

RHI

WITH:

PROJECT ID:

9813-02-71

COUNTY:

FOREST

MAY 2025
ORDER OF SHEETS

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

TOTAL SHEETS = 146



DESIGN DESIGNATION

A.A.D.T.	2025	=	4620
A.A.D.T.	2045	=	5570
D.H.V.		=	760
D.D.		=	61/39
T.		=	10.0
DESIGN SPEED		=	60 MPH
ESALS		=	1,100,000

CONVENTIONAL SYMBOLS

PLAN

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

PROFILE

GRADE LINE	
ORIGINAL GROUND	
MARSH OR ROCK PROFILE (To be noted as such)	
SPECIAL DITCH	
GRADE ELEVATION	
CULVERT (Profile View)	
UTILITIES	
ELECTRIC	
FIBER OPTIC	
GAS	
SANITARY SEWER	
STORM SEWER	
TELEPHONE	
WATER	
UTILITY PEDESTAL	
POWER POLE	
TELEPHONE POLE	

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

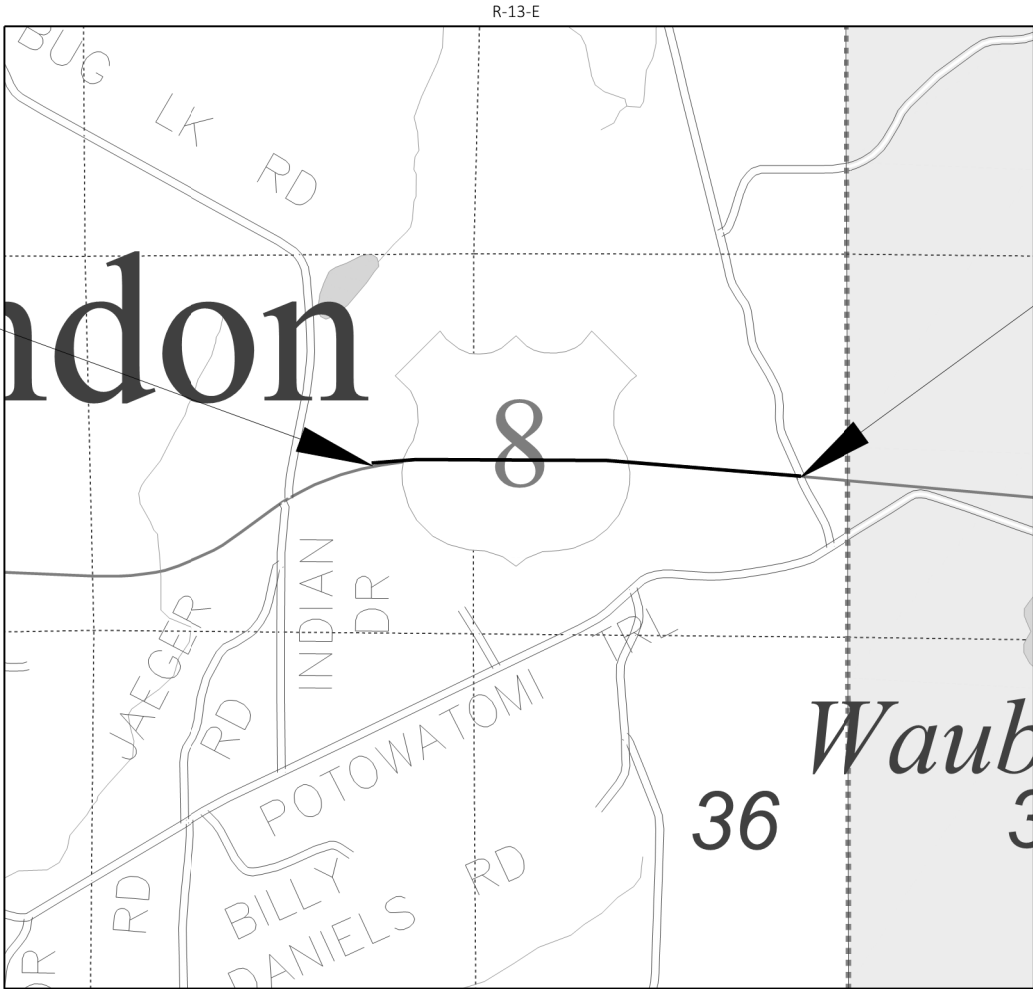
PLAN OF PROPOSED IMPROVEMENT

USH 8 SHARED PATHWAY PHASE 2

LOVE KNOT LANE TO OTTER CREEK ROAD

NON HWY
FOREST COUNTY

STATE PROJECT NUMBER
9813-02-71



BEGIN PROJECT
STA 623+65.75
N = 571104.4725
E = 855825.4790

END PROJECT
STA 682+24.15
N = 570965.0299
E = 861653.4685

SCALE 0 0.5 MI

TOTAL NET LENGTH OF CENTERLINE = 1.11 MI

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COORDINATE REFERENCE SYSTEM (WISCRS), FOREST COUNTY, NAD83 (2011), IN U.S. SURVEY FEET. POSITIONS SHOWN ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES ARE THE SAME AS GROUND DISTANCES.

ELEVATIONS ARE REFERENCED TO NAVD 88 (2012). GPS DERIVED ELEVATIONS ARE BASED ON GEOID 12A.

STATE PROJECT

9813-02-71

FEDERAL PROJECT

PROJECT

WISC 2025514

CONTRACT

1

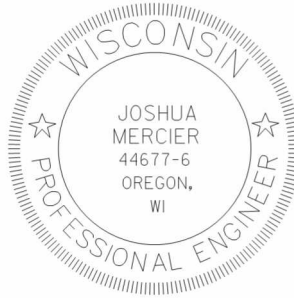
THIS IS A FEDERALLY FUNDED FLAP PROJECT.
DBE GOAL: DISCRETIONARY

ACCEPTED FOR
FOREST COUNTY
POTAWATOMI COMMUNITY

Joshua Mercier
(Signature and Title of Official)
2-5-2025

ORIGINAL PLANS PREPARED BY

KL Engineering
[A] Better Experience



DATE: 01/21/2025
Josh Mercier
(Professional Engineer Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY	FOREST COUNTY POTAWATOMI COMMUNITY
Surveyor	KL ENGINEERING
Designer	NATHAN WAITE
Project Manager	NC REGION
Regional Examiner	DAN ERVA
Regional Supervisor	TODD MULVEY
Local	

ACCEPTED FOR THE DEPARTMENT
DATE: 3/14/2025
Michael
(Signature)

E

GENERAL NOTES

THE LOCATION OF EXISTING AND PROPOSED UTILITY INSTALLATIONS AS SHOWN IN THE PLAN, ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN. CONTACT DIGGERS HOTLINE AND AFFECTED UTILITIES PRIOR TO START OF WORK.

STATIONING AND OFFSETS TO APRON ENDWALLS FOR CULVERT PIPES ARE SHOWN TO THE END OF THE PIPE.

ASPHALTIC SURFACE WEIGHT CALCULATIONS ARE BASED ON 112 LBS/SY/IN.

ALL RADII ARE MEASURED TO THE EDGE OF THE PAVEMENT UNLESS OTHERWISE SHOWN OR NOTED IN THE PLANS.

CURVE DATA IS BASED ON THE ARC DEFINITION.

INLET AND DISCHARGE ELEVATIONS FOR DRAINAGE STRUCTURES ARE APPROXIMATE AND SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.

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

SEE ALIGNMENT DIAGRAM FOR SOIL BORING LOCATIONS. BASED ON FIELD CONDITIONS, PROJECT ENGINEER MAY MODIFY TYPICAL SECTION TO INCLUDE INCREASED EXCAVATION, GEOTEXTILE FABRIC OR GEOGRID, AND STONE.

RUNOFF COEFFICIENT TABLE

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

TOTAL PROJECT AREA = 22.134 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 4.355 ACRES

ORDER OF SECTION 2 SHEETS

- PROJECT OVERVIEW
- TYPICAL SECTIONS
- CONSTRUCTION DETAILS
- PLAN DETAILS
- EROSION CONTROL PLANS
- STORM SEWER PLANS
- TRAFFIC CONTROL PLANS
- CURB RAMP DETAILS
- ALIGNMENT DIAGRAM

DIGGERS

HOTLINE



Dial  or (800)242-8511

www.DiggersHotline.com

UTILITY CONTACTS

SEWER

FOREST COUNTY POTAWATOMI COMMUNITY SEWER
JENNIFER SPENCER (PRIMARY CONTACT)
8355 MISH KO SWEN DRIVE
PO BOX 340
CRANDON, WI 54520
PHONE: 715.478.7398
EMAIL: JENNIFER.SPENCER@FCP-NSN.GOV

COMMUNICATION LINE

FRONTIER COMMUNICATIONS OF WI LLC
CHRIS POLLACK (PRIMARY CONTACT)
PHONE: 715.847.1240
EMAIL: CHRISTOPHER.POLLACK@FTR.COM

COMMUNICATION LINE

FOREST COUNTY POTAWATOMI IT DEPT
ERIC BYERS (PRIMARY CONTACT)
P.O. BOX 3409
CRANDON, WI 54520
PHONE: 715.478.4952
EMAIL: ERIC.BYERS@FCPOTWATOMI-NSN.GOV

ELECTRICITY

WISCONSIN PUBLIC SERVICE CORPORATION
WENDY CHRIST (PRIMARY CONTACT)
P.O. BOX 19001
GREEN BAY, WI 54307-9001
PHONE: 920.617.5173
EMAIL: UTILITIESRELOCATION@WISCONSINPUBLICSERVICE.COM

CONSULTANT DESIGN CONTACT

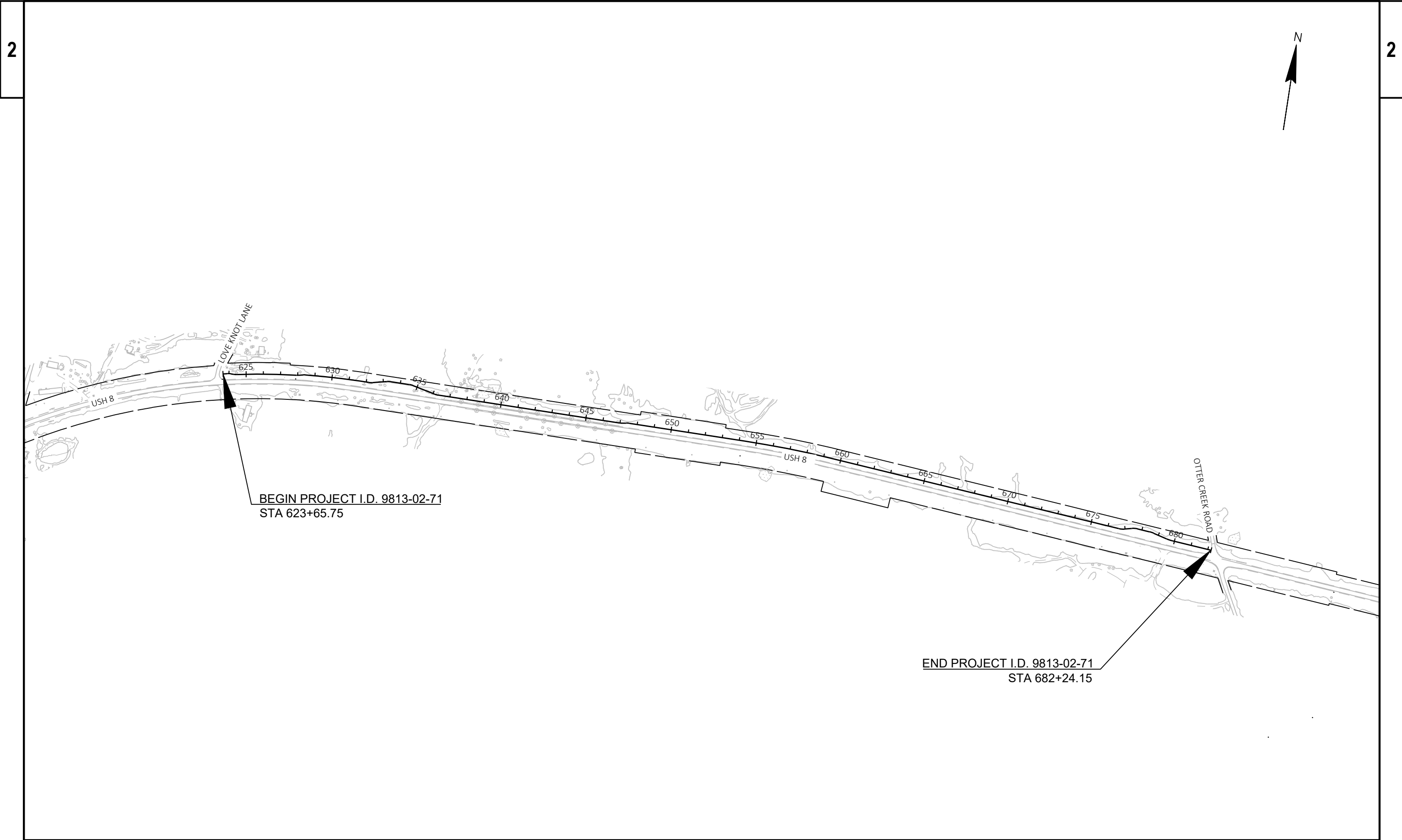
KL ENGINEERING, INC
JOSH MERCIER, PE
5400 KING JAMES WAY
SUITE 200
MADISON, WI, 53719
PHONE: 608-310-3817
EMAIL: JOSH.MERCIER@KLENGINEERING.COM

WISDOT CONTACT

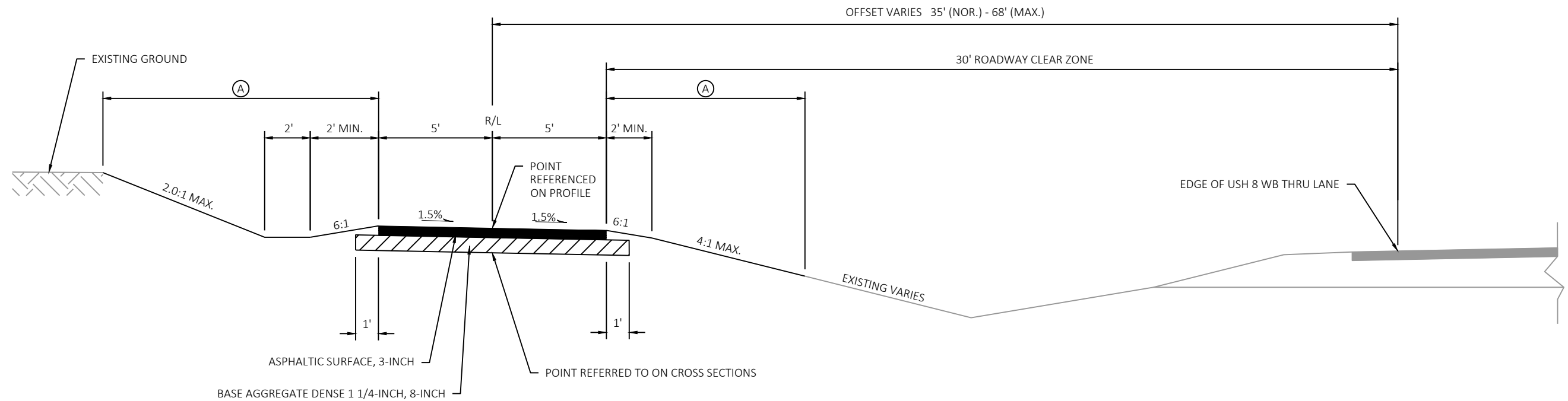
WISCONSIN DEPARTMENT OF TRANSPORTATION
NORTH CENTRAL REGION
NATHANIEL WAITE
PHONE: 715-365-5762
EMAIL: NATHANIEL.WAITE@DOT.WI.GOV

WISCONSIN DNR CONTACT

WISCONSIN DEPARTMENT OF NATURAL RESOURCES
NORTHERN REGION
JON SIMONSEN
107 SUTCLIFF AVE
RHINELANDER, WI 54501
PHONE: 715-367-1963
EMAIL: JONATHAN.SIMONSEN@WISCONSIN.GOV



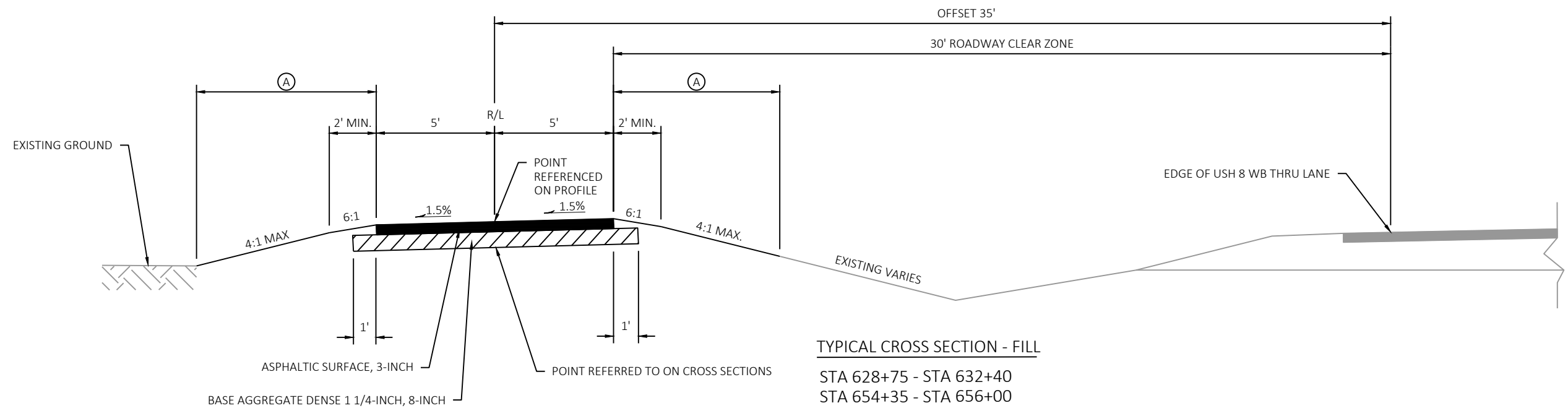
PROJECT NO: 9813-02-71	USH 8 SHARED PATHWAY PHASE 2	COUNTY: FOREST	PROJECT OVERVIEW	SHEET	E
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TYPICAL CROSS SECTION - CUT

STA 623+65.75 - STA 628+75
STA 632+40 - STA 636+80
STA 647+25 - STA 654+35
STA 660+00 - STA 663+25
STA 676+50 - STA 681+98

(A) TOPSOIL, MULCH OR EROSION MAT (TYPE AND LOCATION AS SHOWN IN EROSION CONTROL PLANS AND CONSTRUCTION DETAILS), No. 20 SEEDING MIXTURE, SOIL STABILIZER TYPE B, FERTILIZER TYPE A



TYPICAL CROSS SECTION - FILL

STA 628+75 - STA 632+40
STA 654+35 - STA 656+00
STA 658+50 - STA 660+00
STA 663+25 - STA 672+50
STA 681+98 - STA 682+24.15

PROJECT NO: 9813-02-71

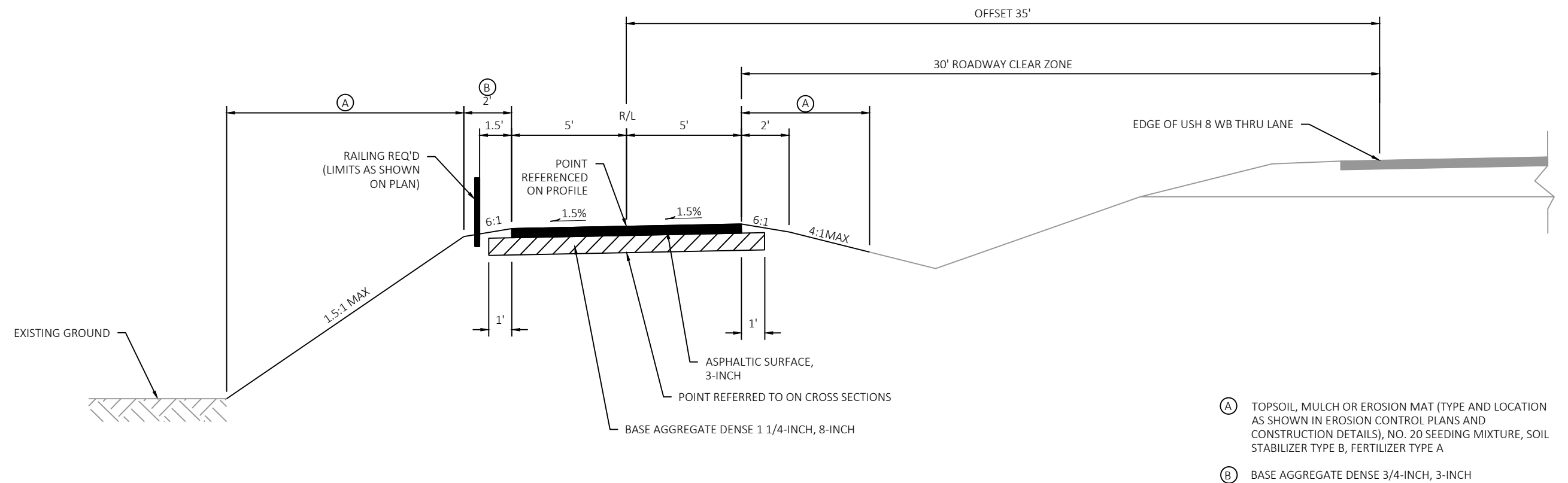
USH 8 SHARED USE PATHWAY PHASE 2

COUNTY: FOREST

TYPICAL SECTIONS

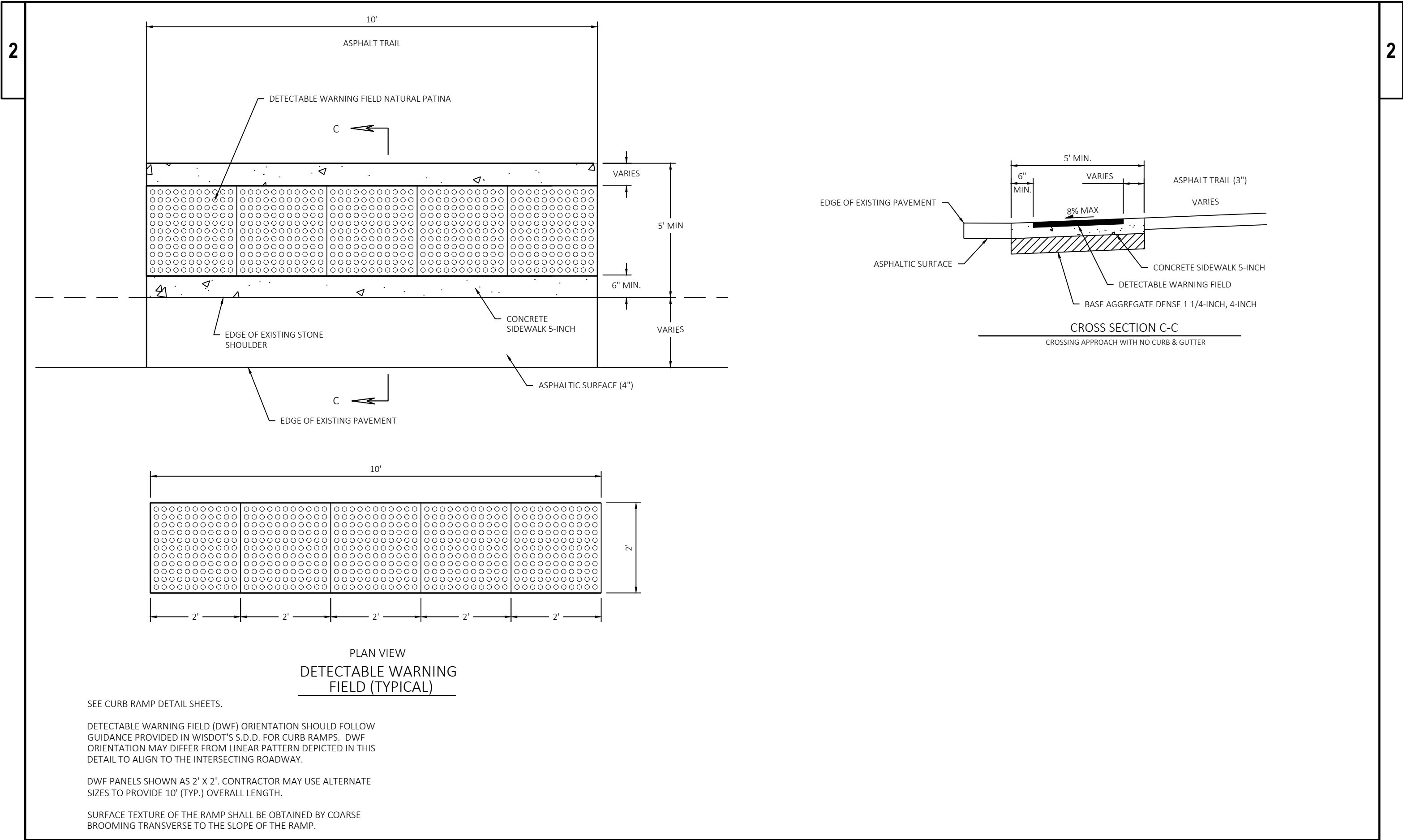
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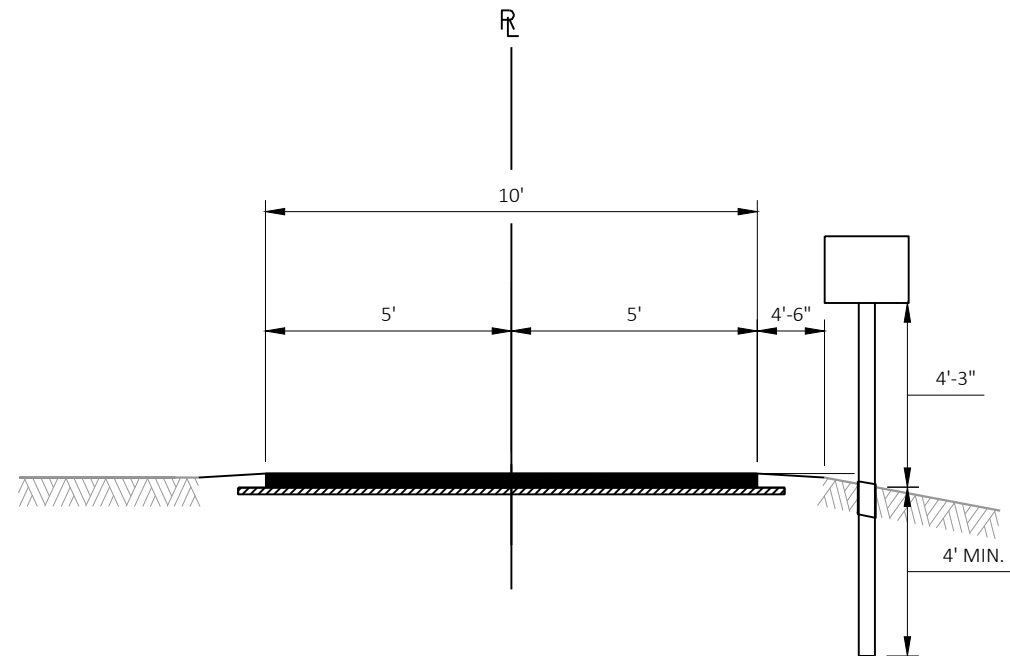
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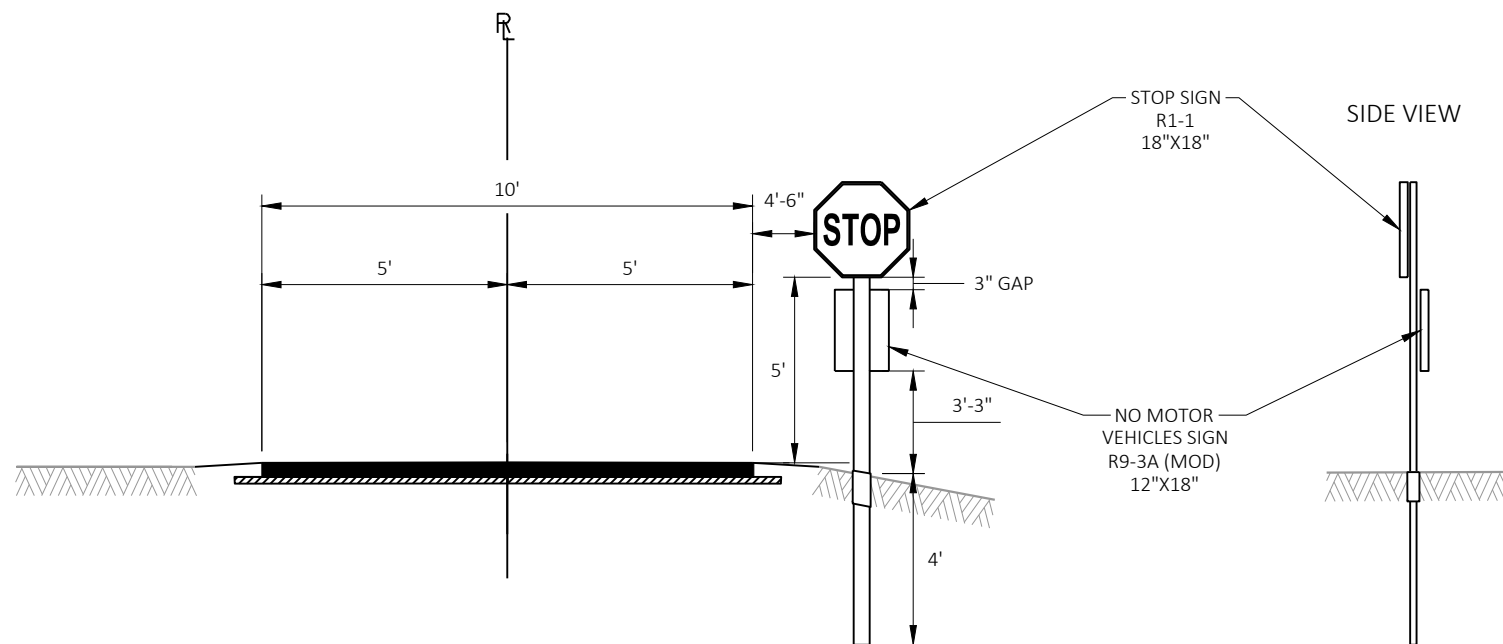
TYPICAL SECTION - FILL WITH RAILING

STA 636+80 - STA 647+25
STA 656+00 - STA 658+50
STA 672+50 - STA 676+50





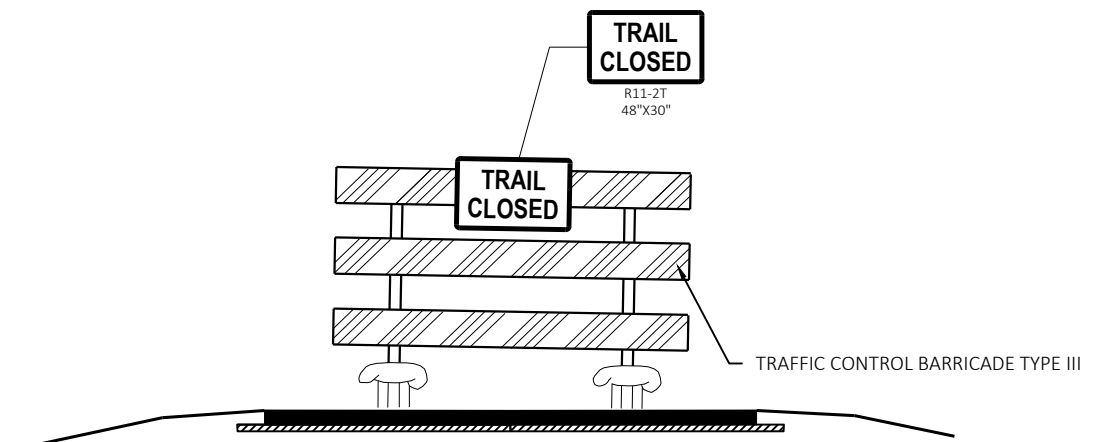
TYPICAL TRAIL SIGNAGE LAYOUT



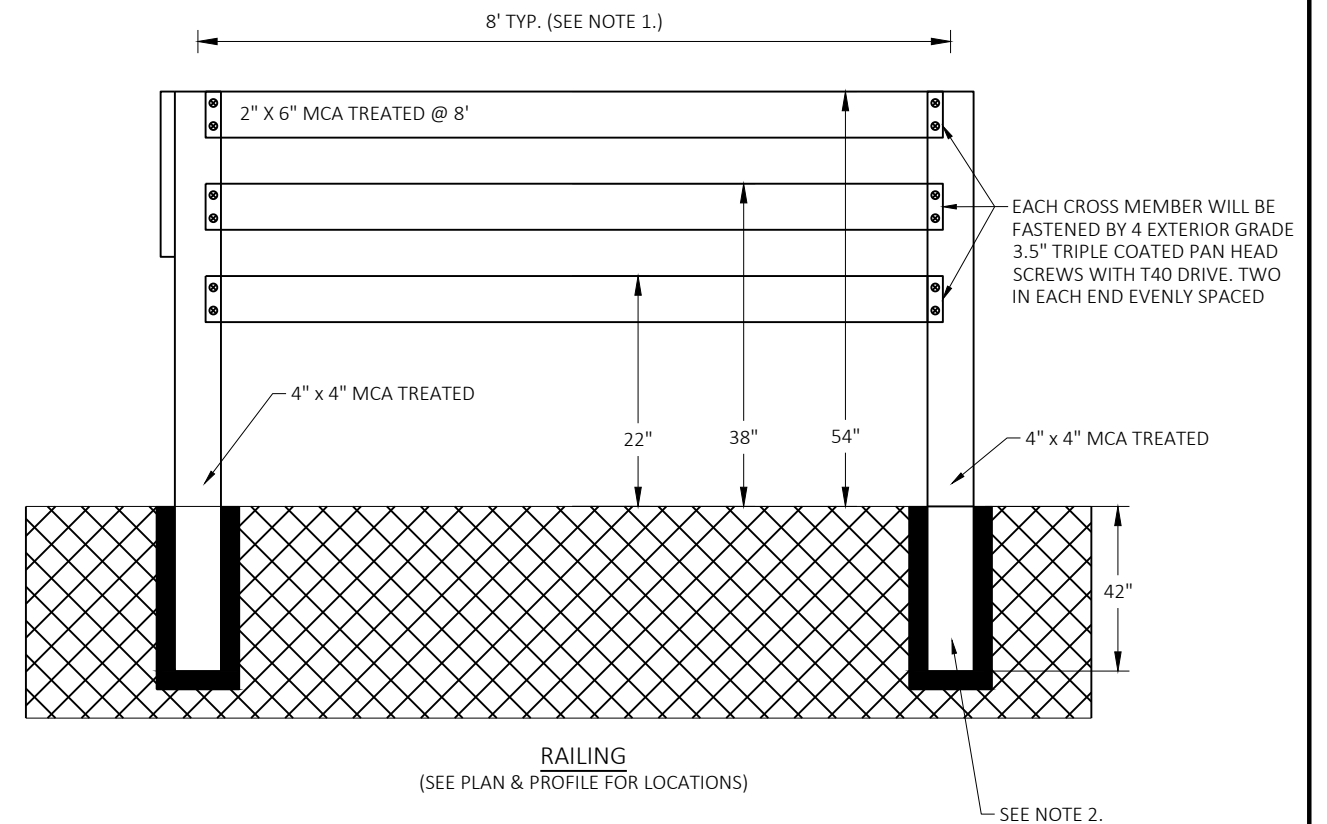
TRAIL ENTRY SIGNAGE DETAIL

GENERAL NOTES

1. ALL UPPER CASE MESSAGES SHALL BE "SERIES E. MODIFIED"
2. DO NOT SCALE.
3. FOR ROADWAY SIGNAGE SEE TYPICAL WISDOT INSTALLATION FOR PERMANENT TYPE II SIGNS ON SINGLE POSTS.
4. TRAIL STOP SIGNS BACKED WITH "NO MOTORIZED VEHICLES" SIGNS SHALL BE INSTALLED PER TRAIL ENTRY SIGNAGE DETAIL.
5. SCREWS FOR SIGNS SHALL BE TAMPER RESISTANT TORX HEAD INSTALLATIONS.



TRAIL CLOSURE BARRICADE DETAIL



NOTES:

1. IF REQUIRED BY FIELD CONDITIONS, EXTEND POST SPACING UP TO 10' WIDTH. PLACE POSTS IN CONCRETE. LOCATIONS AS APPROVED BY THE ENGINEER.
2. IF FIELD CONDITIONS DO NOT ALLOW FOR REQUIRED 3.5' INSTALLATION DEPTH, CONTRACTOR SHALL FILL WITH CONCRETE UPON APPROVAL BY THE ENGINEER. ADDITIONAL CONCRETE SHALL BE PAID AS SPV.0060.001 CONCRETE FOOTINGS (CONCRETE BASE).

PROJECT NO: 9813-02-71

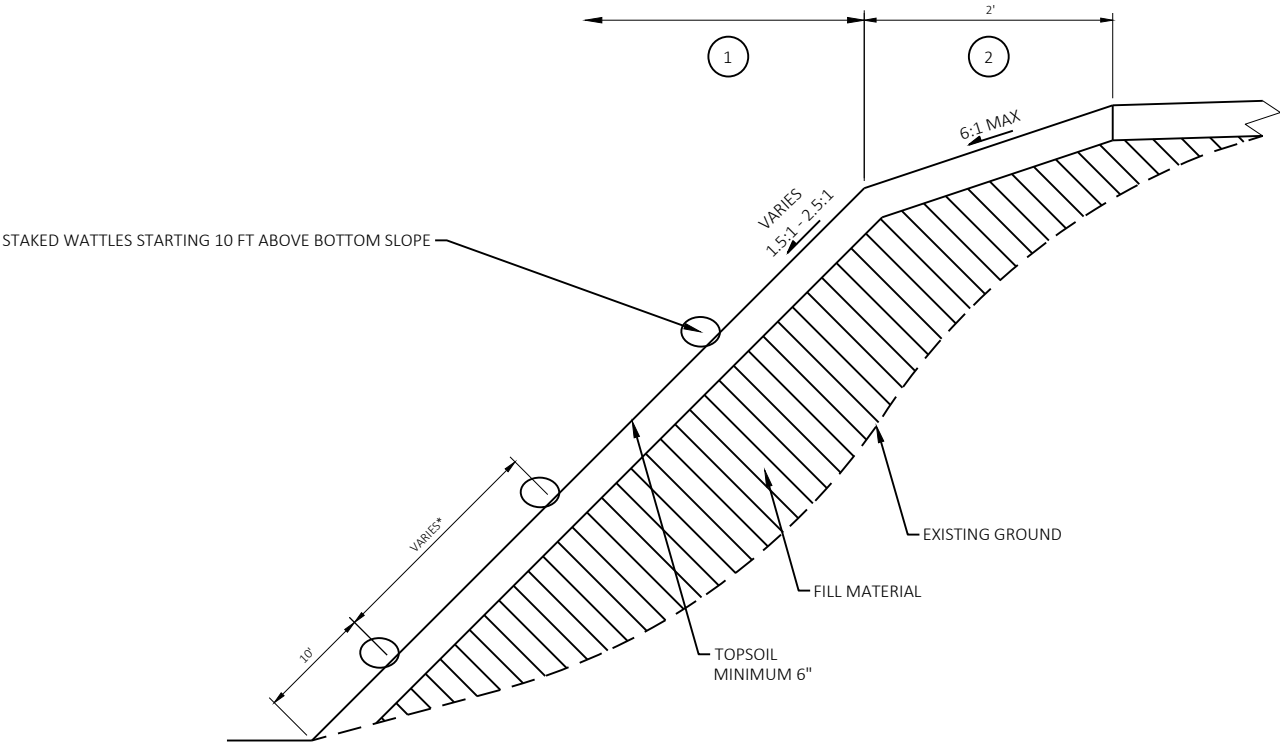
USH 8 SHARED USE PATHWAY PHASE 2

COUNTY: FOREST

CONSTRCUTION DETAILS

SHEET

E



EROSION CONTROL DETAIL FOR STEEP SLOPE AREAS

12" DIAMETER MINIMUM STAKED WATTLE SPACING TABLE	
SLOPE	MAXIMUM SPACING
1H : 1V	5' - 0"
1.5H : 1V	7' - 6"
2H : 1V	10' - 0"
2.5H : 1V	12' - 6"
3H : 1V	15' - 0"

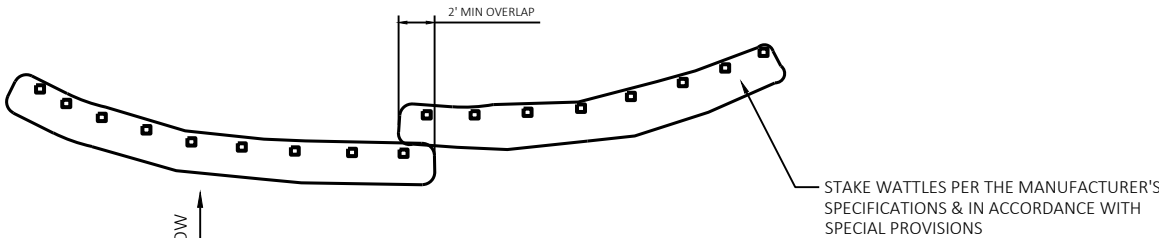
- 1

TOPSOIL, EROSION MAT CLASS II TYPE B, SOIL STABILIZER TYPE B, SEEDING MIXTURE NO. 20, AND SEEDING TEMPORARY.
- 2

TOPSOIL, MULCH, SEEDING MIXTURE NO. 20, AND SEEDING TEMPORARY.

NOTES:
TOPSOIL SHALL NOT BE SCREENED

*SEE 12" DIAMETER MINIMUM STAKED WATTLE SPACING TABLE FOR STAKED WATTLE INTERVALS

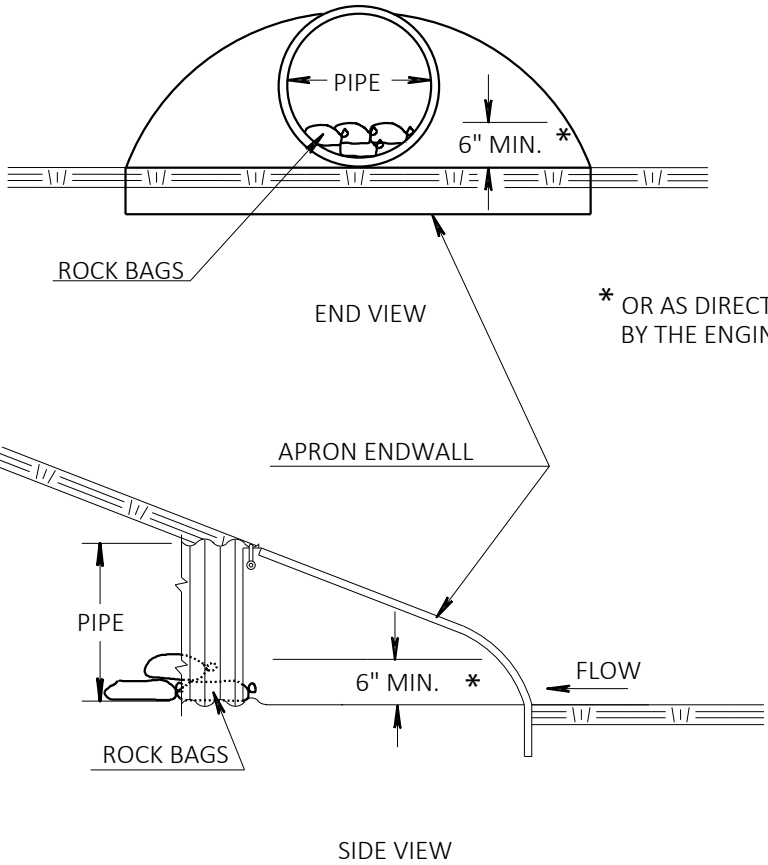


STAKED WATTLE DETAIL

(SEE EROSION CONTROL PLANS FOR LOCATIONS)
(OTHER LOCATIONS AS DETERMINED BY THE ENGINEER IN THE FIELD)

NOTE: PRODUCT SHALL BE LISTED ON THE MOST CURRENT WISCONSIN EROSION CONTROL PRODUCT ACCEPTABILITY LIST (PAL) AND APPROVED BY THE ENGINEER. PER ITEM SPV.0090.001.

DIRECTION OF FLOW



APPROXIMATE NUMBER OF ROCK BAGS REQUIRED BY PIPE SIZE

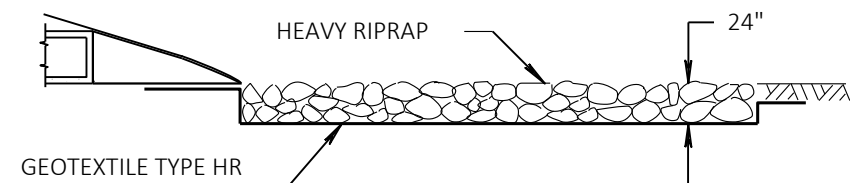
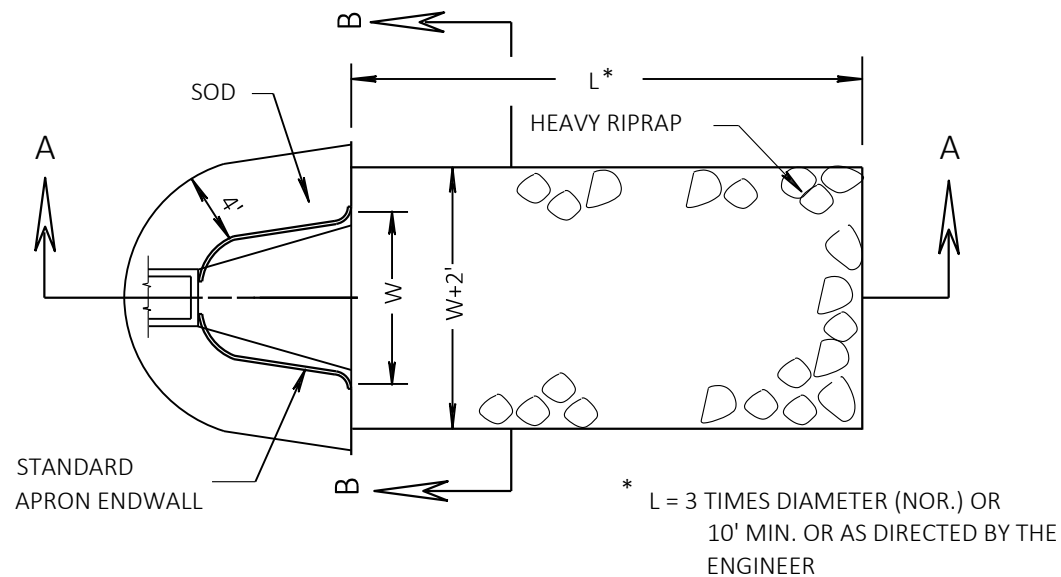
PIPE SIZE (IN)	ROCK BAGS (EACH)
12"	1
15"	1
18"	2
24"	3
30"	5
21"x15"	3
28"x20"	4

BASED ON A BAG SIZE OF 18"x12"x6"

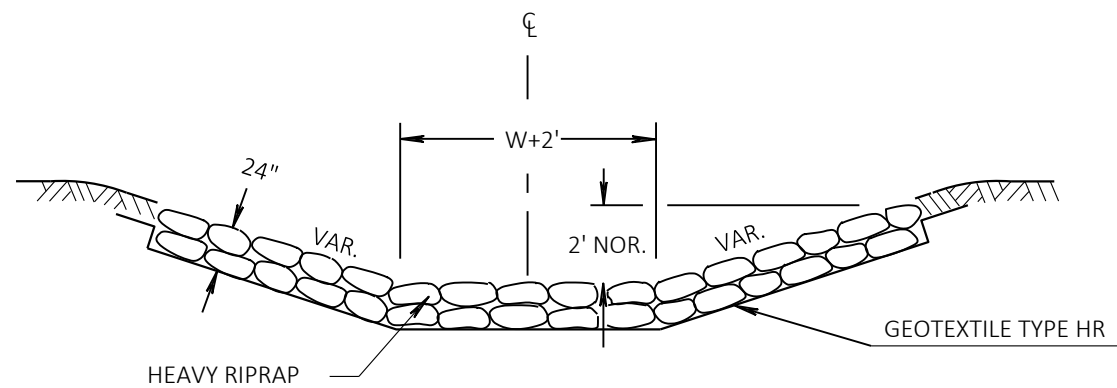
* OR AS DIRECTED BY THE ENGINEER

CULVERT PIPE DITCH CHECK

(SEE EROSION CONTROL PLANS FOR LOCATIONS)



SECTION A-A



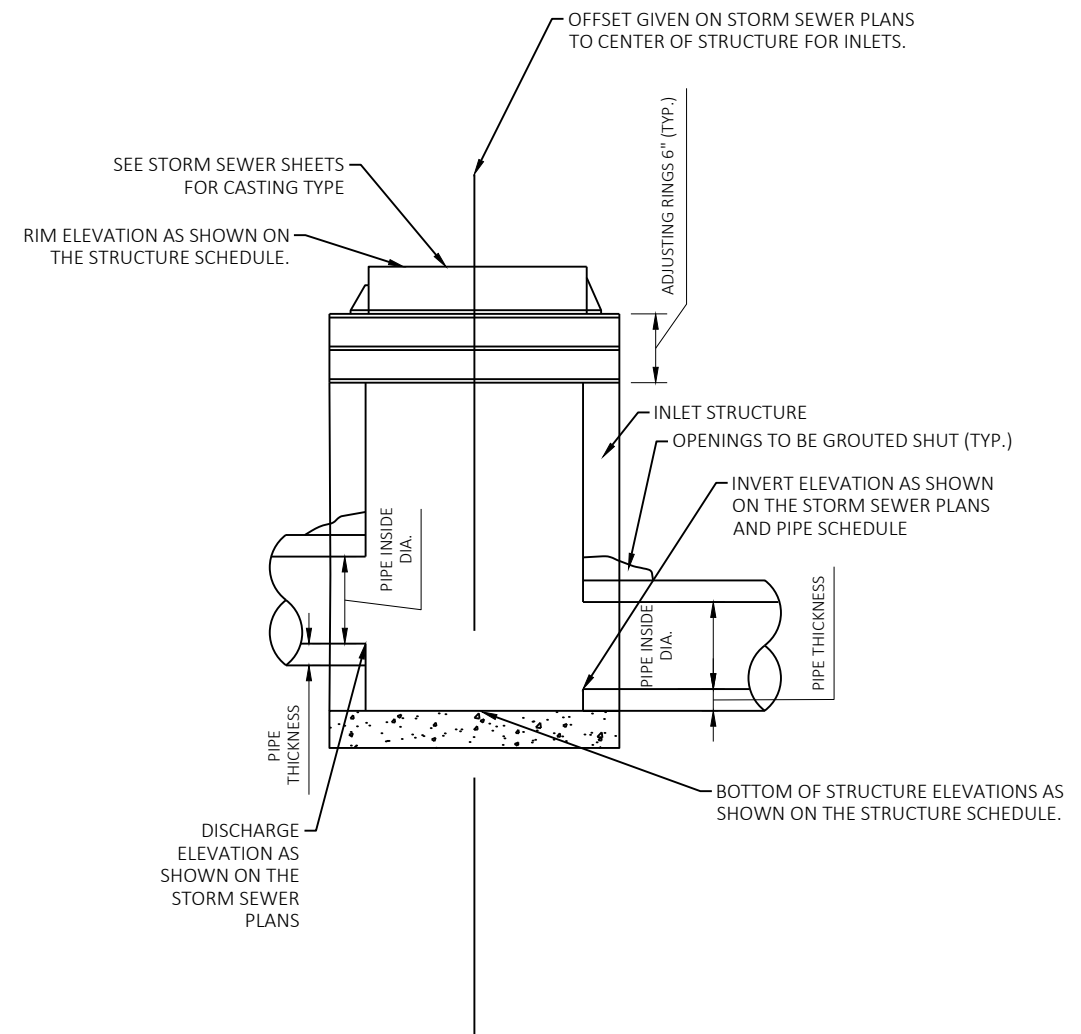
SECTION B-B

HEAVY RIPRAP AND GEOTEXTILE DETAIL
AT APRON ENDWALLS

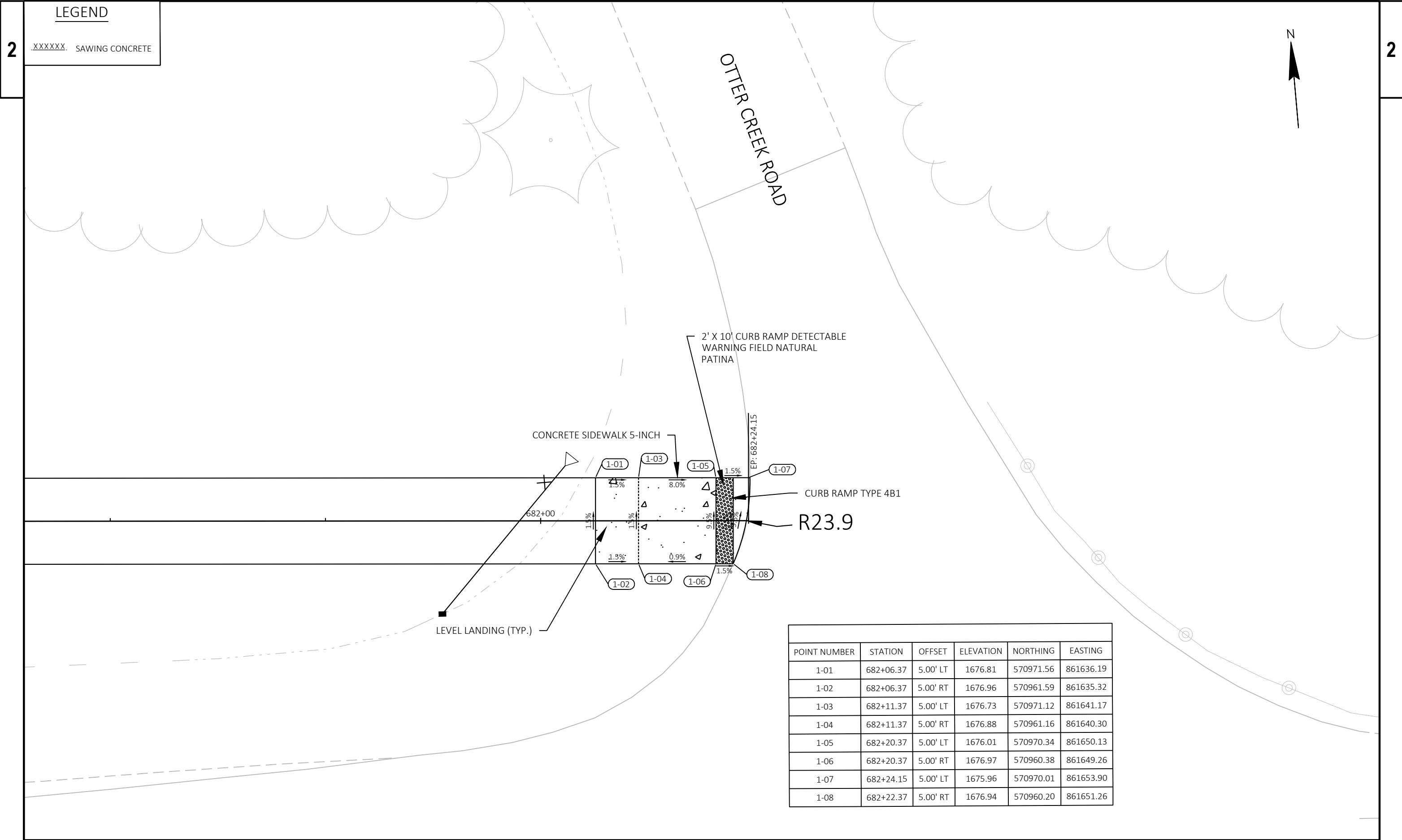
GENERAL NOTES:

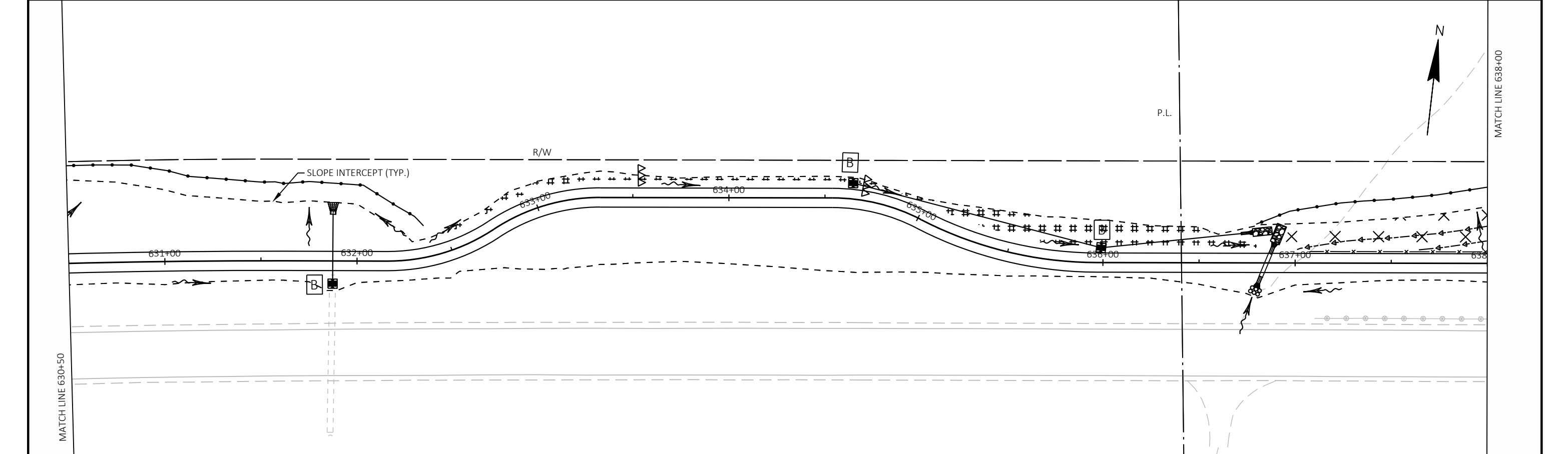
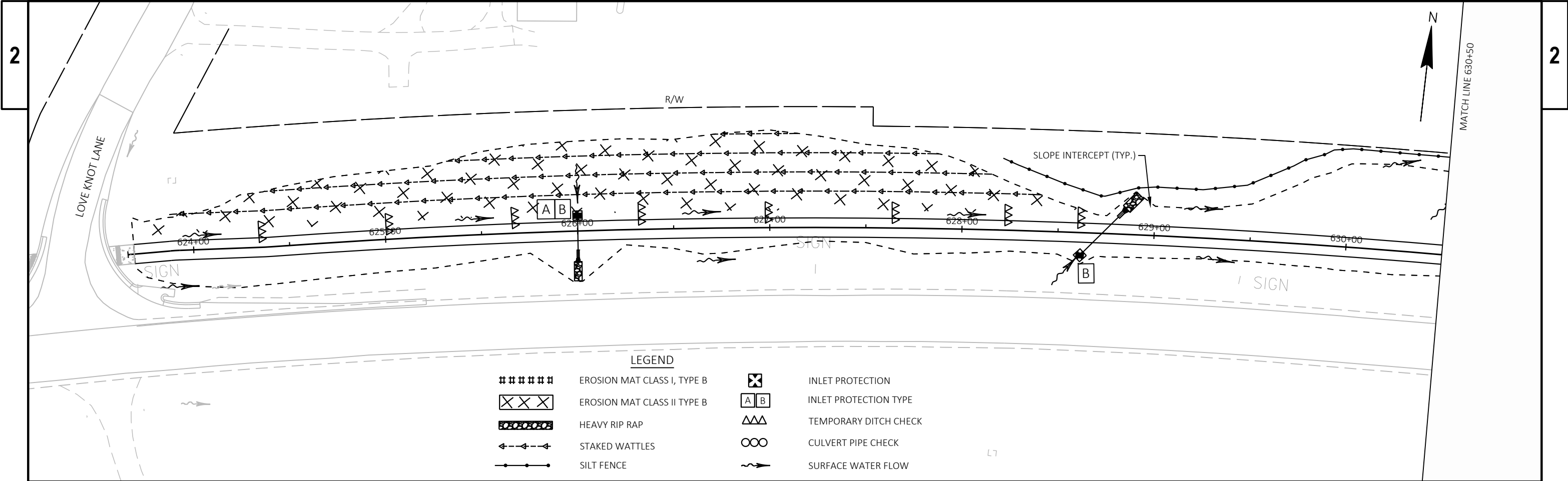
GRANULAR BACKFILL REQUIRED AROUND INLET (INCIDENTAL TO CONSTRUCTION OF INLET)

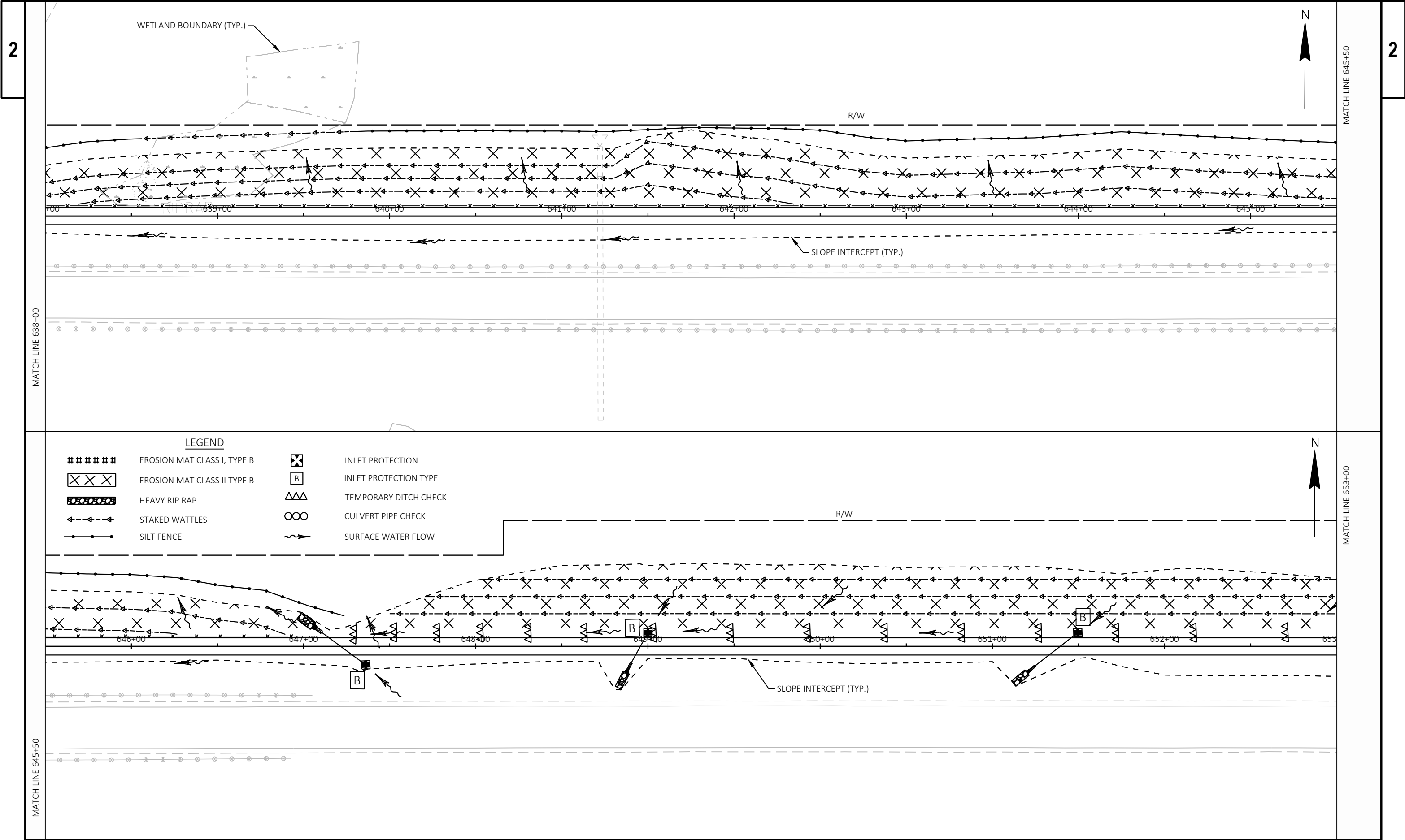
DETAILS OF CONSTRUCTION, MATERIALS, AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, APPLICABLE SPECIAL PROVISIONS, AND WISDOT S.D.D. FOR INLETS.

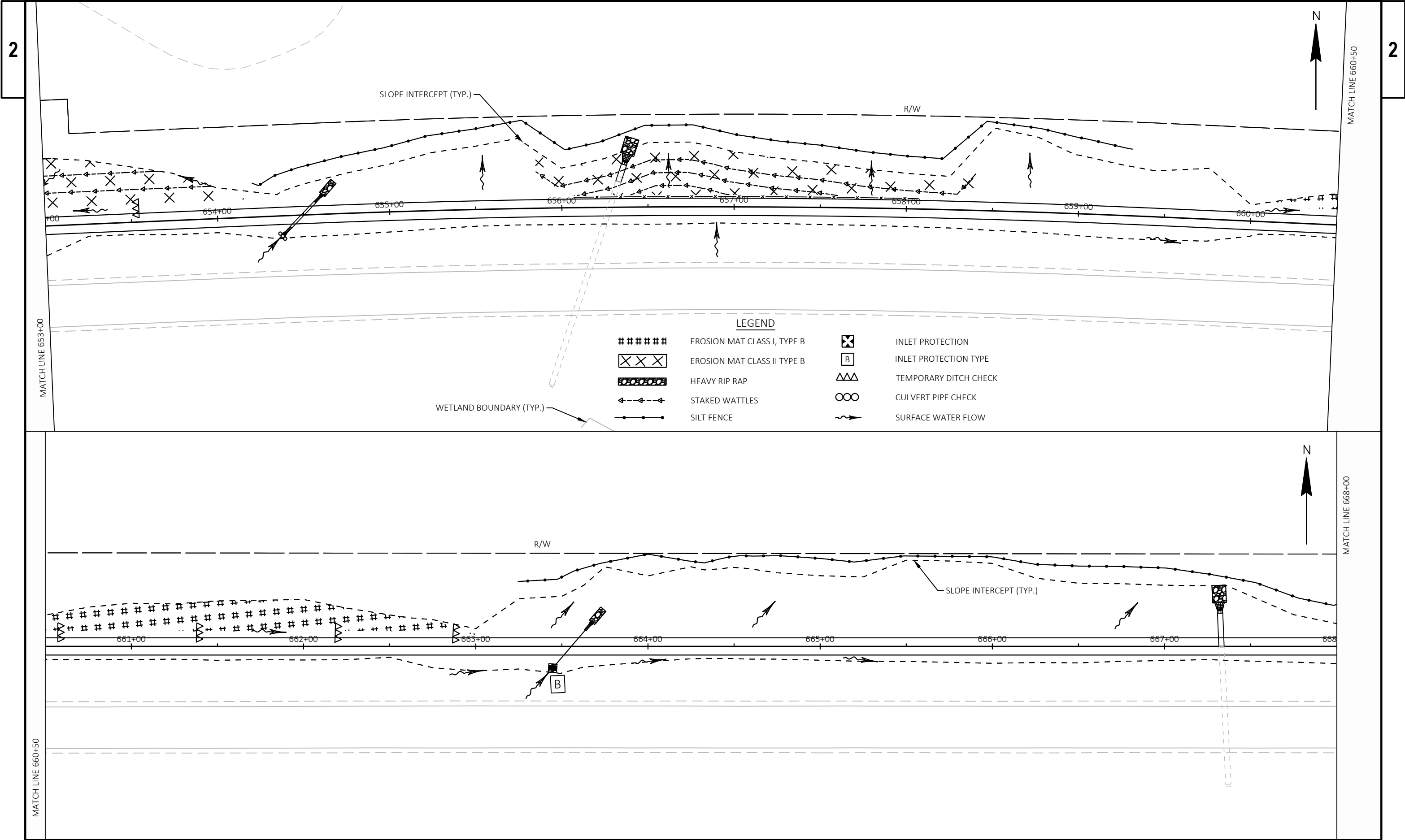


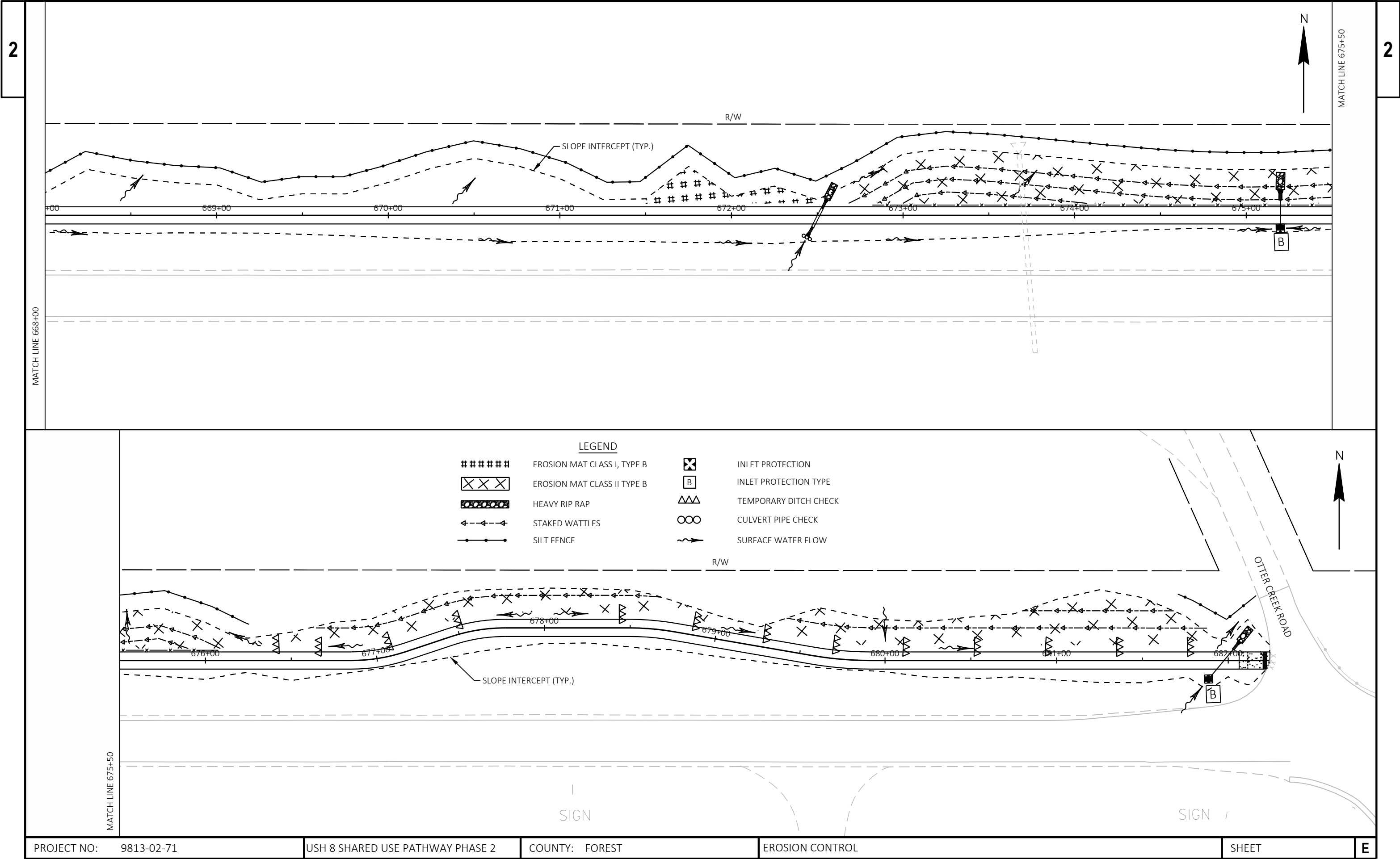
DETAIL OF INLET WITH CASTING

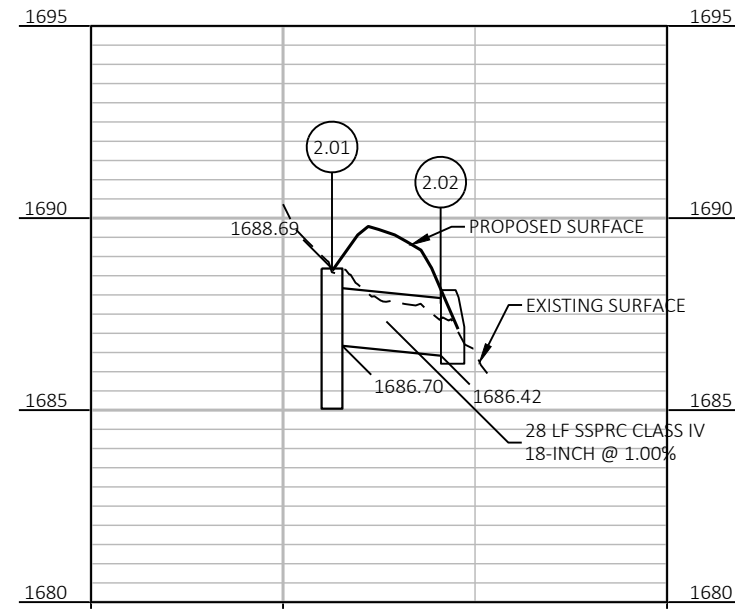
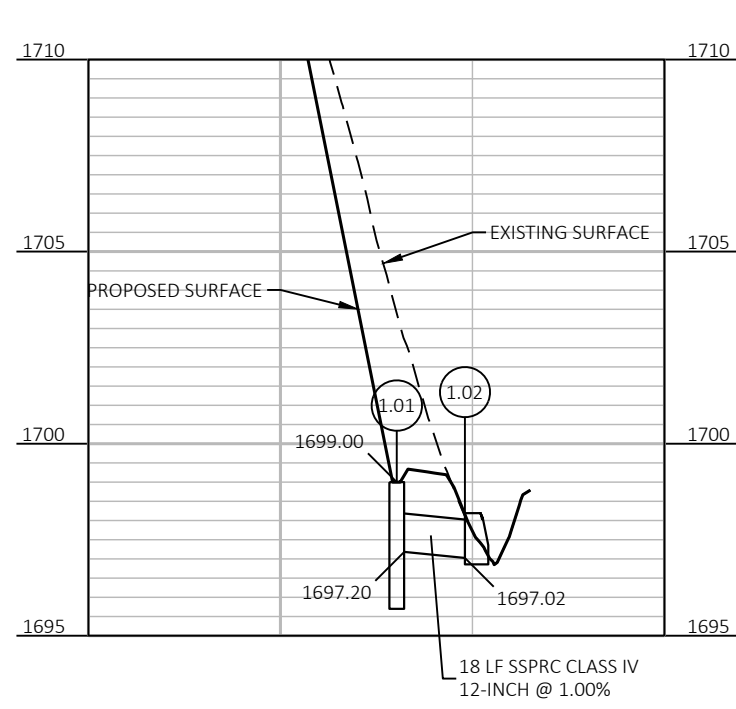
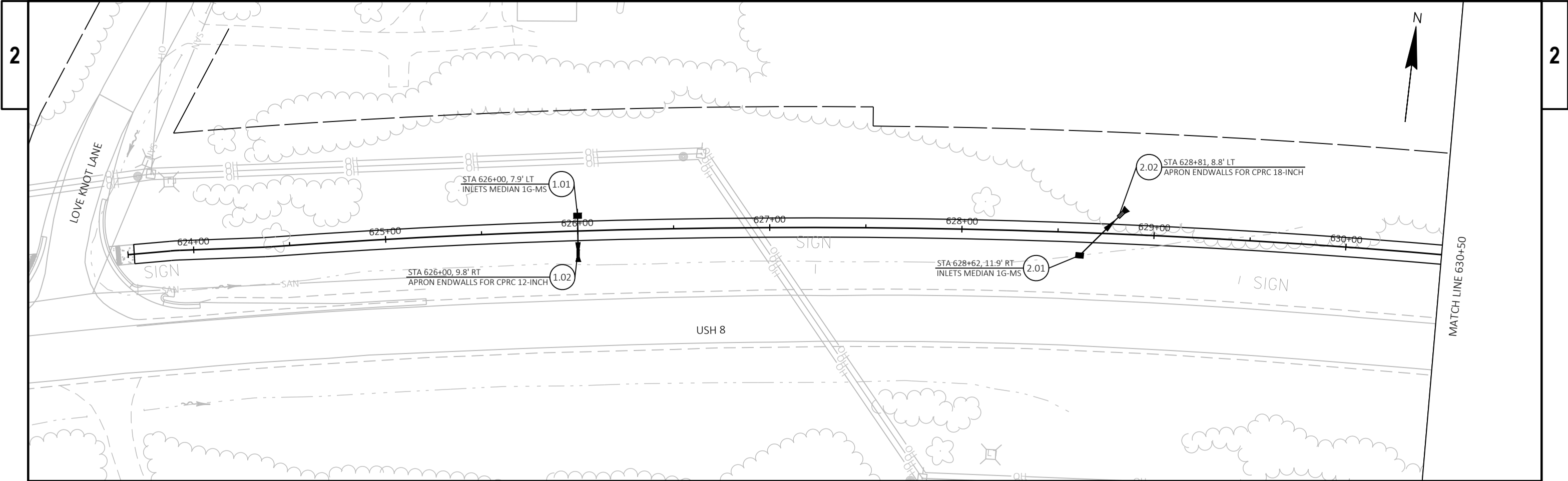


