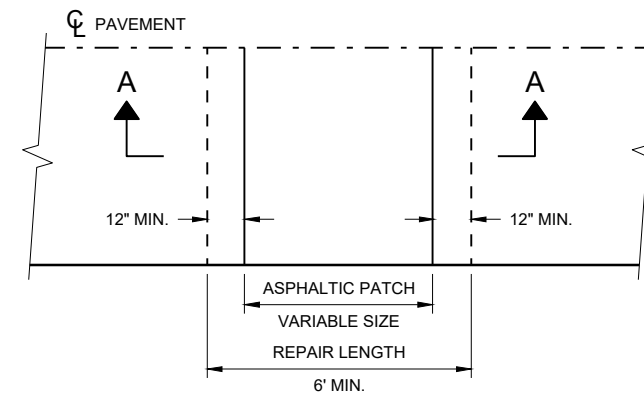
GENERAL NOTES

SAW CUT, DRILL, AND LIFT OUT EXISTING CONCRETE PAVEMENT WITHIN THE BOUNDARIES OF CONCRETE REPAIR AREAS. THE CONTRACTOR MAY MAKE ADDITIONAL SAW CUTS INSIDE THE REPAIR LIMITS TO REDUCE WEIGHT AND SIZE OF CONCRETE PIECES.

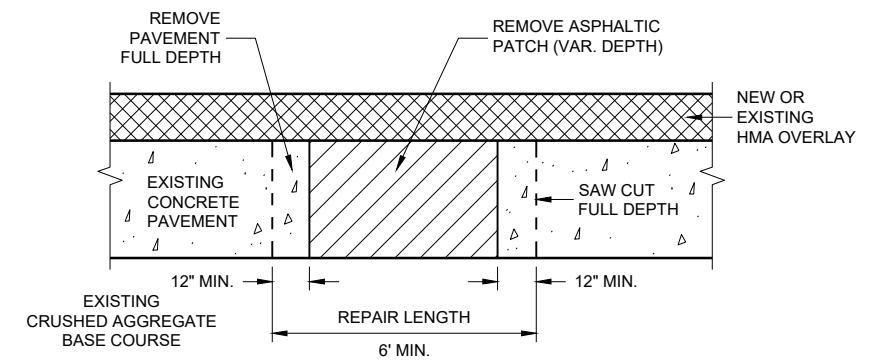
PROVIDE A 6 FOOT MINIMUM DISTANCE FROM BOUNDARIES OF CONCRETE REPAIR AREA TO ADJACENT TRANSVERSE JOINT OR CRACK.

THE LENGTH OF THE REPAIRS MAY VARY FROM THE DIMENSIONS SHOWN IF THE EXISTING CONCRETE PAVEMENT IS NON-DOWELED AND THE PAVEMENT IS TO BE OVERLAID AFTER REPAIRING.

① DOWEL BARS MAY NOT BE PRESENT.



PLAN VIEW

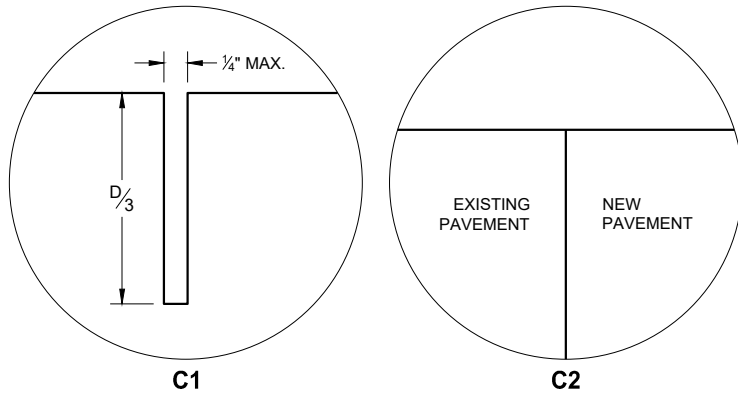


SECTION A - A

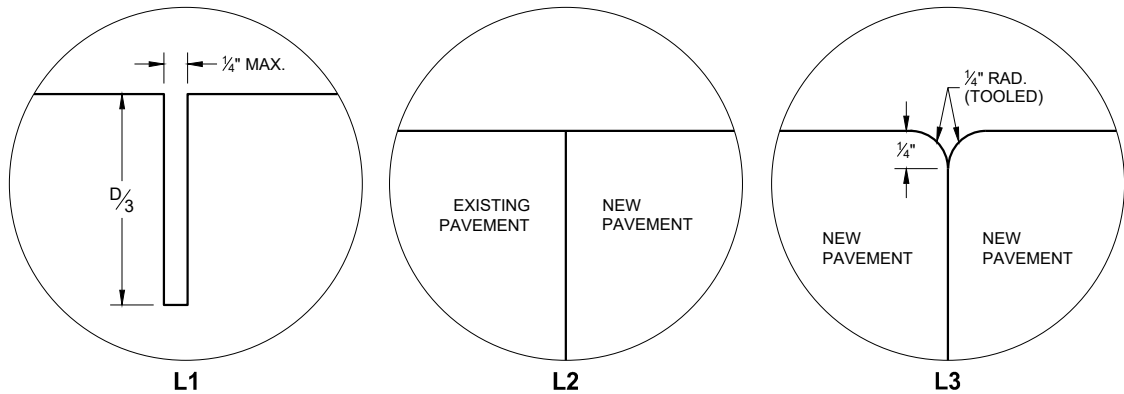
HMA PATCH REMOVAL

BASE PATCHING CONCRETE

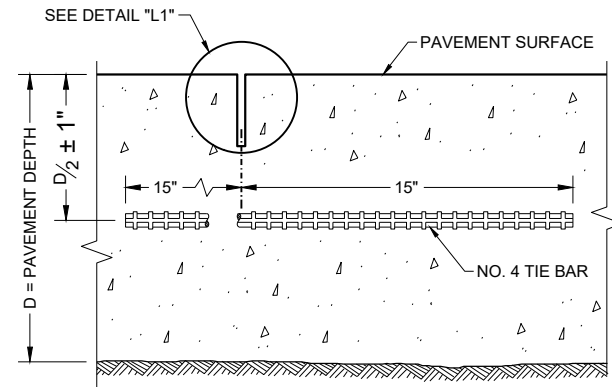
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



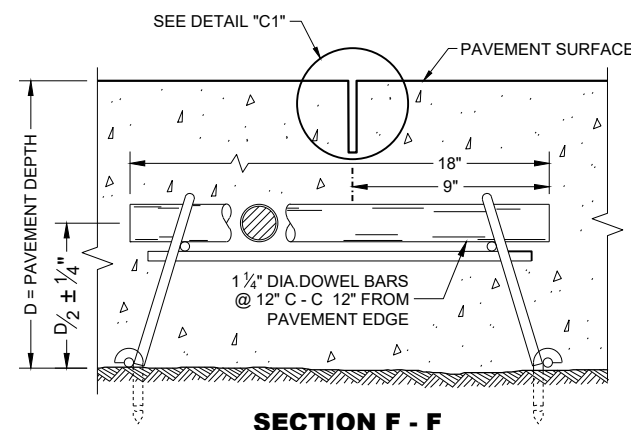
C1 C2
TRANSVERSE JOINTS



L1 L2 L3
LONGITUDINAL JOINTS



SECTION C - C
SAWED LONGITUDINAL JOINT



SECTION F - F
CONTRACTION JOINT

GENERAL NOTES

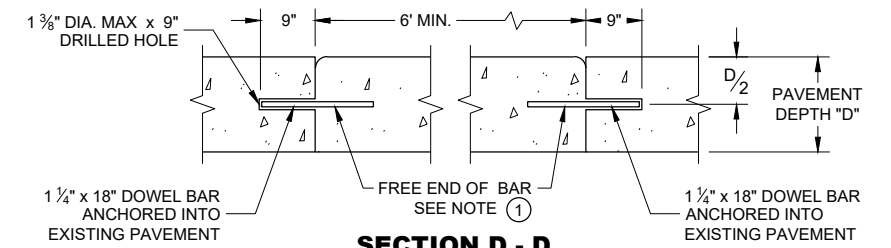
INSTALL DOWEL BARS PARALLEL TO THE PAVEMENT CENTERLINE AND PAVEMENT SURFACE.

CONCRETE BASE PATCHES OF EXISTING NON-DOWELED CONCRETE PAVEMENTS DO NOT NEED TO BE DOWELED.

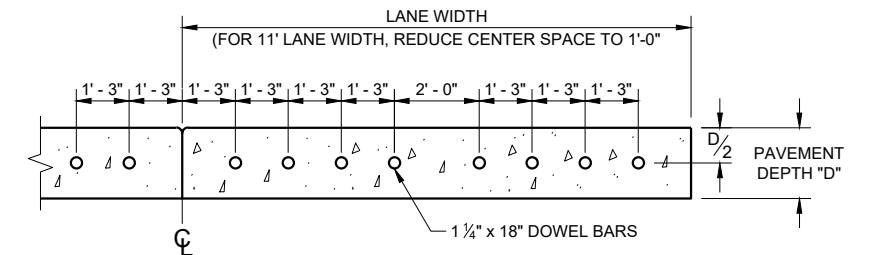
ANCHOR DOWEL BARS AND TIE BARS INTO DRILLED HOLES WITH AN EPOXY.

PROVIDE A MINIMUM DISTANCE OF 15 INCHES FROM ALL TRANSVERSE JOINTS OR EDGES OF REPLACEMENT TO THE CENTER OF THE TIE BAR NEAREST THAT JOINT OR EDGE.

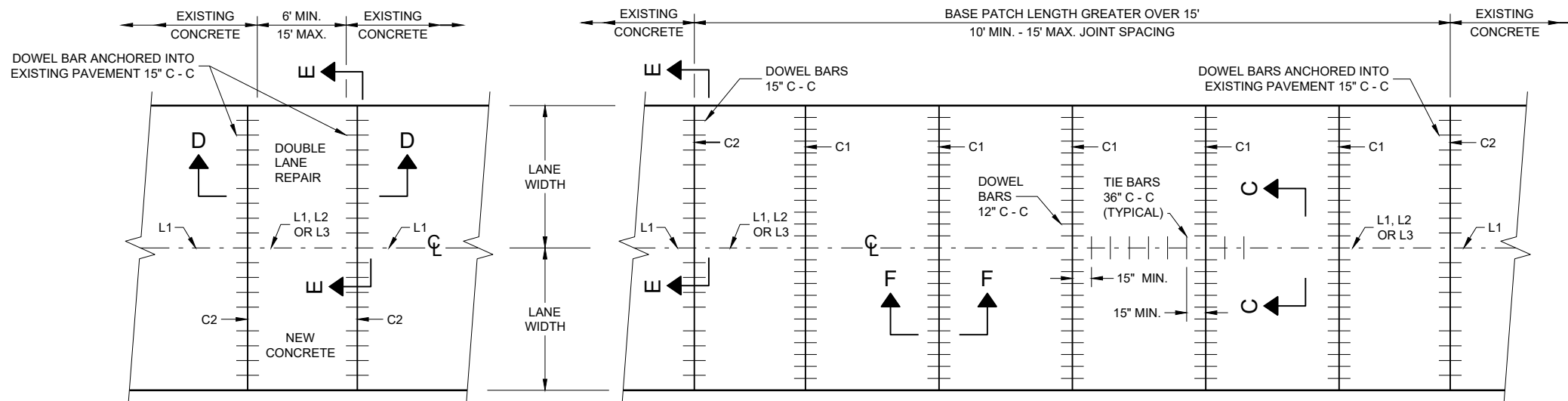
- ① APPLY A THIN UNIFORM COATING OF SURFACE TREATMENT TO THE FREE END OF DOWEL BARS TO PREVENT BONDING.



SECTION D - D



SECTION E - E
SPACING OF DOWEL BARS
ANCHORED INTO EXISTING PAVEMENT

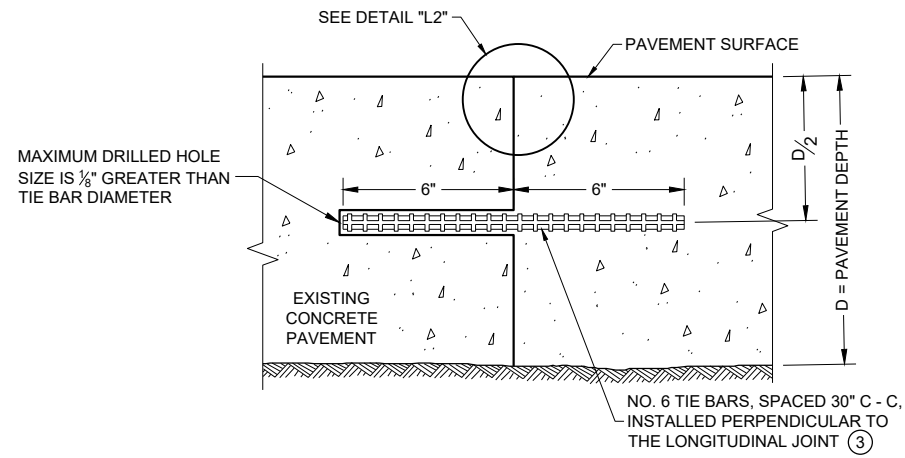


PLAN VIEW
MULTILANE CONCRETE BASE PATCH
15' MAXIMUM LENGTH

PLAN VIEW
MULTILANE CONCRETE BASE PATCH
GREATER THAN 15' IN LENGTH

BASE PATCHING CONCRETE

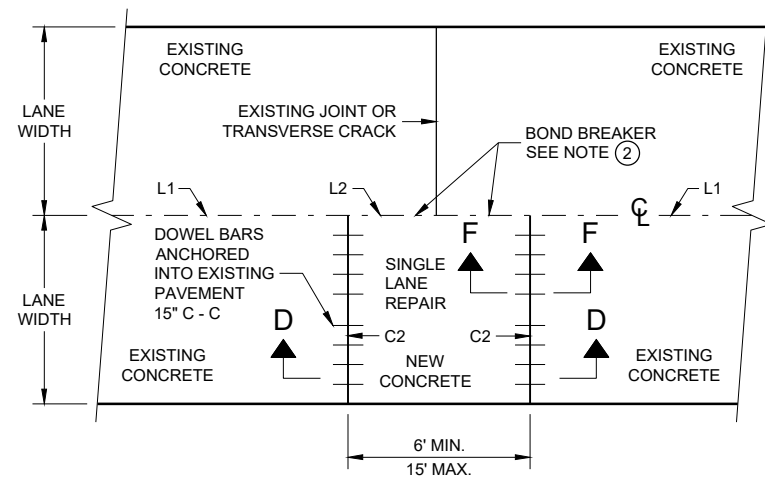
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



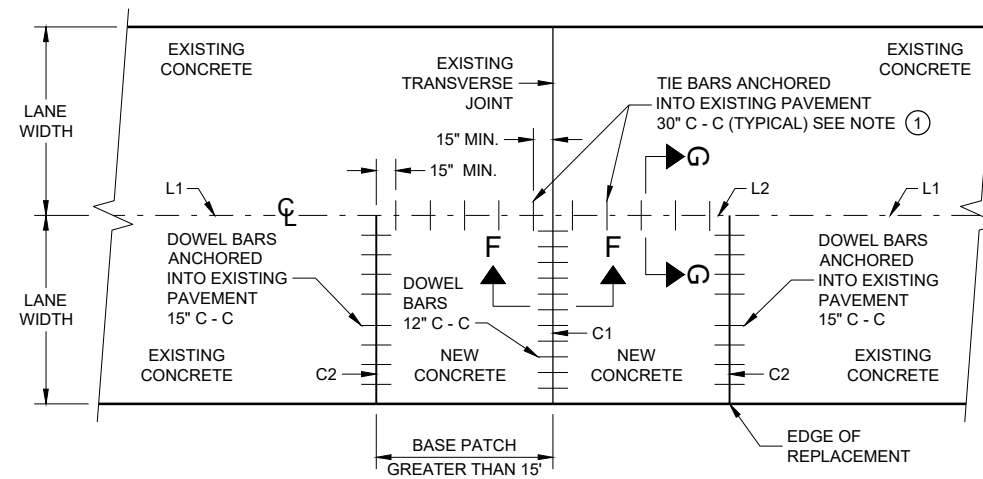
SECTION G - G
TIE BARS ANCHORED INTO EXISTING PAVEMENT

GENERAL NOTES

- ① WITH THE APPROVAL OF THE ENGINEER, FOR SINGLE LANE PAVEMENT REPLACEMENTS LESS THAN 30 FEET IN LENGTH, THE CONTRACTOR MAY INSTALL DRILLED TIE BARS ON 6:1 SKEW HORIZONTALLY, DIRECTION OF SKEW ALTERNATING WITH EACH SUCCESSIVE BAR. DRIVE SKEWED TIE BARS TO A DEPTH OF 6 INCHES IN A HOLE OF SUCH A DIAMETER AS TO PROVIDE A TIGHT DRIVEN FIT.
- ② USE AN ENGINEER APPROVED BOND BREAKER (E.G. RELEASE AGENT, CURING COMPOUND) FOR SINGLE LANE REPAIRS UP TO 15 FEET IN LENGTH.
- ③ ANCHOR TIE BARS INTO DRILLED HOES WITH AN EPOXY.



PLAN VIEW
SINGLE LANE CONCRETE BASE PATCH
15' MAXIMUM LENGTH



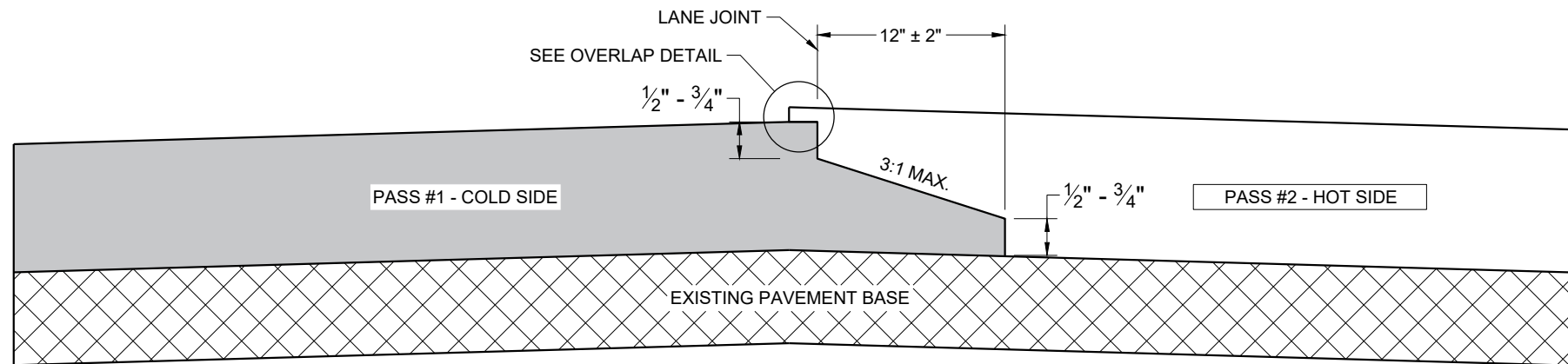
PLAN VIEW
SINGLE LANE CONCRETE BASE PATCH
GREATER THAN 15' LENGTH

BASE PATCHING CONCRETE

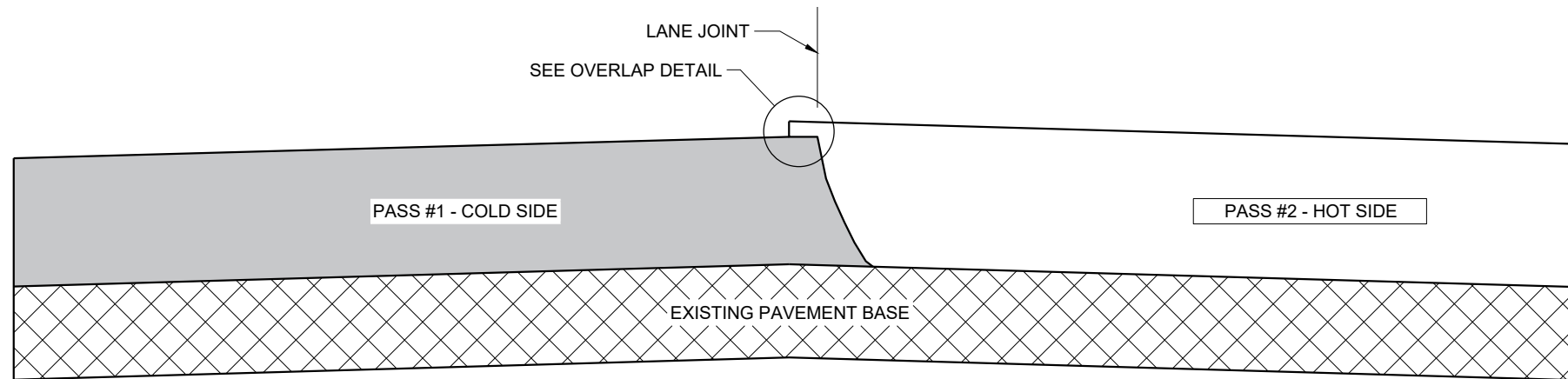
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
March 2018 /S/ Peter Kemp, P.E.
DATE PAVEMENT SUPERVISOR

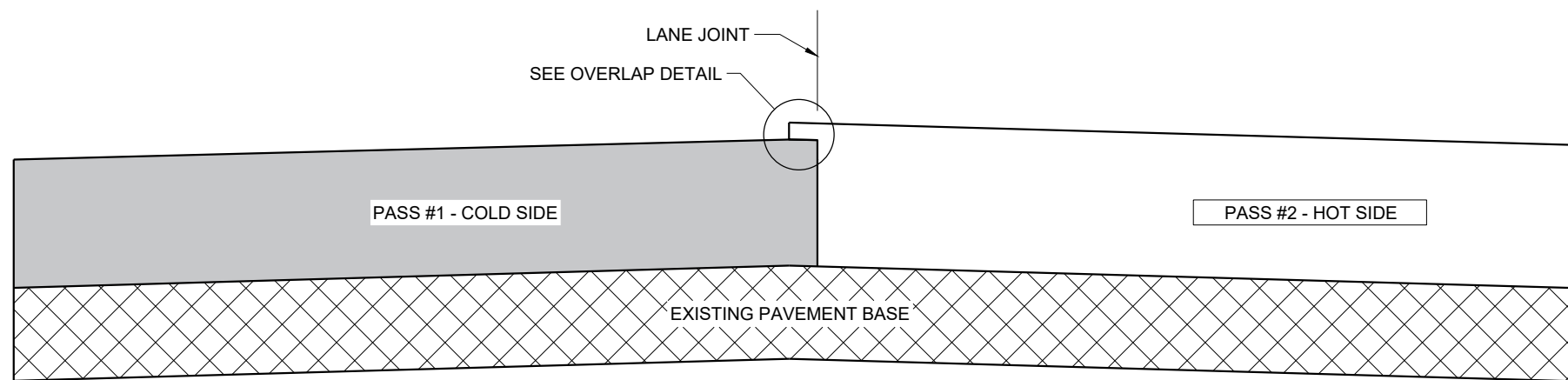
FHWA



TYPICAL PAVEMENT CROSS SECTION NOTCHED WEDGE JOINT



TYPICAL PAVEMENT CROSS SECTION VERTICAL JOINT



TYPICAL PAVEMENT CROSS SECTION VERTICAL JOINT (MILLED)

GENERAL NOTES

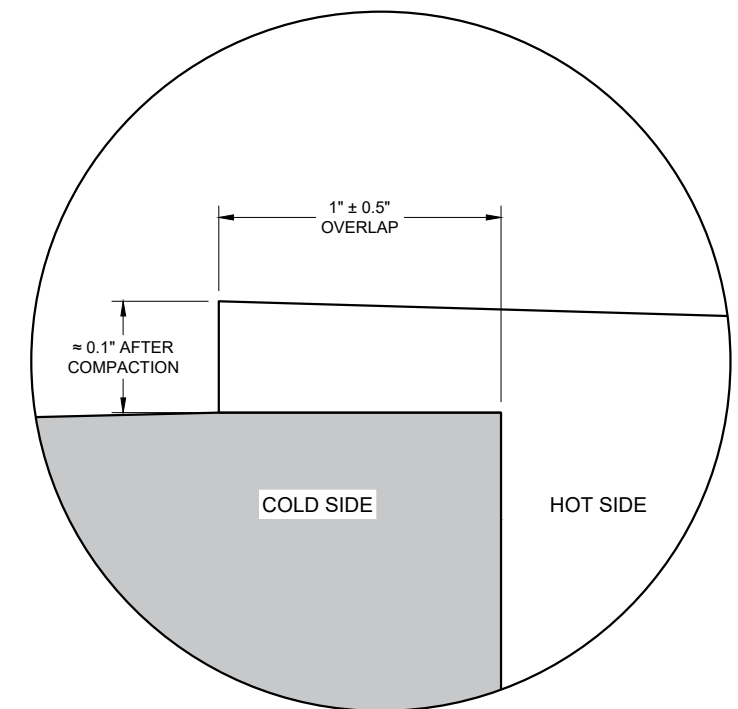
IN ADDITION TO THE DETAILS PROVIDED IN THIS DRAWING, CONFORM TO STANDARD SPECIFICATION 450.3.2.8 FOR WHEN A NOTCHED WEDGE JOINT IS REQUIRED AND FOR GENERAL JOINT CONSTRUCTION REQUIREMENTS.

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

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

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

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



OVERLAP DETAIL (TYPICAL)

6

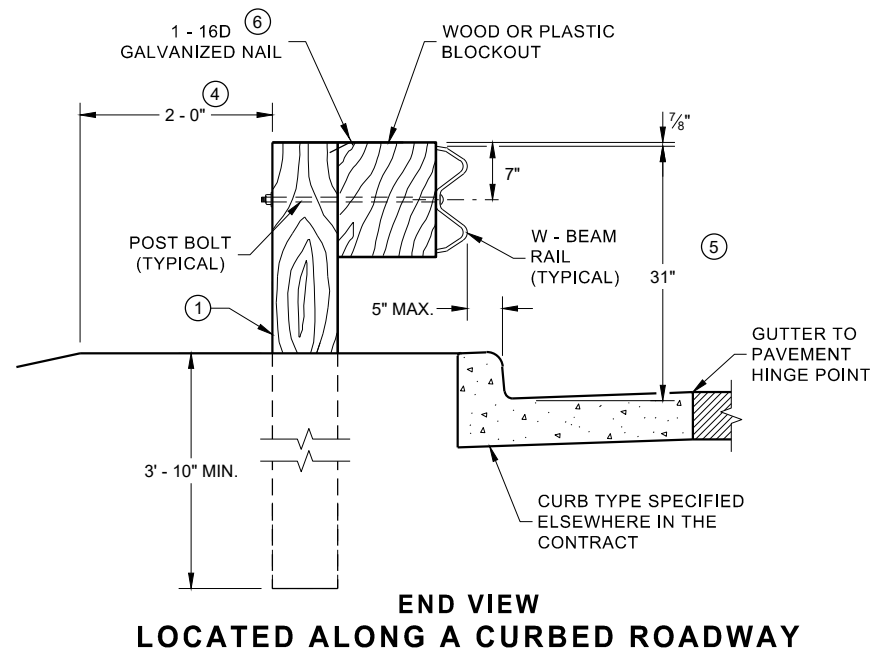
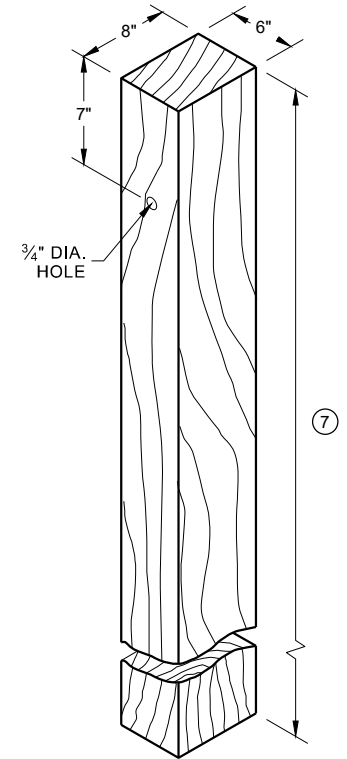
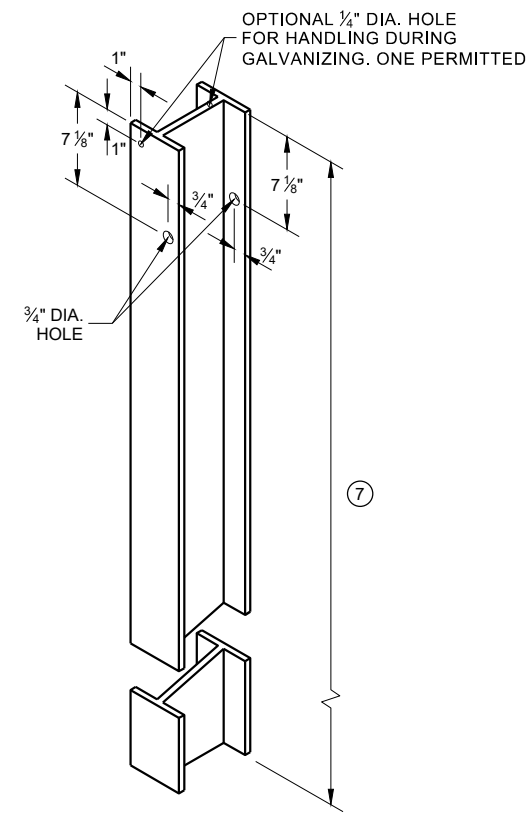
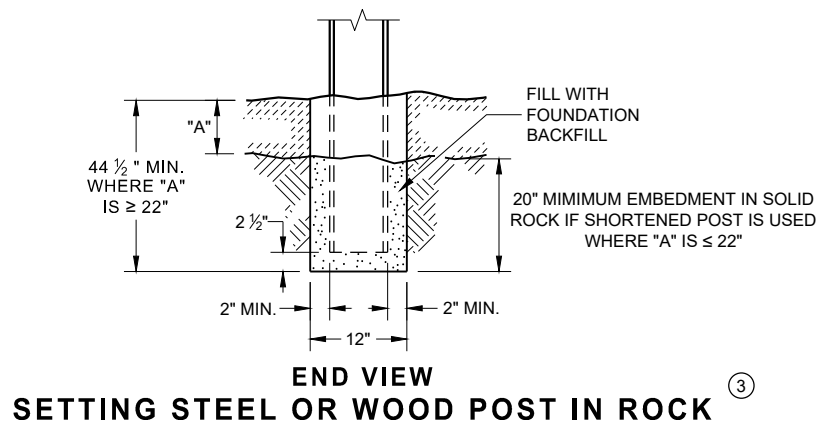
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SDD 13C19 - 03

SDD 13C19 - 03

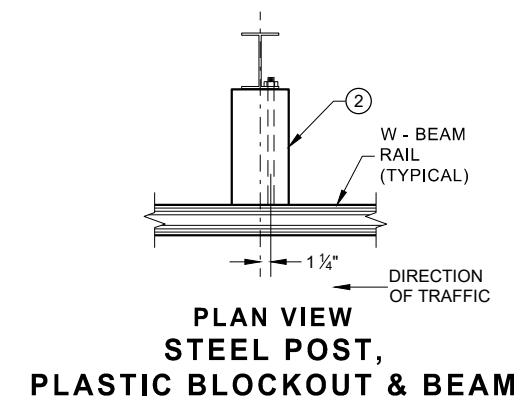
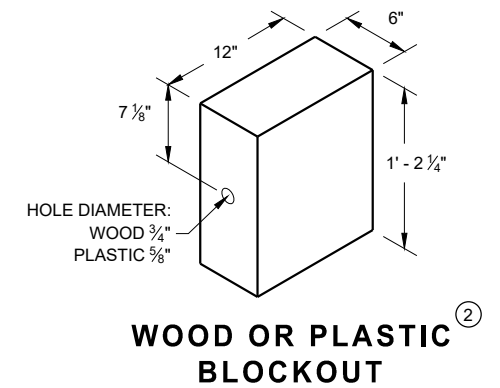
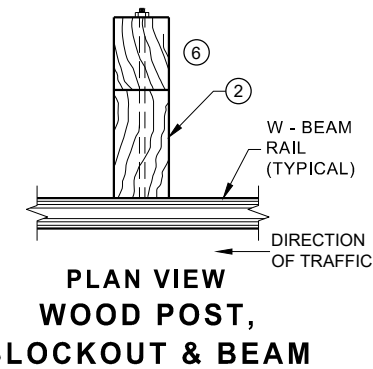
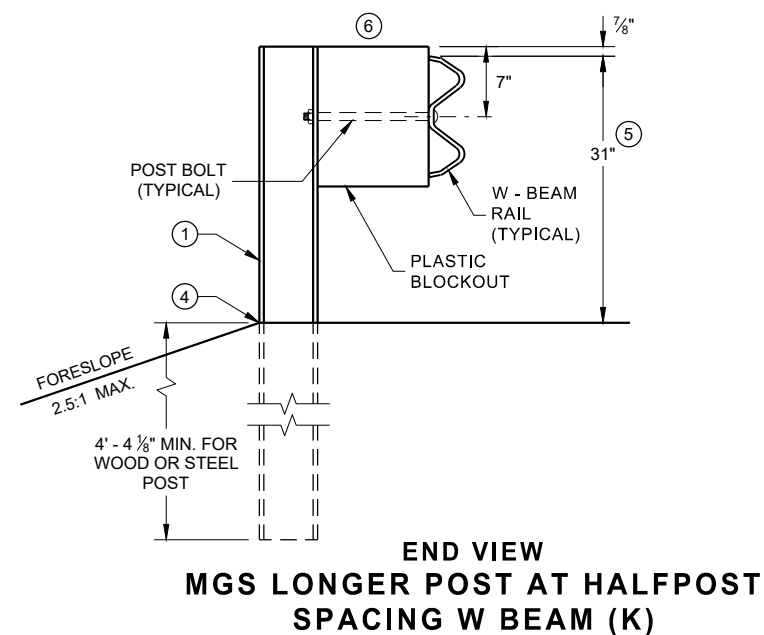
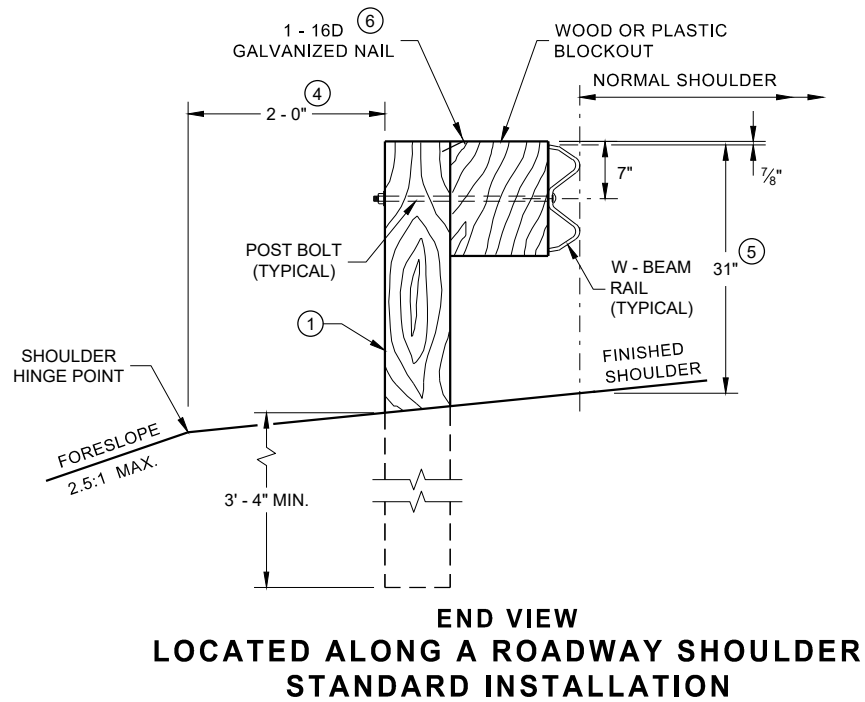
HMA LONGITUDINAL JOINTS	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED November 2020 DATE	/S/ Steven Hefel HMA PAVEMENT ENGINEER
FHWA	

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



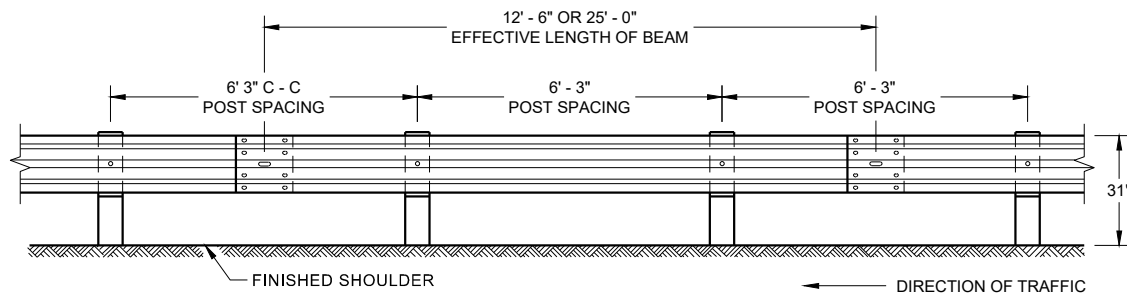
STEEL POST & HOLE PUNCHING DETAIL (W 6 X 9) ①

WOOD POST (6" X 8") NOMINAL ①

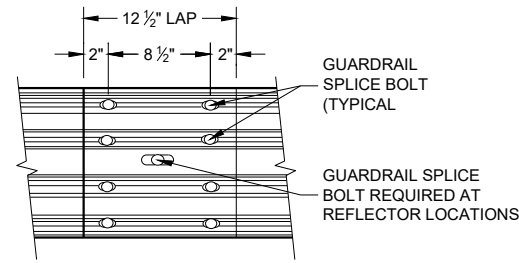


MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



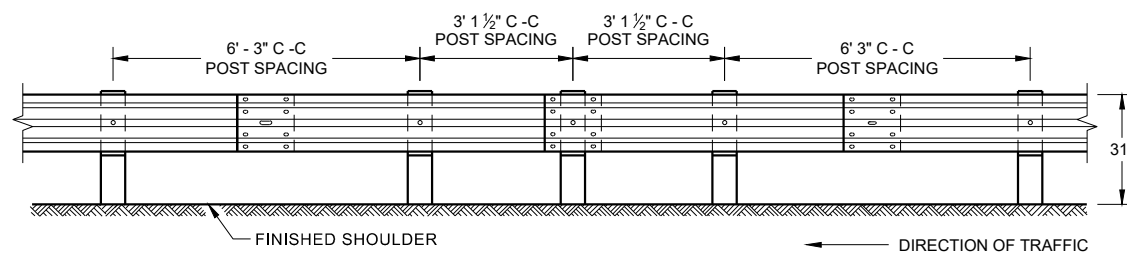
**FRONT VIEW
POST SPACING STANDARD INSTALLATION**



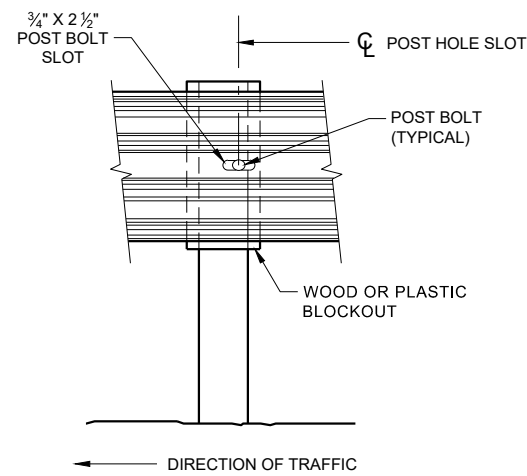
**FRONT VIEW
MID-SPAN BEAM SPLICE**

GENERAL NOTES

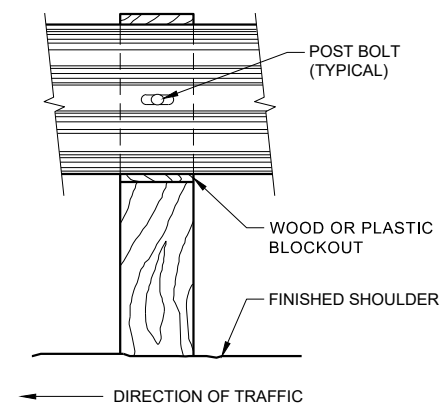
- ⑧ DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.
 - ⑨ 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.
- POST BOLTS ARE A 3/8" DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES 3/4" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT AND 3/8" DIAMETER F844 FLAT WASHER. POST BOLTS MAY BE LONGER IF MULTIPLE BLOCKOUTS ARE BEING USED.
- GUARD RAIL SPLICE BOLTS ARE A 3/8" DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES 3/8" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.



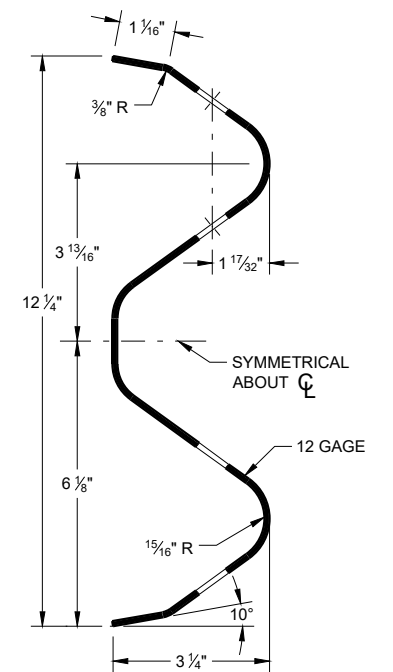
**FRONT VIEW
HALF POST SPACING (HS) AND
HALF POST SPACING WITH LONGER POSTS (K)**



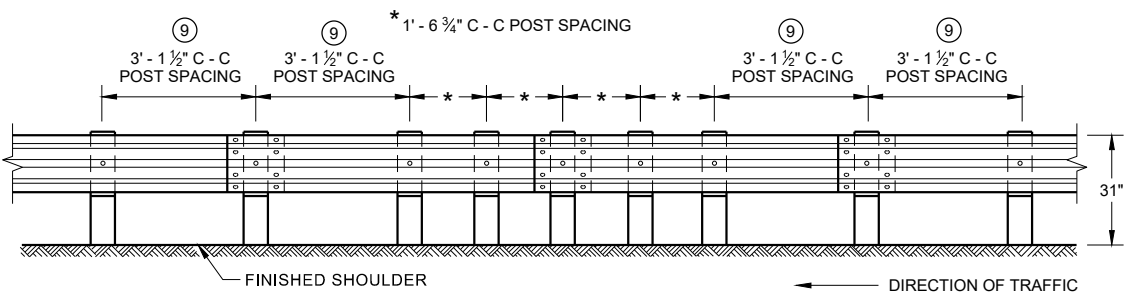
FRONT VIEW AT STEEL POST



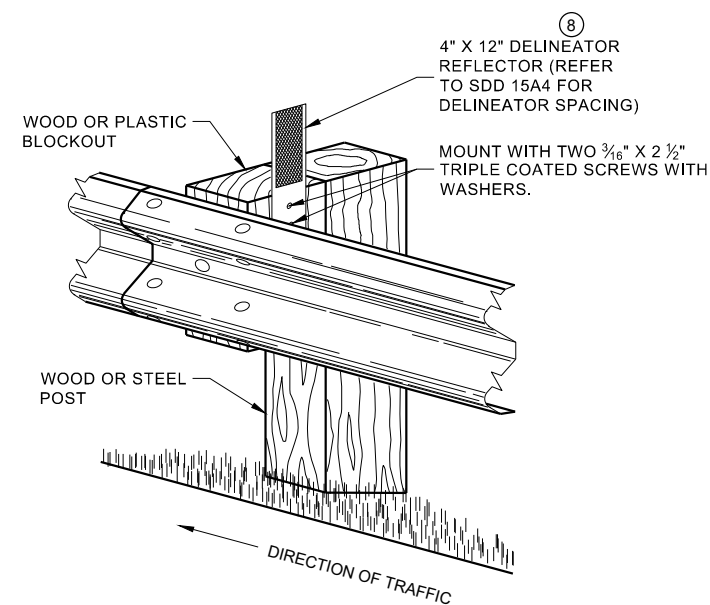
FRONT VIEW AT WOOD POST



SECTION THRU W-BEAM RAIL



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



**ONE SIDED REFLECTOR DETAIL
AND TYPICAL INSTALLATION**

**MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL**

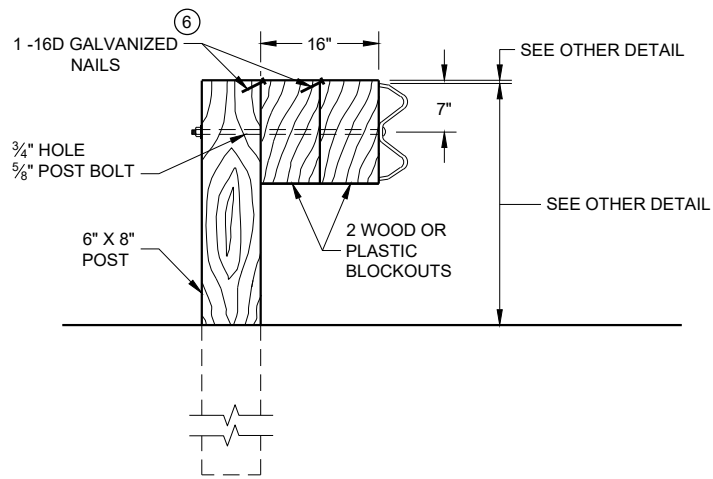
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

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SDD 14B42 - 07b

SDD 14B42 - 07b

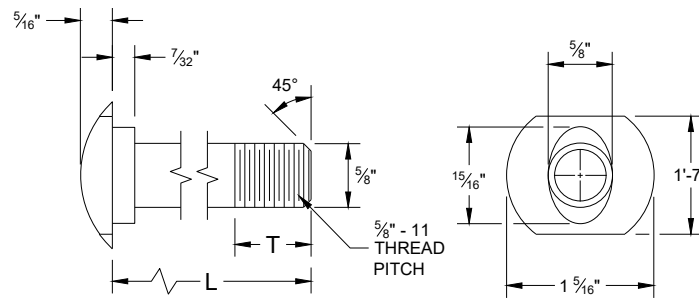


DETAIL FOR 16" BLOCKOUT DEPTH

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

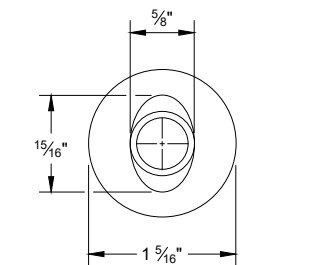
NOTE:

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

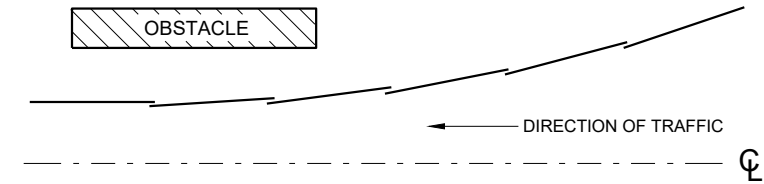


POST BOLT TABLE

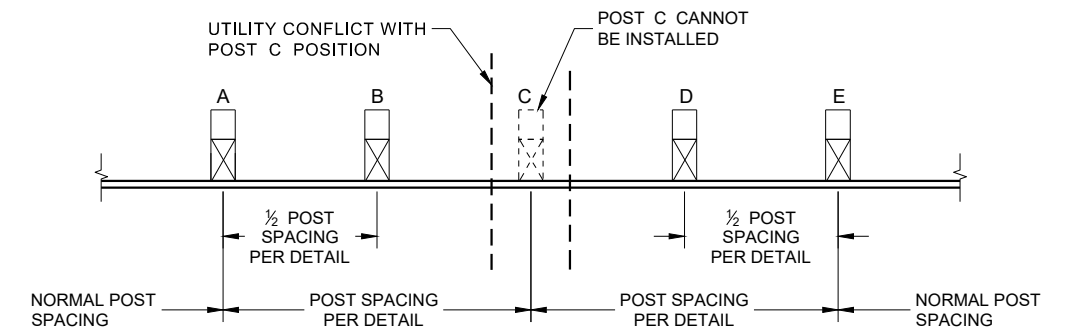
L	T (MIN.)
1 1/4"	1 1/8"
2"	1 3/4"
10"	4"
14"	4 1/16"
18"	4"
21"	4 1/16"
25"	4"



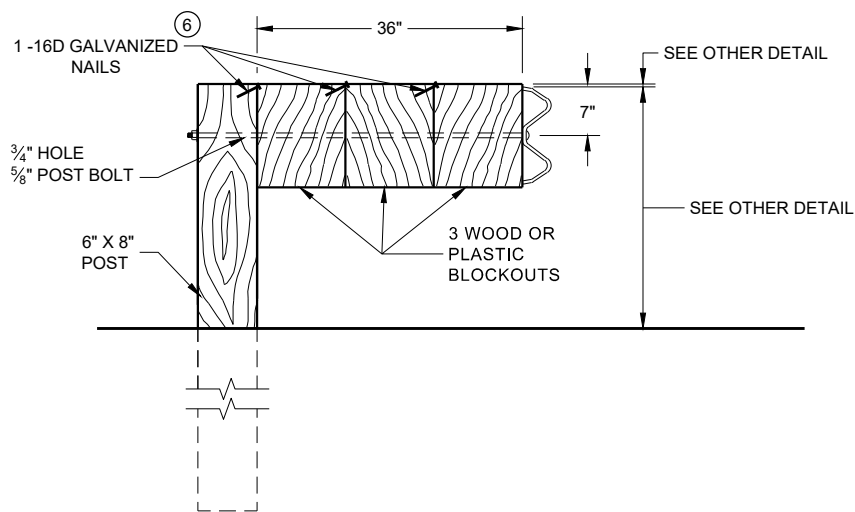
ALTERNATE BOLT HEAD



**PLAN VIEW
BEAM LAPPING DETAIL**

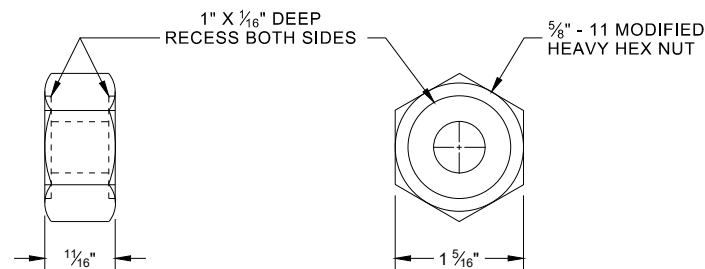


**POST DRIVING FOR CONTINUOUS
UNDERGROUND OBSTRUCTION**

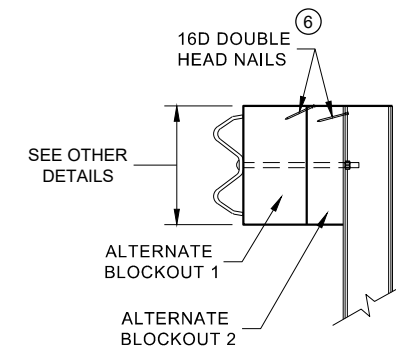


DETAIL FOR 36" BLOCKOUT DEPTH

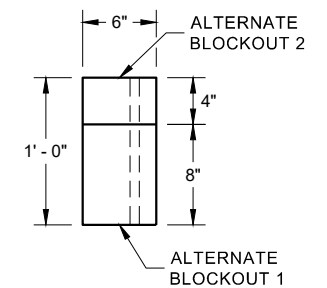
NOTES: UNDER SPECIAL CIRCUMSTANCES, SUCH AS AVOIDING OBSTACLES THAT ARE NOT RELOCATED, IT IS ACCEPTABLE TO INSTALL ADDITIONAL BLOCKOUTS TO OBTAIN UP TO 36" DEPTH FOR ONE OR TWO POSTS IN A SECTION OF GUARDRAIL.
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.



**POST BOLT, SPLICE BOLT
AND RECESS NUT**



SIDE VIEW



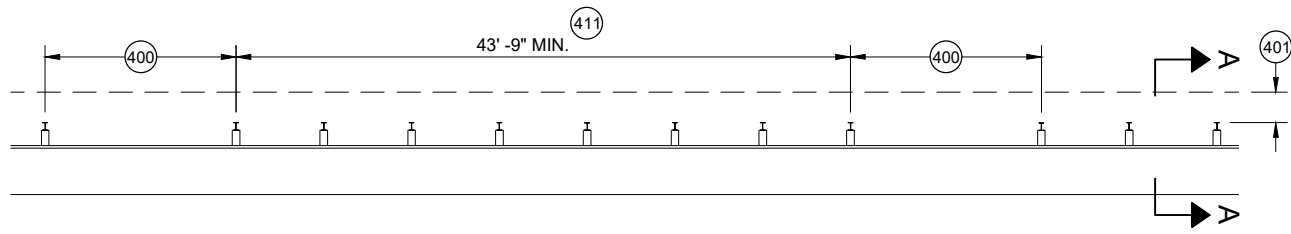
PLAN VIEW

**ALTERNATE WOOD
BLOCKOUT DETAIL**

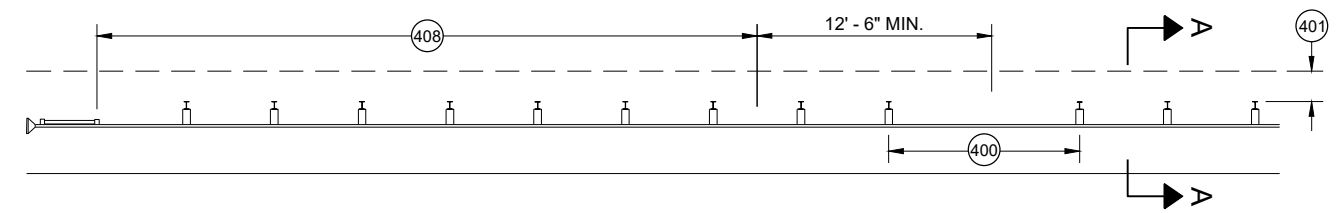
6 WHEN USING STEEL POST AND WOOD BLOCKOUTS, INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

**MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL**

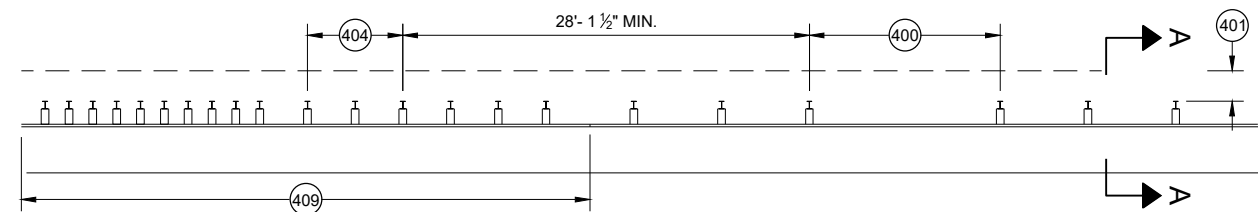
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



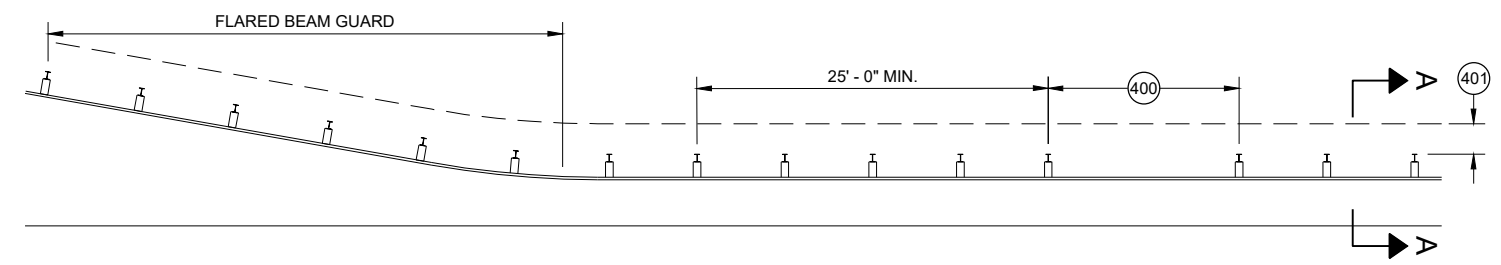
MISSING POST IN MGS GUARDRAIL



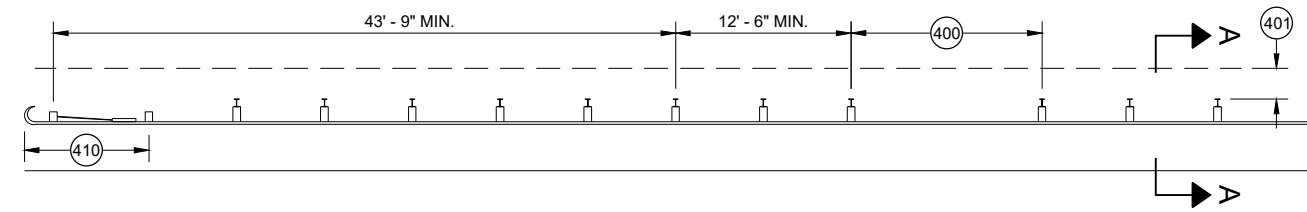
MISSING POST IN MGS GUARDRAIL NEAR EAT



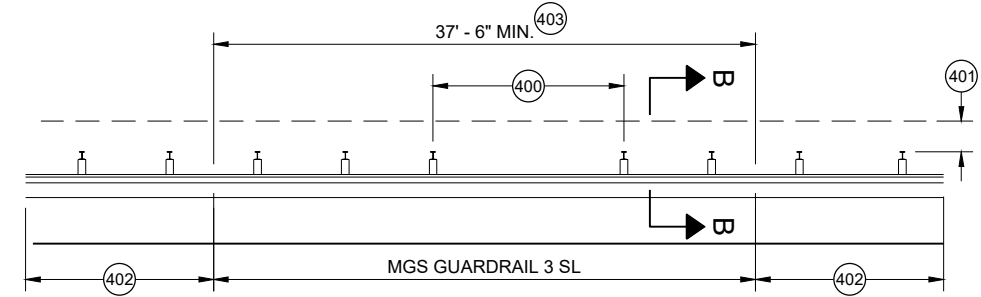
MISSING POST IN MGS GUARDRAIL NEAR AN APPROACH TRANSITION



MISSING POST IN MGS GUARDRAIL NEAR FLARED BEAM GUARD

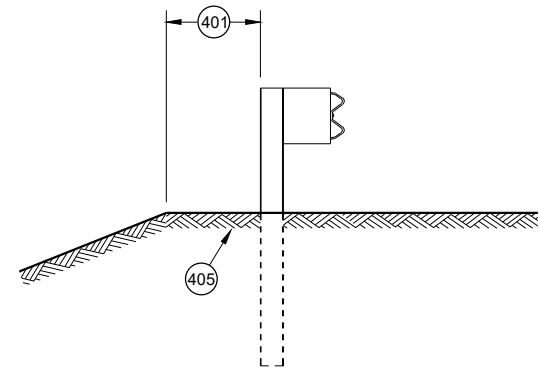


MISSING POST IN MGS GUARDRAIL NEAR A TYPE 2 END TERMINAL

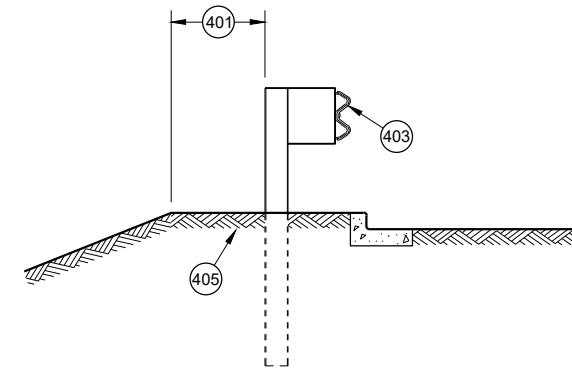


MISSING POST IN SHORT SPAN MGS GUARDRAIL NEAR CURB (SL)

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



SECTION A - A



SECTION B - B

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED May 2021 DATE	/S/ Rodney Taylor ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR
<small>FHWA</small>	

GENERAL NOTES

- (A) THE SLOPE IN THE AREA BOUNDED BY THE GRADELINE, THE HINGE POINT LINE 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.

