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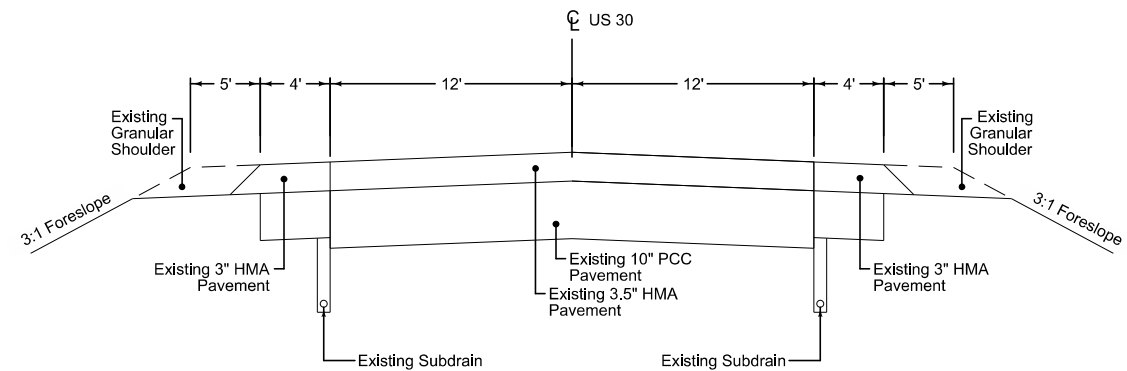
PLANS OF PROPOSED IMPROVEMENT ON THE  
**PRIMARY ROAD SYSTEM**  
**CLINTON COUNTY**  
**BRIDGE REPLACEMENT - PPCB**  
Wapsipinicon River 1.5 mi E of Co Rd Y4E

**This phase of the project begins at:  
Station 290+00  
No ROW Acquired for the Project  
BRF-030-9(186)--38-23**

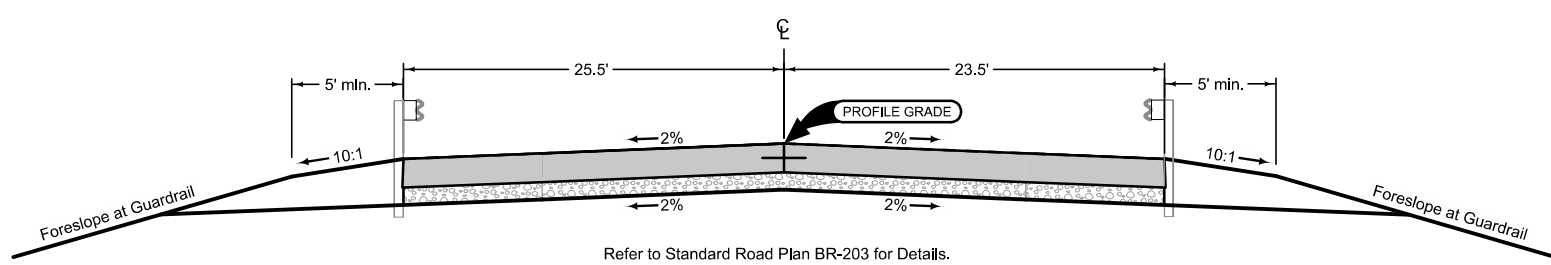
**Plan Set #1  
Pages 1-126**

**\*\*\* Please Note \*\*\*  
There are 3 plan sets total in this document**

ROADWAY DESIGN	
	I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.
	_____ Date
	Signature
	Printed or Typed Name
My license renewal date is December 31, 20XX	
Pages or sheets covered by this seal: <u>X</u>	



US 30 - EXISTING



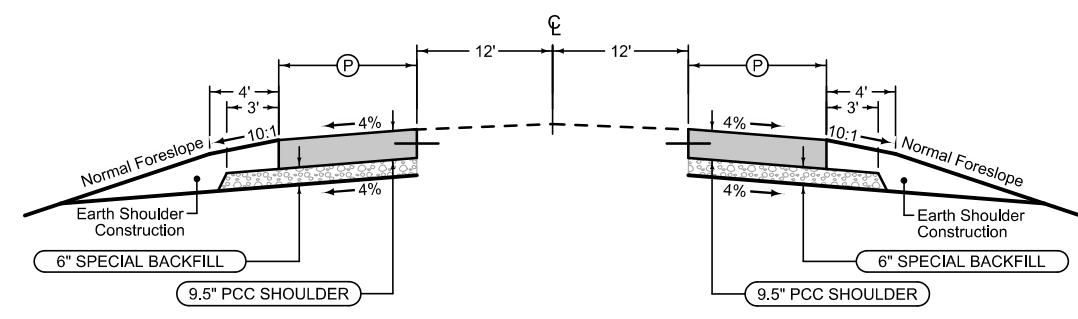
STATION TO STATION	
295+09.00	295+79.00
300+65.00	301+35.00

US 30 - BRIDGE APPROACHES

**Full Depth PCC Shoulder**

Shoulder Jointing:  
 Longitudinal joint: BT-2, L-2 or KT-2  
 Transverse joints: C at 17' spacing

2_P_FullPCC_04-20-21		
STATION TO STATION		(P) Feet
290+00.00	291+85.10	10
291+85.10	294+51.79	14
294+51.79	294+76.93	15.5
294+76.93	295+09.00	13.5
301+35.00	301+83.32	13.5
301+83.32	302+32.08	13.5-15.5
302+32.08	302+54.39	15.5
302+54.39	305+29.39	14
305+29.39	334+39.61	10
334+39.61	336+64.61	14
343+15.40	351+22.39	14
357+64.19	360+39.19	14
360+39.19	363+00.00	10

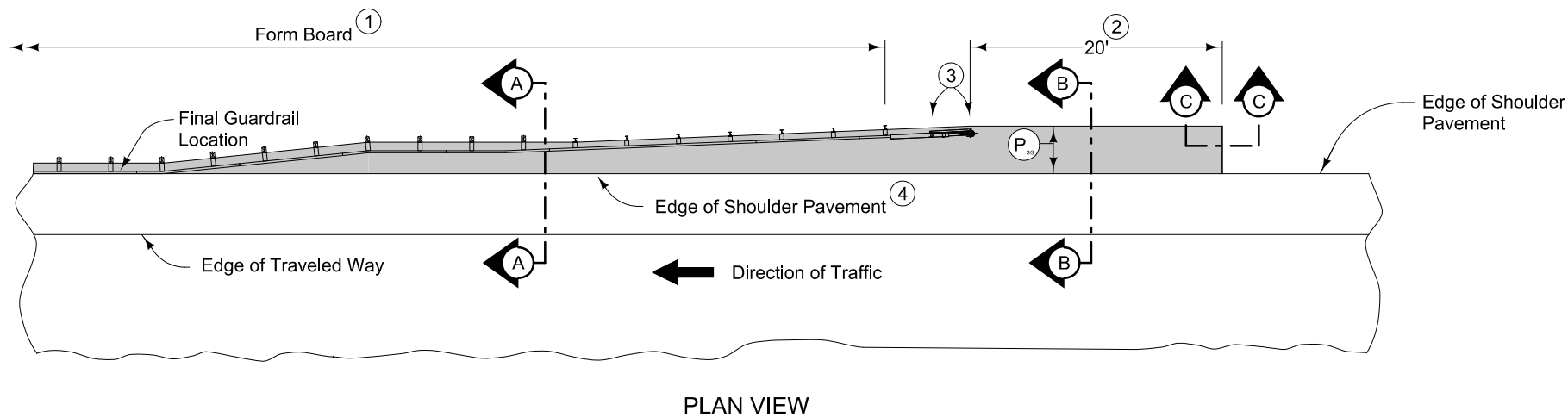


**Full Depth PCC Shoulder**

Shoulder Jointing:  
 Longitudinal joint: BT-2, L-2 or KT-2  
 Transverse joints: C at 17' spacing

2_P_FullPCC_04-20-21		
STATION TO STATION		(P) Feet
290+00.00	293+89.60	10
293+89.60	294+11.90	13.5
294+11.90	294+60.66	13.5-11.5
294+60.66	295+09.00	11.5
301+35.00	301+81.79	11.5-13.5
301+81.79	302+04.40	13.5
302+04.40	336+64.61	10
343+15.40	351+22.40	10
357+64.19	363+00.00	10

US 30 - SHOULDERS

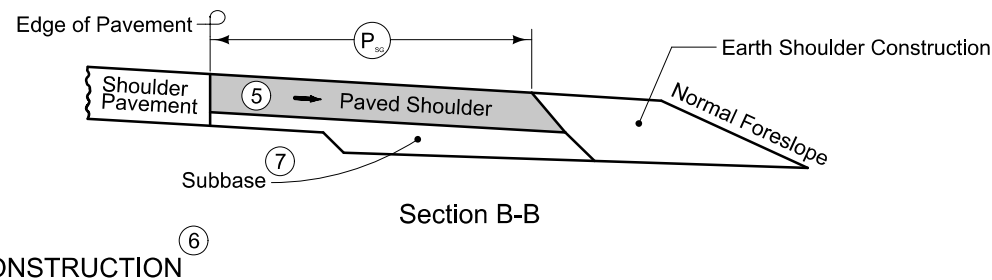
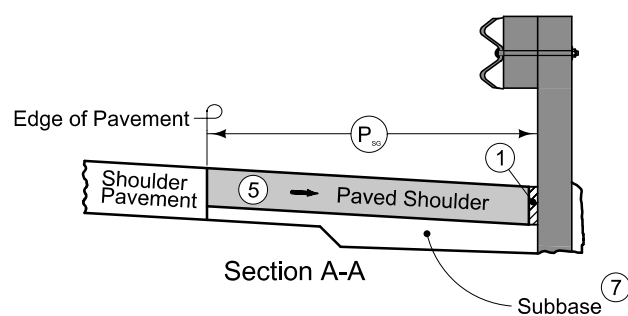


9.5" PCC Paved Shoulder at guardrail. 8" PCC may be substituted with the following jointing layout:

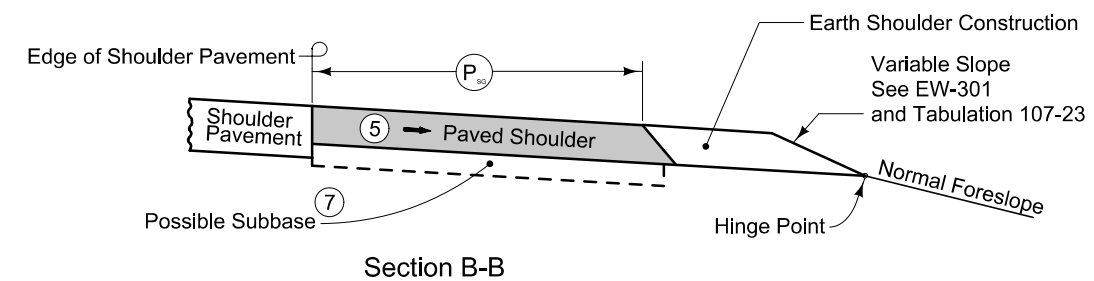
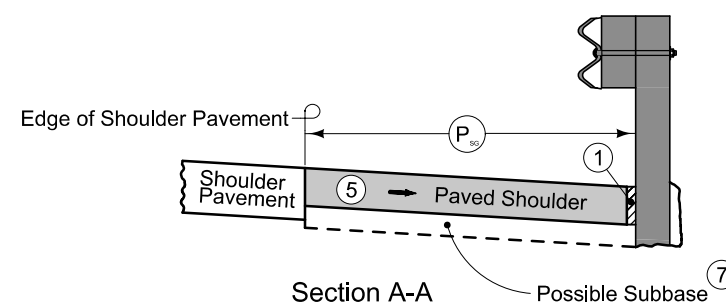
Match mainline pavement joint spacing. When mainline pavement is 8" or greater in thickness, place additional transverse 'C' joints in shoulder at mid-panel of the mainline pavement. Place longitudinal 'C' joint at P/2 from edge of mainline pavement when P is greater than 10' wide. Terminate longitudinal joint at transverse joint less than 10' in length.

Refer to Tabulation 112-9 for shoulder quantities.

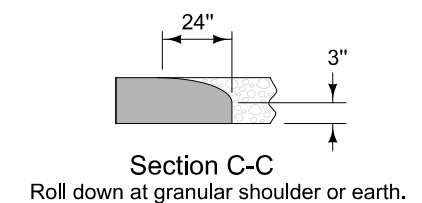
- ① PCC option only: When guardrail posts are installed prior to construction of PCC paved shoulder, fasten form board to the face of guardrail posts for the length shown.
- ② Continue paved shoulder 20 feet beyond the center of the first post.
- ③ Shoulder may be notched for first 2 posts or post sleeves may be installed through pavement. Do not drive posts through pavement.
- ④ 'KT' (per PV-101) joint for PCC shoulder. 'B' (per PV-101) joint for HMA shoulder.
- ⑤ Match shoulder slope.
- ⑥ The Contractor has the option to pave the paved shoulder at guardrail and the full width paved shoulder as one operation.
- ⑦ Refer to other details in the plan.



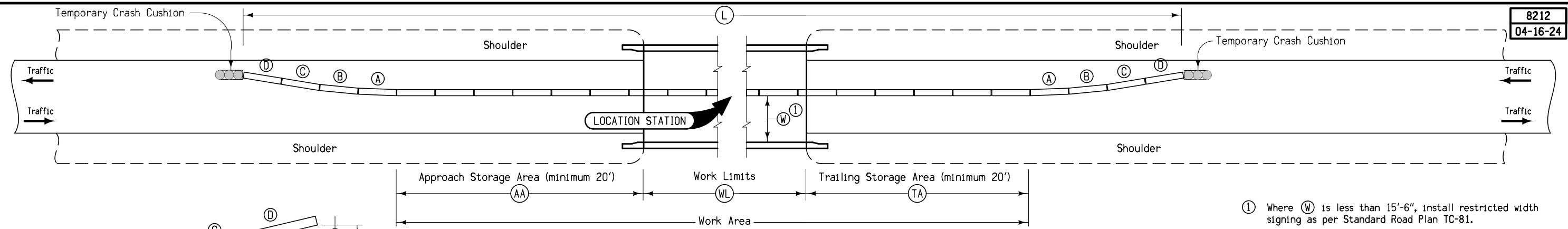
NEW CONSTRUCTION



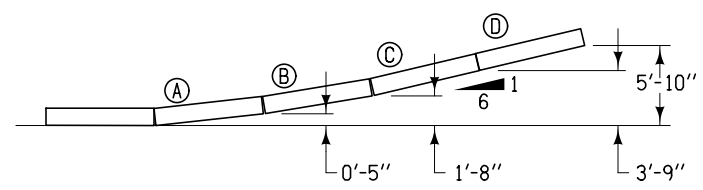
EXISTING SHOULDER



PAVED SHOULDER AT GUARDRAIL  
(ADJACENT TO FULL WIDTH PAVED SHOULDER)



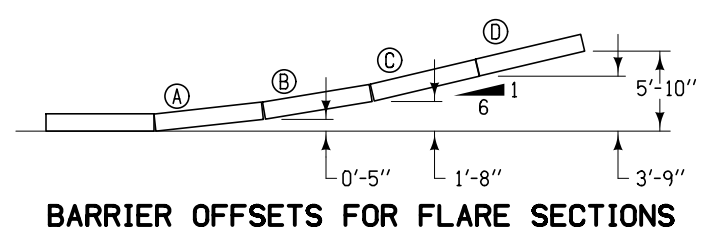
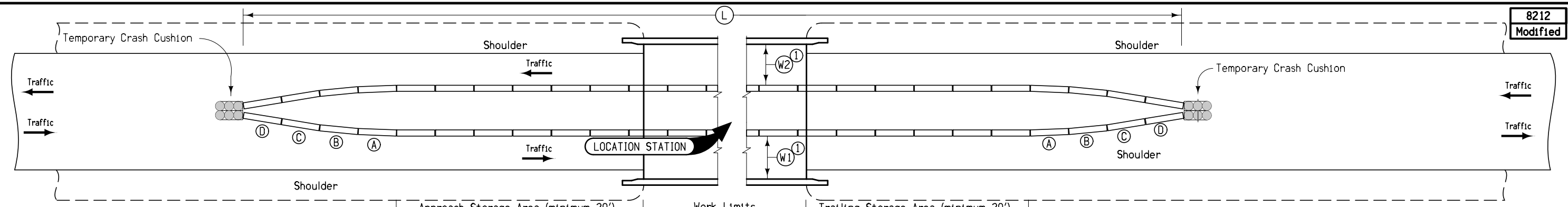
① Where (W) is less than 15'-6", install restricted width signing as per Standard Road Plan TC-81.



**BARRIER OFFSETS FOR FLARE SECTIONS**

Station	Side	AA	WL	TA	L	Anchored	W	Remarks
		Feet	Feet	Feet	Feet	X	Feet-Inches	
298+15.00	L	20	644	26	775	Yes	16'-10"	Stage 1 - Construction
298+15.00	L	20	644	26	775	Yes	12'-0"	Stage 2

**TEMPORARY CONCRETE BARRIER LAYOUT  
for Two-Way Traffic**



① Where  $\textcircled{W}$  is less than 15'-6", install restricted width signing as per Standard Road Plan TC-81.

**TEMPORARY CONCRETE BARRIER LAYOUT  
for Two-Way Traffic**

Station	Side	$\textcircled{AA}$	$\textcircled{WL}$	$\textcircled{TA}$	$\textcircled{L}$	Anchored X	$\textcircled{W1}$	$\textcircled{W2}$	Remarks
		Feet	Feet	Feet	Feet		Ft-inches	Ft-inches	
298+15.00	L	20	644	26	775	Yes	16'-10"		Stage 1 - Winter
298+15.00	L	20	644	26	775	Yes		12'-0"	Stage 1 - Winter

# ESTIMATED PROJECT QUANTITIES AND REFERENCE NOTES

Roadway Items : Bridge Approach Items  
Non-Participating : Separate Funding

Item no.	Item Code	Item	Unit	Quantities			Estimate Reference Notes
				Estimated			
				Roadway Items	Non-Participating	Total	
1	2101-0850001	CLEARING AND GRUBBING	ACRE	0.95		0.95	Refer to U Sheets. All material generated as a result of Clearing and Grubbing shall become the property of the contractor and must be disposed off site. All wood material must be disposed of according to Iowa Department of Agriculture and Land Stewardship Emerald Ash Borer Quarantine Order. For more information see <a href="http://www.iowatreepests.com">www.iowatreepests.com</a> .
2	2102-0425070	SPECIAL BACKFILL	TON	4,729.5		4,729.5	Refer to Tab 112-9 and Tab SS-1 in C sheets for locations and details. Existing HMA and PCC from Pavement removal may be used on the project as special backfill.
3	2102-2625001	EMBANKMENT-IN-PLACE, CONTRACTOR FURNISHED	CY	34,069		34,069	Refer to T Sheets for details.
4	2102-2710070	EXCAVATION, CLASS 10, ROADWAY AND BORROW	CY	132,705		132,705	Refer to T Sheets for details. Material shall be provided by the Contractor. Shrinkage is estimated at 60%. Contractor is notified that the excavation area is anticipated to be excessively wet and specialized equipment, blocking or mats may be required to complete the work as shown on the plans. All waste must be removed from the project site. If waste disposed in floodplain area waste shall not be more than 12 inches deep.
5	2102-2713090	EXCAVATION, CLASS 13, WASTE	CY	4,555.1		4,555.1	Refer to Tab 112-9 and Tab SS-1 in C sheets for locations and details. Excavated material may be used as embankment-in-place.
6	2105-8425005	TOPSOIL, FURNISH AND SPREAD	CY	147,166		147,166	Refer to Tab. 103-10 and the T Sheets.
7	2122-5190095	PAVED SHOULDER, P.C. CONCRETE, 9.5 IN.	SY	12,920.9		12,920.9	Refer to Tab 112-9 and Tab SS-1 in C sheets for locations and details. Refer to Detail 7158 on Sheet B.1 for additional details.
8	2123-7450000	SHOULDER CONSTRUCTION, EARTH	STA	107.6		107.6	Refer to Tab 112-9 in C sheets for locations and details.
9	2301-0690203	BRIDGE APPROACH, BR-203	SY	759		759	Refer to Tab 112-6 in C sheets for details and locations.
10	2412-0000100	Longitudinal Grooving	SY	2,770.3		2,770.3	Refer to Tab 100-28 in C sheets for locations and additional details.
11	2505-4008120	Removal of Steel Beam Guardrail	LF	565		565	Refer to Tab 110-7A in C sheets for locations and additional details.
12	2505-4008300	Steel Beam Guardrail	LF	187.5		187.5	Refer to Tab 108-8A in C sheets for locations and additional details.
13	2505-4008410	STEEL BEAM GUARDRAIL BARRIER TRANSITION SECTION, BA-201	EACH	4		4	
14	2505-4021010	STEEL BEAM GUARDRAIL END ANCHOR, BOLTED	EACH	4		4	
15	2505-4021720	STEEL BEAM GUARDRAIL TANGENT END TERMINAL, BA-205	EACH	4		4	
16	2510-6745850	REMOVAL OF PAVEMENT	SY	5,899.7		5,899.7	Refer to Tab 110-1 in C sheets for locations and additional details.
17	2527-9263180	PAVEMENT MARKINGS REMOVED	STA	29.12		29.12	Refer to Tab 108-22 in C sheets for locations and additional details.
18	2527-9263209	PAINTED PAVEMENT MARKINGS, WATERBORNE OR SOLVENT-BASED	STA	42.63		42.63	

Item no.	Item Code	Item	Unit	Quantities			Estimate Reference Notes
				Estimated			
				Roadway Items	Non-Participating	Total	
19	2528-8400048	TEMPORARY BARRIER RAIL, CONCRETE	LF	3,100		3,100	Refer to Tab 108-33 in C sheets for locations and additional details. Refer also to Detail 8210 on Sheet B.2. All temporary barrier rail shall be nominal 12'-6 long concrete units.
20	2528-8400256	TEMPORARY TRAFFIC SIGNALS	EACH	8		8	Refer to Tab 108-28 in C sheets for locations and additional details.
21	2528-8445110	TRAFFIC CONTROL	LS	1		1	Refer to Traffic Control Plan in J sheets.
22	2528-8445113	FLAGGERS	EACH	0		0	(Designer should enter a quantity of 0)  See Proposal.
23	2529-5070110	PATCHES, FULL-DEPTH FINISH, BY AREA	SY	48		48	Refer to Tab. 102-6C on C Sheets for locations and additional details.
24	2529-5070120	PATCHES, FULL-DEPTH FINISH, BY COUNT	EACH	2		2	
25	2548-0000200	MILLED SHOULDER RUMBLE STRIPS, PCC SURFACE	STA	110.35		110.35	Refer to Tab. 112-10 on C Sheets for locations and additional details.
26	2548-0000320	MILLED CENTERLINE RUMBLE STRIPS, PCC SURFACE	STA	0.36		0.36	
27	2551-0000110	TEMP CRASH CUSHION	EACH	6		6	Refer to Tab 108-30 in C sheets for locations and additional details. Winterize sand filled or water filled crash cushions according to the manufacturer's recommendations if they are to remain in place during winter months.
28	2555-0000010	DELIVER AND STOCKPILE SALVAGED MATERIALS	LS		1	1	Refer to Tab. 110-13.
29	2601-2634100	MULCHING	ACRE	8.25		8.25	Perform mulching according to Article 2601.03, E, 2, of the Standard Specifications. Anchor mulch into the soil using mulch anchoring equipment with a minimum of two passes.  Item is included for areas requiring reshaping and seedbed preparation. Use mulch that is Certified Noxious Weed Seed Free Mulch as certified by the Iowa Crop Improvement Association or adjacent states Crop Improvement Associations.  Mulch Rate: 1 1/2 tons of dry cereal straw or native grass straw per acre.MULCHING Mulching shall be applied as described in standard speification section 2601. After seeding, mulch all areas disturbed by grading except where slope protection has been applied.

Item no.	Item Code	Item	Unit	Quantities			Estimate Reference Notes
				Estimated			
				Roadway Items	Non-Participating	Total	
30	2601-2636015	NATIVE GRASS SEEDING	ACRE	5.97		5.97	<p>Seed all areas outside eight feet adjacent to outside shoulder along mainline, side roads, and infield areas at interchanges with "Native Grass Seeding".</p> <p>Supply all seed for "Native Grass Seeding".</p> <p>Apply all forb seed through the native grass drill wildflower or small seed box.</p> <p>Do not mix and apply Forb seed with the native grass seed.</p> <p>Apply cover crop through the cool season or through cover crop seed box.</p> <p>Do not mix and apply cover crop seed with the native grass seed.</p> <p>Remove seed remaining in the drill at the end of each day. At the completion of all seeding, remove remaining seed from the drill by vacuum or other means. Hand broadcast remaining seed on the project.</p> <p>The Engineer will review the limits with the Contractor prior to seeding. Seeding and seed bed preparation shall be as described in the Standard Specifications Section 2601 and as shown on the plans. See sheet X.X for details.</p> <p>Only source identified seeds from Minnesota, Wisconsin, South Dakota, Nebraska, Missouri, Illinois or Iowa growers and previous year harvest shall be used on this project.</p> <p>Seed mixtures for this mitigation plan are subject to the availability of seeds. Any seed substitutions will need the approval of the Engineer.</p> <p>Apply all forb seed through the native grass drill wildflower or small seed box.</p> <p>Do not mix and apply Forb seed with the native grass seed.</p> <p>Apply cover crop through the cool season or through cover crop seed box.</p> <p>Do not mix and apply cover crop seed with the native grass seed.</p> <p>Remove seed remaining in the drill at the end of each day. At the completion of all seeding, remove remaining seed from the drill by vacuum or other means. Hand broadcast remaining seed on the project.</p> <p>The Contractor shall flag the seeding limits and obtain the Engineers review of the limits prior to seeding.</p> <p>No fertilizer shall be required for any of the seed mixtures associated with this Mitigation Plan. All seed weights are shown as Pure Live Seed(PLS).</p>



Item no.	Item Code	Item	Unit	Quantities			Estimate Reference Notes
				Estimated			
				Roadway Items	Non-Participating	Total	
31	2601-2642100	STABILIZING CROP - SEEDING AND FERTILIZING	ACRE	2.28		2.28	<p>Item is included for disturbed areas.</p> <p>Seed and fertilize all disturbed areas according to Article 2601.03, C, 1, of the Standard Specifications. If permanent seeding cannot be placed due to the restrictive planting dates, stabilizing crop will need to be placed on all disturbed areas as temporary erosion control. Preparation and seeding shall be performed in accordance with Section 2601. Stabilizing crop will not be used when the application dates in Section 2601 allows permanent seeding.</p> <p>If stabilizing crop must be used, place immediately following completions of finished grading. Reseeding of these areas will be required at contractors expense if damage occurs due to contractors negligence during the contract period.</p> <p>It is not necessary to place stabilizing crop in locations that have be covered by Wood Excelsior Mat.</p>
32	2602-0000020	SILT FENCE	LF	15,501.2		15,501.2	<p>(Paving Projects) Refer to Tab. 100-17 in RC Sheets. The tabulation includes estimated locations for placement of "Silt Fence" to address erosion to be encountered during construction. Verify the specific locations with the Engineer prior to beginning placement. Bid item includes tab quantity for the paving project for new locations and 10% of the original tab quantity for the grading project (insert original tab quantity from the grading project) for field adjustments and replacements. See Standard Road Plan EC-201. The engineer may adjust silt fence locations to fit field conditions.</p>
33	2602-0000071	REMOVAL OF SILT FENCE OR SILT FENCE FOR DITCH CHECKS	LF	15,501.2		15,501.2	<p>This item is included for silt fence and silt fence for ditch check removal required for staging reasons, removal to allow for replacement (replacement to be paid separately), or for areas that have achieved 70% permanent growth. This item is included for silt fence and silt fence for ditch check removal. Remove silt fence and posts after mulching or vegetation is established and approved by the engineer.</p>

100-1D 10-18-05
<b>PROJECT DESCRIPTION</b>
This project involves the replacement of the bridge on US 30 over Wapsipinicon River (Maint. No. 2398.55030).

111-25 10-18-11																																																												
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105-4 10-18-11		
<b>STANDARD ROAD PLANS</b>		
The following Standard Road Plans apply to construction work on this project.		
Number	Date	Title
BA-200	04-20-21	Steel Beam Guardrail Components
BA-201	10-18-22	Steel Beam Guardrail Barrier Transition Section (MASH TL-3)
BA-202	04-16-24	Steel Beam Guardrail Bolted End Anchor
BA-205	10-17-23	Steel Beam Guardrail Tangent End Terminal (MASH TL-3)
BA-250	04-20-21	Steel Beam Guardrail Installation at Concrete Barrier or Bridge End Post (MASH TL-3)
BA-401	04-20-21	Temporary Barrier Rail (Precast Concrete)
BA-500	04-20-21	Temporary Crash Cushions Sand Barrel
BR-203	04-16-24	Double Reinforced 12" Approach
DR-306	10-17-23	Precast Concrete Headwall for Subdrain Outlets
EC-201	04-20-21	Silt Fence
EC-502	04-21-15	Seeding in Rural Areas
EW-202	04-19-16	Bridge Berm Grading without Recoverable Slope (Non-Barnroof Section)
EW-301	04-16-24	Guardrail Grading
PM-110	04-16-24	Line Types
PR-103	10-17-23	Full Depth PCC Patch with Dowels
PV-12	04-16-24	Milled Shoulder Rumble Strips
PV-13	04-16-24	Milled Centerline Rumble Strips
PV-101	04-19-22	Joints
PV-102	04-21-20	PCC Curb Details
SI-173	04-19-16	Object Markers
SI-211	10-18-22	Object Marker and Delineator Placement with Guardrail
SI-881	04-16-19	Special Signs for Workzones
SI-882	10-18-16	Special Signs for Restricted Width Traffic Control Zones
TC-1	10-15-19	Work Not Affecting Traffic (Two-Lane or Multi-Lane)
TC-81	04-18-23	Restricted Width Signing (Less Than 14.5 Feet)
TC-202	04-18-23	Work Within 15 ft of Traveled Way
TC-213	04-18-23	Lane Closure with Flaggers

**110-1**  
04-16-13

### REMOVAL OF PAVEMENT

Refer to Tabulation 102-5

\* Not a Bid Item

Begin Station	End Station	Side	Pavement Type	Area		Saw Cut*	Remarks
				SY	LF		
290+00.00	293+82.99	Rt	HMA	180.7	386.6		Shoulder
290+00.00	293+83.57	Lt	HMA	183.0	387.6		Shoulder
293+82.99	294+91.10	Rt	HMA	121.5	108.0		Shoulder
293+83.57	294+91.10	Lt	HMA	113.7	108.0		Shoulder
294+91.10	295+61.21	Center	PCC	197.3	0.0		West Approach
300+42.05	301+34.99	Center	PCC	352.7	24.0		East Approach
301+34.99	302+20.08	Rt	HMA	111.4	85.1		Shoulder
301+34.99	302+19.55	Lt	HMA	114.6	84.6		Shoulder
302+20.08	336+64.61	Rt	HMA	1637.2	3444.5		Shoulder
302+19.55	336+64.61	Lt	HMA	1558.7	3445.1		Shoulder
343+15.40	351+22.39	Rt	HMA	365.1	807.0		Shoulder
343+15.40	351+22.39	Lt	HMA	366.9	807.0		Shoulder
350+00.56	351+06.69	Lt	HMA	110.8	70.0		Entrance
357+64.19	363+00.00	Rt	HMA	239.1	539.8		Shoulder
357+64.19	363+00.00	Lt	HMA	247.0	539.8		Shoulder
				5899.7	10837.0		

**110-7A**  
04-17-12

### REMOVAL OF STEEL BEAM GUARDRAIL

① Lane(s) to which the installation is adjacent.  
② Includes length of End Terminals and End Anchors.

No.	Direction of Traffic	Location		Side	Removal of Guardrail	
		Station to Station			LF	
1	EB	294+03.71	295+60.19	Rt		157.0
2	WB	294+65.58	295+59.60	Lt		94.0
3	EB	300+43.35	301+99.75	Rt		157.0
4	WB	300+43.28	301+99.75	Lt		157.0
				Total:		565.0

**110-13**  
04-20-10

### DELIVERY AND STOCKPILING

Item Description	Quantity	Units	Delivery Location	Contact Name & Number	Remarks
Steel Beam Guardrail & Components	565	LF	IADOT DeWitt Maintenance Garage	Nathan Maderscheid Supervisor 563-659-3550	801 Westwood Dr. DeWitt, IA 52742

**100-28**  
10-19-10

### LONGITUDINAL GROOVING

Location	Total	Remarks
	SY	
298+22.00	2317.3	Bridge
294+91.10	226.5	West Approach
301+34.99	226.5	East Approach
Total:	2770.3	

**102-5**  
04-18-17

### EXISTING PAVEMENT

No.	Location					Year	Type	Project Number	Surface		Base		Subbase		Removal		Coarse Aggregate			Reinforcement	Remarks	
	County	Route	Dir. of Travel	Begin Ref. Loc. Sign	End Ref. Loc. Sign				Type	Depth	Type	Depth	Type	Depth	Type	Depth	Source	Type	Durability Class			Type
1	Clinton	US 30	Both	293.74	299.7	2014	W	NHSX-030-8(30)--3H-16	HMA	1.5	HMA	2										
						2014		NHSX-030-8(30)--3H-16	HMA	1.5	HMA	2										
						1956	1	F-147(9)	PCC	9.5							SCHNECKLOTH	C. LST.	I	GND 1988 VL		

**102-6C**  
04-18-17

### FULL-DEPTH PATCHES

Possible Standards: PR-101, PR-102, PR-103, PR-104, PR-105, and PR-140.

Count	Location			Dimension			PCC Patches				HMA Patches	Composite HMA	Subbase Patches	Subbase Patch w/ 'EF' Joint	Patch Subdrain	'CD' Joints	'CT' Joints	'EF' Joints	Anchor Lugs Removal	Remarks	
	Station	Reference Location Sign	Lane	Length	Width	Patch Thickness	With Dowels	Without Dowels	C R C	Ramp with Dowels											
							PR-103	PR-102	PR-104	PR-105											
1	294+91.10		B	18.0	24.0	10.0	48.0														

**STEEL BEAM GUARDRAIL AT CONCRETE BARRIER OR BRIDGE RAIL END SECTION**

Possible Standards: BA-200, BA-201, BA-202, BA-205, BA-206, BA-210, BA-211, BA-221, BA-225, BA-250, BA-260, LS-625, LS-626, LS-630, LS-635, SI-172, SI-173 and SI-211.

- ① Lane(s) to which the obstacle is adjacent.
- ② Not a bid item. Incidental to guardrail installation.

No.	Direction of Traffic	Location		Layout Lengths					Long-Span System		Delineators and Object Markers ②				Bid Items								Remarks					
		Side O = Outside M = Median	Station	Offset FT	BA-250, BA-260, LS-630, or LS-635					SI-211	Delineator SI-172	Object Marker SI-173			Bolted End Anchor	Post Adapter	Steel Beam Guardrail	Barrier Transition Section	BA-250 or LS-630					BA-260 or LS-635				
					VT1	VF	VT2	ET	Type 1			Type 2	Type 3						End Terminal		Barrier Transition Section	End Terminal Tangent						
					LF	LF	LF	LF	White EACH		OM2-2 EACH	OM3-L EACH	OM3-R EACH	Tangent	Flared	Tangent	Flared	BA-201 EACH	BA-205 EACH	BA-206 EACH				LS-625 EACH	LS-626 EACH	BA-221 EACH	BA-225 EACH	
					STATION	TYPE	TYPE	TYPE	TYPE		TYPE	TYPE	TYPE	TYPE	TYPE	TYPE	TYPE	TYPE	TYPE	TYPE	TYPE	TYPE		TYPE	TYPE	TYPE	TYPE	
1	EB	O	295+71.99	22.8	115.625				47.7	3																		
2	WB	O	295+71.99	24.8	53.125				47.7	3																		
3	EB	O	300+71.99	22.8	65.625				47.7	3																		
4	WB	O	300+71.99	24.8	115.625				47.7	3																		
Totals:													2	2		4			187.5	4	4							

**BRIDGE APPROACH SECTION**

Refer to the BR Series.

\* Not a bid item

Location		Approach Pavement					Standard Road Plans BR Series			Subdrain					Remarks					
Bridge Station	End	Skew Ahead		T Thickness Inches	Pay Length FT	Non-Reinf. Pavement Area SY	Single-Reinf. Pavement Area SY	Double-Reinf. Pavement Area SY	Approach	Fixed or Movable Abutment	Abutting Pavement	Perforated Subdrain 4"	Subdrain Outlet			Porous Backfill CY	Class 'A' Crushed Stone Backfill CY	Modified Subbase TON	Polymer Grid SY	Special Backfill TON
		LEFT	RIGHT										STA	Side						
		Degrees		LF	STA	Side	CY	CY	TON	SY	TON									
298+22.00	W	0		12.0	70.0	163.3	108.9	107.3	BR-203	Movable	Modified	60.0	295+08.99	Rt	2.3	0.2	545.356	432.8		Refer to sheet U.1 for Modified BR-211.
298+22.00	E	0		12.0	70.0	163.3	108.9	107.3	BR-203	Movable	Modified	60.0	301+34.99	Rt	2.3	0.2	545.356	432.8		Refer to sheet U.1 for Modified BR-211.
Totals:							326.7	217.8	214.5			120.0			4.6	0.3	1090.712	865.6		

**CRASH CUSHIONS**

- \* Bid Item
- ① Lane(s) to which the installation is adjacent.
- ② Complete this section when using the Temporary Crash Cushion bid item and Earthwork is needed for Sand Barrel placement. Refer to BA-500

No.	Direction of Traffic	Location Station	Side	Obstacle Width FT	Crash Cushion (Select One)*					Sand Barrel Details ②					Earthwork*		Spare Parts Kit (Select One)*		Obstacle Description	Remarks
					Temporary	Temporary Redirective	Temporary Severe Use	Permanent	Permanent Severe Use	V	W	X	Y	Z	Excavation Class 10 CY	Embankment in Place CY	Permanent EACH	Permanent Severe Use EACH		
1	EB	293+85.12	Lt	2.00	1						24.25	5.25	3.25	12.00					Temporary Barrier Rail	Stg 1 Construction
2	WB	302+46.61	Lt	2.00	1						24.25	5.25	3.25	12.00					Temporary Barrier Rail	Stg 1 Construction
3	Both	293+84.33	Lt	2.00	1						24.25	5.25	3.25	12.00					Temporary Barrier Rail	Stg 1 Winter
4	Both	302+47.11	Lt	2.00	1						24.25	5.25	3.25	12.00					Temporary Barrier Rail	Stg 1 Winter
5	EB	293+85.12	Lt	2.00	1						24.25	5.25	3.25	12.00					Temporary Barrier Rail	Stg 2 Construction
6	WB	302+47.55	Lt	2.00	1						24.25	5.25	3.25	12.00					Temporary Barrier Rail	Stg 2 Construction
Total:					6															



**MILLED RUMBLE STRIPS**

See PV-12 and PV-13

\* Calculated at 18" width for Shoulder.

Road Identification	Station to Station	Location		Rumble Strip Type (Centerline, Rt or Lt Shoulder)	L	Installation Length		Fog Seal* (Milled Rumble Strip) Shoulder GAL	Effective Shoulder Width			Remarks
		Shoulder Pavement Type	Type			PCC	HMA		PCC Paved	HMA Paved	Granular\ Earth	
US 30	290+01.00	295+07.99	PCC	Right Shoulder	12"	5.07		0.0				
US 30	290+01.00	295+07.99	PCC	Left Shoulder	12"	5.07		0.0				
US 30	294+91.10	295+07.99	PCC	Centerline	12"	0.17		0.0				
US 30	295+09.99	295+19.99	PCC	Centerline	12"	0.10		0.0				
US 30	295+09.99	295+19.99	PCC	Right Shoulder	12"	0.10		0.0				
US 30	295+09.99	295+19.99	PCC	Left Shoulder	12"	0.10		0.0				
US 30	301+25.00	301+33.99	PCC	Centerline	12"	0.09		0.0				
US 30	301+25.00	301+33.99	PCC	Right Shoulder	12"	0.09		0.0				
US 30	301+25.00	301+33.99	PCC	Left Shoulder	12"	0.09		0.0				
US 30	301+35.99	336+64.61	PCC	Right Shoulder	12"	35.29		0.0				
US 30	301+35.99	337+14.61	PCC	Left Shoulder	12"	35.79		0.0				
US 30	342+65.40	351+22.39	PCC	Right Shoulder	12"	8.57		0.0				
US 30	343+15.40	351+93.37	PCC	Left Shoulder	12"	8.78		0.0				
US 30	356+93.21	362+99.00	PCC	Right Shoulder	12"	6.06		0.0				
US 30	357+64.19	362+99.00	PCC	Left Shoulder	12"	5.35		0.0				
Shoulder Total:						110.35						
Centerline Total:						0.36						

**PAVEMENT MARKING LINE TYPES**

See PM-110

\*BCY4 - Place on the same side of the roadway to match existing markings near the project.

\*\*\*MNY4 - Factor of 1.00 as value includes number of 4-inch passes to cover median nose area.

\*\*NPY4 - For estimating purposes only. No Passing Zone Lines will be located in the field.

BCY4: Broken Centerline (Yellow) @ 0.25  
ELY4: Edge Line Left (Yellow) @ 1.00

DCY4: Double Centerline (Yellow) @ 2.00  
SLW2: Stop Line (White) @ 6.00

NPY4: No Passing Zone Line (Yellow) @ 1.25

BLW4: Broken Lane Line (White) @ 0.25

ELW4: Edge Line Right (White) @ 1.00

Road ID	Station to Station	Dir. of Travel	Location			Marking Type	Length by Line Type (Unfactored)												Remarks				
			Side				BCY4*	DCY4	NPY4**	BLW4	ELW4	ELY4	SLW2	STA	STA	STA	STA	STA		STA	STA	STA	STA
			L	C	R																		
Stage 1 Construction																							
US 30	292+60.00	294+91.10	BOTH			Removal of Paint																	
US 30	301+35.00	303+84.00	BOTH			Removal of Paint																	
US 30	301+35.00	303+84.00	WB			Waterborne/Solvent Paint								2.49									
US 30	292+59.00	292+59.00	EB			Waterborne/Solvent Paint													0.12				
US 30	303+84.00	303+84.00	WB			Waterborne/Solvent Paint													0.12				
Stage 1 Winter																							
US 30	292+59.00	292+59.00	EB			Removal of Paint													0.12				
US 30	303+85.00	303+85.00	WB			Removal of Paint													0.12				
US 30	301+35.00	303+84.00	WB			Removal of Paint																	
US 30	288+01.00	295+09.00	WB			Removal of Paint																	
US 30	288+01.00	295+09.00	WB			Waterborne/Solvent Paint																	
US 30	292+60.00	294+91.10	BOTH			Waterborne/Solvent Paint																	
US 30	301+28.00	308+49.95	WB			Removal of Paint																	
US 30	301+28.00	308+49.95	WB			Waterborne/Solvent Paint																	
Stage 2																							
US 30	292+59.00	292+59.00	EB			Waterborne/Solvent Paint																	
US 30	305+50.00	305+50.00	WB			Waterborne/Solvent Paint																	
US 30	292+60.00	294+91.10	BOTH			Removal of Paint																	
US 30	301+35.00	305+50.00	BOTH			Removal of Paint																	
US 30	292+59.95	295+09.00	BOTH			Waterborne/Solvent Paint																	
US 30	301+34.99	305+49.80	BOTH			Waterborne/Solvent Paint																	
US 30	292+59.95	295+09.00	BOTH			Removal of Paint																	
US 30	301+34.99	305+49.80	BOTH			Removal of Paint																	
US 30	292+59.00	292+59.00	EB			Removal of Paint																	
US 30	305+50.00	305+50.00	WB			Removal of Paint																	
US 30	292+60.00	305+50.00	BOTH			Waterborne/Solvent Paint																	
US 30	295+08.99	301+34.99	BOTH			Waterborne/Solvent Paint																	
Factored Total: Waterborne/Solvent Paint						3.80	-	-	-	35.95	-	2.88	-	-	-	-	-	-	-	-	-	-	
Factored Total: Removal of Paint						2.82	-	-	-	23.43	-	2.88	-	-	-	-	-	-	-	-	-	-	
Bid Quantity: Painted Pavement Markings, Waterborne or Solvent-Based																							
Bid Quantity: Pavement Markings Removed																							

## SURVEY SYMBOLS

<p>⊕ AST, Above Ground Storage Tank</p> <p>BB, Billboard</p> <p>BBB, Bottom of Bridge Beam</p> <p>BCL, Bridge Centerline</p> <p>BD, Bridge Deck</p> <p>BIN, Grain Bin</p> <p>BL, Topo Breakline</p> <p>BLD, Building or Foundation</p> <p>BLS, Bridge Low Steel</p> <p>BM, Bench Mark</p> <p>BNK, Stream Bank</p> <p>BRG, Bridge</p> <p>C, Centerline BL of Road -ML or SR</p> <p>CAV, Cave</p> <p>CEL, Cell Phone Tower</p> <p>CIS, Cistern</p> <p>CON, Concrete or A/C Slab</p> <p>CP, Control Point</p> <p>CRP, Corporation Line</p> <p>CS, Curve Point</p> <p>CU, Back of Curb</p> <p>CUL, Culvert</p> <p>D, Centerline Draw or Stream -Down</p> <p>DAB, Drainage Area Boundary</p> <p>DIK, Centerline of Dike or Dam</p> <p>DTM, Photogrammetry Elev. Control Check</p> <p>DU, Centerline Draw or Stream -Up</p> <p>EB, Electrical Box</p> <p>EG, Edge of Gravel Road</p> <p>ENP, Edge Paved Entrance and Park Lot</p> <p>ENT, Centerline BL of Entrance</p> <p>ENU, Edge Unpaved Entrance and Parking</p> <p>EP, Edge of Paved Roads -ML or SR</p> <p>EW, Edge of Water</p> <p>FCL, Chain Link and Security Fence</p> <p>FENO, FENO Monument</p> <p>FHD, Fire Hydrants</p> <p>FLG, Flag Poles</p> <p>FP, Filler Pipe</p> <p>FW, Wire Fence</p> <p>FWD, Wood Fence</p> <p>GDC, Guard Rail Cable</p> <p>GDL, Guard Rail Steel</p> <p>GP, Guard Post -Less Than 4 Posts</p> <p>GPR, Guard Post -4 or More Posts</p> <p>GR, Ground Shot</p> <p>GRV, Grave</p> <p>GU, Gutter In Front of Curb</p> <p>GV, Gas Valve</p> <p>HDG, Hedge Row</p> <p>HS, Hydric Soil -Wetlands</p> <p>HT, Electrical Highline Tower</p> <p>IN, Storm Sewer Intake</p> <p>INB, Storm Sewer Beehive Intake</p> <p>LC, Lot Corner</p> <p>LIN, Miscellaneous Line</p> <p>LP, L.P. Tank</p> <p>LUM, Luminaire</p> <p>MH, Utility Access -Manhole</p> <p>MIS, Miscellaneous</p> <p>MM, Mile Marker Post</p> <p>OUT, Tile Outlet</p> <p>PC, Curve Point</p> <p>PCP, Photo Control Point</p> <p>PCT, Photo Control Target</p> <p>PI, Tangent Point</p> <p>PIP, Pipe Culvert</p> <p>PL, Location of Photo -Wetlands</p> <p>PLG, Location of General Photo</p> <p>POC, Curve Point</p> <p>POST, Spiral Point</p>	<p>PR, Electric Riser Pole</p> <p>PRO, Profile Shot</p> <p>PT, Curve Point</p> <p>REF, Reference Tie Point</p> <p>RET, Retaining Walls</p> <p>RIP, Rip-Rap</p> <p>ROC, Rock Outcropping</p> <p>ROW, Right of Way Mark</p> <p>RR, Centerline of Railroad Tracks</p> <p>RRB, Railroad Signal Box</p> <p>RRF, Railroad Frog</p> <p>RRR, Railroad Rail</p> <p>RRS, Railroad Signal</p> <p>RRW, Railroad Switch</p> <p>RT, Radio Tower</p> <p>S, Soil Sampling Site -Wetlands</p> <p>SBR, Size of Bridge</p> <p>SC, Spiral Point</p> <p>SCR, Section Corner</p> <p>SEP, Septic Tank</p> <p>SF, Silt Fence -Wetlands</p> <p>SG, Staff Gauge -Wetlands</p> <p>SH, Paved Shoulder</p> <p>SHR, Shrub</p> <p>SI, Sign</p> <p>SL, Speed Limit Sign</p> <p>SLN, Section Line</p> <p>SLO, Silo</p> <p>SNK, Sink Hole</p> <p>SNP, Unpaved Shoulder</p> <p>SP, Stream Profile</p> <p>STP, Stump</p> <p>SWK, Sidewalk</p> <p>SWP, Swamp or Marsh</p> <p>TA, Tower Anchor</p> <p>TBO, Telephone Booth</p> <p>TCB, Traffic Signal Box</p> <p>TDC, Tree Deciduous</p> <p>TDL, Traffic Detection Loop</p> <p>TER, Terrace</p> <p>TEV, Evergreen Tree</p> <p>TFR, Tree Fruit</p> <p>TGP, Telegraph Pole</p> <p>TIL, Tile Line</p> <p>TLNL, Tree Line Left</p> <p>TLNR, Tree Line Right</p> <p>TOP, Top of Bridge Pier</p> <p>TPA, Telephone Pole Co. 1</p> <p>TPB, Telephone Pole Co. 2</p> <p>TPC, Telephone Pole Co. 3</p> <p>TR, Telephone Riser Pole</p> <p>TRL, Trail</p> <p>TS, Spiral Point</p> <p>TSB, Telephone Switch Box</p> <p>TSG, Traffic Signal</p> <p>TSL, Traffic Signal and Luminaire</p> <p>TV, Satellite TV Dish</p> <p>TVP, TV Pedestal</p> <p>TW, Top of Water</p> <p>UB, Utility Box</p> <p>UE, Utility Elevation</p> <p>UPH, Utility Pot Hole - Quality A</p> <p>UST, Underground Tank</p> <p>UV, Underground Utility Vault</p> <p>VS, Channel Cross Section</p> <p>WC, Wild Card -Misc. Field Shot</p> <p>WEL, Well</p> <p>WHD, Water Hydrant</p> <p>WHU, RV Water Hook Up</p> <p>WM, Wind Mill</p> <p>WND, Wind Turbine</p> <p>WV, Water Valve</p>
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### SURVEYED UTILITY OWNER SYMBOLS

Sub-Surface Utility Mapping Quality Level is in accordance with CI/ASCE 38-02 Standard Guidelines for the Collection and Depiction of Existing Subsurface Utility Data.

#### Remark Abbreviations

QLA Quality Level A Highest guideline quality level  
 QLD Quality Level D Lowest guideline quality level

— E1 —	ELID, Eastern Iowa Light & Power
— F0 —	FOID, F&B Communications
— F02 —	FO2D, Sprint
— G —	GLID, Alliant Energy
— SAN —	SAID, City of Wheatland
— W —	WLID, City of Wheatland

## UTILITY LEGEND

<p>— E1 — Eastern Iowa Light &amp; Power Chad Ruden chad.ruden@easterniowa.com</p> <p>— F02 — Sprint Mark Klinkenberg mark.klinkenberg2@t-mobile.com</p> <p>— F0 — F&amp;B Communications Aaron Horman aaron@fbc-tele.com</p> <p>— G — Alliant Energy Mary Montgomery marymontgomery@alliantenergy.com</p> <p>— T4 — City of Wheatland Matt Cavey cityguys@fbcom.net</p> <p>— W — City of Wheatland Matt Cavey cityguys@fbcom.net</p> <p>Electric Transmission Chad Levi clevi@itctransco.com</p>
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## PLAN VIEW COLOR LEGEND OF PLAN AND PROFILE SHEETS

LINEWORK		Design Color No.
Green	(2)	Existing Topographic Features and Labels
Blue	(1)	Proposed Alignment, Stationing, Tic Marks, and Alignment Annotation
Magenta	(5)	Existing Utilities
SHADING		Design Color No.
Lavender	(9)	Temporary Pavement Shading
Yellow	(4)	Proposed Pavement Shading
Orange	(6)	Proposed Granular Shading
Orange	(70)	Proposed Shoulder Granular Shading
Yellow	(68)	Proposed Shoulder Paved Full Depth Shading
Yellow	(132)	Proposed Shoulder Paved Partial Depth Shading
Gray, Dark	(112)	Proposed Grade and Pave Shading "In conjunction with a paving project"
Brown, Light	(236)	Grading Shading
Orange, Light	(134)	Proposed Granular Entrance Shading
Yellow	(220)	Proposed Paved Entrance Shading
Tan	(8)	Proposed Sidewalk Shading
Blue, Light	(230)	Proposed Sidewalk Landing Shading
Pink	(11)	Proposed Sidewalk Ramp Shading
Green, Light	(225)	Existing Pavement Shading
Red	(3)	Proposed Structure Shading
Red	(3)	Delineates Restricted Areas

## PROFILE VIEW COLOR LEGEND OF PLAN AND PROFILE SHEETS

LINEWORK		Design Color No.
Green	(10)	Existing Ground Line Profile
Blue	(1)	Proposed Profile and Annotation
Magenta	(5)	Existing Utilities
Blue, Light	(230)	Proposed Ditch Grades, Left
Black	(0)	Proposed Ditch Grades, Median
Rust	(14)	Proposed Ditch Grades, Right

Reference Point	Survey Line
Station	Section Corner
Ground Line Intercept	Saw Cut
Guardrail	Trench Drain
High Tension Cable Guardrail	Sheet Pile
Pavement Removal	Clearing & Grubbing Area

### RIGHT-OF-WAY LEGEND

▲	Proposed Right-of-Way
△	Existing Right of Way
▲△	Existing and Proposed Right-of-Way
▲△	Easement and Existing Right-of-Way
○	Easement (Temporary)
●	Easement
C/A	Access Control
↔	Property Line

# PLAN AND PROFILE LEGEND AND SYMBOL INFORMATION SHEET

(COVERS SHEET SERIES D, E, F, K & U)

Spring Rock Twp.  
T-81N R-1E  
Sec. 11

Existing R.O.W.

Sta. 290+00.00  
Begin Construction

290+00

291+00

292+00

293+00

294+00

US 30 (ML030\_East)

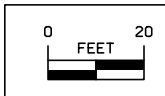
Spring Rock Twp.  
E T-81N R-1E  
Sec. 14

E1

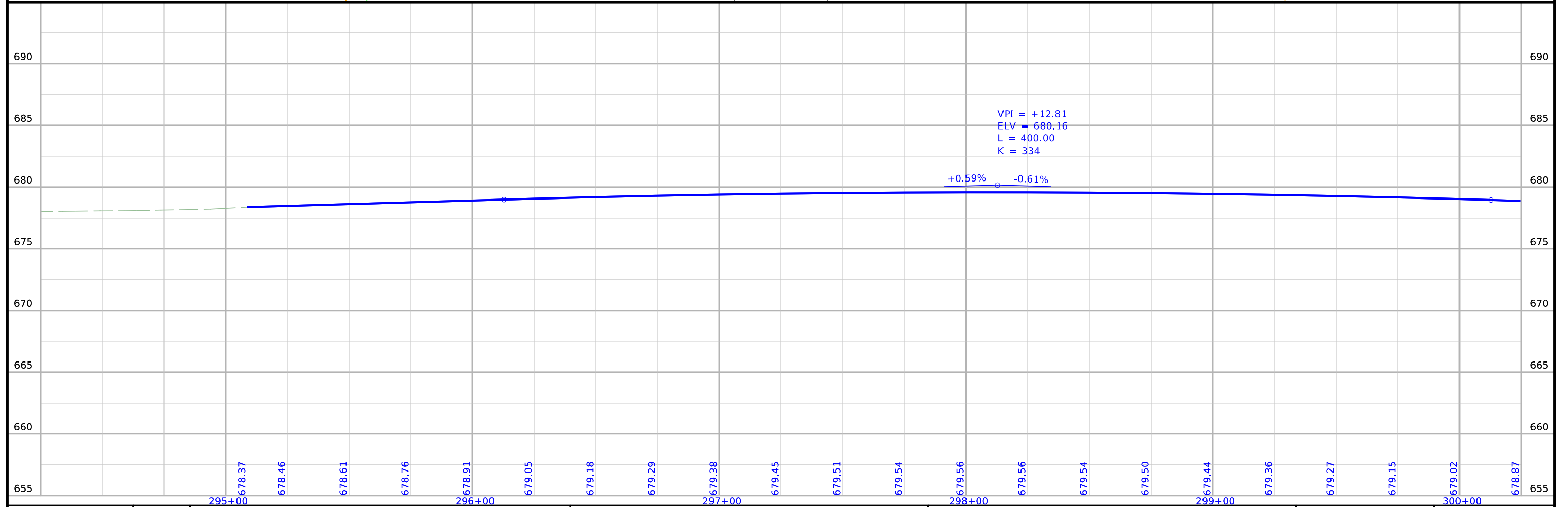
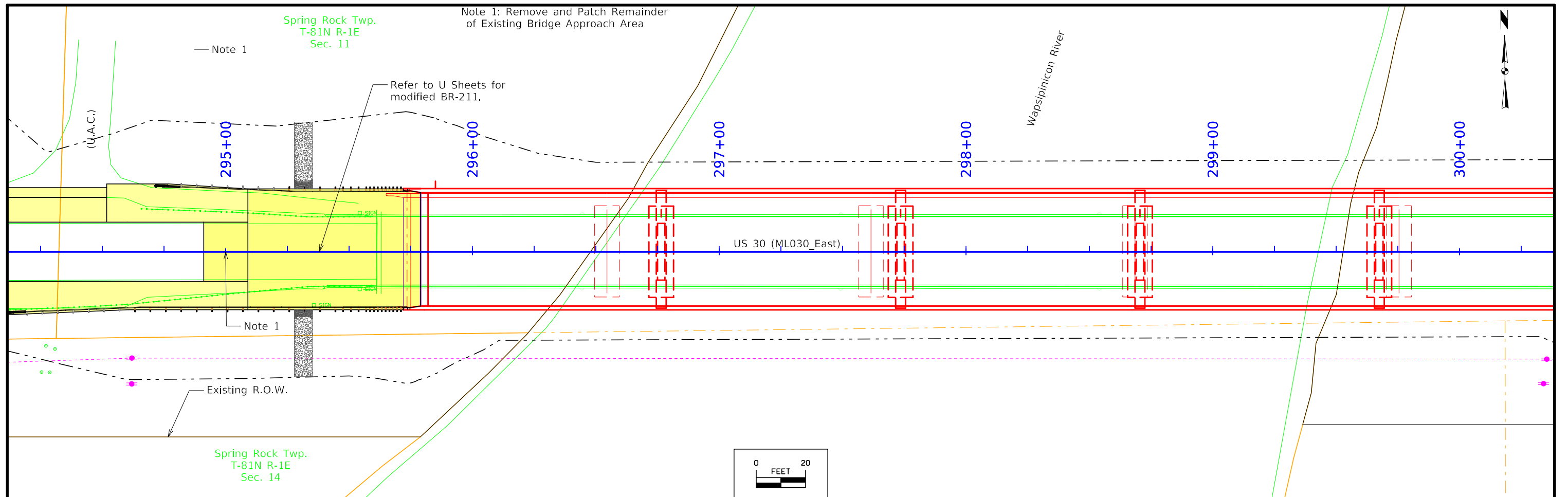
E1

(U.A.C.)

(U.A.C.)







Existing R.O.W.

Spring Rock Twp.  
T-81N R-1E  
Sec. 11



301+00

302+00

303+00

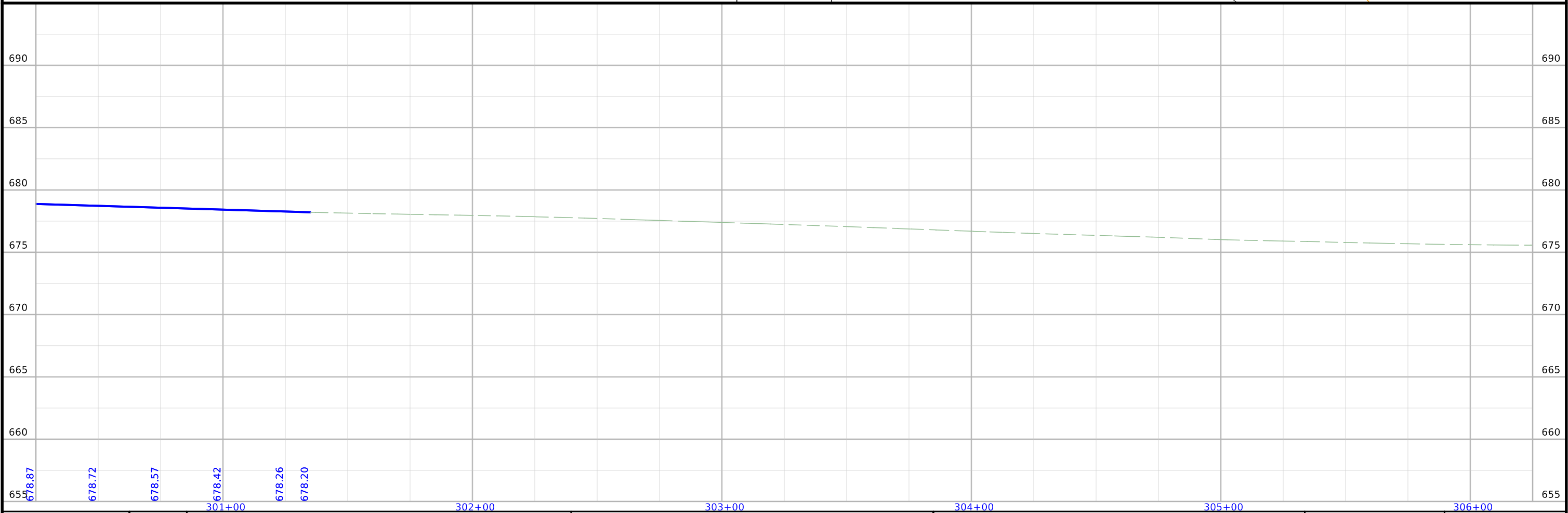
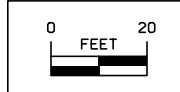
304+00

305+00

306+00

US 30 (ML030\_East)

Spring Rock Twp.  
T-81N R-1E  
Sec. 14



FILE NO.	ENGLISH	DESIGN TEAM Iowa DOT\Stanley Consultants Inc.	CLINTON COUNTY	PROJECT NUMBER BRF-030-9(186)--38-23	SHEET NUMBER D.4
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Spring Rock Twp.  
T-81N R-1E  
Sec. 11

Existing R.O.W.



307+00

308+00

309+00

310+00

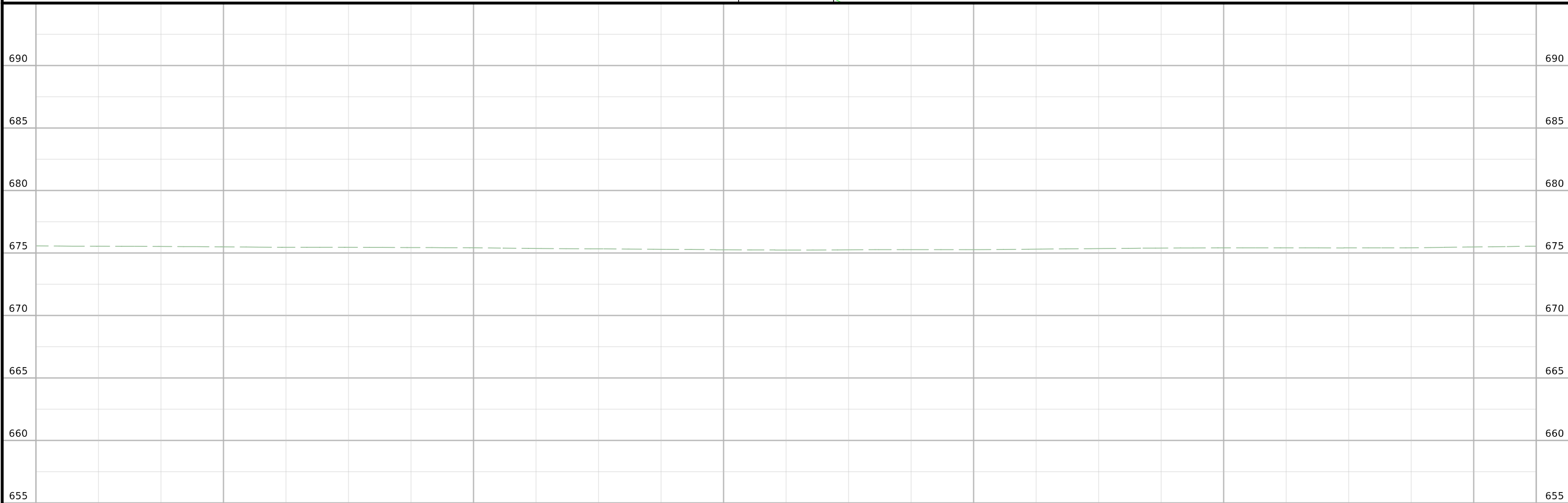
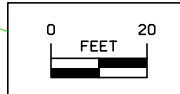
311+00

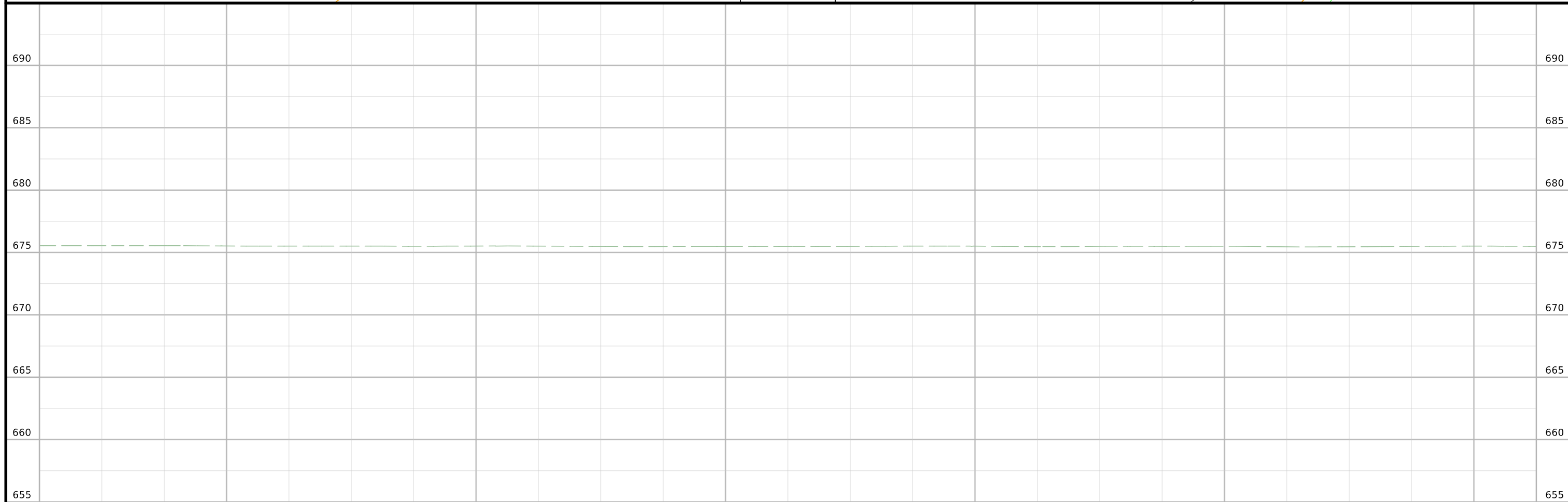
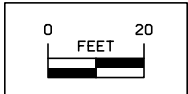
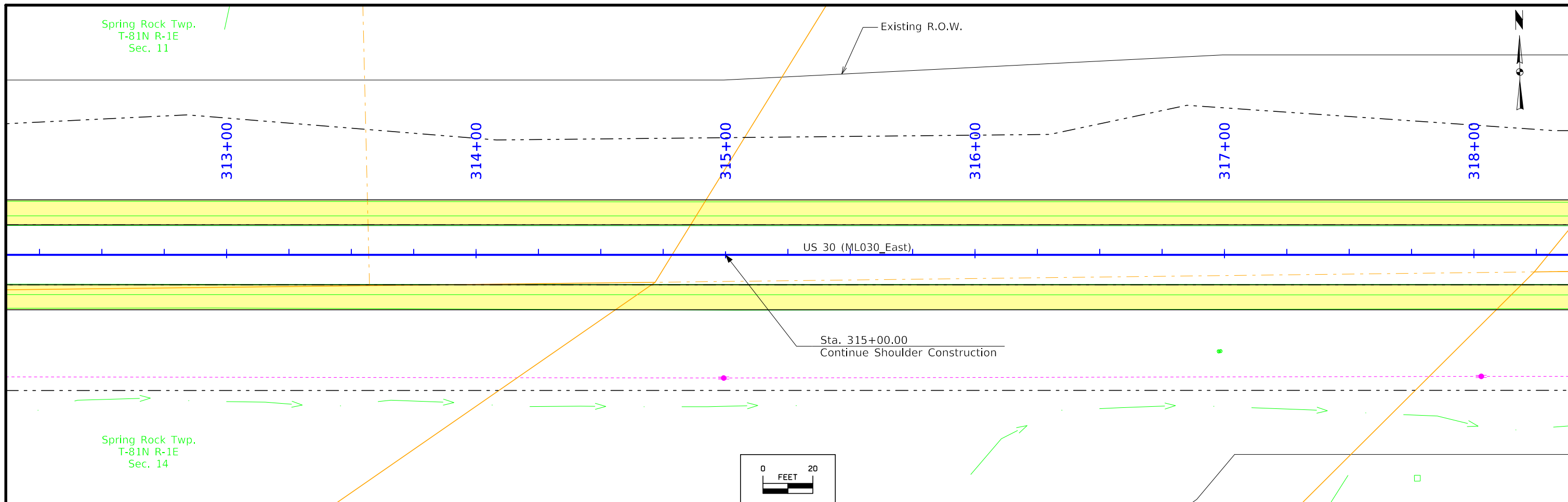
312+00

US 30 (ML030\_East)

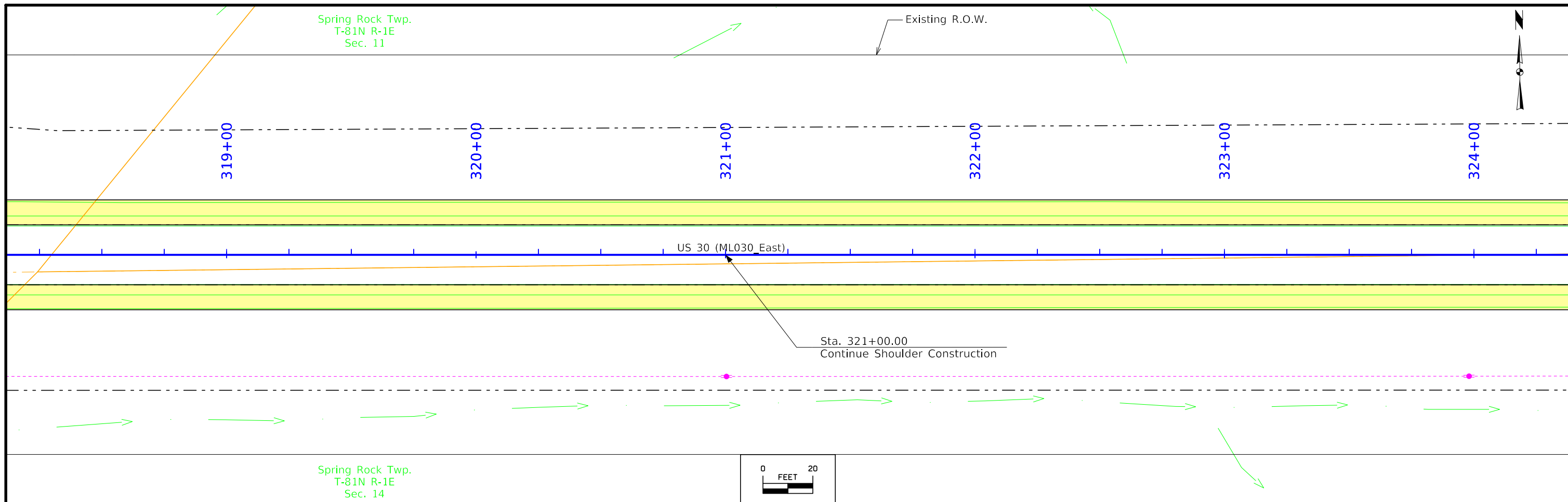
Sta. 309+00.00  
Continue Shoulder Construction

Spring Rock Twp.  
T-81N R-1E  
Sec. 14





FILE NO.	ENGLISH	DESIGN TEAM Iowa DOT\Stanley Consultants Inc.	CLINTON COUNTY	PROJECT NUMBER BRF-030-9(186)--38-23	SHEET NUMBER D.6
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Spring Rock Twp.  
T-81N R-1E  
Sec. 11

Existing R.O.W.

Spring Rock Twp.  
T-81N R-1E  
Sec. 12



325+00

326+00

327+00

328+00

329+00

330+00

US 30 (ML030\_East)

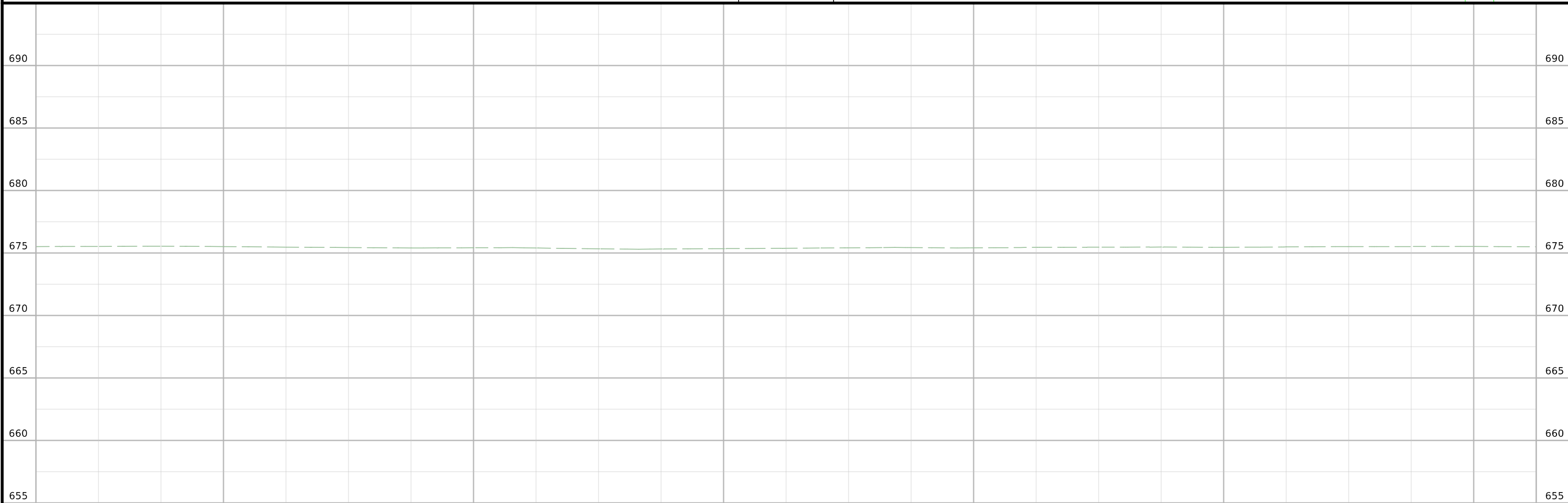
Sta. 327+00.00  
Continue Shoulder Construction

(U.A.C.)

Spring Rock Twp.  
T-81N R-1E  
Sec. 14



Spring Rock Twp.  
T-81N R-1E  
Sec. 13



Spring Rock Twp.  
T-81N R-1E  
Sec. 12

Existing R.O.W.