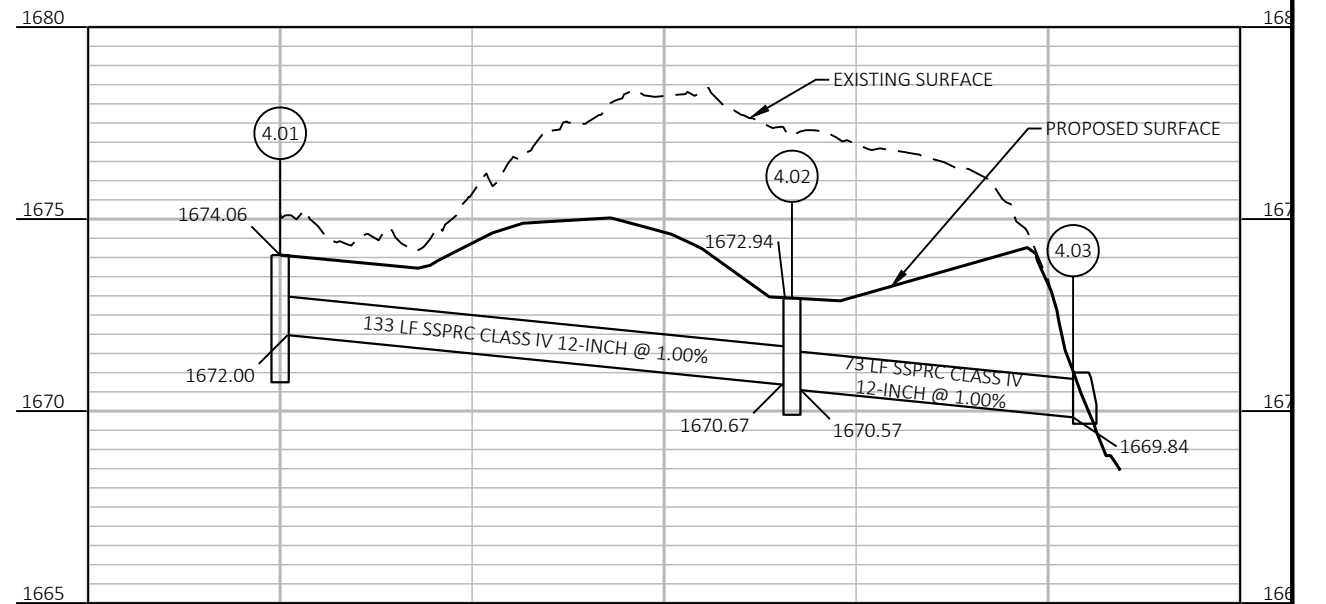
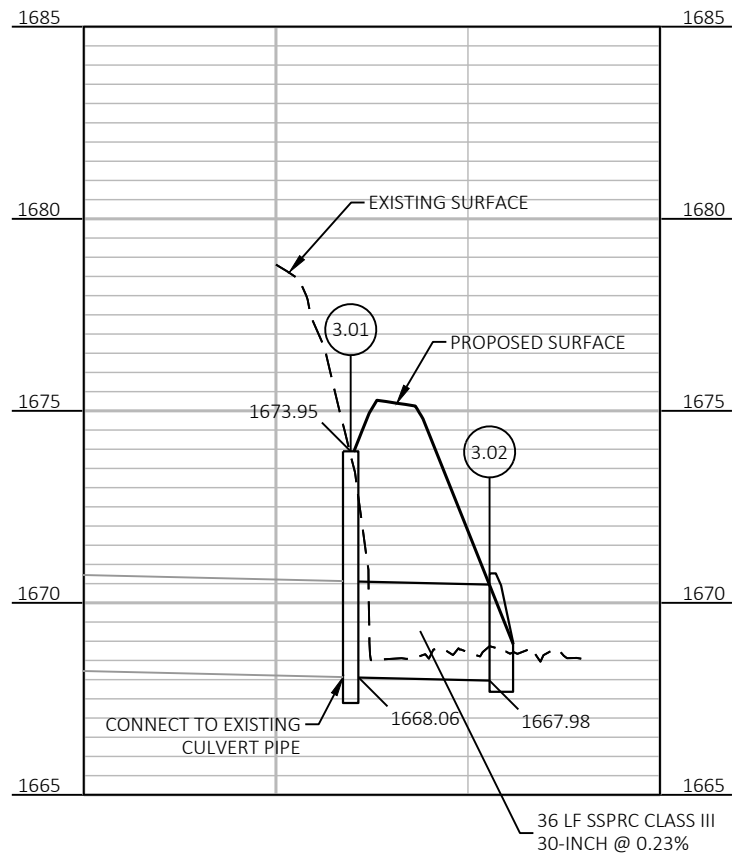
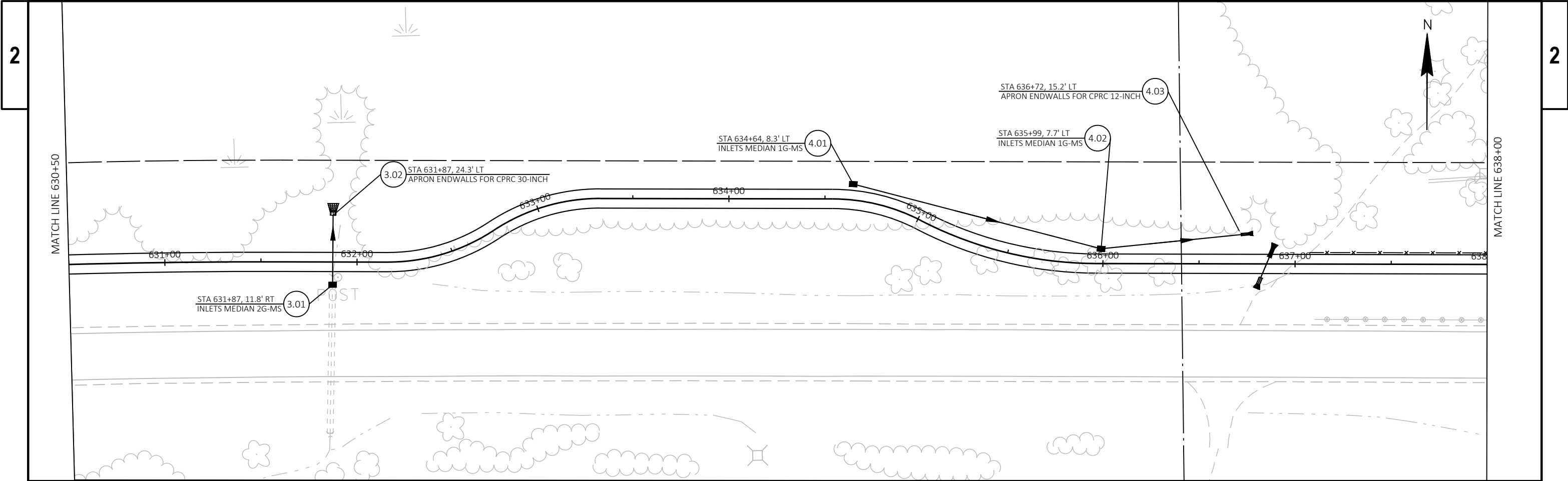


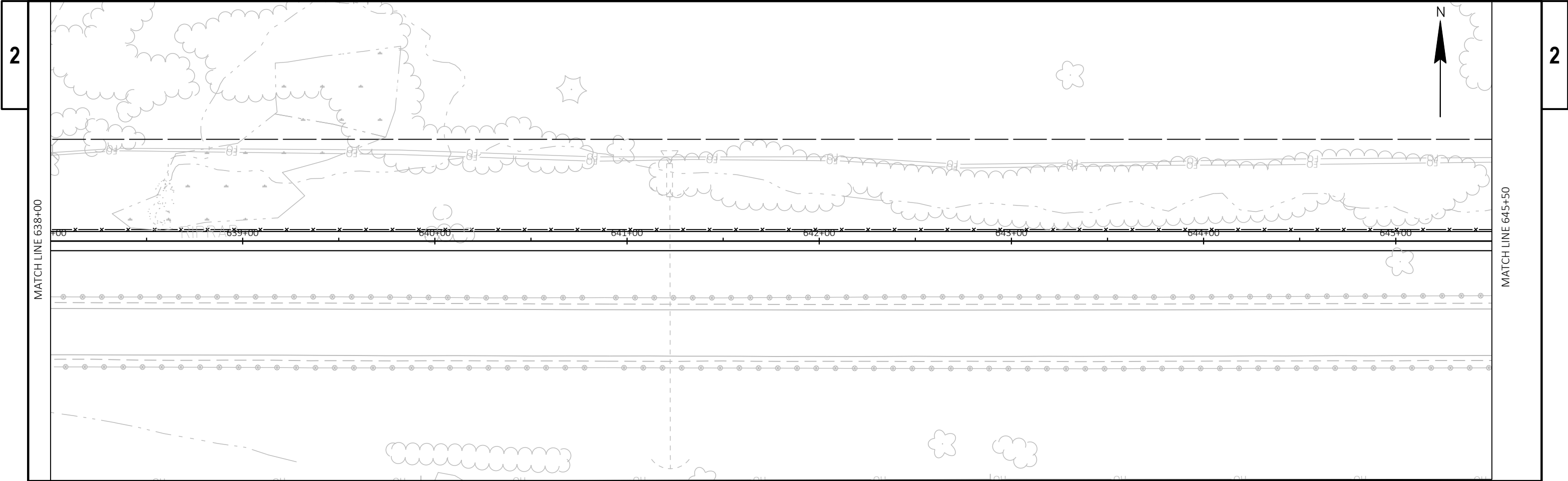




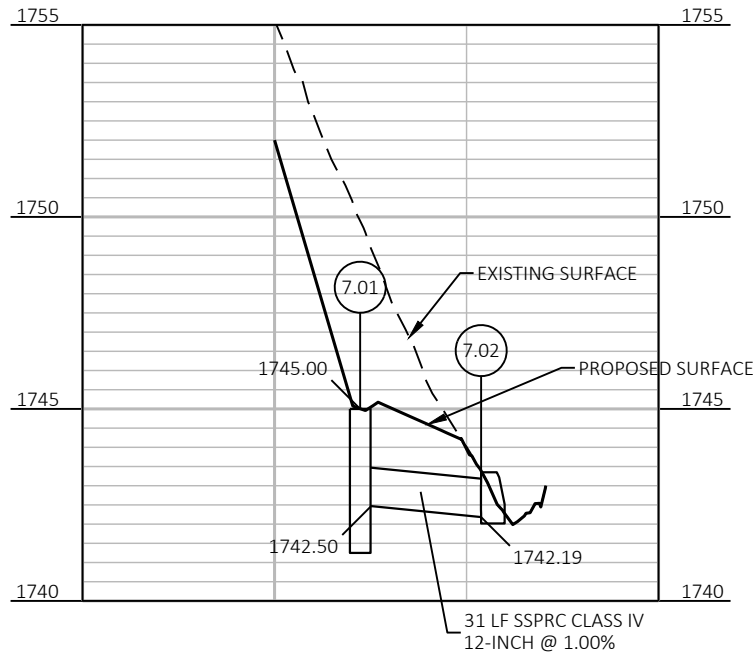
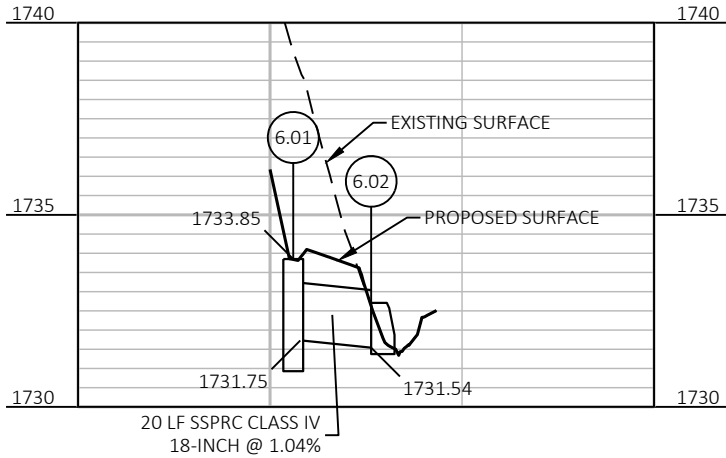
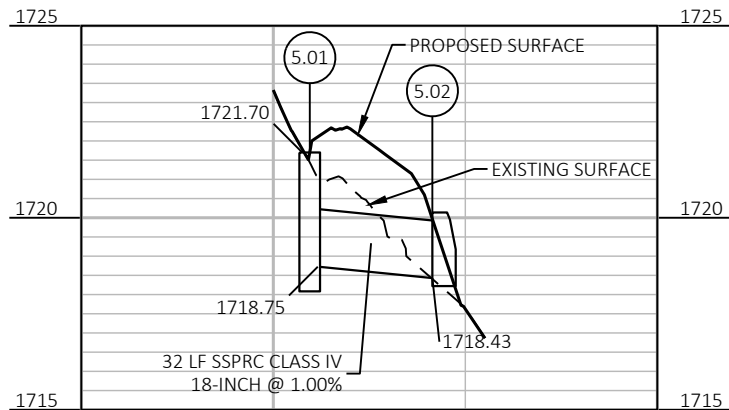
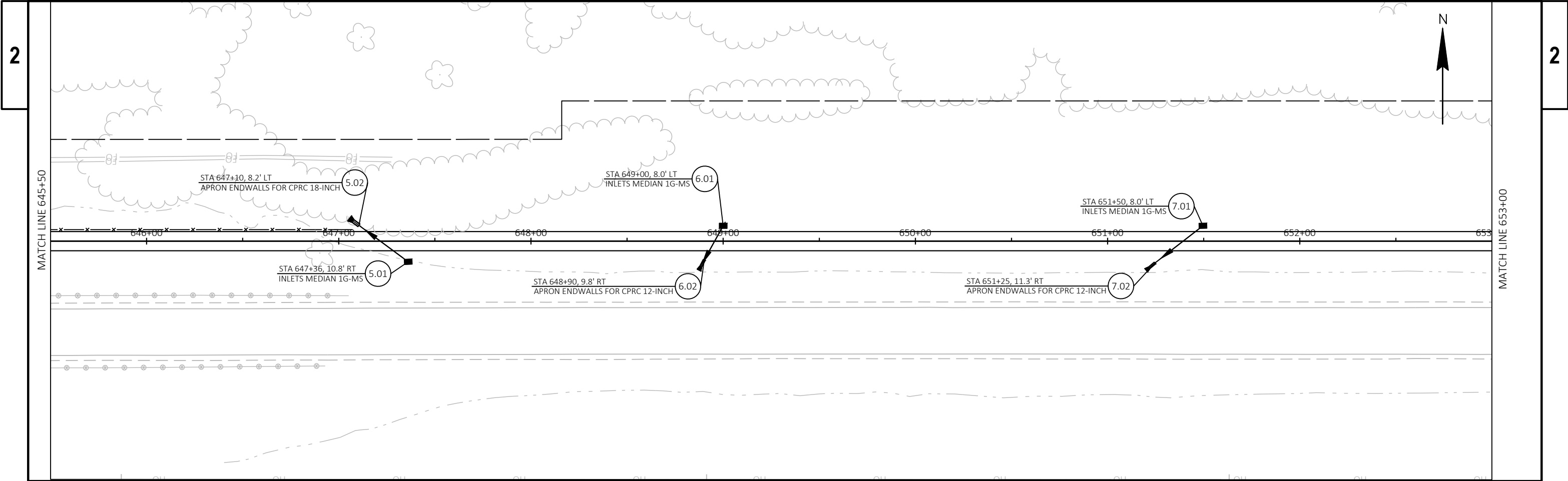


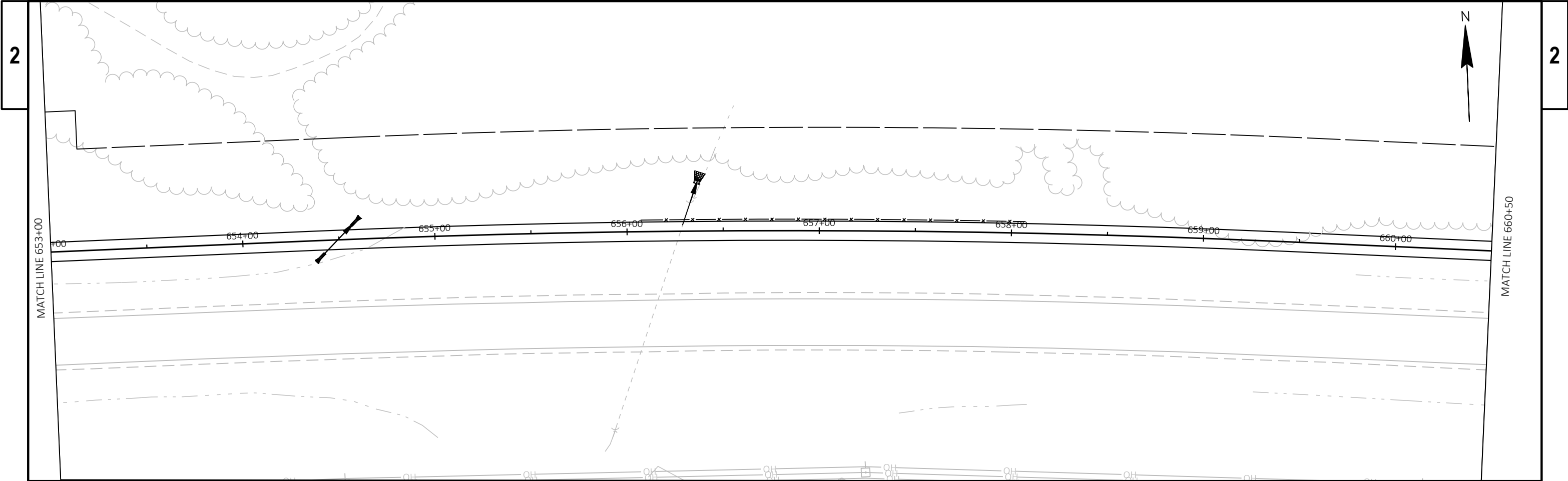




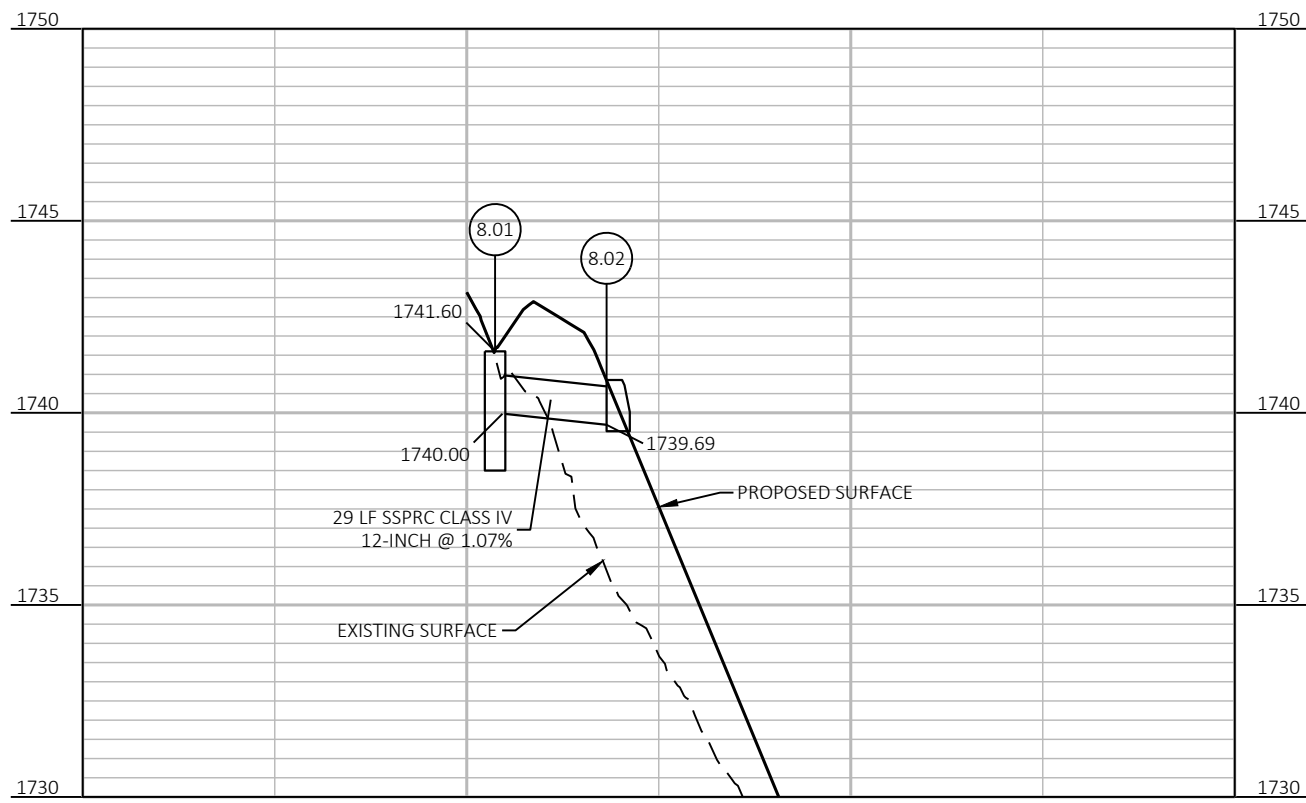
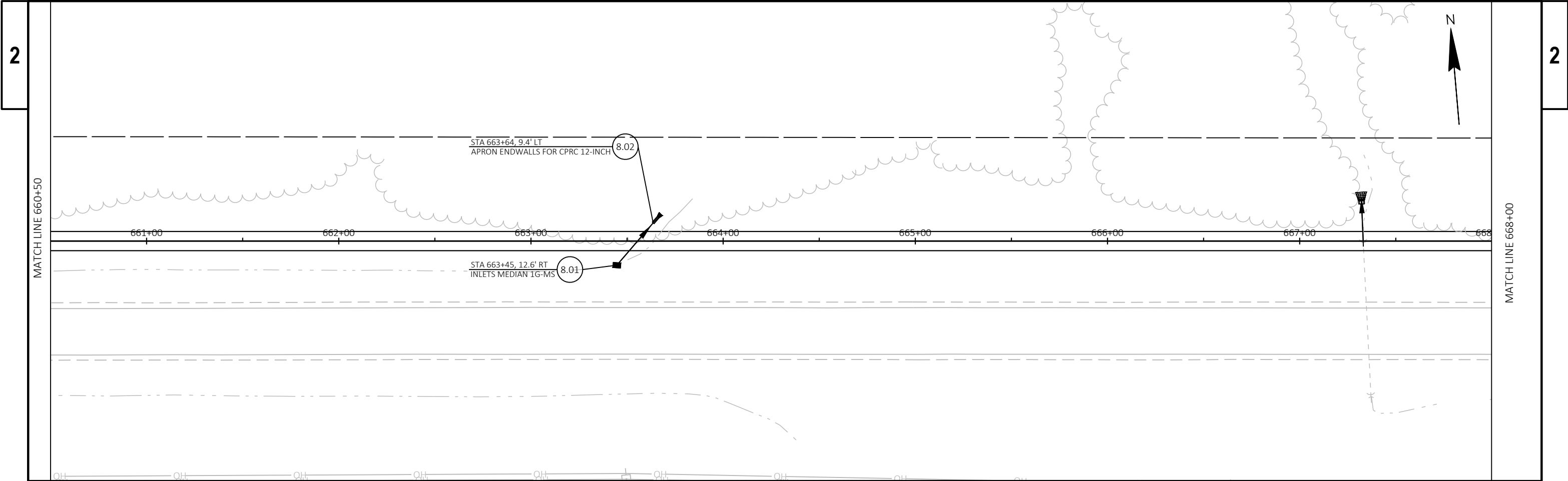


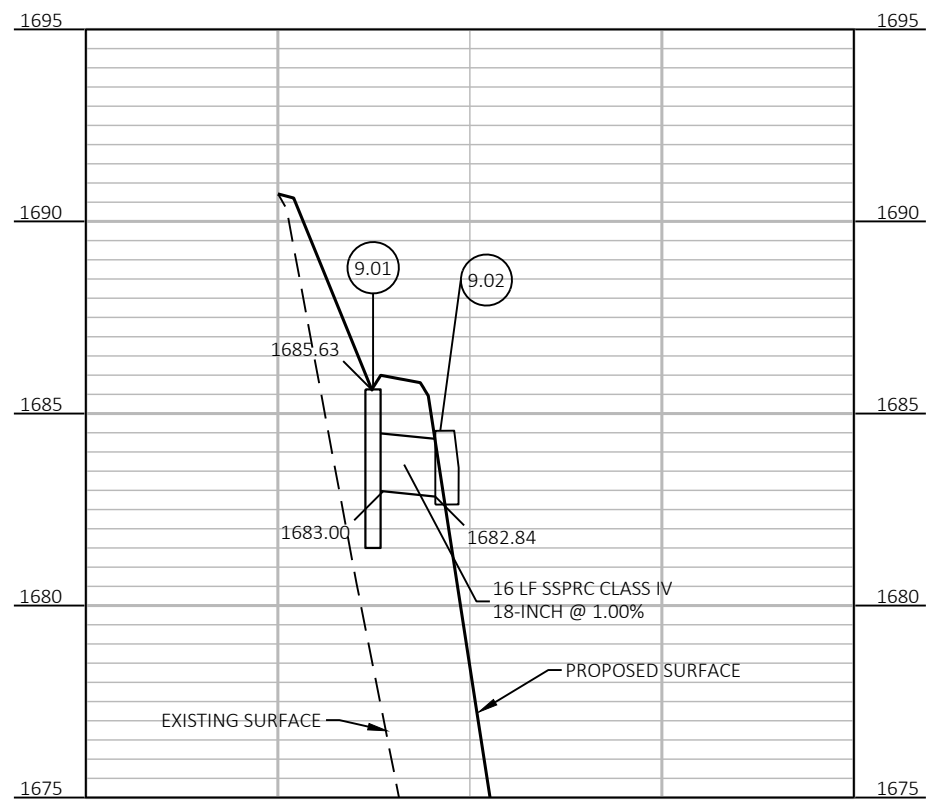
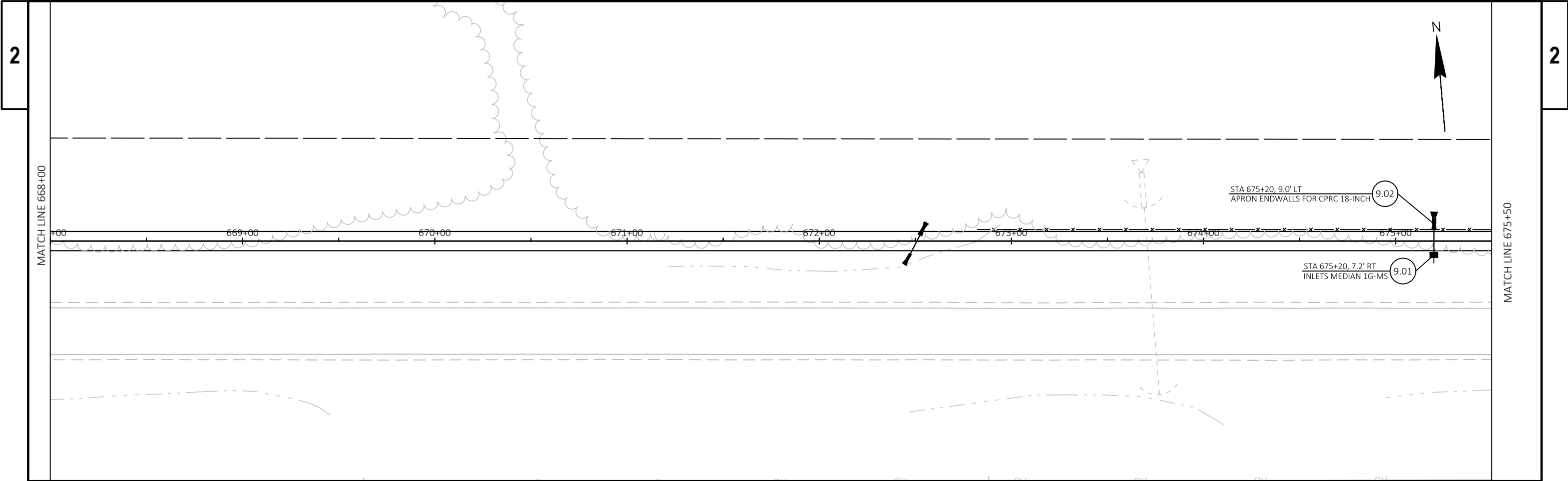
PROJECT NO: 9813-02-71	USH 8 SHARED USE PATHWAY PHASE 2	COUNTY: FOREST	STORM SEWER	SHEET	E
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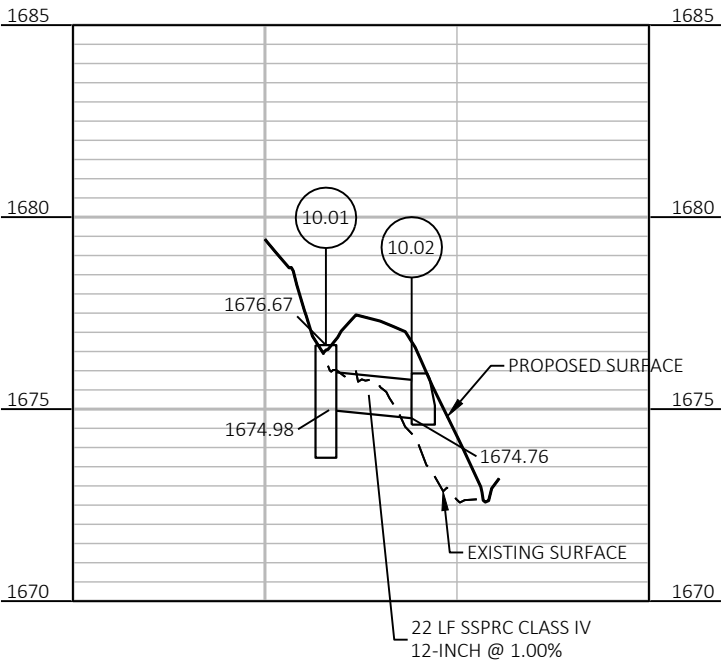
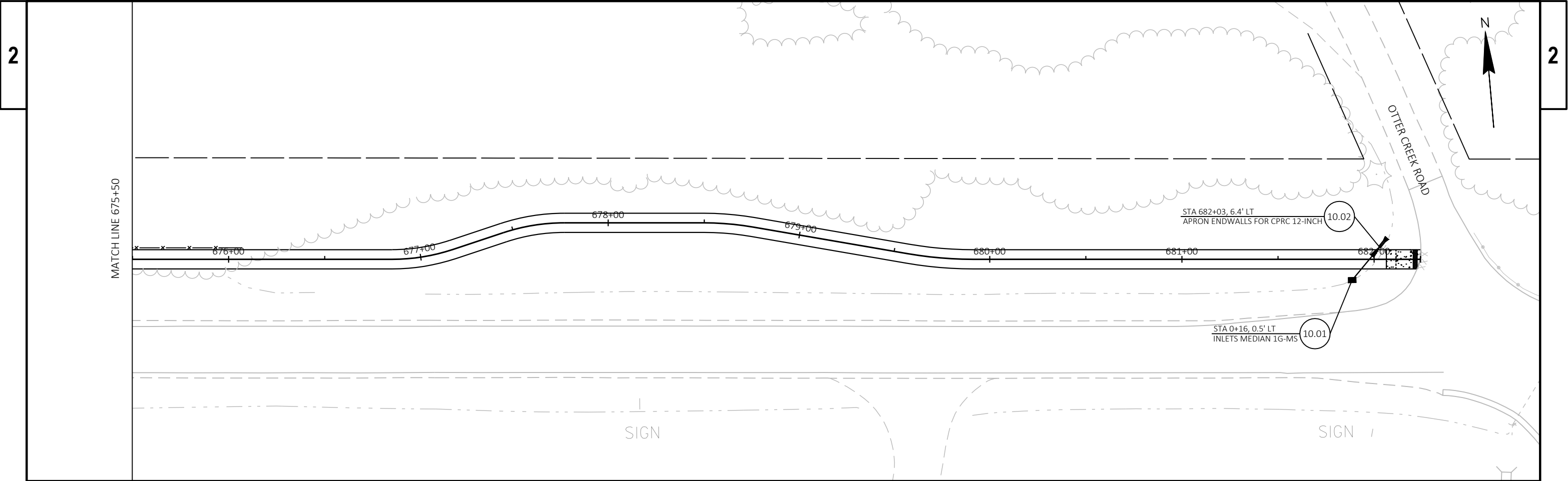


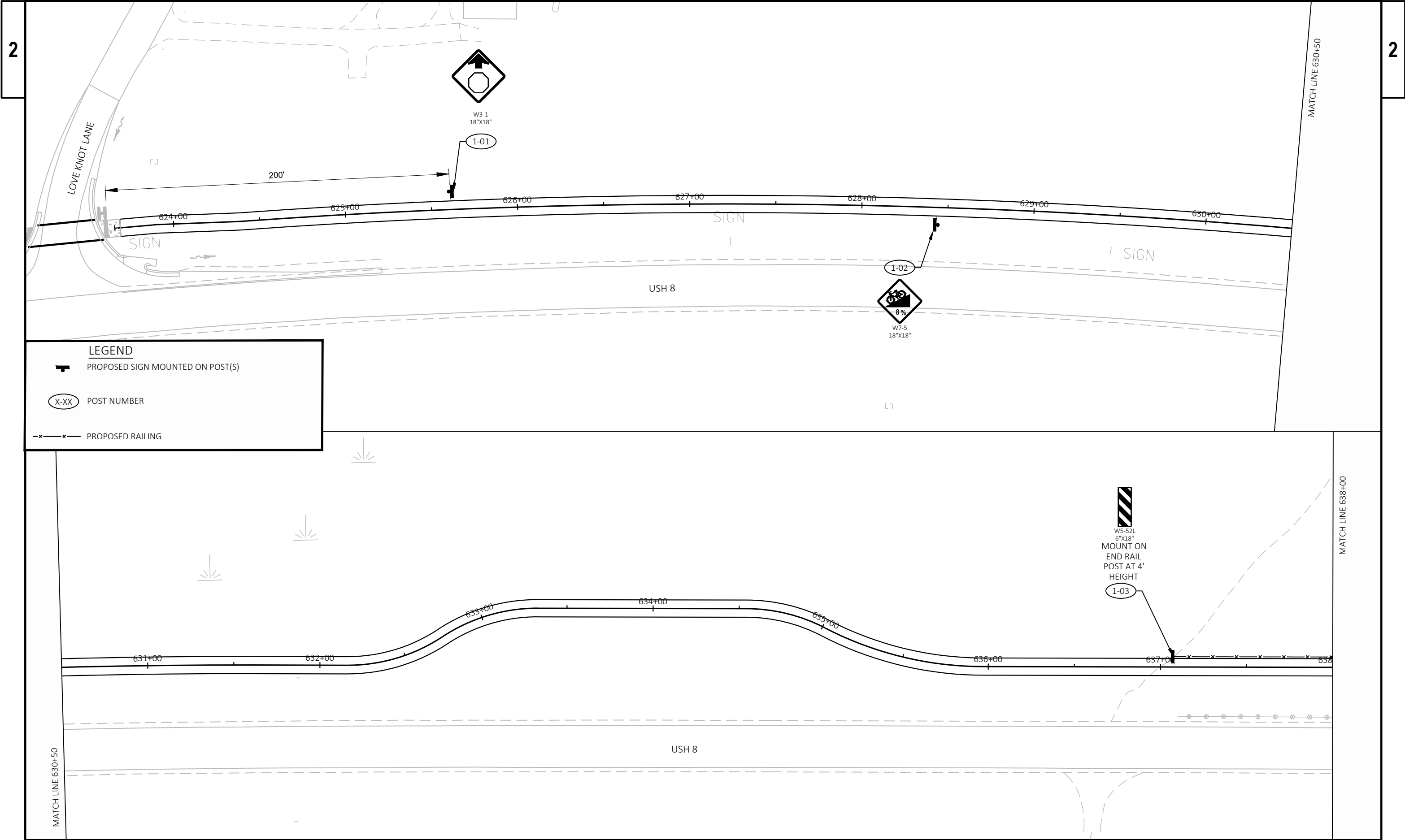


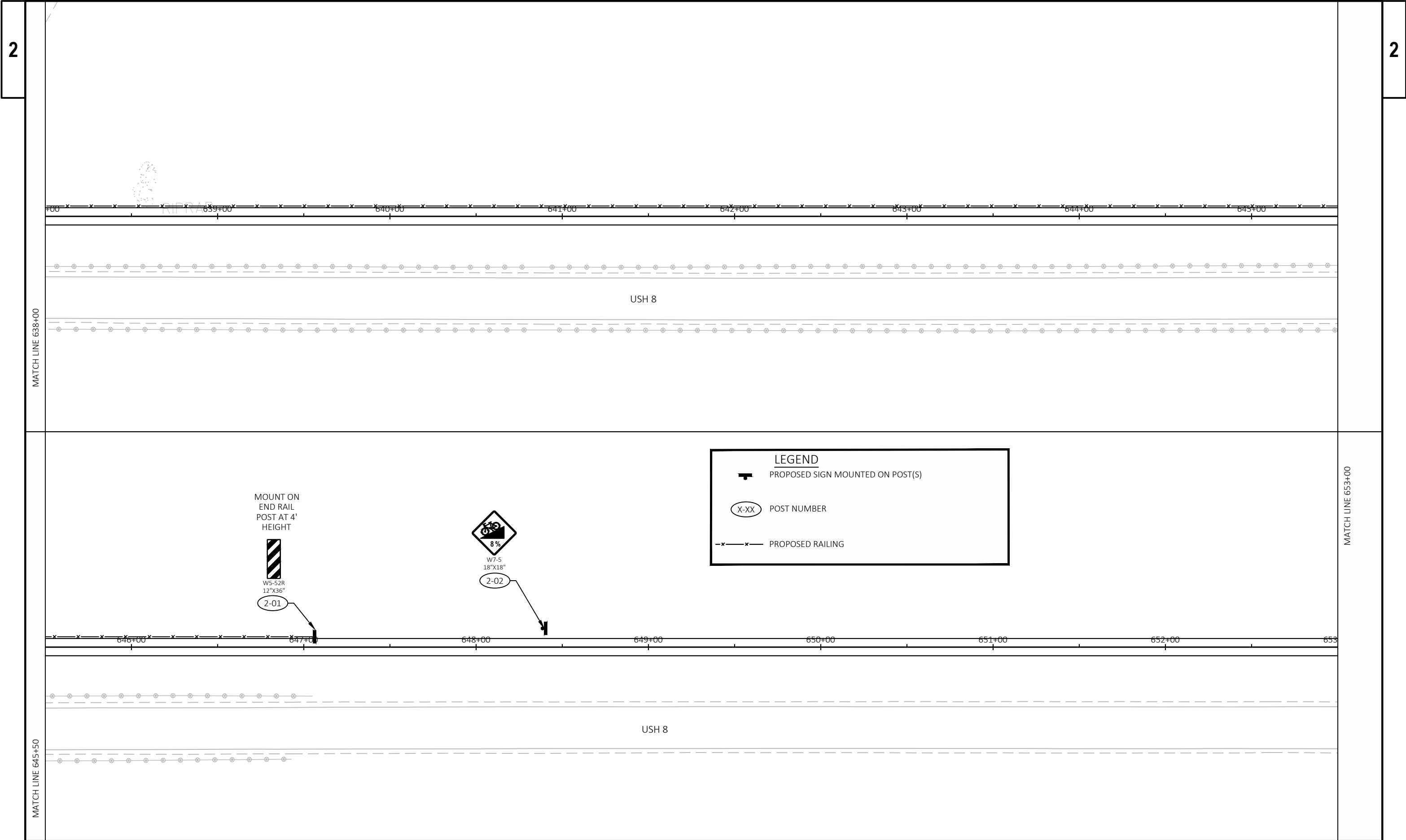
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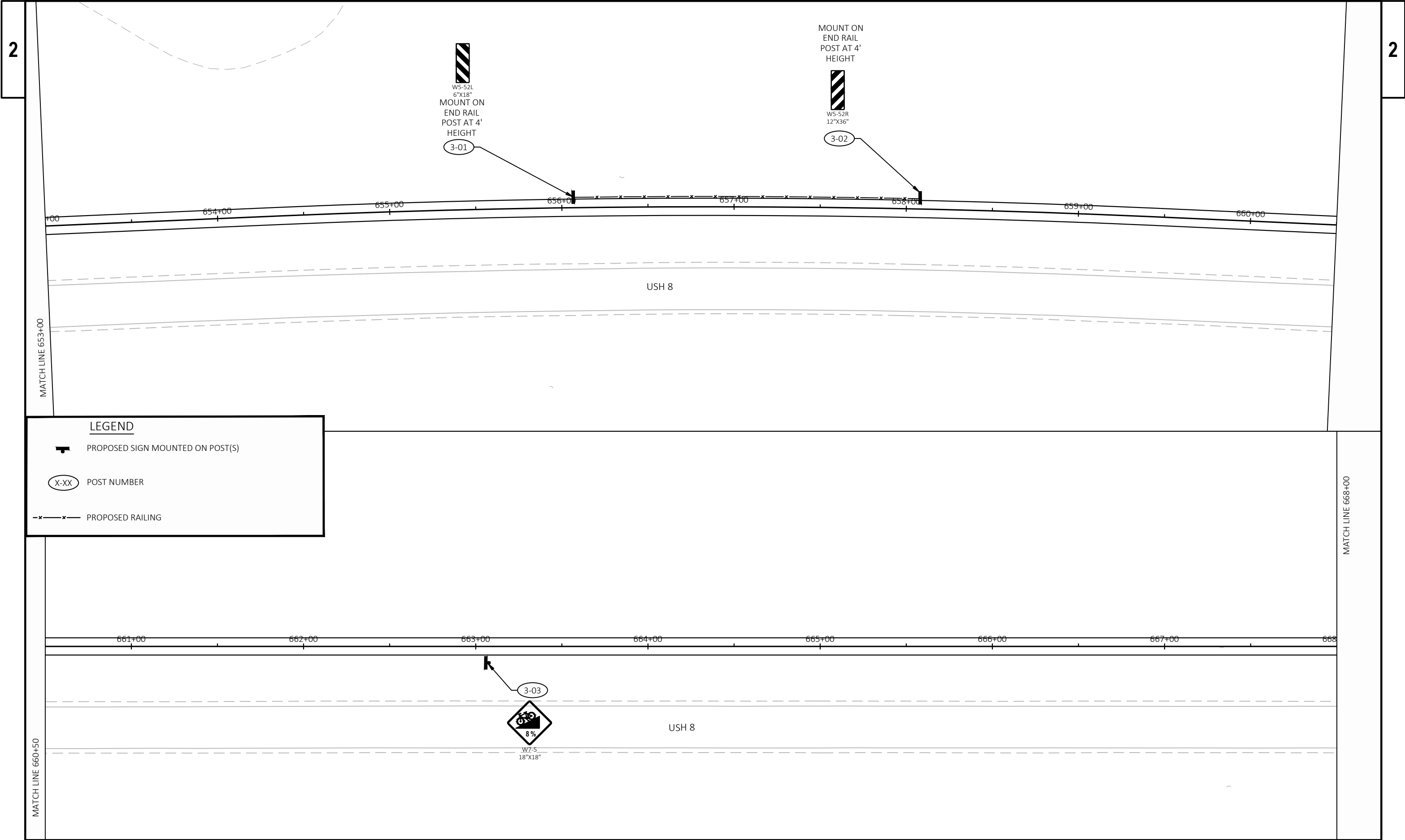










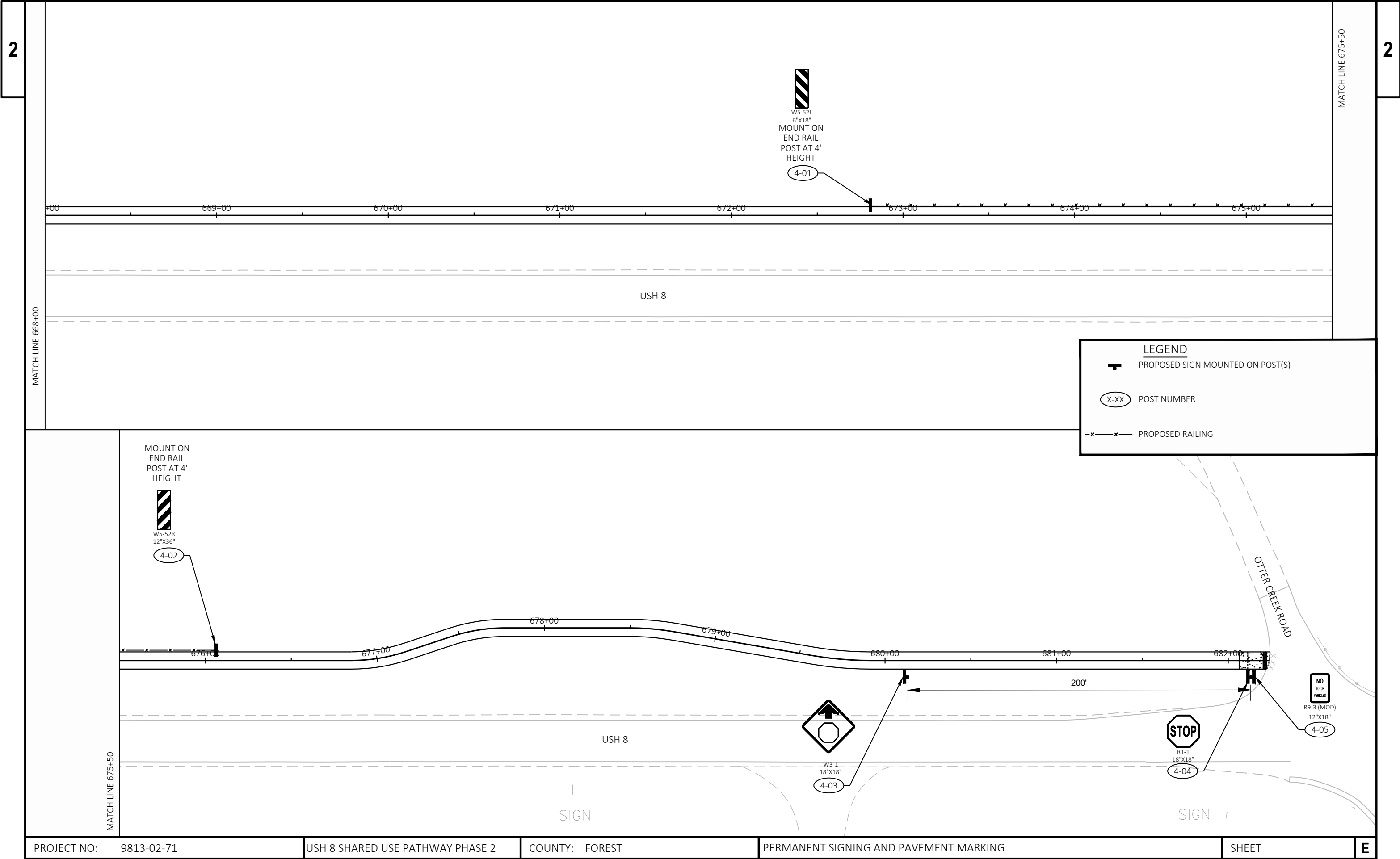


LEGEND

PROPOSED SIGN MOUNTED ON POST(S)

POST NUMBER

PROPOSED RAILING



TRAFFIC CONTROL GENERAL NOTES:

- 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. REMOVING/REPLACING OR COVERING/UNCOVERING SIGNS WILL BE INCIDENTAL TO OTHER TRAFFIC CONTROL ITEMS.
- "WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS REFLECTIVE ORANGE.
- CONSIDER GEOMETRICS WHEN LOCATING SIGNS, ARROW BOARDS, AND SIGN MESSAGE BOARDS SO THE DRIVER HAS A CLEAR VIEW OF THE SIGNS, ARROW BOARDS, AND SIGN MESSAGE BOARDS.
- IF SIGNS ARE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, THE ADVANCED WARNING SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS WITH A MINIMUM 5' MOUNTING HEIGHT.
- ALL TRAFFIC CONTROL SIGNING SHALL CONFORM TO : PART VI OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, THE WISCONSIN SUPPLEMENT TO THE MUTCD, TRAFFIC ENGINEERING, OPERATIONS AND SAFETY MANUAL, AND OTHER CONTRACT DOCUMENTS.
- THE TURNING OF TRAFFIC CONTROL DEVICES WHEN NOT IN USE TO OBSCURE THE MESSAGE WILL NOT BE ALLOWED.
- ALL COVERINGS OF SIGNS SHALL BE AN APPROVED BLANK ORANGE MATERIAL.
- MOVE, REMOVE, OR INSTALL ROUTE MARKER SIGNS AS REQUIRED TO MAINTAIN NECESSARY ROUTE GUIDANCE THROUGHOUT CONSTRUCTION.
- CONTRACTORS EQUIPMENT AND MATERIAL STOCKPILES MAY NOT BE STORED WITHIN THE CONSTRUCTION CLEAR ZONE WHILE THE CONTRACTOR IS NOT WORKING, UNLESS THEY ARE PROTECTED BY CONCRETE BARRIER TEMPORARY PRECAST.

MAINTENANCE OF TRAFFIC

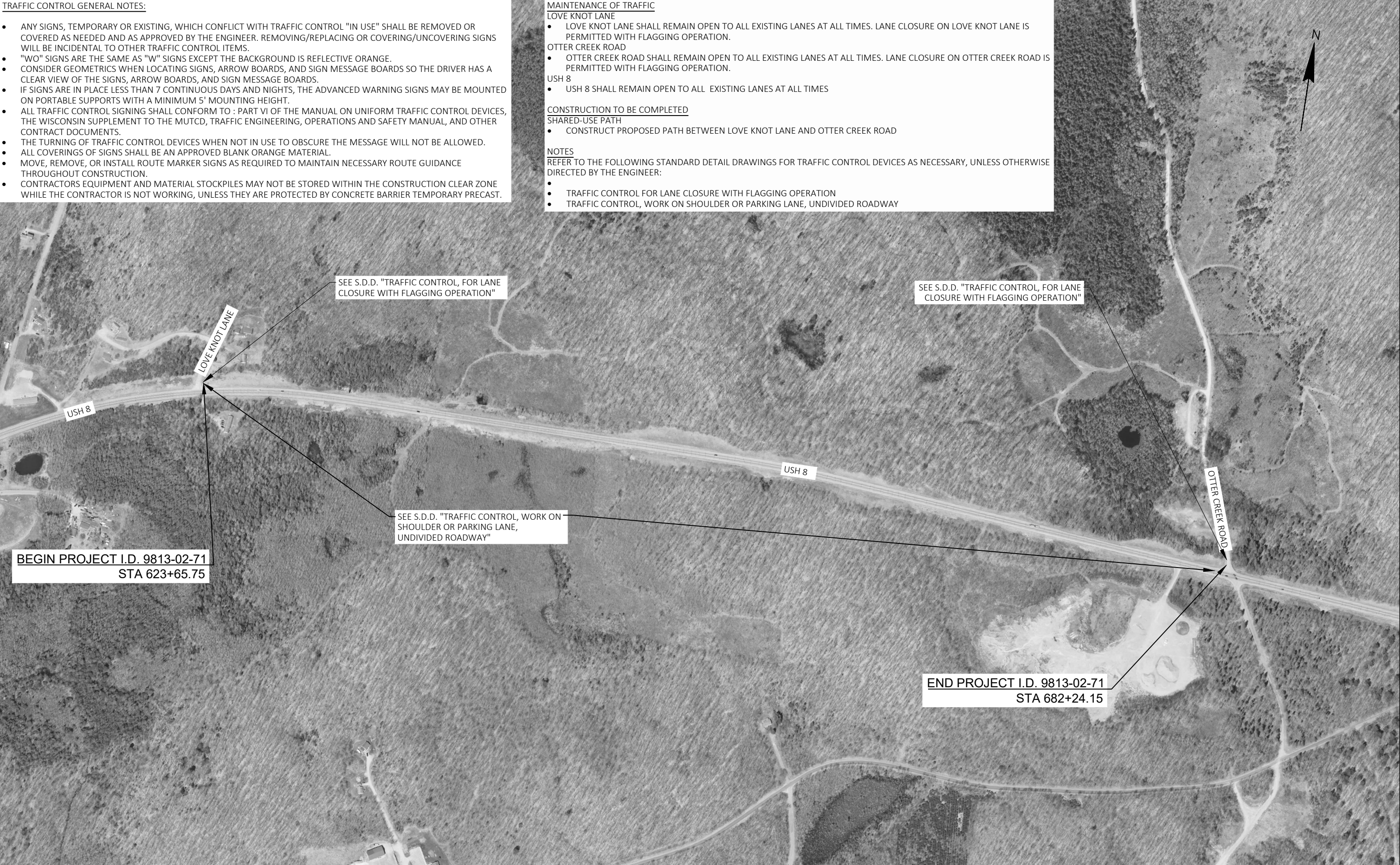
- LOVE KNOT LANE
- LOVE KNOT LANE SHALL REMAIN OPEN TO ALL EXISTING LANES AT ALL TIMES. LANE CLOSURE ON LOVE KNOT LANE IS PERMITTED WITH FLAGGING OPERATION.
- OTTER CREEK ROAD
- OTTER CREEK ROAD SHALL REMAIN OPEN TO ALL EXISTING LANES AT ALL TIMES. LANE CLOSURE ON OTTER CREEK ROAD IS PERMITTED WITH FLAGGING OPERATION.
- USH 8
- USH 8 SHALL REMAIN OPEN TO ALL EXISTING LANES AT ALL TIMES

CONSTRUCTION TO BE COMPLETED

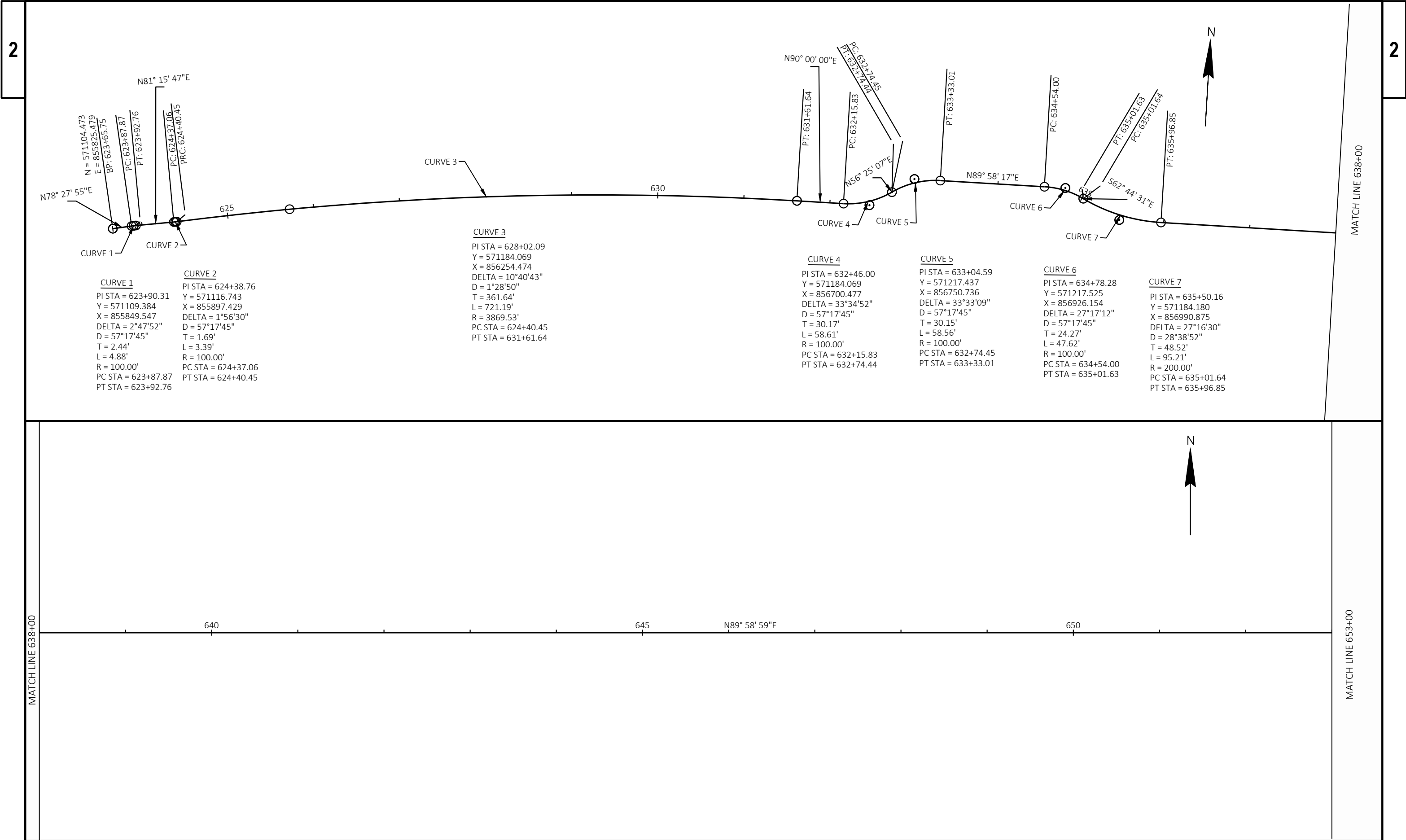
- SHARED-USE PATH
- CONSTRUCT PROPOSED PATH BETWEEN LOVE KNOT LANE AND OTTER CREEK ROAD

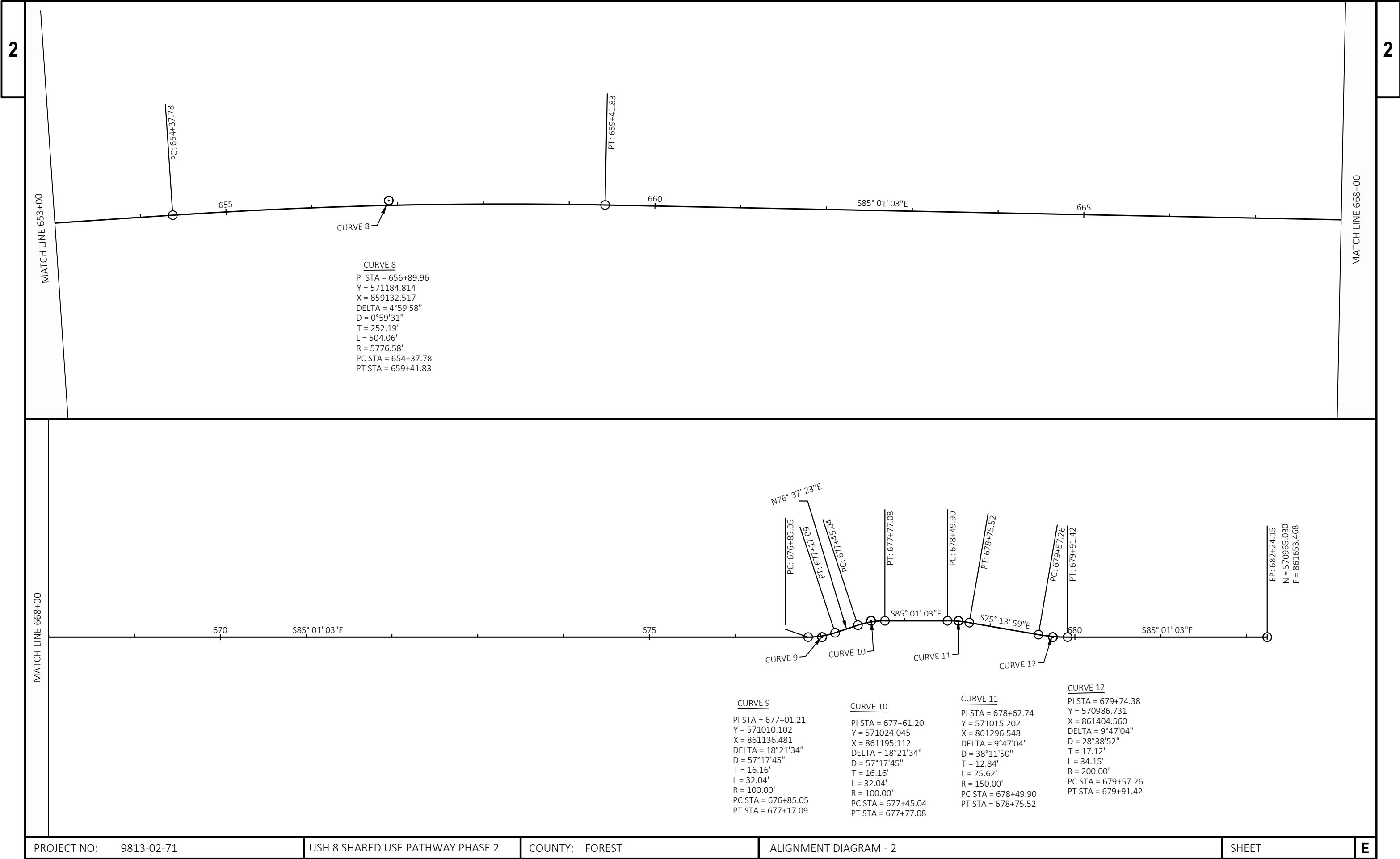
NOTES

- REFER TO THE FOLLOWING STANDARD DETAIL DRAWINGS FOR TRAFFIC CONTROL DEVICES AS NECESSARY, UNLESS OTHERWISE DIRECTED BY THE ENGINEER:
- - TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION
 - TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY



PROJECT NO: 9813-02-71	USH 8 SHARED PATHWAY PHASE 2	COUNTY: FOREST	TRAFFIC CONTROL OVERVIEW	SHEET	E
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Estimate Of Quantities

9813-02-71

Line	Item	Item Description	Unit	Total	Qty
0002	201.0205	Grubbing	STA	28.000	28.000
0004	203.0100	Removing Small Pipe Culverts	EACH	3.000	3.000
0006	205.0100	Excavation Common	CY	10,899.000	10,899.000
0008	208.0100	Borrow	CY	9,204.000	9,204.000
0010	208.1100	Select Borrow	CY	675.000	675.000
0012	305.0110	Base Aggregate Dense 3/4-Inch	TON	119.000	119.000
0014	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	3,472.000	3,472.000
0016	465.0105	Asphaltic Surface	TON	1,094.000	1,094.000
0018	520.8000	Concrete Collars for Pipe	EACH	2.000	2.000
0020	522.0130	Culvert Pipe Reinforced Concrete Class III 30-Inch	LF	30.000	30.000
0022	522.0412	Culvert Pipe Reinforced Concrete Class IV 12-Inch	LF	32.000	32.000
0024	522.0418	Culvert Pipe Reinforced Concrete Class IV 18-Inch	LF	13.000	13.000
0026	522.1012	Apron Endwalls for Culvert Pipe Reinforced Concrete 12-Inch	EACH	9.000	9.000
0028	522.1018	Apron Endwalls for Culvert Pipe Reinforced Concrete 18-Inch	EACH	6.000	6.000
0030	522.1030	Apron Endwalls for Culvert Pipe Reinforced Concrete 30-Inch	EACH	3.000	3.000
0032	602.0410	Concrete Sidewalk 5-Inch	SF	119.000	119.000
0034	602.0515	Curb Ramp Detectable Warning Field Natural Patina	SF	20.000	20.000
0036	606.0300	Riprap Heavy	CY	50.000	50.000
0038	608.0330	Storm Sewer Pipe Reinforced Concrete Class III 30-Inch	LF	36.000	36.000
0040	608.0412	Storm Sewer Pipe Reinforced Concrete Class IV 12-Inch	LF	306.000	306.000
0042	608.0418	Storm Sewer Pipe Reinforced Concrete Class IV 18-Inch	LF	96.000	96.000
0044	611.0642	Inlet Covers Type MS	EACH	12.000	12.000
0046	611.3901	Inlets Median 1 Grate	EACH	10.000	10.000
0048	611.3902	Inlets Median 2 Grate	EACH	1.000	1.000
0050	619.1000	Mobilization	EACH	1.000	1.000
0052	625.0100	Topsoil	SY	20,690.000	20,690.000
0054	627.0200	Mulching	SY	5,770.000	5,770.000
0056	628.1504	Silt Fence	LF	4,350.000	4,350.000
0058	628.1520	Silt Fence Maintenance	LF	17,400.000	17,400.000
0060	628.1905	Mobilizations Erosion Control	EACH	5.000	5.000
0062	628.1910	Mobilizations Emergency Erosion Control	EACH	3.000	3.000
0064	628.2023	Erosion Mat Class II Type B	SY	13,050.000	13,050.000
0066	628.6510	Soil Stabilizer Type B	ACRE	3.000	3.000
0068	628.7005	Inlet Protection Type A	EACH	2.000	2.000
0070	628.7010	Inlet Protection Type B	EACH	19.000	19.000
0072	628.7504	Temporary Ditch Checks	LF	538.000	538.000
0074	628.7555	Culvert Pipe Checks	EACH	9.000	9.000
0076	628.7560	Tracking Pads	EACH	3.000	3.000
0078	629.0205	Fertilizer Type A	CWT	13.000	13.000
0080	630.0120	Seeding Mixture No. 20	LB	1,870.000	1,870.000
0082	633.5200	Markers Culvert End	EACH	18.000	18.000
0084	637.2210	Signs Type II Reflective H	SF	3.750	3.750
0086	637.2230	Signs Type II Reflective F	SF	15.750	15.750
0088	642.5001	Field Office Type B	EACH	1.000	1.000
0090	643.0300	Traffic Control Drums	DAY	15,000.000	15,000.000
0092	643.0420	Traffic Control Barricades Type III	DAY	246.000	246.000
0094	643.0900	Traffic Control Signs	DAY	1,250.000	1,250.000
0096	645.0120	Geotextile Type HR	SY	80.000	80.000
0098	650.4000	Construction Staking Storm Sewer	EACH	21.000	21.000

Estimate Of Quantities

9813-02-71

Line	Item	Item Description	Unit	Total	Qty
0100	650.4500	Construction Staking Subgrade	LF	5,846.000	5,846.000
0102	650.5000	Construction Staking Base	LF	5,846.000	5,846.000
0104	650.6000	Construction Staking Pipe Culverts	EACH	10.000	10.000
0106	650.9000	Construction Staking Curb Ramps	EACH	1.000	1.000
0108	650.9911	Construction Staking Supplemental Control (project) 01. 9813-02-71	EACH	1.000	1.000
0110	650.9920	Construction Staking Slope Stakes	LF	5,846.000	5,846.000
0112	690.0150	Sawing Asphalt	LF	15.000	15.000
0114	SPV.0060	Special 01. Concrete Footings Concrete Base	EACH	5.000	5.000
0116	SPV.0060	Special 02. Posts Wood 4 X 4-Inch X 12-FT	EACH	6.000	6.000
0118	SPV.0090	Special 01.Staked Wattles	LF	8,688.000	8,688.000
0120	SPV.0090	Special 02.Railing	LF	1,525.000	1,525.000

GRUBBING						
CATEGORY	STATION	TO	STATION	LOCATION	201.0205 GRUBBING STA	REMARKS
0010	623+66	-	682+11	LOVE KNOT LN TO OTTER CREEK RD	28	
PROJECT TOTAL					28	

REMOVALS				
CATEGORY	STATION	203.0100 REMOVING SMALL PIPE CULVERTS EACH	REMARKS	
0010	631+87	1		
0010	656+28	1		
0010	667+33	1		
PROJECT TOTAL		3		

DIVISION	FROM/TO STATION	LOCATION	205.0100 COMMON EXCAVATION (1)		SALVAGED/UNUSABLE PAVEMENT MATERIAL (4)	AVAILABLE MATERIAL (5)	REDUCED EBS IN FILL (9)	208.1100 SELECT BORROW EXPANDED EBS BACKFILL (11)	UNEXPANDED FILL	EXPANDED FILL (13)	MASS ORDINATE +/- (14)	WASTE	208.0100 BORROW	COMMENT
			CUT (2)	EBS EXCAVATION (3)			FACTOR 0.80	FACTOR 1.30		FACTOR 1.25				
1-1	623+69.10/682+24.15	LOVE KNOT TO OTTER CREEK	10,380	519	0	10,380	415	675	16,082	19,584	-9,204	0	9,204	
GRAND TOTAL			10,380	519	0	10,380	415	675	16,082	19,584	-9,204	0	9,204	
TOTAL COMMON EXC			10,899											

NOTES:
(1) COMMON EXCAVATION IS THE SUM OF THE CUT AND EBS EXCAVATION COLUMNS. ITEM NUMBER 205.0100
(2) SALVAGED/UNUSABLE PAVEMENT MATERIAL IS INCLUDED IN CUT.
(3) EBS EXCAVATION TO BE BACKFILLED WITH SELECT BORROW MATERIAL. NOTE: THIS IS DESIGNERS CHOICE, CAN BE BACKFILLED WITH BORROW, OR CUT AS WELL.
(4) SALVAGED/UNUSABLE PAVEMENT MATERIAL
(5) AVAILABLE MATERIAL = CUT - SALVAGED/UNUSABLE PAVEMENT MATERIAL
(9) REDUCED EBS IN FILL - EXCAVATED EBS MATERIAL IS USUABLE IN FILLS OUTSIDE THE 1:1 SLOPE. EBS IN FILL REDUCTION FACTOR = .80
(11) EXPANDED EBS BACKFILL - THIS IS TO BE FILLED WITH SELECT BORROW MATERIAL. EBS BACKFILL FACTOR = 1.30. ITEM NUMBER 208.1100
(13) EXPANDED FILL FACTOR = 1.25
EXPANDED FILL = UNEXPANDED FILL * FILL FACTOR
(14) THE MASS ORDINATE + OR - QTY CALCULATED FOR THE DIVISION. PLUS QUANTITY INDICATES AN EXCESS OF MATERIAL WITHIN THE DIVISION. MINUS INDICATES A SHORTAGE OF MATERIAL WITHIN THE DIVISION.
(15) MASS ORDINATE = AVAILABLE MATERIAL + REDUCED EBS IN FILL - EXPANDED FILL
(16) ALL UNITS IN TABLE ARE IN CUBIC YARDS (CY) UNLESS STATED OTHERWISE

BASE AGGREGATE							
				305.0110	305.0120		
				BASE	BASE		
				AGGREGATE	AGGREGATE		
				DENSE 3/4-INCH	DENSE 1 1/4-INCH		
CATEGORY	STATION	TO	STATION	LOCATION	TON	TON	REMARKS
0010	623+66	-	682+11	LOVE KNOT LN- OTTER CREEK RD	119	3,472	
				PROJECT TOTAL	119	3,472	

ASPHALTIC SURFACE														
465.0105 ASPHALTIC SURFACE														
CATEGORY	STATION	TO	STATION	LOCATION	TON	REMARKS								
0010	623+66	-	682+24	LOVE KNOT LN - OTTER CREEK RD	1,094									
PROJECT TOTAL					1,094									

CULVERT ITEMS														
* * * *														
520.8000 522.0130 522.0412 522.0418 522.1012 522.1018 522.1030 633.5200														
CONCRETE CULVERT PIPE REINFORCED CONCRETE CLASS III 30-INCH CULVERT PIPE REINFORCED CONCRETE CLASS IV 12-INCH CULVERT PIPE REINFORCED CONCRETE CLASS IV 18-INCH CULVERT PIPE REINFORCED CONCRETE 12-INCH CONCRETE 18-INCH CONCRETE 30-INCH MARKERS CULVERT END INVERT ELEVATION OUTLET ELEVATION SLOPE FT/FT REMARKS														
CATEGORY	STATION	SIDE	CONCRETE COLLARS FOR PIPE EACH	CULVERT PIPE REINFORCED CONCRETE CLASS III 30-INCH LF	CULVERT PIPE REINFORCED CONCRETE CLASS IV 12-INCH LF	CULVERT PIPE REINFORCED CONCRETE CLASS IV 18-INCH LF	CULVERT PIPE REINFORCED CONCRETE 12-INCH EACH	CULVERT PIPE REINFORCED CONCRETE 18-INCH EACH	CULVERT PIPE REINFORCED CONCRETE 30-INCH EACH	MARKERS CULVERT END EACH	INVERT ELEVATION	OUTLET ELEVATION	SLOPE FT/FT	REMARKS
0010	636+85	LT/RT	--	--	--	13	--	2	--	2	1,670.10	1,669.61	0.038	**
0010	654+50	LT/RT	--	--	20	--	2	--	--	2	1,751.10	1,750.80	0.015	**
0010	656+28	LT	1	10	--	--	--	--	1	1	1,738.33	1,737.90	0.042	**
0010	667+33	LT	1	20	--	--	--	--	1	1	1,715.89	1,715.31	0.030	**
0010	672+51	LT/RT	--	--	12	--	2	--	--	2	1,694.50	1,694.08	0.035	**
PROJECT TOTAL			2	30	32	13	4	2	2	8				

*ADDITIONAL QUANTITIES FOUND ELSEWHERE
**INVERT AND OUTLET ELEVATIONS ARE SHOWN TO THE END OF THE PIPE

STORM/SEWER ITEMS																		
				*	*	*					*							
				522.1012	522.1018	522.1030	608.0330	608.0412	608.0418	611.0642	611.3901	611.3902	633.5200					
				APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 12-INCH EACH	APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 18-INCH EACH	APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 30-INCH EACH	STORM SEWER PIPE REINFORCED CONCRETE CLASS III 30-INCH LF	STORM SEWER PIPE REINFORCED CONCRETE CLASS IV 12- INCH LF	STORM SEWER PIPE REINFORCED CONCRETE CLASS IV 18- INCH LF	INLET COVERS TYPE MS EACH	INLETS MEDIAN 1 GRATE EACH	INLETS MEDIAN 2 GRATE EACH	MARKERS CULVERT END EACH	INVERT ELEVATION	OUTLET ELEVATION	SLOPE FT/FT	REMARKS	LENGTH
0010	1.01	-	1.02	1	--	--	--	18	--	1	1	--	1	1697.20	1697.02	0.010	**	17.76
0010	2.01	-	2.02	--	1	--	--	--	28	1	1	--	1	1686.70	1686.42	0.010	**	28.37
0010	3.01	-	3.02	--	--	1	36	--	--	2	--	1	1	1668.06	1667.98	0.002	**	36.14
0010	4.01	-	4.02	--	--	--	--	133	--	2	2	--	--	1672.00	1670.67	0.010	**	133.29
0010	4.02	-	4.03	1	--	--	--	73	--	--	--	--	1	1670.57	1669.84	0.010	**	73.20
0010	5.01	-	5.02	--	1	--	--	--	32	1	1	--	1	1718.75	1718.43	0.010	**	31.94
0010	6.01	-	6.02	--	1	--	--	--	20	1	1	--	1	1731.75	1731.54	0.010	**	20.28
0010	7.01	-	7.02	1	--	--	--	31	--	1	1	--	1	1742.50	1742.19	0.010	**	31.48
0010	8.01	-	8.02	1	--	--	--	29	--	1	1	--	1	1740.00	1739.69	0.011	**	29.03
0010	9.01	-	9.02	--	1	--	--	--	16	1	1	--	1	1683.00	1682.84	0.010	**	16.20
0010	10.01	-	10.02	1	--	--	--	22	--	1	1	--	1	1674.99	1674.76	0.010	**	22.30
PROJECT TOTAL				5	4	1	36	306	96	12	10	1	10					
*ADDITIONAL QUANTITIES FOUND ELSEWHERE																		
**INVERT AND OUTLET ELEVATIONS ARE SHOWN TO THE END OF THE PIPE																		

CONCRETE SIDEWALK							
					602.0410	602.0515	
					CONCRETE SIDEWALK 5- INCH SF	CURB RAMP DETECTABLE WARNING FIELD NATURAL PATINA SF	
CATEGORY	STATION	TO	STATION	LOCATION			REMARKS
0010	682+05	-	682+11	OTTER CREEK ROAD	119	20	
PROJECT TOTAL					119	20	

RIPRAP ITEMS							
CATEGORY	STATION	TO	STATION	LOCATION	606.0300	645.0120	REMARKS
					RIPRAP HEAVY CY	GEOTEXTILE TYPE HR SY	
0010	623+66	-	682+11	LOVE KNOT LN - OTTER CREEK RD	50	80	
PROJECT TOTAL					50	80	

LANDSCAPING								
CATEGORY	STATION	TO	STATION	LOCATION	625.0100	627.0200	629.0205	630.0120
					TOPSOIL SY	MULCHING SY	FERTILIZER TYPE A CWT	SEEDING MIXTURE NO. 20 LB
0010	623+66	-	682+11	LOVE KNOT LN - OTTER CREEK RD	20,690	5,770	13	1,870
PROJECT TOTAL					20,690	5,770	13	1,870

EROSION CONTROL																
					628.1504	628.1520	628.1905	628.1910	628.2023	628.6510	628.7005	628.7010	628.7504	628.7555	628.7560	SPV.0090.001
							MOBILIZATIONS	MOBILIZATIONS			INLET	INLET				
					SILT FENCE	SILT FENCE	EROSION	EROSION	EROSION MAT	SOIL STABILIZER	PROTECTION	PROTECTION	TEMPORARY	CULVERT PIPE	TRACKING PADS	SPECIAL
CATEGORY	STATION	TO	STATION	LOCATION	LF	LF	CONTROL	CONTROL	CLASS II TYPE B	TYPE B	TYPE A	TYPE B	DITCH CHECKS	CHECKS	EACH	(001.STAKED
							EACH	EACH	SY	ACRE	EACH	EACH	LF	EACH	EACH	WATTLES)
																LF
0010	623+66	-	682+11	LOVE KNOT LN - OTTER CREEK RD	3,480	13,920	4	2	10,440	2	1	15	430	7	2	6,950
				UNDISTRIBUTED	870	3,480	1	1	2,610	1	1	4	108	2	1	1,738
				PROJECT TOTAL	4,350	17,400	5	3	13,050	3	2	19	538	9	3	8,688

PERMANENT SIGNING								
				637.2210	637.2230	SPV.0060.002 SPECIAL (002. POSTS WOOD 4 X 4-INCH X 12- FT)	SIGN MOUNTED ON/SAME POST	
CATEGORY	SIGN #	SIGN CODE	SIGN SIZE WXH (IN)	SIGNS TYPE II REFLECTIVE H SF	SIGNS TYPE II REFLECTIVE F SF	EACH	AS	REMARKS
0010	1-01	W3-1	18X18	---	2.25	1	---	STOP AHEAD
0010	1-02	W7-5	18X18	---	2.25	1	---	PATH [%] GRADE
0010	1-03	W5-52L	6X18	---	0.75	---	RAILING	CLEARANCE STRIPER DOWN RIGHT
0010	2-01	W5-52R	6X18	---	0.75	---	RAILING	CLEARANCE STRIPER DOWN LEFT
0010	2-02	W7-5	18X18	---	2.25	1	---	PATH [%] GRADE
0010	3-01	W5-52L	6X18	---	0.75	---	RAILING	CLEARANCE STRIPER DOWN RIGHT
0010	3-02	W5-52R	6X18	---	0.75	---	RAILING	CLEARANCE STRIPER DOWN LEFT
0010	3-03	W7-5	18X18	---	2.25	1	---	PATH [%] GRADE
0010	4-01	W5-52L	6X18	---	0.75	---	RAILING	CLEARANCE STRIPER DOWN RIGHT
0010	4-02	W5-52R	6X18	---	0.75	---	RAILING	CLEARANCE STRIPER DOWN LEFT
0010	4-03	W3-1	18X18	---	2.25	1	---	STOP AHEAD
0010	4-04	R1-1	18X18	2.25	---	1	---	STOP SIGN
0010	4-05	R9-3 (MOD)	12X18	1.50	---	---	4-04	NO MOTOR VEHICLES
PROJECT TOTAL				3.75	15.75	6		

TRAFFIC CONTROL								
CATEGORY	STATION	TO	STATION	LOCATION	643.0300 TRAFFIC CONTROL DRUMS DAY	643.0420 TRAFFIC CONTROL BARRICADES TYPE III DAY	643.0900 TRAFFIC CONTROL SIGNS DAY	REMARKS
0010	623+65.75	-	682+24.15	LOVE KNOT LN - OTTER CREEK RD	15,000	246	1,250	
PROJECT TOTAL					15,000	246	1,250	