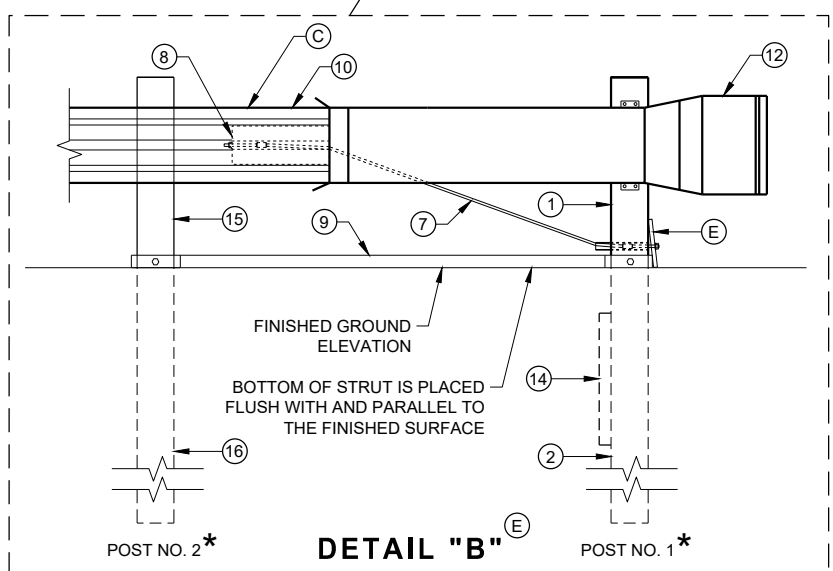
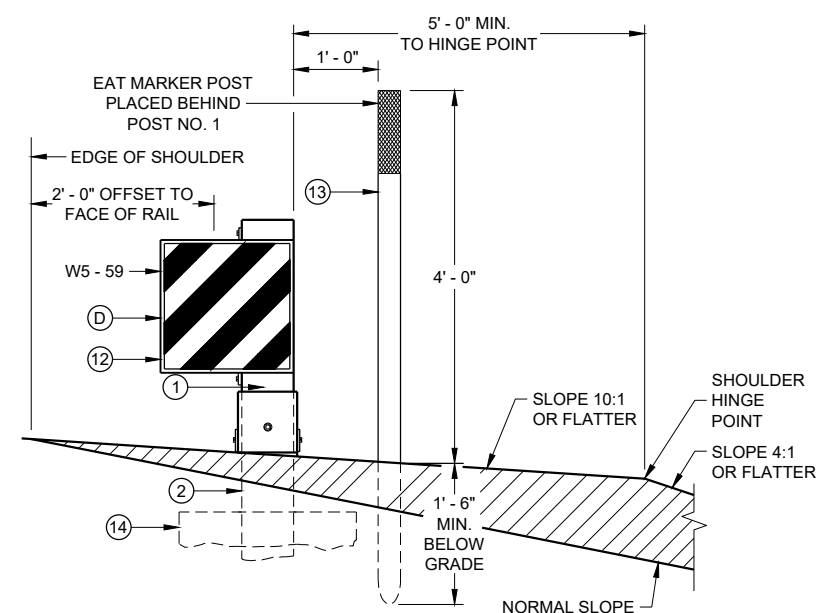
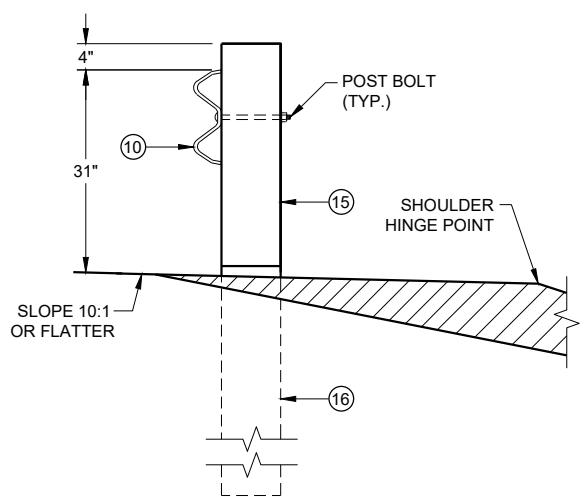
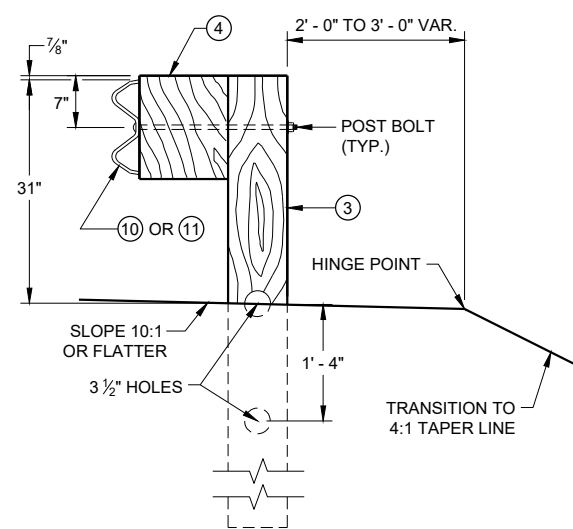
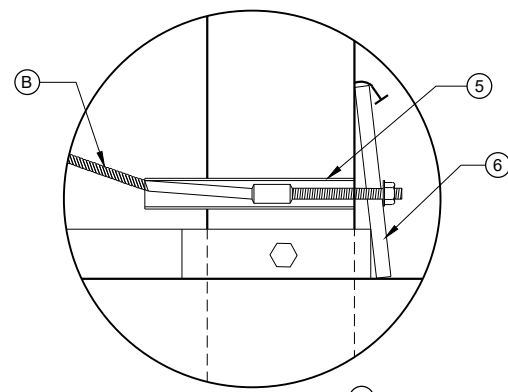
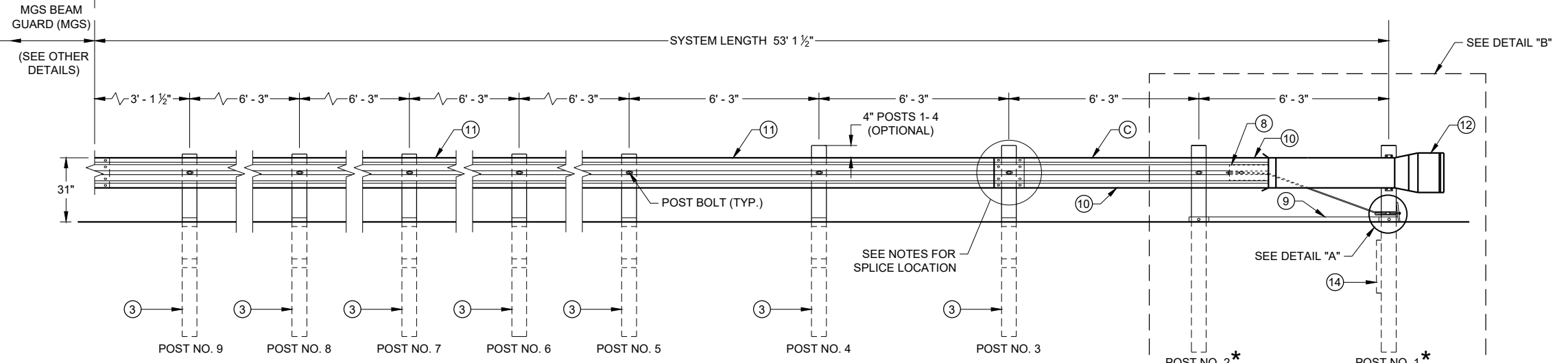
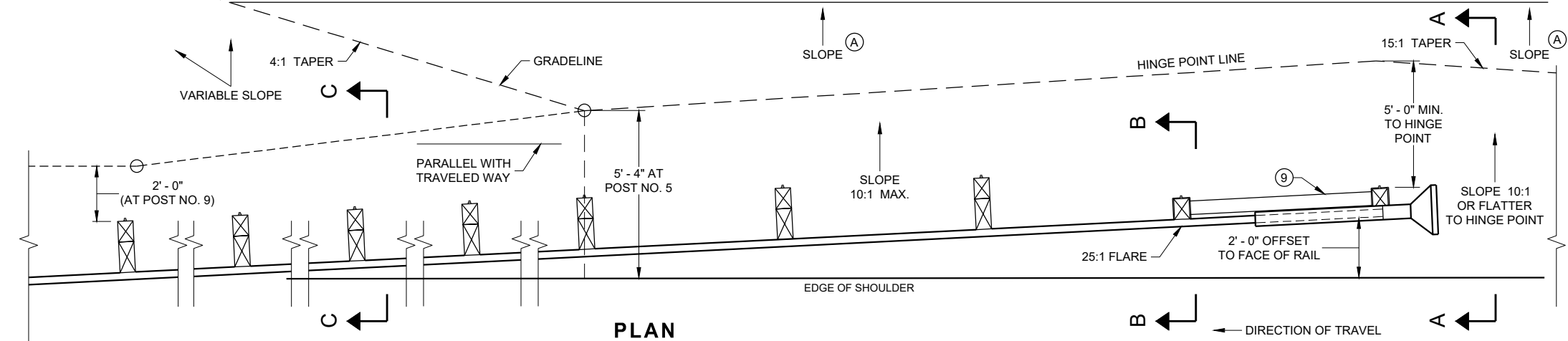
* DO NOT ATTACH BLOCKOUTS TO POST 1 AND 2.

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 1/2" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE UP TO A MAXIMUM OF 2" ABOVE GROUND LINE. WOOD BLOCKS ON POSTS NUMBERED 3 THROUGH 9 MAY BE ADJUSTED UP TO 3" ABOVE THE TOP OF POST.

CLEAR ZONE LIMITS, EITHER AS SHOWN ELSEWHERE IN THE PLANS OR, IF NOT SHOWN ELSEWHERE IN THE PLANS, 15 FEET BEYOND THE HINGE POINT LINE



**MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

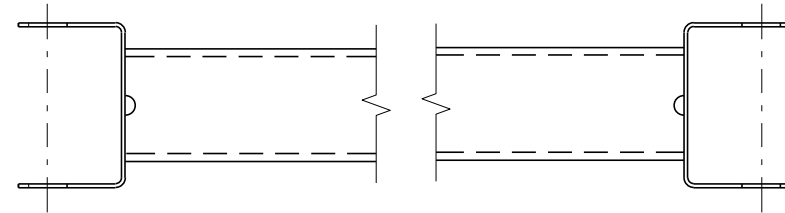
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SDD 14B44 - 04a

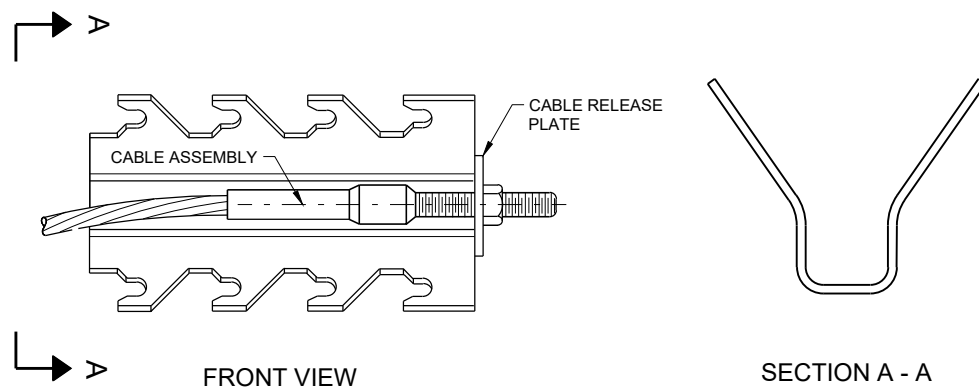
SDD 14B44 - 04a

BILL OF MATERIALS

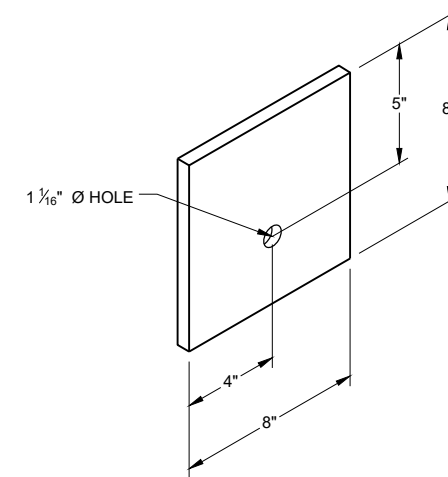
PART NO.	DESCRIPTION MATERIALS PROVIDED BY MGS EAT MANUFACTURER. SEE MANUFACTURER'S DETAILS FOR MORE INFORMATION.
①	UPPER POST NO. 1 6" X 6" TUBE
②	LOWER POST NO. 1
③	WOOD CRT
④	WOOD BLOCKOUT
⑤	PIPE SLEEVE
⑥	BEARING PLATE
⑦	BCT CABLE ASSEMBLY
⑧	ANCHOR CABLE BOX
⑨	GROUND STRUT
⑩	PERFORATED W-BEAM RAIL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



GENERIC GROUND STRUT ⑨ ⑤



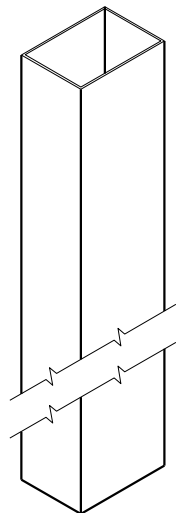
GENERIC ANCHOR CABLE BOX ⑨ ⑤



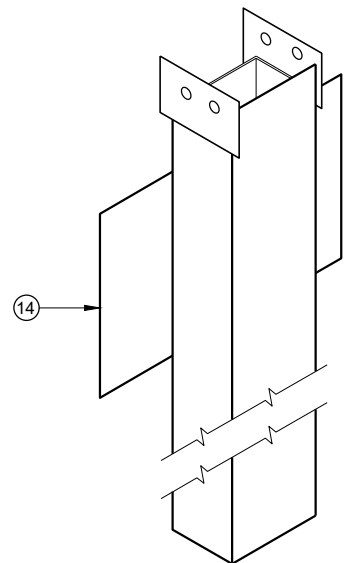
BEARING PLATE ⑥ ⑤

**MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)**

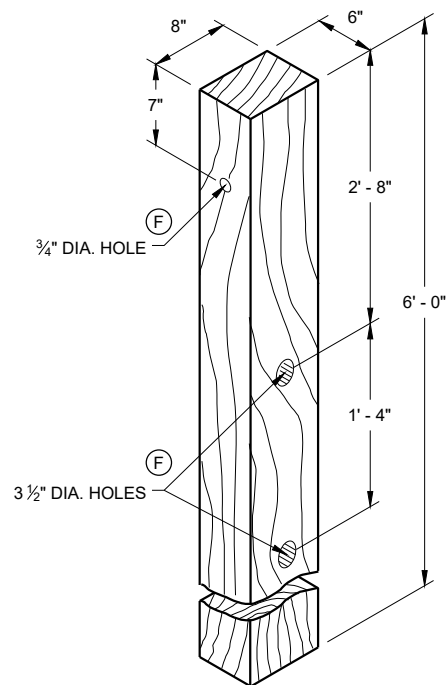
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



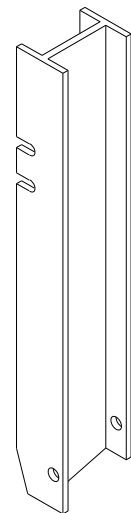
UPPER POST NO. 1 ⁽¹⁾ (E)



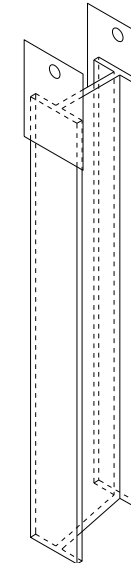
LOWER POST NO. 1 ⁽²⁾ (E)



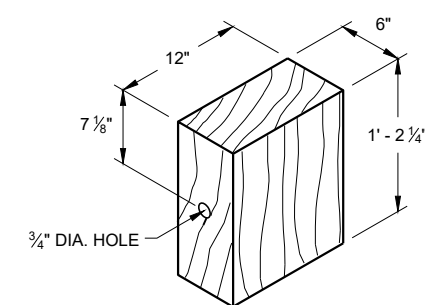
WOOD CRT POST ⁽³⁾ (E)
POSTS NUMBER 3-9



UPPER POST NO. 2 ⁽¹⁵⁾ (E)

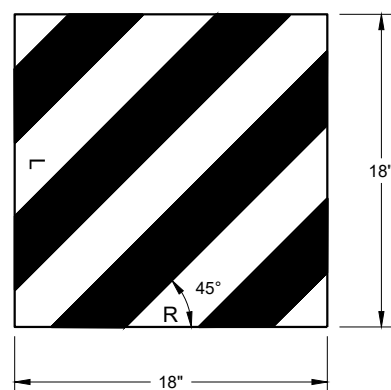


LOWER POST NO. 2 ⁽¹⁶⁾ (E)



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

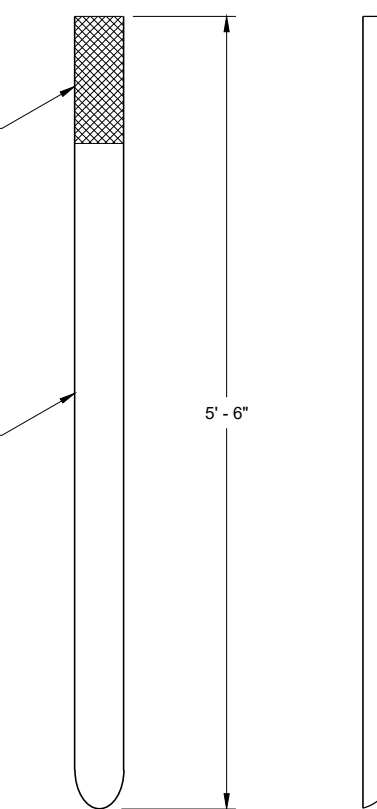
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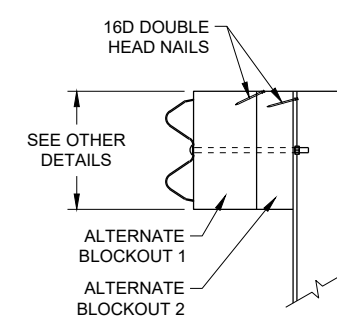
REFLECTIVE SHEETING DETAIL ^(E)

TYPE H
YELLOW REFLECTIVE
SHEETING 3" X 9".
SEE STANDARD
SPECIFICATION 637.

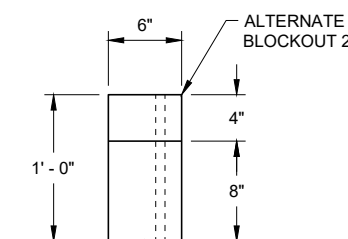
E.A.T. MARKER
POST (YELLOW)



FRONT VIEW SIDE VIEW
E.A.T. MARKER POST ⁽¹³⁾



SIDE VIEW



TOP VIEW

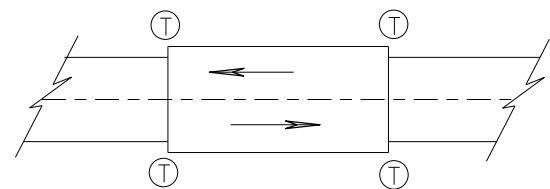
ALTERNATE WOOD
BLOCKOUT DETAIL

6

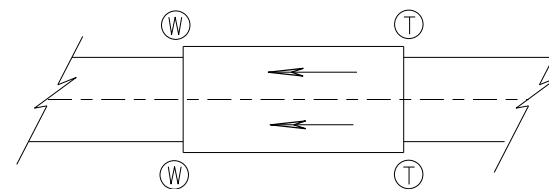
**MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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



TWO WAY TRAFFIC



ONE WAY TRAFFIC

(T) THRIE BEAM CONNECTION

(W) W-BEAM CONNECTION WHEN REQUIRED

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

GENERAL NOTES

IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2 1/2", AND 12" DIAMETER AROUND POST. SEE 14B42 FOR MORE DETAILS.

TRANSITION USES STEEL POSTS ONLY.

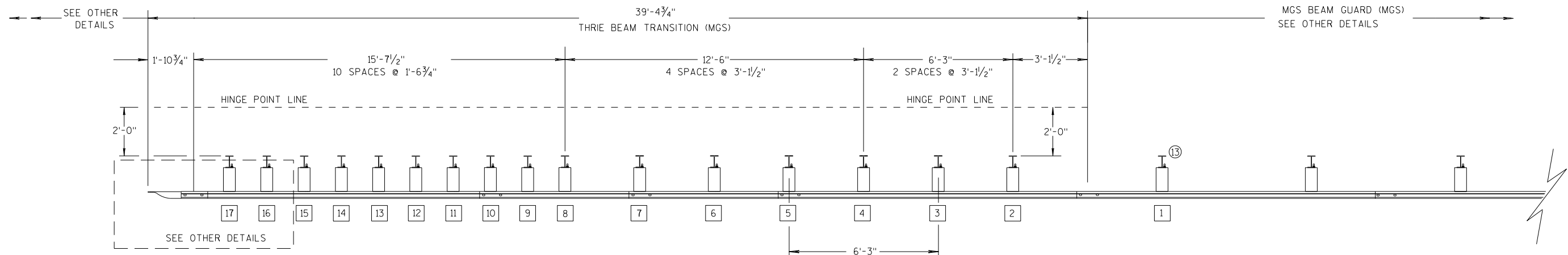
SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

POST 2 THROUGH 17 USES STEEL POST ONLY

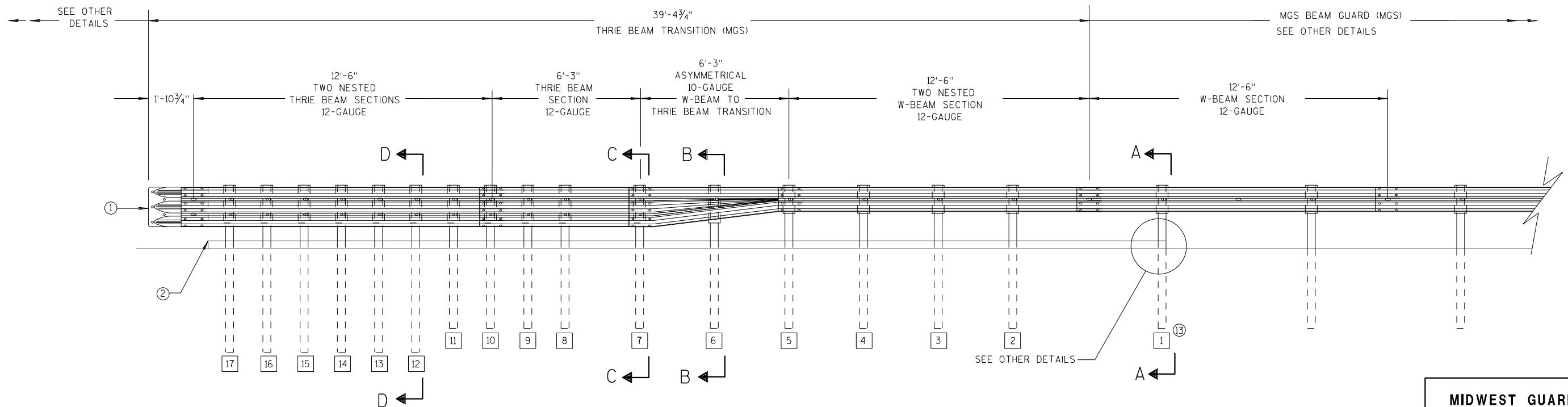
① BRIDGE RAILING TYPE "W" DOES NOT REQUIRE A TERMINAL CONNECTOR.

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

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



PLAN VIEW



ELEVATION VIEW

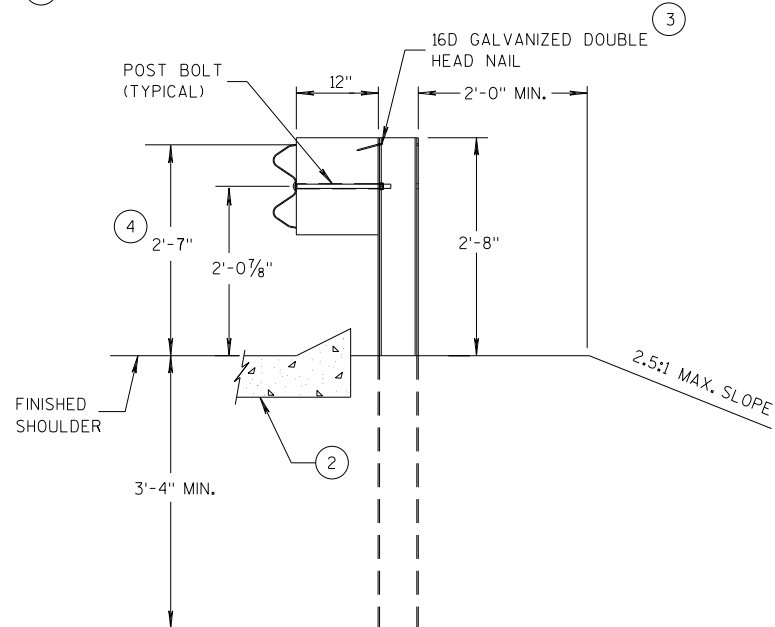
MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION

**MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)**

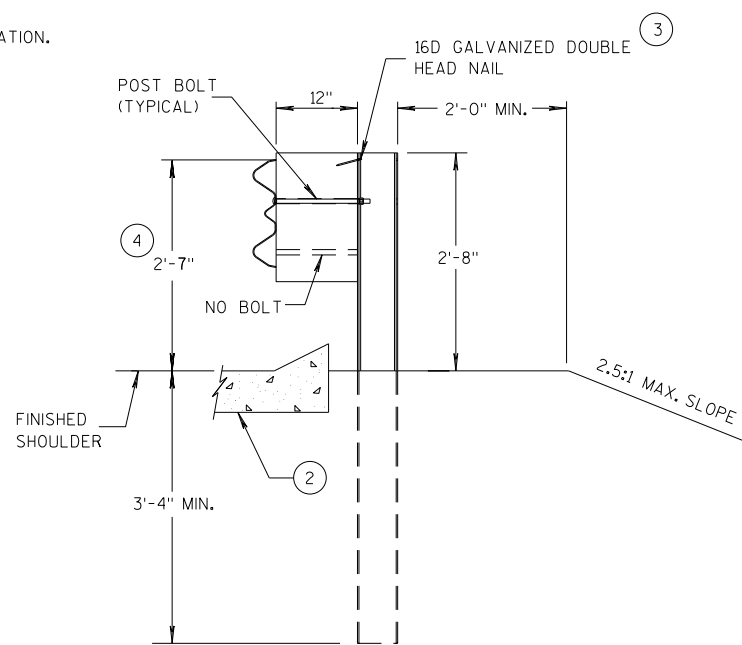
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

GENERAL NOTES

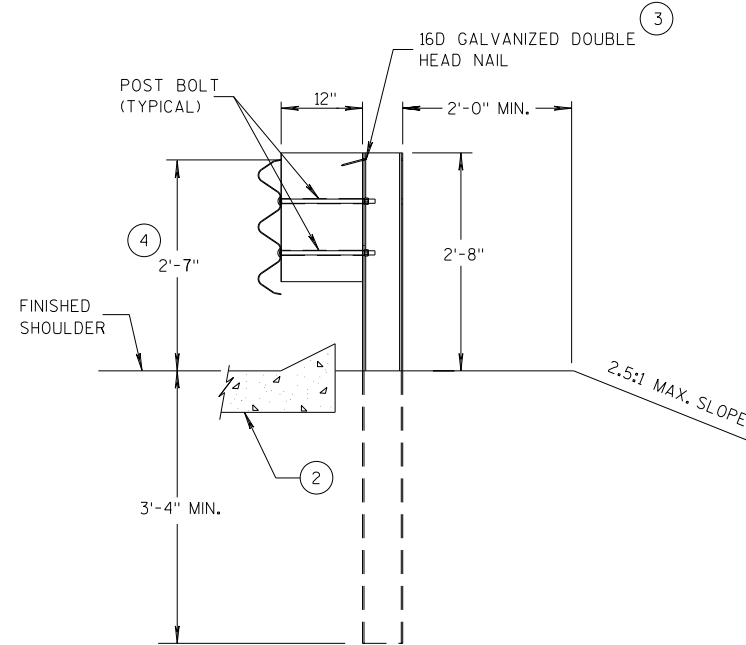
- ② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.
- ③ WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 10D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.
- ④ TOLERANCE FOR TOP OF W-BEAM RAIL IS ± 1".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



**SECTION A-A
POSTS 1-5**



**SECTION B-B
POST 6**



**SECTION C-C
POSTS 7-11**

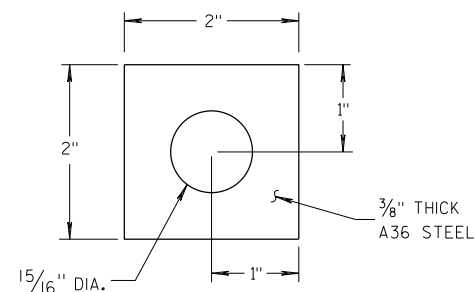
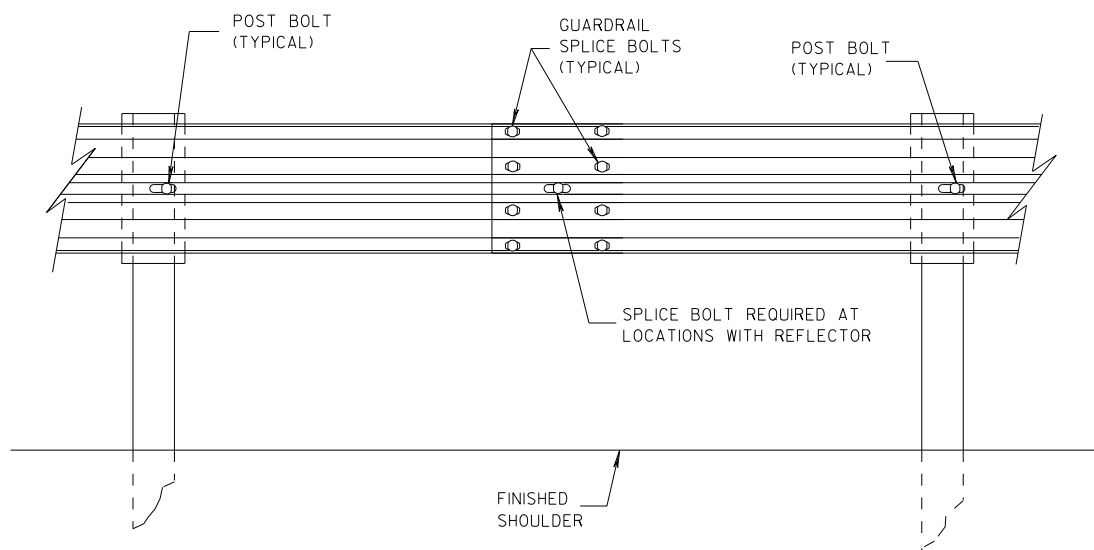
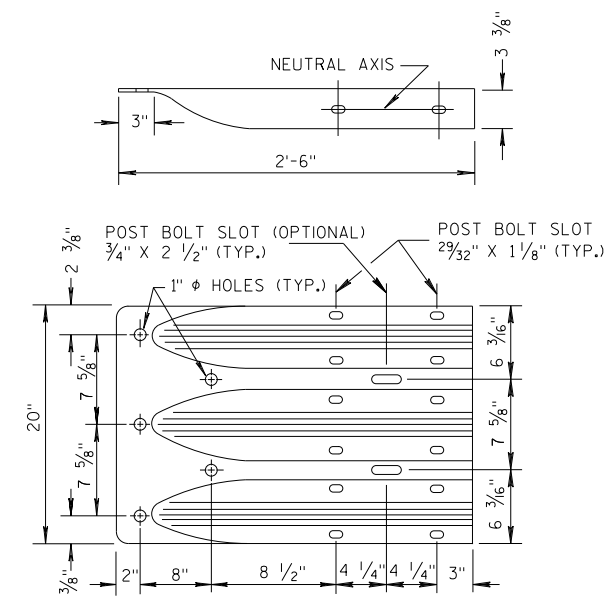


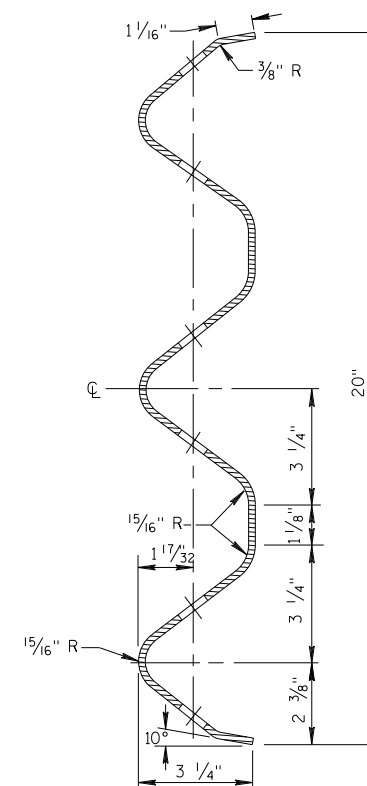
PLATE WASHER DETAIL



SPLICE DETAIL



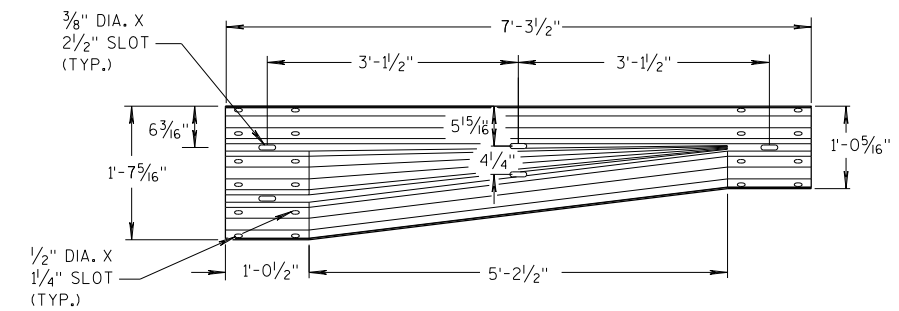
**THRIE BEAM
TERMINAL CONNECTOR**



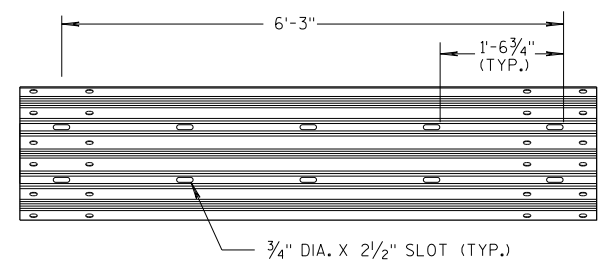
**SECTION THRU THRIE
BEAM RAIL ELEMENT**

**MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)**

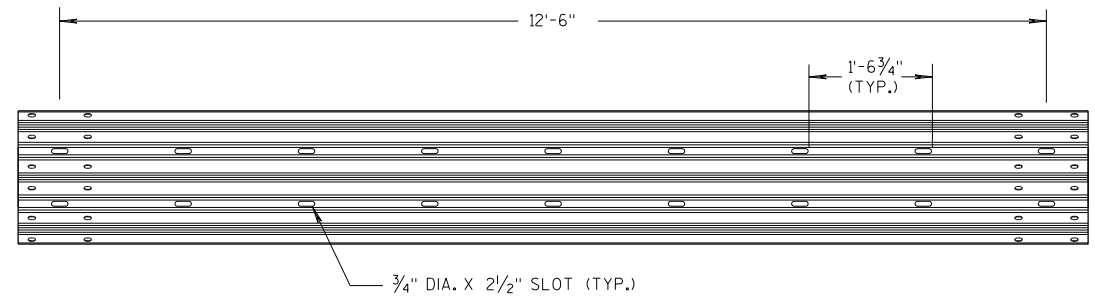
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



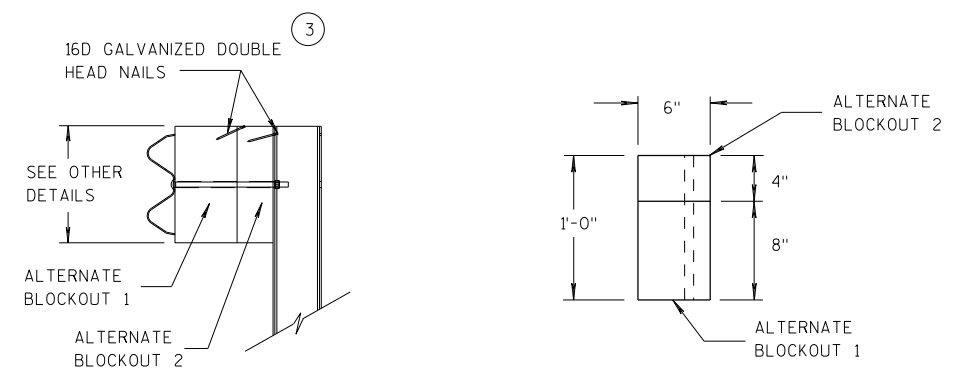
W-BEAM TO THRIE BEAM TRANSITION SECTION



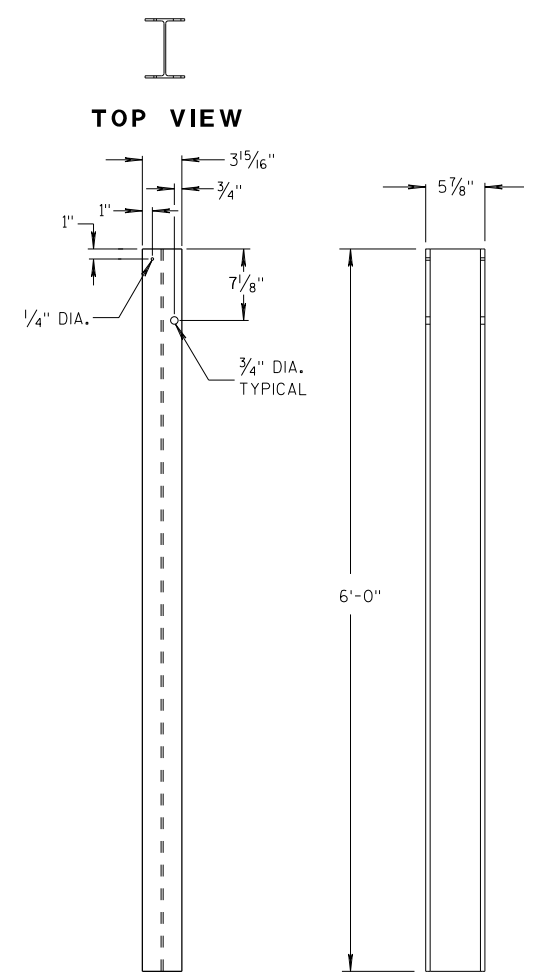
6'-3\"/>



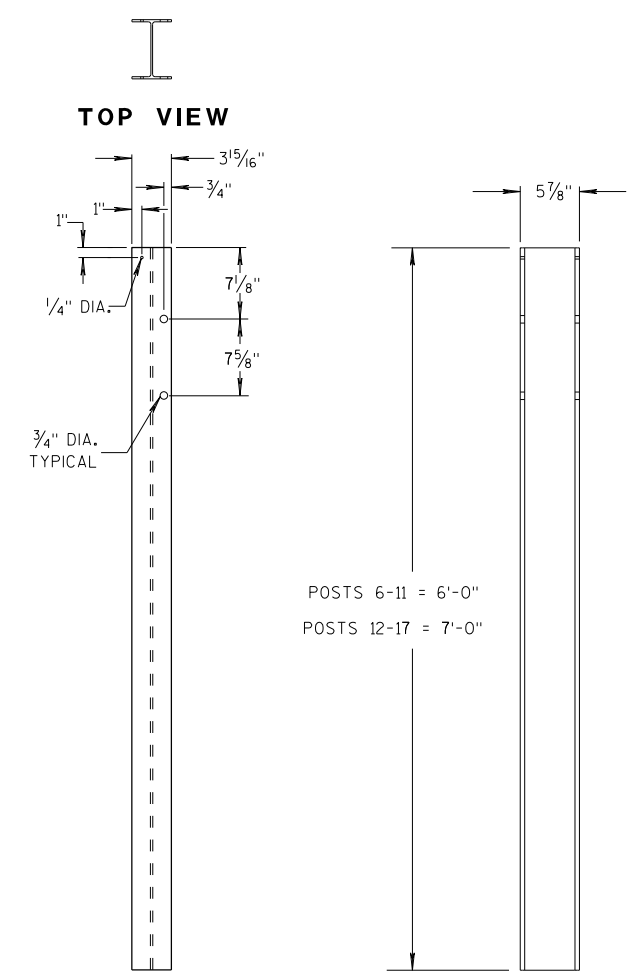
12'-6\"/>



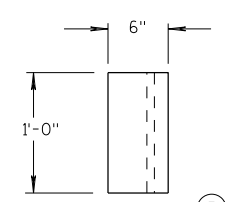
ALTERNATE WOOD BLOCKOUT DETAIL



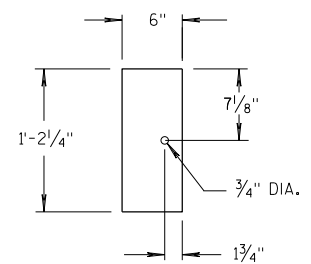
STEEL POSTS 1-5



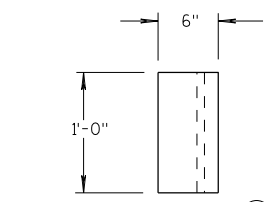
STEEL POSTS 6-17



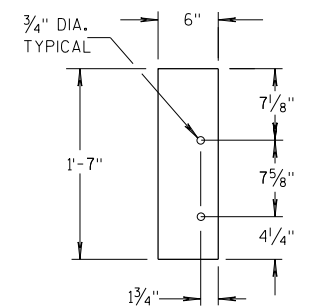
TOP VIEW



**FRONT VIEW
BLOCKOUT
POSTS 1-5**



TOP VIEW



**FRONT VIEW
BLOCKOUT
POSTS 6-17**

GENERAL NOTES

- STEEL POSTS ARE W6X9 OR W6X8.5.
- BOLT HOLES FOR POST ARE ON FRONT AND OF SIDE OF POST.
- (3) WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.
- (5) WOOD BLOCKS MAY BE CONSTRUCTED OUT OF 2 WOOD BLOCKS. SEE ALTERNATE WOOD BLOCK DETAIL.
- (13) STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD 14B42.

**MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)**

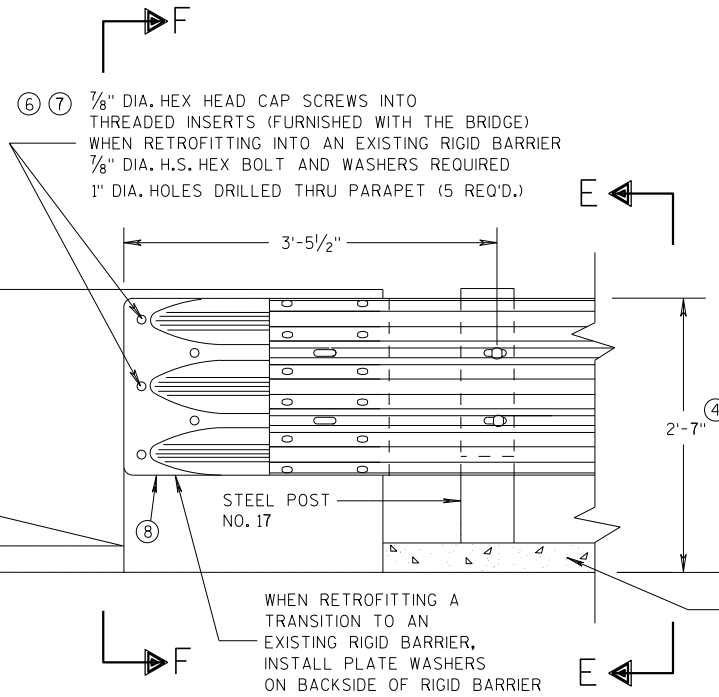
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

6

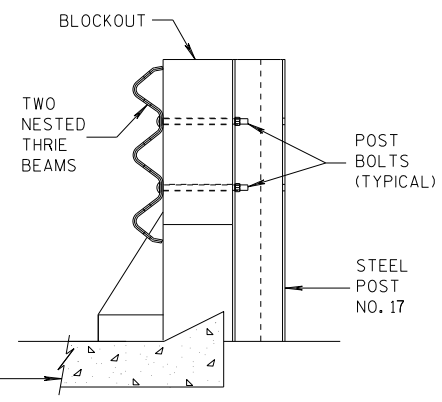
S.D.D. 14 B 45-5c

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



FRONT VIEW

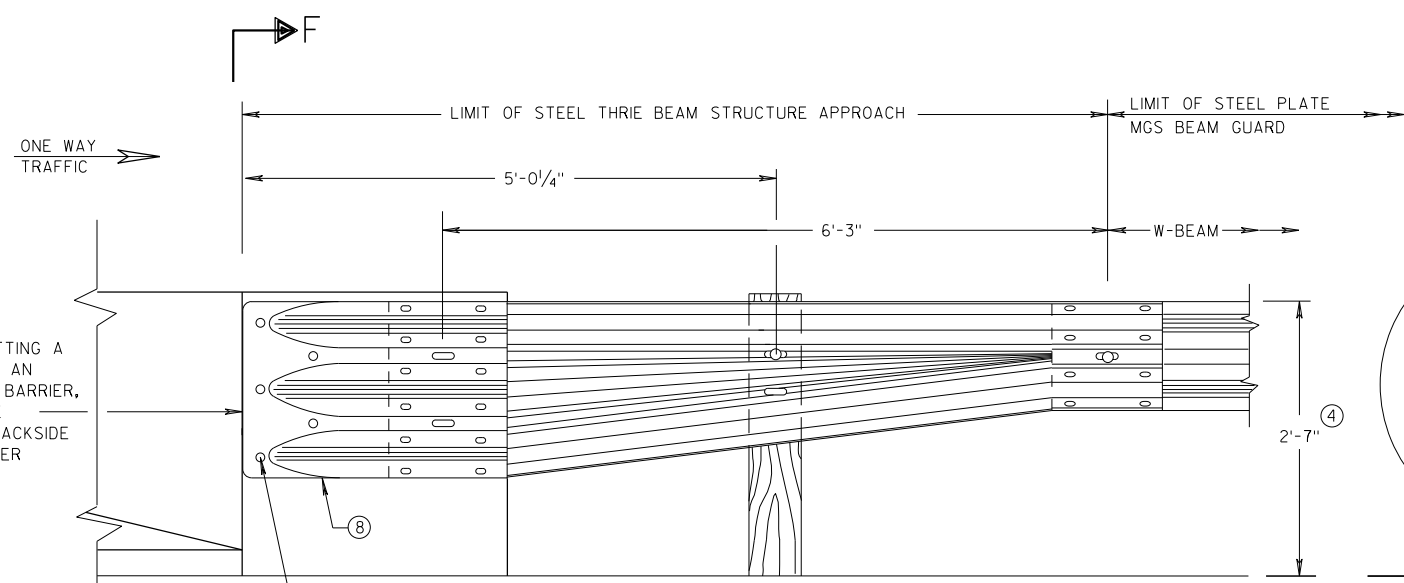
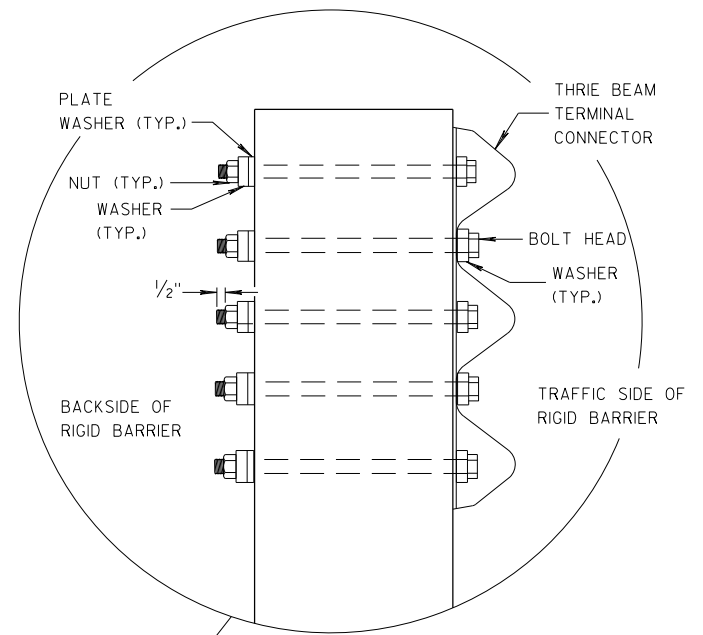
THRIE BEAM CONNECTION TO BRIDGE PARAPET WITH SQUARE ENDS



SECTION E-E

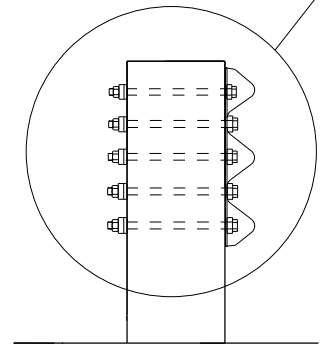
GENERAL NOTES

- THESE ARE TYPICAL CONNECTION DETAILS. ADJUST THE POSITION OF CONNECTIONS TO EXISTING BRIDGES TO FIT THE ACTUAL BRIDGE AND SITE DIMENSIONS.
- (2) OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.
 - (4) TOLERANCE FOR TOP OF BEAM IS $\pm 1"$.
 - (6) DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.
 - (7) BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/32" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.
 - (8) THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 1/2".

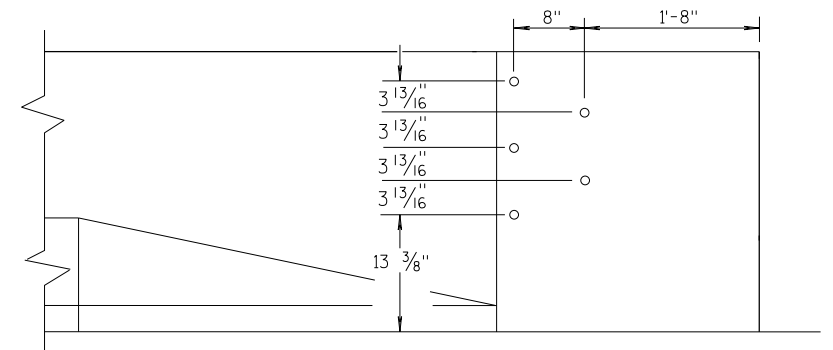


FRONT VIEW

W BEAM TRANSITION AND CONNECTION TO BRIDGE PARAPETS WITH SQUARE ENDS
(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)



SECTION F-F



DRILL HOLE LOCATION

MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 07/2018 DATE	/S/ Rodney Taylor ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR
FHWA	

6

6

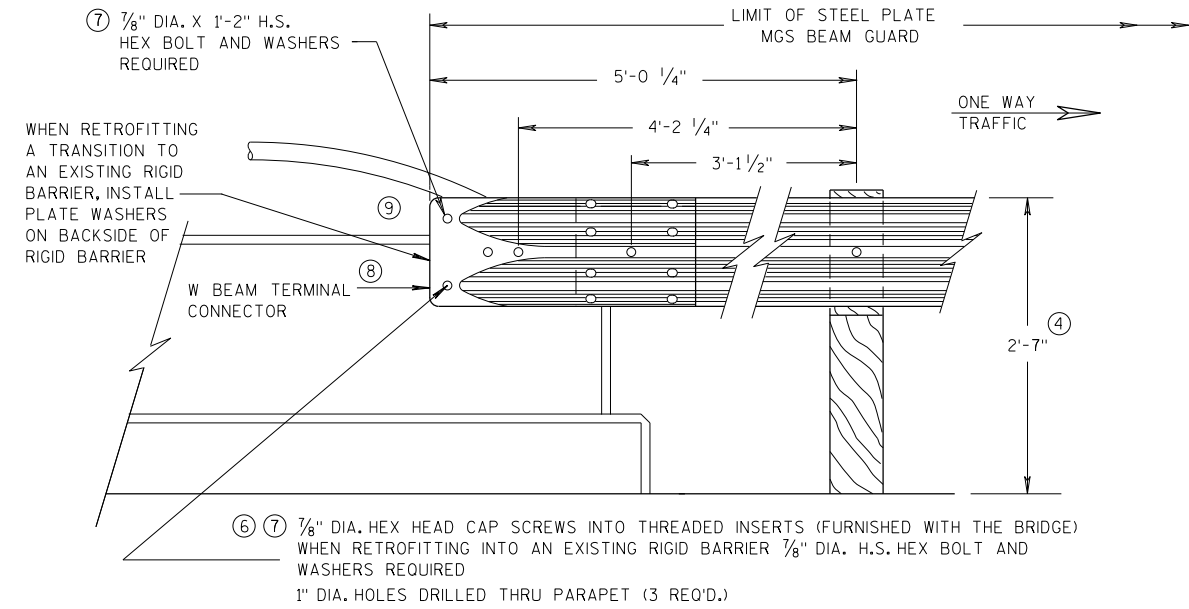
S.D.D. 14 B 45-5d

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

GENERAL NOTES

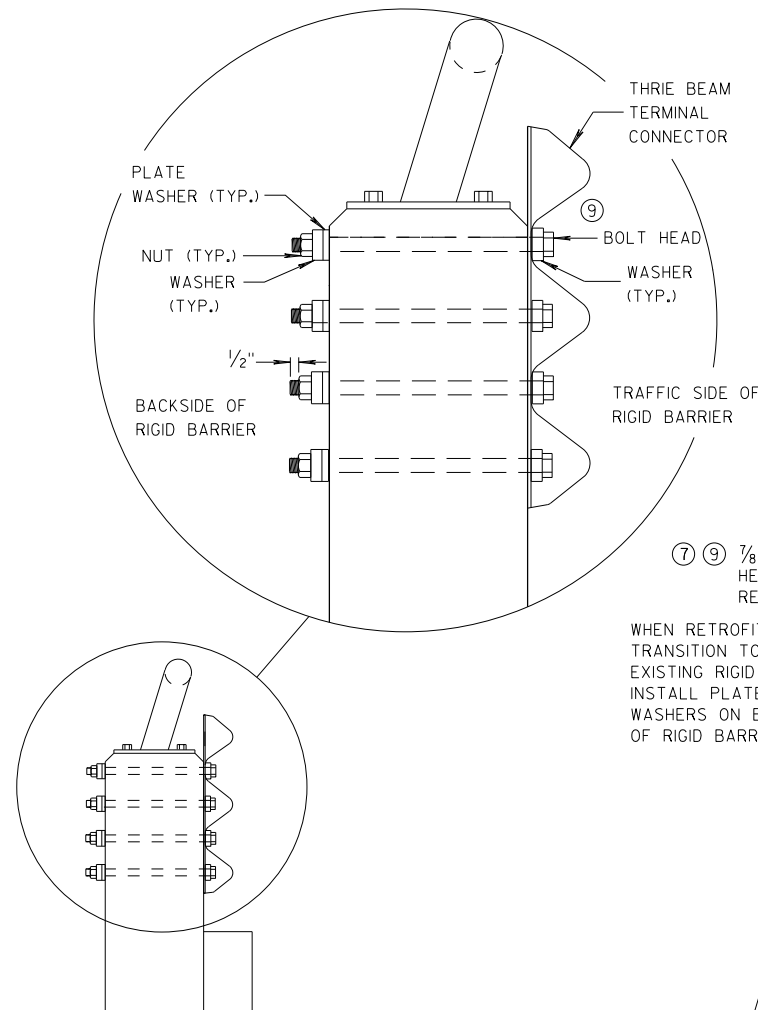
THESE ARE TYPICAL CONNECTION DETAILS. ADJUST THE POSITION OF CONNECTIONS TO EXISTING BRIDGES TO FIT THE ACTUAL BRIDGE AND SITE DIMENSIONS.

- ② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.
- ④ TOLERANCE FOR TOP OF BEAM IS $\pm 1"$.
- ⑥ DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.
- ⑦ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/32" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.
- ⑧ THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 1/2".
- ⑨ BOLT, NUT AND WASHERS NOT REQUIRED FOR THIS LOCATION WHEN RETROFITTING AN EXISTING PAPAPET AND THE HOLE IS EITHER ABOVE PARAPET OR WITHIN 4 INCHES OF THE EDGE OF PARAPET.

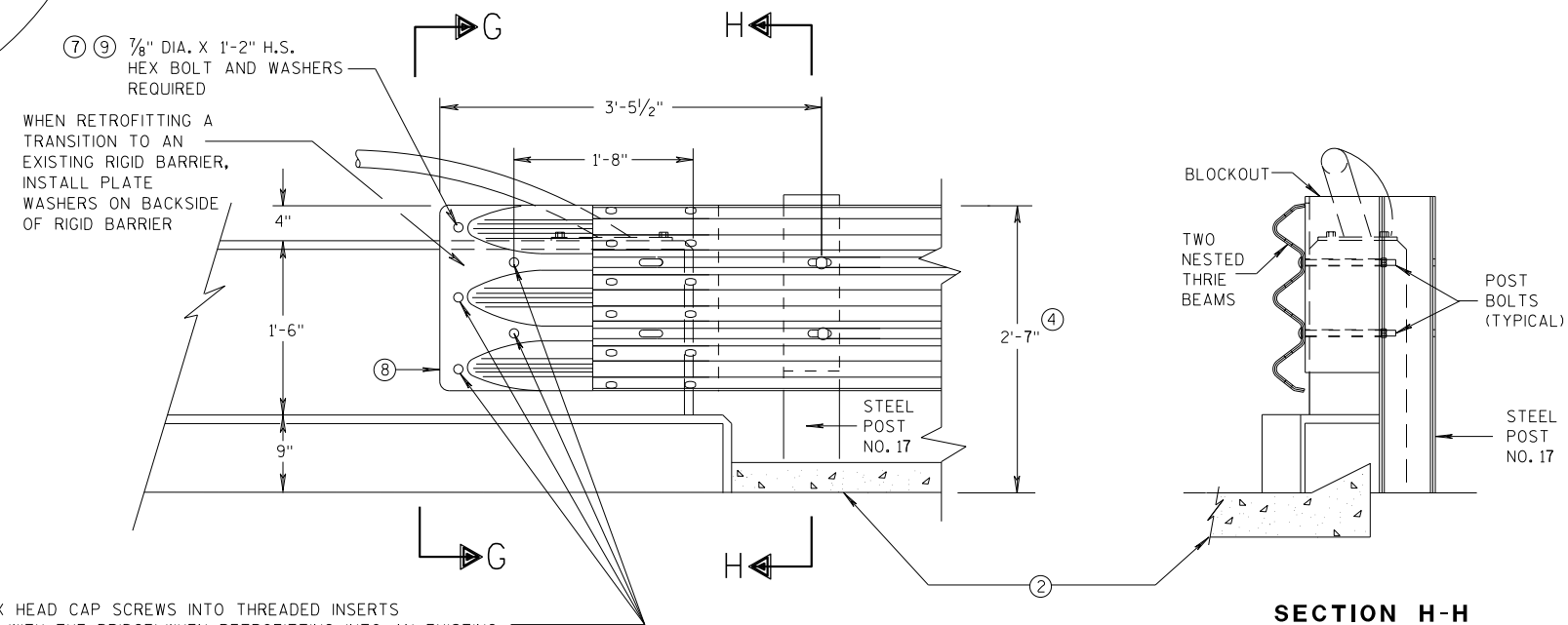


FRONT VIEW

W BEAM CONNECTION TO VERTICAL FACE PARAPET (USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)



SECTION G-G



FRONT VIEW

THRIE BEAM CONNECTION TO VERTICAL FACED PARAPETS

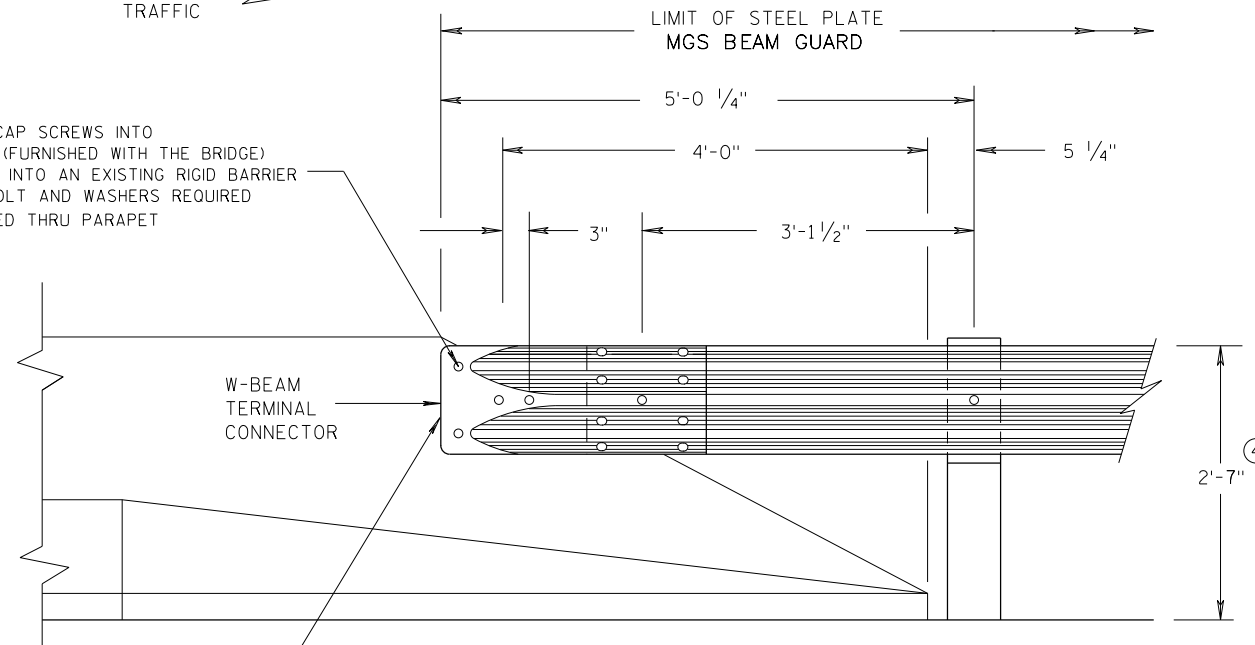
MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
07/2018 /S/ Rodney Taylor
DATE ROADWAY STANDARDS DEVELOPMENT
FHWA UNIT SUPERVISOR

ONE WAY
TRAFFIC

⑥ ⑦ 7/8" DIA. HEX HEAD CAP SCREWS INTO
THREADED INSERTS (FURNISHED WITH THE BRIDGE)
WHEN RETROFITTING INTO AN EXISTING RIGID BARRIER
7/8" DIA. H.S. HEX BOLT AND WASHERS REQUIRED
1" DIA. HOLES DRILLED THRU PARAPET
(4 REQ'D.)