331+00

332+00

333+00

334+00

335+00

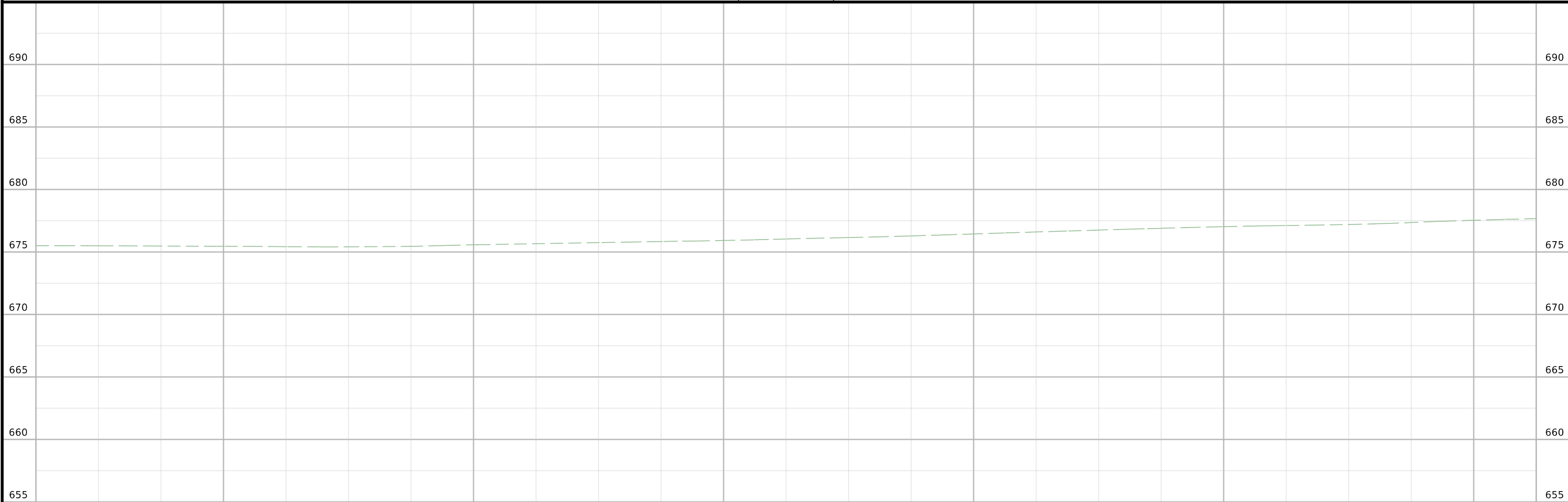
336+00

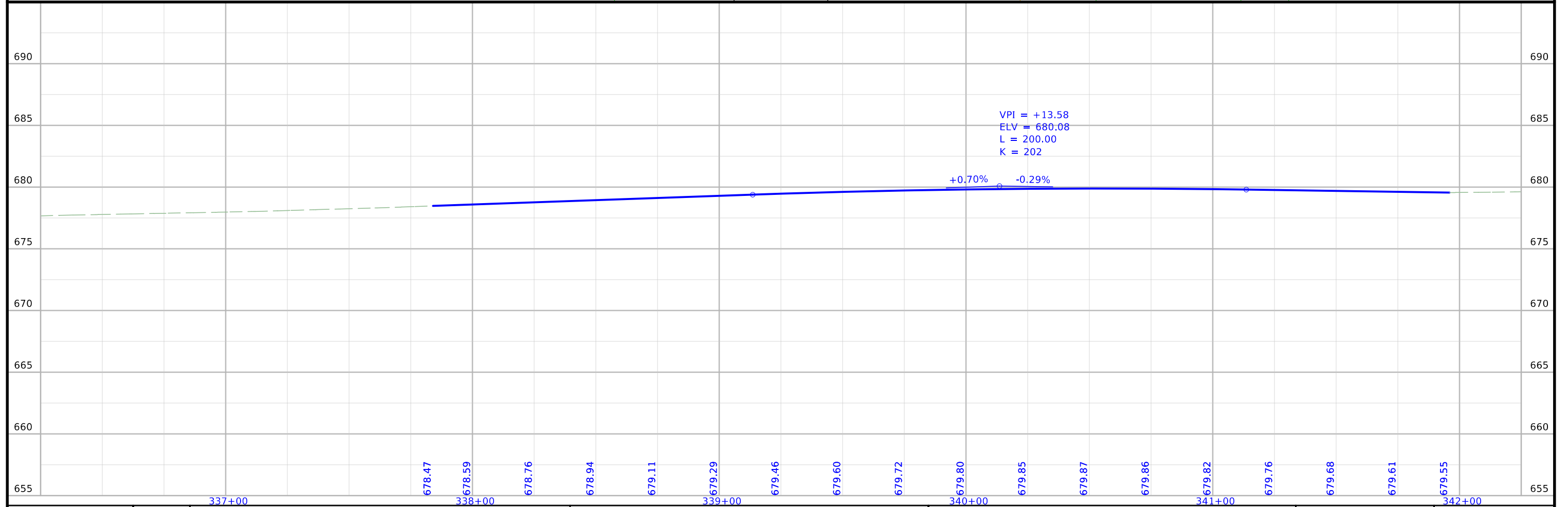
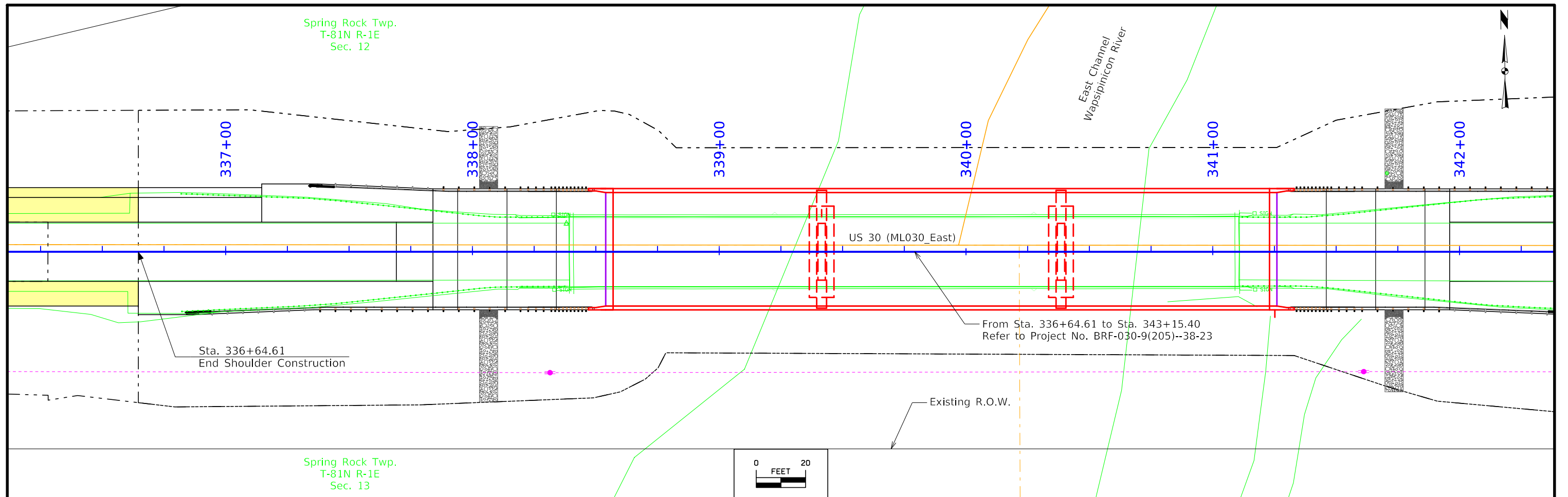
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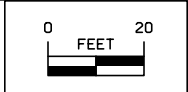
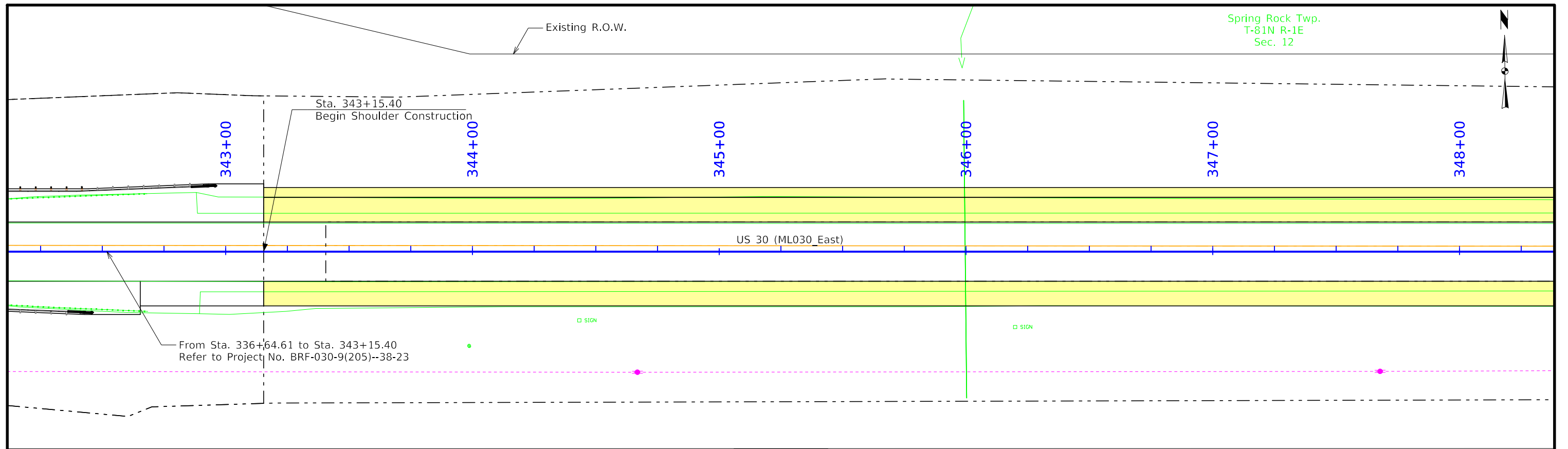
Sta. 333+00.00  
Continue Shoulder Construction

Spring Rock Twp.  
T-81N R-1E  
Sec. 13





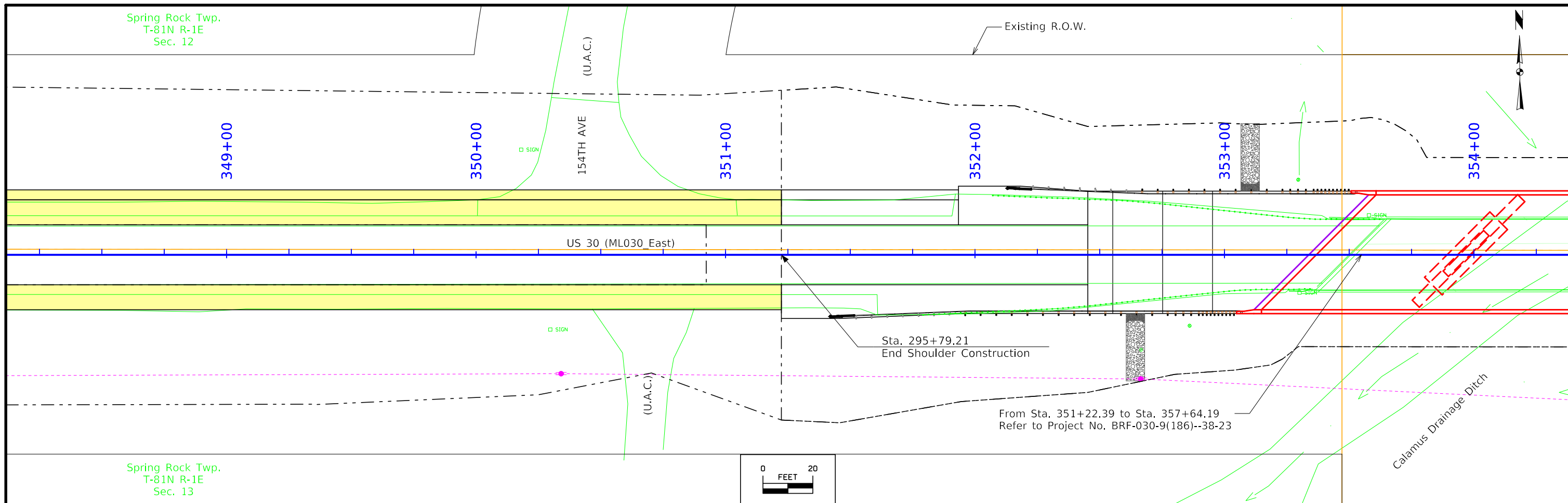




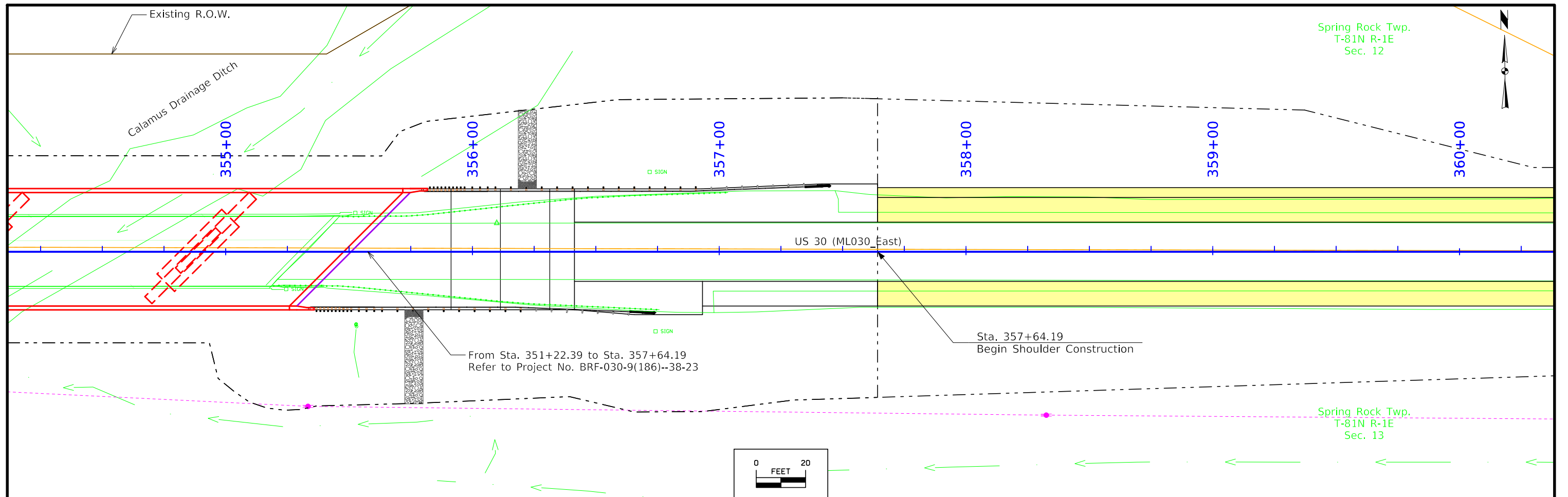
Spring Rock Twp.  
T-81N R-1E  
Sec. 13

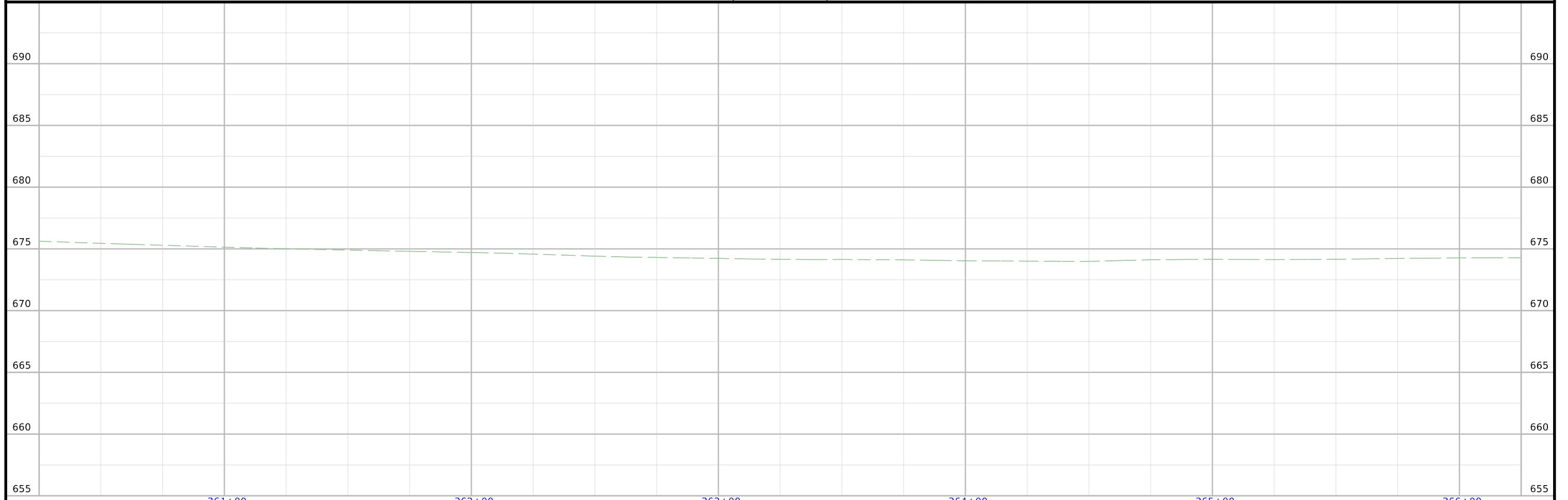
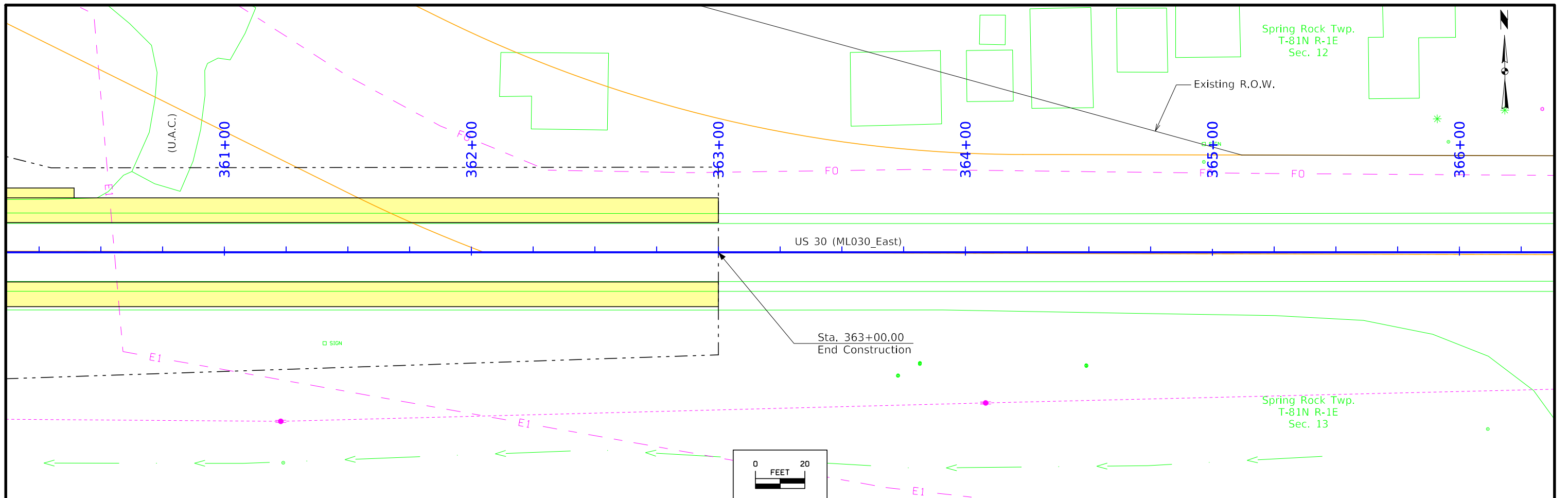


FILE NO.	ENGLISH	DESIGN TEAM Iowa DOT\Stanley Consultants Inc.	CLINTON COUNTY	PROJECT NUMBER BRF-030-9(186)--38-23	SHEET NUMBER D.11
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FILE NO.	ENGLISH	DESIGN TEAM Iowa DOT\Stanley Consultants Inc.	CLINTON COUNTY	PROJECT NUMBER BRF-030-9(186)--38-23	SHEET NUMBER D.12
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## Survey Information

**Clinton County**  
**BRF-030-9(186)—38-23**  
**US30 Clinton County Survey**  
**From 130<sup>th</sup> Ave to 158<sup>th</sup> Ave - Wheatland**  
**PIN 18-23-030-030**

### Party Personnel

Jody Budde- PLS  
Wes Shimp- PLS  
Jon Miranda- Geospatial Lead Tech  
Ben Sullivan- Geospatial Lead Tech  
Matt Svec- Party Chief  
Lee Budde- Party Chief  
Aaron Paulsen- Party Chief  
Katerina Wyatt- Assistant Survey Party Chief  
Levi Suhr- Assistant Survey Party Chief  
Jason Flaherty – Assistant Survey Party Chief  
Scott Dillavou – Assistant Survey Party Chief

### Date(s) of Survey

Begin Date 11/17/2021  
End Date 02/28/2022

### General Information

Measurement units for this survey are US survey feet. This survey is for the preliminary design for the section of approximately 3 miles of US Highway 30 beginning in Wheatland at 130<sup>th</sup> Ave east to 158<sup>th</sup> Ave. There were also a total of 15 bridge structures surveyed which included 5 bridges along the UPRR line south of Hwy 30, near Wheatland, IA. Project datum and control information is provided by Design Survey Office. This project is a Full DTM survey. Project horizontal datum is NAD83 (2011) epoch 2010.00, Iowa RCS Zone 11 (Dubuque-Davenport). Foth established three new FENO monuments to supplement existing project control at a 1.0 mile distribution along the project corridor throughout the project lifecycle and for future corridor area work.

### Vertical Control

Vertical datum for this survey is relative to NAVD88 (computed using Geoid18) for the new FENO marks: FENO 1, FENO 2 and FENO 3. This survey consisted of observing three new FENO 1-meter rod monuments and one existing USGS monument used by

the Iowa DOT previously using minimum 2hr initial static observations along with data from four Iowa RTN CORS sites: Anamosa (IAAN), Maquoketa (IAMQ), Tipton (IATI) and Davenport (IADA).

The published Ellipsoidal heights for the four Iowa RTN stations were held for the vertical adjustment portion of this survey using as-published RTN positions by the Iowa DOT dated August 6, 2021.

Additionally, three nearby Scott County GPS monuments were recovered and observed with published NAVD88 elevations were observed and used that are located within the Hwy 30 project corridor region:

Scott County GPS 601 has a published Elv of: 757.56 usft (Geoid12A)  
Adj Elv: 757.48

Scott County GPS 602 has a published Elv of: 706.44 usft (Geoid12A)  
Adj Elv: 706.49

Scott County GPS 642 has a published Elv of: 640.80 usft (Geoid12A)  
Adj Elv: 640.80

The final vertical adjustment results show standard deviations were less than 0.023 ft. at 95% confidence level (2 sigma) for the new FENO monuments.

### Horizontal Control

The project coordinate system for this survey is NAD83 (2011) Iowa RCS Zone 11 (Dubuque-Davenport), US survey feet. This survey control is relative to IaRTN reference stations. IaRTN Reference Station coordinates are relative to the National Reference Station network datum: NAD83 (2011) for Epoch 2010.00. Coordinates were determined by observing each mark for 120 minutes minimum.

For the January 2022 control survey FOTH added FENO monuments FENO 1, FENO 2 and FENO 3 to supplement an existing DOT control monument recovered along the project corridor, Pt 706. Existing monuments Scott Co GPS 601, 602 and 642 were recovered and observed as part of this survey. The existing DOT concrete monument with brass cap (Pt 706) is on the east end of the project. The as listed adjusted coordinates in this report were the result of combined field observations and adjustment to the four Iowa RTN stations as listed herein.

Four Iowa RTN CORS stations: Anamosa, Maquoketa, Davenport and Tipton were utilized for the horizontal adjustment portion of this survey. The published horizontal geodetic positions for the four Iowa RTN stations were held for the horizontal

## Survey Information

adjustment portion of this survey using as-published RTN positions by the Iowa DOT dated August 6, 2021.

The published horizontal positions of the existing three Scott County GPS Monuments 601, 602 and 642 were also confirmed and held fixed for the final horizontal constrained adjustment of the three new FENOs established by Foth.

The horizontal standard deviation of these adjusted observations was less than 0.015 ft. at 95% confidence level (2 sigma).

PC Sta. 220+30.9 As-built Plans Project No. F-Proj No. 147 (9)  
Survey PC Sta. 220+30.7

PT Sta. 239+21.2 As-built Plans Project No. F-Proj No. 147 (9)  
Survey PT Sta. 239+21.2

PC Sta. 268+98.6 As-built Plans Project No. F-Proj No. 147 (9)  
Survey PC Sta. 268+97.0

PT Sta. 287+08.6 As-built Plans Project No. F-Proj No. 147 (9)  
Survey PT Sta. 287+08.1

### Station Equation

As-built Plans POT Sta 366+23.9 (Back) = POT Sta 341+26.6(Ahead)  
Survey POT Sta 366+23.9 (Back) = POT Sta 341+26.6(Ahead)

END POT Sta. 350+00.0 As-built Plans Project No. F-Proj No. 147 (9)  
Survey POT Sta. 350+00.0

### PROJECT CONTROL COORDINATE LISTING

Point ID	Northing	Easting	Elevation	Description
706	8175524.45	21430991.30	673.72	Existing Concrete Monument with brass disk set flush with the ground. 35.9 feet east of 158th Ave, 62.9 feet south of Hwy 30, 9.6 feet southeast of a utility pole.
FENO 1	8175123.51	21416496.20	676.87	New FENO style monument set flush with the ground. 33.5 feet southwest of centerline of Hwy 30, 147.5 feet east of center of 130th Ave.
FENO 2	8175556.21	21421292.80	674.35	New FENO style monument set flush with the ground. 28.15 feet NW of NW cor of wingwall of NW cor of Hwy 30 bridge over a creek. 37.3 feet south southeast of utility pole. 114.0
FENO 3	8175553.56	21426066.29	667.37	New FENO style monument set flush with the ground. 90.8 feet south of centerline of Hwy 30, 48.15 feet southwest of utility pole.
Scott Co GPS 601	8154639.01	21398578.53	757.48	Existing Berntsen driven rod monument with 2 1/2" aluminum cap with access cover.
Scott Co GPS 602	8154565.39	21415761.26	706.49	Existing Berntsen driven rod monument with 2 1/2" aluminum cap with access cover.
Scott Co GPS 642	8152509.73	21458526.18	640.80	Existing Berntsen driven rod monument with 2 1/2" aluminum cap with access cover.

### Alignment Information

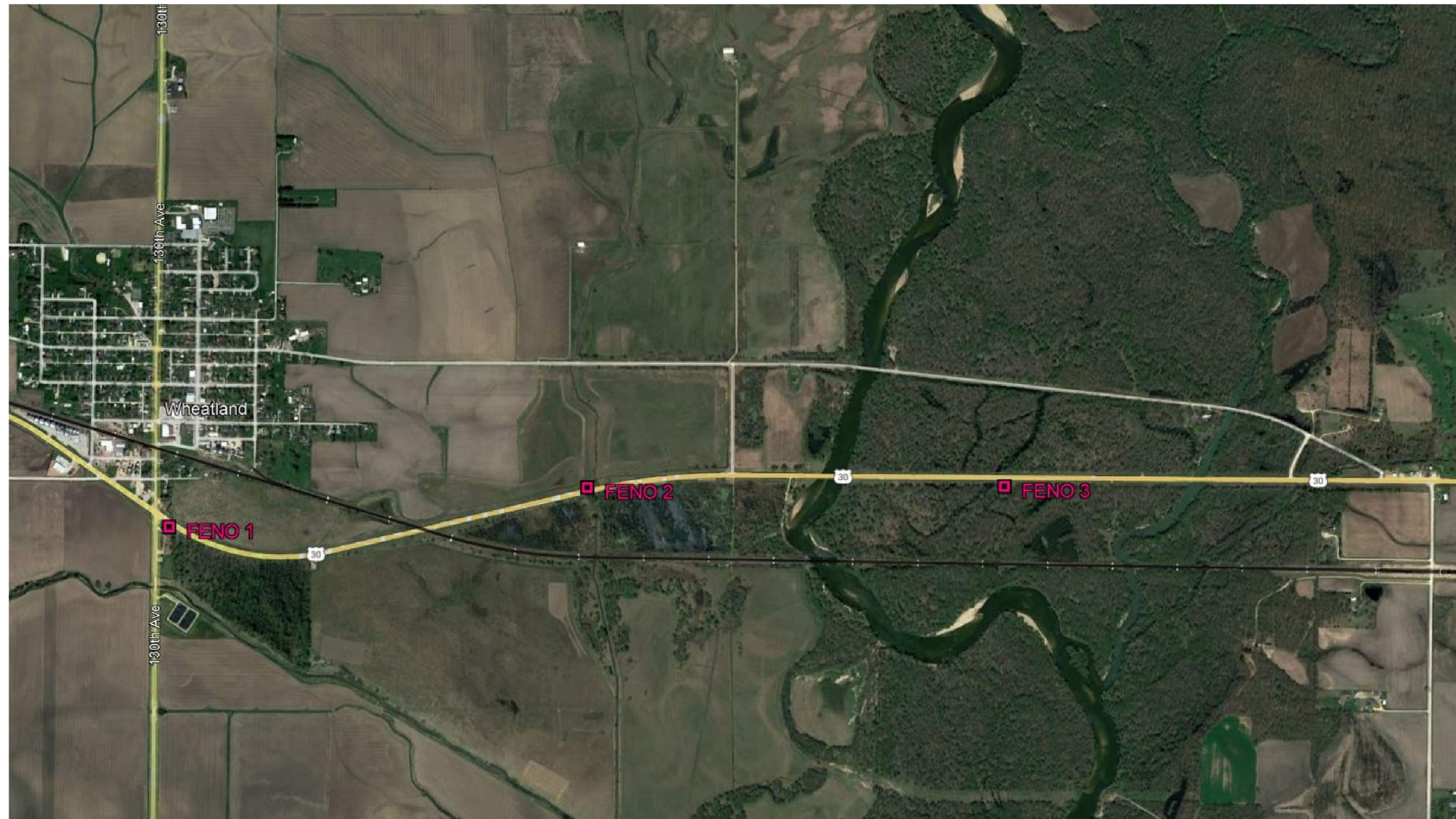
The horizontal alignment for this survey is a retrace of As-built Plans No. F-Proj No. 147 (9). Survey stationing was equated to the plan PT at STA 239+21.2 and run back and ahead throughout the survey.

Mainline (US30) Survey stationing relates to as built plan stationing as follows:

POB POT Sta. 211+54.50 As-built Plans Project No. F-Proj No. 147 (9)  
Survey POT Sta. 211+54.30

## CONTROL POINT VICINITY MAP

This map is a guide to the vicinity of the primary project control points. Primary control is for use with RTK base stations and for RTN validation. Future surveys will use primary project control to establish temporary control as needed for construction or other surveying applications.



HORIZ. DATUM: NAD83(2011) EPOCH 2010.00 - Ia. RCS Zone 11  
VERT. DATUM: NAVD88 - Geoid Model G018

Coordinate listing from next sheet will be used with IaRTN for monument recovery. No other reference ties are given.

HORIZONTAL AND VERTICAL PROJECT CONTROL COORDINATE LISTING

HORIZ. DATUM: NAD83(2011) EPOCH 2010.00  
 1a. Regional Coordinate System Zone 11

VERT. DATUM: NAVD88  
 Geoid Model G018  
 Project Control Marks are Bench Marks

Point ID	Northing	Easting	Elevation	Description
706	8175524.45	21430991.30	673.72	Existing Concrete Monument with brass disk set flush with the ground. 35.9 feet east of 158th Ave, 62.9 feet south of Hwy 30, 9.6 feet southeast of a utility pole.
FENO 1	8175123.51	21416496.20	676.87	New FENO style monument set flush with the ground. 33.5 feet southwest of centerline of Hwy 30, 147.5 feet east of center of 130th Ave.
FENO 2	8175556.21	21421292.80	674.35	New FENO style monument set flush with the ground. 28.15 feet NW of NW cor of wingwall of NW cor of Hwy 30 bridge over a creek. 37.3 feet south southeast of utility pole. 114.0 feet west of middle of small creek.
FENO 3	8175553.56	21426066.29	667.37	New FENO style monument set flush with the ground. 90.8 feet south of centerline of Hwy 30, 48.15 feet southwest of utility pole.
Scott Co GPS 601	8154639.01	21398578.53	757.48	Existing Berntsen driven rod monument with 2 1/2" aluminum cap with access cover.
Scott Co GPS 602	8154565.39	21415761.26	706.49	Existing Berntsen driven rod monument with 2 1/2" aluminum cap with access cover.
Scott Co GPS 642	8152509.73	21458526.18	640.80	Existing Berntsen driven rod monument with 2 1/2" aluminum cap with access cover.



108-23A  
08-01-08

**TRAFFIC CONTROL PLAN**

US 30  
 - Maintain US 30 single-lane, two-way traffic as noted in the Staging Plan and as shown on other J sheets during Stage 1A and Stage 2.  
 - Maintain US 30 two-lane, two-way traffic during Stage 1B as shown on other J sheets.

142nd Avenue  
 - To remain open to traffic for the duration of the project.

154th Avenue  
 - Maintain traffic to US 30 as noted on other J sheets.

158th Avenue  
 - To remain open to traffic for the duration of the project.

Private Entrances  
 - Maintain access to US 30 for the duration of the project.

Paddling Route Traffic Control

\*\* Reserved for notes \*\*

108-26A  
08-01-08

**STAGING NOTES**

Stage 1A:  
 Traffic Control:  
 - Shift US 30 traffic south and close WB lane. Use temporary traffic signals to maintain single-lane, two-way traffic per Stage 1A 'J' sheet traffic control layout.  
 Construction:  
 - Construct north parts of the three US 30 bridges, bridge approaches, shoulders and guardrail.  
 - Construct shoulder strengthening on north side of US 30.

Stage 1B:  
 Traffic Control:  
 - Close center part of US 30 and split EB and WB traffic around barriers per Stage 1B 'J' sheet traffic control layout.  
 Construction:  
 - No construction during winter shutdown.

Stage 2:  
 Traffic Control:  
 - Shift US 30 traffic north and close EB lane and part of WB lane. Use temporary traffic signals to maintain single-lane, two-way traffic per Stage 2 'J' sheet traffic control layout.  
 Construction:  
 - Complete construction of the three US 30 bridges, bridge approaches, shoulders and guardrail.

108-25  
10-21-14

**511 TRAVEL RESTRICTIONS**

Route	Direction	County	Location Description	Feature Crossed	Object Type	Maint. Bridge No., Structure ID, or FHWA No.	Type of Restriction	Existing Measurement	Construction Measurement	Construction Measurement as Signed	Projected As Built Measurement	Remarks
US 30	BOTH	Clinton	1.5 mi E of Co Rd Y4E to 1.5 mi W of Co Rd Y44 (at 3 bridges)	Wapsi River, East Channel, & Calamus Ditch	Barrier	Maint. 2398.55030	Horizontal	N/A	16'-10"	N/A	N/A	Stg 1A
US 30	BOTH	Clinton	1.5 mi E of Co Rd Y4E to 1.5 mi W of Co Rd Y44 (at 3 bridges)	Temporary Signals	Temporary Signal	-	Vertical	N/A	15'-0"	14'-0"	N/A	Stg 1A
US 30	WB	Clinton	1.5 mi E of Co Rd Y4E to 1.5 mi W of Co Rd Y44 (at 3 bridges)	Wapsi River, East Channel, & Calamus Ditch	Barrier	Maint. 2398.55030	Horizontal	N/A	12'-0"	11'-0"	N/A	Stg 1B
US 30	EB	Clinton	1.5 mi E of Co Rd Y4E to 1.5 mi W of Co Rd Y44 (at 3 bridges)	Wapsi River, East Channel, & Calamus Ditch	Barrier	Maint. 2398.55030	Horizontal	N/A	16'-10"	N/A	N/A	Stg 1B
US 30	BOTH	Clinton	1.5 mi E of Co Rd Y4E to 1.5 mi W of Co Rd Y44 (at 3 bridges)	Wapsi River, East Channel, & Calamus Ditch	Barrier	Maint. 2398.55030	Horizontal	N/A	12'-0"	11'-0"	N/A	Stg 2
US 30	BOTH	Clinton	1.5 mi E of Co Rd Y4E to 1.5 mi W of Co Rd Y44 (at 3 bridges)	Temporary Signals	Temporary Signal	-	Vertical	N/A	15'-0"	14'-0"	N/A	Stg 2

111-01  
04-17-12

**COORDINATED OPERATIONS**










Other work in progress during the same period of time will include the construction of the projects listed. Coordinate operations with those of other contractors working within the same area.

Project	Type of Work
BRF-030-9(205)--38-23	Bridge Replacement
BRF-030-9(198)--38-23	Bridge Replacement

### CROSS SECTION VIEW COLOR LEGEND OF TRAFFIC CONTROL AND STAGING SHEETS

SHADING	Design Color No.	
Green, Light	(225)	Existing Pavement Shading
Gray, Light	(48)	Previously Constructed Pavement Shading
Gray, Med	(80)	Previously Constructed Granular Surface Shading
Blue, Light	(230)	Proposed Pavement Shading
Lavender	(9)	Temporary Pavement Shading
Brown, Med	(237)	Future Proposed Pavement Shading

### CROSS SECTION VIEW PATTERN AND SYMBOL LEGEND OF TRAFFIC CONTROL AND STAGING SHEETS























	Pavement Removal		Proposed Granular Shoulder
	Proposed Granular Subbase		Temporary Shoulder
	Proposed Special Backfill		Existing Shoulder Strengthening
	Temporary Barrier Rail		Permanent Barrier Rail
			Channelizing Device

### PLAN VIEW COLOR LEGEND OF TRAFFIC CONTROL AND STAGING SHEETS

LINEWORK	Design Color No.	
Green	(2)	Existing Topographic Features and Labels
Magenta	(5)	Pavement Marking Call Outs
Blue	(1)	Proposed Alignment, Stationing, Tic Marks, and Alignment Annotation
Yellow	(4)	Pavement Markings, Yellow
Off White	(254)	Pavement Markings, White
Violet	(15)	Temporary barrier rail, Unpinned
Flush Orange	(228)	Temporary barrier rail, Pinned

SHADING	Design Color No.	
Green, Light	(225)	Existing Pavement Shading
Gray, Light	(48)	Previously Constructed Pavement Shading
Gray, Med	(80)	Proposed Granular Surface Shading
Gray, Med	(80)	Previously Constructed Granular Surface Shading
Blue, Light	(230)	Proposed Pavement Shading
Lavender	(9)	Temporary Pavement Shading
Brown, Light	(236)	Proposed Grading Limits Shading
Pink, Dark	(13)	Proposed MSE or CIP Wall Shading
Red	(3)	Proposed Bridge Shading and Sign Trusses
Black w/Gray, Light Fill	(0,48)	Previously Constructed Structure

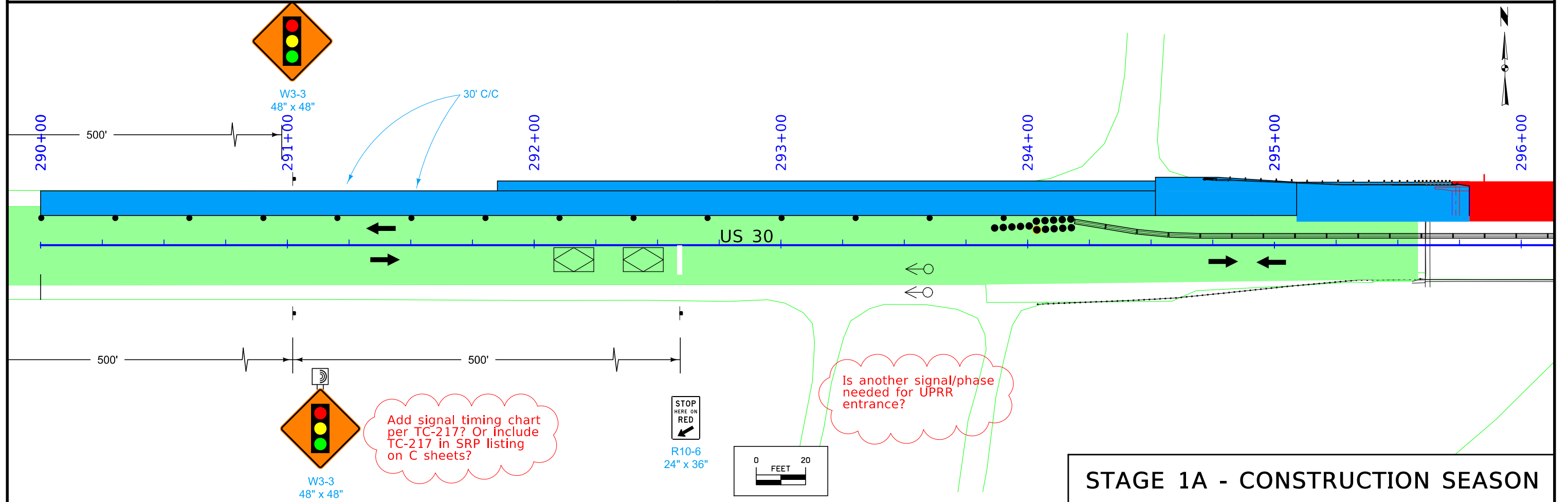
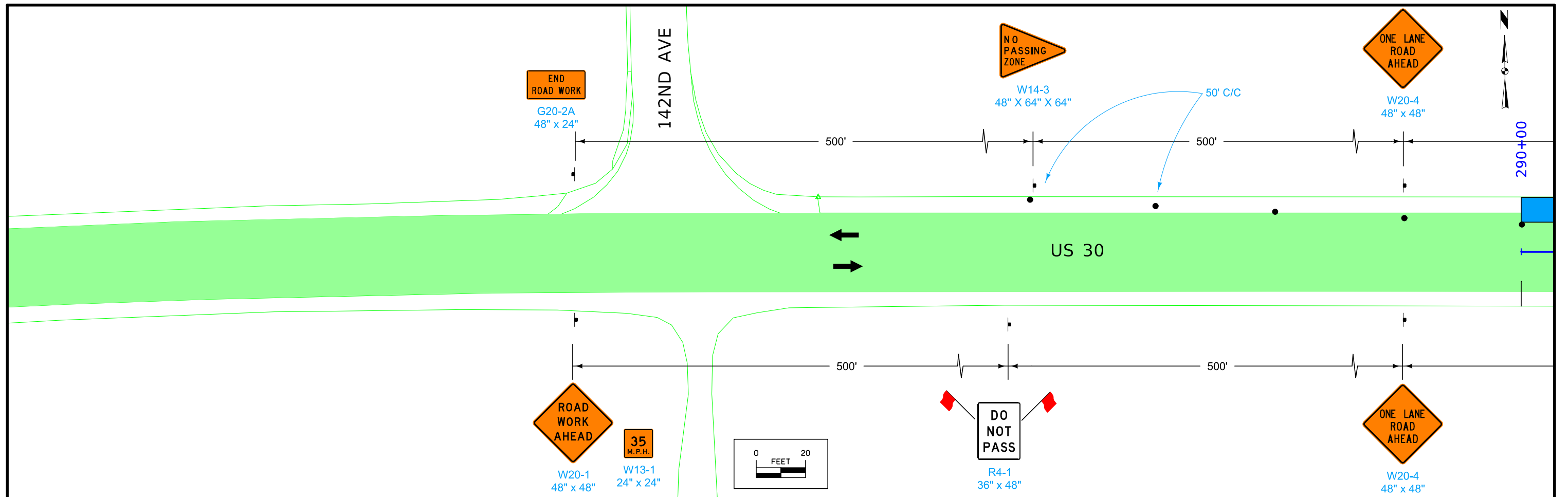
### PLAN VIEW PATTERN AND SYMBOL LEGEND OF TRAFFIC CONTROL AND STAGING SHEETS

	Channelizing Device		Crash Cushion (Temp or Perm)
	Drum		Traffic Signal
	Temporary Lane Separator		Flagger
	Tubular Marker		Temporary Floodlighting
	Channelizer Marker		Traffic Sign
	Concrete Barrier Marker		Type III Barricade
	Delineator		Type A Warning Light
	Temporary Barrier Rail		Direction of Traffic
	Pavement Removal		Safety Closure
	Sand Barrel Layout		Lane Identification
	Type 'B' Warning Light		Vehicle Detection Area

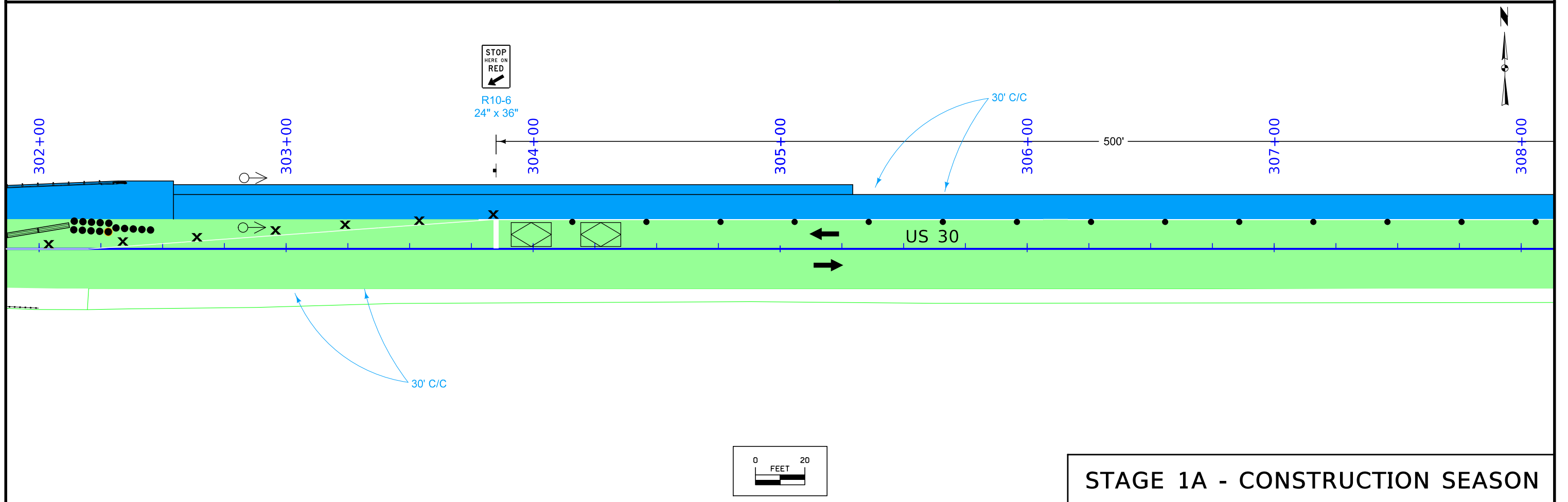
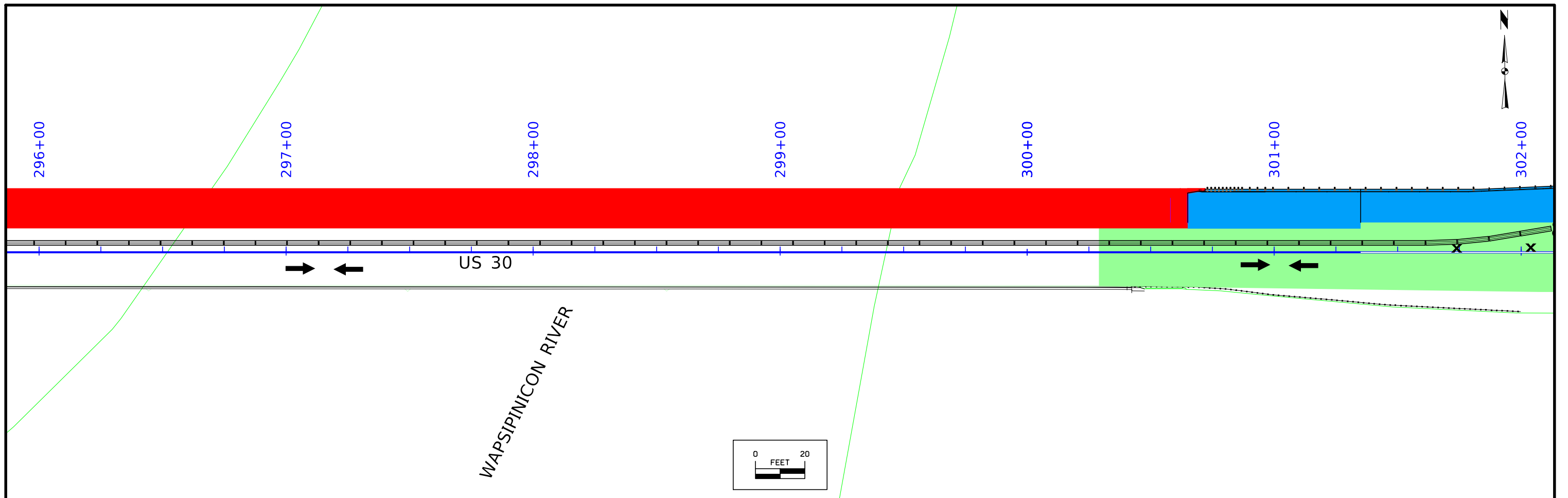
NOTE: Device spacing according to Standard Road Plans unless specifically dimensioned.

## TRAFFIC CONTROL AND STAGING LEGEND AND SYMBOL INFORMATION SHEET

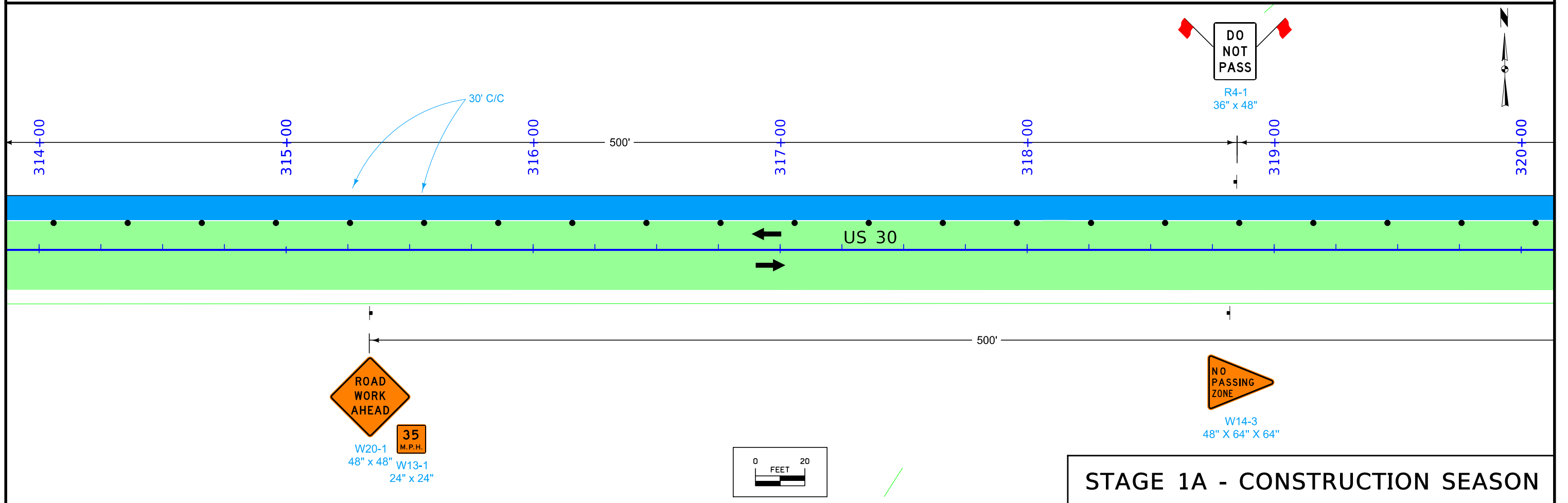
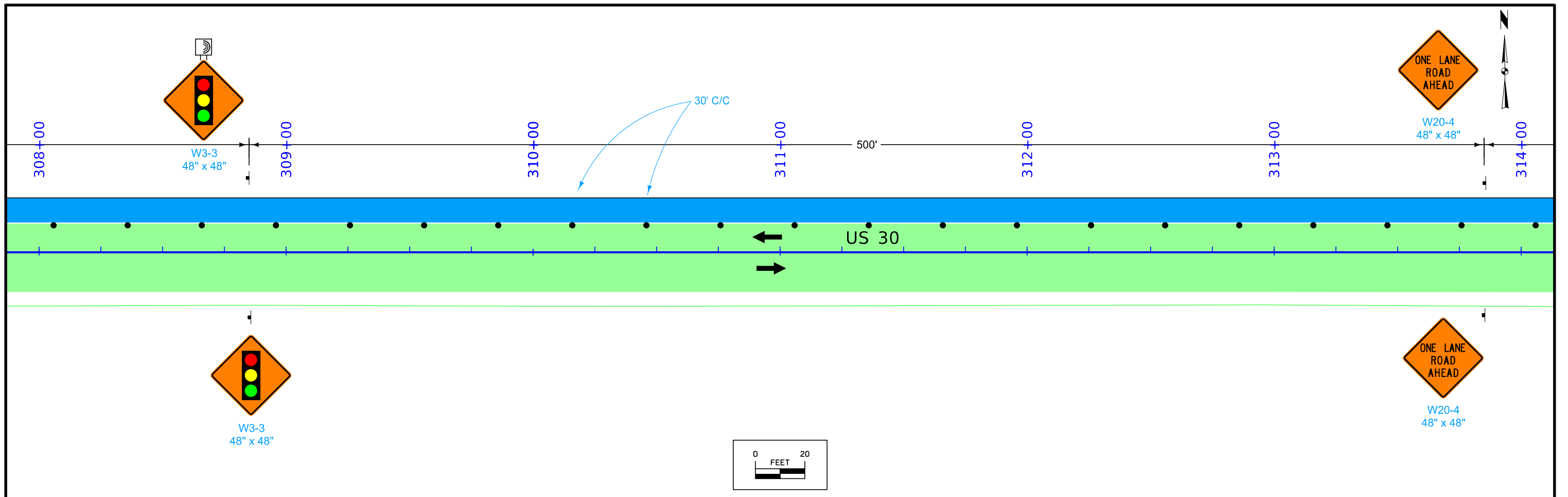
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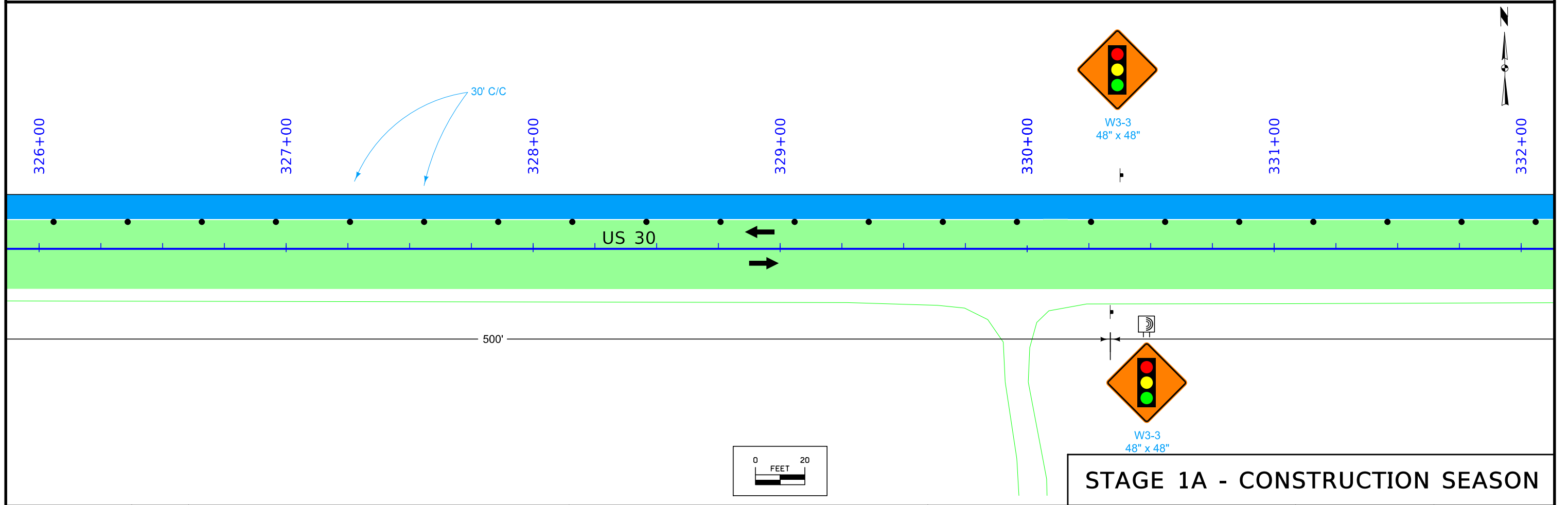
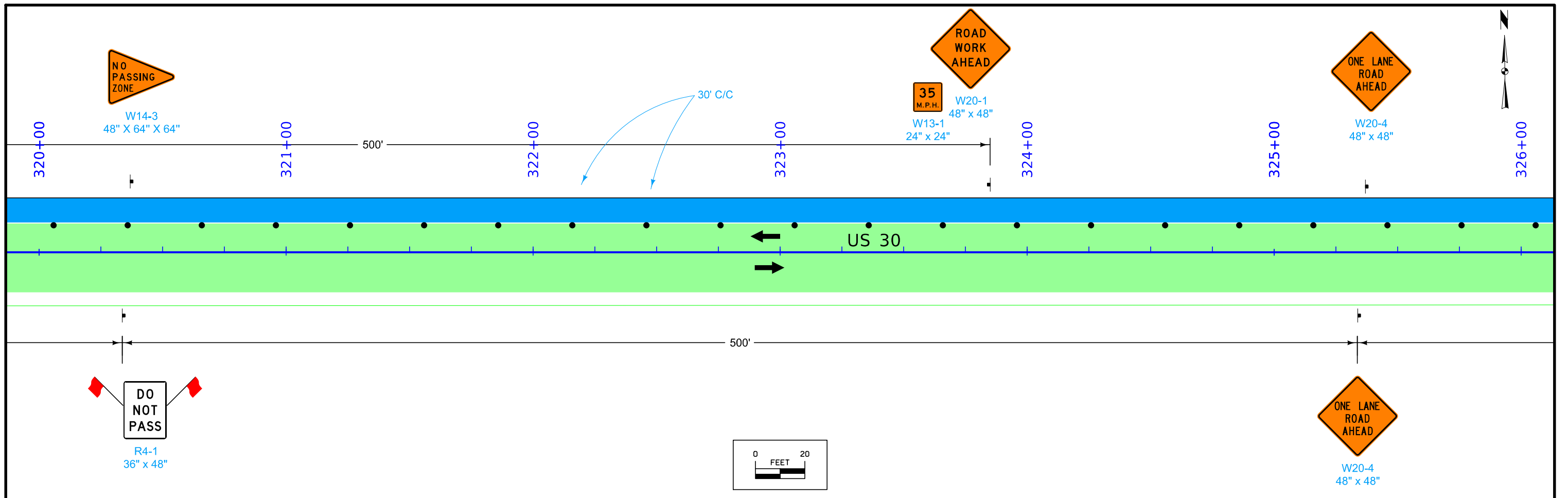


**STAGE 1A - CONSTRUCTION SEASON**

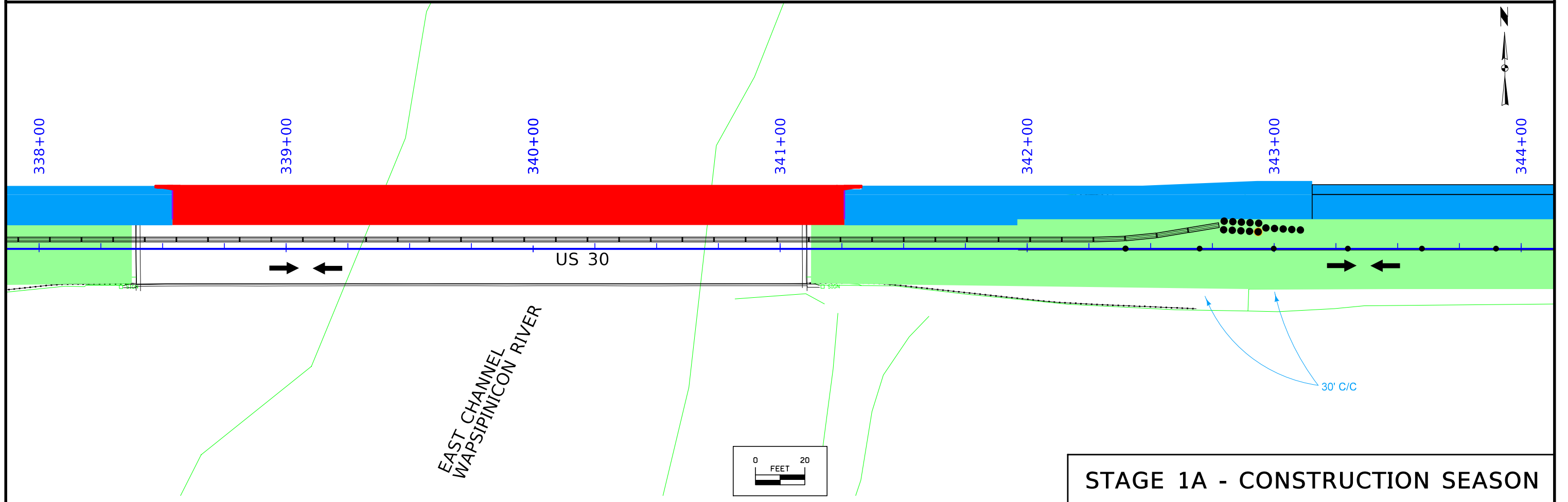
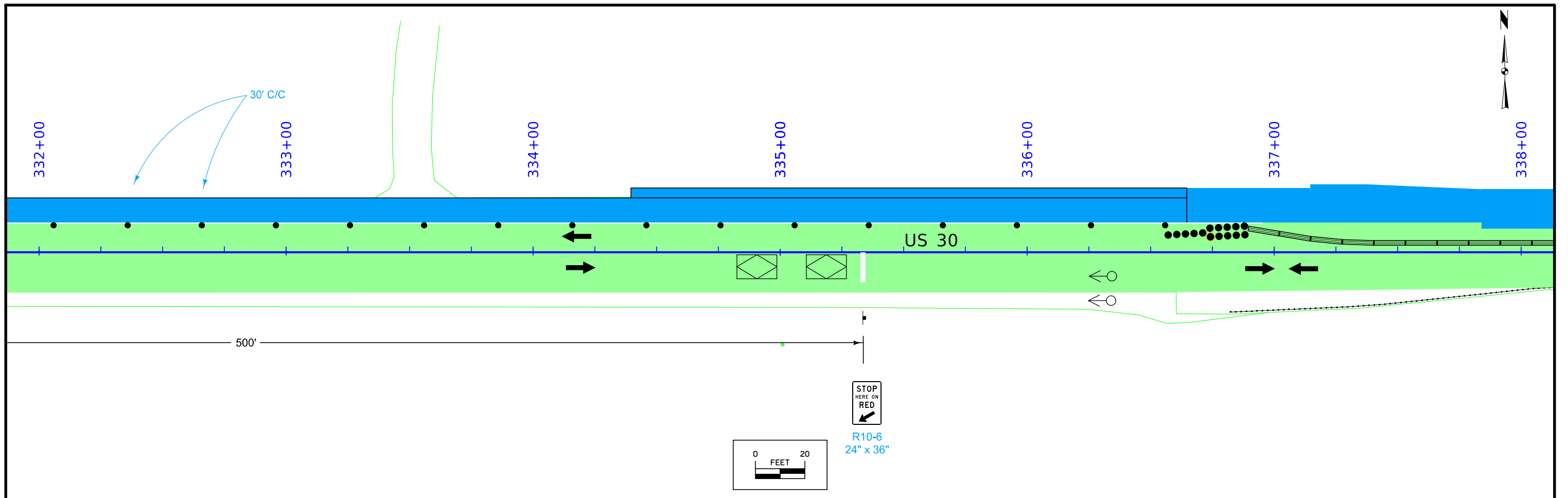


**STAGE 1A - CONSTRUCTION SEASON**

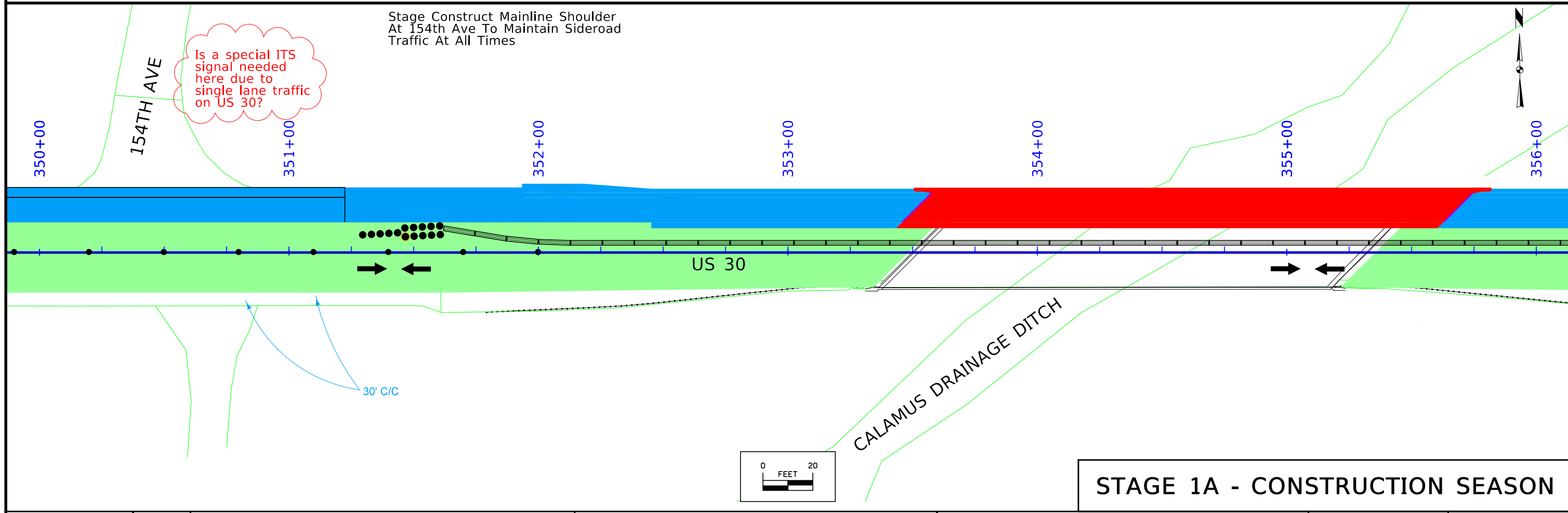
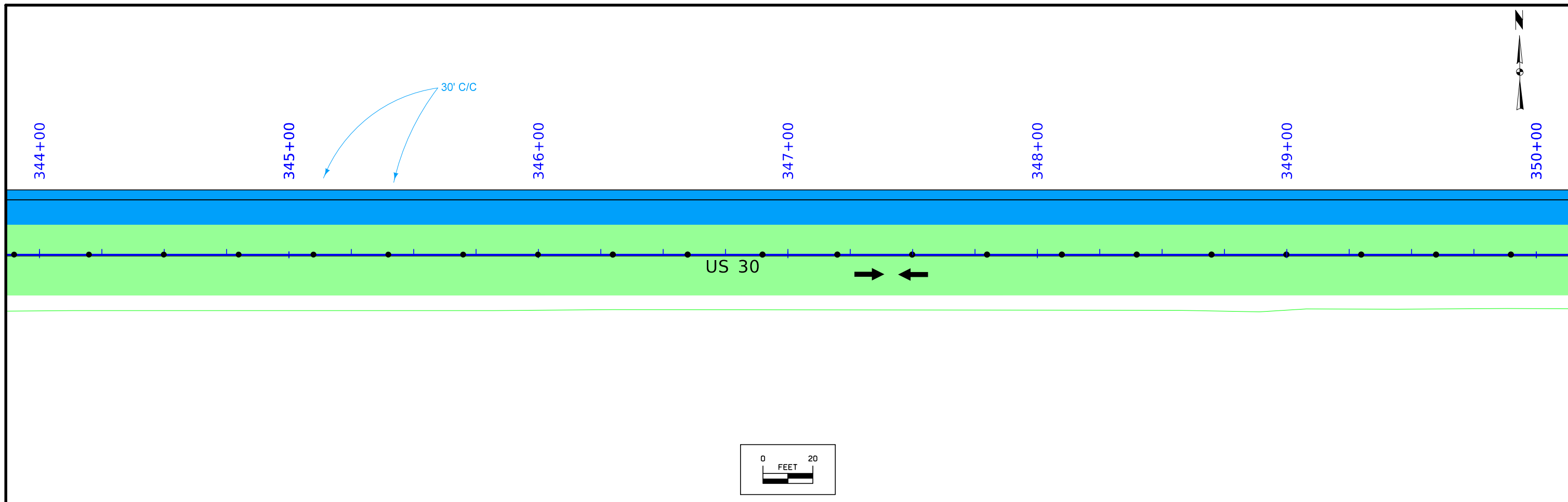




**STAGE 1A - CONSTRUCTION SEASON**

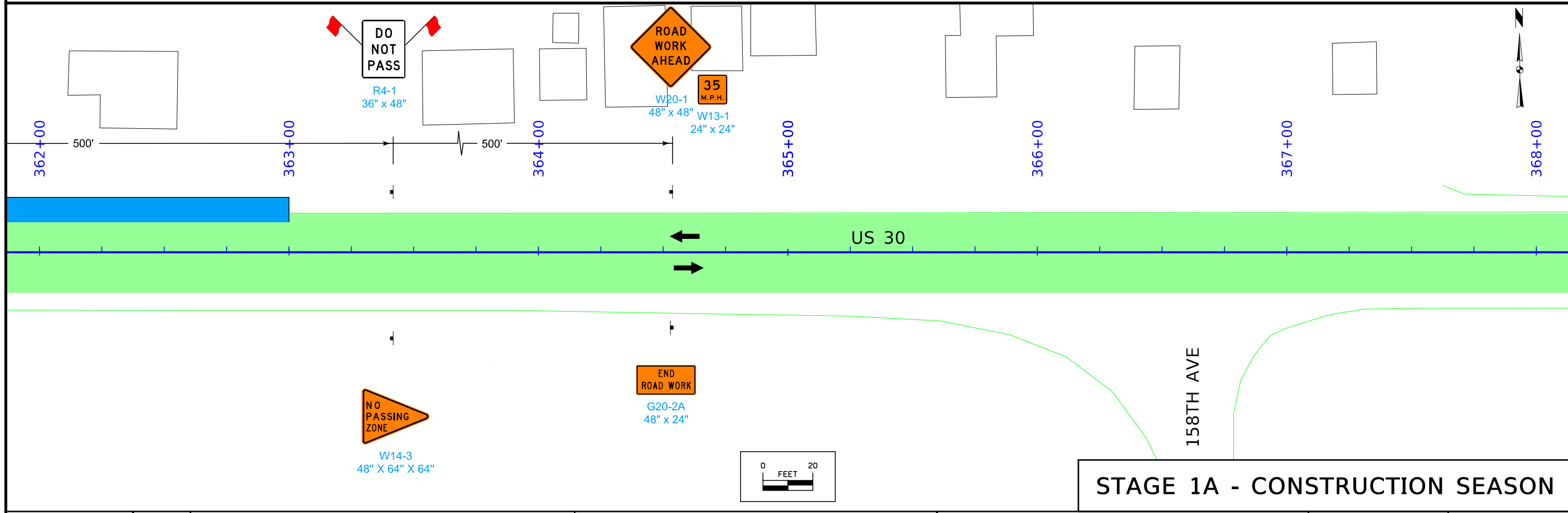
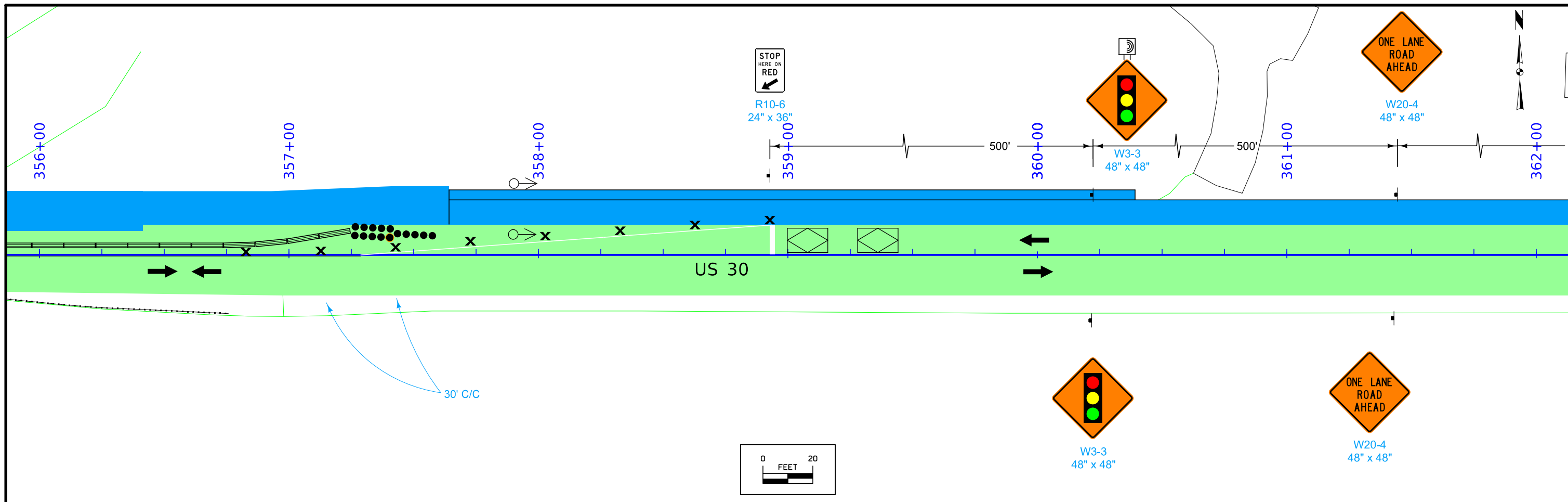