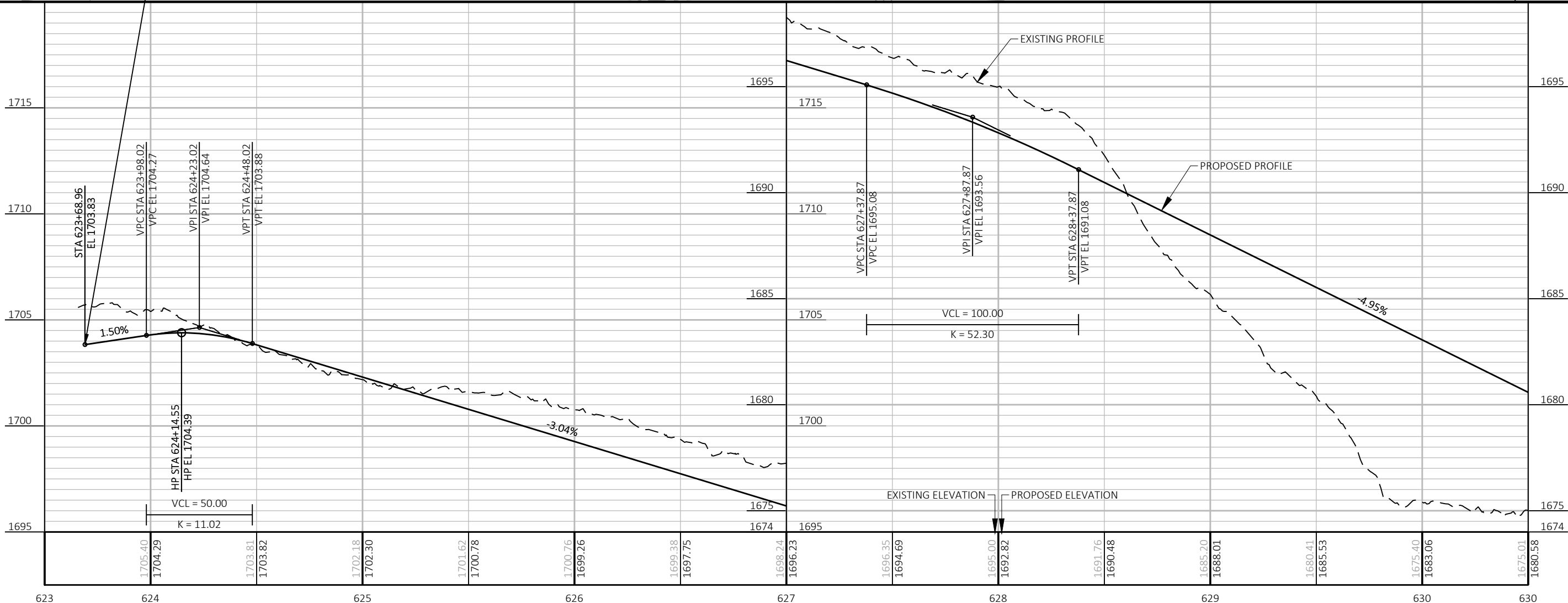
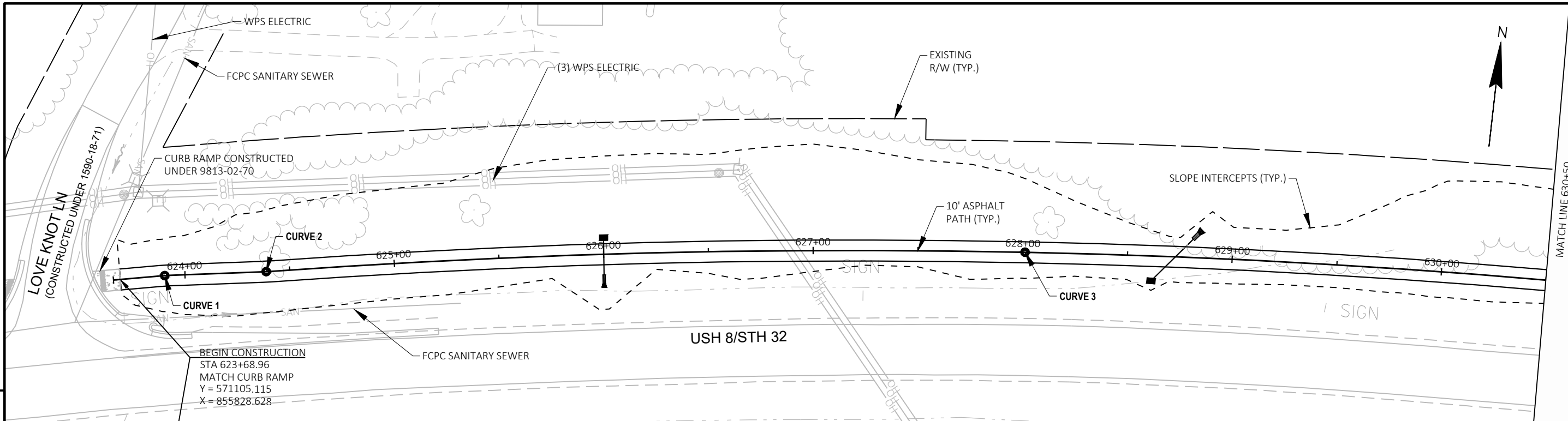
<u>CONSTRUCTION STAKING</u>												
					650.4000	650.4500	650.5000	650.6000	650.9000	650.9911.01	650.9920	
					CONSTRUCTION STAKING STORM SEWER EACH	CONSTRUCTION STAKING SUBGRADE LF	CONSTRUCTION STAKING BASE LF	CONSTRUCTION STAKING PIPE CULVERTS EACH	CONSTRUCTION STAKING CURB RAMPS EACH	CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (01.9813-02-71) EACH	CONSTRUCTION STAKING SLOPE STAKES LF	
CATEGORY	STATION	TO	STATION	LOCATION								REMARKS
0010	623+65.75	-	682+11.38	LOVE KNOT LN - OTTER CREEK RD	21	5,846	5,846	10	1	1	5,846	
PROJECT TOTAL					21	5,846	5,846	10	1	1	5,846	

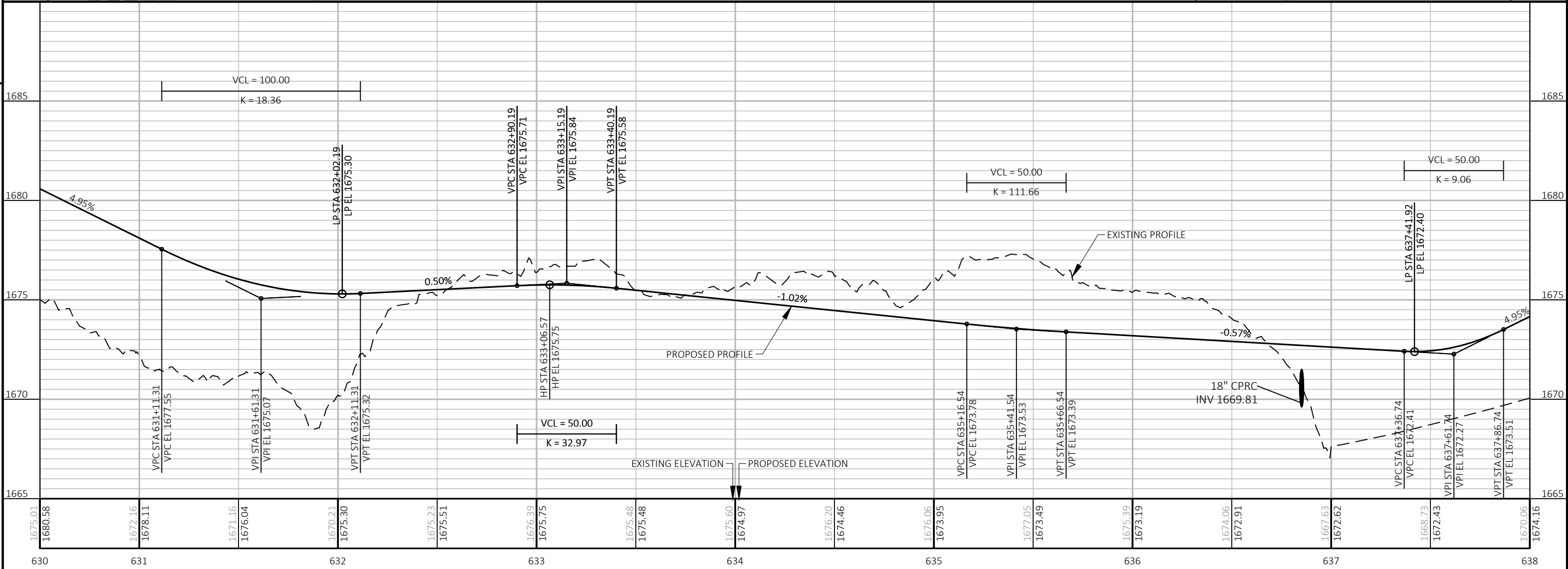
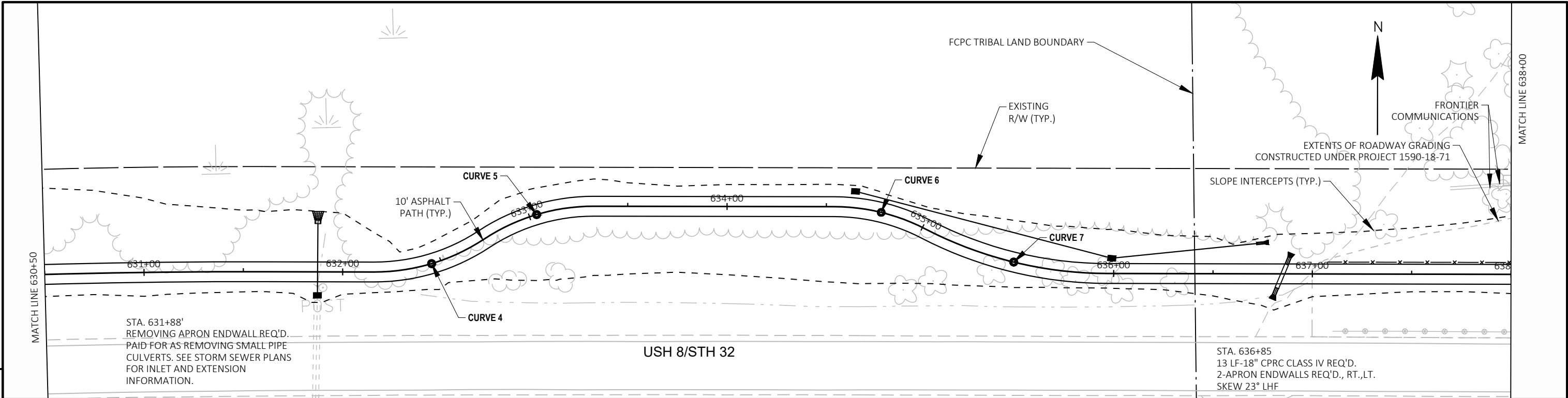
SAWING

690.0150 SAWING ASPHALT						
CATEGORY	STATION	TO	STATION	LOCATION	LF	REMARKS
0010	623+66	-	682+11	LOVE KNOT LN - OTTER CREEK RD	15	
PROJECT TOTAL					15	

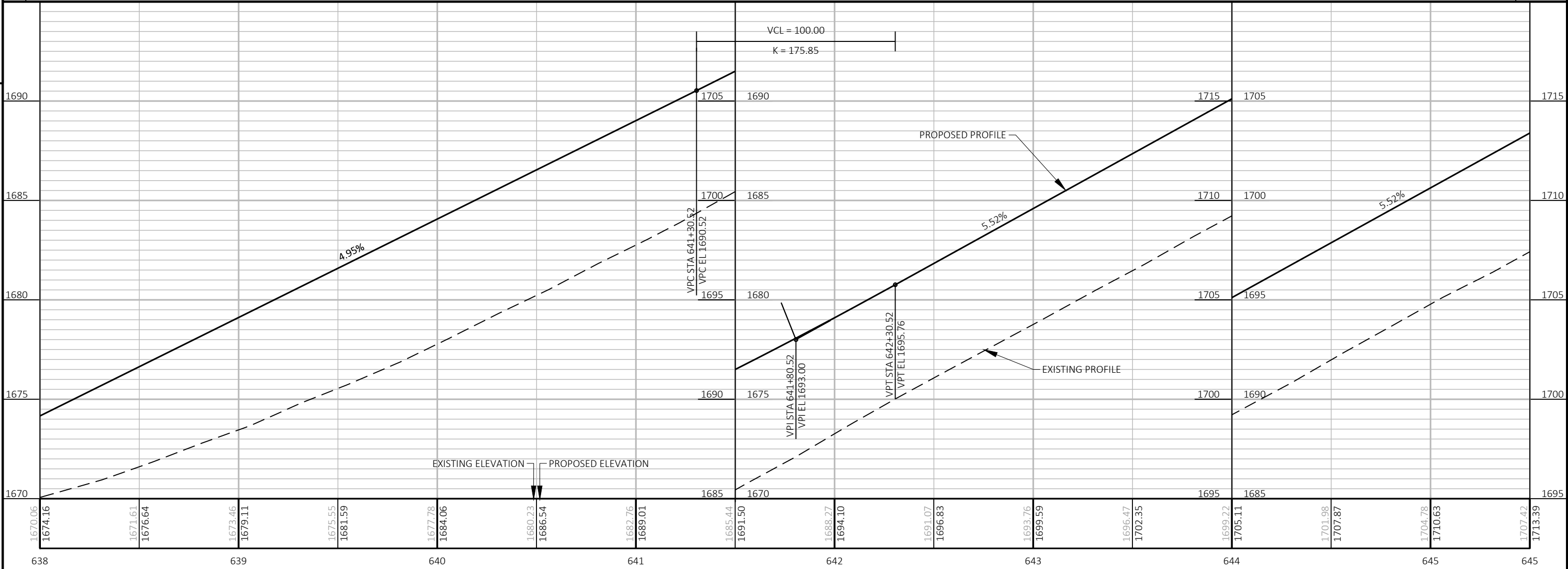
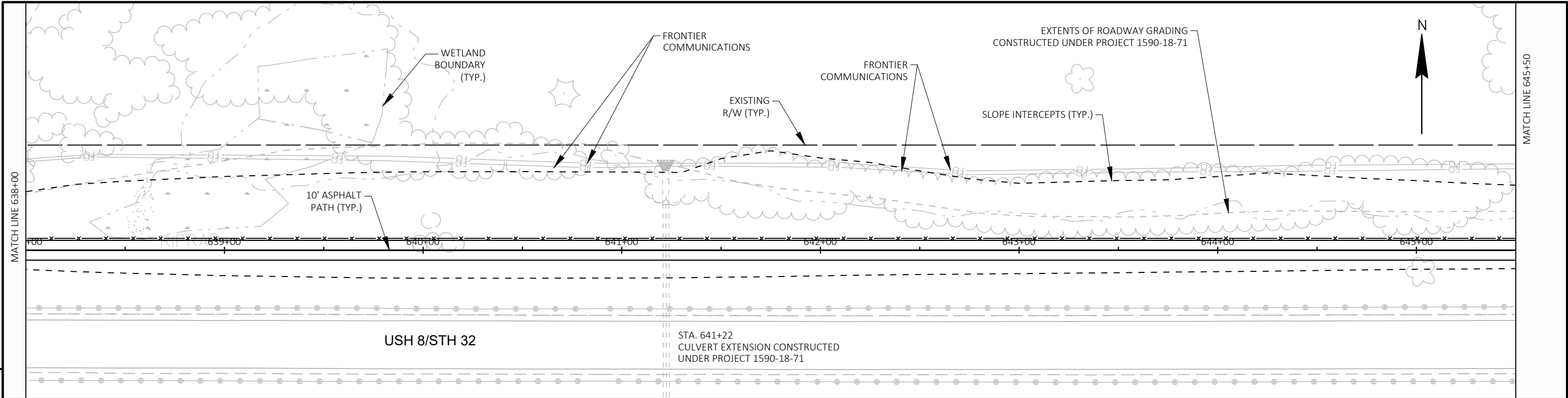
RAILING

				SPV.0060.001 SPECIAL (001. CONCRETE FOOTINGS CONCRETE BASE)		SPV.0090.002 SPECIAL (002.RAILING)	
CATEGORY	STATION	TO	STATION	LOCATION	EACH	LF	REMARKS
0010	623+66	-	623+11	LOVE KNOT LN - OTTER CREEK RD	5	1,525	CONCRETE BASES ARE UNDISTRIBUTED
PROJECT TOTAL					5	1,525	

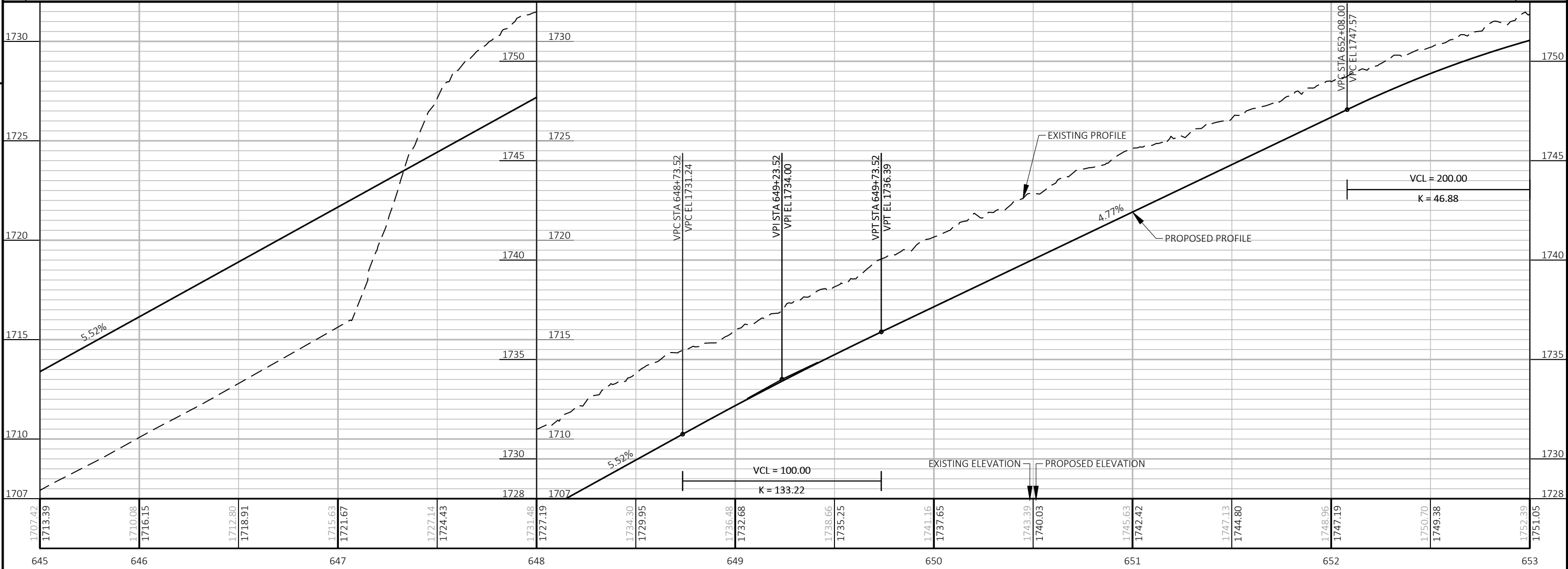
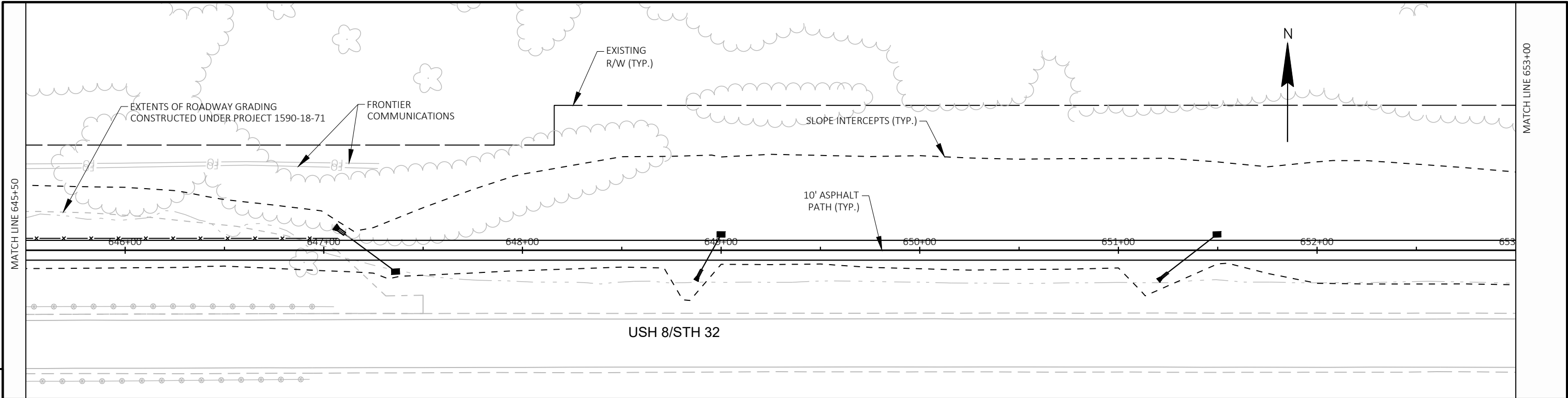




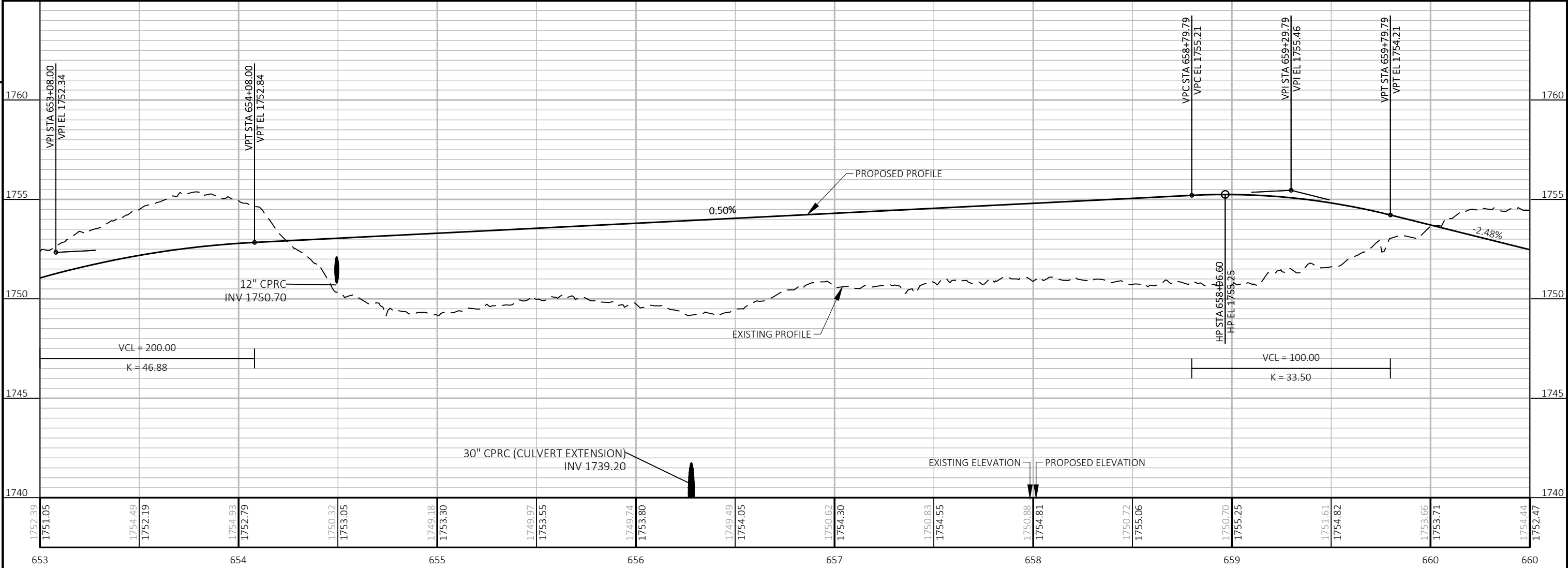
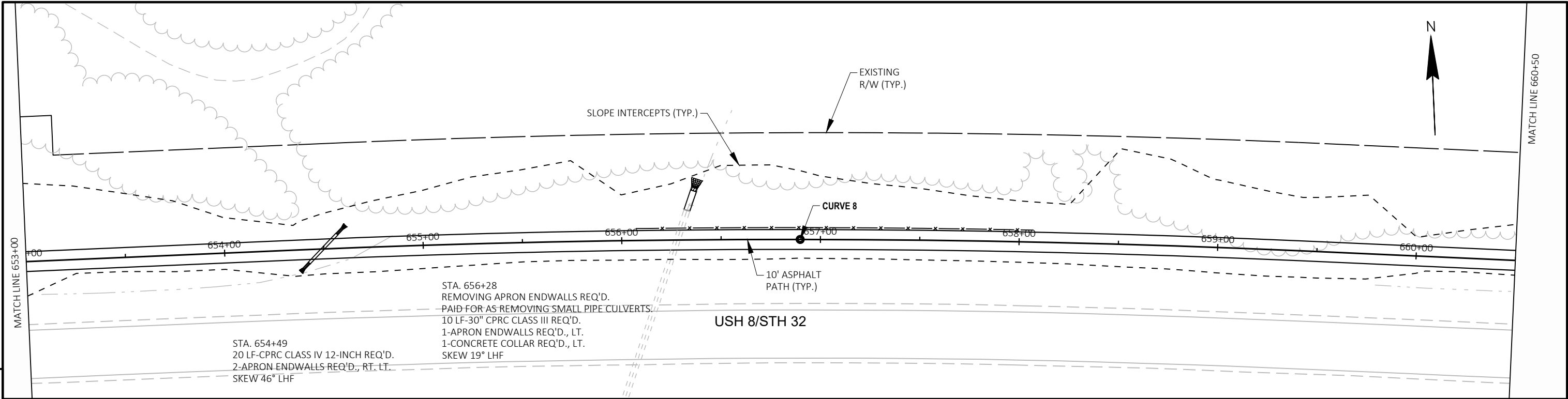
PROJECT NO:	9813-02-71	USH 8 SHARED USE PATHWAY PHASE 2	COUNTY:	FOREST	PLAN AND PROFILE:	PHASE 2 - PATHWAY TO WELLNESS	SHEET	E
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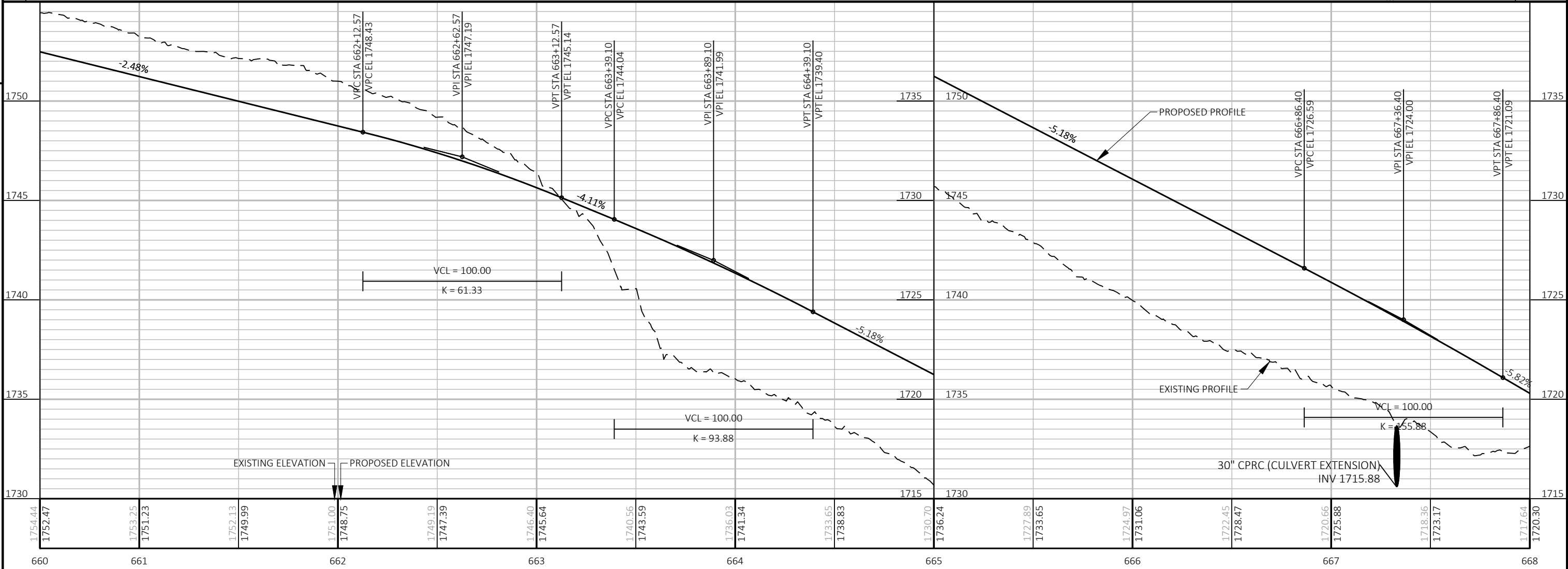
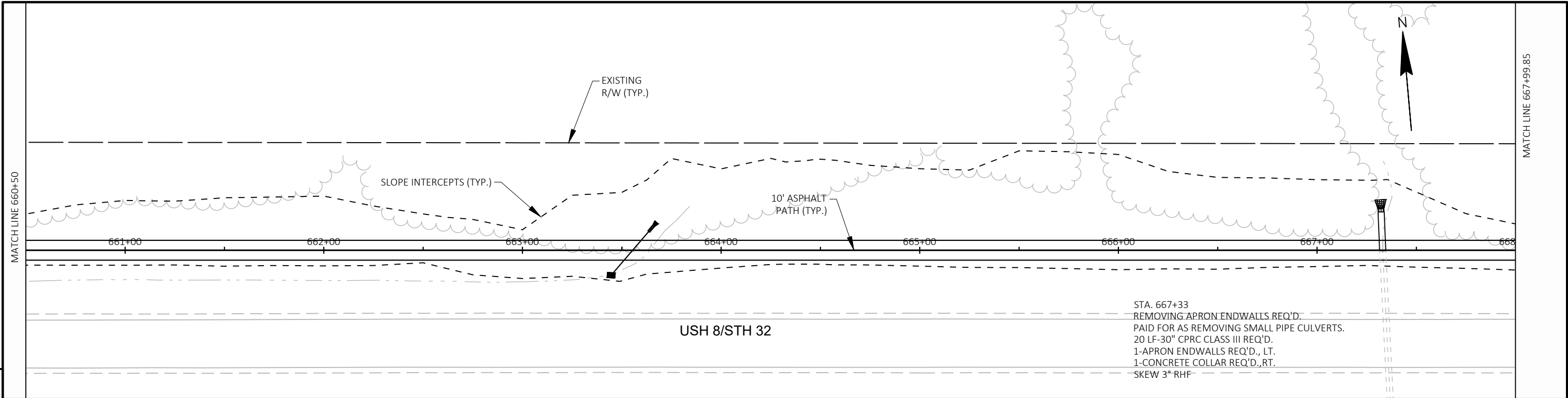
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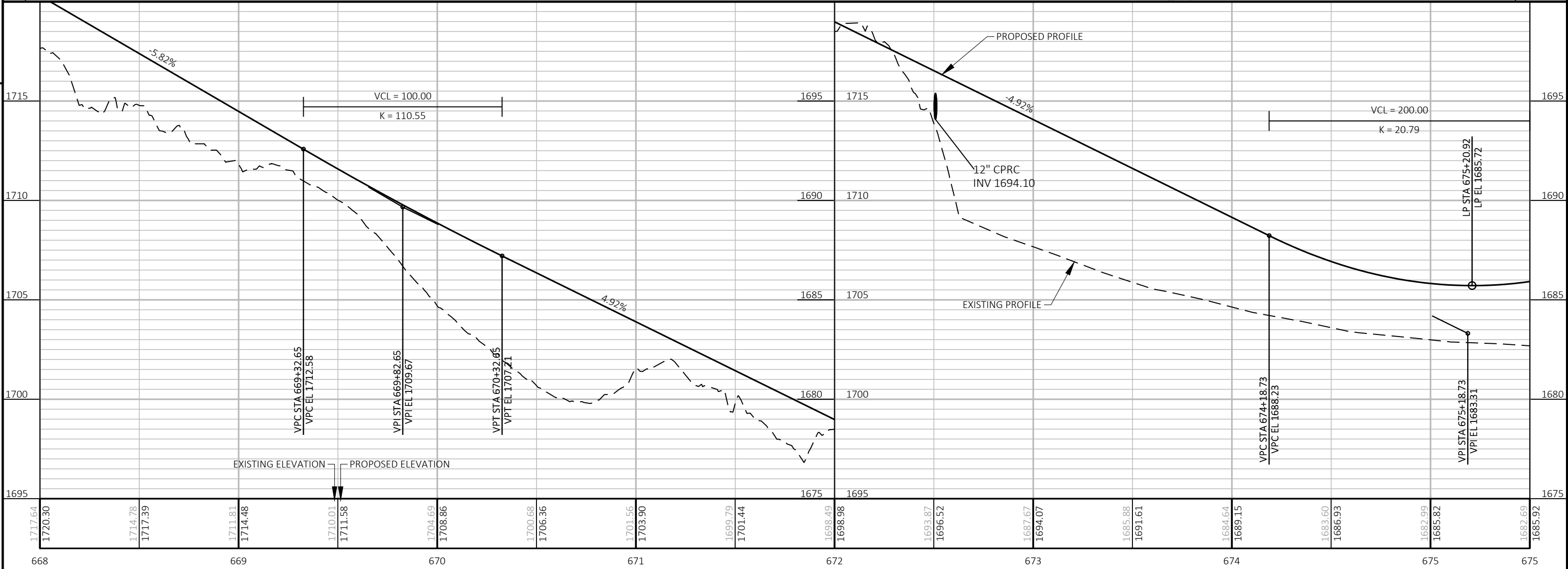
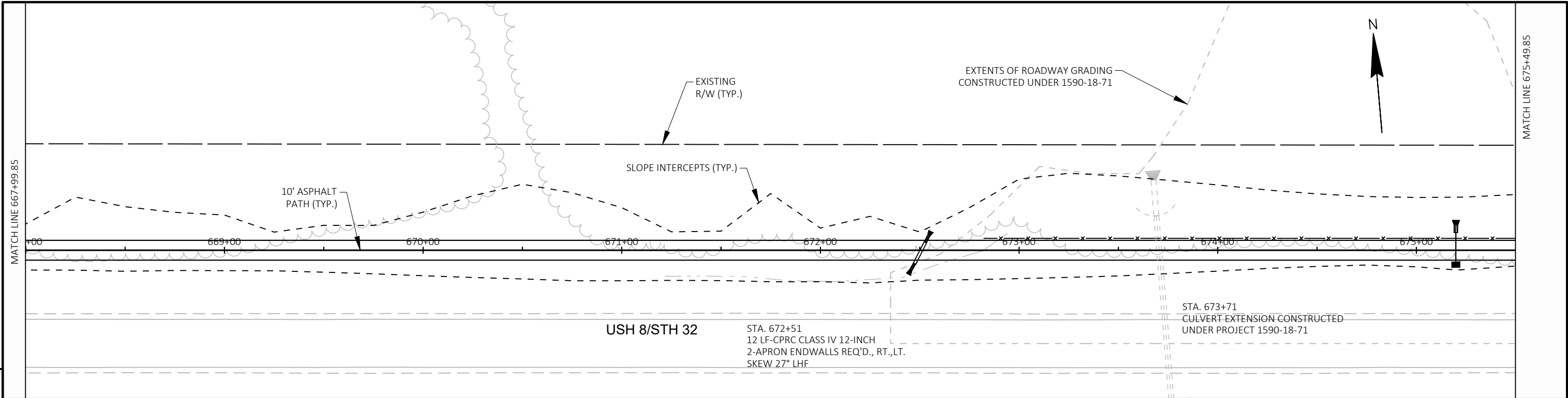
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PROJECT NO:	9813-02-71	USH 8 SHARED USE PATHWAY PHASE 2	COUNTY:	FOREST	PLAN AND PROFILE:	PHASE 2 - PATHWAY TO WELLNESS	SHEET	5
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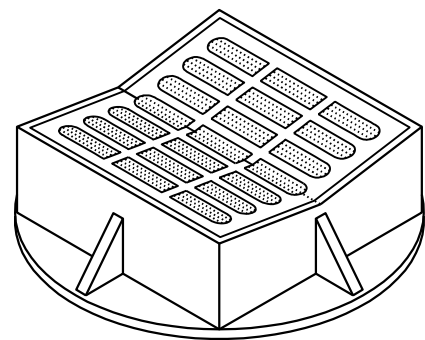
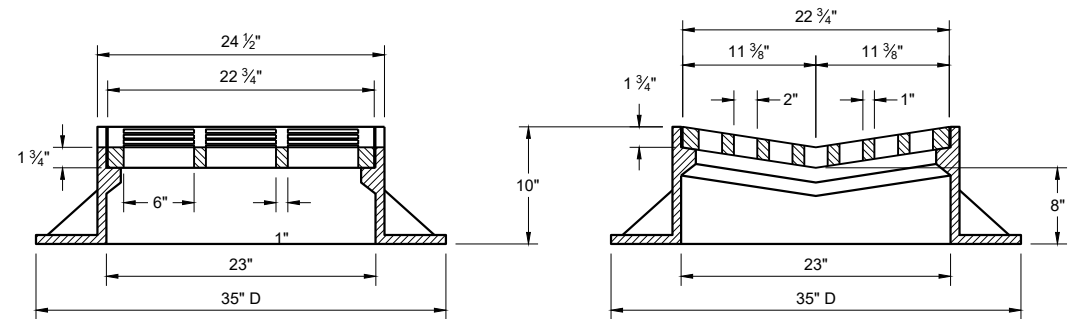


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Standard Detail Drawing List

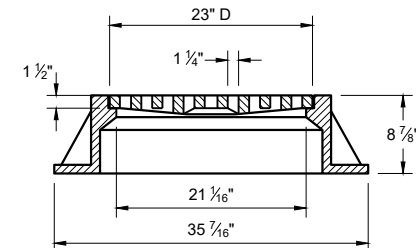
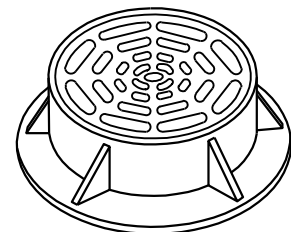
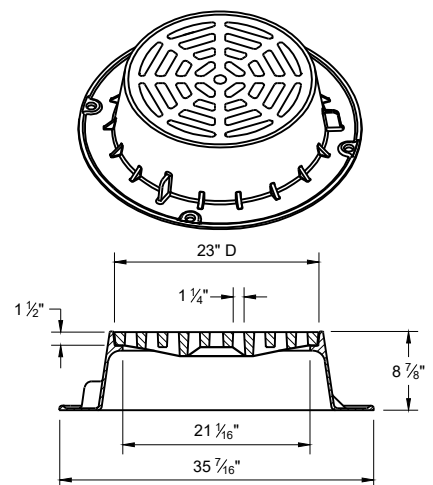
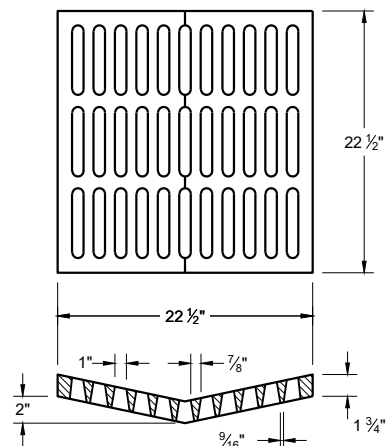
08A05-21B	INLET COVERS TYPE B, B-A, C, MS, MS-A, & WM
08C08-03	INLETS MEDIAN 1 AND 2 GRATE
08D05-21A	CURB RAMPS TYPES 1 AND 1-A
08D05-21B	CURB RAMPS TYPES 2 AND 3
08D05-21C	CURB RAMPS TYPES 4A AND 4A1
08D05-21D	CURB RAMPS TYPE 4B AND 4B1
08D05-21E	CURB RAMPS TYPES 5, 6, 7A, 7B & 8
08D05-21F	CURB RAMPS RADIAL DETECTABLE WARNING FIELD APPLICATIONS
08D05-21G	CURB RAMPS RECTANGULAR AND RADIAL DETECTABLE WARNING PLATES
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E10-02	INLET PROTECTION TYPE A, B, C AND D
08E14-01	TRACKING PAD
08E15-01	CULVERT PIPE CHECK
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
08F04-08	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
15A03-02A	FLEXIBLE MARKER POST FOR CULVERT END
15A03-02B	FLEXIBLE MARKER POST FOR CULVERT END
15C12-09A	TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION
15D28-04	TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY



TYPE "B"

**ALTERNATIVE GRATE FOR
TYPE "B" COVER**

USE WHERE PEDESTRIAN OF BICYCLE TRAFFIC IS POSSIBLE
NOTED AS TYPE B - A ON THE DRAINAGE TABLE



TYPE "C"

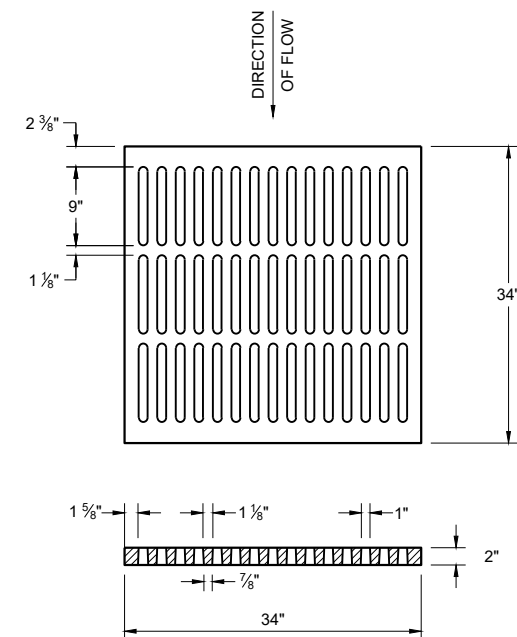
NOTE: EITHER CASTING IS ACCEPTABLE

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.

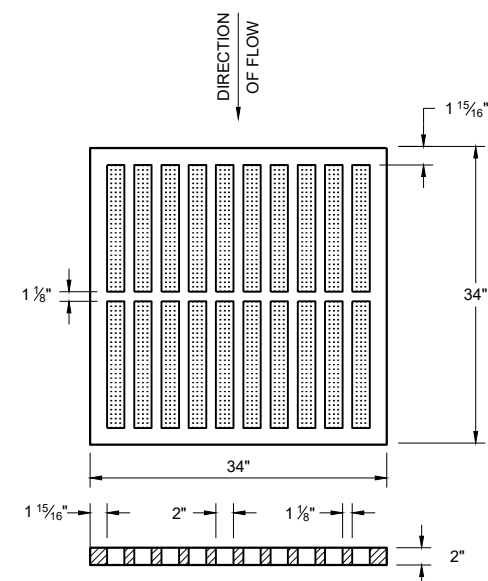
DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR CATCH BASIN, MANHOLE AND INLET COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ROUND FRAMES AND COVERS SHALL HAVE CONTINUOUSLY MACHINED BEARING SURFACES TO PREVENT ROCKING AND RATTLING.



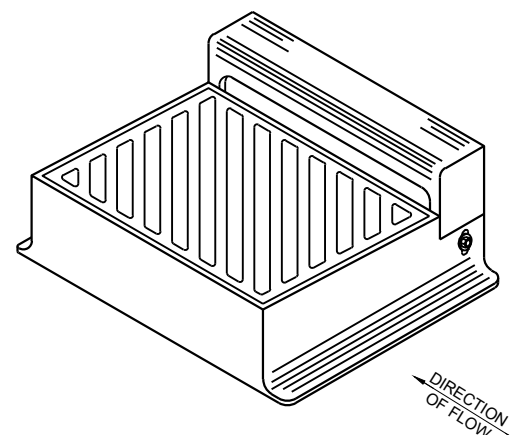
ALTERNATIVE TYPE "MS"

USE WHERE PEDESTRIAN OF BICYCLE TRAFFIC IS PERMITTED
NOTED AS TYPE MS-A ON THE DRAINAGE TABLE

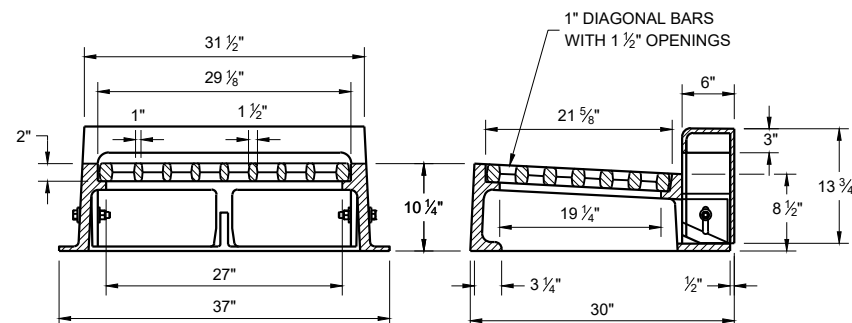


TYPE "MS"

USE ON FREEWAYS AND EXPRESSWAYS
NOTED AS TYPE MS ON THE DRAINAGE TABLE



DIAGONAL SLOTS SHALL BE ORIENTED TO THE DIRECTION OF FLOW AS ILLUSTRATED.
GRATES ARE MANUFACTURED TO BE REVERSIBLE.



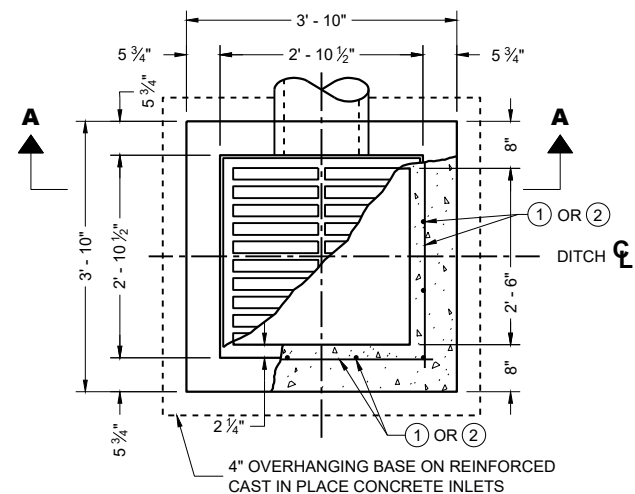
TYPE "WM"

NOTE: CURB BOX HEIGHT ADJUSTABLE 6" - 9"

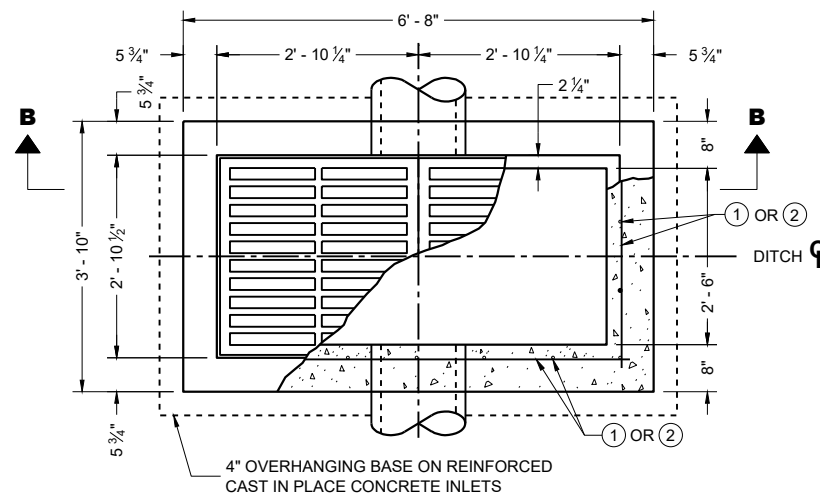
**INLET COVERS
TYPES B, B-A, C,
MS, MS-A AND WM**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

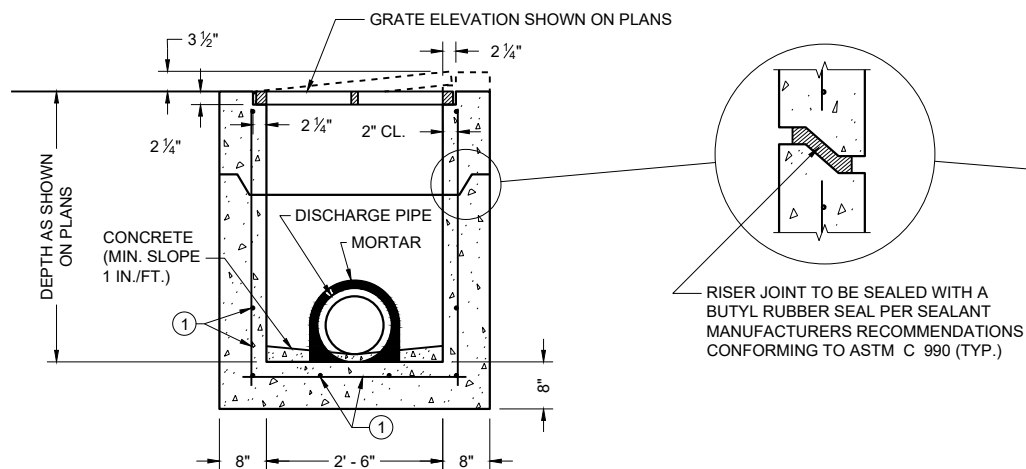
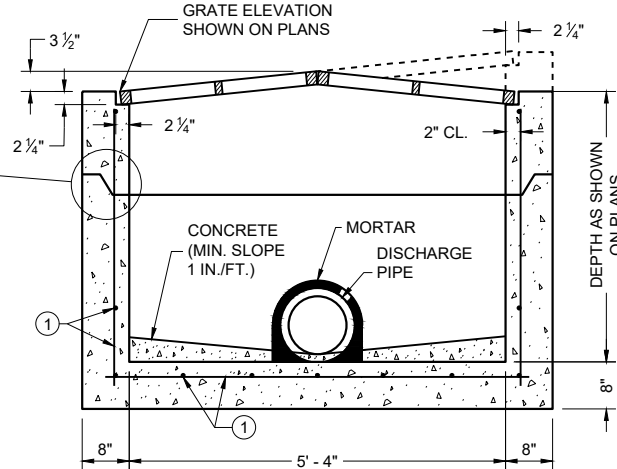
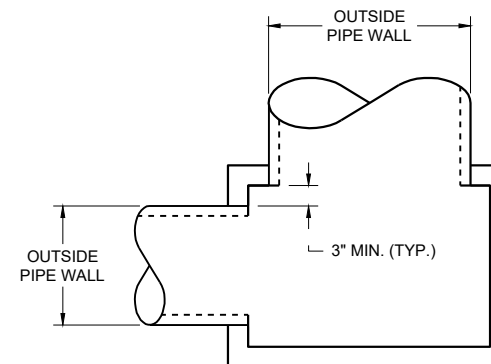
APPROVED
December 2023 /S/ Rodney Taylor
DATE ROADWAY STANDARDS DEVELOPMENT
FHWA UNIT SUPERVISOR



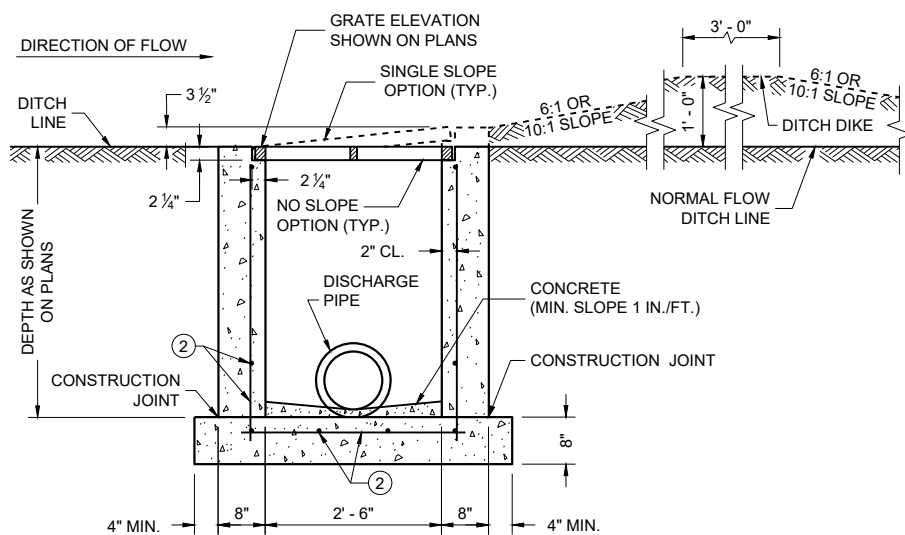
PLAN VIEW



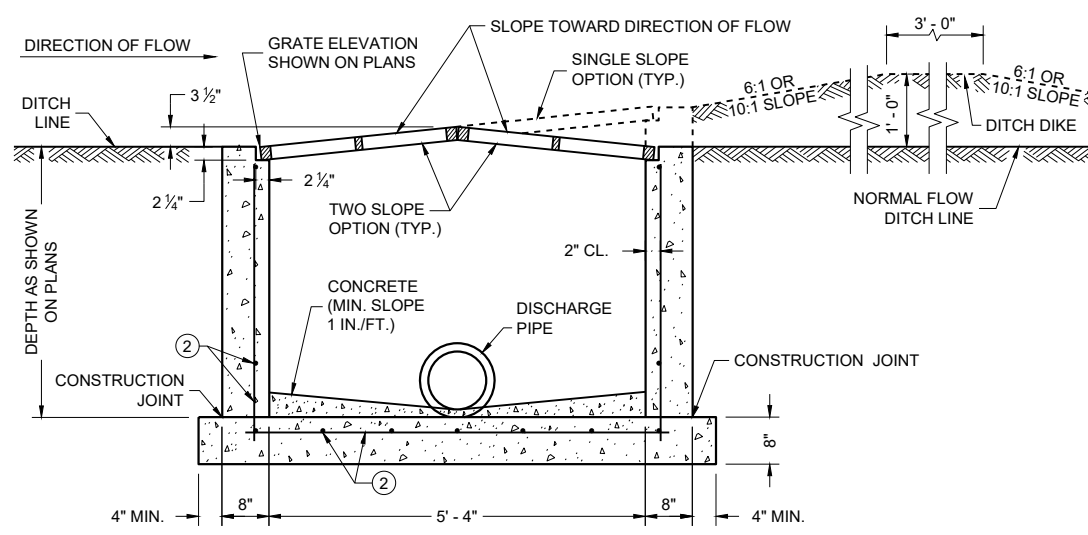
PLAN VIEW

PRECAST REINFORCED CONCRETE
SECTION A - APRECAST REINFORCED CONCRETE
SECTION B - B

DETAIL "A"

REINFORCED CAST IN PLACE CONCRETE
SECTION A - A

INLETS MEDIAN 1 GRATE

REINFORCED CAST IN PLACE CONCRETE
SECTION B - B

INLETS MEDIAN 2 GRATE

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.

UNLESS OTHERWISE AUTHORIZED IN WRITING BY THE ENGINEER, THE CONTRACTOR SHALL NOT ORDER AND DELIVER PRECAST INLET UNITS REQUIRED FOR THE PROJECT UNTIL A LIST OF SIZES IS FURNISHED BY THE ENGINEER.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR INLETS WHICH MAY INCLUDE PRECAST REINFORCED CONCRETE INLETS, SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ALL MEDIAN INLETS ARE DESIGNATED ON THE PLANS AS "INLETS, 1G-MS", ETC. THE FIRST NUMBER AND LETTER DESIGNATE THE TYPE OF STRUCTURE, AND THE FOLLOWING LETTERS DESIGNATE THE TYPE OF COVER TO BE USED TO COMPRISE THE COMPLETE UNIT.

BASES SHALL BE PLACED ON A BED OF MATERIAL AT LEAST 6 INCHES IN DEPTH, WHICH MEETS THE REQUIREMENTS OF FOUNDATION BACKFILL. THIS BEDDING SHALL BE COMPACTED AND PROVIDE UNIFORM SUPPORT FOR THE ENTIRE AREA OF THE BASE.

ALL PRECAST INLET UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF ASTM C 913.

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

PRECAST REINFORCED RISERS SHALL HAVE A TONGUE AND GROOVE JOINT WITH TONGUE UP OR DOWN.

MAXIMUM INSIDE PIPE DIAMETER DETERMINED BY 3" CLEARANCE ON EACH SIDE OF THE OUTSIDE WALL OF THE PIPE. SEE DETAIL "A". ASSUMES PIPE ENTERS PERPENDICULAR TO THE STRUCTURE.

- ① FOR PRECAST INLETS AND REINFORCED CONCRETE BASES PROVIDE REINFORCING STEEL IN ACCORDANCE TO ASTM C 913.
- ② CONTRACTOR TO PROVIDE DRAWING(S) STAMPED BY A PROFESSIONAL ENGINEER FOR STEEL REINFORCING DESIGN FOR CAST-IN-PLACE STRUCTURES.

PIPE MATRIX

INLET SIZE	MAXIMUM INSIDE PIPE DIAMETER	
	WIDTH (IN)	LENGTH (IN)
1 GRATE	18	18
2 GRATE	18	42

INLETS
MEDIAN 1 AND 2 GRATE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

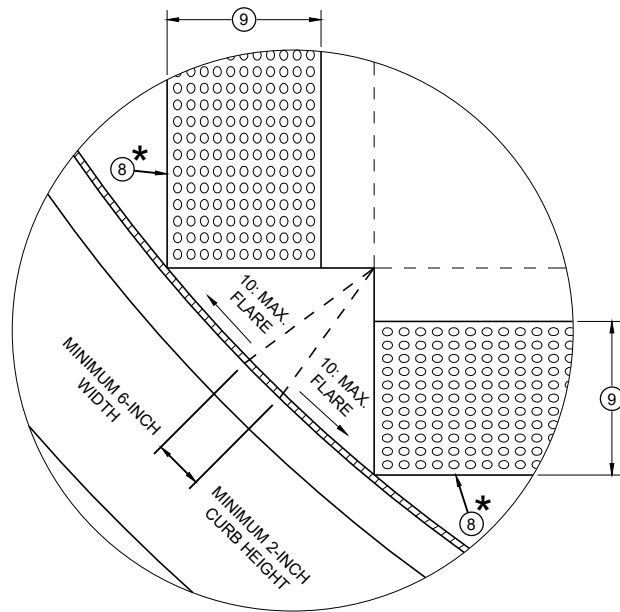
APPROVED
December 2023 /S/ Rodney Taylor
DATE ROADWAY STANDARDS DEVELOPMENT
FHWA UNIT SUPERVISOR



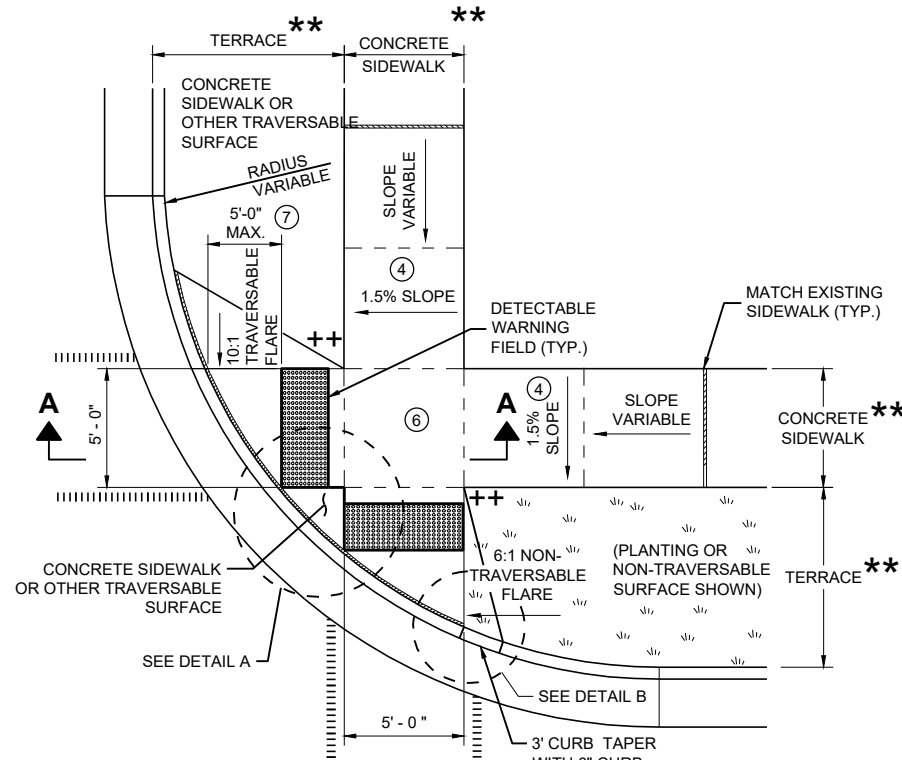
- ① THIS POINT IS AN EXTENSION OF OUTSIDE EDGE OF SIDEWALK WHERE IT MEETS THE BACK OF CONCRETE CURB. POINT LOCATION MAY BE ADJUSTED TO ALIGN WITH BEGINNING OF FULL-HEIGHT CURB IF THIS DISTANCE IS SHORT.
- ② GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN $\frac{1}{4}$ - INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5% AND NOT TO EXCEED 7%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.
- ③ MAXIMUM 8.33% CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.
- ④ $\pm 0.5\%$ CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.
- ⑤ PROVIDE A LEVEL LANDING IN THE STREET AND GUTTER AREA (2% MAXIMUM SLOPE IN ANY DIRECTION). WHEN THE GUTTER SLOPE EXCEEDS 2%, CONSTRUCT THE LEVEL LANDING IN THE STREET AREA. 4 FOOT WIDTH IS MEASURED FROM THE FLANGE LINE
- ⑥ PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LEVEL LANDING SIZE IS 5 FEET BY 5 FEET.
- ⑧ PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.

	1/2" EXPANSION JOINT SIDEWALK
	CONTRACTION JOINT FIELD LOCATED
	PAVEMENT MARKING CROSSWALK (WHITE)

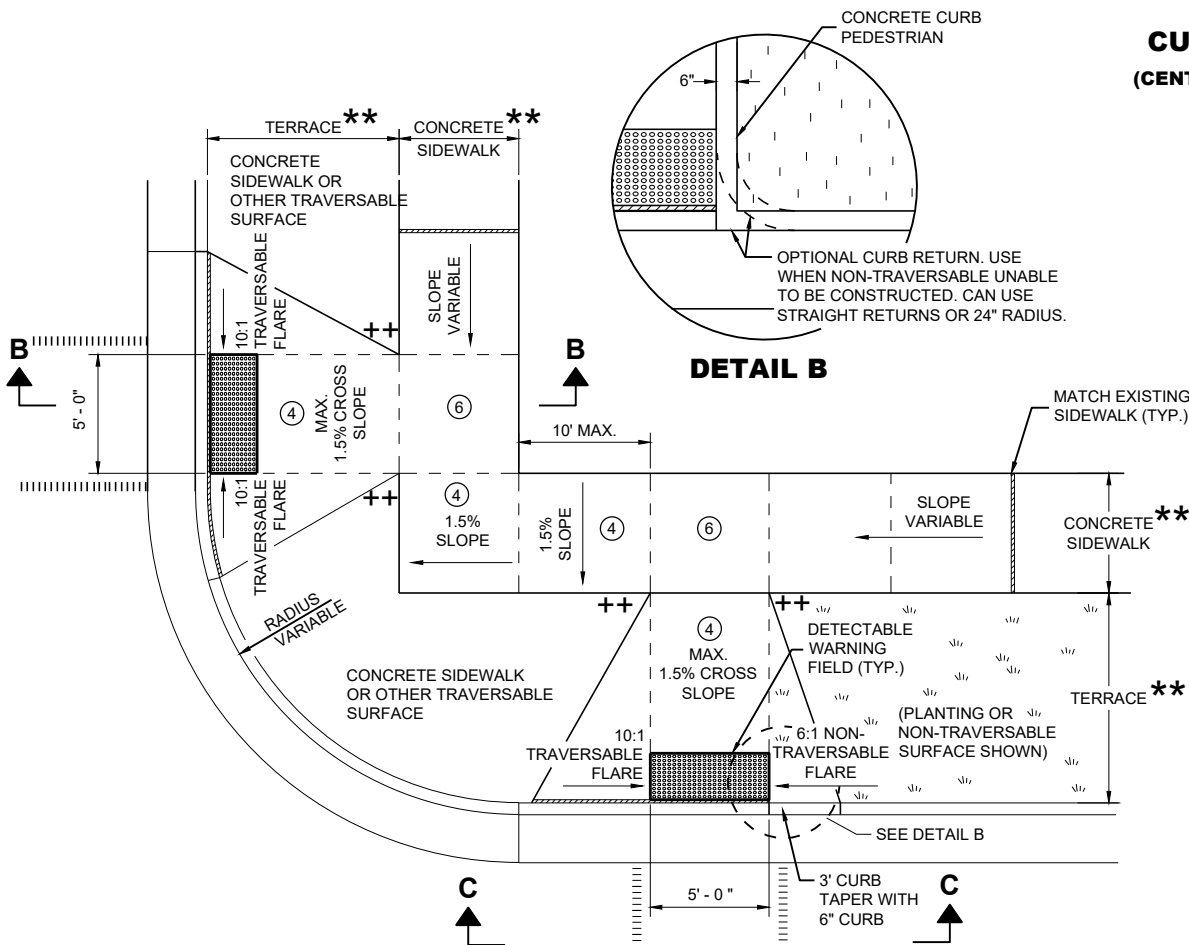
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



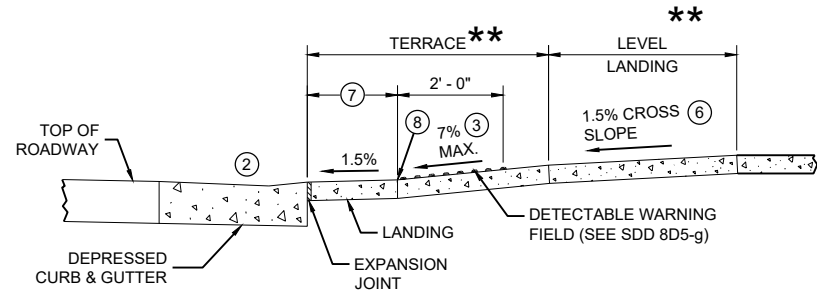
DETAIL A



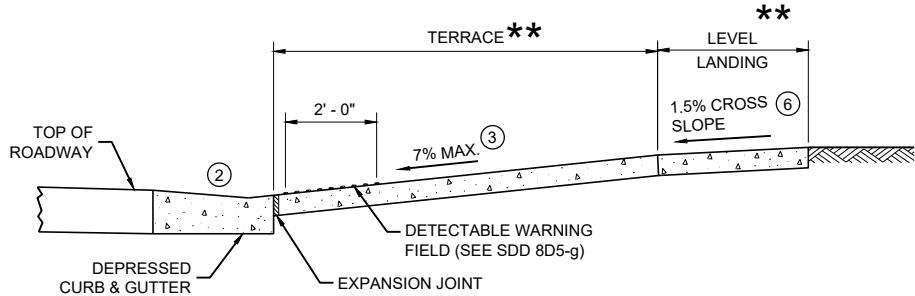
PLAN VIEW
CURB RAMP TYPE 2
(CENTER OF CORNER RADIUS)



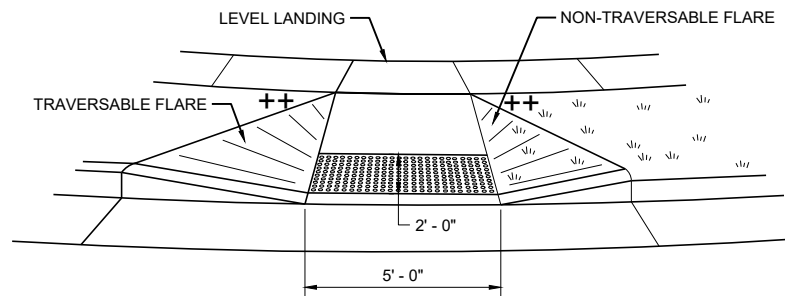
PLAN VIEW
CURB RAMP TYPE 3
(OUTSIDE OF CROSSWALK AREA)



SECTION A - A FOR TYPE 2



SECTION B - B FOR TYPE 3



VIEW C - C FOR TYPE 3

GENERAL NOTES

- AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.
- 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.
- DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE SHALL BE FROM THE SAME MANUFACTURER.
- GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN 1/4 - INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5% AND NOT TO EXCEED 7%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.
 - AN 8.33% CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE (2.67% OR LESS) AND NOT TO EXCEED 11% GRADE CHANGE.
 - ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.
 - PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LEVEL LANDING SIZE IS 5 FEET X 5 FEET.
 - WHEN GRADE BREAK DISTANCE EXCEEDS 5 FEET, USE RADIAL DETECTABLE WARNING FIELD PER SDD 8D5-f.
 - PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.
 - WHEN DISTANCE IS LESS THAN 6' - 0", IT MAY BE DIFFICULT TO ACHIEVE A 7% SLOPE OR FLATTER ALONG THE RAMP. REDUCE CURB HEIGHT IN TRIANGLE AREA TO ACHIEVE 7% SLOPE OR FLATTER ON RAMP. CONSTRUCT 2-INCH MINIMUM CURB HEIGHT BETWEEN 10:1 FLARES.

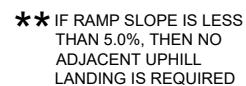
- ★ MAXIMUM 2.0% SLOPE IN ALL DIRECTIONS IN FRONT OF GRADE BREAK
- ★★ WIDTH SHOWN ELSEWHERE IN THE PLANS
- ++ CONSTRUCT 6" WEDGE TO AVOID CONCRETE BREAKAGE

LEGEND

- 1/2" EXPANSION JOINT SIDEWALK
- CONTRACTION JOINT SIDEWALK
- PAVEMENT MARKING CROSSWALK (WHITE)

CURB RAMPS
TYPE 2 AND 3

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



SECTION B - B FOR TYPE 4A AND TYPE 4A1

RADIUS (AT CURB FACE)	X
10 FEET	4' - 7"

INTERMEDIATE RADII CAN BE INTERPOLATED



GENERAL NOTES

AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.

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.

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

- ② GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN $\frac{1}{4}$ - INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5% AND NOT TO EXCEED 7%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.
- ③ AN 8.33% CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.
- ④ $\pm 0.5\%$ CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.
- ⑥ PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LEVEL LANDING SIZE IS 5 FEET BY 5 FEET.
- ⑦ WHEN THIS GRADE BREAK DISTANCE EXCEEDS 5 FEET, USE RADIAL DETECTABLE WARNING FIELD PER SDD 8D5-f.
- ⑧ PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.
- ⑩ INSTALL TRANSITION NOSE (INCIDENTAL TO OTHER PAY ITEMS). DO NOT MARK TRANSITION NOSE.

LEGEND

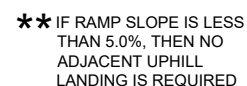
- | | |
|---|------------------------------------|
|  | 1/2" EXPANSION JOINT SIDEWALK |
|  | CONTRACTION JOINT SIDEWALK |
|  | PAVEMENT MARKING CROSSWALK (WHITE) |



++ CONSTRUCT 6" WEDGE TO
AVOID CONCRETE BREAKAGE

CURB RAMPS TYPE 4A AND 4A1

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



SECTION B - B FOR TYPE 4B AND TYPE 4B1

INTERMEDIATE RADII CAN BE INTERPOLATED
 DIMENSION "Y" IS CALCULATED BASED ON 6'-0" RAMP LENGTH
 DIMENSION "X" IS CALCULATED BASED ON 5'-0" SIDEWALK WIDTH



++ CONSTRUCT 6" WEDGE TO
AVOID CONCRETE BREAKAGE

GENERAL NOTES

AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.

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.

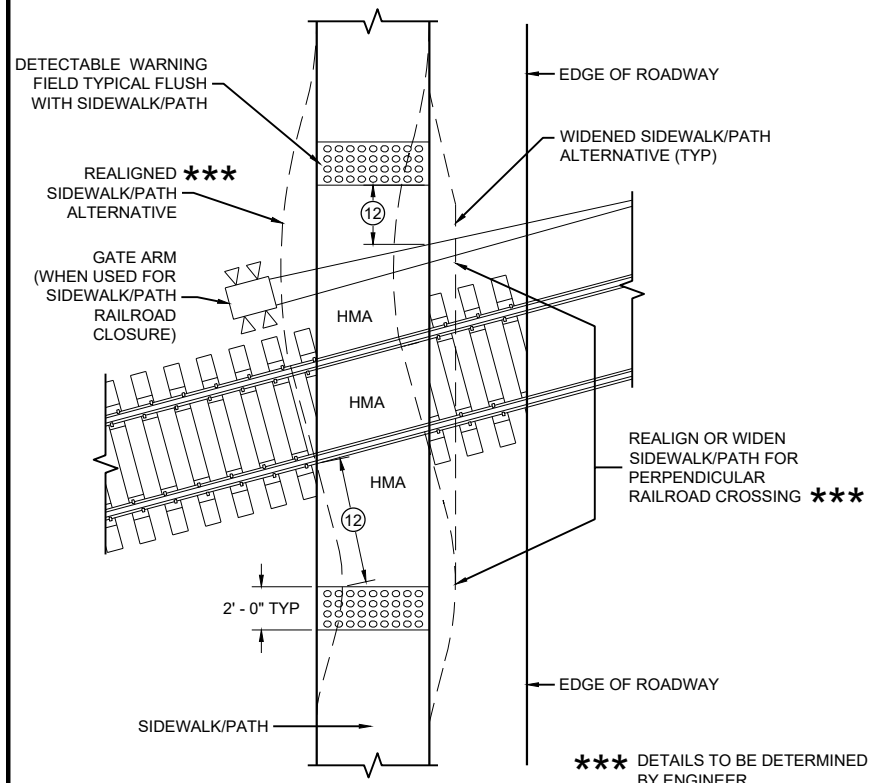
DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

- ② GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN 1/4" INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5% AND NOT TO EXCEED 7%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.
- ③ AN 8.33% CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.
- ④ ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.
- ⑥ PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LEVEL LANDING SIZE IS 5 FEET BY 5 FEET.
- ⑦ WHEN THIS GRADE BREAK DISTANCE EXCEEDS 5 FEET, USE RADIAL DETECTABLE WARNING FIELD PER SDD 8D5-f.
- ⑧ PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.
- ⑩ INSTALL TRANSITION NOSE (INCIDENTAL TO OTHER PAY ITEMS). DO NOT MARK TRANSITION NOSE.



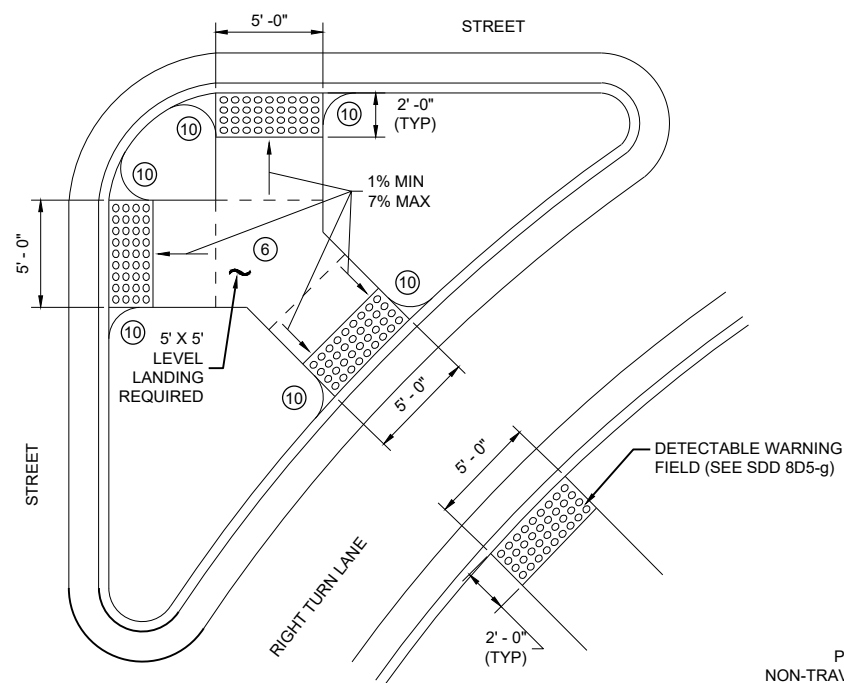
CURB RAMPS TYPE 4B AND 4B1

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



CURB RAMP TYPE 8

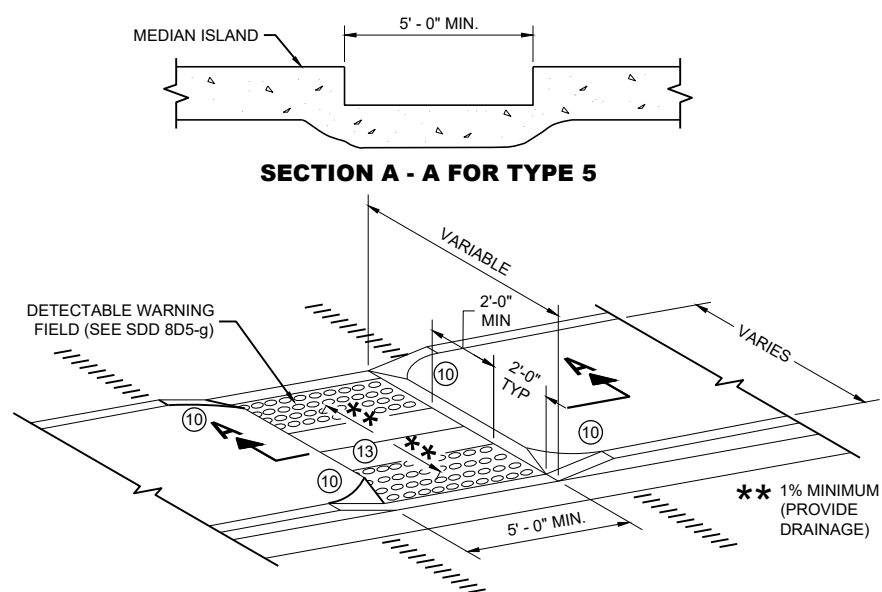
DETECTABLE WARNINGS FOR SIDEWALKS OR SHARED USE PATHS AT RAILROAD CROSSINGS



CURB RAMP TYPE 6

DETECTABLE WARNING AT ISLANDS

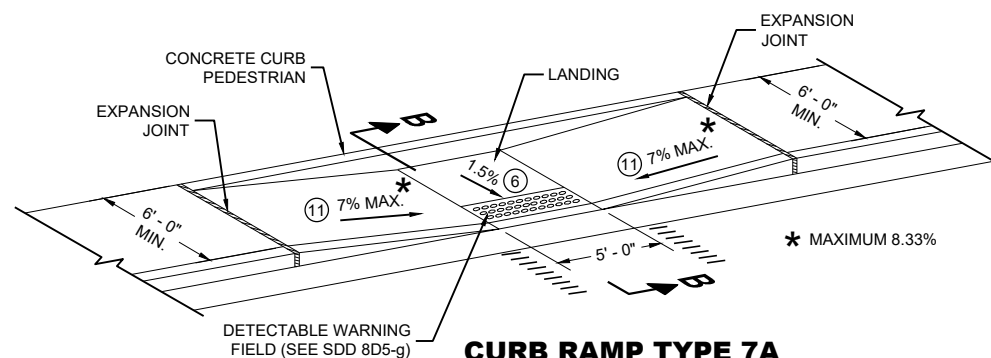
REFER TO GENERAL NOTES ② AND ③
FOR ALL ISLAND CURB RAMPS



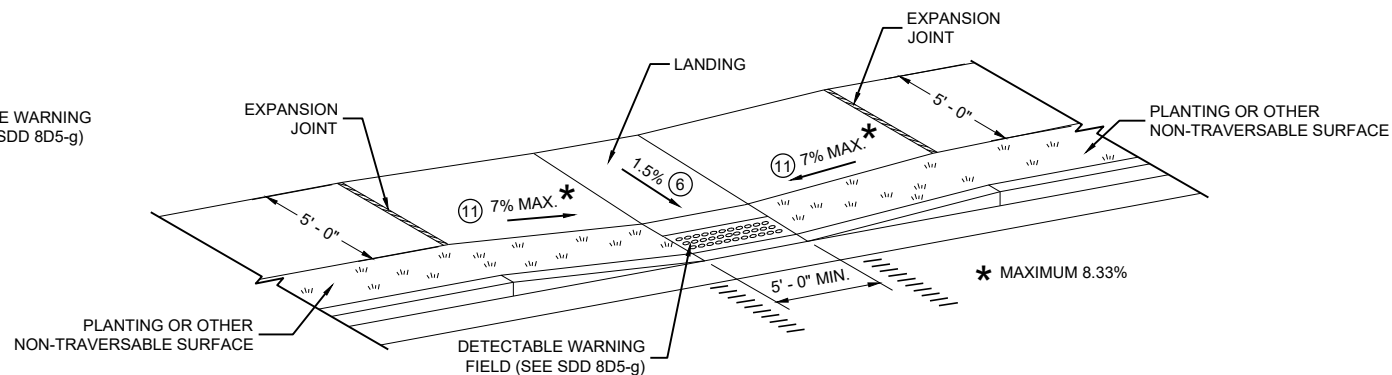
SECTION A - A FOR TYPE 5

CURB RAMP TYPE 5

MEDIAN ISLAND NON-ELEVATED PEDESTRIAN CROSSING



CURB RAMP TYPE 7A FOR INTERSECTIONS AND MID BLOCK CROSSINGS



CURB RAMP TYPE 7B FOR INTERSECTIONS AND MID BLOCK CROSSINGS

GENERAL NOTES

AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.