W-BEAM
TERMINAL
CONNECTOR

WHEN RETROFITTING A TRANSITION
TO AN EXISTING RIGID BARRIER,
INSTALL PLATE WASHERS ON
BACKSIDE OF RIGID BARRIER.

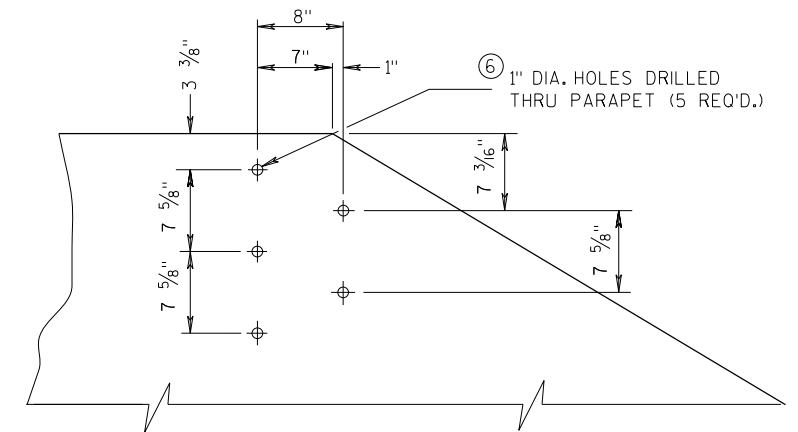
FRONT VIEW

**W BEAM CONNECTION TO
PARAPETS WITH SLOPED ENDS**

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

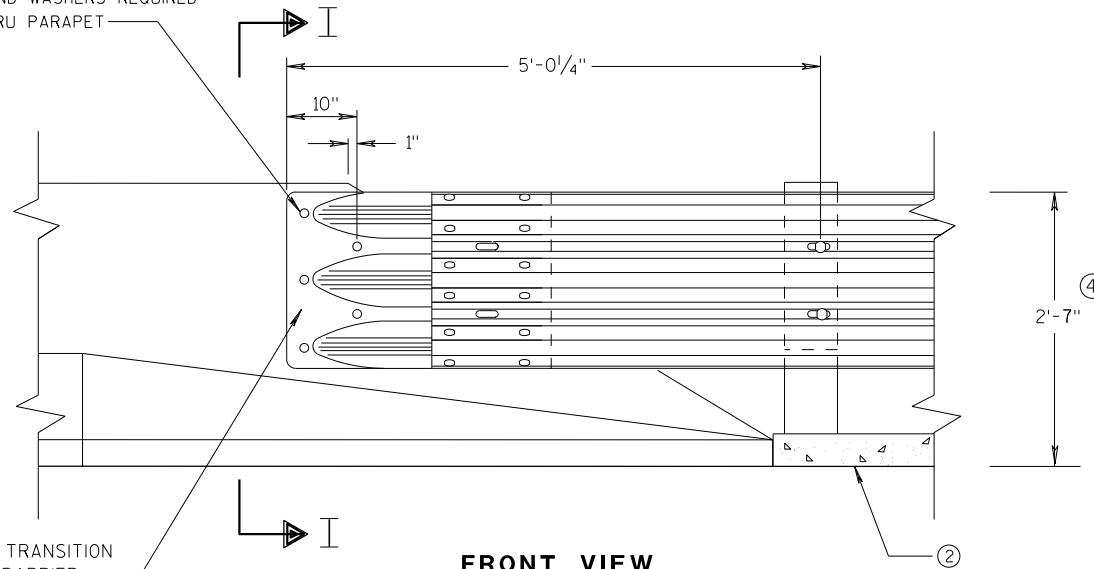
GENERAL NOTES

- ② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.
- ④ TOLERANCE FOR TOP OF BEAM IS $\pm 1"$.
- ⑥ DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.
- ⑦ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/32" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.



**DRILL HOLE LOCATION AND PATTERN
FOR THRIE BEAM CONNECTION**

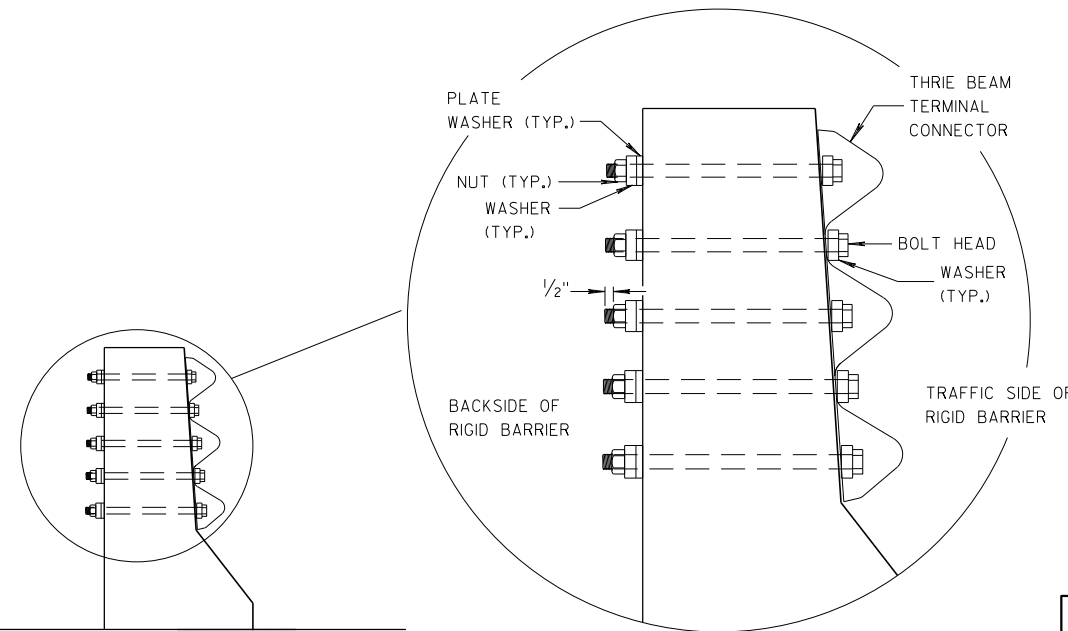
⑥ ⑦ 7/8" DIA. HEX HEAD CAP SCREWS INTO
THREADED INSERTS (FURNISHED WITH THE BRIDGE)
WHEN RETROFITTING INTO AN EXISTING RIGID BARRIER
7/8" DIA. H.S. HEX BOLT AND WASHERS REQUIRED
1" DIA. HOLES DRILLED THRU PARAPET
(5 REQ'D.)



FRONT VIEW

**THRIE BEAM CONNECTION TO BRIDGE
PARAPETS WITH SLOPED ENDS**

WHEN RETROFITTING A TRANSITION
TO AN EXISTING RIGID BARRIER,
INSTALL PLATE WASHERS ON
BACKSIDE OF RIGID BARRIER.

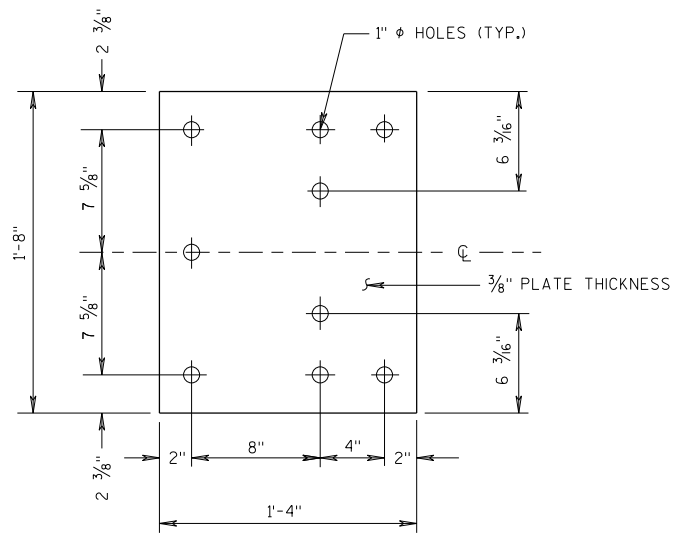


SECTION I-I

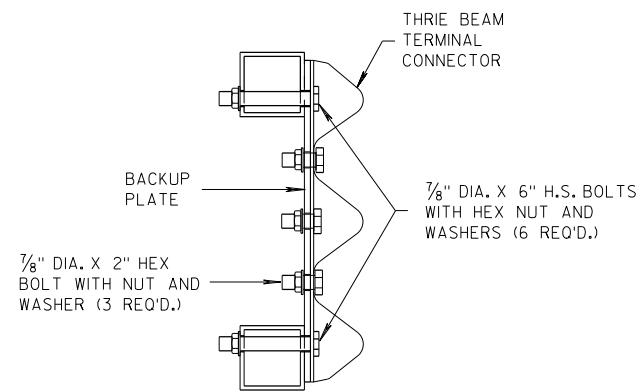
**MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

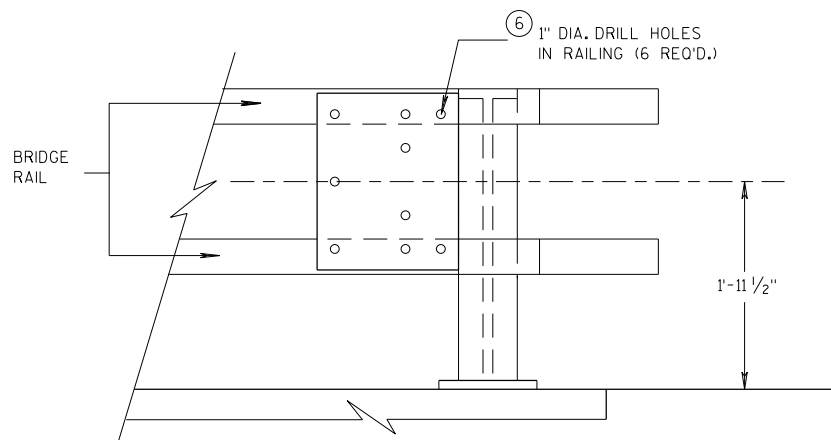
APPROVED
DATE 07/2018 /S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT
UNIT SUPERVISOR
FHWA



BACK-UP PLATE DETAIL



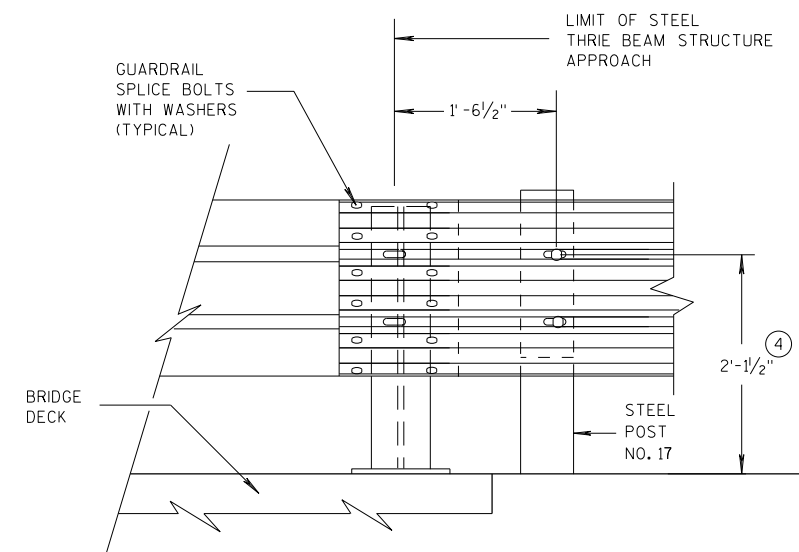
SECTION J-J



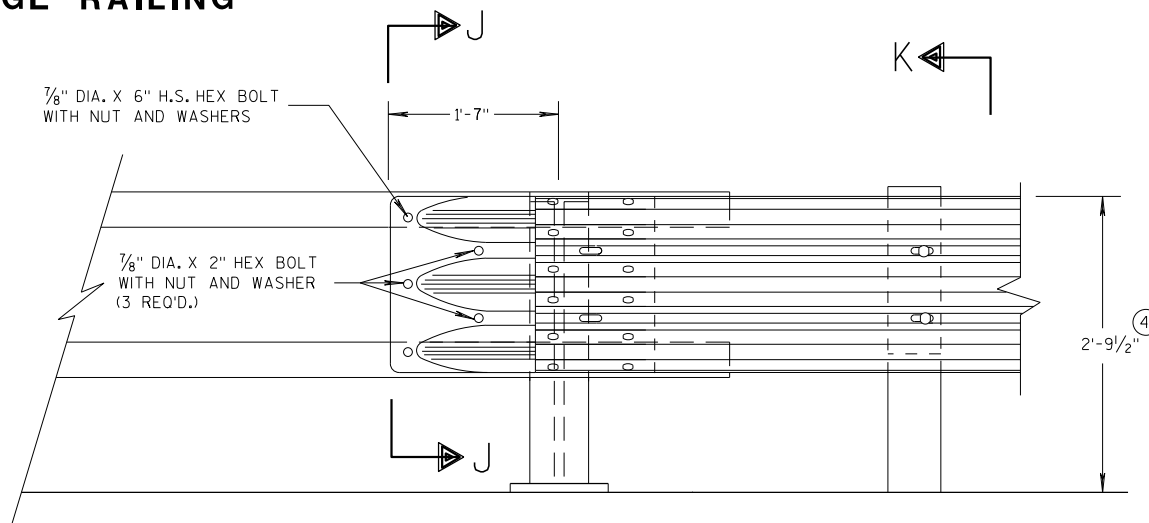
BACK-UP PLATE MOUNTING ONTO BRIDGE RAILING

GENERAL NOTES

- ④ TOLERANCE FOR TOP OF BEAM IS $\pm 1'$.
- ⑥ DRILLING HOLES THROUGH THE PAPER, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

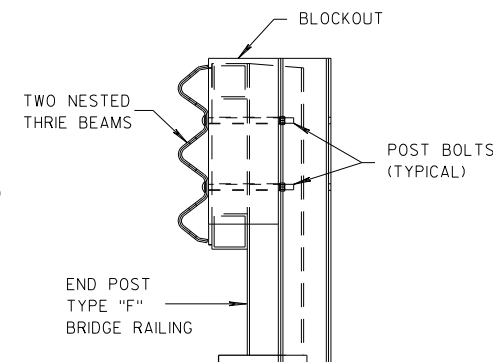


**FRONT VIEW
THRIE BEAM CONNECTION TO
STEEL RAILING TYPE "W"**



FRONT VIEW

**THRIE BEAM CONNECTION TO
TUBULAR RAILING TYPE "F"**



SECTION K-K

MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 07/2018 DATE	/S/ Rodney Taylor ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR
FHWA	

6

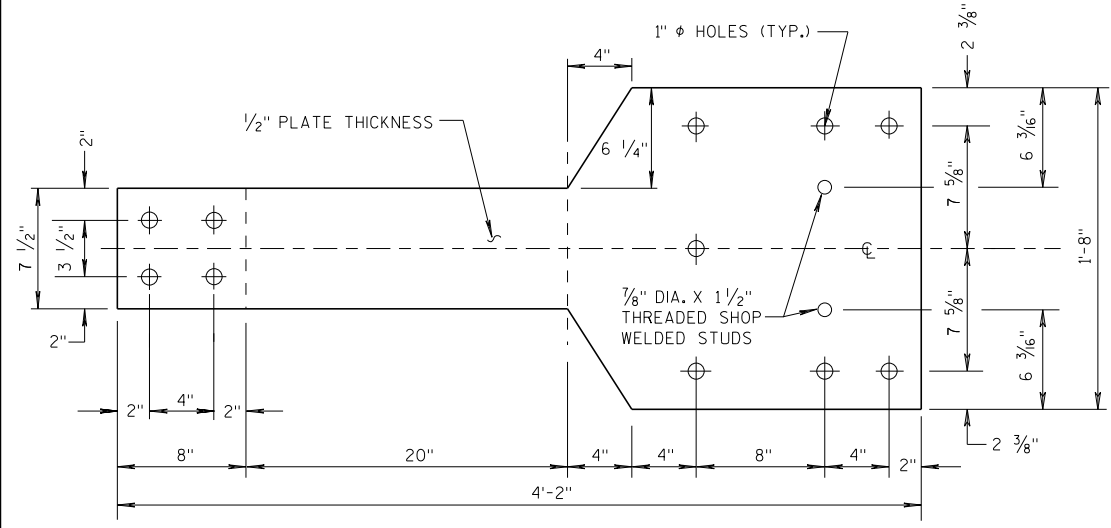
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S.D.D. 14 B 45-59

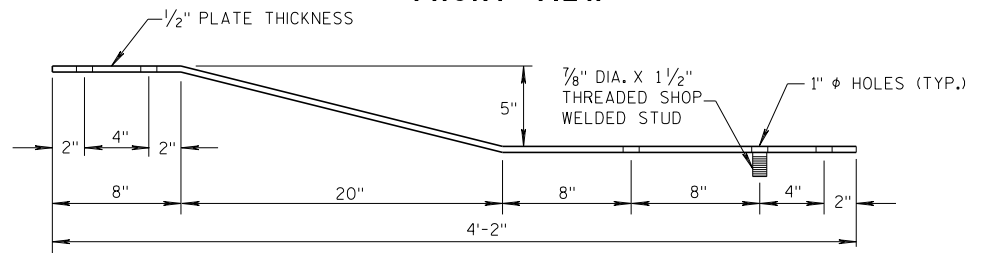
S.D.D. 14 B 45-59

GENERAL NOTES

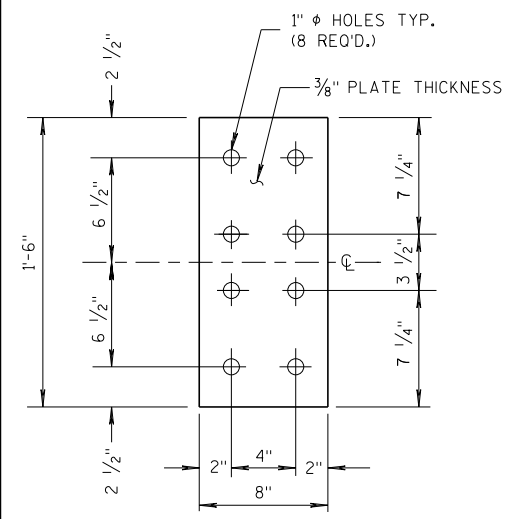
(4) TOLERANCE FOR TOP OF W-BEAM RAIL IS ± 1".



FRONT VIEW

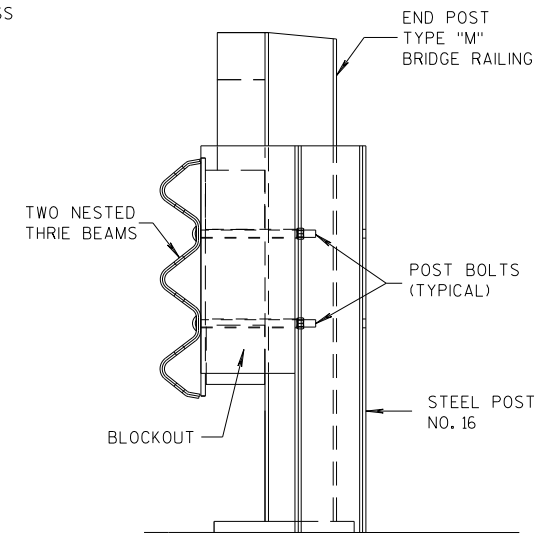


**PLAN VIEW
BACK-UP PLATE DETAIL, TYPE "M"**

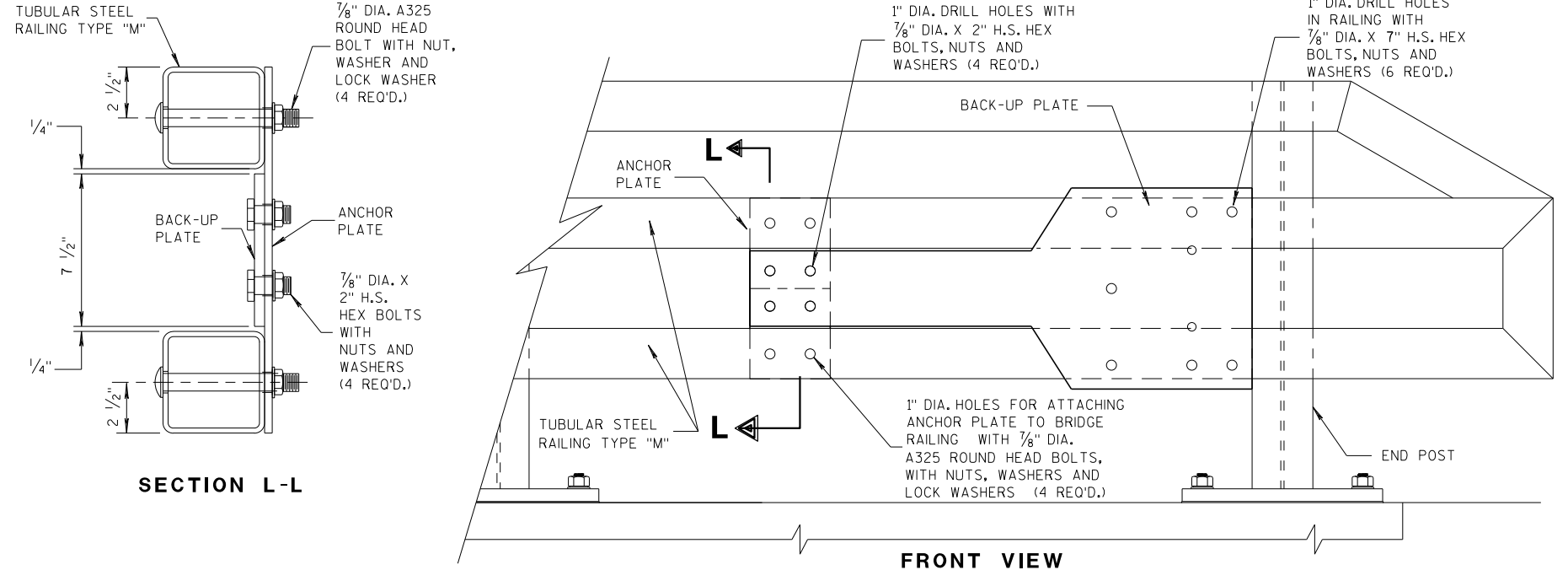


FRONT VIEW

**ANCHOR
PLATE DETAIL,
TYPE "M"**



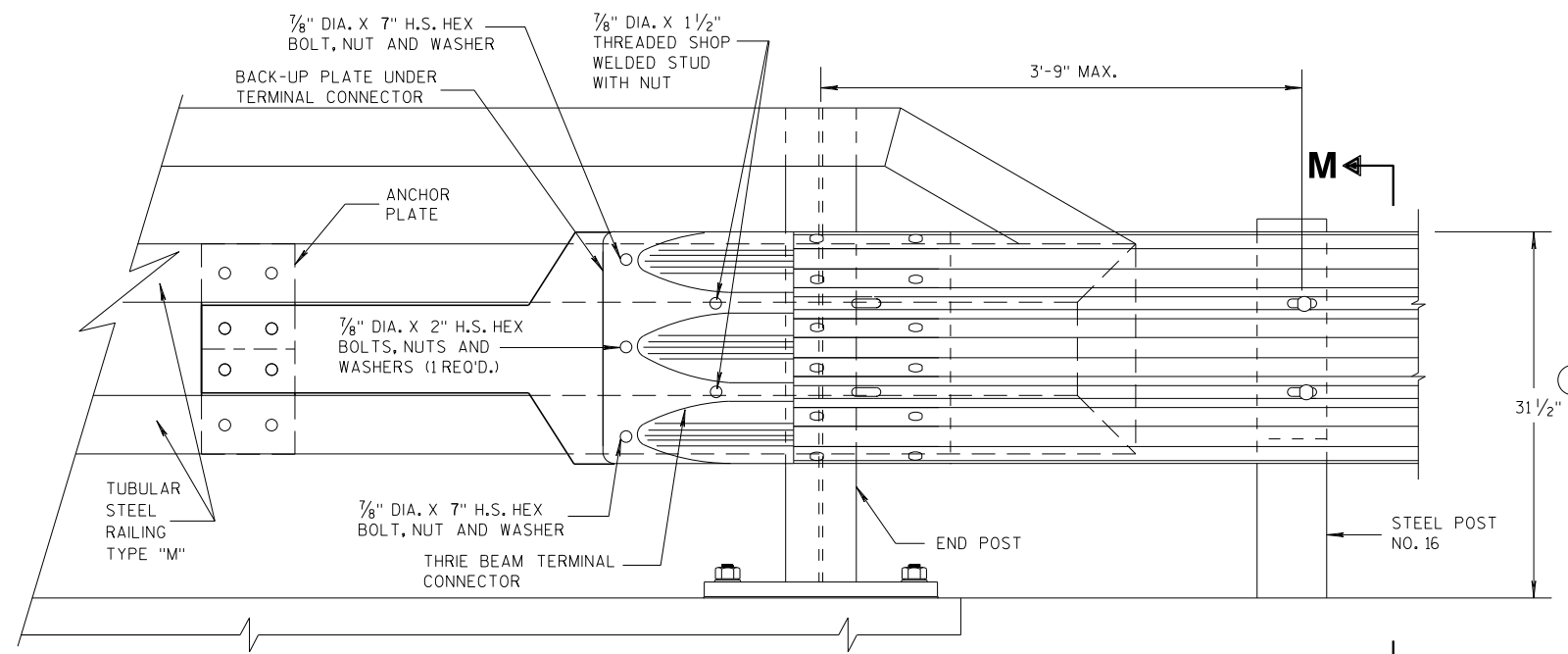
SECTION M-M



SECTION L-L

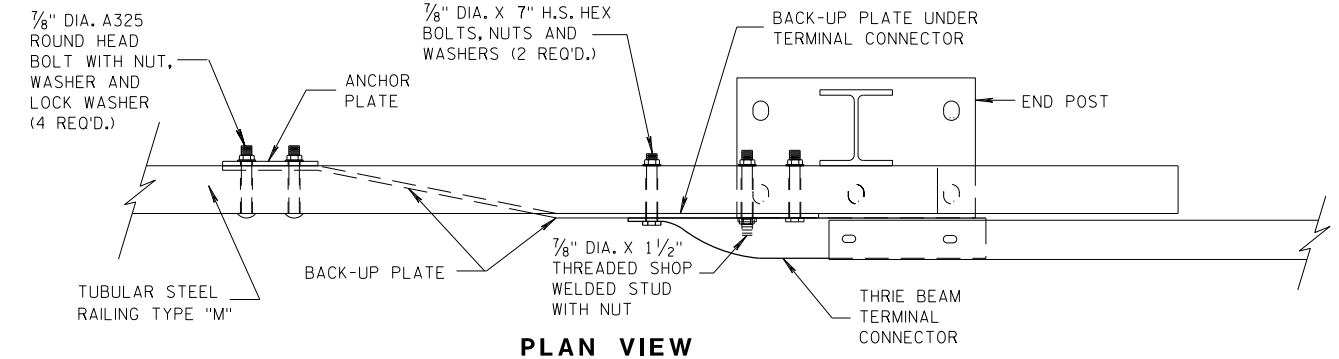
FRONT VIEW

ANCHOR AND BACK-UP PLATE MOUNTING TO BRIDGE RAILING, TYPE "M"



FRONT VIEW

M



PLAN VIEW

THRIE BEAM CONNECTION TO TUBULAR RAILING, TYPE "M"

**MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)**

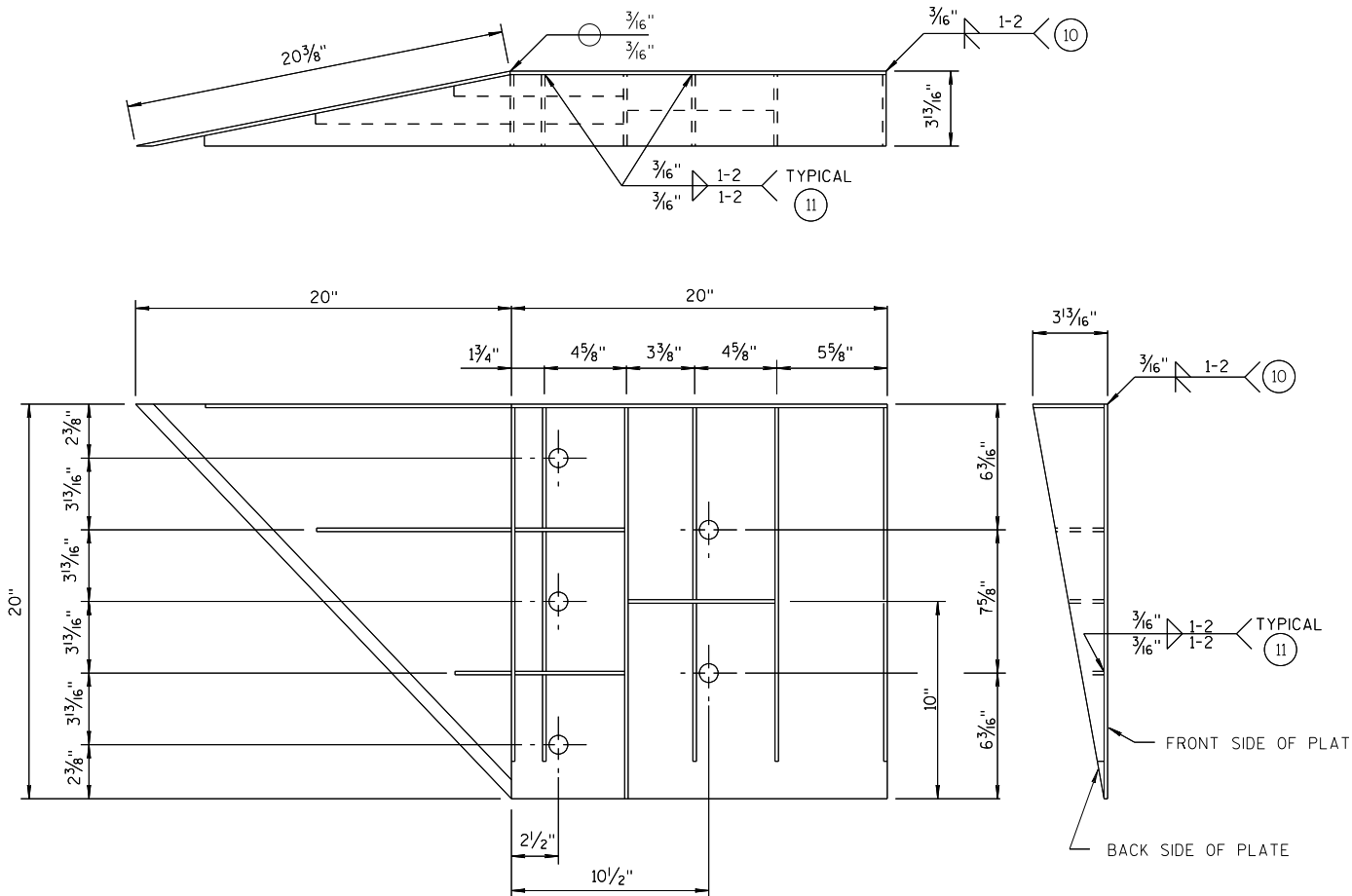
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
DATE 07/2018
DATE /S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT
UNIT SUPERVISOR
FHWA

GENERAL NOTES

- COVER PLATE PANELS ARE 3/16" THICK.
- ALL STIFFENERS ARE 1/4" THICK.
- CONNECTOR PLATE SHALL BE FABRICATED FROM ASTM GRADE A36 STEEL AND GALVANIZED.
- FOR GALVANIZED REQUIREMENTS, SEE SECTION 614 OF THE STANDARD SPECIFICATIONS.
- ALL HOLE DIAMETERS SHALL BE 1".
- FOR OPPOSITE SIDE INSTALLATION MIRROR DRAWINGS.

- (10) STIFFENERS LOCATED AT THE OUTSIDE EDGES OF THE COVER PLATES SHALL BE WELDED AS FOLLOWS:
SINGLE BEVEL GROOVE WELD ON EXTERNAL SIDES AND 3/16" FILLET WELD BY 1" LONG SPACED AT 2" ON INTERNAL SIDES.
- (11) STIFFENERS LOCATED ON THE INSIDE OF THE COVER PLATE SHALL BE WELDED AS FOLLOWS:
3/16" FILLET WELD BY 1" LONG SPACED AT 2".



WELDING INSTRUCTION
(VIEWED FROM BACK SIDE OF PLATE)

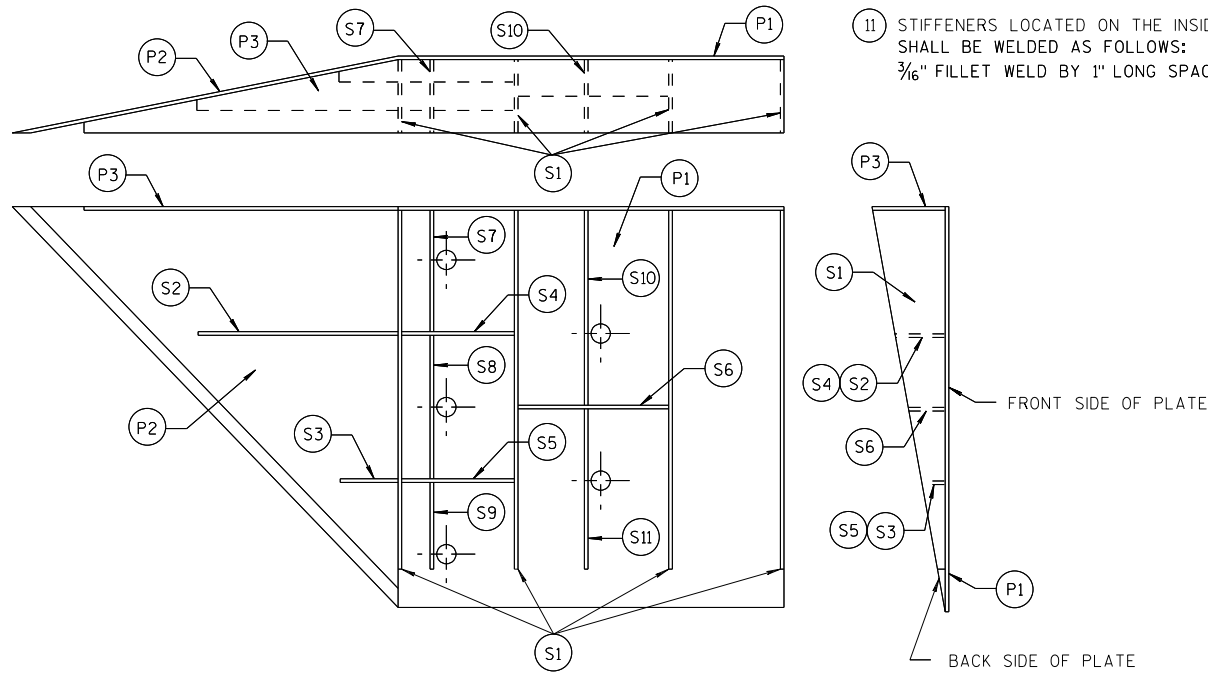


PLATE AND STIFFENER IDENTIFICATION
(VIEWED FROM BACK SIDE OF PLATE)

CONNECTOR PLATE DIMENSION (PER ASSEMBLY)				
PLATE	QUANTITY	SHAPE	SIZE (A x B x C x D)	THICKNESS
P1	1		20" x 20"	3/16"
P2	1		20" x 20" x 28 3/16"	3/16"
P3	1		39" x 3 5/8" x 20" x 19 5/16"	3/16"
S1	4		18 7/16" x 3 5/8" x 18 3/4"	1/4"
S2	1		10 1/4" x 2 1/16" x 10 3/8" x 1/2"	1/4"
S3	1		3" x 1 1/16" x 3 3/8" x 1/2"	1/4"
S4	1		6 1/8" x 2 7/16"	1/4"
S5	1		6 1/8" x 1 1/16"	1/4"
S6	1		7 3/4" x 1 3/4"	1/4"
S7	1		2 3/16" x 6" x 3 5/8" x 5 7/8"	1/4"
S8	1		1 5/32" x 7 1/2" x 2 1/2" x 7 3/8"	1/4"
S9	1		6 1/16" x 6 3/16" x 1 3/32"	1/4"
S10	1		1 7/8" x 9 7/8" x 3 3/8" x 9 11/16"	1/4"
S11	1		8 1/2" x 8 3/4" x 1 3/16"	1/4"

SINGLE SLOPE CONNECTION PLATE

**MIDWEST GUARDRAIL SYSTEM
THREE BEAM TRANSITION (MGS)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

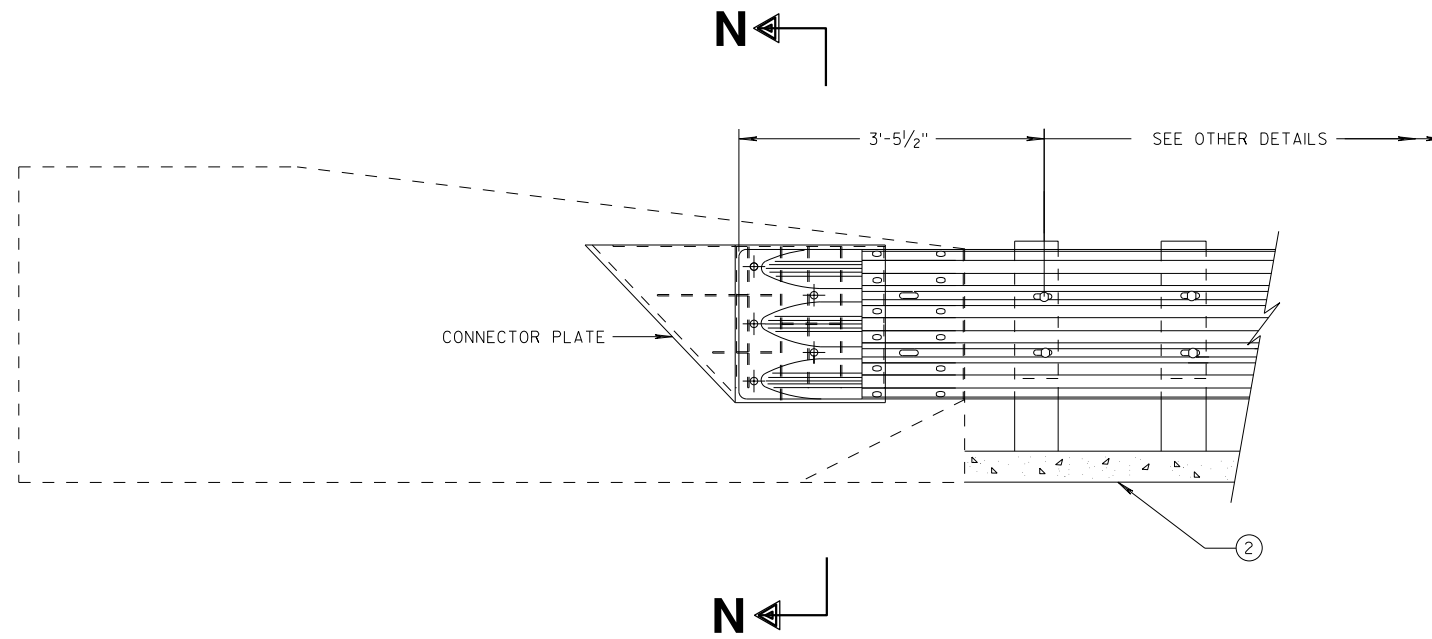
APPROVED: _____ /S/ Rodney Taylor
DATE: 7/2018 ROADWAY STANDARDS DEVELOPMENT
FHWA UNIT SUPERVISOR

GENERAL NOTES

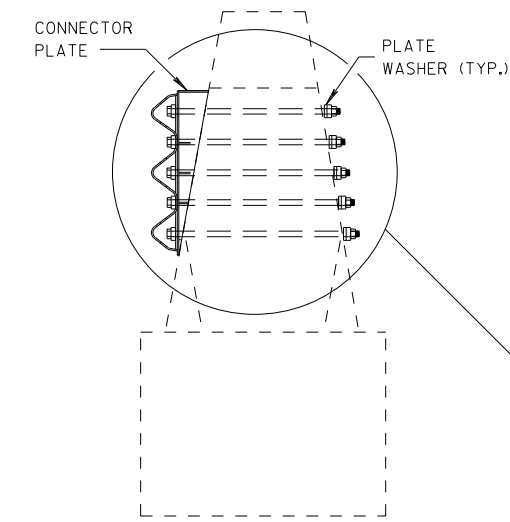
CONNECTOR PLATE, DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

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

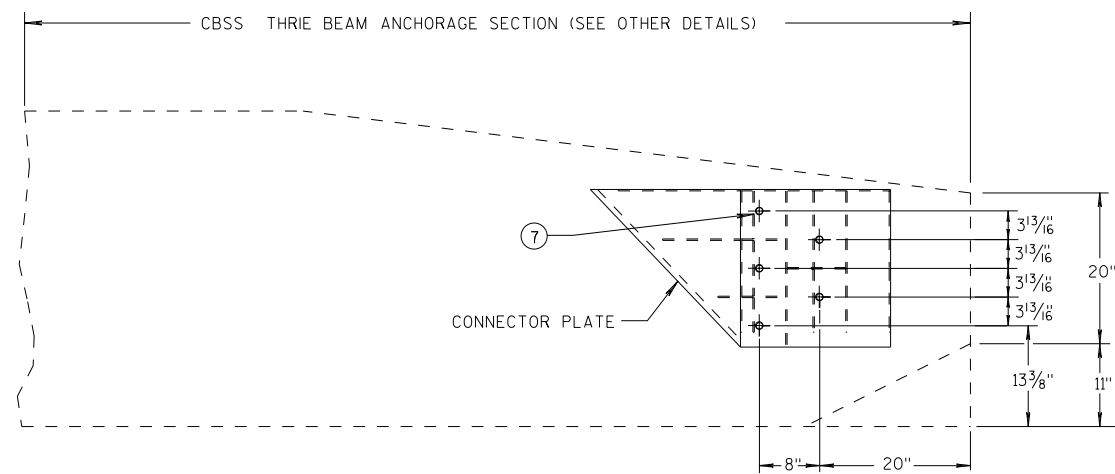
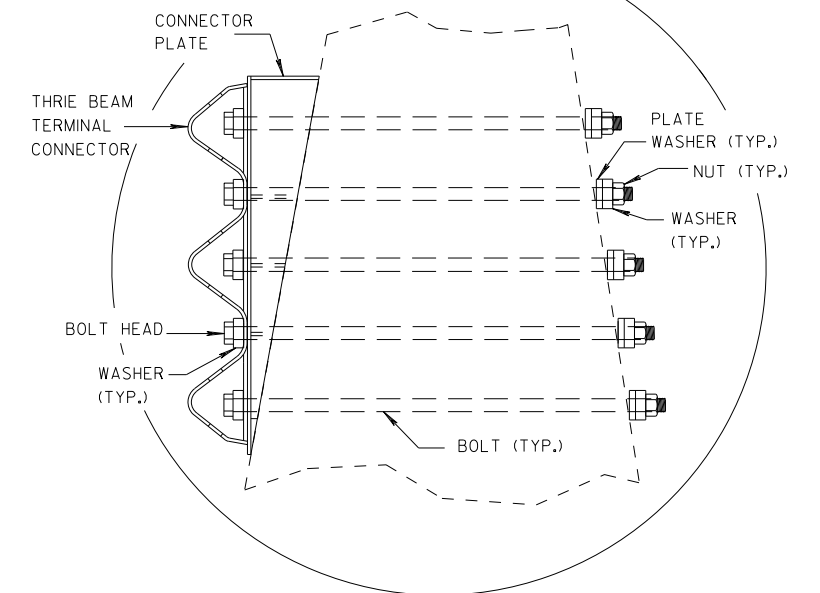
⑦ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTION PLATE.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



THRIE BEAM CONNECTION TO SINGLE SLOPE BARRIER



SECTION N-N

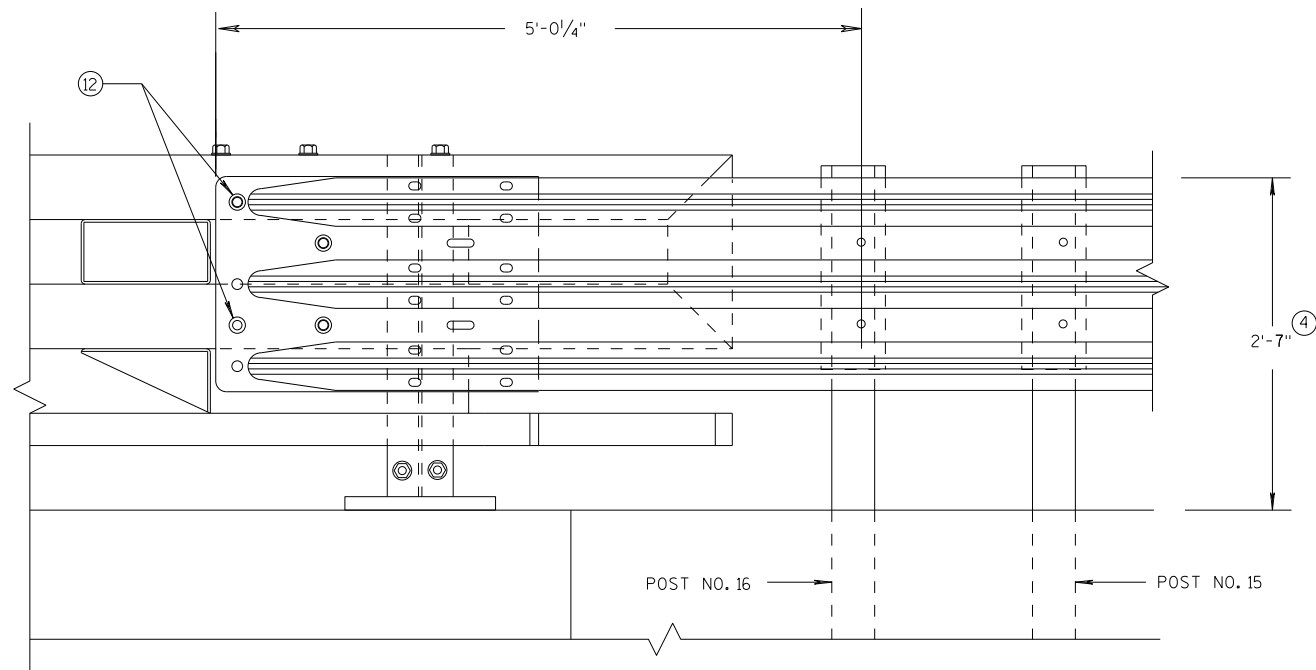


SINGLE SLOPE CONNECTION PLATE PLACEMENT

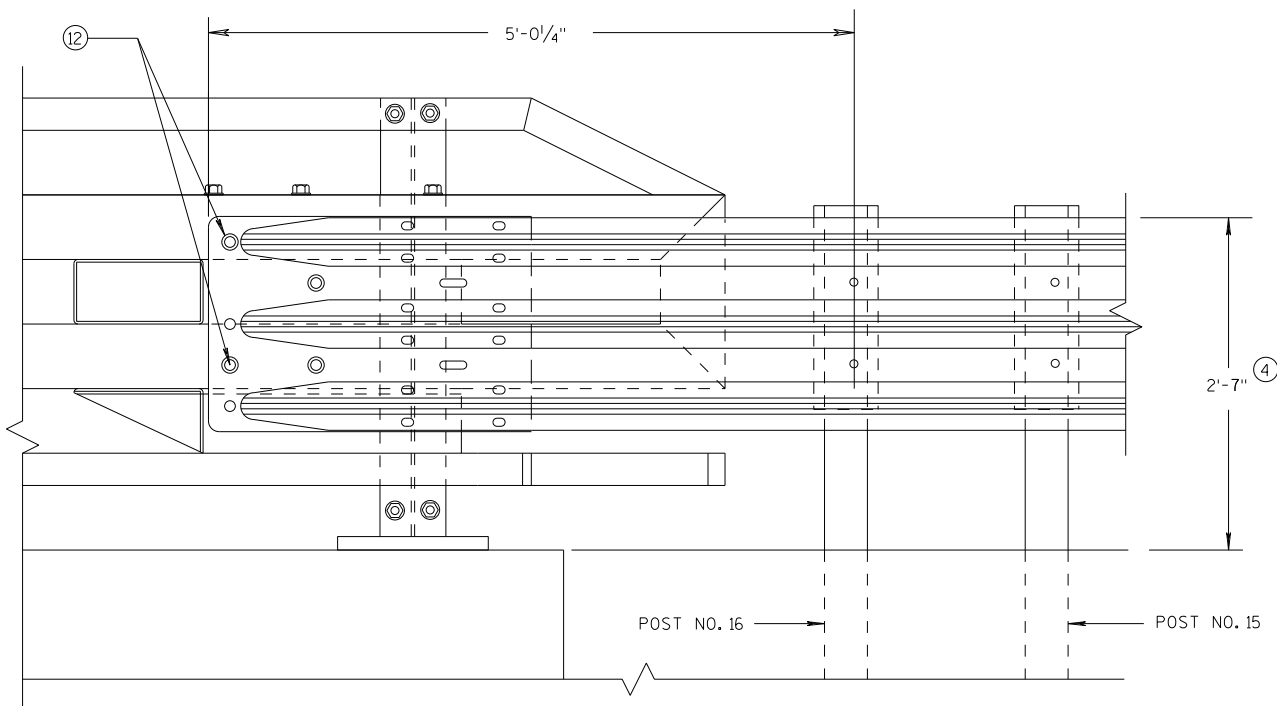
**MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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



**ELEVATION OF DETAIL AT NY3 END POST
THRIE BEAM RAIL ATTACHMENT**



**ELEVATION OF DETAIL AT NY4 END POST
THRIE BEAM RAIL ATTACHMENT**

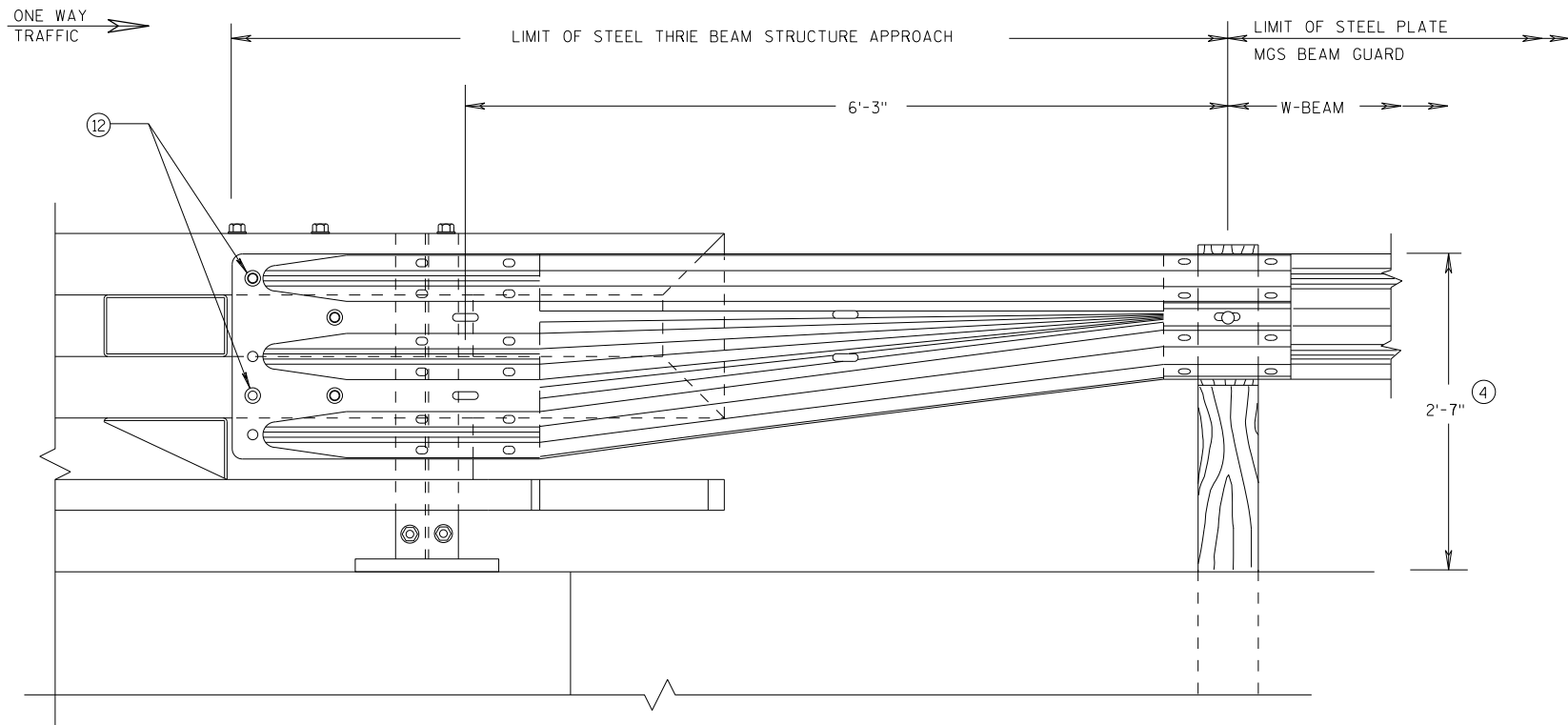
GENERAL NOTES

- ④ TOLERANCE FOR TOP OF BEAM IS ± 1".
- ⑫ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. ON BACKSIDE OF PARAPET ONE ROUND WASHER, AND NUT REQUIRED. BOLT THREAD IS TO EXTEND 1/2-INCH BEYOND NUT.

**MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

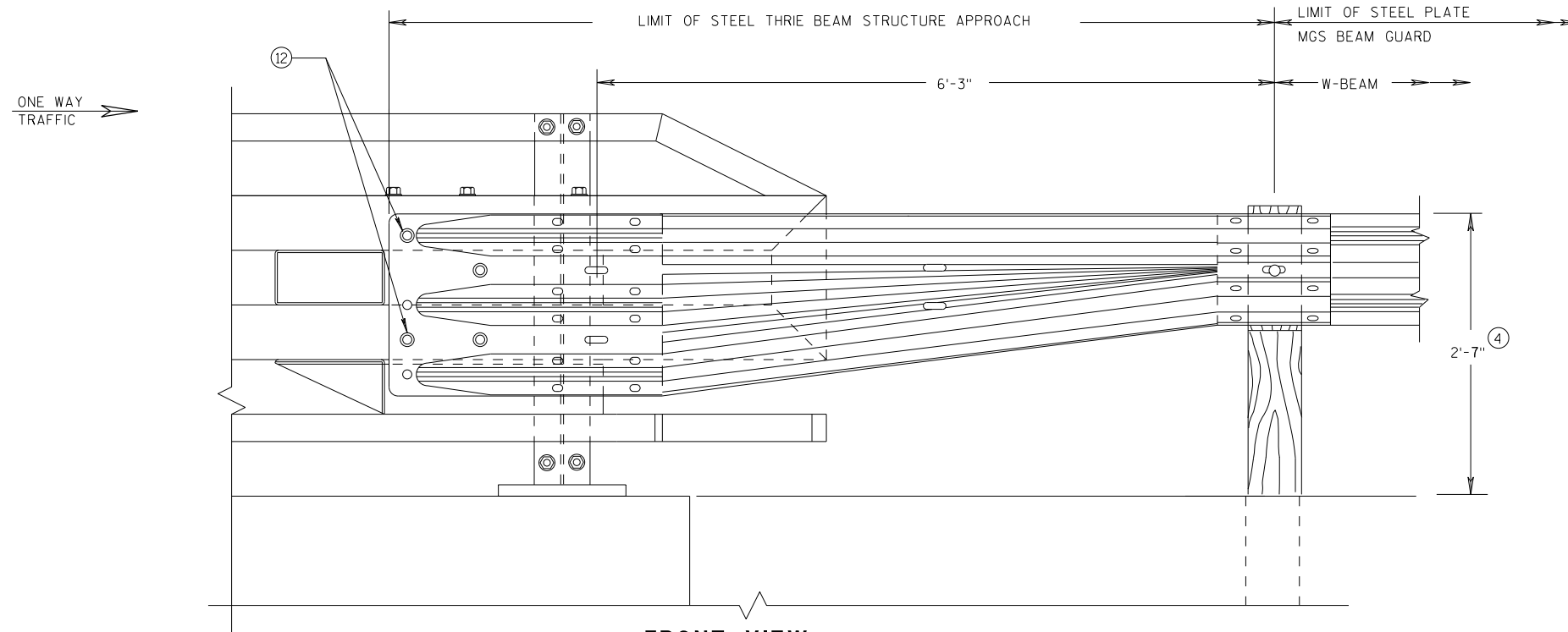
APPROVED
DATE 7/2018 /S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT
UNIT SUPERVISOR
FHWA



FRONT VIEW
W BEAM TRANSITION AND
CONNECTION TO BRIDGE RAILING TYPE "NY3"
 (USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)

GENERAL NOTES

- ④ TOLERANCE FOR TOP OF BEAM IS $\pm 1"$.
- ⑫ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. ON BACKSIDE OF PARAPET ONE ROUND WASHER, AND NUT REQUIRED. BOLT THREAD IS TO EXTEND $\frac{1}{2}$ -INCH BEYOND NUT.

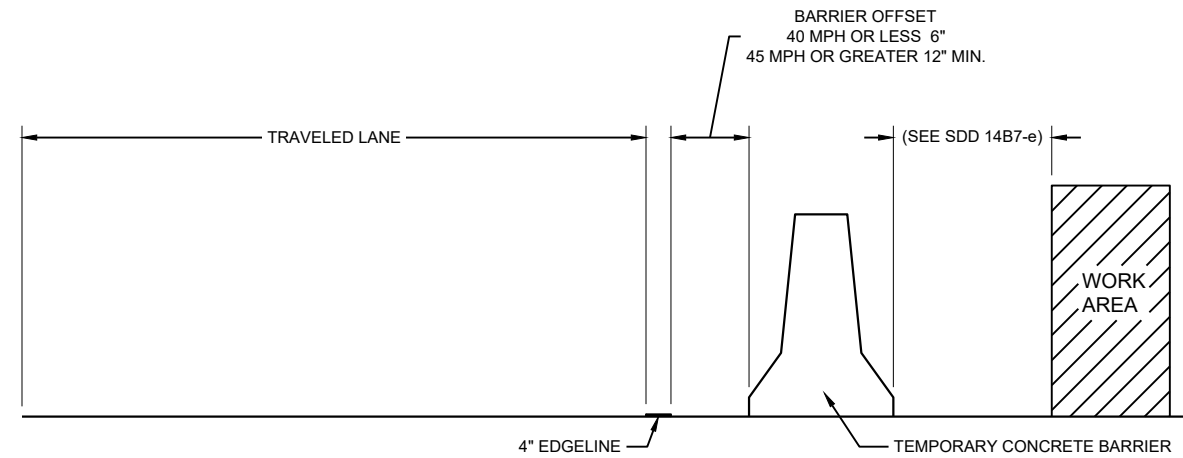


FRONT VIEW
W BEAM TRANSITION AND
CONNECTION TO BRIDGE RAILING TYPE "NY4"
 (USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
 DEPARTMENT OF TRANSPORTATION

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



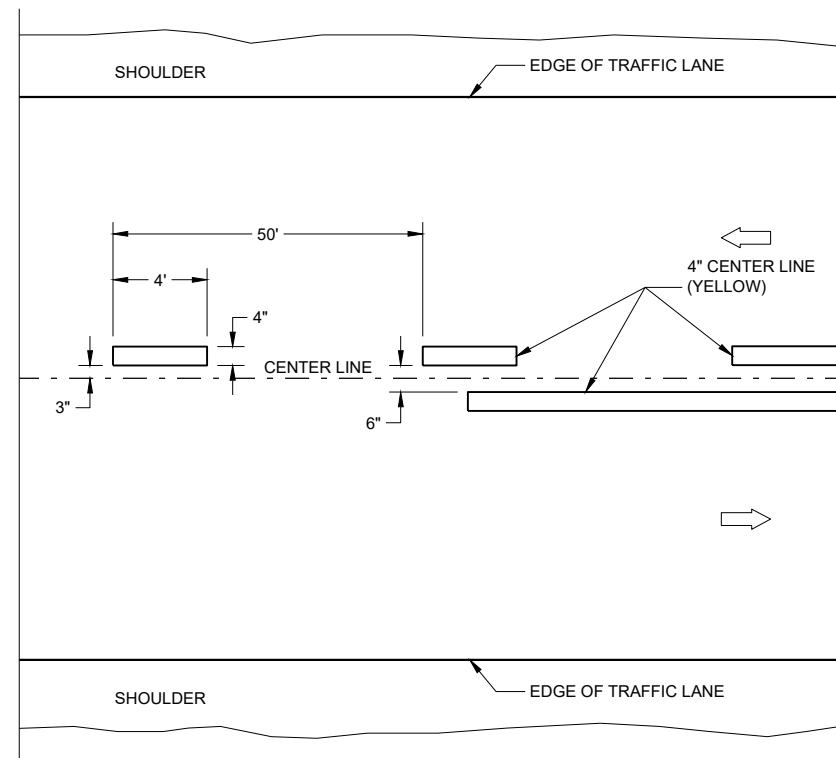
TEMPORARY BARRIER OFFSET FROM EDGELINE

GENERAL NOTES

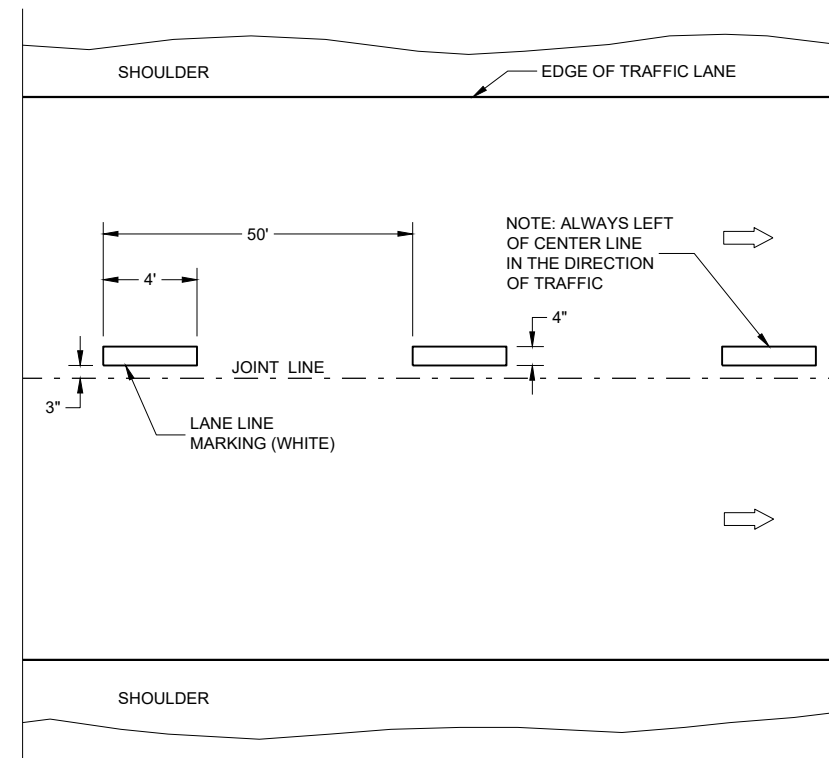
DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS.