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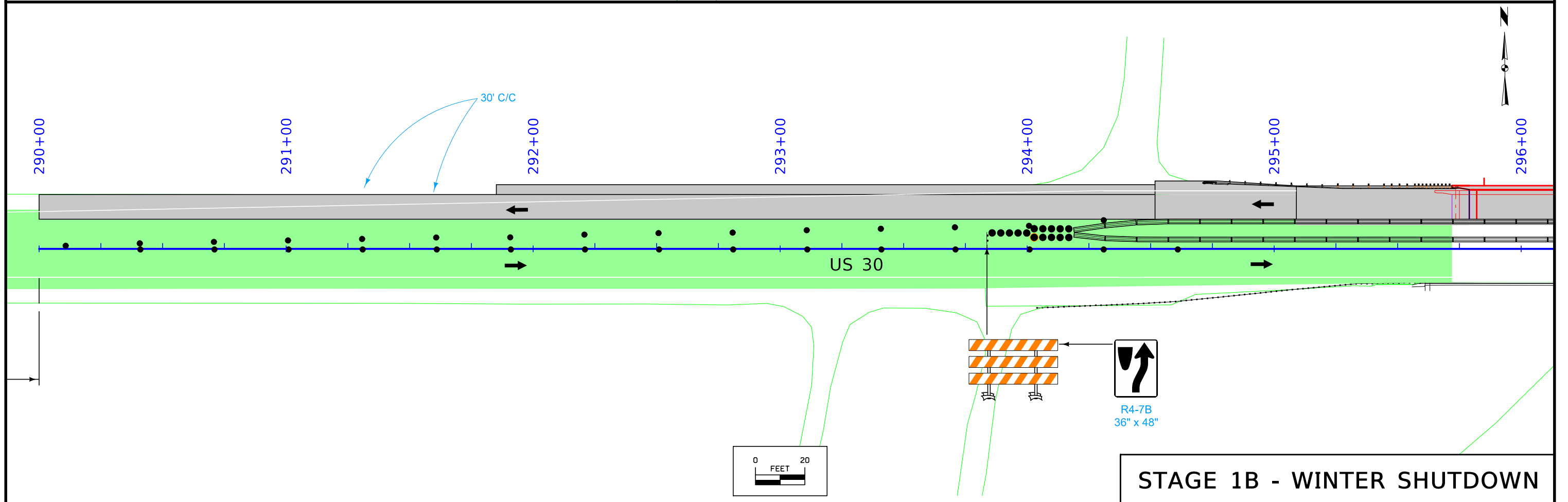
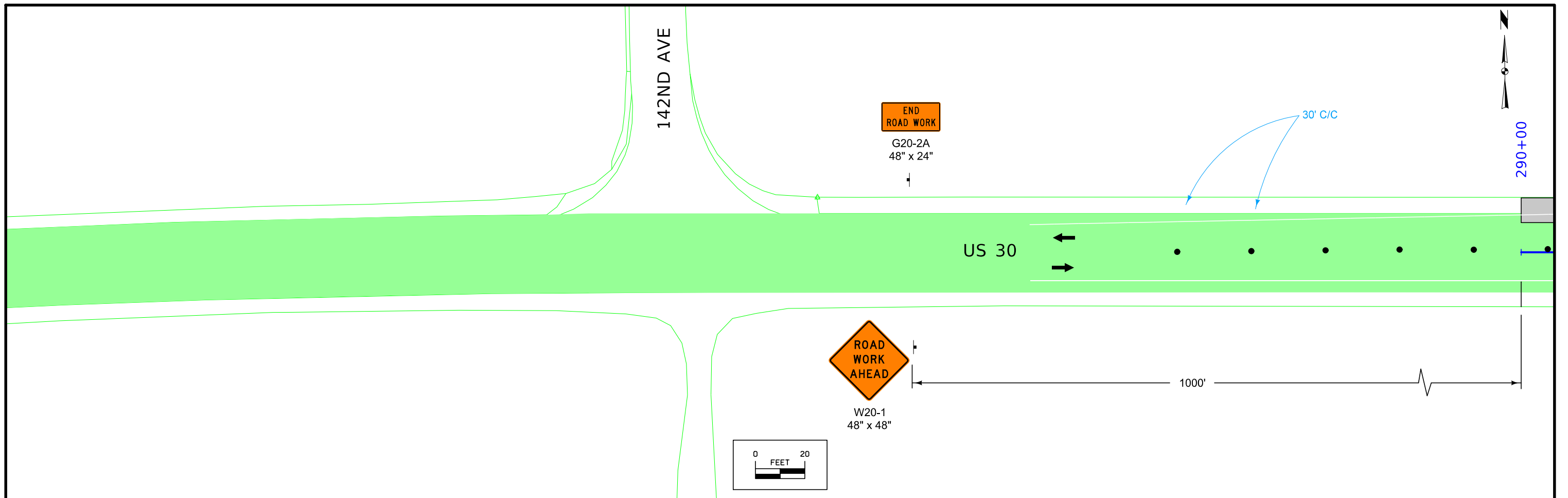


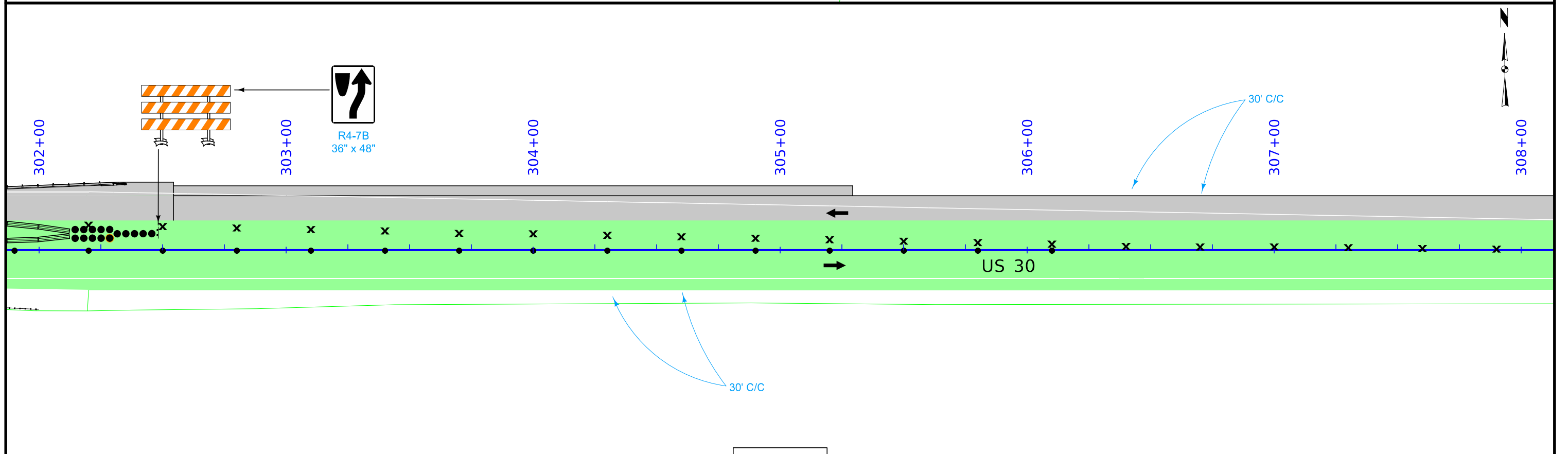
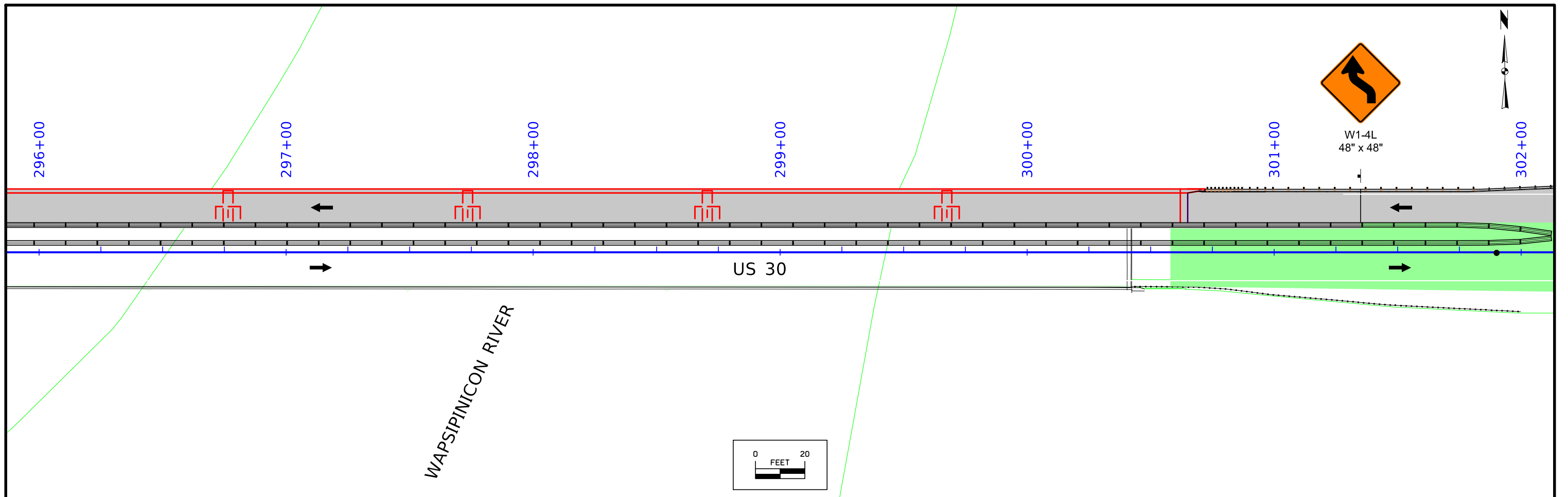
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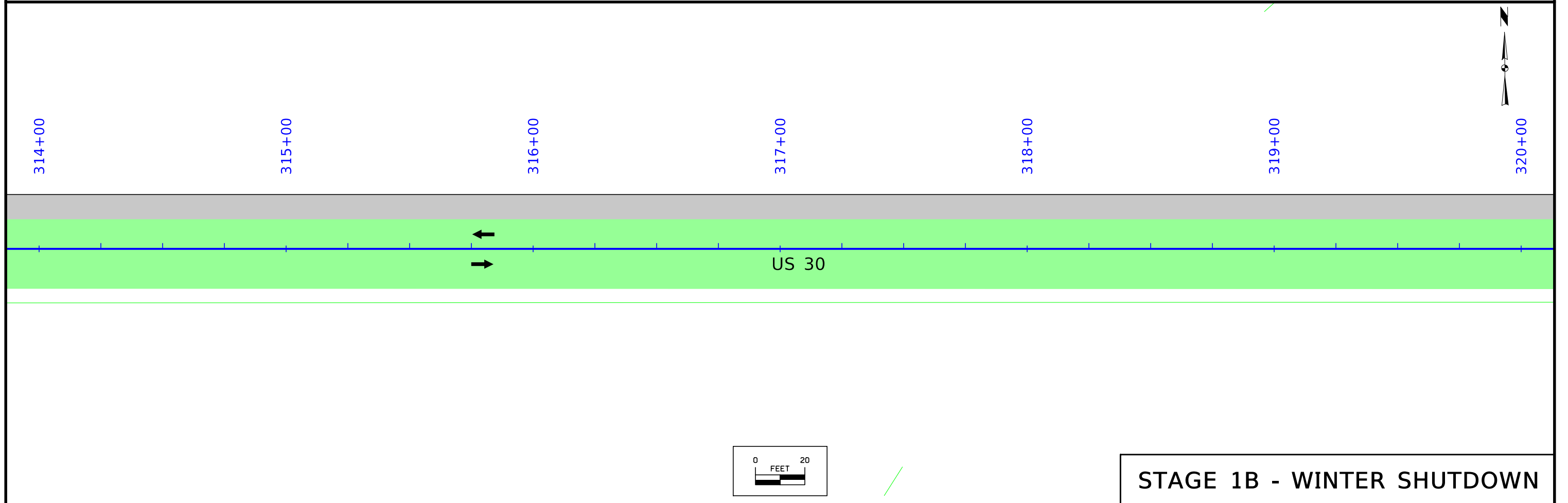
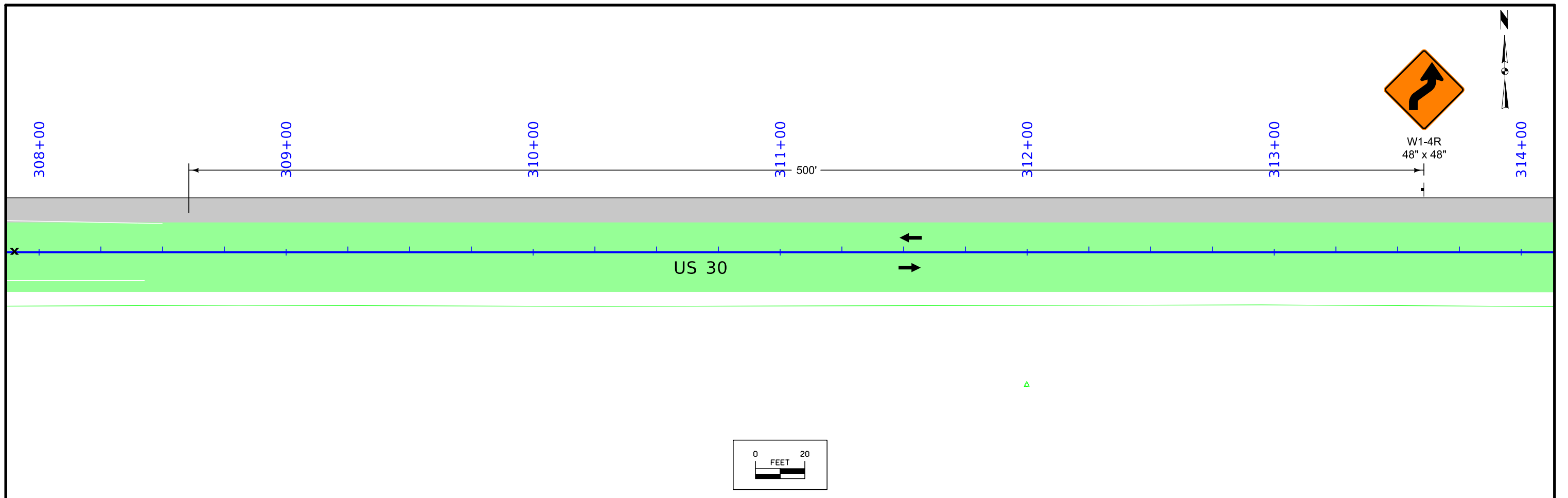


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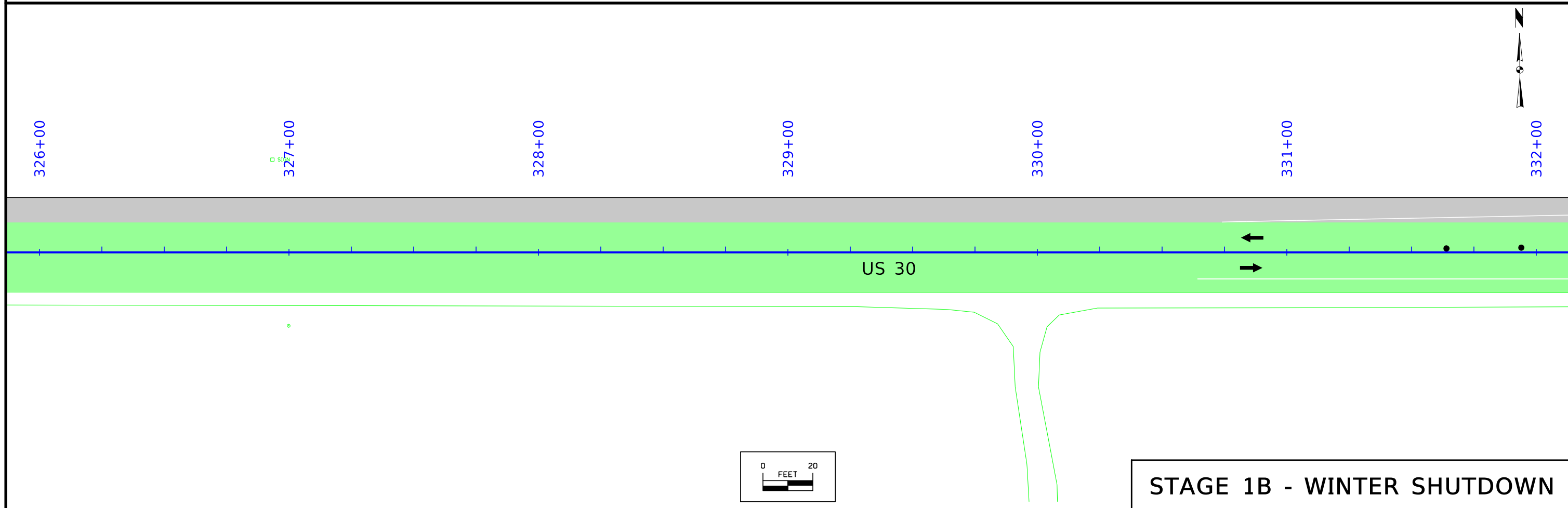
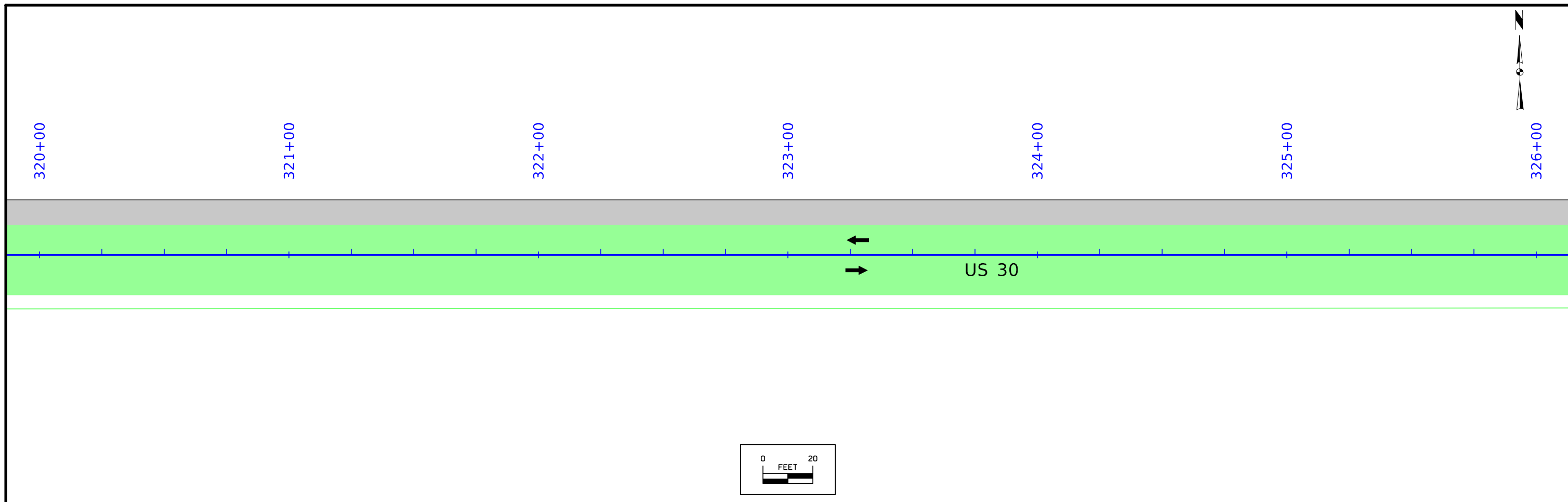




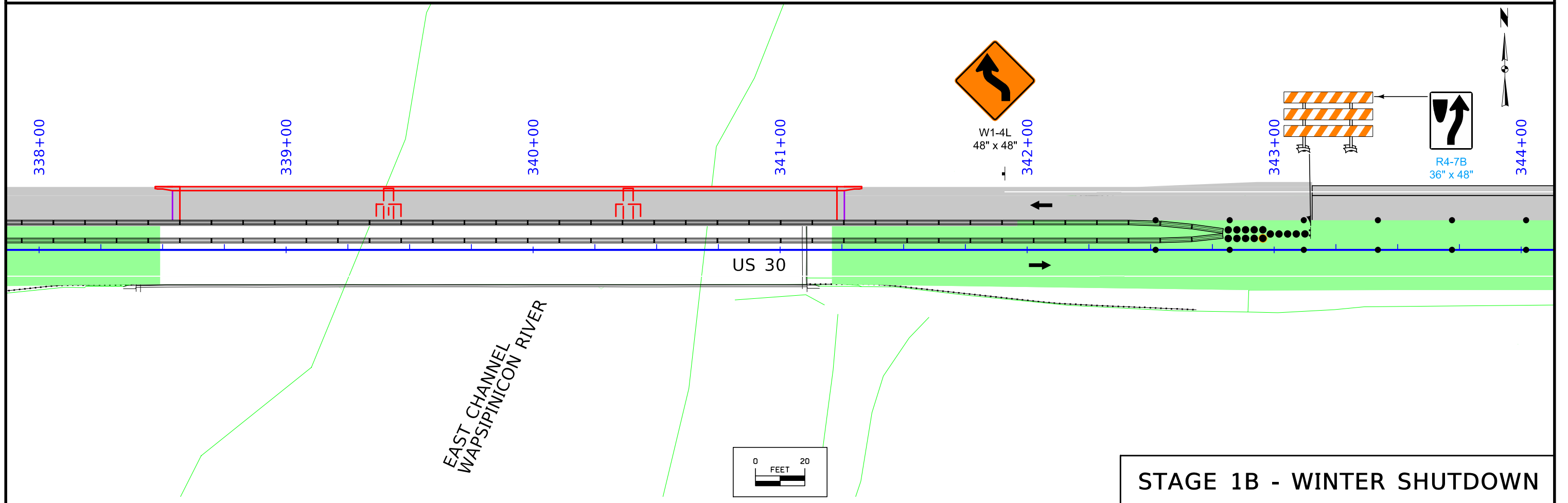
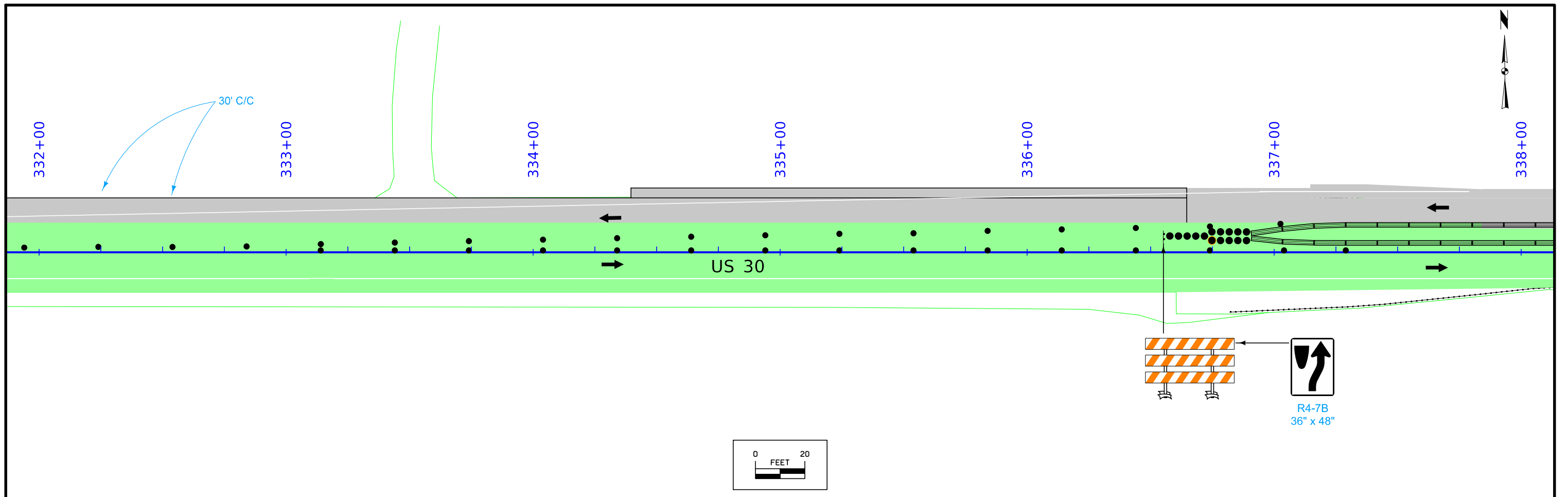
**STAGE 1B - WINTER SHUTDOWN**



**STAGE 1B - WINTER SHUTDOWN**

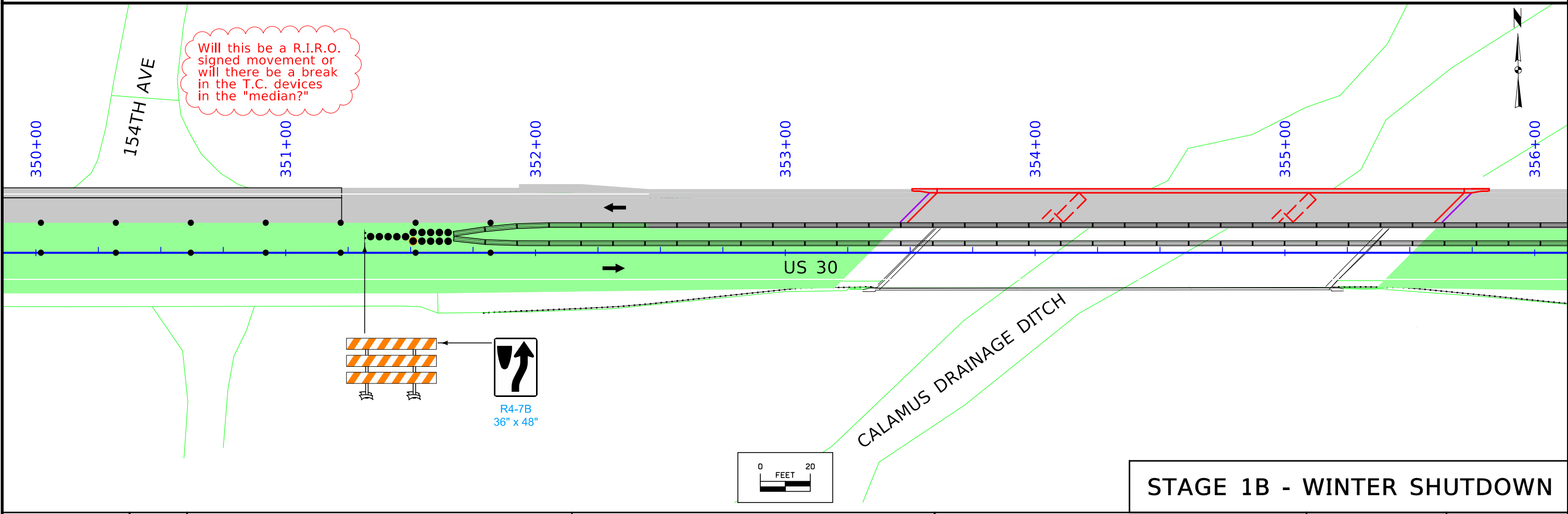
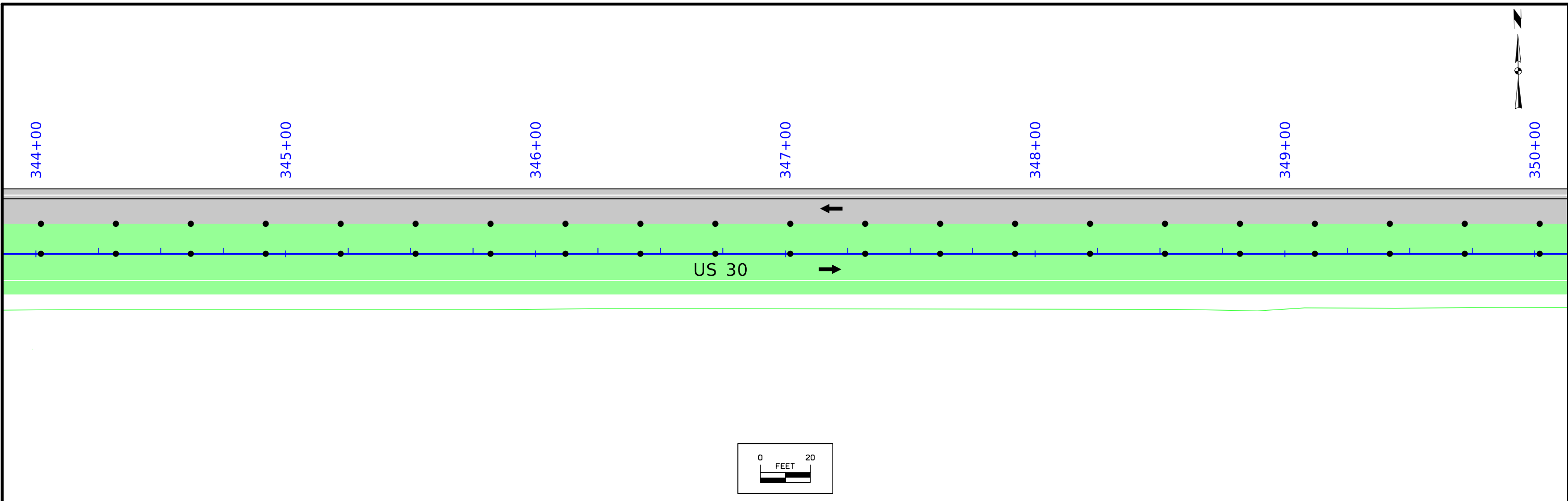


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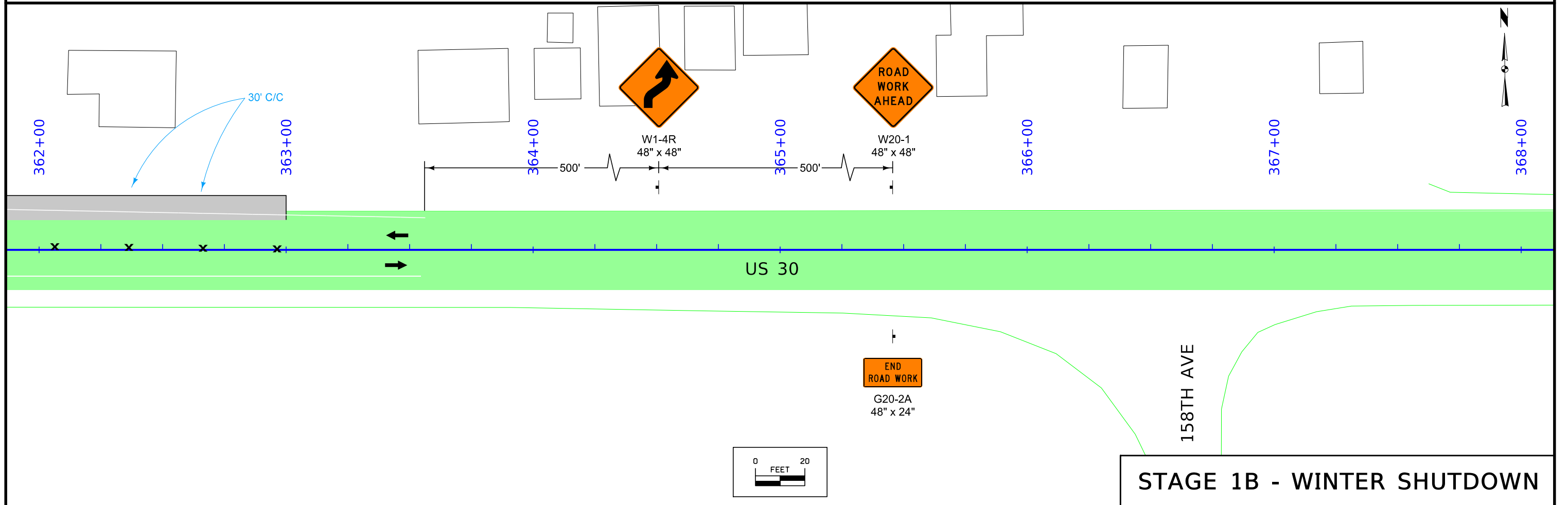
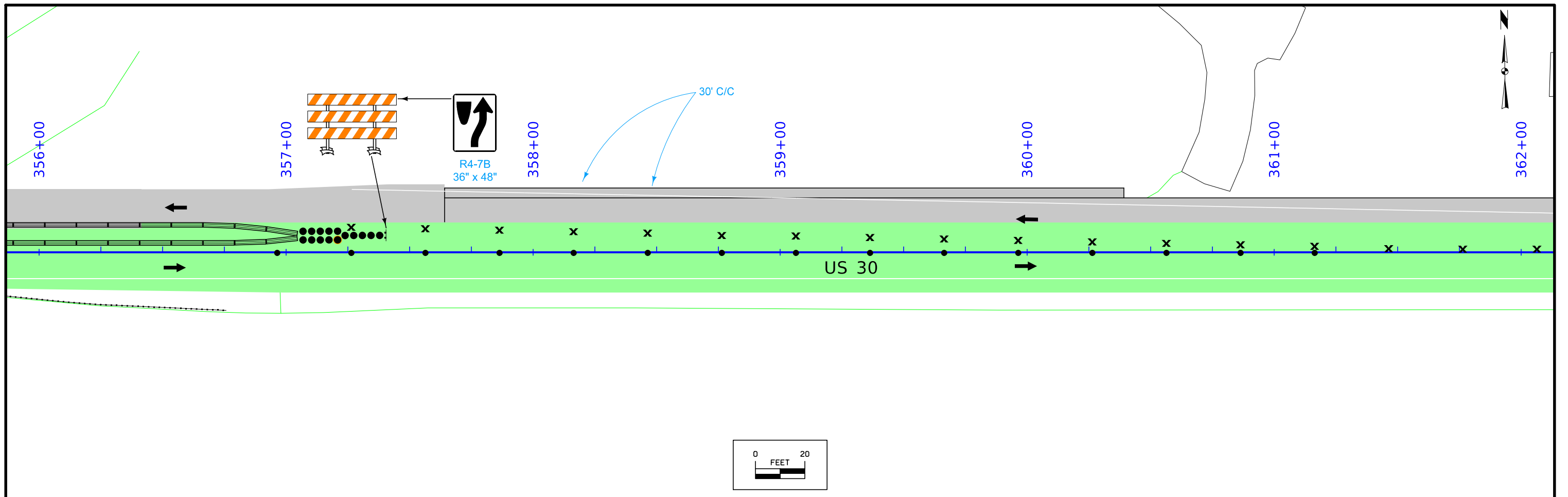


EAST CHANNEL  
WAPSIPINICON RIVER

**STAGE 1B - WINTER SHUTDOWN**

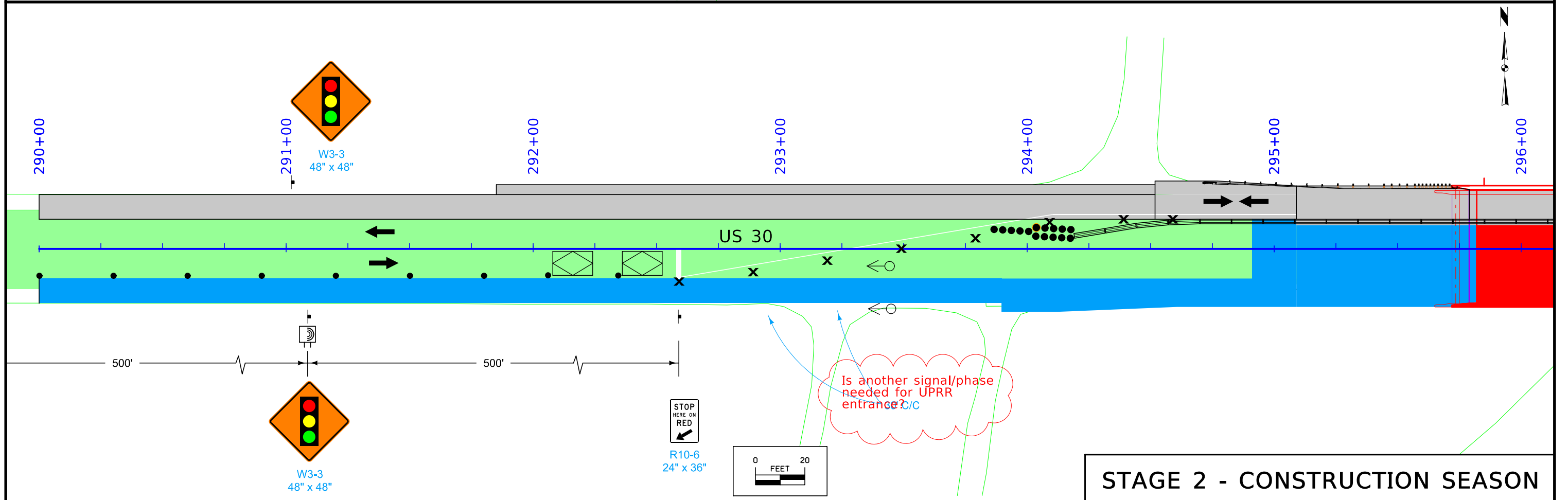
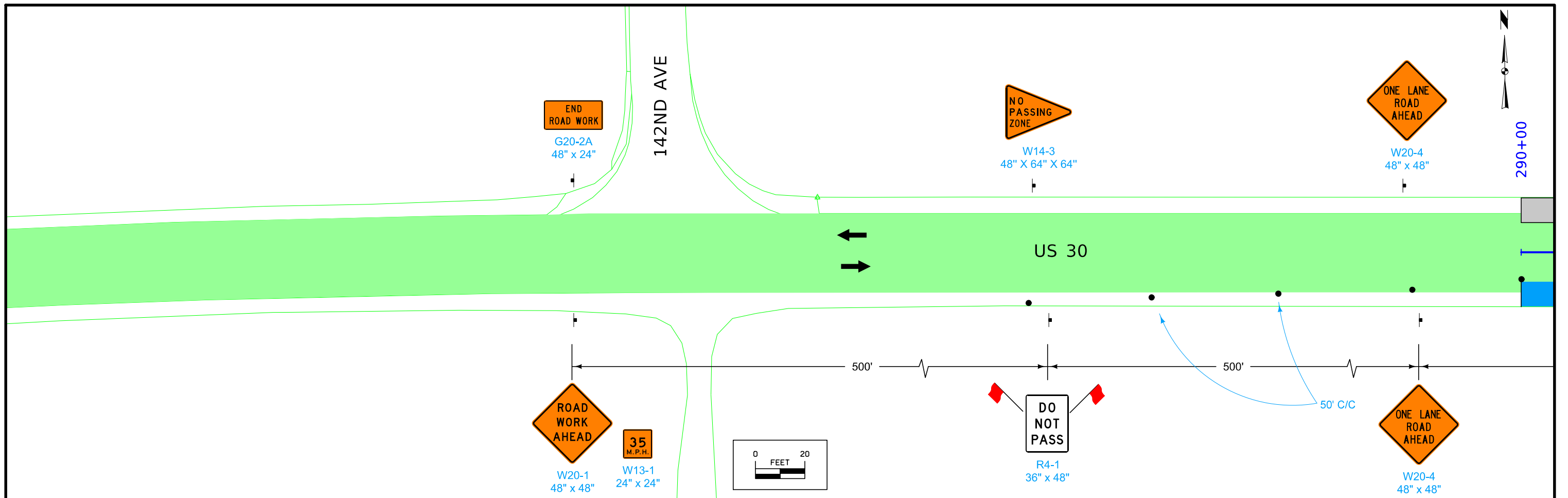


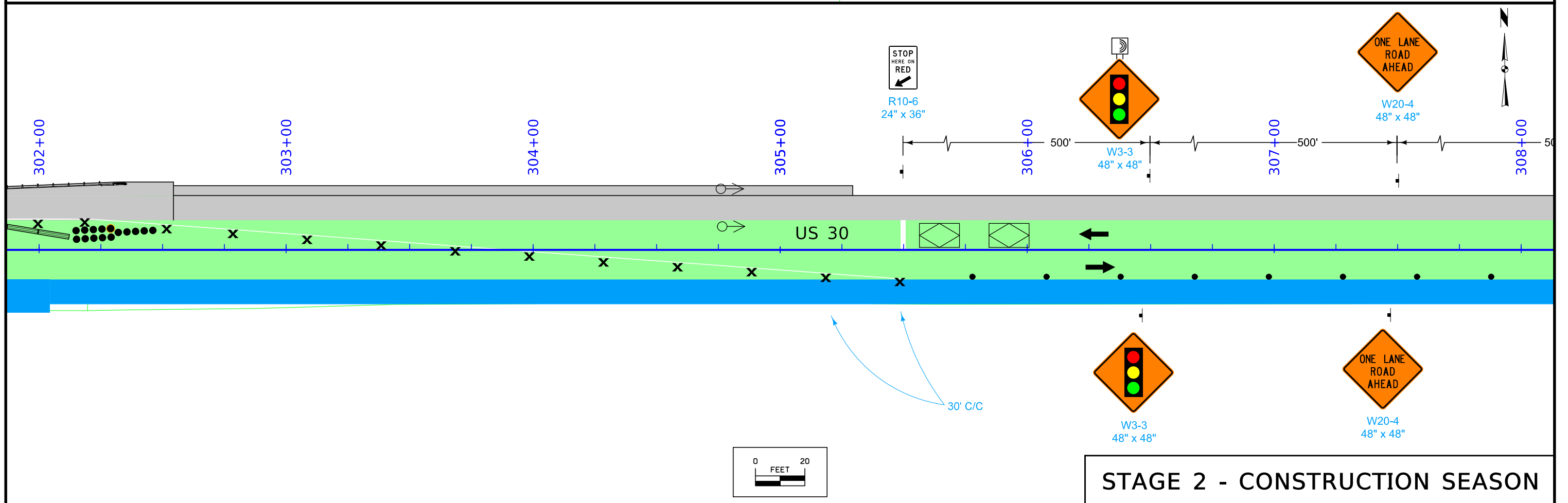
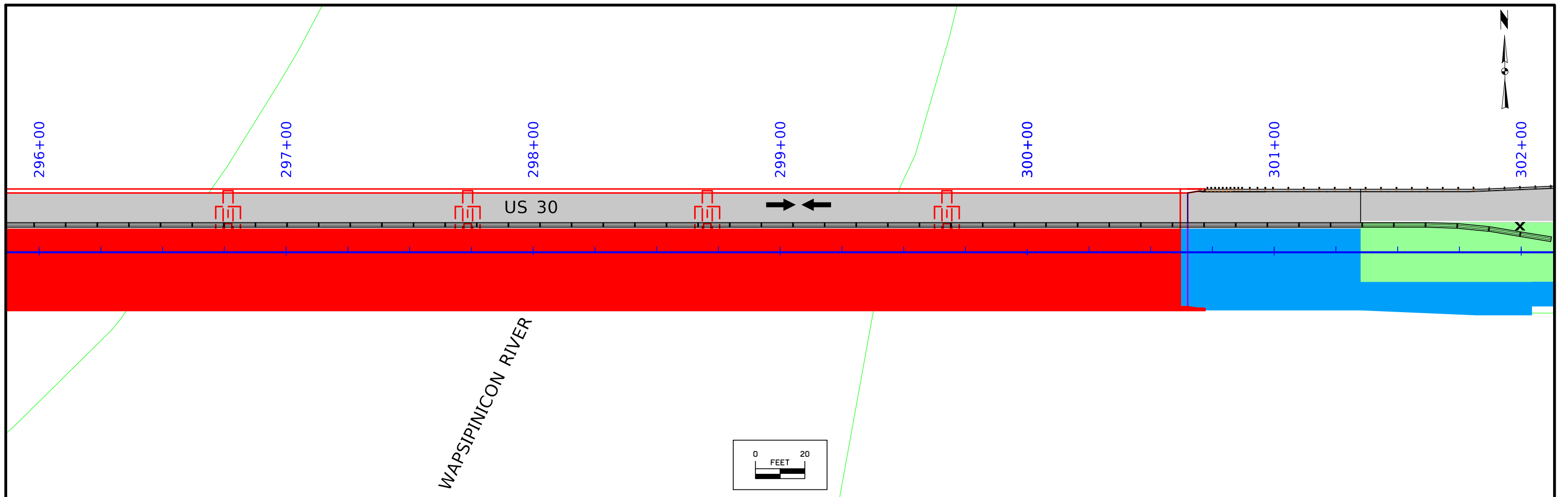
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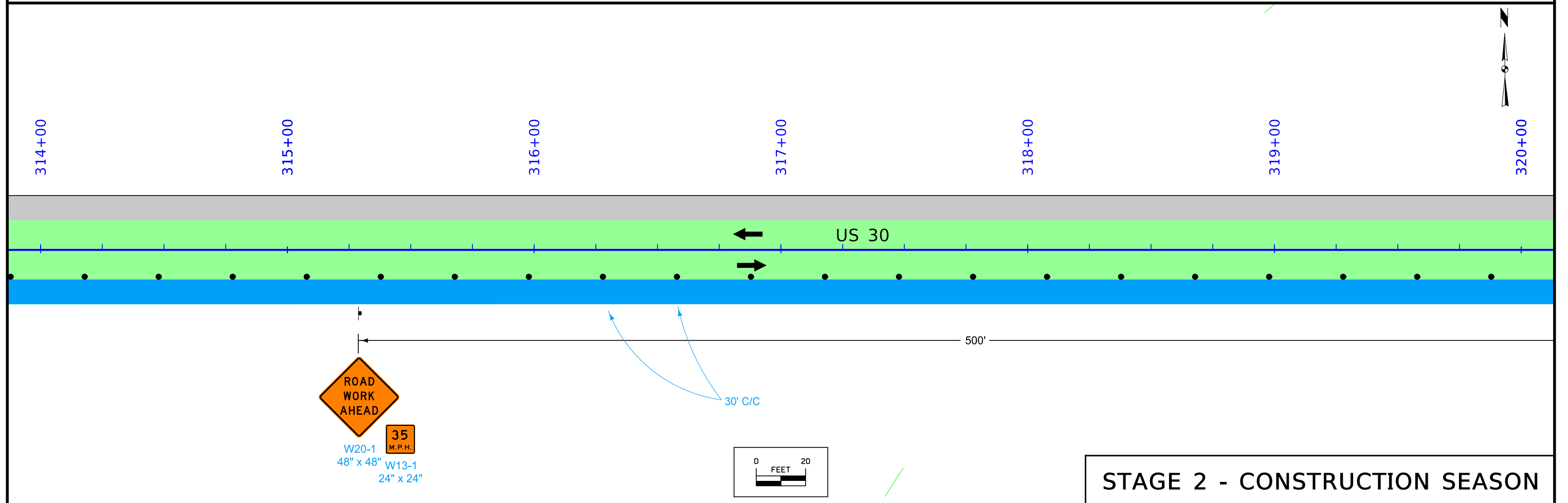
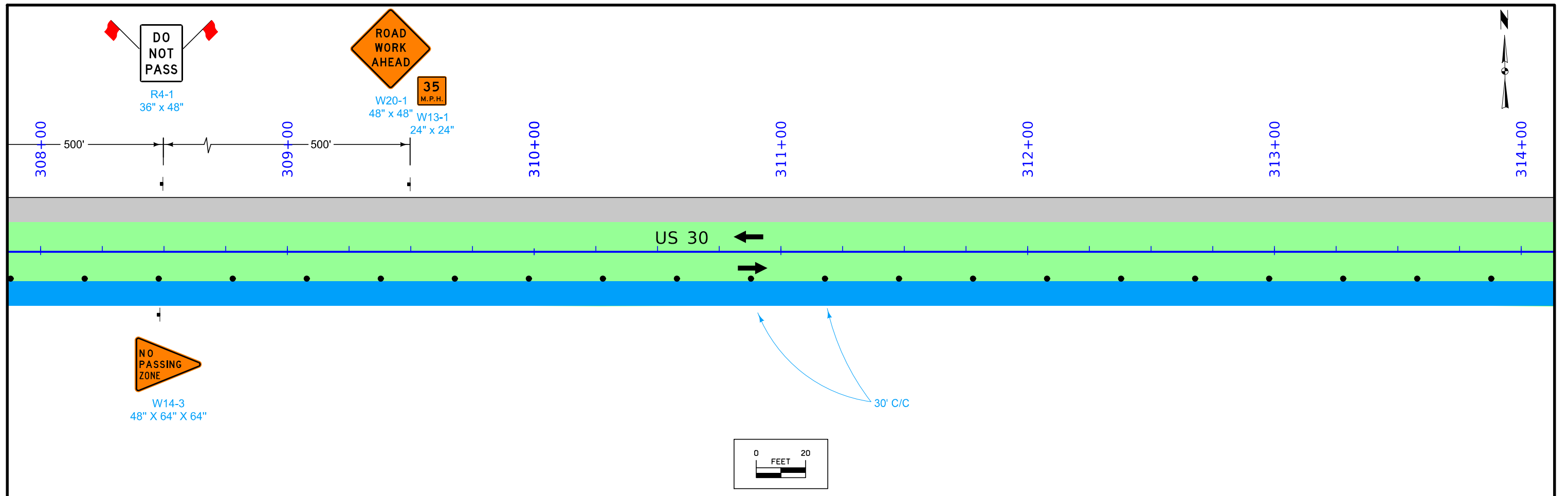


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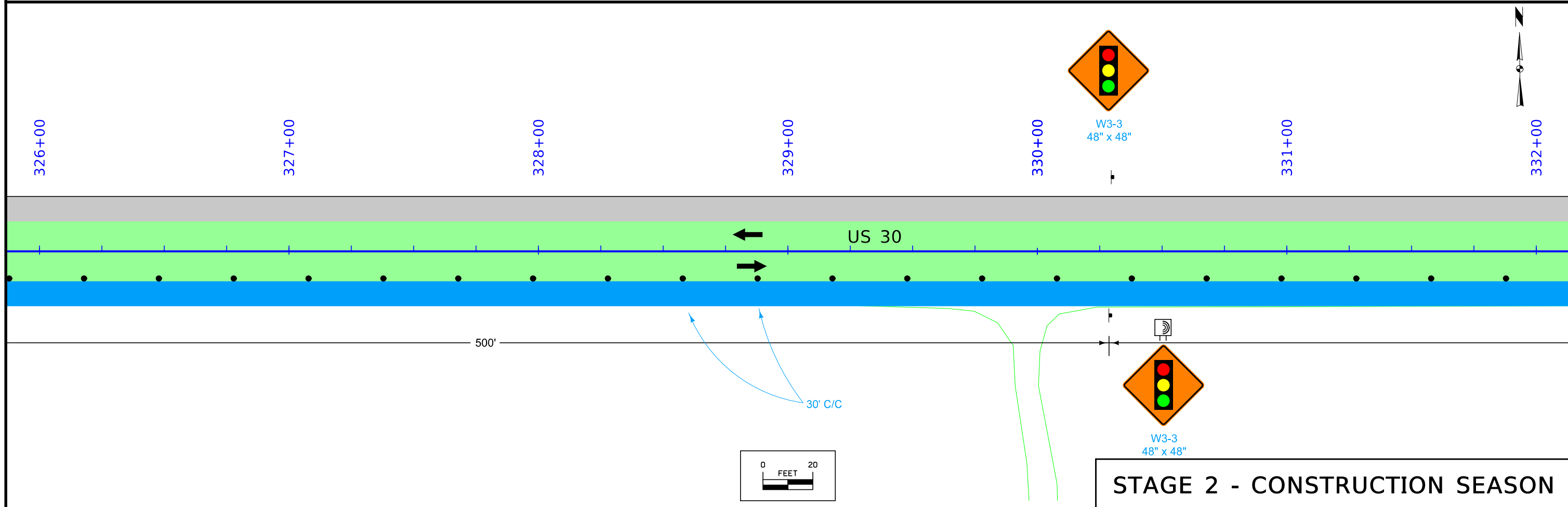
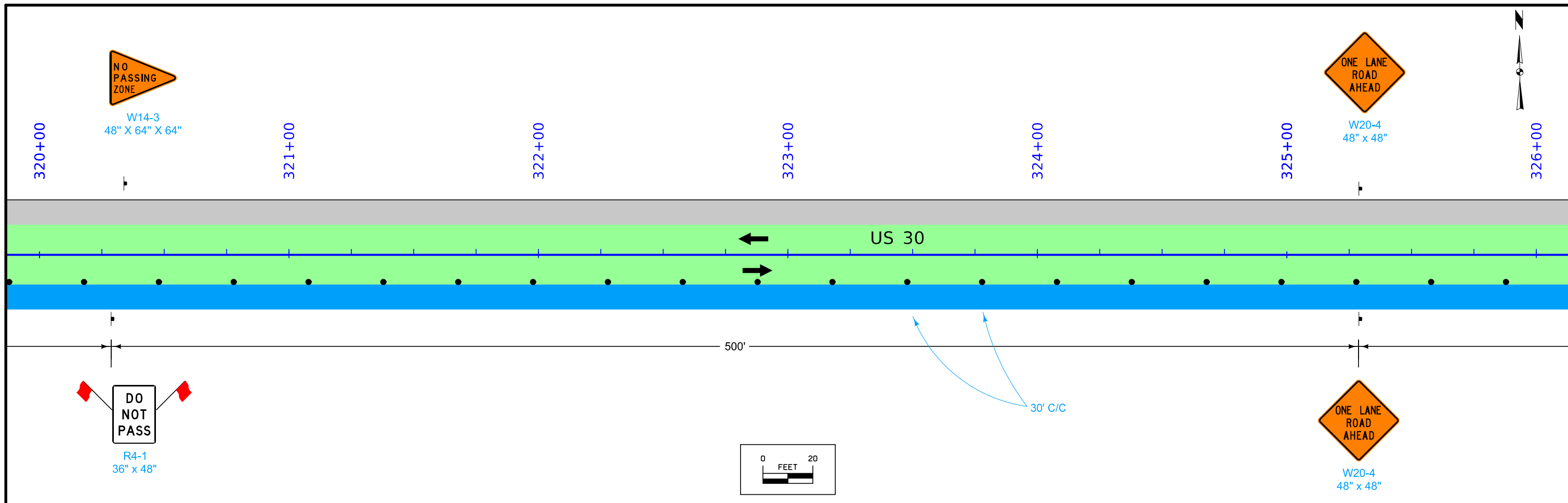




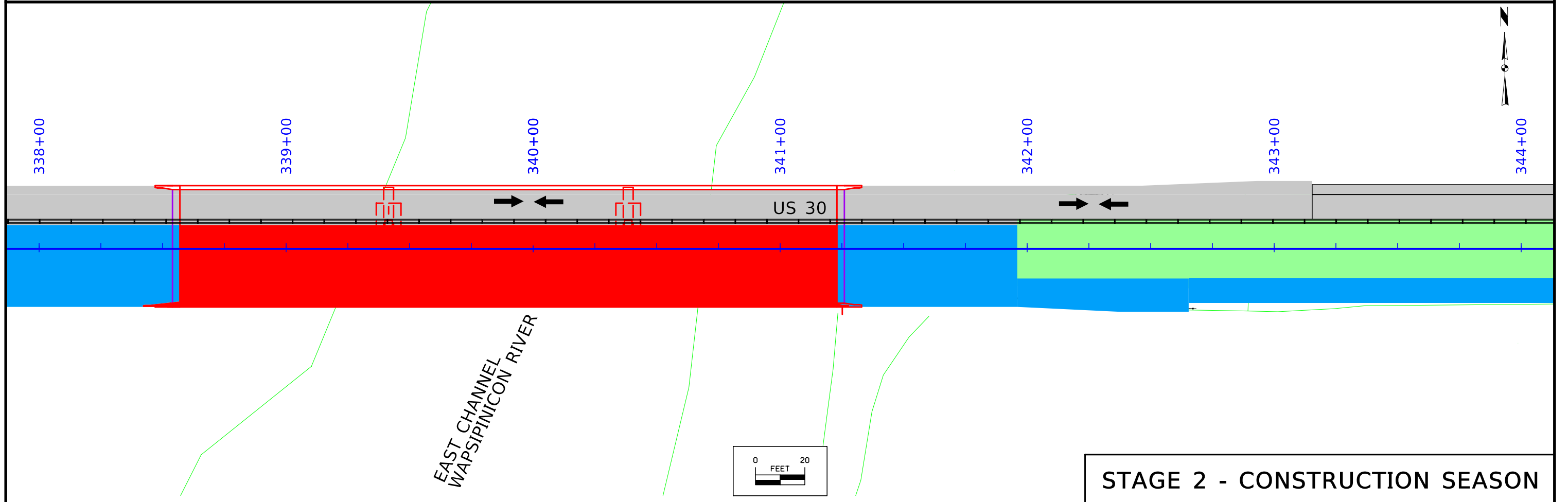
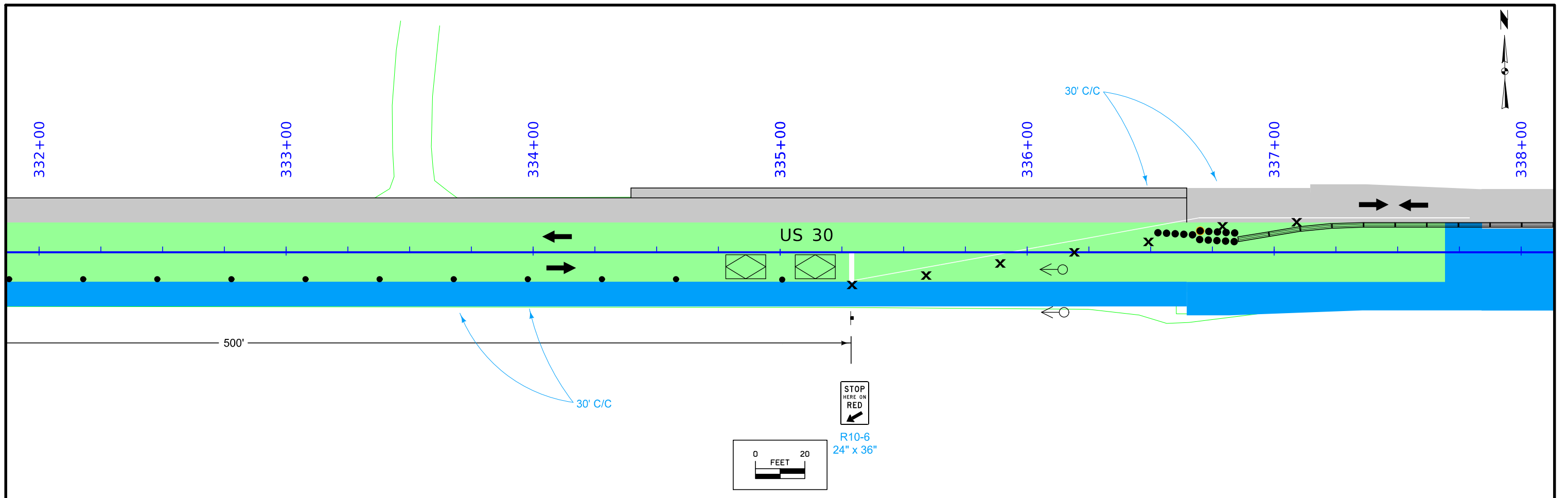




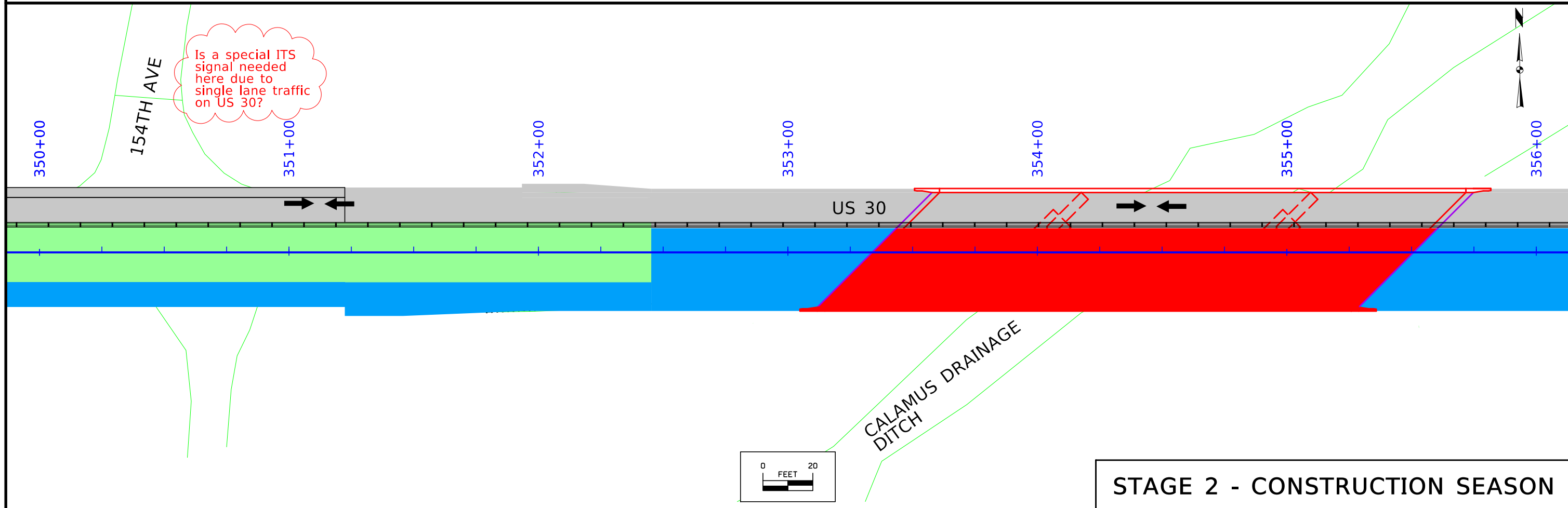
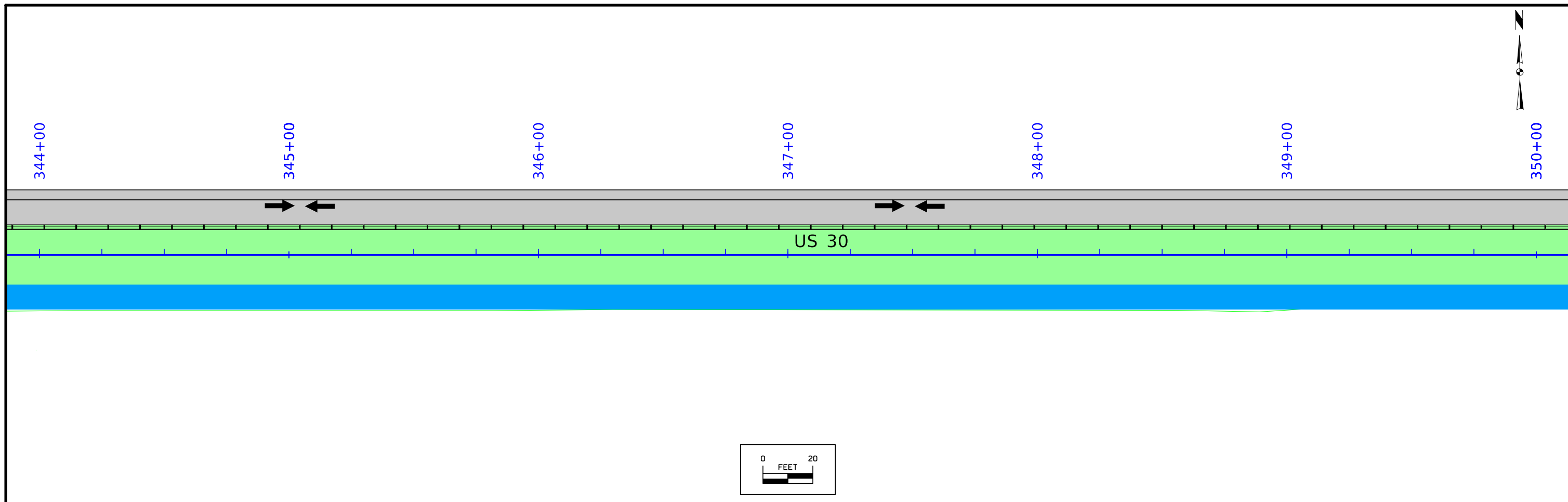
**STAGE 2 - CONSTRUCTION SEASON**



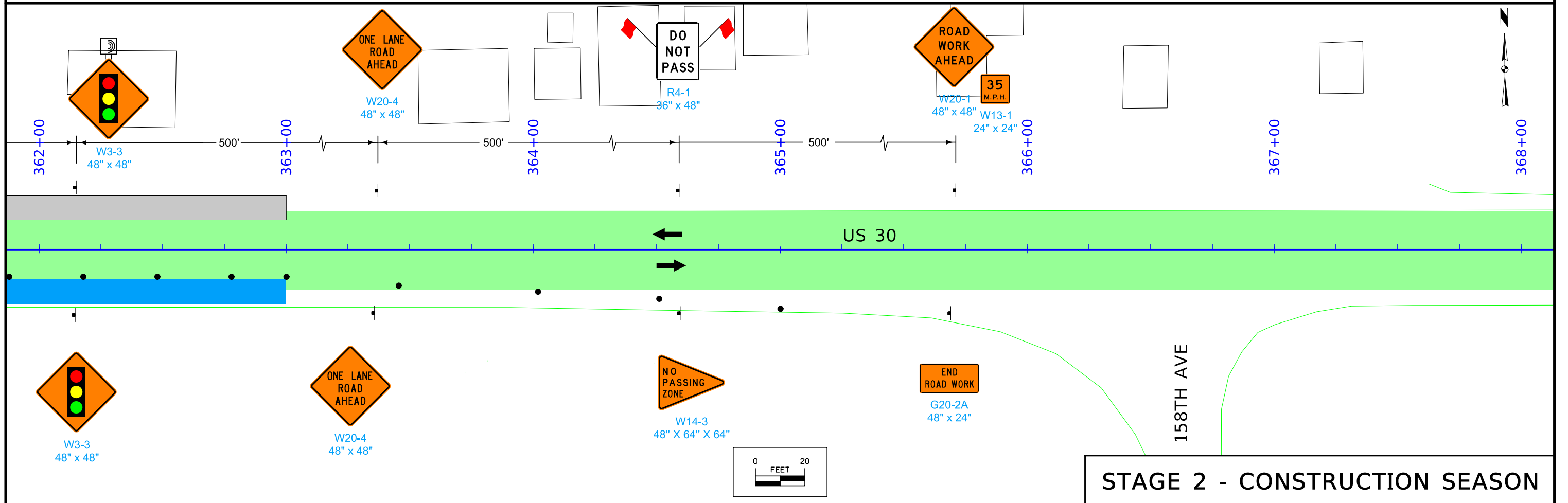
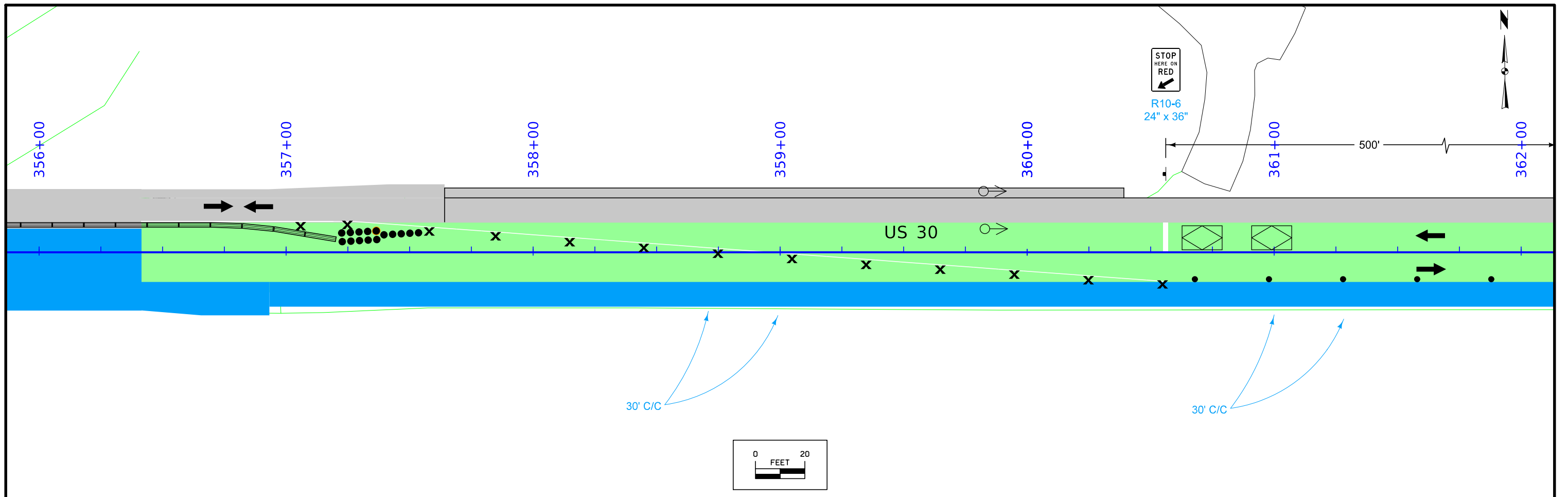
**STAGE 2 - CONSTRUCTION SEASON**



**STAGE 2 - CONSTRUCTION SEASON**



**STAGE 2 - CONSTRUCTION SEASON**



**POLLUTION PREVENTION PLAN**

This project is regulated by the requirements of the Iowa Department of Natural Resources (DNR) National Pollutant Discharge Elimination System (NPDES) General Permit No. 2 OR an Iowa Department of Natural Resources (DNR) National Pollutant Discharge Elimination System (NPDES) individual storm water permit. The Contractor shall carry out the terms and conditions of this permit and the Pollution Prevention Plan (PPP).

This Base PPP includes information on Roles and Responsibilities, Project Site Description, Controls, Maintenance Procedures, Inspection Requirements, Non-Storm Water Controls, Potential Sources of Off Right-of-Way Pollution, and Definitions. This plan references other documents rather than repeating the information contained in the documents. A copy of this Base Pollution Prevention Plan, amended as needed during construction, will be readily available for review.

All contractors shall conduct their operations in a manner that controls pollutants, minimizes erosion, and prevents sediments from entering waters of the state and leaving the highway right-of-way. The Contractor shall be responsible for compliance and implementation of the PPP for their entire contract. This responsibility shall be further shared with subcontractors whose work is a source of potential pollution as defined in this PPP.

**I. ROLES AND RESPONSIBILITIES**

- A. Designer:
  1. Prepares Base PPP included in the project plan.
  2. Prepares Notice of Intent (NOI) submitted to Iowa DNR.
  3. Is signature authority on the Base PPP. If consultant designed, signature from Contracting Authority is also required.
- B. Contractor:
  1. Signs a co-permittee certification statement adhering to the requirements of the NPDES permit and this PPP. All co-permittees are legally required under the Clean Water Act and the Iowa Administrative Code to ensure compliance with the terms and conditions of this PPP.
  2. Designates a Water Pollution Control Manager (WPCM), who has the duties and responsibilities as defined in Section 2602 of the Standard Specifications.
  3. Submits an Erosion Control Implementation Plan (ECIP) and ECIP updates according to Section 2602 of the Standard Specifications.
  4. Installs and maintains appropriate controls. This work may be subcontracted as documented through Subcontractor Request Forms (Form 830231).
  5. Supervises and implements good housekeeping practices according to Paragraph III, C, 2.
  6. Conducts joint required inspections of the site with inspection staff. When Contractor is not mobilized on site, Contractor may delegate this responsibility to a trained or certified subcontractor. Contracting Authority also may waive joint inspection requirement during winter shutdown. In both circumstances, WPCM (or trained or certified delegate from the Contractor) is still responsible to review and sign inspection reports.
  7. Complies with training and certification requirements of Section 2602 of the Standard Specifications.
  8. Submits amended PPP site map according to Section 2602 of the Standard Specifications.
- C. Subcontractors:
  1. Sign a co-permittee certification statement adhering to the requirements of the NPDES permit and this PPP if: responsible for sediment or erosion controls; involved in land disturbing activities; or performing work that is a source of potential pollution as defined in this PPP. Subcontracted work items are identified in Subcontractor Request Forms (Form 830231). All co-permittees are legally required under the Clean Water Act and the Iowa Administrative Code to ensure compliance with the terms and conditions of this PPP.
  2. Implement good housekeeping practices according to Paragraph III, C, 2.
- D. RCE/Project Engineer:
  1. Is Project Storm Water Manager.
  2. On projects where DOT is the Contracting Authority, is current with erosion control training or certification.
  3. Takes actions necessary to ensure compliance with storm water requirements including, where appropriate, issuing stop work orders, and directing additional inspections at construction project sites that are experiencing problems with achieving permit compliance.
  4. Orders the taking of measures to cease, correct, prevent, or minimize the consequences of non-compliance with the storm water requirements of the Applicable Permit.
  5. Supervises all work necessary to meet storm water requirements at the Project, including work performed by contractors and subcontractors.
  6. Requires employees, contractors, and subcontractors to take appropriate responsive action to comply with storm water requirements, including requiring any such person to cease or correct a violation of storm water requirements, and to order or recommend such other actions as necessary to meet storm water requirements.
  7. Is familiar with the Project PPP and storm water site map.
  8. On projects where DOT is Contracting Authority, is responsible for periodically monitoring inspection reports to determine whether deficiencies identified in inspection reports were adequately and timely addressed, and if not, has the authority and responsibility to direct immediate actions to correct the deficiencies.
  9. Is the point of contact for the Project for regulatory officials, Inspector, contractors, and subcontractors regarding storm water requirements.
  10. Is signature authority on Notice of Discontinuation.
  11. Maintains an up-to-date record of contractors, subcontractors, and subcontracted work items through Subcontractor Request Forms (Form 830231).
  12. Makes information to determine permit compliance available to the DNR upon their request.
- E. Inspector:
  1. Updates PPP through fieldbook entries and storm water site inspection reports if there is a change in design, construction, operation, or maintenance which has a significant effect on the discharge of pollutants from the project.
  2. Makes information to determine permit compliance available to the DNR upon their request.
  3. Conducts joint required inspections of the site with the contractor/subcontractor.
  4. Completes an inspection report after each inspection.
  5. Is signature authority on storm water inspection reports.

**II. PROJECT SITE DESCRIPTION**

- A. This Pollution Prevention Plan (PPP) is for the construction of a Bridge Replacement and Shoulder Widening.
- B. This PPP covers approximately 11.8 acres with an estimated 11.8 acres being disturbed. The portion of the PPP covered by this contract has 11.8 acres disturbed.
- C. The PPP is located in an area of one soil association (Sparta - Chelsea)  
The estimated weighted average runoff coefficient number for this PPP after completion will be 0.33
- D. Storm Water Site Map is located in the R sheets. Proposed slopes are shown in cross sections, details, or standard road plans. Supplemental information is located in the Tabulations in the C or CE sheets.
- E. The base storm water site map is amended by contract modifications and progress payments (fieldbook entries) of completed erosion control work. Also, due to project phasing, erosion and sediment controls shown on project plans may not be installed until needed, based on site conditions. For example, silt fence ditch checks will typically not be installed until the ditch has been installed. Installed locations may also be modified from tabulation locations by field staff. Installed locations will be

**POLLUTION PREVENTION PLAN**

documented by fieldbook entries and amended PPP site map.  
F. Runoff from this work will flow into the Wapsipinicon River and Calamus Creek.

**III. CONTROLS**

- A. The Contractor's ECIP specified in Article 2602.03 of the Standard Specifications for accomplishment of storm water controls should clearly describe the intended sequence of major activities, and for each activity define the control measure and the timing during the construction process that the measure will be implemented.
- B. Preserve vegetation in areas not needed for construction.
- C. Sections 2601 and 2602 of the Standard Specifications define requirements to implement erosion and sediment control measures. Actual quantities used and installed locations may vary from the Base PPP and amendment of the plan will be documented via fieldbook entries, amended PPP site map, or by contract modification. Additional erosion and sediment control items may be required as determined by the inspector and/or contractor during storm water site inspections. If the work involved is not applicable to any contract items, the work will be paid for according to Article 1109.03 paragraph B of the Standard Specifications.
  - 1. EROSION AND SEDIMENT CONTROLS
    - a. Stabilization Practices
      - 1) Site plans will ensure that existing vegetation or natural buffers are preserved where attainable and disturbed portions of the site will be stabilized.
      - 2) Initialize stabilization of disturbed areas immediately after clearing, grading, excavating, or other earth disturbing activities have:
        - a) Permanently ceased on any portion of the site, or
        - b) Temporarily ceased on any portion of the site and will not resume for a period exceeding 14 calendar days.
      - 3) Staged permanent and/or temporary stabilizing seeding and mulching shall be completed as the disturbed areas are completed. Incomplete areas shall be stabilized according to paragraph III, C, 1, a, 2, b above.
      - 4) Permanent and Temporary Stabilization practices to be used for this project are located in the storm water site map, Estimated Project Quantities (100-0A, 100-1A, or 100-1C), and Estimate Reference Information (100-4A) located in the C or R sheets. Typical drawings detailing construction of the practices to be used on this project are referenced in the Standard Road Plans Tabulation (105-4) in the C or R sheets.
      - 5) Preservation of existing vegetation within right-of-way or easements will act as vegetative buffer strips.
      - 6) Preservation of topsoil: Bid items to be used for this project are located in the Estimated Project Quantities (100-0A, 100-1A, or 100-1C) and Estimate Reference Information (100-4A) located in the C or R sheets. Additional information may be found in the Tabulations in the C or T Tabulation sheets, or is referenced in Section 2105 of the Standard Specifications.
    - b. Structural Practices
      - 1) Structural practices will be implemented to divert flows from exposed soils and detain or otherwise limit runoff and the discharge of pollutants from exposed areas of the site. Additionally, structural practices may include: silt basins that provide 3600 cubic feet of storage per acre drained or equivalent sediment controls, outlet structures that withdraw water from surface when discharging basins, and controls to direct storm water to vegetated areas.
      - 2) Structural practices to be used for this project are located in the storm water site map, Estimated Project Quantities (100-0A, 100-1A, or 100-1C), and Estimate Reference Information (100-4A) located in the C or R sheets, as well as all other item specific Tabulations. Typical drawings detailing construction of the devices to be used on this project can be found on the B or R sheets or are referenced in the Standard Road Plans Tabulation (105-4) located in the C or R sheets.
    - c. Storm Water Management
 

Measures shall be installed during the construction process to control pollutants in storm water discharges that will occur after construction operations have been completed. This may include velocity dissipation devices at discharge locations and along length of outfall channel as necessary to provide a non-erosion velocity flow from structure to water course. If included with this project, these items are located in the storm water site map and Estimated Project Quantities (100-0A, 100-1A, or 100-1C) and Estimate Reference Information (100-4A) located in the C or R sheets, as well as all other item specific Tabulations. Typical drawings detailing construction of the practices to be used on this project are referenced in the Standard Road Plans Tabulation. The installation of these devices may be subject to Section 404 of the Clean Water Act.
  - 2. OTHER CONTROLS
 

Contractor disposal of unused construction materials and construction material wastes shall comply with applicable state and local waste disposal, sanitary sewer, or septic system regulations. In the event of a conflict with other governmental laws, rules and regulations, the more restrictive laws, rules or regulations shall apply.