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.

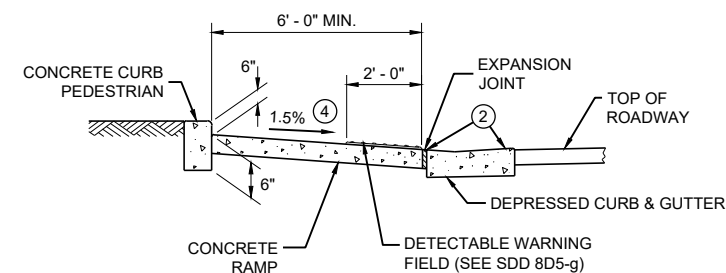
SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2%.

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

- ② GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN 1/8 INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5% AND NOT TO EXCEED 7%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.
- ③ AN 8.33% CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.
- ④ $\pm 0.5\%$ CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.
- ⑥ PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LEVEL LANDING SIZE IS 5 FEET BY 5 FEET.
- ⑩ INSTALL TRANSITION NOSE (INCIDENTAL TO OTHER PAY ITEMS). DO NOT MARK TRANSITION NOSE.
- ⑪ SLOPE SIDEWALK TOWARD LANDING AS SHOWN WHERE THERE IS NO TERRACE OR WHERE THE TERRACE WIDTH IS LESS THAN 6 FEET WIDE.
- ⑫ THE EDGE OF THE DETECTABLE WARNING FIELD NEAREST TO A RAILROAD CROSSING SHALL BE 1.5 FEET $\pm 0.1'$ FROM THE FACE OF THE GATE ARM IF THE GATE ARM EXTENDS ACROSS THE SIDEWALK/PATH. WHERE THERE IS NO PEDESTRIAN GATE, THE EDGE OF THE DETECTABLE WARNING FIELD NEAREST TO THE RAILROAD TRACK IS 15 FEET MAXIMUM AND 12 FEET MINIMUM, 15 FEET TYPICAL FROM THE NEAREST RAIL.
- ⑬ DO NOT INSTALL DETECTABLE WARNING FIELDS AT THE EDGES OF STEET-LEVEL PEDESTRIAN REFUGE ISLANDS IF A MINIMUM 2 FOOT CONCRETE SURFACE WITHOUT DETECTABLE WARNINGS (MEASURED IN THE DIRECTION OF PEDESTRIAN TRAVEL) CANNOT BE ACHIEVED.

LEGEND

- ===== 1/2" EXPANSION JOINT SIDEWALK
- - - - - CONTRACTION JOINT FIELD LOCATED
- ||||||| PAVEMENT MARKING CROSSWALK (WHITE)

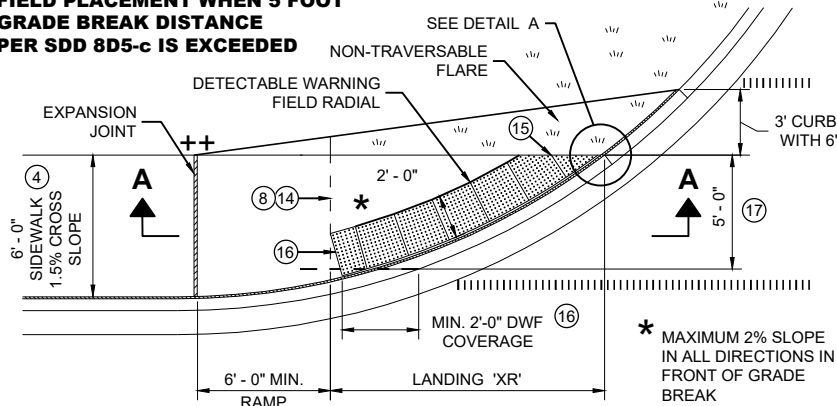


SECTION B - B FOR TYPE 7A

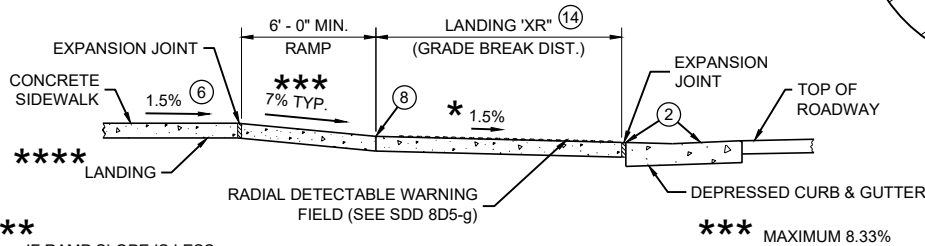
CURB RAMPS TYPE 5, 6, 7A, 7B & 8

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

**RADIAL DETECTABLE WARNING
FIELD PLACEMENT WHEN 5 FOOT
GRADE BREAK DISTANCE
PER SDD 8D5-c IS EXCEEDED**

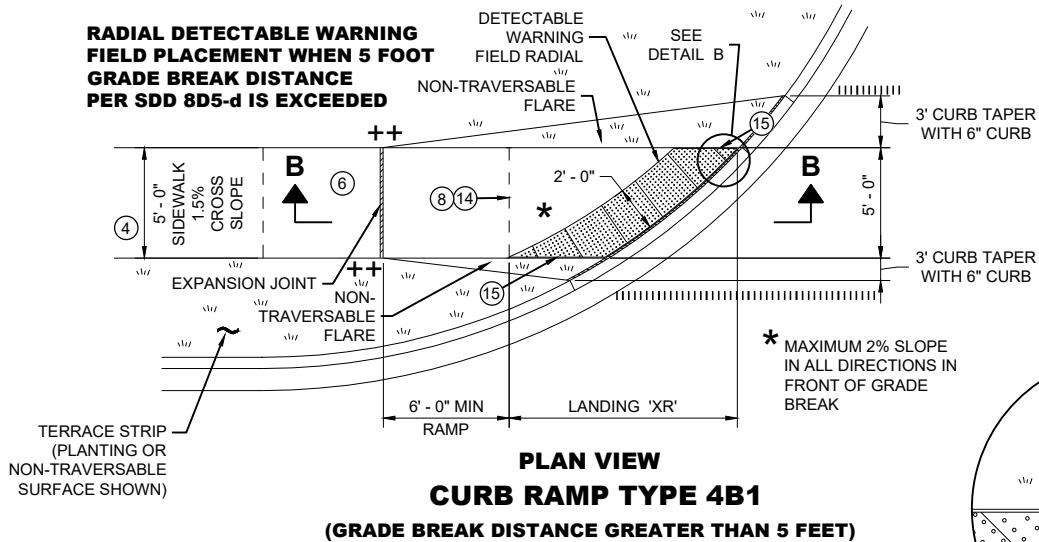


**PLAN VIEW
CURB RAMP TYPE 4A1
(GRADE BREAK DISTANCE GREATER THAN 5 FEET)**

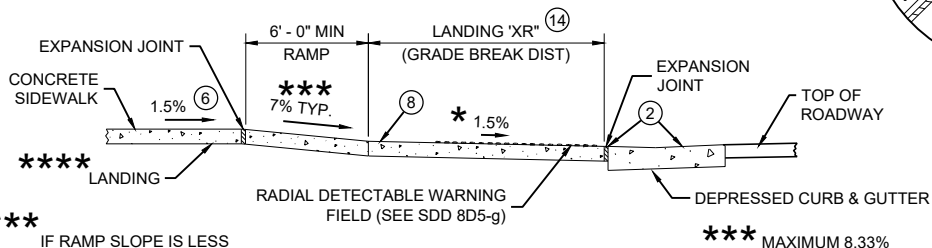


SECTION A - A FOR TYPE 4A1

**RADIAL DETECTABLE WARNING
FIELD PLACEMENT WHEN 5 FOOT
GRADE BREAK DISTANCE
PER SDD 8D5-d IS EXCEEDED**



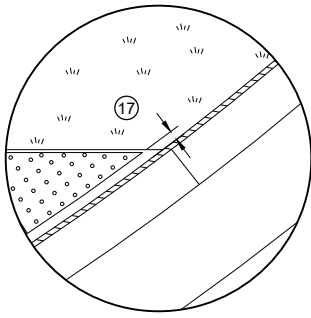
**PLAN VIEW
CURB RAMP TYPE 4B1
(GRADE BREAK DISTANCE GREATER THAN 5 FEET)**



SECTION B - B FOR TYPE 4B1

LEGEND

- 1/2" EXPANSION JOINT SIDEWALK
- CONTRACTION JOINT SIDEWALK
- PAVEMENT MARKING CROSSWALK (WHITE)



DETAIL A

GENERAL NOTES

AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.

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.

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

APPLY RADIAL DETECTABLE WARNING PLACEMENT SIMILARLY FOR TYPE 4A AND 4A1 CURB RAMPS AND SIMILARLY FOR TYPE 4B AND 4B1 CURB RAMPS. TYPE 4A AND 4B CURB RAMPS ARE NOT SHOWN.

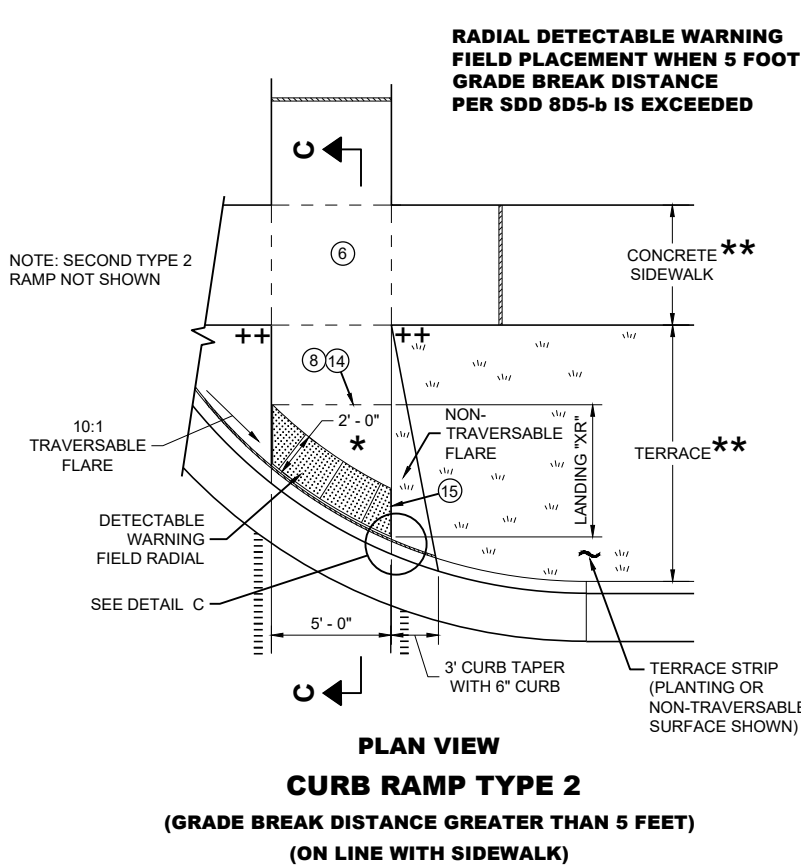
REFER TO SDD 8D5-g FOR ADDITIONAL RADIAL PLATE REQUIREMENTS.

FIELD CUTS AT INTERMEDIATE JOINTS WITHIN THE RADIAL DETECTABLE WARNING FIELD ARE PROHIBITED.

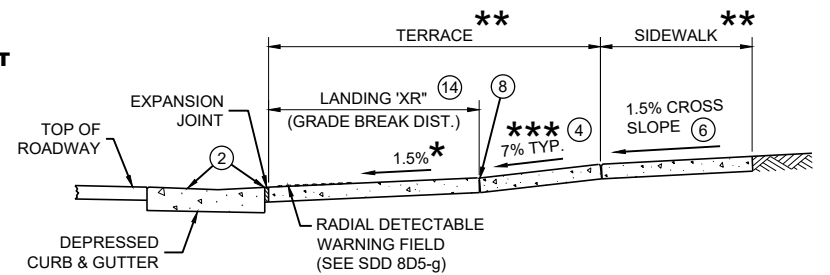
DETERMINE FINAL RADIAL WARNING FIELD CONFIGURATION AND ITS INDIVIDUAL PLATE LOCATIONS. PERFORM PRE-LAYOUT PRIOR TO PLACEMENT IN PLASTIC CONCRETE. FOLLOW MANUFACTURER'S PRODUCT LIST AND INSTALLATION RECOMMENDATIONS.

- GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN 1/4" INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5% AND NOT TO EXCEED 7%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.
- AN 8.33% CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.
- ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.
- PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LANDING SIZE IS 5 FEET BY 5 FEET.
- PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.
- CONSULT ENGINEER IF GRADE BREAK LOCATION (END OF LANDING DIMENSION "XR") REQUIRES FIELD ADJUSTMENT WHEN ESTABLISHING FINAL RADIAL DETECTABLE WARNING FIELD LOCATION.
- FIELD SAW CUTS ALONG RADIAL DETECTABLE WARNING PLATES WILL BE NECESSARY TO MATCH EACH CURB RAMP EDGE. AVOID CUTTING THROUGH DOMES WHENEVER POSSIBLE. MAKE FIELD CUTS TRUE TO LINE AND WITHIN 1/2" DEVIATION. SMOOTH EDGES OF FIELD CUT PLATES.
- USE 1' X 2" RECTANGULAR END PLATE AT END OF TYPE 4A1 RAMP AND PROVIDE MINIMUM 2'-0" DETECTABLE WARNING FIELD COVERAGE (IN DIRECTION OF PEDESTRIAN TRAVEL) ALONG THE ENTIRE CURB RAMP WIDTH.
- A MAXIMUM 3 INCH CONCRETE BORDER WIDTH IS ALLOWABLE IN FRONT OF RADIAL DETECTABLE WARNING FIELD FOR CONSTRUCTABILITY PURPOSES. CONCRETE BORDER WIDTH MAY VARY UP TO 1 INCH.

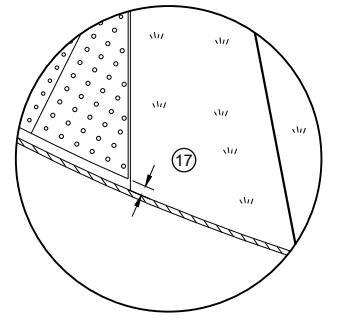
**RADIAL DETECTABLE WARNING
FIELD PLACEMENT WHEN 5 FOOT
GRADE BREAK DISTANCE
PER SDD 8D5-b IS EXCEEDED**



**PLAN VIEW
CURB RAMP TYPE 2
(GRADE BREAK DISTANCE GREATER THAN 5 FEET)
(ON LINE WITH SIDEWALK)**



SECTION C - C FOR TYPE 2



DETAIL C

*** MAXIMUM 2% SLOPE
IN ALL DIRECTIONS IN
FRONT OF GRADE
BREAK

** WIDTH SHOWN ELSEWHERE
IN THE PLANS

*** MAXIMUM 8.33%

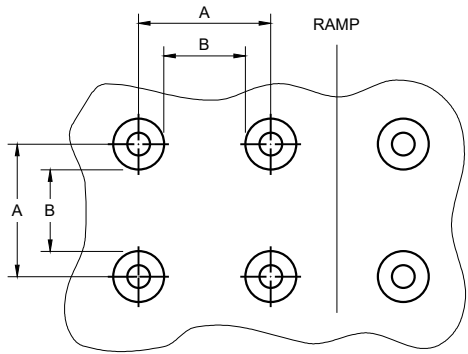
++ CONSTRUCT 6" WEDGE TO
AVOID CONCRETE BREAKAGE

**CURB RAMPS
RADIAL DETECTABLE WARNING**

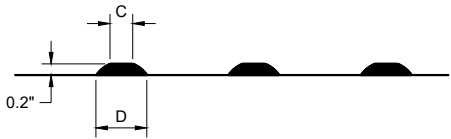
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

	MIN.	MAX.
A	1.6"	2.4"
B	0.65"	1.5"
C	*	*
D	0.9"	1.4"

* THE C DIMENSION IS 50% TO 65% OF THE D DIMENSION.

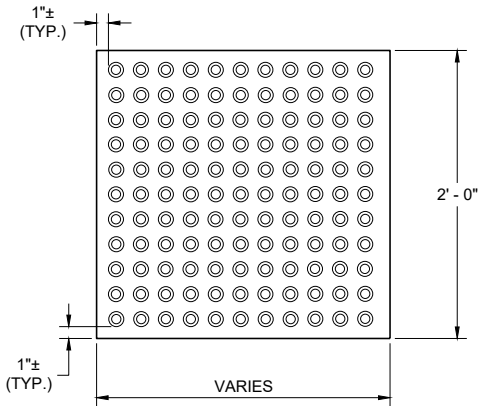


PLAN VIEW

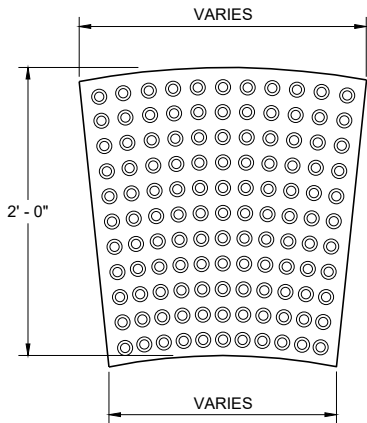


ELEVATION VIEW

TRUNCATED DOMES
DETECTABLE WARNING PATTERN DETAIL

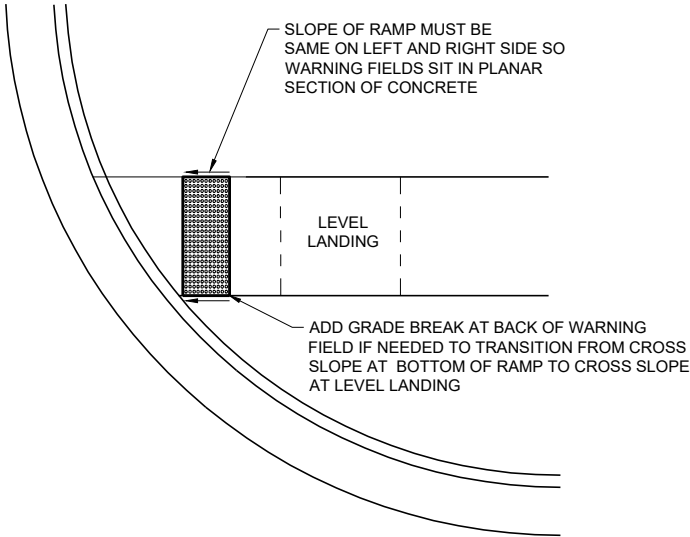


RECTANGULAR
PLATES

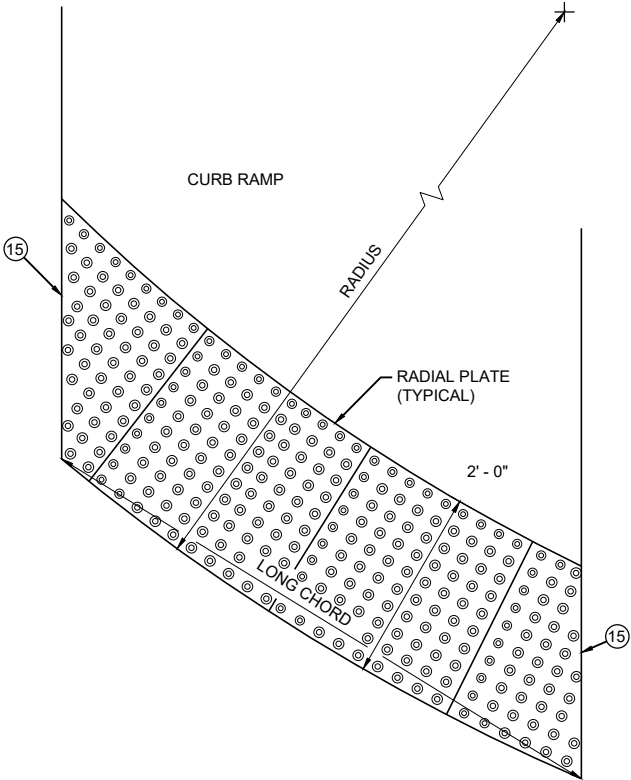


RADIAL
PLATES

PLAN VIEW
DETECTABLE WARNING FIELDS (TYPICAL)



DETECTABLE WARNING FIELD
PLANAR INSTALLATION



PLAN VIEW
RADIAL DETECTABLE
WARNING FIELD ATTRIBUTES

GENERAL NOTES

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AT A CURB RAMP SHALL BE FROM THE SAME MANUFACTURER.

PLACE ALL DETECTABLE WARNING FIELD SYSTEMS IN ACCORDANCE TO THE MANUFACTURER'S RECOMMENDATION.

FIELD CUTS AT INTERMEDIATE JOINTS WITHIN THE RADIAL DETECTABLE WARNING FILED ARE PROHIBITED.

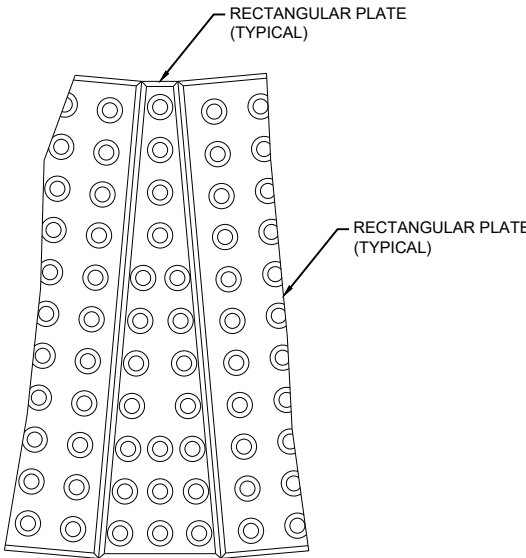
DETERMINE FINAL RADIAL WARNING FIELD CONFIGURATION AND ITS INDIVIDUAL PLATE LOCATIONS. PERFORM PRE-LAYOUT PRIOR TO PLACEMENT IN PLASTIC CONCRETE. FOLLOW MANUFACTURER'S PRODUCT LIST AND INSTALLATION RECOMMENDATIONS.

FOR RADIAL DETECTABLE WARNING FIELD APPLICATIONS WHERE STANDARD RADIAL PLATES ARE NOT AVAILABLE AT AN INTERSECTION CURB RADIUS, A COMBINATION OF SQUARE OR RECTANGULAR PLATES AND RADIAL PLATES MAY BE USED TO FORM RADIAL CONFIGURATION. RADIAL WEDGE PLATES IN COMBINATION WITH SQUARE PLATES ARE ALSO ACCEPTABLE. FOLLOW MANUFACTURER'S RECOMMENDATIONS.

REFER TO CONTRACT AND STANDARD SPECIFICATIONS FOR FIELD CUTTING REQUIREMENTS.

DO NOT EMBED IN CONCRETE ANY FIELD-CUT PLATES WITH CUT EDGES SHORTER THAN 6 INCHES. CONSULT WITH MANUFACTURER FOR RE-DRILLING AND ANCHORING REQUIREMENTS OF FIELD-CUT PLATES.

15 FIELD SAW CUTS ALONG RADIAL DETECTABLE WARNING PLATES WILL BE NECESSARY TO MATCH EACH CURB RAMP EDGE. AVOID CUTTING THROUGH DOMES WHENEVER POSSIBLE. MAKE FIELD CUTS TRUE TO LINE AND WITHIN 1/8\"/>

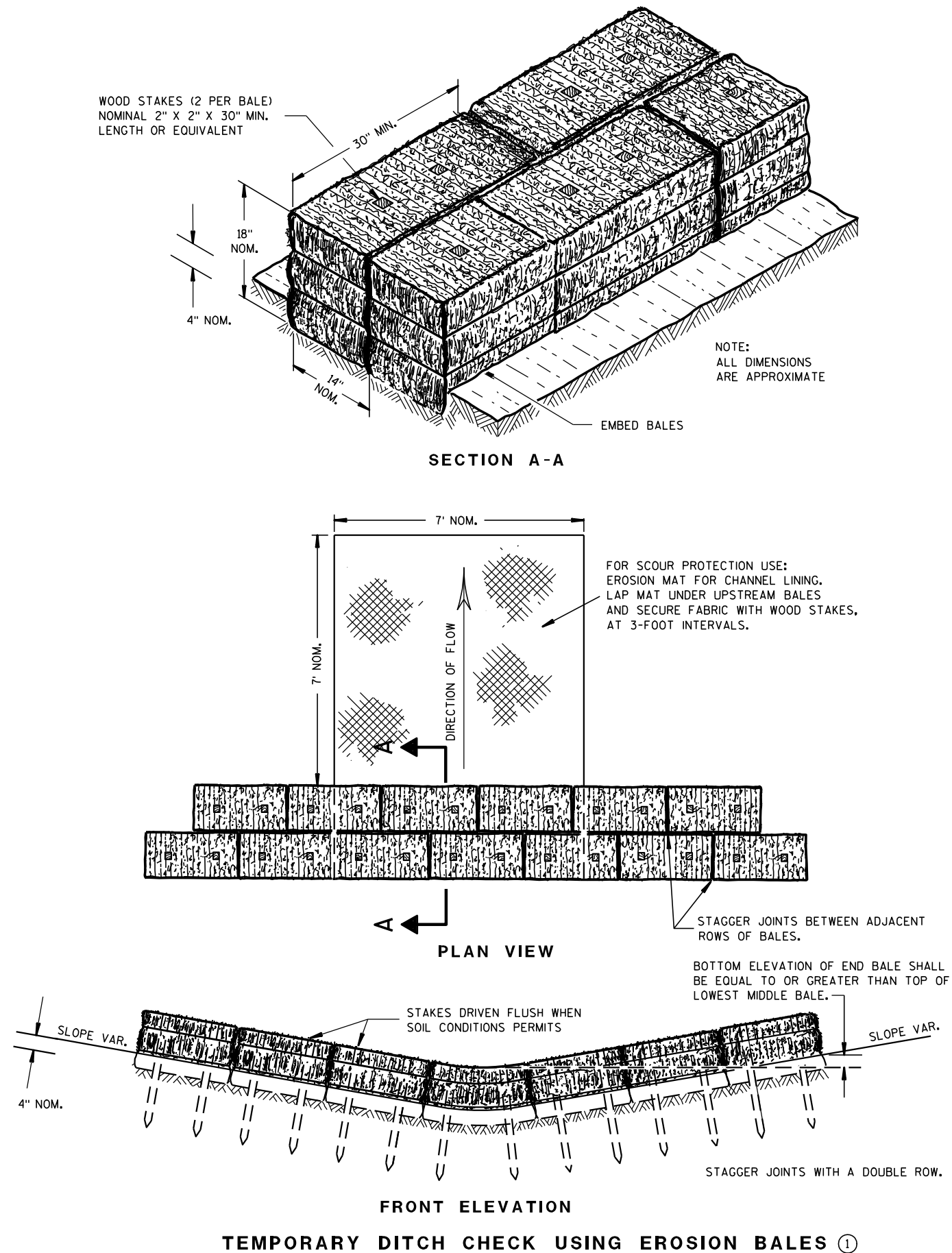


PLAN VIEW
RADIAL WEDGE PLATE
CONNECTION DETAIL

CURB RAMPS
RECTANGULAR AND RADIAL
DETECTABLE WARNING PLATES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

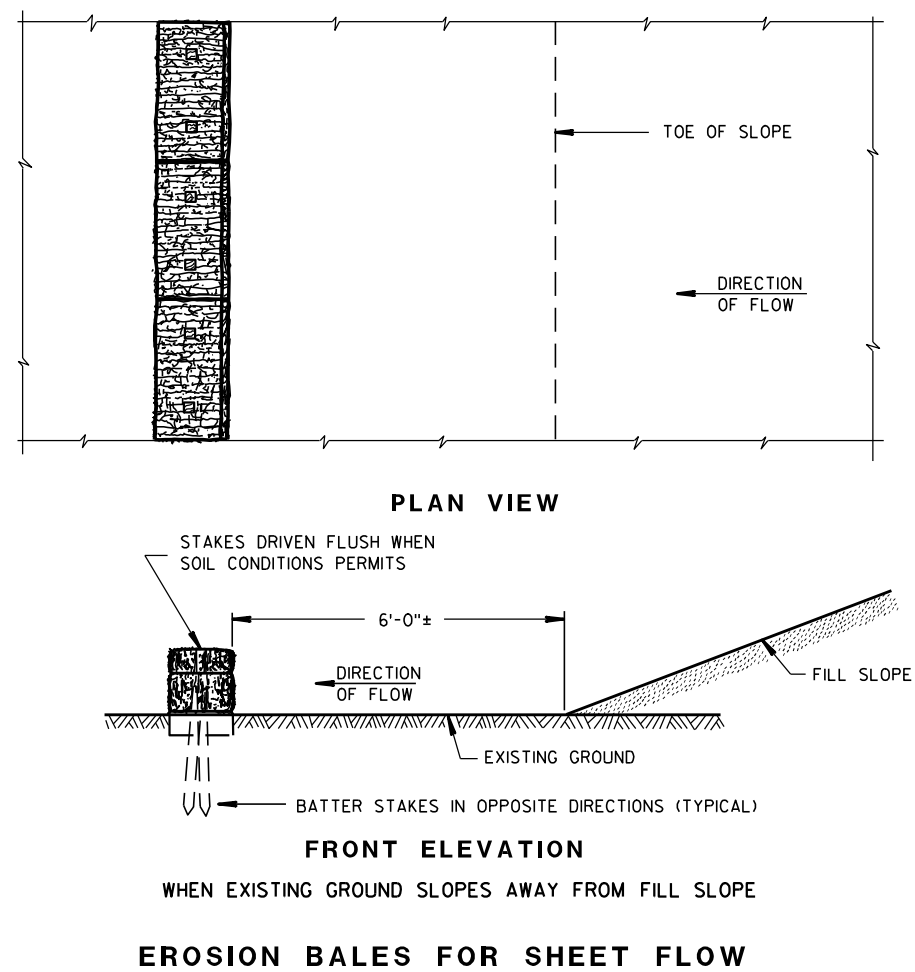
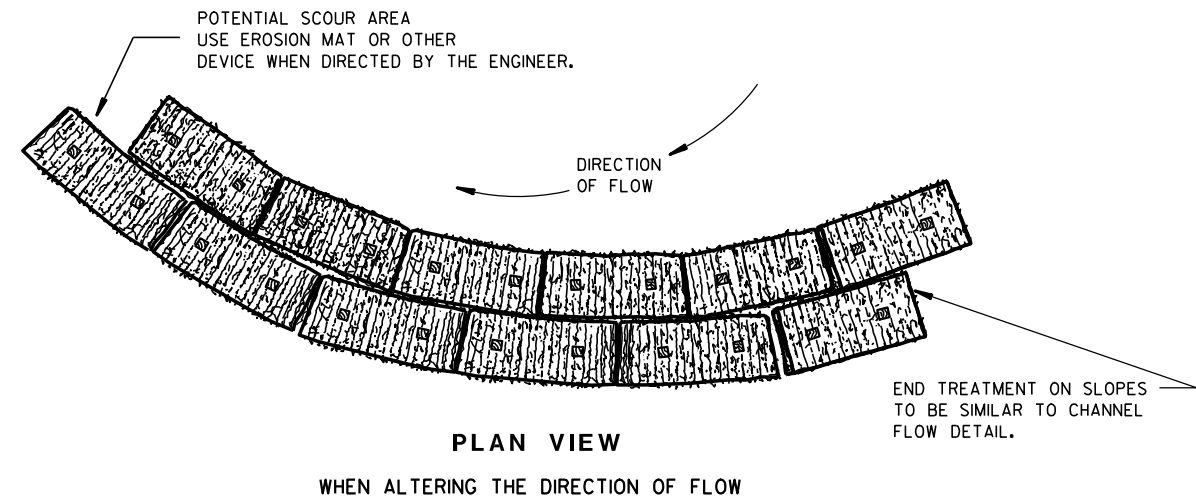
APPROVED
July 2023 /S/ Rodney Taylor
DATE ROADWAY STANDARDS DEVELOPMENT
FHWA UNIT SUPERVISOR



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.

TYPICAL INSTALLATIONS OF
EROSION BALES / TEMPORARY
DITCH CHECKS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

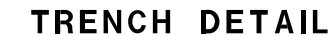
6/04/02
DATE

/S/ Beth Canestra
CHIEF ROADWAY DEVELOPMENT ENGINEER

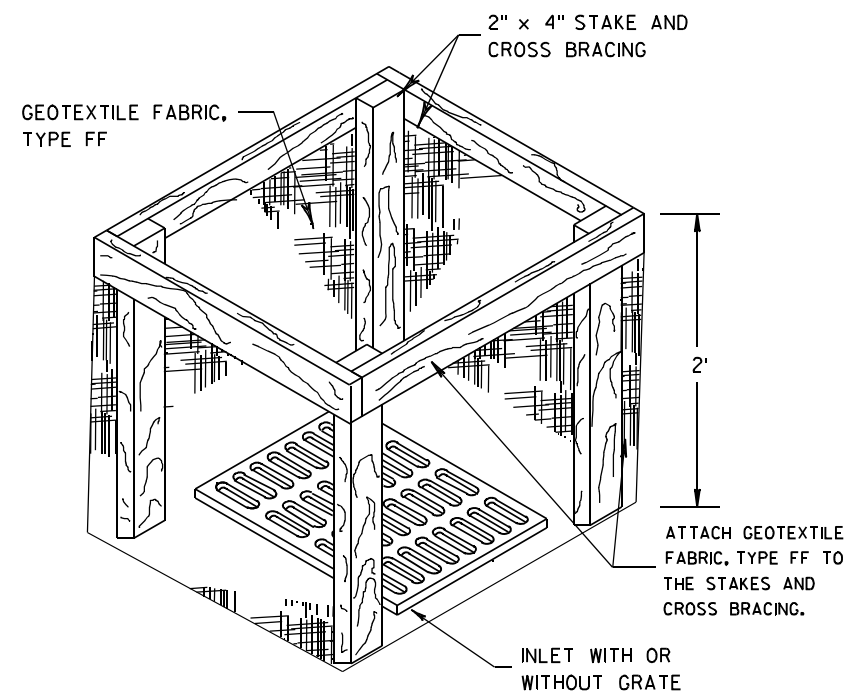
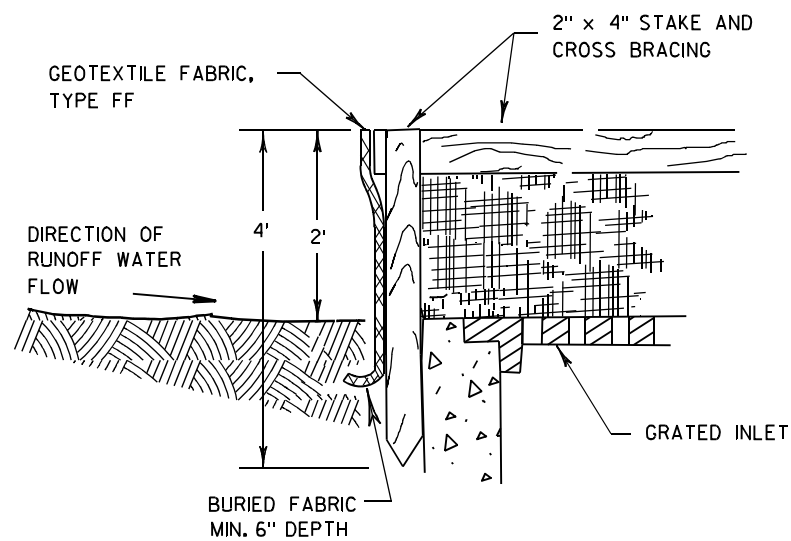
FHWA



- 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 1½" X 1½" 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.



SILT FENCE	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED <u>4-29-05</u> <u>DATE</u>	<u>/S/ Beth Canestra</u> CHIEF ROADWAY DEVELOPMENT ENGINEER



INLET PROTECTION, TYPE A

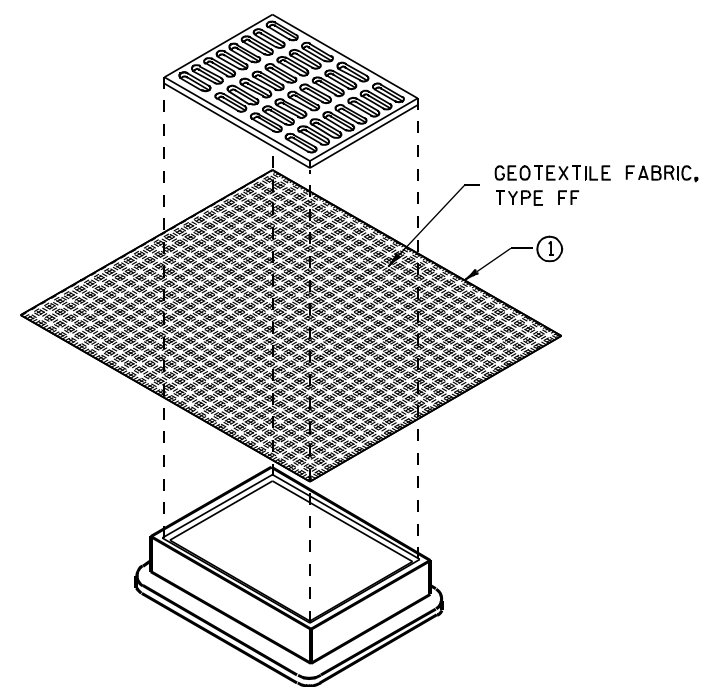
GENERAL NOTES

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

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

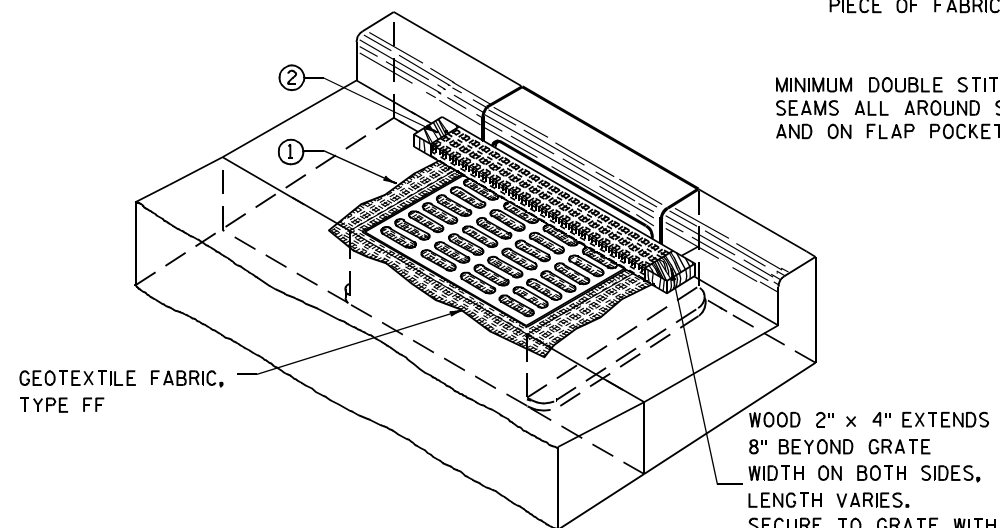
WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

- ① FINISHED SIZE, INCLUDING FLAP POCKETS WHERE REQUIRED, SHALL EXTEND A MINIMUM OF 10" AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.
- ② FOR INLET PROTECTION, TYPE C (WITH CURB BOX), AN ADDITIONAL 18" OF FABRIC IS WRAPPED AROUND THE WOOD AND SECURED WITH STAPLES. THE WOOD SHALL NOT BLOCK THE ENTIRE HEIGHT OF THE CURB BOX OPENING.
- ③ FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2X4.



**INLET PROTECTION, TYPE B
(WITHOUT CURB BOX)**

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



INLET PROTECTION, TYPE C (WITH CURB BOX)

INSTALLATION NOTES

TYPE B & C

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

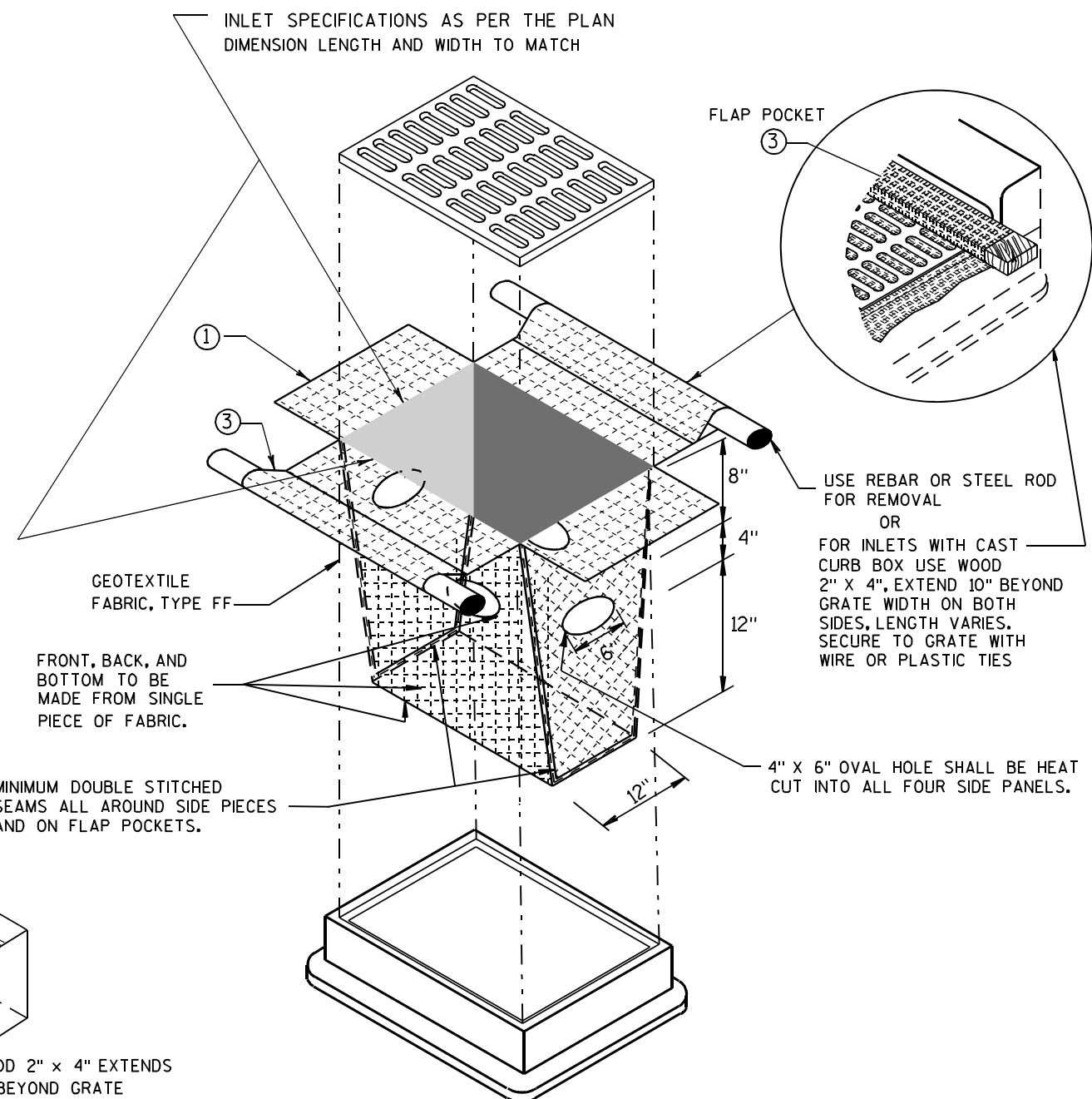
THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HOLDS OR OTHER METHOD TO PREVENT ACCUMULATED SEDIMENT FROM ENTERING THE INLET.

TYPE D

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

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

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



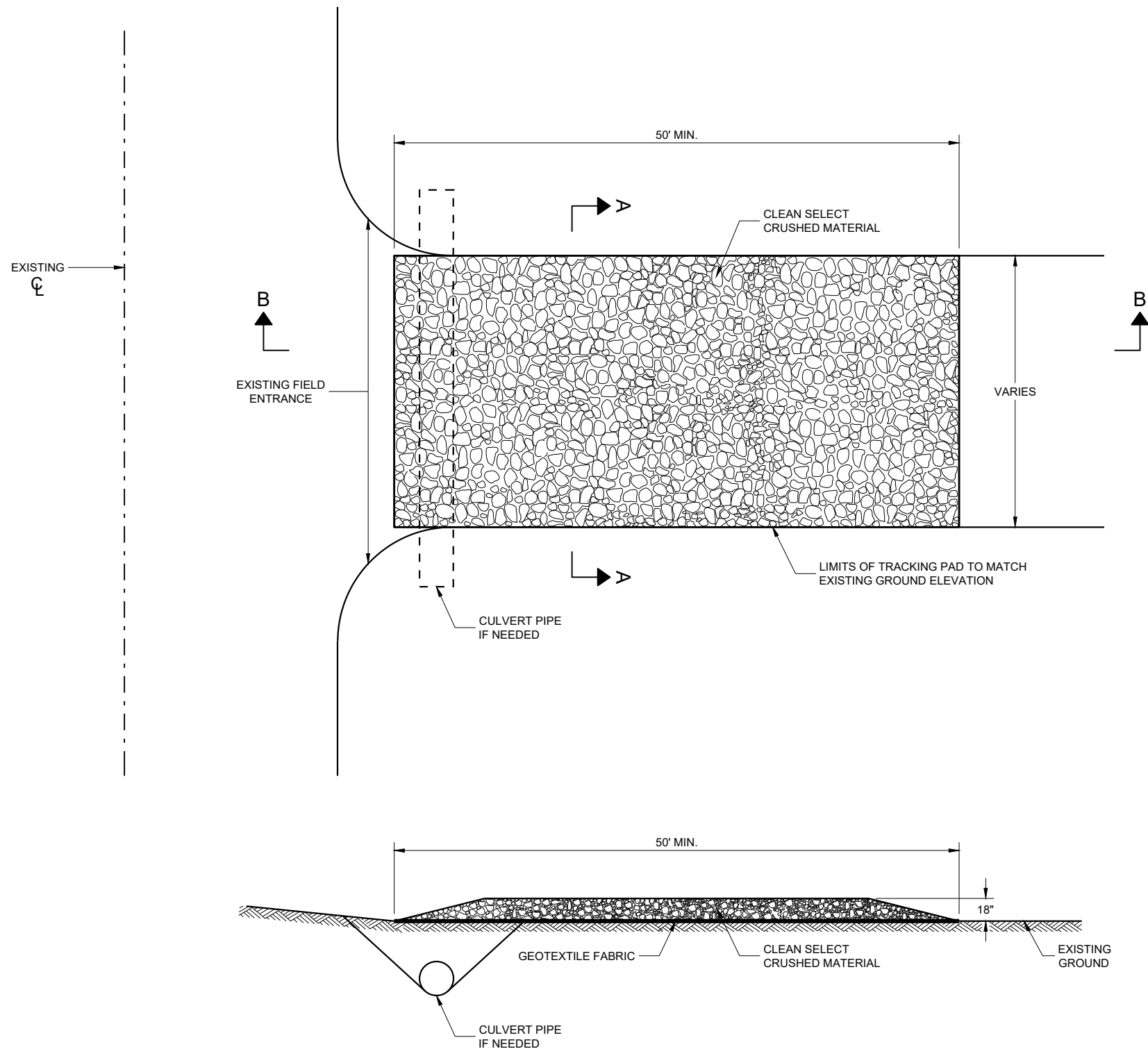
INLET PROTECTION, TYPE D

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

**INLET PROTECTION
TYPE A, B, C, AND D**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
10/16/02 /S/ Beth Cannestra
DATE
FHWA CHIEF ROADWAY DEVELOPMENT ENGINEER



SECTION B - B

GENERAL NOTES

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

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

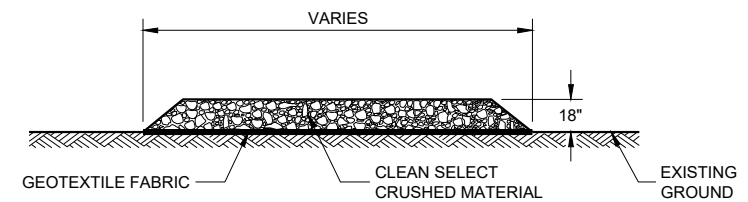
TRACKING PAD TO BE REMOVED AFTER CONSTRUCTION IS COMPLETED.

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

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

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

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



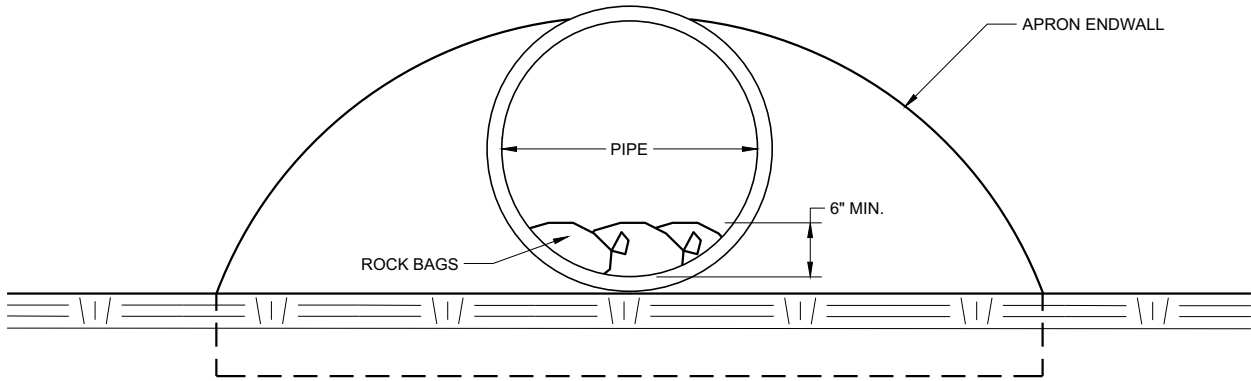
SECTION A - A

TRACKING PAD

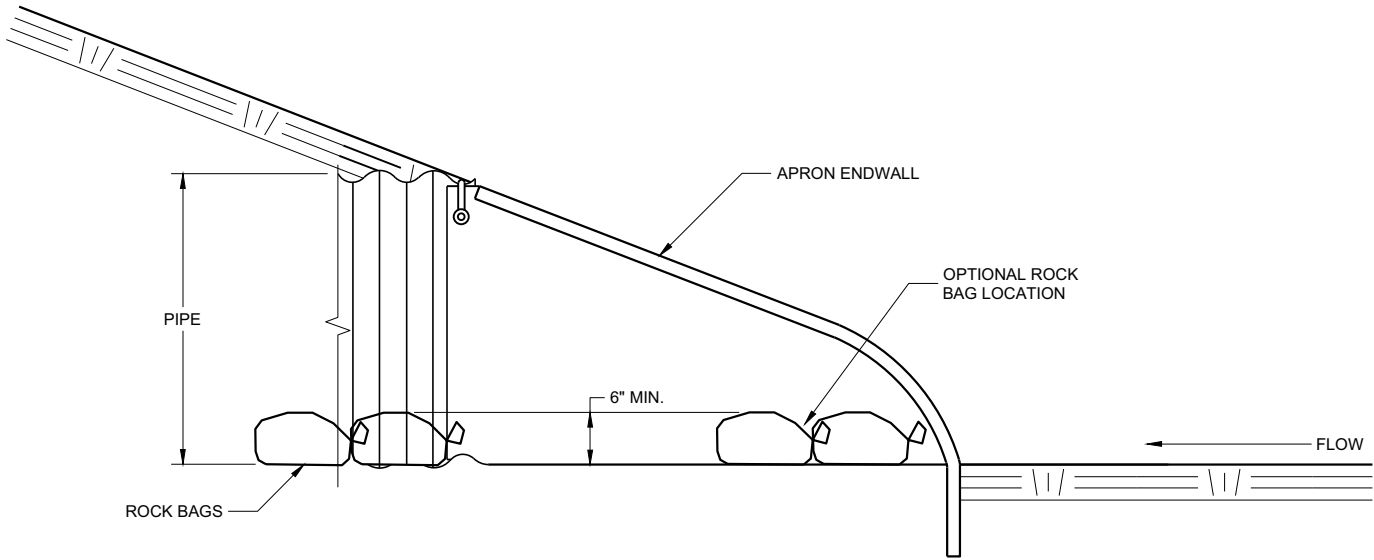
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
3/24/2011
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER

FHWA



END VIEW



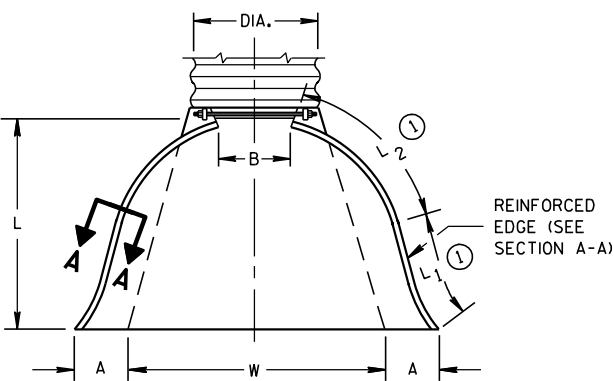
SIDE VIEW

CULVERT PIPE CHECK
(INSTALL ON INLET END ONLY)

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

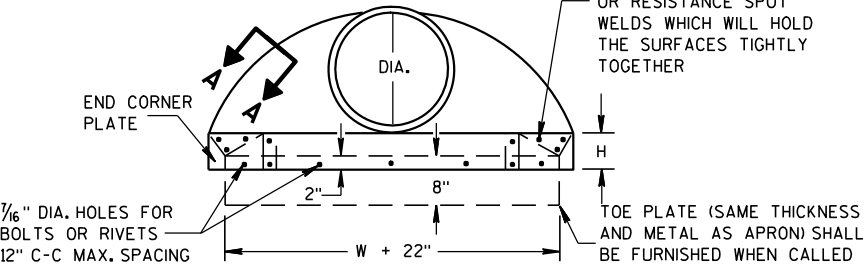
METAL APRON ENDWALLS												
PIPE DIA. (IN.)	MIN. THICK. (Inches)		DIMENSIONS (Inches)							APPROX. SLOPE	BODY	
	STEEL	ALUM.	A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L ₁ ①	L ₂ ①	W (±2")			
12	.064	.060	6	6	6	21	12	17 1/2	24	2 1/2 to 1	1 Pc.	
15	.064	.060	7	8	6	26	14	21 3/4	30	2 1/2 to 1	1 Pc.	
18	.064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

* EXCEPT CENTER PANEL
SEE GENERAL NOTES



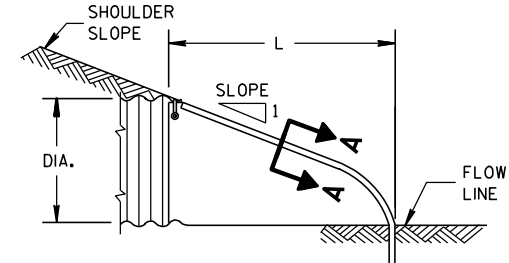
PLAN VIEW

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



END VIEW

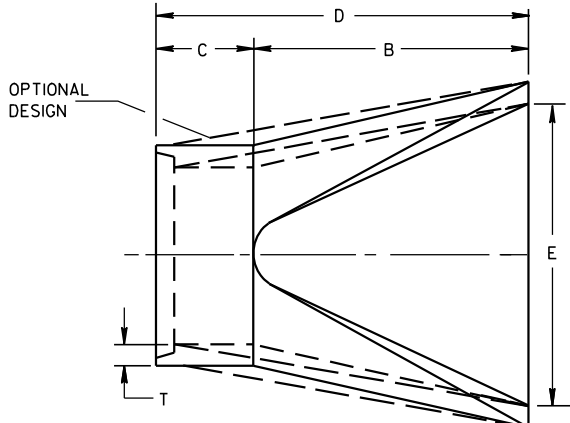
TOE PLATE (SAME THICKNESS
AND METAL AS APRON) SHALL
BE FURNISHED WHEN CALLED
FOR ON THE PLANS



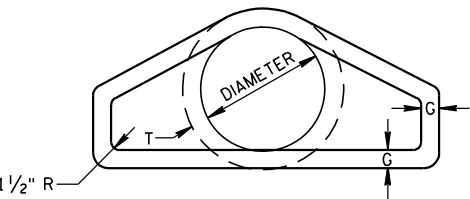
SIDE ELEVATION
METAL ENDWALLS

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

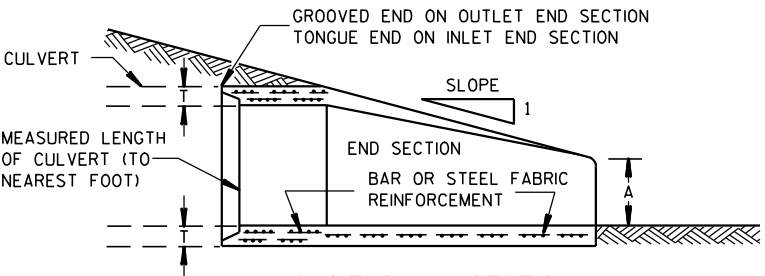
*MINIMUM
**MAXIMUM



PLAN

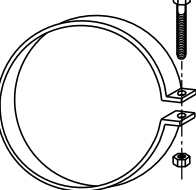


END VIEW

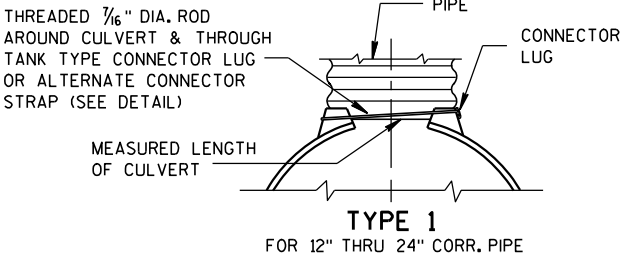


LONGITUDINAL SECTION
CONCRETE ENDWALLS

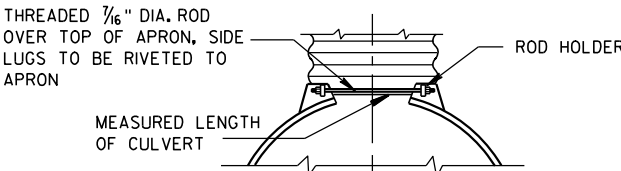
1" WIDE, 12 GA. (0.109"
THICK) GALVANIZED STRAP
WITH STANDARD 6" X 1/2"
BAND BOLT AND NUT



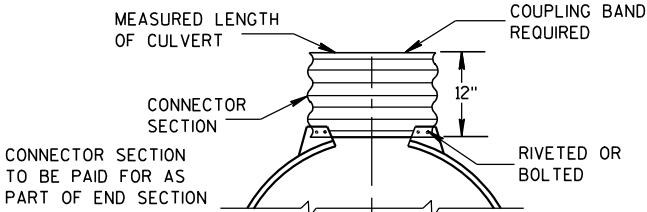
ALTERNATE FOR TYPE 1 CONNECTION
END SECTION CONNECTOR STRAP



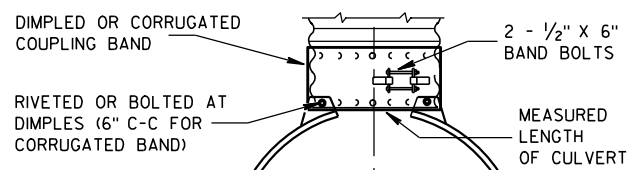
TYPE 1
FOR 12" THRU 24" CORR. PIPE



TYPE 2
FOR 30" THRU 96" CORR. PIPE



TYPE 3
FOR 42" THRU 96" CORR. PIPE



TYPE 5
ALTERNATE FOR:
ALL SIZES CORRUGATED CIRCULAR PIPE

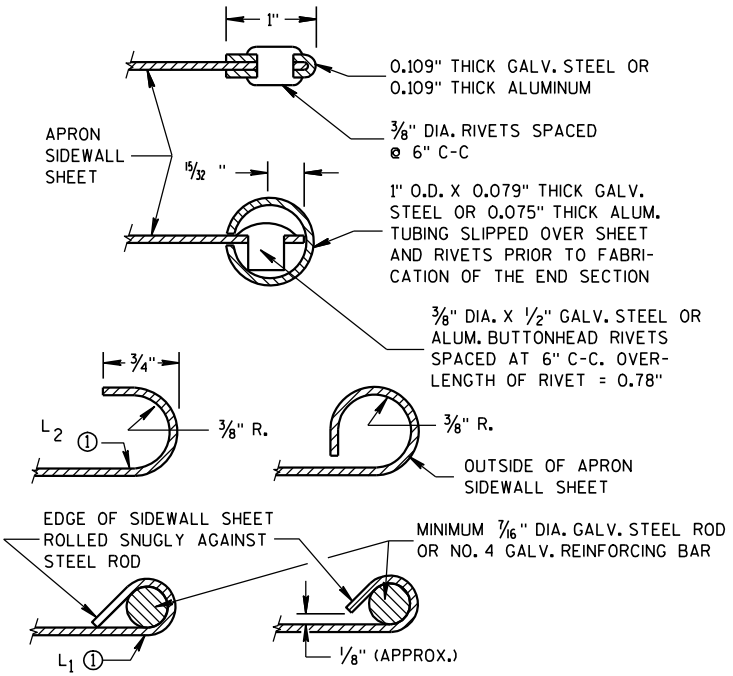
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL,
AND CORRUGATED BAND FITS INSIDE ENDWALL.
DIMPLED BAND MAY BE USED WITH HELICALLY
CORRUGATED PIPE.

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

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

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

CONNECTION DETAILS



SECTION A-A

GENERAL NOTES

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

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

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

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

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

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

APRON ENDWALLS FOR CULVERT PIPE	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 11/30/94 DATE	/S/ Rory L. Rhinesmith CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA	



- ① CENTER LINE OF TONGUE AND GROOVE OR BELL AND SPIGOT JOINTS.
- ② THE INSIDE OF THE THREADED INSERTS SHALL BE CLEAN TO ALLOW THE INSERTION OF THREADED EYE BOLTS.
- ③ HOLES SHALL BE CAST-IN-PLACE OR DRILLED PER THE APPLICABLE DETAIL, AND EQUAL DISTANCE FROM THE CENTERLINE OF THE JOINT.
- ④ BOLT PROJECTION INSIDE OF PIPE SHALL NOT EXCEED 2 INCHES.
- ⑤ OPENING TO BE ROD DIAMETER PLUS 1 INCH.
- ⑥ LENGTH ADEQUATE TO EXTEND TO WITHIN $\frac{1}{2}$ INCH OF THE INNER SURFACE OF THE PIPE.
- ⑦ EYE BOLT LENGTH DETERMINED BY WALL THICKNESS, BELL THICKNESS AND BOLT PROJECTION INSIDE PIPE.

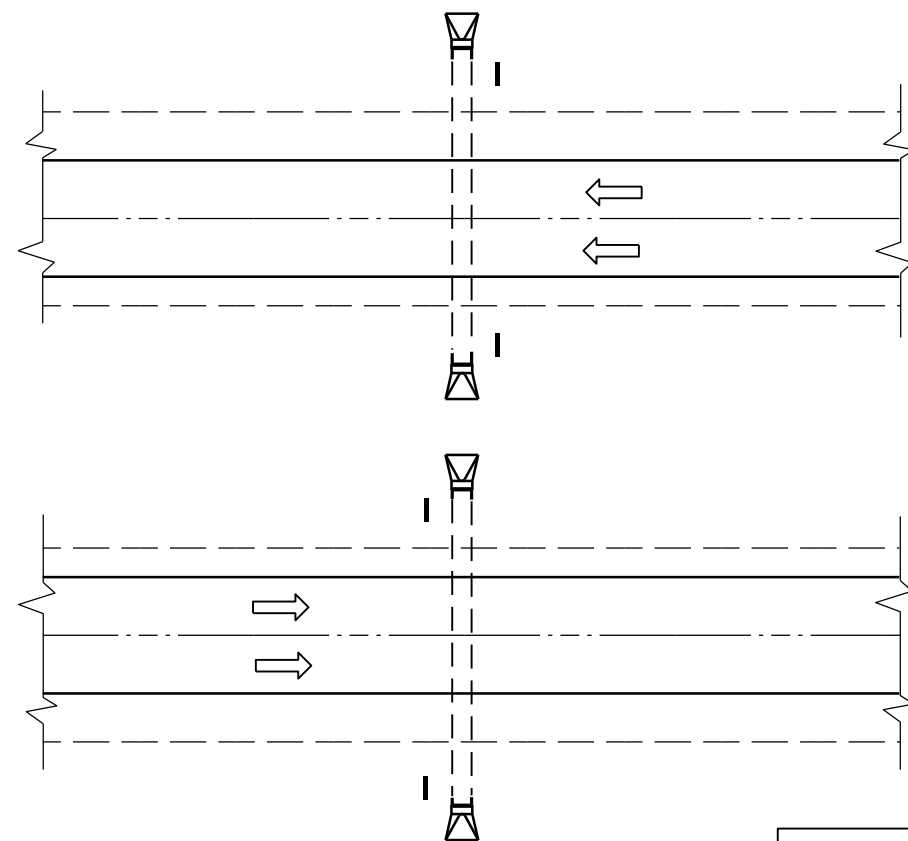


ADJUSTABLE TIE ROD (ALTERNATE NO. 3)

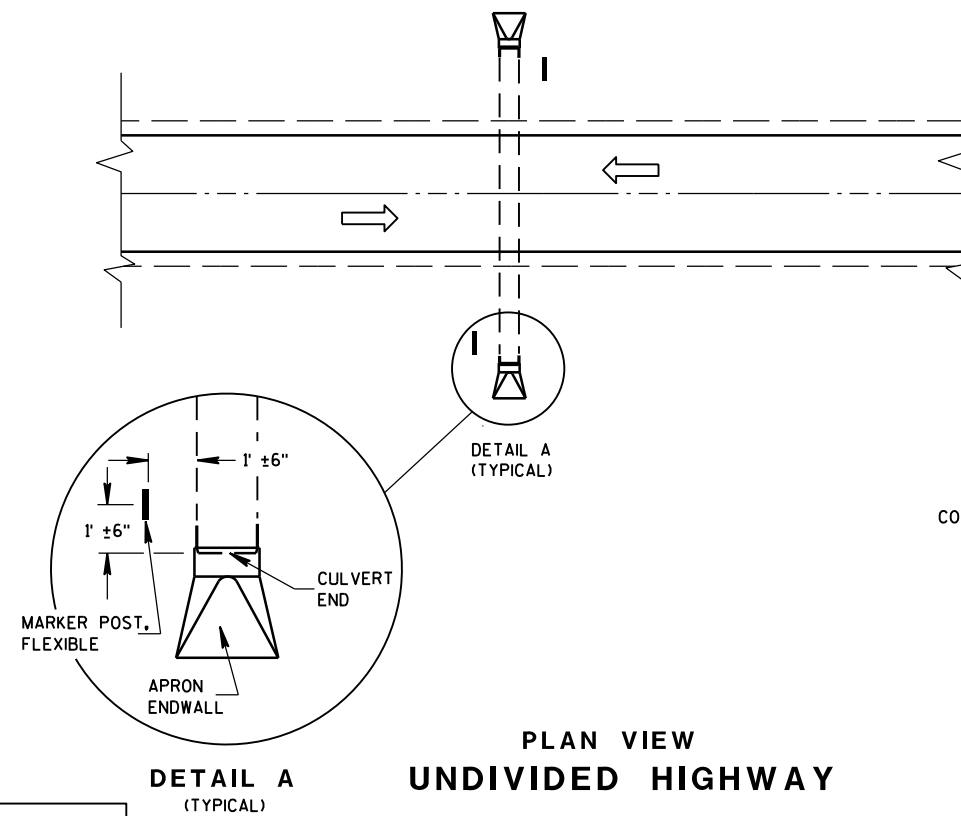
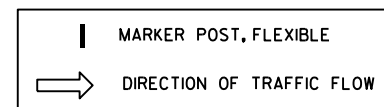


APPROVED
November 2021
DATE

/S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT
ENGINEER



PLAN VIEW
DIVIDED HIGHWAY

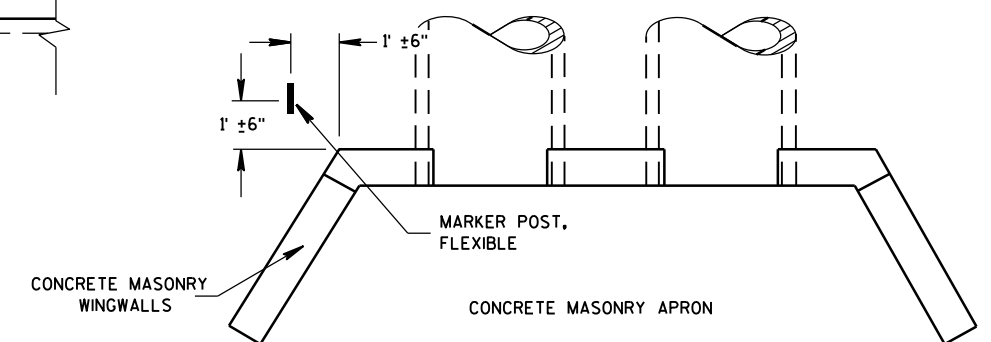


PLAN VIEW
UNDIVIDED HIGHWAY

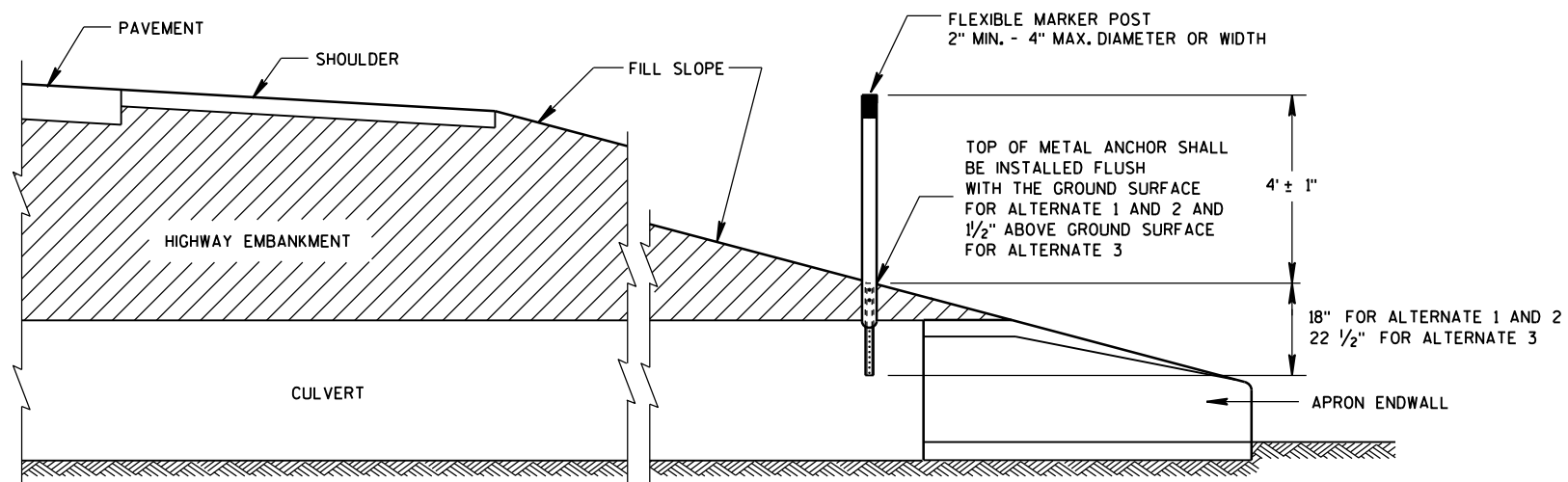
FLEXIBLE MARKER POST LOCATION

GENERAL NOTES

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



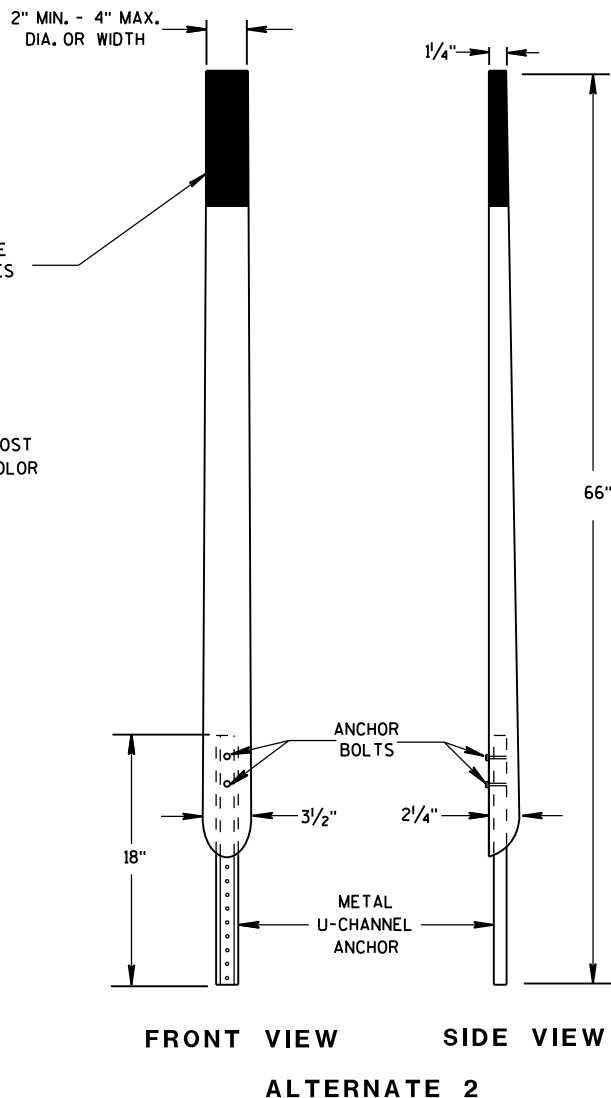
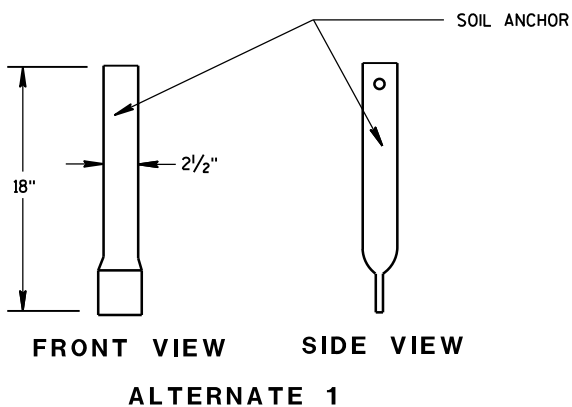
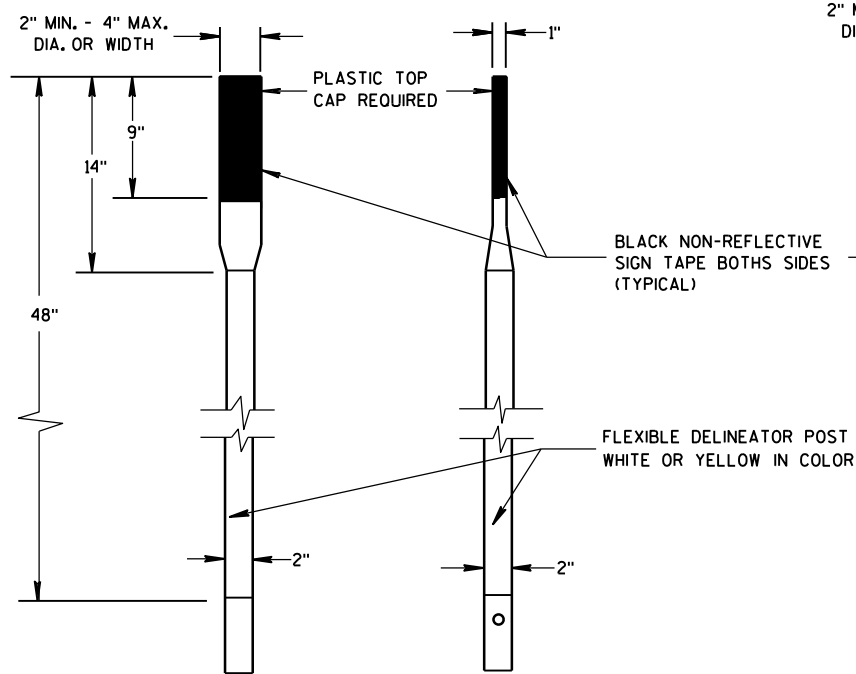
PLAN VIEW
CONCRETE MASONRY ENDWALLS FOR
CULVERT PIPE AND PIPE ARCH



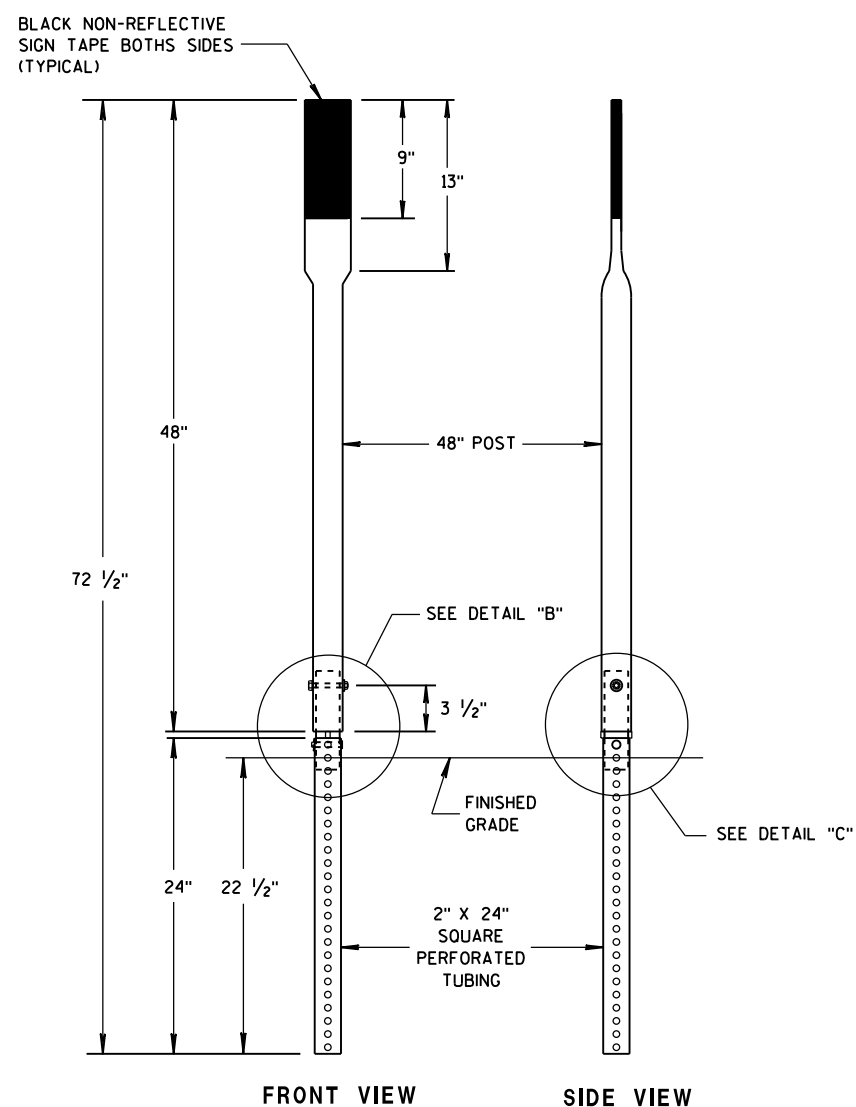
CROSS SECTION
FLEXIBLE MARKER POST

FLEXIBLE MARKER POST
FOR CULVERT END

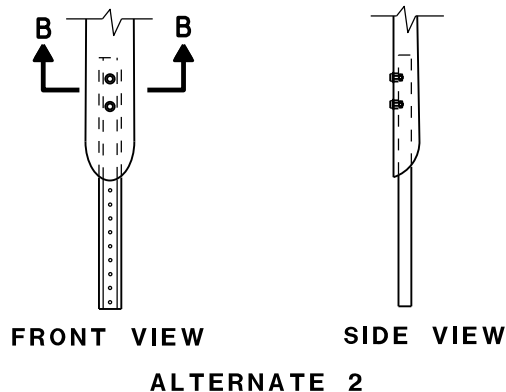
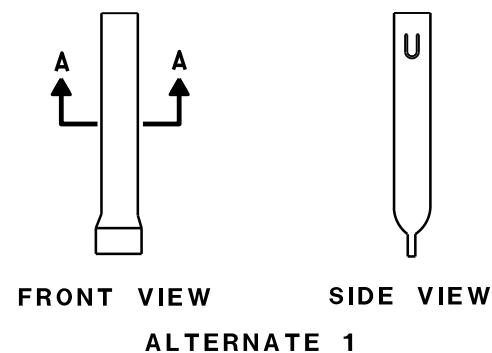
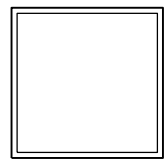
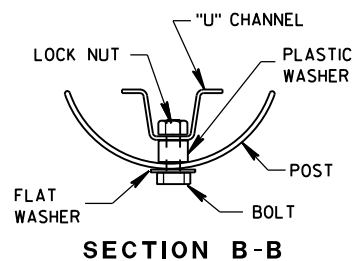
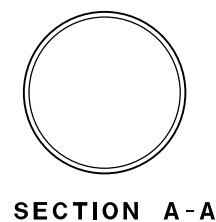
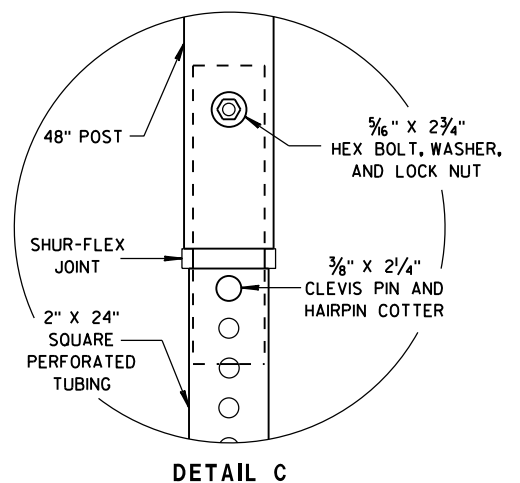
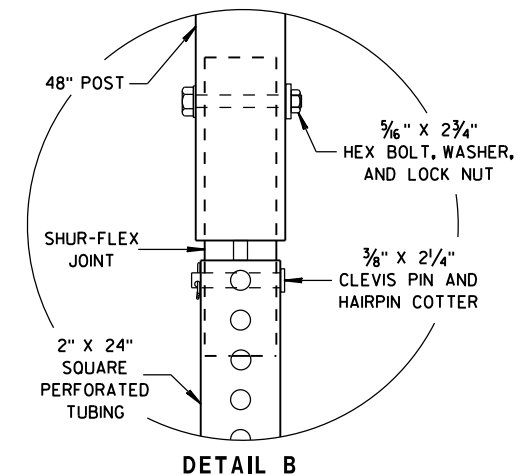
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



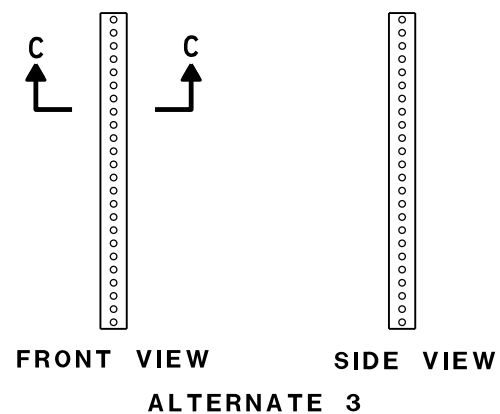
FLEXIBLE MARKER POSTS



SECTION C-C



FLEXIBLE MARKER POST ANCHORS



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

LEGEND

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

GENERAL NOTES

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

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

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

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

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

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

FLAGGING

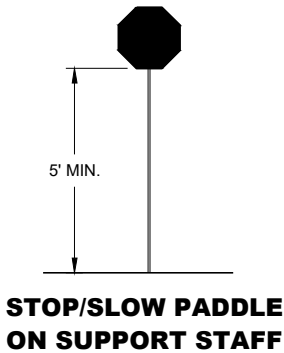
FLAGGERS SHALL BE IN SIGHT OF EACH OTHER OR IN DIRECT COMMUNICATION AT ALL TIMES. THEY SHALL BE EQUIPPED WITH STOP/SLOW PADDLES FASTENED ON SUPPORT STAFFS. WHEN THE FLAGGING OPERATION IS NOT IN EFFECT REMOVE TEMPORARY PORTABLE RUMBLE STRIPS PRIOR TO COVERING OR REMOVING ALL ADVANCE SIGNING.