LEGEND

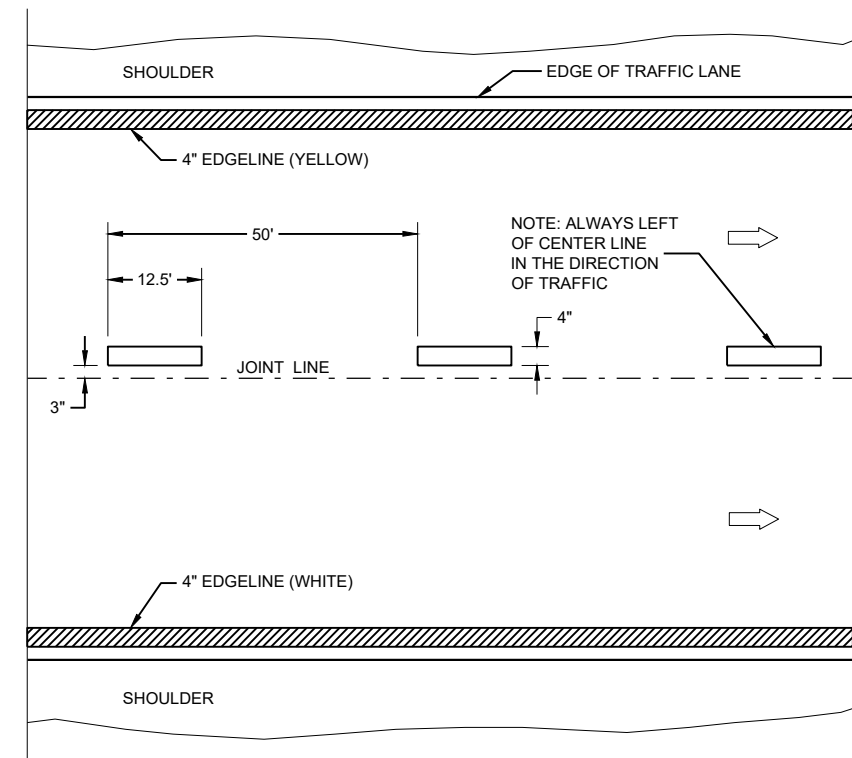
➡ DIRECTION OF TRAFFIC



TWO WAY TRAFFIC



ONE WAY TRAFFIC



FREEWAYS AND EXPRESSWAYS

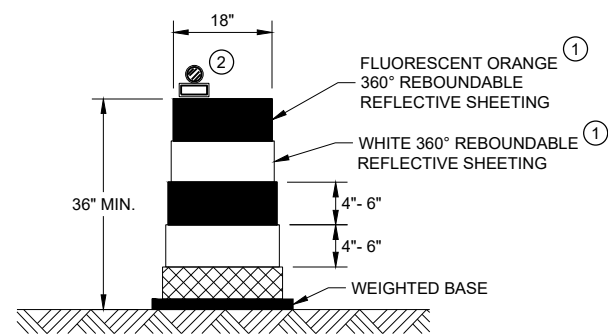
TEMPORARY PAVEMENT MARKING

TEMPORARY LONGITUDINAL PAVEMENT MARKING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

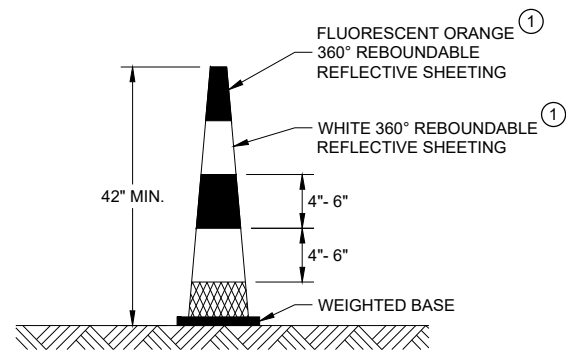
APPROVED
May 2022 /S/ Jeannie Silver
DATE STATEWIDE SIGNING AND MARKING
ENGINEER

FHWA



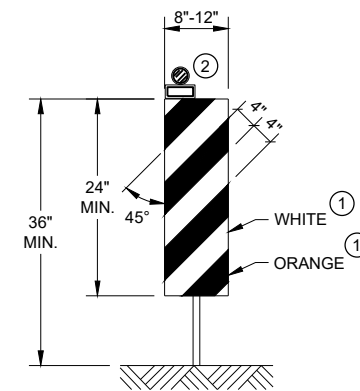
DRUM

BALLAST WIDTHS
RANGE FROM 24"-36"



42" CONE

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

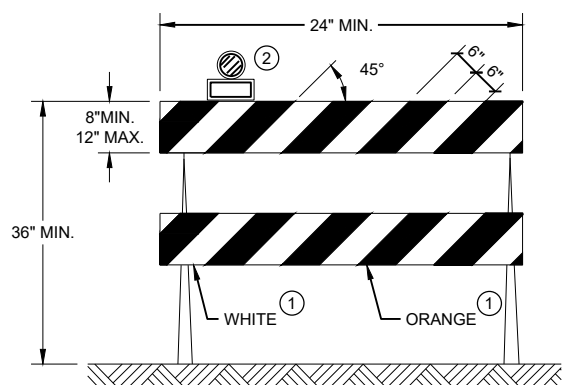


VERTICAL PANEL

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

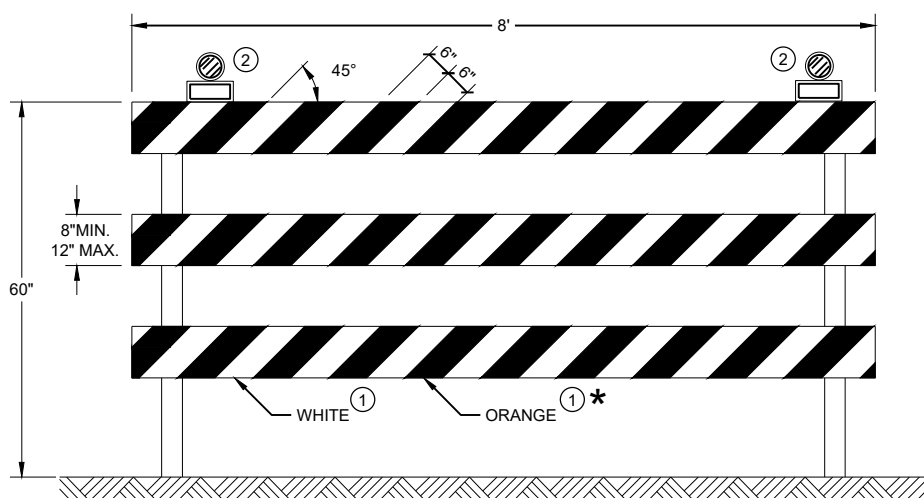
GENERAL NOTES

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



TYPE II BARRICADE

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



TYPE III BARRICADE

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

* IF USED FOR A PERMANENT APPLICATION USE RED SHEETING.

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA

GENERAL NOTES

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

THE SPACING BETWEEN SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS.

THIS LANE CLOSURE IS TYPICAL FOR CLOSING RIGHT LANE - REVERSE FOR CLOSING LEFT LANE.

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

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

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

FOR A LANE CLOSURE THAT IS IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, THE ADVANCED WARNING SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS.

REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING LINE IF LANE CLOSURE IS TO BE IN PLACE 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

IF THE HORIZONTAL ALIGNMENT IS SUCH THAT A CURVE MAY REQUIRE ADDITIONAL DELINEATION, THE DEVICE SPACING MAY BE DECREASED TO 50 FEET.










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

ADJUSTMENTS IN BUFFER SPACE NEED TO BE INCORPORATED WHEN THE LANE CLOSURE OCCURS

NEAR AN INTERCHANGE EXIT OR ENTRANCE RAMP OR INTERSECTION. THE LANE CLOSURE MUST TAKE PLACE FAR ENOUGH IN ADVANCE OF AN EXIT OR ENTRANCE RAMP TO STILL ALLOW FOR ADEQUATE BUFFER SPACE. THE MINIMUM LENGTH OF THE BUFFER SPACE BEFORE AN EXIT RAMP SHOULD BE ONE HALF THE LENGTH OF THE TRANSITION AREA. THE ENTRANCE RAMP SHOULD BE FOLLOWED BY THE ORIGINAL BUFFER SPACE LENGTH OF 800 FEET DESIRABLE PRIOR TO ANOTHER TRAFFIC CONTROL CHANGE SUCH AS A CROSSOVER MANEUVER.

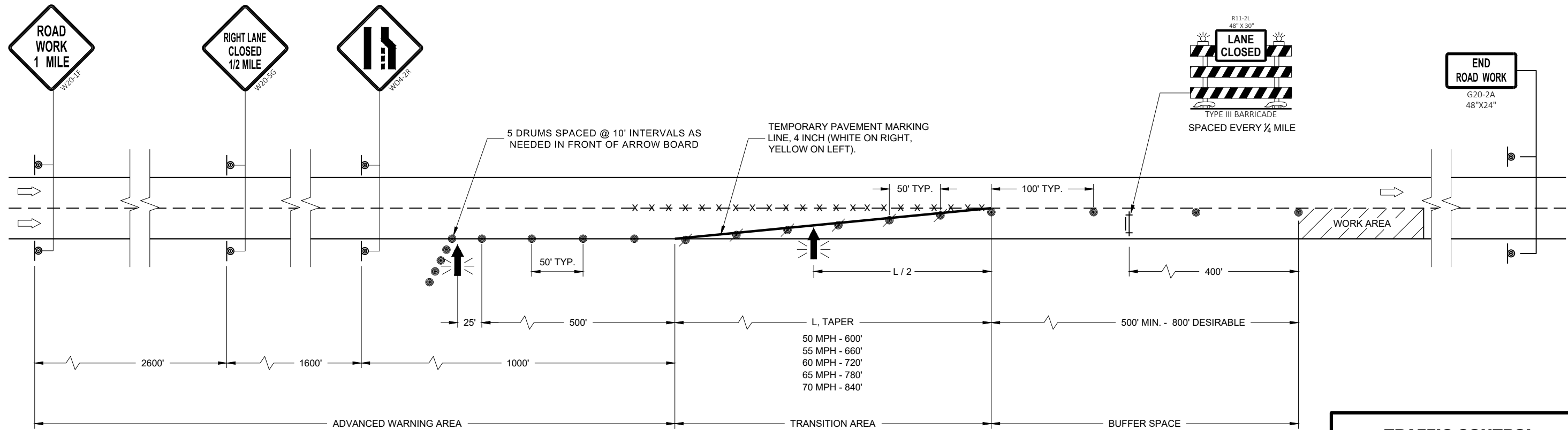
CONSIDER ROADWAY GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARD SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS.

LEGEND

-  SIGN ON PERMANENT SUPPORT
-  TRAFFIC CONTROL DRUM
-  TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
-  TYPE III BARRICADE WITH ATTACHED SIGN
-  TYPE "A" WARNING LIGHT (FLASHING)
-  REMOVING PAVEMENT MARKINGS
-  DIRECTION OF TRAFFIC
-  WORK AREA
-  FLASHING ARROW BOARD

6

SDD 15D12 - 10a



6

SDD 15D12 - 10a

TRAFFIC CONTROL LANE CLOSURE	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED February 2022 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 AS APPROVED BY THE ENGINEER.

THE SPACING BETWEEN SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS.

THIS LANE CLOSURE IS TYPICAL FOR CLOSING RIGHT LANE - REVERSE FOR CLOSING LEFT LANE.

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

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

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

CONSIDER ROADWAY GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARD SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS.

FOR A LANE CLOSURE THAT IS IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, THE ADVANCED WARNING SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS.

REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING LINE IF LANE CLOSURE IS TO BE IN PLACE 4 OR MORE CONTINUOUS DAYS AND NIGHTS.










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

IF THE HORIZONTAL ALIGNMENT IS SUCH THAT A CURVE MAY REQUIRE ADDITIONAL DELINEATION, THE DEVICE SPACING MAY BE DECREASED TO 50 FEET.

ADJUSTMENTS IN BUFFER SPACE NEED TO BE INCORPORATED WHEN THE LANE CLOSURE OCCURS NEAR AN INTERCHANGE EXIT OR ENTRANCE RAMP OR INTERSECTION. THE LANE CLOSURE MUST TAKE PLACE FAR ENOUGH IN ADVANCE OF AN EXIT OR ENTRANCE RAMP TO STILL ALLOW FOR ADEQUATE BUFFER SPACE. THE MINIMUM LENGTH OF THE BUFFER SPACE BEFORE AN EXIT RAMP SHOULD BE ONE HALF THE LENGTH OF THE TRANSITION AREA. THE ENTRANCE RAMP SHOULD BE FOLLOWED BY THE ORIGINAL BUFFER SPACE LENGTH OF 800 FEET DESIRABLE PRIOR TO ANOTHER TRAFFIC CONTROL CHANGE SUCH AS A CROSSOVER MANEUVER.

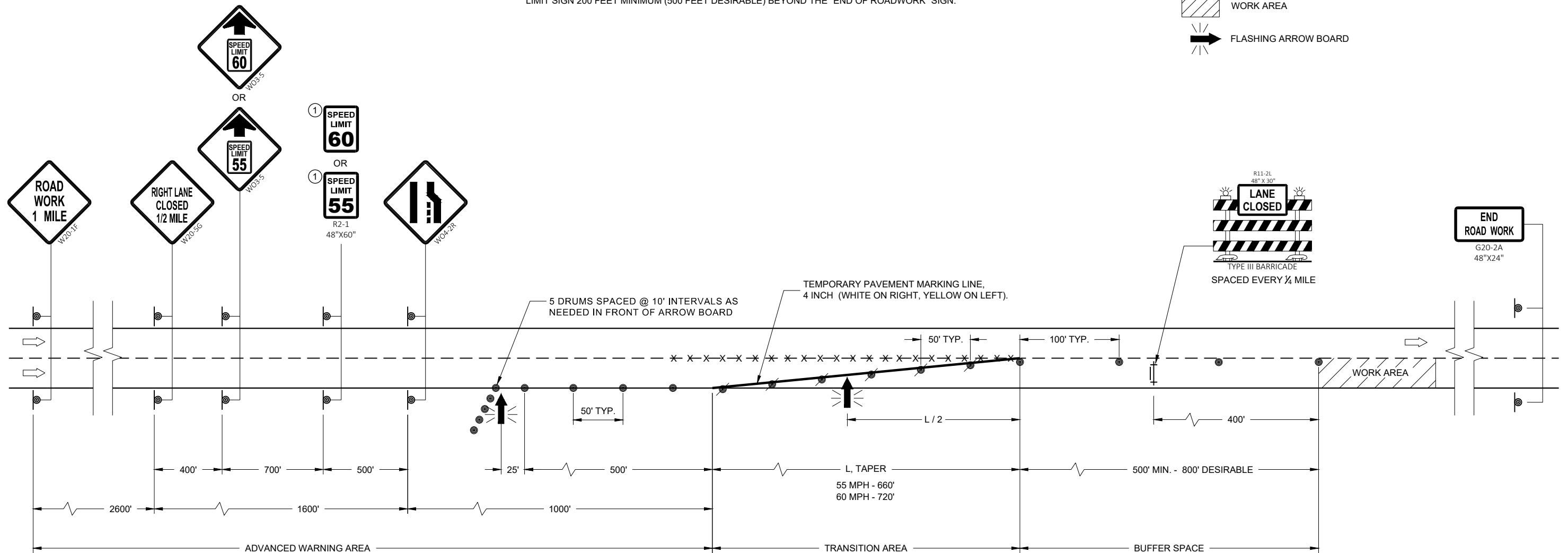
① A SPEED LIMIT SIGN SHALL BE LOCATED 1500 FEET BEYOND THE END OF THE ACCELERATION LANE OF EACH ENTRANCE RAMP. PLACE A SPEED LIMIT SIGN A MINIMUM OF EVERY 3 MILES. INCLUDE A RESUME SPEED LIMIT SIGN 200 FEET MINIMUM (500 FEET DESIRABLE) BEYOND THE "END OF ROADWORK" SIGN.

LEGEND

-  SIGN ON PERMANENT SUPPORT
-  TRAFFIC CONTROL DRUM
-  TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
-  TYPE III BARRICADE WITH ATTACHED SIGN
-  TYPE "A" WARNING LIGHT (FLASHING)
-  REMOVING PAVEMENT MARKINGS
-  DIRECTION OF TRAFFIC
-  WORK AREA
-  FLASHING ARROW BOARD

6

SDD 15D12 - 10b














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SDD 15D12 - 10b

TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED February 2022 DATE	/S/ Andrew Heidtke WORK ZONE ENGINEER
FHWA	

LEGEND

-  SIGN ON PERMANENT SUPPORT
-  TRAFFIC CONTROL DRUM
-  TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
-  TYPE III BARRICADE WITH ATTACHED SIGN
-  TYPE "A" WARNING LIGHT (FLASHING)
-  REMOVING PAVEMENT MARKINGS
-  DIRECTION OF TRAFFIC
-  WORK AREA
-  FLASHING ARROW BOARD
-  PORTABLE TRAFFIC SENSOR (PTS)
-  FLASHING BEACON SIGN

GENERAL NOTES

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

THE SPACING BETWEEN SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS.

THIS LANE CLOSURE IS TYPICAL FOR CLOSING RIGHT LANE - REVERSE FOR CLOSING LEFT LANE.

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

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

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED OR AS APPROVED BY THE ENGINEER. NO WARNING LIGHTS SHALL BE WORKING ON "COVERED" OR "DOWNED" SIGNS.

FOR A LANE CLOSURE THAT IS IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, THE ADVANCED WARNING SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS.

REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING LINE IF LANE CLOSURE IS TO BE IN PLACE 4 OR MORE CONTINUOUS DAYS

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

IF THE HORIZONTAL ALIGNMENT IS SUCH THAT A CURVE MAY REQUIRE ADDITIONAL DELINEATION, THE DEVICE SPACING MAY BE DECREASED TO 50 FEET.

ADJUSTMENTS IN BUFFER SPACE NEED TO BE INCORPORATED WHEN THE LANE CLOSURE OCCURS NEAR AN INTERCHANGE EXIT OR ENTRANCE RAMP OR INTERSECTION. THE LANE CLOSURE MUST TAKE PLACE FAR ENOUGH IN ADVANCE OF AN EXIT OR ENTRANCE RAMP TO STILL ALLOW FOR ADEQUATE BUFFER SPACE. THE MINIMUM LENGTH OF THE BUFFER SPACE BEFORE AN EXIT RAMP SHOULD BE ONE HALF THE LENGTH OF THE TRANSITION AREA. THE ENTRANCE RAMP SHOULD BE FOLLOWED BY THE ORIGINAL BUFFER SPACE LENGTH OF 800 FEET DESIRABLE PRIOR TO ANOTHER TRAFFIC CONTROL CHANGE SUCH AS A CROSSOVER MANEUVER.

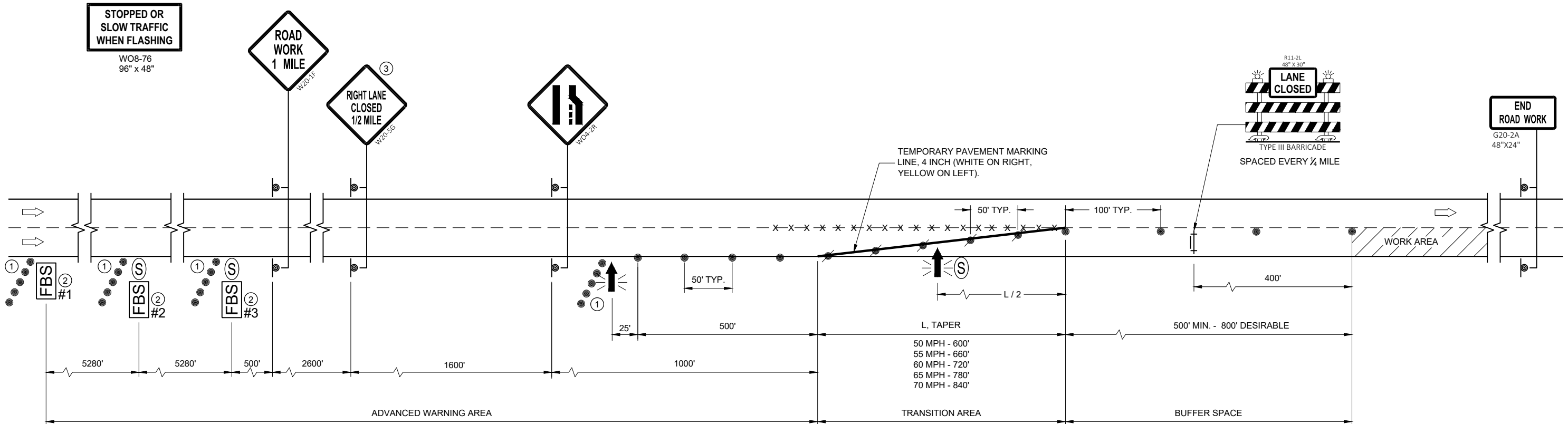
CONSIDER ROADWAY GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARD SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS.

PORTABLE TRAFFIC SENSOR (PTS) MAY BE MOUNTED ON THE FBS, ARROW BOARD OR OTHER TRAILER DEVICES.

- ① 5 DRUMS SPACED AT 10 FOOT INTERVALS AS NEEDED.
- ② IF THERE ARE MORE THAN TWO LANES OR IF SPECIFIED IN THE PLANS, PLACE FBS ON BOTH SIDES OF THE ROADWAY.
- ③ IF THERE IS AN APPROVED TEMPORARY SPEED DECLARATION, ADD WO-3-5 SIGNS 400 FEET AFTER THE W20-5G SIGNS AND ADD R2-1 SIGNS (48"x60") 700 FEET AFTER THE WO3-5 SIGNS. A SPEED LIMIT SIGN SHALL BE LOCATED 1500 FEET BEYOND THE END OF THE ACCELERATION LANE OF EACH ENTRANCE RAMP. PLACE A SPEED LIMIT SIGN A MINIMUM OF EVERY 3 MILES. INCLUDE A "RESUME SPEED LIMIT" SIGN 200 FEET MINIMUM (800 FEET DESIRABLE) BEYOND THE G30-3A "END ROAD WORK" SIGN.

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SDD 15D12 - 10d

SDD 15D12 - 10d











TRAFFIC CONTROL, LANE CLOSURE, BASIC TRAFFIC QUEUE WARNING SYSTEM

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2022 /S/ Erin Schwark
DATE WORK ZONE ENGINEER

FHWA

LEGEND

-  SIGN ON TEMPORARY SUPPORT
-  TRAFFIC CONTROL DRUM
-  TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
-  TYPE III BARRICADE
-  TYPE III BARRICADE WITH ATTACHED SIGN
-  TYPE "A" WARNING LIGHT (FLASHING)
-  REMOVING PAVEMENT MARKINGS
-  FLASHING ARROW BOARD
-  DIRECTION OF TRAFFIC
-  WORK AREA

GENERAL NOTES

THIS DETAIL IS TYPICAL FOR CLOSING THE RIGHT TWO LANES. FOR CLOSING THE LEFT TWO LANES, REVERSE THE TRAFFIC CONTROL.

ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED.

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

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH THE TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER. NO WARNING LIGHTS SHALL BE WORKING ON COVERED OR "DOWNED" SIGNS.

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

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

W20-1E AND G20-2A SIGNS ARE NOT REQUIRED IF THE LANE CLOSURE IS WITHIN A LARGER WORK ZONE WHERE THESE SIGNS ARE ALREADY PRESENT.

CONSIDER ROADWAY GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARDS SO THE APPROACHING DRIVER HAS A CLEAR VIEW OF THE ARROW BOARDS AND LANE CLOSURE DRUMS.

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

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

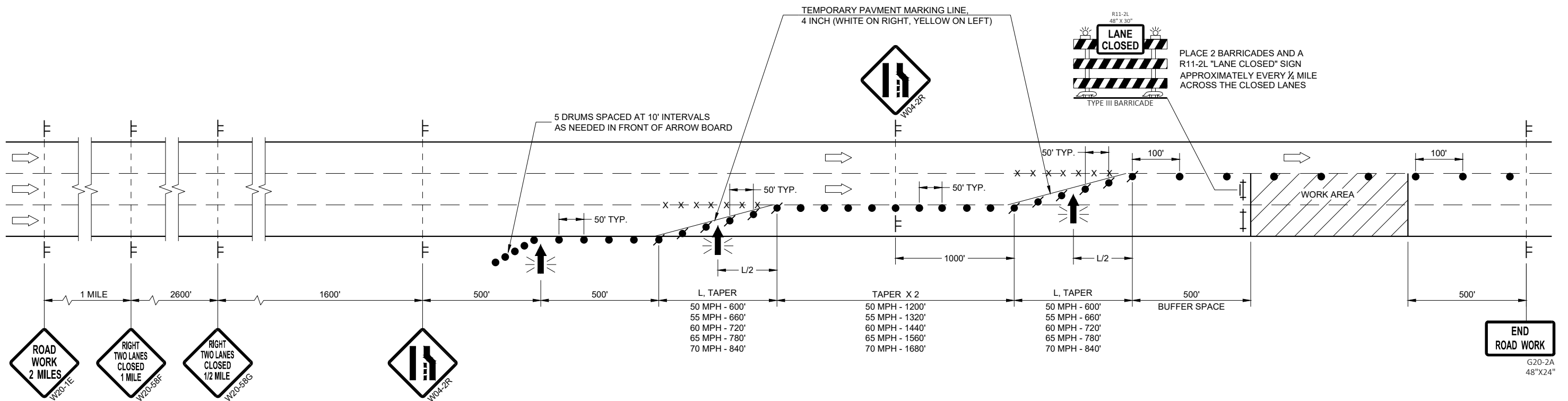
CHANNELIZING DEVICES PLACED ADJACENT TO WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

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

REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING LINE IF LANE CLOSURE IS TO BE IN PLACE 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

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SDD 15D14 - 05

SDD 15D14 - 05

TRAFFIC CONTROL, TWO LANE CLOSURE ON FREEWAY OR EXPRESSWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2022
DATE

/s/ Andrew Heidtke
STATEWIDE WORK ZONE TRAFFIC SAFETY ENGINEER

FHWA

GENERAL NOTES

THIS DETAIL IS TYPICAL FOR CLOSING THE RIGHT SHOULDER. FOR CLOSING THE LEFT SHOULDER, REVERSE THE TRAFFIC CONTROL.

THIS DETAIL MAY BE USED FOR DIVIDED ROADWAYS WITH ANY NUMBER OF TRAVEL LANES.

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

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

SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FHWA'S MANUAL OF STANDARD HIGHWAY SIGNS OR THE WISCONSIN STANDARD SIGN PLATES.

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

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

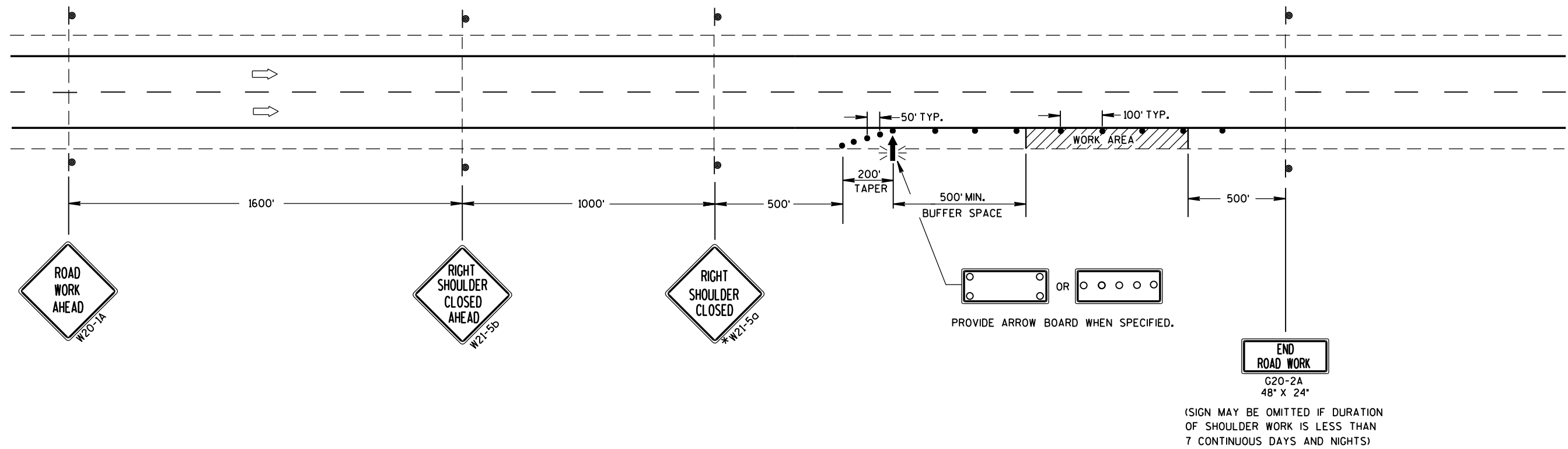
CHANNELIZING DEVICES PLACED ADJACENT TO THE WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

WHEN A 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.

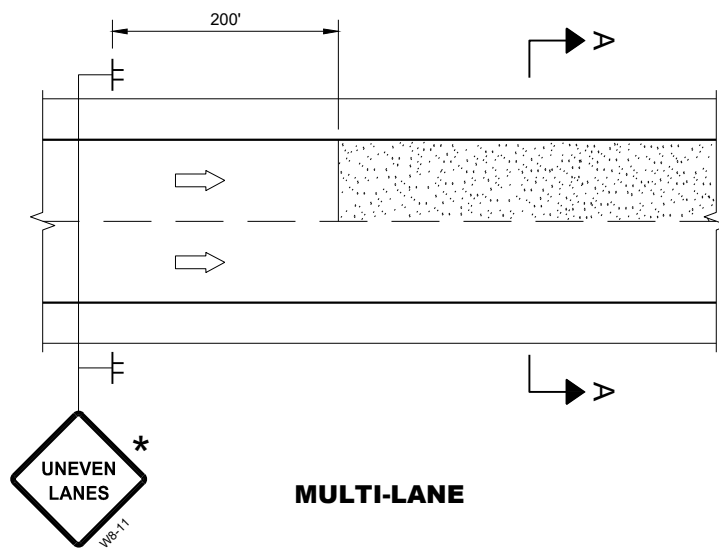
*FOR SHORT DURATION SHOULDER WORK OF LESS THAN ONE HOUR, THE W21-50 SIGN MAY BE OMITTED.

LEGEND

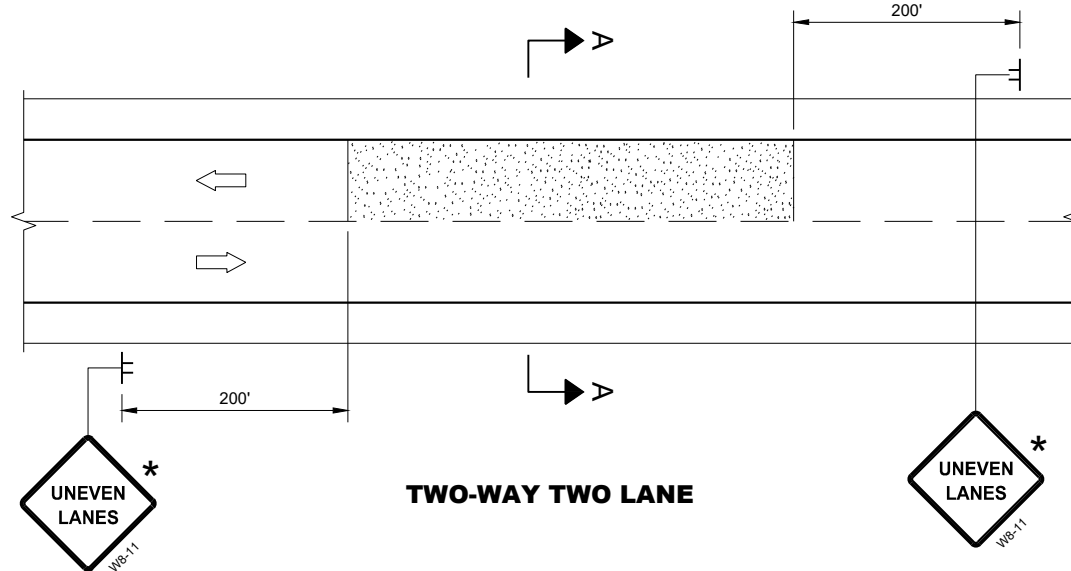
- TRAFFIC CONTROL DRUM
- ⊙ SIGN ON PERMANENT SUPPORT
- ➡ DIRECTION OF TRAFFIC
- ⚡ FLASHING ARROW BOARD
- ▨ WORK AREA



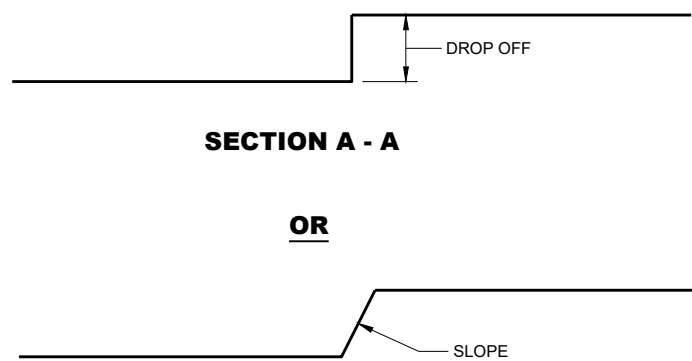
TRAFFIC CONTROL SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED June 2016 DATE	/s/ Peter Amakobe Atepe STATEWIDE WORK ZONE TRAFFIC SAFETY ENGINEER
FHWA	



MULTI-LANE



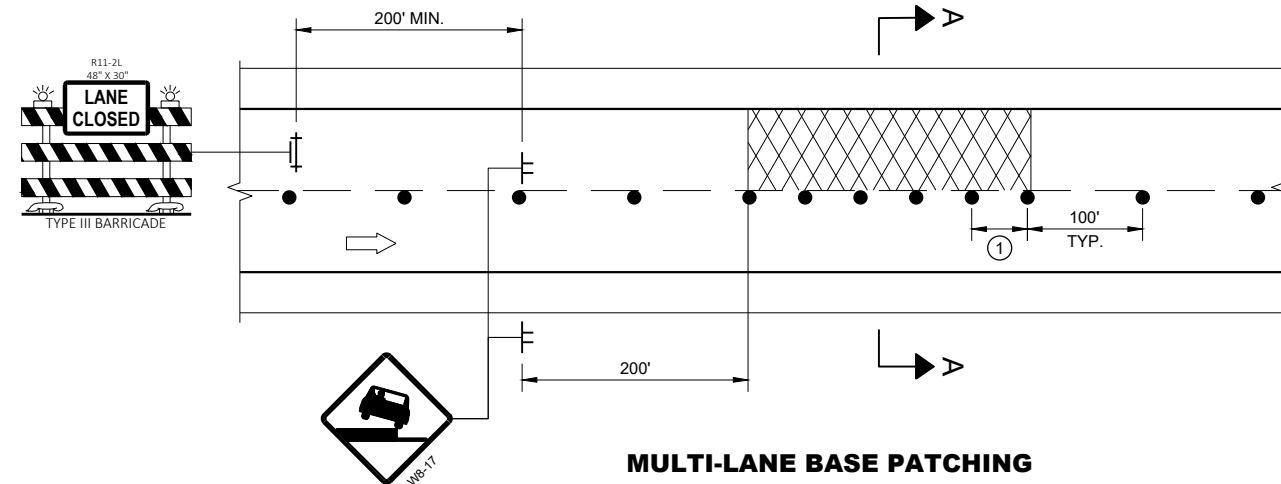
TWO-WAY TWO LANE



SECTION A - A

OR

SECTION A - A



MULTI-LANE BASE PATCHING

ADJACENT LANE DROP-OFFS

GENERAL NOTES

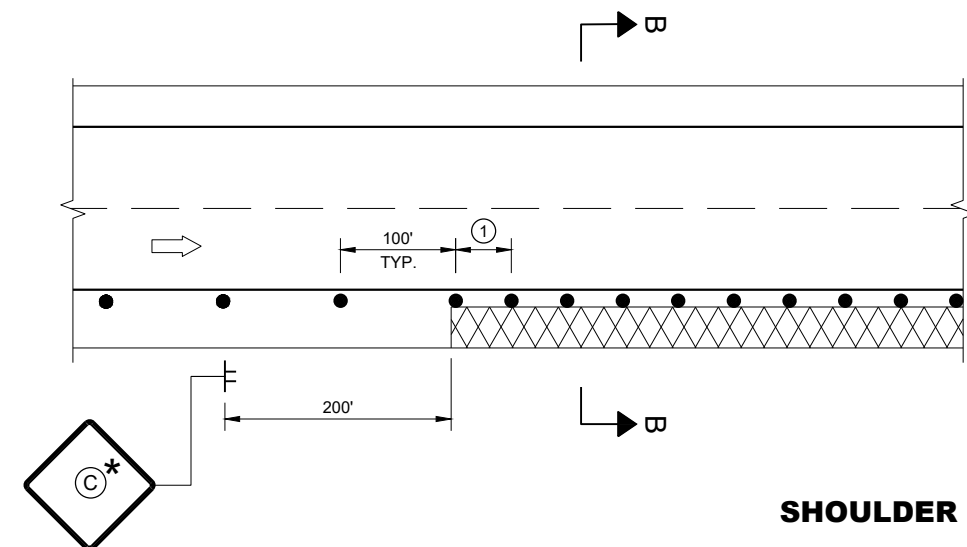
- FOR SPOT LOCATIONS USE ENGINEERING JUDGEMENT WHEN PLACING ADDITIONAL SIGNS.
- ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.
- "WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS ORANGE.
- WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.
- * IF THE DROP-OFF IS CONTINUOUS ALONG THE PROJECT, PLACE ADDITIONAL SIGNS EVERY 1 MILE AND AFTER EVERY ENTRANCE RAMP.
- ① USE CLOSER SPACING WHEN DELINEATING DROP-OFF.

LEGEND

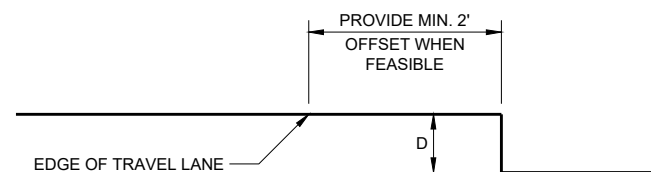
- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM
- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)
- DIRECTION OF TRAFFIC
- WORK AREA WITH DROP-OFF
- MILLED SURFACE

6

6



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

SDD 15D39 - 02

SDD 15D39 - 02

**TRAFFIC CONTROL,
DROP-OFF SIGNING**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA

LEGEND








-  SIGN ON PERMANENT SUPPORT
-  TRAFFIC CONTROL DRUM
-  TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
-  TYPE III BARRICADE WITH ATTACHED SIGN
-  DIRECTION OF TRAFFIC
-  CONSTRUCTION TRAFFIC
-  WORK AREA

TABLE 1

S (MPH)	INGRESS, L	EGRESS, L
50	435'	720'
55	480'	960'
60	530'	1200'
65	570'	1410'
70	615'	1620'

LEGEND

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH THE TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER. NO WARNING LIGHTS SHALL BE WORKING ON COVERED OR "DOWNED" SIGNS.

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

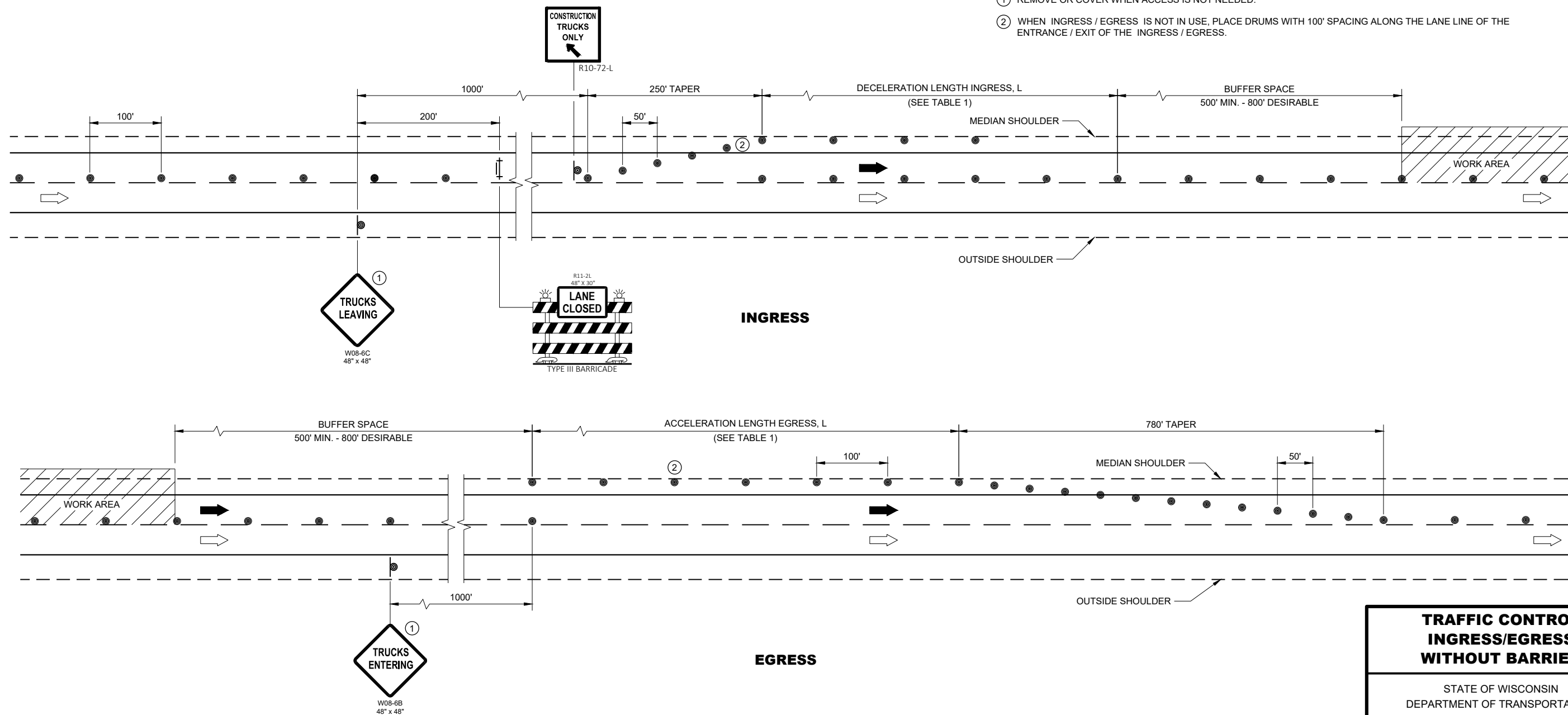
WORK ZONE INGRESS/EGRESS LOCATIONS SHALL BE APPROVED BY THE ENGINEER. LOCATIONS FOR WORK ZONE ACCESS TO/FROM THE FREEWAY SHALL NOT BE USED FOR INGRESS AND EGRESS AT THE SAME TIME.

THIS ACCESS DETAIL IS TYPICAL FOR LEFT LANE ACCESS, FOR RIGHT LANE ACCESS, REVERSE THE TRAFFIC CONTROL

TEMPORARY SUPPORTS MAY BE USED IF PLACED BEHIND TEMPORARY BARRIER WALL

TRUCKS SHALL USE FLASHING YELLOW BEACON WHEN ENTERING AND EXITING LIVE TRAFFIC.

- ① REMOVE OR COVER WHEN ACCESS IS NOT NEEDED.
- ② WHEN INGRESS / EGRESS IS NOT IN USE, PLACE DRUMS WITH 100' SPACING ALONG THE LANE LINE OF THE ENTRANCE / EXIT OF THE INGRESS / EGRESS.



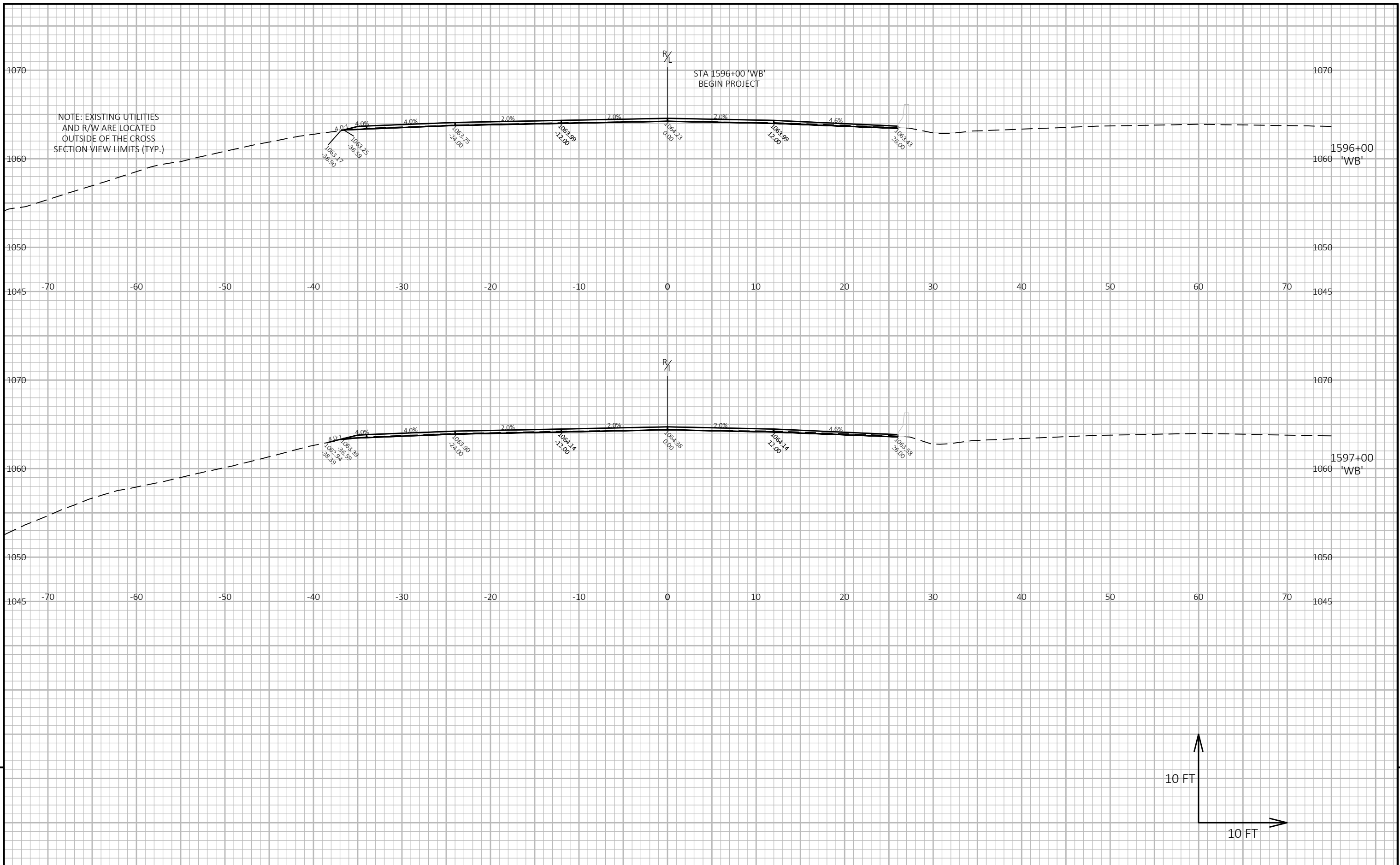
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SDD 15D47 - 02b

SDD 15D47 - 02b

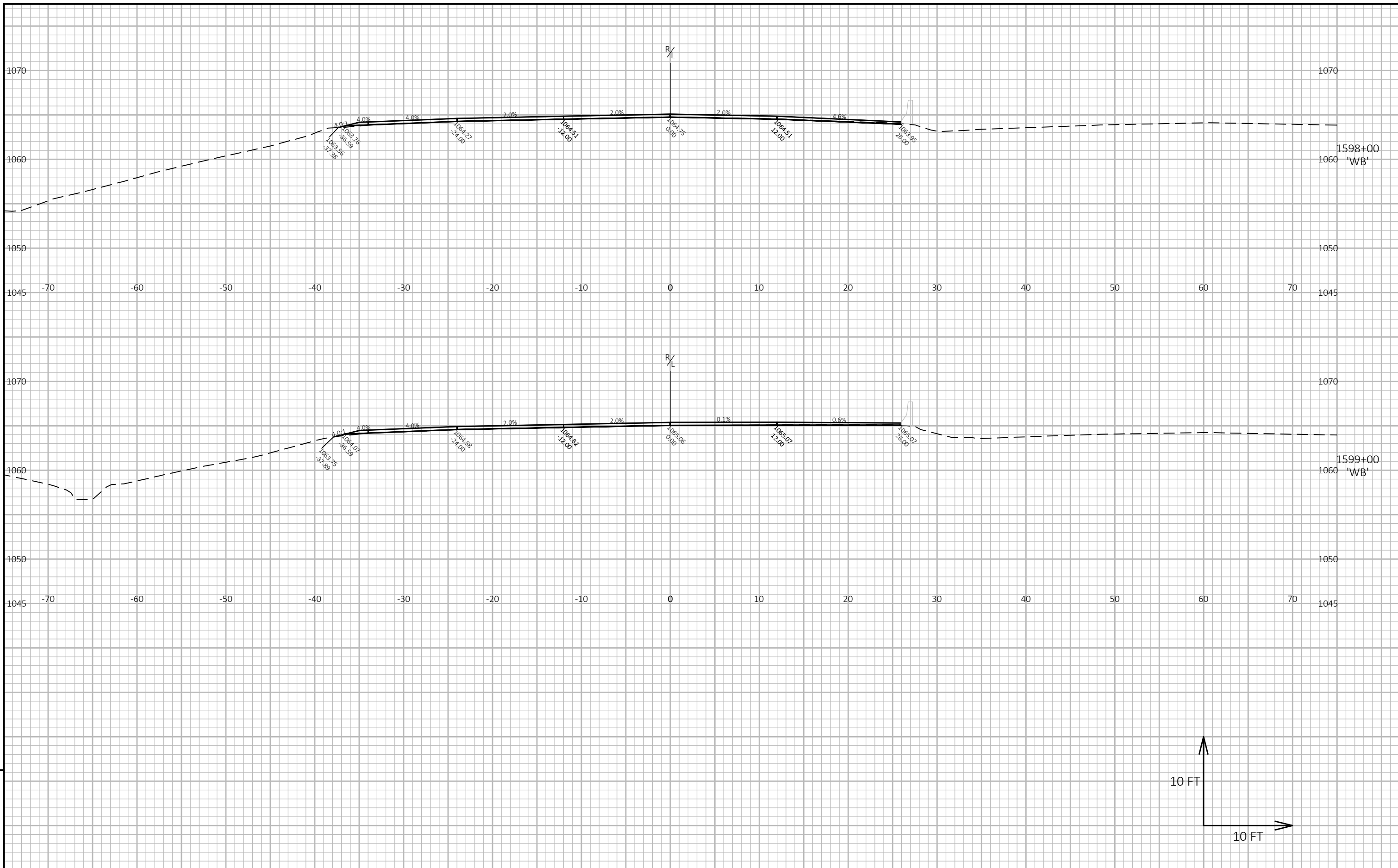
TRAFFIC CONTROL INGRESS/EGRESS WITHOUT BARRIER	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED February 2022 DATE	/S/ Andrew Heidtke WORK ZONE ENGINEER
FHWA	



9

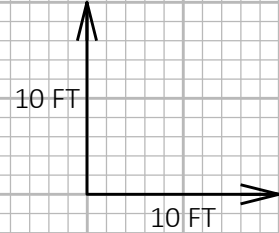
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PROJECT NO: 1011-00-70	HWY: IH 39	COUNTY: COLUMBIA	CROSS SECTIONS: IH 39	SHEET	E
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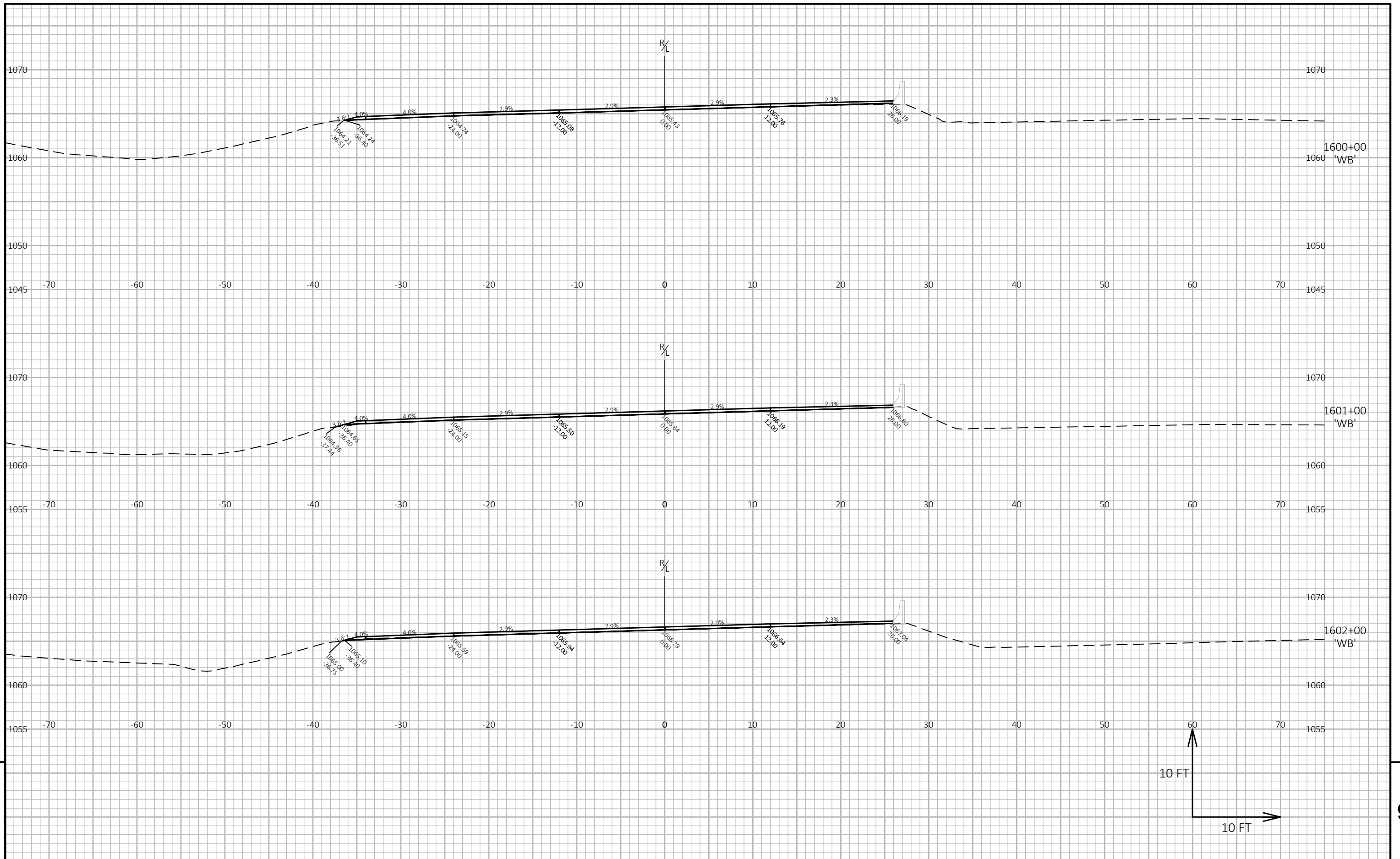


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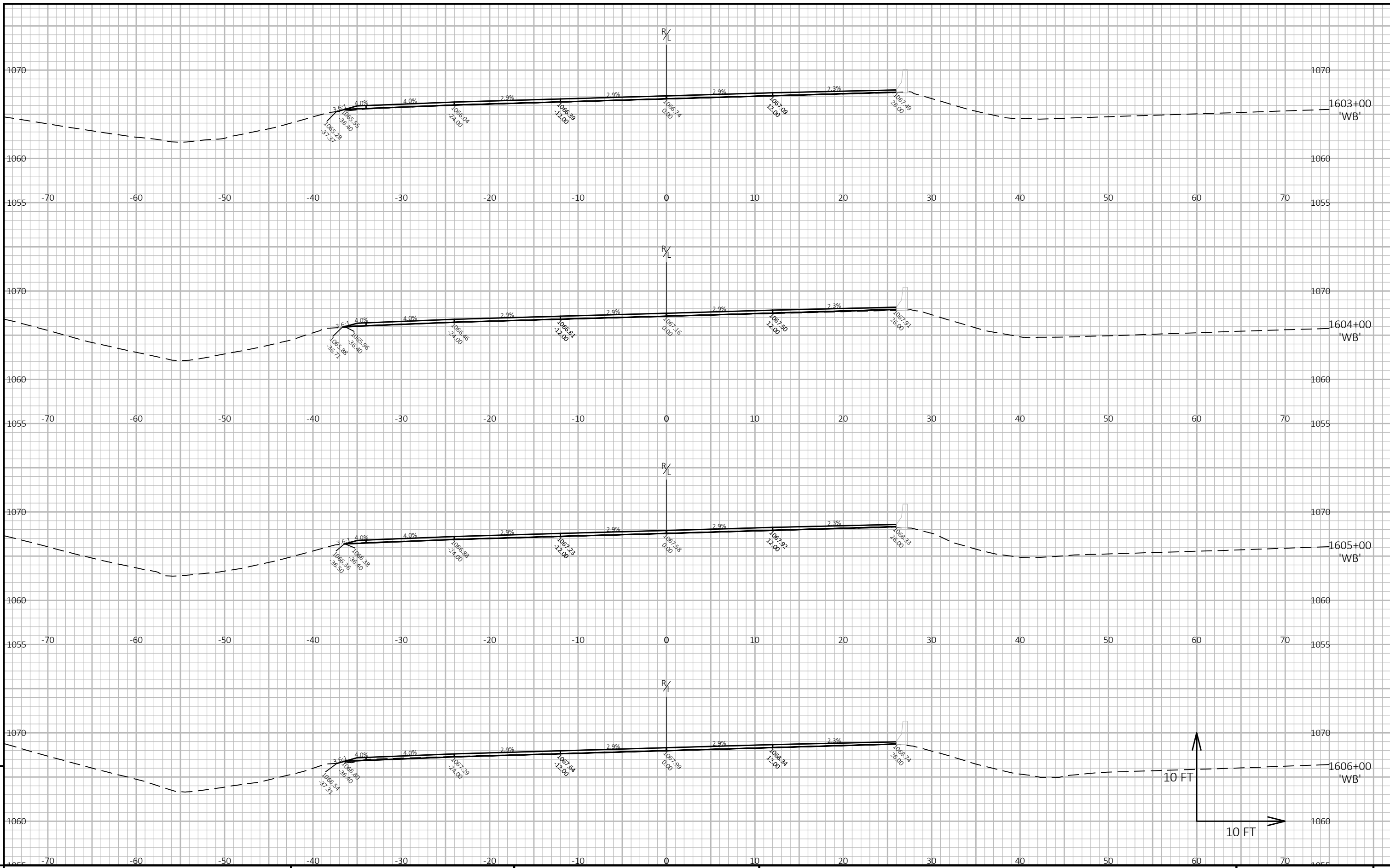


PROJECT NO: 1011-00-70	HWY: IH 39	COUNTY: COLUMBIA	CROSS SECTIONS: IH 39	SHEET	E
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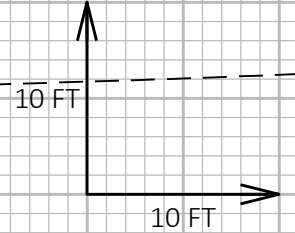