    - a. Vehicle Entrances and Exits - Construct and maintain entrances and exits to prevent tracking of sediments onto roadways.
    - b. Material Delivery, Storage and Use - Implement practices to prevent discharge of construction materials during delivery, storage, and use.
    - c. Stockpile Management - Install controls to reduce or eliminate pollution of storm water from stockpiles of soil and paving.
    - d. Waste Disposal - Do not discharge any materials, including building materials, into waters of the state, except as authorized by a Section 404 permit.
    - e. Spill Prevention and Control - Implement chemical spill and leak prevention and response procedures to contain and clean up spills and prevent material discharges to the storm drain system and waters of the state.
    - f. Concrete Residuals and Washout Wastes - Waste shall not be discharged to a surface water and is not allowed to adversely affect a water of the state. Designate temporary concrete washout facilities for rinsing out concrete trucks. Provide directions to truck drivers where designated washout facilities are located. Designated washout areas should be located at least 50 feet away from storm drains, streams or other water bodies. Care should be taken to ensure these facilities do not overflow during storm events.
    - g. Concrete Grooving/Grinding Slurry - Do not discharge slurry to a waterbody or storm drain. Slurry may be applied on foreslopes or removed from the project.
    - h. Vehicle and Equipment Storage and Maintenance Areas - Perform on site fueling and maintenance in accordance with all environment laws such as proper storage of onsite fuels and proper disposal of used engine oil or other fluids on site. Employ washing practices that prevent contamination of surface and ground water from wash water. Wash waters must be treated in a sediment basin or alternative control that provides equivalent or better treatment prior to discharge.
    - i. Litter Management - Ensure employees properly dispose of litter. Minimize exposure of trash if exposure to precipitation or storm water would result in a discharge of pollutants.
    - j. Dewatering - Properly treat water to remove suspended sediment before it re-enters a waterbody or discharges off-site. Measures are also to be taken to prevent scour erosion at dewatering discharge point.
- 3. APPROVED STATE OR LOCAL PLANS
 

During the course of this construction, it is possible that situations will arise where unknown materials will be encountered. When such situations are encountered, they will be handled according to all federal, state, and local regulations in effect at the time.

**IV. MAINTENANCE PROCEDURES**





### STORMWATER DRAINAGE BASIN AND STORAGE

Refer to EC Standards and 570s Details.  
Summary of Stormwater Storage

Drainage Basin Location						Summary of Stormwater Storage						Remarks	
Basin No.	Station to Station		Side	Discharge Point		Total Disturbed Area Acres	Disturbed Area with Storage Provided Acres	Disturbed Area without Storage Provided Acres	Best Management Practice	Total Storage Volume Provided	Total Storage Volume Required		Storage Volume Met?
				Station	Side					CF	CF		Yes/No
1	290+00.00	295+72.00	Rt	295+50.00	Rt	0.5	0.0	0.5	Vegetated Buffer	0.0	0.0		
2	290+00.00	295+72.00	Lt	295+50.00	Lt	0.6	0.0	0.6	Vegetated Buffer	0.0	0.0		
3	300+58.00	338+49.00	Rt	316+00.00	Rt	3.5	0.0	3.5	Vegetated Buffer	0.0	0.0		
4	300+58.00	338+49.00	Lt	317+15.00	Lt	3.3	0.0	3.3	Vegetated Buffer	0.0	0.0		
5	341+21.00	353+34.00	Rt	345+50.00	Rt	1.0	0.0	1.0	Vegetated Buffer	0.0	0.0		
6	341+21.00	353+34.00	Lt	345+80.00	Lt	1.5	0.0	1.5	Vegetated Buffer	0.0	0.0		
7	355+51.00	363+00.00	Rt	356+20.00	Rt	0.7	0.0	0.7	Vegetated Buffer	0.0	0.0		
8	355+51.00	363+00.00	Lt	356+80.00	Lt	0.6	0.0	0.6	Vegetated Buffer	0.0	0.0		

### LINE STYLE LEGEND OF LANDSCAPE SHEETS

LINETYPE	Design Element
-----	Living Snow Fence Single Row
-----	Living Snow Fence Double Row
—————	Mechanical Edge

### CELL LEGEND OF LANDSCAPE SHEETS

CELL	Design Element	Plant Diameter
⊕	Clearing	
⊙	Proposed Shrub	6 FT
⊙	Proposed Understory Tree	12 FT
⊙	Proposed Conifer Tree	18 FT
⊙	Proposed Overstory Tree	30 FT

### PATTERN LEGEND OF LANDSCAPE SHEETS

	Brush Clearing		Spray Area
	Clearing & Grubbing		

### LINE STYLE LEGEND OF EROSION CONTROL SHEETS

LINETYPE	Design Element
	Silt Fence
	Perimeter and Slope Sediment Control Device (9")
	Perimeter and Slope Sediment Control Device (12")
	Perimeter and Slope Sediment Control Device (20")
	Open-Throat Curb Intake Sediment Filter
	Concentrated Flow
	Rock Check and Rock Check Dam
	Sheet Flow

### CELL LEGEND OF EROSION CONTROL SHEETS

CELL	Design Element
	Temporary Sediment Control basin
	Erosion Control for Circular Intake or Manhole Well
	Erosion Control for Rectangular Intake or Manhole Well
	Grate Intake Sediment Filter Bag
	Silt Basin
	Silt Fence Tail
	Stormwater Drainage Basin Discharge Point

### PLAN VIEW COLOR LEGEND OF EROSION CONTROL SHEETS

LINWORK	Design Color No.	Design Element
Green	(2)	Existing Topographic Features and Labels
Blue	(1)	Proposed Alignment, Stationing, Tic Marks, and Alignment Annotation
Magenta	(5)	Existing Utilities
Black	(0)	Permanent Erosion Control Features
Blaze Orange	(222)	Temporary Erosion Control Features

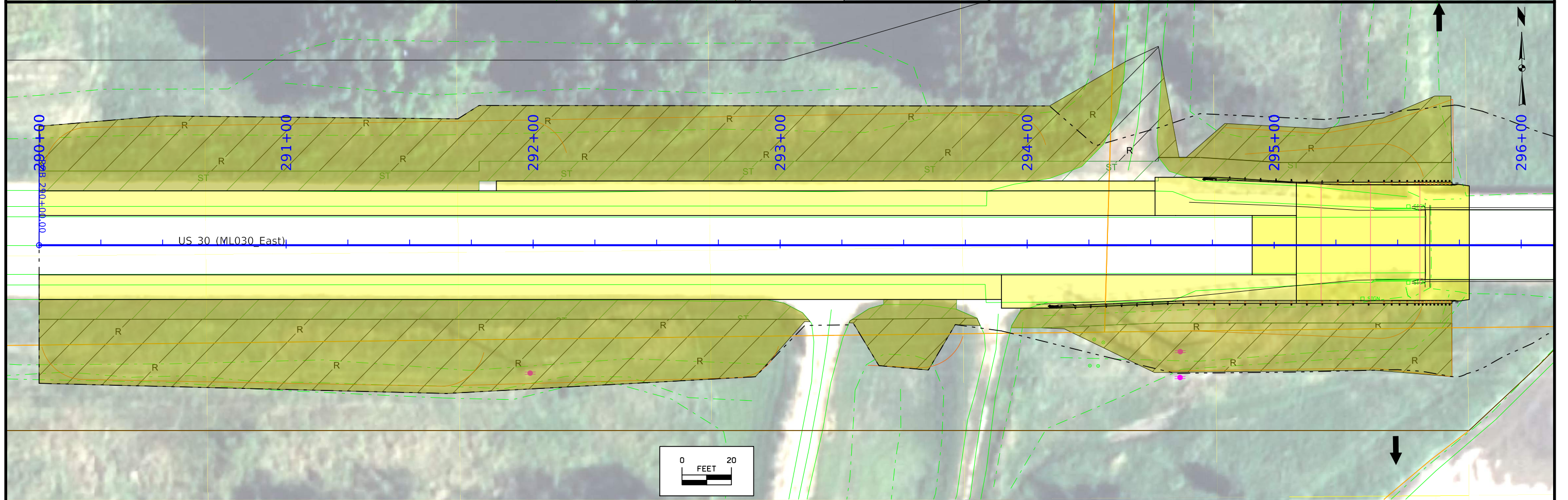
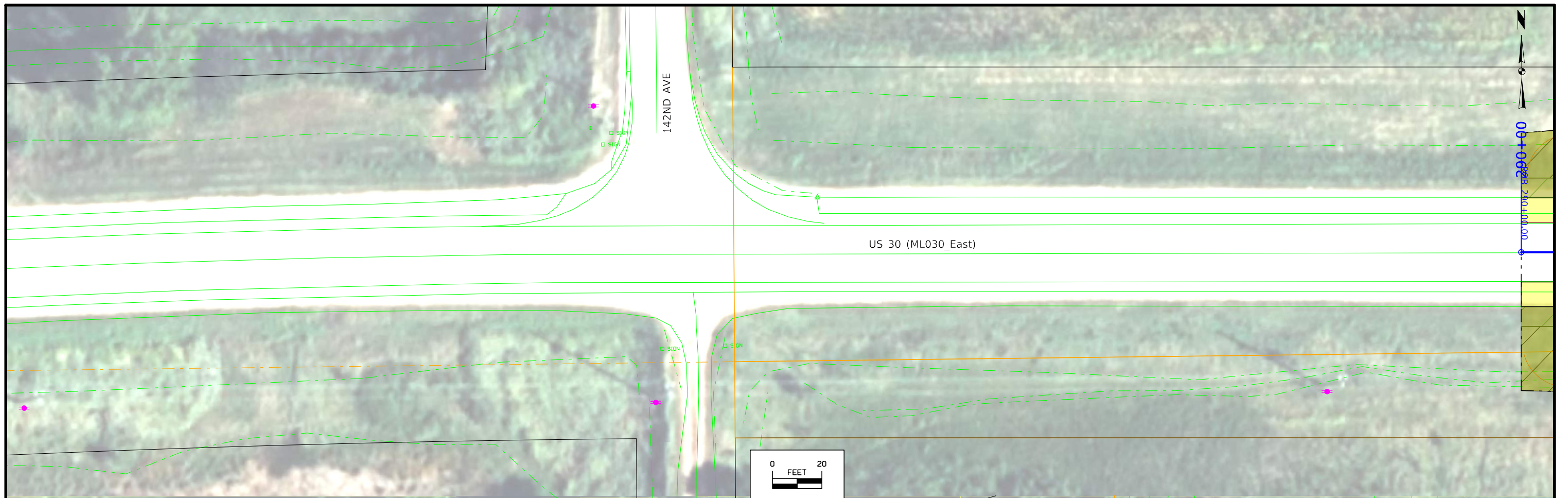
SHADING	Design Color No.	Design Element	Transparency
Citron	(234)	Mulching, All Types	50%
Light Brown	(238)	Special Ditch Control, Wood Excelsior Mat	0%
Grass Green	(233)	8FT Mow Strip	50%
Red	(3)	Delineates Restricted Areas	0%

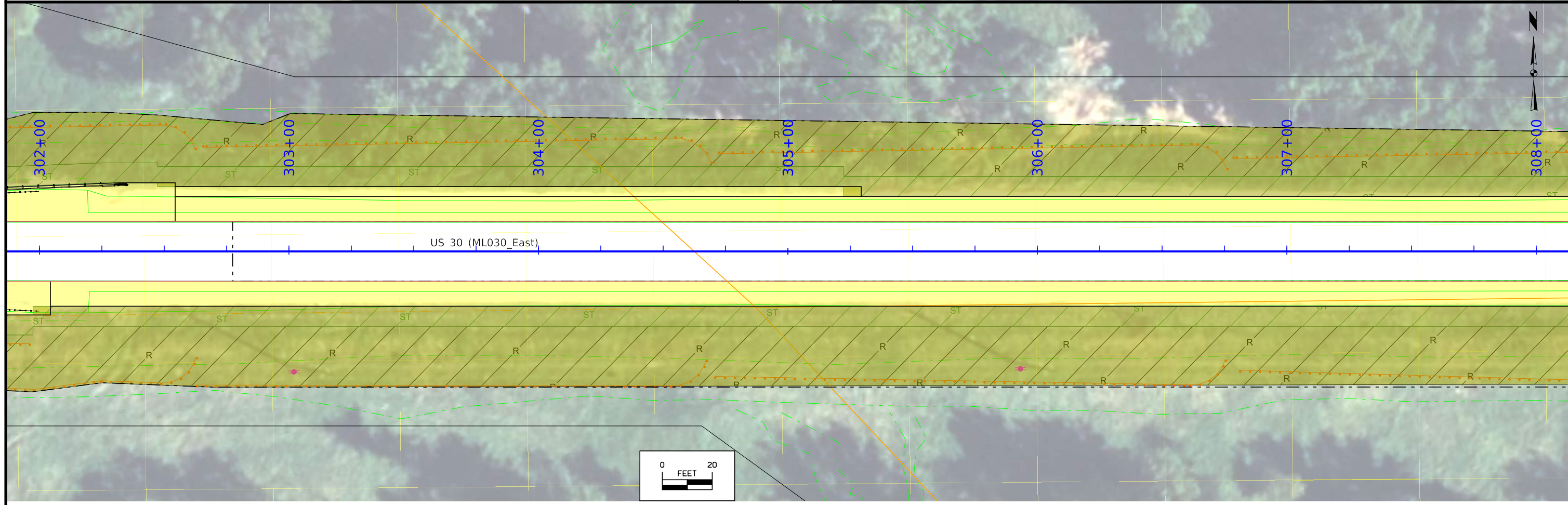
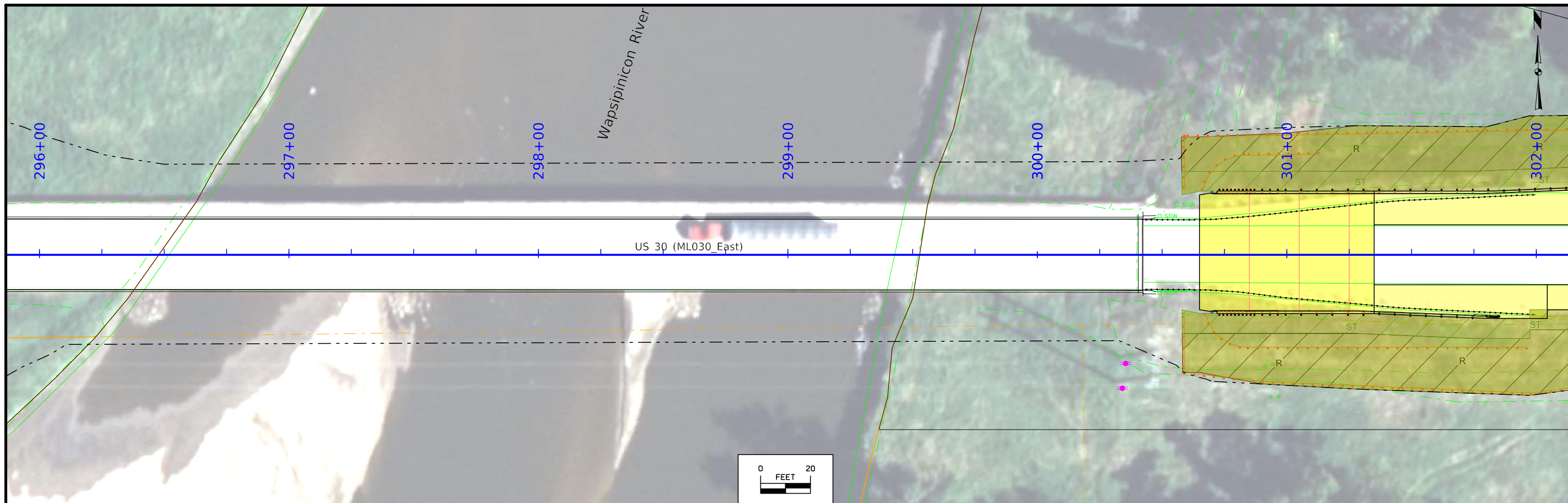
### PATTERN LEGEND OF EROSION CONTROL SHEETS

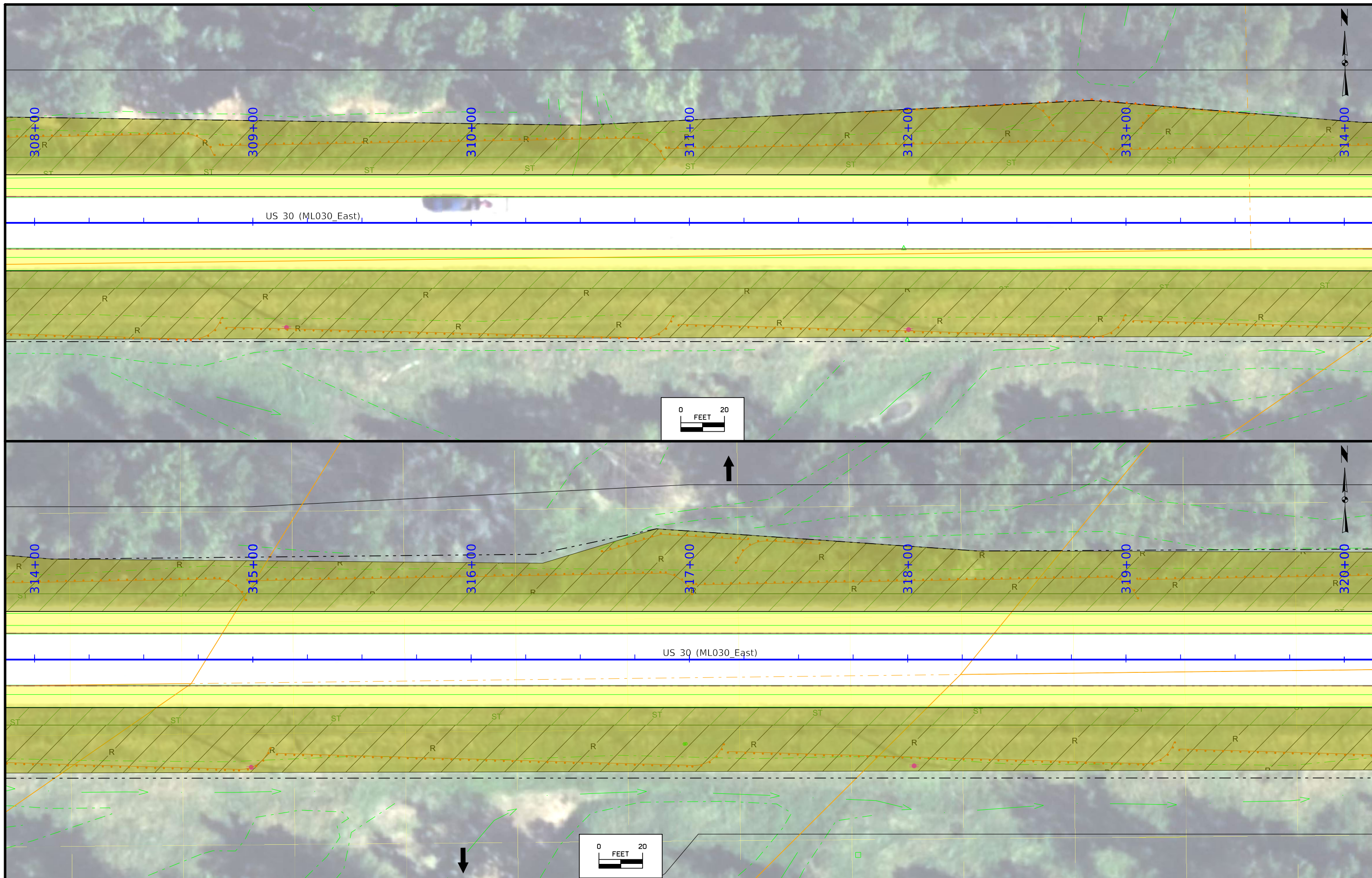
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	Seeding and Fertilizing (Rural)		Turf Reinforcement Mat Type 2
	Seeding and Fertilizing (Urban)		Turf Reinforcement Mat Type 3
	Native Grass Seeding		Turf Reinforcement Mat Type 4
	Salt Tolerant Seeding		Slope Protection, Wood Excelsior Mat
	Wetland Grass Seeding		Transition Mat
	Wildflower Seeding		Rock Features, Permanent
	Sodding		Rock Features, Temporary

## EROSION CONTROL LEGEND AND SYMBOL INFORMATION SHEET

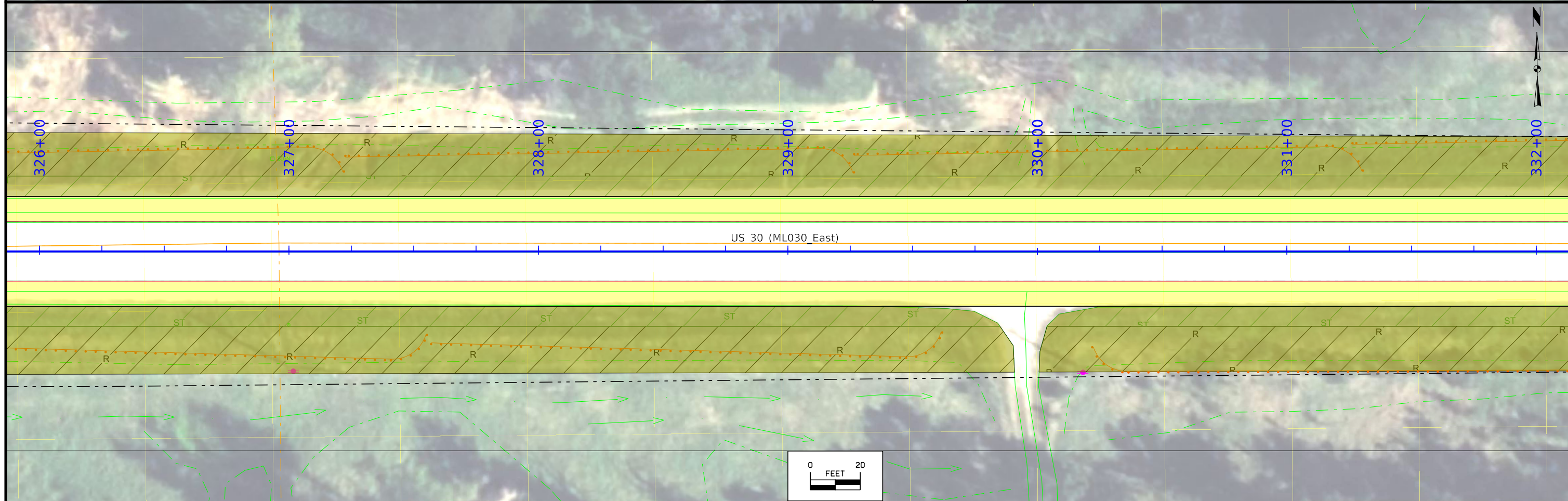
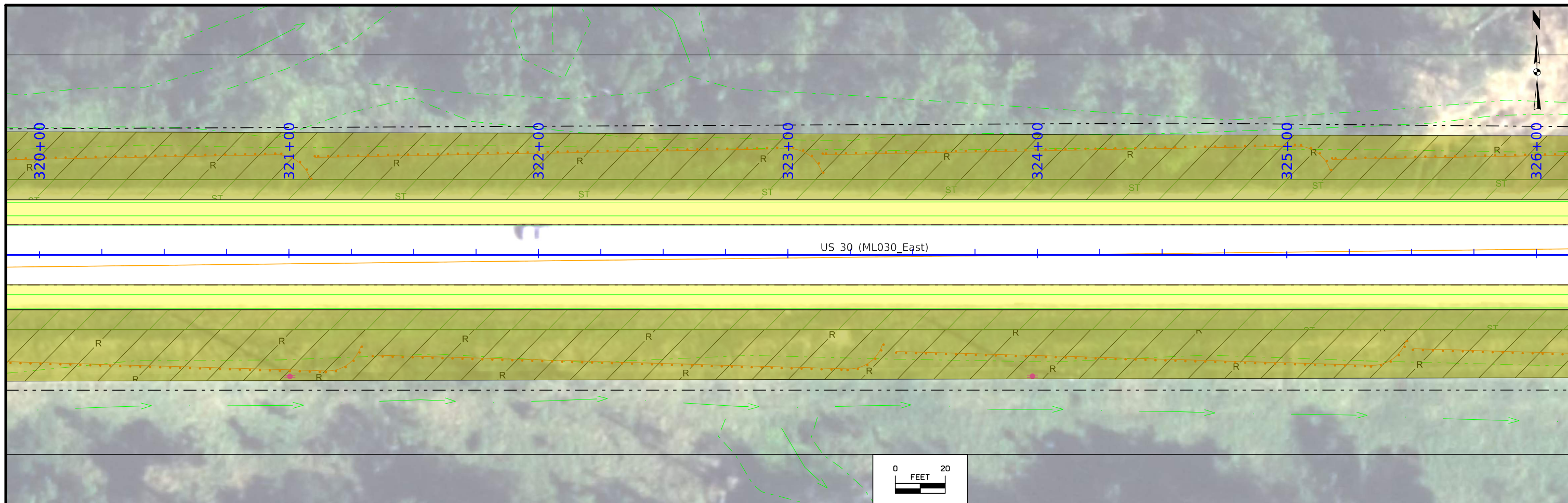
(COVERS SHEET SERIES R)



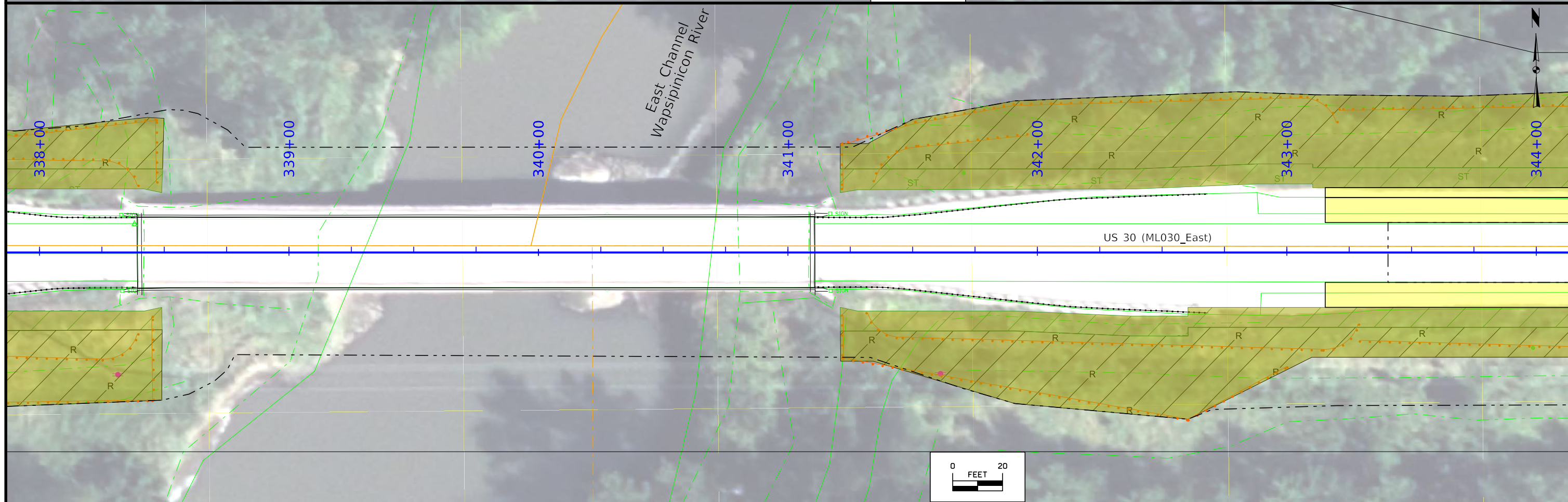
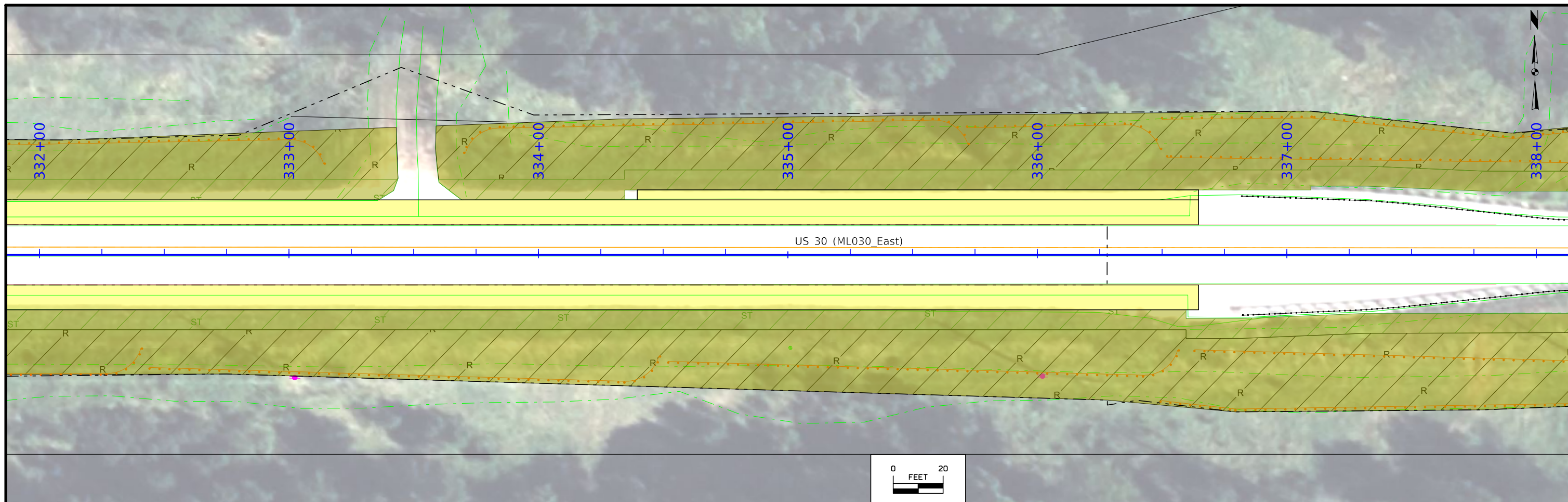




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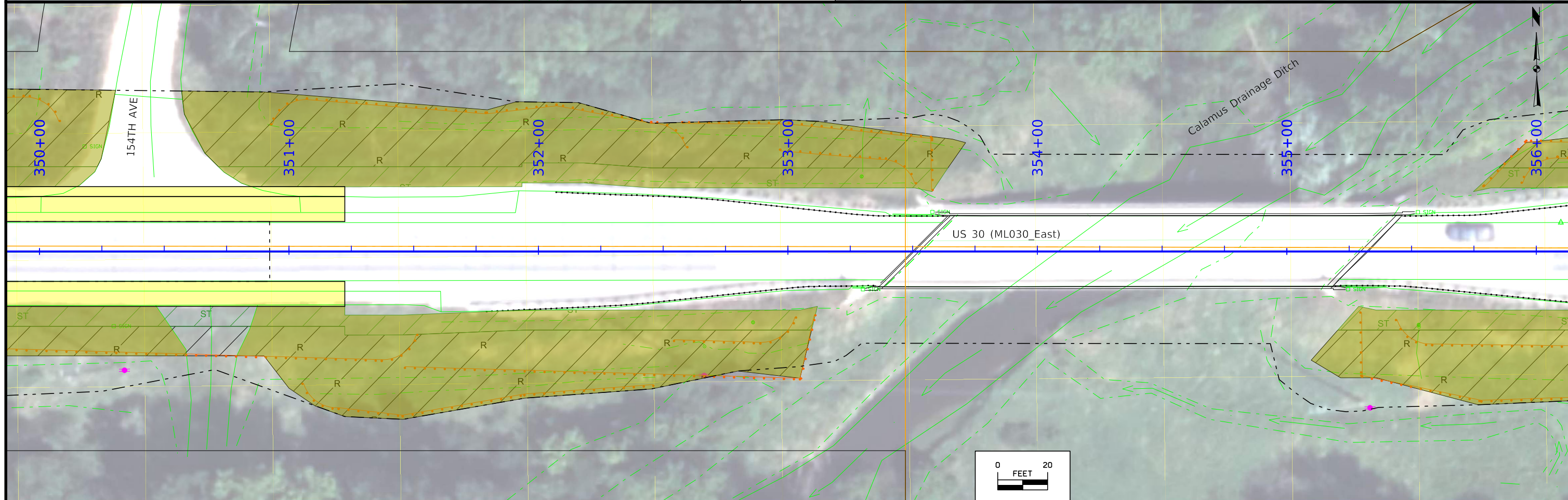
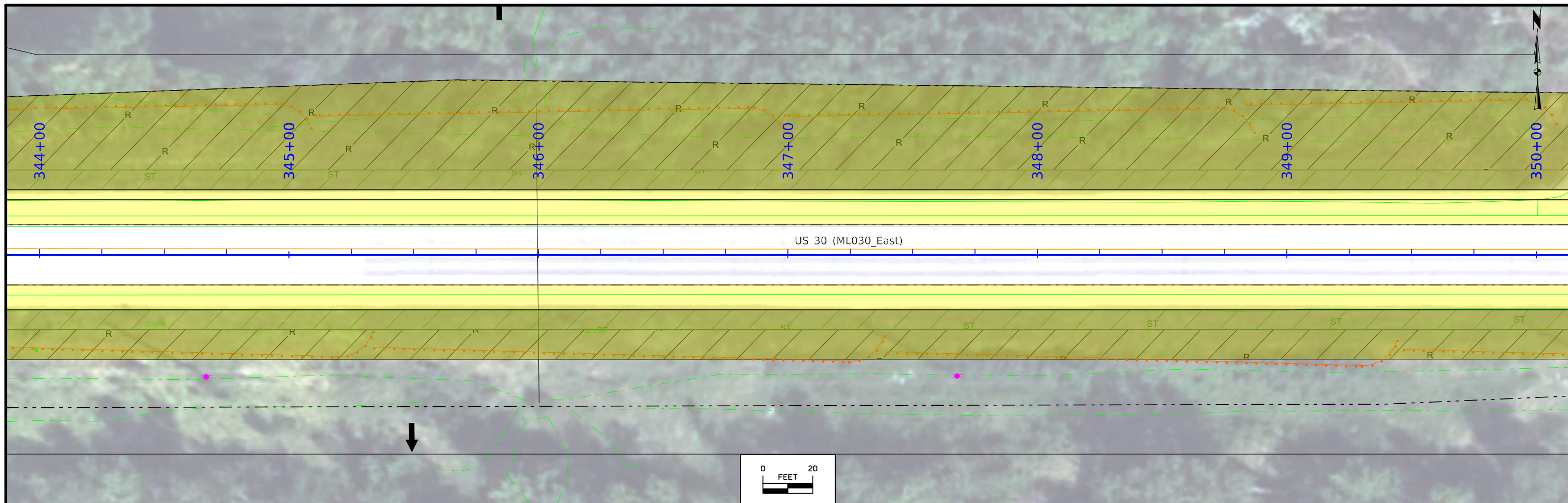


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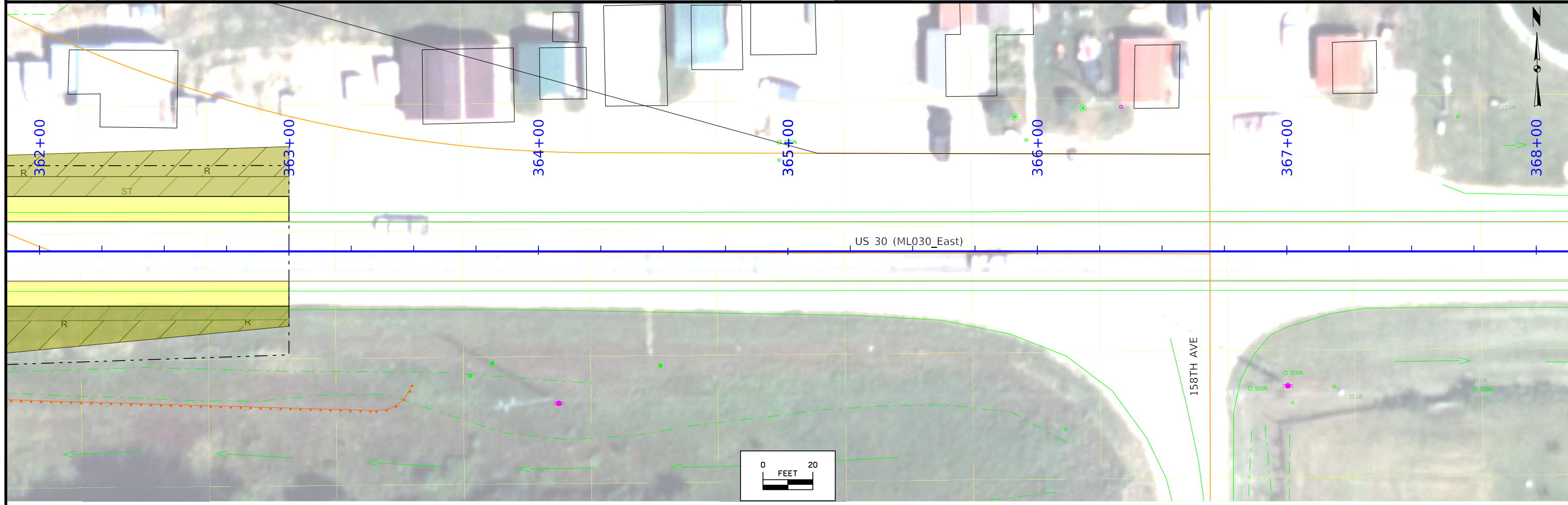
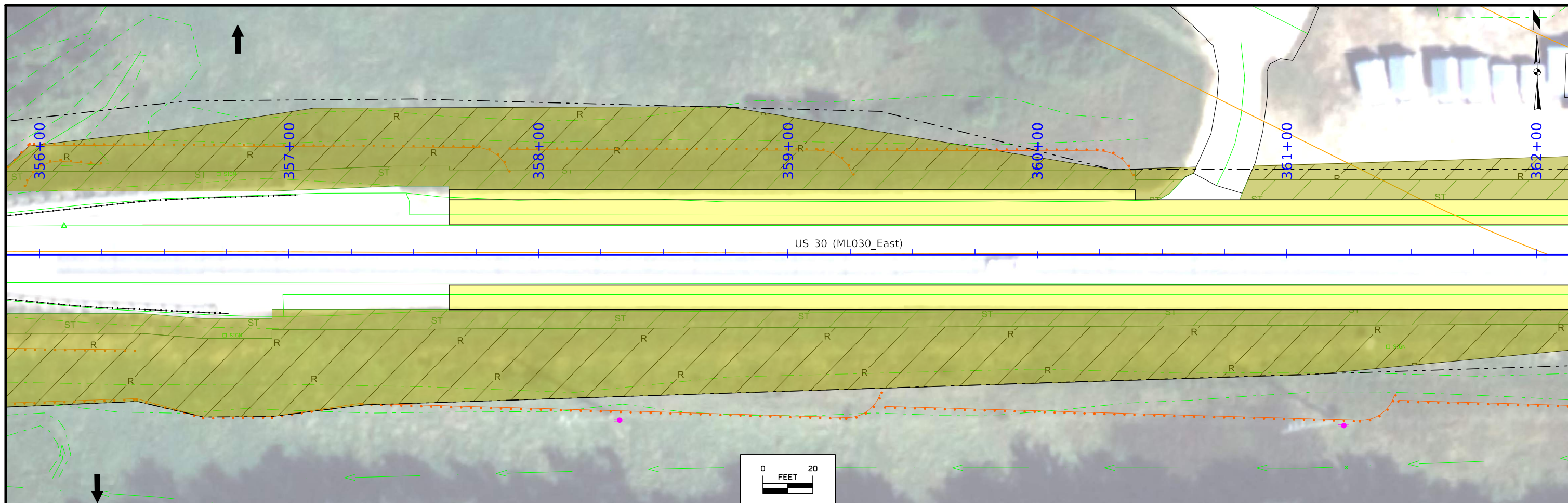




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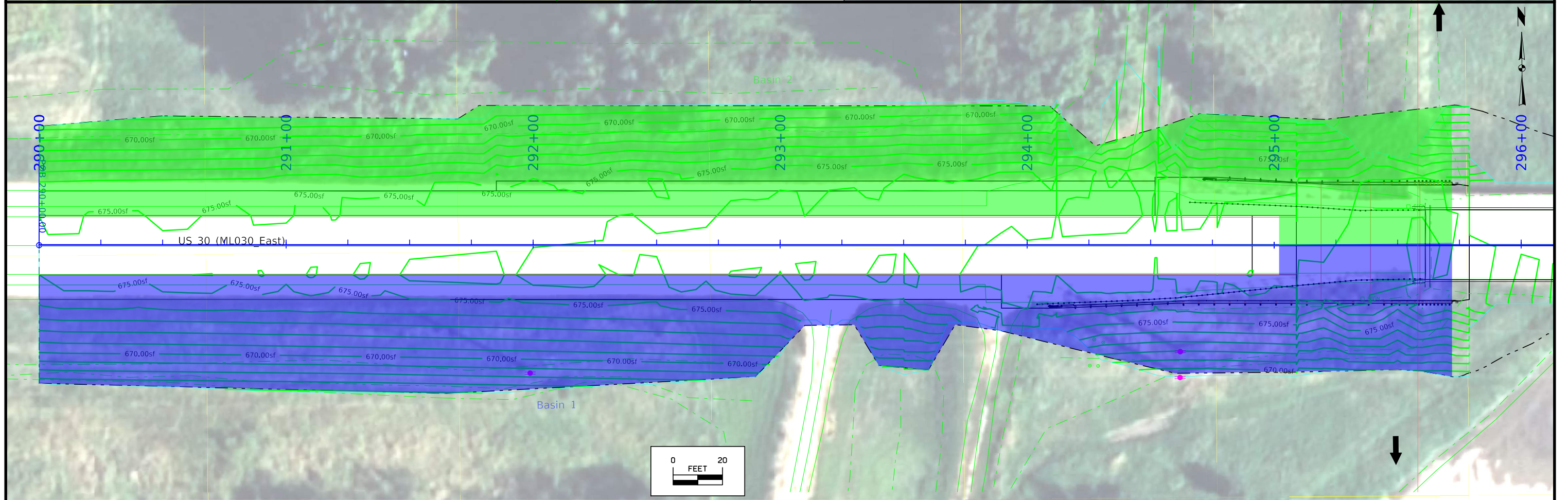
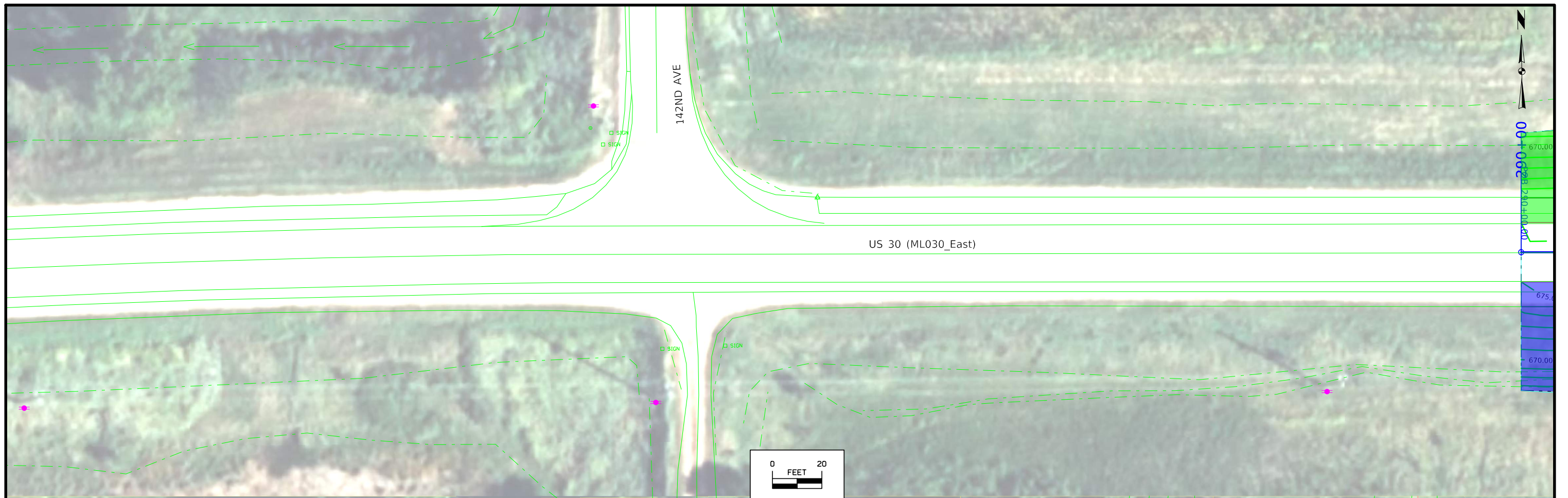
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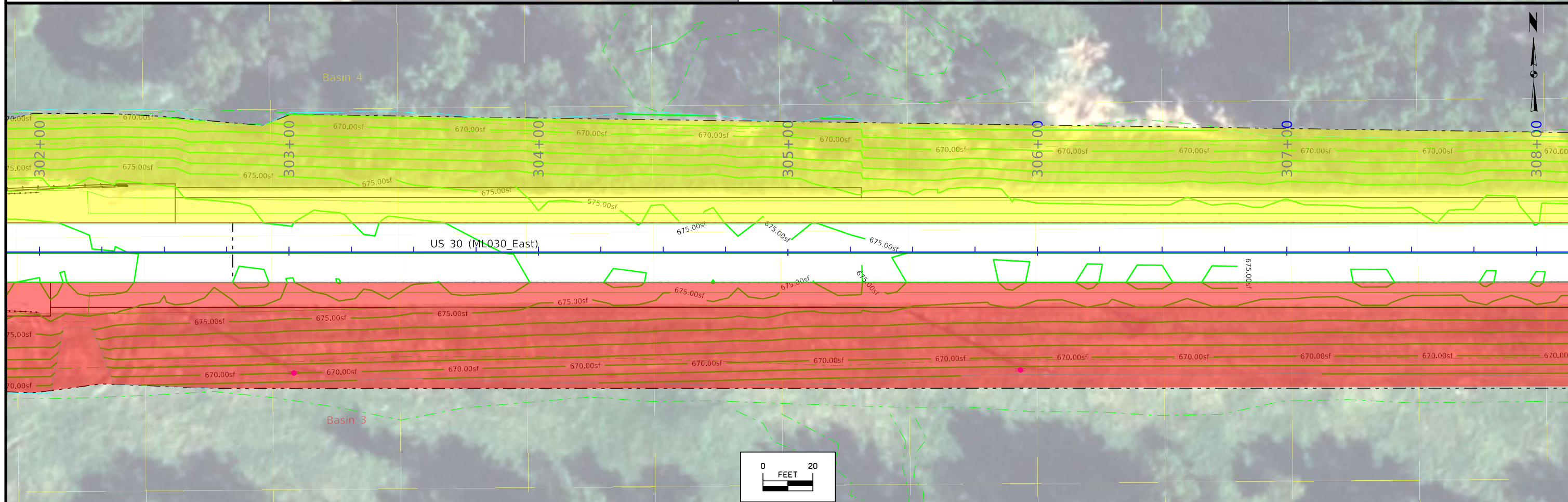
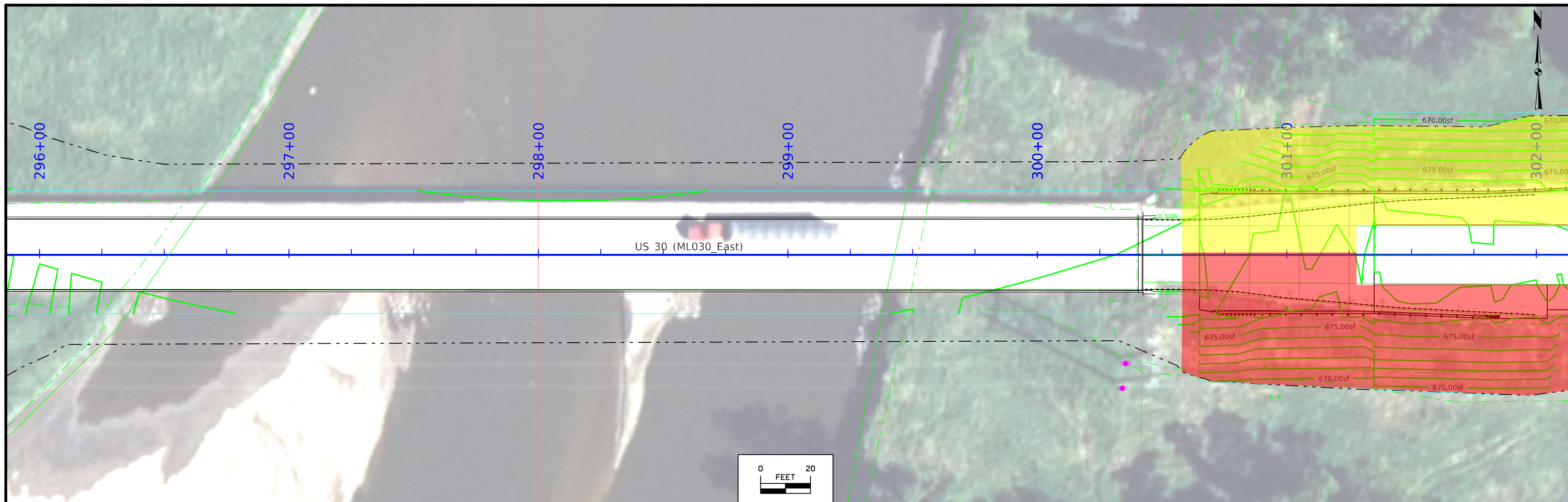
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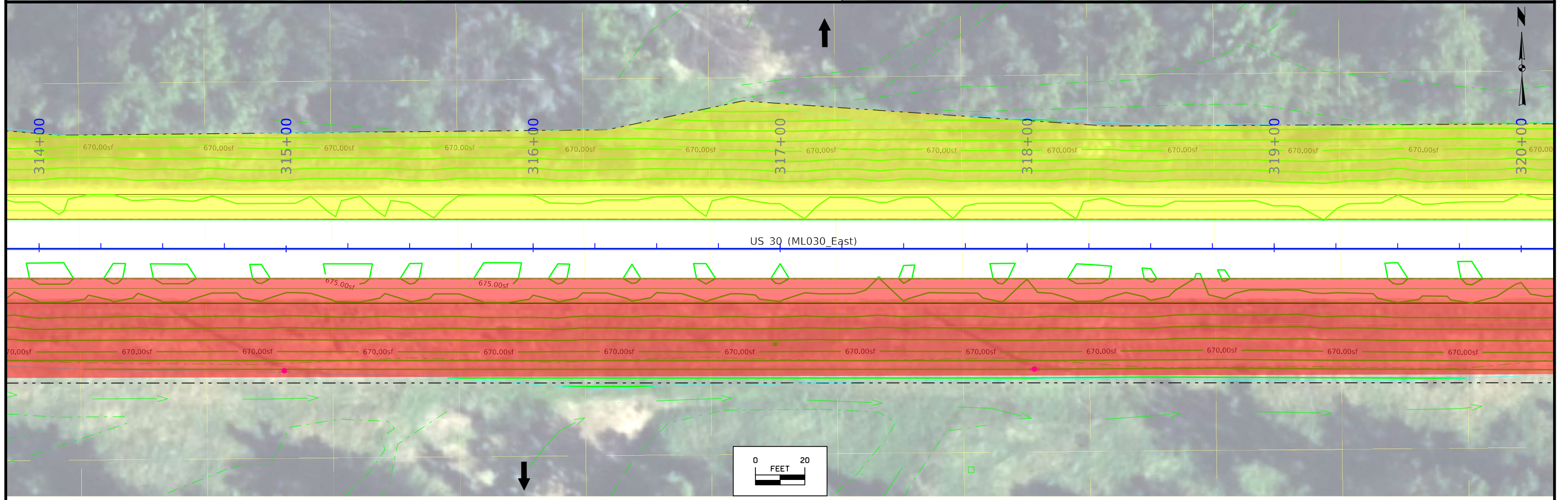
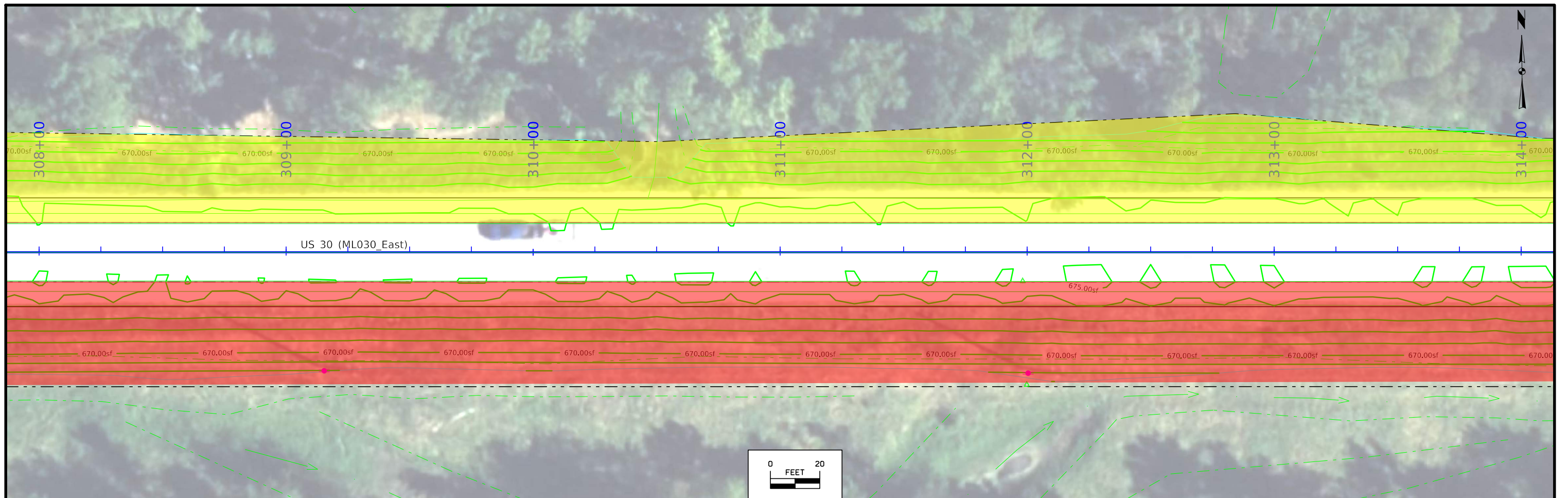


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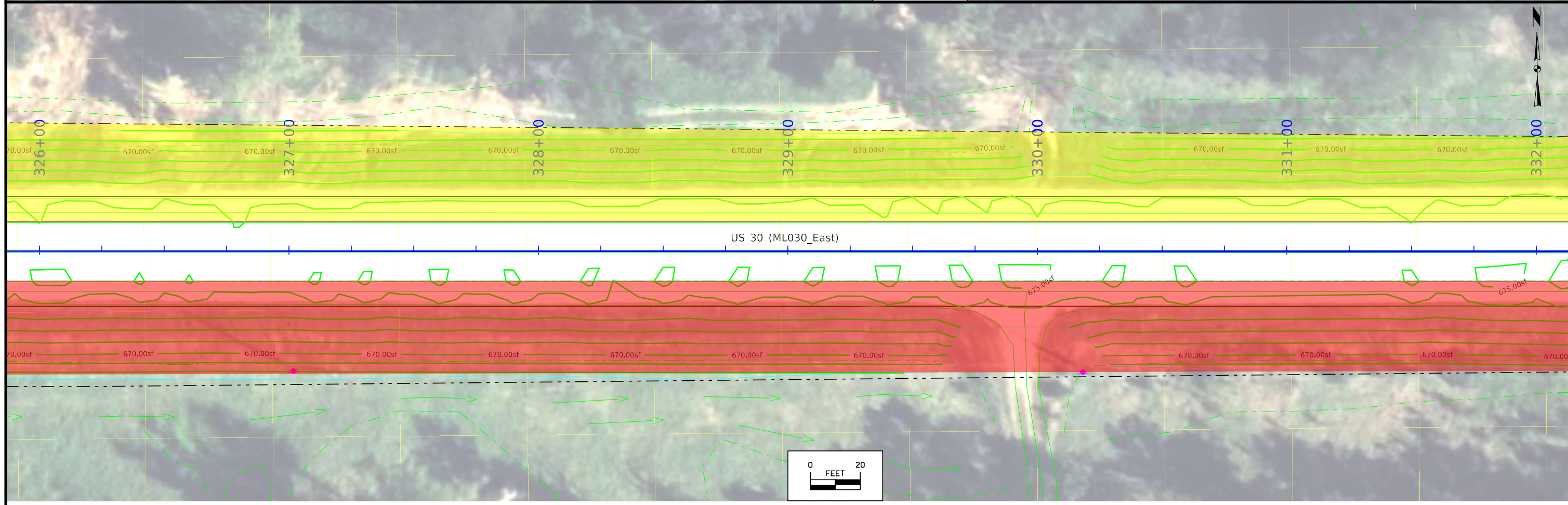
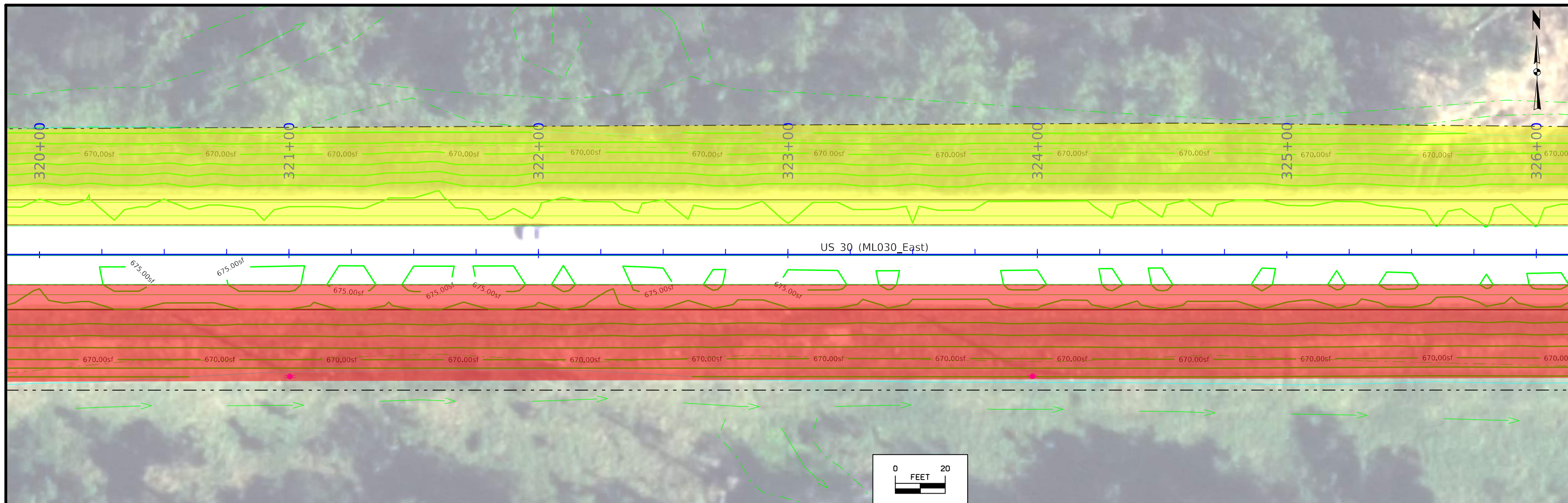
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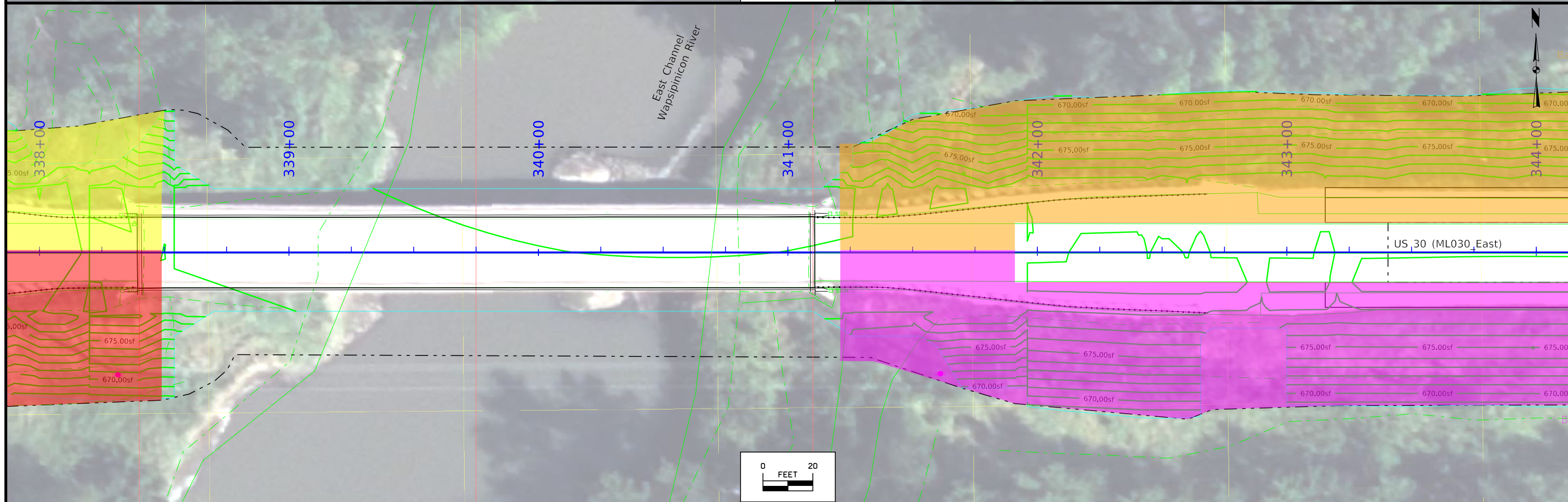
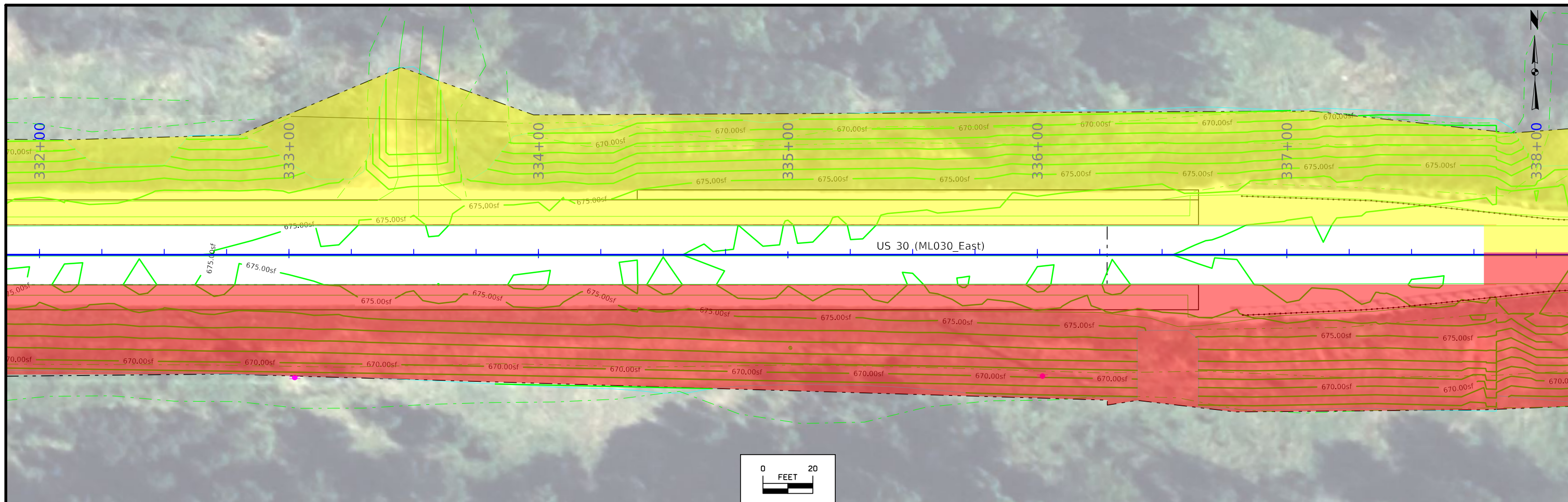




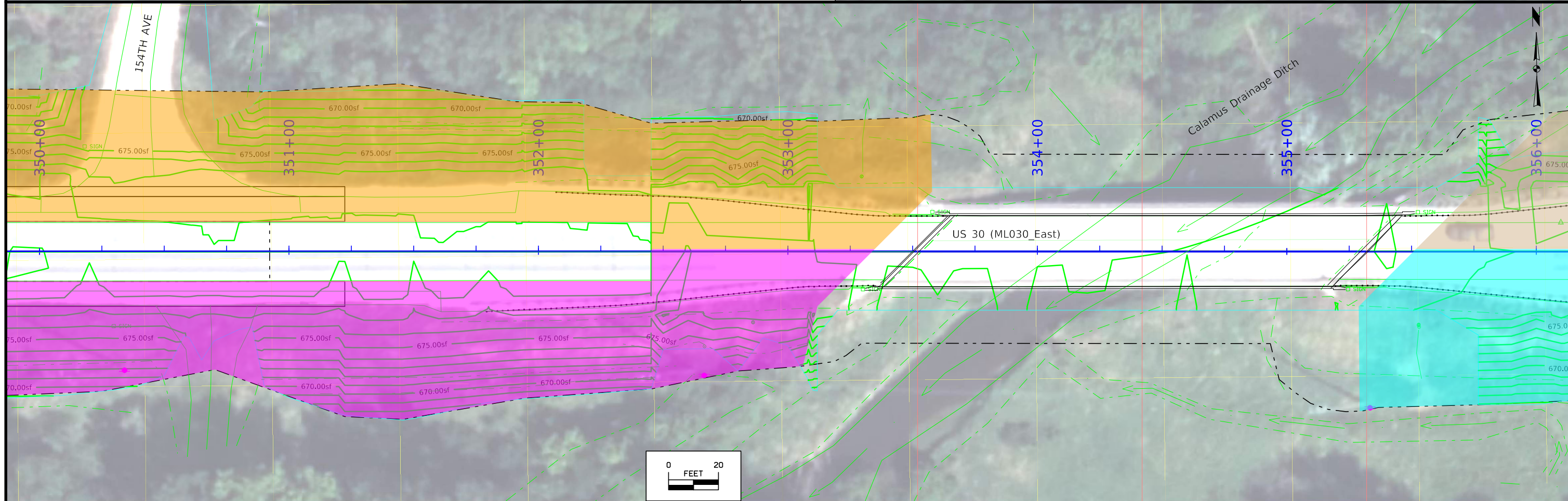
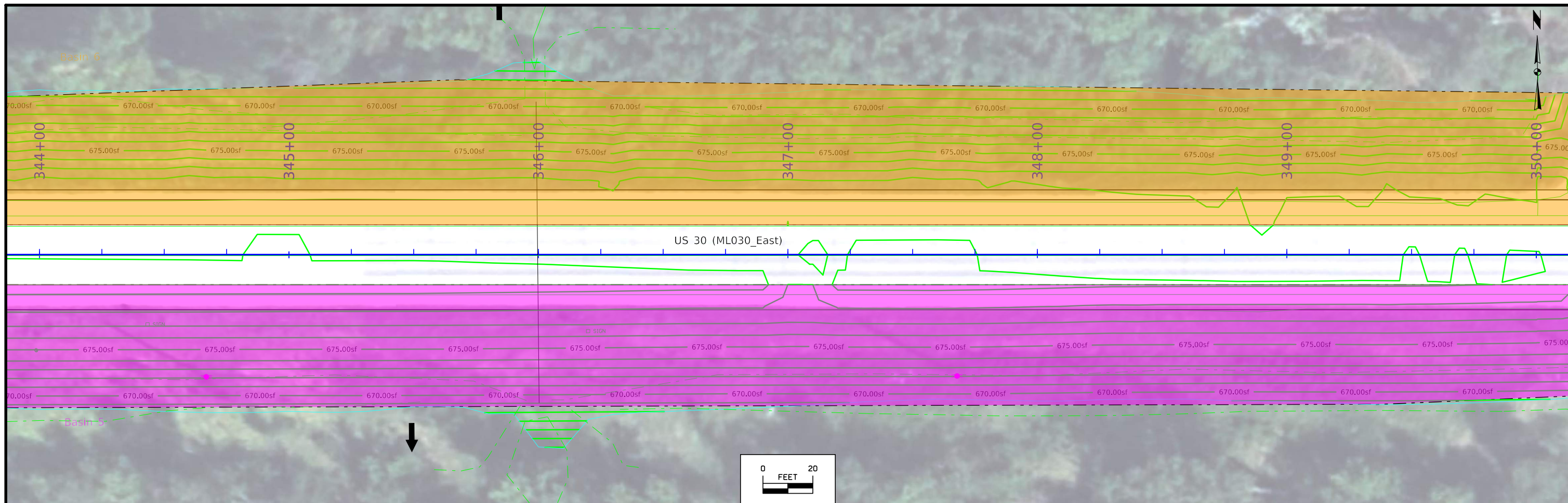
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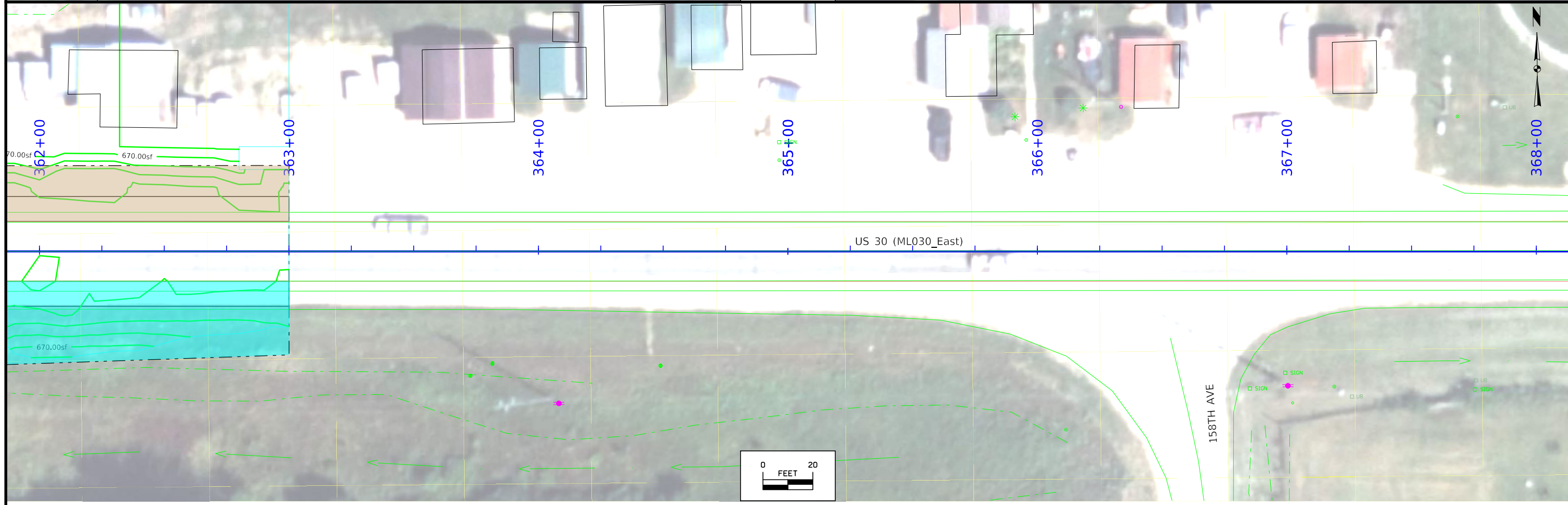
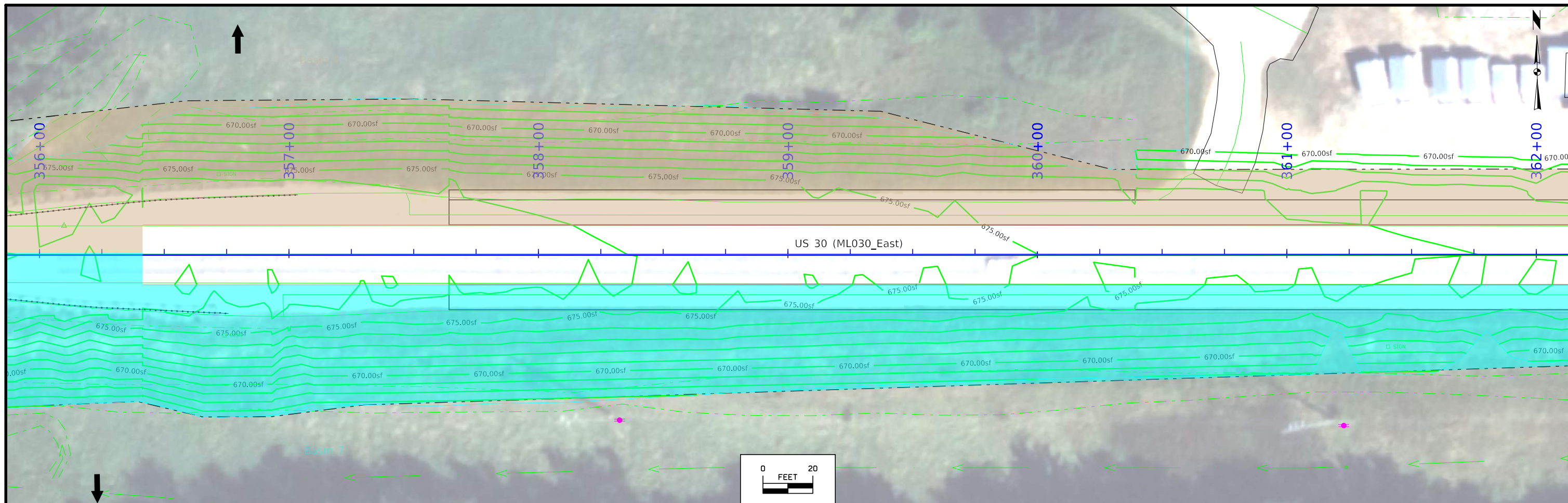
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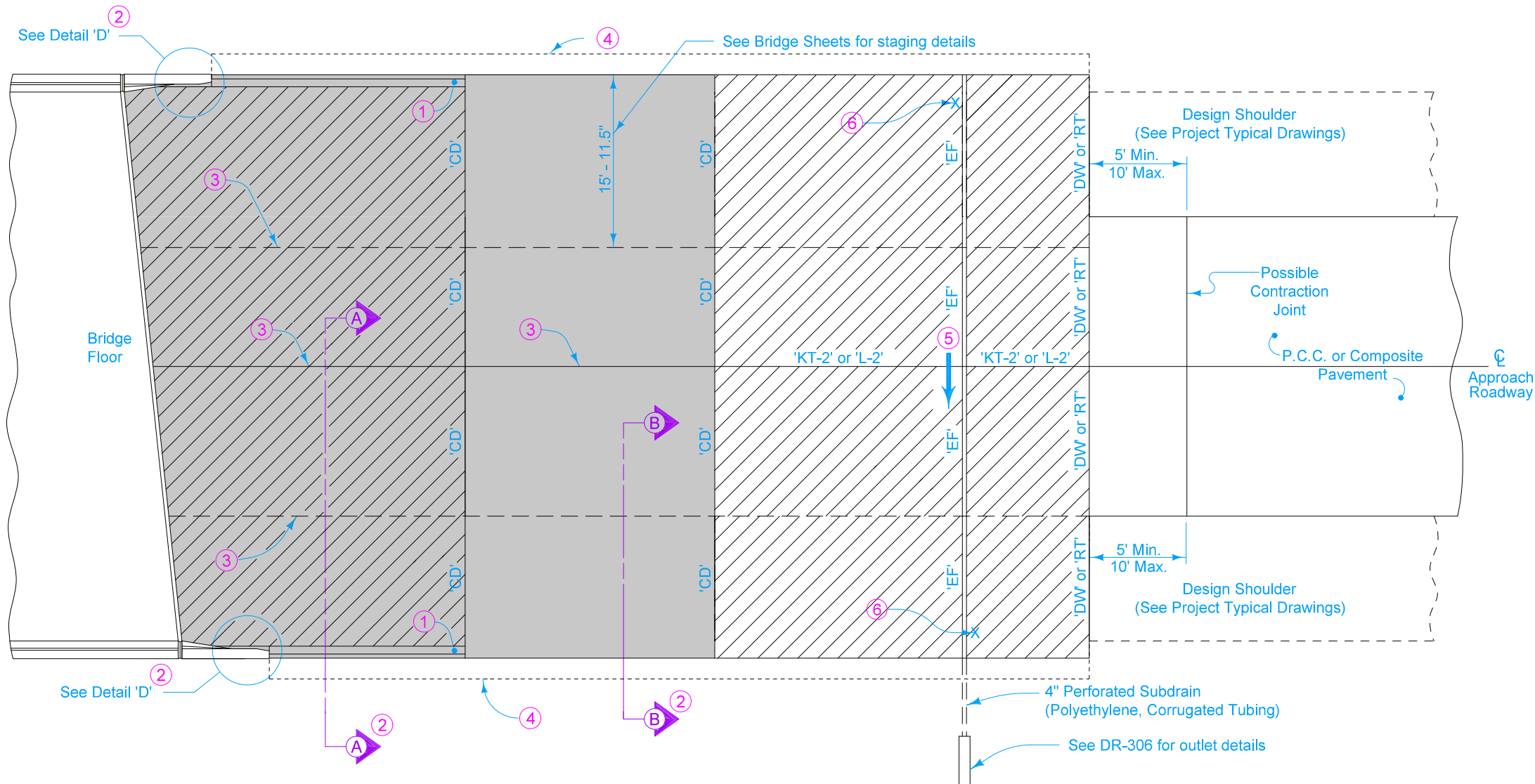
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


For joint details, see PV-101.