- ① FOR MOVING WORK OPERATIONS, POST ADDITIONAL W20-7A FLAGGER SIGNS AT APPROXIMATELY 3,500' INTERVALS IN THE MOVING WORK OPERATION OR AS APPROVED BY THE ENGINEER.
- ② SIGN NOT REQUIRED IF FLAGGING OPERATION OCCURS WITHIN A SIGNED ROAD WORK ZONE AREA.

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

TEMPORARY PORTABLE RUMBLE STRIPS

- UTILIZE TEMPORARY PORTABLE RUMBLE STRIPS ON ALL FLAGGING OPERATIONS.
- ③ EACH TEMPORARY PORTABLE RUMBLE STRIP ARRAY CONSISTS OF THREE RUMBLE STRIPS PLACED TRANSVERSE ACROSS THE LANE AT THE LOCATIONS SHOWN. WITHIN EACH ARRAY, SPACING BETWEEN RUMBLE STRIPS SHALL BE 15 FEET ON CENTER
- ONLY USE TEMPORARY PORTABLE RUMBLE STRIPS FROM THE APPROVED PRODUCTS LIST.
- INSTALL TEMPORARY RUMBLE STRIPS PER MANUFACTURER'S RECOMMENDATIONS.
- PLACE ADVANCE SIGNING PRIOR TO INSTALLING TEMPORARY RUMBLE STRIPS.
- DO NOT INSTALL TEMPORARY PORTABLE RUMBLE STRIPS ON GRAVEL, MILLED SURFACES, OR ASPHALT THAT HAS BEEN PAVED LESS THAN 12 HOURS.

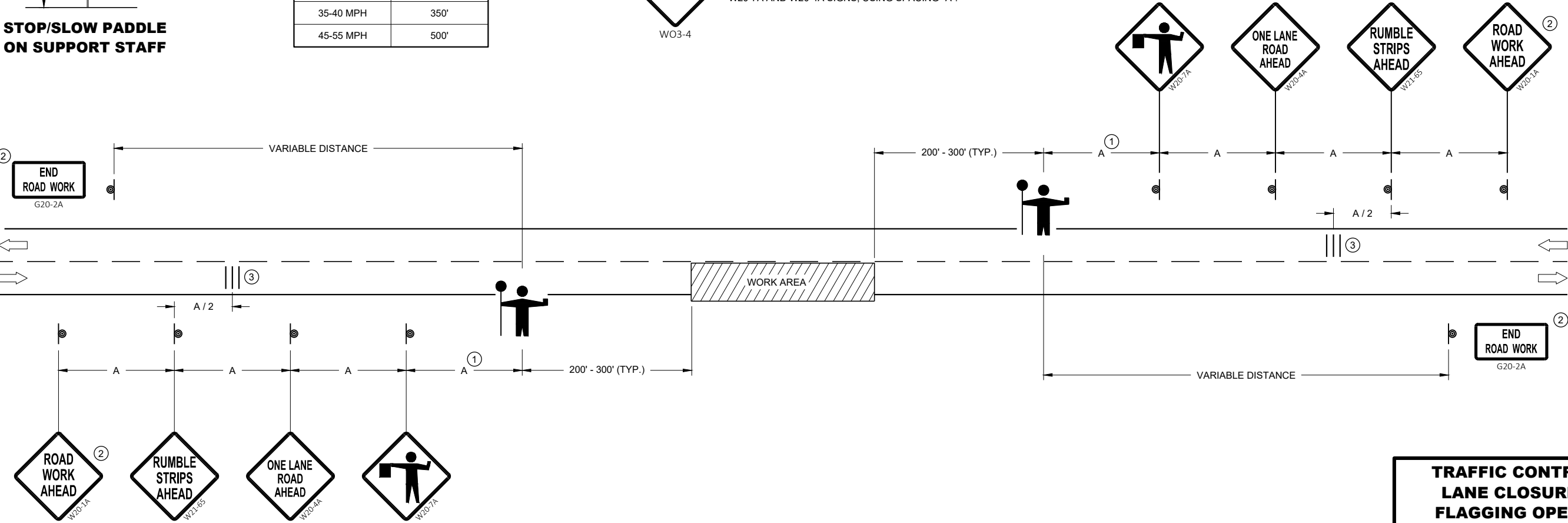


SIGN AND TEMPORARY RUMBLE STRIP ARRAY SPACING TABLE

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



USE OF W03-4 SIGN IS OPTIONAL. WHEN USED, THIS SIGN SHALL BE LOCATED BETWEEN THE W20-7A AND W20-4A SIGNS, USING SPACING "A".



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

LEGEND

-  SIGN ON PERMANENT SUPPORT
-  TRAFFIC CONTROL DRUM
-  DIRECTION OF TRAFFIC
-  WORK ZONE

GENERAL NOTES

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

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

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

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

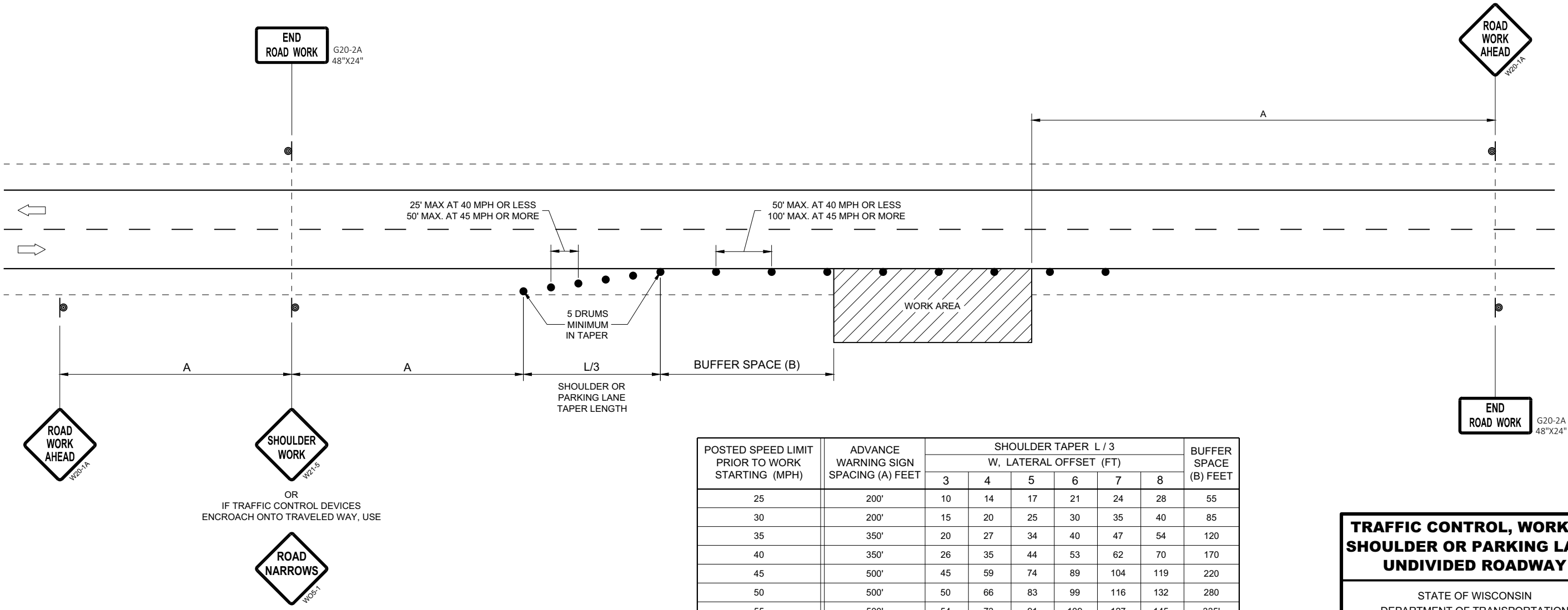
CHANNELIZING DEVICES PLACED ADJACENT TO WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

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

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

6

SDD 15D28 - 04



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

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2020
DATE

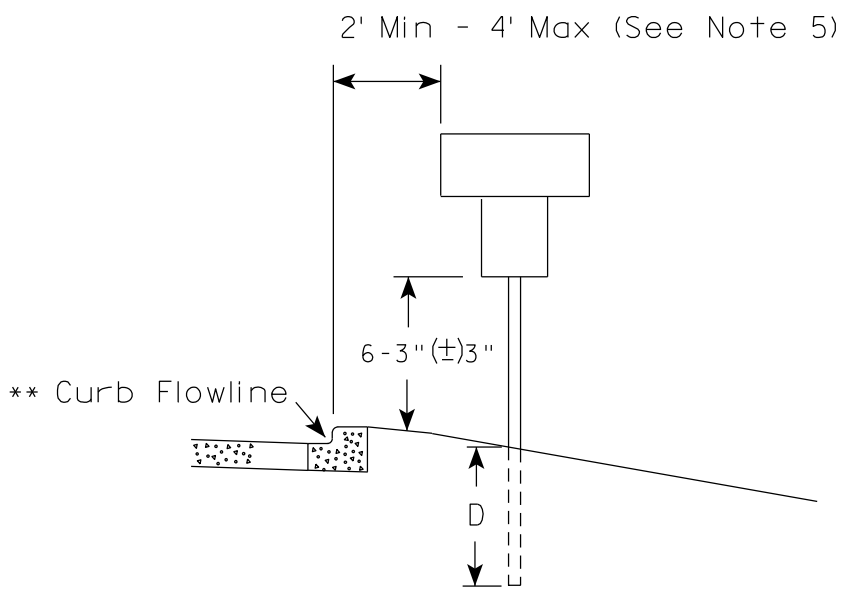
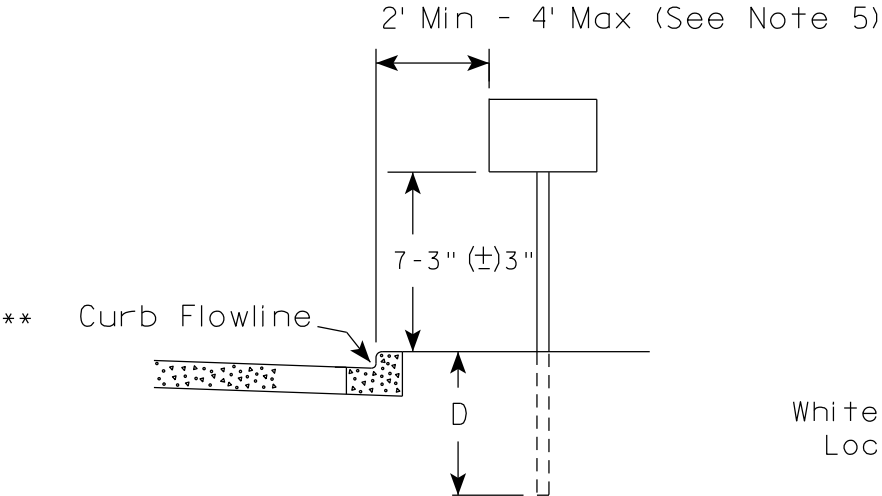
/S/ Andrew Heidtke
STATEWIDE WORK ZONE TRAFFIC
SAFETY ENGINEER

FHWA

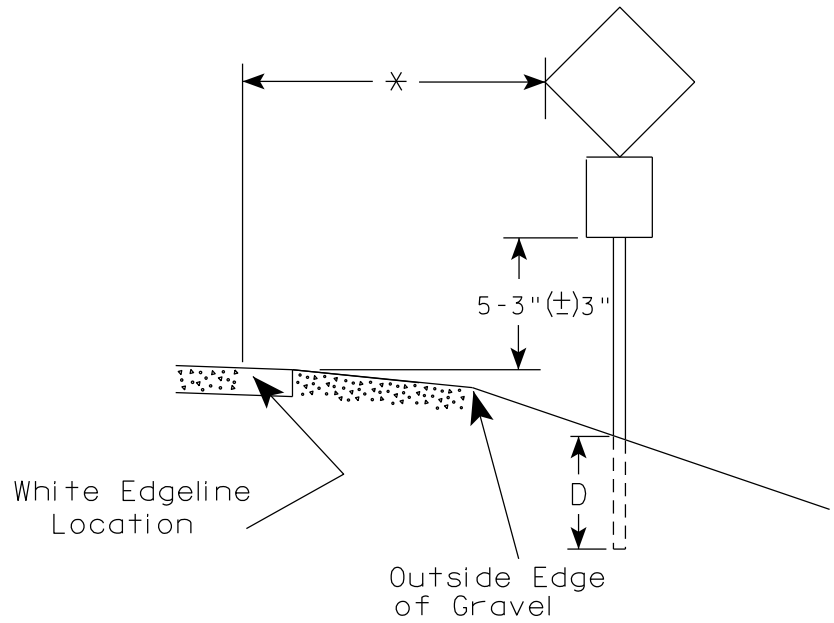
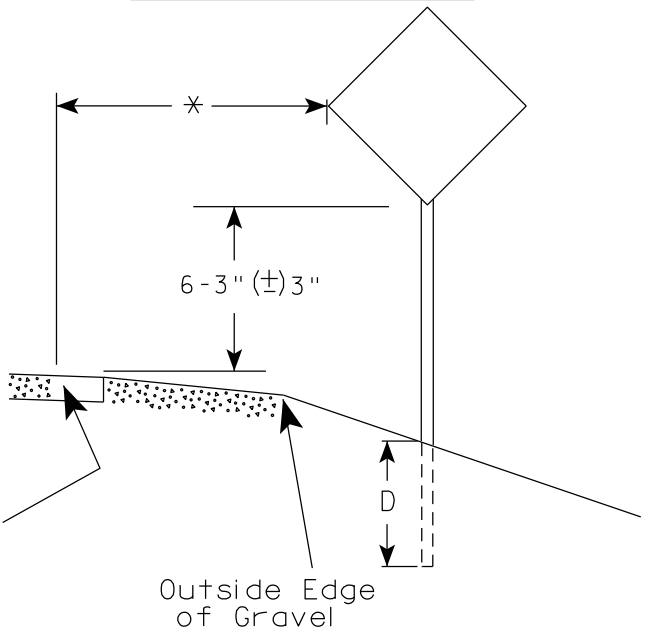
6

SDD 15D28 - 04

URBAN AREA



RURAL AREA (See Note 2)



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

GENERAL NOTES

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

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

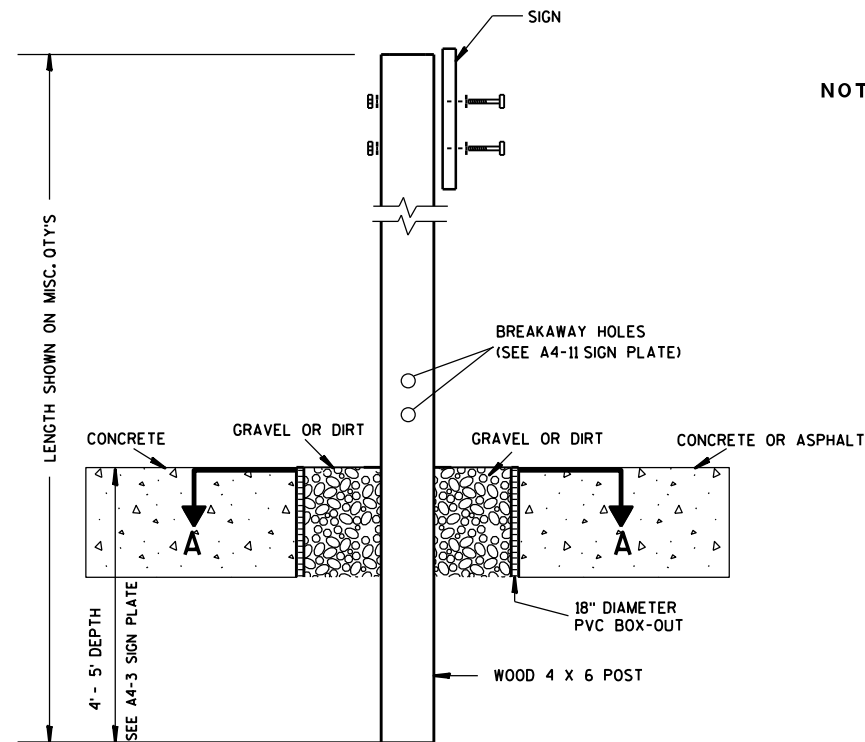
* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.

TYPICAL INSTALLATION
OF PERMANENT TYPE II
SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED 
for State Traffic Engineer

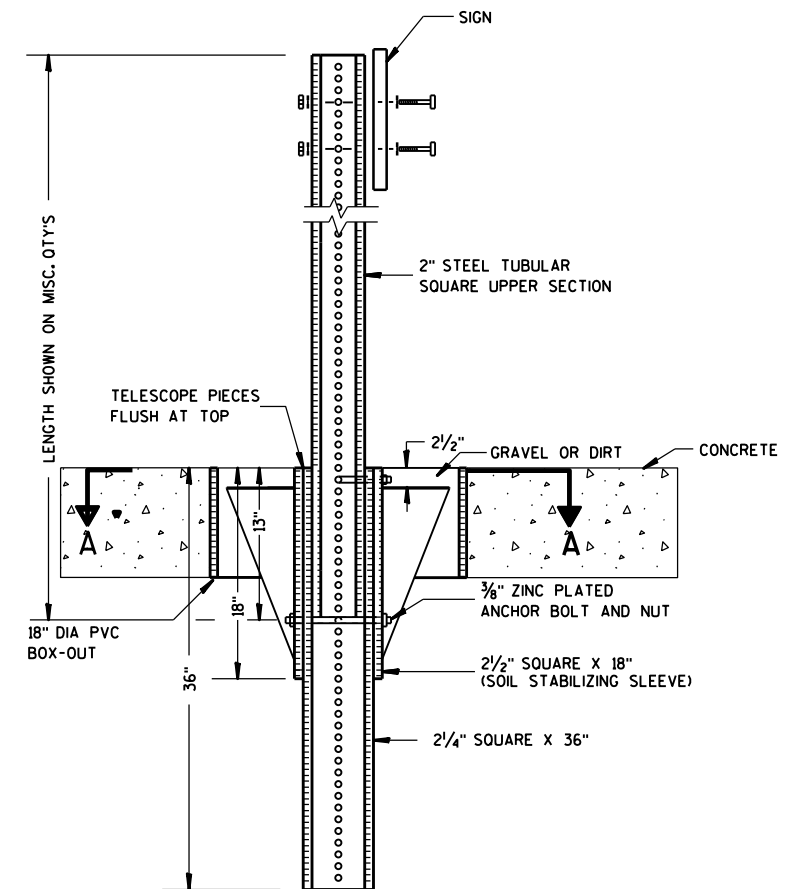
DATE 12/6/23 PLATE NO. A4-3.23



ELEVATION VIEW

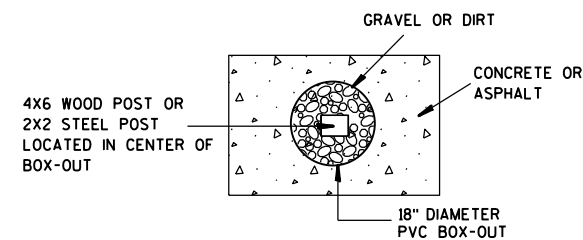
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

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



ELEVATION VIEW

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



PLAN VIEW

FOR NEW CONCRETE/ASPHALT INSTALLATIONS

SIGN POST
BOX-OUTS
A4-3B

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

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

PROJECT NO:

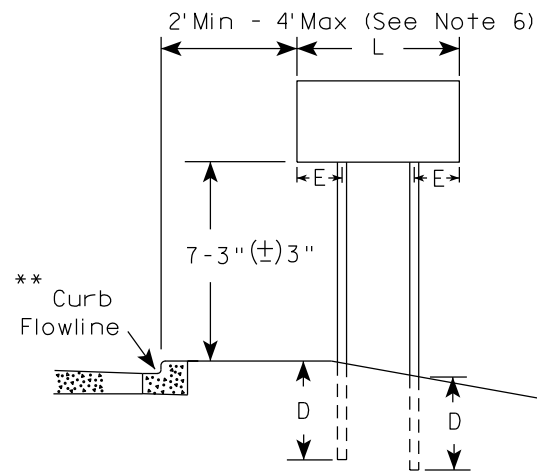
HWY:

COUNTY:

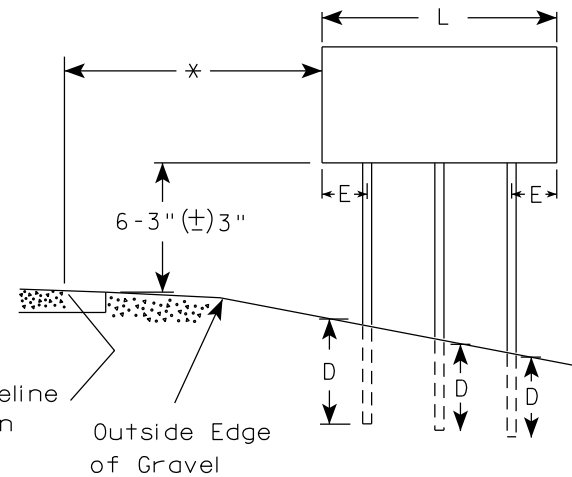
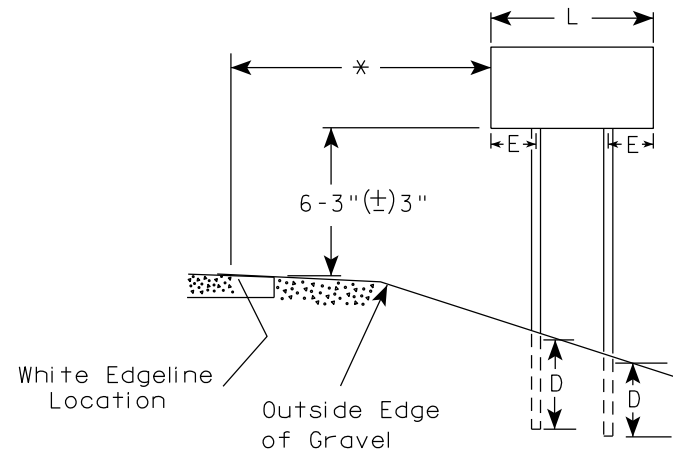
SHEET NO:

E

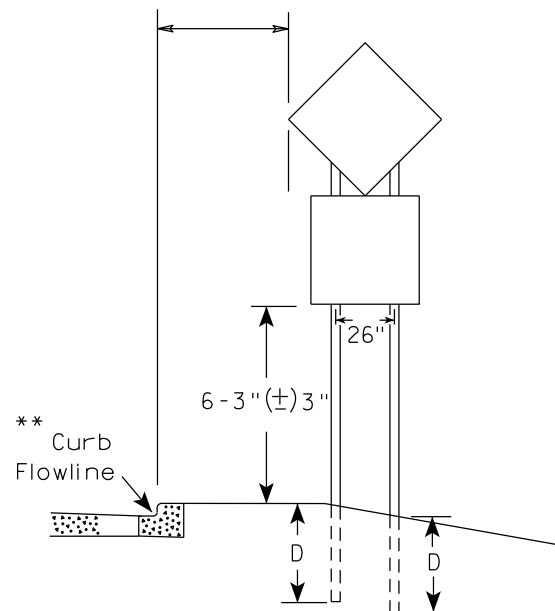
URBAN AREA



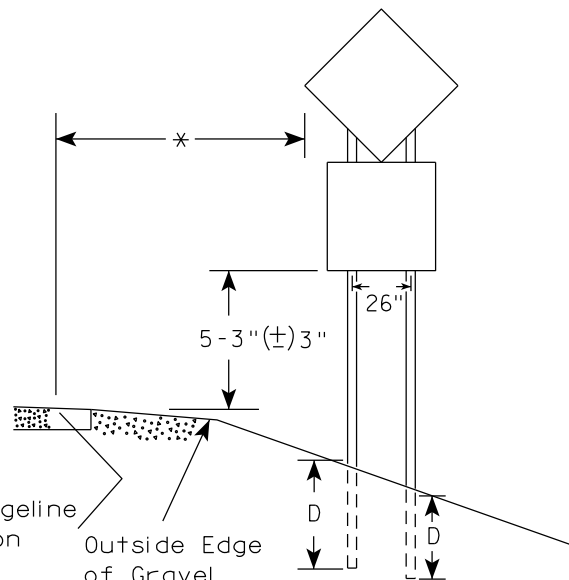
RURAL AREA (See Note 3)



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



48" DIAMOND WARNING SIGN



48" DIAMOND WARNING SIGN

GENERAL NOTES

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

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

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

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

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

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

POST EMBEDMENT DEPTH

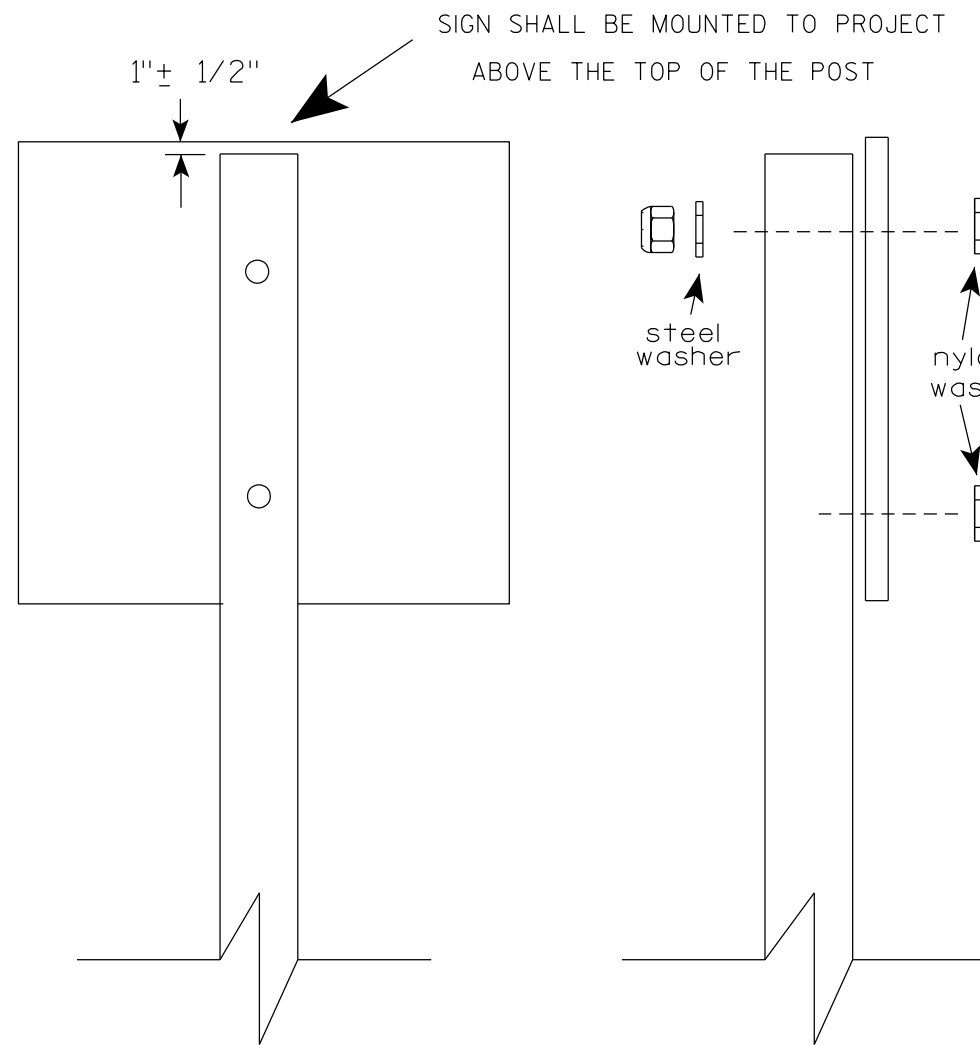
Area of Sign Installation (Sq.Ft.)	D (Min)
20 or Less	4'
Greater than 20	5'

TYPICAL INSTALLATION
OF TYPE II SIGNS
ON MULTIPLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 12/6/23 PLATE NO. A4-4.16



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

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

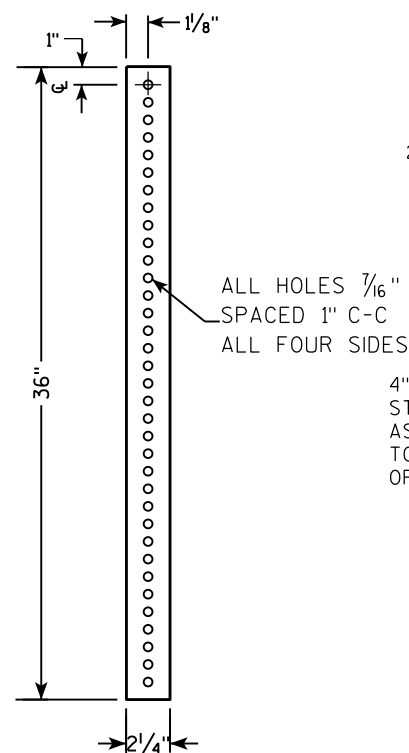
Threads on bolts and nuts shall be manufactured with sufficient allowance for the cadmium plate or galvanized coating to permit the nuts to run freely on the bolts.

- STRINGER BOLTING TO ALUMINUM SIGNS (SEE SIGN PLATE A4-18)
- MACHINE BOLTS - $\frac{5}{16}$ " X 1-3/4" Length w/ lock nuts
- WOOD POSTS (4" x 6")
- LAG SCREWS - $\frac{3}{8}$ " X 3" (NO STRINGERS ON BACK OF SIGN)
 $\frac{3}{8}$ " X 4" (STRINGERS ON BACK OF SIGN)
- SQUARE STEEL POSTS (2" x 2")
- MACHINE BOLTS - $\frac{3}{8}$ " X 3-1/4" Length w/ nuts (NO STRINGER ON BACK OF SIGN)
 $\frac{3}{8}$ " X 5" Length w/ nuts (STRINGERS ON BACK OF SIGN)
- RIVETS - $\frac{9}{32}$ " (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL
O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH
- WASHERS (ALL POSTS) -
- 1-1/4" O.D. X $\frac{3}{8}$ " I.D. X $\frac{1}{16}$ " STEEL
- 1-1/4" O.D. X $\frac{3}{8}$ " I.D. X .080 NYLON

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

ATTACHMENT OF SIGNS TO POSTS	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> For State Traffic Engineer
DATE 4/1/2020	PLATE NO. A4-8.9

**2 1/4" SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH**



2 1/2" TELES PAR TUBE

4" x 10" x 10 GA. STEEL PLATE (CUT AS SHOWN) WELDED TO ALL FOUR CORNERS OF TELES PAR TUBE

4"

2 1/2"

10"

3 1/2"

16 1/2"

TECHNICAL DRAWING OF A SIGN POST ASSEMBLY.

Side View Labels:

- SIGN
- SEE SIGN PLATE A4-8 FOR BOLT WASHER, & NUT MATERIAL
- 2" STEEL TUBULAR SQUARE UPPER SECTION
- ALL HOLES $\frac{7}{16}$ " SPACED 1" C-C ALL FOUR SIDES
- $\frac{3}{8}$ " ZINC PLATED CORNER ANCHOR BOLT AND NUT
- 2 1/2" GRAVEL OR DIRT
- $\frac{3}{8}$ " ZINC PLATED ANCHOR BOLT AND NUT
- 2 1/2" SQUARE X 18" (SOIL STABILIZING SLEEVE)
- 2 1/4" SQUARE X 36"

Cross Section Labels:

- TELESCOPE PIECES FLUSH AT TOP
- 13"
- 18"
- 36"
- 18" DIA SCHEDULE 40 PVC BOX-OUT

TECHNICAL DRAWING OF A SIGNPOST ASSEMBLY.

Side View Dimensions:

- Overall height: LENGTH SHOWN ON MISC. QTYS
- Top section: 2" STEEL TUBULAR SQUARE UPPER SECTION
- Telescope pieces: TELESCOPE PIECES FLUSH AT TOP
- Anchor bolt and nut: 3/8" ZINC PLATED CORNER ANCHOR BOLT AND NUT
- Anchor bolt and nut: 3/8" ZINC PLATED ANCHOR BOLT AND NUT
- Soil stabilizing sleeve: 2 1/2" SQUARE X 18" (SOIL STABILIZING SLEEVE)
- Post section: 2 1/4" SQUARE X 36"

Top View Dimensions:

- Overall width: 36"
- Inner section width: 18"
- Inner section depth: 12"
- Anchor bolt and nut: 3/8" ZINC PLATED CORNER ANCHOR BOLT AND NUT
- Anchor bolt and nut: 3/8" ZINC PLATED ANCHOR BOLT AND NUT

Sign Assembly Details:

- SIGN
- SEE SIGN PLATE A4-8 FOR BOLT WASHER, & NUT MATERIAL
- ALL HOLES 7/16" SPACED 1" C-C
- ALL FOUR SIDES

A schematic diagram of a square microfluidic chip. It features a central square channel with rounded corners. This central channel is surrounded by a thin border, which is in turn enclosed by a thicker frame. Four ports are located on the outer frame: one at the top center, one at the bottom center, and one on each of the left and right sides. A line representing a channel or tube enters from the top port, turns 90 degrees to the right, and exits through the right port. The other three ports (bottom, left, and right) are shown as open connections without internal tubing.

DIRECTION
OF TRAFFIC

SECTION A-A

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

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

TUBULAR STEEL
SIGN POST
A4-9

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch

for State Traffic Engineer

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

PROJECT NO:

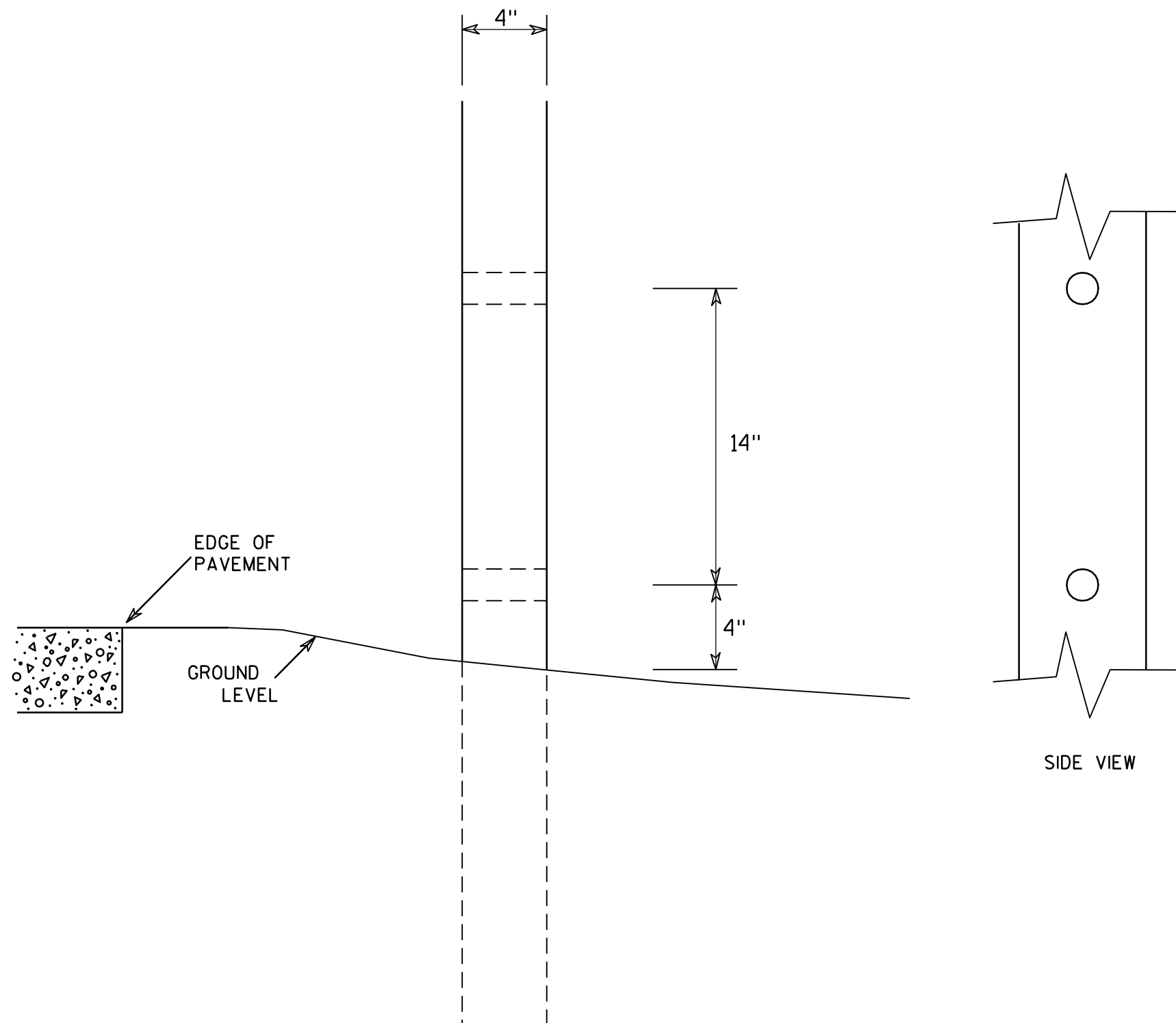
HWY:

COUNTY:

SHEET NO:

1

7



GENERAL NOTES

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

7

4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Chester J. Spang
for State Traffic Engineer

DATE 3/27/97

PLATE NO. A4-11.2

PROJECT NO:

HWY:

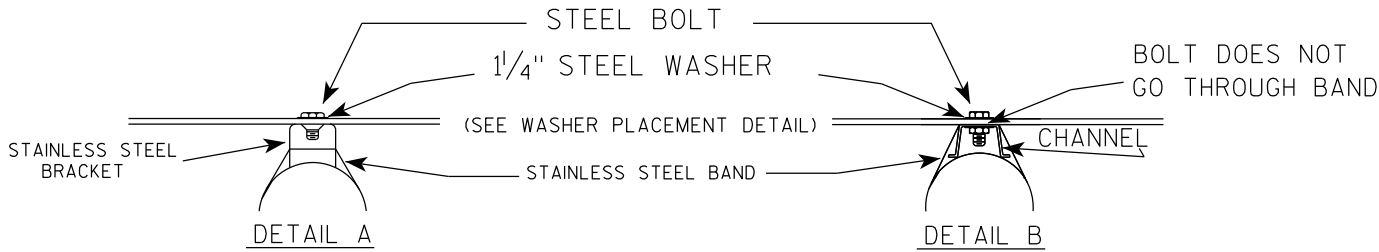
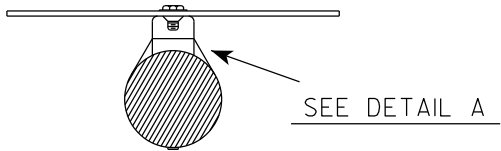
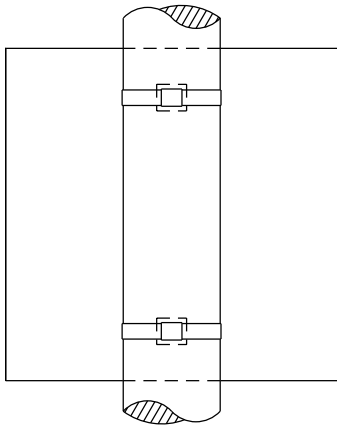
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SHEET NO:

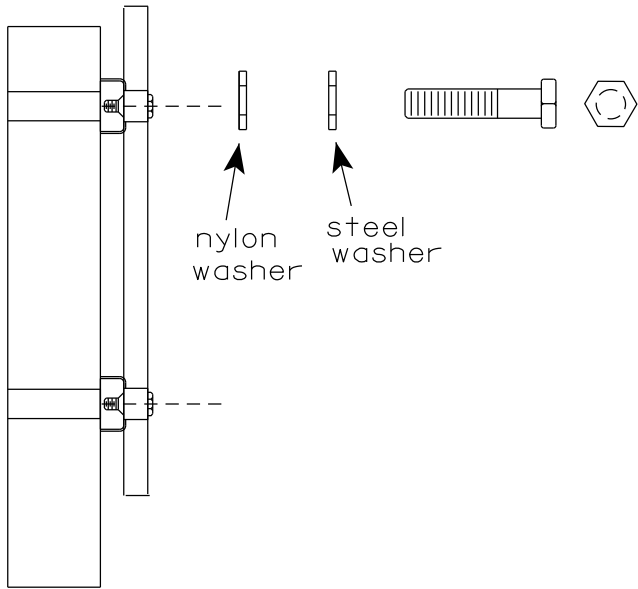
E

BANDING

SINGLE SIGN



WASHER PLACEMENT

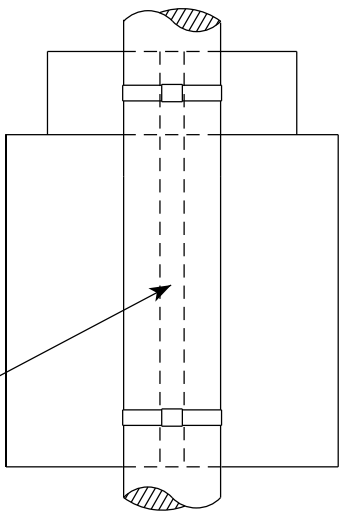


WASHERS (ALL POSTS) -
1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON
FOR ALL TYPE H SIGNS

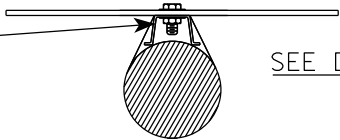
GENERAL NOTES

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

"J" ASSEMBLY



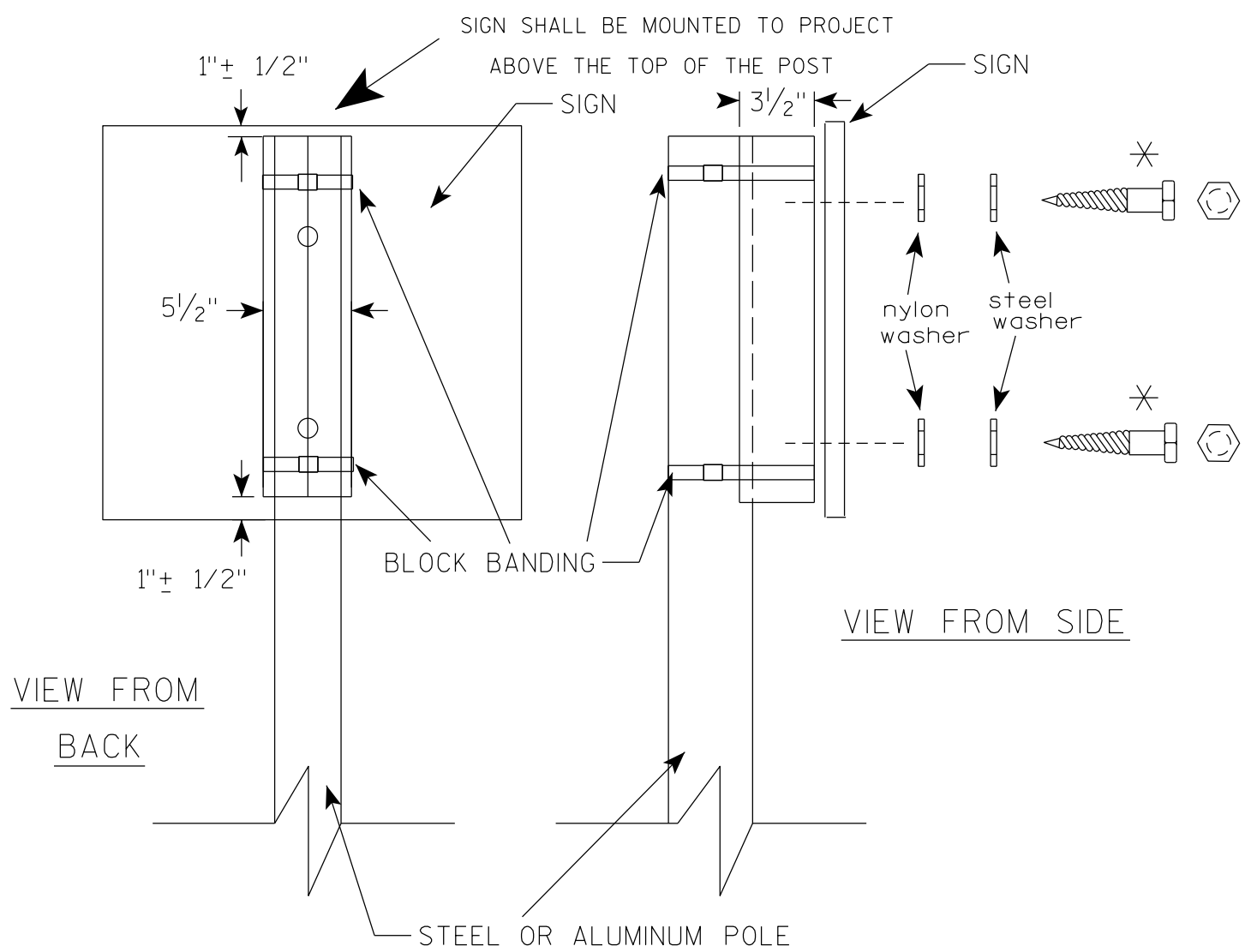
CHANNEL
SEE TYPICAL PANEL
INSTALLATION SHEET



STANDARD SIGN
SIGN BANDING DETAILS

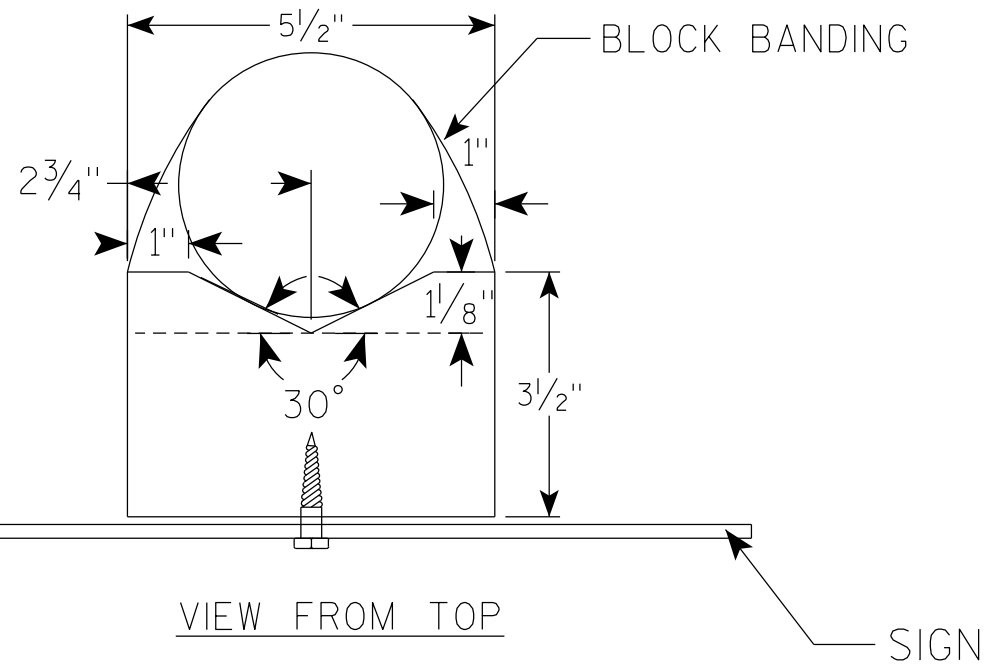
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer
DATE 6/10/19 PLATE NO. A5-9.4



VIEW FROM
BACK

VIEW FROM SIDE



VIEW FROM TOP

GENERAL NOTES

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

✱ LAG BOLTS SHALL BE $\frac{3}{8}$ " X $2\frac{1}{2}$ "

BLOCK BANDING DETAIL
(V-BLOCK OPTION)

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

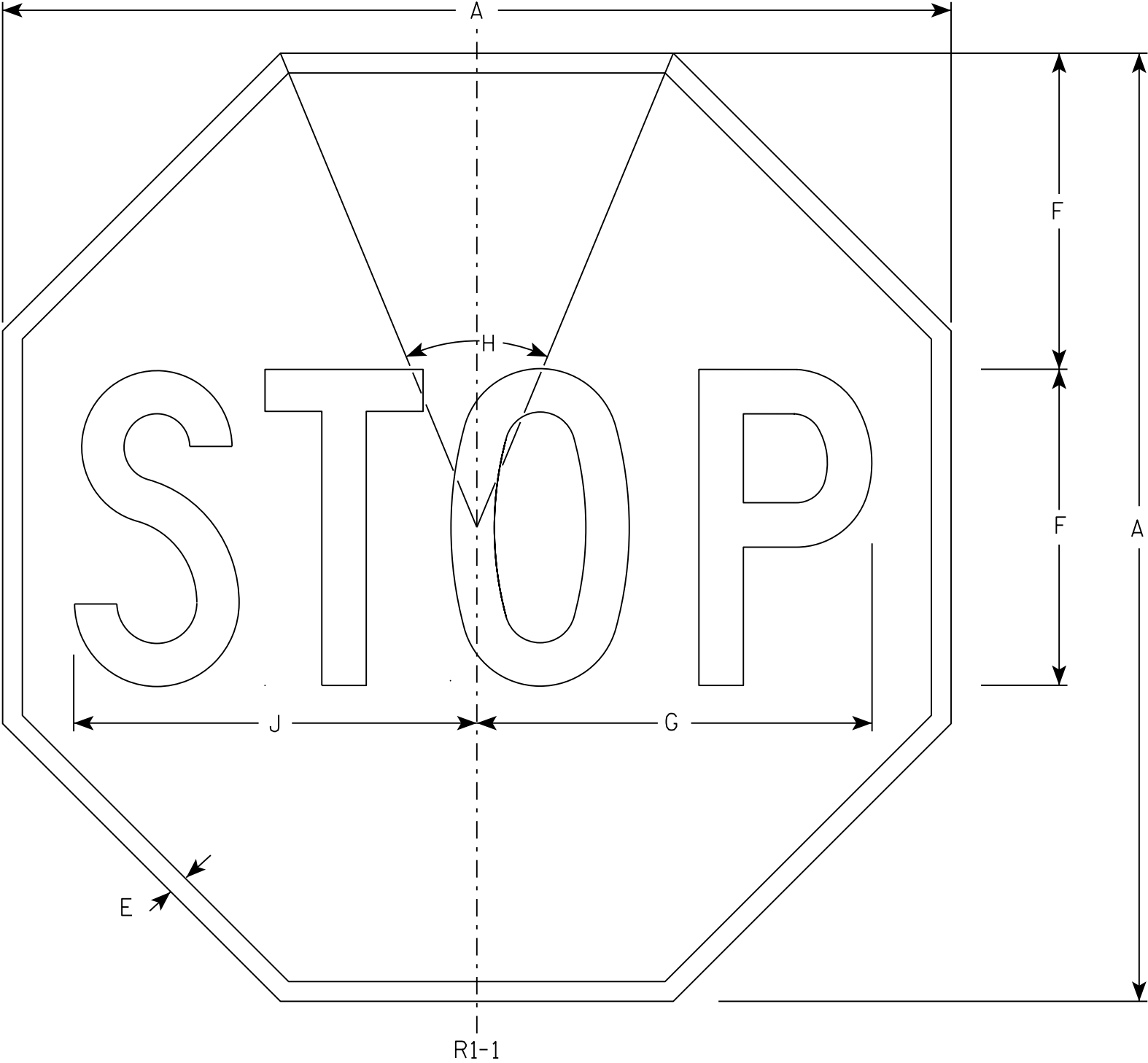
DATE 4/19/2022 PLATE NO. A5-10.3

PROJECT NO:

SHEET NO:

E

7



NOTES

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

7

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

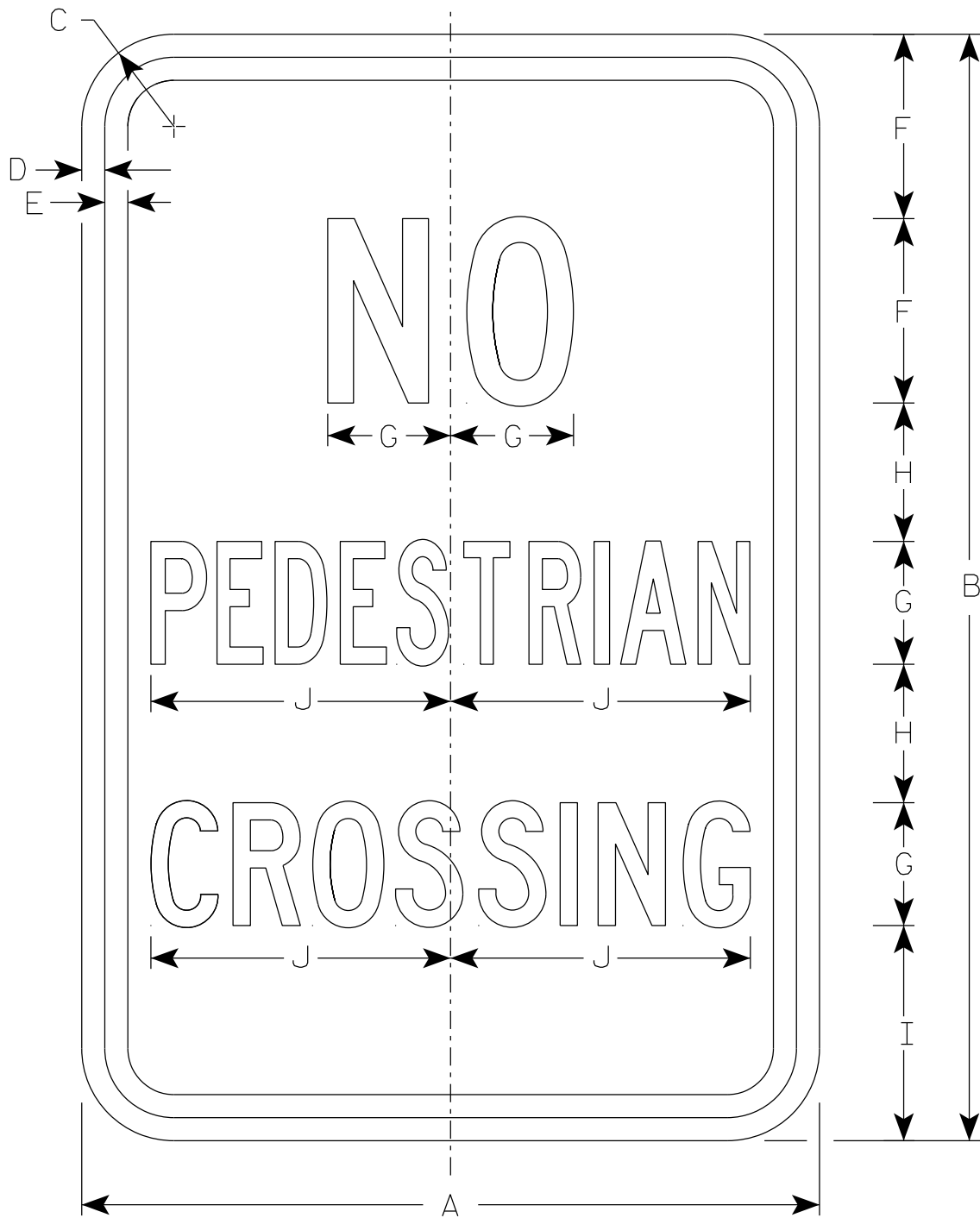
STANDARD SIGN

R1 - 1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

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



R9-3

NOTES

- 1. Sign is Type II - Type H Reflective
- 2. Color:
 - Background - White
 - Message - Black
- 3. Message Series - Lines 1 & 3 are Series C
Line 2 is Series B

7

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	v	W	X	Y	Z	Area sq. ft.
1																											
2S	12	18	1 1/2	3/8	3/8	3	2	2 1/4	3 1/2	4 7/8																	1.5
2M	12	18	1 1/2	3/8	3/8	3	2	2 1/4	3 1/2	4 7/8																	1.5
3																											
4																											
5																											

PROJECT NO:

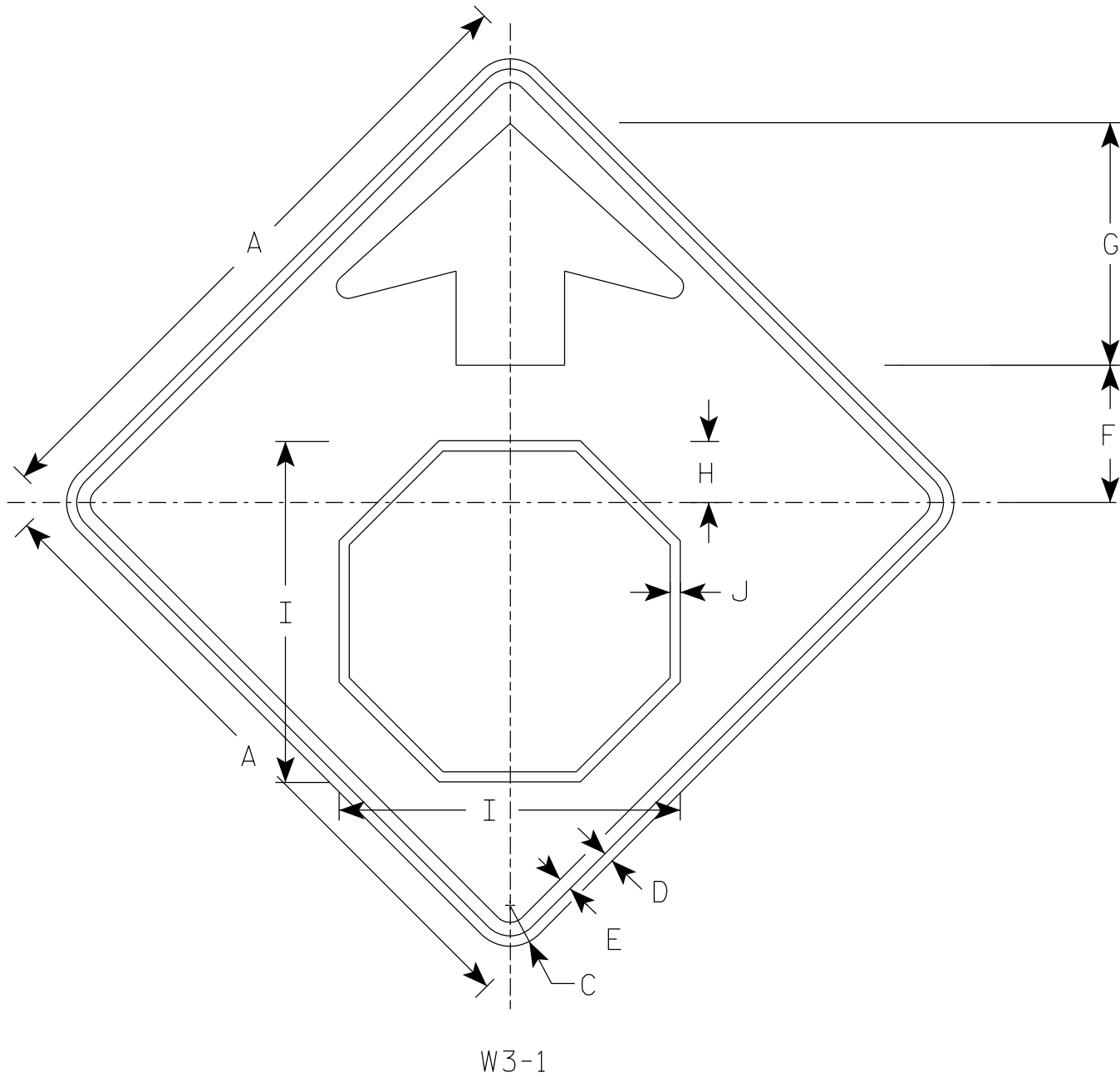
HWY:

COUNTY:

SHEET NO:

E

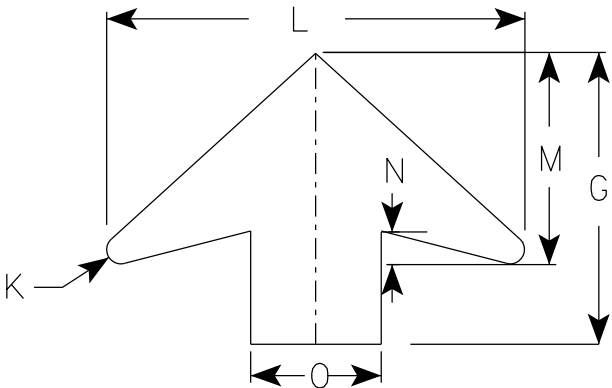
7



W3-1

NOTES

- 1. Sign is Type II - Type F Reflective
- 2. Color:
 - Background - Yellow
 - Arrow & Border - Black
 - Stop Symbol - White Border on Red Background



ARROW DETAIL

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30		1 7/8	1/2	5/8	6 1/4	11 1/4	2 3/8	15 3/4	1/2	1/2	16	8	1 1/4	5												6.25
2S	36		2 1/4	5/8	3/4	7 1/2	13 1/2	3 1/2	19	5/8	5/8	19 1/4	9 3/4	1 5/8	6												9.0
2M	36		2 1/4	5/8	3/4	7 1/2	13 1/2	3 1/2	19	5/8	5/8	19 1/4	9 3/4	1 5/8	6												9.0
3	36		2 1/4	5/8	3/4	7 1/2	13 1/2	3 1/2	19	5/8	5/8	19 1/4	9 3/4	1 5/8	6												9.0
4	48		3	3/4	1	10	17 7/8	4 1/2	25 1/8	3/4	7/8	25 5/8	13	2	8												16.0
5	48		3	3/4	1	10	17 7/8	4 1/2	25 1/8	3/4	7/8	25 5/8	13	2	8												16.0

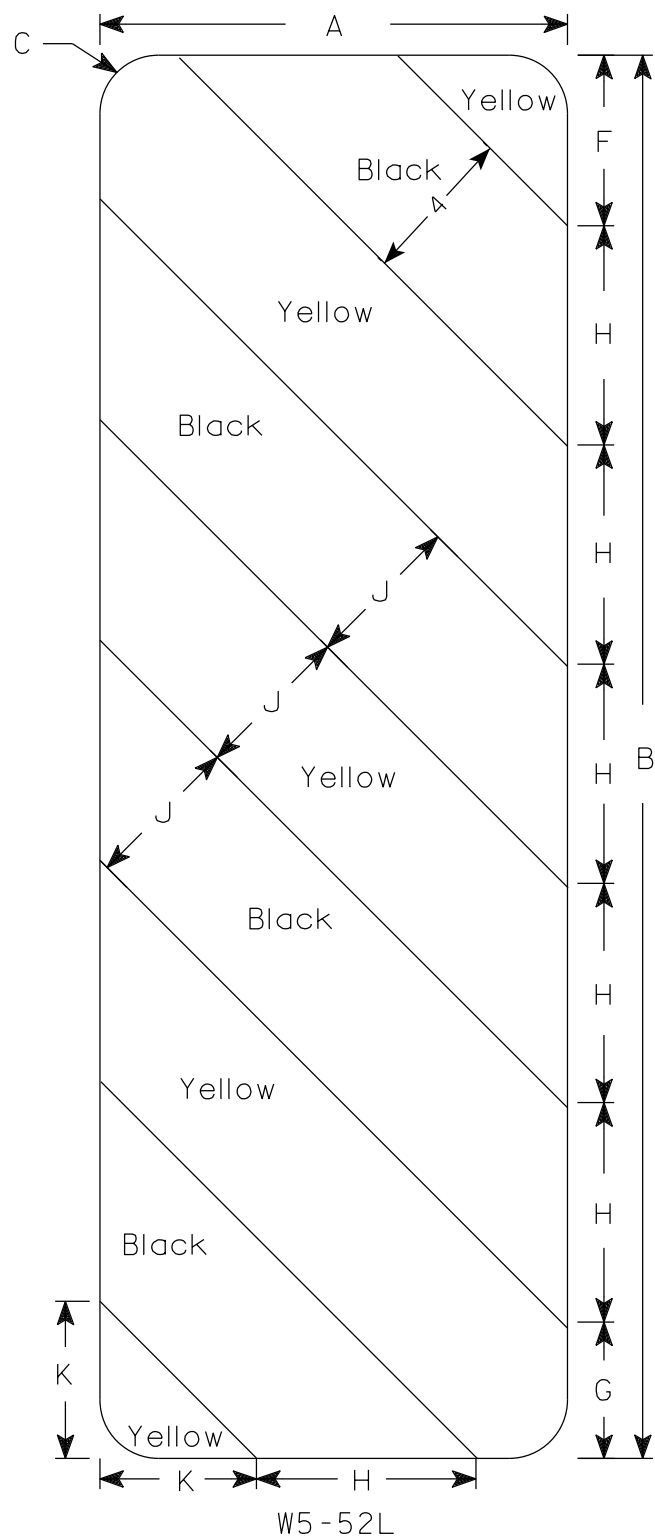
STANDARD SIGN

W3-1

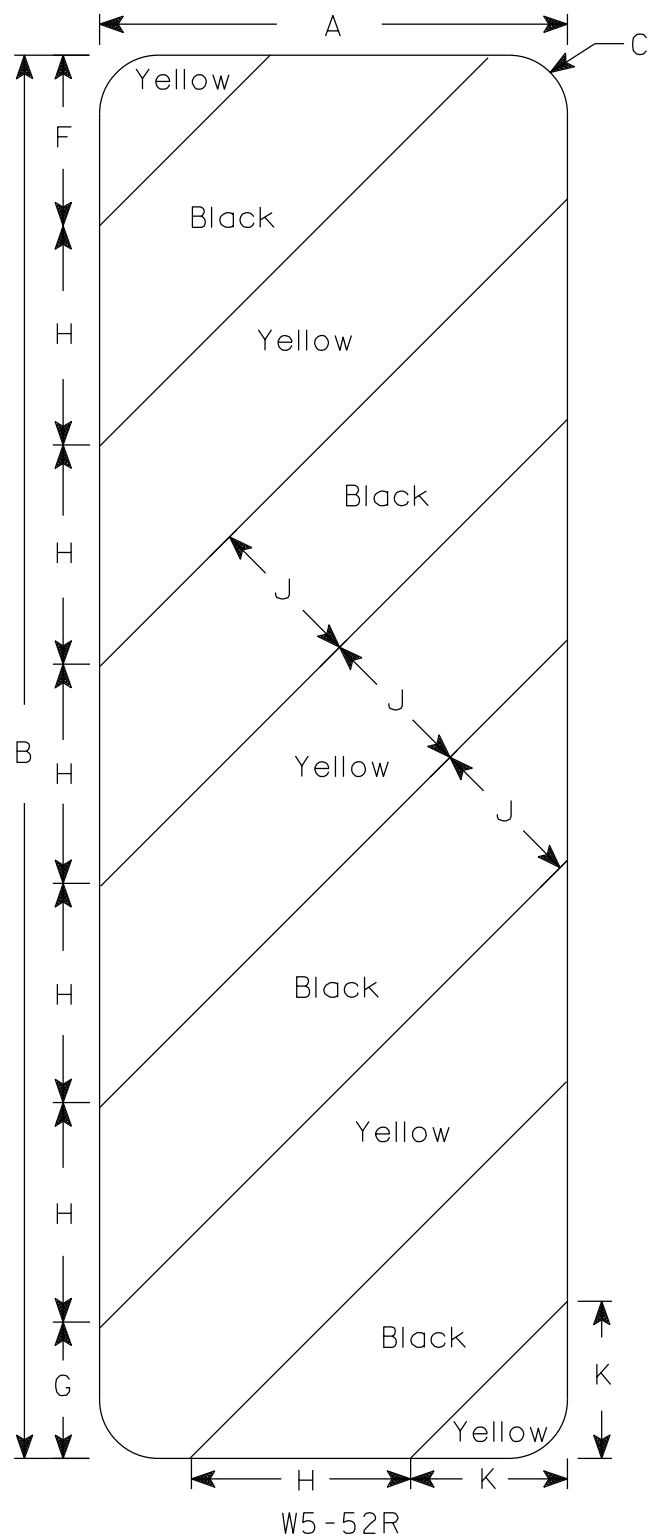
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 8/17/2023 PLATE NO. W3-1.13



W5-52L



W5-52R

NOTES

- 1. Sign is Type II - Type F Reflective
- 2. Color:
 - Background - Yellow
 - Message - Black
- 3. Alternate colors of stripes as shown.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	12	36	1 1/2			4 3/8	3 1/2	5 5/8	45°	4	4																3.0
2M	12	36	1 1/2			4 3/8	3 1/2	5 5/8	45°	4	4																3.0
3	18	54	1 1/2			6	5 1/2	8 1/2	45°	6	6 5/16																6.75
4																											
5																											

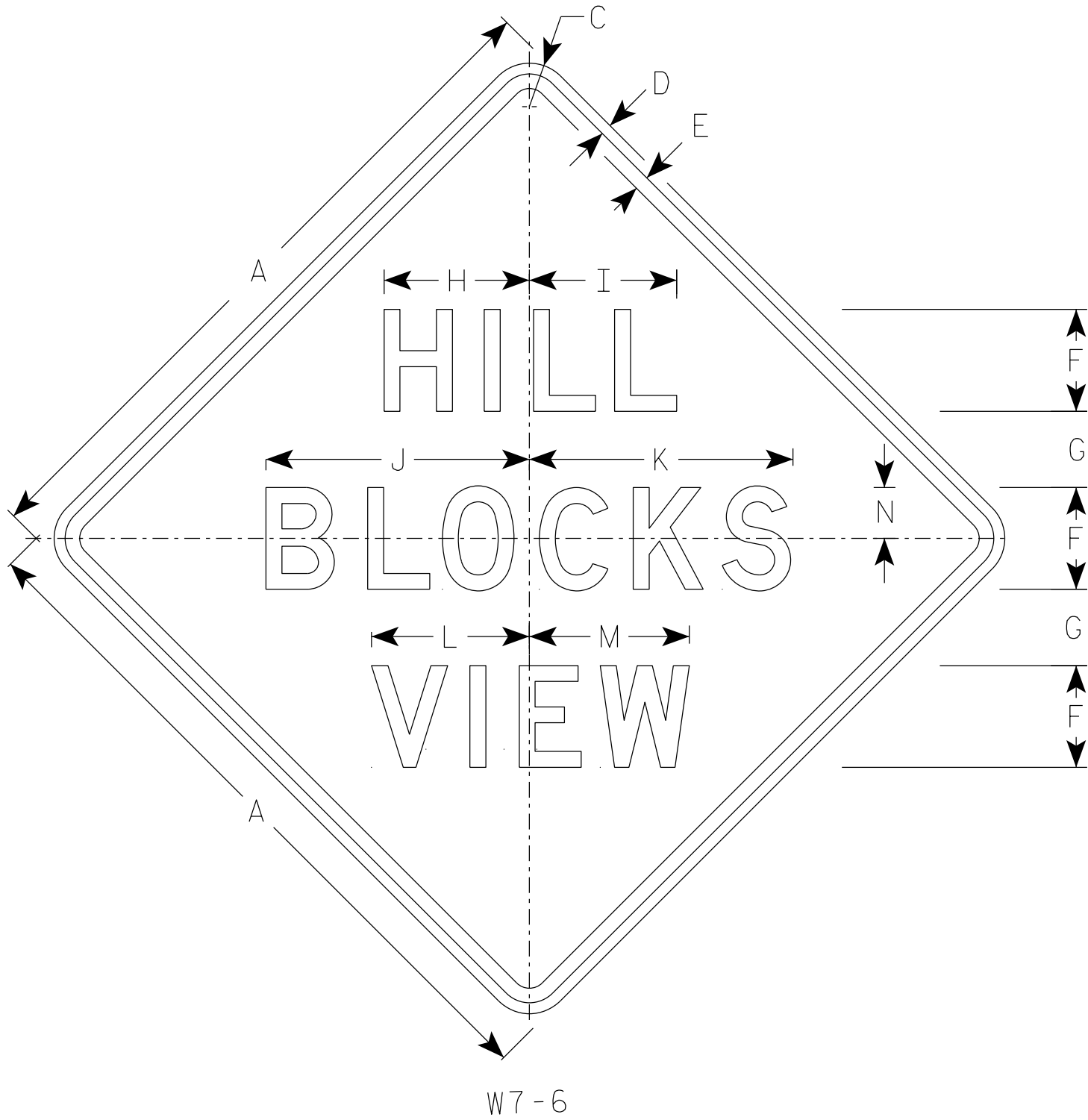
STANDARD SIGN

W5-52L & W5-52R

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 3/4/2024 PLATE NO. W5-52.10