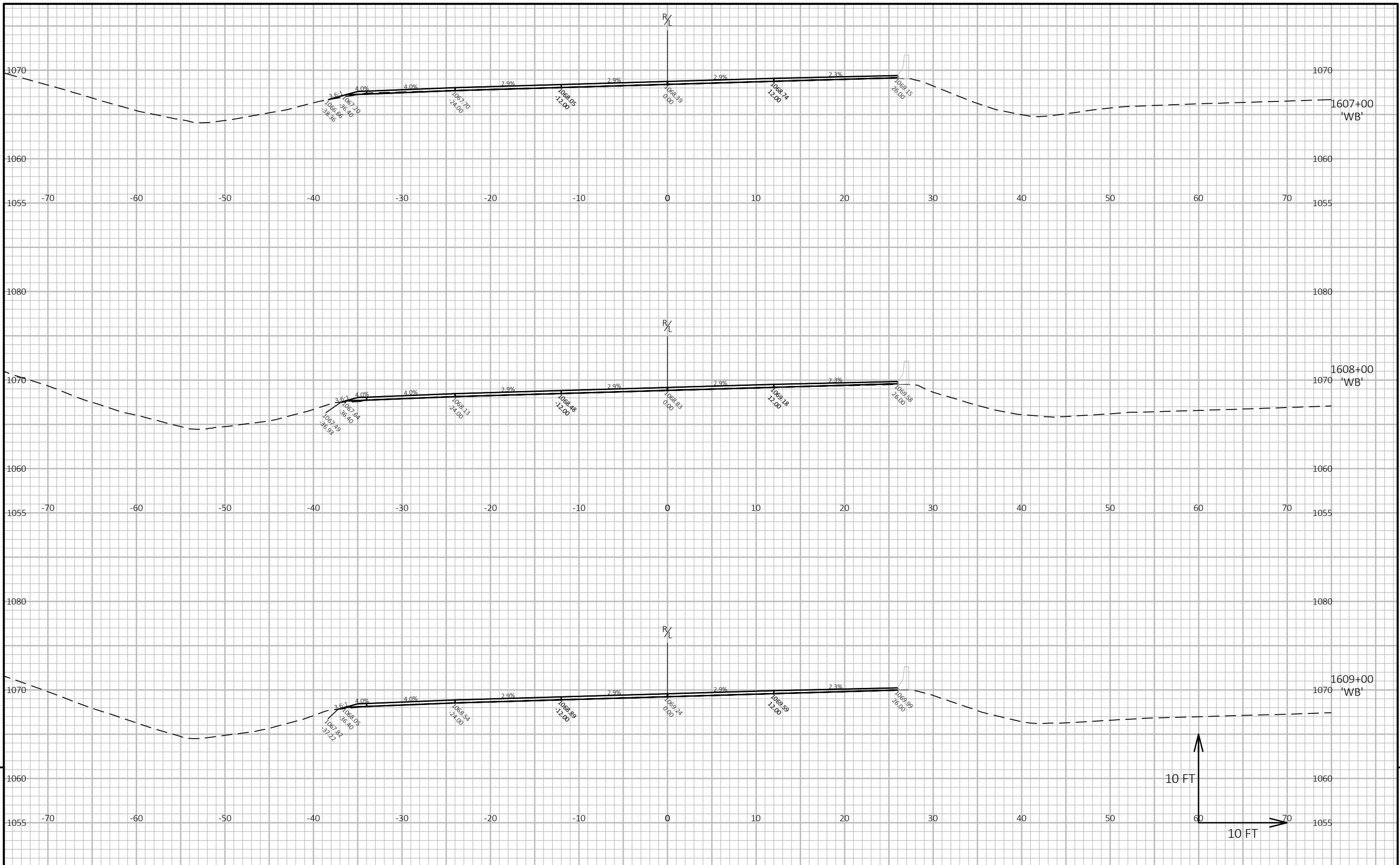
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PROJECT NO: 1011-00-70 HWY: IH 39 COUNTY: COLUMBIA CROSS SECTIONS: IH 39 SHEET E

FILE NAME : C:\ONEDRIVE\AECOM\IH 39 OVERLAY_COLUMBIA COUNTY - GENERAL\900_CAD_GIS\910_CAD\1011-01-70_COLUMBIA\SHETSPLAN\090201-XS.DWG PLOT DATE : 4/18/2023 11:47 AM PLOT BY : DAY, JOHN PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT. WISDOT/CADD SHEET 49





PROJECT NO: 1011-00-70

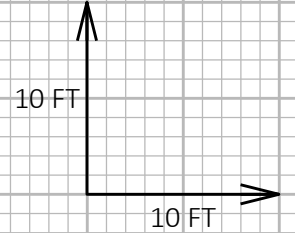
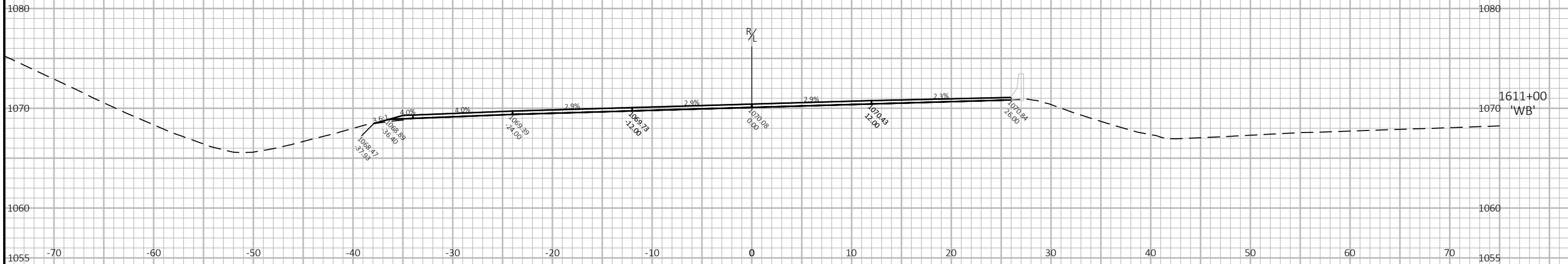
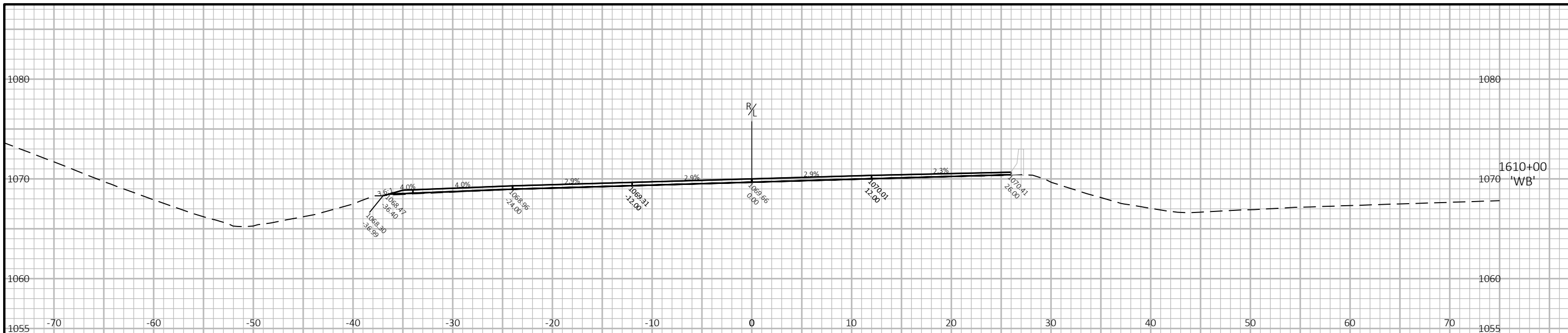
HWY: IH 39

COUNTY: COLUMBIA

CROSS SECTIONS: IH 39

SHEET

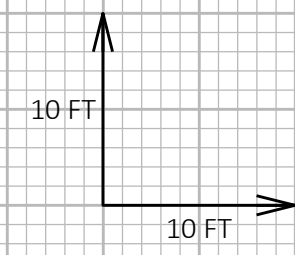
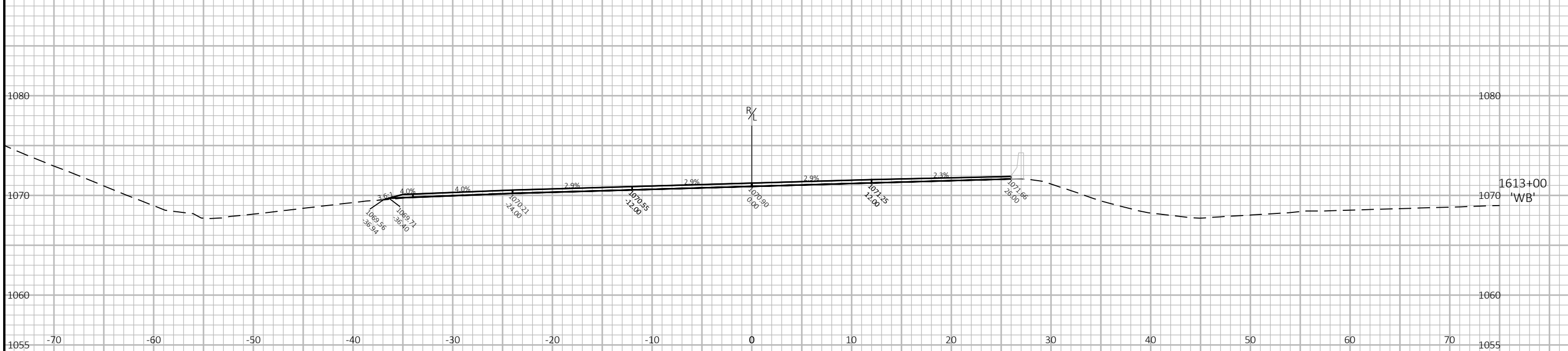
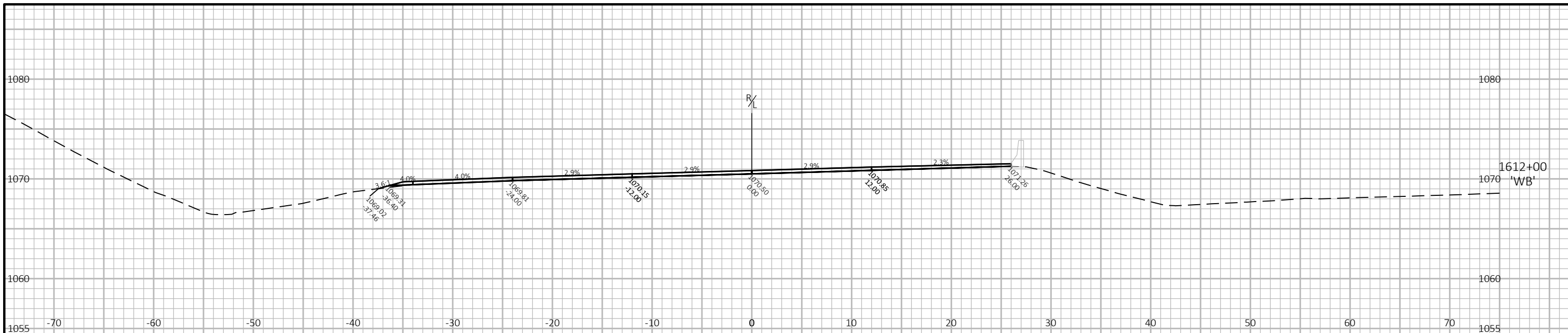
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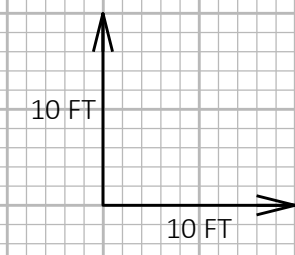
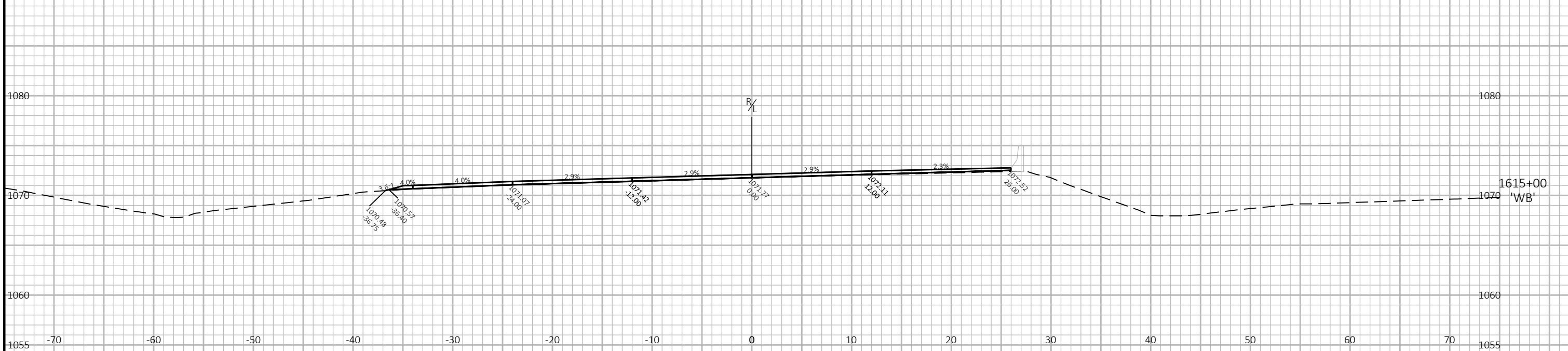
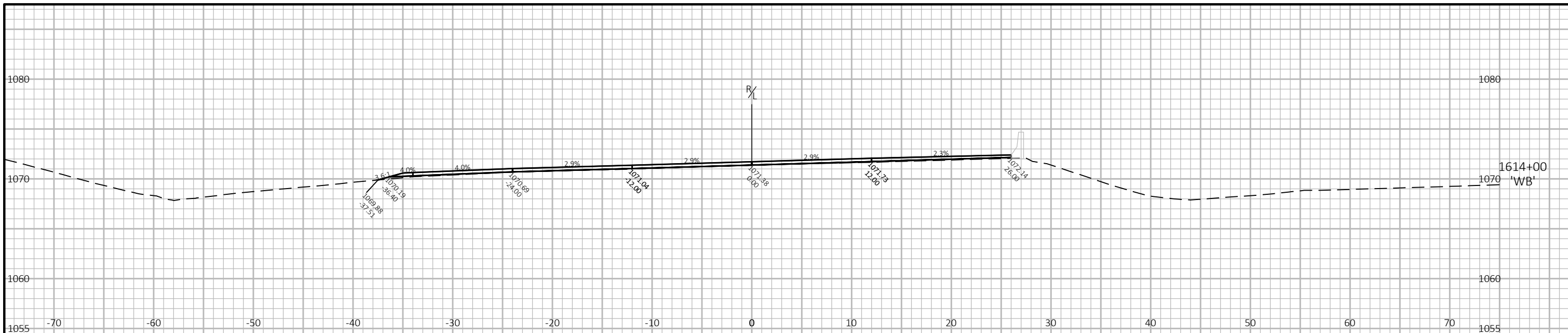
PROJECT NO: 1011-00-70	HWY: IH 39	COUNTY: COLUMBIA	CROSS SECTIONS: IH 39	SHEET	E
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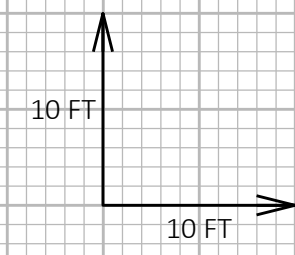
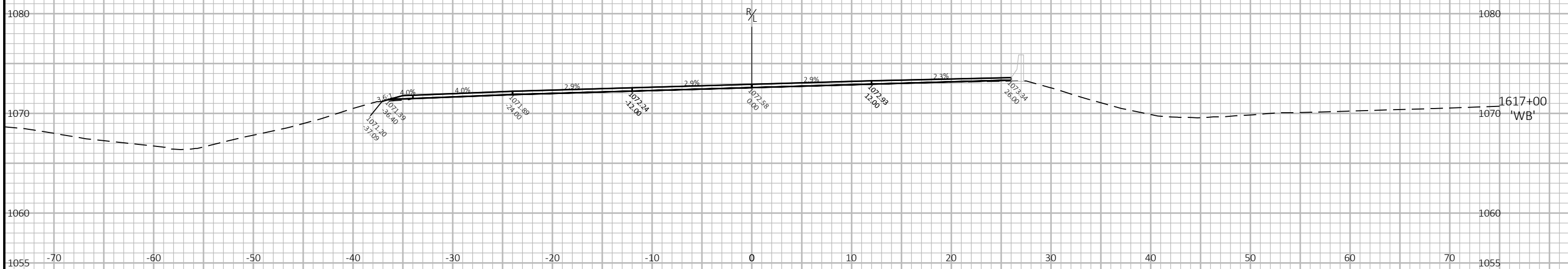
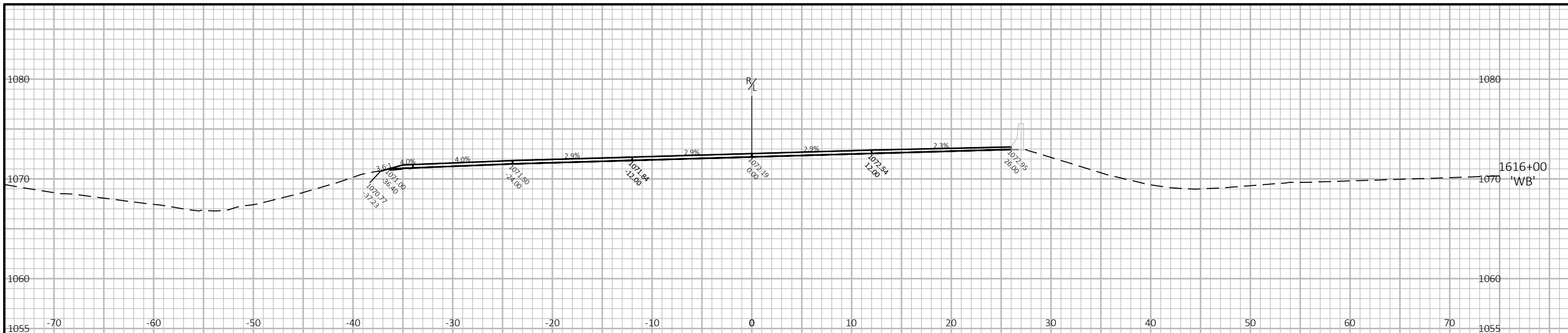
PROJECT NO: 1011-00-70	HWY: IH 39	COUNTY: COLUMBIA	CROSS SECTIONS: IH 39	SHEET	E
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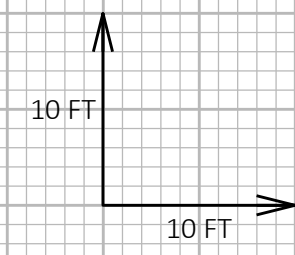
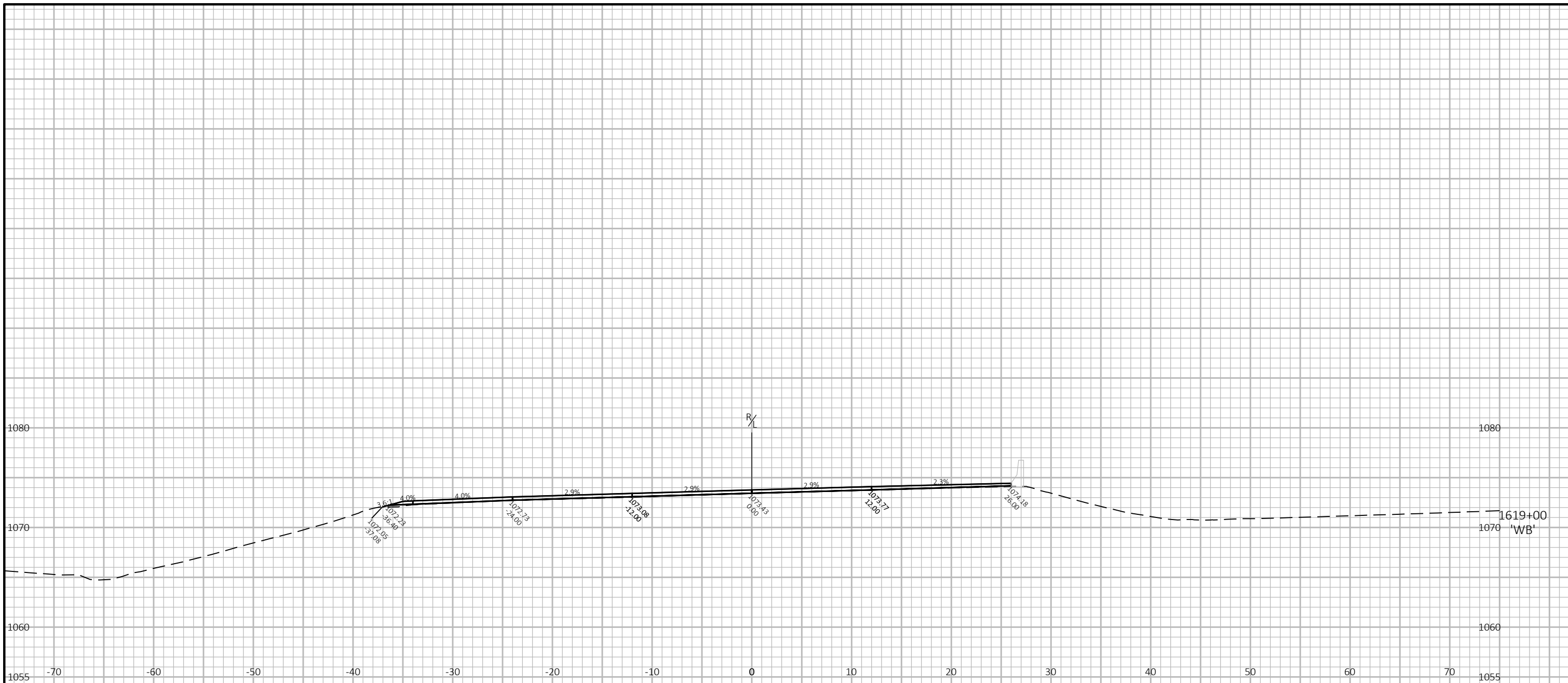
PROJECT NO: 1011-00-70	HWY: IH 39	COUNTY: COLUMBIA	CROSS SECTIONS: IH 39	SHEET	E
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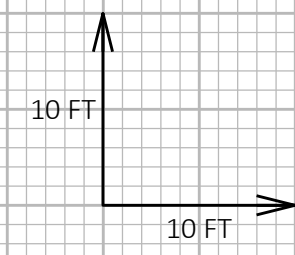
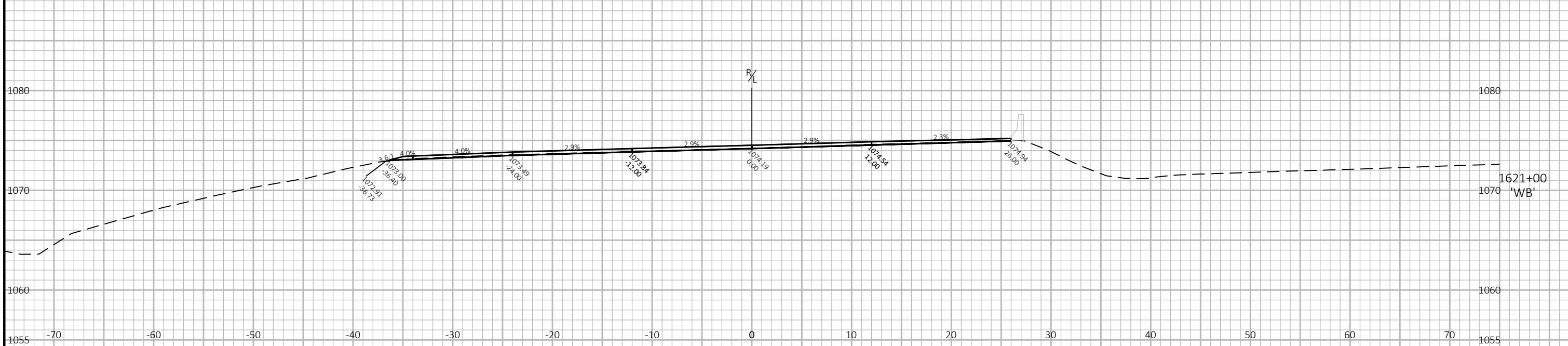
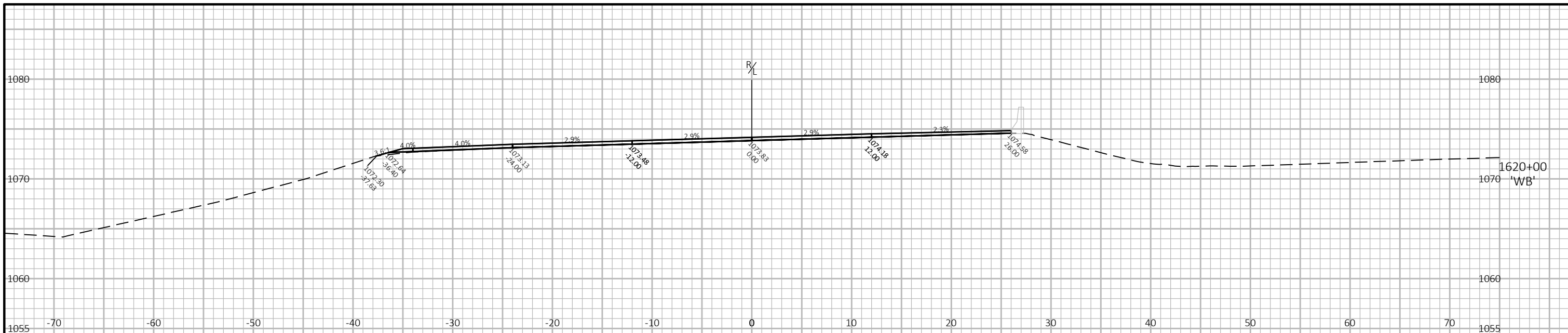
PROJECT NO: 1011-00-70	HWY: IH 39	COUNTY: COLUMBIA	CROSS SECTIONS: IH 39	SHEET	E
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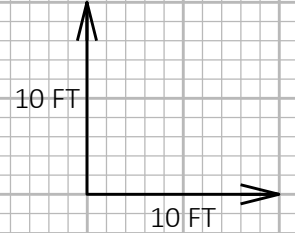
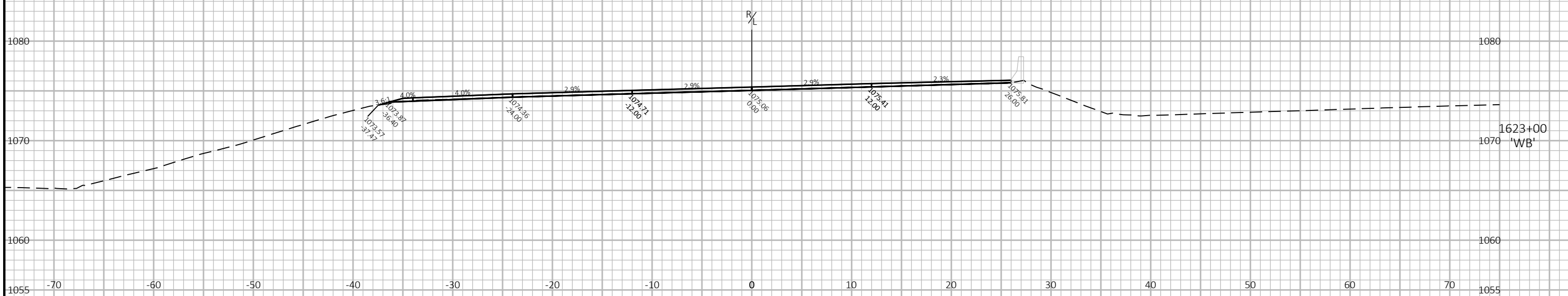
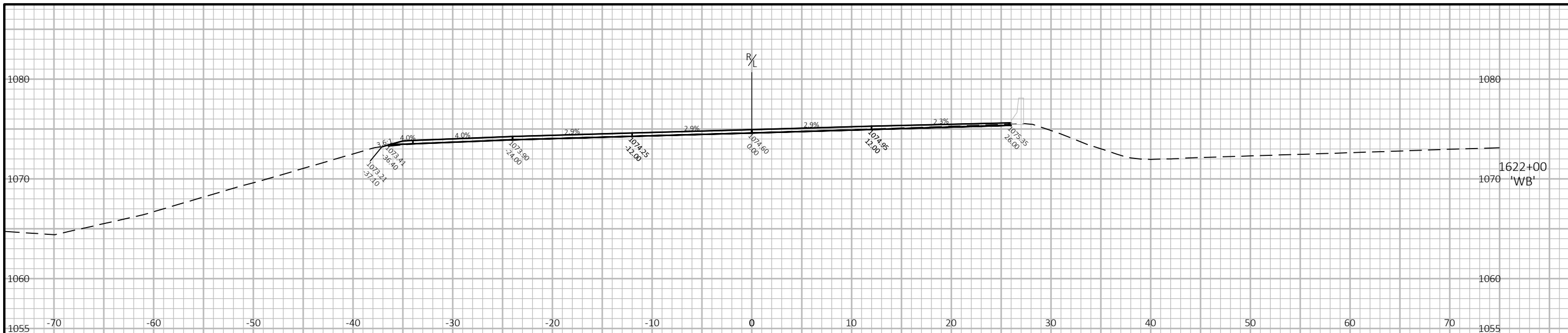
PROJECT NO: 1011-00-70	HWY: IH 39	COUNTY: COLUMBIA	CROSS SECTIONS: IH 39	SHEET	E
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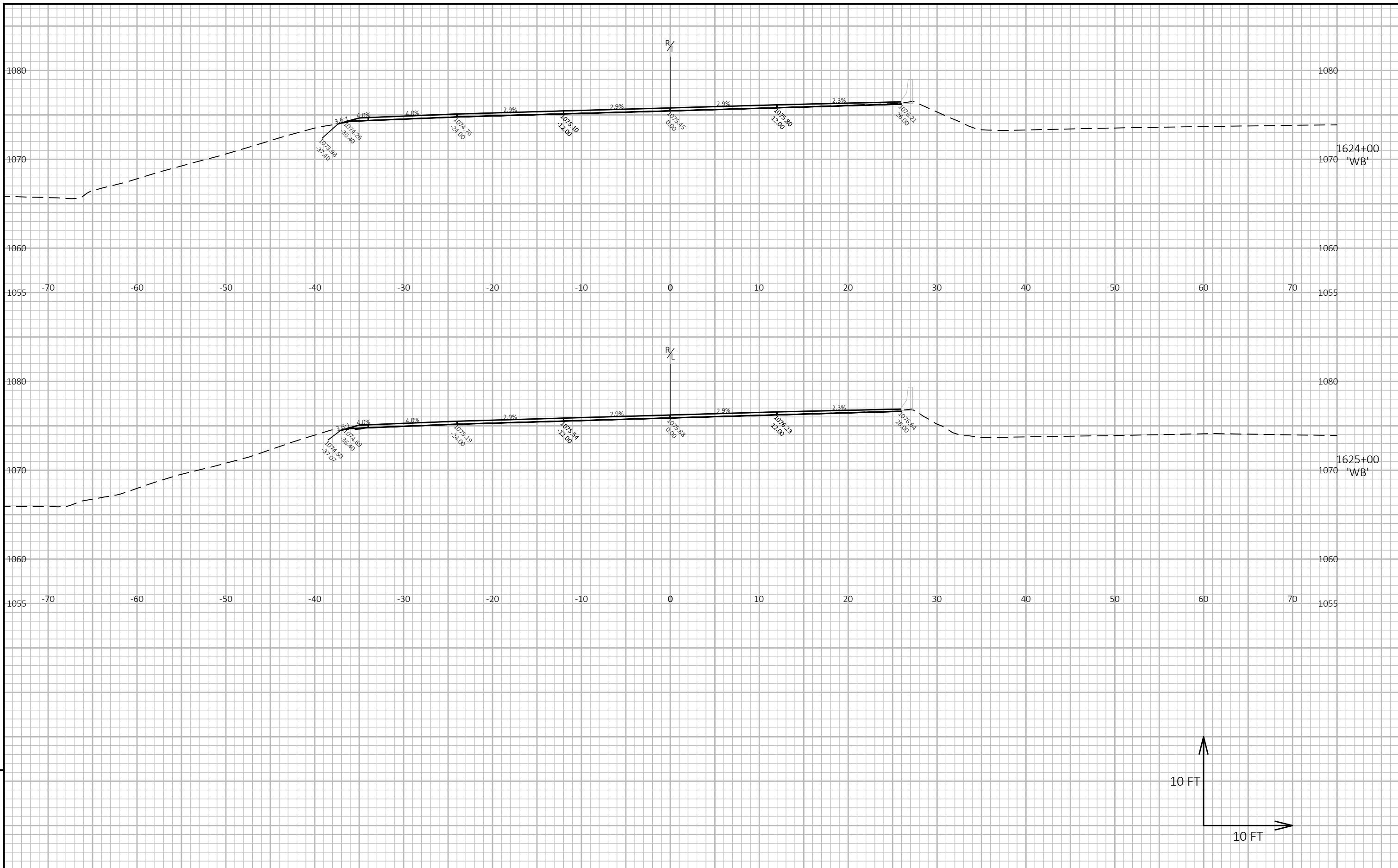
PROJECT NO: 1011-00-70	HWY: IH 39	COUNTY: COLUMBIA	CROSS SECTIONS: IH 39	SHEET	E
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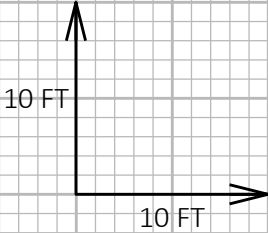
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PROJECT NO: 1011-00-70	HWY: IH 39	COUNTY: COLUMBIA	CROSS SECTIONS: IH 39	SHEET	E
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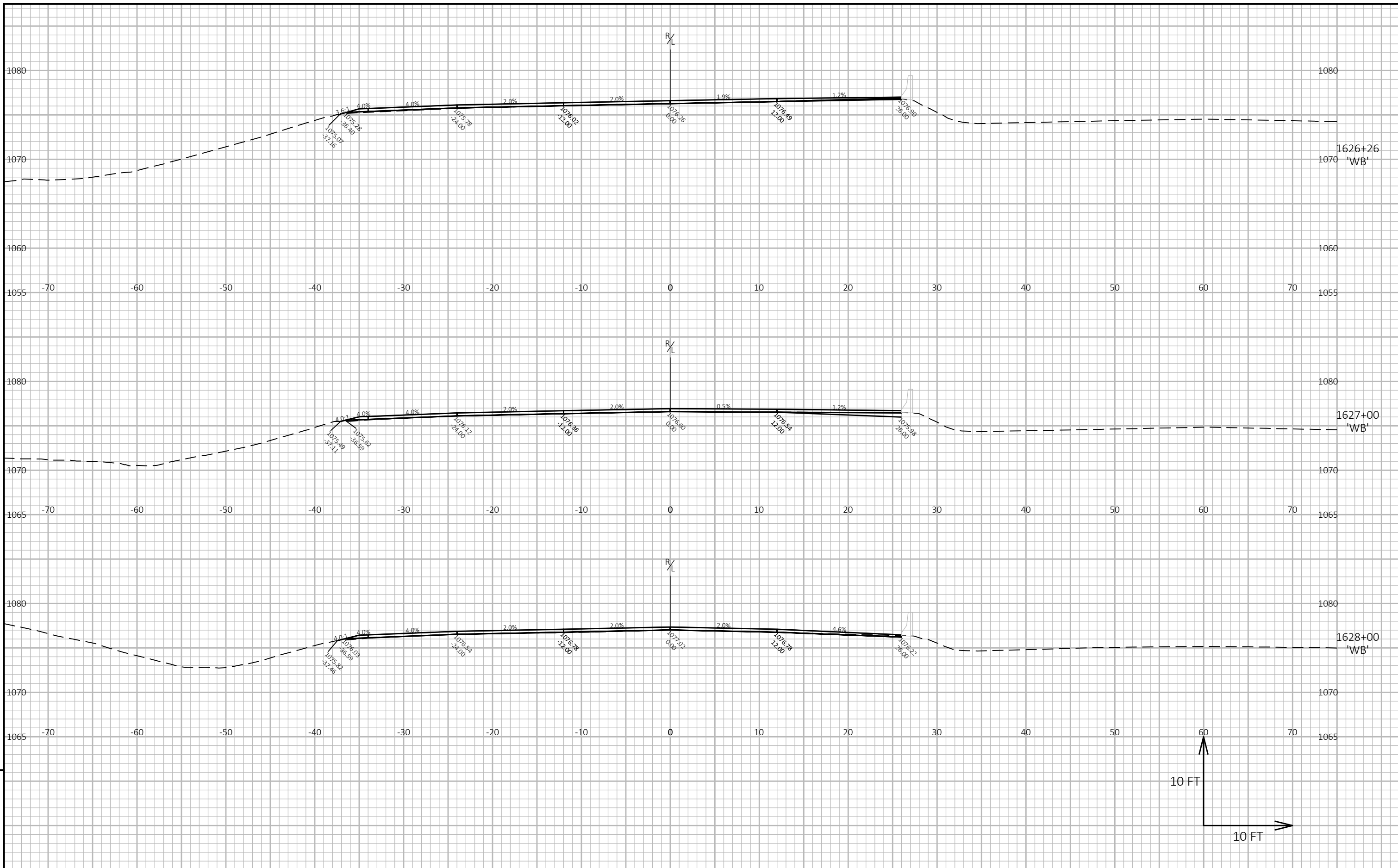
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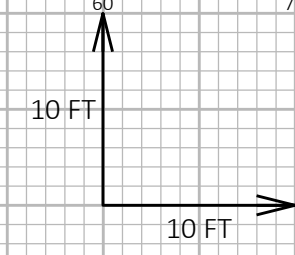
PROJECT NO: 1011-00-70 HWY: IH 39 COUNTY: COLUMBIA CROSS SECTIONS: IH 39 SHEET E

FILE NAME : C:\ONEDRIVE\AECOM\IH 39 OVERLAY_COLUMBIA COUNTY - GENERAL\900_CAD_GIS\910_CAD\1011-01-70_COLUMBIA\SHEETSPLAN\090201-XS.DWG PLOT DATE : 4/18/2023 11:50 AM PLOT BY : DAY, JOHN PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT. WISDOT/CADD SHEET 49

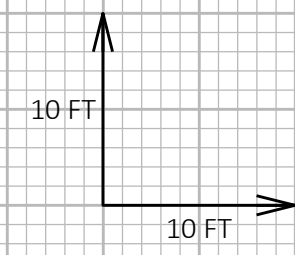
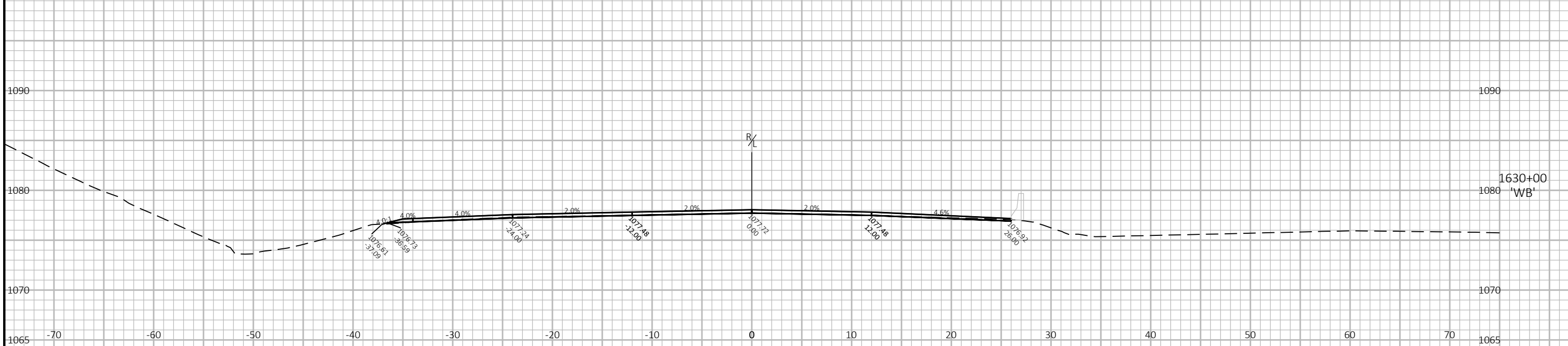
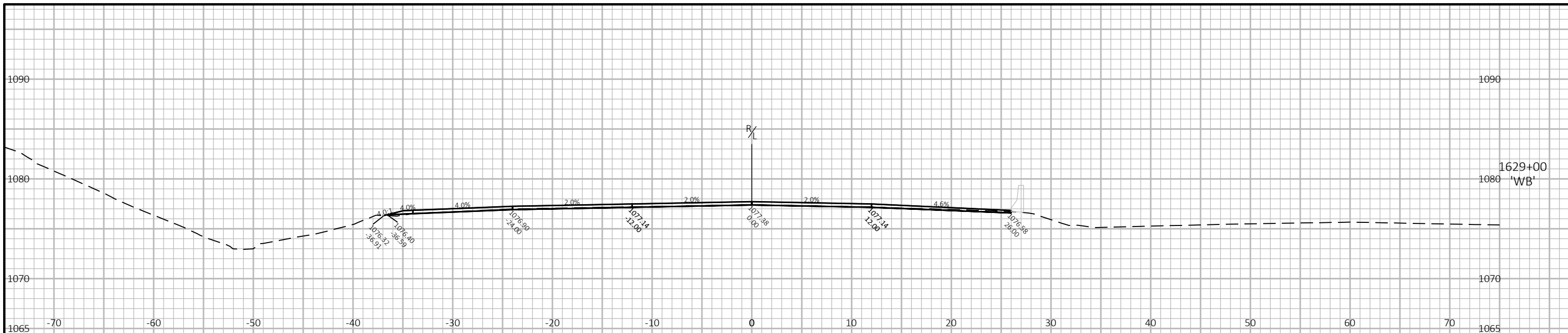


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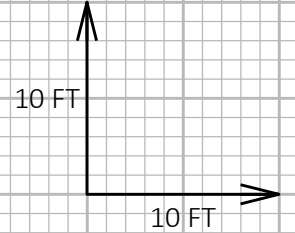
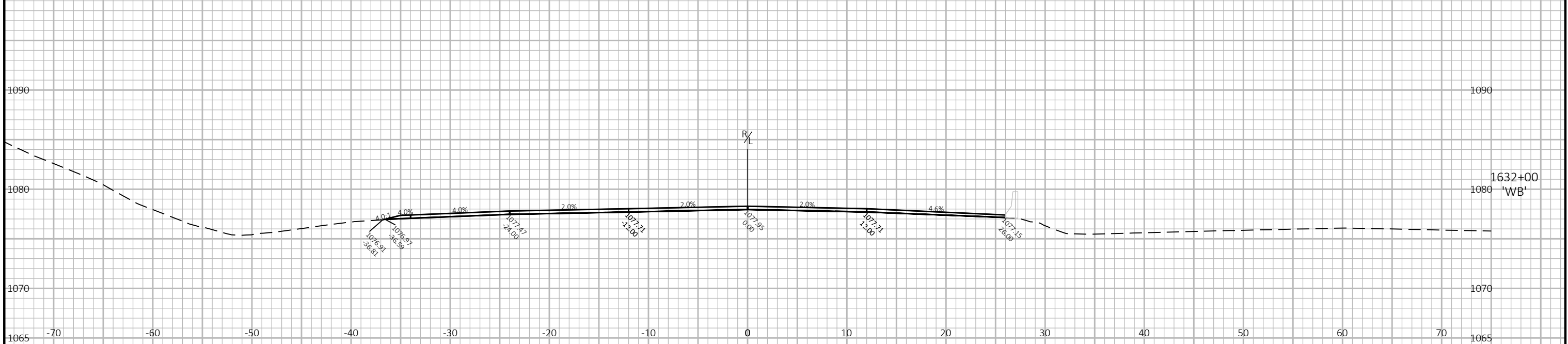
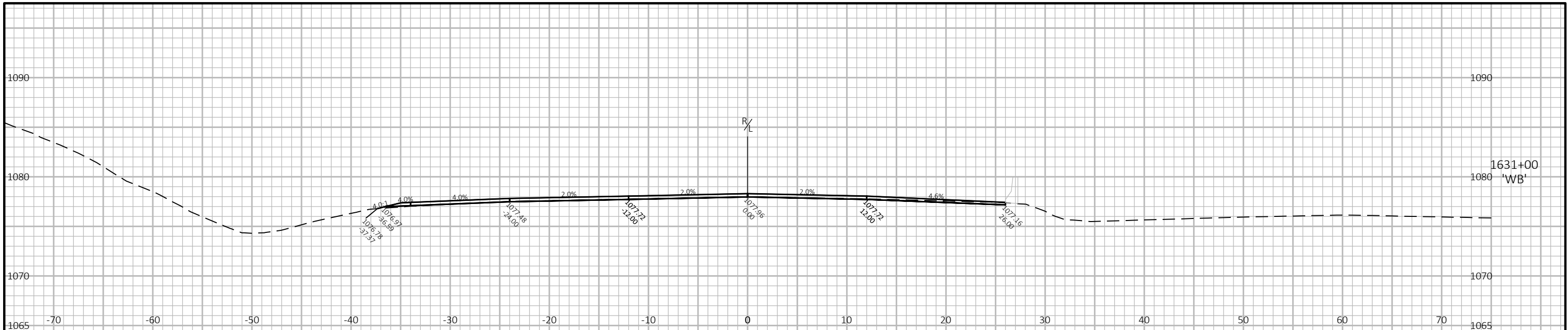
PROJECT NO: 1011-00-70	HWY: IH 39	COUNTY: COLUMBIA	CROSS SECTIONS: IH 39	SHEET	E
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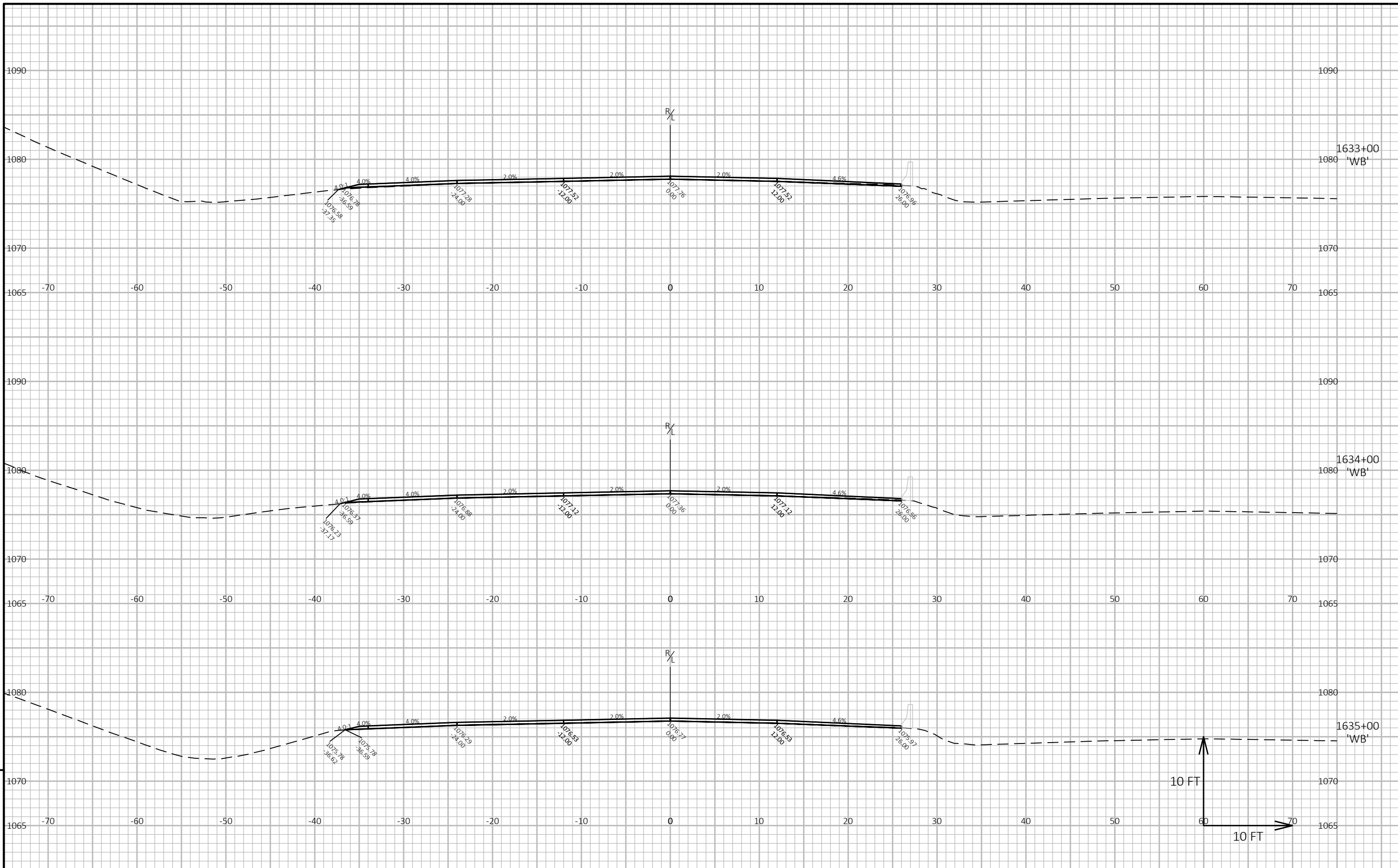
PROJECT NO: 1011-00-70	HWY: IH 39	COUNTY: COLUMBIA	CROSS SECTIONS: IH 39	SHEET	E
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PROJECT NO: 1011-00-70	HWY: IH 39	COUNTY: COLUMBIA	CROSS SECTIONS: IH 39	SHEET	E
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PROJECT NO: 1011-00-70

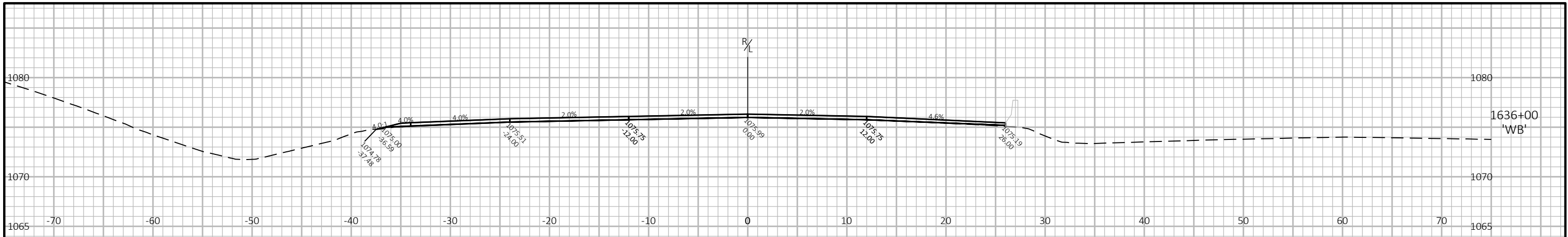
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COUNTY: COLUMBIA

CROSS SECTIONS: IH 39

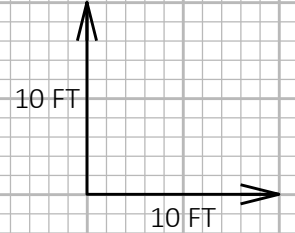
SHEET

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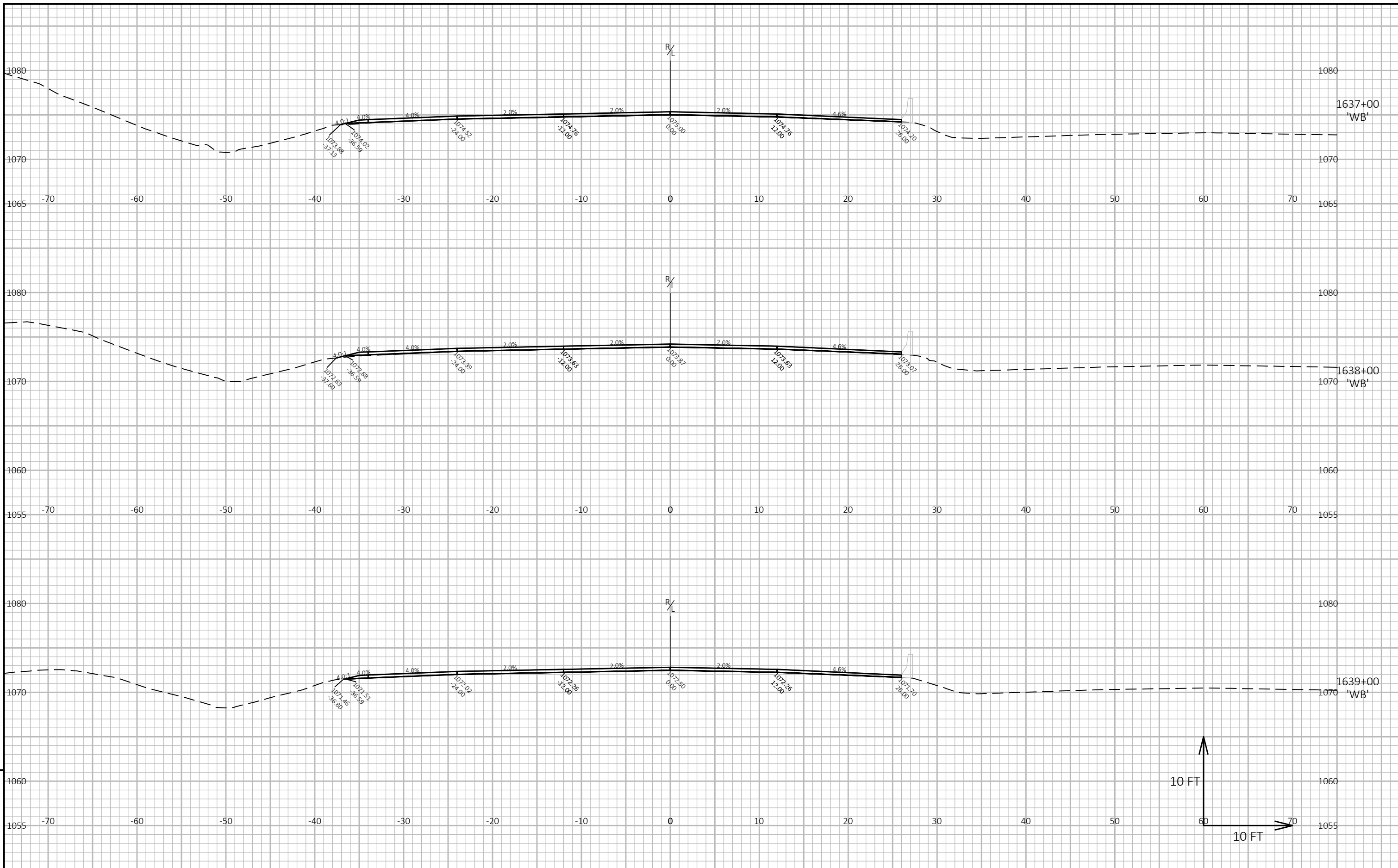


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PROJECT NO: 1011-00-70	HWY: IH 39	COUNTY: COLUMBIA	CROSS SECTIONS: IH 39	SHEET	E
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PROJECT NO: 1011-00-70

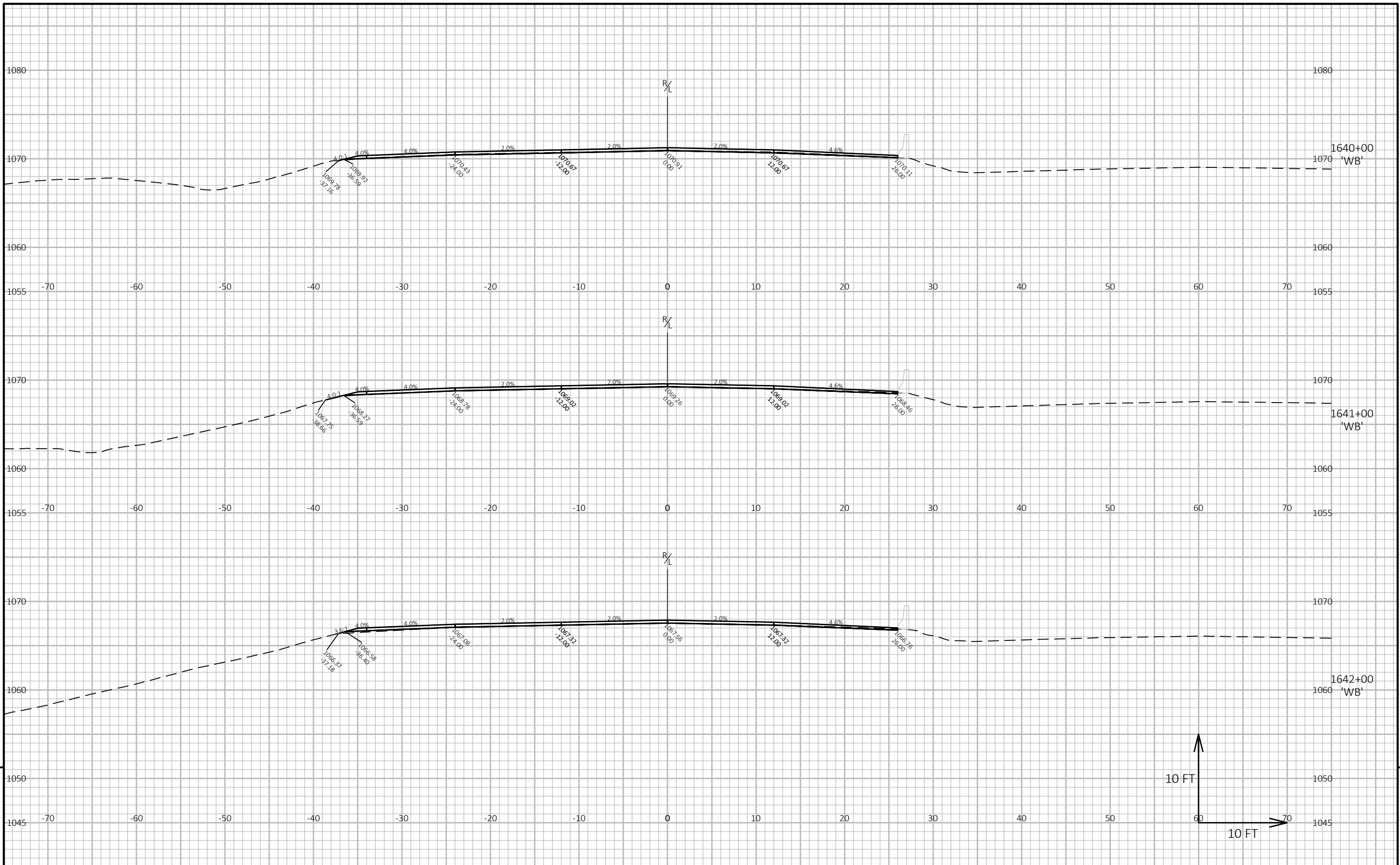
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COUNTY: COLUMBIA