PLAN VIEW

Pay limits for contract item include the following areas:

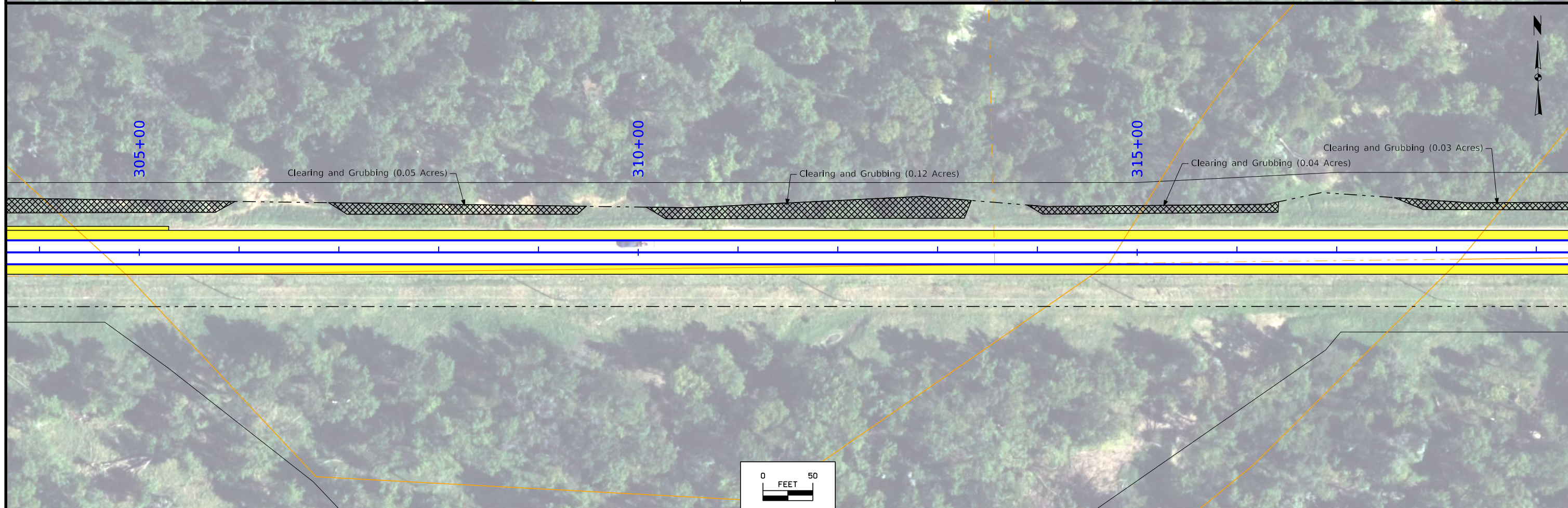
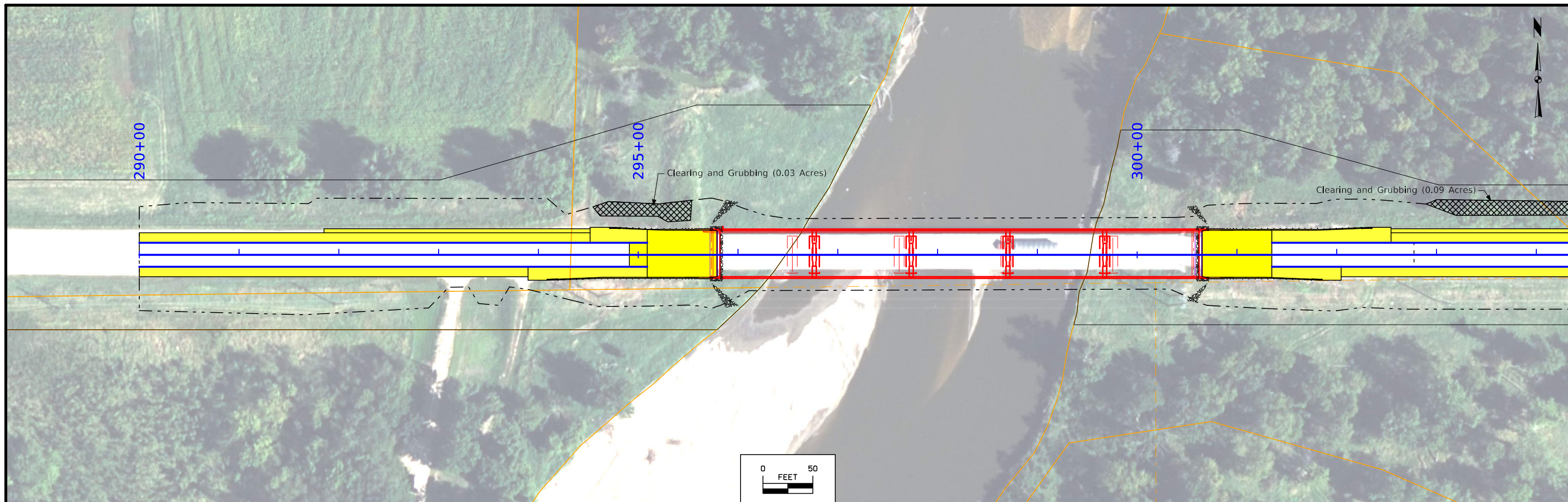
-  Double Reinforced Section
-  Single Reinforced Section
-  Non-Reinforced Section

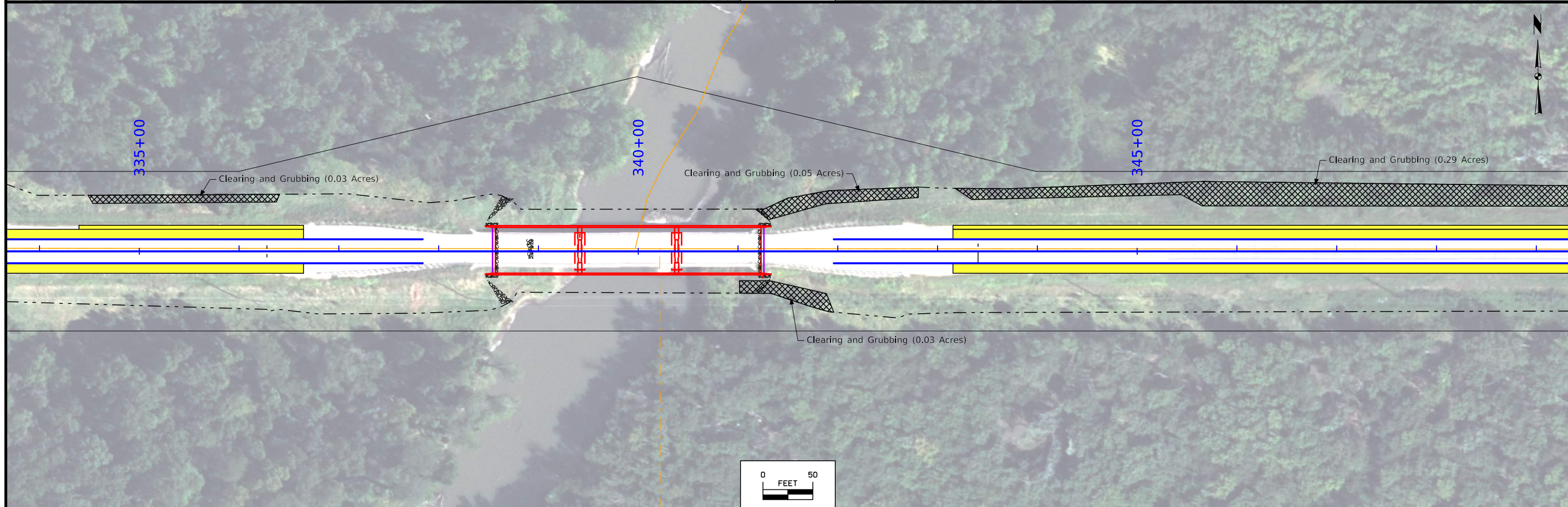
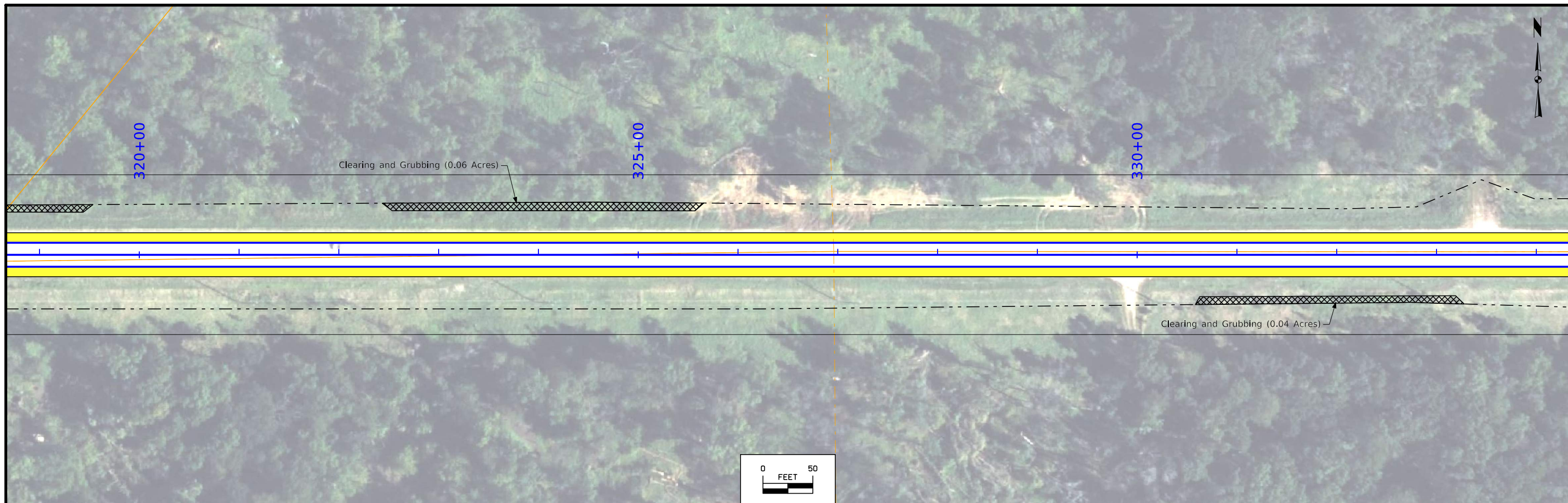
- ① Build 4 inch Sloped Curb to end of Double Reinforced Section. Refer to PV-102 for curb and runout details.
- ② See BR-201, BR-202, BR-203, or BR-204.
- ③ Longitudinal Joint (PV-101):  
Single Pour - Saw cut joint per Detail B.  
Two Pours - Use 'KS-1' joint (Single Reinforced Section).  
Use 'KS-2' joint (Double Reinforced Section).
- ④ Polymer Grid and excavation limits of Modified Subbase 2 feet outside of pavement edge. See BR-201, BR-202, BR-203, or BR-204.
- ⑤ Slope subdrain to drain.
- ⑥ Place an "X" in the plastic concrete near the 'EF' joint at the outside edge of pavement.

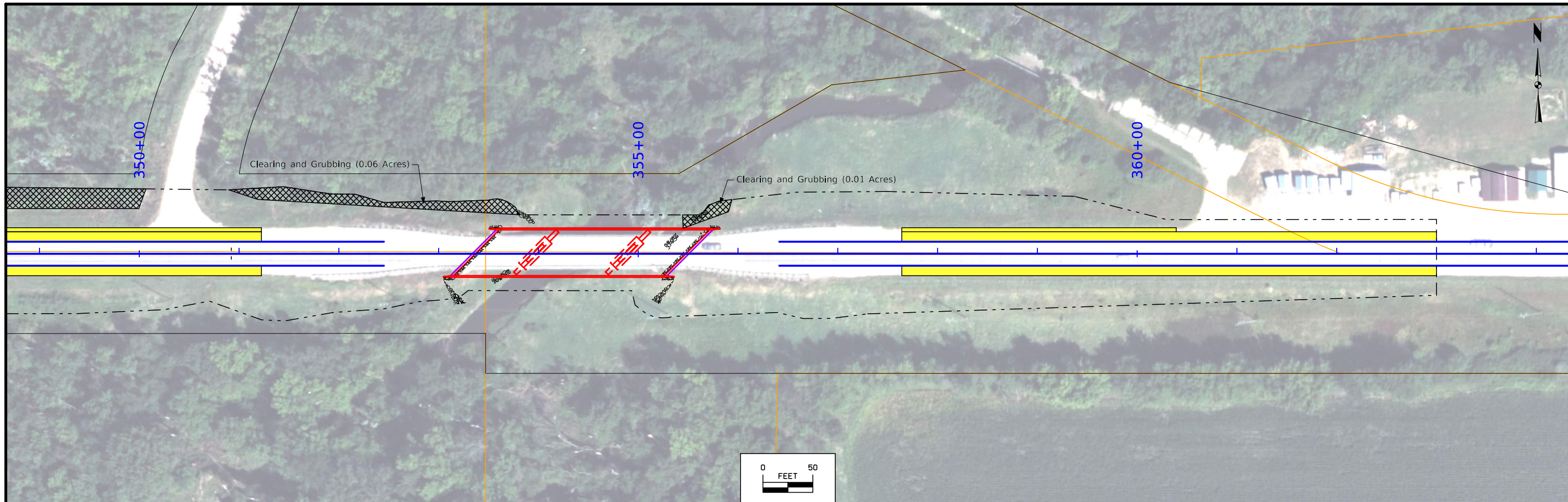
<b>MODIFIED</b>	3	10-18-22
	<b>BR-211</b>	
<b>STANDARD ROAD PLAN</b>	SHEET 1 of 1	

MODIFICATIONS: Revised longitudinal joint, location and added dimension.

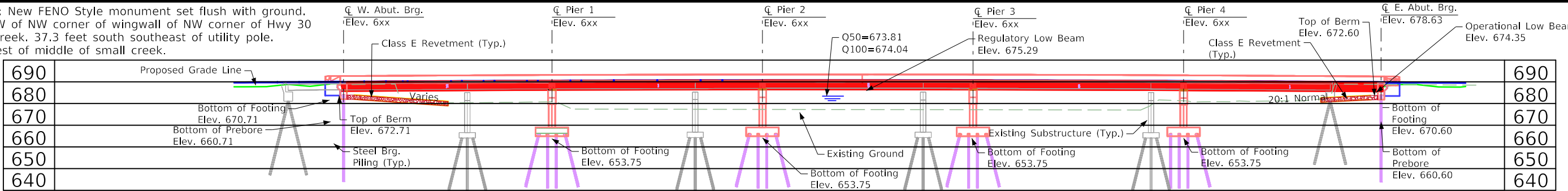
**BRIDGE APPROACH  
(ABUTTING PCC OR  
COMPOSITE PAVEMENT)**



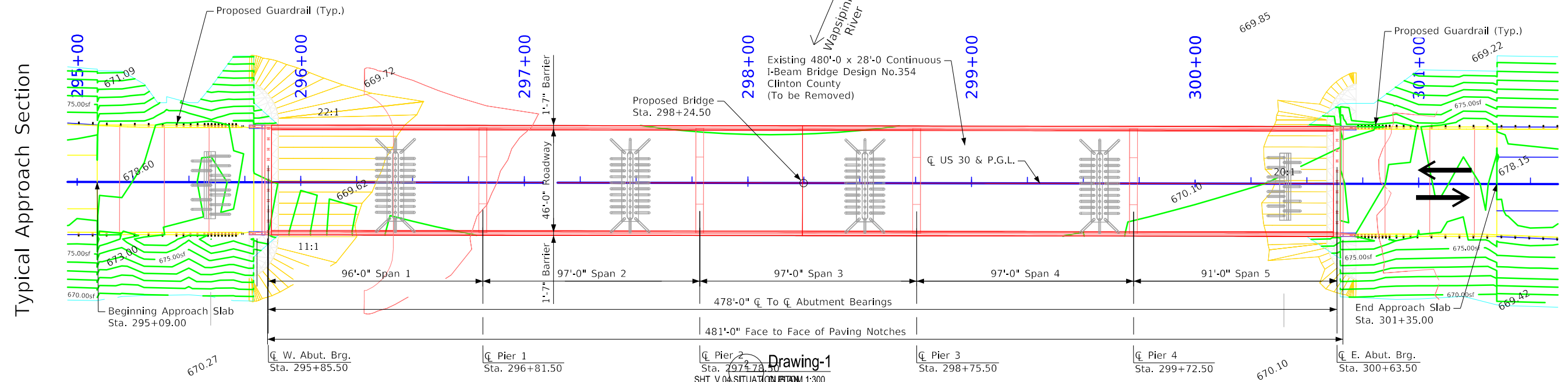
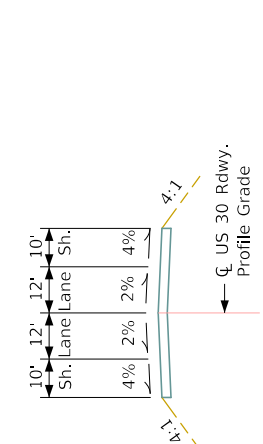




BENCH MARK: New FENO Style monument set flush with ground, 28.15 feet NW of NW corner of wingwall of NW corner of Hwy 30 Bridge over creek, 37.3 feet south southeast of utility pole, 114.0 feet west of middle of small creek.



Longitudinal Section Along CL US 30



Drawing-1  
SHT\_V.04 SITUATION PLAN 1:300

### Hydraulic Design

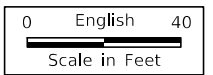
I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.

Signature: Mark D. Werner Date: 9/20/2023

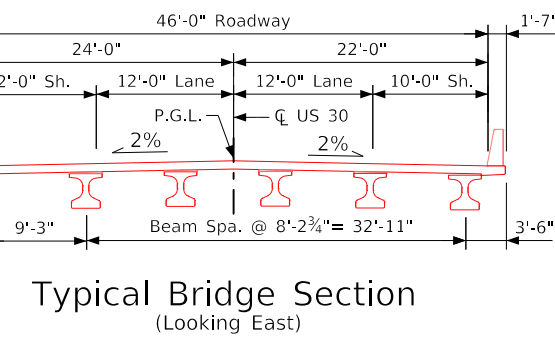
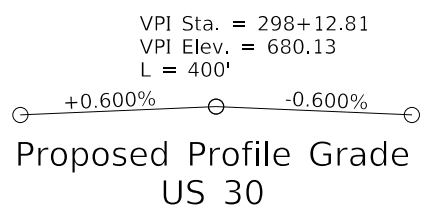
Printed or Typed Name: Mark D. Werner

My license renewal date is December 31, 2023

Pages or sheets covered by this seal: V.1, V.2



Situation Plan



Typical Bridge Section (Looking East)

Plan Notes:

- Top of bridge deck at centerline US 30 is 0.03' below the profile grade to account for parabolic crown.
- Class E Revetment stone is embedded.
- The Bridge will be designed to withstand the applicable effects of ice and the horizontal stream loads and uplift forces associated with the Q100.

General Notes:

- This design is for the replacement of the existing 480'-0" X 28'-0" Continuous I-Beam Bridge, Clinton Design No. 354, FHWA No. 020740, Maint. 2398.5S030.

Traffic Estimate

2024 AADT	3100	V.P.D.
2044 AADT	3800	V.P.D.
Trucks	20	%

Utilities Legend:

- E1 -EL1D, Eastern Iowa Light and Power
- F0 -FO1D, F&B Communications
- F02 -FO2D, Sprint
- G -GL1D, Alliant Energy
- SAN. -SA1D, City of Wheatland
- W -WL1D, City of Wheatland

Utilities shown on this sheet are for information only, see road design sheets for final utility information.

Hydraulic Data

Drainage Area = 1890 SQ. MI.  
Stream Slope = 2.1 FT./MI.  
Q50= 27,300 CFS (AEPD), 18,504 CFS (2D Model)  
Stage = 673.81  
Regulatory Low Beam = 675.97  
Avg. Bridge Velocity = 6.7 FPS  
Q100= 30,300 CFS (AEPD), 19,458 CFS (2D Model)  
Stage = 674.04  
Operational Low Beam = 675.13  
Backwater = 0.33 FT.  
Avg. Bridge Velocity = 6.9 FPS  
Q200 = 35,800 CFS (AEPD) 22,950 CFS (2D Model)  
Design Scour = 650.1  
Q500 = 37,300 CFS (AEPD) 23,601 CFS (2D Model)  
Check Scour = 649.9

Location

US 30 Over Wapsipinicon River  
T-81N R-1E  
Section 11  
Spring Rock Township  
Clinton County  
FHWA No. 020741  
Bridge Maint. No. 2398.5S030  
Latitude 41.829597°  
Longitude -90.812740°

PRELIMINARY  
Design For 0° Skew

## 478'-0" x 46'-0" Pretensioned Prestressed Concrete Beam Bridge

96'-0" & 91'-0" End Spans (BTB Beam Type) 97'-0" Interior Spans

### Situation Plan

STA. 298+24.50 October 2023

## Clinton County

IOWA DEPARTMENT OF TRANSPORTATION  
Design No. 0925 Design Sheet No. 4 of XX FHWA No. 020741

## CROSS SECTION VIEW COLOR LEGEND

Design Color No.	Feature	Design Color No.	Feature
<b>Aggregate</b>			
(64)	Choke Stone	(112)	Noise Wall
(42)	Engineering Fabric	(112)	Noise Wall Footing
(8)	Flooded Backfill	(112)	Retaining Wall Back
(92)	Macadam Stone	(112)	Retaining Wall Back Excavate
(20)	Modified	(112)	Retaining Wall Face
(12)	Plowing Shaping	(112)	Retaining Wall Front Excavate
(14)	Porous Backfill	(112)	Retaining Wall Front Footing
(8)	Revetment Class A	(112)	Retaining Wall MSE Gutter
(6)	Revetment Class B	(112)	Retaining Wall Reinforced Earth
(62)	Revetment Class C	<b>Grading</b>	
(188)	Revetment Class D	(8)	Behind Curb Cut
(28)	Revetment Class E	(6)	Granular
(12)	Shoulder Special Backfill	(13)	Granular Back Fill
(12)	Special Backfill	(48)	Rock Undercut
(20)	Subbase	(8)	Shoulder Earth Fill
(20)	Subbase Lower	(2)	Side Slopes
(20)	Subbase Upper	(226)	Side Slopes Dressing
(118)	Subgrade Treatment	<b>Substrata</b>	
<b>Asphalt</b>			
(207)	HMA Base Course	(128)	Boulder Substrata
(207)	HMA Interim Course	(48)	Broken Weathered Substrata
(207)	HMA Surface Course	(3)	Core Out Substrata
<b>Concrete</b>			
(0)	Barrier Concrete	(203)	Existing Pavement Substrata
(0)	Barrier Concrete Footing	(6)	Loam Substrata
(0)	Curb Gutter	(80)	Rock Substrata
(48)	Flowable Mortar	(4)	Select Sand Substrata
(0)	Median Concrete	(3)	Shale Substrata
(0)	PCC Pavement	(10)	Topsoil Substrata
(0)	Sidewalk	<b>Unsuitable / Waste</b>	
<b>Shoulder</b>			
(209)	Shoulder HMA	(3)	Unsuitable Type A
(0)	Shoulder PCC	(13)	Unsuitable Type B
(6)	Shoulder Granular	(11)	Unsuitable Type C
(6)	Shoulder Granular	(3)	Waste
<b>Existing</b>			
(0)	Existing Pavement		

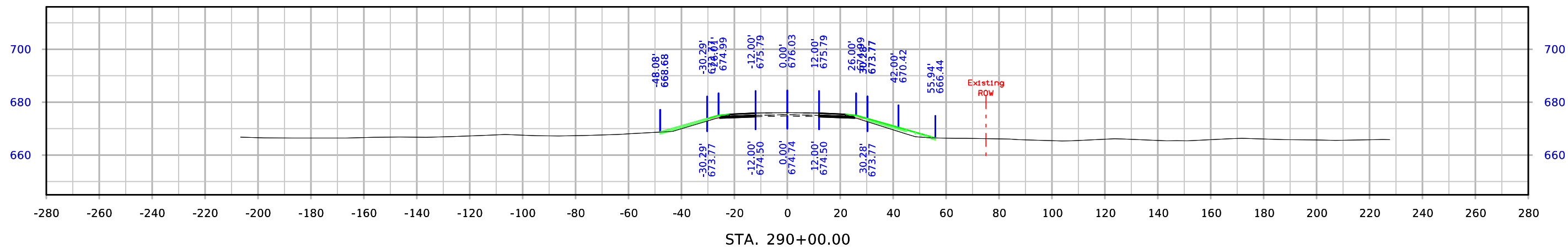
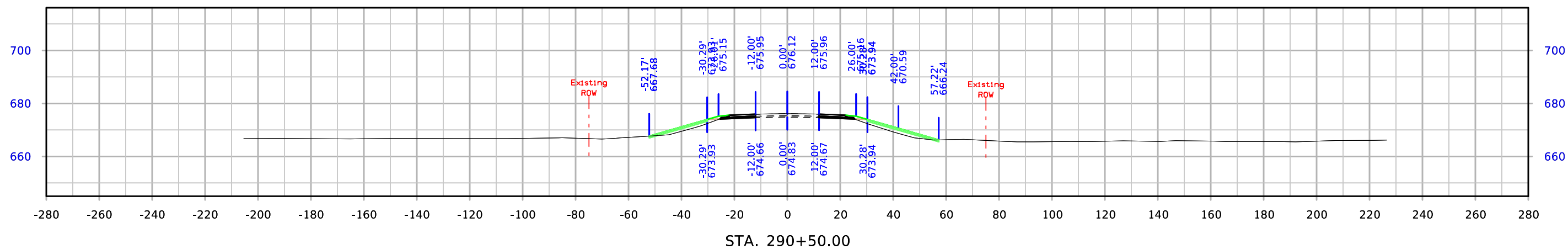
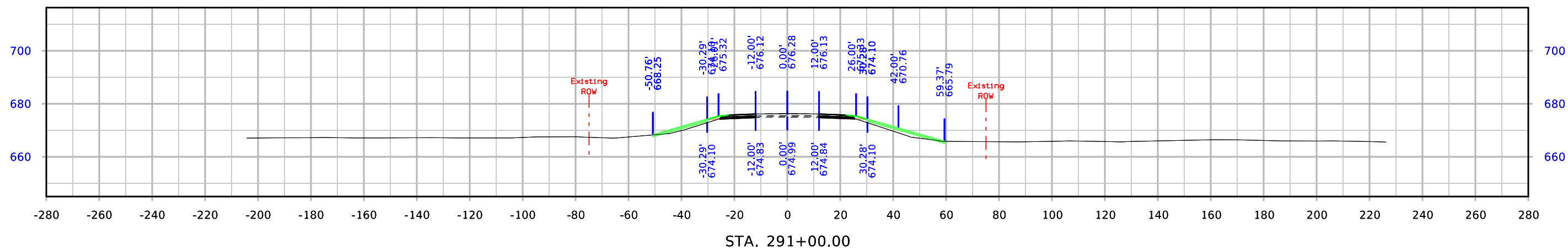
NOTES:

NOTES:

## CROSS SECTIONS LEGEND AND INFORMATION SHEET

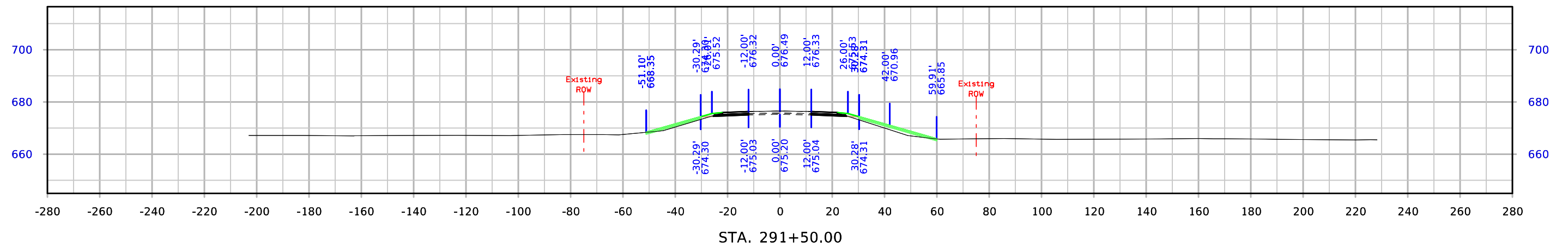
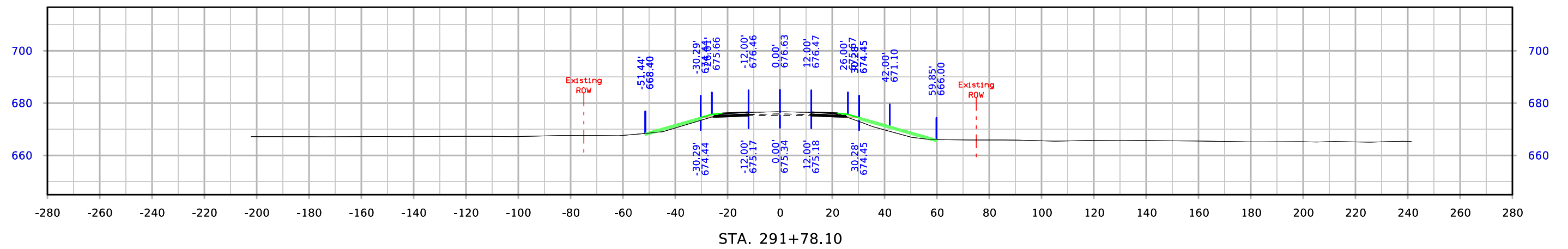
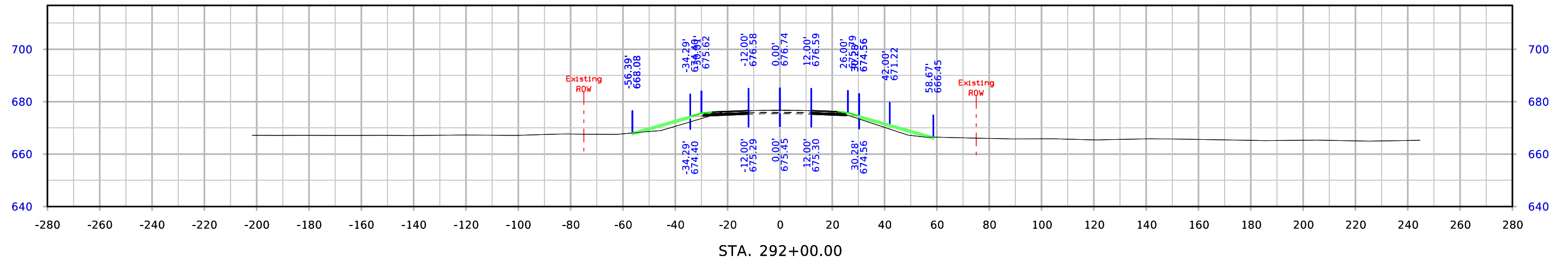
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# US 30

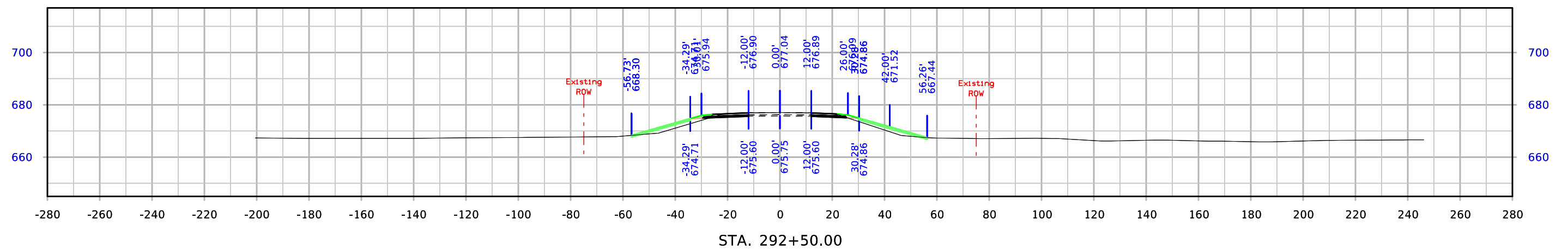
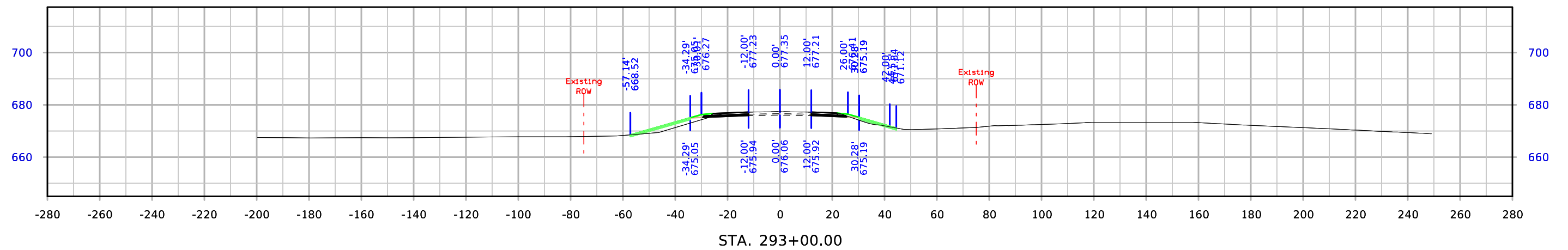
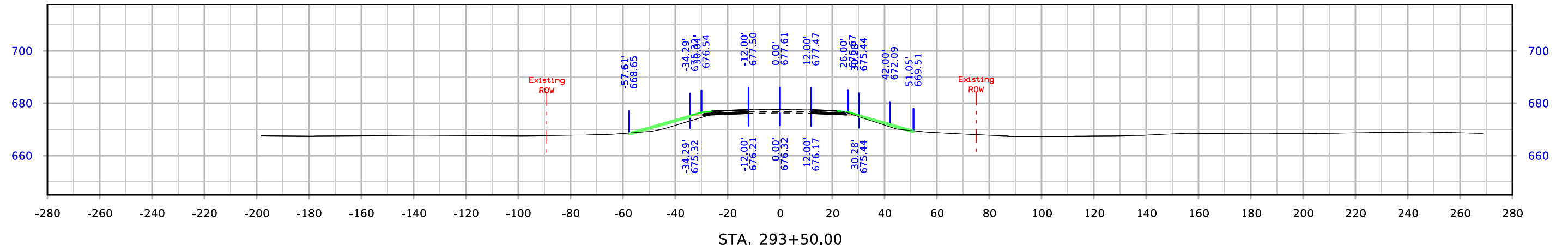




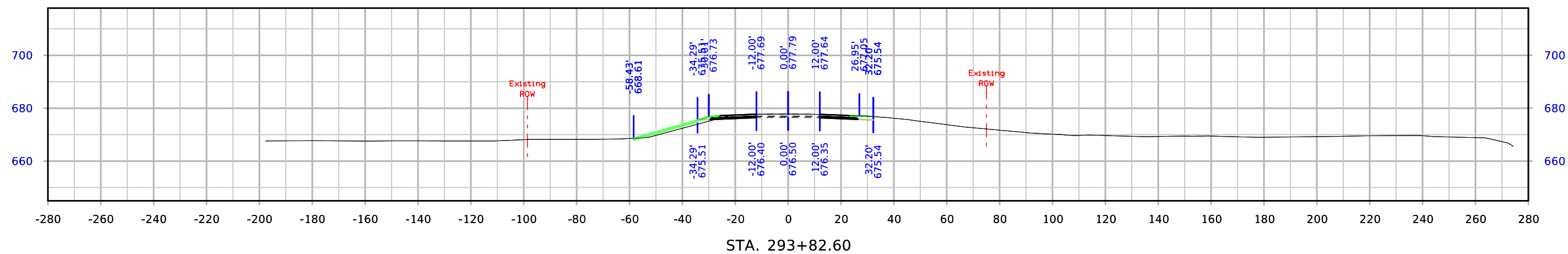
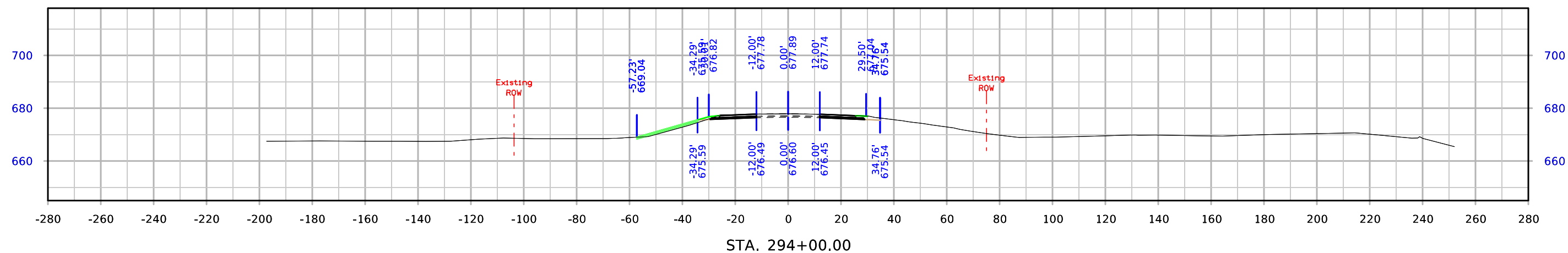
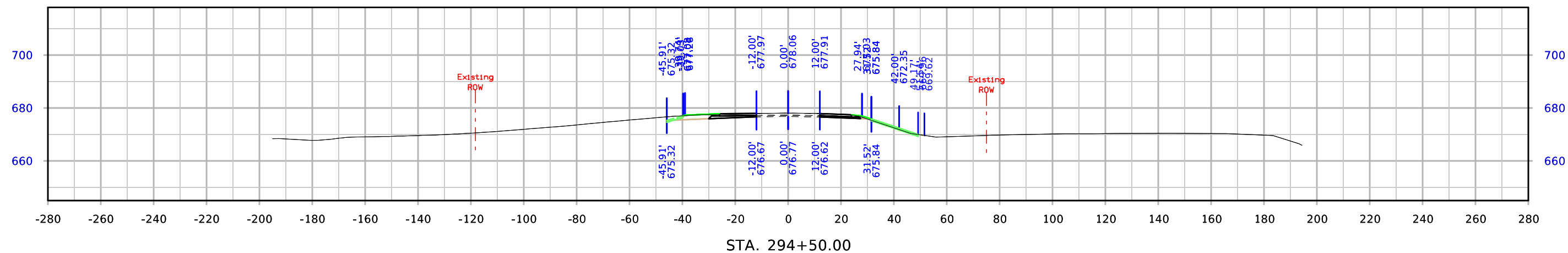
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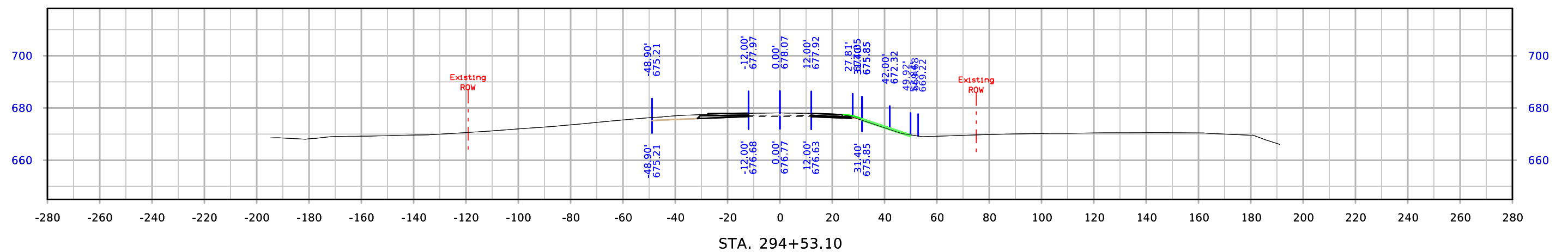
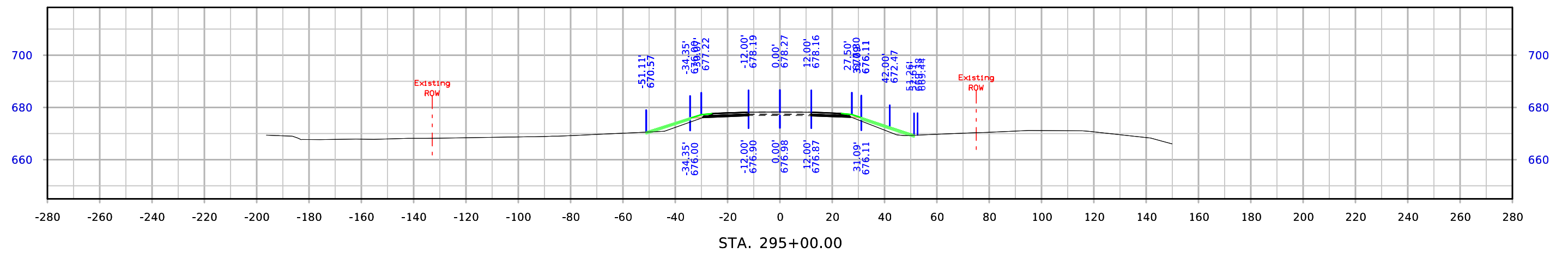
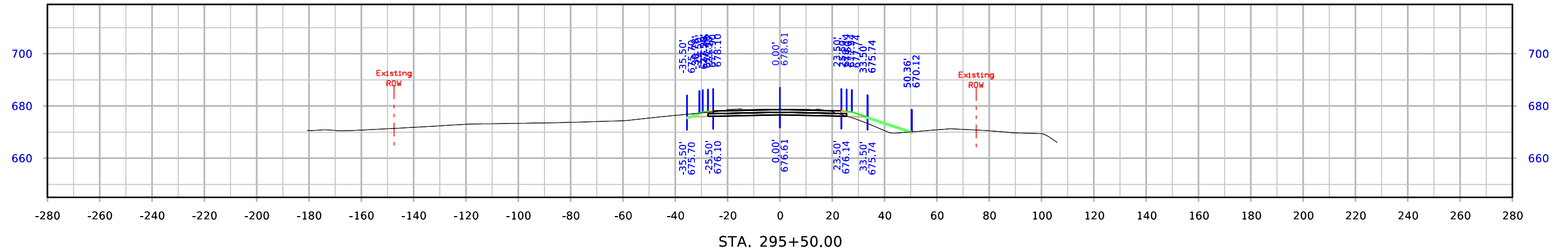
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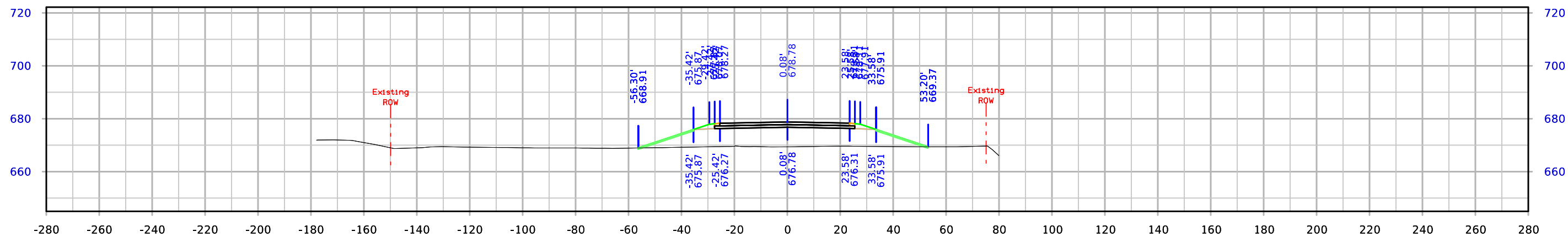
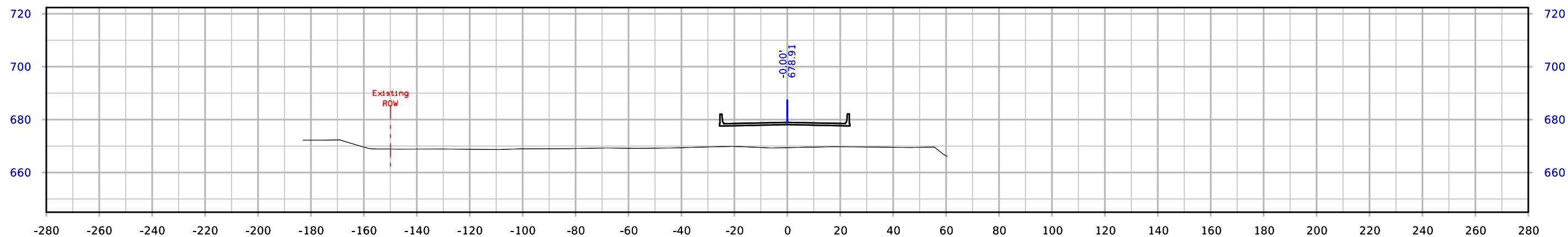
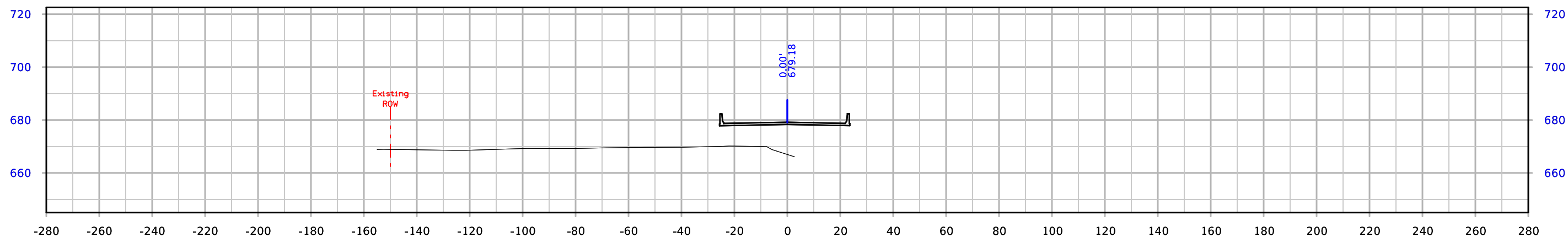
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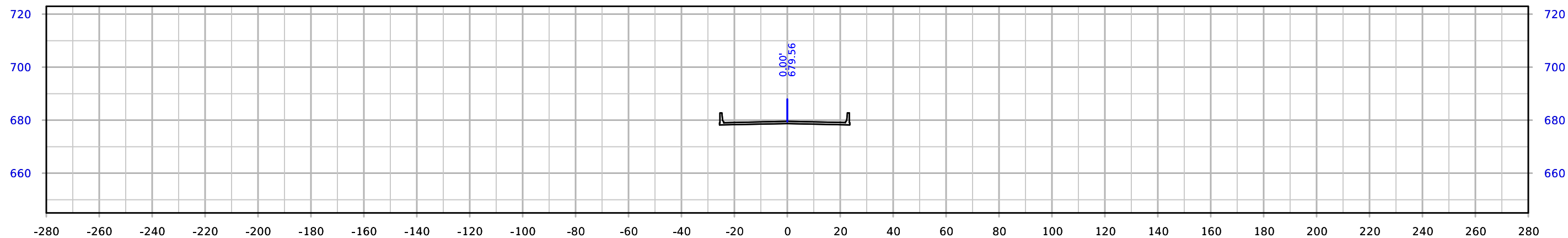
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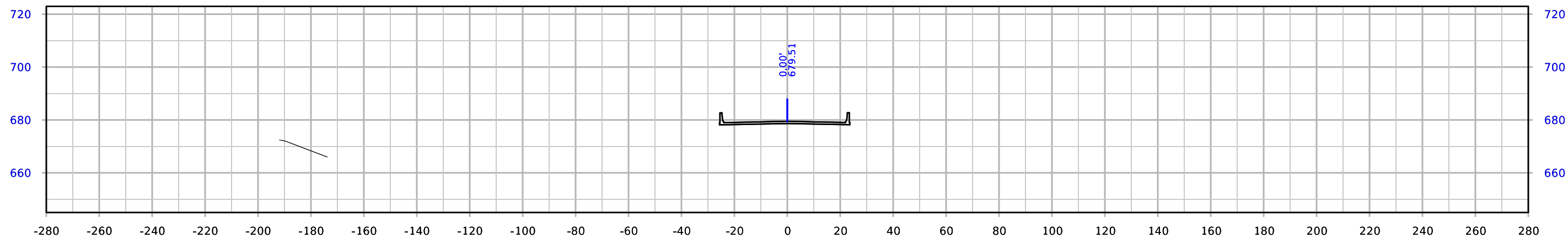
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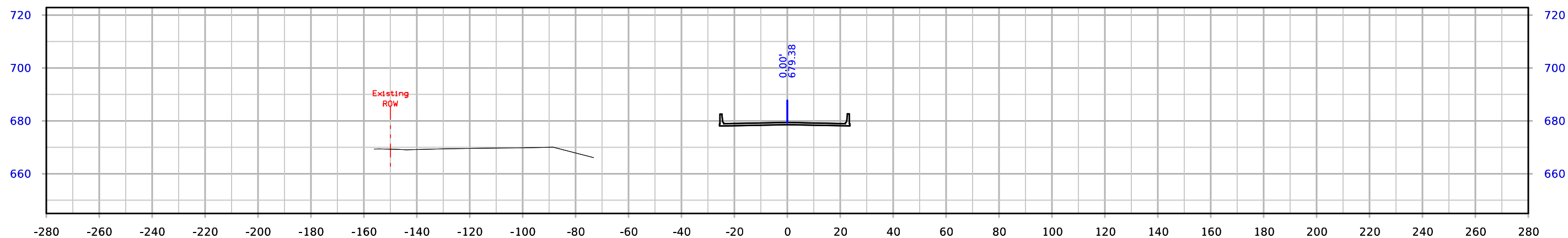
# US 30



STA. 298+00.00

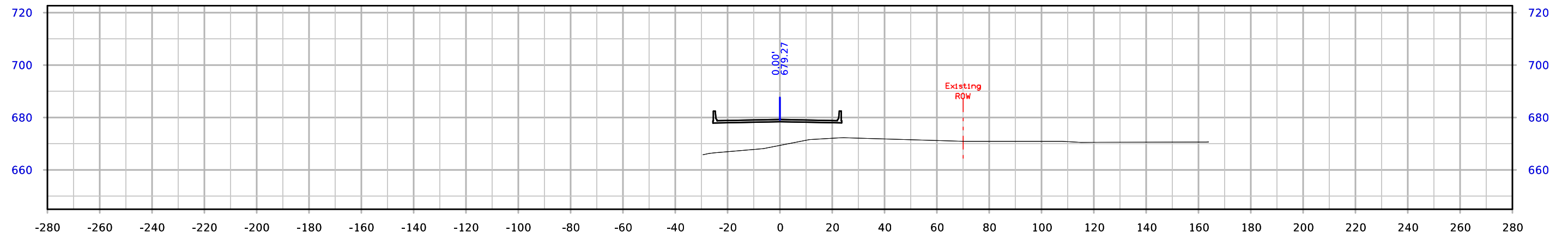


STA. 297+50.00

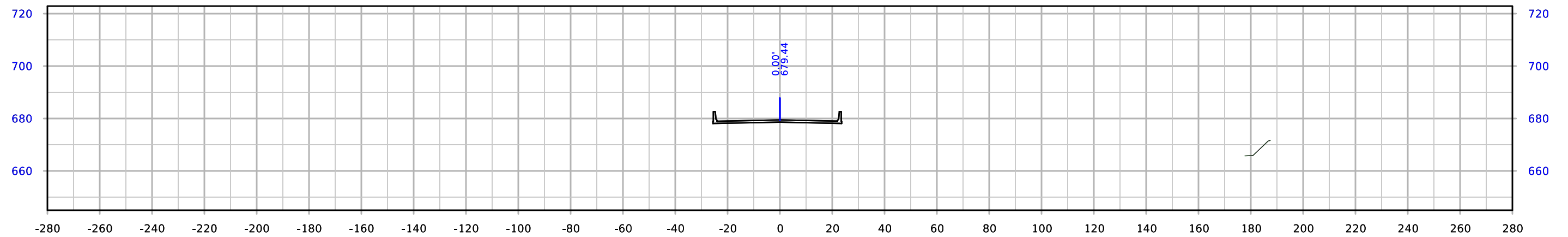


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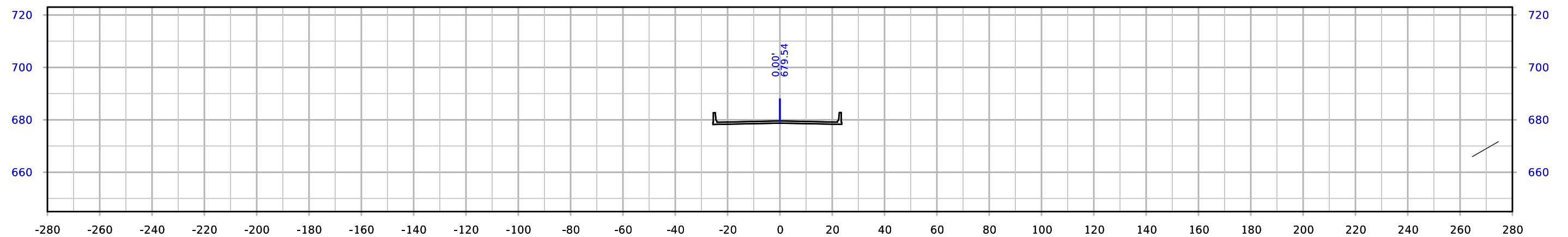
# US 30



STA. 299+50.00

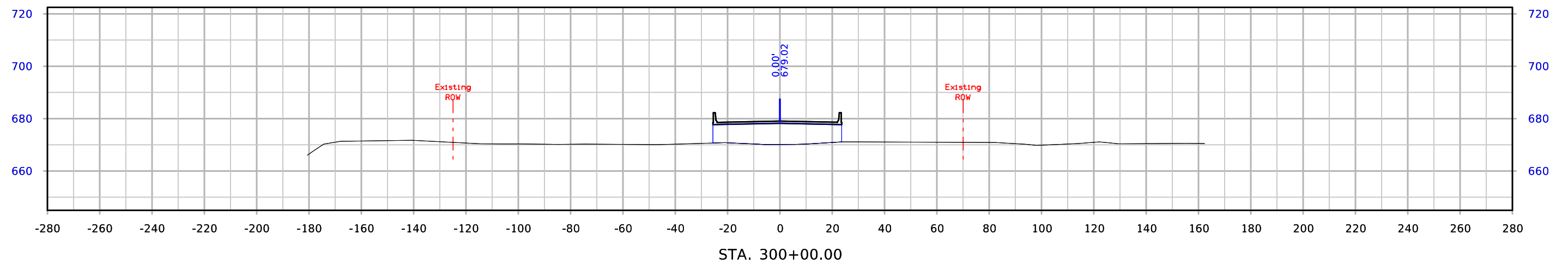
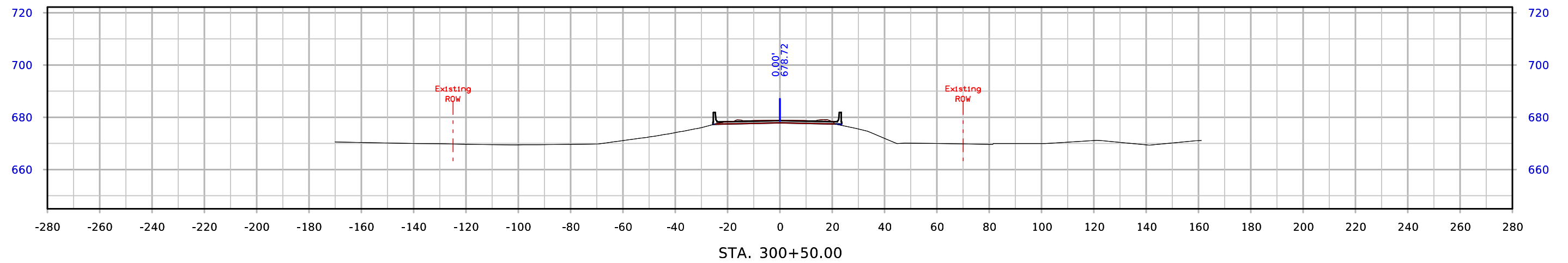
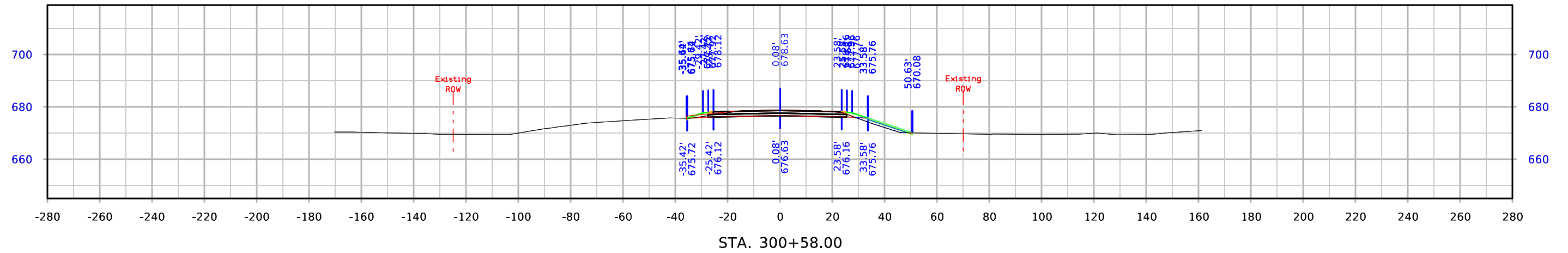


STA. 299+00.00



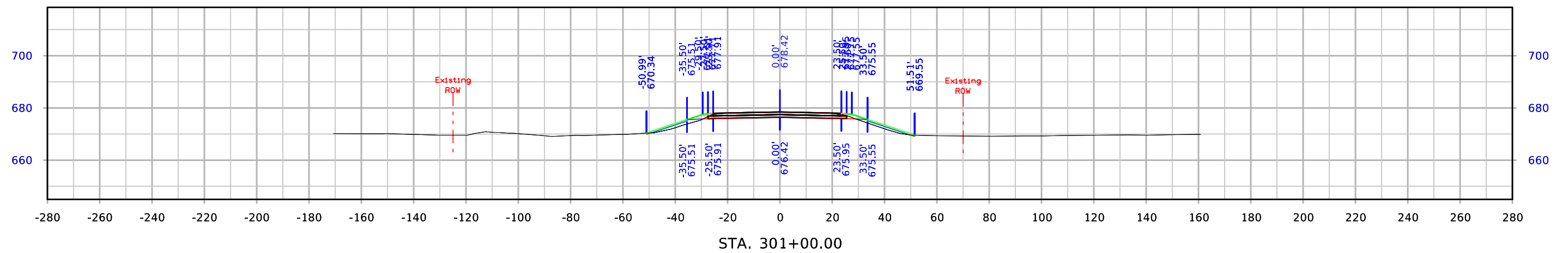
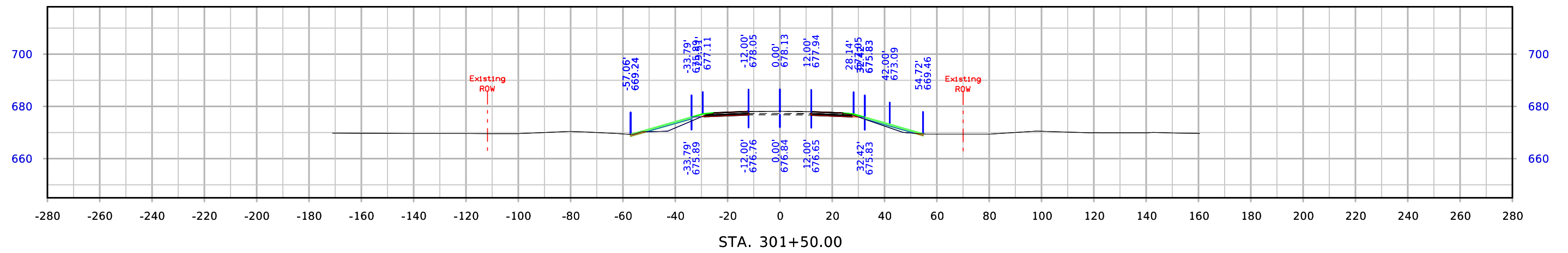
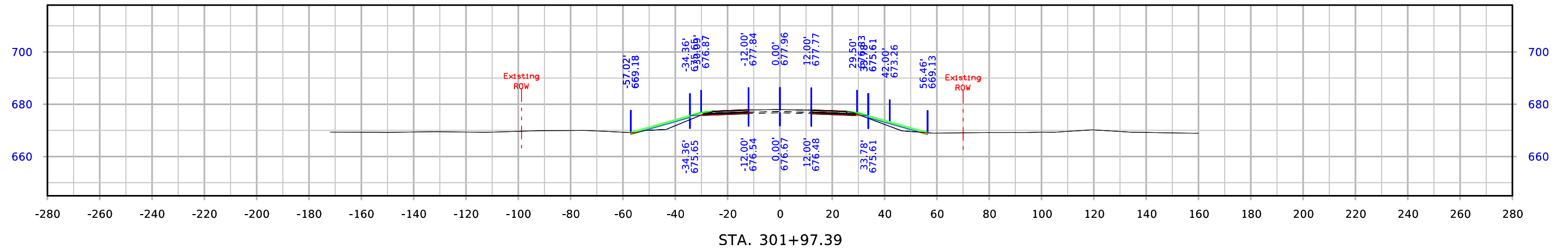
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# US 30

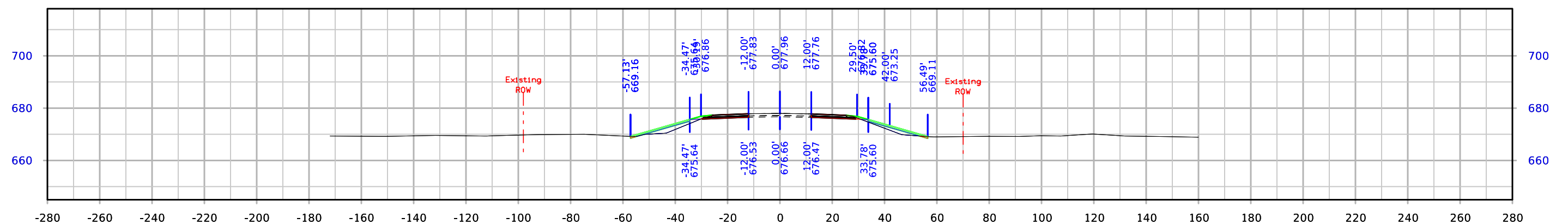
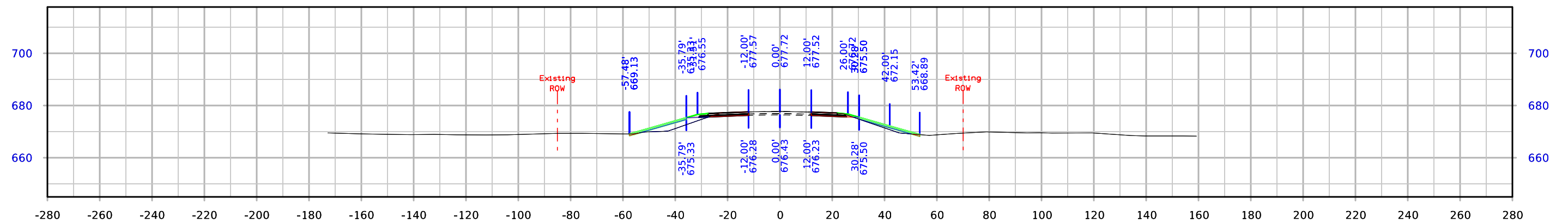
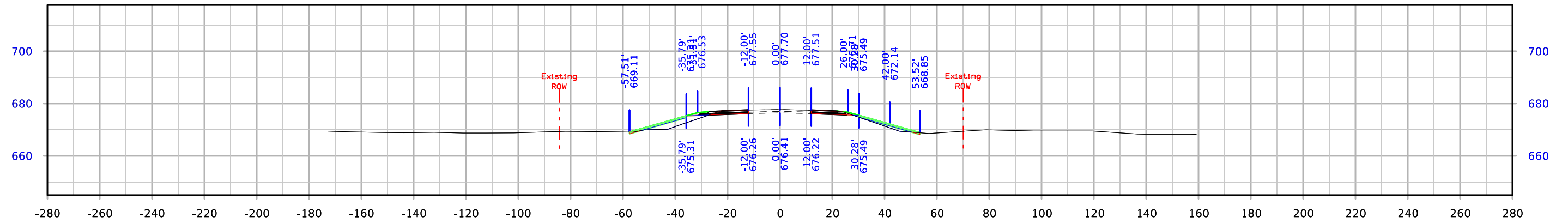