NOTES

1. Sign is Type II - Type F Reflective
2. Color:
Background - YELLOW
Message - BLACK
3. Message Series - D

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30		1 7⁄8	1⁄2	5⁄8	5	3 3⁄4	6	8 3⁄8	12 7⁄8	13	7 7⁄8	7 3⁄4	2 1⁄2													6.25
2M	36		2 1⁄4	5⁄8	3⁄4	6	4 1⁄2	7 3⁄4	10 3⁄4	16	16 1⁄8	9 7⁄8	9 7⁄8	3													9.0
3	36		2 1⁄4	5⁄8	3⁄4	6	4 1⁄2	7 3⁄4	10 3⁄4	16	16 1⁄8	9 7⁄8	9 7⁄8	3													9.0
4	36		2 1⁄4	5⁄8	3⁄4	6	4 1⁄2	7 3⁄4	10 3⁄4	16	16 1⁄8	9 7⁄8	9 7⁄8	3													9.0
5	48		3	3⁄4	1	7	5 1⁄4	10	10 1⁄8	18 1⁄8	18 1⁄8	10 7⁄8	11	3 1⁄2													16.0

STANDARD SIGN

W7-6

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 10/24/2023 PLATE NO. W7-6.4

PROJECT NO:

SHEET NO:

E

DIVISION 1 - LOVE KNOT TO OTTER CREEK - OUTSIDE CLEAR ZONE

STATION	REAL STATION	DISTANCE	AREA (SF)				INCREMENTAL VOL (CY) (UNADJUSTED)				CUMULATIVE VOL (CY)				
			CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	EBS	CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	EBS	CUT	EXPANDED FILL	EXPANDED EBS BACKFILL	REDUCED EBS IN FILL	MASS ORDNATE
											1.00	1.25	1.30	0.80	
							NOTE 1	NOTE 2	NOTE 3		NOTE 1		NOTE 5	NOTE 7	NOTE 8
623+69.10	62369.10	0.00	50.88	0.00	0.00	2.54	0	0	0	0	0	0	0	0	0
624+00.00	62400.00	30.90	50.20	0.00	11.16	2.51	58	0	6	3	58	5	4	2	54
624+50.00	62450.00	50.00	81.44	0.00	19.02	4.07	122	0	28	6	180	34	12	7	147
625+00.00	62500.00	50.00	69.29	0.00	11.41	3.46	140	0	28	7	320	62	21	13	259
625+50.00	62550.00	50.00	93.18	0.00	1.46	4.66	150	0	12	8	470	69	31	19	402
626+00.00	62600.00	50.00	140.06	0.00	0.23	7.00	216	0	2	11	686	60	46	28	626
626+50.00	62650.00	50.00	142.53	0.00	0.21	7.13	262	0	0	13	948	47	62	38	901
627+00.00	62700.00	50.00	167.31	0.00	0.00	8.37	287	0	0	14	1,235	33	81	50	1,202
627+50.00	62750.00	50.00	150.09	0.00	0.00	7.50	294	0	0	15	1,529	18	100	62	1,511
628+00.00	62800.00	50.00	143.26	0.00	0.79	7.16	272	0	1	14	1,801	5	118	73	1,796
628+50.00	62850.00	50.00	36.41	0.00	3.66	1.82	166	0	4	8	1,967	2	129	79	1,965
629+00.00	62900.00	50.00	0.00	0.00	38.05	0.00	34	0	39	2	2,001	49	131	81	1,952
629+50.00	62950.00	50.00	0.00	0.00	64.28	0.00	0	0	95	0	2,001	168	131	81	1,833
630+00.00	63000.00	50.00	0.00	0.00	236.92	0.00	0	0	279	0	2,001	517	131	81	1,485
630+50.00	63050.00	50.00	0.00	0.00	175.88	0.00	0	0	382	0	2,001	994	131	81	1,007
631+00.00	63100.00	50.00	0.00	0.00	159.90	0.00	0	0	311	0	2,001	1,383	131	81	618
631+50.00	63150.00	50.00	0.00	0.00	104.50	0.00	0	0	245	0	2,001	1,689	131	81	312
632+00.00	63200.00	50.00	0.00	0.00	122.38	0.00	0	0	210	0	2,001	1,952	131	81	50
632+50.00	63250.00	50.00	11.44	0.00	1.31	0.57	11	0	115	1	2,012	2,094	133	82	-82
633+00.00	63300.00	50.00	58.02	0.00	0.00	2.90	64	0	1	3	2,076	2,093	137	84	-17
633+50.00	63350.00	50.00	35.11	0.00	0.00	1.76	86	0	0	4	2,162	2,089	142	87	74
634+00.00	63400.00	50.00	72.18	0.00	0.00	3.61	99	0	0	5	2,261	2,084	148	91	178
634+50.00	63450.00	50.00	111.62	0.00	0.00	5.58	170	0	0	9	2,431	2,075	160	98	357
635+00.00	63500.00	50.00	98.72	0.00	0.00	4.94	195	0	0	10	2,626	2,065	173	106	562
635+50.00	63550.00	50.00	104.72	0.00	0.00	5.24	188	0	0	9	2,814	2,056	185	114	759
636+00.00	63600.00	50.00	82.59	0.00	0.00	4.13	173	0	0	9	2,987	2,047	196	121	941
636+50.00	63650.00	50.00	52.47	0.00	0.32	2.62	125	0	0	6	3,112	2,041	204	126	1,072
637+00.00	63700.00	50.00	0.00	0.00	85.96	0.00	49	0	80	2	3,161	2,139	207	127	1,023
637+50.00	63750.00	50.00	0.00	0.00	100.62	0.00	0	0	173	0	3,161	2,355	207	127	806
638+00.00	63800.00	50.00	0.00	0.00	125.31	0.00	0	0	209	0	3,161	2,616	207	127	545
638+50.00	63850.00	50.00	0.00	0.00	166.76	0.00	0	0	270	0	3,161	2,954	207	127	208
639+00.00	63900.00	50.00	0.00	0.00	196.65	0.00	0	0	336	0	3,161	3,374	207	127	-213
639+50.00	63950.00	50.00	0.00	0.00	216.61	0.00	0	0	383	0	3,161	3,852	207	127	-691
640+00.00	64000.00	50.00	0.00	0.00	229.57	0.00	0	0	413	0	3,161	4,369	207	127	-1,208
640+50.00	64050.00	50.00	0.00	0.00	230.88	0.00	0	0	426	0	3,161	4,901	207	127	-1,740
641+00.00	64100.00	50.00	0.00	0.00	227.89	0.00	0	0	425	0	3,161	5,432	207	127	-2,271
641+50.00	64150.00	50.00	0.00	0.00	314.97	0.00	0	0	503	0	3,161	6,061	207	127	-2,900
642+00.00	64200.00	50.00	0.00	0.00	330.44	0.00	0	0	598	0	3,161	6,809	207	127	-3,648
642+50.00	64250.00	50.00	0.00	0.00	259.62	0.00	0	0	546	0	3,161	7,491	207	127	-4,330
643+00.00	64300.00	50.00	0.00	0.00	208.46	0.00	0	0	433	0	3,161	8,032	207	127	-4,871
643+50.00	64350.00	50.00	0.00	0.00	202.47	0.00	0	0	380	0	3,161	8,507	207	127	-5,346
644+00.00	64400.00	50.00	0.00	0.00	202.96	0.00	0	0	375	0	3,161	8,976	207	127	-5,815
644+50.00	64450.00	50.00	0.00	0.00	196.19	0.00	0	0	370	0	3,161	9,439	207	127	-6,278
645+00.00	64500.00	50.00	0.00	0.00	175.92	0.00	0	0	345	0	3,161	9,870	207	127	-6,709
645+50.00	64550.00	50.00	0.00	0.00	162.25	0.00	0	0	313	0	3,161	10,261	207	127	-7,100

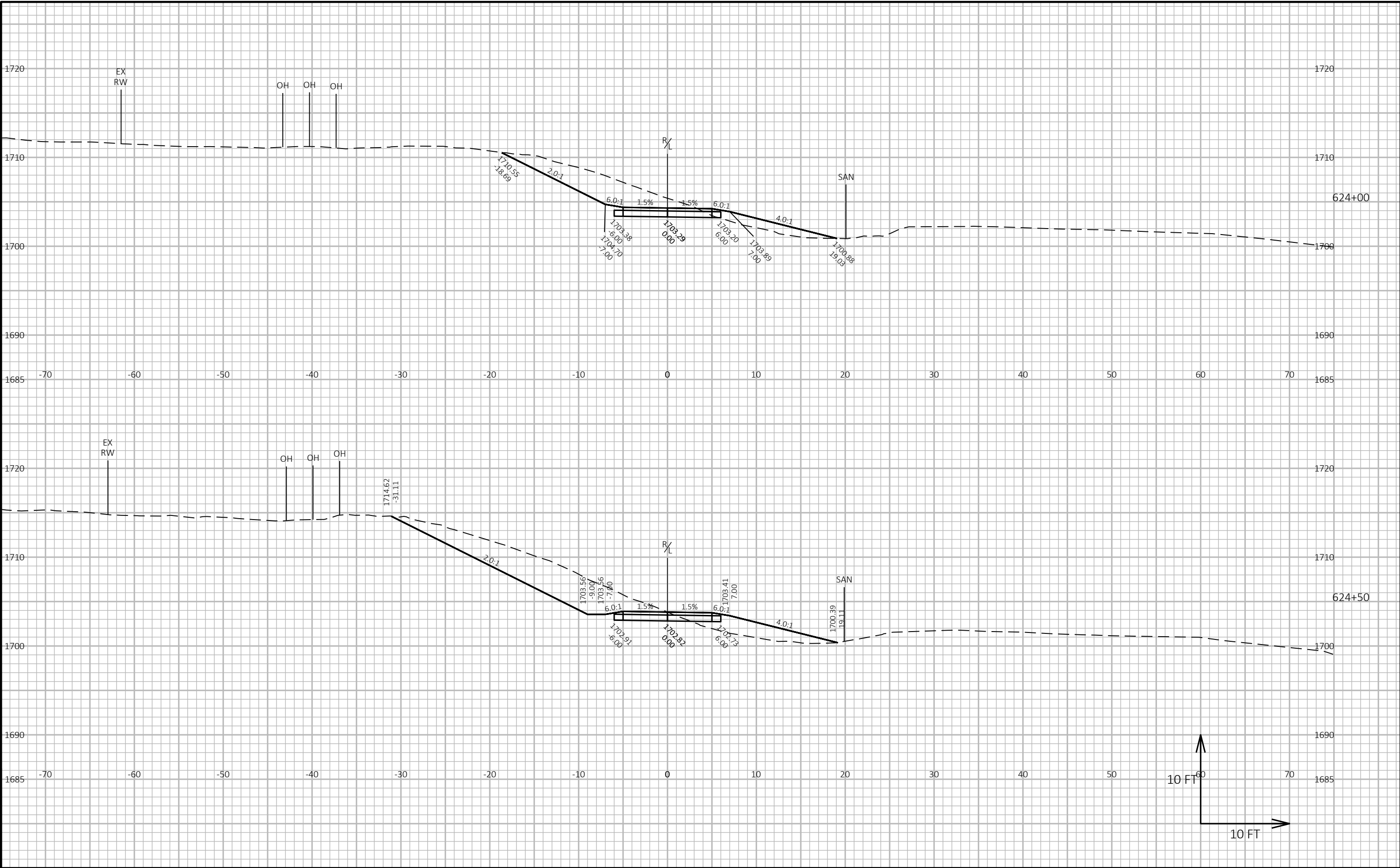
DIVISION 1 - LOVE KNOT TO OTTER CREEK - OUTSIDE CLEAR ZONE

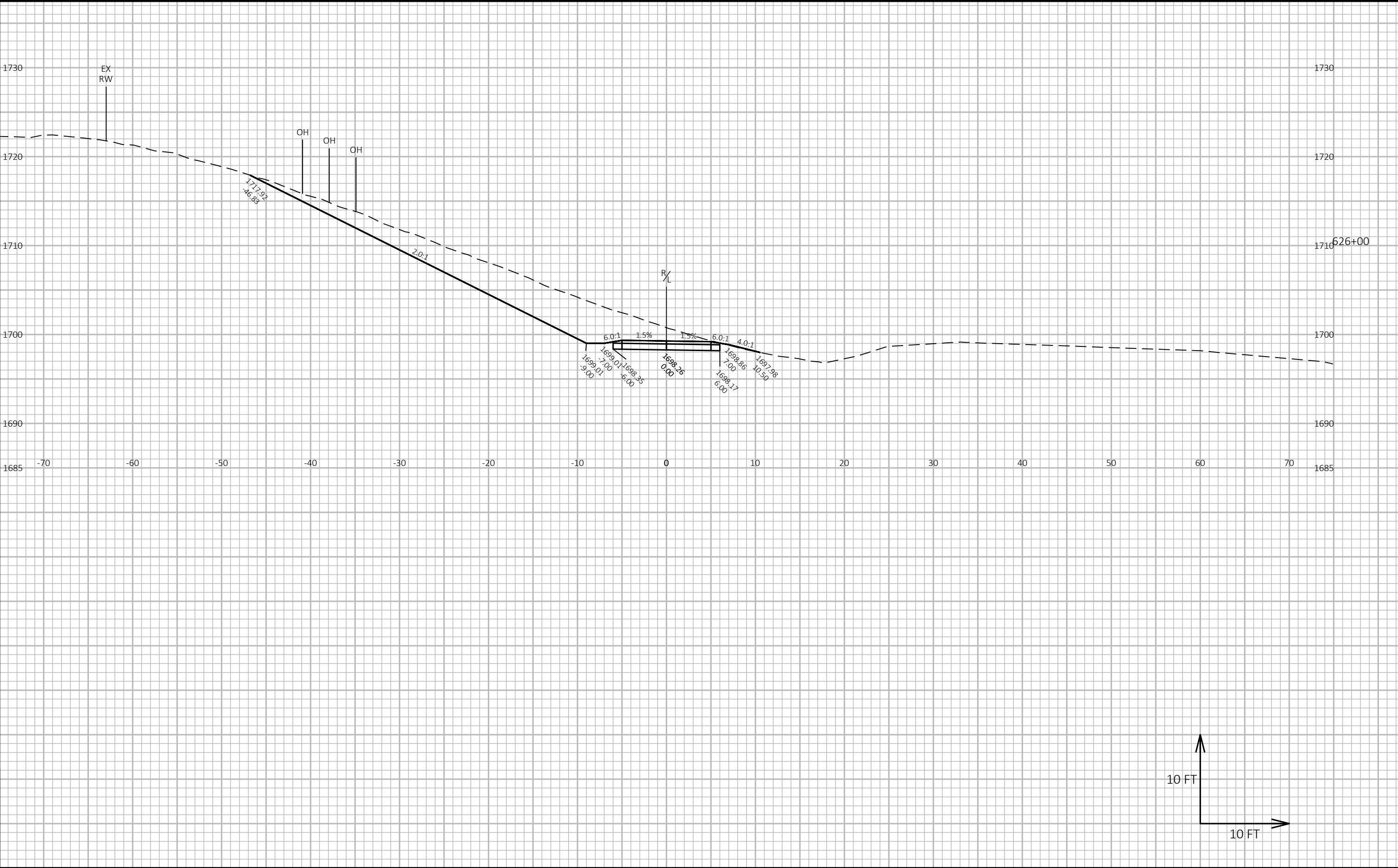
STATION	REAL STATION	DISTANCE	AREA (SF)				INCREMENTAL VOL (CY) (UNADJUSTED)				CUMULATIVE VOL (CY)				
			CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	EBS	CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	EBS	CUT	EXPANDED FILL	EXPANDED EBS BACKFILL	REDUCED EBS IN FILL	MASS ORDNATE
											1.00	1.25	1.30	0.80	
							NOTE 1	NOTE 2	NOTE 3		NOTE 1		NOTE 5	NOTE 7	NOTE 8
646+00.00	64600.00	50.00	0.00	0.00	148.78	0.00	0	0	288	0	3,161	10,621	207	127	-7,460
646+50.00	64650.00	50.00	0.00	0.00	105.27	0.00	0	0	235	0	3,161	10,915	207	127	-7,754
647+00.00	64700.00	50.00	0.00	0.00	60.05	0.00	0	0	153	0	3,161	11,106	207	127	-7,945
647+50.00	64750.00	50.00	107.07	0.00	0.00	5.35	99	0	56	5	3,260	11,171	213	131	-7,911
648+00.00	64800.00	50.00	204.26	0.00	0.00	10.21	288	0	0	14	3,548	11,157	231	142	-7,609
648+50.00	64850.00	50.00	199.88	0.00	0.00	9.99	374	0	0	19	3,922	11,138	256	158	-7,216
649+00.00	64900.00	50.00	167.70	0.00	0.00	8.38	340	0	0	17	4,262	11,121	278	171	-6,859
649+50.00	64950.00	50.00	161.78	0.00	0.00	8.09	305	0	0	15	4,567	11,106	298	183	-6,539
650+00.00	65000.00	50.00	160.78	0.00	0.00	8.04	299	0	0	15	4,866	11,091	317	195	-6,225
650+50.00	65050.00	50.00	156.92	0.00	0.00	7.85	294	0	0	15	5,160	11,076	337	207	-5,916
651+00.00	65100.00	50.00	157.35	0.00	0.00	7.87	291	0	0	15	5,451	11,061	356	219	-5,610
651+50.00	65150.00	50.00	138.79	0.00	0.00	6.94	274	0	0	14	5,725	11,047	374	230	-5,322
652+00.00	65200.00	50.00	124.14	0.00	3.68	6.21	243	0	3	12	5,968	11,039	390	240	-5,071
652+50.00	65250.00	50.00	107.75	0.00	8.43	5.39	215	0	11	11	6,183	11,042	404	249	-4,859
653+00.00	65300.00	50.00	129.95	0.00	8.41	6.50	220	0	16	11	6,403	11,051	419	258	-4,648
653+50.00	65350.00	50.00	146.05	0.00	0.00	7.30	256	0	8	13	6,659	11,048	436	268	-4,389
654+00.00	65400.00	50.00	69.27	0.00	0.00	3.46	199	0	0	10	6,858	11,038	449	276	-4,180
654+50.00	65450.00	50.00	0.00	0.00	44.75	0.00	64	0	41	3	6,922	11,086	452	278	-4,164
655+00.00	65500.00	50.00	0.00	0.00	101.39	0.00	0	0	135	0	6,922	11,255	452	278	-4,333
655+50.00	65550.00	50.00	0.00	0.00	136.40	0.00	0	0	220	0	6,922	11,530	452	278	-4,608
656+00.00	65600.00	50.00	0.00	0.00	99.33	0.00	0	0	218	0	6,922	11,802	452	278	-4,880
656+50.00	65650.00	50.00	0.00	0.00	186.31	0.00	0	0	264	0	6,922	12,132	452	278	-5,210
657+00.00	65700.00	50.00	0.00	0.00	118.77	0.00	0	0	282	0	6,922	12,485	452	278	-5,563
657+50.00	65750.00	50.00	0.00	0.00	100.24	0.00	0	0	203	0	6,922	12,738	452	278	-5,816
658+00.00	65800.00	50.00	0.00	0.00	81.52	0.00	0	0	168	0	6,922	12,948	452	278	-6,026
658+50.00	65850.00	50.00	0.00	0.00	191.19	0.00	0	0	253	0	6,922	13,265	452	278	-6,343
659+00.00	65900.00	50.00	0.00	0.00	126.86	0.00	0	0	294	0	6,922	13,632	452	278	-6,710
659+50.00	65950.00	50.00	0.00	0.00	72.42	0.00	0	0	185	0	6,922	13,863	452	278	-6,941
660+00.00	66000.00	50.00	13.08	0.00	0.30	0.65	12	0	67	1	6,934	13,946	454	279	-7,012
660+50.00	66050.00	50.00	71.31	0.00	0.00	3.57	78	0	0	4	7,012	13,942	459	282	-6,930
661+00.00	66100.00	50.00	105.50	0.00	0.00	5.27	164	0	0	8	7,176	13,934	469	289	-6,758
661+50.00	66150.00	50.00	113.14	0.00	0.00	5.66	202	0	0	10	7,378	13,924	482	297	-6,546
662+00.00	66200.00	50.00	114.23	0.00	0.00	5.71	211	0	0	11	7,589	13,913	497	306	-6,324
662+50.00	66250.00	50.00	68.07	0.00	0.00	3.40	169	0	0	8	7,758	13,905	507	312	-6,147
663+00.00	66300.00	50.00	19.56	0.00	5.21	0.98	81	0	5	4	7,839	13,907	512	315	-6,068
663+50.00	66350.00	50.00	0.00	0.00	78.99	0.00	18	0	78	1	7,857	14,004	514	316	-6,147
664+00.00	66400.00	50.00	0.00	0.00	140.87	0.00	0	0	204	0	7,857	14,259	514	316	-6,402
664+50.00	66450.00	50.00	0.31	0.00	106.91	0.02	0	0	229	0	7,857	14,545	514	316	-6,688
665+00.00	66500.00	50.00	0.00	0.00	116.16	0.00	0	0	207	0	7,857	14,804	514	316	-6,947
665+50.00	66550.00	50.00	0.00	0.00	174.82	0.00	0	0	269	0	7,857	15,140	514	316	-7,283
666+00.00	66600.00	50.00	0.00	0.00	159.72	0.00	0	0	310	0	7,857	15,528	514	316	-7,671
666+50.00	66650.00	50.00	0.00	0.00	119.00	0.00	0	0	258	0	7,857	15,850	514	316	-7,993
667+00.00	66700.00	50.00	0.00	0.00	104.40	0.00	0	0	207	0	7,857	16,109	514	316	-8,252
667+50.00	66750.00	50.00	0.00	0.00	68.89	0.00	0	0	160	0	7,857	16,309	514	316	-8,452
668+00.00	66800.00	50.00	0.34	0.00	9.09	0.02	0	0	72	0	7,857	16,399	514	316	-8,542

DIVISION 1 - LOVE KNOT TO OTTER CREEK - OUTSIDE CLEAR ZONE

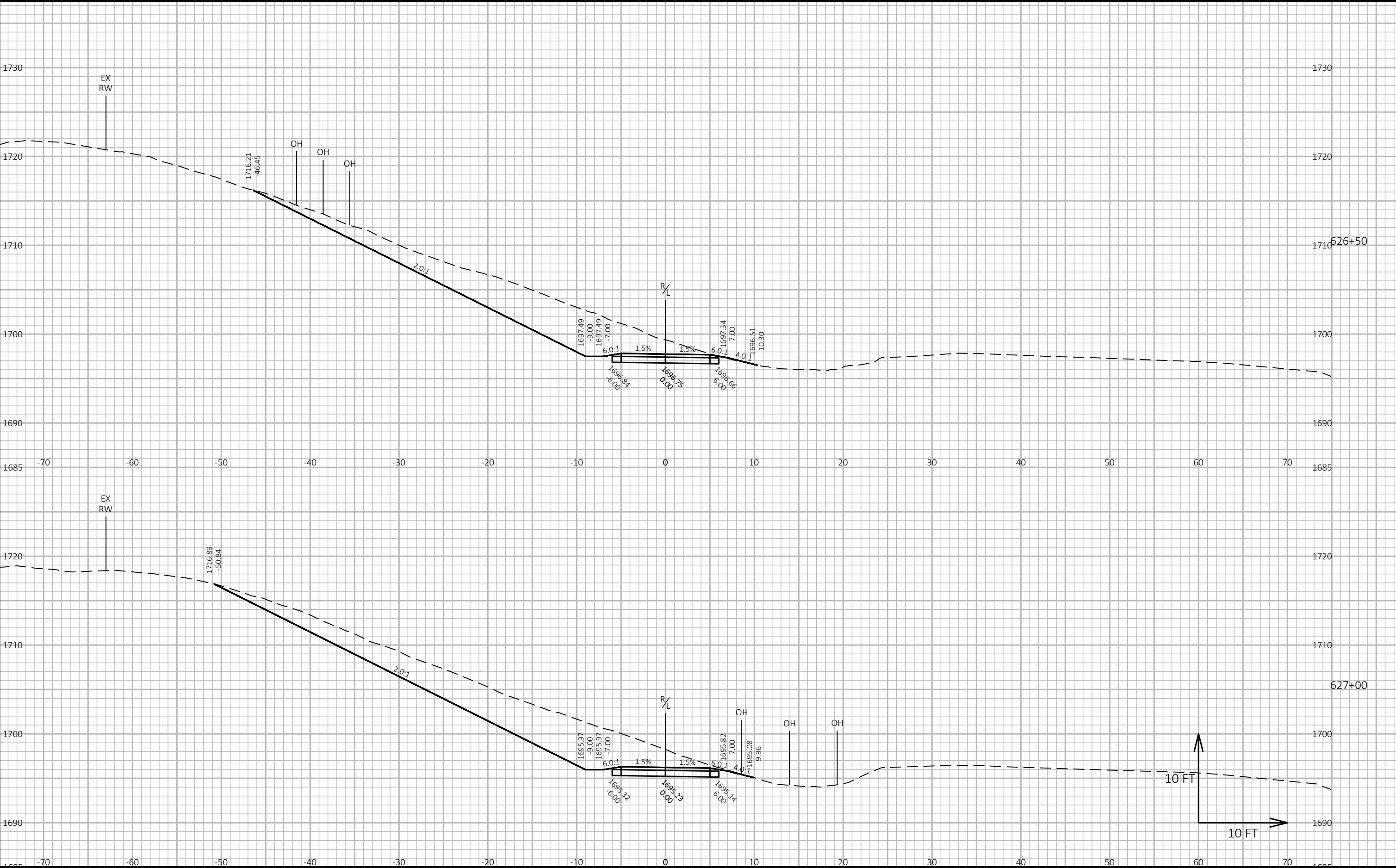
STATION	REAL STATION	DISTANCE	AREA (SF)				INCREMENTAL VOL (CY) (UNADJUSTED)				CUMULATIVE VOL (CY)				
			CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	EBS	CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	EBS	CUT	EXPANDED FILL	EXPANDED EBS BACKFILL	REDUCED EBS IN FILL	MASS ORDINATE
							NOTE 1	NOTE 2	NOTE 3		NOTE 1	1.25	NOTE 5	NOTE 7	NOTE 8
668+50.00	66850.00	50.00	0.00	0.00	30.67	0.00	0	0	37	0	7,857	16,445	514	316	-8,588
669+00.00	66900.00	50.00	0.00	0.00	24.81	0.00	0	0	51	0	7,857	16,509	514	316	-8,652
669+50.00	66950.00	50.00	0.31	0.00	10.53	0.02	0	0	33	0	7,857	16,550	514	316	-8,693
670+00.00	67000.00	50.00	0.00	0.00	69.80	0.00	0	0	74	0	7,857	16,643	514	316	-8,786
670+50.00	67050.00	50.00	0.00	0.00	169.93	0.00	0	0	222	0	7,857	16,920	514	316	-9,063
671+00.00	67100.00	50.00	0.00	0.00	58.93	0.00	0	0	212	0	7,857	17,185	514	316	-9,328
671+50.00	67150.00	50.00	0.00	0.00	25.01	0.00	0	0	78	0	7,857	17,283	514	316	-9,426
672+00.00	67200.00	50.00	4.91	0.00	10.72	0.25	5	0	33	0	7,862	17,324	514	316	-9,462
672+50.00	67250.00	50.00	0.00	0.00	44.90	0.00	5	0	51	0	7,867	17,388	514	316	-9,521
673+00.00	67300.00	50.00	0.00	0.00	231.15	0.00	0	0	256	0	7,867	17,708	514	316	-9,841
673+50.00	67350.00	50.00	0.00	0.00	200.37	0.00	0	0	400	0	7,867	18,208	514	316	-10,341
674+00.00	67400.00	50.00	0.00	0.00	143.36	0.00	0	0	318	0	7,867	18,605	514	316	-10,738
674+50.00	67450.00	50.00	0.00	0.00	95.97	0.00	0	0	222	0	7,867	18,883	514	316	-11,016
675+00.00	67500.00	50.00	0.22	0.00	78.85	0.01	0	0	162	0	7,867	19,085	514	316	-11,218
675+50.00	67550.00	50.00	0.00	0.00	92.66	0.00	0	0	159	0	7,867	19,284	514	316	-11,417
676+00.00	67600.00	50.00	0.00	0.00	122.76	0.00	0	0	199	0	7,867	19,533	514	316	-11,666
676+50.00	67650.00	50.00	83.59	0.00	0.00	4.18	77	0	114	4	7,944	19,671	519	319	-11,727
677+00.00	67700.00	50.00	96.69	0.00	0.00	4.83	167	0	0	8	8,111	19,663	529	326	-11,552
677+50.00	67750.00	50.00	127.86	0.00	0.00	6.39	208	0	0	10	8,319	19,653	542	334	-11,334
678+00.00	67800.00	50.00	106.04	0.00	0.00	5.30	217	0	0	11	8,536	19,642	556	342	-11,106
678+50.00	67850.00	50.00	116.23	0.00	0.00	5.81	206	0	0	10	8,742	19,632	569	350	-10,890
679+00.00	67900.00	50.00	55.55	0.00	0.00	2.78	159	0	0	8	8,901	19,624	580	357	-10,723
679+50.00	67950.00	50.00	75.49	0.00	0.00	3.77	121	0	0	6	9,022	19,618	588	362	-10,596
680+00.00	68000.00	50.00	102.10	0.00	0.00	5.10	164	0	0	8	9,186	19,610	598	368	-10,424
680+50.00	68050.00	50.00	141.44	0.00	0.00	7.07	225	0	0	11	9,411	19,599	612	377	-10,188
681+00.00	68100.00	50.00	201.58	0.00	0.00	10.08	318	0	0	16	9,729	19,583	633	390	-9,854
681+50.00	68150.00	50.00	247.44	0.00	0.00	12.37	416	0	0	21	10,145	19,562	660	406	-9,417
682+00.00	68200.00	50.00	0.00	0.00	18.67	0.00	229	0	17	11	10,374	19,572	675	415	-9,198
682+24.15	68224.15	24.15	13.68	0.00	0.79	0.68	6	0	9	0	10,380	19,584	675	415	-9,204
							10,380	0	16,082	519					

NOTES:	
1 - CUT	CUT INCLUDES SALVAGED/UNUSABLE PAVEMENT MATERIAL
2 - SALVAGED/UNUSABLE PAVEMENT MATERIAL	THIS DOES NOT SHOW UP IN CROSS SECTIONS
3 - FILL	DOES NOT INCLUDE UNUSABLE PAVEMENT EXC VOLUME
5 - EXPANDED EBS	WILL BE BACKFILLED WITH SELECT BORROW
7 - REDUCED EBS IN FILL	REDUCED EBS EXCAVATION THAT CAN BE USED IN FILL
8 - MASS ORDINATE	CUT - SALVAGED PAVT + REDUCED EBS IN FILL - EXPANDED FILL





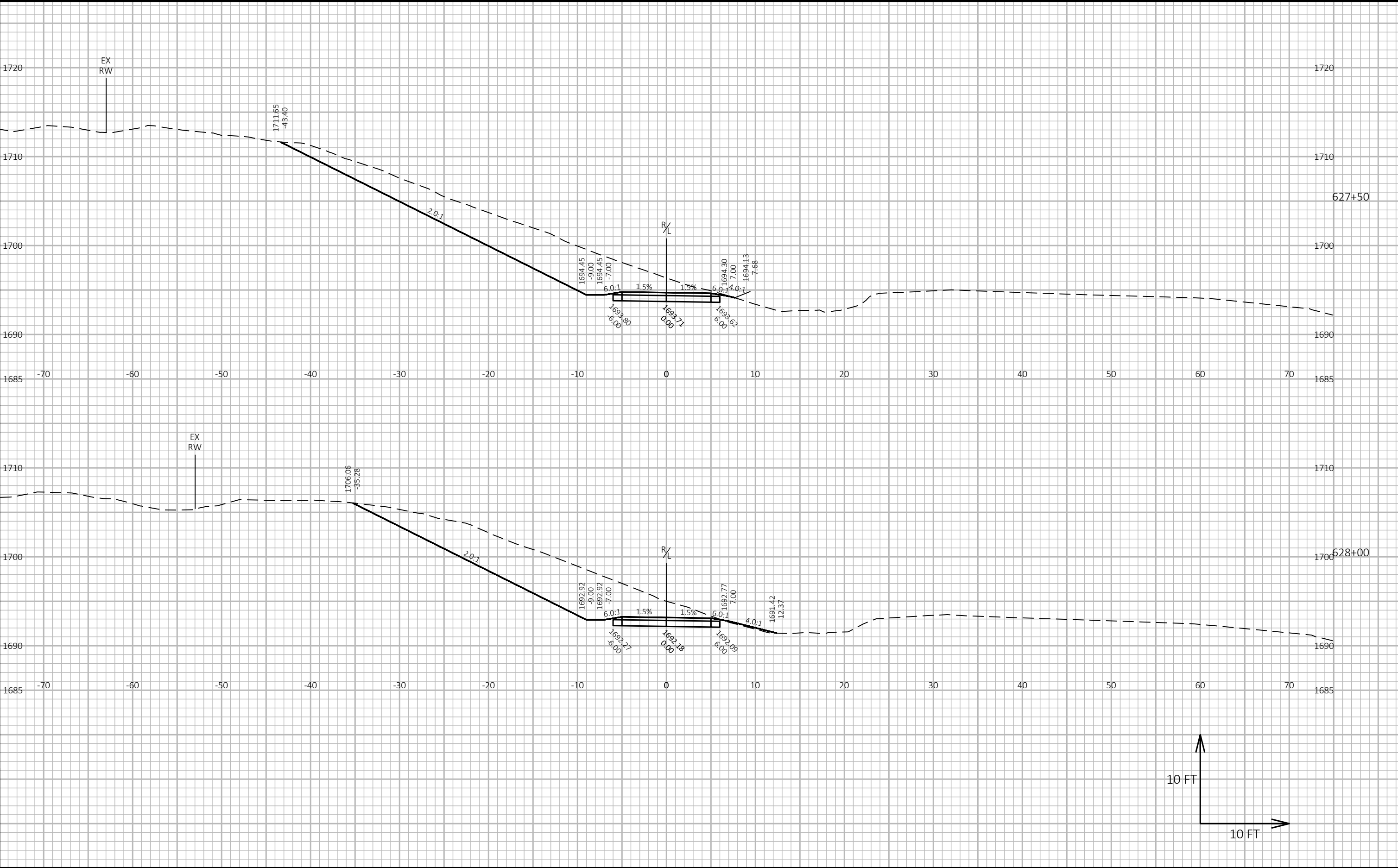
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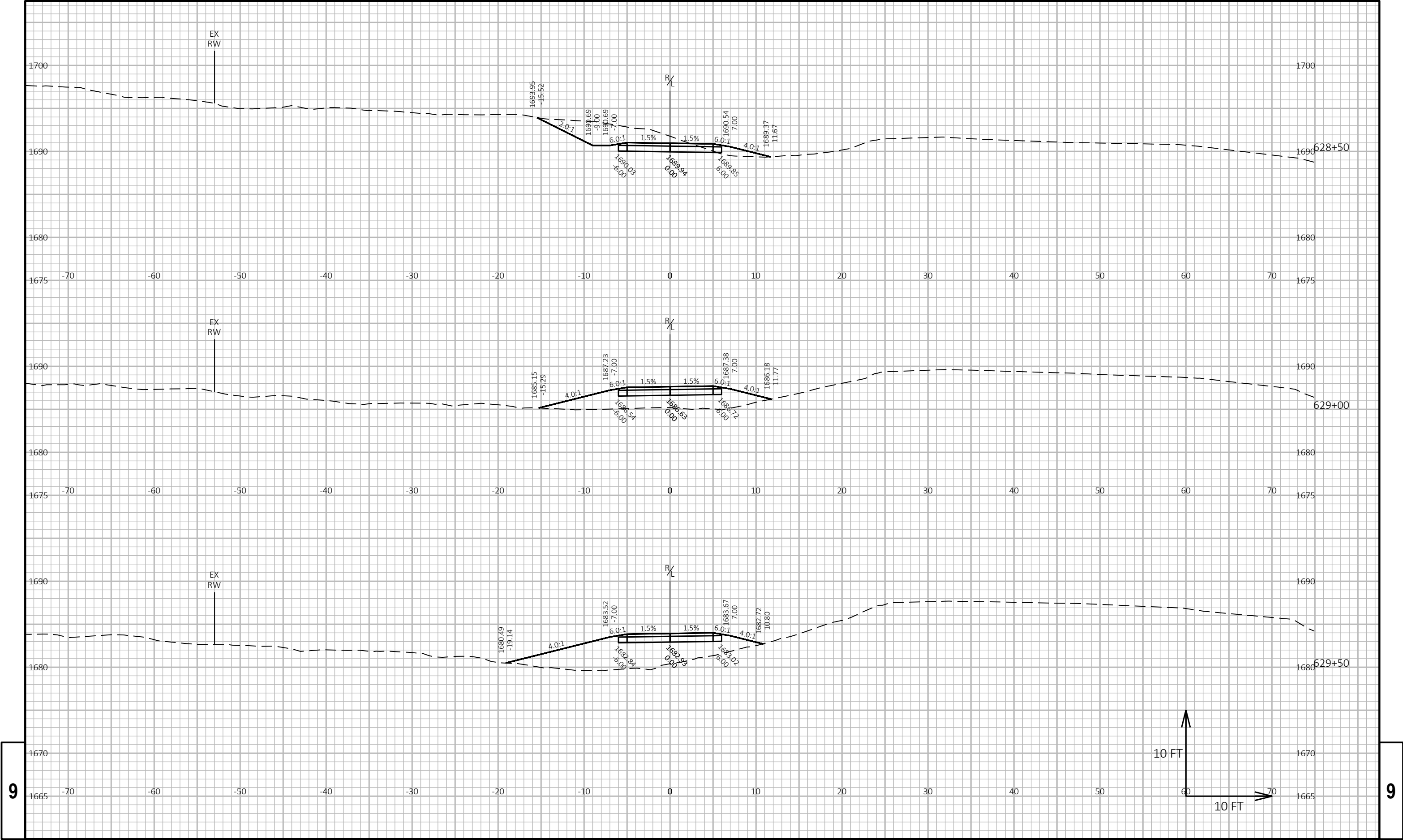
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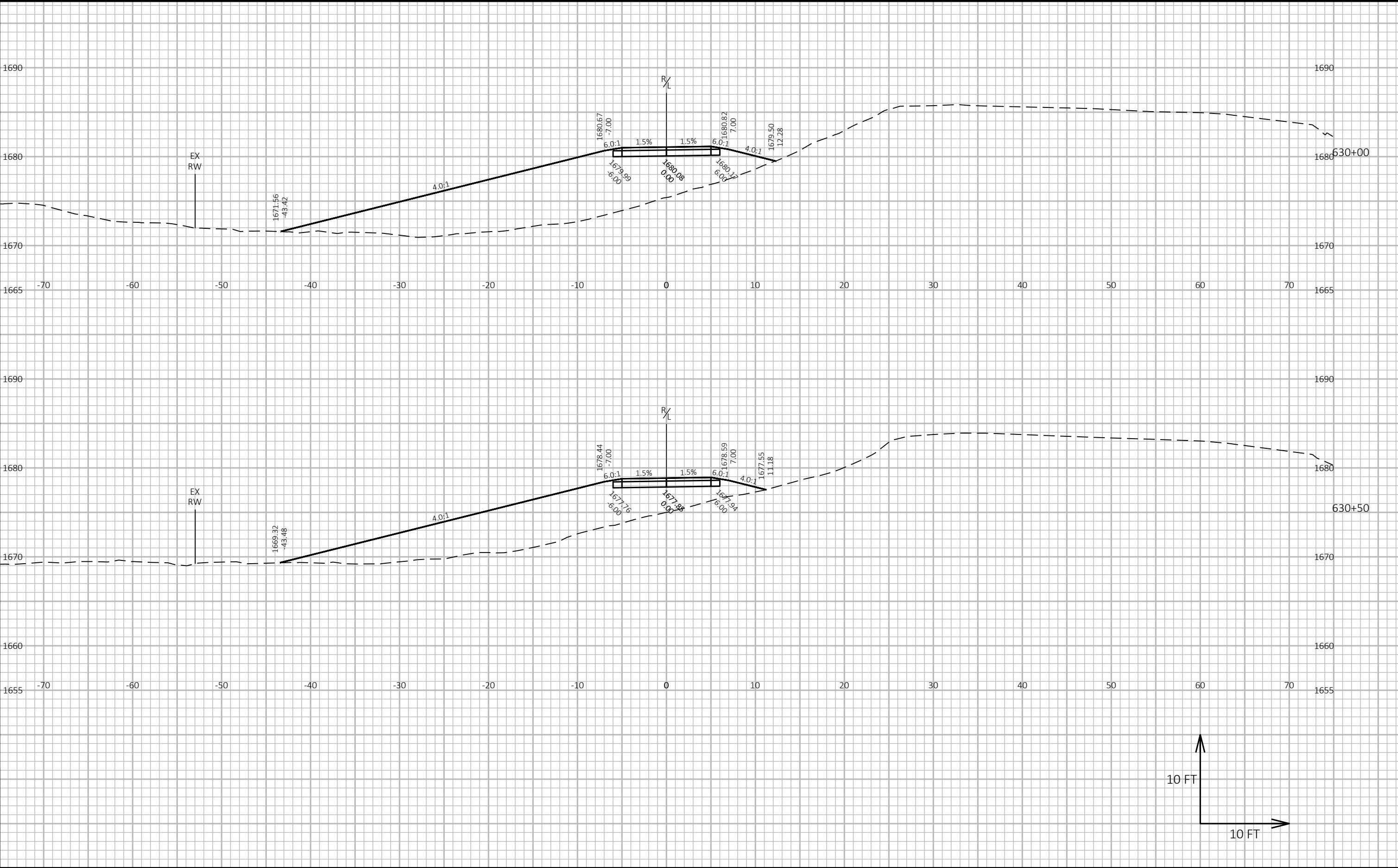


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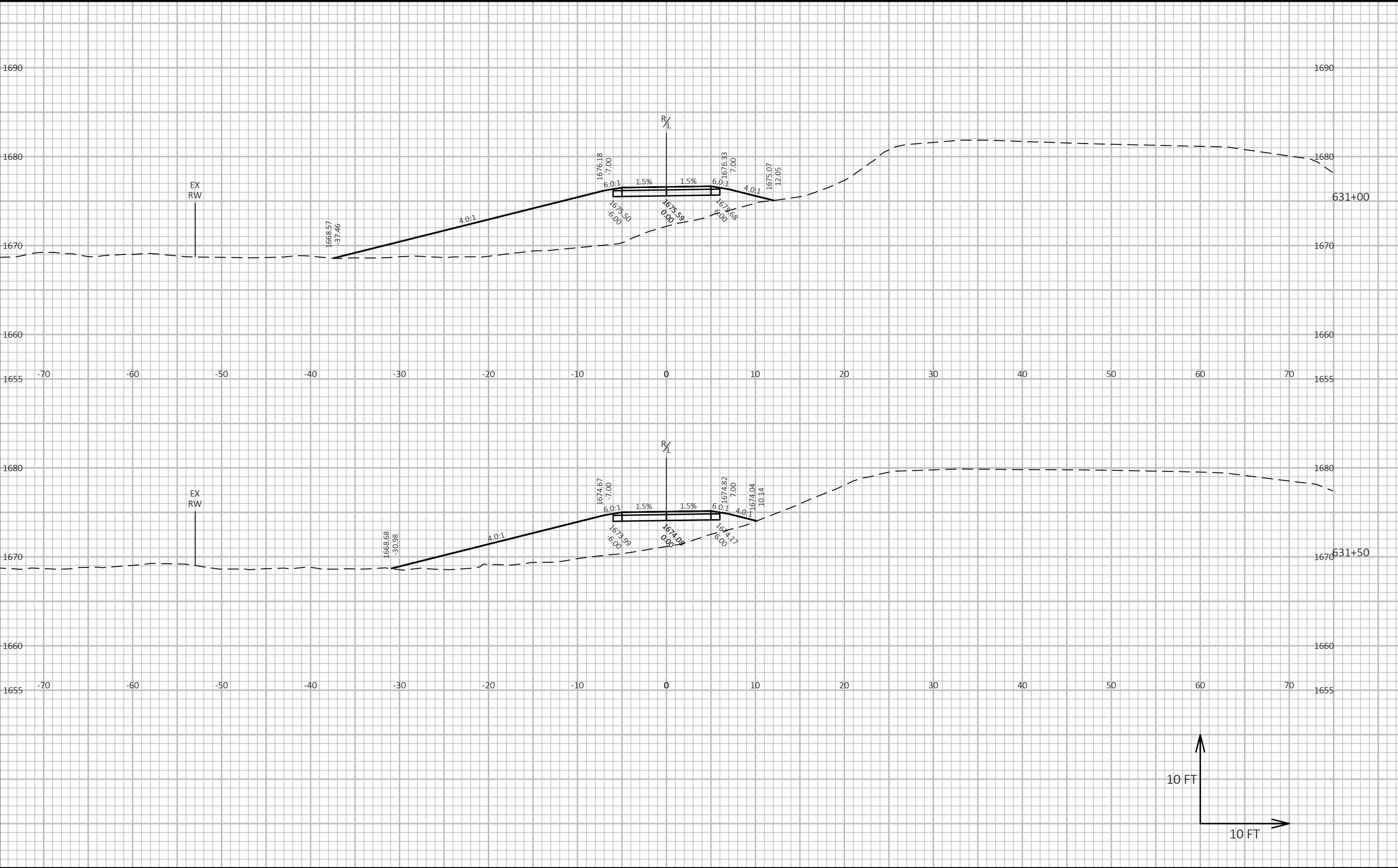
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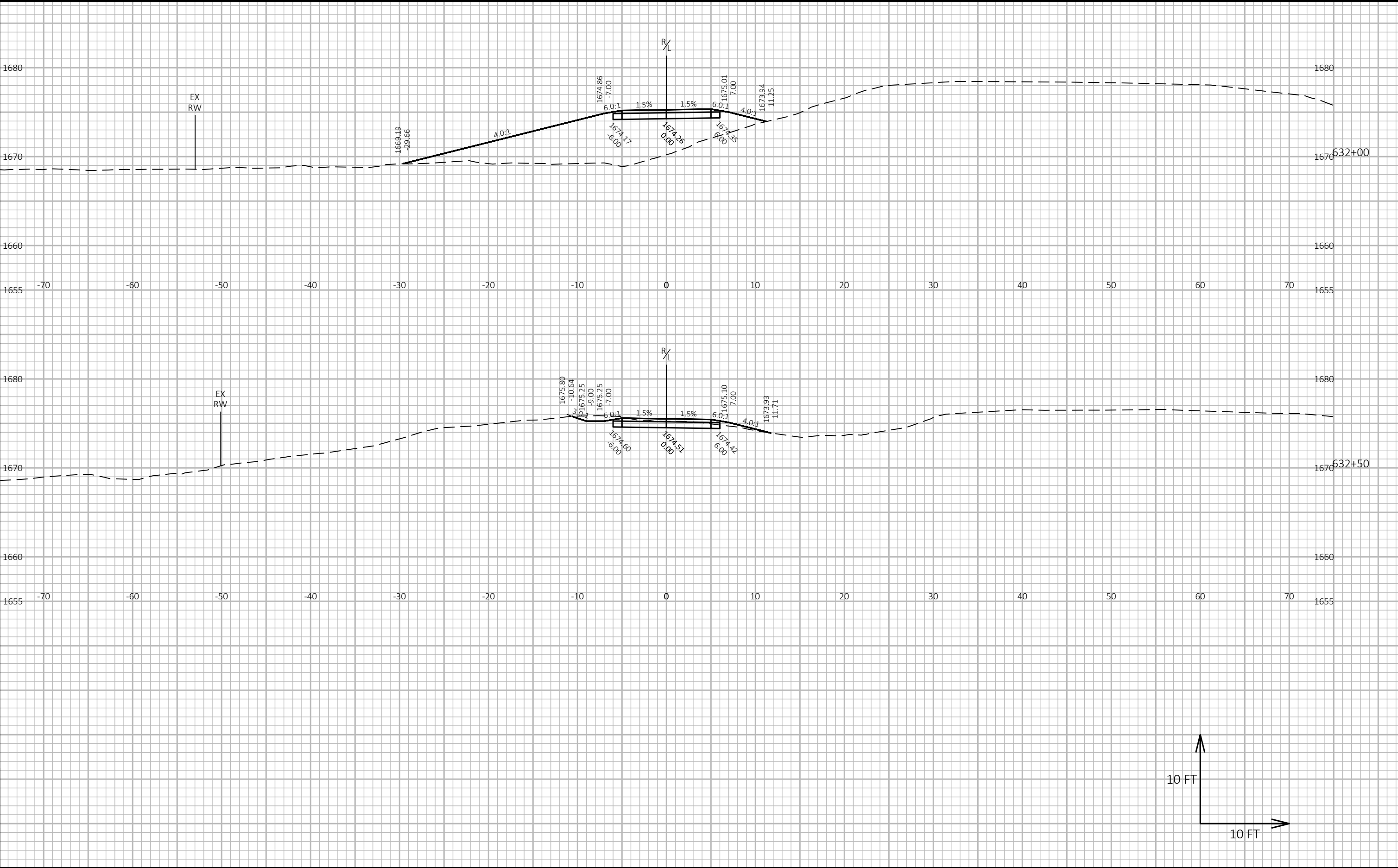
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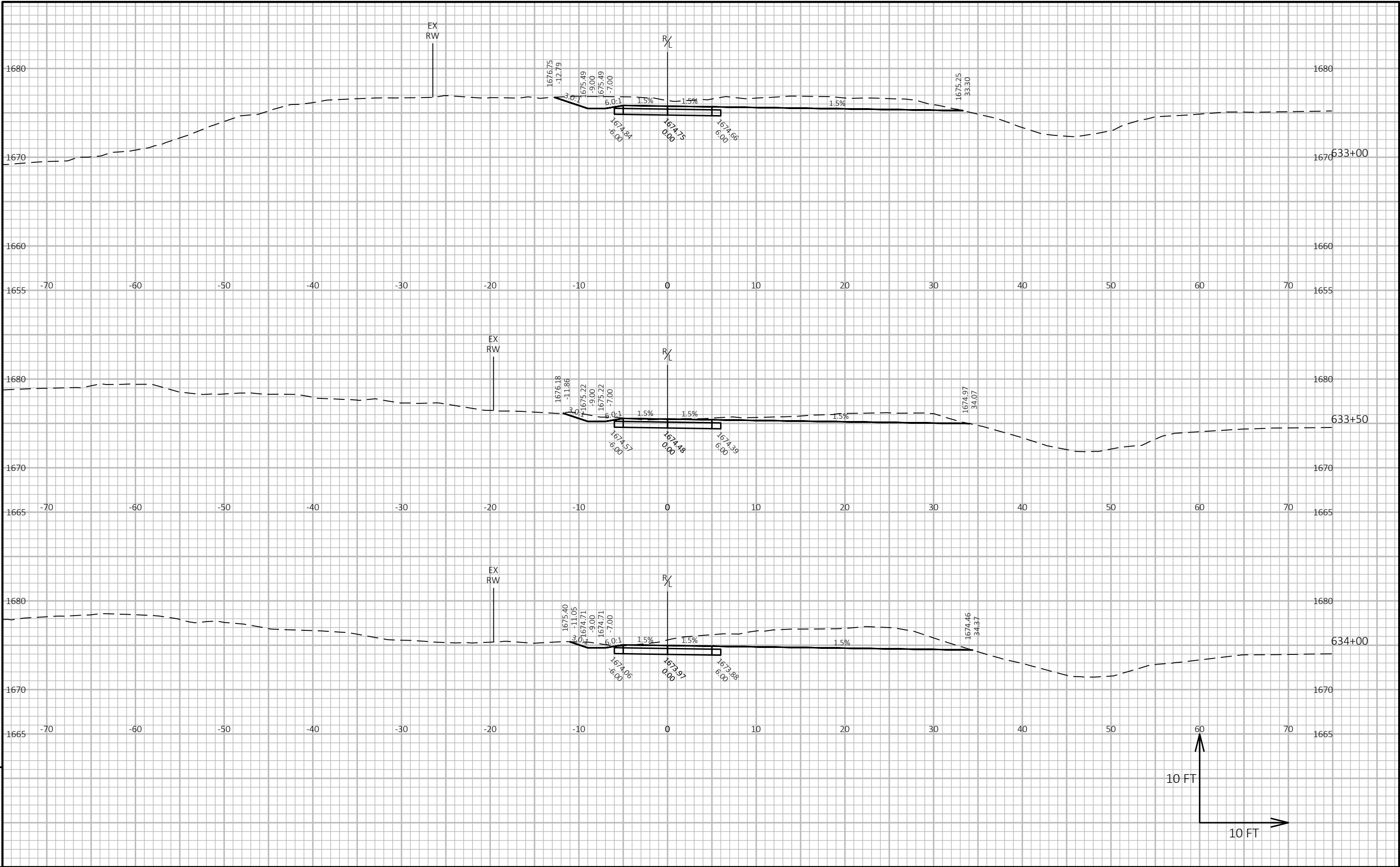
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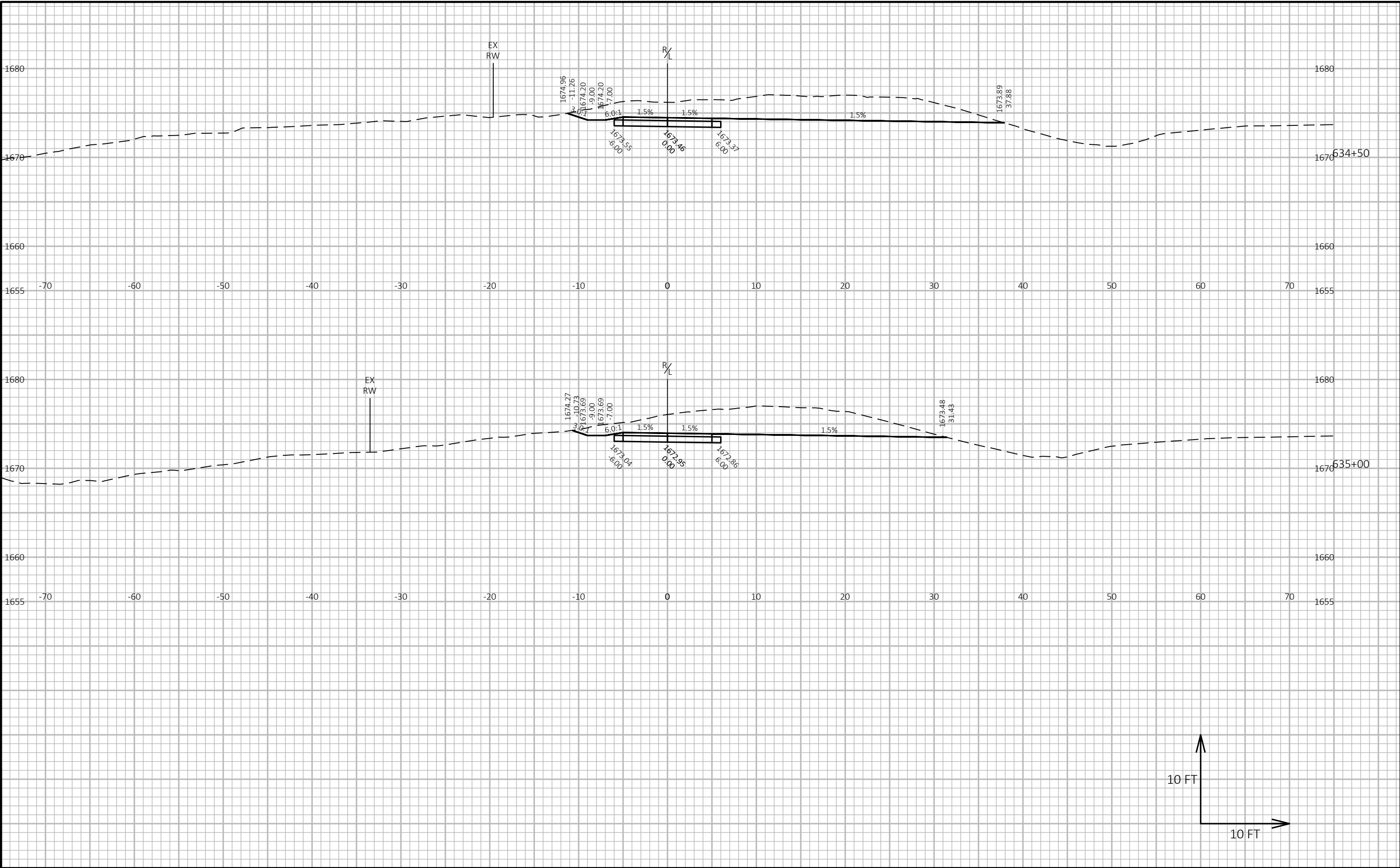
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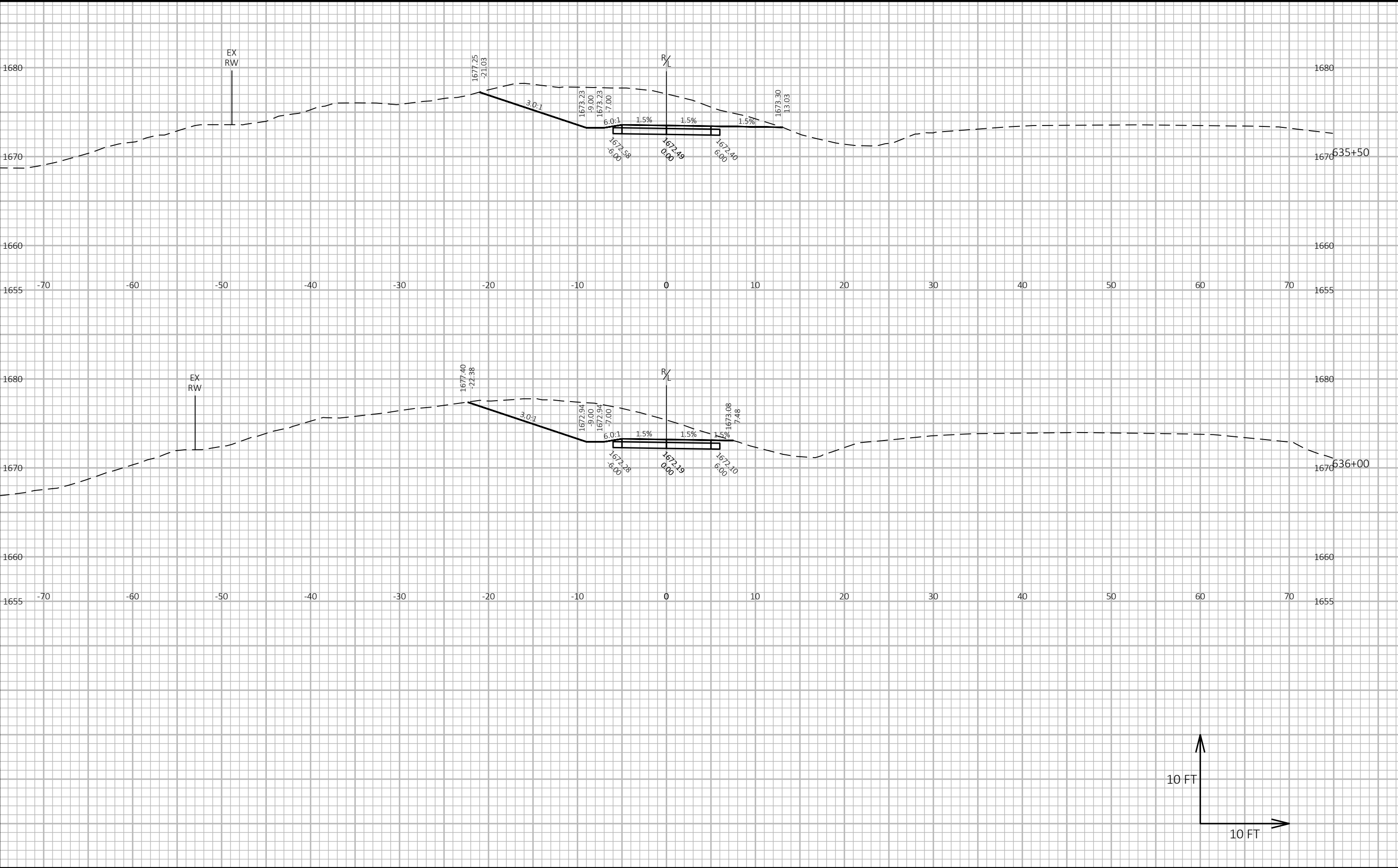
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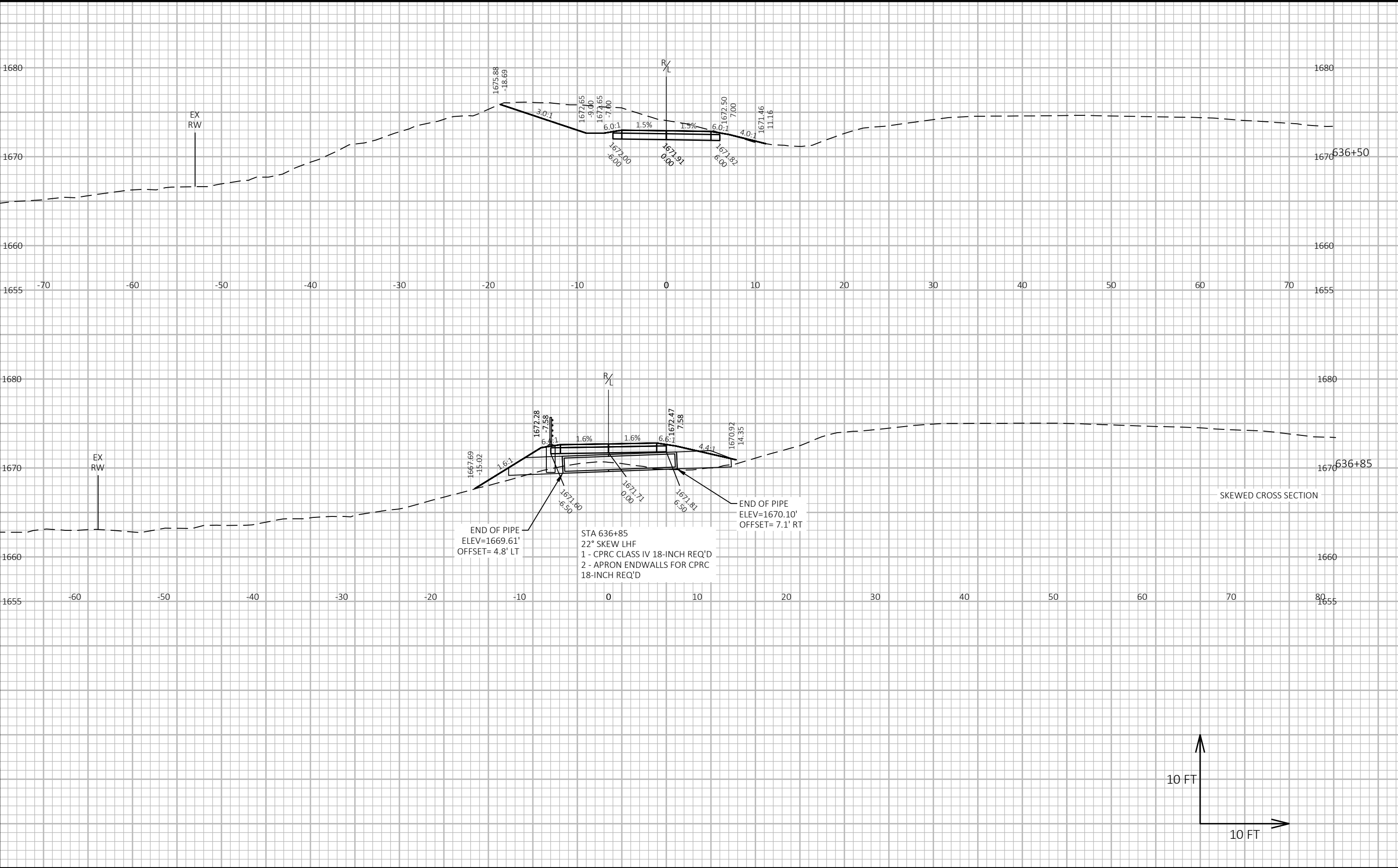
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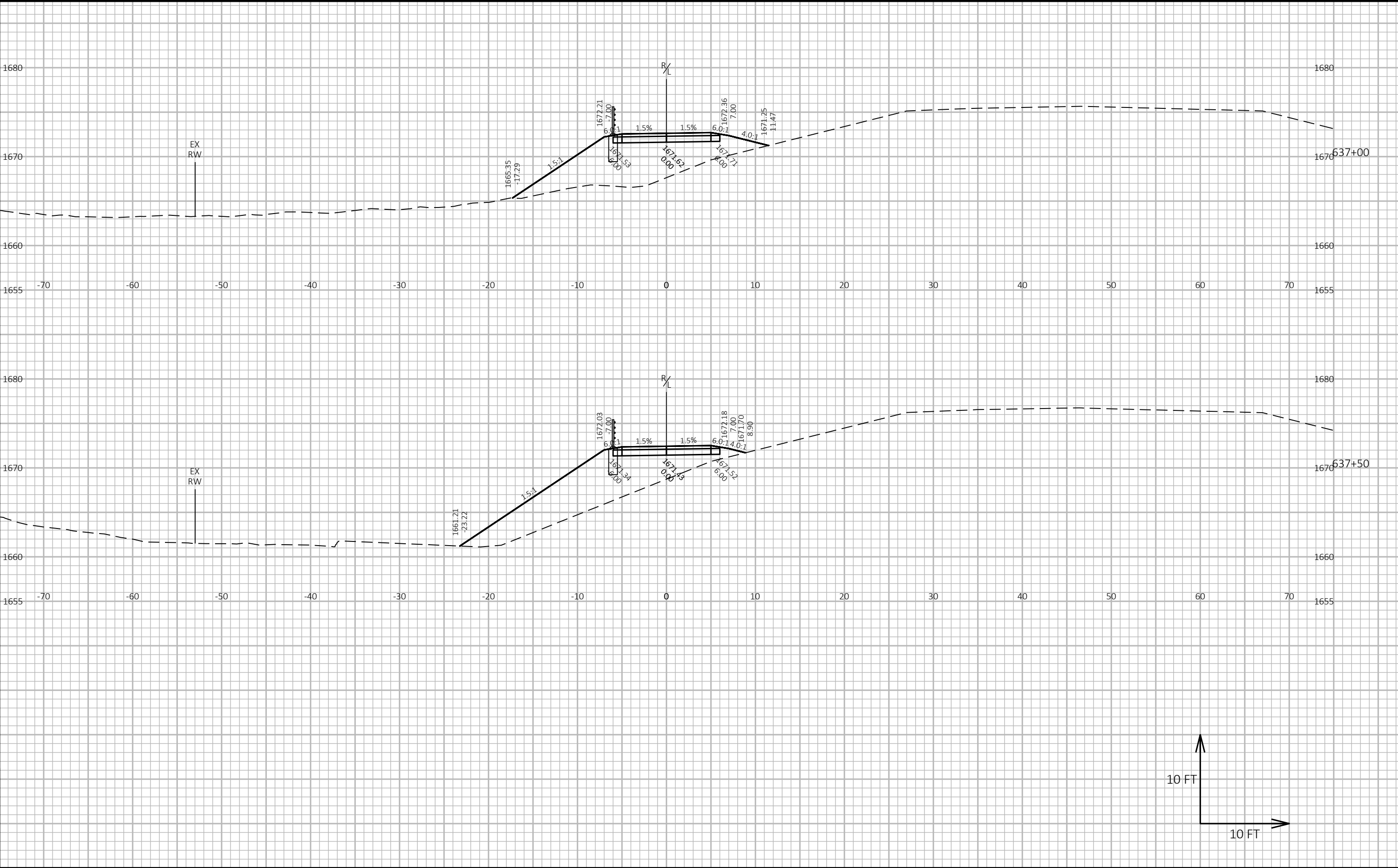
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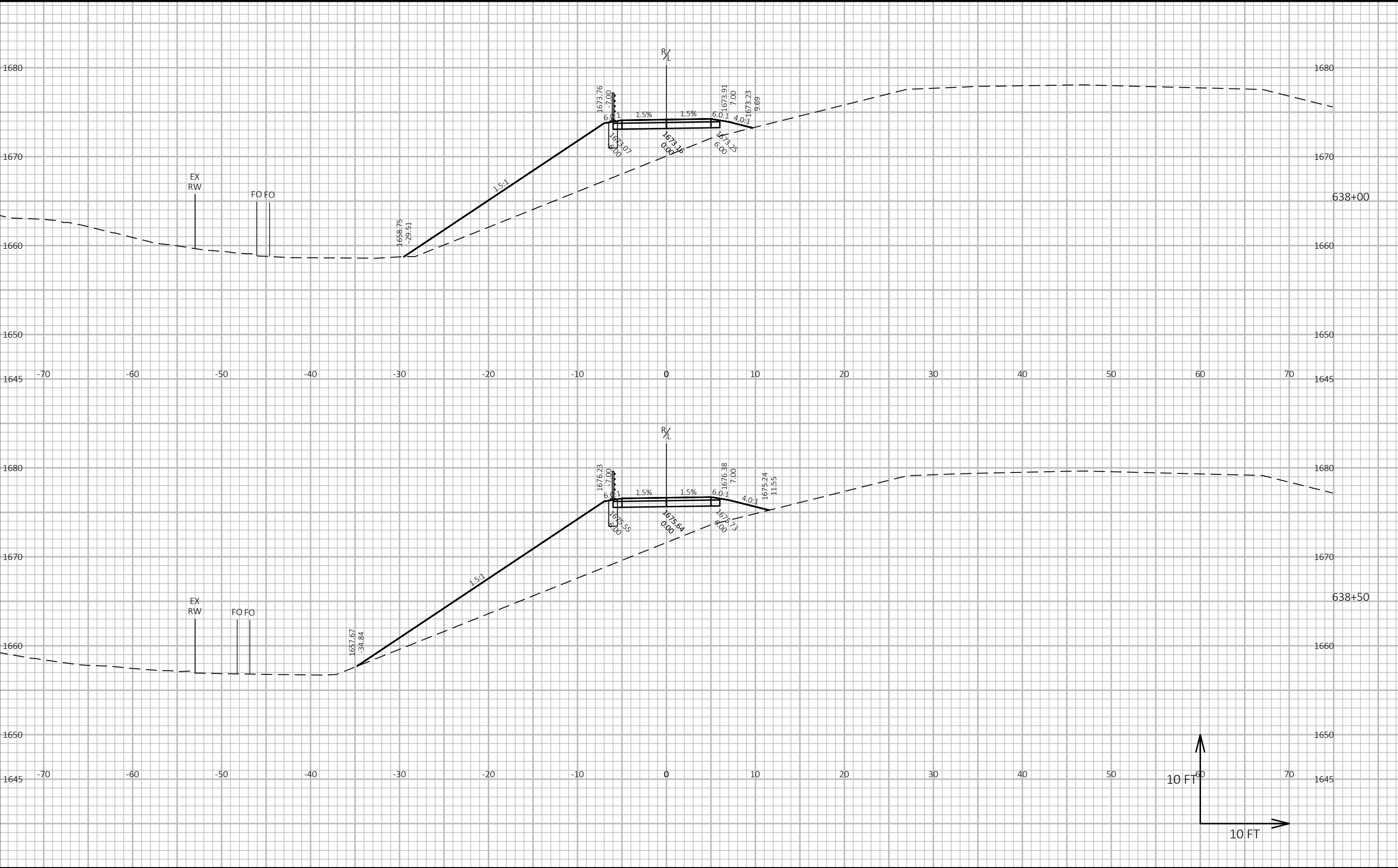
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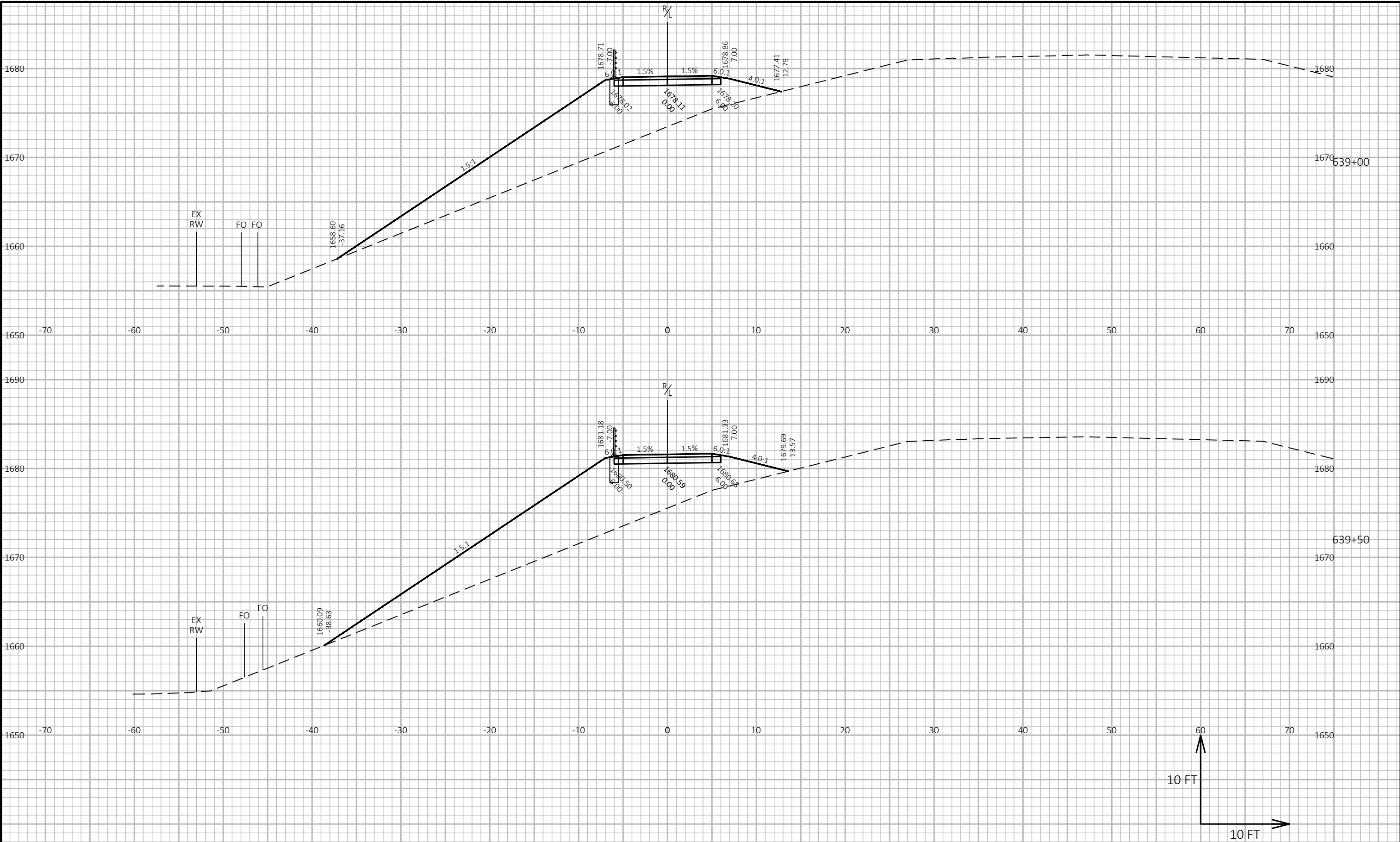
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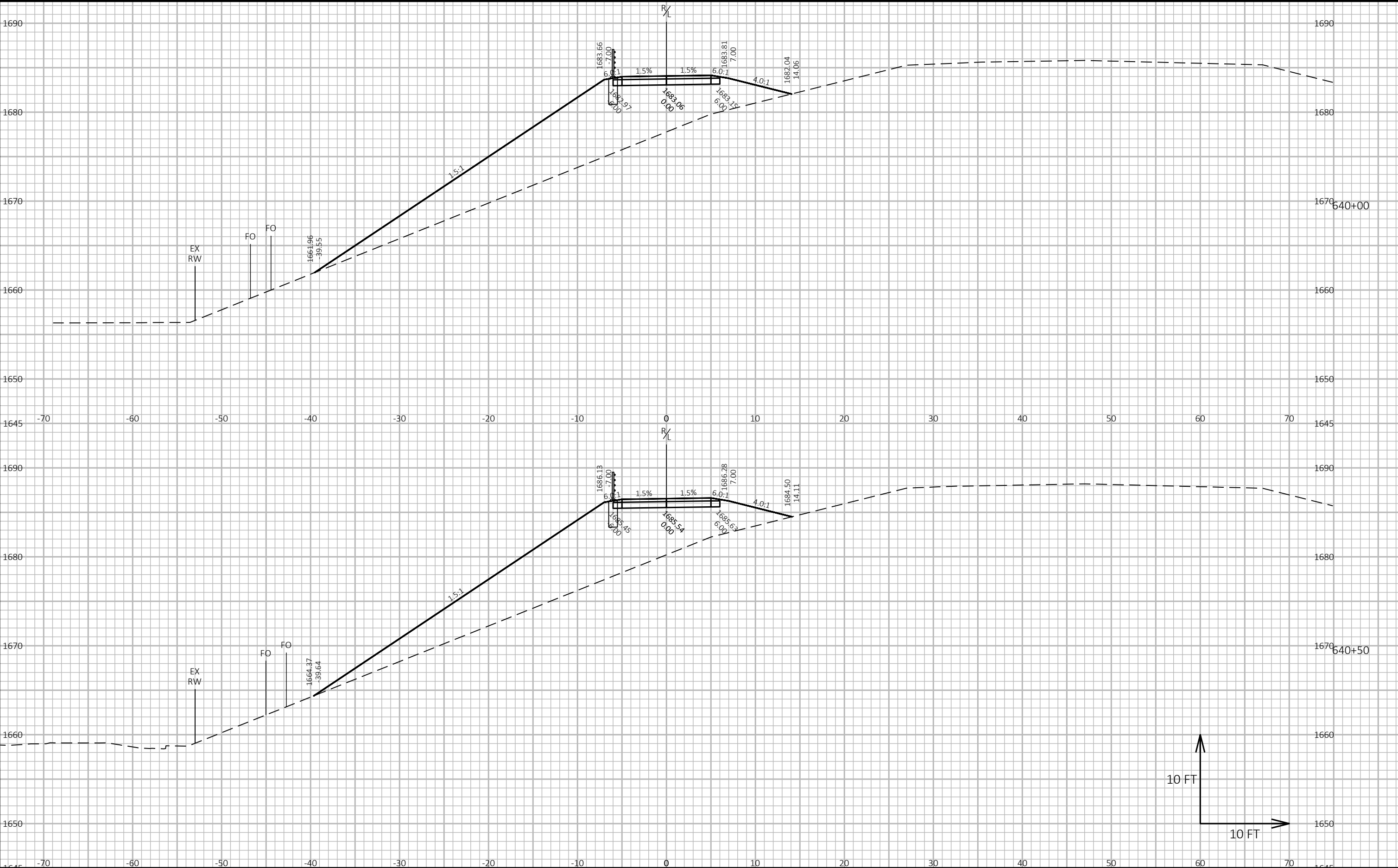
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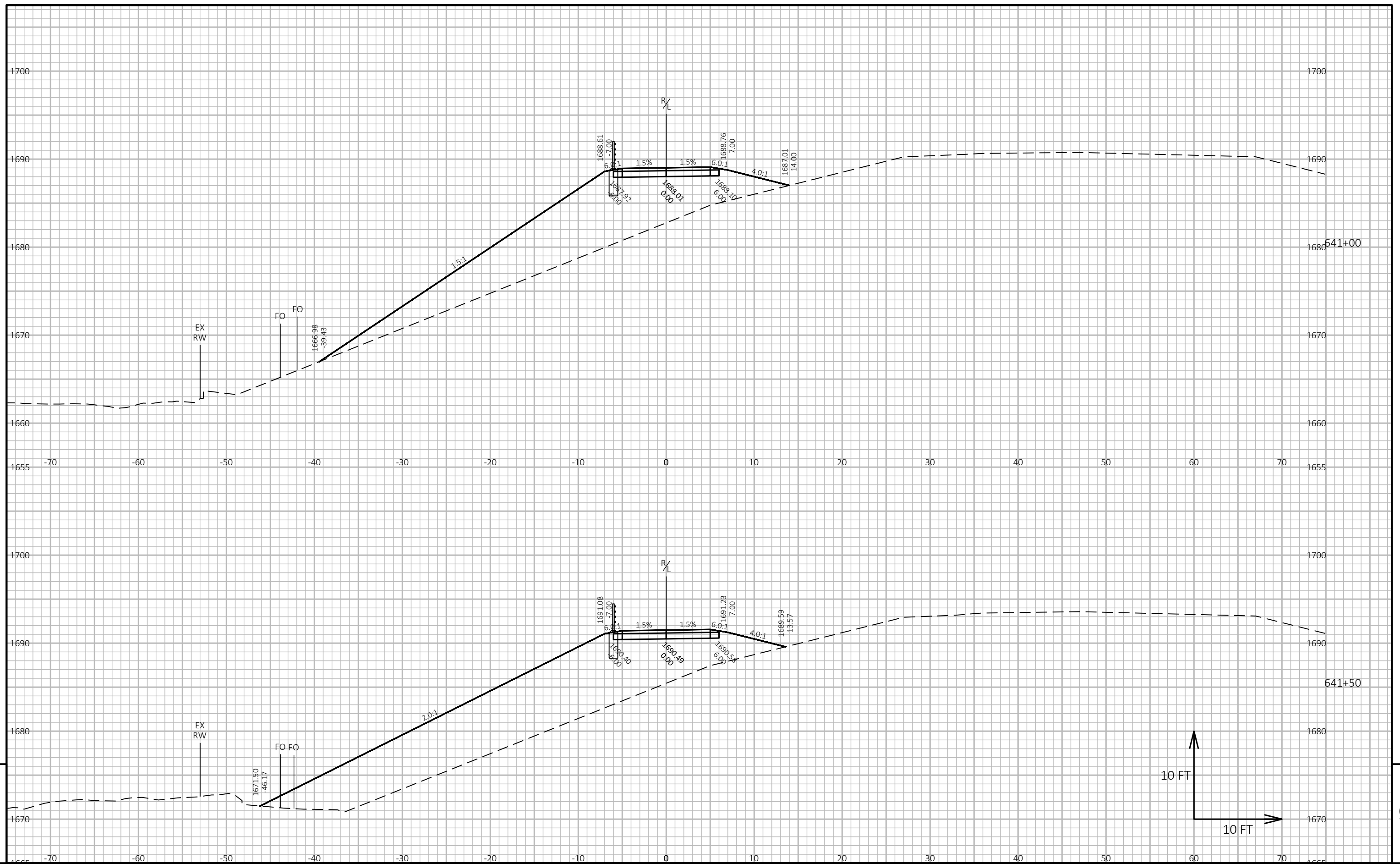
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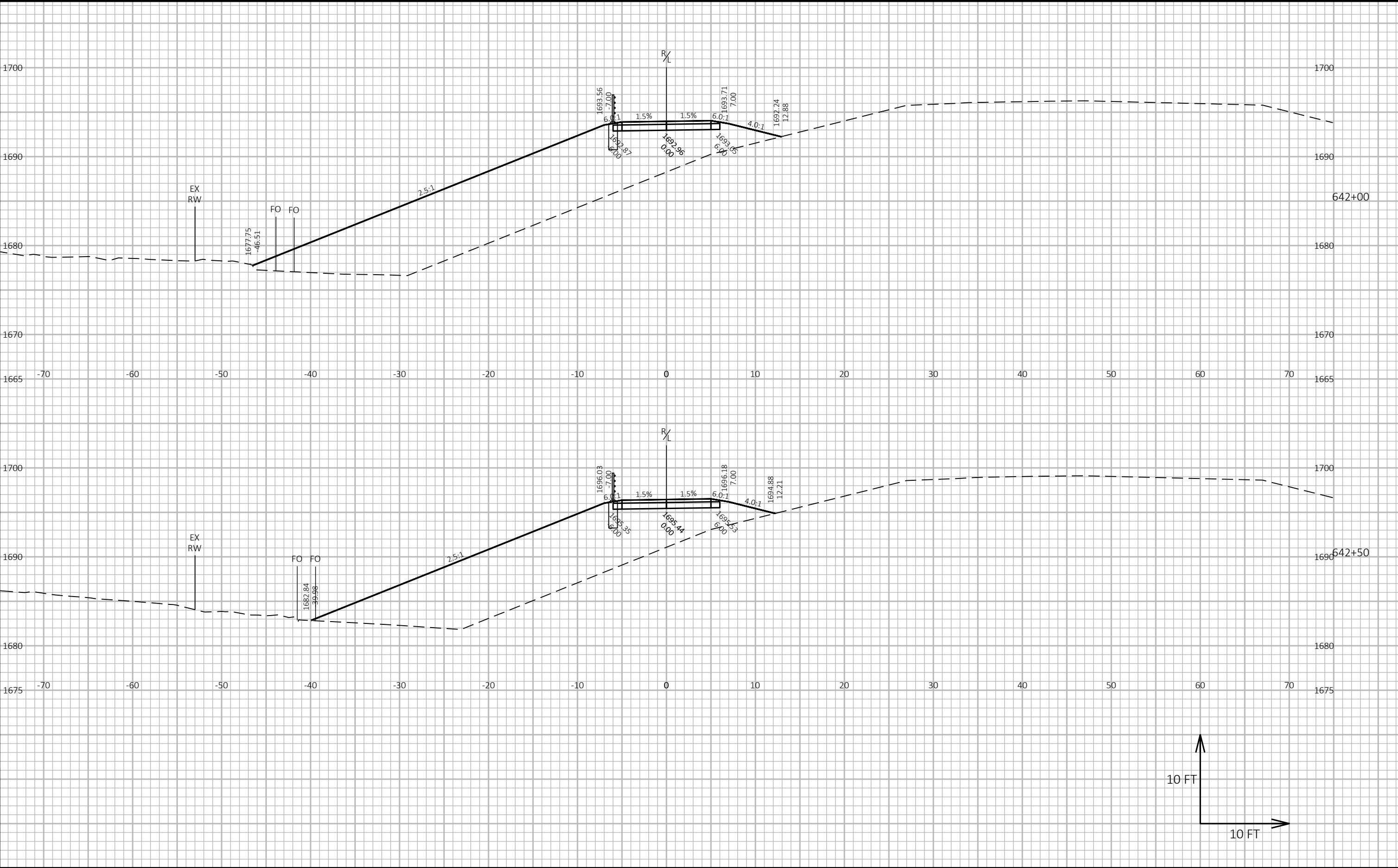
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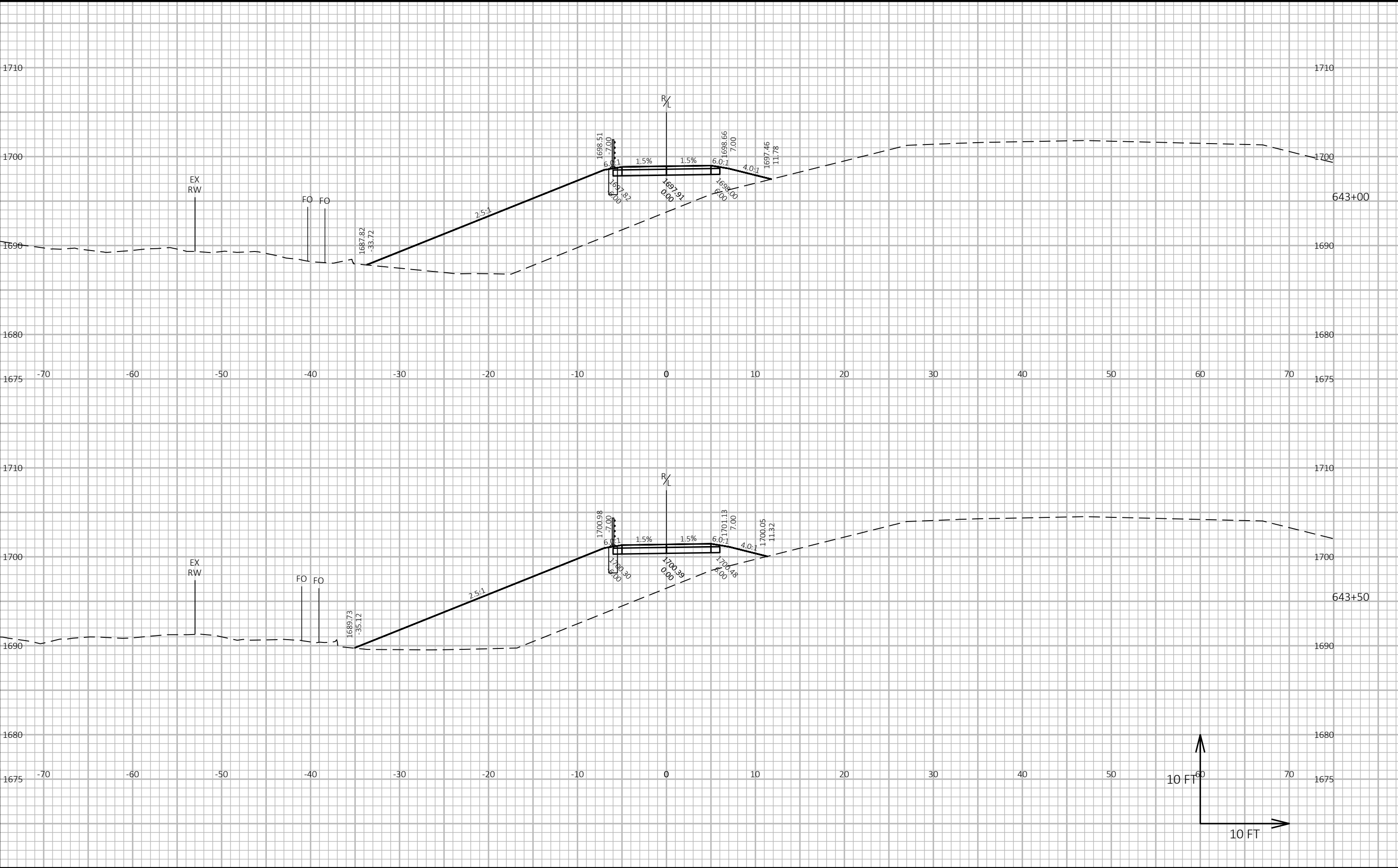