CROSS SECTIONS: IH 39

SHEET

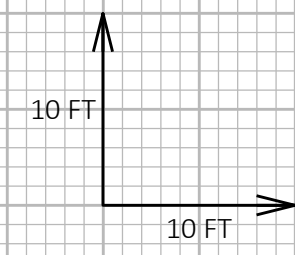
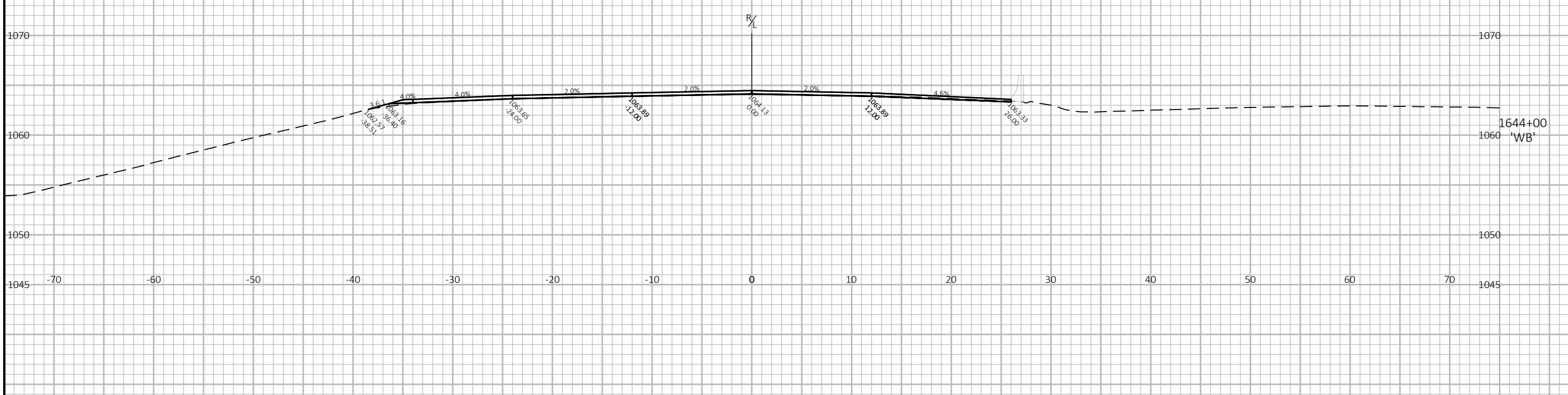
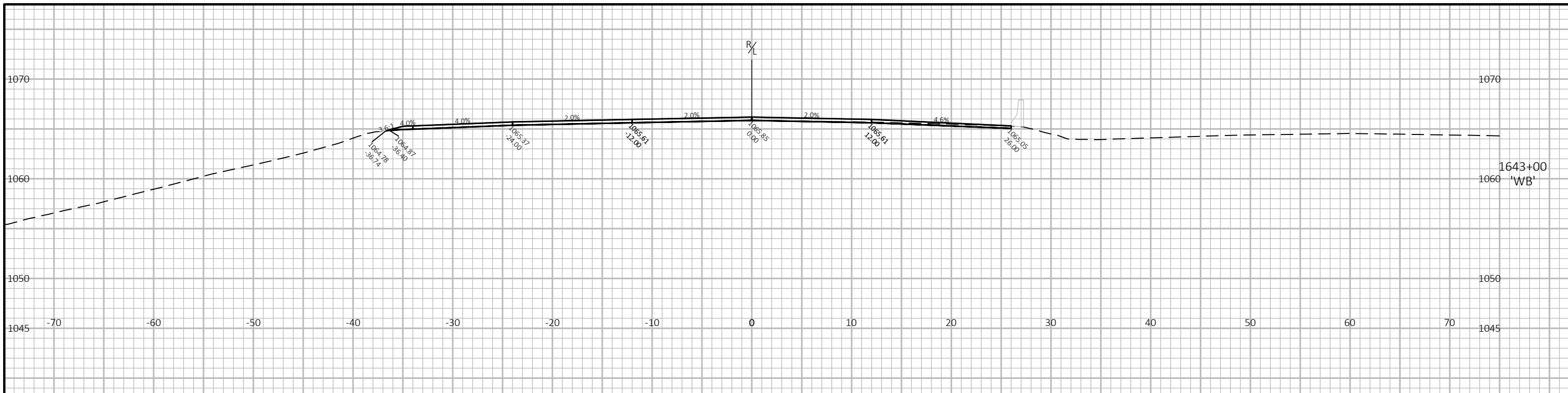
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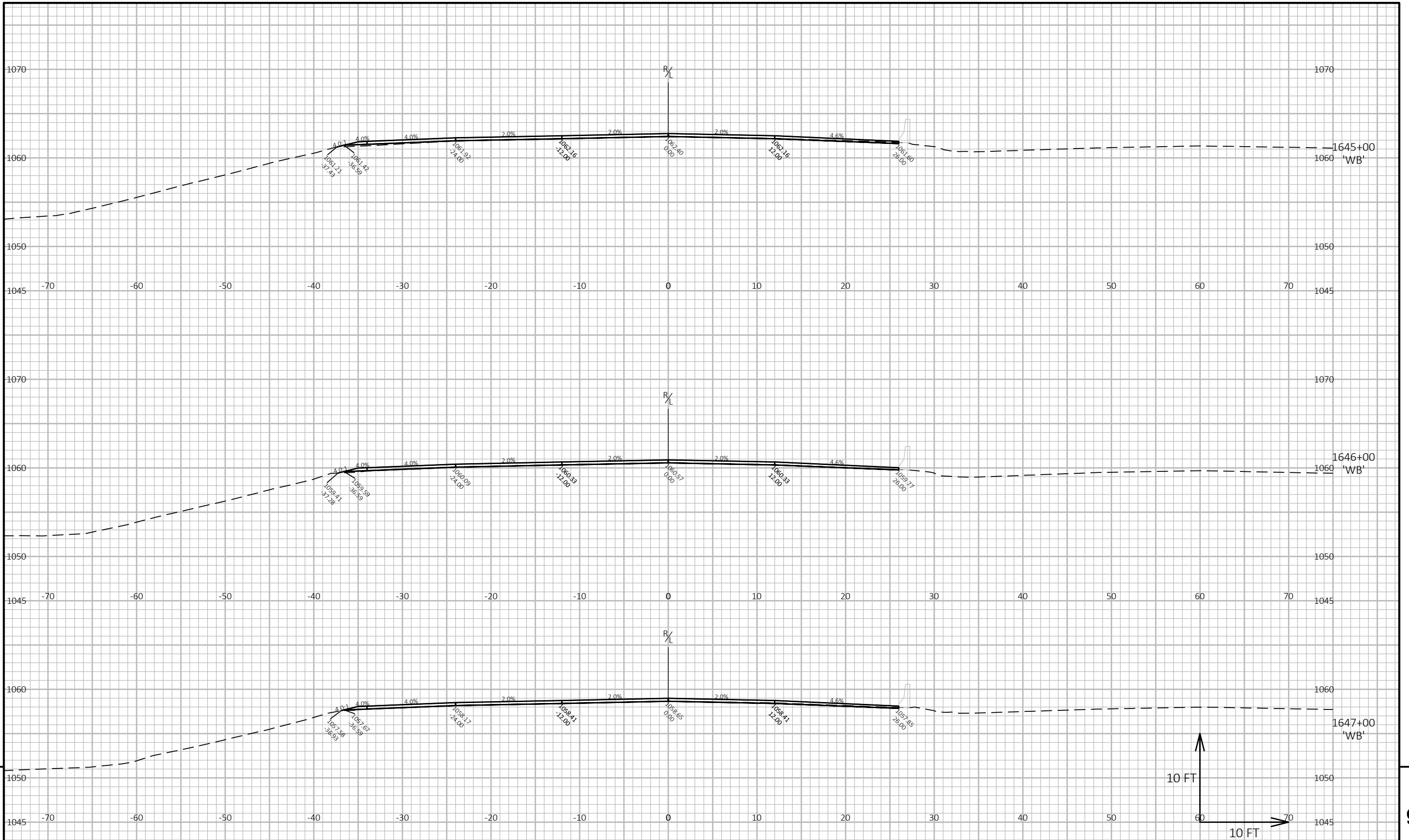
PROJECT NO: 1011-00-70	HWY: IH 39	COUNTY: COLUMBIA	CROSS SECTIONS: IH 39	SHEET	E
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PROJECT NO: 1011-00-70	HWY: IH 39	COUNTY: COLUMBIA	CROSS SECTIONS: IH 39	SHEET	E
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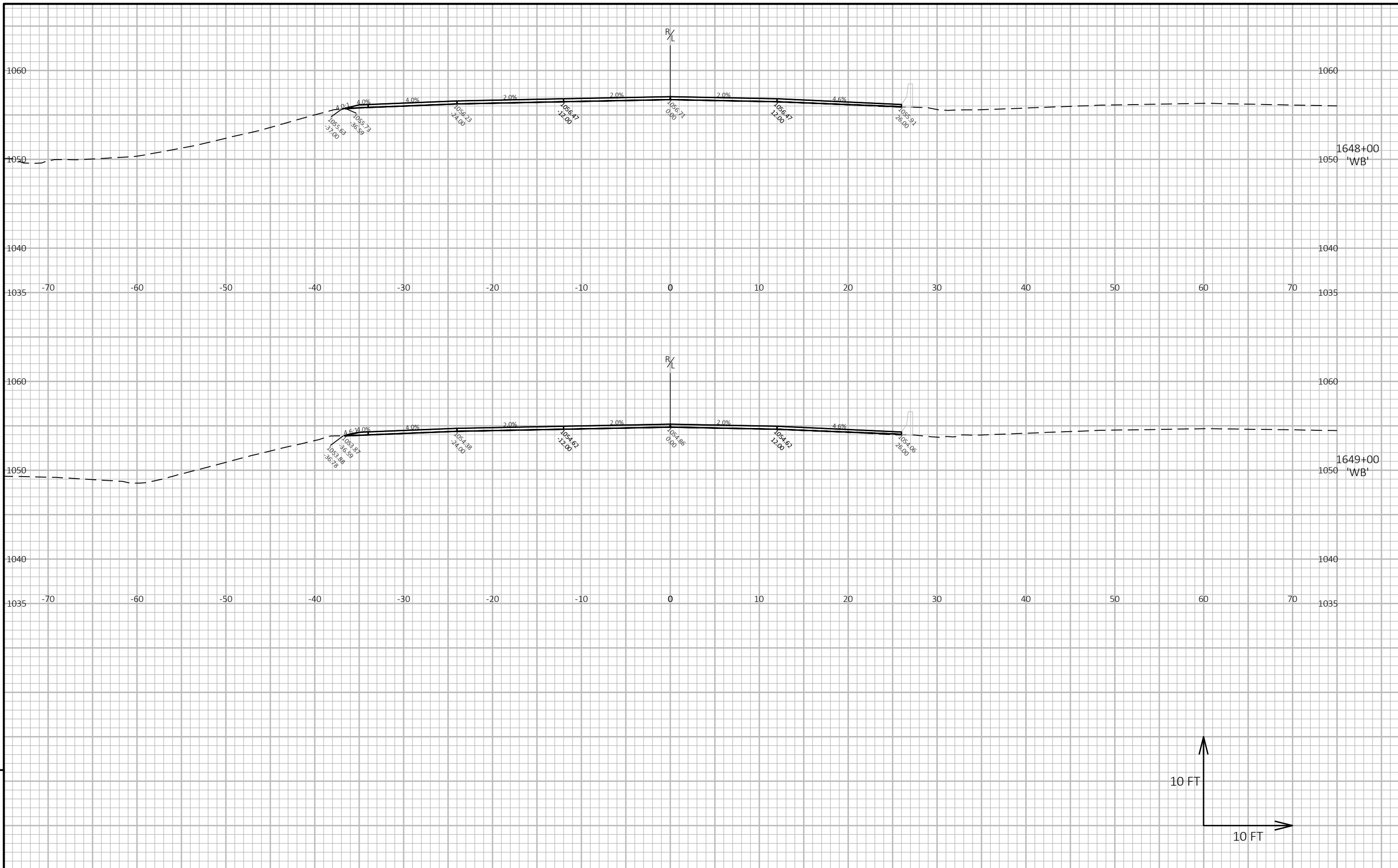


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PROJECT NO: 1011-00-70 HWY: IH 39 COUNTY: COLUMBIA CROSS SECTIONS: IH 39 SHEET

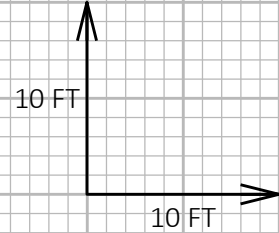
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E

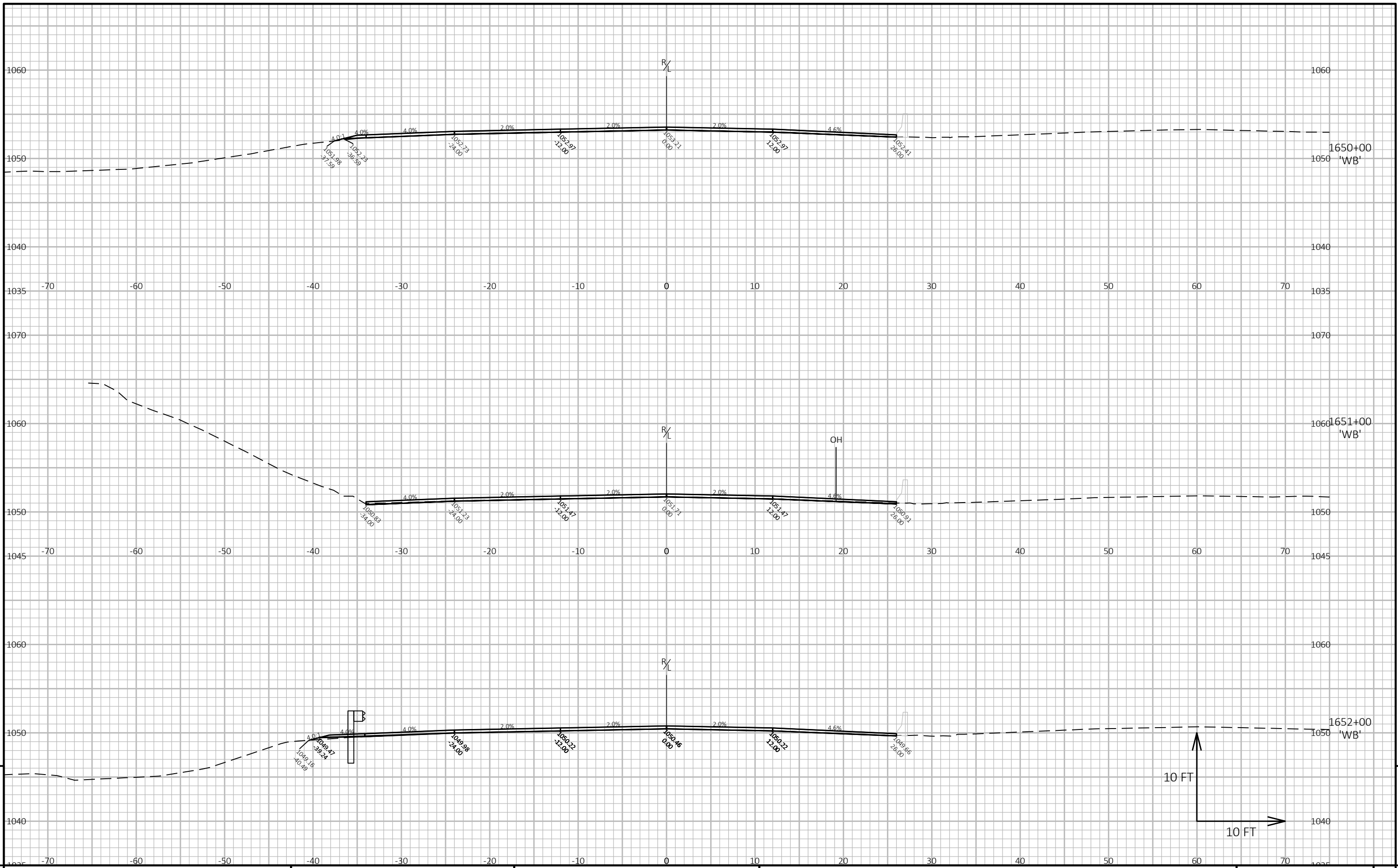


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PROJECT NO: 1011-00-70	HWY: IH 39	COUNTY: COLUMBIA	CROSS SECTIONS: IH 39	SHEET	E
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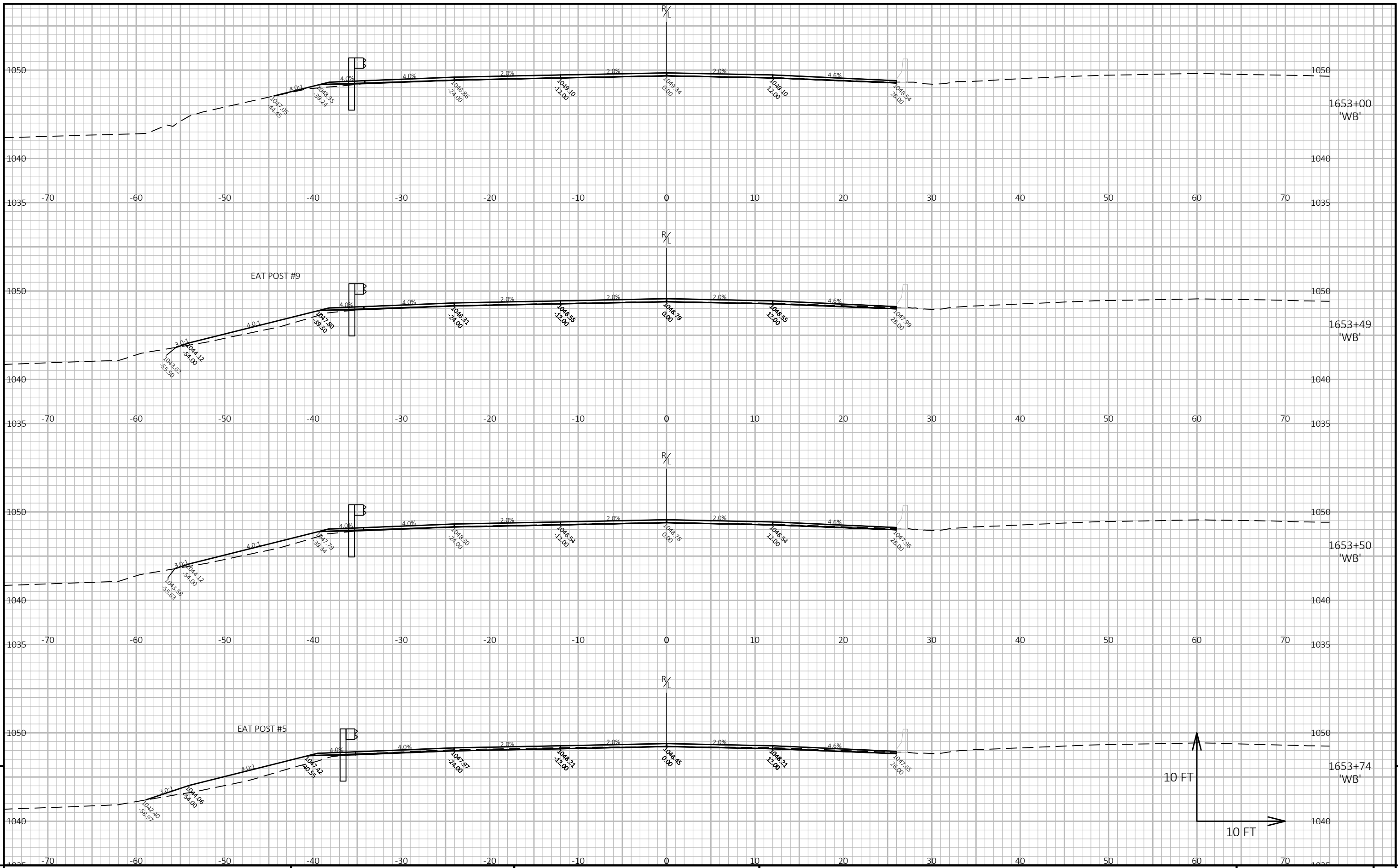
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PROJECT NO: 1011-00-70 HWY: IH 39 COUNTY: COLUMBIA CROSS SECTIONS: IH 39 SHEET E

FILE NAME : C:\ONEDRIVE\AECOM\IH 39 OVERLAY_COLUMBIA COUNTY - GENERAL\900_CAD_GIS\910_CAD\1011-01-70_COLUMBIA\900202-XS.DWG PLOT DATE : 4/18/2023 11:56 AM PLOT BY : DAY, JOHN PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT. WISDOT/CADD SHEET 49

LAYOUT NAME - 090241-xs



PROJECT NO: 1011-00-70

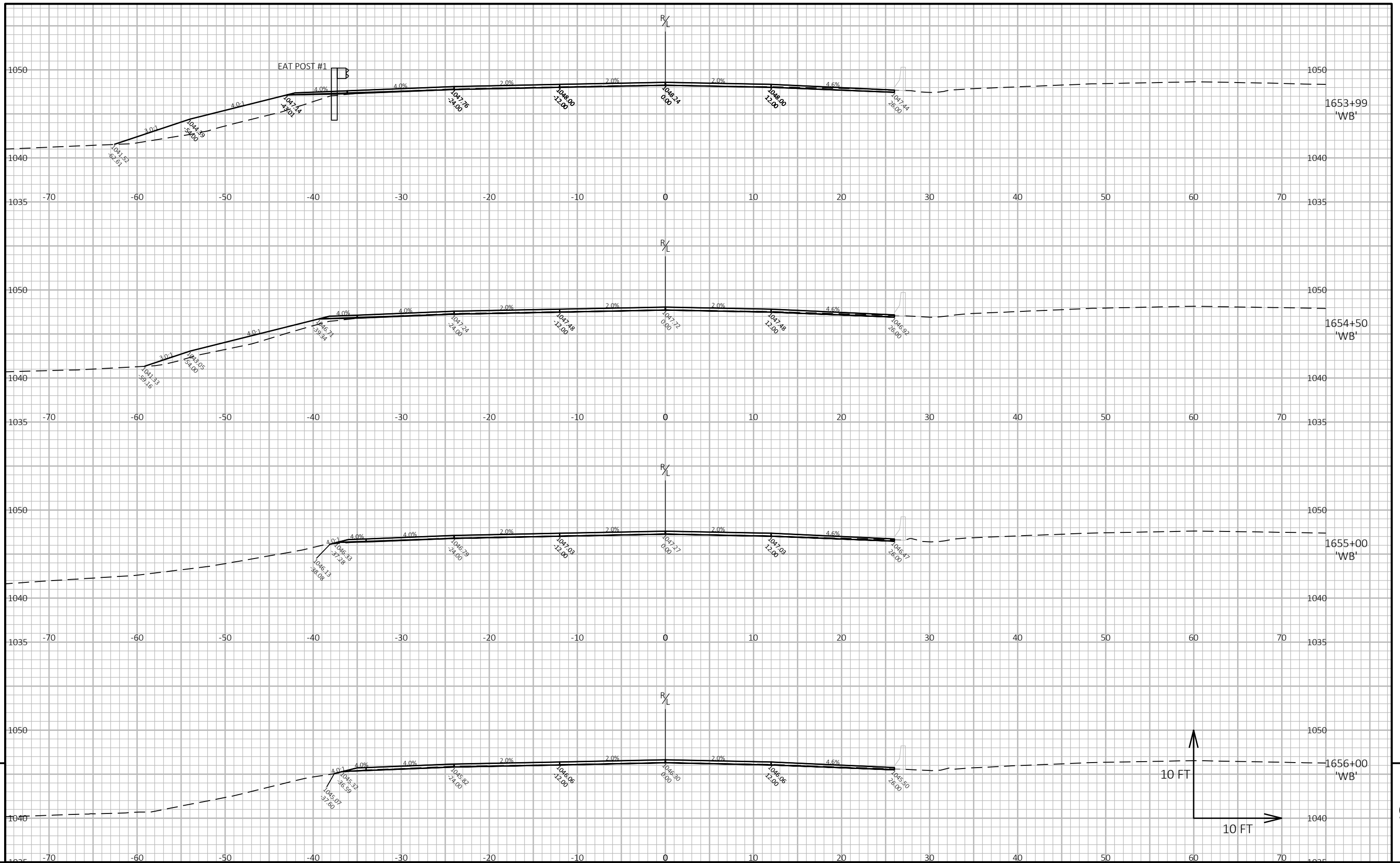
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COUNTY: COLUMBIA

CROSS SECTIONS: IH 39

SHEET

E



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PROJECT NO: 1011-00-70

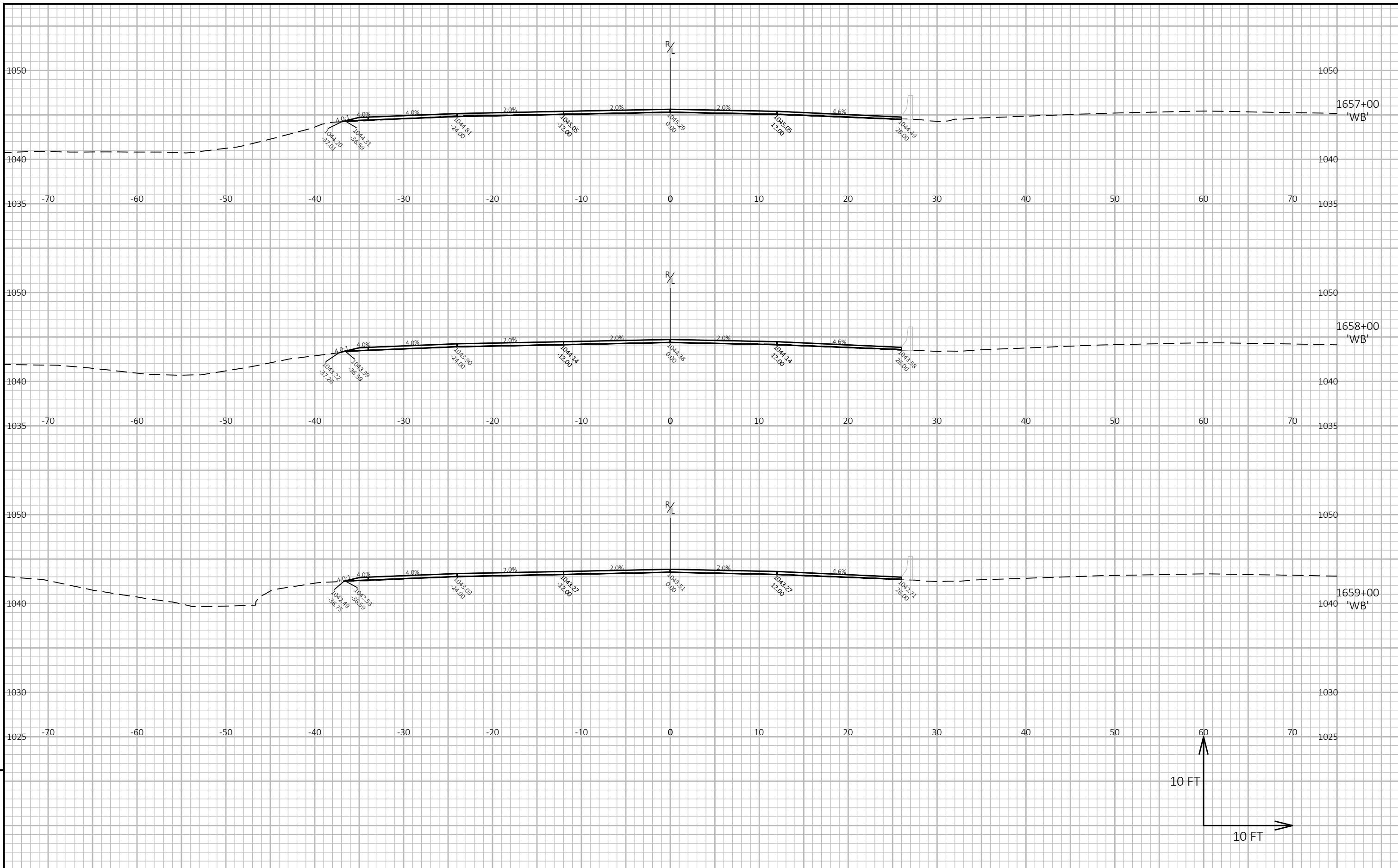
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COUNTY: COLUMBIA

CROSS SECTIONS: IH 39

SHEET

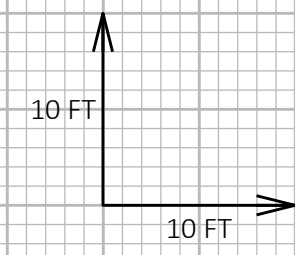
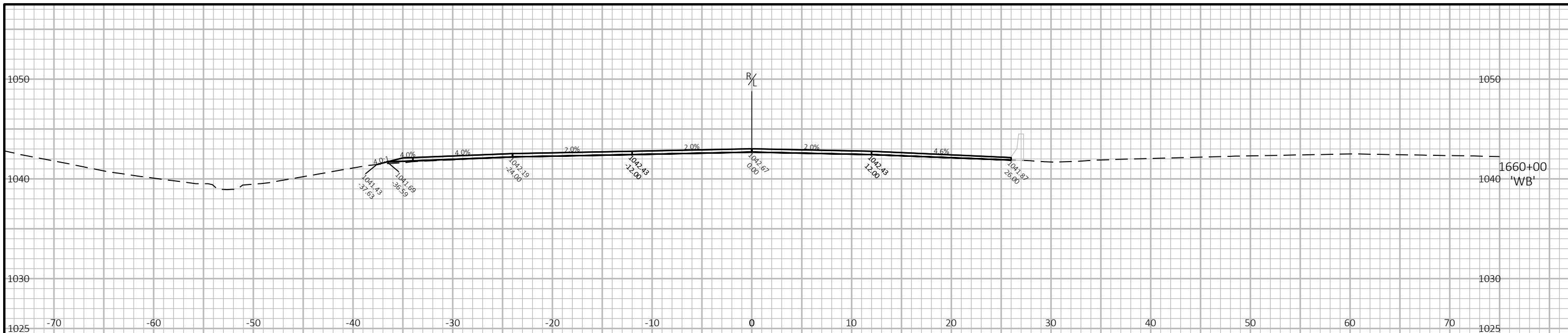
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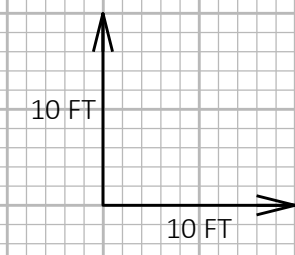
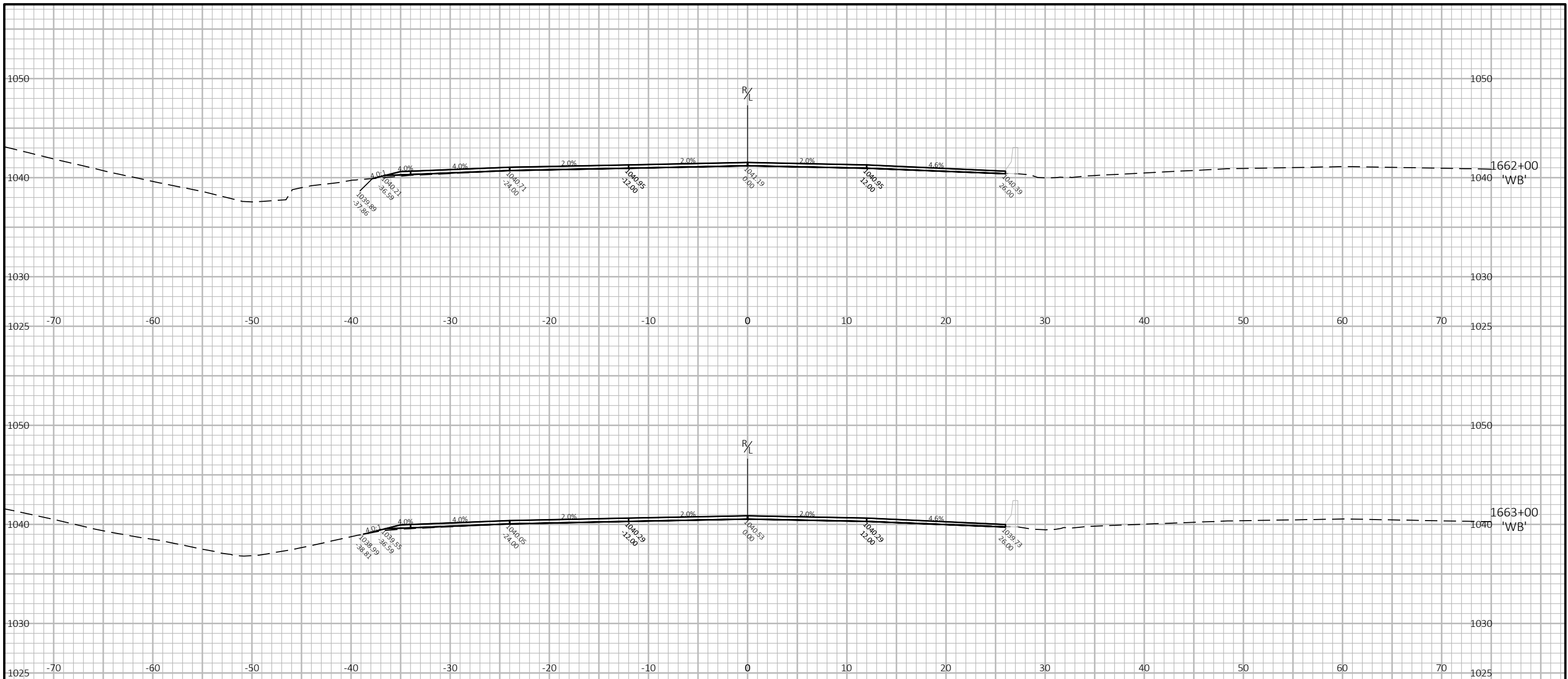
PROJECT NO: 1011-00-70	HWY: IH 39	COUNTY: COLUMBIA	CROSS SECTIONS: IH 39	SHEET	E
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PROJECT NO: 1011-00-70	HWY: IH 39	COUNTY: COLUMBIA	CROSS SECTIONS: IH 39	SHEET	E
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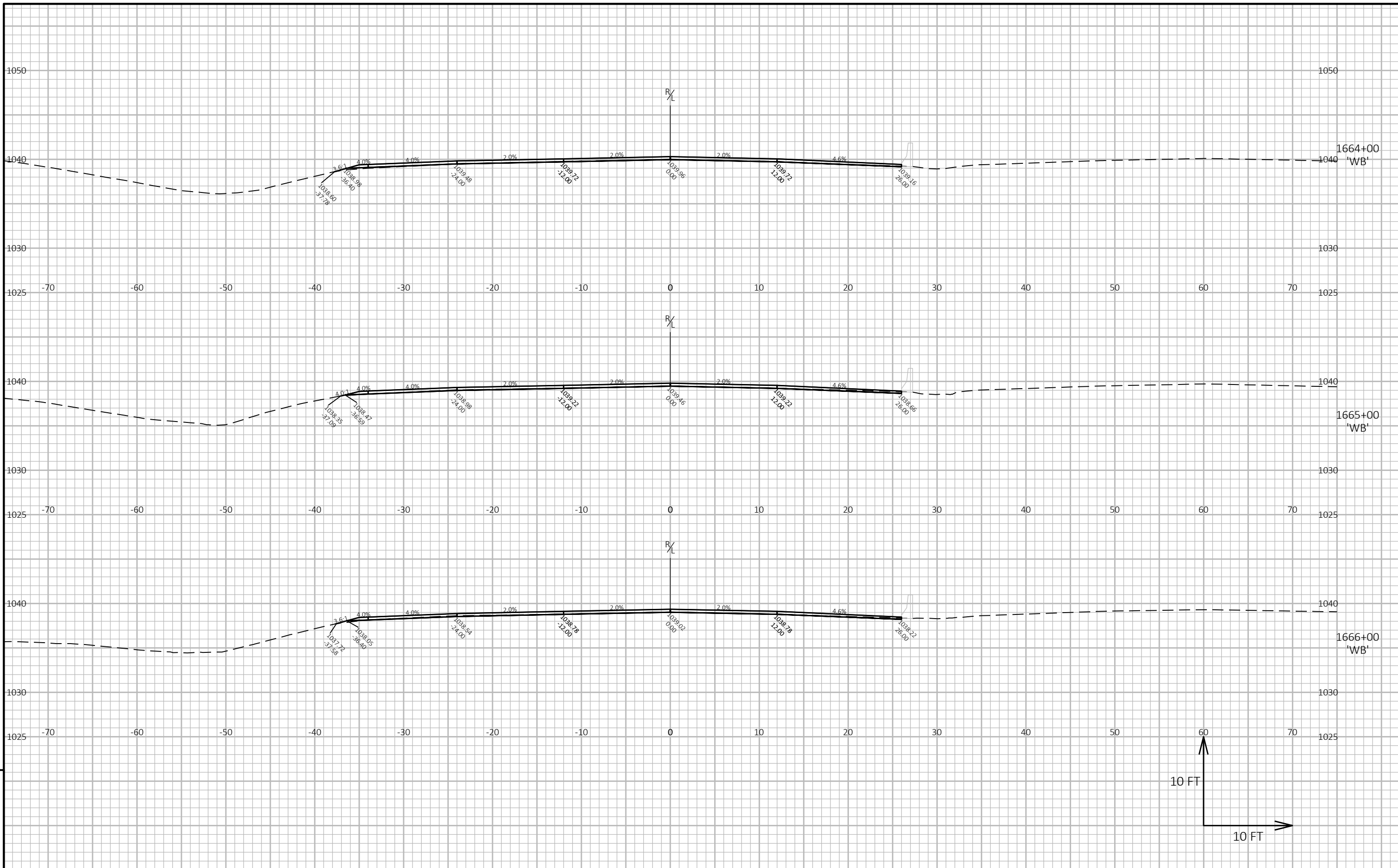
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PROJECT NO: 1011-00-70 HWY: IH 39 COUNTY: COLUMBIA CROSS SECTIONS: IH 39 SHEET E

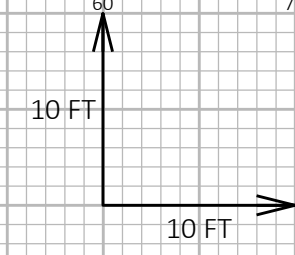
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LAYOUT NAME - 090246-xs

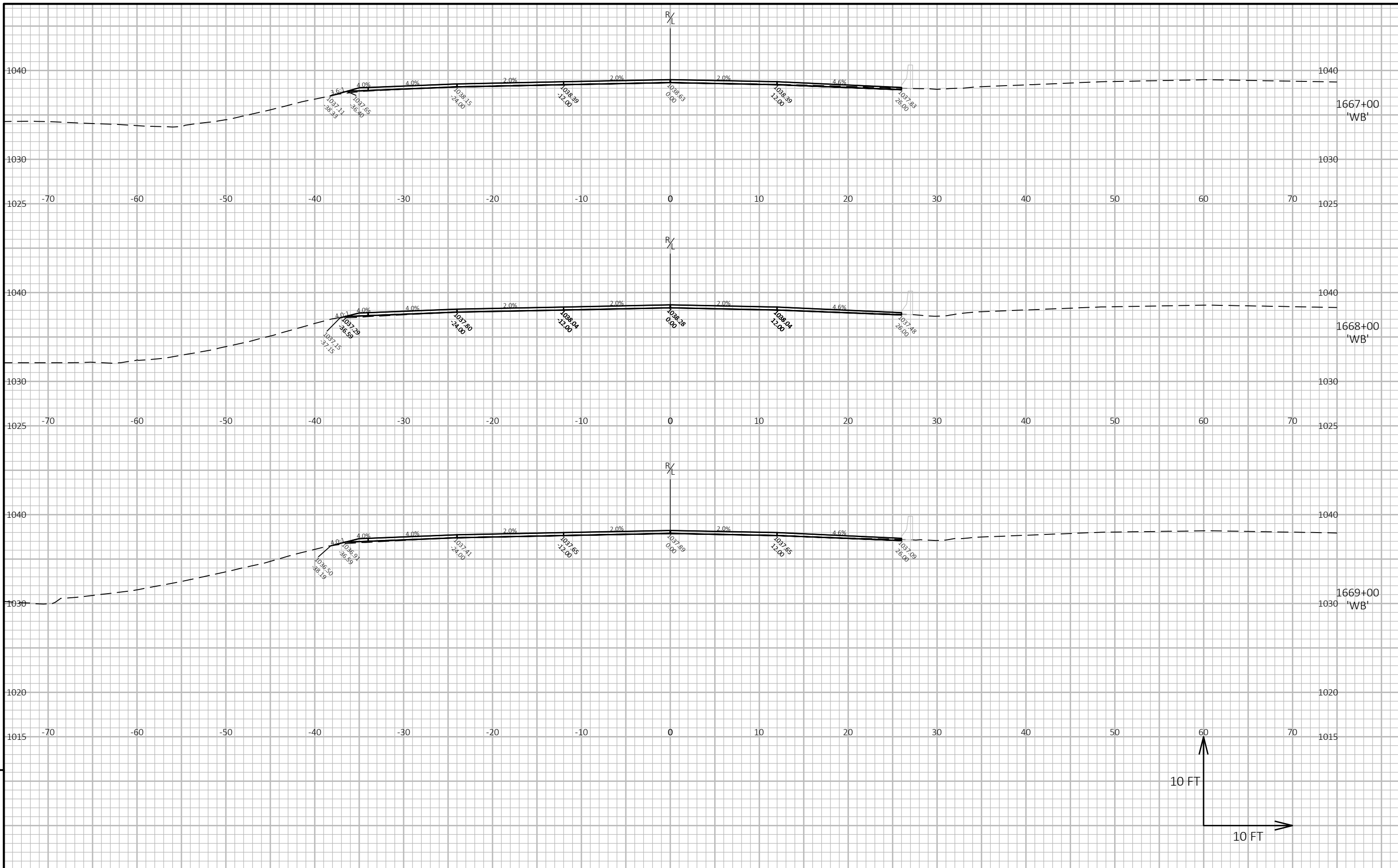


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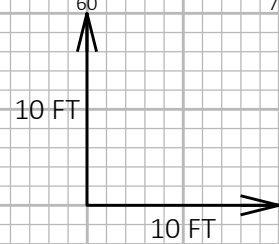


PROJECT NO: 1011-00-70	HWY: IH 39	COUNTY: COLUMBIA	CROSS SECTIONS: IH 39	SHEET	E
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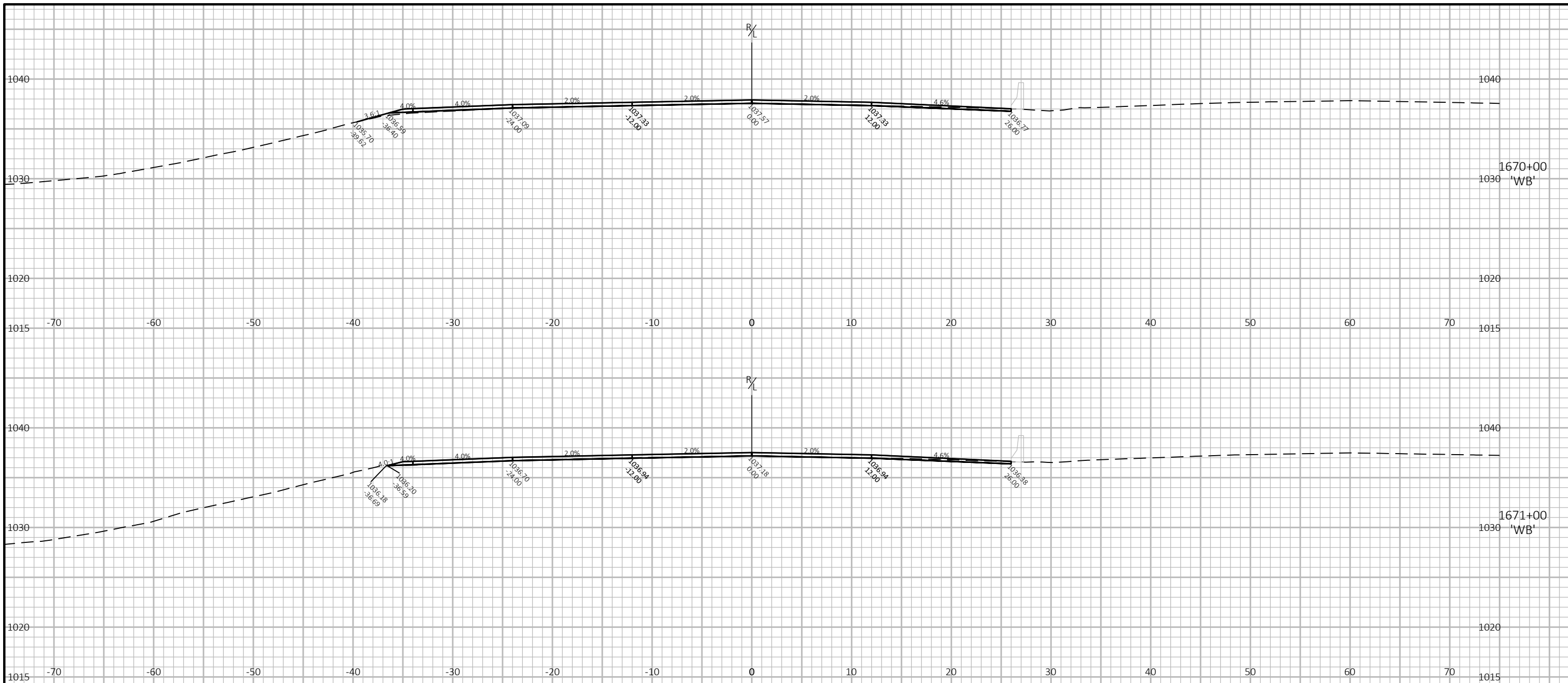


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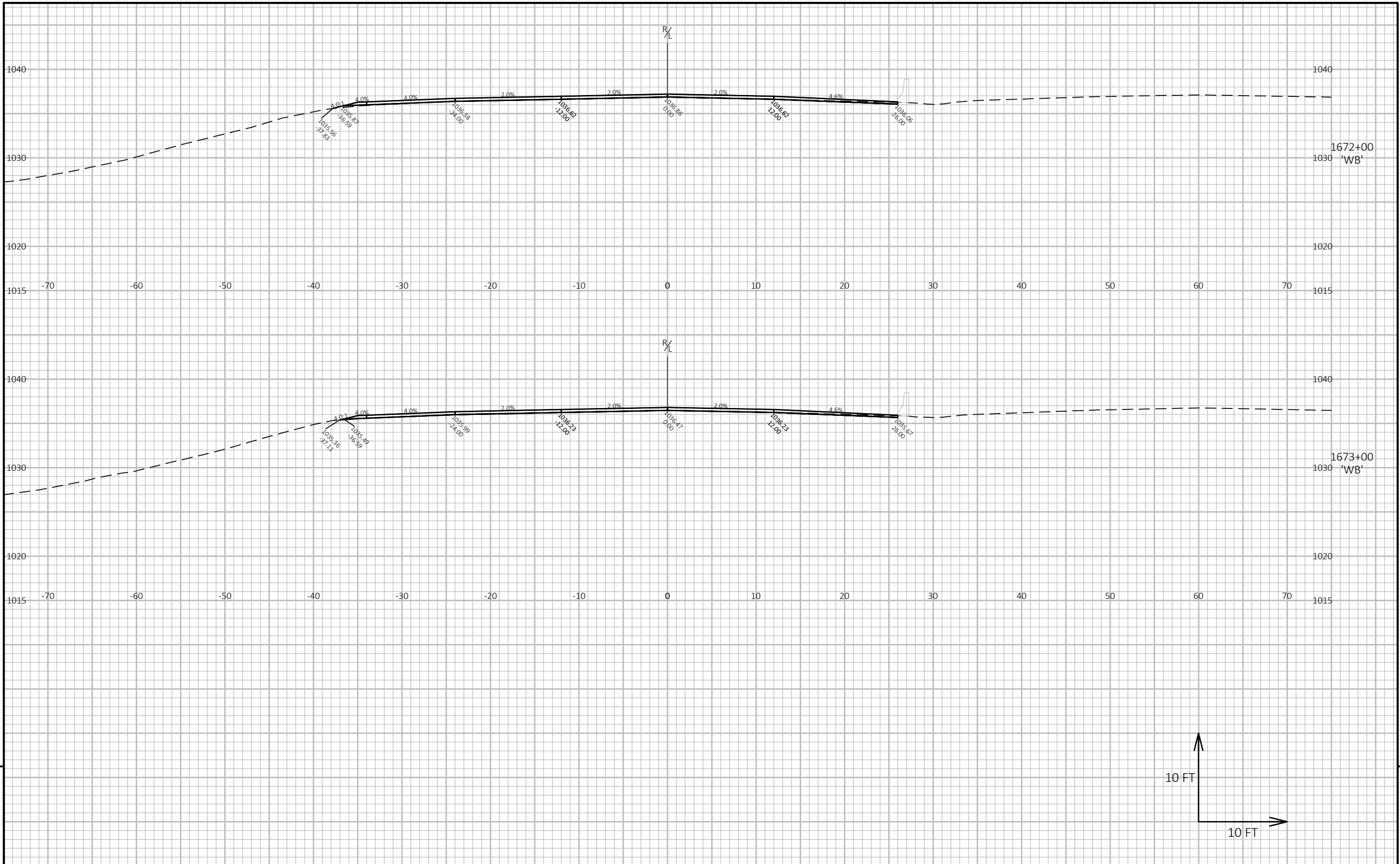
PROJECT NO: 1011-00-70	HWY: IH 39	COUNTY: COLUMBIA	CROSS SECTIONS: IH 39	SHEET	E
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PROJECT NO: 1011-00-70	HWY: IH 39	COUNTY: COLUMBIA	CROSS SECTIONS: IH 39	SHEET	E
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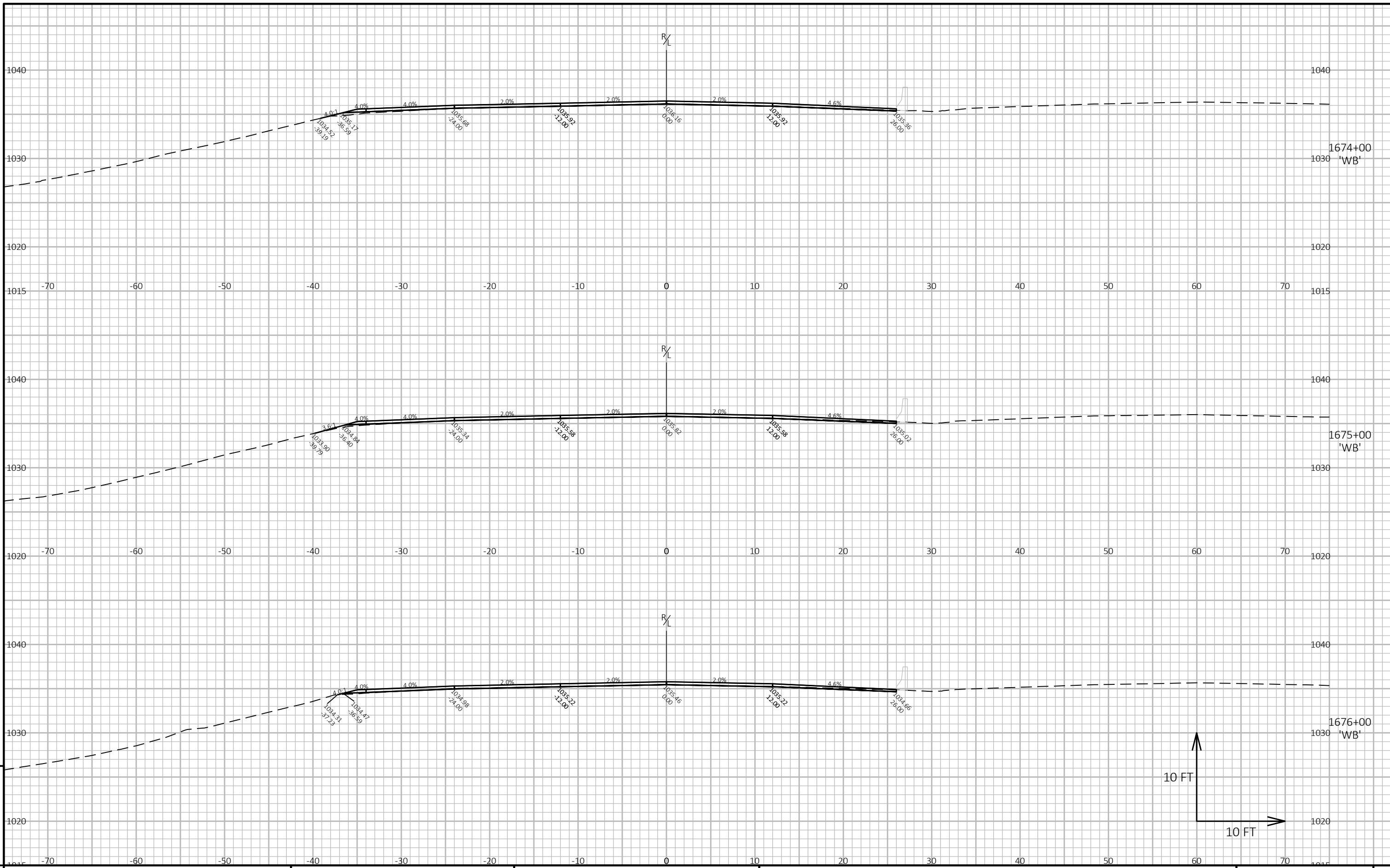


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PROJECT NO: 1011-00-70 HWY: IH 39 COUNTY: COLUMBIA CROSS SECTIONS: IH 39 SHEET E

FILE NAME : C:\ONEDRIVE\AECOM\IH 39 OVERLAY_COLUMBIA COUNTY - GENERAL\900_CAD_GIS\910_CAD\1011-01-70_COLUMBIA\SHEETSPLAN\090202-XS.DWG PLOT DATE : 4/18/2023 11:57 AM PLOT BY : DAY, JOHN PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT. WISDOT/CADD SHEET 49

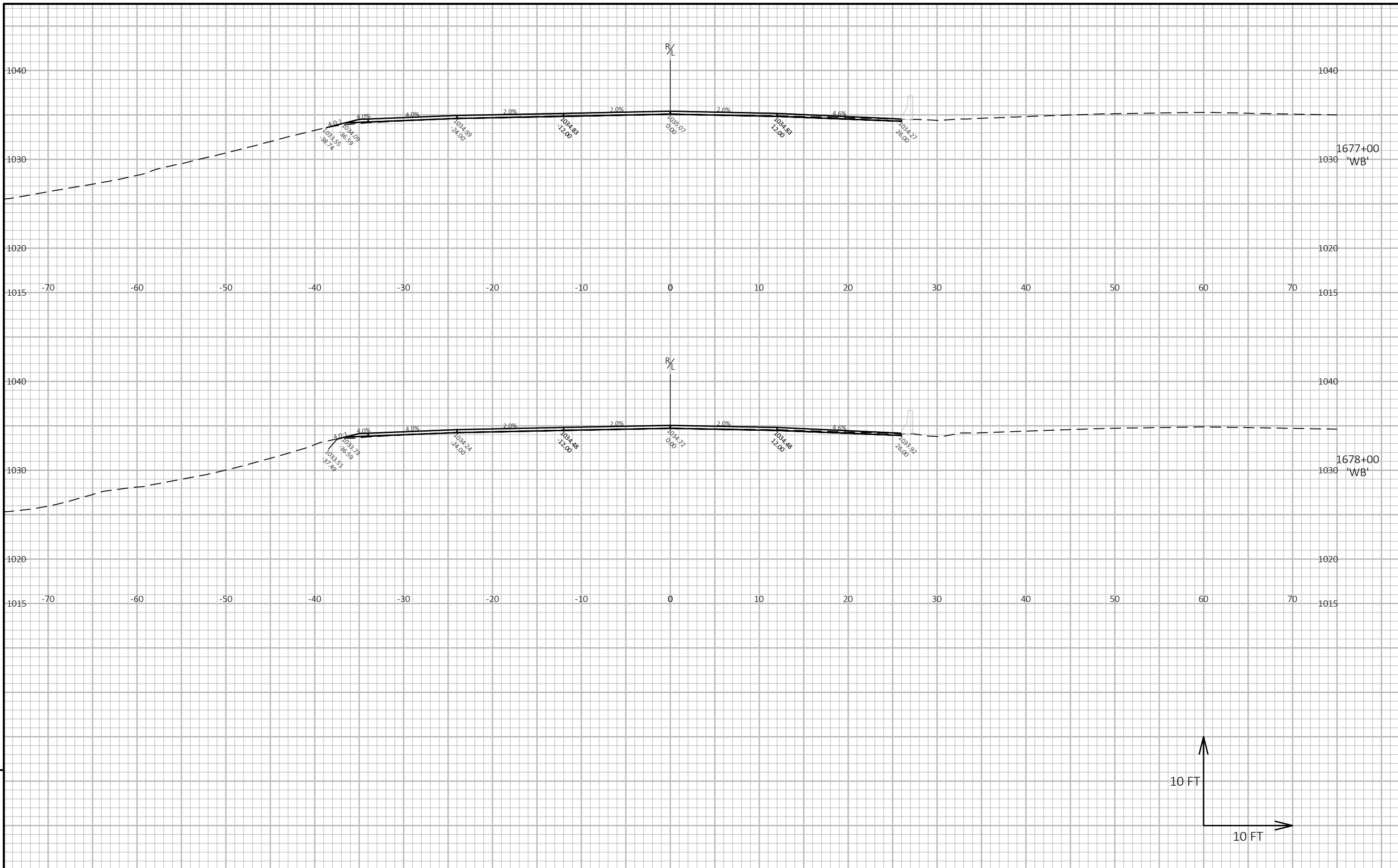


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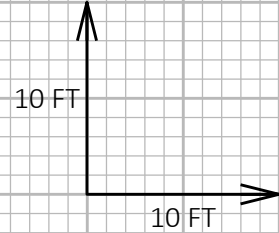
PROJECT NO: 1011-00-70 HWY: IH 39 COUNTY: COLUMBIA CROSS SECTIONS: IH 39 SHEET E

FILE NAME : C:\ONEDRIVE\AECOM\IH 39 OVERLAY_COLUMBIA COUNTY - GENERAL\900_CAD_GIS\910_CAD\1011-01-70_COLUMBIA\900202-XS.DWG PLOT DATE : 4/18/2023 11:57 AM PLOT BY : DAY, JOHN PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT. WISDOT/CADD SHEET 49

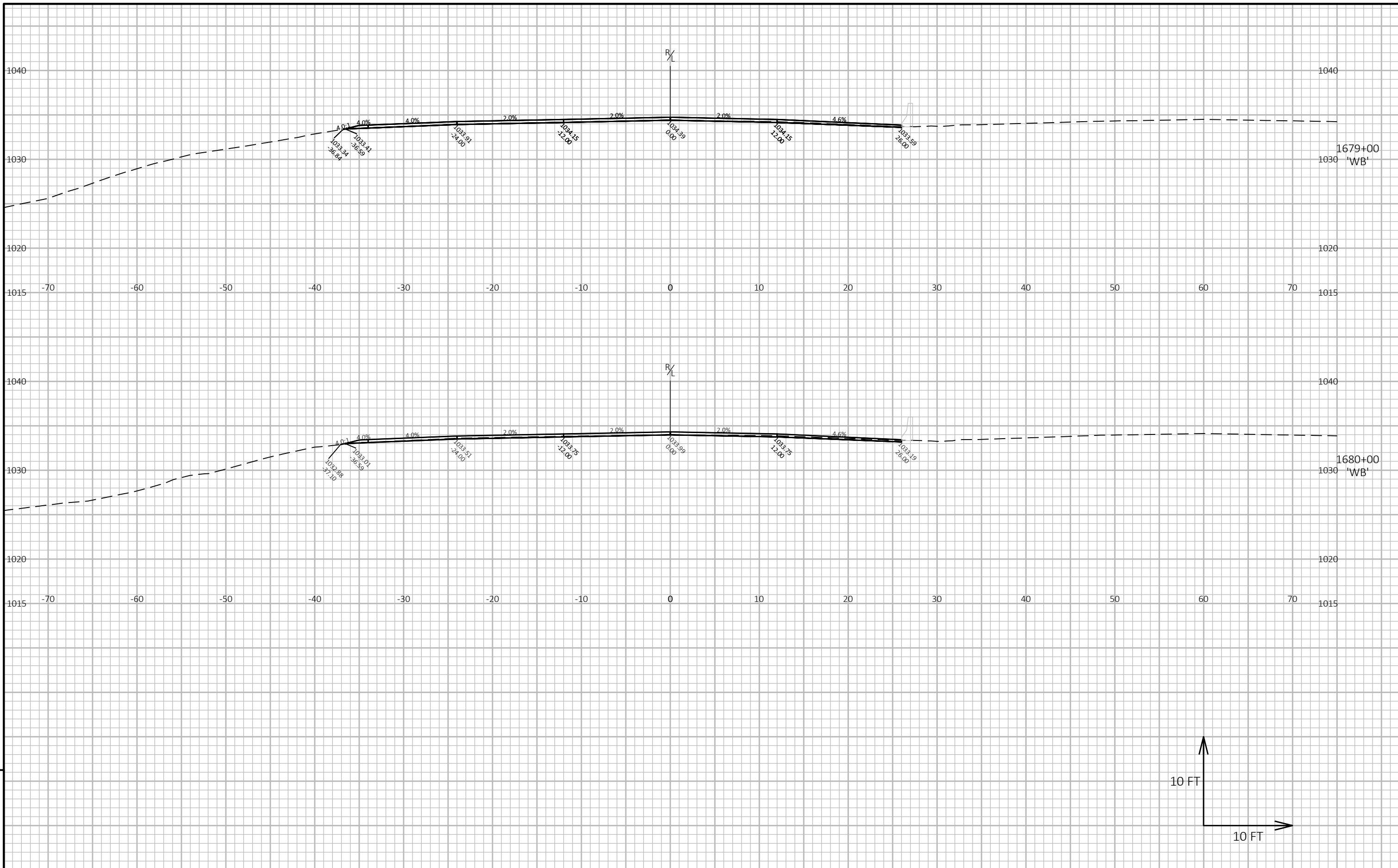


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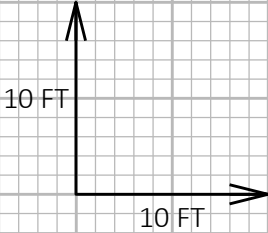


PROJECT NO: 1011-00-70	HWY: IH 39	COUNTY: COLUMBIA	CROSS SECTIONS: IH 39	SHEET	E
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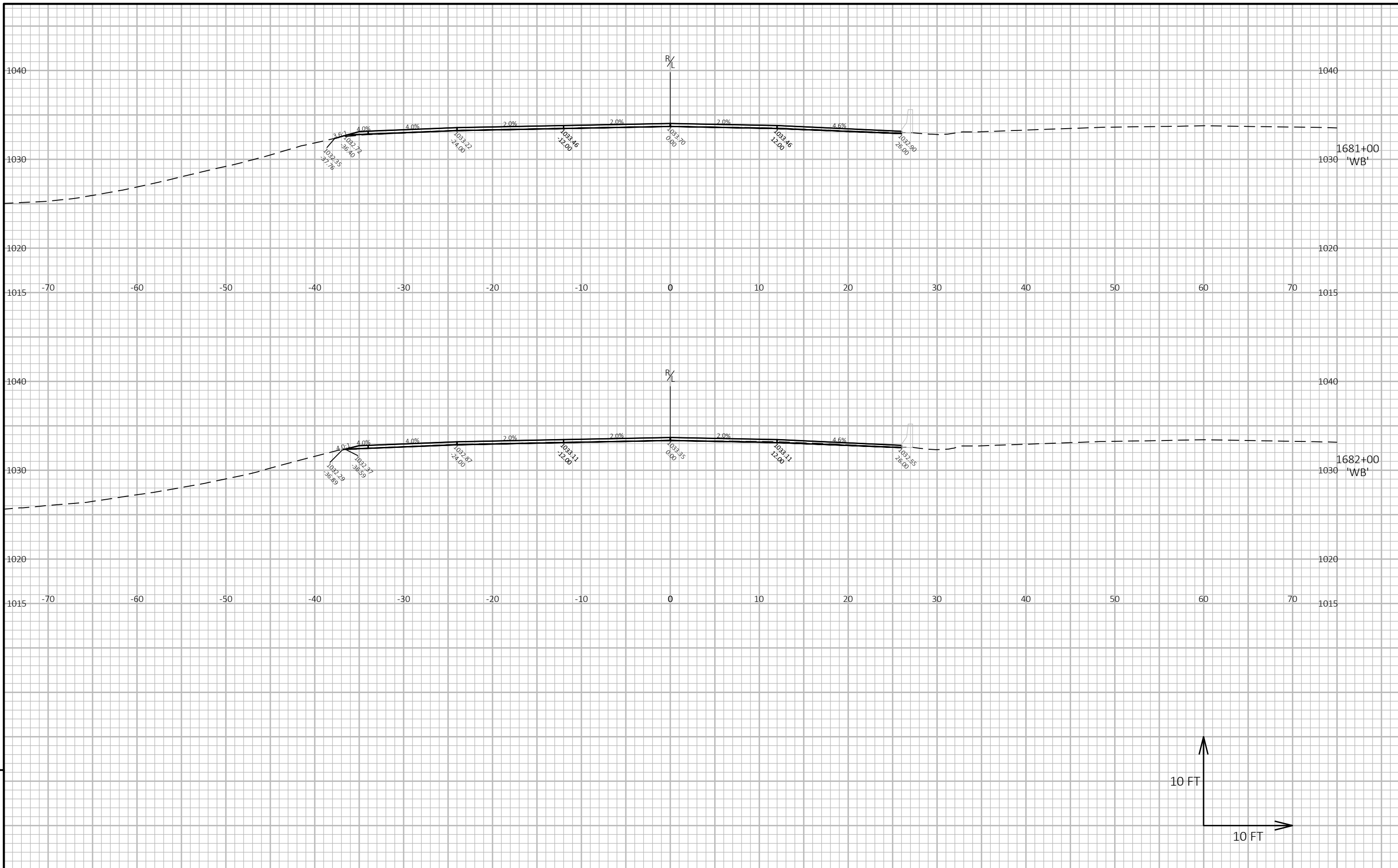