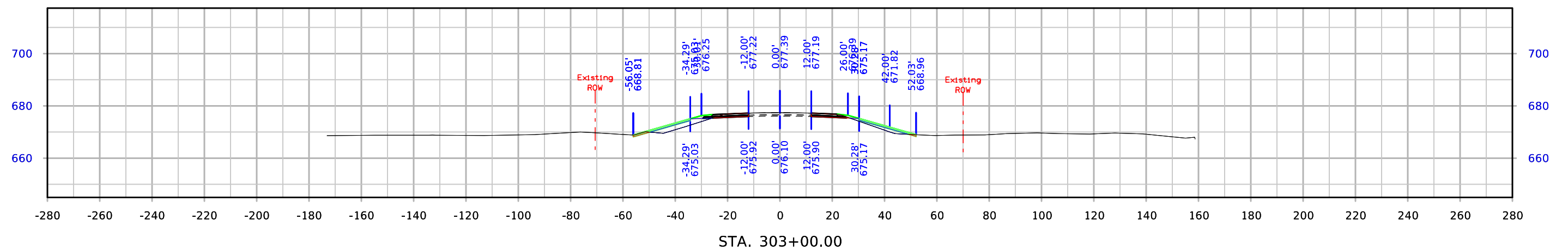
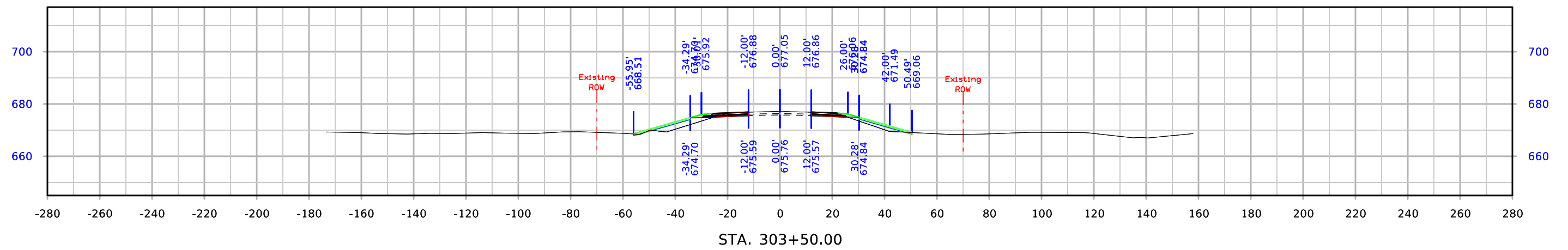
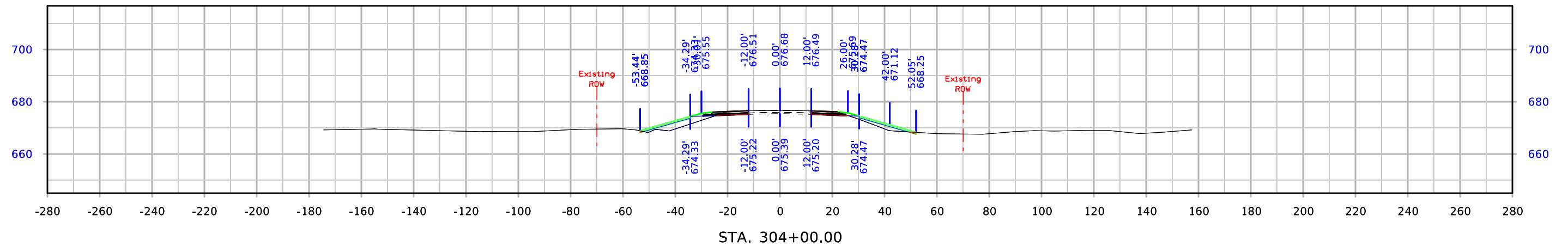
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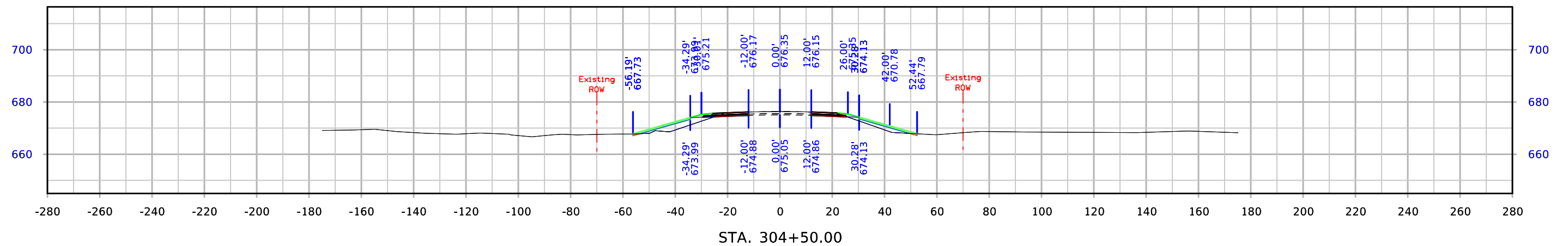
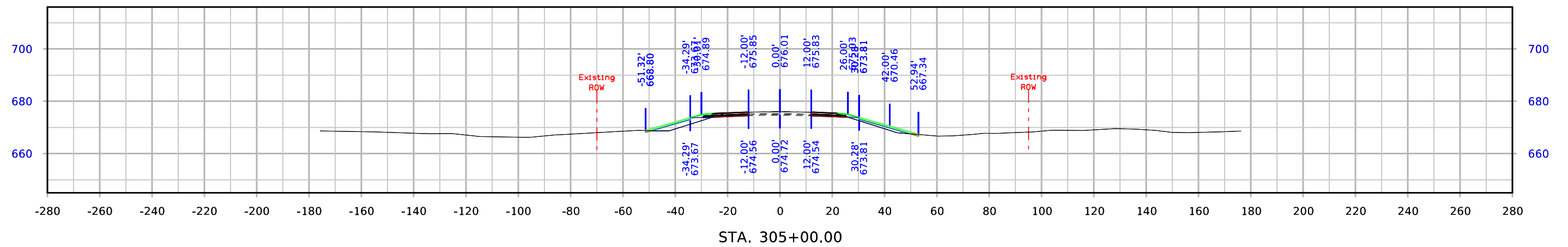
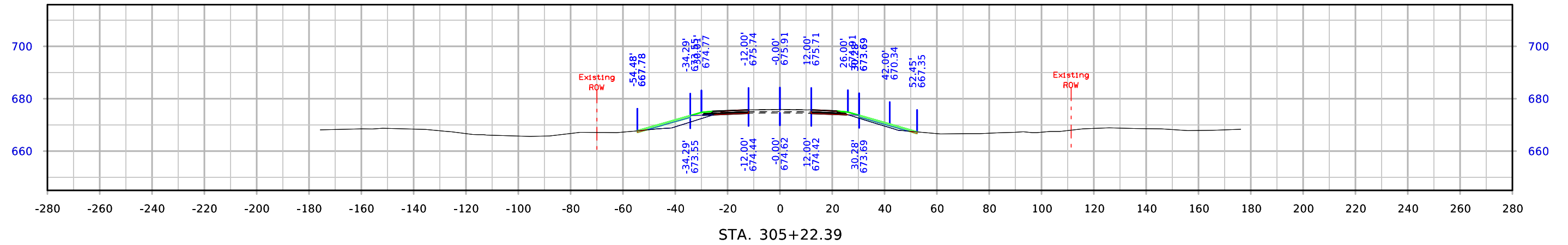
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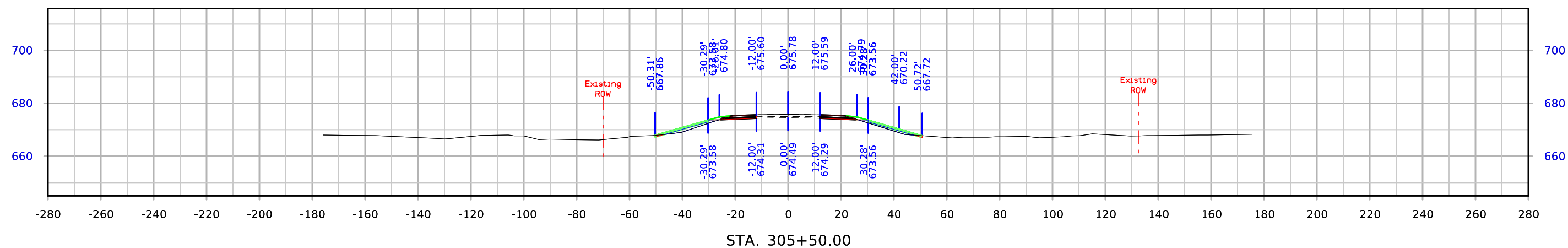
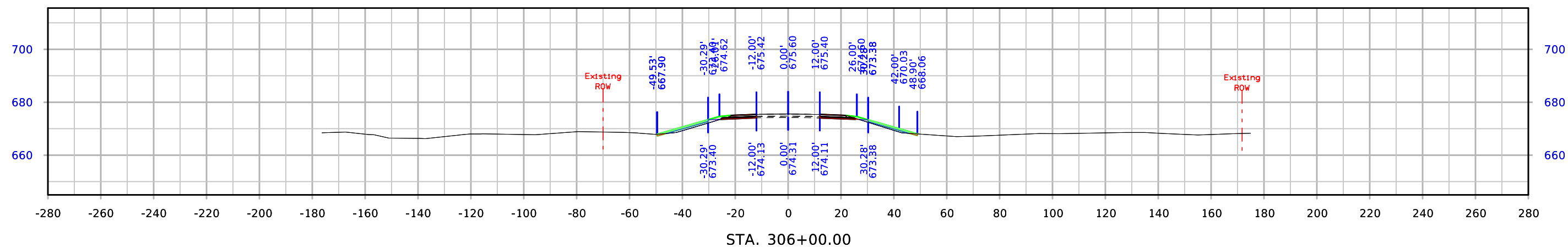
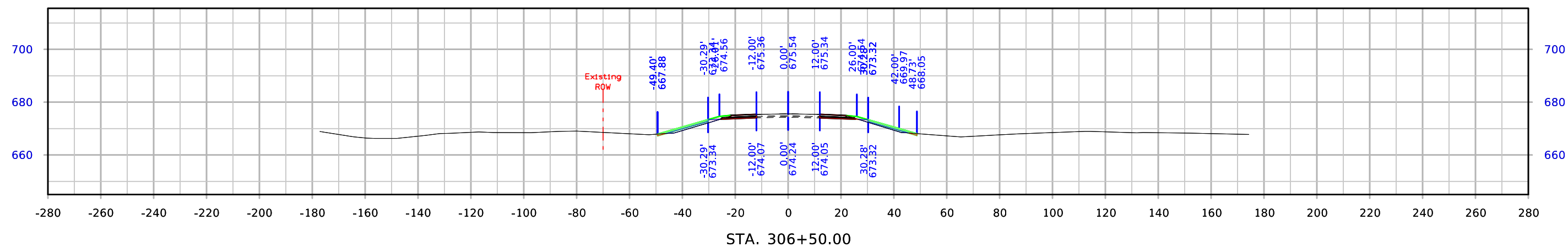
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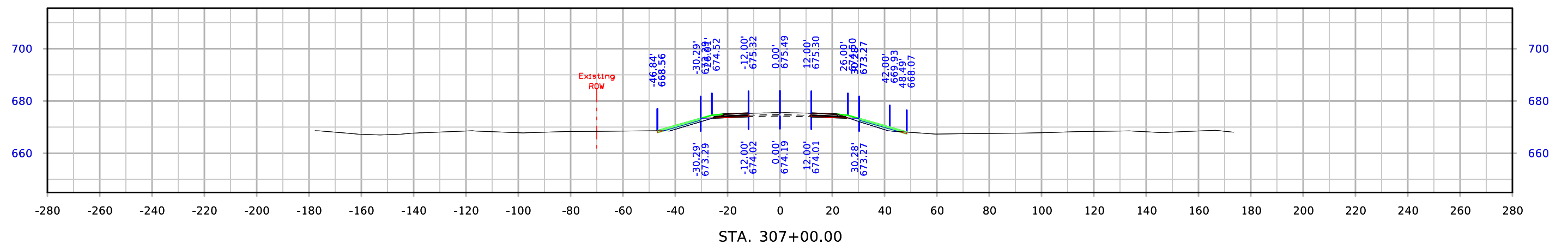
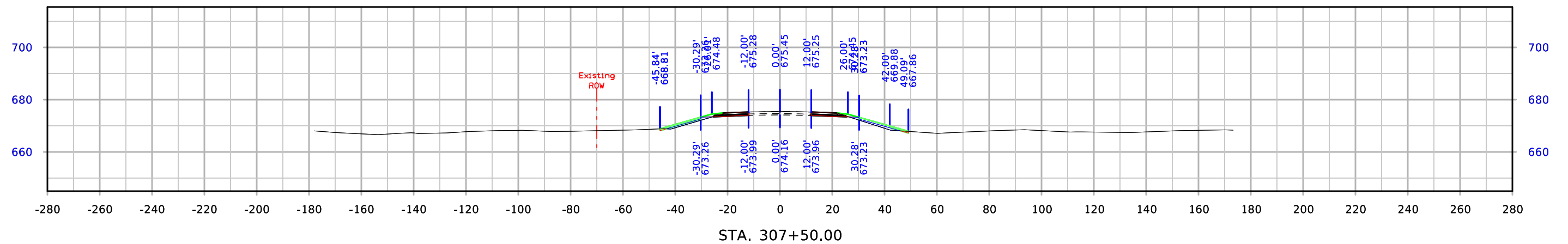
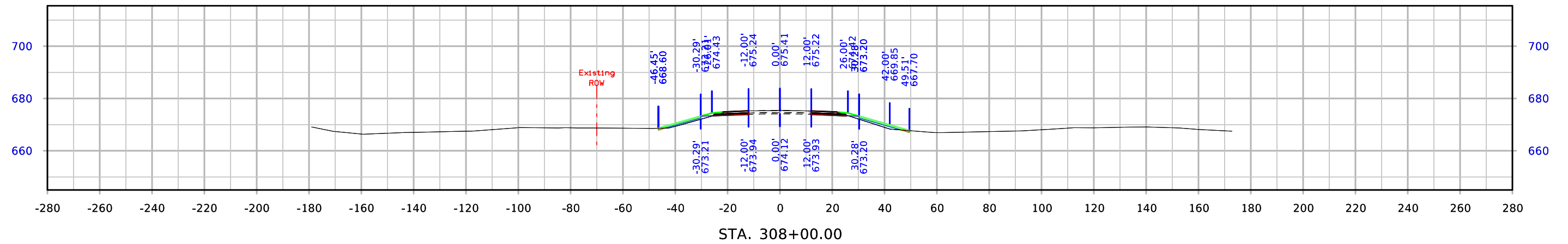
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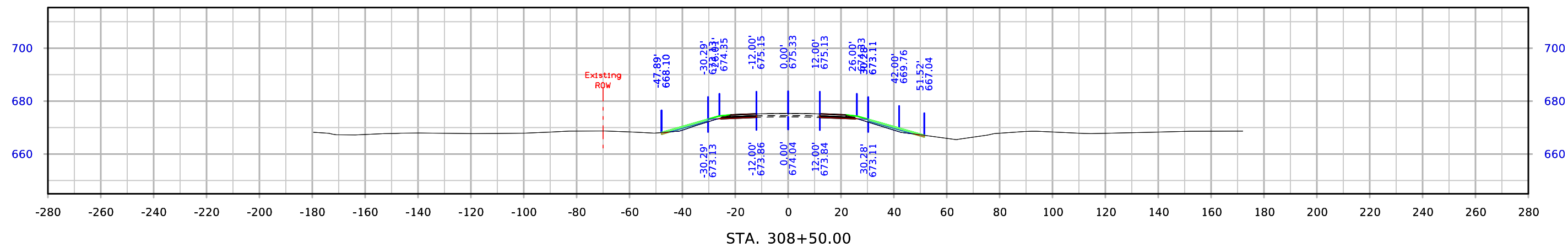
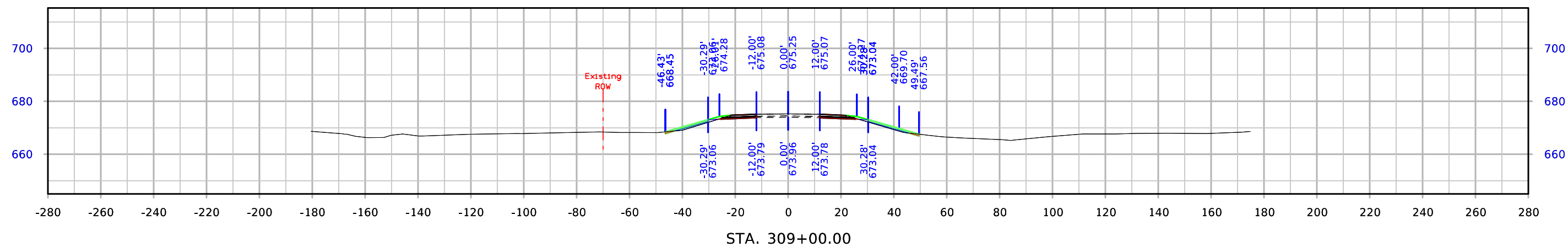
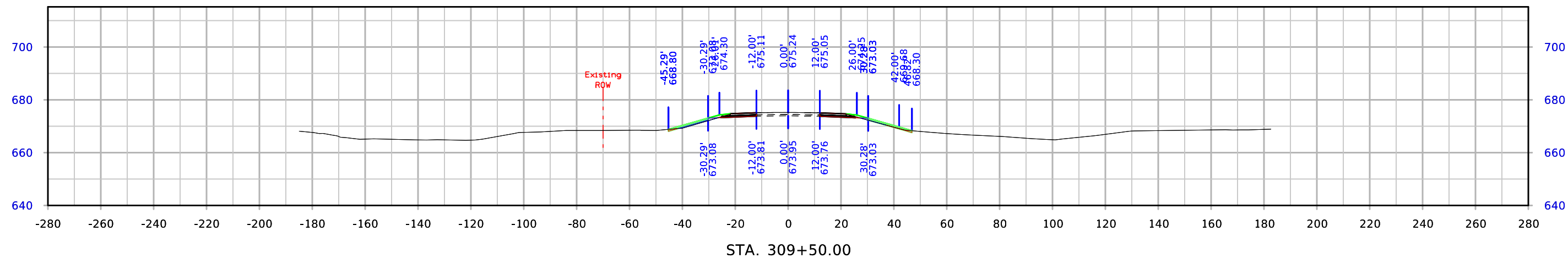
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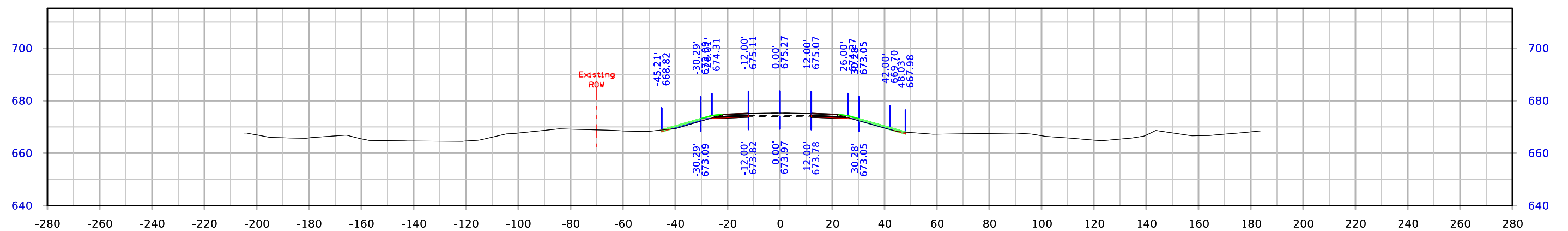
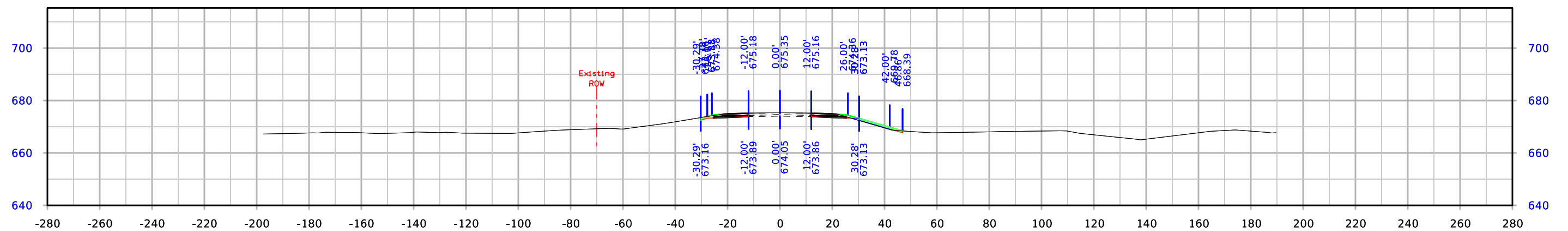
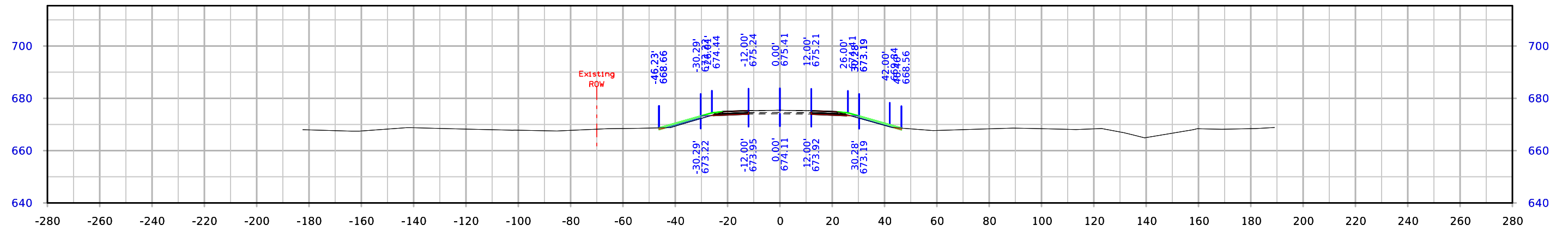
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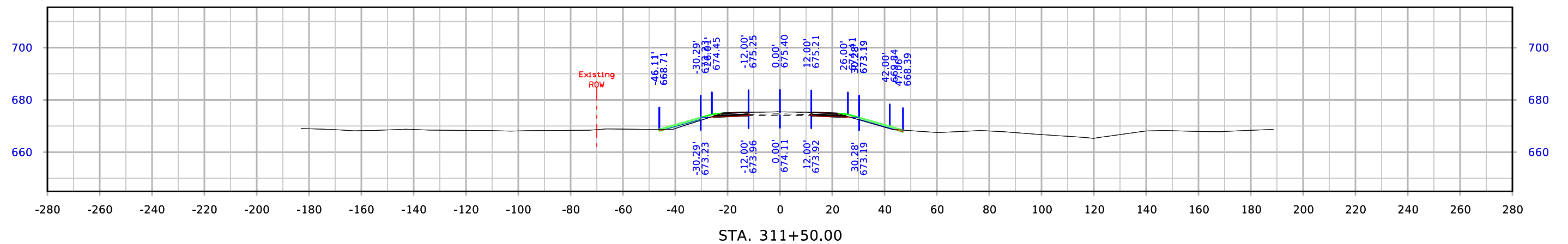
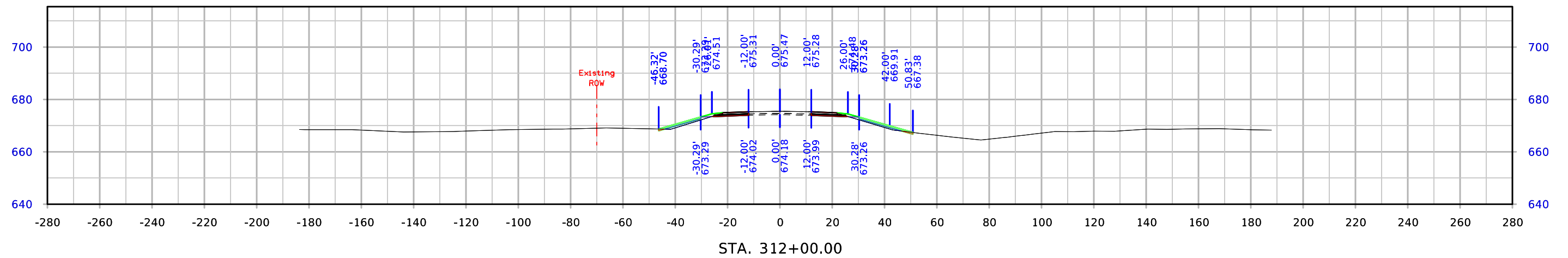
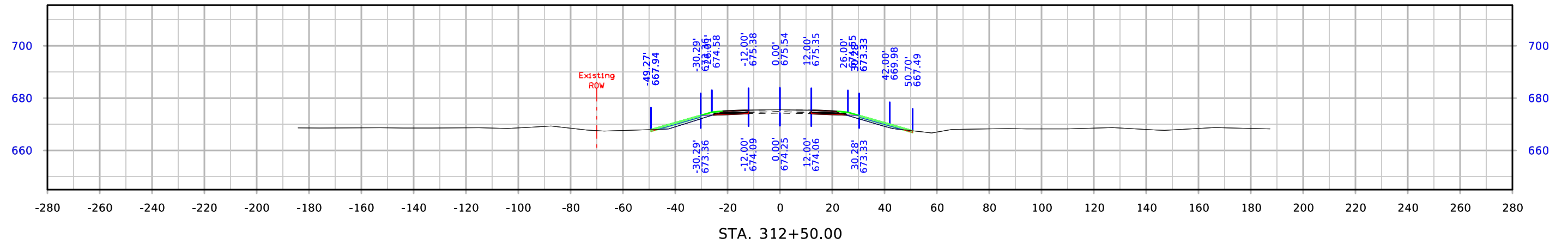


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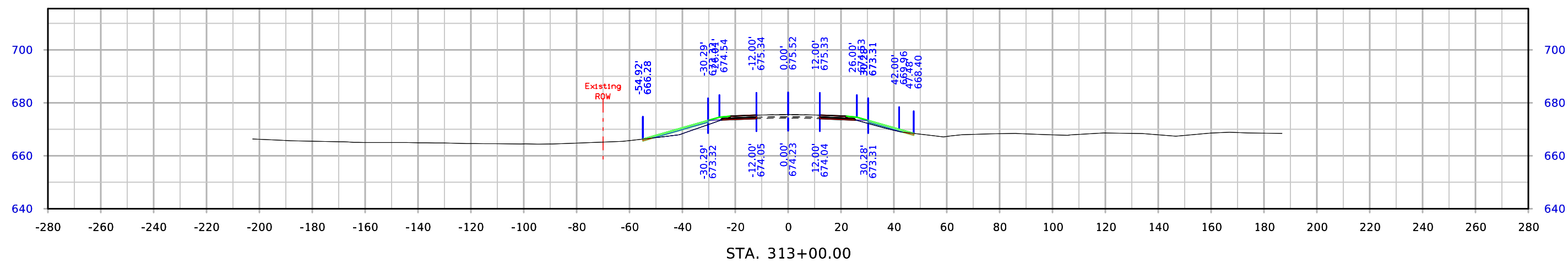
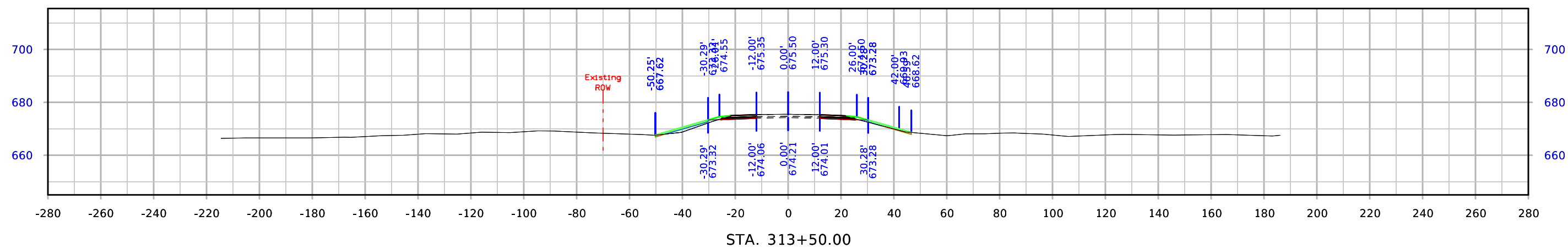
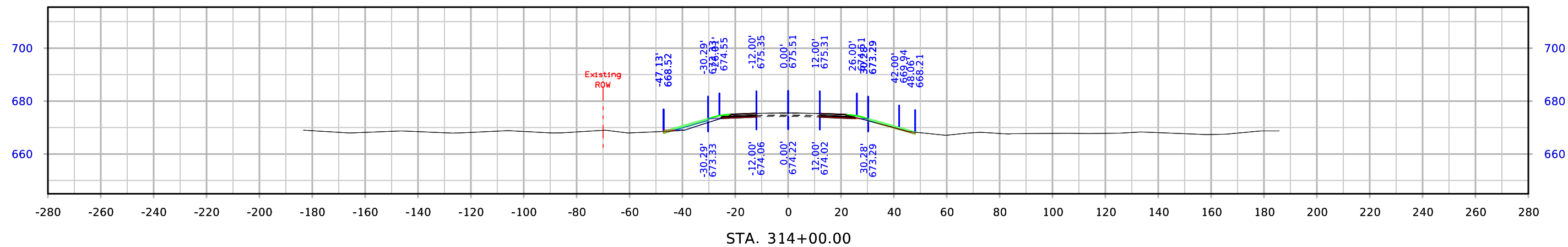




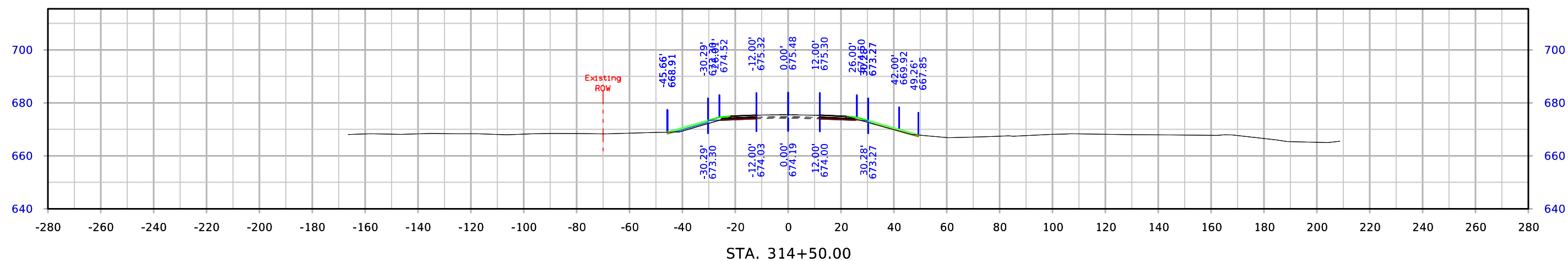
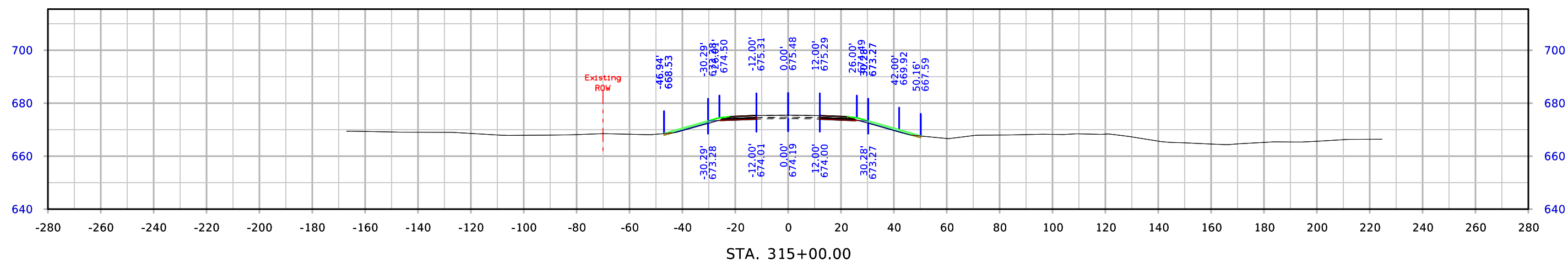
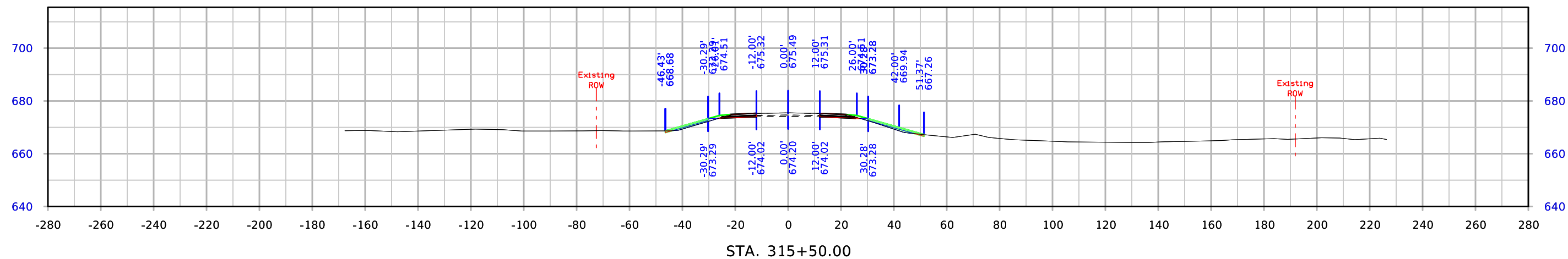
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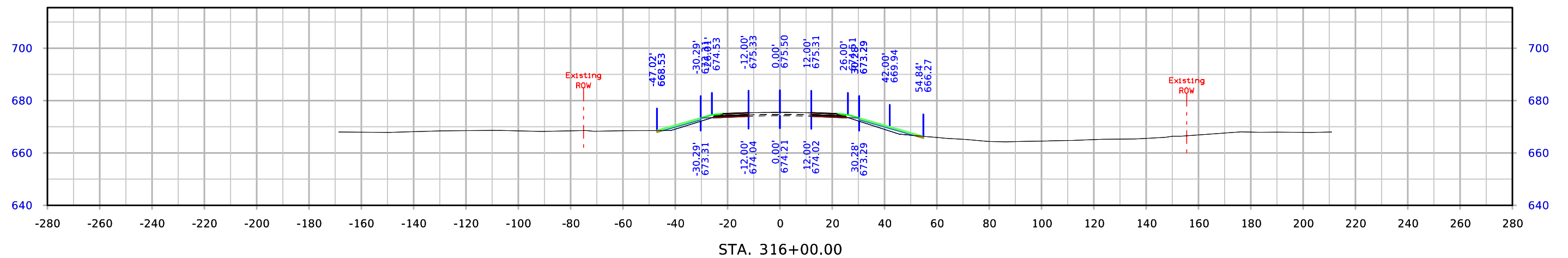
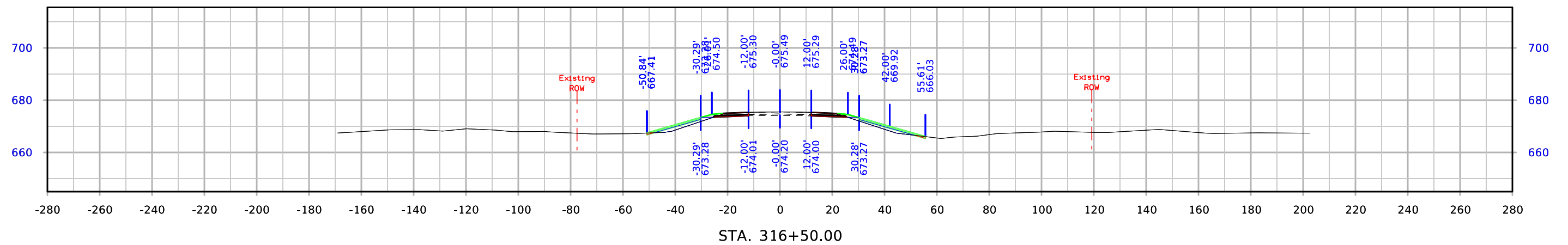
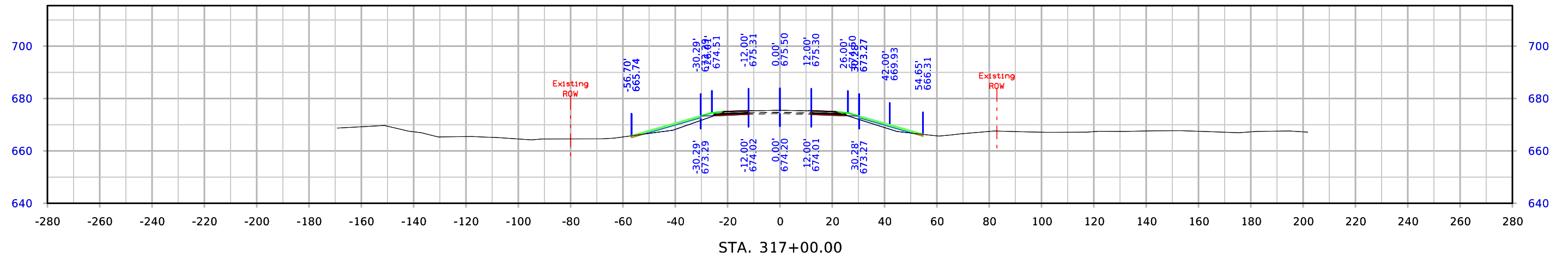
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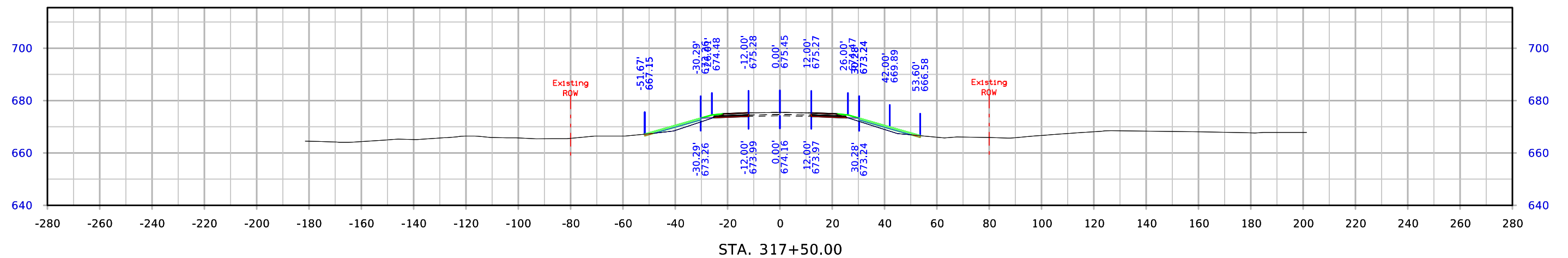
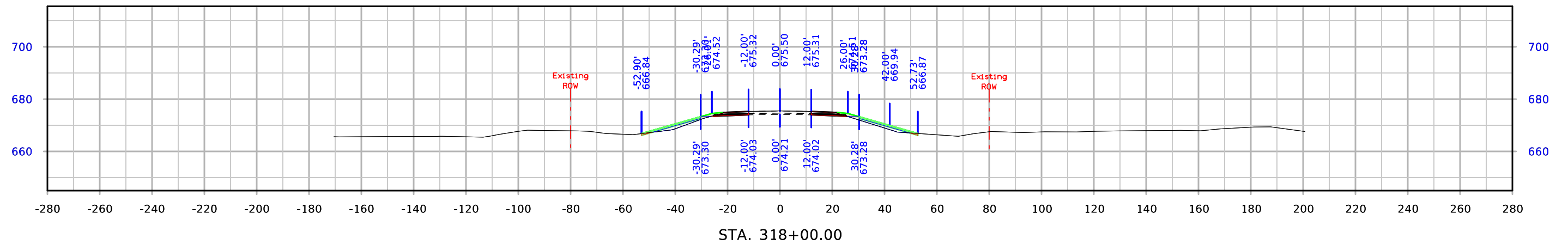
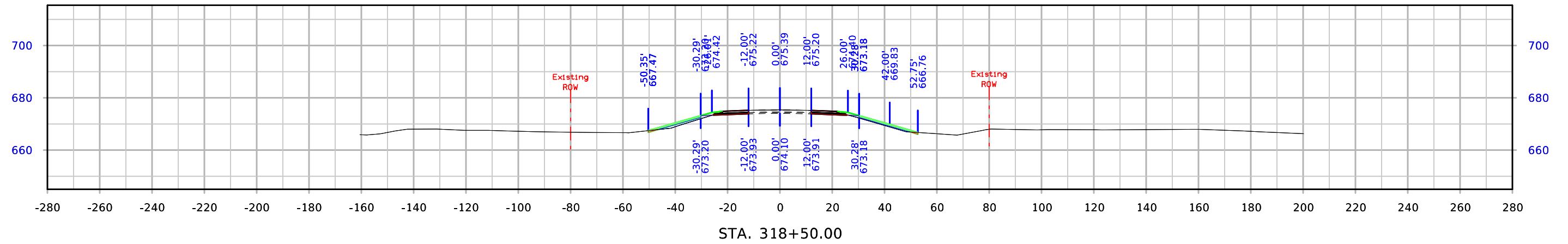
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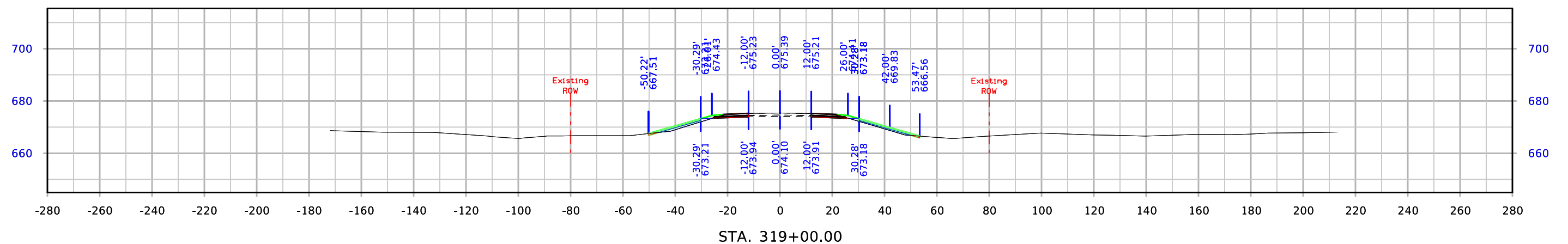
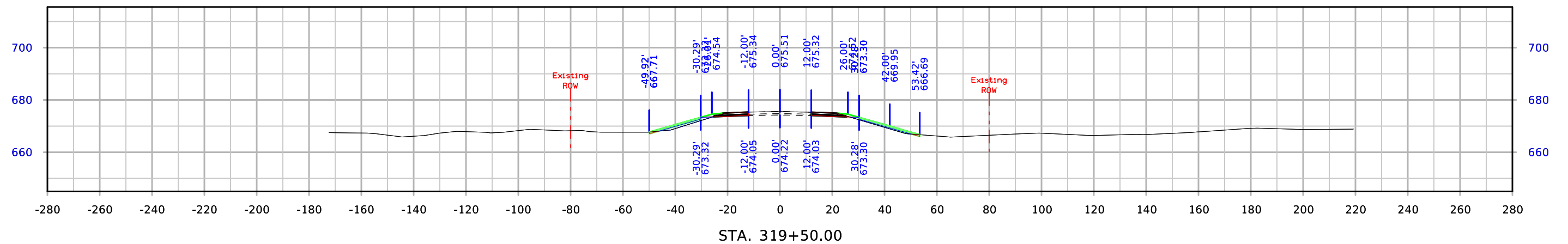
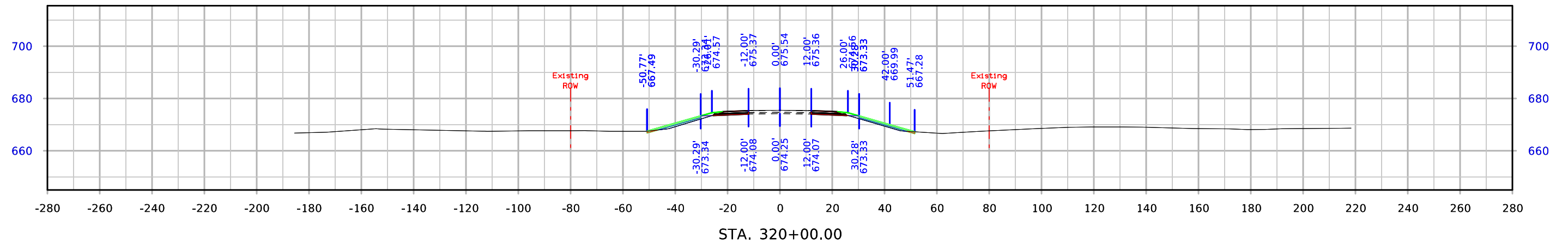
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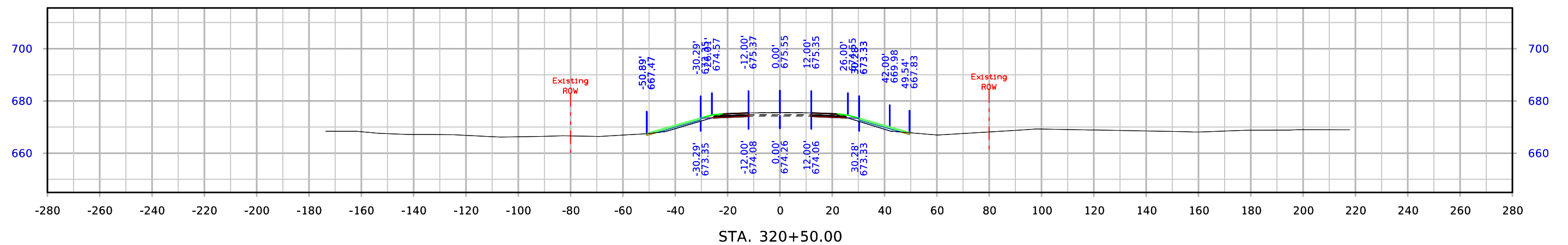
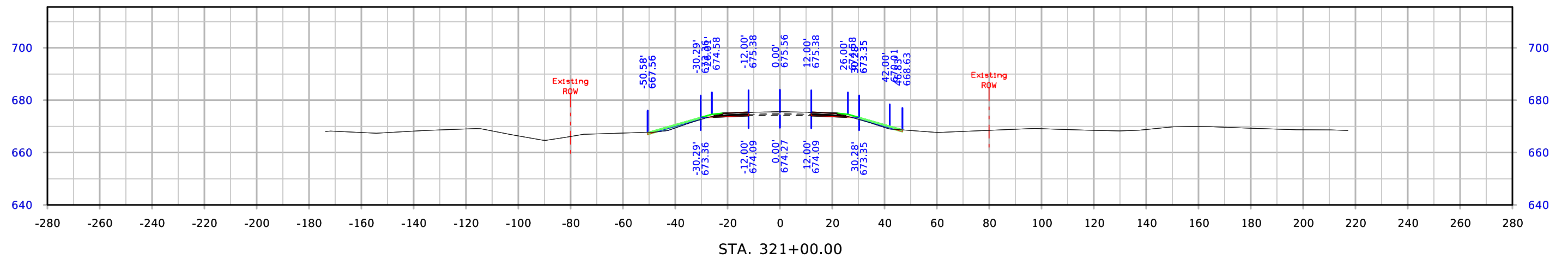
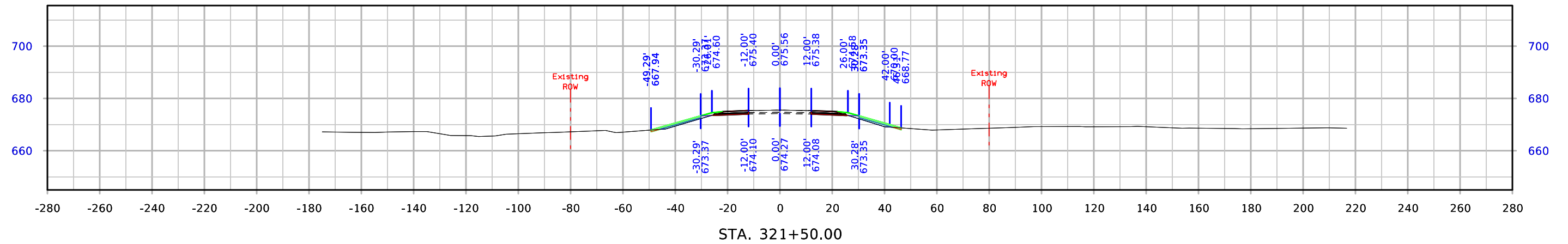
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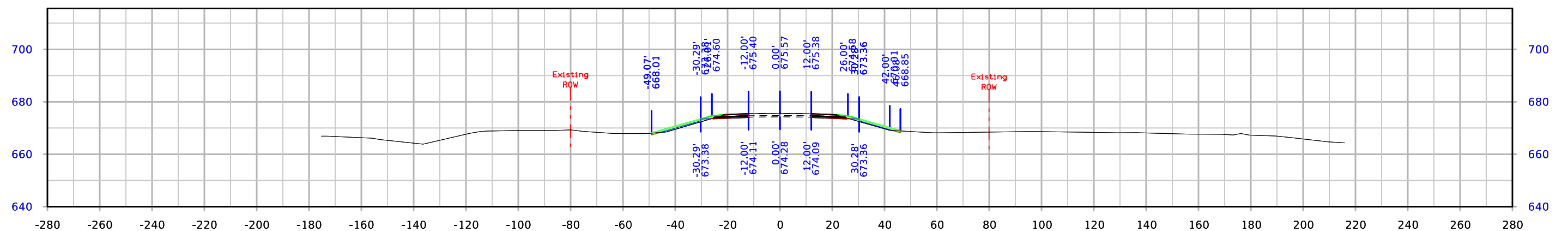
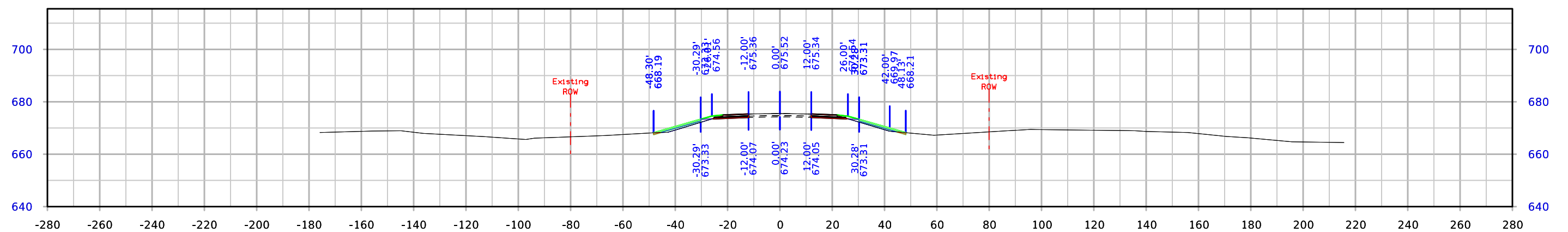
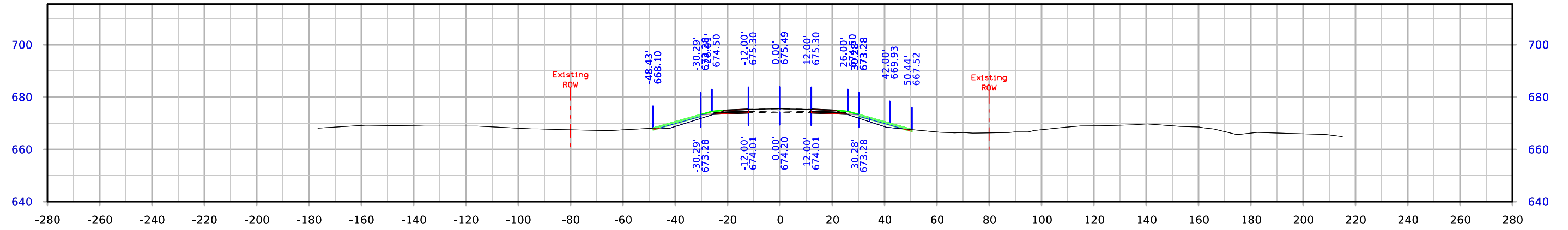
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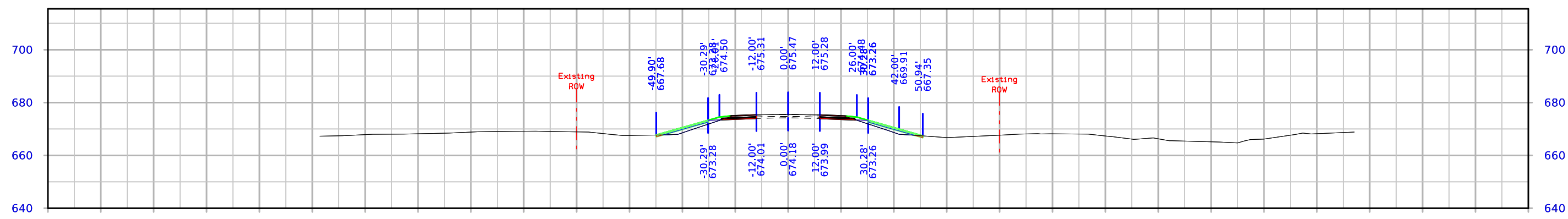
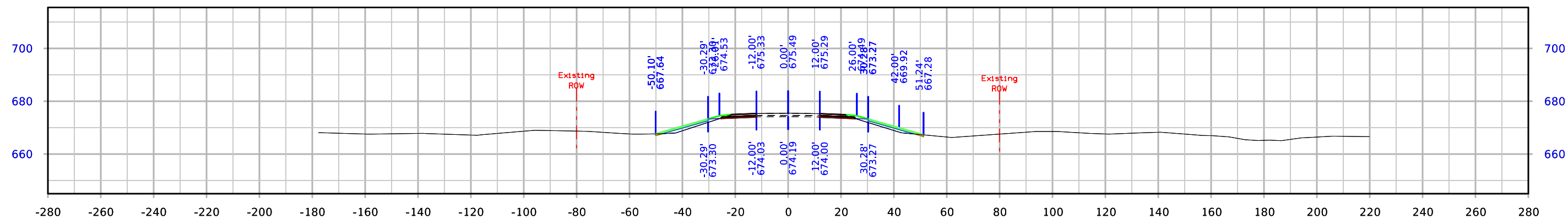
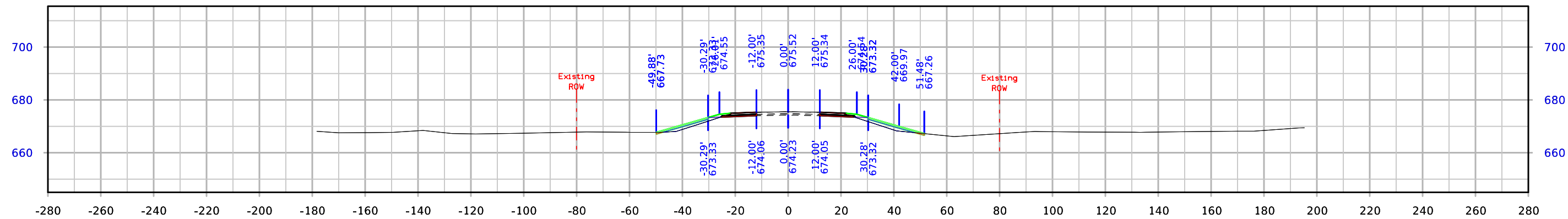


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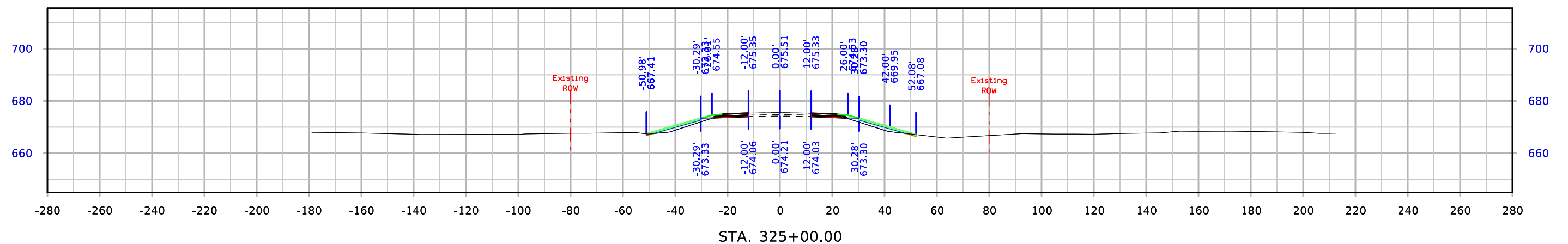
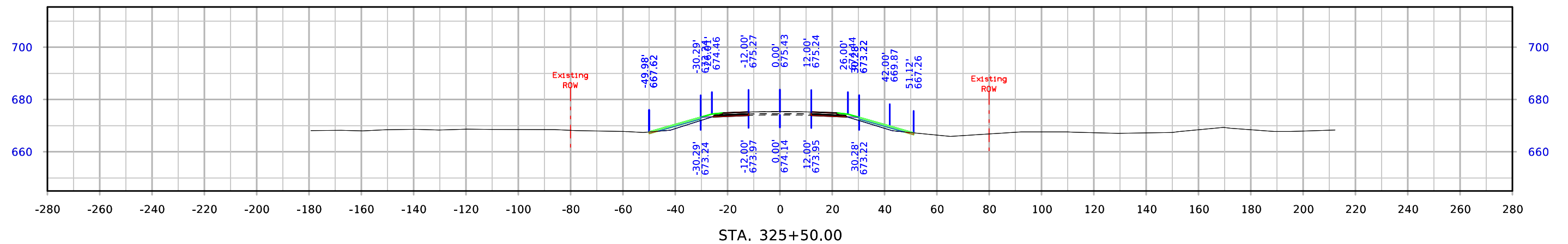
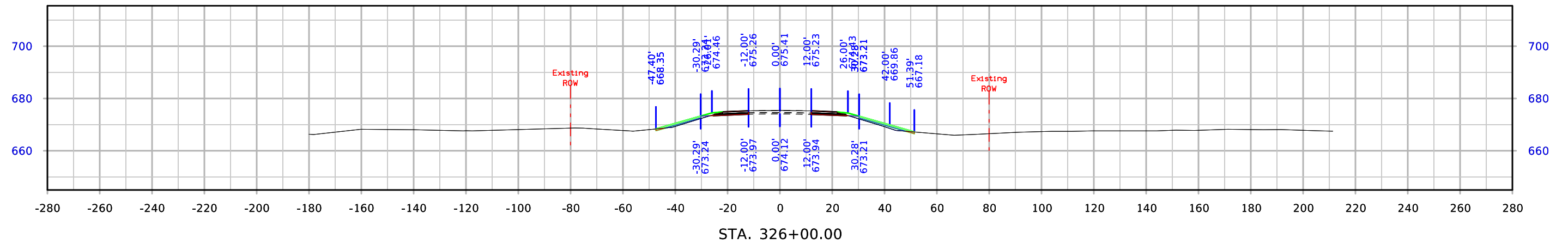




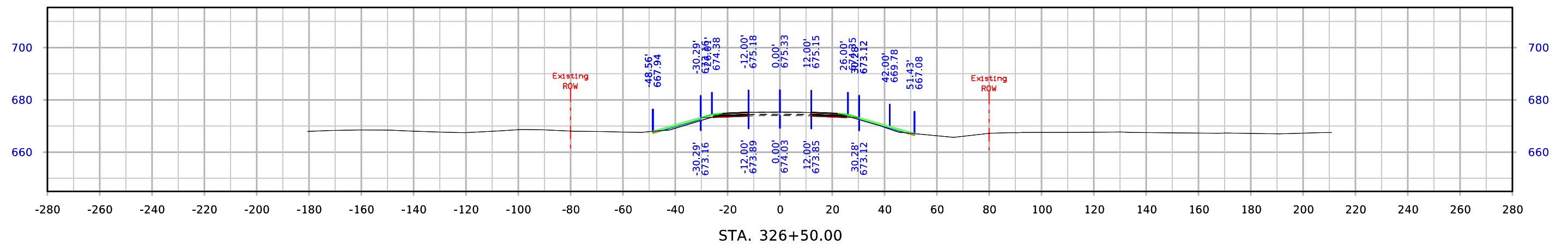
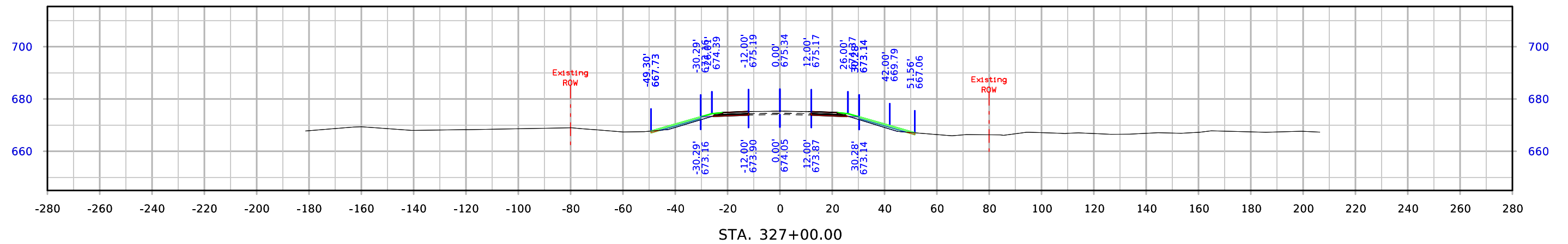
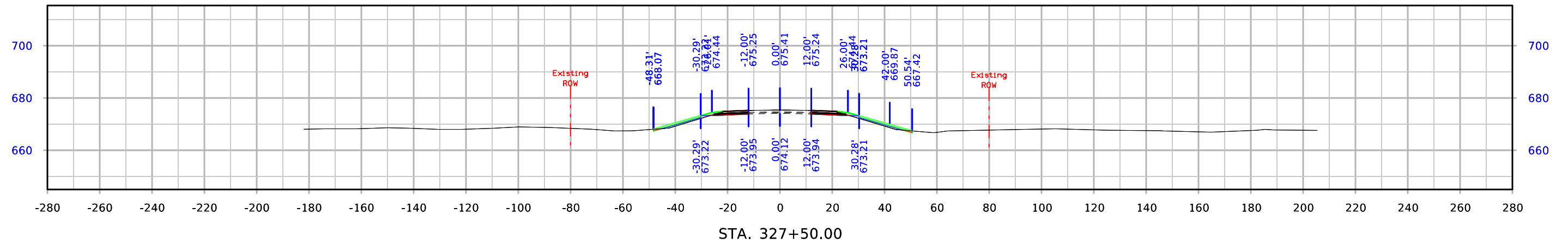
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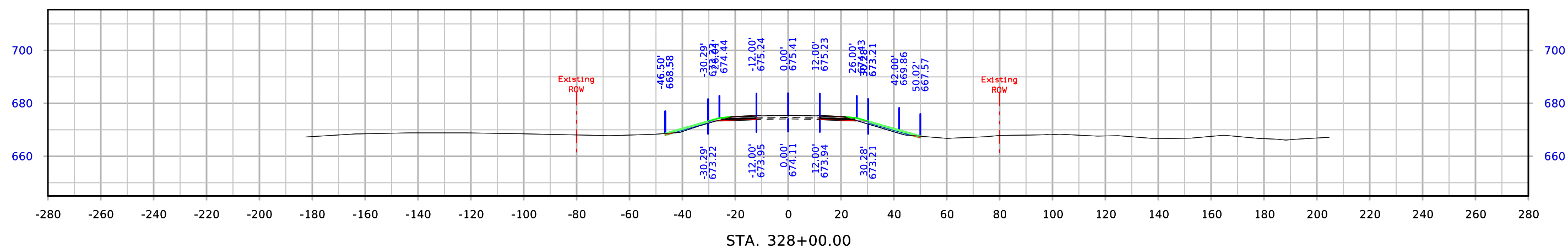
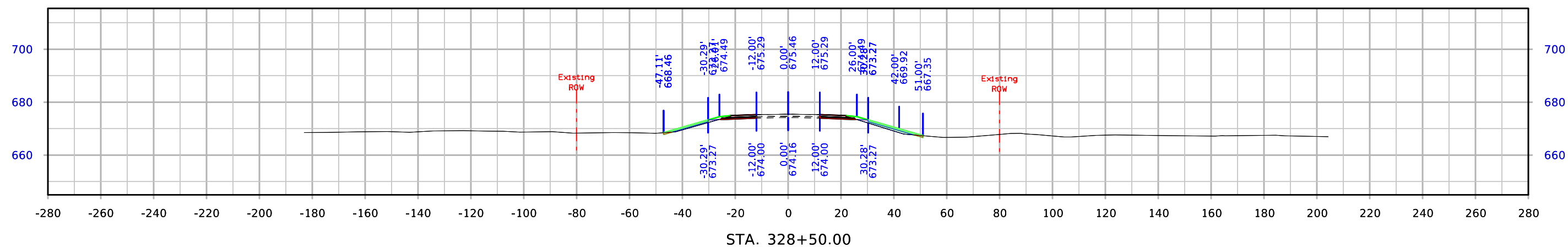
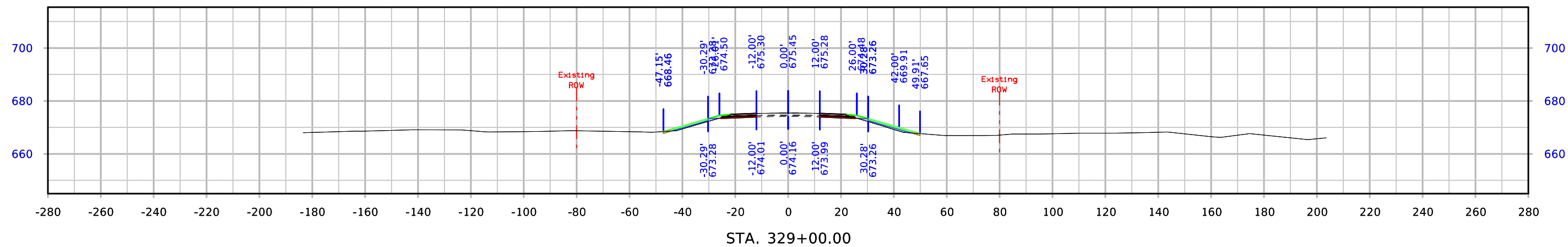
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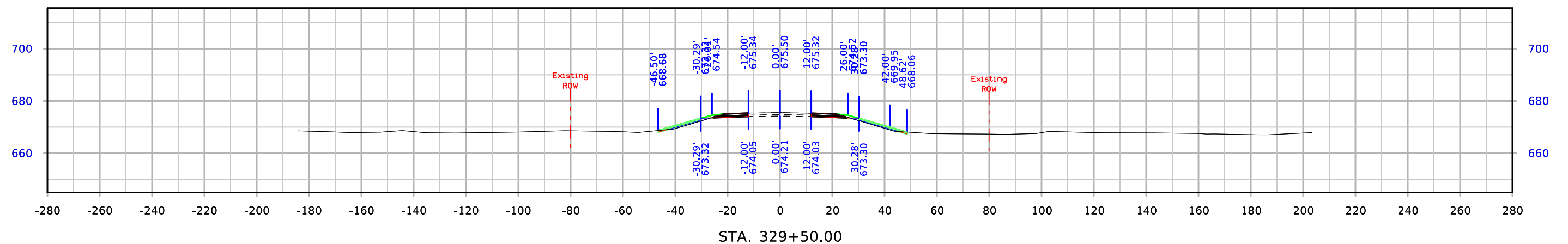
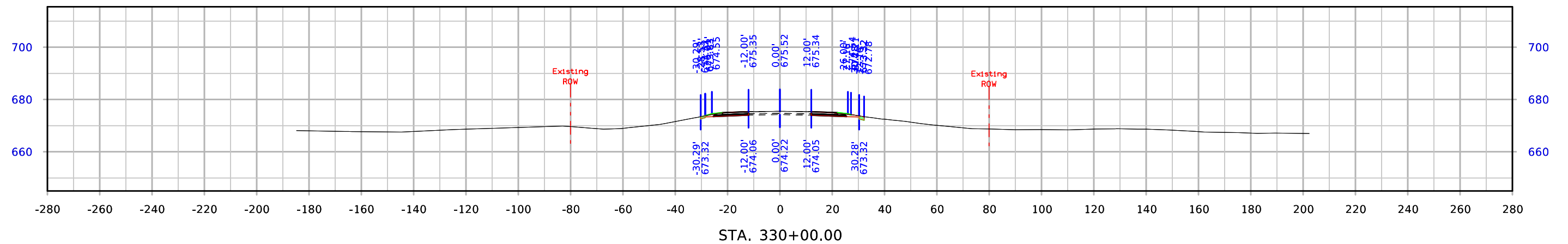
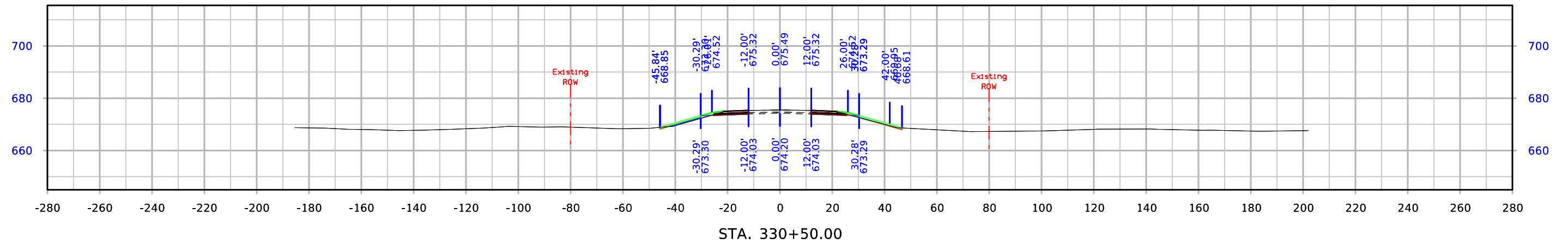
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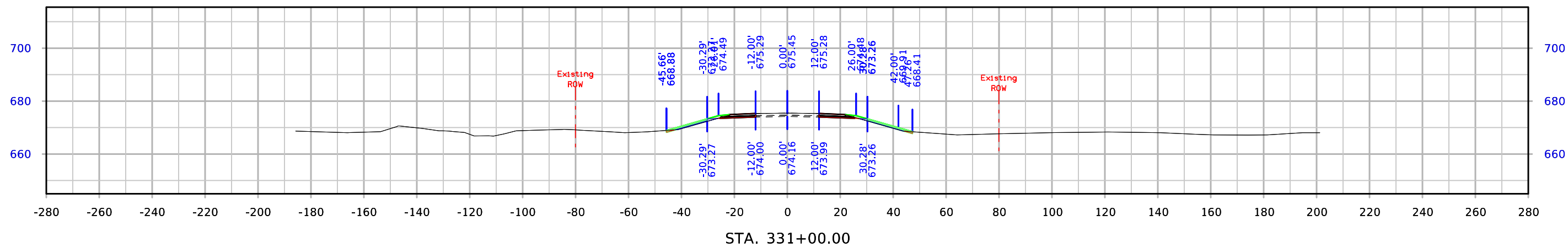
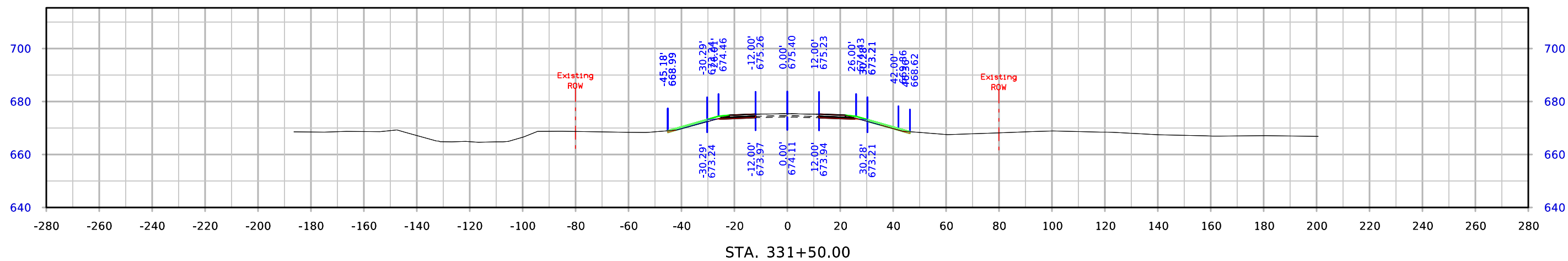
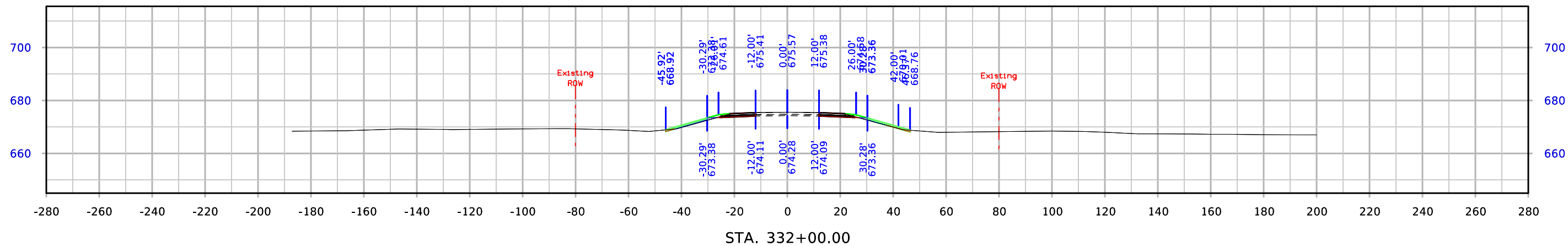
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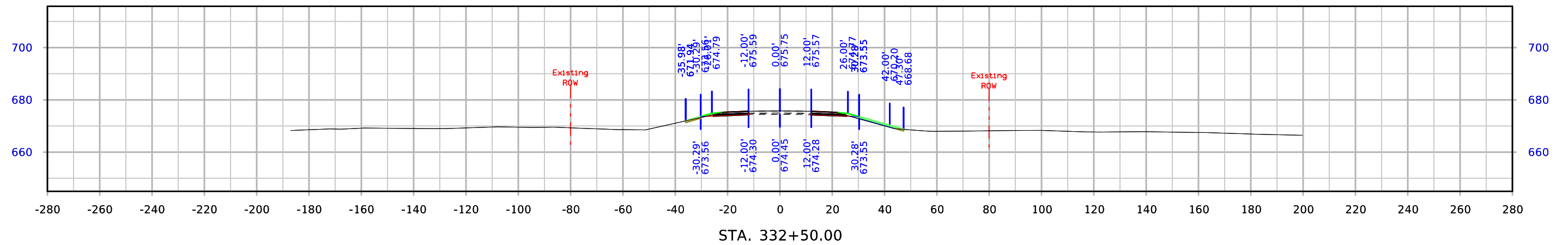
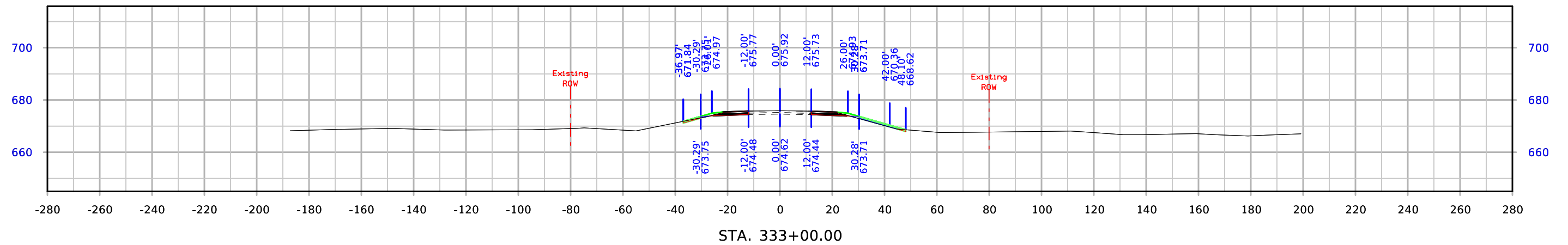
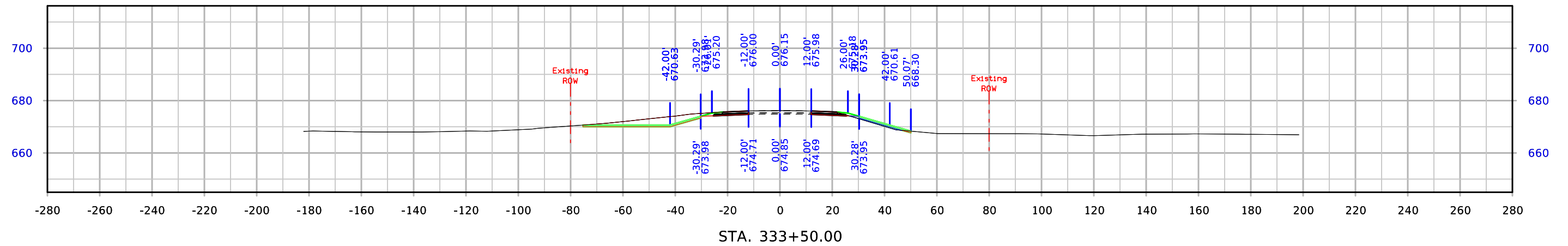
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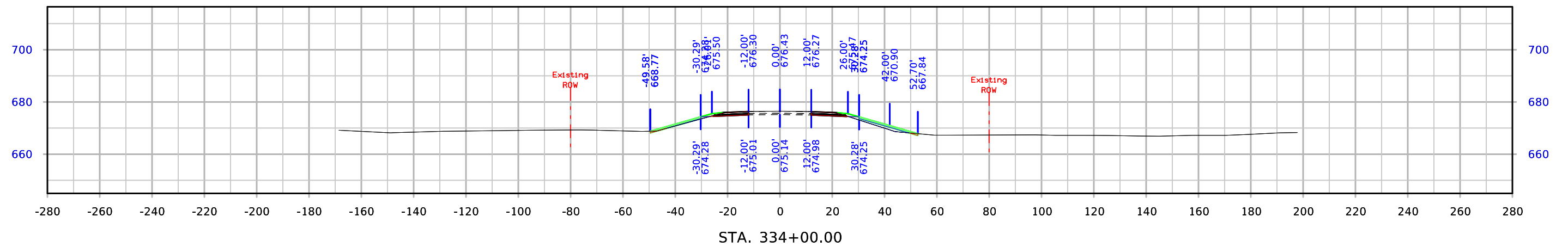
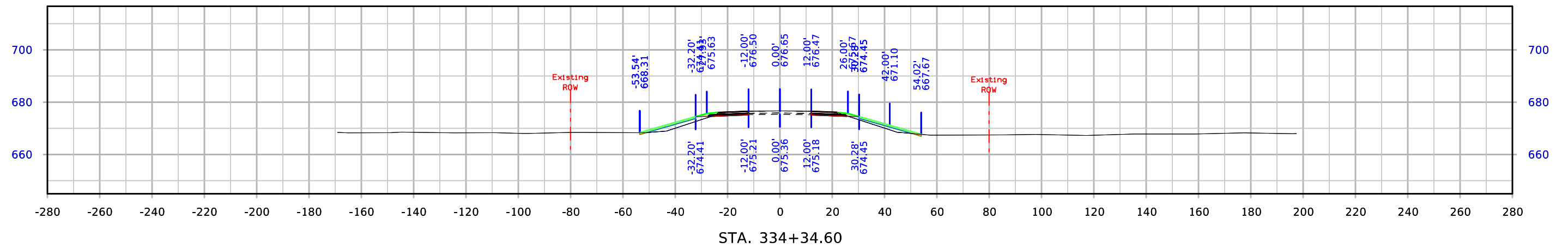
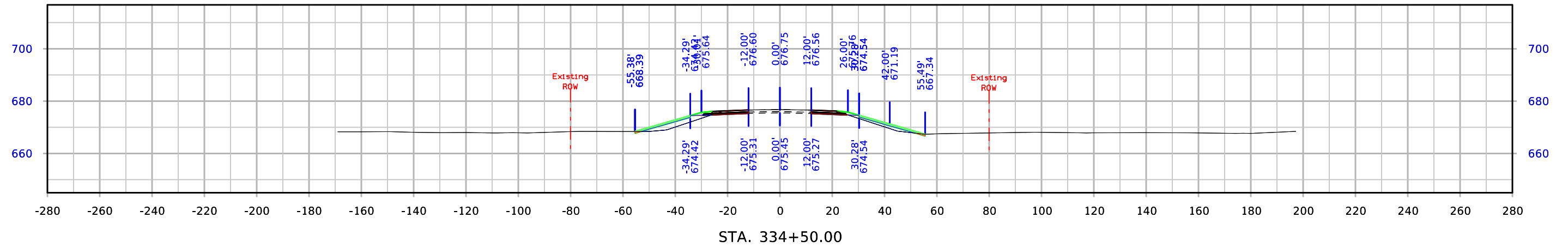
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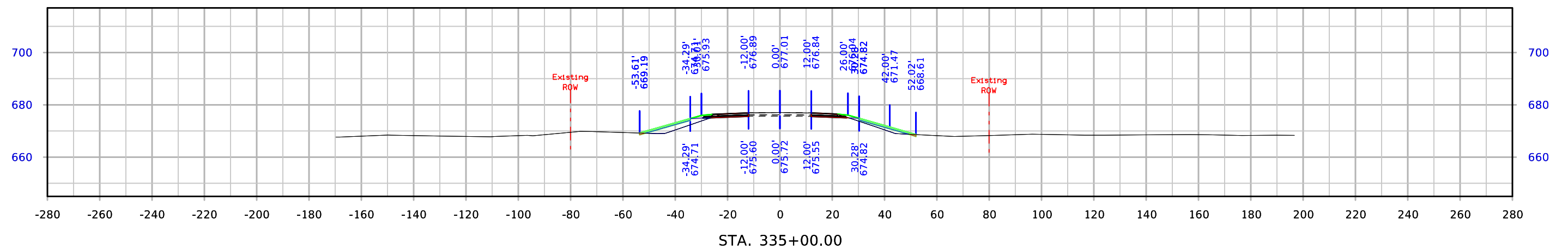
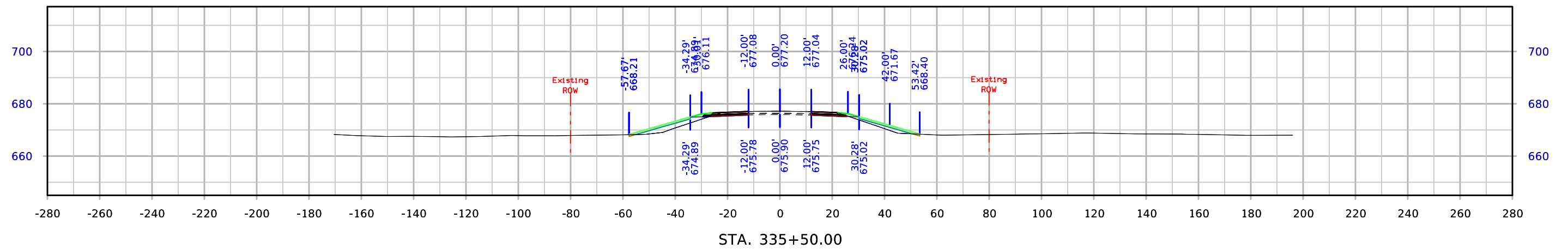
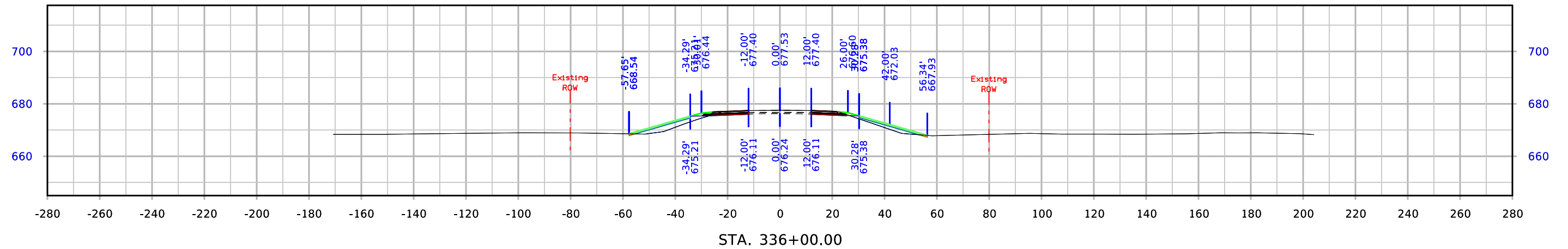