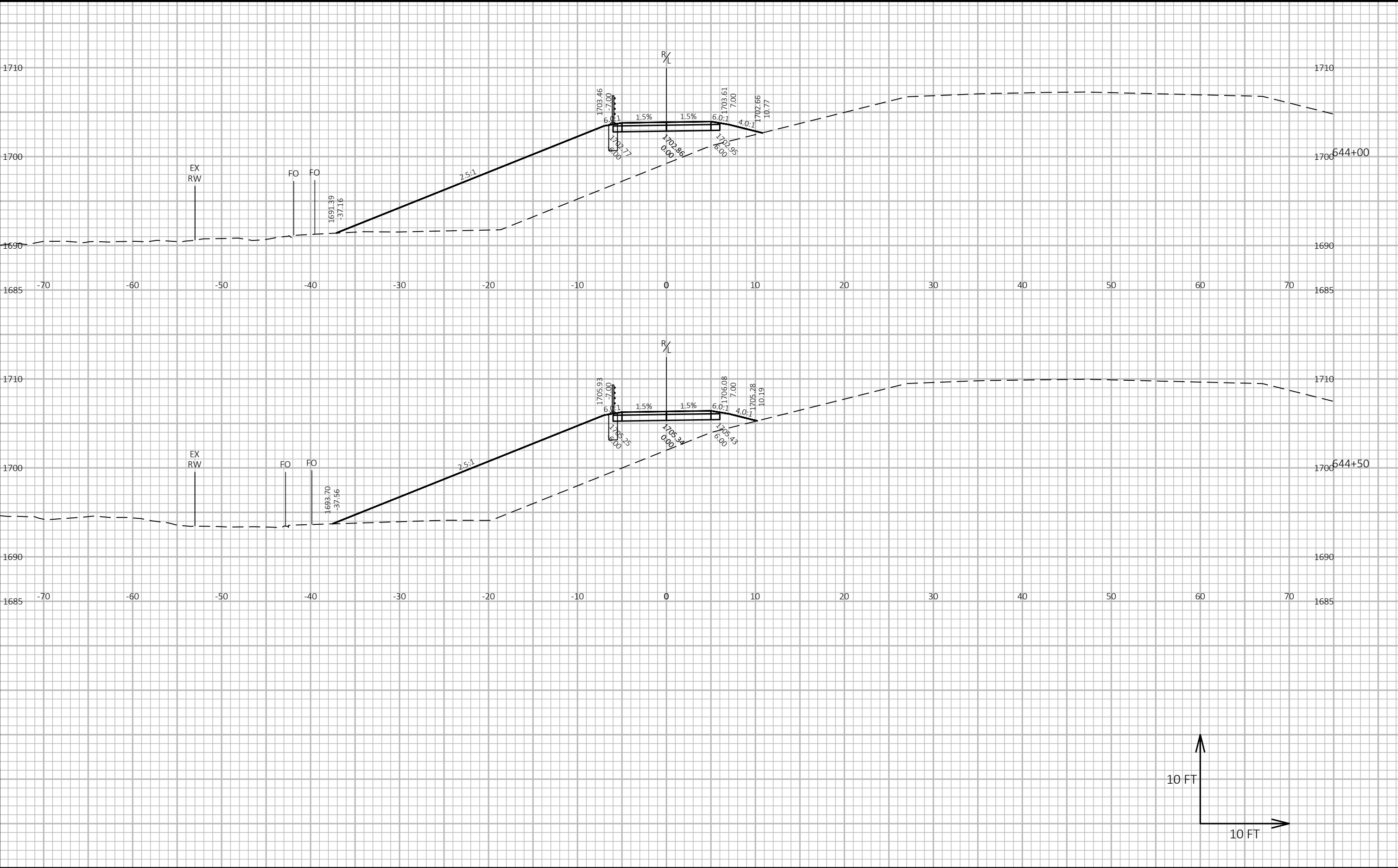


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PROJECT NO: 9813-02-71	USH 8 SHARED USE PATHWAY PHASE 2	COUNTY: FOREST	CROSS SECTIONS: PHASE 2	SHEET E
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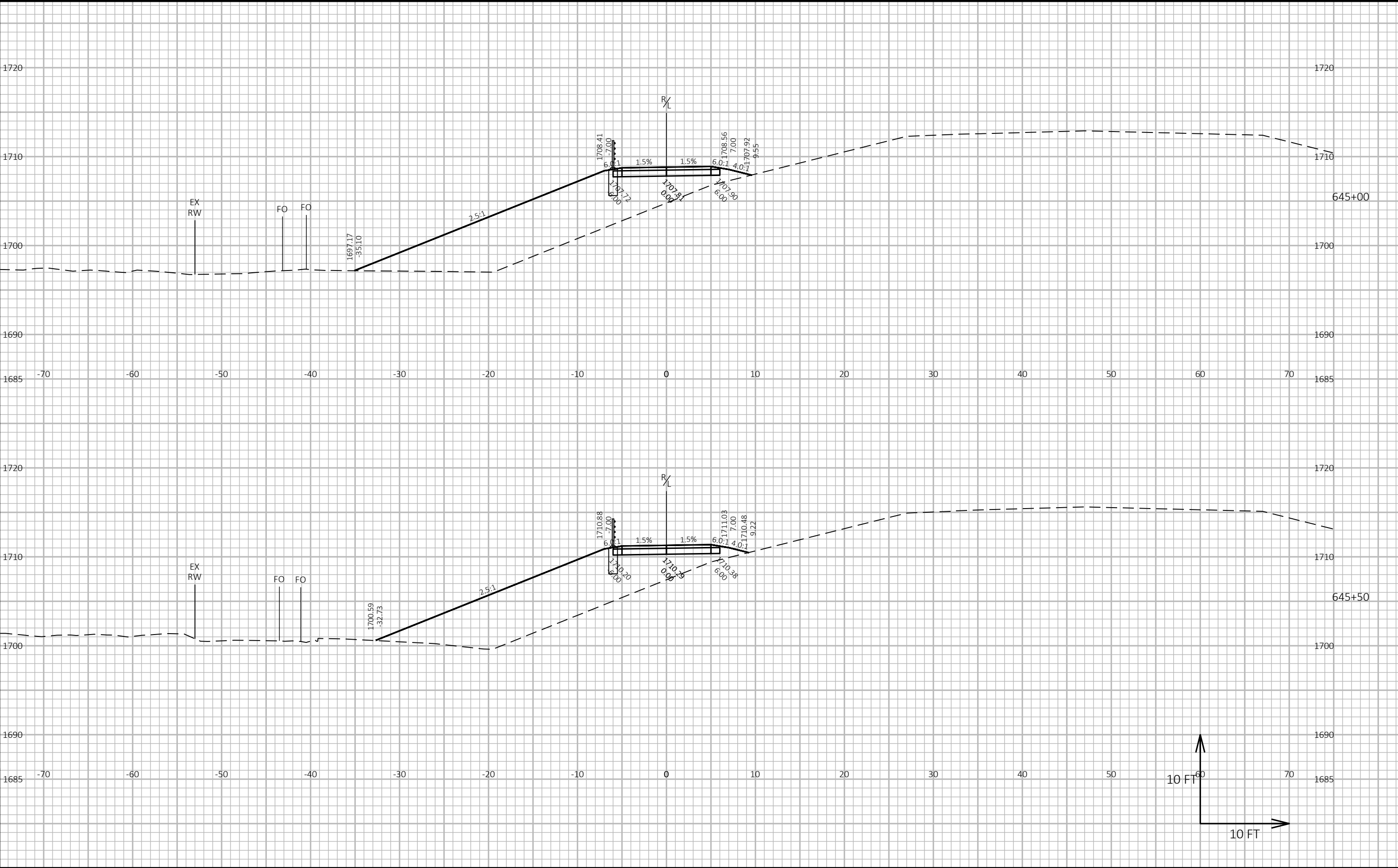


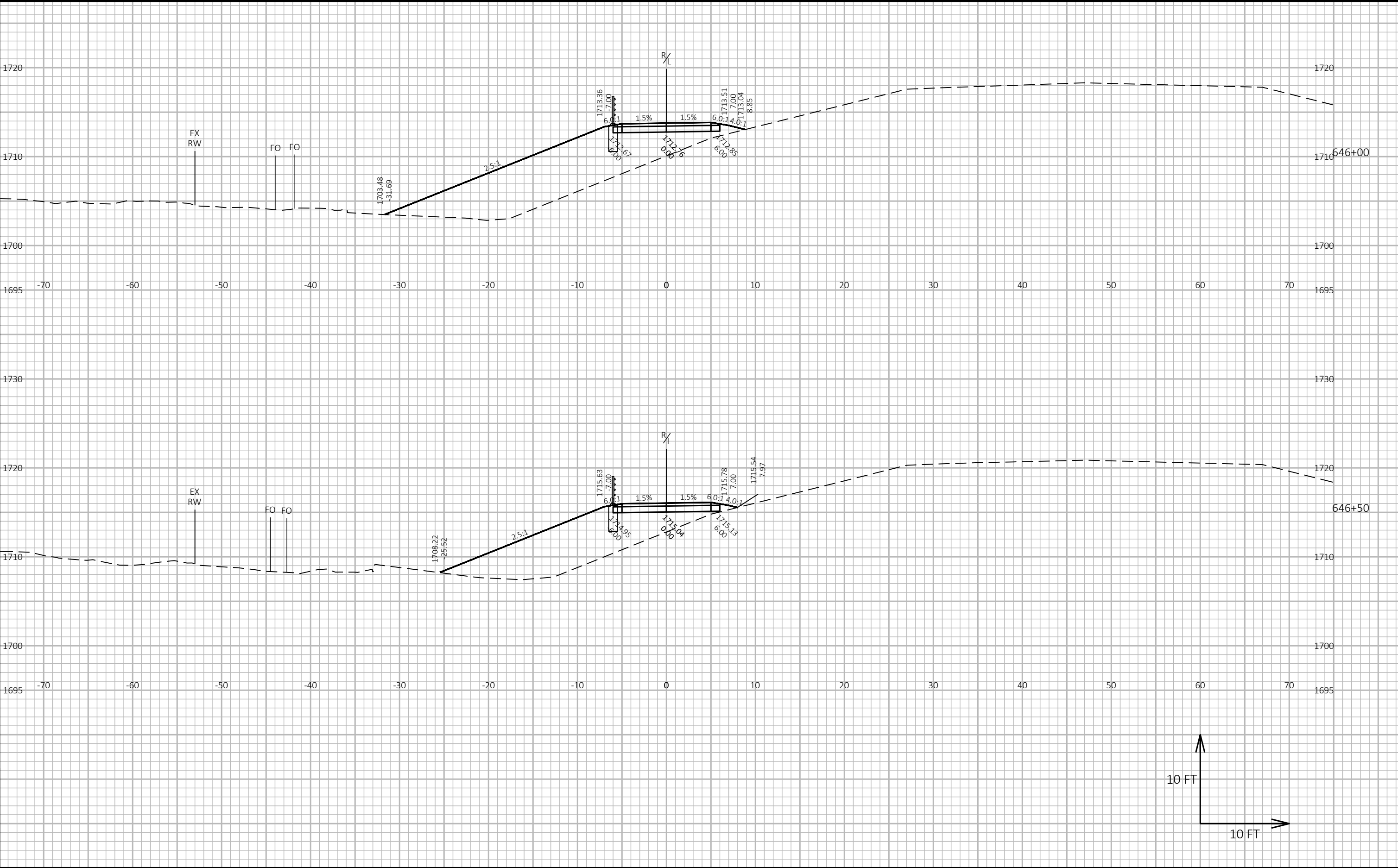


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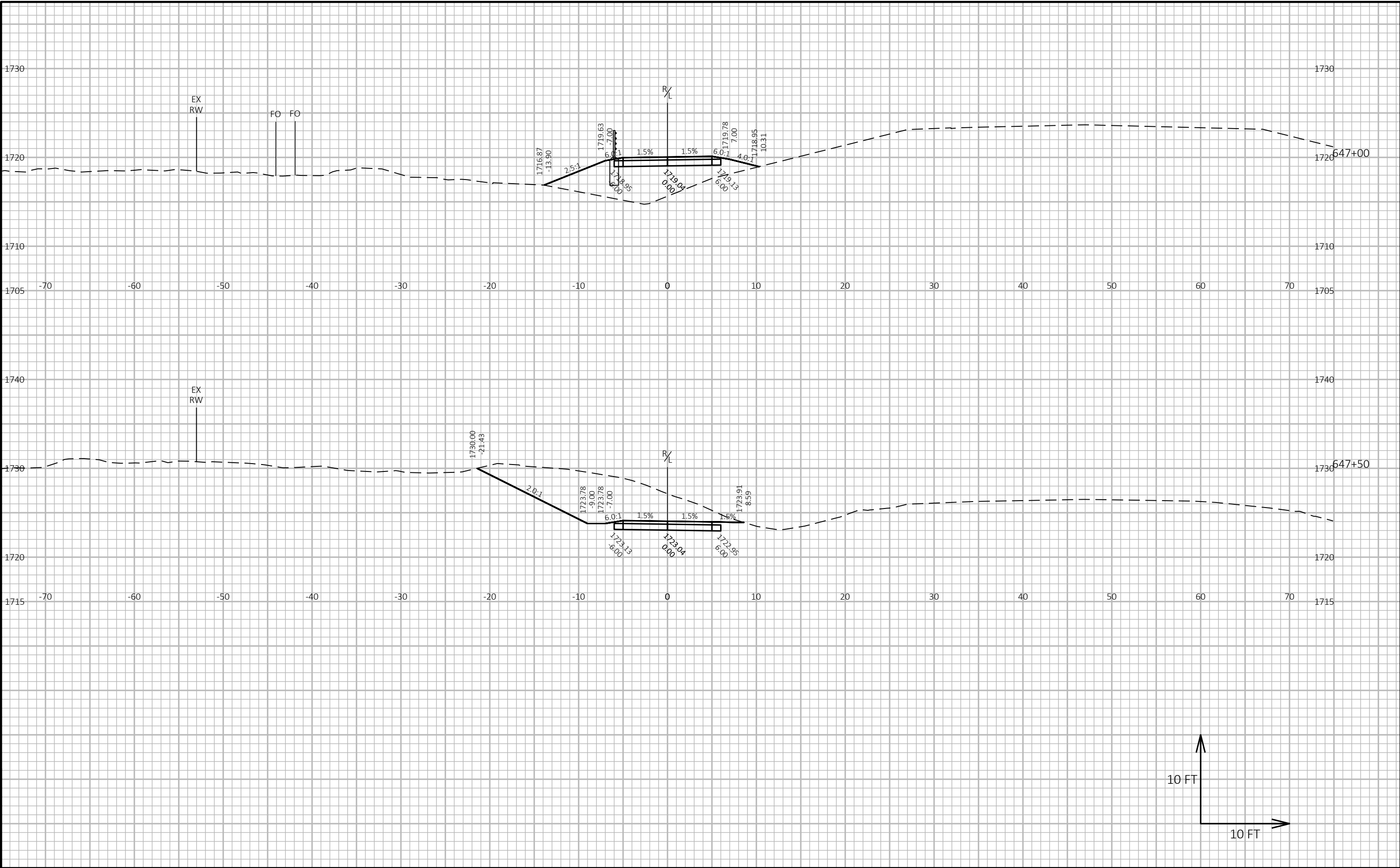




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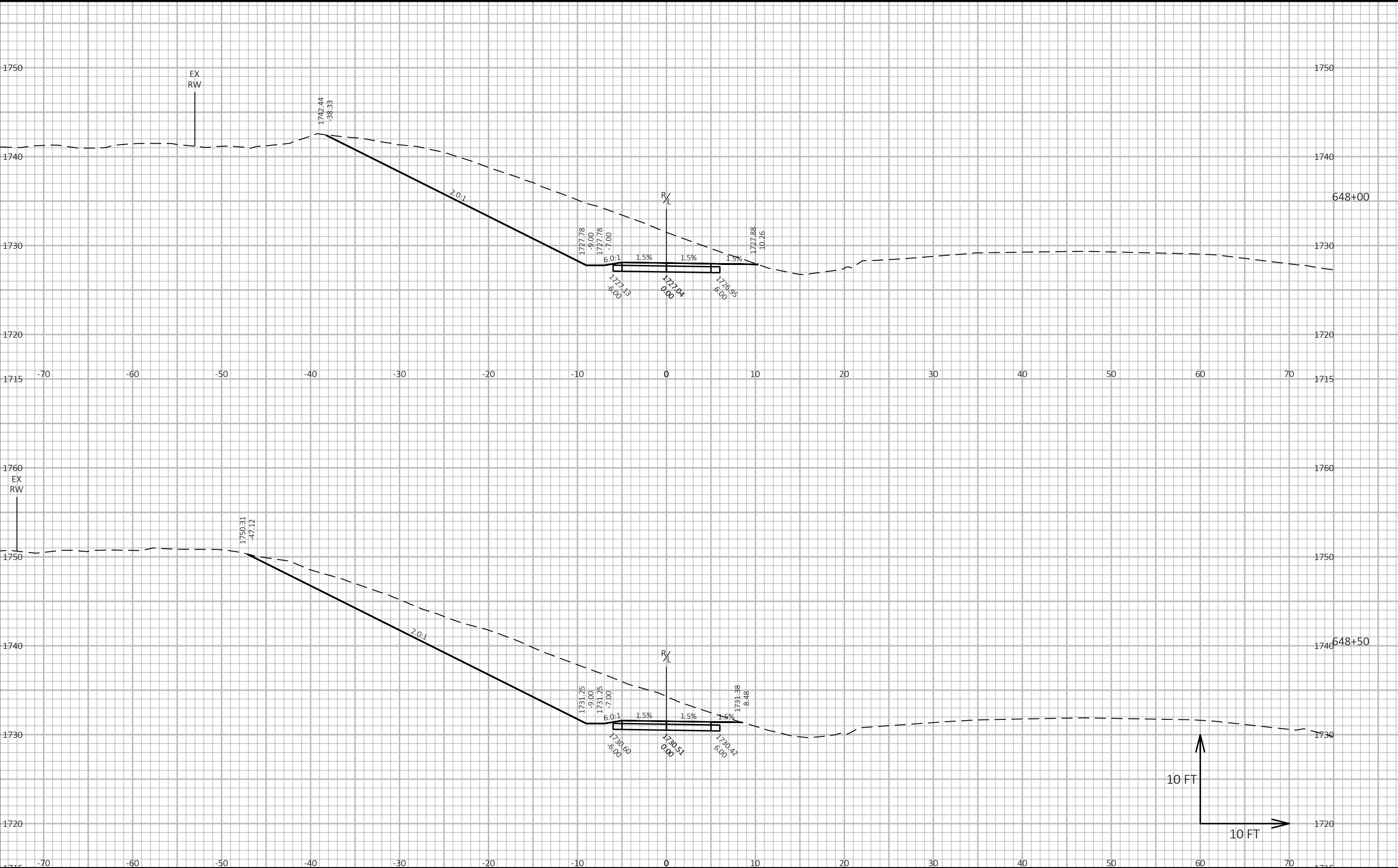
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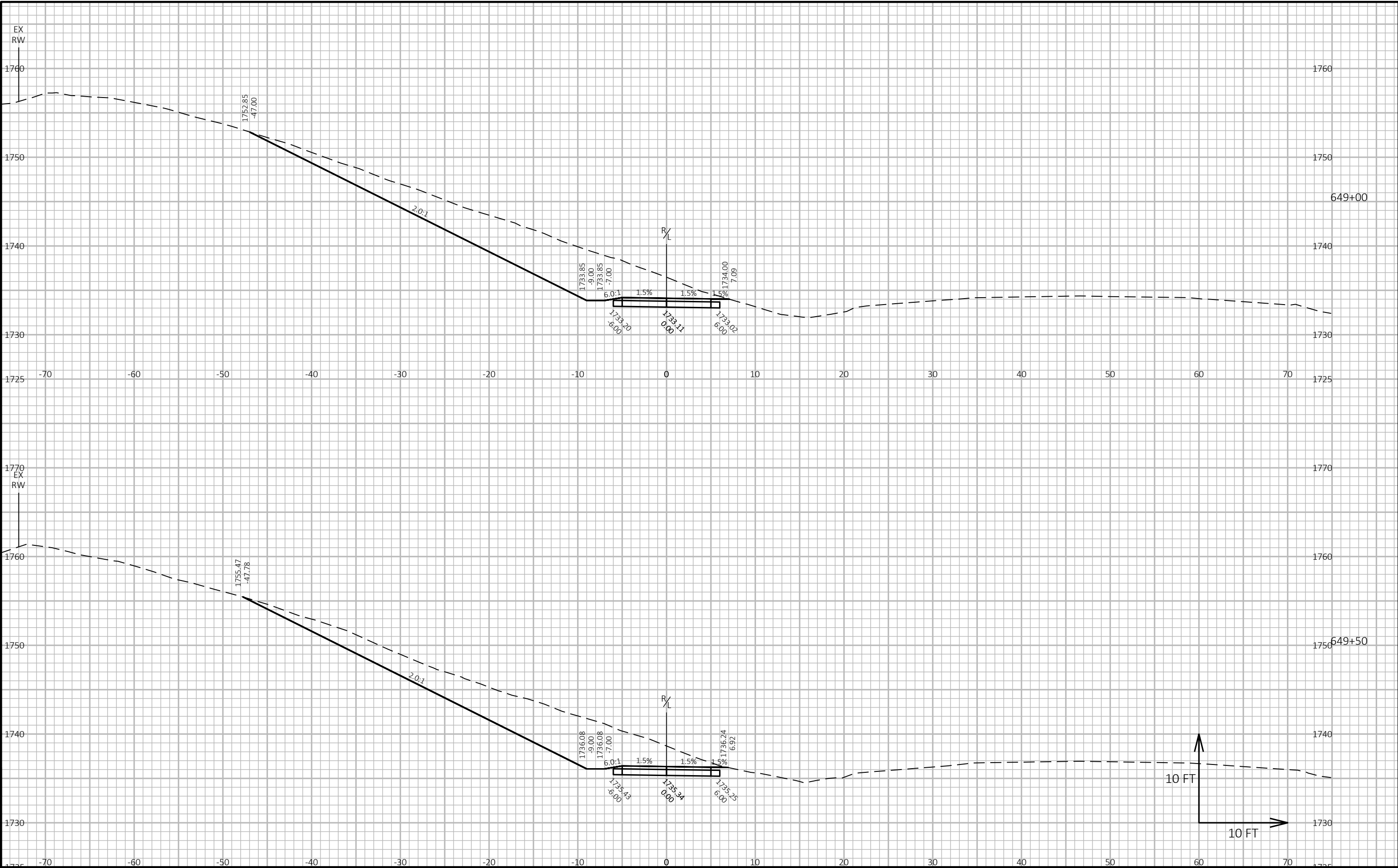
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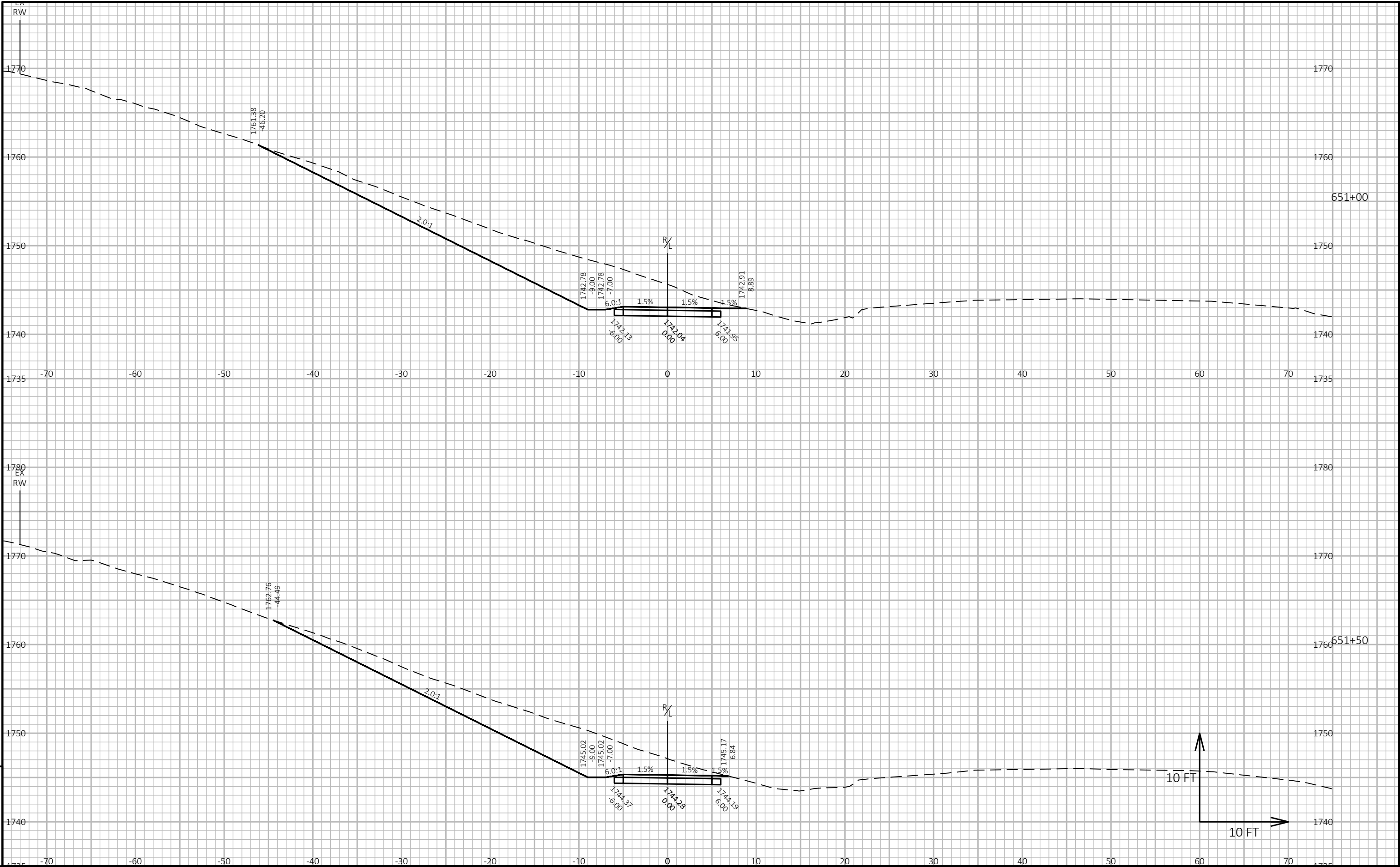
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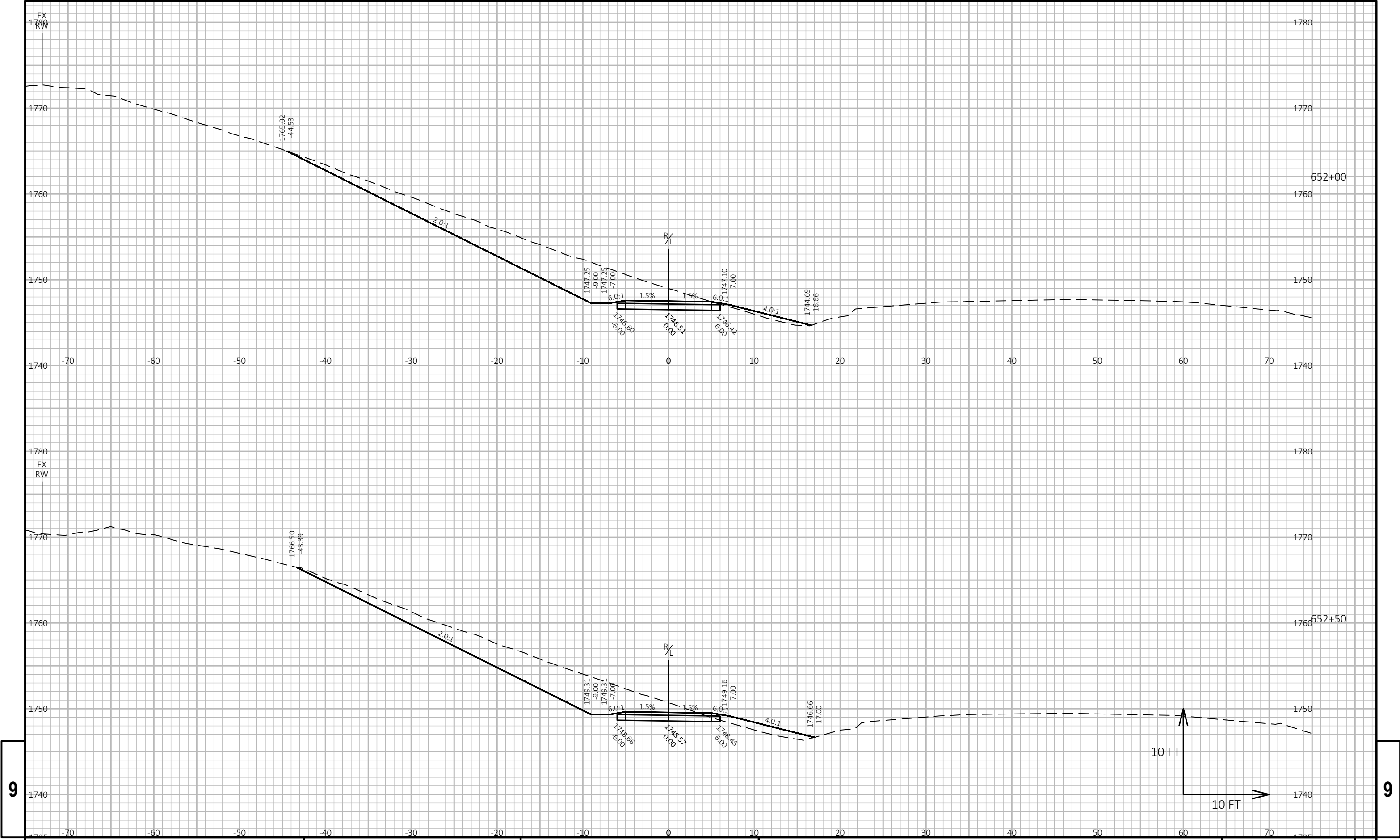
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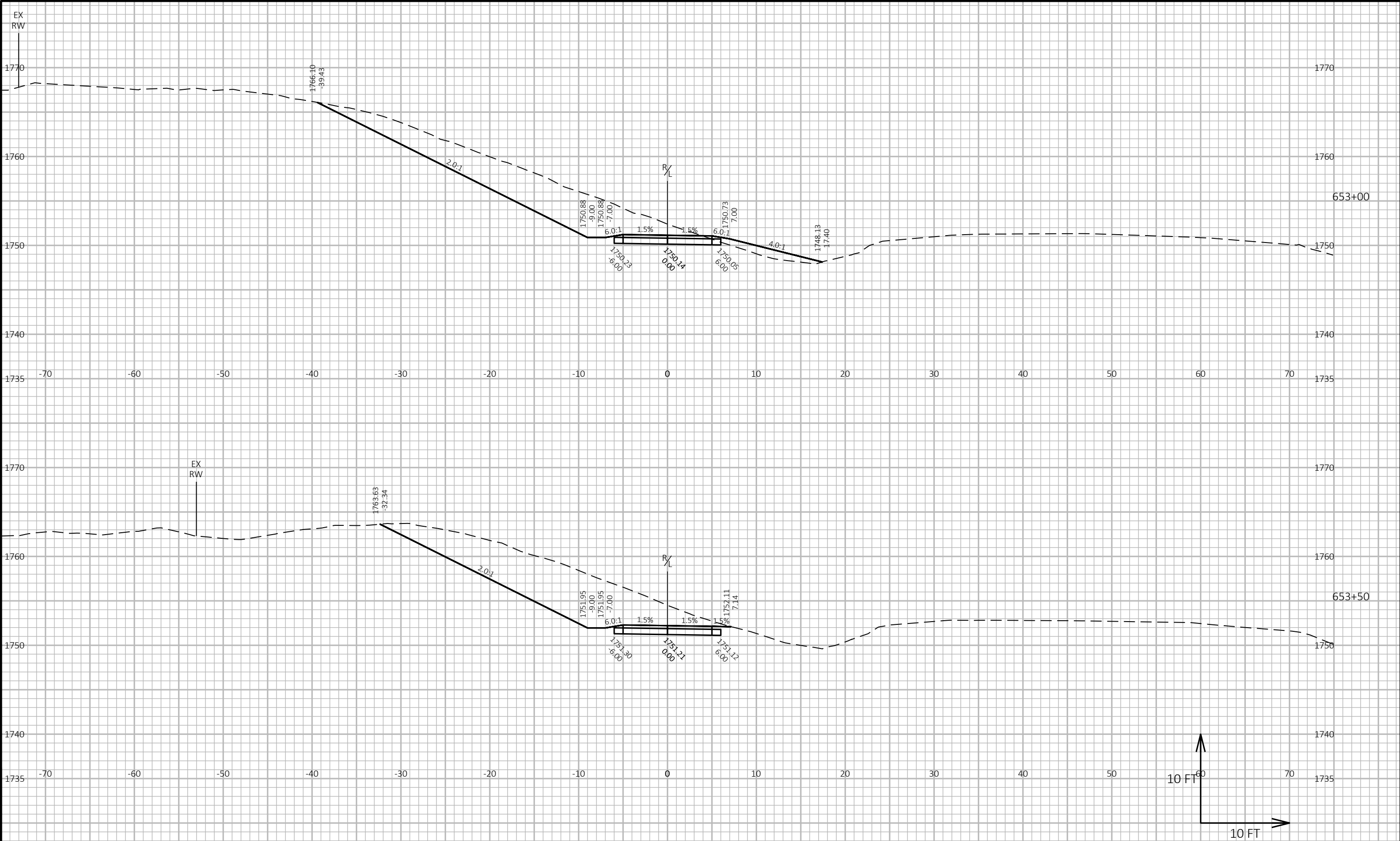
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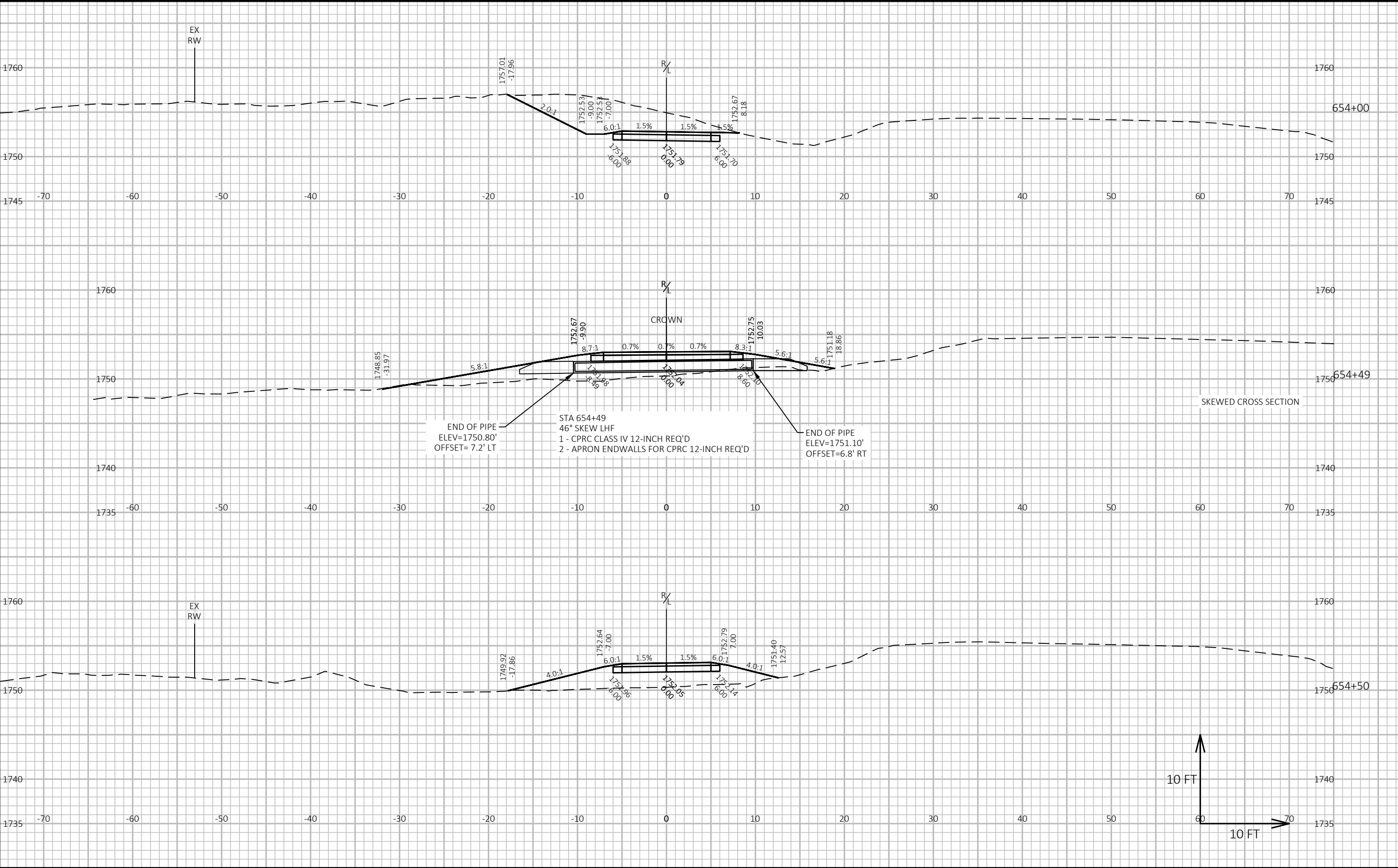
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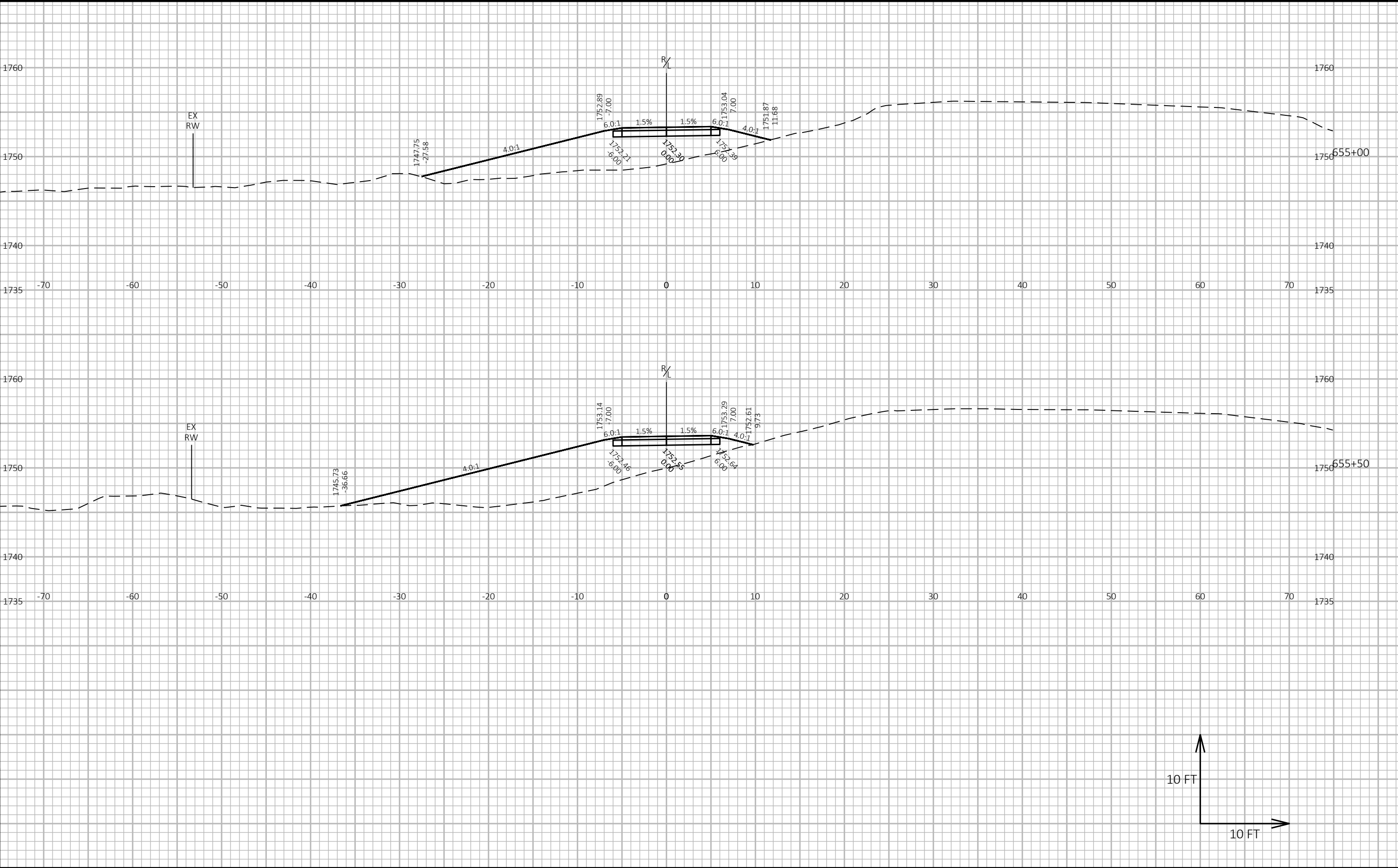


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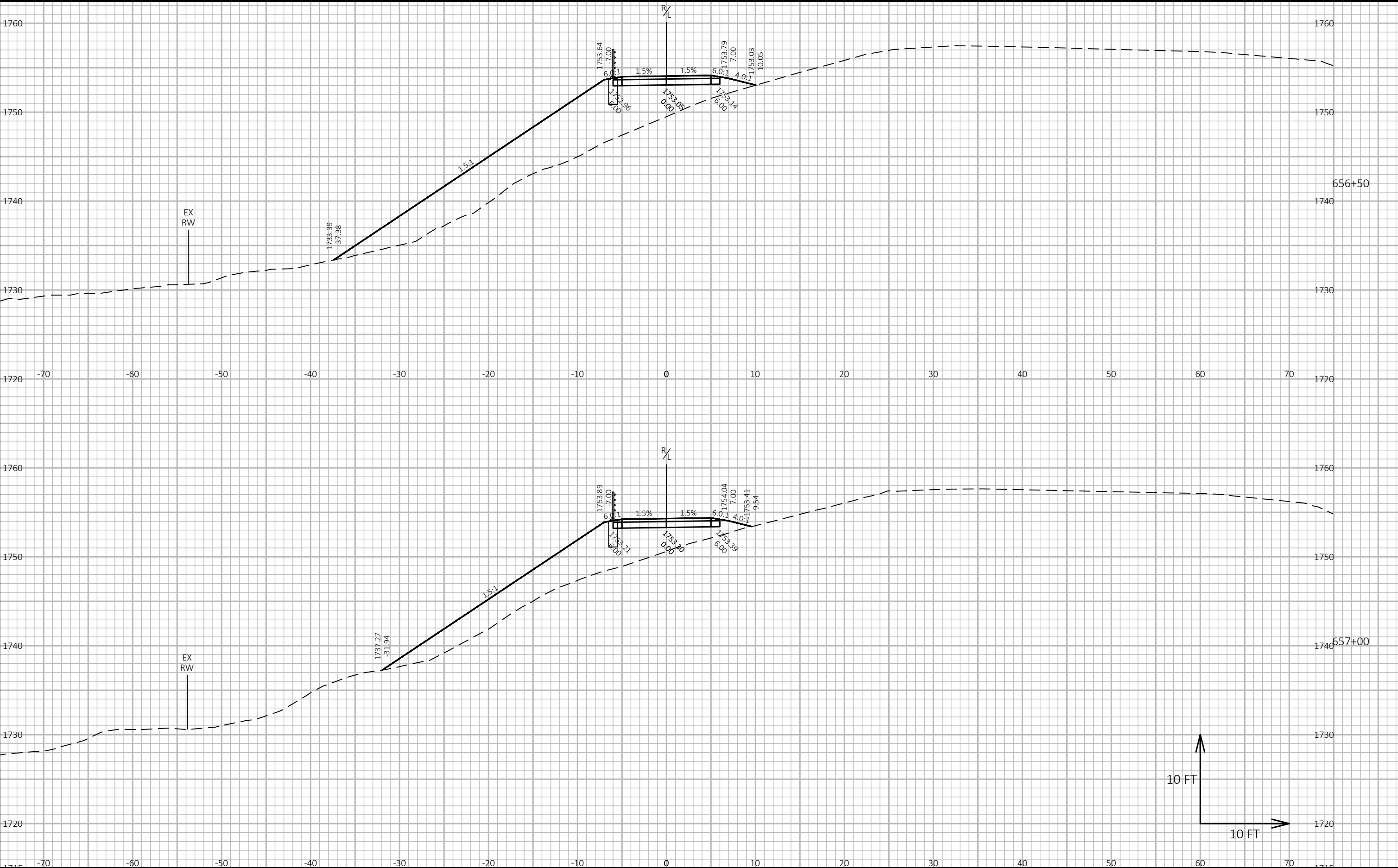






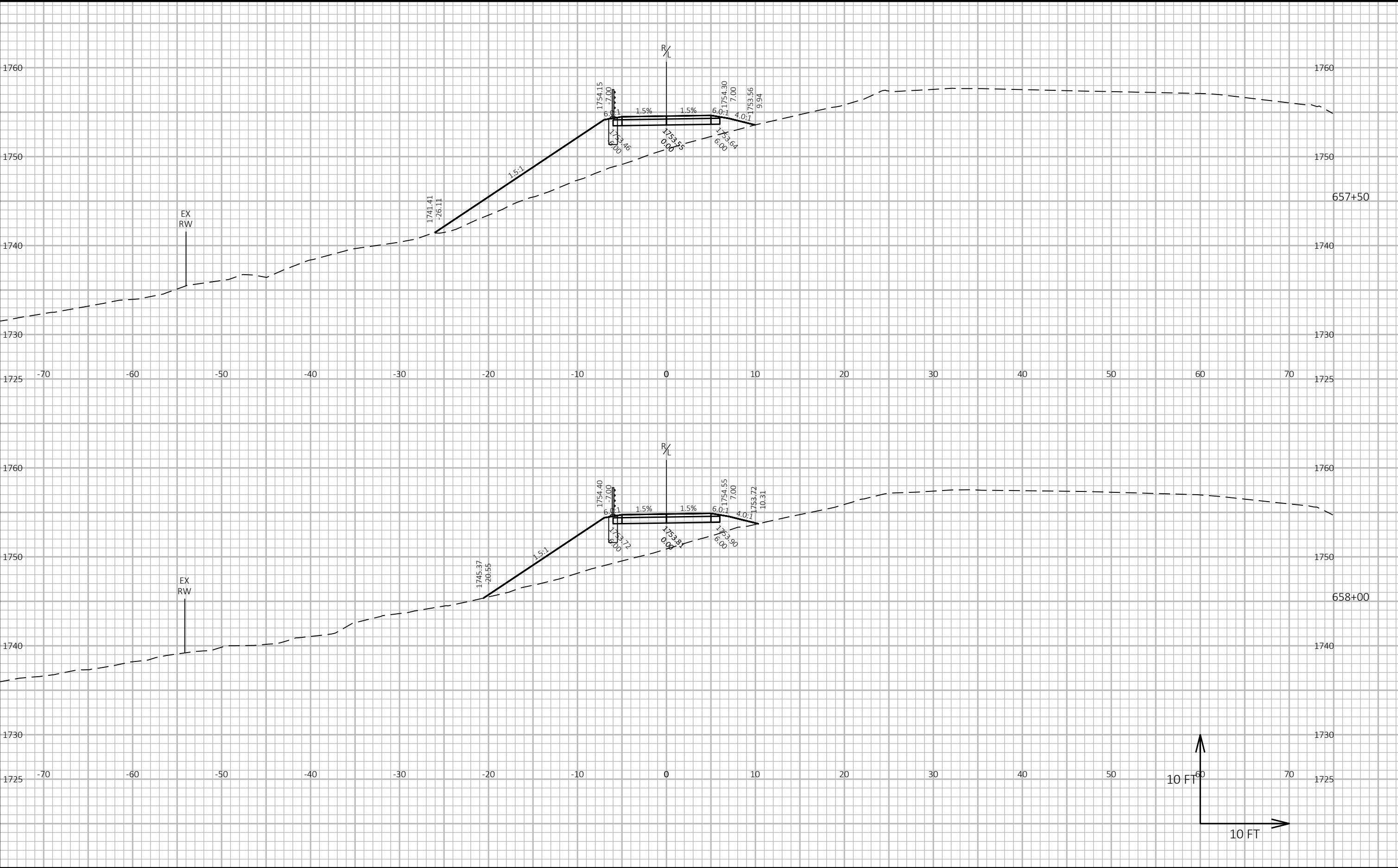
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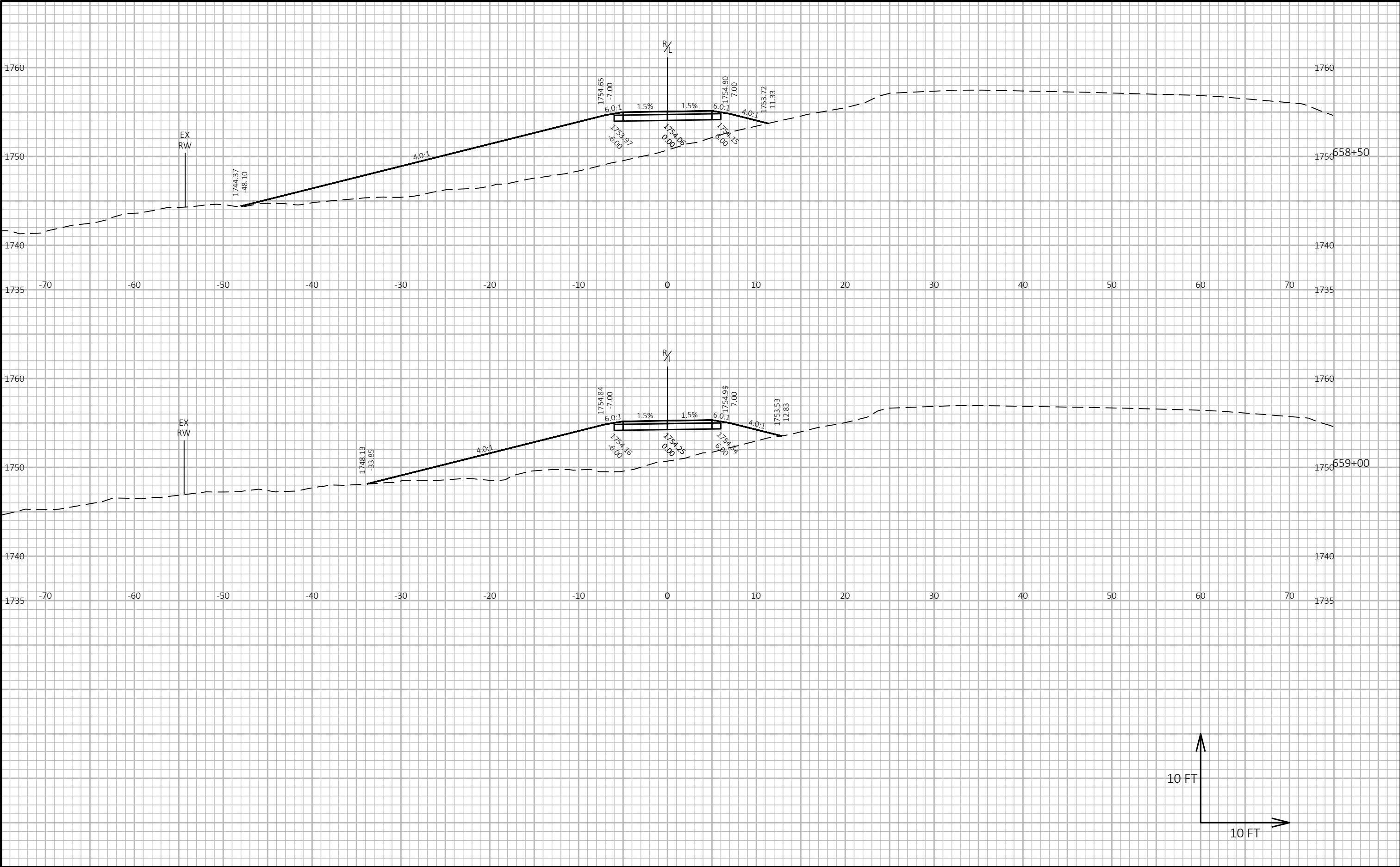
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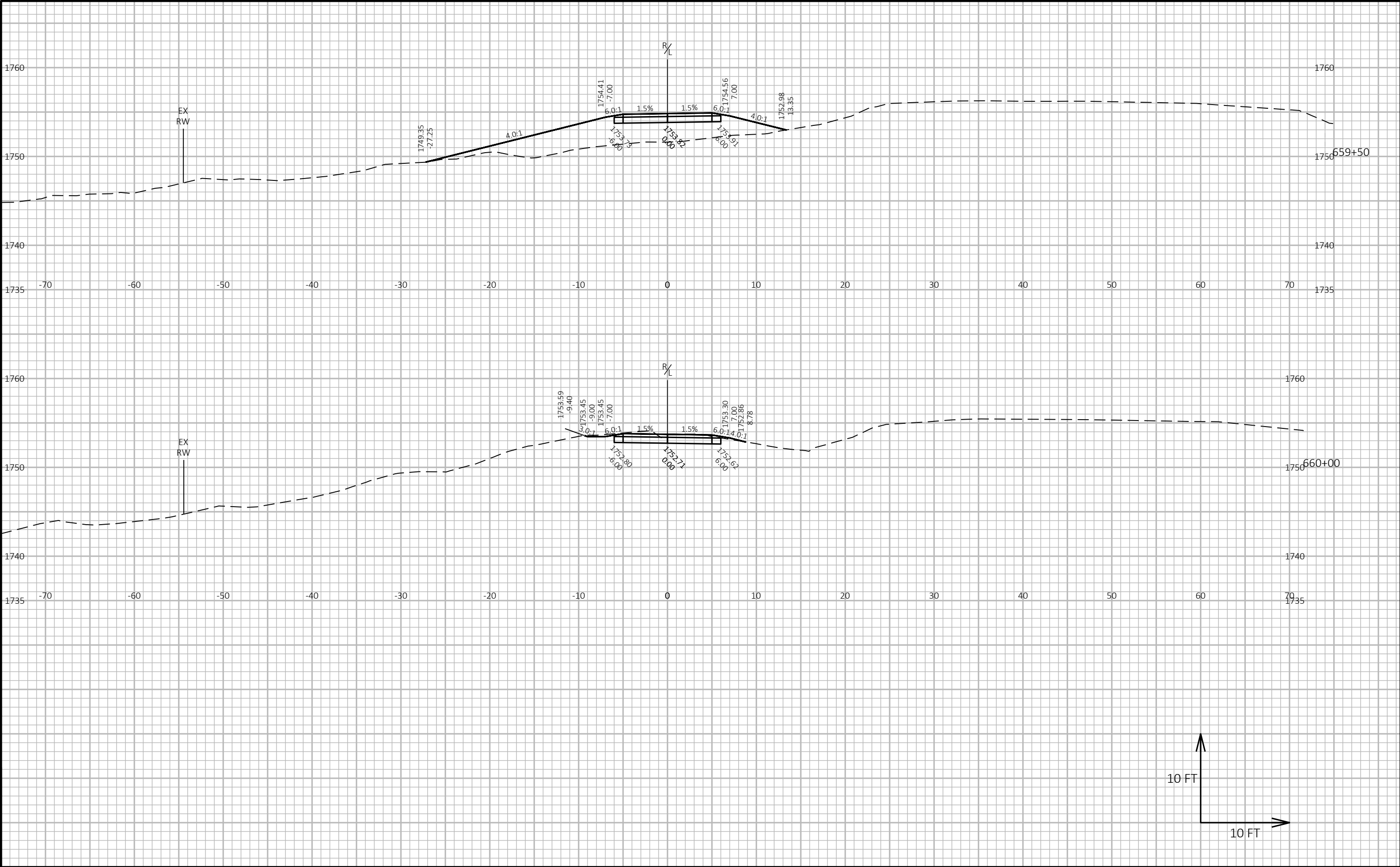
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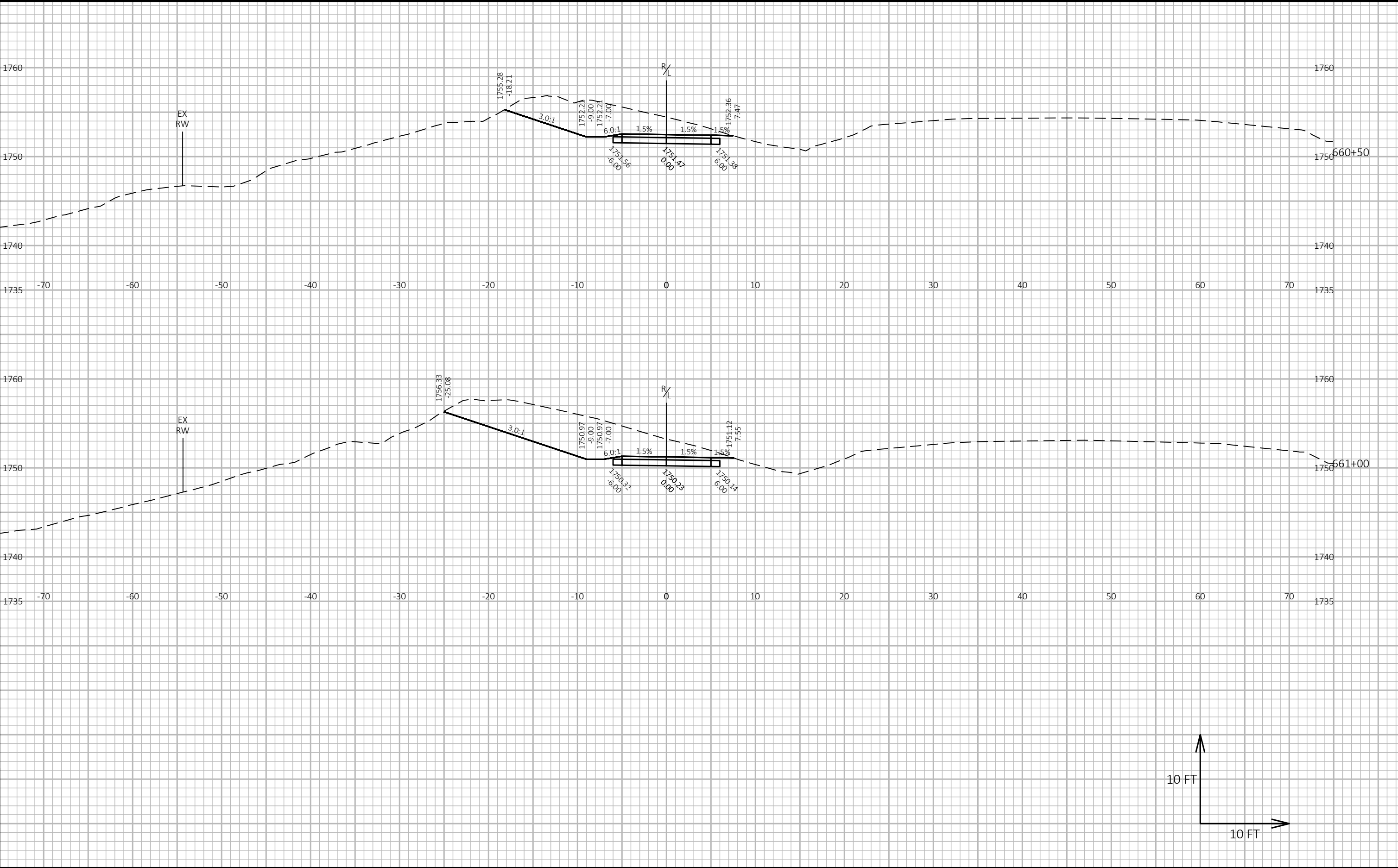
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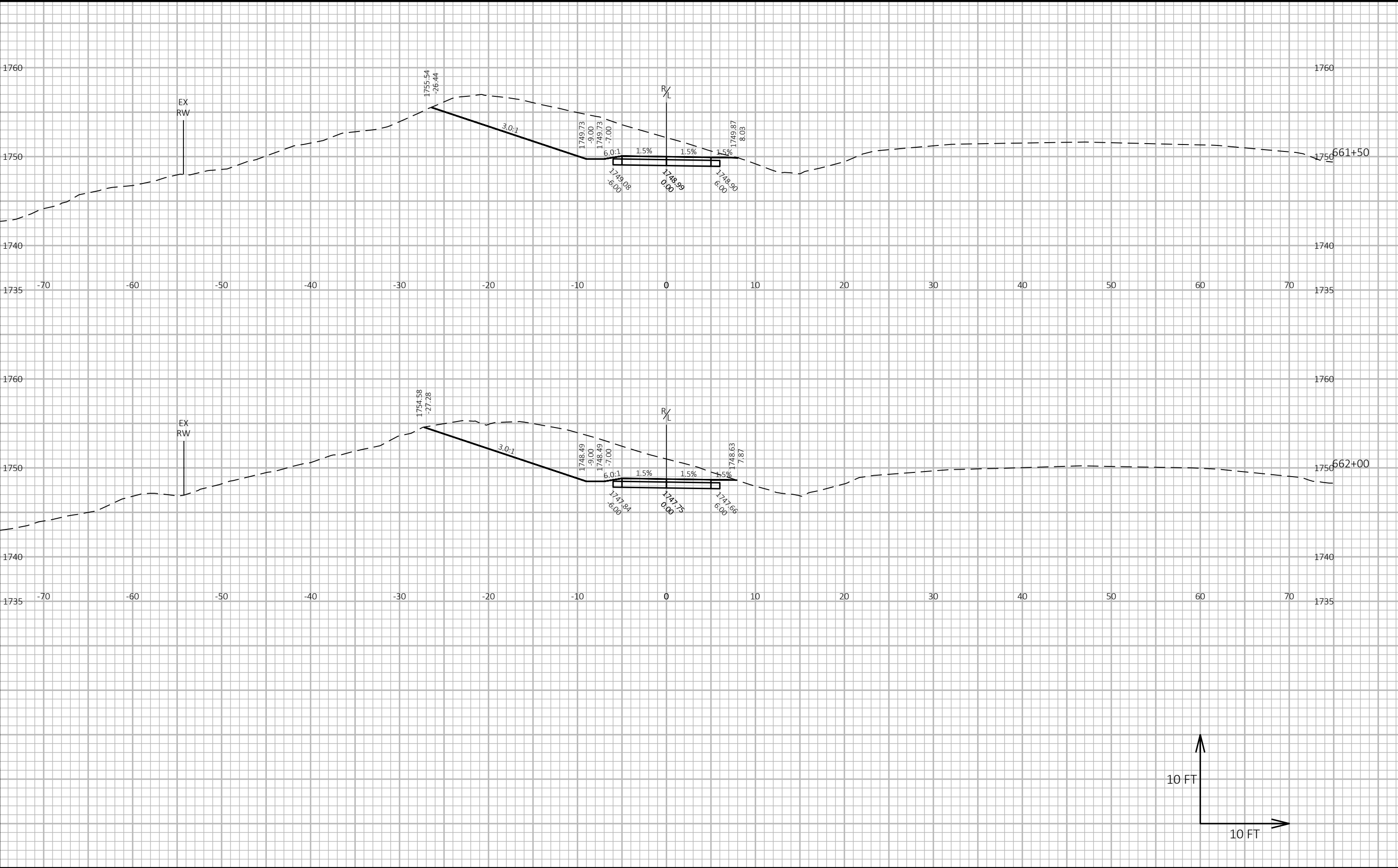
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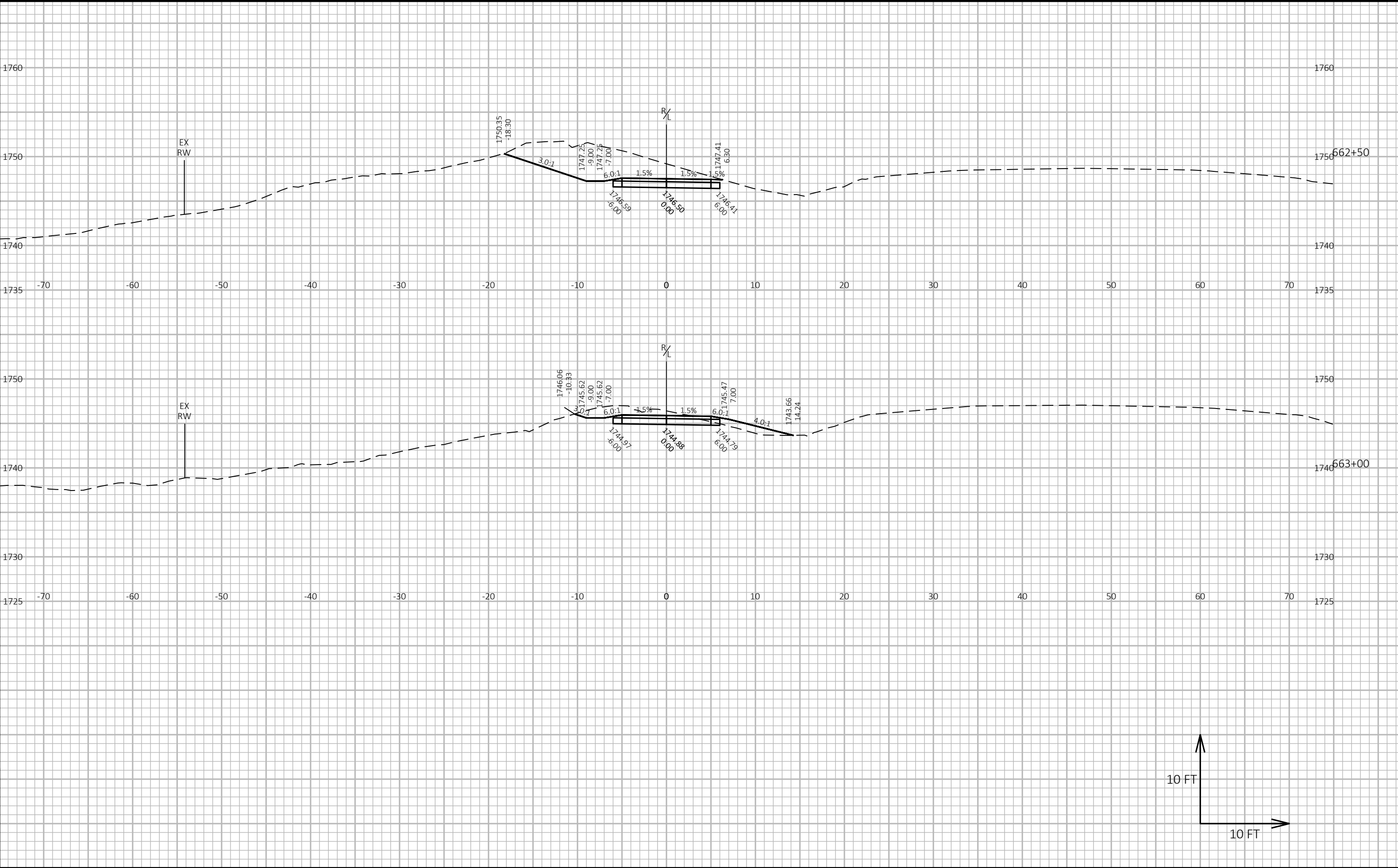
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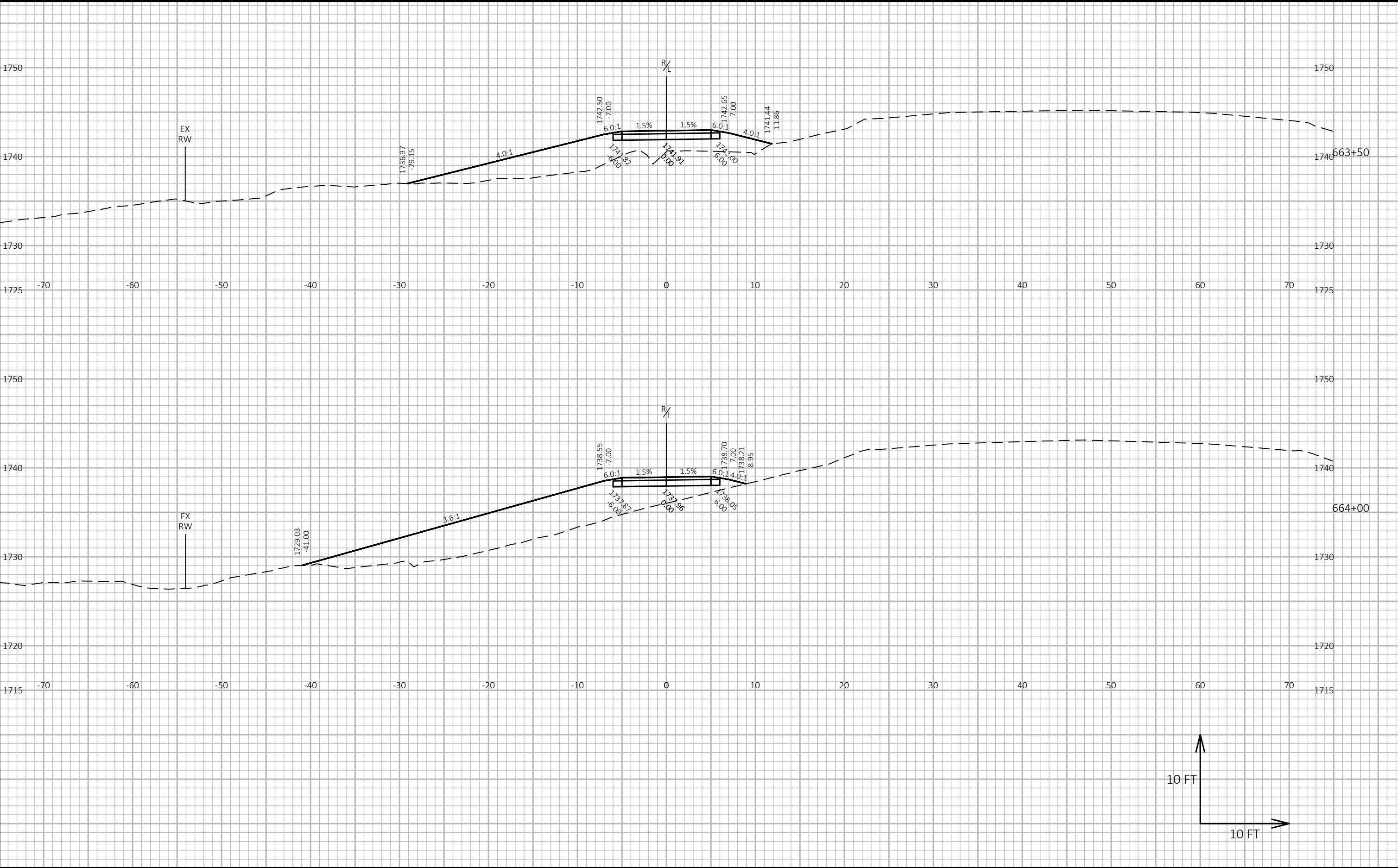
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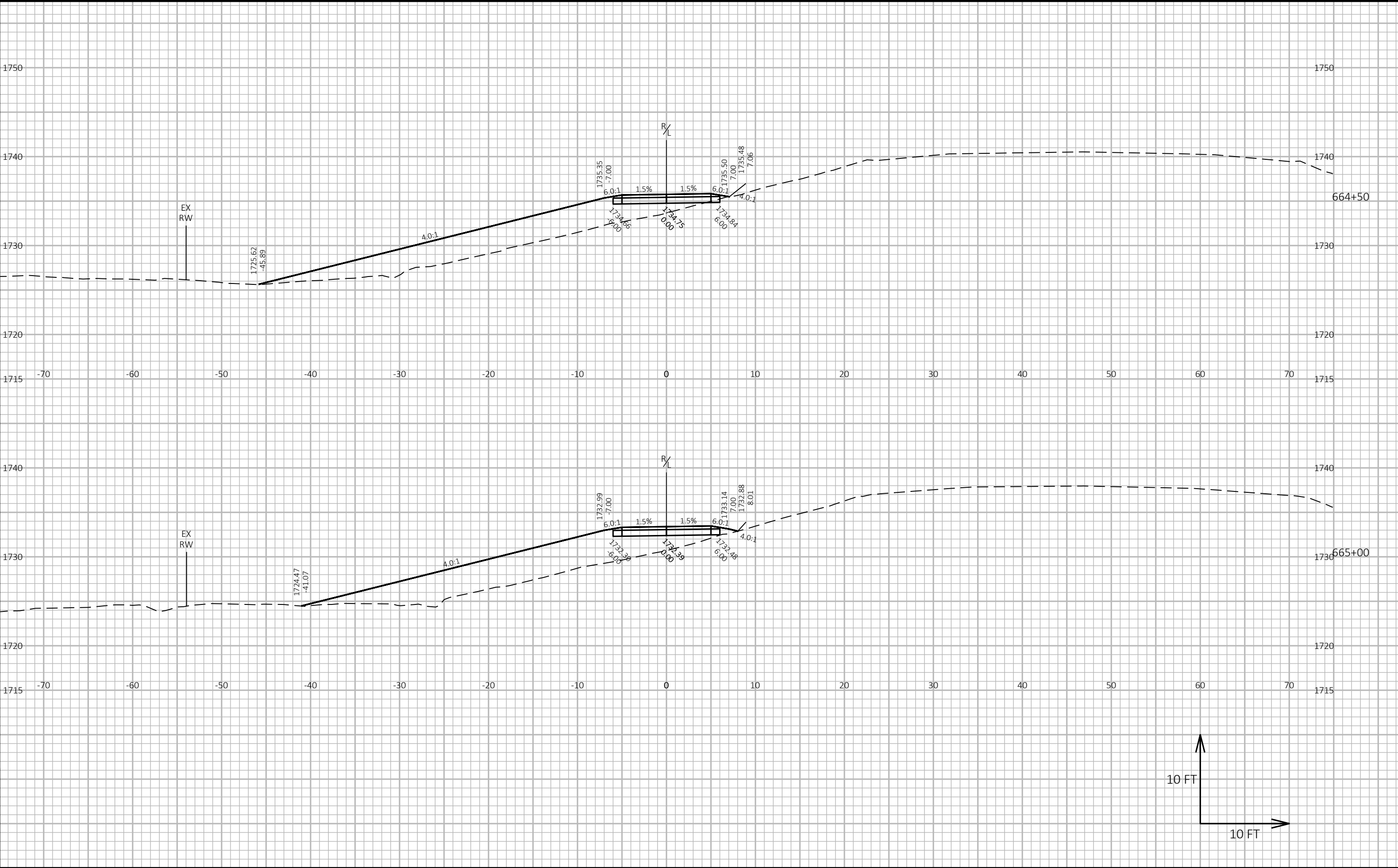
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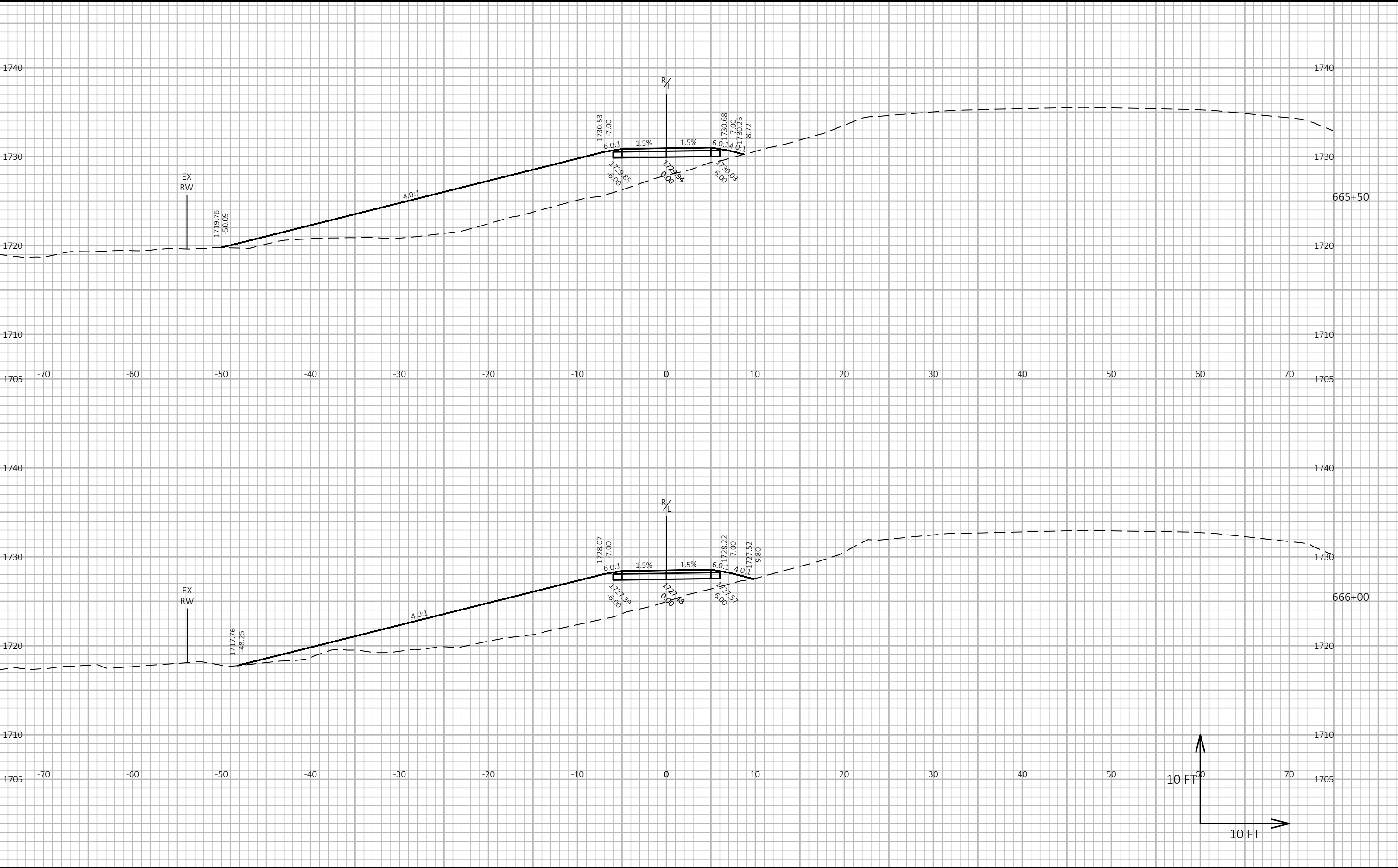
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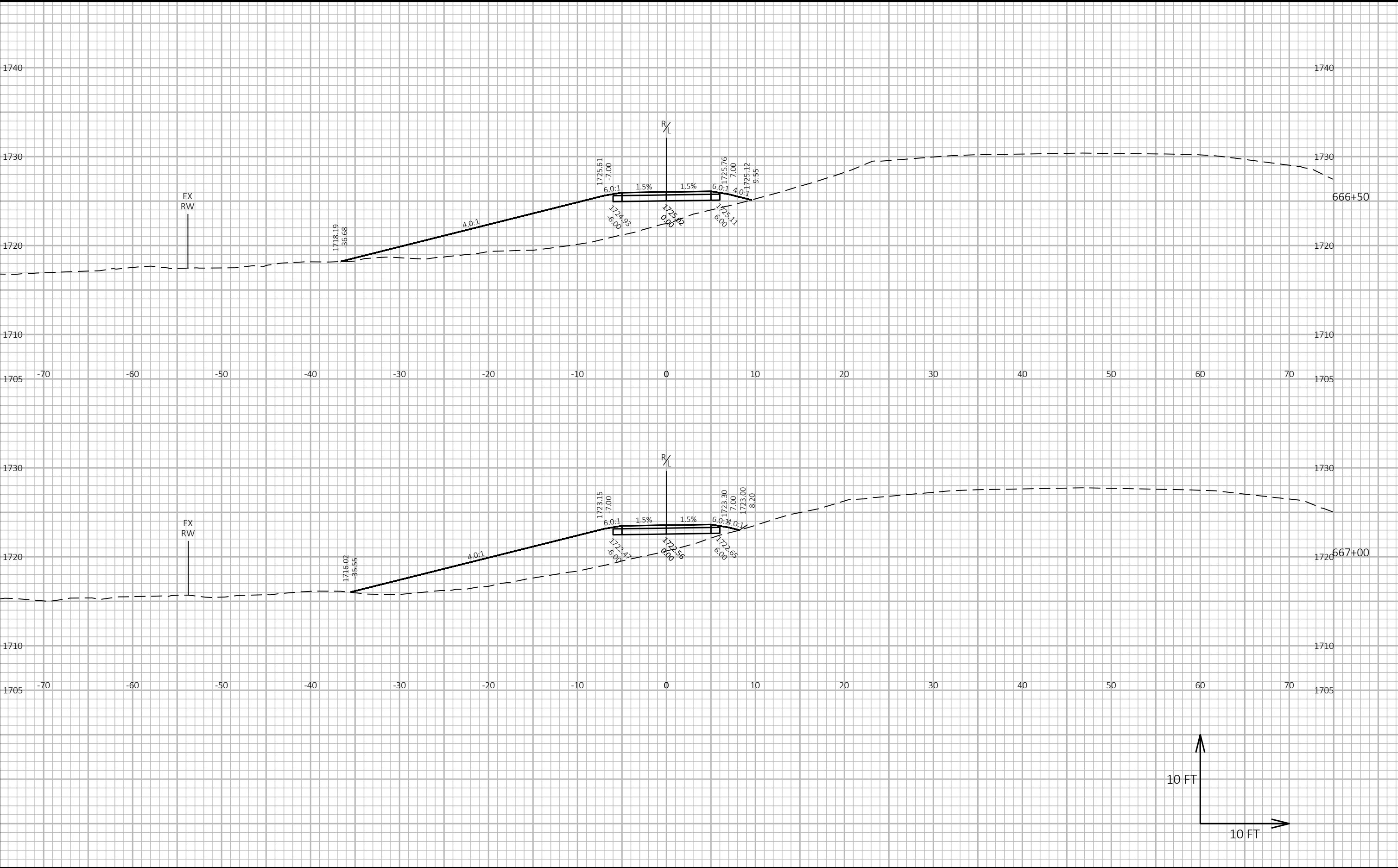