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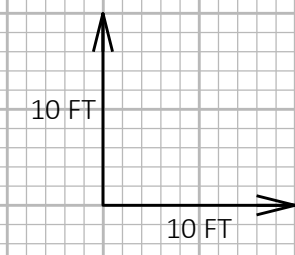
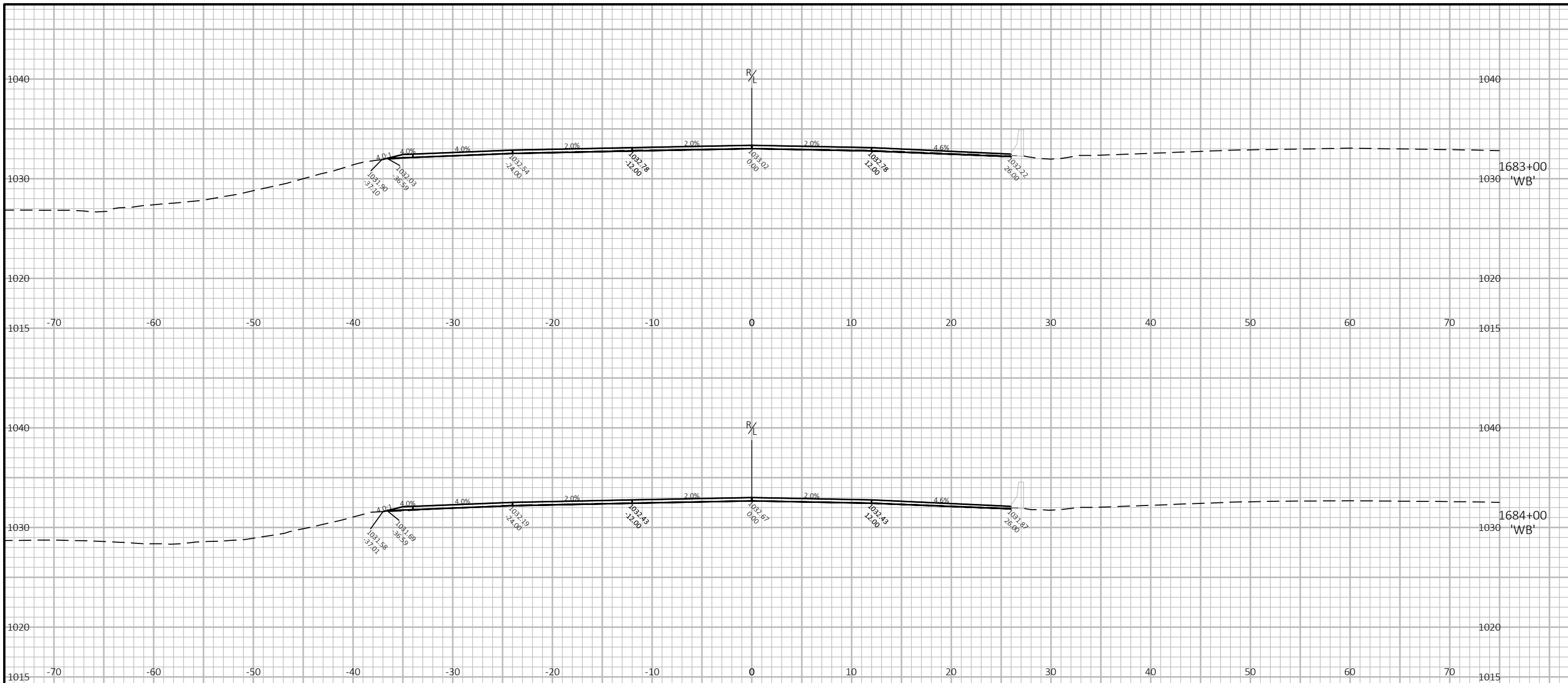
PROJECT NO: 1011-00-70	HWY: IH 39	COUNTY: COLUMBIA	CROSS SECTIONS: IH 39	SHEET	E
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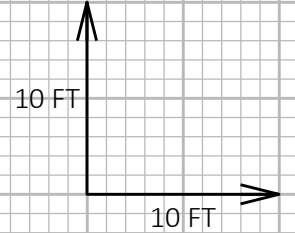
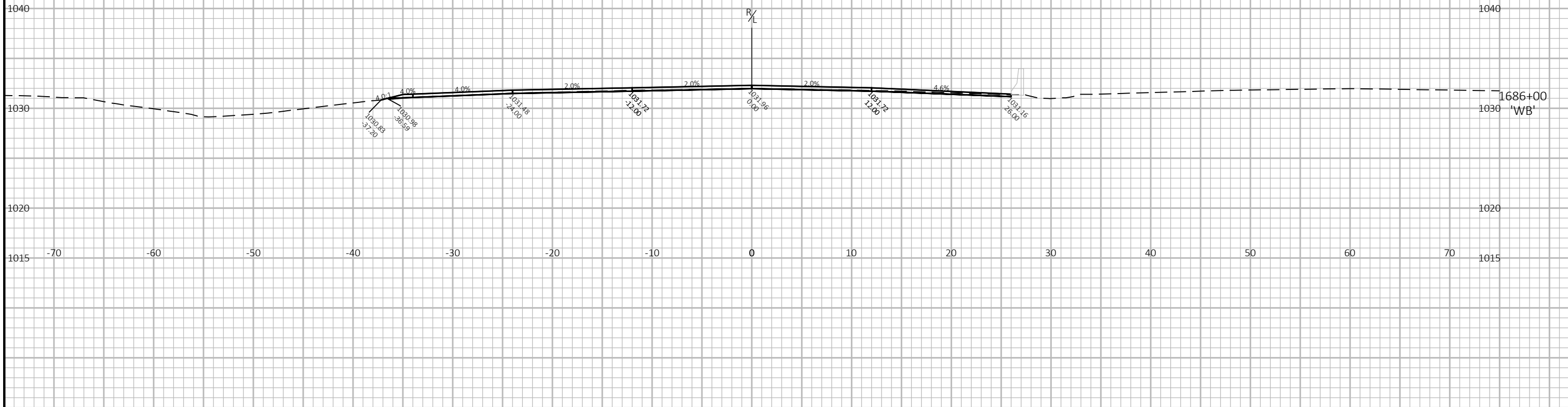
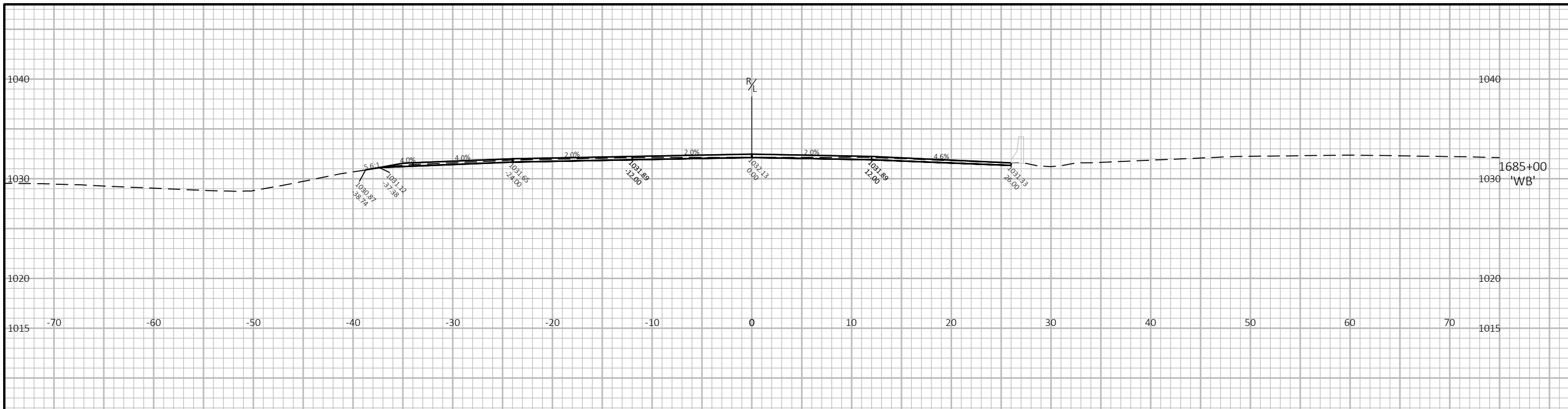
PROJECT NO: 1011-00-70	HWY: IH 39	COUNTY: COLUMBIA	CROSS SECTIONS: IH 39	SHEET	E
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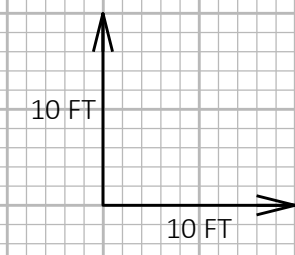
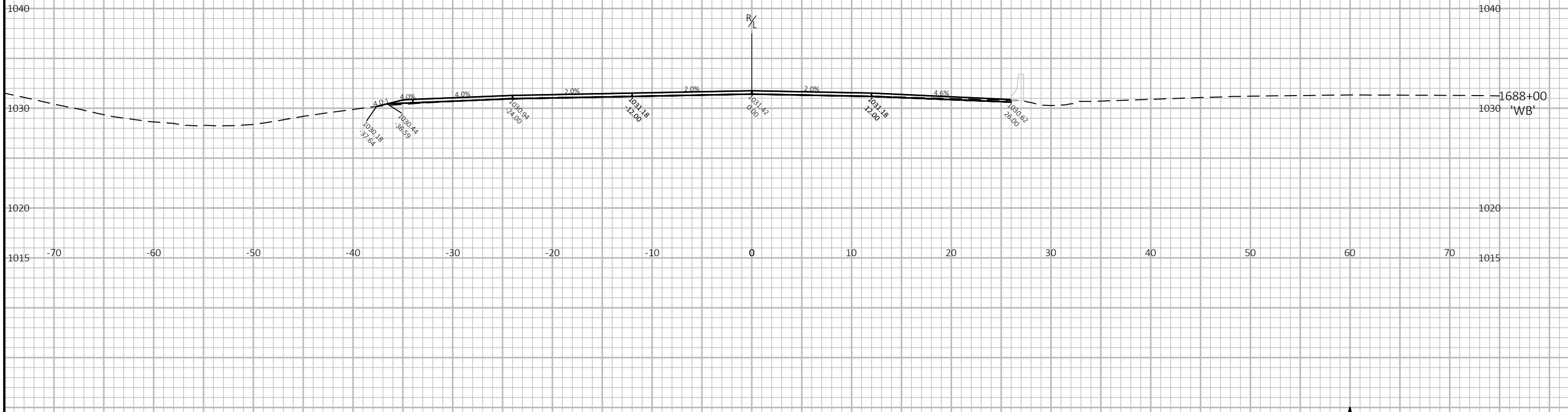
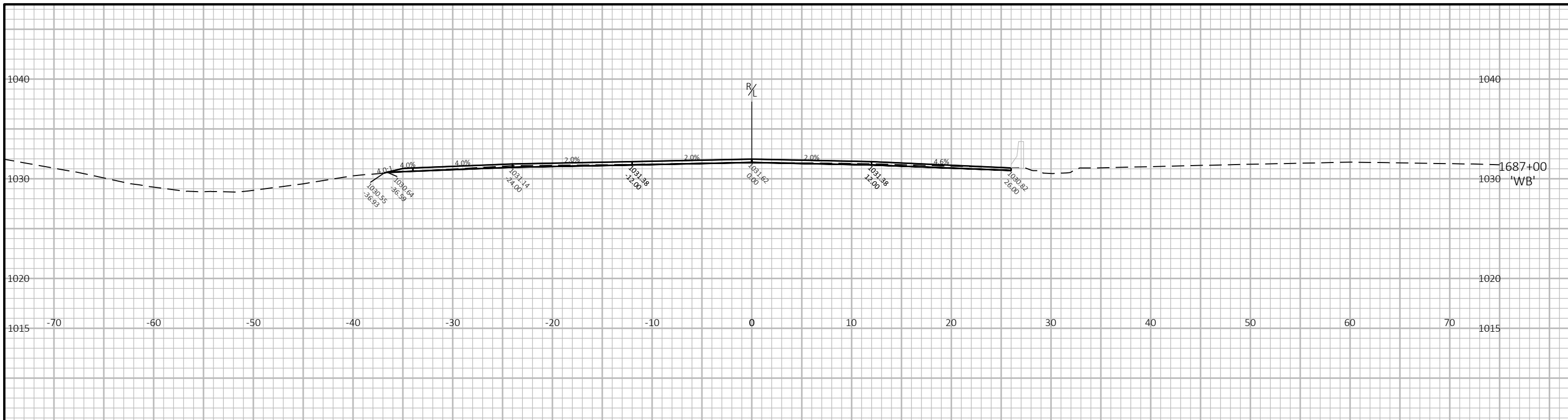
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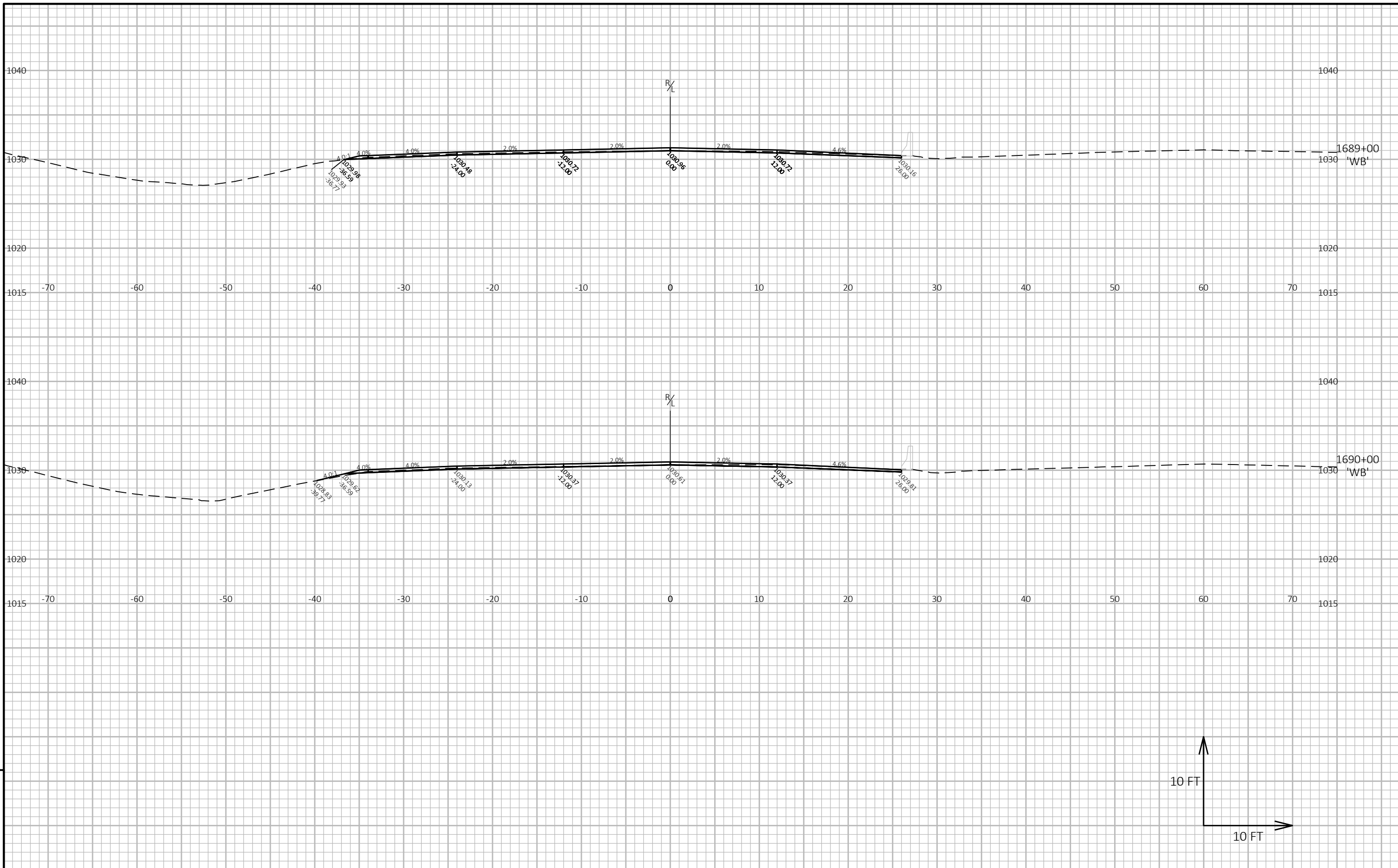
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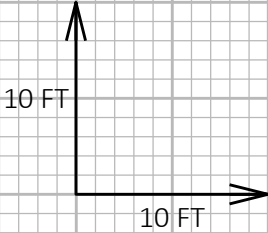
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PROJECT NO: 1011-00-70	HWY: IH 39	COUNTY: COLUMBIA	CROSS SECTIONS: IH 39	SHEET	E
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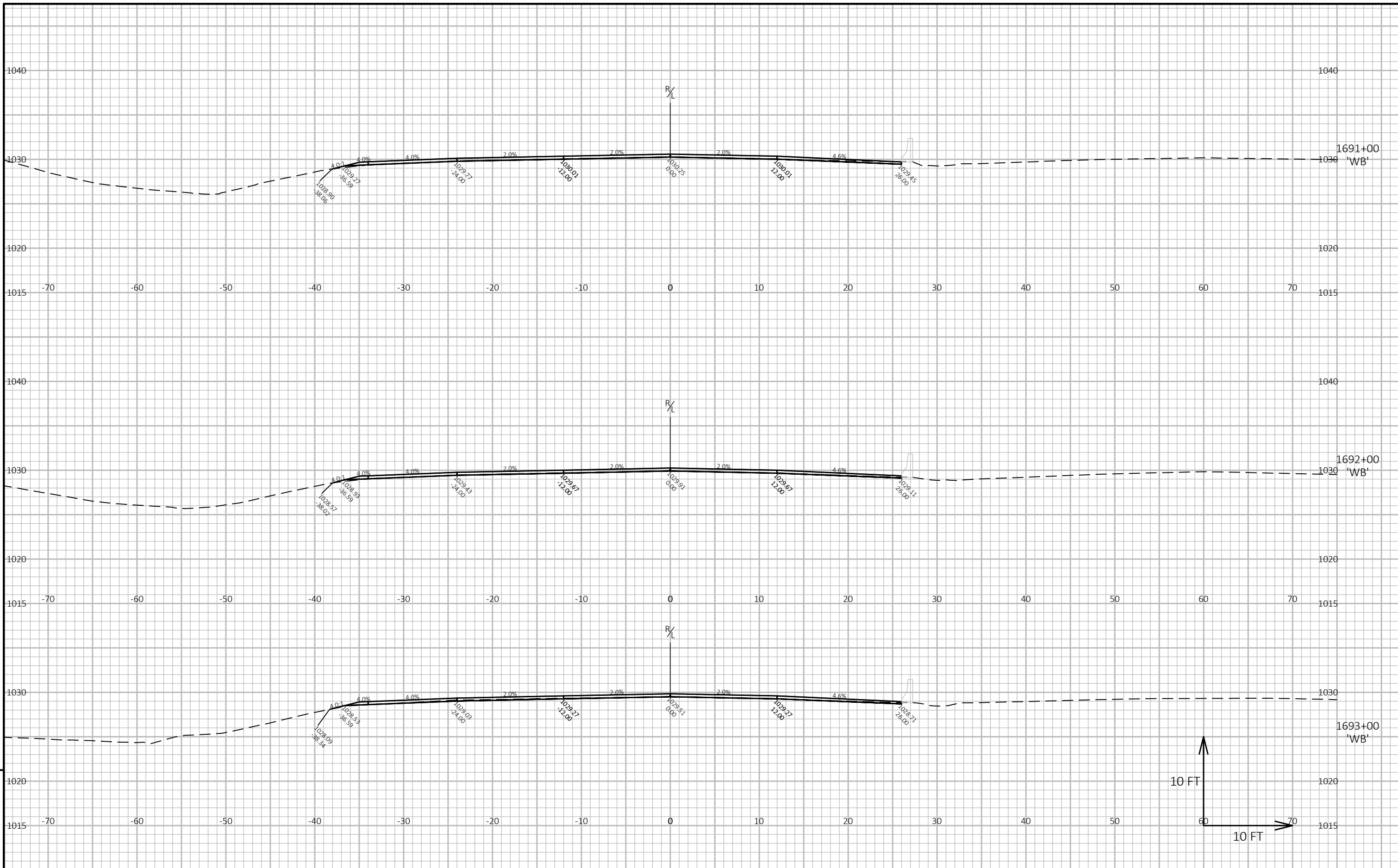


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PROJECT NO: 1011-00-70	HWY: IH 39	COUNTY: COLUMBIA	CROSS SECTIONS: IH 39	SHEET	E
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PROJECT NO: 1011-00-70

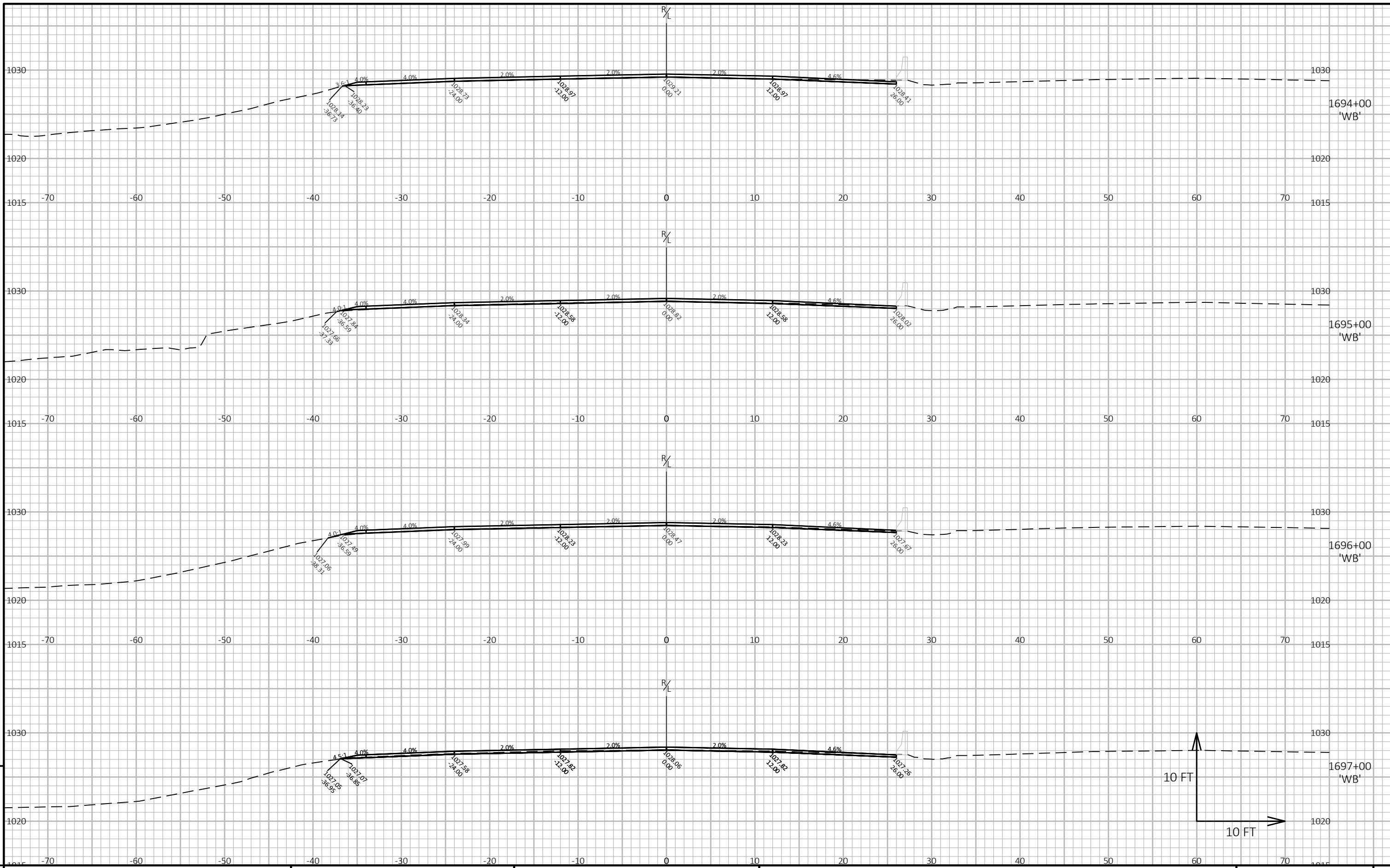
HWY: IH 39

COUNTY: COLUMBIA

CROSS SECTIONS: IH 39

SHEET

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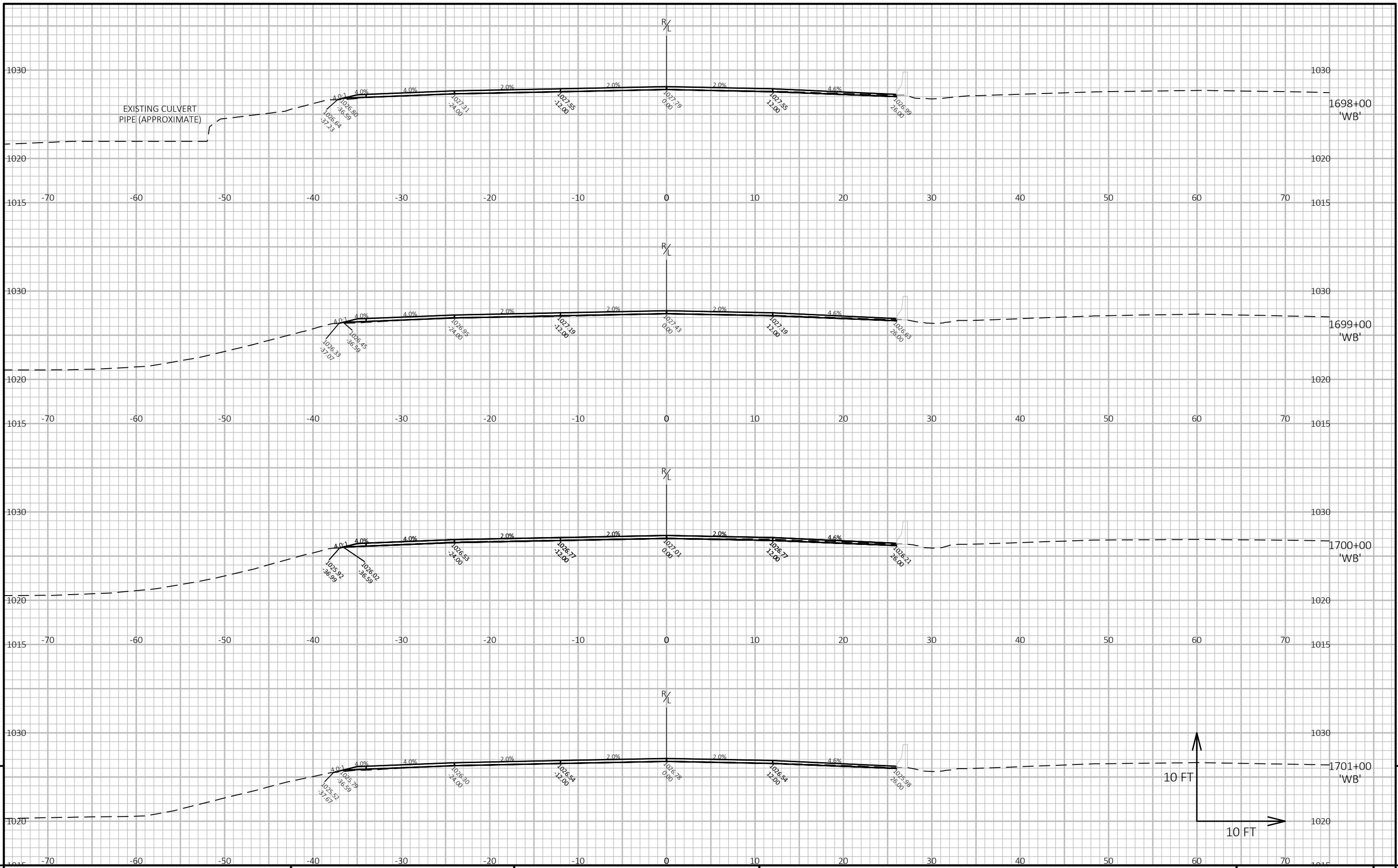


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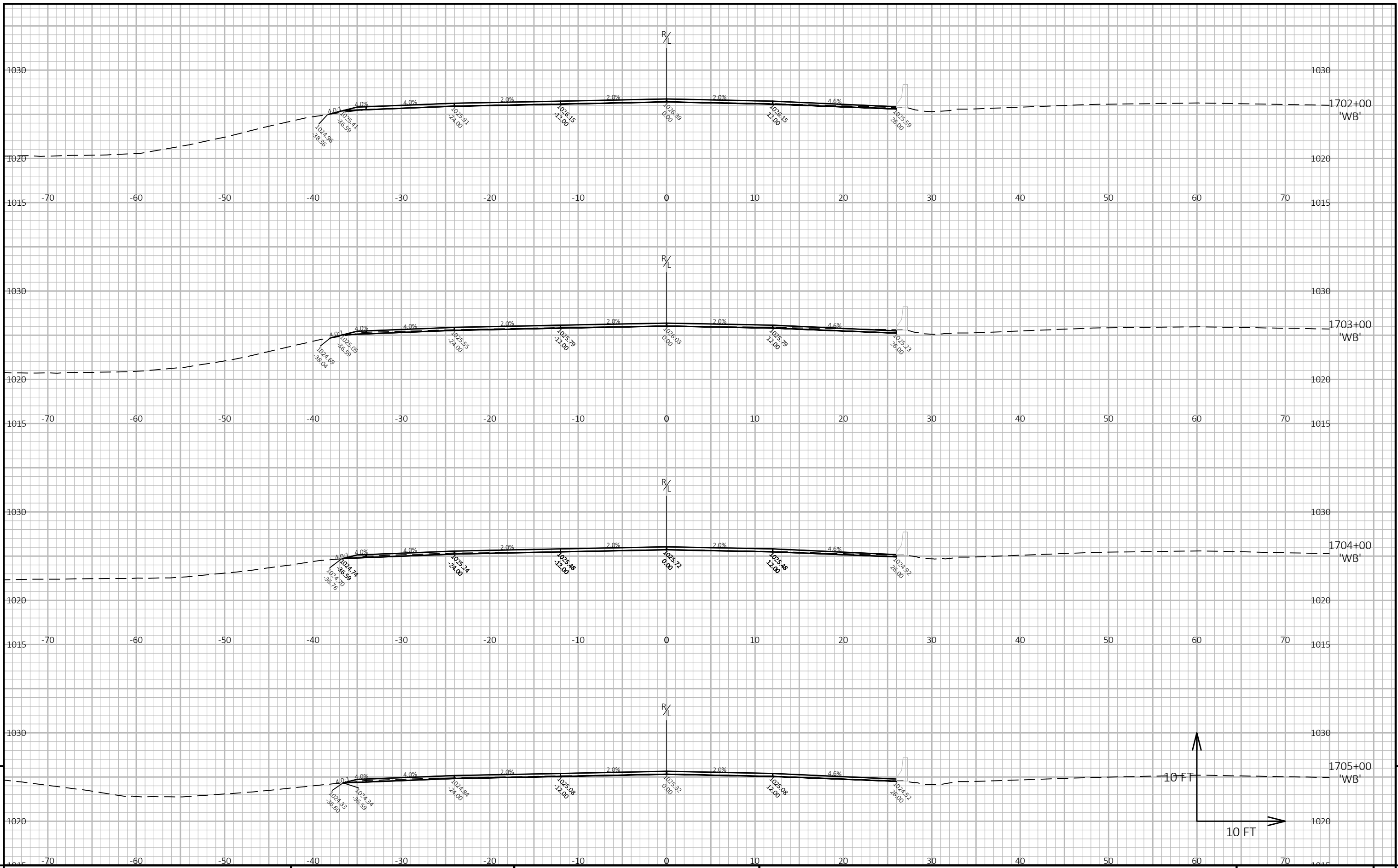
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PROJECT NO: 1011-00-70 HWY: IH 39 COUNTY: COLUMBIA CROSS SECTIONS: IH 39 SHEET E

FILE NAME : C:\ONEDRIVE\AECOM\IH 39 OVERLAY_COLUMBIA COUNTY - GENERAL\900_CAD_GIS\910_CAD\1011-01-70_COLUMBIA\SHETSPLAN\090203-XS.DWG PLOT DATE : 4/18/2023 12:06 PM PLOT BY : DAY, JOHN PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT. WISDOT/CADD SHEET 49



PROJECT NO: 1011-00-70	HWY: IH 39	COUNTY: COLUMBIA	CROSS SECTIONS: IH 39	SHEET	9
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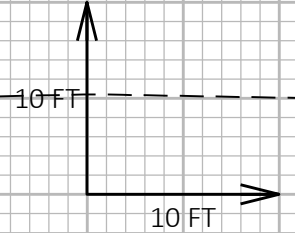


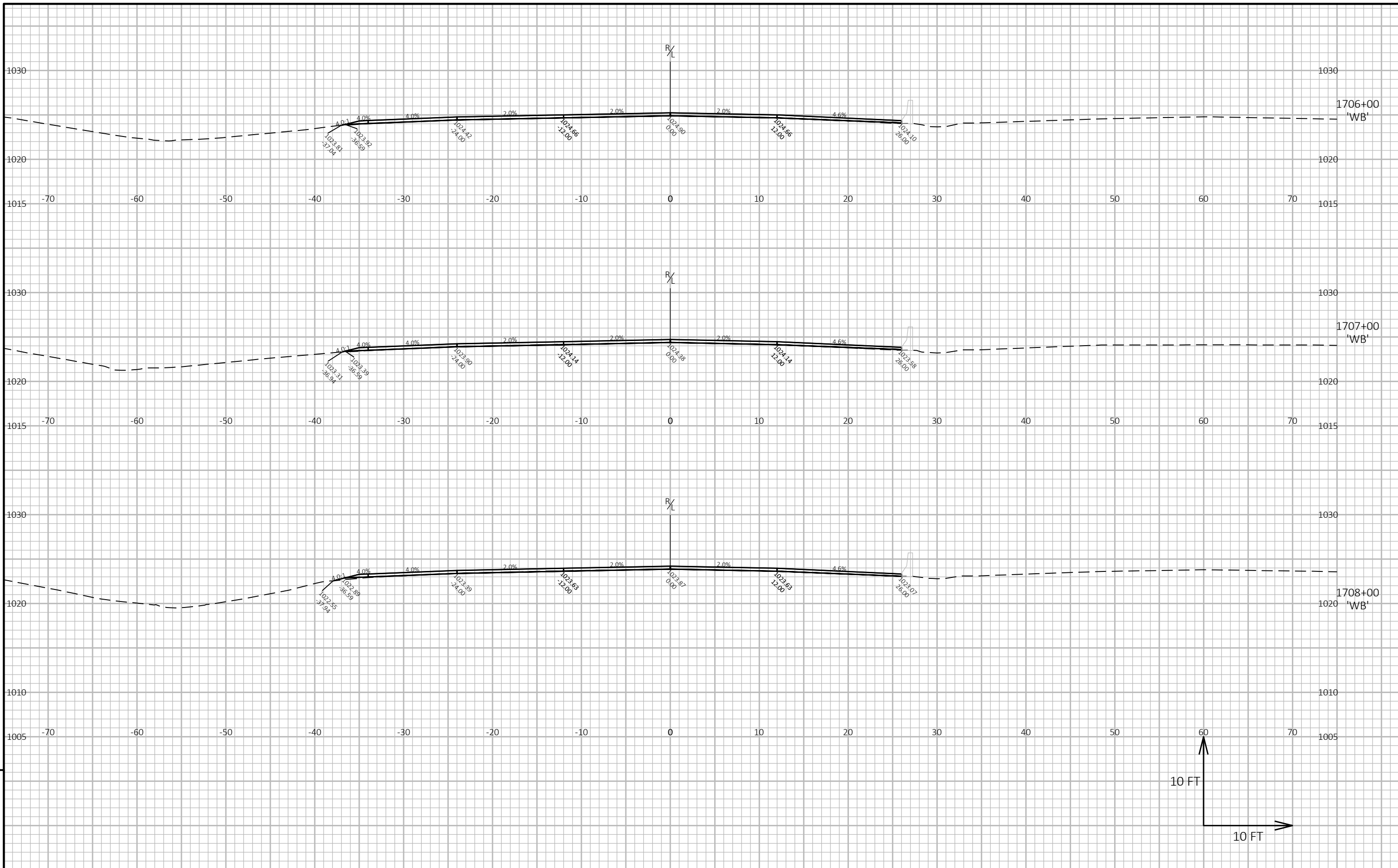
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PROJECT NO: 1011-00-70 HWY: IH 39 COUNTY: COLUMBIA CROSS SECTIONS: IH 39 SHEET E

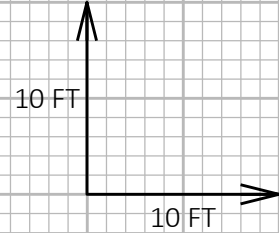
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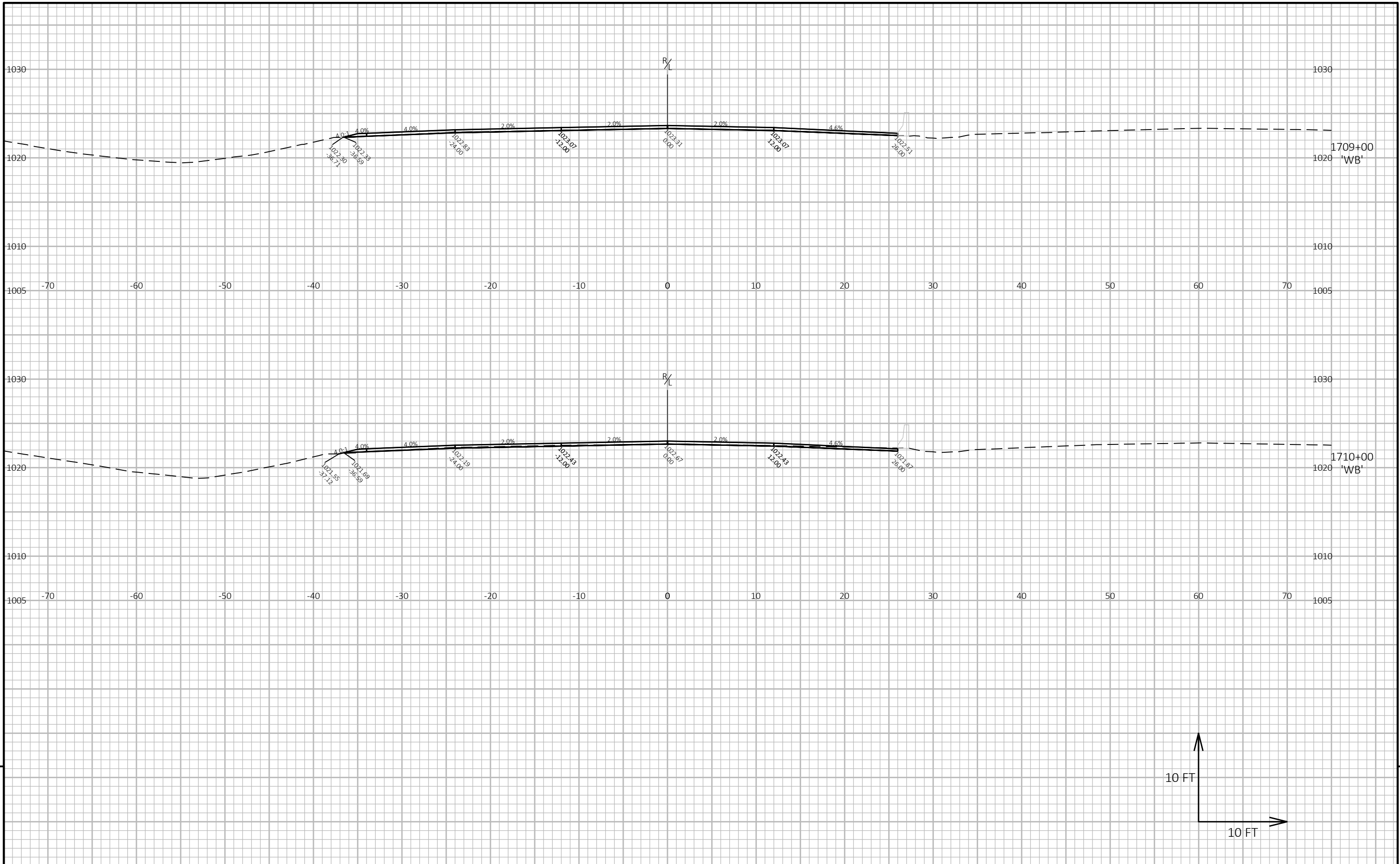


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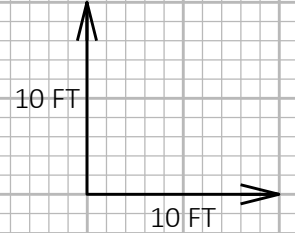
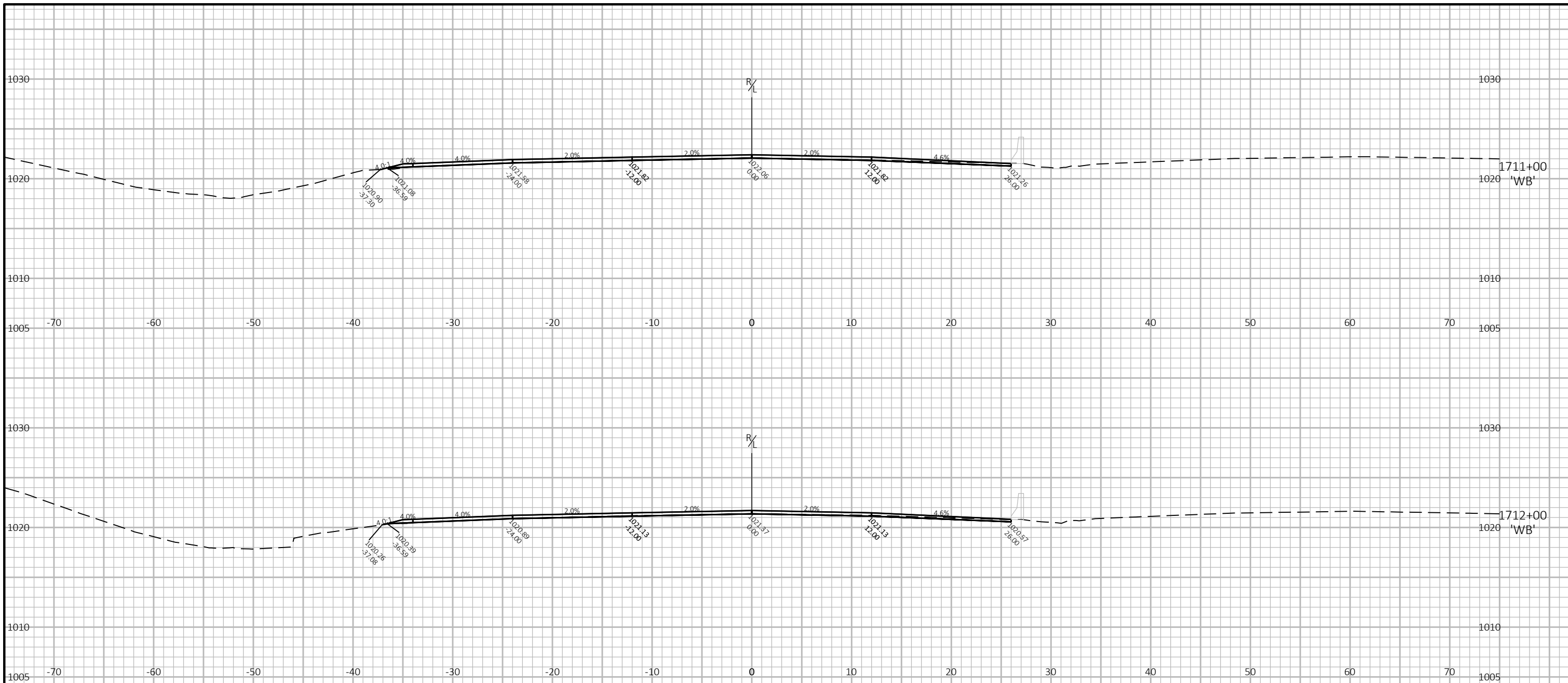
PROJECT NO: 1011-00-70	HWY: IH 39	COUNTY: COLUMBIA	CROSS SECTIONS: IH 39	SHEET	E
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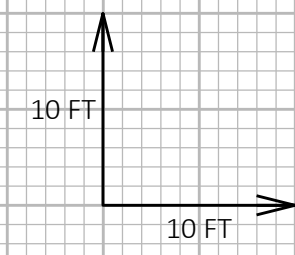
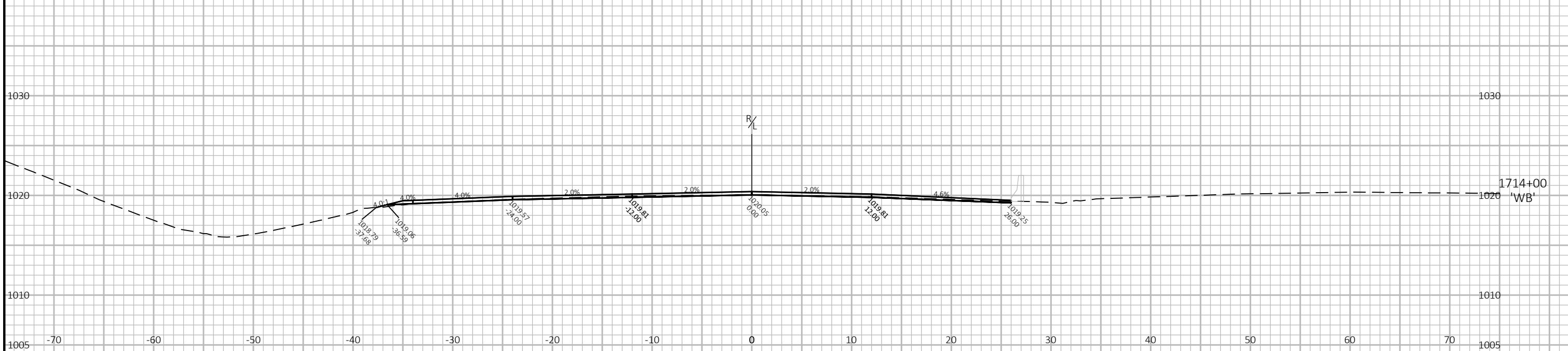
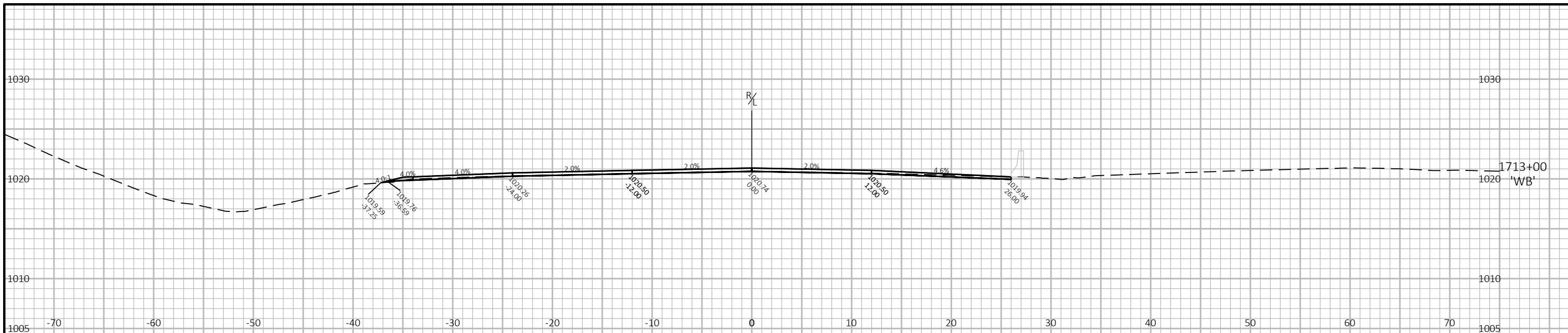
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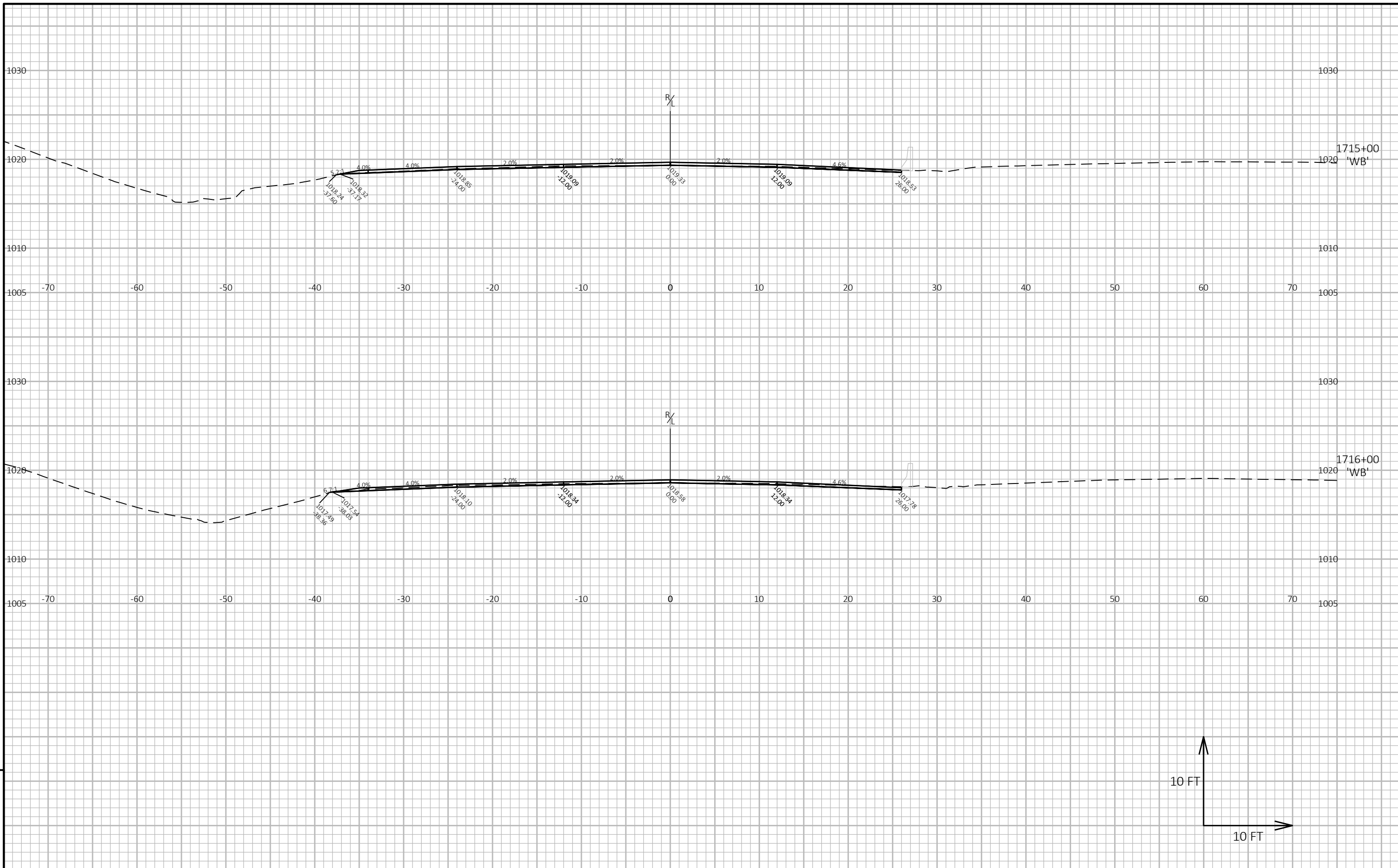
PROJECT NO: 1011-00-70	HWY: IH 39	COUNTY: COLUMBIA	CROSS SECTIONS: IH 39	SHEET	E
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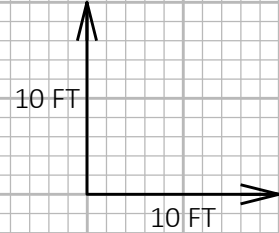
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PROJECT NO: 1011-00-70	HWY: IH 39	COUNTY: COLUMBIA	CROSS SECTIONS: IH 39	SHEET	E
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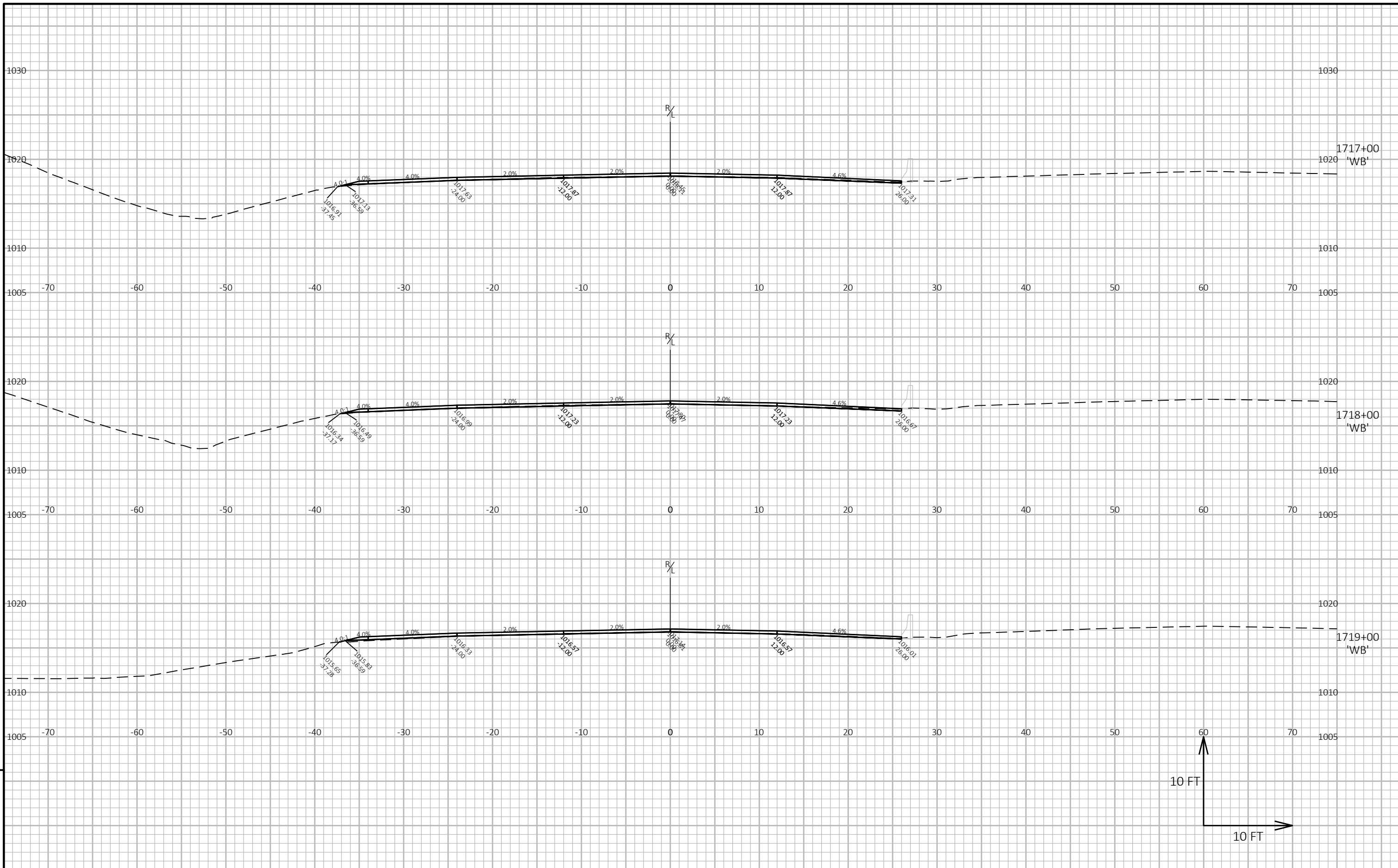


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PROJECT NO: 1011-00-70	HWY: IH 39	COUNTY: COLUMBIA	CROSS SECTIONS: IH 39	SHEET	E
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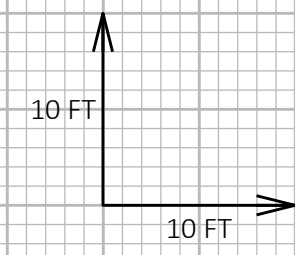
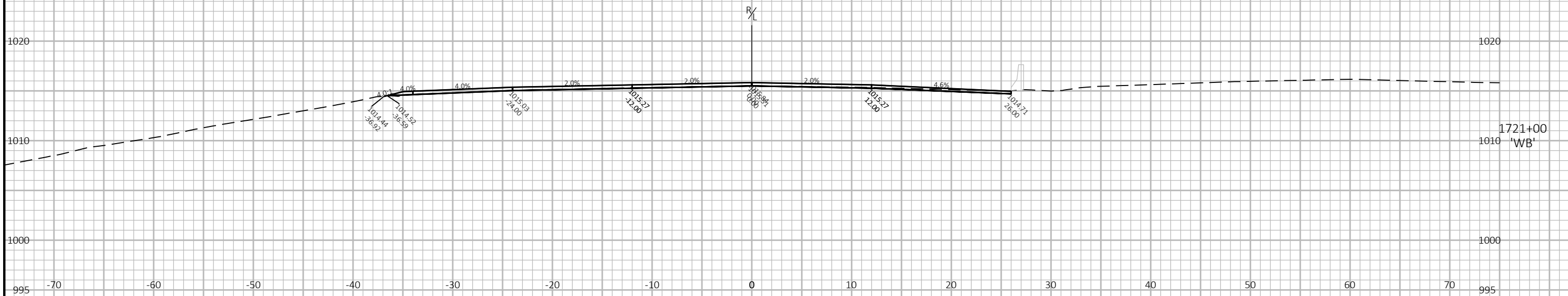
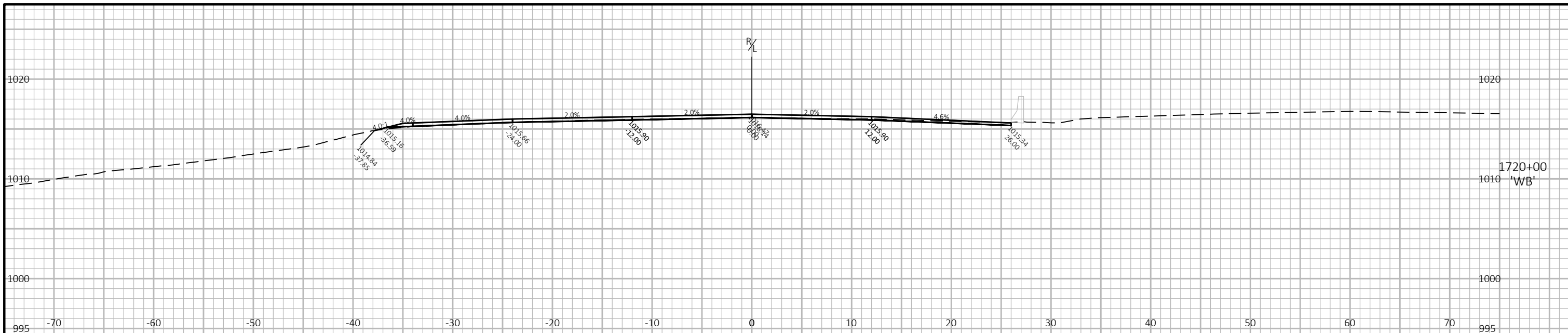


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PROJECT NO: 1011-00-70 HWY: IH 39 COUNTY: COLUMBIA CROSS SECTIONS: IH 39 SHEET E