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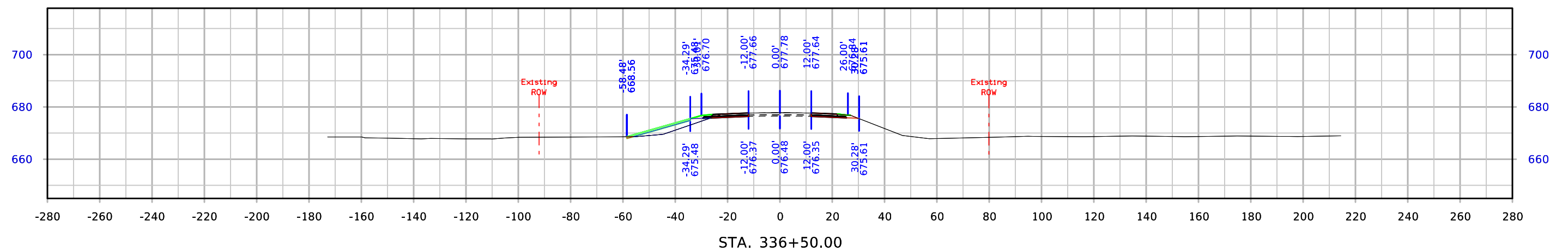
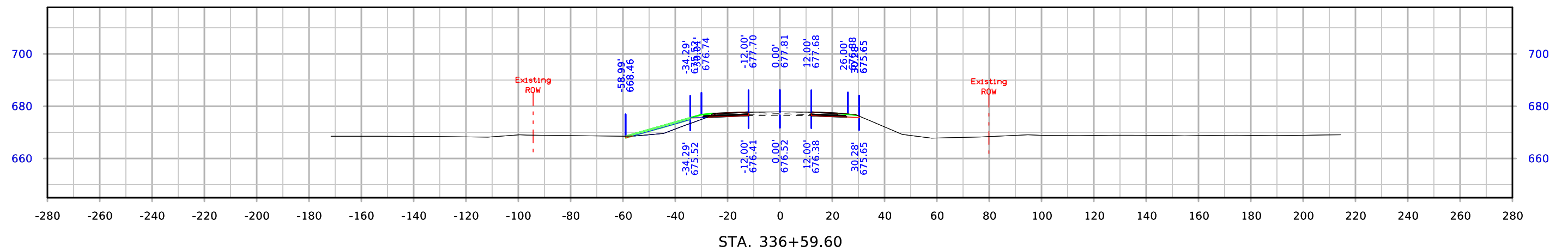
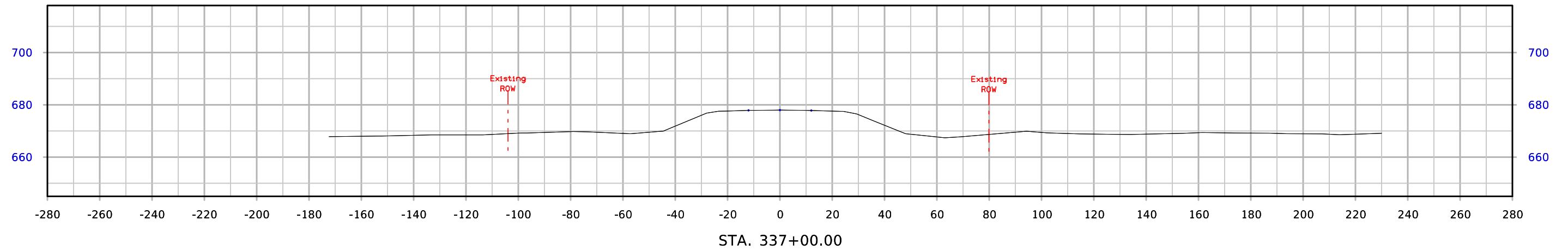




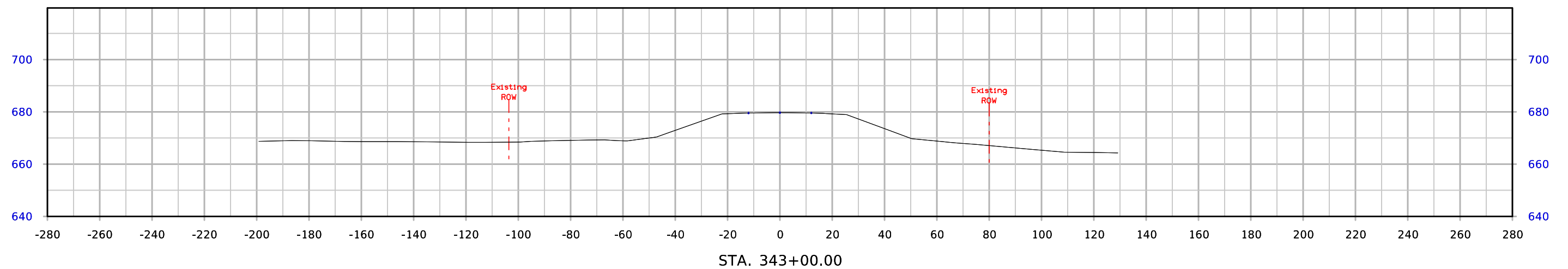
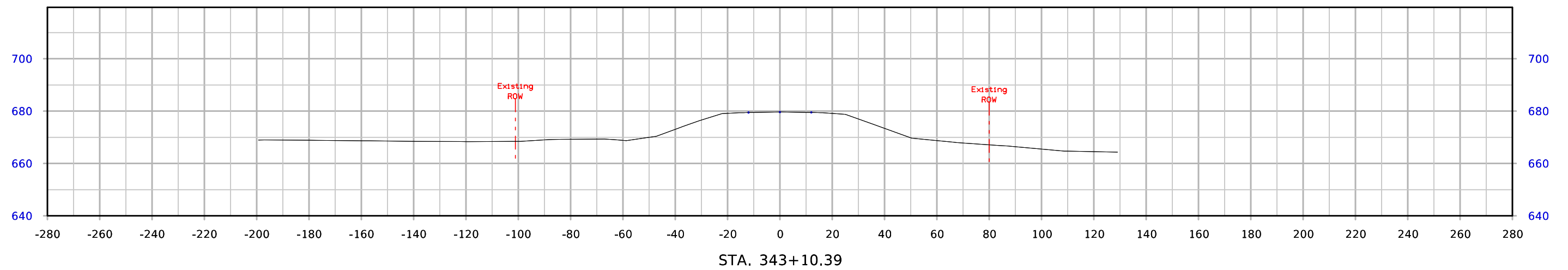
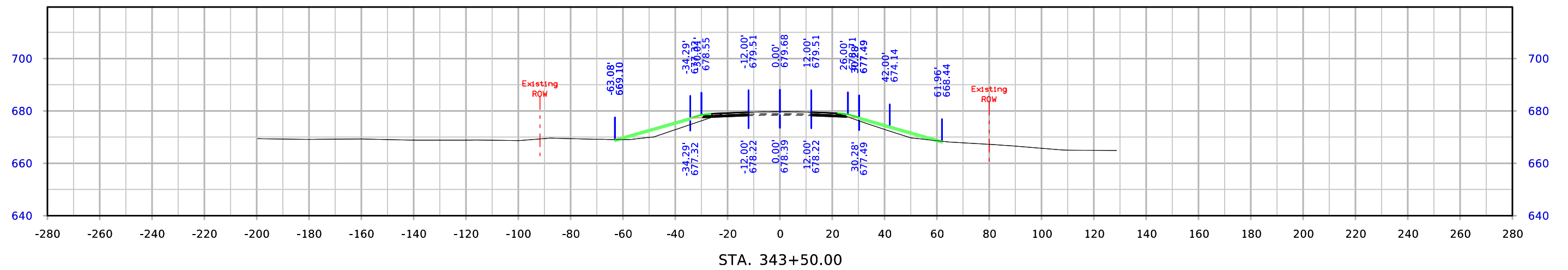
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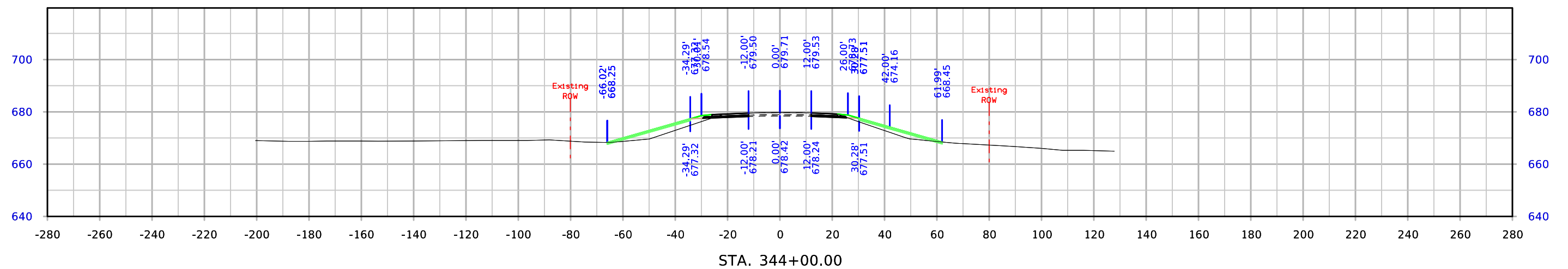
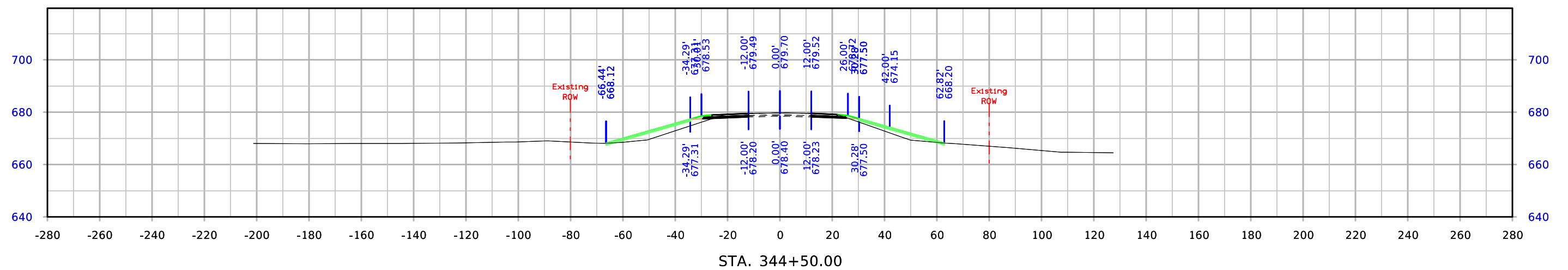
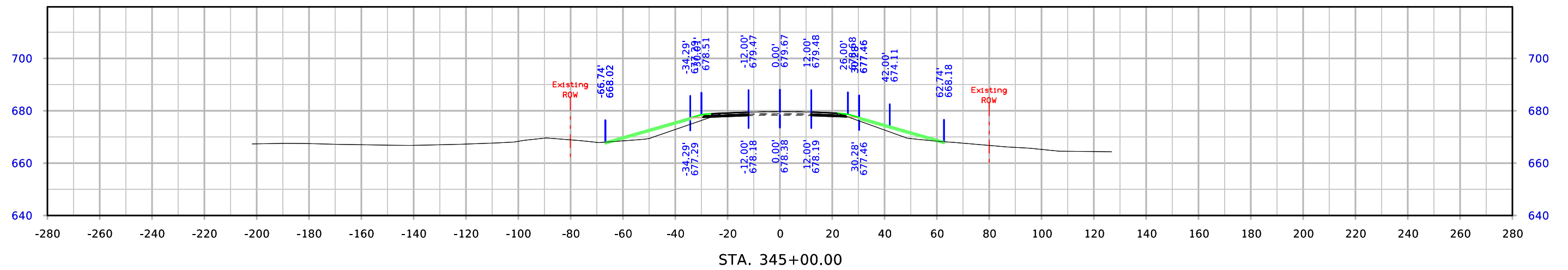
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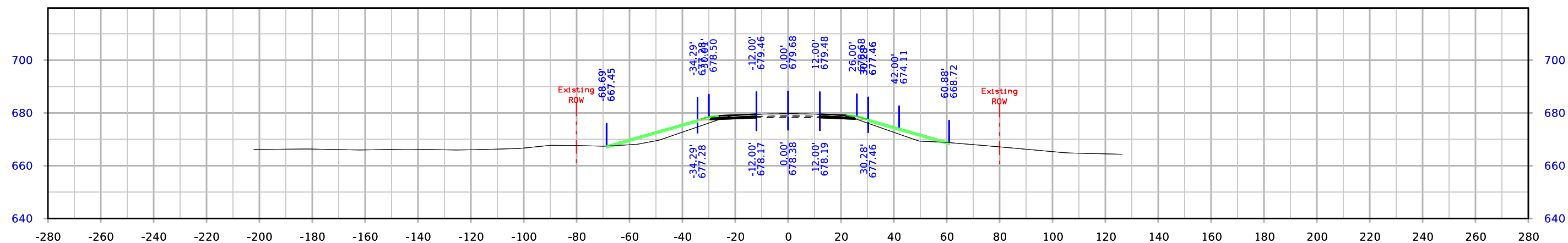
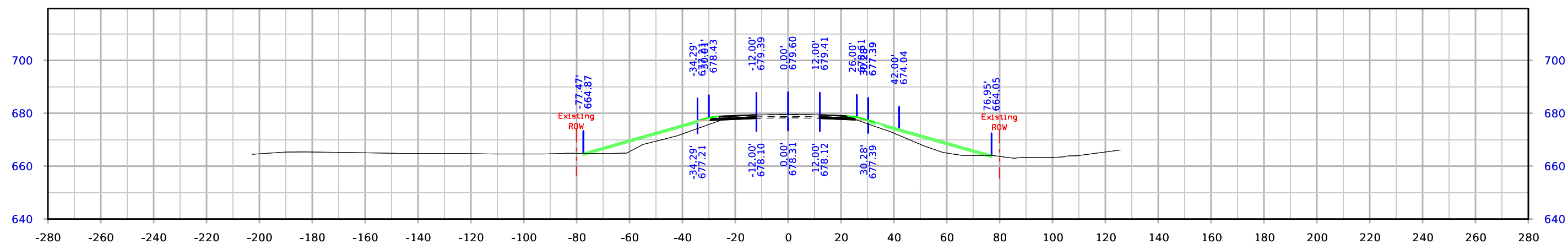
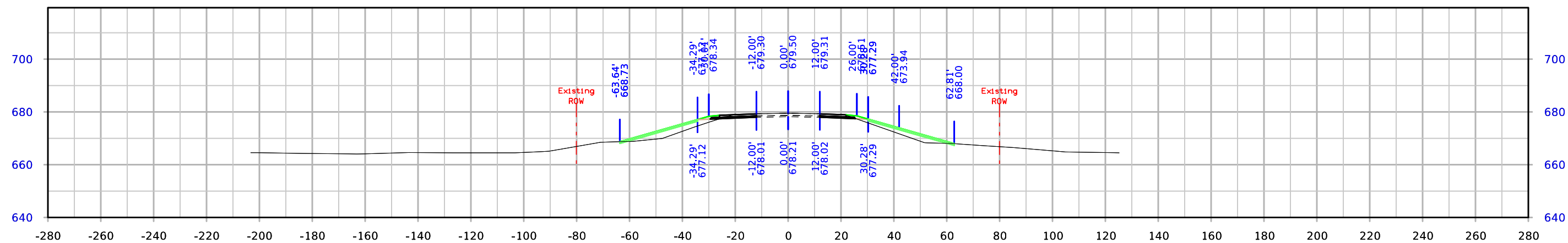
# US 30



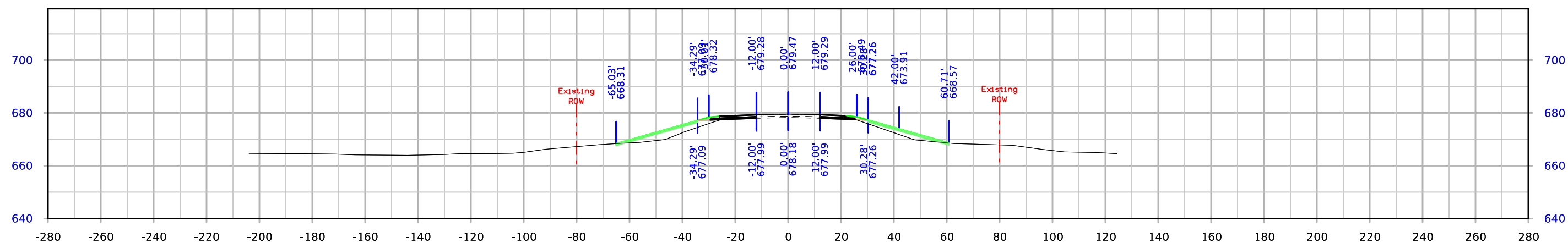
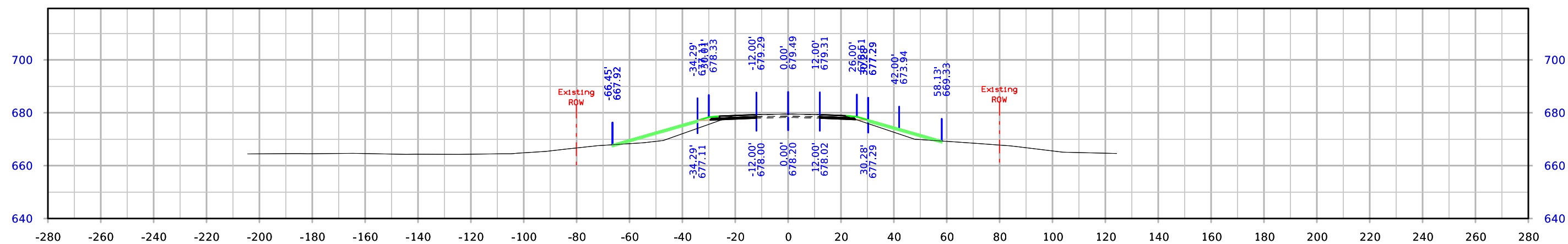
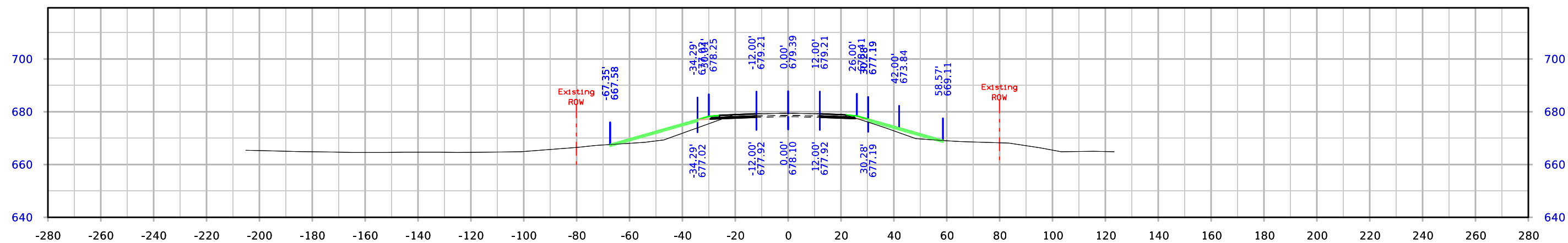
# US 30



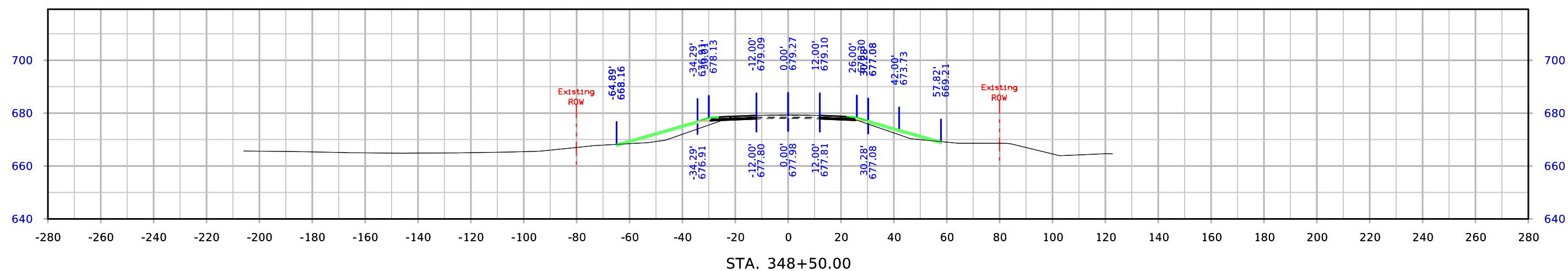
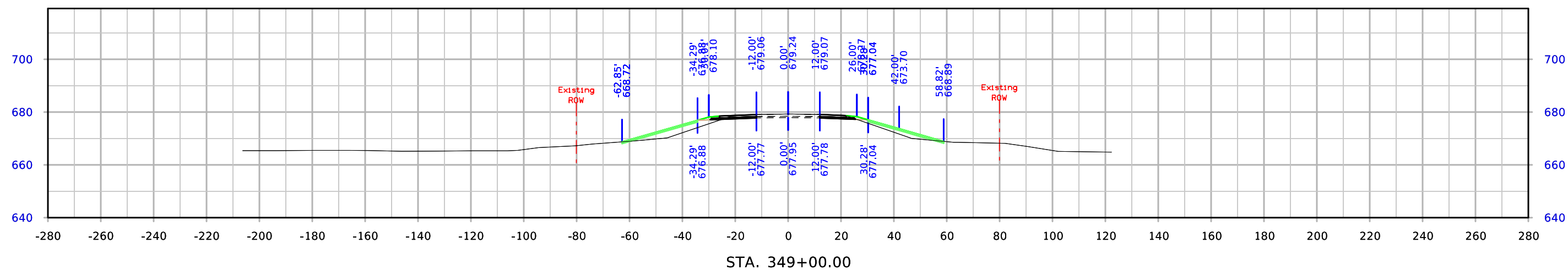
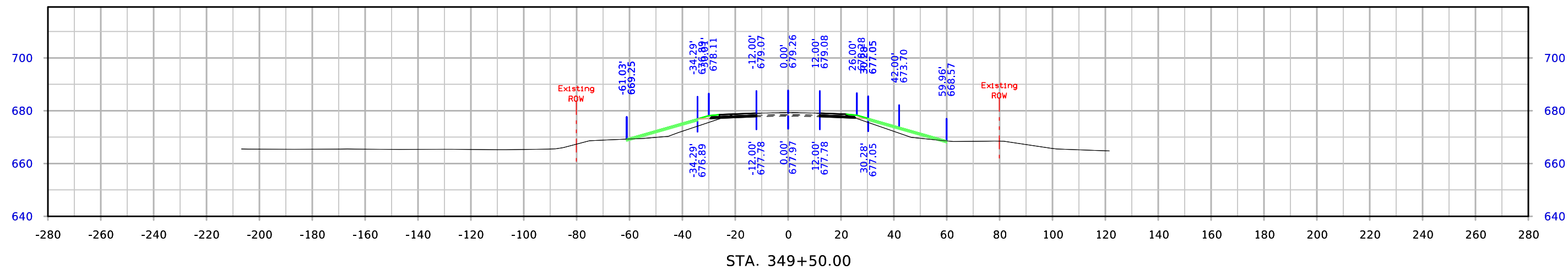
# US 30



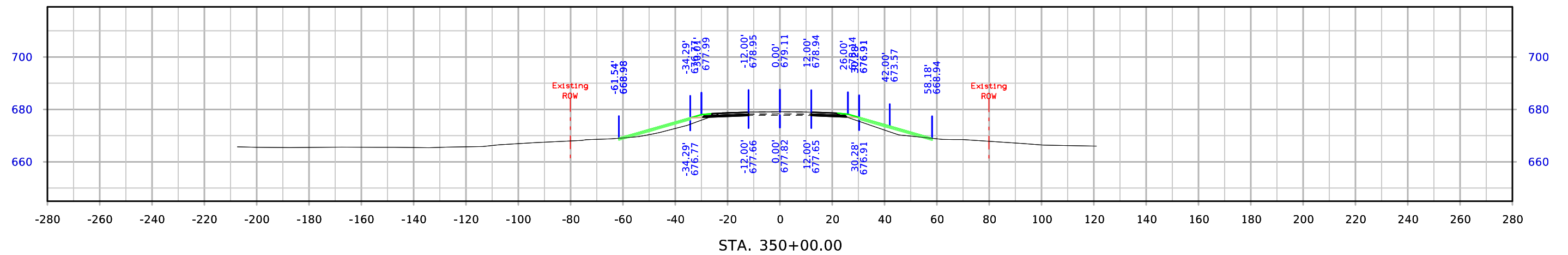
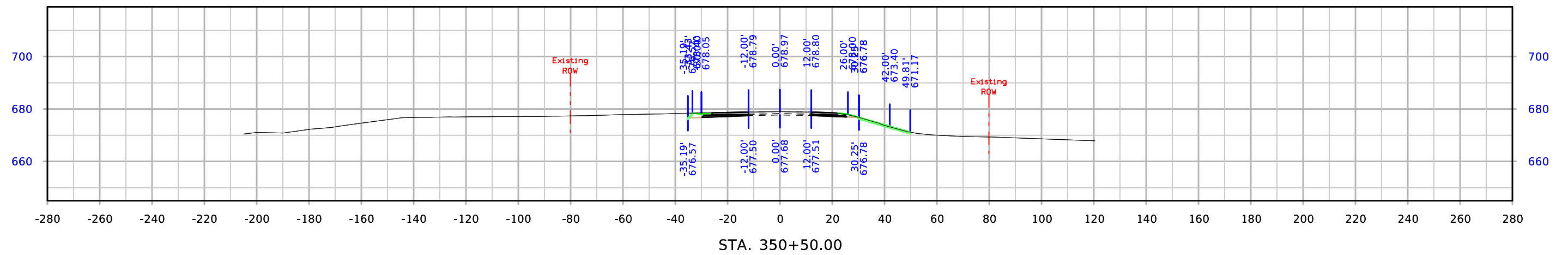
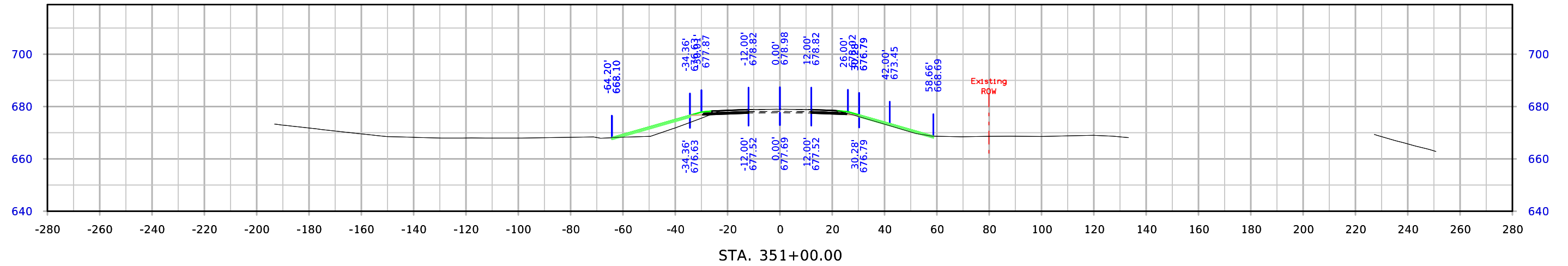
# US 30



# US 30

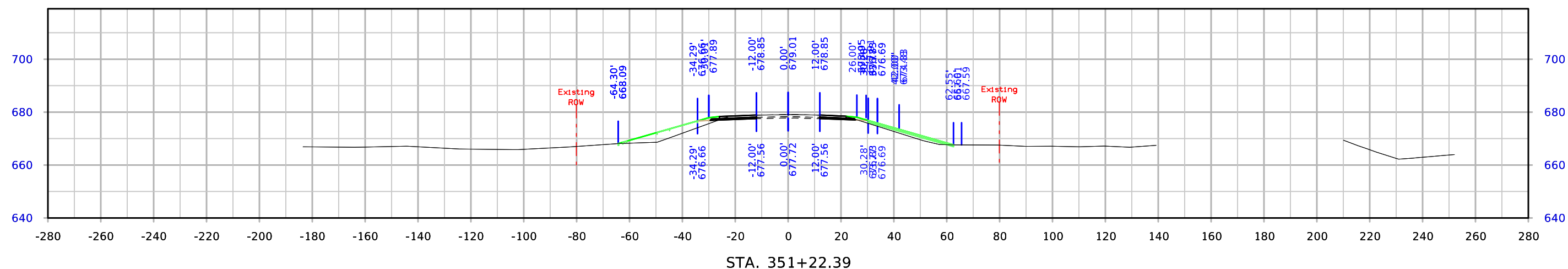
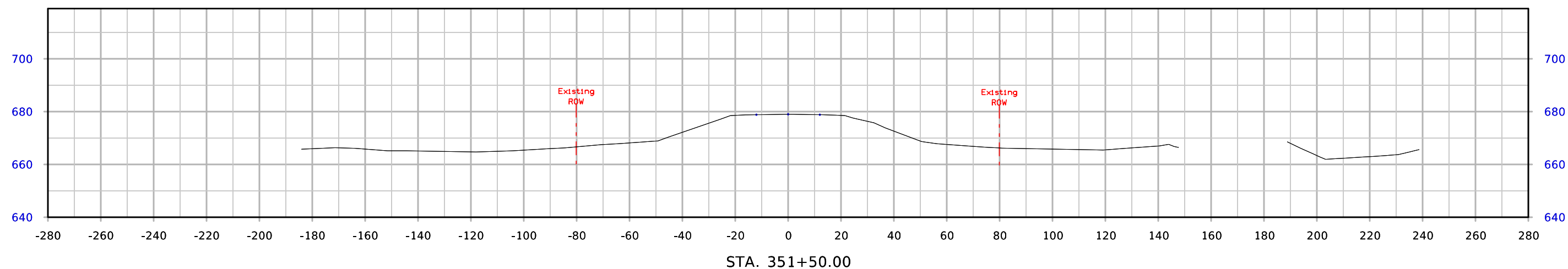
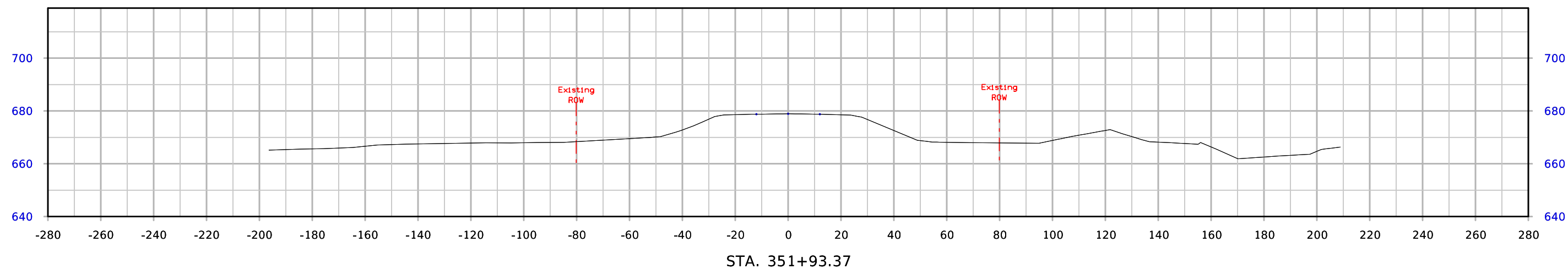


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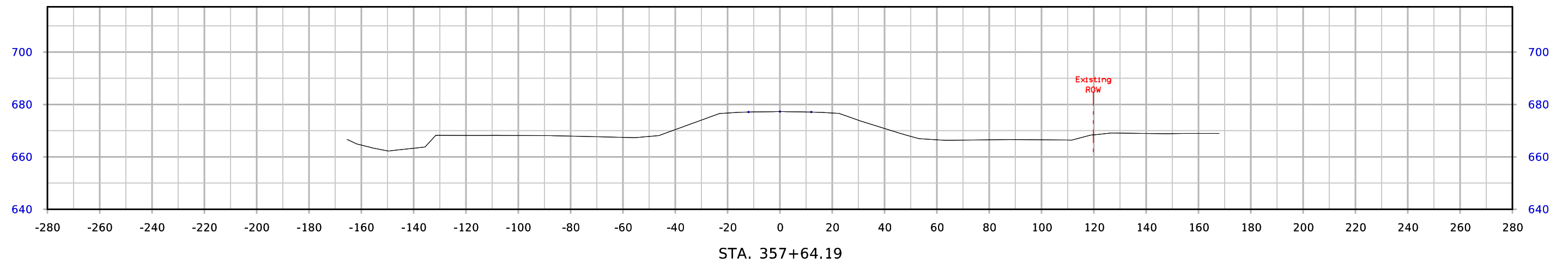
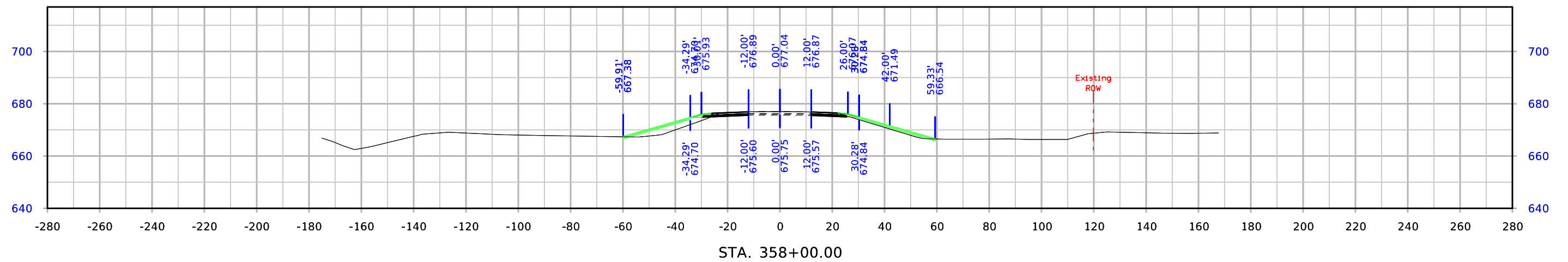
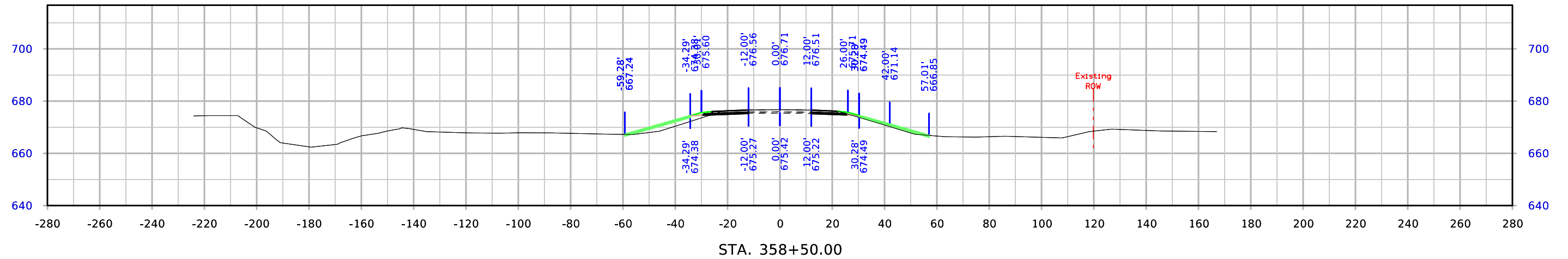




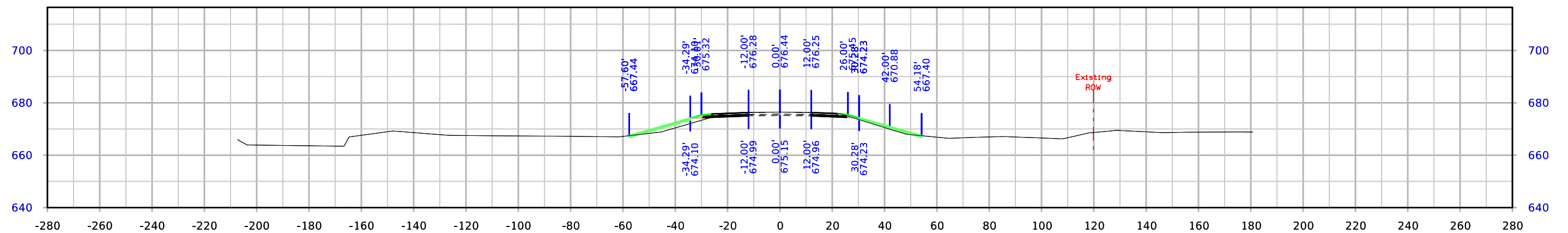
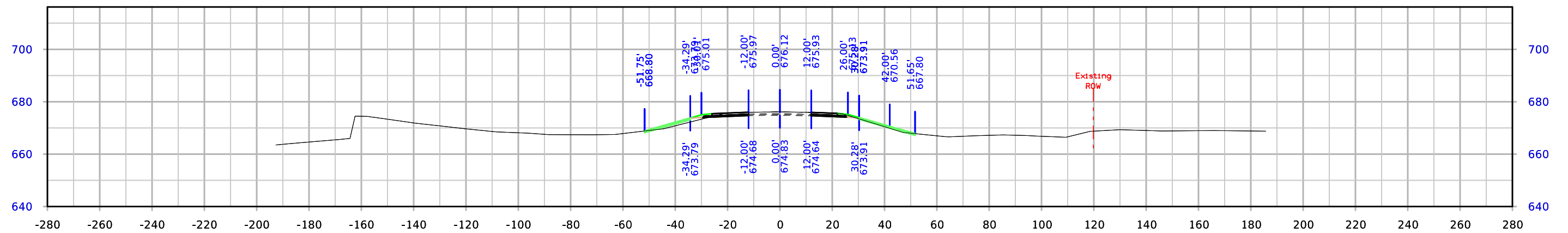
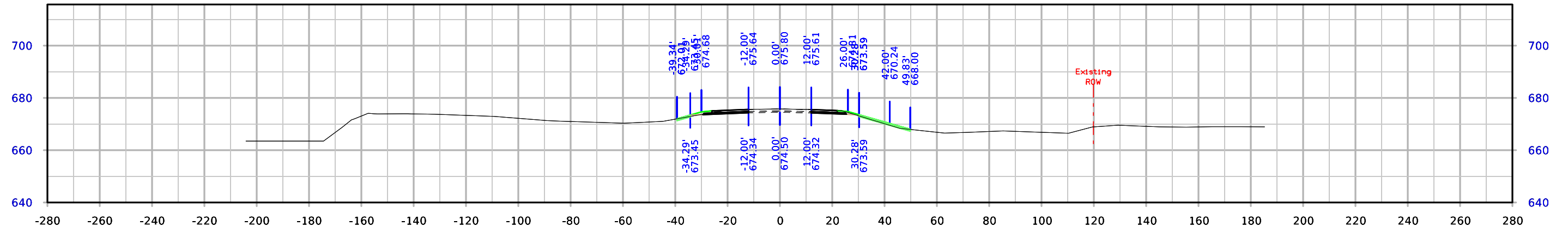
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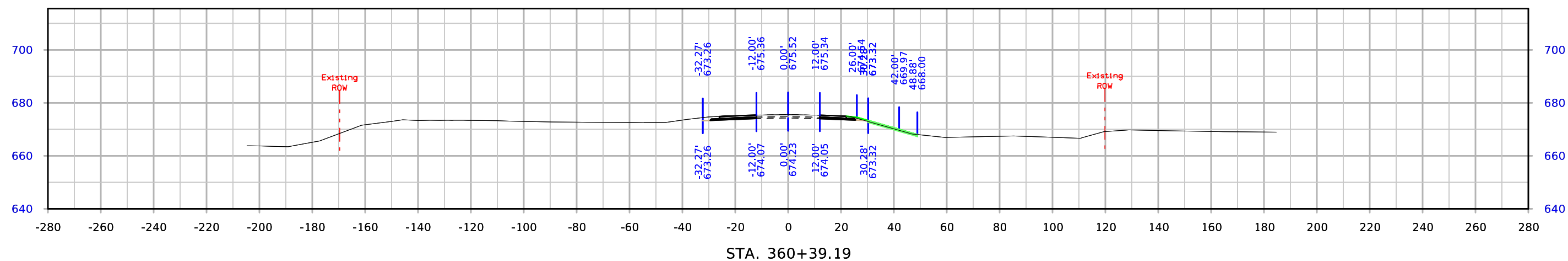
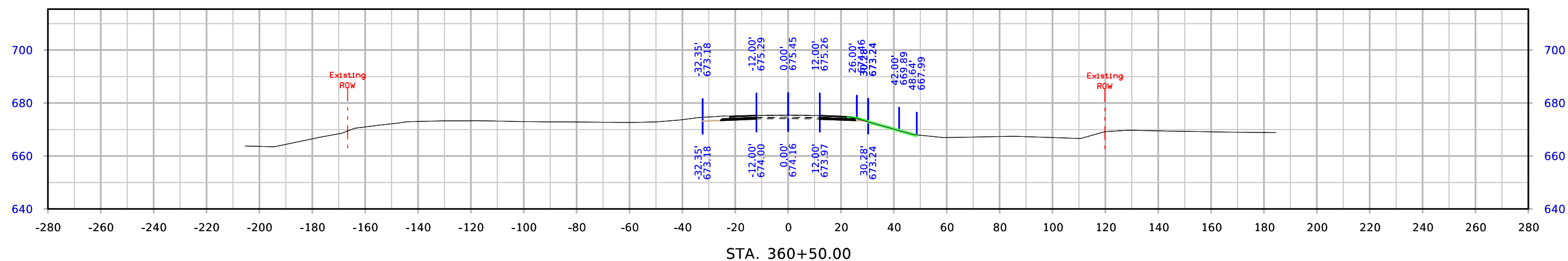
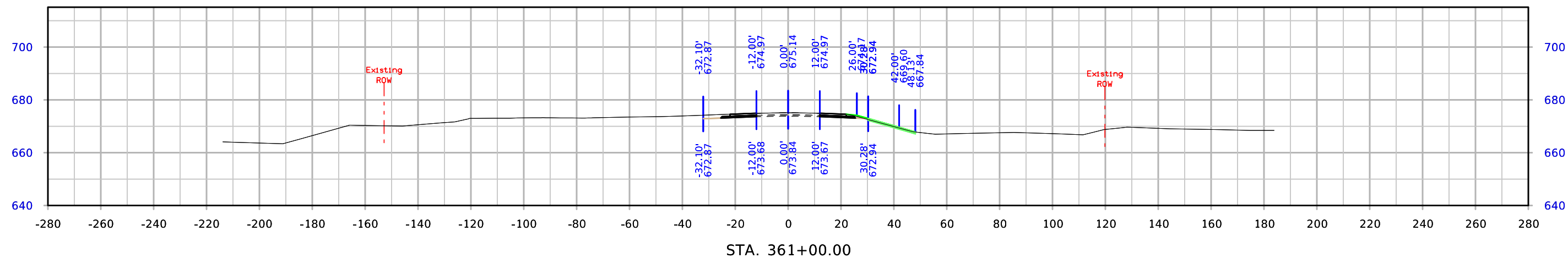
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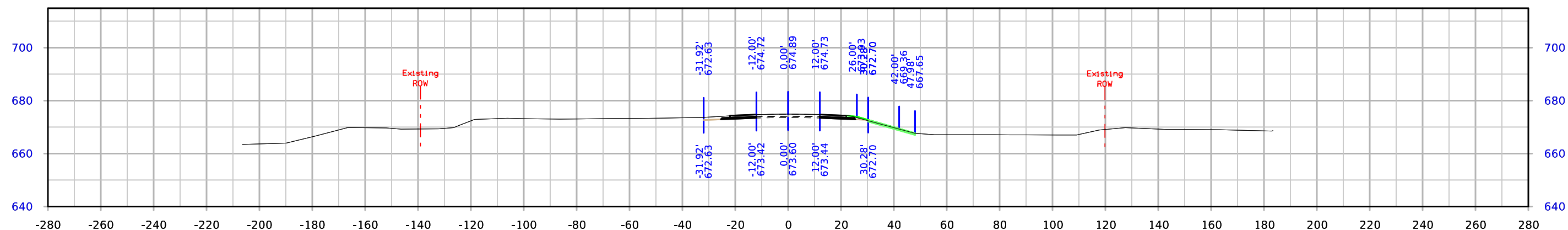
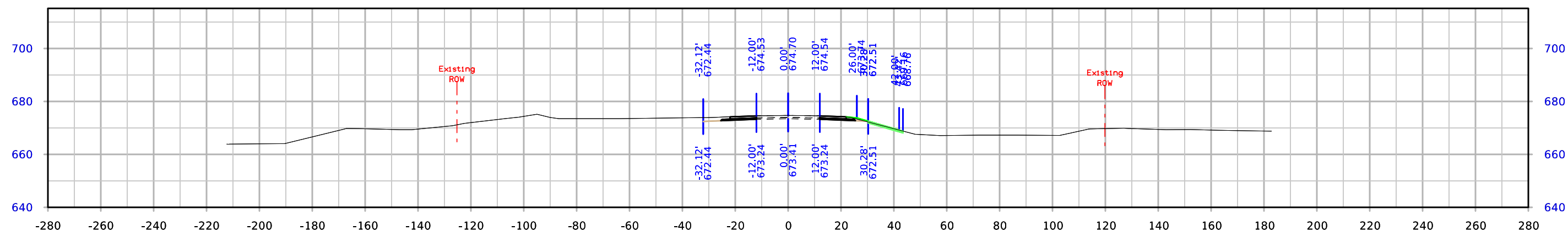
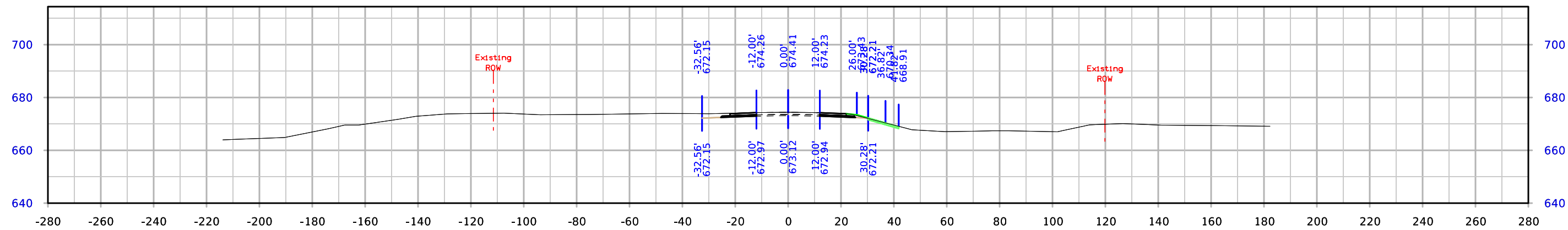
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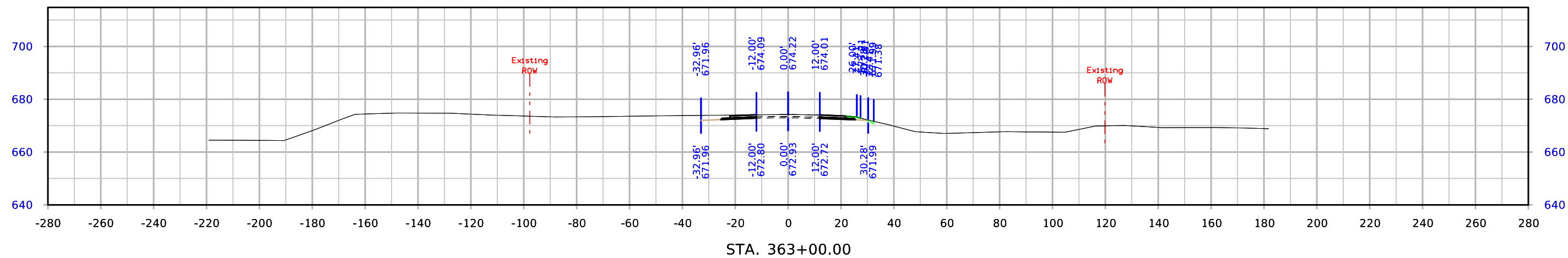


# US 30



# US 30





INDEX OF SHEETS	
NO.	DESCRIPTION
<b>A Sheets</b>	<b>Title Sheets</b>
A.3	Title Sheet
<b>B Sheets</b>	<b>Typical Cross Sections and Details</b>
B.1 - 4	Typical Cross Sections and Details
<b>C Sheets</b>	<b>Quantities and General Information</b>
C.1	Project Description
C.1	Estimated Project Quantities
C.1	Estimate Reference Information
C.1	Standard Road Plans
<b>D Sheets</b>	<b>Mainline Plan and Profile Sheets</b>
* D.1	Plan & Profile Legend & Symbol Information Sheet
* D.2 - 3	US 30
<b>G Sheets</b>	<b>Survey Sheets</b>
G.1 - 4	Reference Ties and Bench Marks
G.5	Horizontal Control Tab. & Super for all Alignments
<b>J Sheets</b>	<b>Traffic Control and Staging Sheets</b>
J.1	Traffic Control Plan
J.1	Staging Notes
<b>U Sheets</b>	<b>500 Series, Mod.Stds. and Detail Sheets</b>
U.1	Detail Sheet
<b>W Sheets</b>	<b>Mainline Cross Sections</b>
* W.1	Cross Sections Legend & Symbol Information Sheet
* W.2 - 8	Mainline Cross Sections
	* Color Plan Sheets

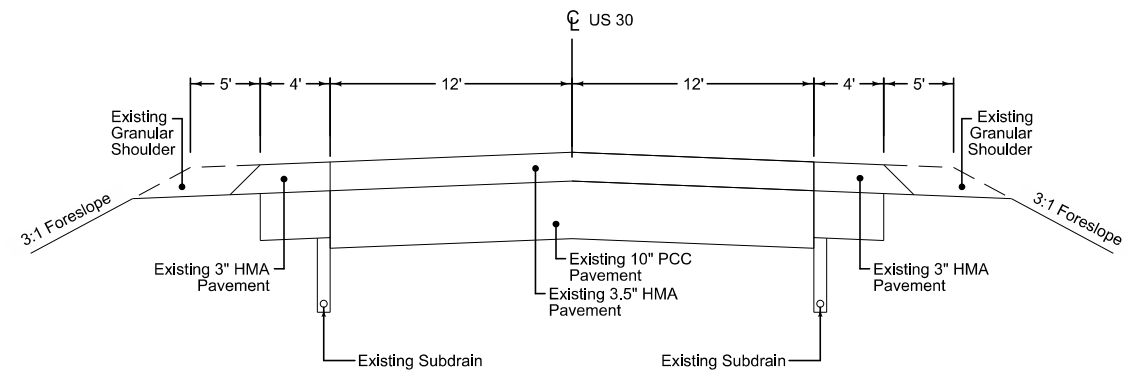


PLANS OF PROPOSED IMPROVEMENT ON THE  
**PRIMARY ROAD SYSTEM**  
**CLINTON COUNTY**  
**BRIDGE REPLACEMENT - PPCB**  
 E Channel Wapsipinicon River 2.3 mi E of Co Rd Y4E

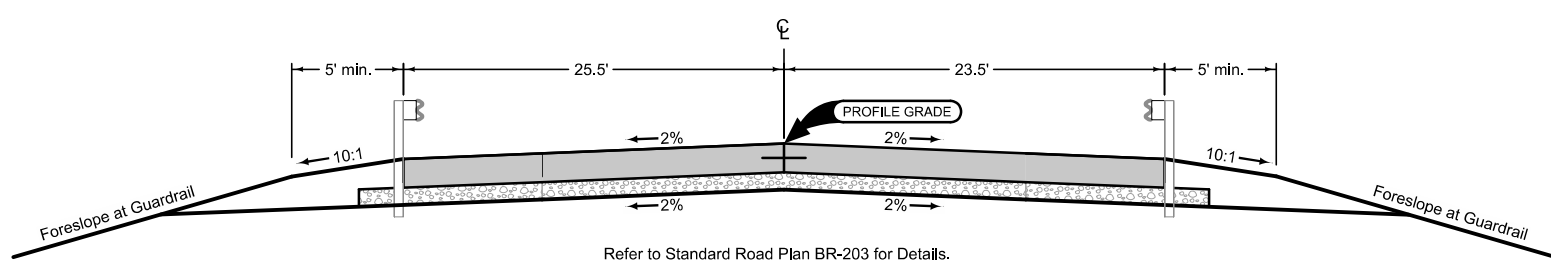
**This phase of the project begins at:  
 Station 351+00  
 No ROW Acquired for the Project  
 BRF-030-9(205)--38-23**

**Plan Set #2  
 Pages 127-157**

ROADWAY DESIGN	
	I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.
	Signature _____ Date _____
	Printed or Typed Name _____
	My license renewal date is December 31, 20 _____
Pages or sheets covered by this seal: _____	



**US 30 - EXISTING**



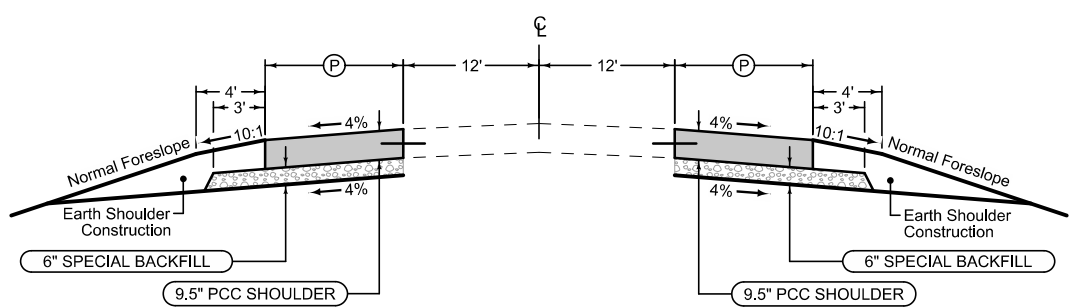
STATION TO STATION	
337+84.00	338+54.00
341+26.00	341+96.00

**US 30 - BRIDGE APPROACHES**

**Full Depth PCC Shoulder**

Shoulder Jointing:  
 Longitudinal joint: BT-2, L-2 or KT-2  
 Transverse joints: C at 17' spacing

2_P_FullPCC_04-20-21		
STATION TO STATION		(P) Feet
336+64.61	337+14.60	14
337+14.60	337+37.20	15.5
337+37.20	337+84.00	15.5-13.5
341+96.00	342+44.33	13.5
342+44.33	342+93.09	13.5-15.5
342+93.09	343+15.40	15.5



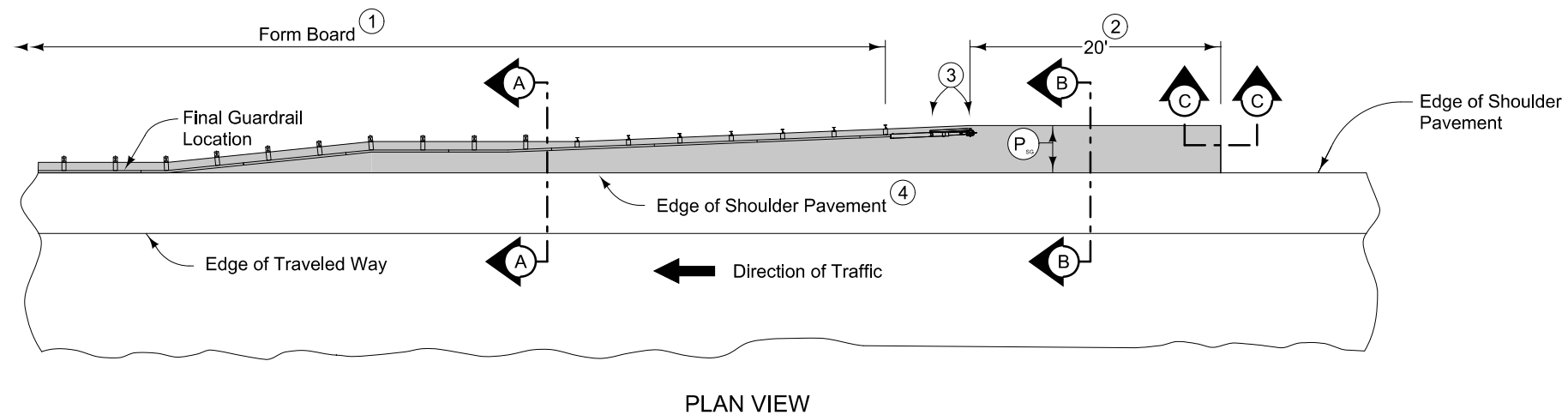
**Full Depth PCC Shoulder**

Shoulder Jointing:  
 Longitudinal joint: BT-2, L-2 or KT-2  
 Transverse joints: C at 17' spacing

2_P_FullPCC_04-20-21		
STATION TO STATION		(P) Feet
336+64.60	336+86.91	13.5
336+86.91	337+35.67	13.5-11.5
337+35.67	337+84.00	11.5
341+96.00	342+42.80	11.5-13.5
342+42.80	342+65.40	13.5
342+65.40	343+15.40	10

**US 30 - SHOULDERS**



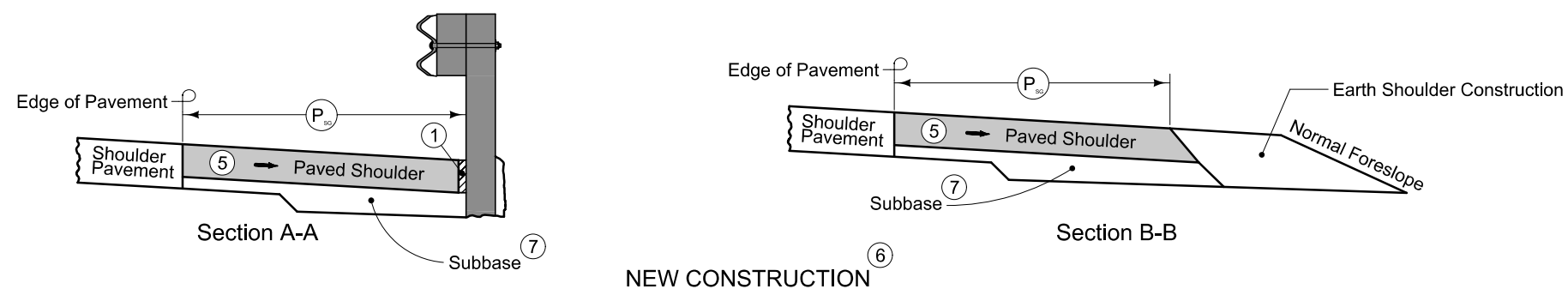


9.5" PCC Paved Shoulder at guardrail. 8" PCC may be substituted with the following jointing layout:

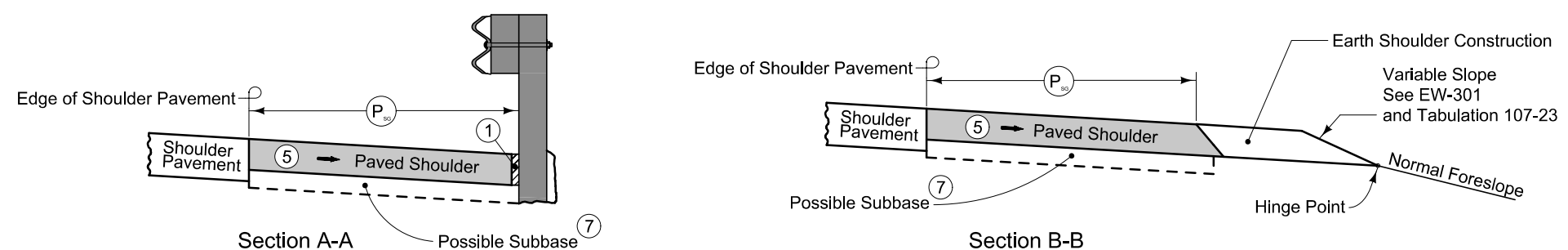
Match mainline pavement joint spacing. When mainline pavement is 8" or greater in thickness, place additional transverse 'C' joints in shoulder at mid-panel of the mainline pavement. Place longitudinal 'C' joint at P/2 from edge of mainline pavement when P is greater than 10' wide. Terminate longitudinal joint at transverse joint less than 10' in length.

Refer to Tabulation 112-9 for shoulder quantities.

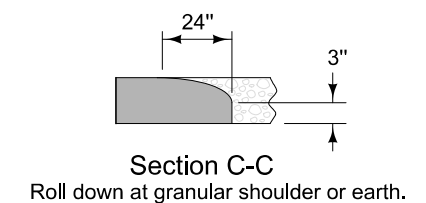
- ① PCC option only: When guardrail posts are installed prior to construction of PCC paved shoulder, fasten form board to the face of guardrail posts for the length shown.
- ② Continue paved shoulder 20 feet beyond the center of the first post.
- ③ Shoulder may be notched for first 2 posts or post sleeves may be installed through pavement. Do not drive posts through pavement.
- ④ 'KT' (per PV-101) joint for PCC shoulder. 'B' (per PV-101) joint for HMA shoulder.
- ⑤ Match shoulder slope.
- ⑥ The Contractor has the option to pave the paved shoulder at guardrail and the full width paved shoulder as one operation.
- ⑦ Refer to other details in the plan.



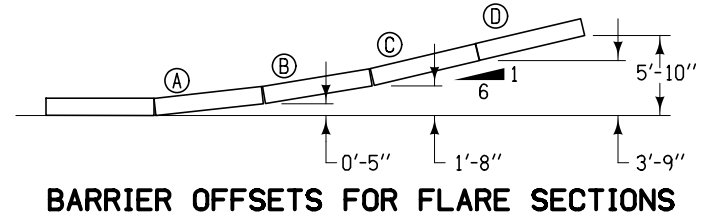
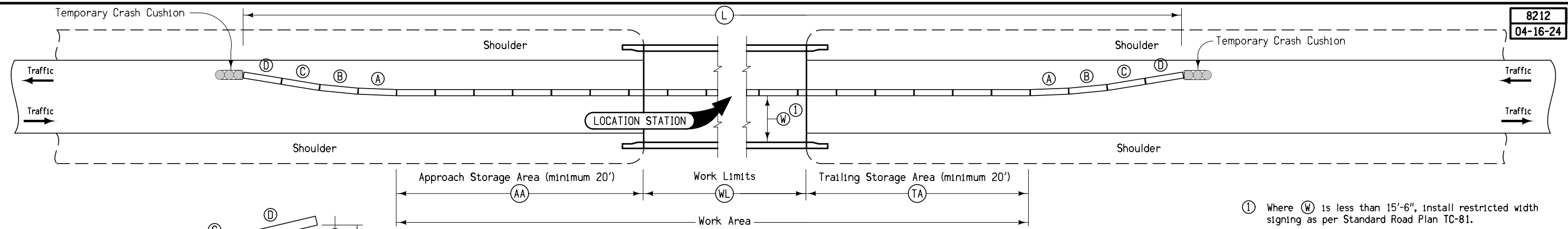
NEW CONSTRUCTION



EXISTING SHOULDER



PAVED SHOULDER AT GUARDRAIL (ADJACENT TO FULL WIDTH PAVED SHOULDER)

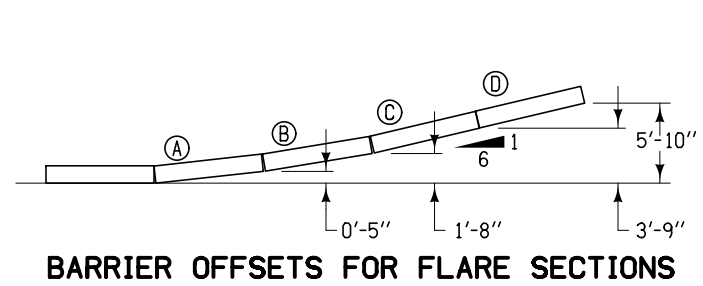
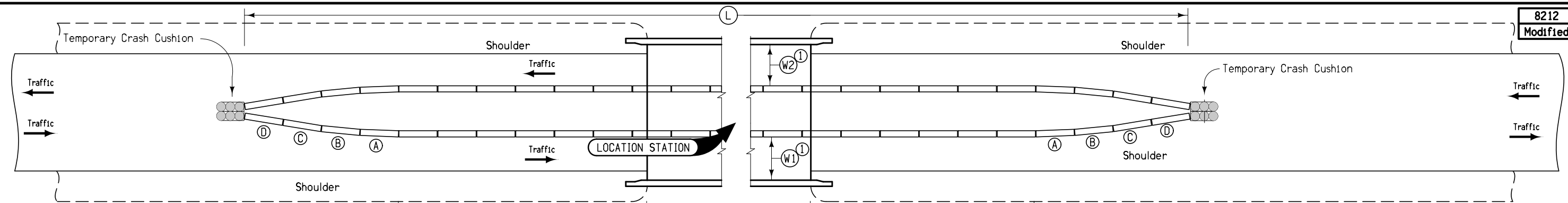


① Where (W) is less than 15'-6", install restricted width signing as per Standard Road Plan TC-81.

Station	Side	AA	WL	TA	L	Anchored X	W	Remarks
		Feet	Feet	Feet	Feet		Feet-Inches	
339+85.00	L	28	427	31	575	Yes	16'-10"	Stage 1 - Construction
339+85.00	L	31	427	0	875	Yes	12'-0"	**Stage 2

\*\*Refer to Project BRF-030-9(198)--38-23 for remainder of TBR on east end.

**TEMPORARY CONCRETE BARRIER LAYOUT  
for Two-Way Traffic**



① Where W is less than 15'-6", install restricted width signing as per Standard Road Plan TC-81.

**TEMPORARY CONCRETE BARRIER LAYOUT  
for Two-Way Traffic**

Station	Side	AA	WL	TA	L	Anchored	W1	W2	Remarks
		Feet	Feet	Feet	Feet		Ft-inches	Ft-inches	
339+85.00	L	27	427	32	575	Yes	16'-10"	--	Stage 1 - Winter
339+85.00	L	27	427	32	575	Yes	--	12'-0"	Stage 1 - Winter

# ESTIMATED PROJECT QUANTITIES AND REFERENCE NOTES

Roadway Items : Roadway Items  
Non-Participating : Separate Funding

Item no.	Item Code	Item	Unit	Quantities			Estimate Reference Notes
				Estimated			
				Roadway Items	Non-Participating	Total	
1	2102-0425070	SPECIAL BACKFILL	TON	229		229	Refer to Tab 112-9 and Tab SS-1 in C sheets for locations and details. Existing HMA and PCC from Pavement removal may be used on the project as special backfill.
2	2102-2625000	EMBANKMENT-IN-PLACE	CY	100.7		100.7	Refer to Tab 107-23 in C Sheets for locations and additional details.  Provide borrow material according to Section 2102 of the Standard Specifications. Refer to  Material shall be provided by the Contractor. OR Material is available within the ROW, Sta. XXX+XX to Sta. XXX+XX, as directed by the Engineer.
3	2102-2713090	EXCAVATION, CLASS 13, WASTE	CY	244.7		244.7	Refer to Tab 112-9 and Tab SS-1 in C sheets for locations and details. Excavated material may be used as embankment-in-place.
4	2122-5190095	PAVED SHOULDER, P.C. CONCRETE, 9.5 IN.	SY	699		699	Refer to Tab 112-9 and Tab SS-1 in C sheets for locations and details. Refer to Detail 7158 on Sheet B.1 for additional details.
5	2123-7450000	SHOULDER CONSTRUCTION, EARTH	STA	4.8		4.8	Refer to Tab 112-9 in C sheets for locations and details.
6	2301-0690203	BRIDGE APPROACH, BR-203	SY	759.3		759.3	Refer to Tab 112-6 in C sheets for details and locations.
7	2412-0000100	LONGITUDINAL GROOVING IN CONCRETE, BRIDGE DECK	SY	1,747.9		1,747.9	Refer to Tab 100-28 in C sheets for locations and additional details.
8	2505-4008120	REMOVAL OF STEEL BEAM GUARDRAIL	LF	626.2		626.2	Refer to Tab 110-7A in C sheets for locations and additional details.
9	2505-4008300	STEEL BEAM GUARDRAIL	LF	200		200	Refer to Tab 108-8A in C sheets for locations and additional details.
10	2505-4008410	STEEL BEAM GUARDRAIL BARRIER TRANSITION SECTION, BA-201	EACH	4		4	
11	2505-4021010	STEEL BEAM GUARDRAIL END ANCHOR, BOLTED	EACH	4		4	
12	2505-4021720	STEEL BEAM GUARDRAIL TANGENT END TERMINAL, BA-205	EACH	4		4	
13	2510-6745850	REMOVAL OF PAVEMENT	SY	1,039.8		1,039.8	Refer to Tab 110-1 in C sheets for locations and additional details. Not to include Removal of Pavement for approach work.
14	2527-9263109	PAINTED PAVEMENT MARKING, WATERBORNE OR SOLVENT-BASED	STA	52.74		52.74	Refer to Tab 108-22 in C sheets for locations and additional details.
15	2527-9263180	PAVEMENT MARKINGS REMOVED	STA	16.88		16.88	
16	2528-8400048	TEMPORARY BARRIER RAIL, CONCRETE	LF	2,600		2,600	Refer to Tab 108-33 in C sheets for locations and additional details. Refer also to Detail 8210 on Sheet B.2. All temporary barrier rail shall be nominal 12'-6 long concrete units.
17	2529-5070110	PATCHES, FULL-DEPTH FINISH, BY AREA	SY	39.5		39.5	Refer to Tab. 102-6C on C Sheets for locations and additional details.

Item no.	Item Code	Item	Unit	Quantities			Estimate Reference Notes
				Estimated			
				Roadway Items	Non-Participating	Total	
18	2529-5070120	PATCHES, FULL-DEPTH FINISH, BY COUNT	EACH	2		2	
19	2548-0000200	MILLED SHOULDER RUMBLE STRIPS, PCC SURFACE	STA	4.35		4.35	Refer to Tab. 112-10 on C Sheets for locations and additional details.
20	2548-0000320	MILLED CENTERLINE RUMBLE STRIPS, PCC SURFACE	STA	0.1		0.1	
21	2551-0000110	TEMP CRASH CUSHION	EACH	5		5	Refer to Tab 108-30 in C sheets for locations and additional details. Winterize sand filled or water filled crash cushions according to the manufacturer's recommendations if they are to remain in place during winter months.
22	2555-0000010	DELIVER AND STOCKPILE SALVAGED MATERIALS	LS		1	1	Refer to Tab. 110-13.

## PROJECT DESCRIPTION

**100-1D**  
10-18-05

This project involves the replacement of the bridge on US 30 over East Channel

## INDEX OF TABULATIONS

**111-25**  
10-18-11

Tabulation	Tabulation Title	Sheet No.
<b>C Sheets</b>		
100-1D	PROJECT DESCRIPTION	C.3
SS-1	SHOULDER STRENGTHENING	C.6
100-28	LONGITUDINAL GROOVING	C.4
102-6C	FULL-DEPTH PATCHES	C.4
105-4	STANDARD ROAD PLANS	C.3
107-23	GRADING FOR GUARDRAIL INSTALLATIONS	C.4
108-8A	STEEL BEAM GUARDRAIL AT CONCRETE BARRIER OR BRIDGE RAIL END SECTION	C.5
108-22	PAVEMENT MARKING LINE TYPES	C.7
108-30	CRASH CUSHIONS	C.5
108-33	TEMPORARY BARRIER RAIL	C.5
110-1	REMOVAL OF PAVEMENT	C.4
110-7A	REMOVAL OF STEEL BEAM GUARDRAIL	C.4
110-13	DELIVERY AND STOCKPILING	C.4
111-25	INDEX OF TABULATIONS	C.3
112-6	BRIDGE APPROACH SECTION	C.4
112-9	SHOULDERS	C.6
112-10	MILLED RUMBLE STRIPS	C.7

## STANDARD ROAD PLANS

**105-4**  
10-18-11

The following Standard Road Plans apply to construction work on this project.

Number	Date	Title
BA-200	04-20-21	Steel Beam Guardrail Components
BA-201	10-18-22	Steel Beam Guardrail Barrier Transition Section (MASH TL-3)
BA-202	04-16-24	Steel Beam Guardrail Bolted End Anchor
BA-205	10-17-23	Steel Beam Guardrail Tangent End Terminal (MASH TL-3)
BA-401	04-20-21	Temporary Barrier Rail (Precast Concrete)
BA-500	04-20-21	Temporary Crash Cushions Sand Barrel
BR-203	04-16-24	Double Reinforced 12" Approach
DR-306	10-17-23	Precast Concrete Headwall for Subdrain Outlets
EW-202	04-19-16	Bridge Berm Grading without Recoverable Slope (Non-Barnroof Section)
EW-301	04-16-24	Guardrail Grading
PM-110	04-16-24	Line Types
PR-103	10-17-23	Full Depth PCC Patch with Dowels
PV-12	04-16-24	Milled Shoulder Rumble Strips
PV-13	04-16-24	Milled Centerline Rumble Strips
PV-101	04-19-22	Joints
PV-102	04-21-20	PCC Curb Details
SI-173	04-19-16	Object Markers
SI-211	10-18-22	Object Marker and Delineator Placement with Guardrail
SI-881	04-16-19	Special Signs for Workzones
SI-882	10-18-16	Special Signs for Restricted Width Traffic Control Zones
TC-1	10-15-19	Work Not Affecting Traffic (Two-Lane or Multi-Lane)

110-1 04-16-13 <b>REMOVAL OF PAVEMENT</b> Refer to Tabulation 102-5						
* Not a Bid Item						
Begin Station	End Station	Side	Pavement Type	Area	Saw Cut*	Remarks
				SY	LF	
336+64.61	337+69.20	Lt	HMA	126.4	117.0	Shoulder
336+64.41	337+69.08	Rt	HMA	131.7	117.0	Shoulder
337+69.14	338+39.28	Center	PCC	250.1	24.0	West Approach
341+10.70	341+80.68	Center	PCC	246.6	24.0	East Approach
341+80.69	343+15.40	Lt	HMA	139.7	147.0	Shoulder
341+80.69	343+15.40	Rt	HMA	145.3	147.0	Shoulder
Totals:				1039.8	576.0	

110-7A 04-17-12 <b>REMOVAL OF STEEL BEAM GUARDRAIL</b>					
① Lane(s) to which the installation is adjacent. ② Includes length of End Terminals and End Anchors.					
No.	Direction of Traffic	Location		Side	Removal of Guardrail
		Station to Station			LF
1	WB	336+81.69	338+38.25	Lt	156.6
2	EB	336+81.99	338+38.46	Rt	156.5
3	WB	341+11.68	342+68.09	Lt	156.4
4	EB	341+11.75	342+68.47	Rt	156.7
Total:					626.2

100-28 10-19-10 <b>LONGITUDINAL GROOVING</b>		
Location	Total	Remarks
	SY	
339+90.00	1294.7	Bridge
337+84.00	226.6	West Approach
341+96.00	226.6	East Approach
Total:	1747.9	

110-13 04-20-10 <b>DELIVERY AND STOCKPILING</b>					
Item Description	Quantity	Units	Delivery Location	Contact Name & Number	Remarks
Steel Beam Guardrail & Components	626.2	LF	IADOT DeWitt Maintenance Garage	Nathan Maderscheid Supervisor 563-659-3550	801 Westwood Dr. DeWitt, IA 52742

107-23 10-18-11 <b>GRADING FOR GUARDRAIL INSTALLATIONS</b> Refer to EW-301																	
① Lane(s) to which the installation is adjacent.				Dimensions (Feet)									Earthwork		Remarks		
No.	Direction of Traffic	Station	Side	Foreslope at Guardrail	X1	Y1	X2	Y2	X3	Y3	X4	Y4	Z	Excavation Class 10		Embankment In Place	
														CY		CY	
1	EB	338+47.00	Rt	3:1	107.6	5.0								161.0	7.0	4.0	29.8
2	EB	341+33.00	Rt	3:1	57.6	5.0								110.8	7.0	4.0	20.5
3	WB	341+33.00	Lt	3:1	107.6	5.0								161.0	7.0	4.0	29.8
4	WB	338+47.00	Lt	3:1	57.6	5.0								110.8	7.0	4.0	20.5
Totals:																100.7	

112-6 04-18-17 <b>BRIDGE APPROACH SECTION</b> Refer to the Series.																				
* Not a bid item		Location			Approach Pavement				Standard Road Plans BR Series			Subdrain					Remarks			
Bridge Station	End	Skew Ahead		T Thickness	Pay Length	Non-Reinf. Pavement Area	Single-Reinf. Pavement Area	Double-Reinf. Pavement Area	Approach	Fixed or Movable Abutment	Abutting Pavement	Perforated Subdrain 4"	Subdrain Outlet		Porous Backfill	Class 'A' Crushed Stone Backfill		Modified Subbase	Polymer Grid	Special Backfill
		LEFT	RIGHT										Inches	FT						
339+90.00	W	0		12.0	70.0	163.3	108.9	107.2	BR-203	Movable	Modified	60.0	337+84.00	Rt	2.3	0.2	545.300	432.8		
339+90.00	E	0		12.0	70.0	163.3	108.9	107.2	BR-203	Movable	Modified	60.0	341+96.00	Rt	2.3	0.2	545.300	432.8		
Totals:						326.7	217.8	214.4				120.0			4.6	0.3	1090.600			

102-6C 04-18-17 <b>FULL-DEPTH PATCHES</b> Possible Standards: PR-101, PR-102, PR-103, PR-104, PR-105, and PR-140.																				
Count	Station	Reference Location Sign	Lane	Dimension			PCC Patches				HMA Patches	Composite HMA	Subbase Patches	Subbase Patch w/ 'EF' Joint	Patch Subdrain	'CD' Joints	'CT' Joints	'EF' Joints	Anchor Lugs Removal	Remarks
				Length	Width	Patch Thickness	With Dowels	Without Dowels	C R C	Ramp with Dowels										
							PR-103	PR-102	PR-104	PR-105										
1	337+69.18		B	14.8	24.0	10.0	39.5													

### STEEL BEAM GUARDRAIL AT CONCRETE BARRIER OR BRIDGE RAIL END SECTION

Possible Standards: BA-200, BA-201, BA-202, BA-205, BA-206, BA-210, BA-211, BA-221, BA-225, BA-250, BA-260, LS-625, LS-626, LS-630, LS-635, SI-172, SI-173 and SI-211.