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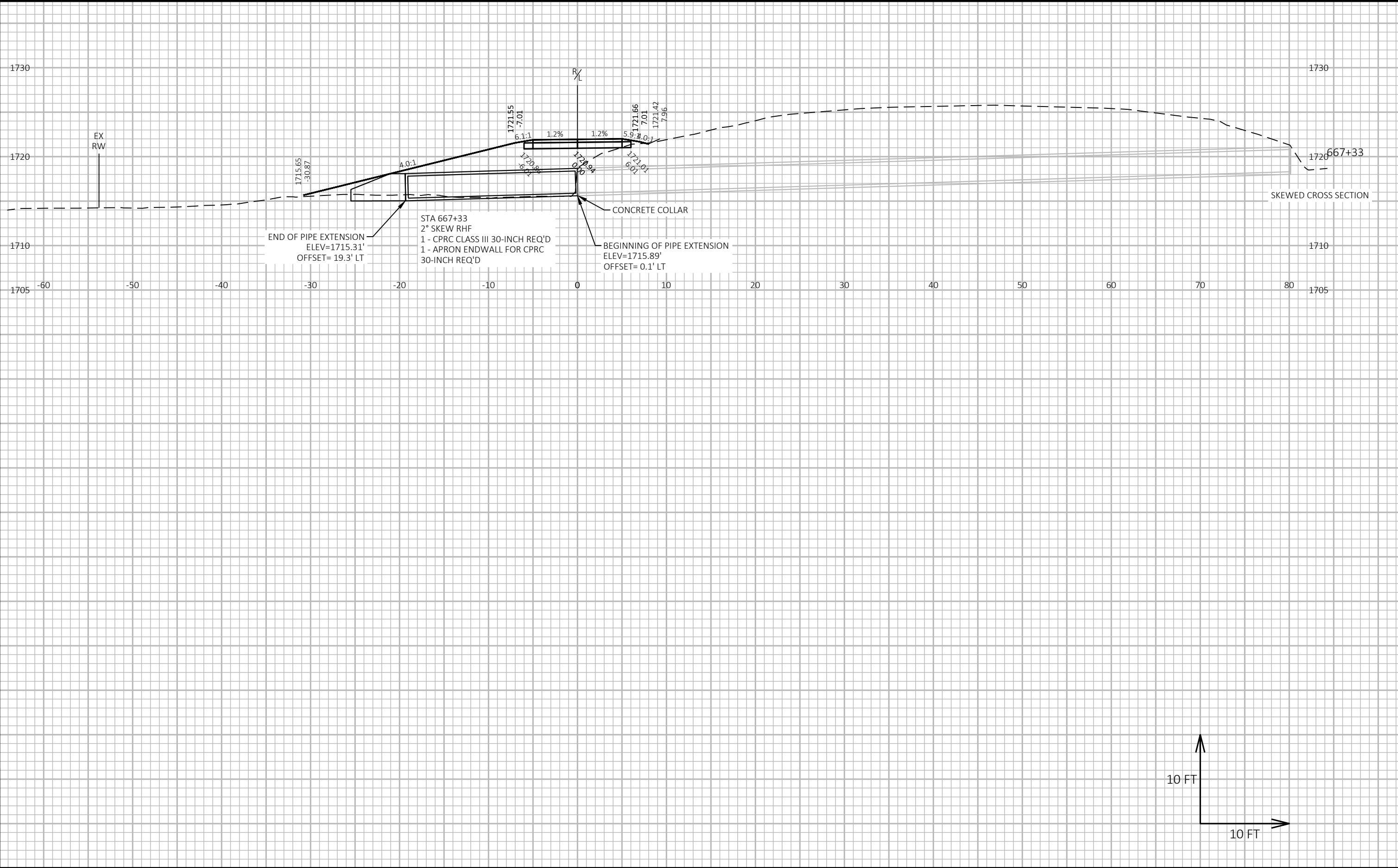
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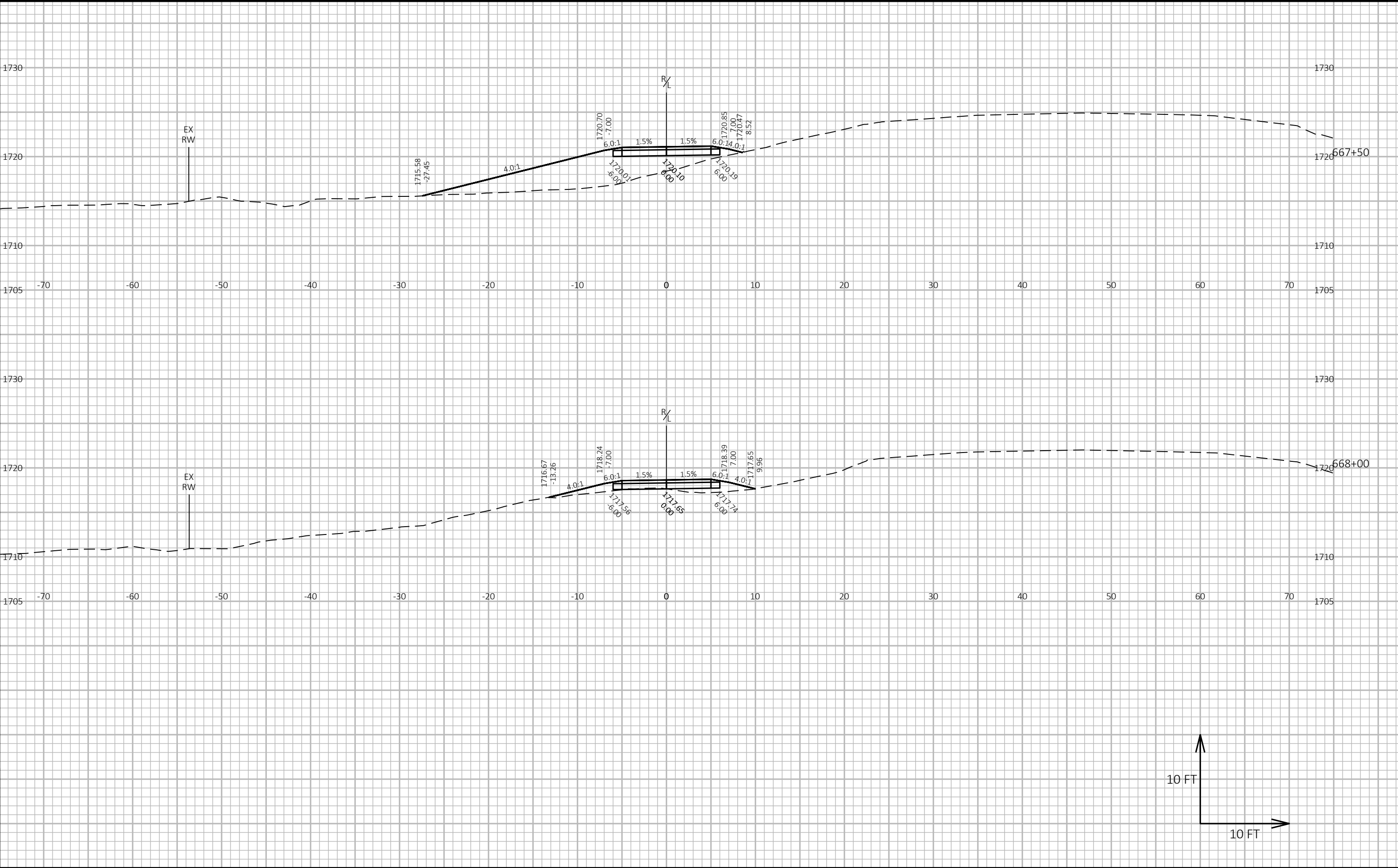
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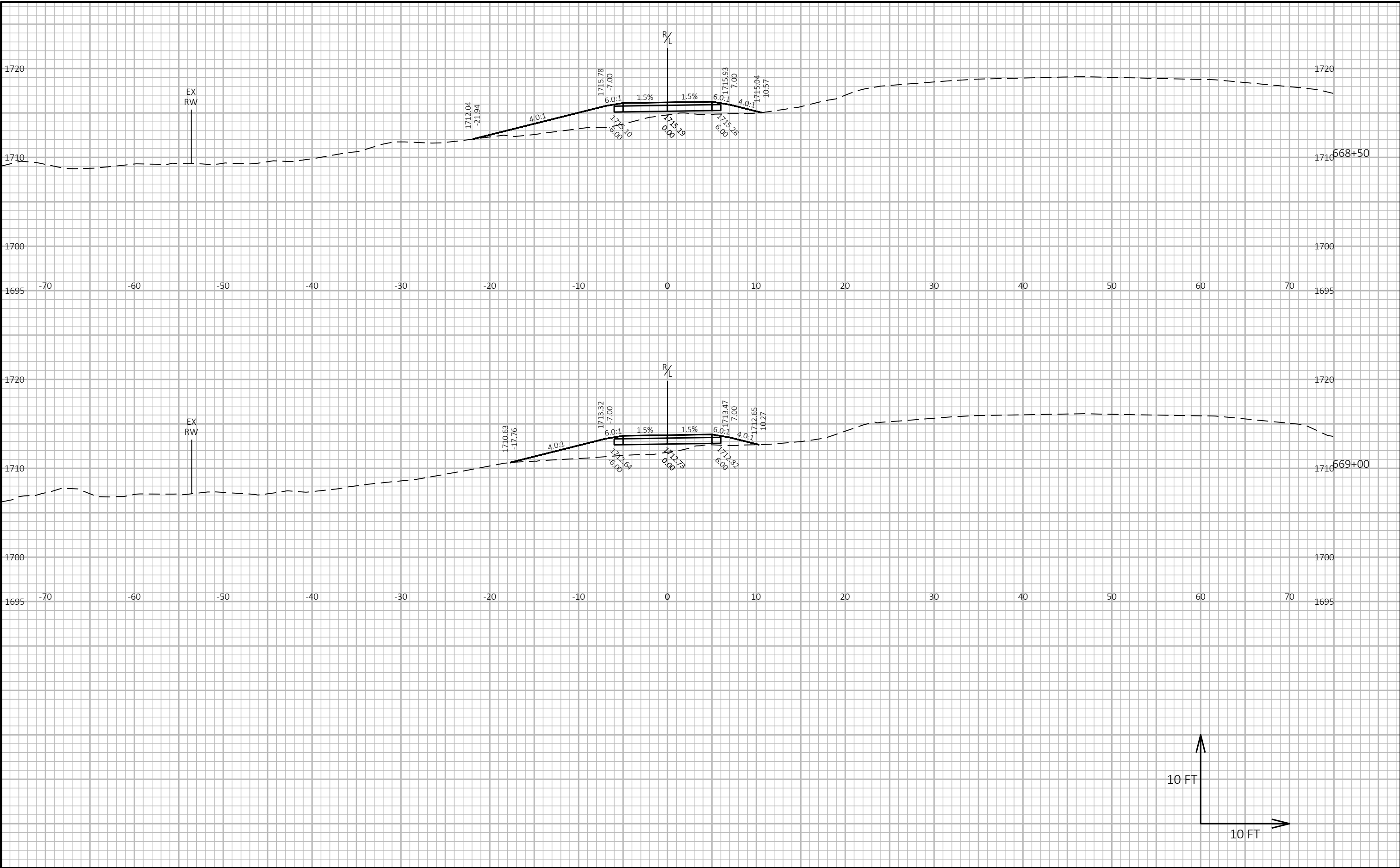
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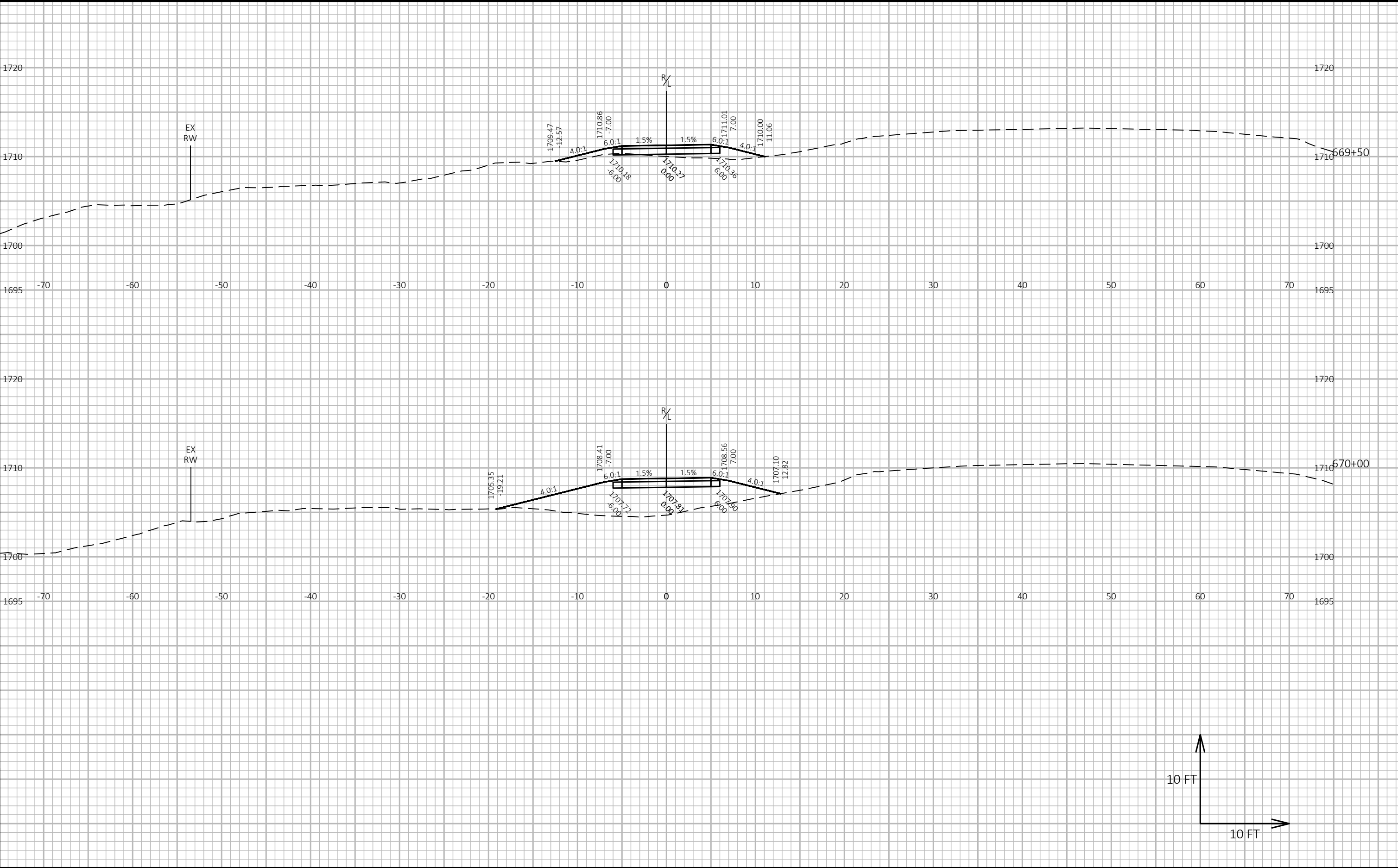
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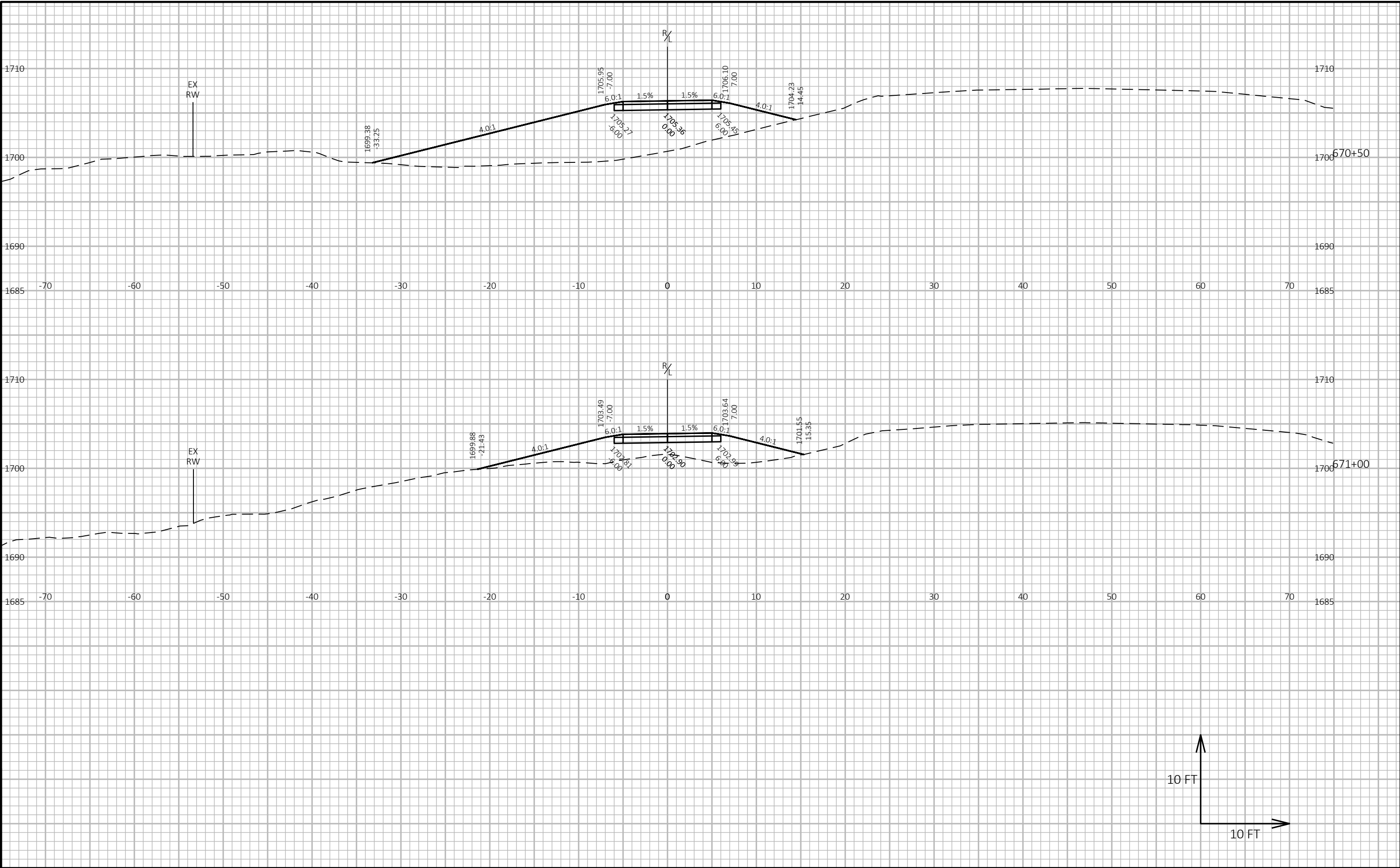
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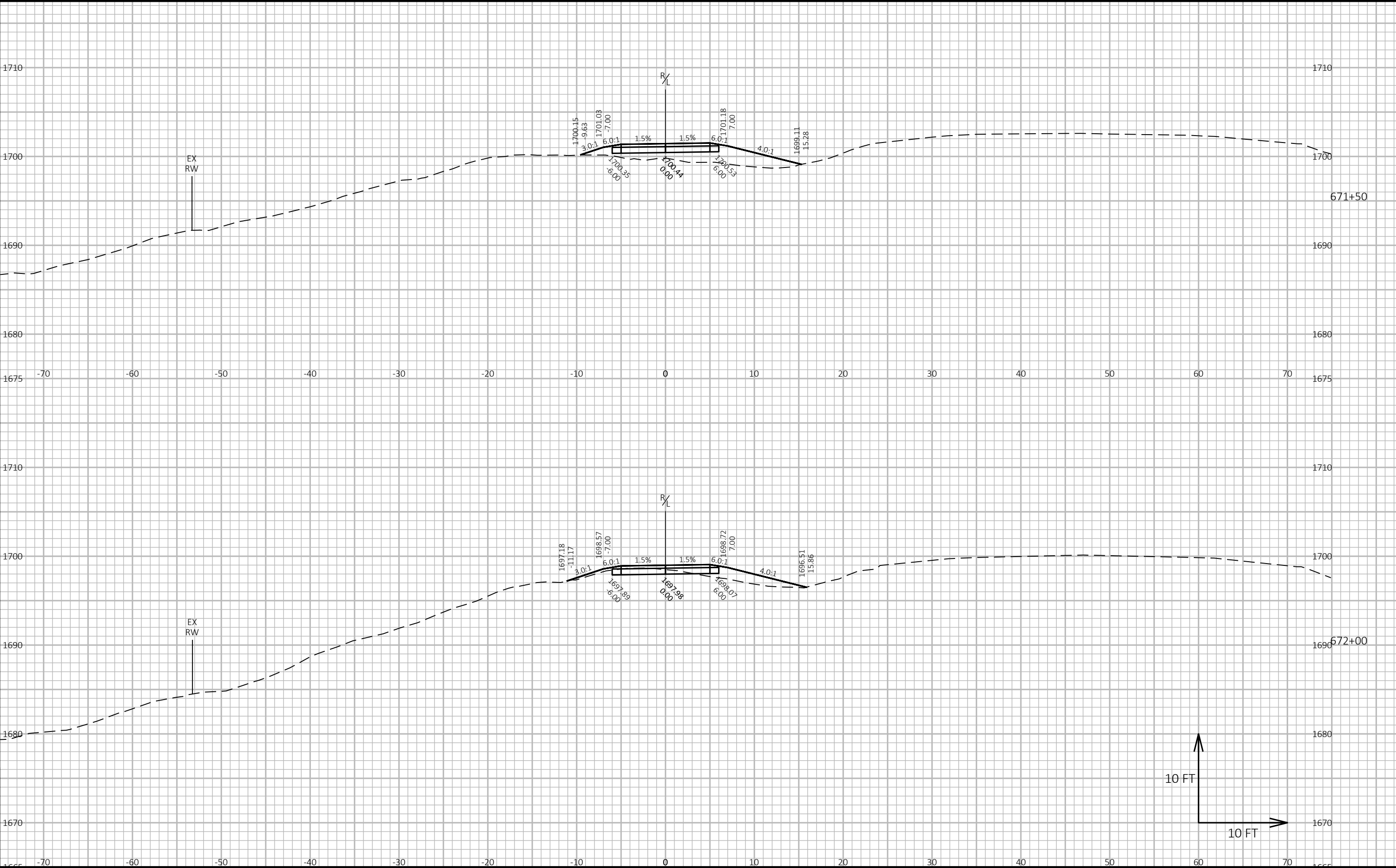
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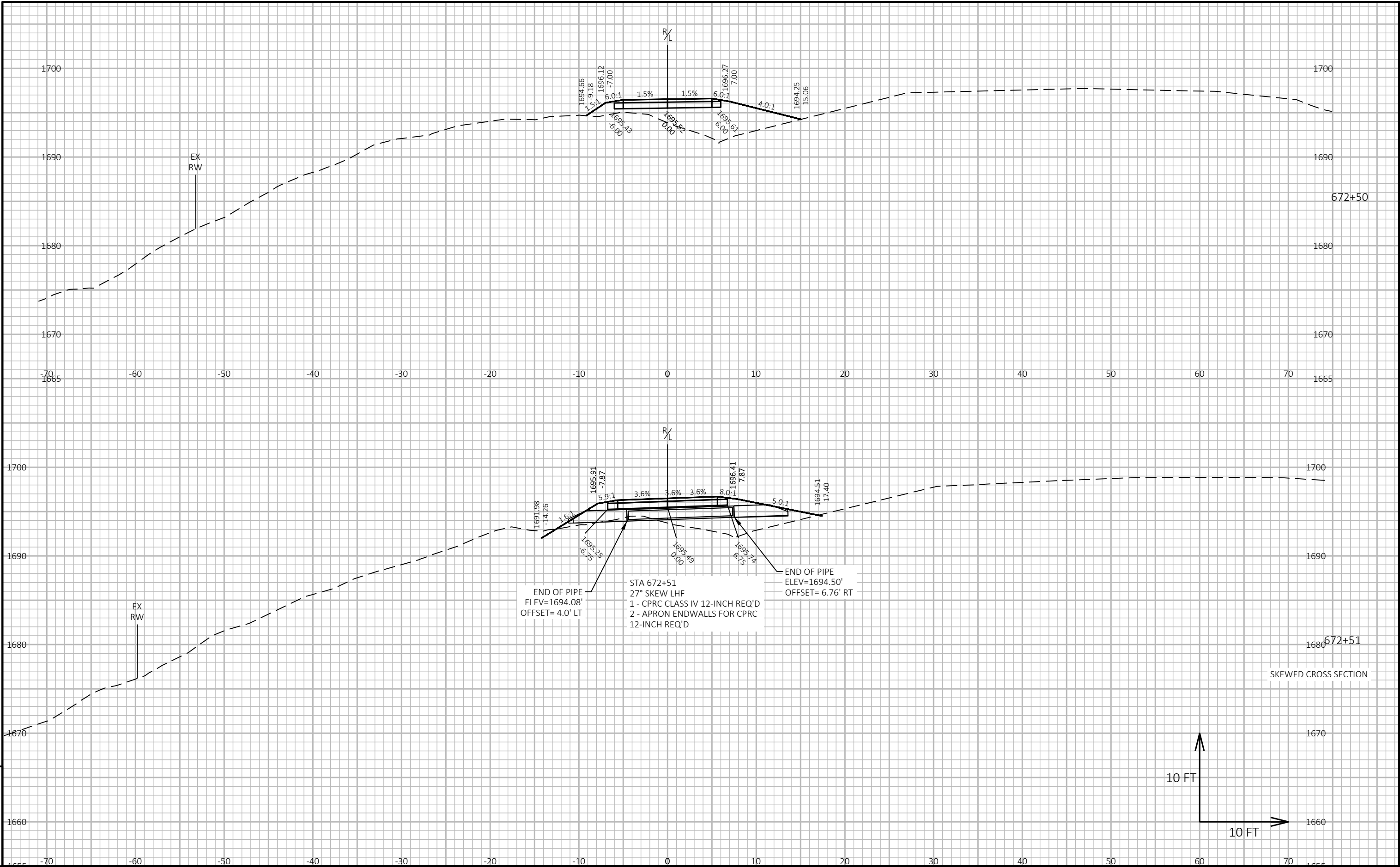
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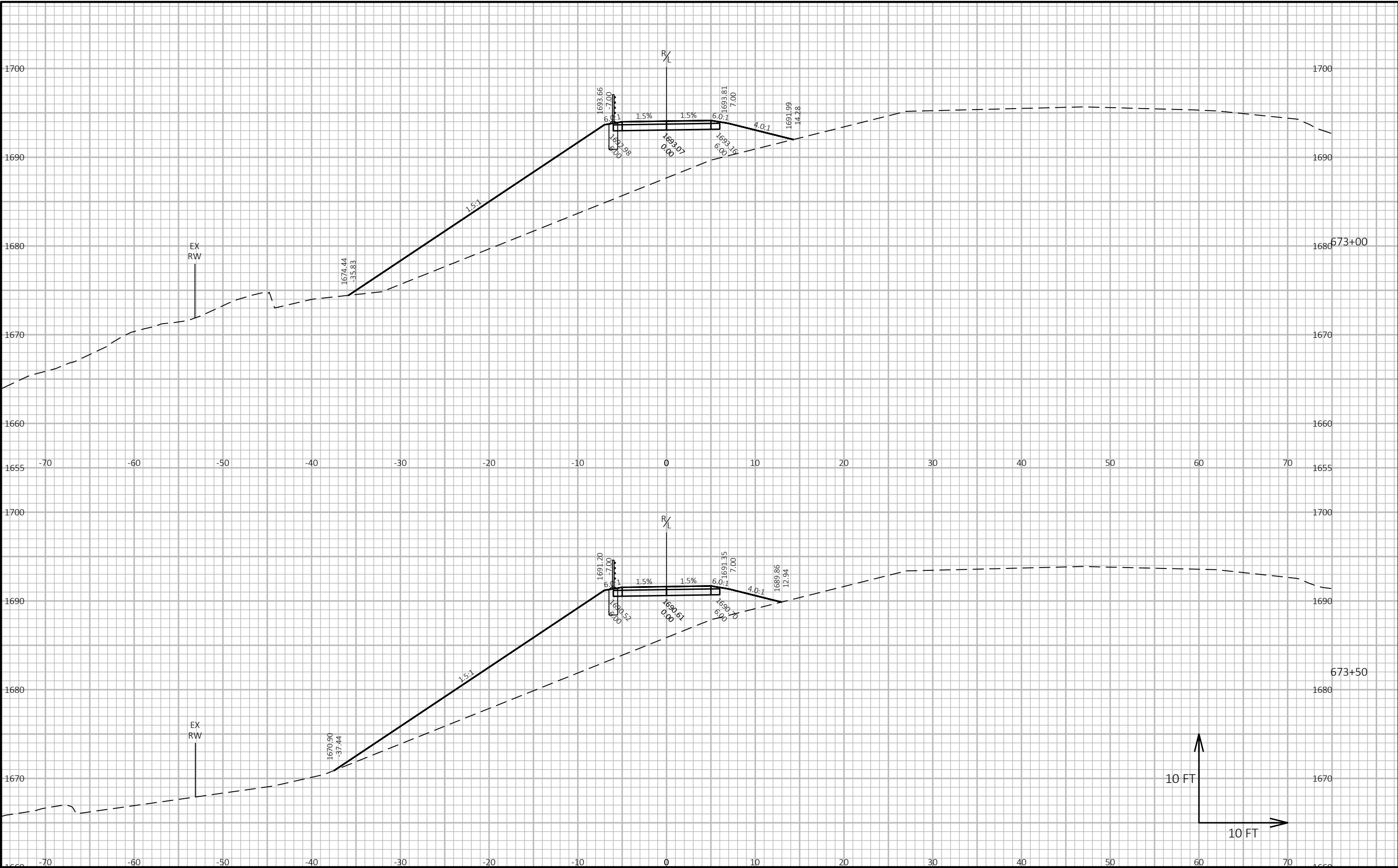


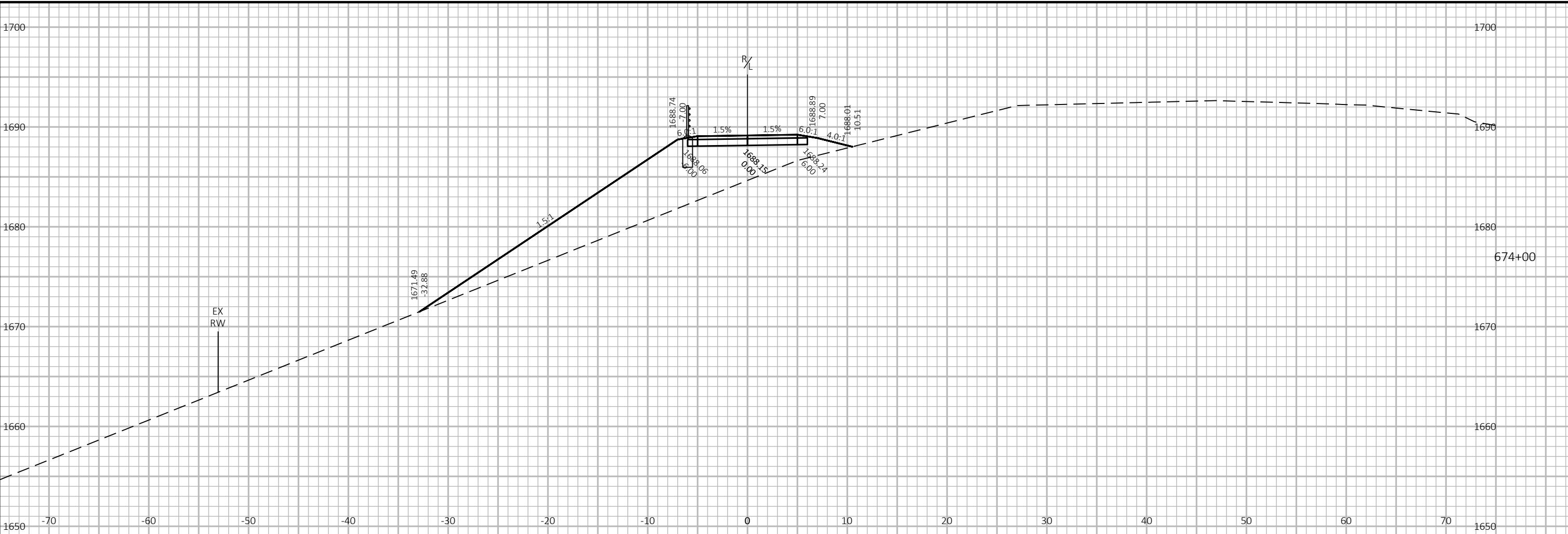
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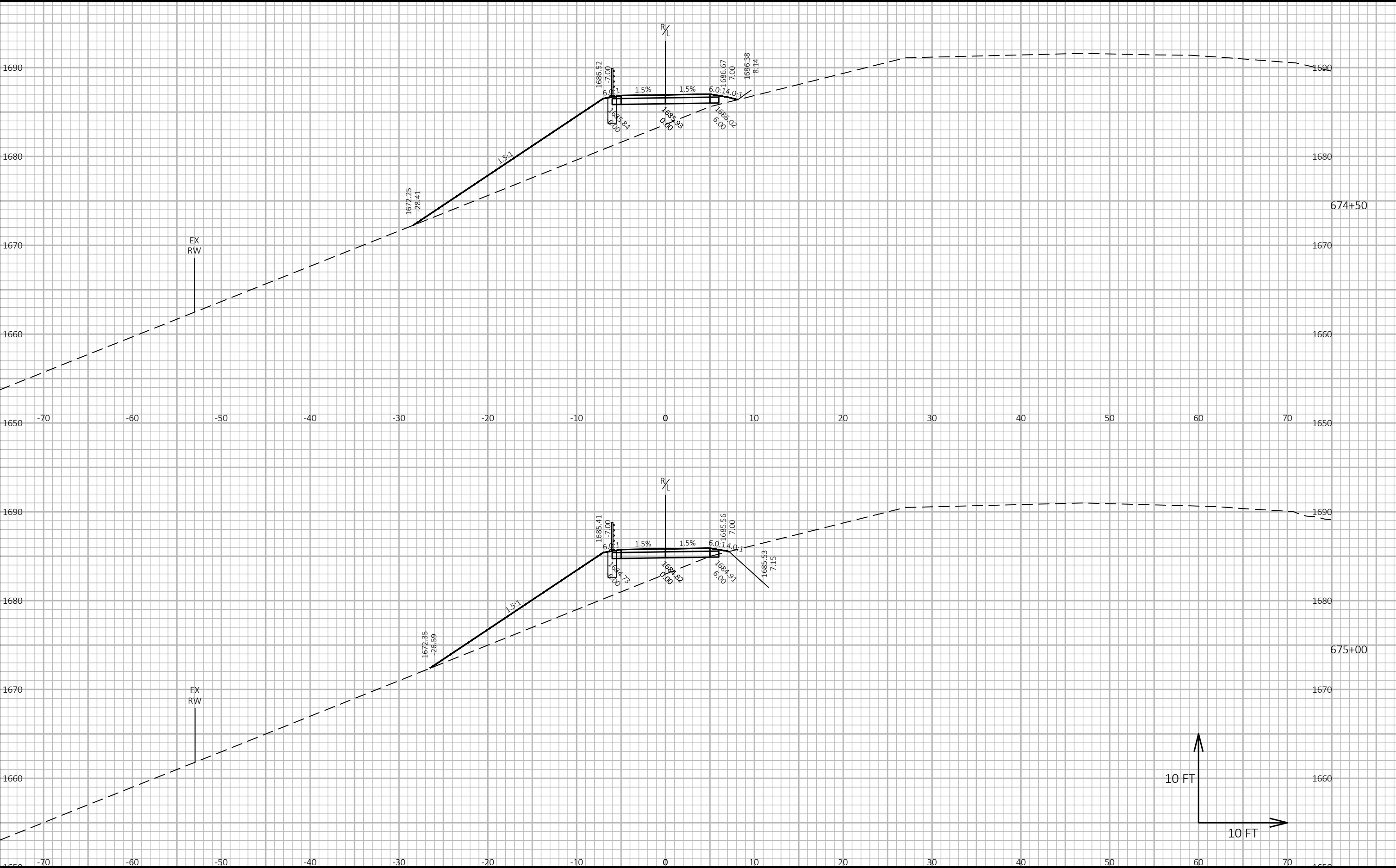


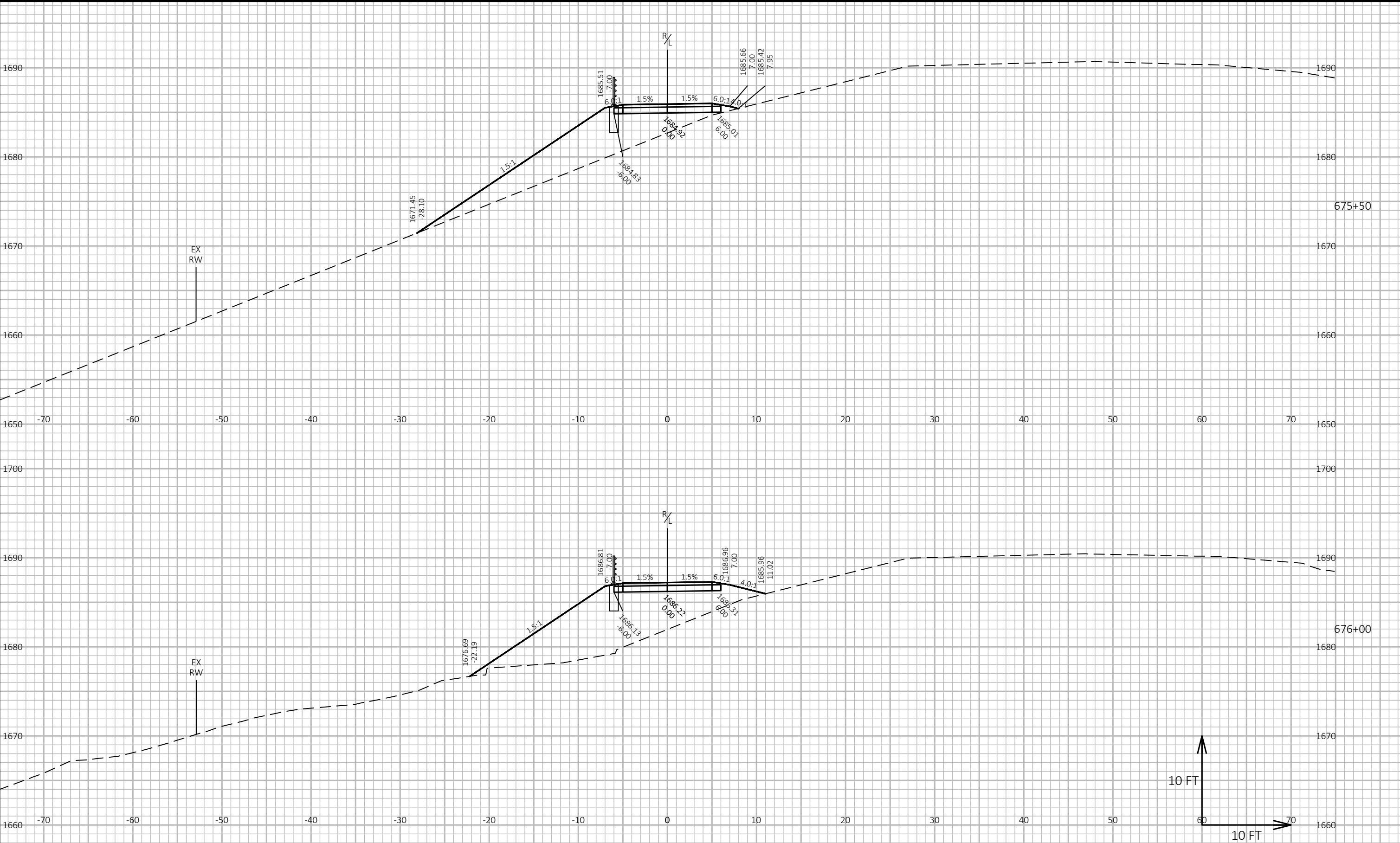


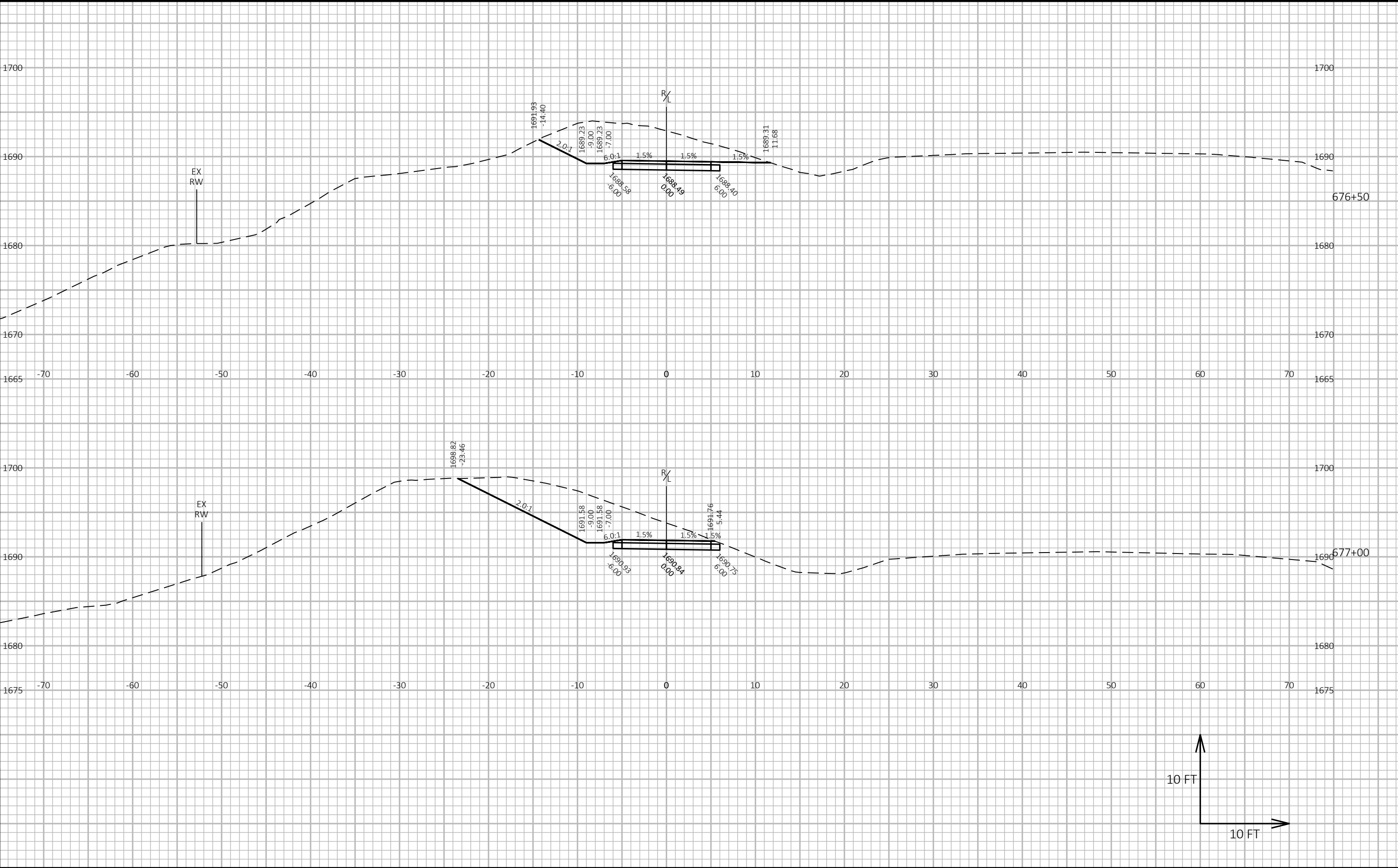
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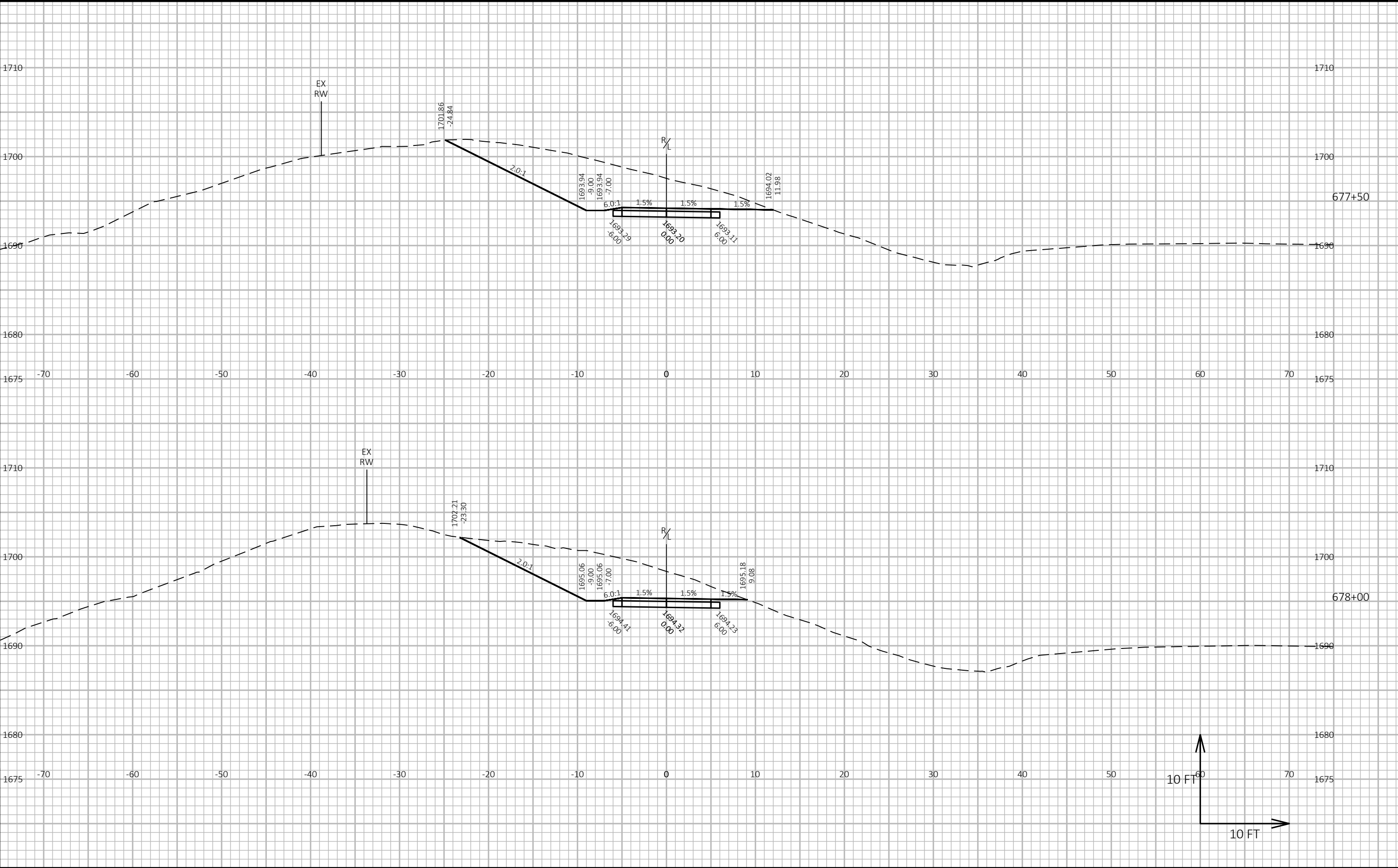


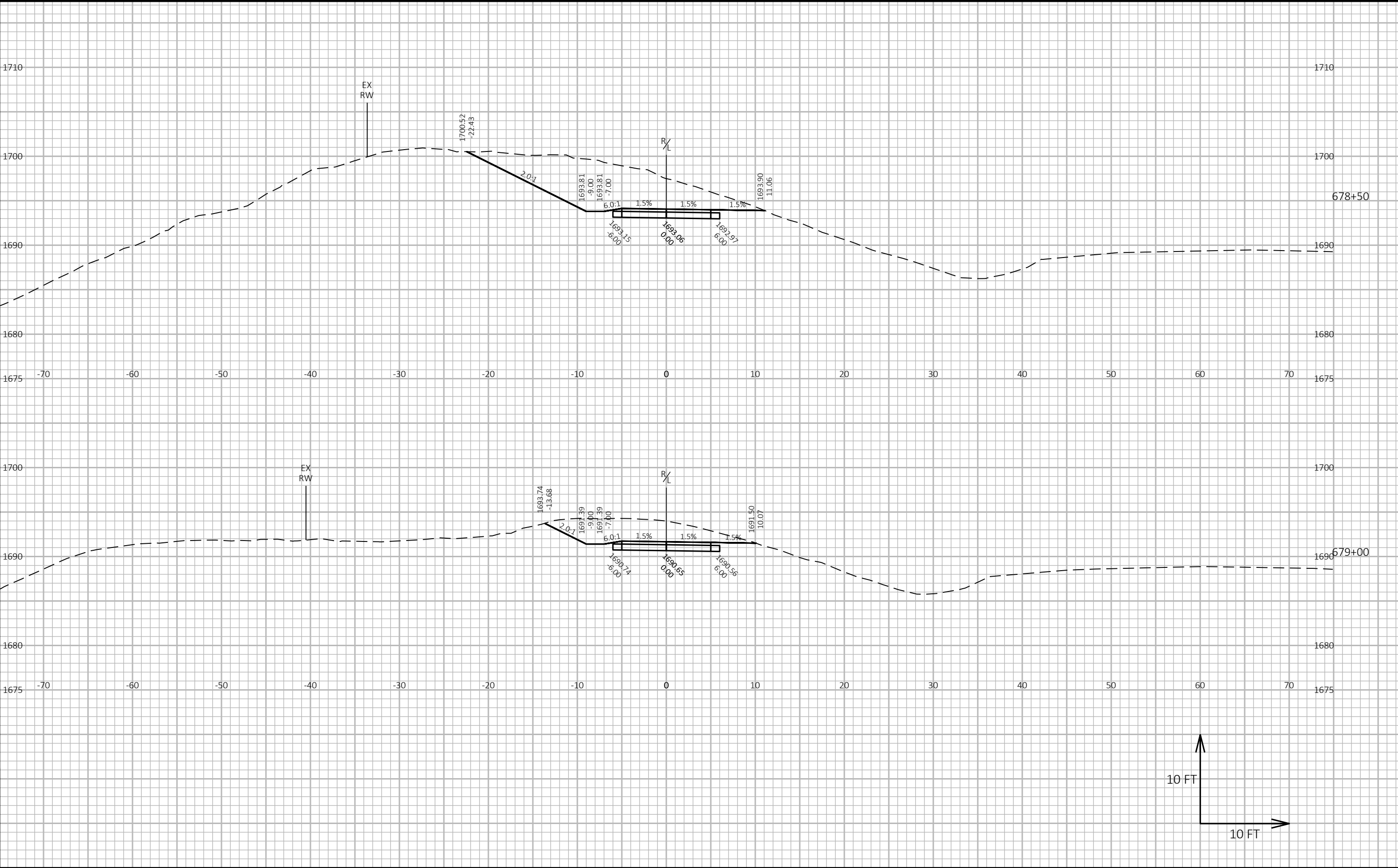


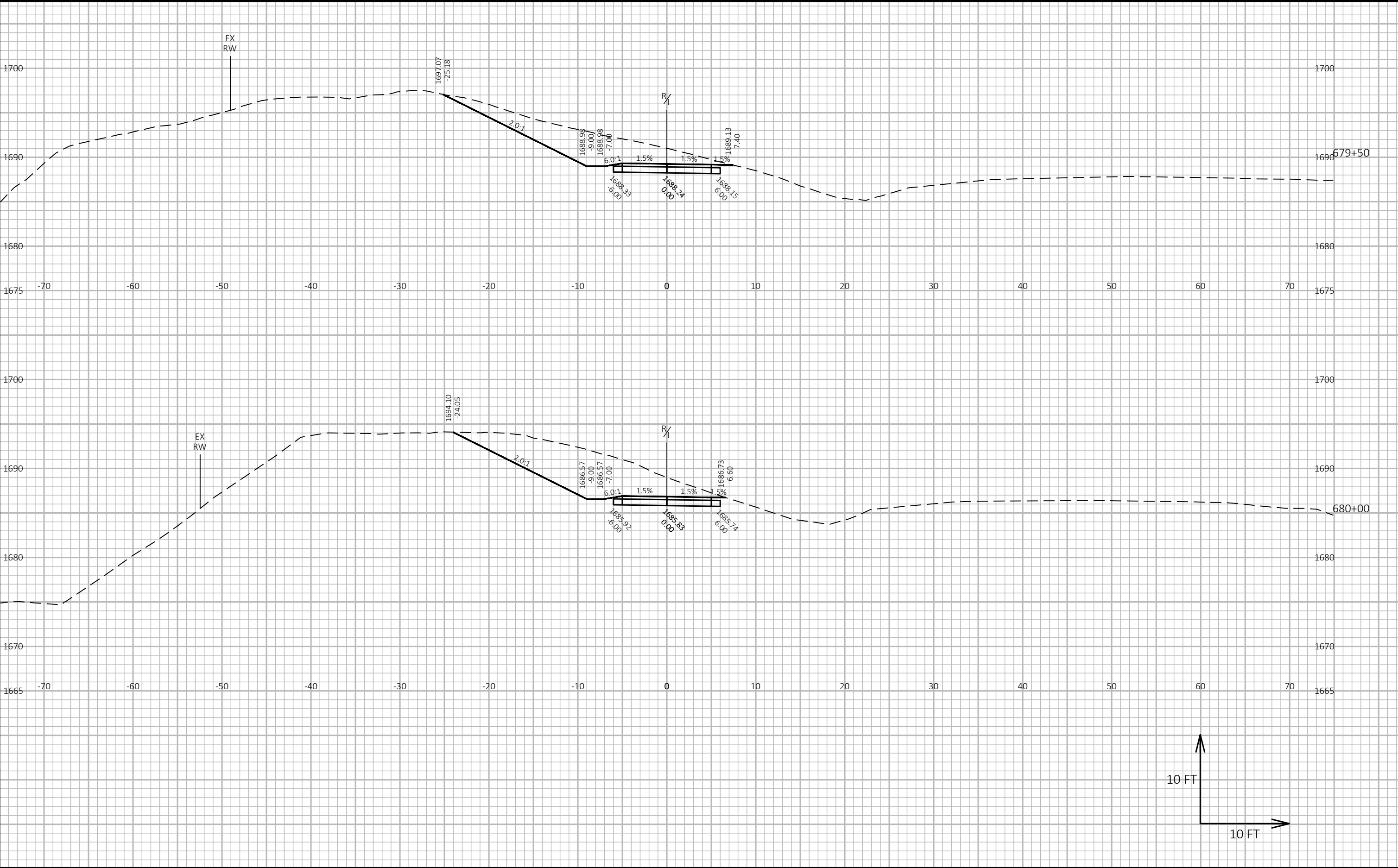
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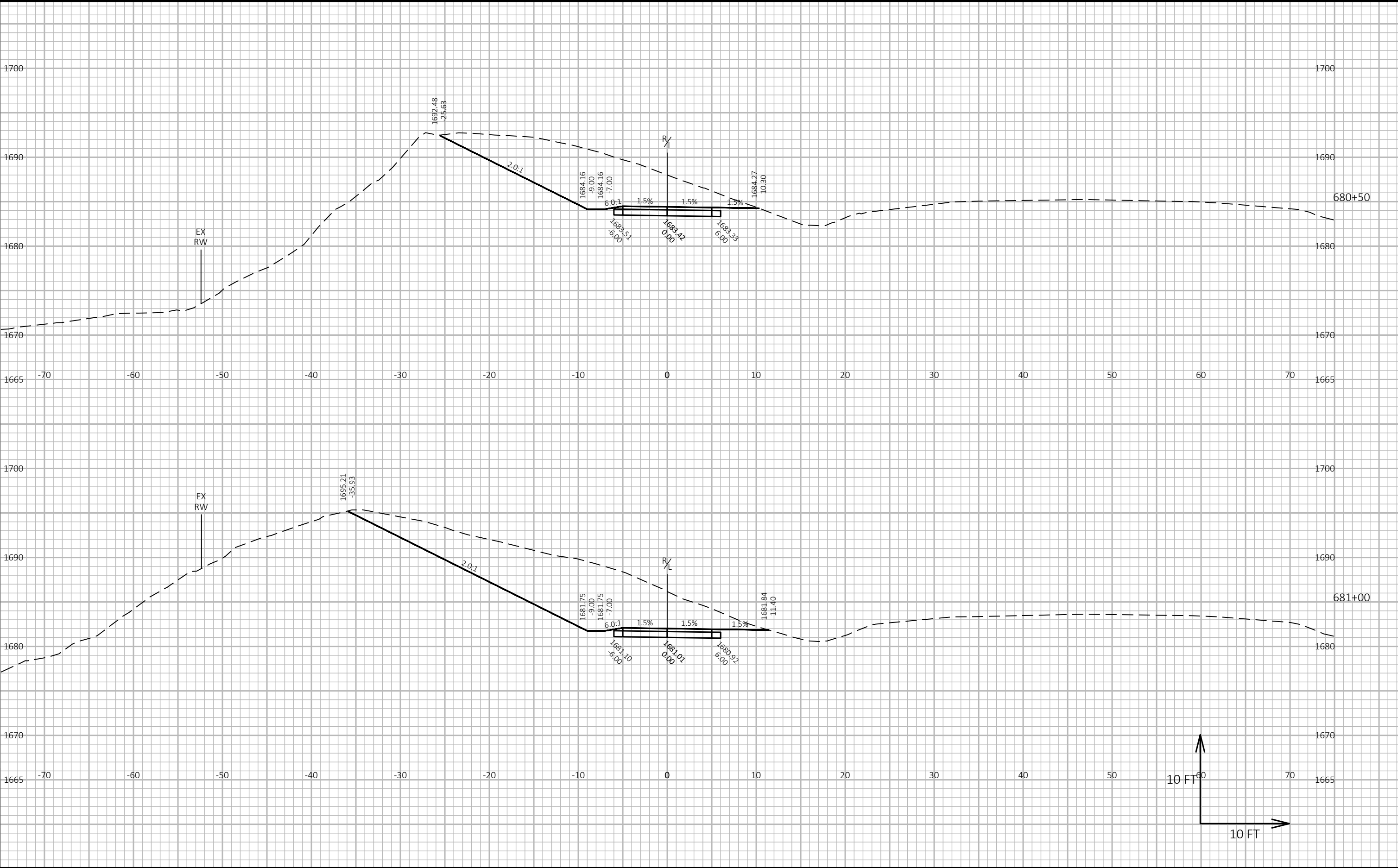


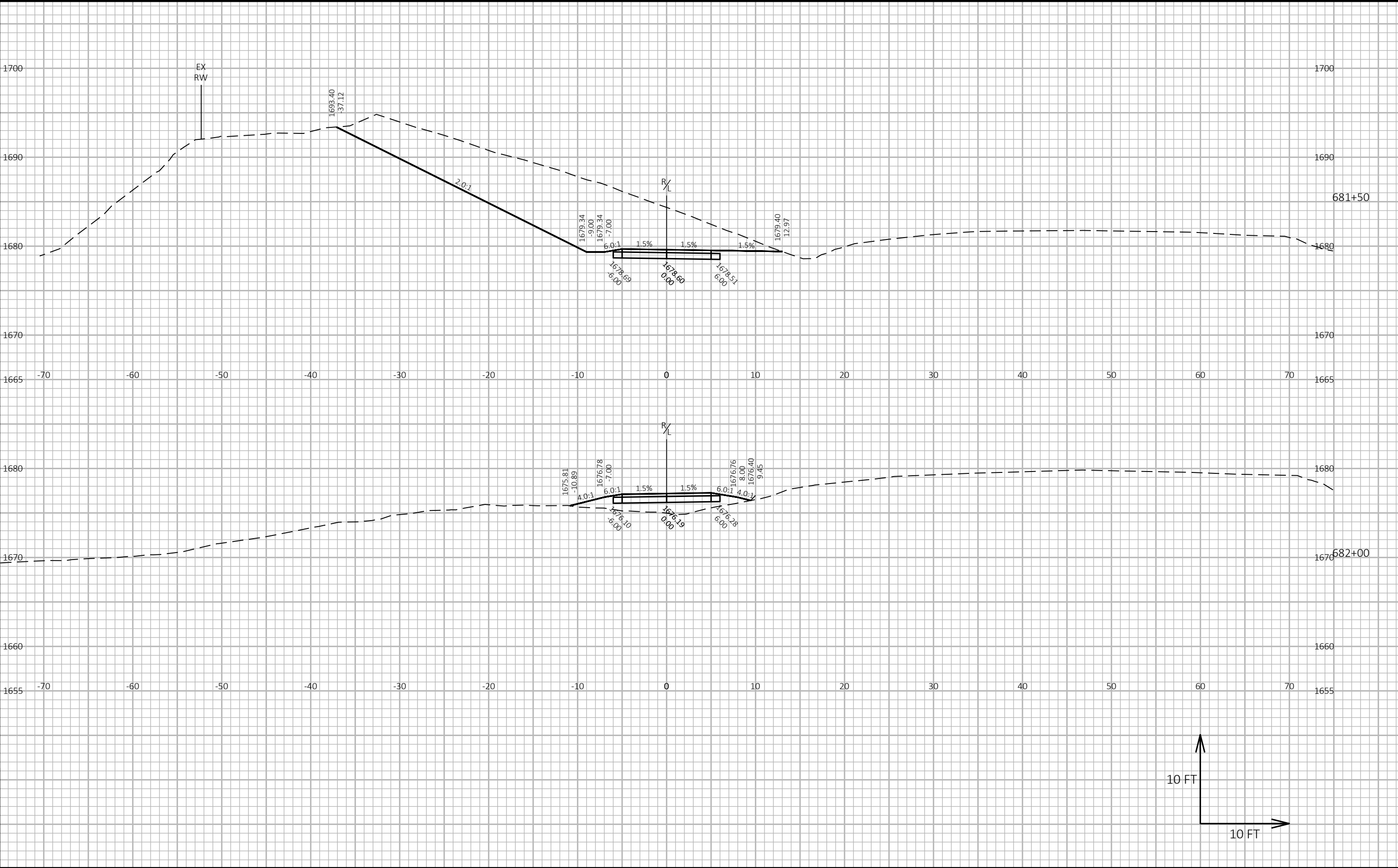


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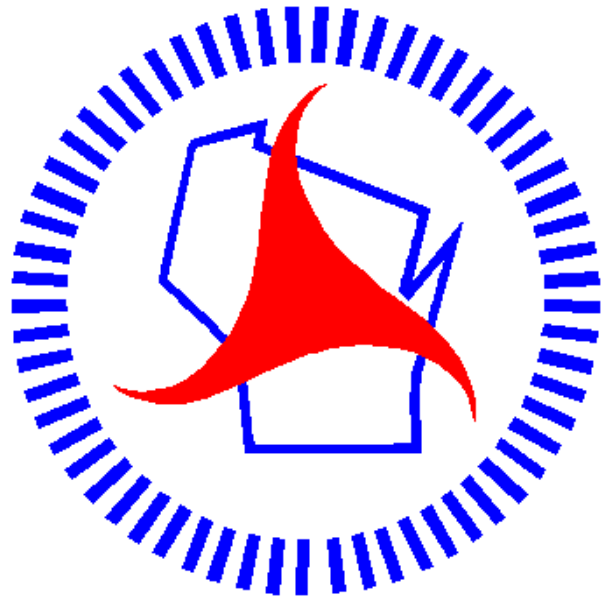




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PROJECT NO: 9813-02-71	USH 8 SHARED USE PATHWAY PHASE 2	COUNTY: FOREST	CROSS SECTIONS: PHASE 2	SHEET E
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