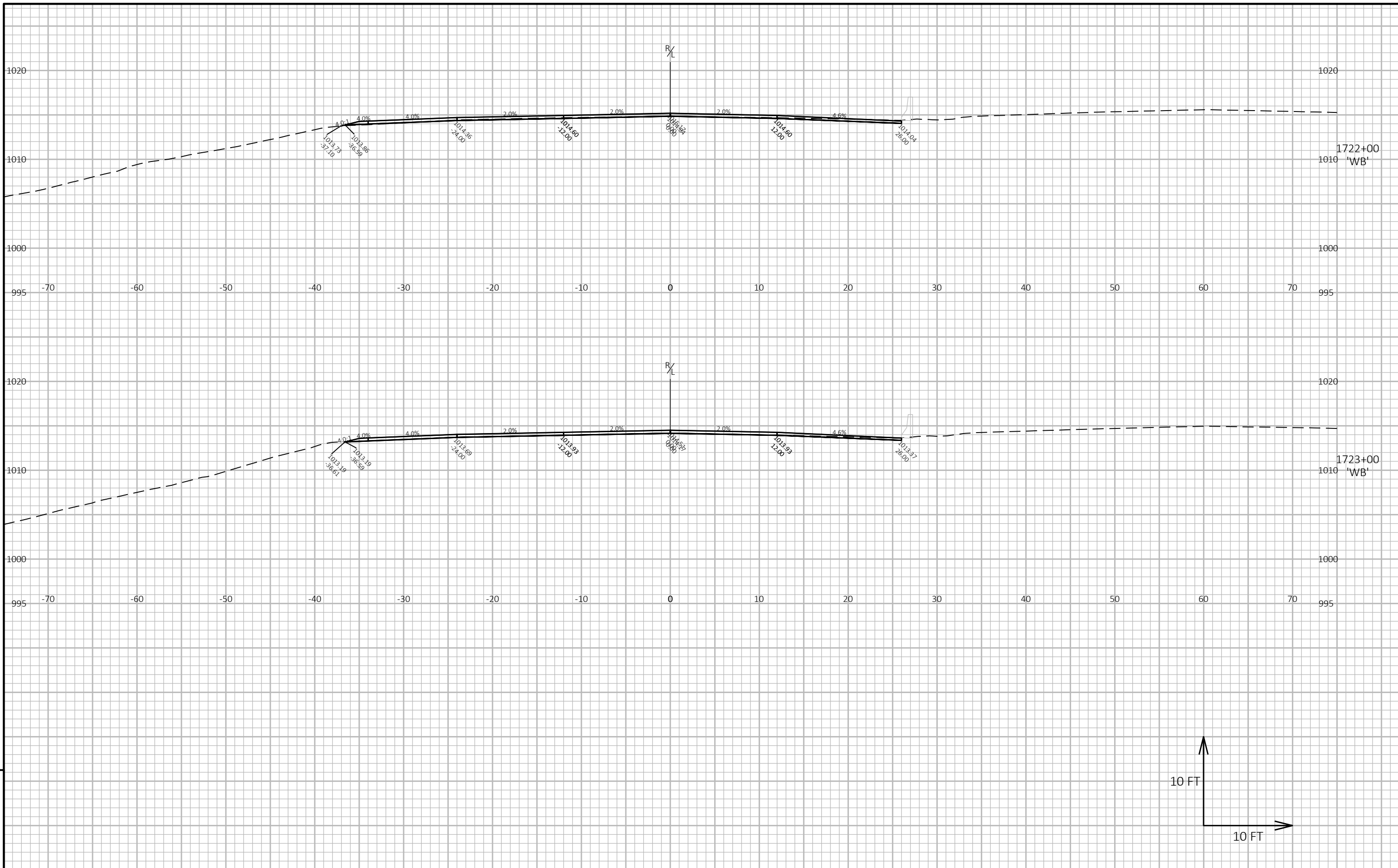
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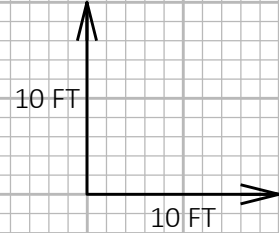
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PROJECT NO: 1011-00-70	HWY: IH 39	COUNTY: COLUMBIA	CROSS SECTIONS: IH 39	SHEET	E
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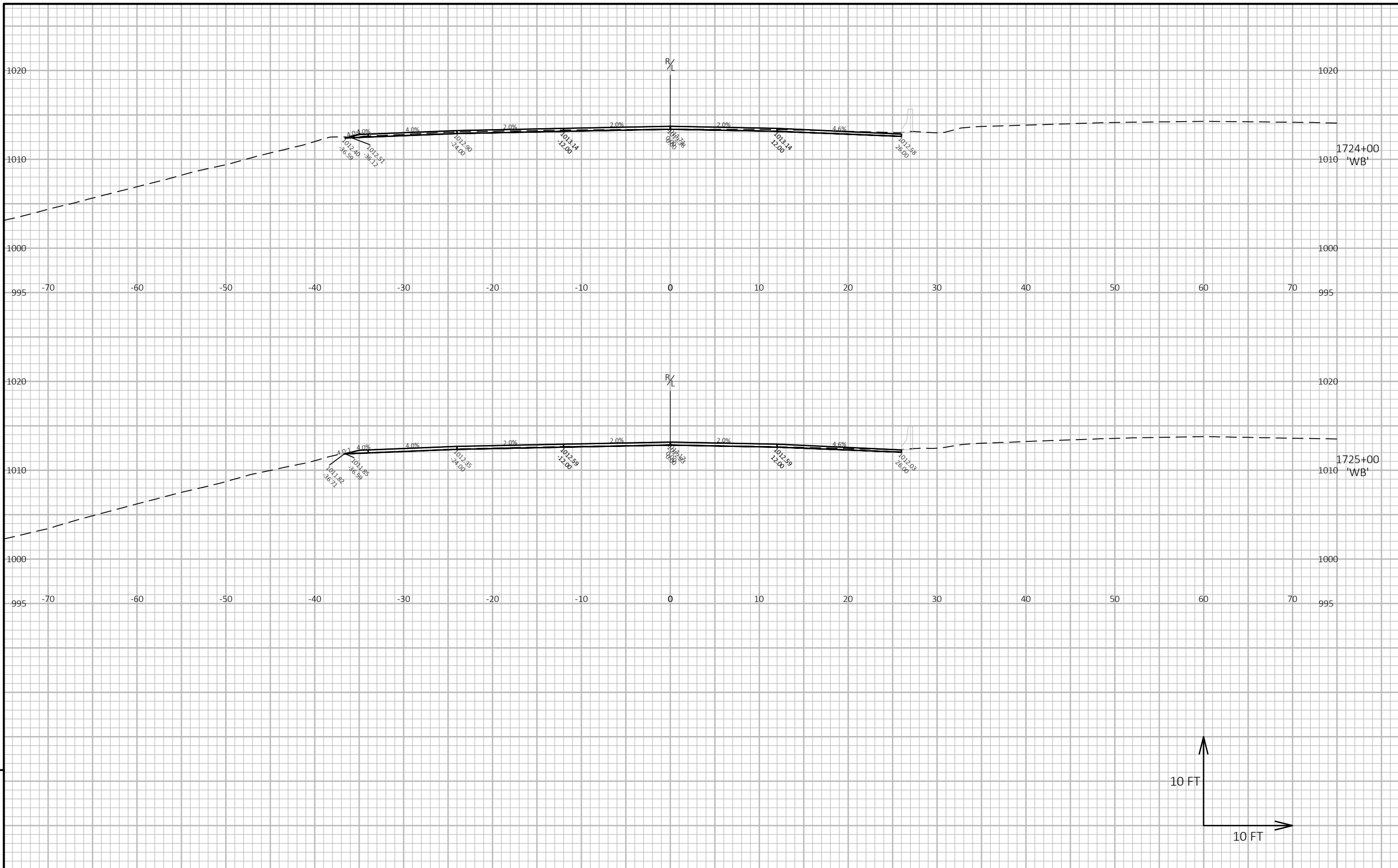


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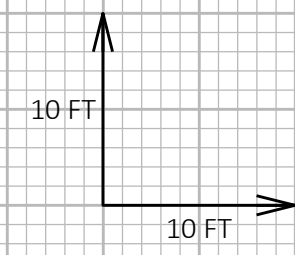
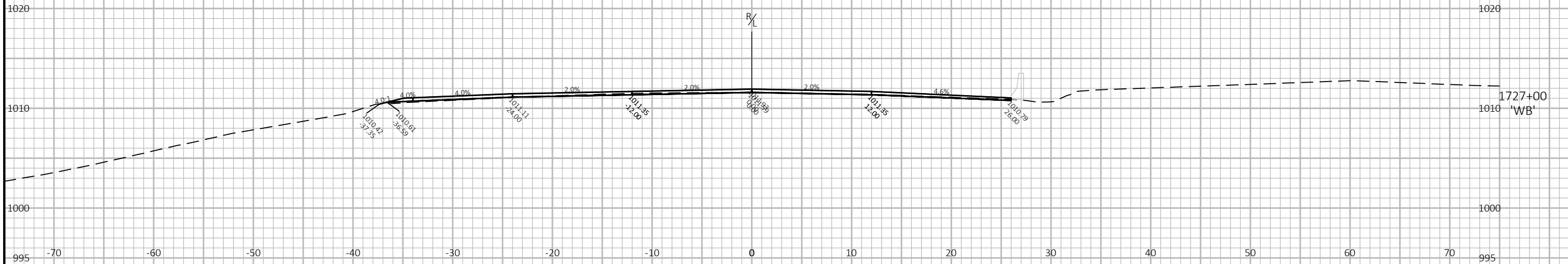
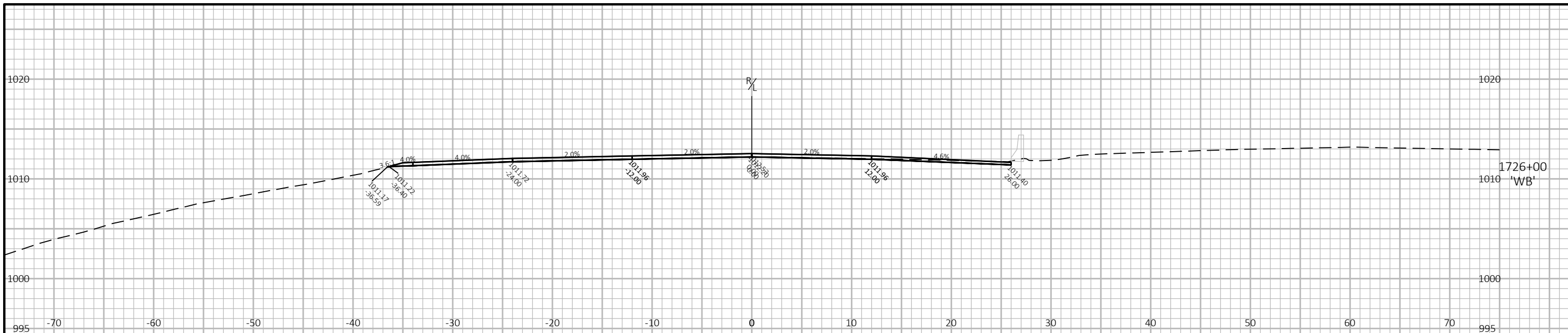
PROJECT NO: 1011-00-70	HWY: IH 39	COUNTY: COLUMBIA	CROSS SECTIONS: IH 39	SHEET	E
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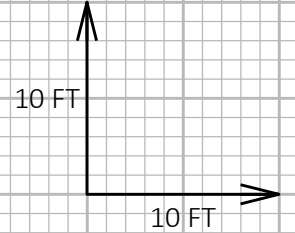
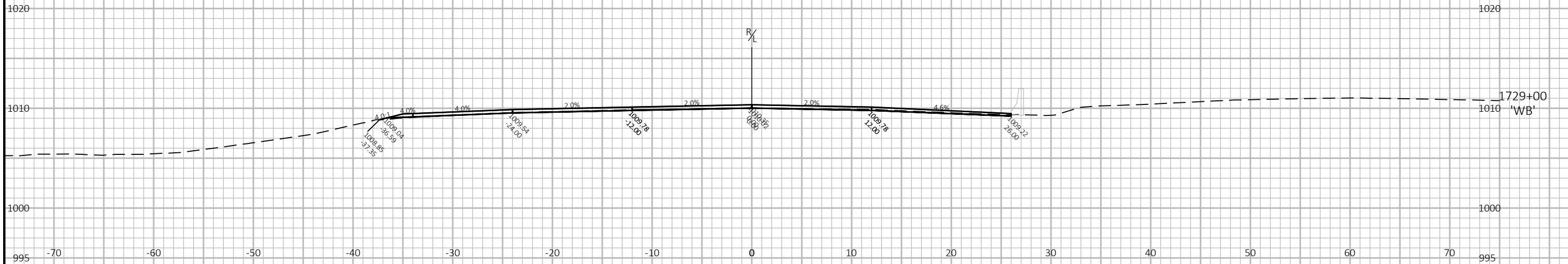
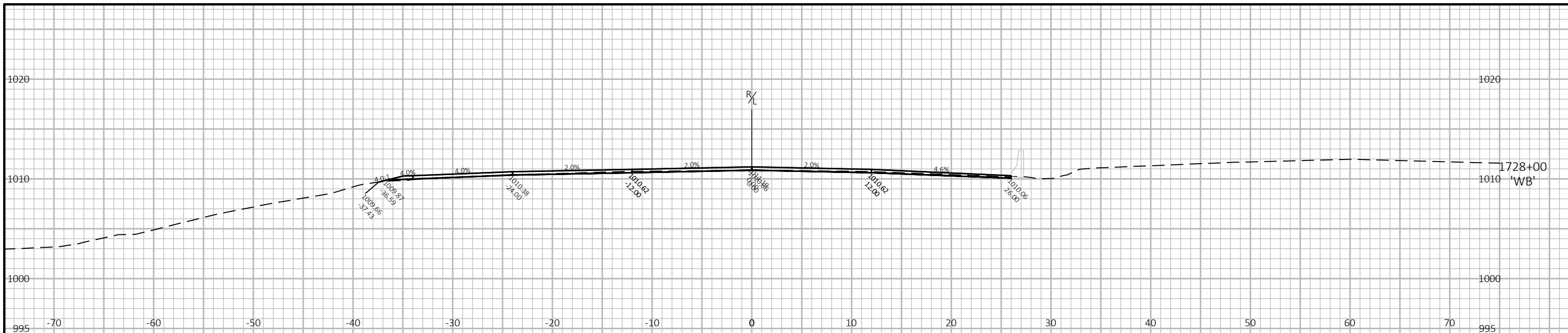
PROJECT NO: 1011-00-70	HWY: IH 39	COUNTY: COLUMBIA	CROSS SECTIONS: IH 39	SHEET	E
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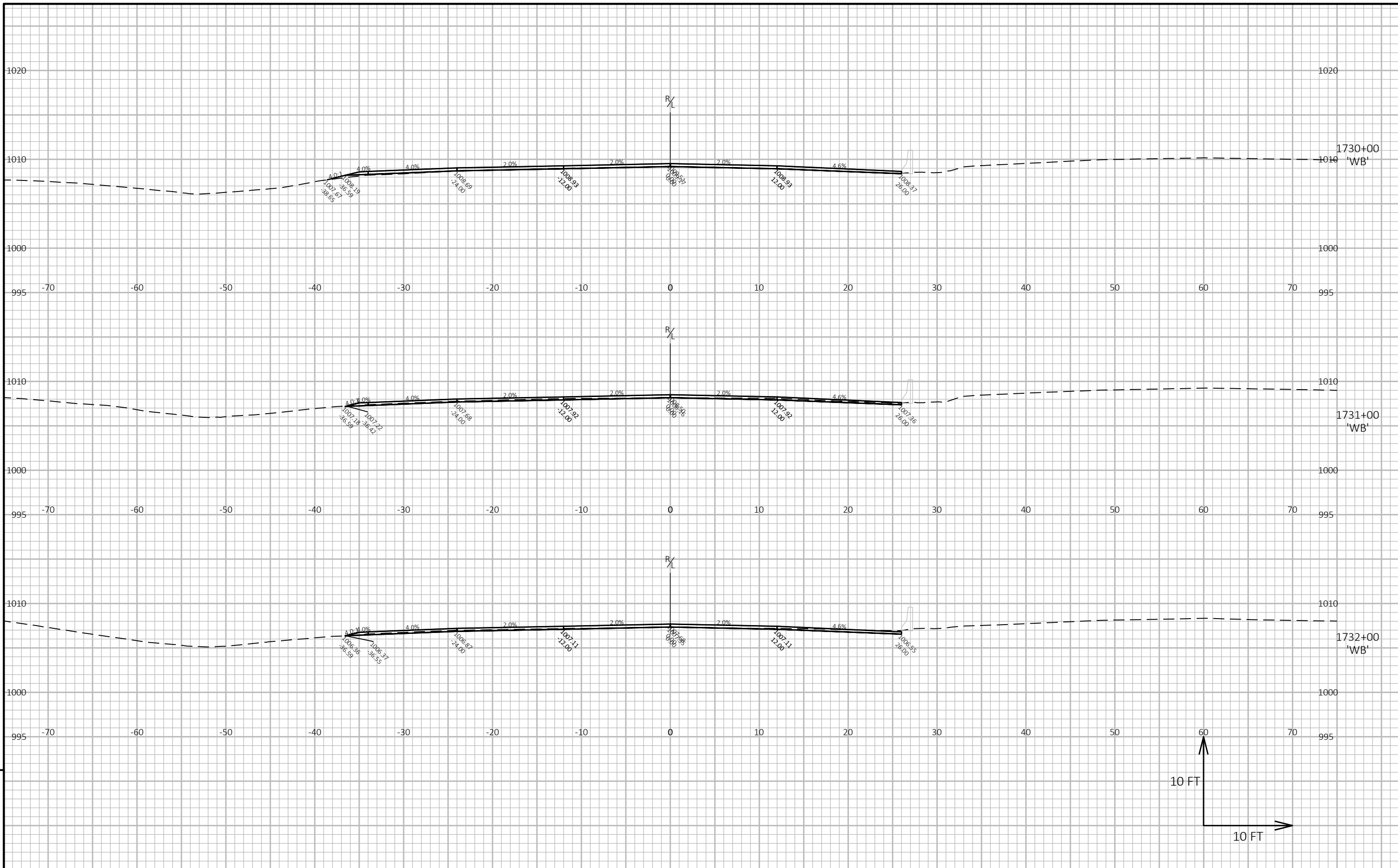
PROJECT NO: 1011-00-70	HWY: IH 39	COUNTY: COLUMBIA	CROSS SECTIONS: IH 39	SHEET	E
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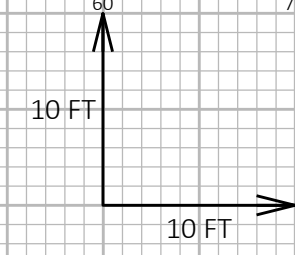
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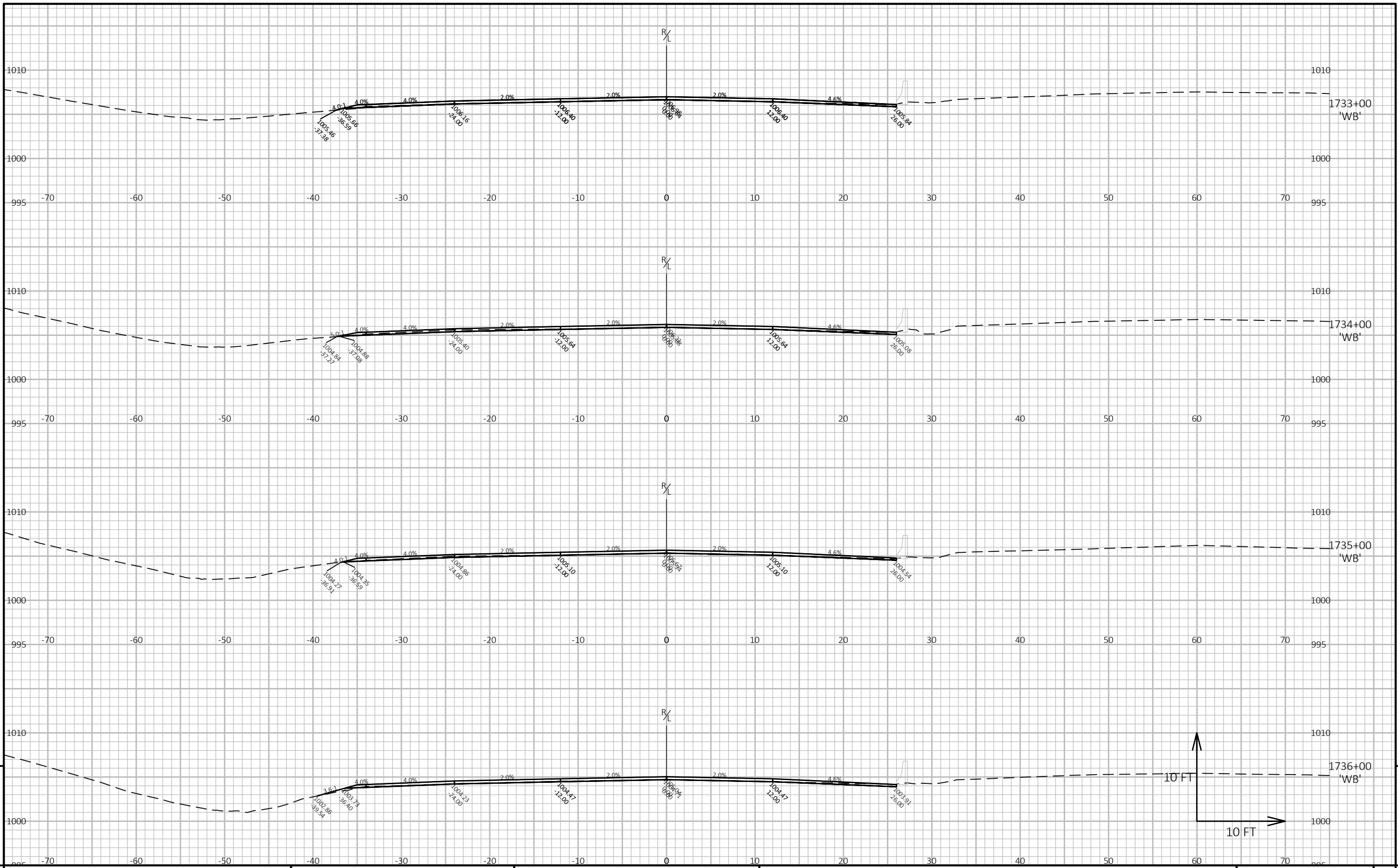


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PROJECT NO: 1011-00-70	HWY: IH 39	COUNTY: COLUMBIA	CROSS SECTIONS: IH 39	SHEET	E
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PROJECT NO: 1011-00-70

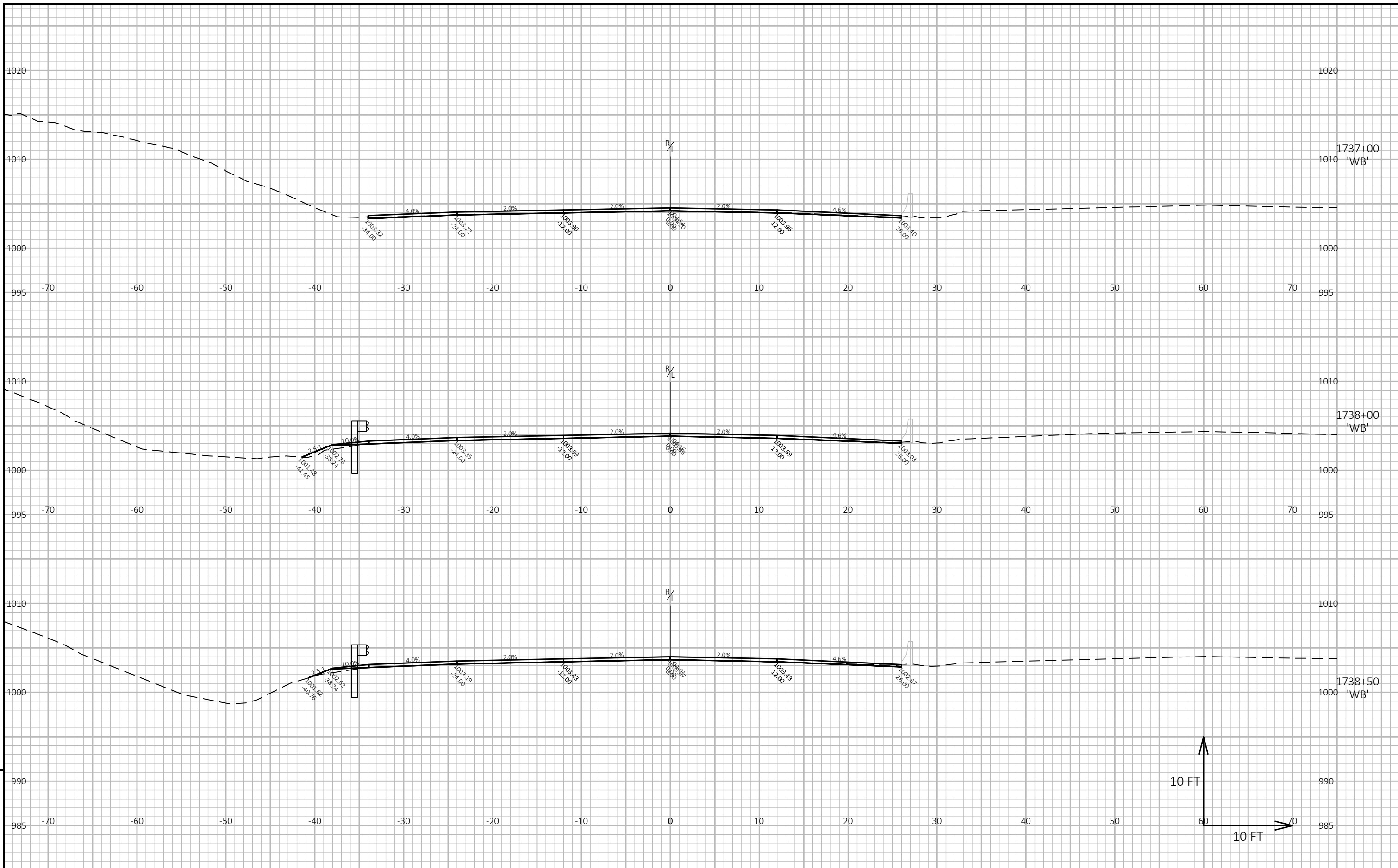
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COUNTY: COLUMBIA

CROSS SECTIONS: IH 39

SHEET

E



PROJECT NO: 1011-00-70

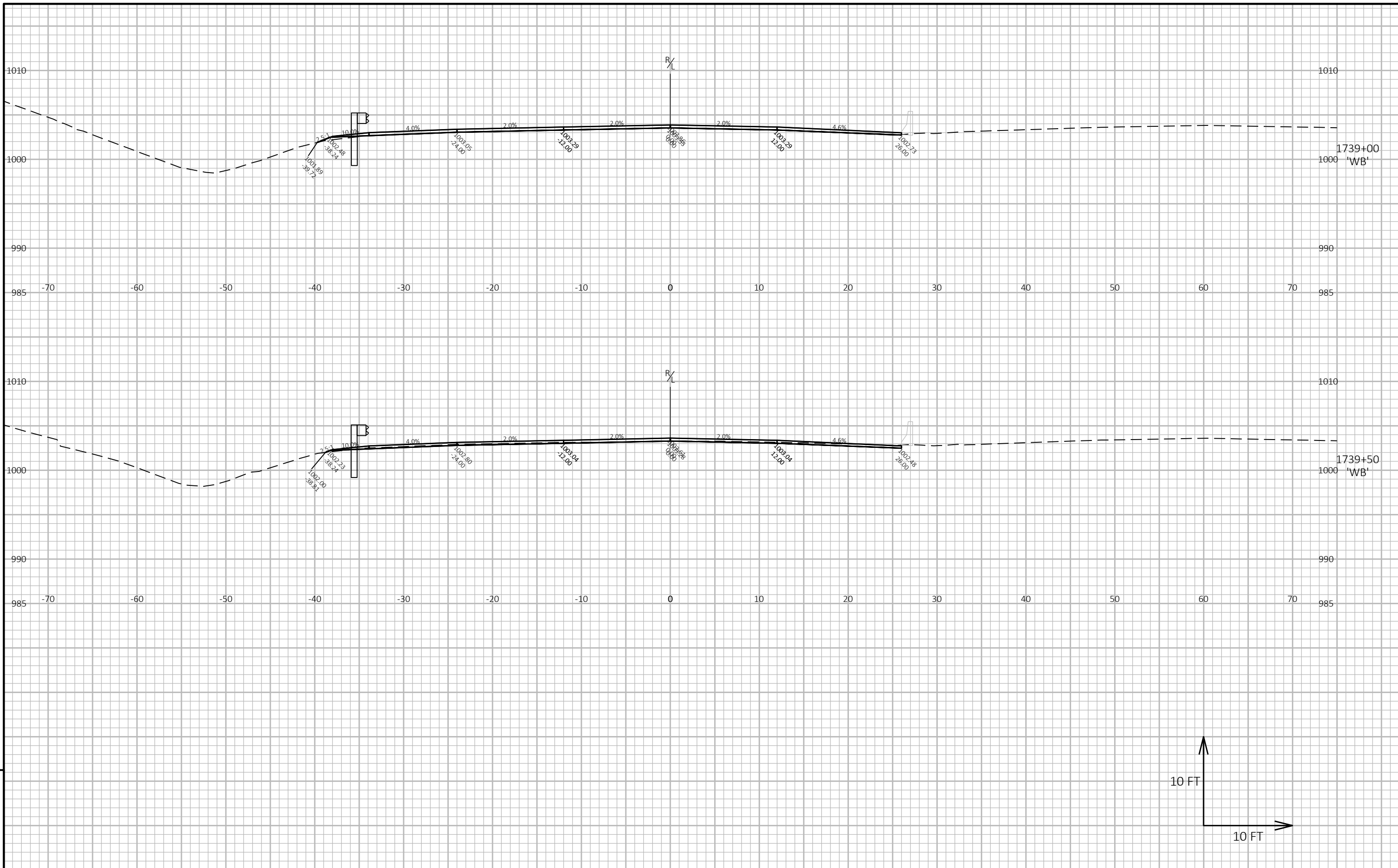
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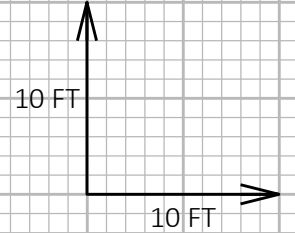
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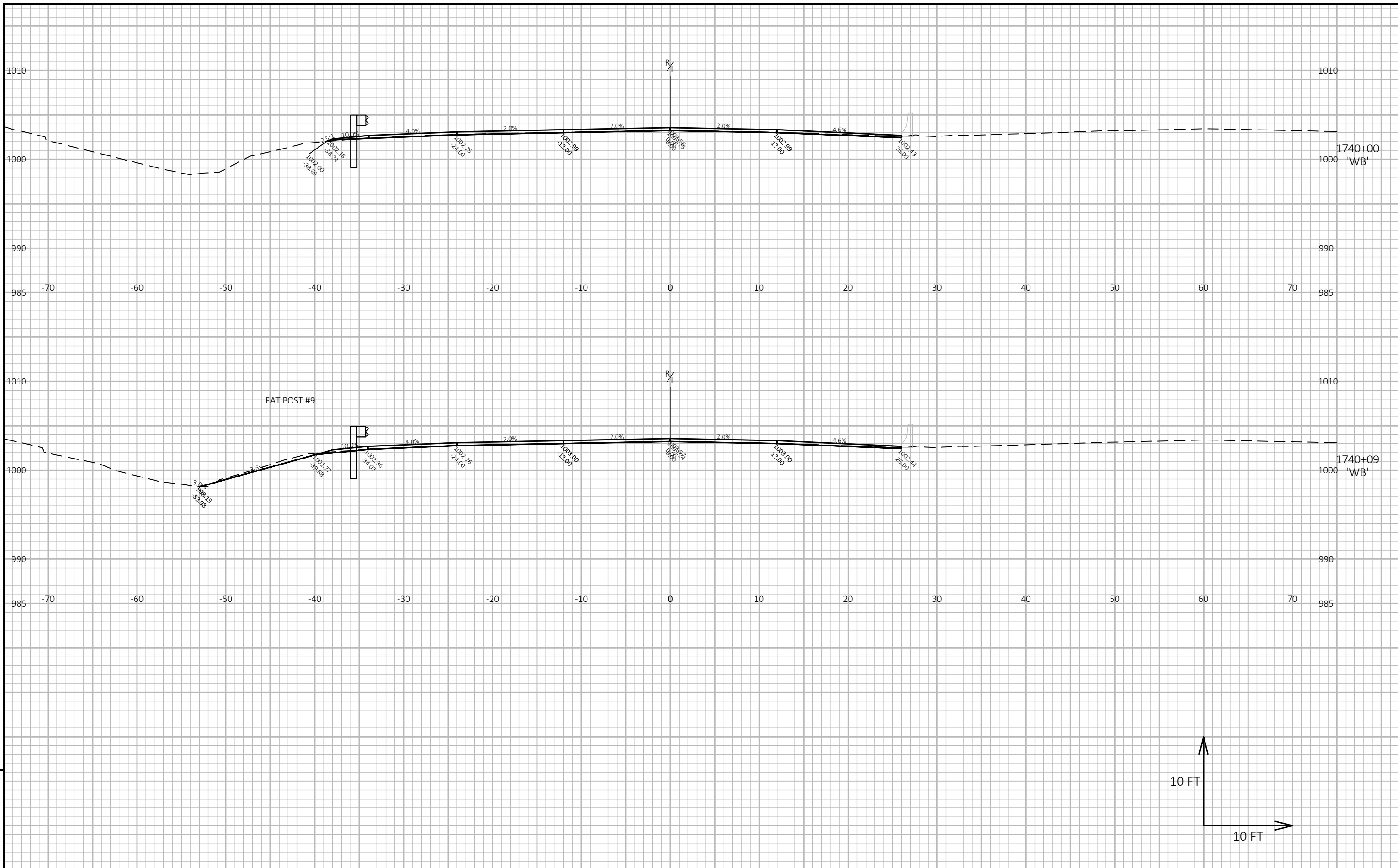


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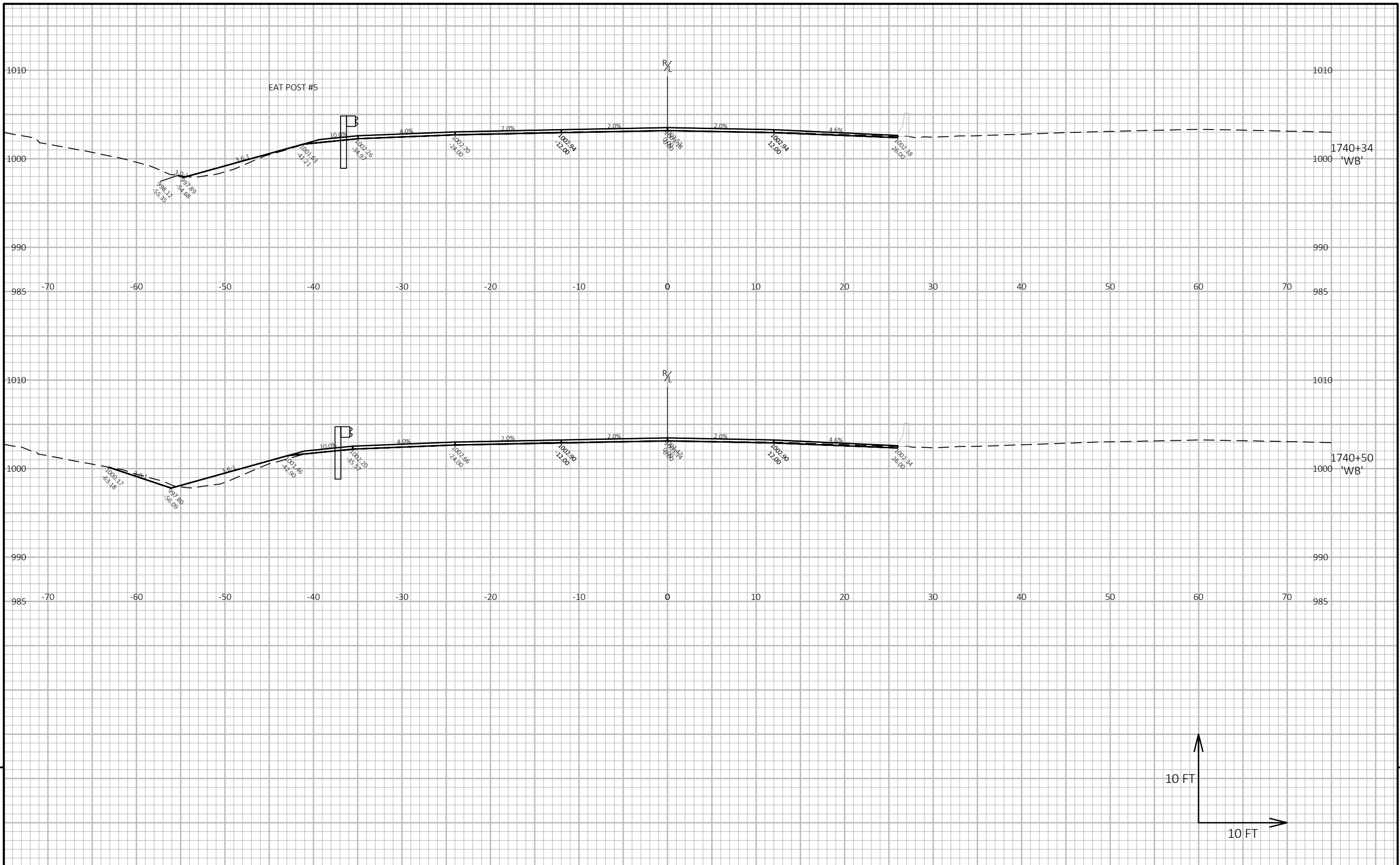
PROJECT NO: 1011-00-70	HWY: IH 39	COUNTY: COLUMBIA	CROSS SECTIONS: IH 39	SHEET	E
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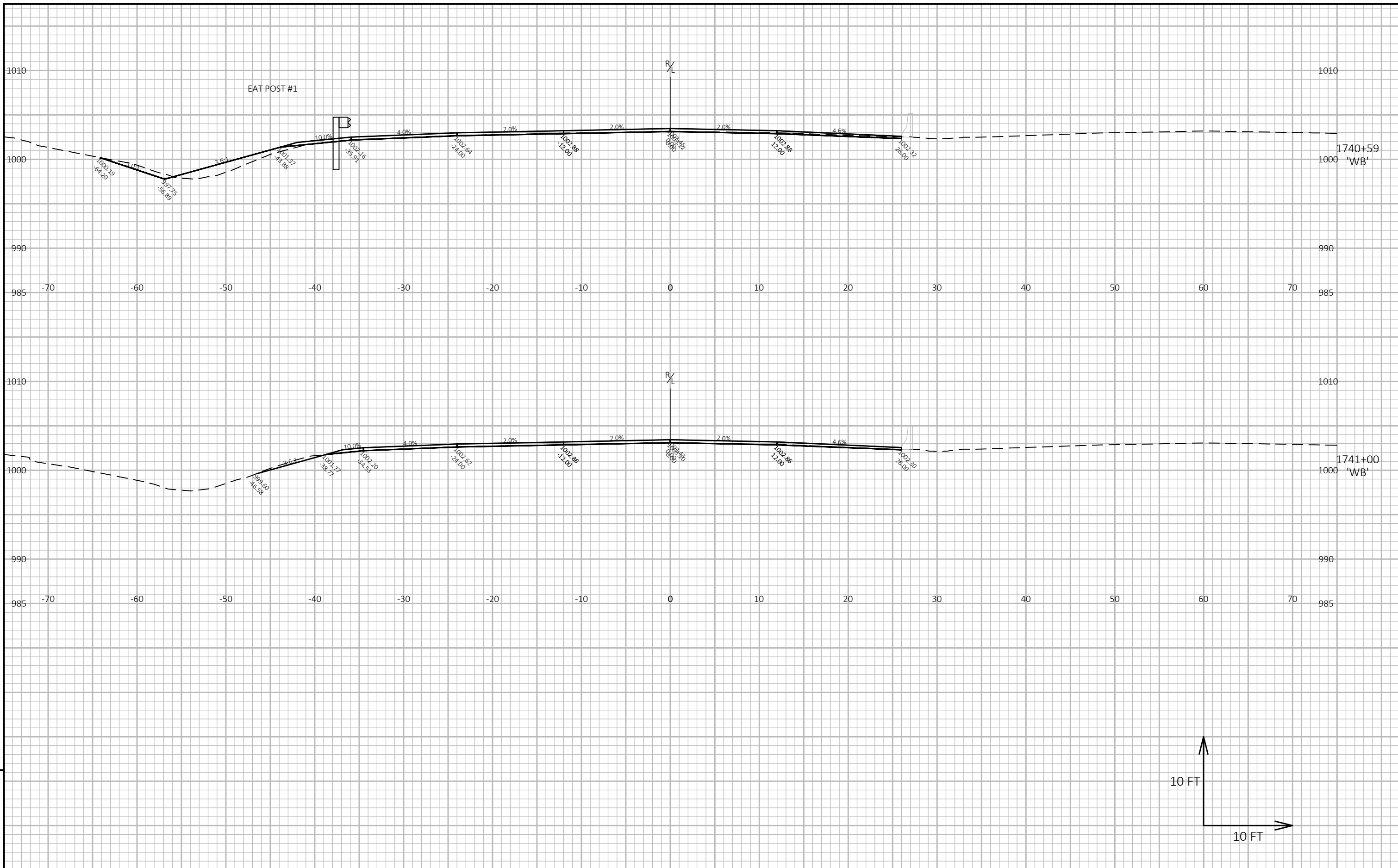
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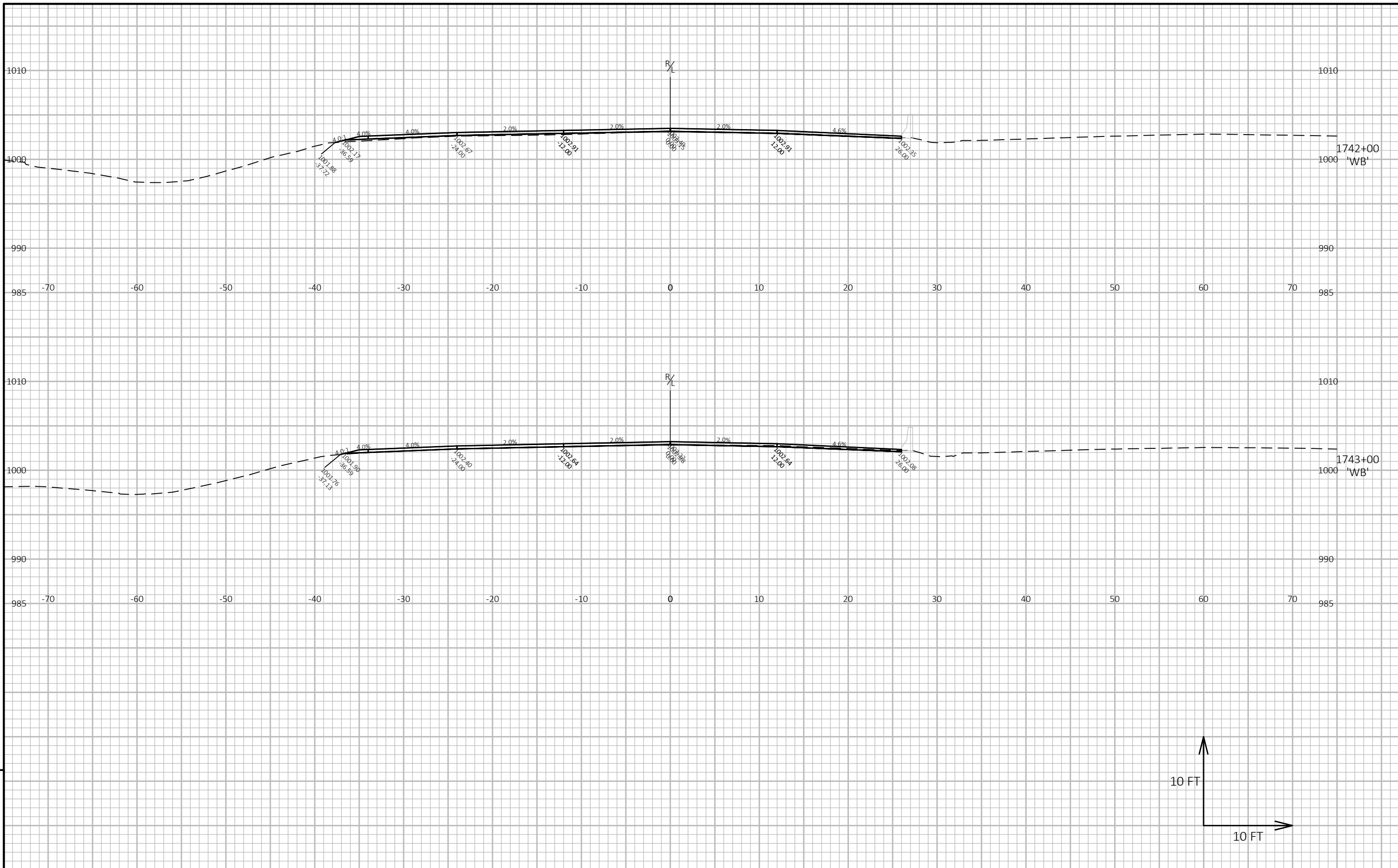
PROJECT NO: 1011-00-70	HWY: IH 39	COUNTY: COLUMBIA	CROSS SECTIONS: IH 39	SHEET	E
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PROJECT NO: 1011-00-70	HWY: IH 39	COUNTY: COLUMBIA	CROSS SECTIONS: IH 39	SHEET	E
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PROJECT NO: 1011-00-70

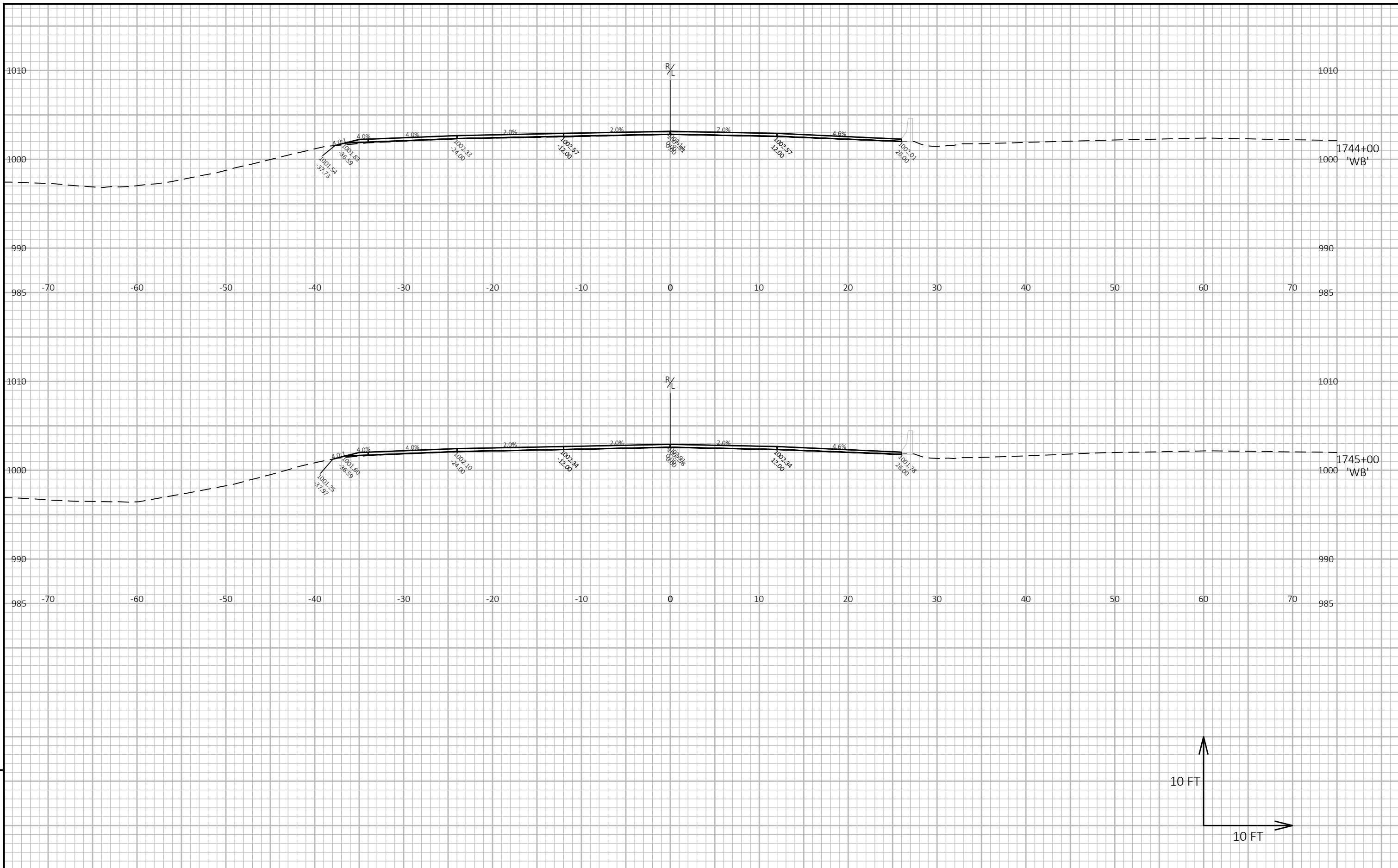
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CROSS SECTIONS: IH 39

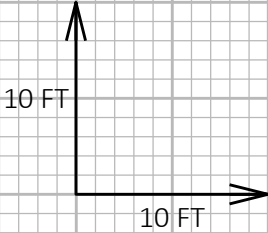
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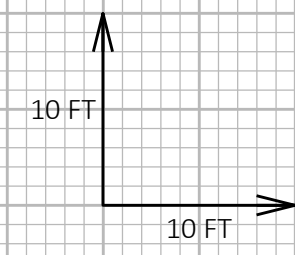
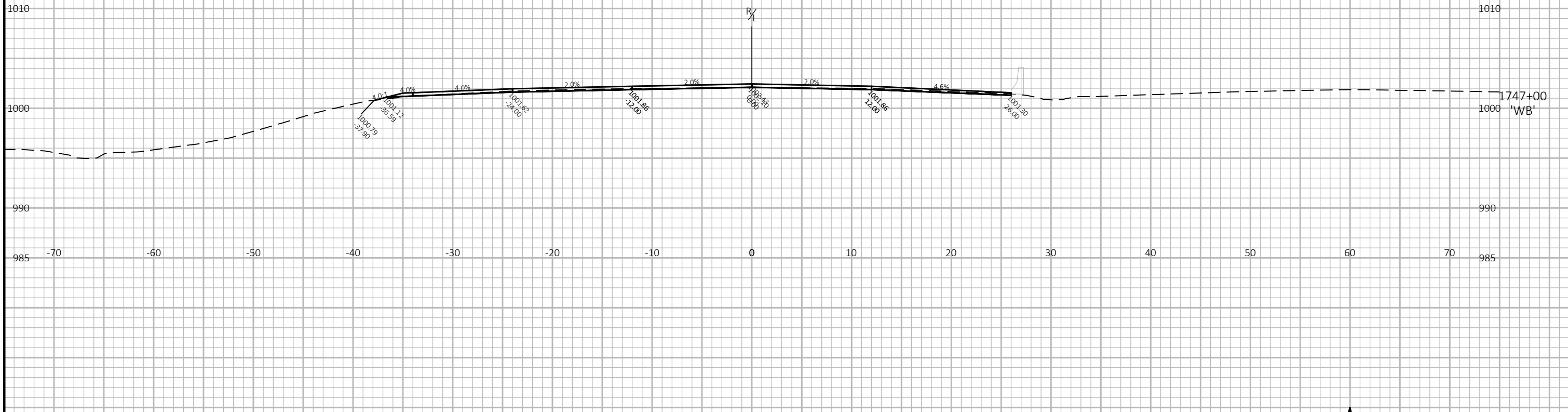
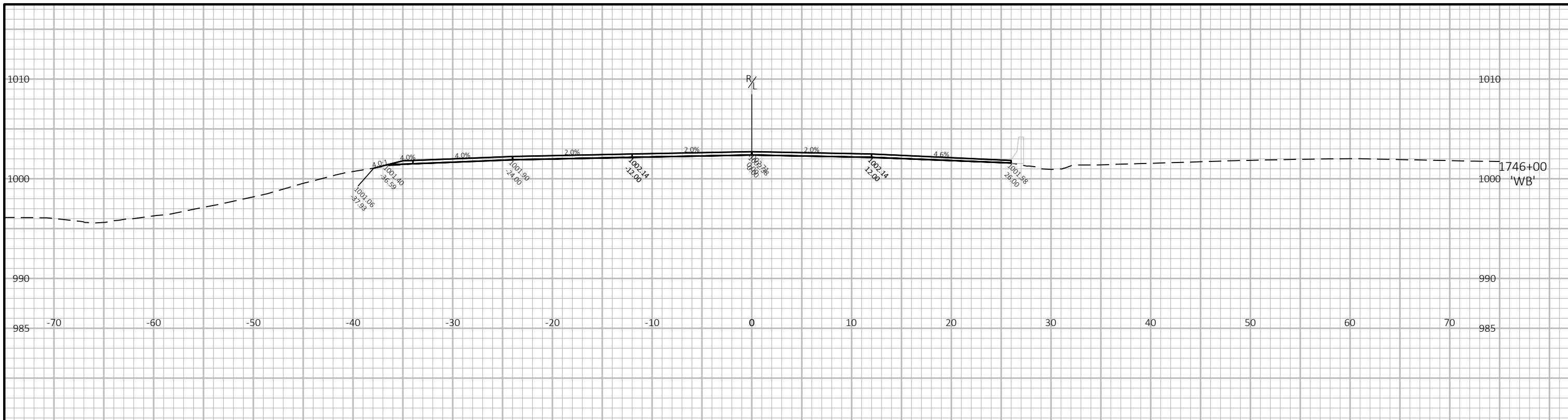
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PROJECT NO: 1011-00-70 HWY: IH 39 COUNTY: COLUMBIA CROSS SECTIONS: IH 39 SHEET E

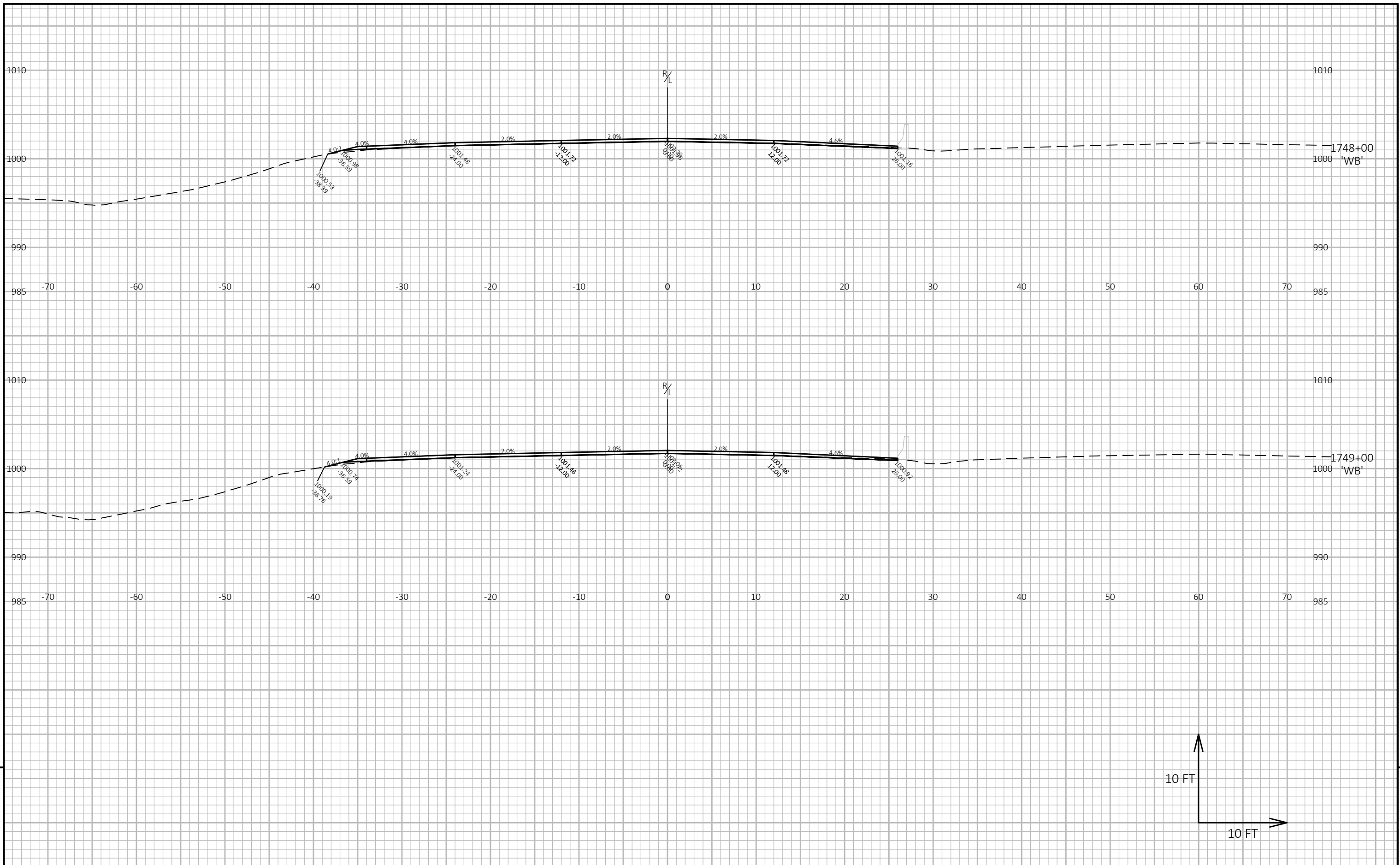
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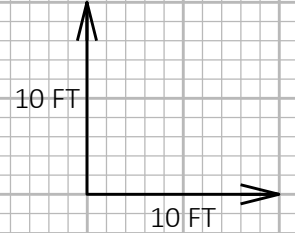
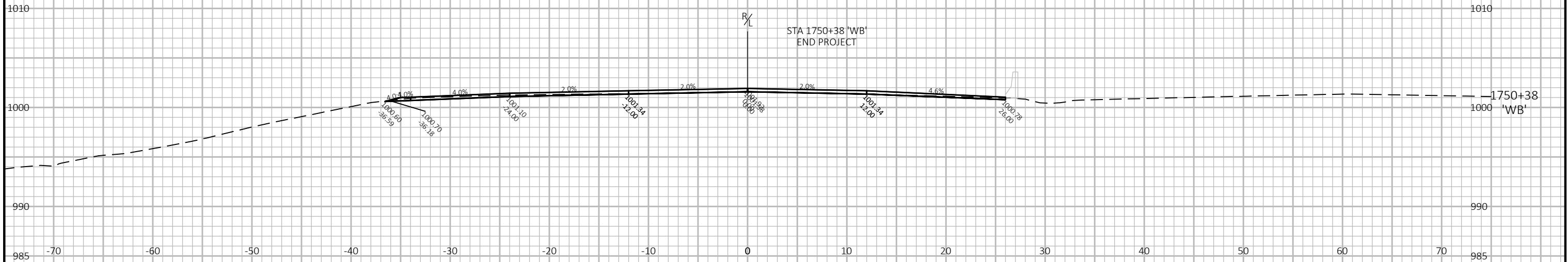
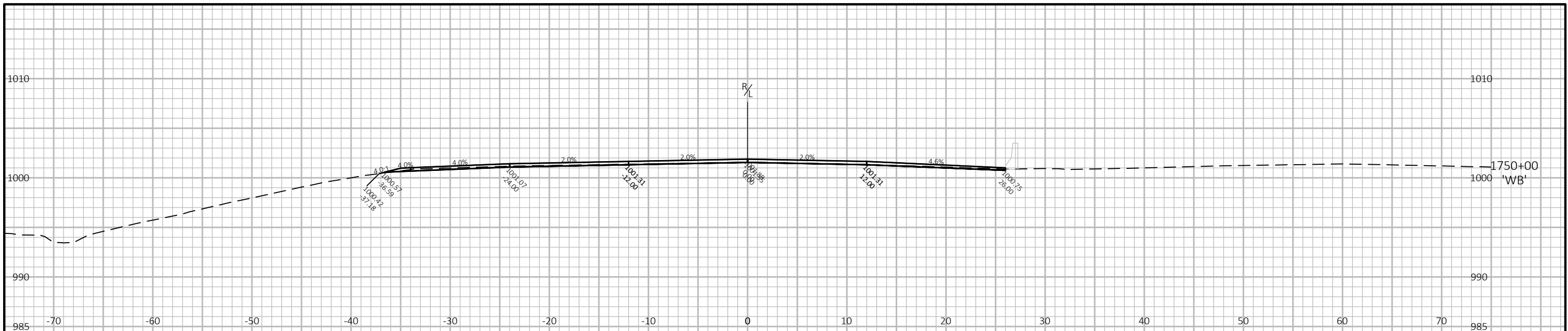
PROJECT NO: 1011-00-70	HWY: IH 39	COUNTY: COLUMBIA	CROSS SECTIONS: IH 39	SHEET	E
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PROJECT NO: 1011-00-70	HWY: IH 39	COUNTY: COLUMBIA	CROSS SECTIONS: IH 39	SHEET	E
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PROJECT NO: 1011-00-70	HWY: IH 39	COUNTY: COLUMBIA	CROSS SECTIONS: IH 39	SHEET	E
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Wisconsin Department of Transportation

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