- ① Lane(s) to which the obstacle is adjacent.
- ② Not a bid item. Incidental to guardrail installation.

No.	Direction of Traffic	Location		Layout Lengths					Long-Span System		Delineators and Object Markers ②				Bid Items										Remarks					
		①	Side	Station	Offset	BA-250, BA-260, LS-630, or LS-635				SI-211	Delineator SI-172	Object Marker SI-173			Bolted End Anchor	Post Adapter	Steel Beam Guardrail	BA-250 or LS-630					BA-260 or LS-635							
						VT1	VF	VT2	ET			Type 1	Type 2	Type 3				Barrier Transition Section	End Terminal				Barrier Transition Section	End Terminal Tangent						
														White					OM2-2	OM3-L	OM3-R	Tangent				Flared	Tangent	Flared		
		O = Outside M = Median			FT	LF	LF	LF	LF	STATION	TYPE	TYPE	EACH	EACH	EACH	EACH	TYPE	EACH	EACH	EACH	LF	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH
1	WB	O	338+47.00	24.8		65.625			47.7			3			1	A	1			25.0		1		1						
2	EB	O	338+47.00	22.8		115.625			47.7			3			1	A	1			75.0		1		1						
3	WB	O	341+33.00	24.8		115.625			47.7			3			1	A	1			75.0		1		1						
4	EB	O	341+33.00	22.8		65.625			47.7			3			1	A	1			25.0		1		1						
													Totals:			2	2		4		200.0		4		4					

### TEMPORARY BARRIER RAIL

Possible Standard: BA-401 Possible Detail: 560-7

\* Not a bid item. Anchorage requirements are based on TBR locations shown in the plans. TBR alignments that vary from what is shown in the plans may result in additional TBR sections requiring anchorage.

No.	Station to Station		Length	(Select One)		Anchored*	Modular Glare Screen System	Remarks
				Concrete BA-401	Steel 560-7			
1	336+89.42	342+77.77	575.0	X		Yes		Stage 1 Construction
2	336+90.72	342+79.31	575.0	X		Yes		Stage 1 Winter
3	336+90.72	342+79.31	575.0	X		Yes		Stage 1 Winter
4	336+98.01	345+94.10	875.0	X		Yes		Stage 2 Construction
Total:			2600.0					

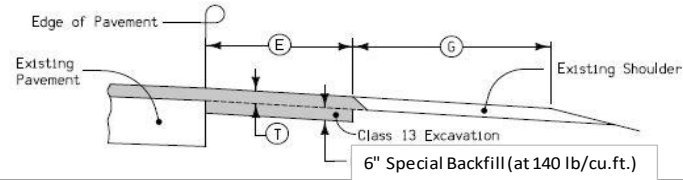
### CRASH CUSHIONS

- \* Bid Item
- ① Lane(s) to which the installation is adjacent.
- ② Complete this section when using the Temporary Crash Cushion bid item and Earthwork is needed for Sand Barrel placement. Refer to BA-500

No.	Direction of Traffic	Location Station	Side	Obstacle Width	Crash Cushion (Select One)*					Sand Barrel Details ②					Earthwork*		Spare Parts Kit (Select One)*		Obstacle Description	Remarks	
					Temporary	Temporary Redirective	Temporary Severe Use	Permanent	Permanent Severe Use	V	W	X	Y	Z	Excavation Class 10	Embankment in Place	Permanent	Permanent Severe Use			
										Length	Length	Length	Length	Length							Length
1	EB	336+55.60	Lt	2.00	1						24.25	5.25	3.25	12.00					Temporary Barrier Rail	Stg 1 Construction	
2	WB	343+12.13	Lt	2.00	1						24.25	5.25	3.25	12.00					Temporary Barrier Rail	Stg 1 Construction	
3	Both	336+56.28	Lt	2.00	1						24.25	5.25	3.25	12.00					Temporary Barrier Rail	Stg 1 Winter	
4	Both	343+13.94	Lt	2.00	1						24.25	5.25	3.25	12.00					Temporary Barrier Rail	Stg 1 Winter	
5	EB	336+51.44	Lt	2.00	1						24.25	5.25	3.25	12.00					Temporary Barrier Rail	Stg 2 Construction	
Total:					5																



**SHOULDER STRENGTHENING**



Joints:  
 HMA:  
 Longitudinal joint: B  
 PCC:  
 Longitudinal joint: BT-1 or BT-5  
 Transverse joint: C

Road Identification	Station to Station		Side	(E)	(T)	(G)	Special Backfill TON	Shoulder Strengthening SY	Class 13 Excavation CY	Remarks
				FT	IN	FT				
US 30	336+64.61	337+14.61	Lt	4.00	9.50		7.1	22.3	9.7	
Totals:							7.1	22.3	9.7	

**SHOULDERS**

- ① Lane(s) to which the shoulder is adjacent.
- ② See Typ. 7156, 7157, or 7158.
- ③ Bid Item.
- ④ Applies only for Paved Shoulders constructed on project with existing granular shoulders.
- ⑤ Bid Item. Typ. 7156, 7157, or 7158.
- ⑥ Does not include shrink.

Calculations assume a HMA unit weight (lbs/cf) of 145, a Special Backfill unit weight (lbs/cf) of 140, and a Granular Shoulder unit weight (lbs/cf) of 140.

Road Identification	Direction Of Traffic	Location Station to Station		Side	(P)	(P <sub>SG</sub> )	(G)	(L)	Class 13 <sup>④</sup> Excavation CY <sup>③</sup>	Hot Mix Asphalt		Binder TONS	Paved Shoulder SY <sup>③</sup>	" Paved Shoulder at Guardrail SY <sup>⑤</sup>	Reinforced Paved Shoulder SY <sup>③</sup>	Special Backfill				Subbase CY <sup>③</sup>	Granular Shoulder		Earth Shoulder Construction Alternates			Remarks	
					Width	Width	Width	Length		TON	TON/STA					HMA Alternate		PCC Alternate			TON <sup>③</sup>	TON/STA	STA <sup>③</sup>	HMA CY <sup>⑥</sup>	PCC CY <sup>⑥</sup>		
					FT	FT <sup>②</sup>	FT	FT								TON <sup>③</sup>	TON/STA	TON <sup>③</sup>	TON/STA								
US 30	WB	336+64.61	337+14.61	Lt	10.0	0.0		50.0	19.3				55.6	0.0				20.563	41.125				0.5		22.7		
US 30	WB	337+14.61	337+37.21	Lt	10.0			22.6	13.5				25.1	13.8				13.645	60.375				0.2		10.2		
US 30	WB	337+37.21	337+84.00	Lt	10.0	.5 to 3.5		46.8	26.2				52.0	23.4				26.612	56.875				0.5		21.2		
US 30	EB	336+64.61	336+86.91	Rt	10.0	3.5		22.3	11.6				24.8	8.7				11.903	53.375				0.2		10.1		
US 30	EB	336+86.91	337+35.67	Rt	10.0	.5 to 1.5		48.8	23.5				54.2	13.5				24.319	49.875				0.5		22.1		
US 30	EB	337+35.67	337+84.00	Rt	10.0	1.5		48.3	21.4				53.7	8.1				22.413	46.375				0.5		21.9		
US 30	WB	341+96.00	342+44.33	Lt	10.0	3.5		48.3	25.2				53.7	18.8				25.796	53.375				0.5		21.9		
US 30	WB	342+44.33	342+93.09	Lt	10.0	.5 to 5.5		48.8	27.3				54.2	24.4				27.732	56.875				0.5		22.1		
US 30	WB	342+93.09	343+15.40	Lt	10.0	5.5		22.3	13.3				24.8	13.6				13.470	60.375				0.2		10.1		
US 30	EB	341+96.00	342+42.80	Rt	10.0	.5 to 3.5		46.8	22.6				52.0	13.0				23.342	49.875				0.5		21.2		
US 30	EB	342+42.80	342+65.40	Rt	10.0	3.5		22.6	11.8				25.1	8.8				12.063	53.375				0.2		10.2		
US 30	EB	342+65.40	343+15.40	Rt	10.0	0.0		50.0	19.3				55.6	0.0									0.5		22.7		
Totals:									235.0				530.6	146.1				221.856					4.8				



## SURVEY SYMBOLS

<p>⊕ AST, Above Ground Storage Tank</p> <p>BB, Billboard</p> <p>BBB, Bottom of Bridge Beam</p> <p>BCL, Bridge Centerline</p> <p>BD, Bridge Deck</p> <p>BIN, Grain Bin</p> <p>BL, Topo Breakline</p> <p>BLD, Building or Foundation</p> <p>BLS, Bridge Low Steel</p> <p>BM, Bench Mark</p> <p>BNK, Stream Bank</p> <p>BRG, Bridge</p> <p>C, Centerline BL of Road -ML or SR</p> <p>CAV, Cave</p> <p>CEL, Cell Phone Tower</p> <p>CIS, Cistern</p> <p>CON, Concrete or A/C Slab</p> <p>CP, Control Point</p> <p>CRP, Corporation Line</p> <p>CS, Curve Point</p> <p>CU, Back of Curb</p> <p>CUL, Culvert</p> <p>D, Centerline Draw or Stream -Down</p> <p>DAB, Drainage Area Boundary</p> <p>DIK, Centerline of Dike or Dam</p> <p>DTM, Photogrammetry Elev. Control Check</p> <p>DU, Centerline Draw or Stream -Up</p> <p>EB, Electrical Box</p> <p>EG, Edge of Gravel Road</p> <p>ENP, Edge Paved Entrance and Park Lot</p> <p>ENT, Centerline BL of Entrance</p> <p>ENU, Edge Unpaved Entrance and Parking</p> <p>EP, Edge of Paved Roads -ML or SR</p> <p>EW, Edge of Water</p> <p>FCL, Chain Link and Security Fence</p> <p>FENO, FENO Monument</p> <p>FHD, Fire Hydrants</p> <p>FLG, Flag Poles</p> <p>FP, Filler Pipe</p> <p>FW, Wire Fence</p> <p>FWD, Wood Fence</p> <p>GDC, Guard Rail Cable</p> <p>GDL, Guard Rail Steel</p> <p>GP, Guard Post -Less Than 4 Posts</p> <p>GPR, Guard Post -4 or More Posts</p> <p>GR, Ground Shot</p> <p>GRV, Grave</p> <p>GU, Gutter In Front of Curb</p> <p>GV, Gas Valve</p> <p>HDG, Hedge Row</p> <p>HS, Hydric Soil -Wetlands</p> <p>HT, Electrical Highline Tower</p> <p>IN, Storm Sewer Intake</p> <p>INB, Storm Sewer Beehive Intake</p> <p>LC, Lot Corner</p> <p>LIN, Miscellaneous Line</p> <p>LP, L.P. Tank</p> <p>LUM, Luminaire</p> <p>MH, Utility Access -Manhole</p> <p>MIS, Miscellaneous</p> <p>MM, Mile Marker Post</p> <p>OUT, Tile Outlet</p> <p>PC, Curve Point</p> <p>PCP, Photo Control Point</p> <p>PCT, Photo Control Target</p> <p>PI, Tangent Point</p> <p>PIP, Pipe Culvert</p> <p>PL, Location of Photo -Wetlands</p> <p>PLG, Location of General Photo</p> <p>POC, Curve Point</p> <p>POST, Spiral Point</p>	<p>PR, Electric Riser Pole</p> <p>PRO, Profile Shot</p> <p>PT, Curve Point</p> <p>REF, Reference Tie Point</p> <p>RET, Retaining Walls</p> <p>RIP, Rip-Rap</p> <p>ROC, Rock Outcropping</p> <p>ROW, Right of Way Mark</p> <p>RR, Centerline of Railroad Tracks</p> <p>RRB, Railroad Signal Box</p> <p>RRF, Railroad Frog</p> <p>RRR, Railroad Rail</p> <p>RRS, Railroad Signal</p> <p>RRW, Railroad Switch</p> <p>RT, Radio Tower</p> <p>S, Soil Sampling Site -Wetlands</p> <p>SBR, Size of Bridge</p> <p>SC, Spiral Point</p> <p>SCR, Section Corner</p> <p>SEP, Septic Tank</p> <p>SF, Silt Fence -Wetlands</p> <p>SG, Staff Gauge -Wetlands</p> <p>SH, Paved Shoulder</p> <p>SHR, Shrub</p> <p>SI, Sign</p> <p>SL, Speed Limit Sign</p> <p>SLN, Section Line</p> <p>SLO, Silo</p> <p>SNK, Sink Hole</p> <p>SNP, Unpaved Shoulder</p> <p>SP, Stream Profile</p> <p>STP, Stump</p> <p>SWK, Sidewalk</p> <p>SWP, Swamp or Marsh</p> <p>TA, Tower Anchor</p> <p>TBO, Telephone Booth</p> <p>TCB, Traffic Signal Box</p> <p>TDC, Tree Deciduous</p> <p>TDL, Traffic Detection Loop</p> <p>TER, Terrace</p> <p>TEV, Evergreen Tree</p> <p>TFR, Tree Fruit</p> <p>TGP, Telegraph Pole</p> <p>TIL, Tile Line</p> <p>TLNL, Tree Line Left</p> <p>TLNR, Tree Line Right</p> <p>TOP, Top of Bridge Pier</p> <p>TPA, Telephone Pole Co. 1</p> <p>TPB, Telephone Pole Co. 2</p> <p>TPC, Telephone Pole Co. 3</p> <p>TR, Telephone Riser Pole</p> <p>TRL, Trail</p> <p>TS, Spiral Point</p> <p>TSB, Telephone Switch Box</p> <p>TSG, Traffic Signal</p> <p>TSL, Traffic Signal and Luminaire</p> <p>TV, Satellite TV Dish</p> <p>TVP, TV Pedestal</p> <p>TW, Top of Water</p> <p>UB, Utility Box</p> <p>UE, Utility Elevation</p> <p>UPH, Utility Pot Hole - Quality A</p> <p>UST, Underground Tank</p> <p>UV, Underground Utility Vault</p> <p>VS, Channel Cross Section</p> <p>WC, Wild Card -Misc. Field Shot</p> <p>WEL, Well</p> <p>WHD, Water Hydrant</p> <p>WHU, RV Water Hook Up</p> <p>WM, Wind Mill</p> <p>WND, Wind Turbine</p> <p>WV, Water Valve</p>
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### SURVEYED UTILITY OWNER SYMBOLS

Sub-Surface Utility Mapping Quality Level is in accordance with CI/ASCE 38-02 Standard Guidelines for the Collection and Depiction of Existing Subsurface Utility Data.

#### Remark Abbreviations

QLA Quality Level A Highest guideline quality level  
 QLD Quality Level D Lowest guideline quality level

— E1 —	ELID, Eastern Iowa Light & Power
— F0 —	FOID, F&B Communications
— F02 —	FO2D, Sprint
— G —	GLID, Alliant Energy
— SAN —	SAID, City of Wheatland
— W —	WLID, City of Wheatland

## UTILITY LEGEND

<p>— E1 — Eastern Iowa Light &amp; Power Chad Ruden chad.ruden@easterniowa.com</p> <p>— F02 — Sprint Mark Klinkenberg mark.klinkenberg2@t-mobile.com</p> <p>— F0 — F&amp;B Communications Aaron Horman aaron@fbc-tele.com</p> <p>— G — Alliant Energy Mary Montgomery marymontgomery@alliantenergy.com</p> <p>— T4 — City of Wheatland Matt Cavey cityguys@fbcom.net</p> <p>— W — City of Wheatland Matt Cavey cityguys@fbcom.net</p> <p>Electric Transmission Chad Levi clevi@itctransco.com</p>
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## PLAN VIEW COLOR LEGEND OF PLAN AND PROFILE SHEETS

LINEWORK		Design Color No.
Green	(2)	Existing Topographic Features and Labels
Blue	(1)	Proposed Alignment, Stationing, Tic Marks, and Alignment Annotation
Magenta	(5)	Existing Utilities
SHADING		Design Color No.
Lavender	(9)	Temporary Pavement Shading
Yellow	(4)	Proposed Pavement Shading
Orange	(6)	Proposed Granular Shading
Orange	(70)	Proposed Shoulder Granular Shading
Yellow	(68)	Proposed Shoulder Paved Full Depth Shading
Yellow	(132)	Proposed Shoulder Paved Partial Depth Shading
Gray, Dark	(112)	Proposed Grade and Pave Shading "In conjunction with a paving project"
Brown, Light	(236)	Grading Shading
Orange, Light	(134)	Proposed Granular Entrance Shading
Yellow	(220)	Proposed Paved Entrance Shading
Tan	(8)	Proposed Sidewalk Shading
Blue, Light	(230)	Proposed Sidewalk Landing Shading
Pink	(11)	Proposed Sidewalk Ramp Shading
Green, Light	(225)	Existing Pavement Shading
Red	(3)	Proposed Structure Shading
Red	(3)	Delineates Restricted Areas

## PROFILE VIEW COLOR LEGEND OF PLAN AND PROFILE SHEETS

LINEWORK		Design Color No.
Green	(10)	Existing Ground Line Profile
Blue	(1)	Proposed Profile and Annotation
Magenta	(5)	Existing Utilities
Blue, Light	(230)	Proposed Ditch Grades, Left
Black	(0)	Proposed Ditch Grades, Median
Rust	(14)	Proposed Ditch Grades, Right

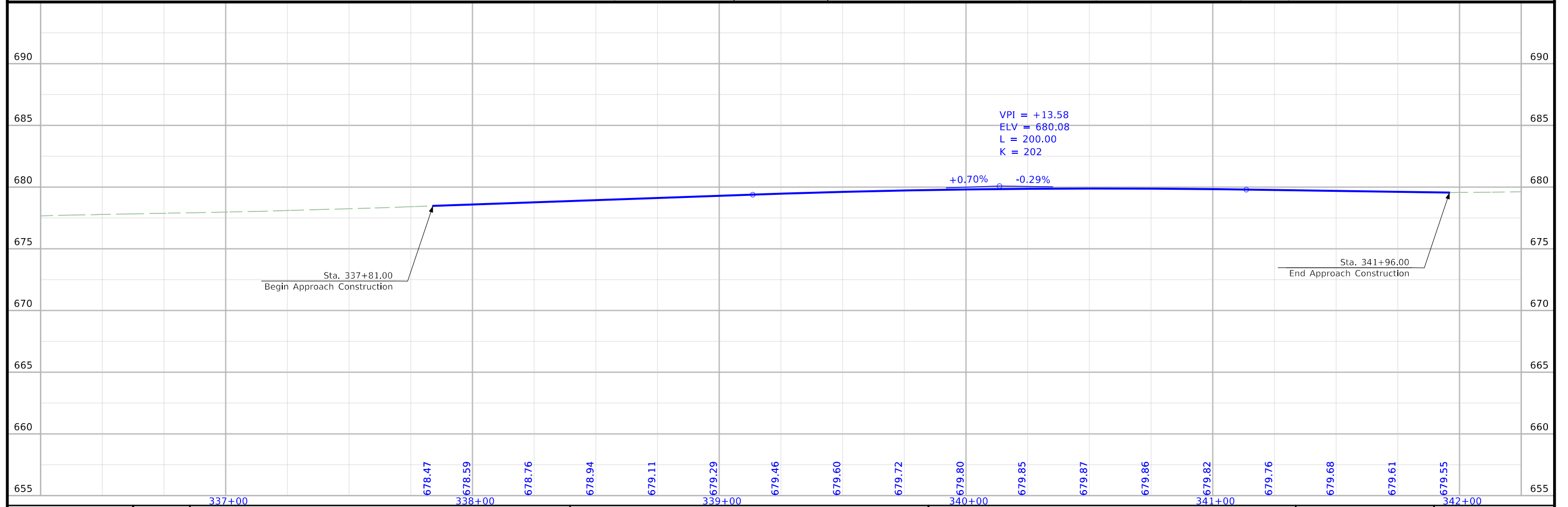
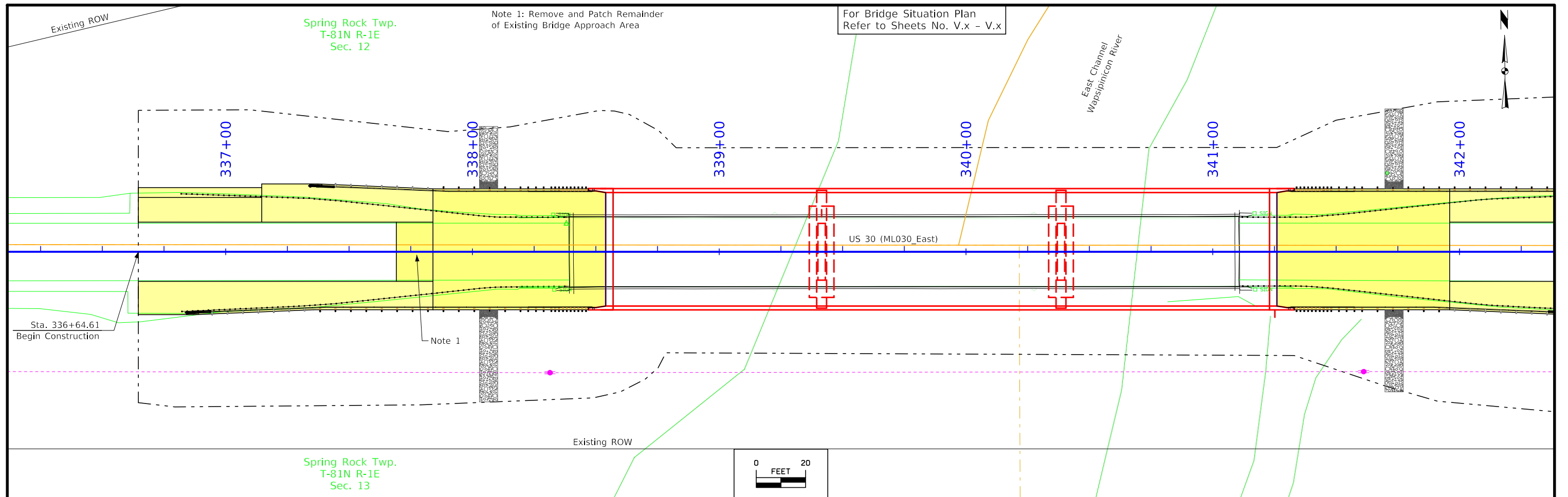
Reference Point	Survey Line
Station	
▲ Section Corner	
--- Ground Line Intercept	
//// Saw Cut	
— Guardrail	
— Trench Drain	
— High Tension Cable Guardrail	
— Sheet Pile	
▨ Pavement Removal	▩ Clearing & Grubbing Area

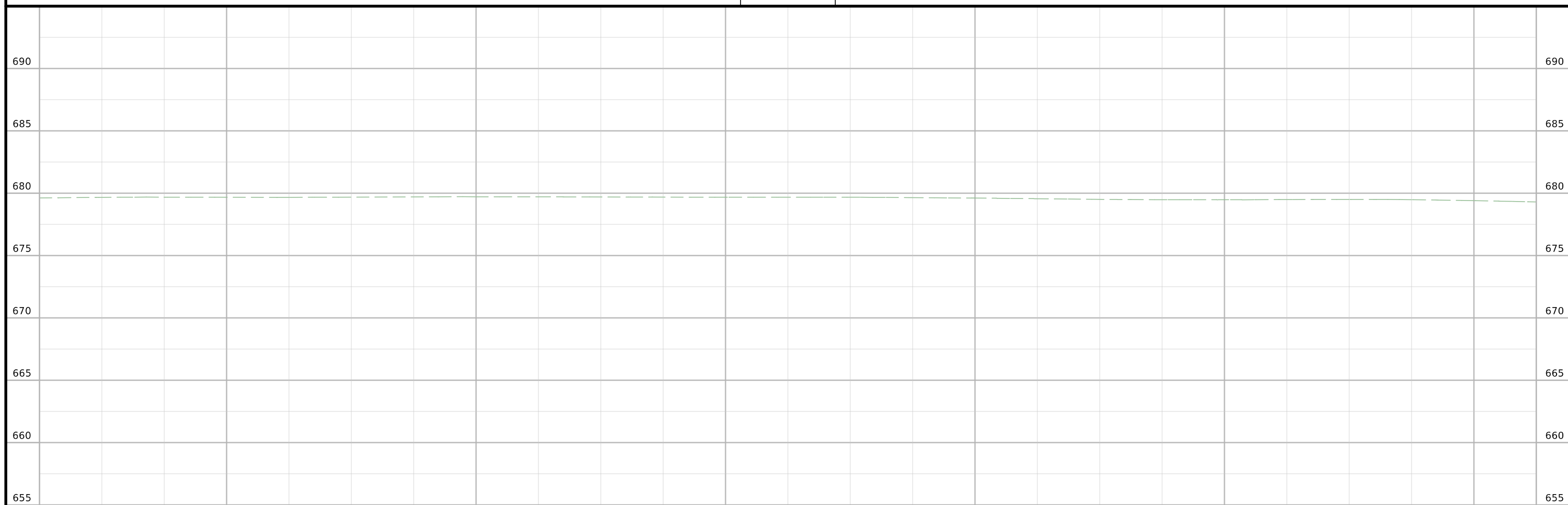
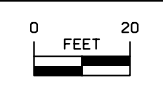
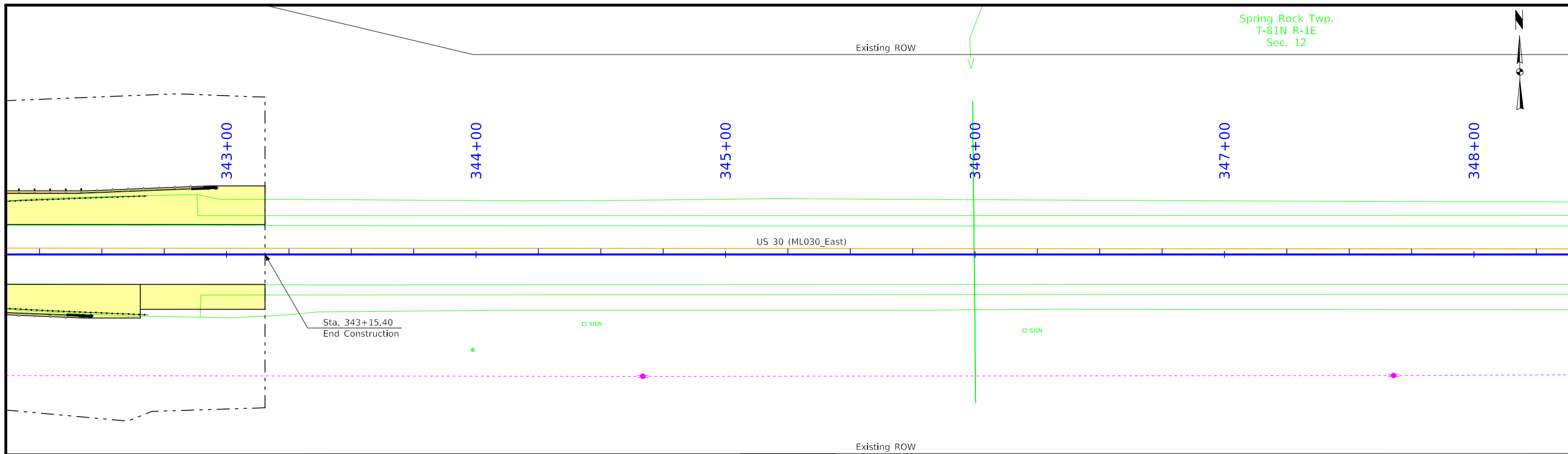
### RIGHT-OF-WAY LEGEND

▲ Proposed Right-of-Way
△ Existing Right of Way
▲△ Existing and Proposed Right-of-Way
▲△ Easement and Existing Right-of-Way
○ Easement (Temporary)
● Easement
C/A Access Control
— Property Line

# PLAN AND PROFILE LEGEND AND SYMBOL INFORMATION SHEET

(COVERS SHEET SERIES D, E, F, K & U)





FILE NO.	ENGLISH	DESIGN TEAM Iowa DOT\Stanley Consultants Inc.	CLINTON COUNTY	PROJECT NUMBER BRF-030-9(205)--38-23	SHEET NUMBER D.3
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## Survey Information

**Clinton County**  
**BRF-030-9(186)—38-23**  
**US30 Clinton County Survey**  
**From 130<sup>th</sup> Ave to 158<sup>th</sup> Ave - Wheatland**  
**PIN 18-23-030-030**

### Party Personnel

Jody Budde- PLS  
Wes Shimp- PLS  
Jon Miranda- Geospatial Lead Tech  
Ben Sullivan- Geospatial Lead Tech  
Matt Svec- Party Chief  
Lee Budde- Party Chief  
Aaron Paulsen- Party Chief  
Katerina Wyatt- Assistant Survey Party Chief  
Levi Suhr- Assistant Survey Party Chief  
Jason Flaherty – Assistant Survey Party Chief  
Scott Dillavou – Assistant Survey Party Chief

### Date(s) of Survey

Begin Date 11/17/2021  
End Date 02/28/2022

### General Information

Measurement units for this survey are US survey feet. This survey is for the preliminary design for the section of approximately 3 miles of US Highway 30 beginning in Wheatland at 130<sup>th</sup> Ave east to 158<sup>th</sup> Ave. There were also a total of 15 bridge structures surveyed which included 5 bridges along the UPRR line south of Hwy 30, near Wheatland, IA.

Project datum and control information is provided by Design Survey Office. This project is a Full DTM survey. Project horizontal datum is NAD83 (2011) epoch 2010.00, Iowa RCS Zone 11 (Dubuque-Davenport). Foth established three new FENO monuments to supplement existing project control at a 1.0 mile distribution along the project corridor throughout the project lifecycle and for future corridor area work.

### Vertical Control

Vertical datum for this survey is relative to NAVD88 (computed using Geoid18) for the new FENO marks: FENO 1, FENO 2 and FENO 3. This survey consisted of observing three new FENO 1-meter rod monuments and one existing USGS monument used by

the Iowa DOT previously using minimum 2hr initial static observations along with data from four Iowa RTN CORS sites: Anamosa (IAAN), Maquoketa (IAMQ), Tipton (IATI) and Davenport (IADA).

The published Ellipsoidal heights for the four Iowa RTN stations were held for the vertical adjustment portion of this survey using as-published RTN positions by the Iowa DOT dated August 6, 2021.

Additionally, three nearby Scott County GPS monuments were recovered and observed with published NAVD88 elevations were observed and used that are located within the Hwy 30 project corridor region:

Scott County GPS 601 has a published Elv of: 757.56 usft (Geoid12A)  
Adj Elv: 757.48

Scott County GPS 602 has a published Elv of: 706.44 usft (Geoid12A)  
Adj Elv: 706.49

Scott County GPS 642 has a published Elv of: 640.80 usft (Geoid12A)  
Adj Elv: 640.80

The final vertical adjustment results show standard deviations were less than 0.023 ft. at 95% confidence level (2 sigma) for the new FENO monuments.

### Horizontal Control

The project coordinate system for this survey is NAD83 (2011) Iowa RCS Zone 11 (Dubuque-Davenport), US survey feet. This survey control is relative to IaRTN reference stations. IaRTN Reference Station coordinates are relative to the National Reference Station network datum: NAD83 (2011) for Epoch 2010.00. Coordinates were determined by observing each mark for 120 minutes minimum.

For the January 2022 control survey FOTH added FENO monuments FENO 1, FENO 2 and FENO 3 to supplement an existing DOT control monument recovered along the project corridor, Pt 706. Existing monuments Scott Co GPS 601, 602 and 642 were recovered and observed as part of this survey. The existing DOT concrete monument with brass cap (Pt 706) is on the east end of the project. The as listed adjusted coordinates in this report were the result of combined field observations and adjustment to the four Iowa RTN stations as listed herein.

Four Iowa RTN CORS stations: Anamosa, Maquoketa, Davenport and Tipton were utilized for the horizontal adjustment portion of this survey. The published horizontal geodetic positions for the four Iowa RTN stations were held for the horizontal

## Survey Information

adjustment portion of this survey using as-published RTN positions by the Iowa DOT dated August 6, 2021.

The published horizontal positions of the existing three Scott County GPS Monuments 601, 602 and 642 were also confirmed and held fixed for the final horizontal constrained adjustment of the three new FENOs established by Foth.

The horizontal standard deviation of these adjusted observations was less than 0.015 ft. at 95% confidence level (2 sigma).

PC Sta. 220+30.9 As-built Plans Project No. F-Proj No. 147 (9)  
Survey PC Sta. 220+30.7

PT Sta. 239+21.2 As-built Plans Project No. F-Proj No. 147 (9)  
Survey PT Sta. 239+21.2

PC Sta. 268+98.6 As-built Plans Project No. F-Proj No. 147 (9)  
Survey PC Sta. 268+97.0

PT Sta. 287+08.6 As-built Plans Project No. F-Proj No. 147 (9)  
Survey PT Sta. 287+08.1

### Station Equation

As-built Plans POT Sta 366+23.9 (Back) = POT Sta 341+26.6(Ahead)  
Survey POT Sta 366+23.9 (Back) = POT Sta 341+26.6(Ahead)

END POT Sta. 350+00.0 As-built Plans Project No. F-Proj No. 147 (9)  
Survey POT Sta. 350+00.0

### PROJECT CONTROL COORDINATE LISTING

Point ID	Northing	Easting	Elevation	Description
706	8175524.45	21430991.30	673.72	Existing Concrete Monument with brass disk set flush with the ground. 35.9 feet east of 158th Ave, 62.9 feet south of Hwy 30, 9.6 feet southeast of a utility pole.
FENO 1	8175123.51	21416496.20	676.87	New FENO style monument set flush with the ground. 33.5 feet southwest of centerline of Hwy 30, 147.5 feet east of center of 130th Ave.
FENO 2	8175556.21	21421292.80	674.35	New FENO style monument set flush with the ground. 28.15 feet NW of NW cor of wingwall of NW cor of Hwy 30 bridge over a creek. 37.3 feet south southeast of utility pole. 114.0
FENO 3	8175553.56	21426066.29	667.37	New FENO style monument set flush with the ground. 90.8 feet south of centerline of Hwy 30, 48.15 feet southwest of utility pole.
Scott Co GPS 601	8154639.01	21398578.53	757.48	Existing Berntsen driven rod monument with 2 1/2" aluminum cap with access cover.
Scott Co GPS 602	8154565.39	21415761.26	706.49	Existing Berntsen driven rod monument with 2 1/2" aluminum cap with access cover.
Scott Co GPS 642	8152509.73	21458526.18	640.80	Existing Berntsen driven rod monument with 2 1/2" aluminum cap with access cover.

### Alignment Information

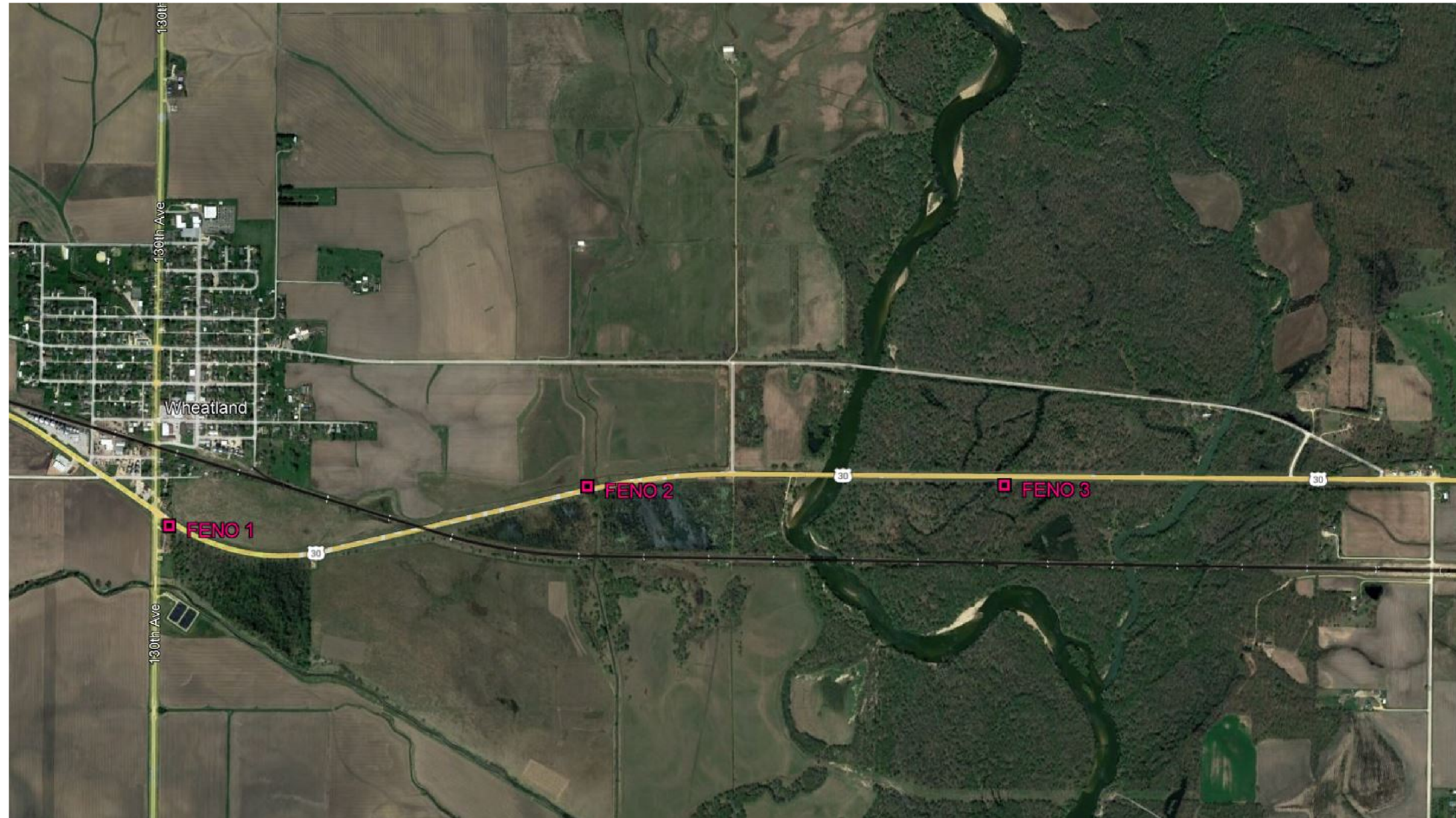
The horizontal alignment for this survey is a retrace of As-built Plans No. F-Proj No. 147 (9). Survey stationing was equated to the plan PT at STA 239+21.2 and run back and ahead throughout the survey.

Mainline (US30) Survey stationing relates to as built plan stationing as follows:

POB POT Sta. 211+54.50 As-built Plans Project No. F-Proj No. 147 (9)  
Survey POT Sta. 211+54.30

## CONTROL POINT VICINITY MAP

This map is a guide to the vicinity of the primary project control points. Primary control is for use with RTK base stations and for RTN validation. Future surveys will use primary project control to establish temporary control as needed for construction or other surveying applications.



HORIZ. DATUM: NAD83(2011) EPOCH 2010.00 - Ia. RCS Zone 11  
VERT. DATUM: NAVD88 - Geoid Model G018

Coordinate listing from next sheet will be used with IaRTN for monument recovery. No other reference ties are given.



HORIZONTAL AND VERTICAL PROJECT CONTROL COORDINATE LISTING

HORIZ. DATUM: NAD83(2011) EPOCH 2010.00  
 1a. Regional Coordinate System Zone 11

VERT. DATUM: NAVD88  
 Geoid Model G018  
 Project Control Marks are Bench Marks

Point ID	Northing	Easting	Elevation	Description
706	8175524.45	21430991.30	673.72	Existing Concrete Monument with brass disk set flush with the ground. 35.9 feet east of 158th Ave, 62.9 feet south of Hwy 30, 9.6 feet southeast of a utility pole.
FENO 1	8175123.51	21416496.20	676.87	New FENO style monument set flush with the ground. 33.5 feet southwest of centerline of Hwy 30, 147.5 feet east of center of 130th Ave.
FENO 2	8175556.21	21421292.80	674.35	New FENO style monument set flush with the ground. 28.15 feet NW of NW cor of wingwall of NW cor of Hwy 30 bridge over a creek. 37.3 feet south southeast of utility pole. 114.0 feet west of middle of small creek.
FENO 3	8175553.56	21426066.29	667.37	New FENO style monument set flush with the ground. 90.8 feet south of centerline of Hwy 30, 48.15 feet southwest of utility pole.
Scott Co GPS 601	8154639.01	21398578.53	757.48	Existing Berntsen driven rod monument with 2 1/2" aluminum cap with access cover.
Scott Co GPS 602	8154565.39	21415761.26	706.49	Existing Berntsen driven rod monument with 2 1/2" aluminum cap with access cover.
Scott Co GPS 642	8152509.73	21458526.18	640.80	Existing Berntsen driven rod monument with 2 1/2" aluminum cap with access cover.

**ALIGNMENT COORDINATES**

Name	Location	Point on Tangent			Begin Spiral			Begin Curve			Simple Curve PI or Master PI of SCS			End Curve			End Spiral		
		Station	Coordinates		Station	Coordinates		Station	Coordinates		Station	Coordinates		Station	Coordinates		Station	Coordinates	
			Y (Northing)	X (Easting)		Y (Northing)	X (Easting)		Y (Northing)	X (Easting)		Y (Northing)	X (Easting)		Y (Northing)	X (Easting)		Y (Northing)	X (Easting)
1	US 30 (ML030_East)	290+00.00	8175675.66	21423290.21															
2	US 30 (ML030_East)	369+00.00	8175582.88	21431189.67															

<b>TRAFFIC CONTROL PLAN</b>	108-23A 08-01-08
US 30 Refer to project number BRF-030-9(186)--38-23 for Traffic Control Plans.	

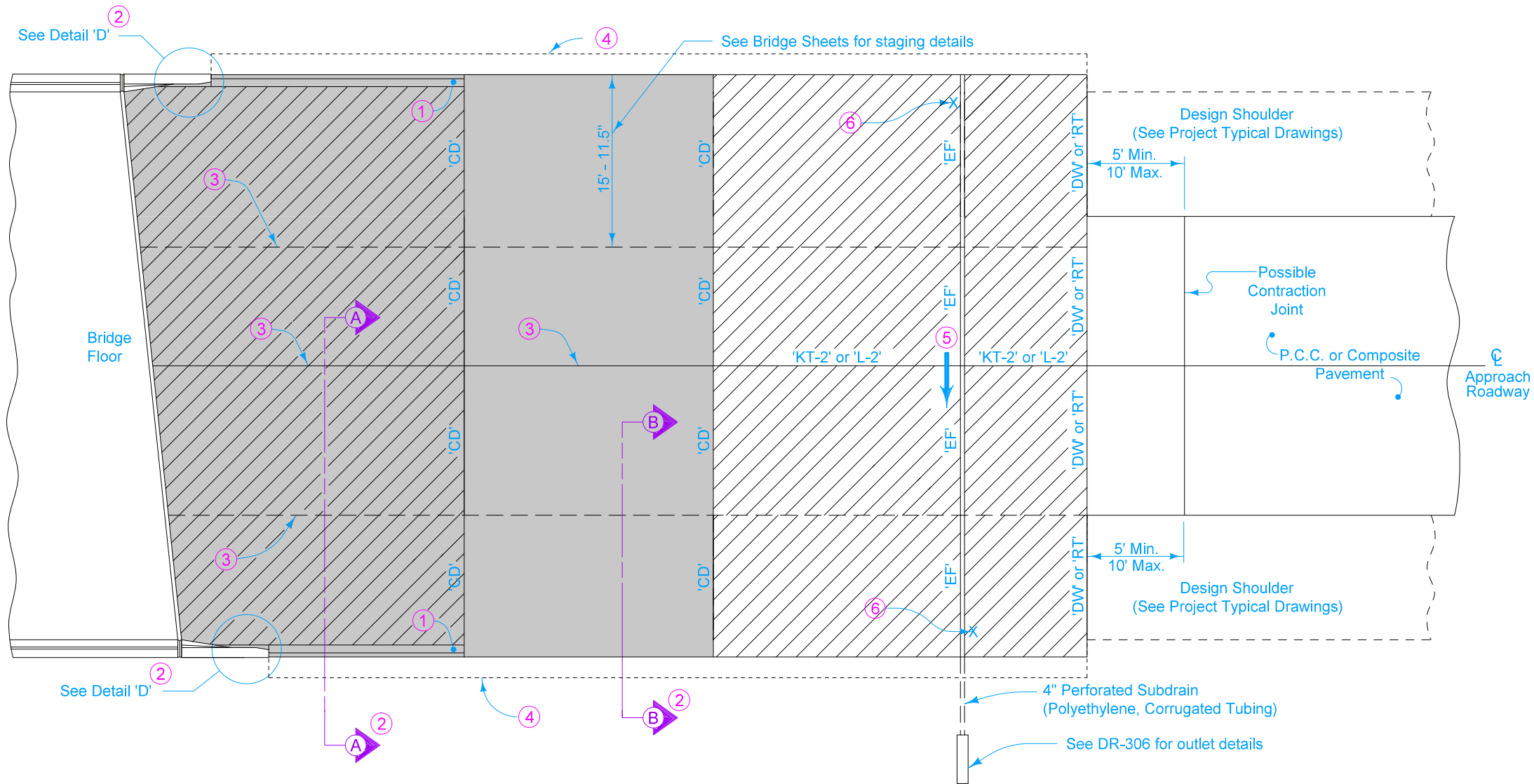
<b>STAGING NOTES</b>	108-26A 08-01-08
Refer to project number BRF-030-9(186)--38-23 for Staging Plans.	

<b>511 TRAVEL RESTRICTIONS</b>											108-25 10-21-14	
Route	Direction	County	Location Description	Feature Crossed	Object Type	Maint. Bridge No., Structure ID, or FHWA No.	Type of Restriction	Existing Measurement	Construction Measurement	Construction Measurement as Signed	Projected As Built Measurement	Remarks
			Refer to project number BRF-030-9(186)--38-23.									

<b>COORDINATED OPERATIONS</b>		111-01 04-17-12
Other work in progress during the same period of time will include the construction of the projects listed. Coordinate operations with those of other contractors working within the same area.		
Project	Type of Work	
BRF-030-9(186)--38-23	Bridge Replacement	
BRF-030-9(198)--38-23	Bridge Replacement	




For joint details, see PV-101.

- ① Build 4 inch Sloped Curb to end of Double Reinforced Section. Refer to PV-102 for curb and runout details.
- ② See BR-201, BR-202, BR-203, or BR-204.
- ③ Longitudinal Joint (PV-101):  
Single Pour - Saw cut joint per Detail B.  
Two Pours - Use 'KS-1' joint (Single Reinforced Section).  
Use 'KS-2' joint (Double Reinforced Section).
- ④ Polymer Grid and excavation limits of Modified Subbase 2 feet outside of pavement edge. See BR-201, BR-202, BR-203, or BR-204.
- ⑤ Slope subdrain to drain.
- ⑥ Place an "X" in the plastic concrete near the 'EF' joint at the outside edge of pavement.



PLAN VIEW

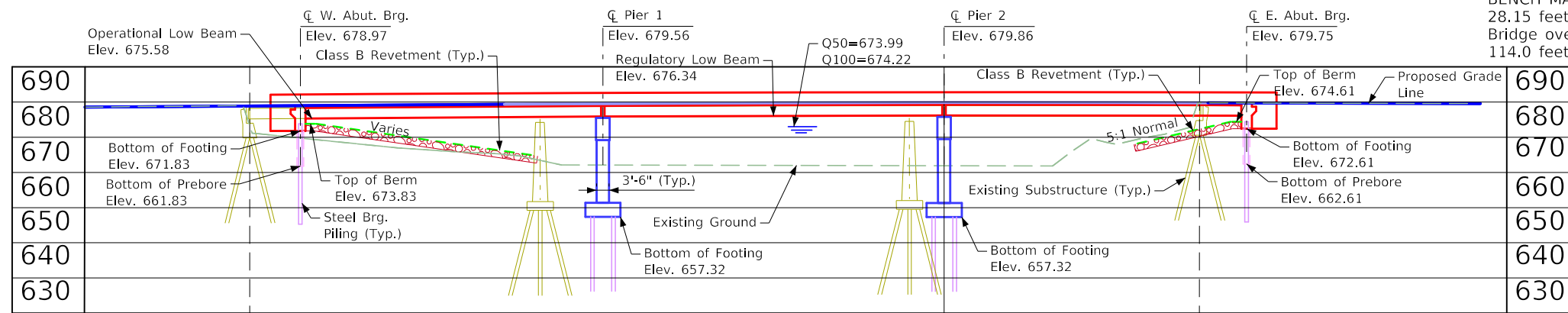
Pay limits for contract item include the following areas:

-  Double Reinforced Section
-  Single Reinforced Section
-  Non-Reinforced Section

<b>MODIFIED</b>	3	10-18-22
	<b>BR-211</b>	
STANDARD ROAD PLAN		
SHEET 1 of 1		

MODIFICATIONS: Revised longitudinal joint, location and added dimensions.

**BRIDGE APPROACH  
(ABUTTING PCC OR  
COMPOSITE PAVEMENT)**



BENCH MARK: New FENO Style monument set flush with ground. 28.15 feet NW of NW corner of wingwall of NW corner of Hwy 30 Bridge over creek. 37.3 feet south southeast of utility pole. 114.0 feet west of middle of small creek.

VPI STA. = 340+13.58  
VPI ELEV. = 680.08  
L = 200'

+0.700%      -0.300%

Proposed Profile  
Grade US 30

Longitudinal Section Along CL US 30

Hydraulic Data

Drainage Area = 39.9 SQ. MI.  
Stream Slope = 7.1 FT./MI.  
Q50= 7,920 CFS (AEPD), 13,050 CFS (2D Model)  
Stage = 673.99  
Regulatory Low Beam = 676.04  
Avg. Bridge Velocity = 8.1 FPS  
Q100= 9,310 CFS (AEPD), 13,659 CFS (2D Model)  
Stage = 674.22  
Operational Low Beam = 675.31  
Backwater = 0.34 FT.  
Avg. Bridge Velocity = 8.4 FPS

Q200 = 12,000 CFS (AEPD) 15,535 CFS (2D Model)  
Design Scour = 645.30

Q500 = 13,100 CFS (AEPD) 15,535 CFS (2D Model)  
Check Scour = 645.30

Location

US 30 Over East Channel Wapsipinicon  
T-81N R-1E  
Section 12 & 13  
Spring Rock Township  
Clinton County  
FHWA No. 020750  
Bridge Maint. No. 2399.35030  
Latitude 41.829498°  
Longitude -90.797041°

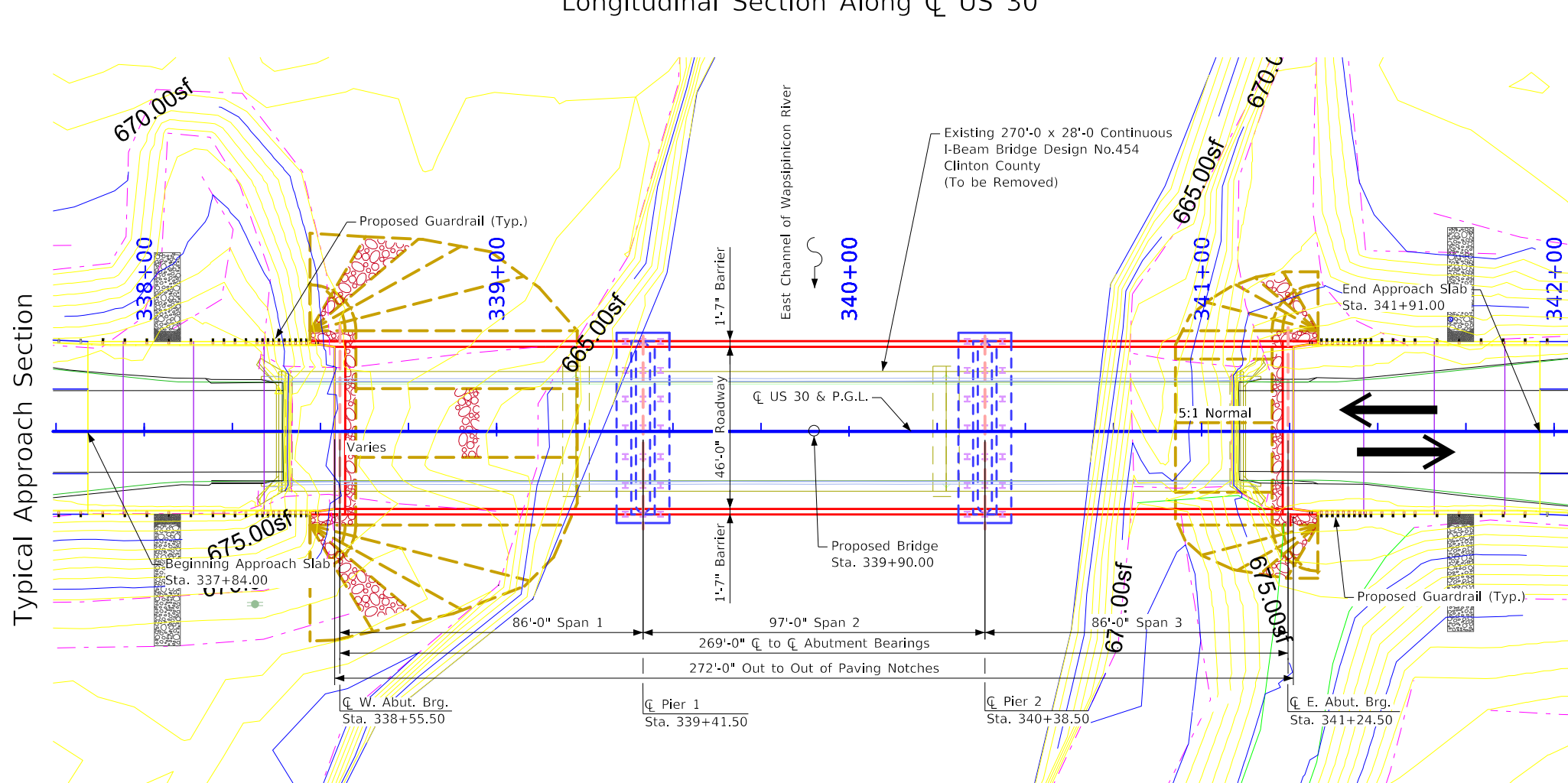
Traffic Estimate

2024 AADT	3100	V.P.D.
2044 AADT	3800	V.P.D.
Trucks	20	%

Utilities Legend:

- E1 -EL1D, Eastern Iowa Light and Power
- F0 -FO1D, F&B Communications
- F02 -FO2D, Sprint
- G -GL1D, Alliant Energy
- SAN, -SA1D, City of Wheatland
- W -WL1D, City of Wheatland

Utilities shown on this sheet are for information only, see road design sheets for final utility information.



Situation Plan

Notes:

- Top of bridge deck at centerline US 30 is 0.03' below the profile grade to account for parabolic crown.
- Class B Revetment stone is embedded.

Hydraulic Design

I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.

Signature: Mark D. Werner Date: 9-20-2023

Printed or Typed Name: Mark D. Werner

My license renewal date is December 31, 2025

Pages or sheets covered by this seal: V.4, V.5

Design For 0° Skew

**269'-0" X 46'-0" Pretensioned Prestressed Concrete Beam Bridge**

86'-0" End Spans      97'-0" Interior Span

**Situation Plan**

STA. 339+90.00 (US30)      Turn-In Date: Aug 2024

**Clinton County**

IOWA DEPARTMENT OF TRANSPORTATION

Design No. 1025      Design Sheet No. 4 of 35      FHWA No. 020751

## CROSS SECTION VIEW COLOR LEGEND

Design Color No.	Feature	Design Color No.	Feature
<b>Aggregate</b>			
(64)	Choke Stone	(112)	Noise Wall
(42)	Engineering Fabric	(112)	Noise Wall Footing
(8)	Flooded Backfill	(112)	Retaining Wall Back
(92)	Macadam Stone	(112)	Retaining Wall Back Excavate
(20)	Modified	(112)	Retaining Wall Face
(12)	Plowing Shaping	(112)	Retaining Wall Front Excavate
(14)	Porous Backfill	(112)	Retaining Wall Front Footing
(8)	Revetment Class A	(112)	Retaining Wall MSE Gutter
(6)	Revetment Class B	(112)	Retaining Wall Reinforced Earth
(62)	Revetment Class C	<b>Grading</b>	
(188)	Revetment Class D	(8)	Behind Curb Cut
(28)	Revetment Class E	(6)	Granular
(12)	Shoulder Special Backfill	(13)	Granular Back Fill
(12)	Special Backfill	(48)	Rock Undercut
(20)	Subbase	(8)	Shoulder Earth Fill
(20)	Subbase Lower	(2)	Side Slopes
(20)	Subbase Upper	(226)	Side Slopes Dressing
(118)	Subgrade Treatment	<b>Substrata</b>	
<b>Asphalt</b>			
(207)	HMA Base Course	(128)	Boulder Substrata
(207)	HMA Interim Course	(48)	Broken Weathered Substrata
(207)	HMA Surface Course	(3)	Core Out Substrata
<b>Concrete</b>			
(0)	Barrier Concrete	(203)	Existing Pavement Substrata
(0)	Barrier Concrete Footing	(6)	Loam Substrata
(0)	Curb Gutter	(80)	Rock Substrata
(48)	Flowable Mortar	(4)	Select Sand Substrata
(0)	Median Concrete	(3)	Shale Substrata
(0)	PCC Pavement	(10)	Topsoil Substrata
(0)	Sidewalk	<b>Unsuitable / Waste</b>	
<b>Shoulder</b>			
(209)	Shoulder HMA	(3)	Unsuitable Type A
(0)	Shoulder PCC	(13)	Unsuitable Type B
(6)	Shoulder Granular	(11)	Unsuitable Type C
(6)	Shoulder Granular	(3)	Waste
<b>Existing</b>			
(0)	Existing Pavement		

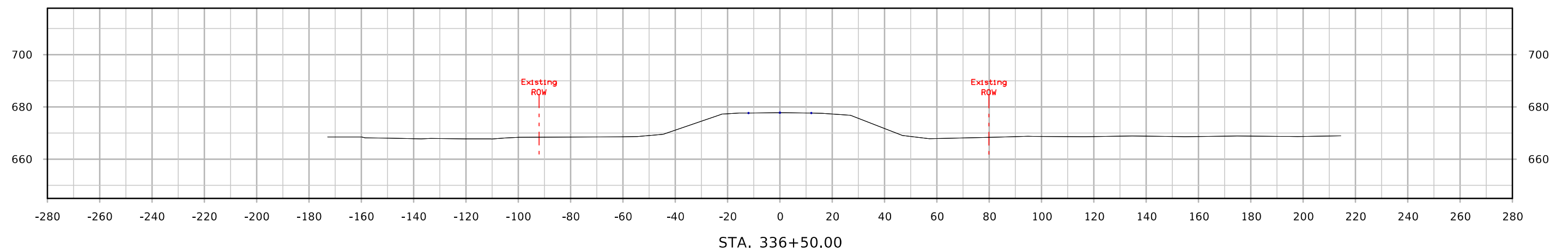
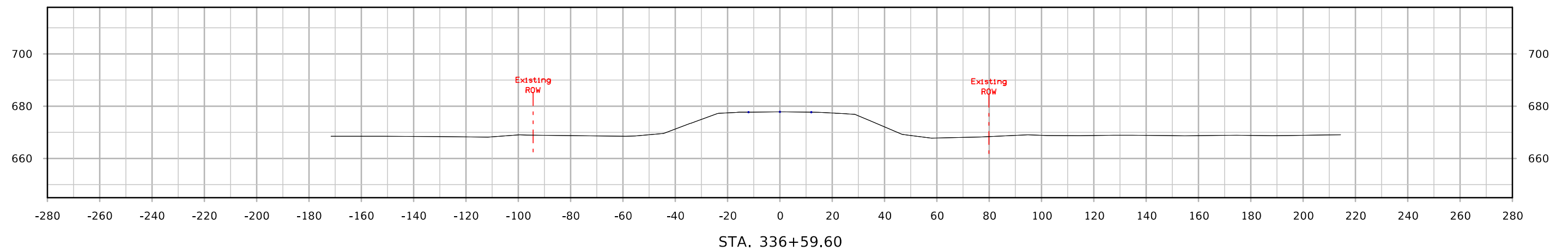
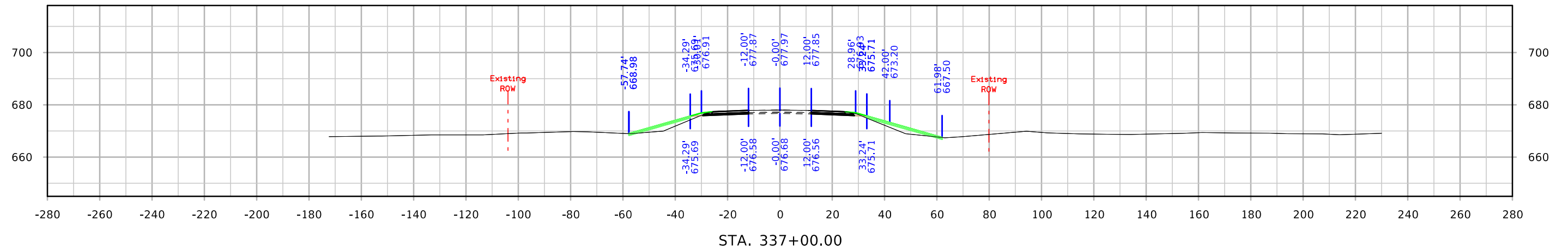
NOTES:

NOTES:

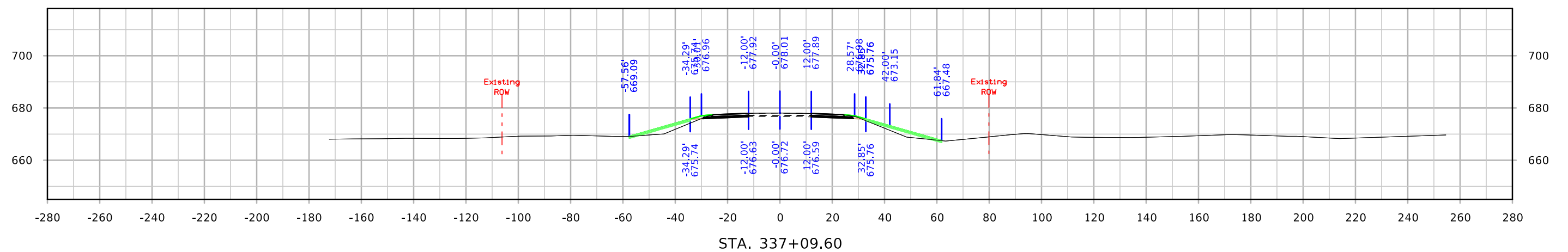
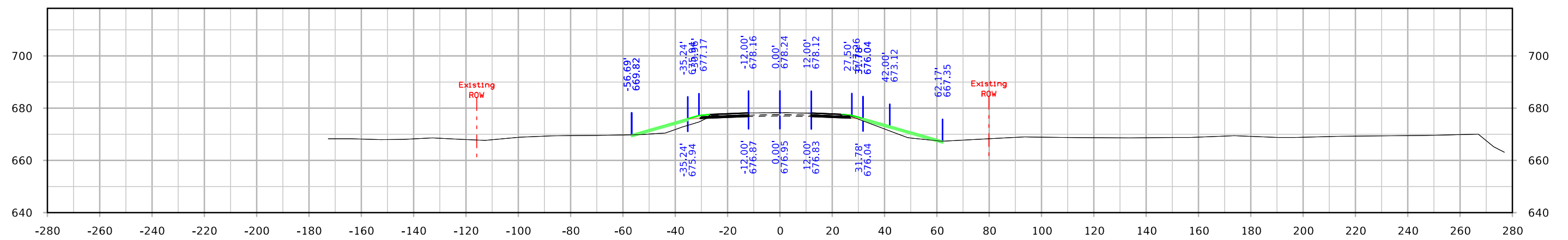
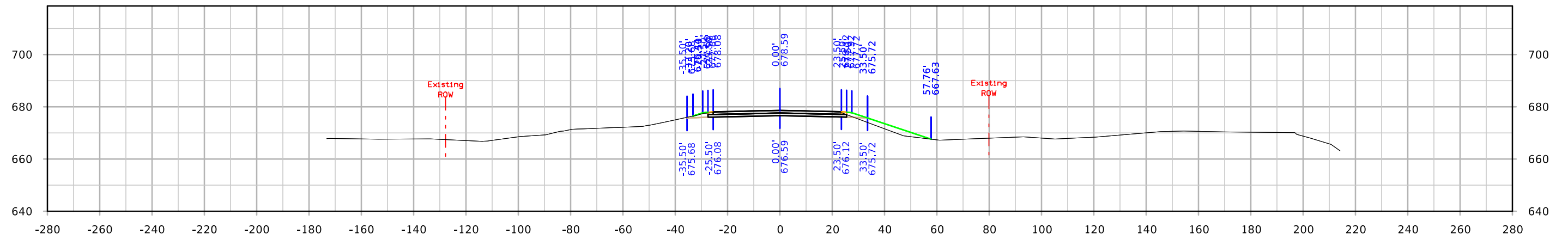
## CROSS SECTIONS LEGEND AND INFORMATION SHEET

(COVERS SHEET SERIES W, X, Y, & Z)

# US 30

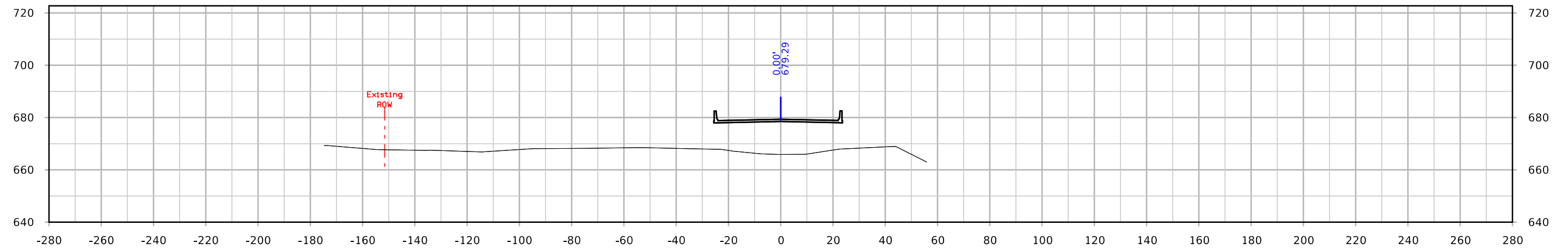


# US 30

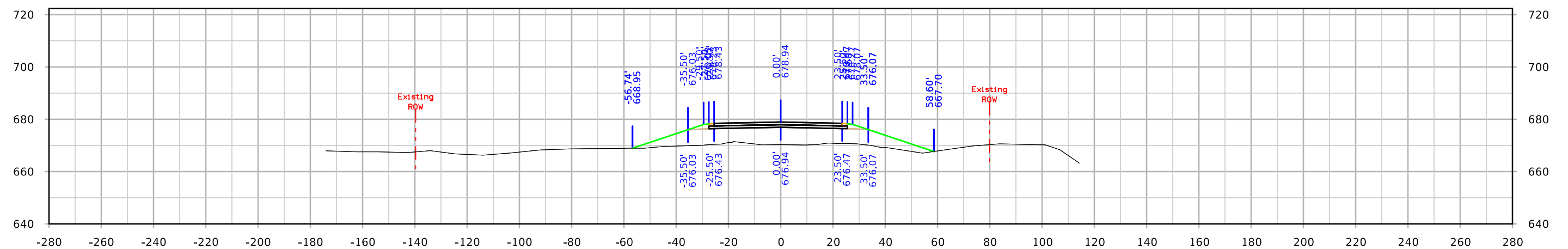




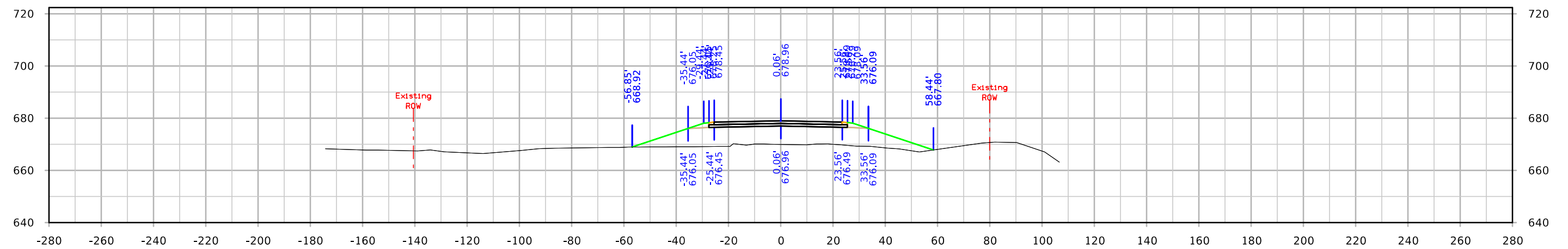
# US 30



STA. 339+00.00

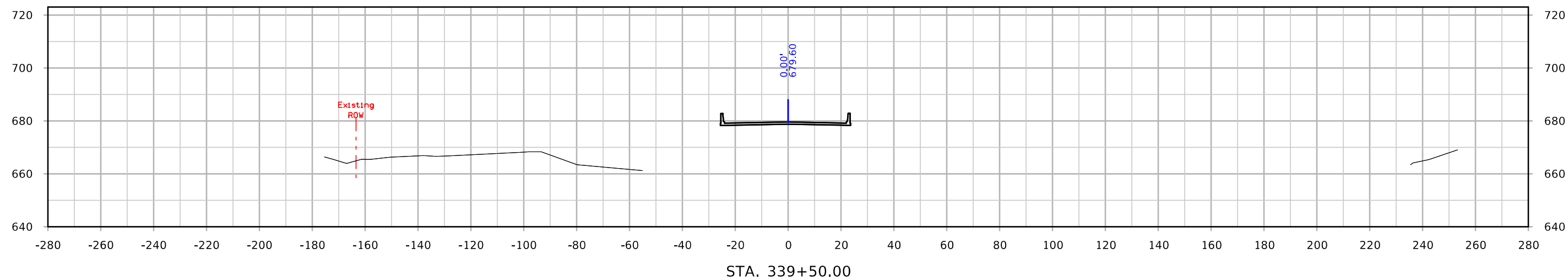
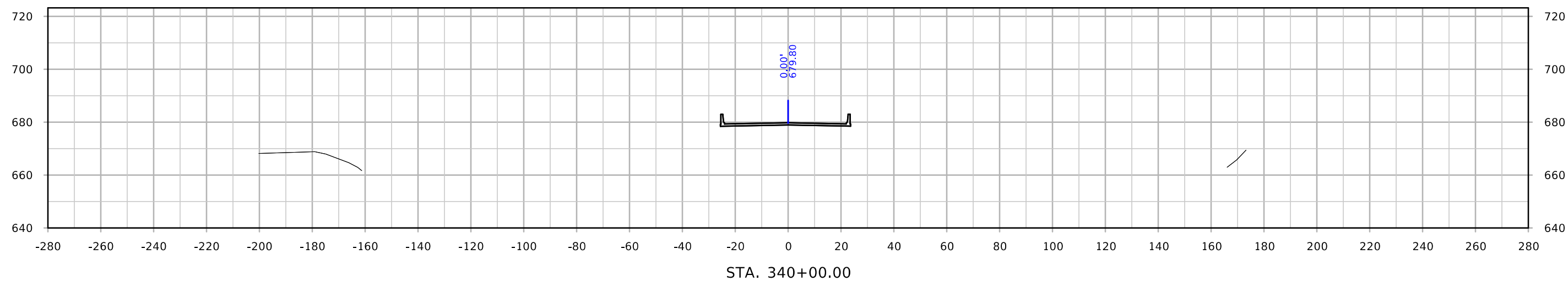
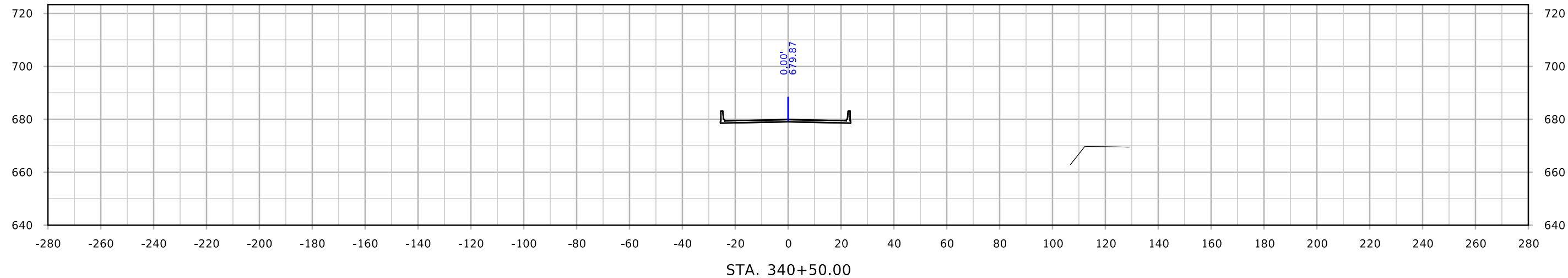


STA. 338+50.00

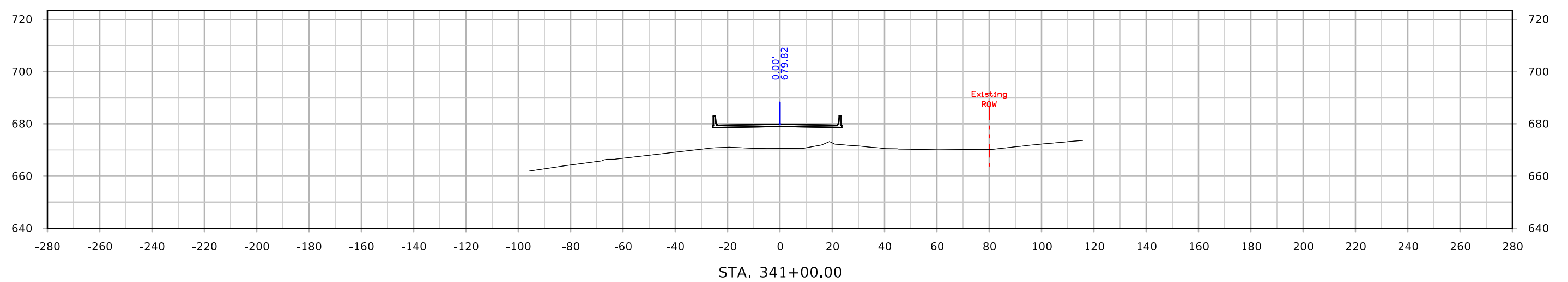
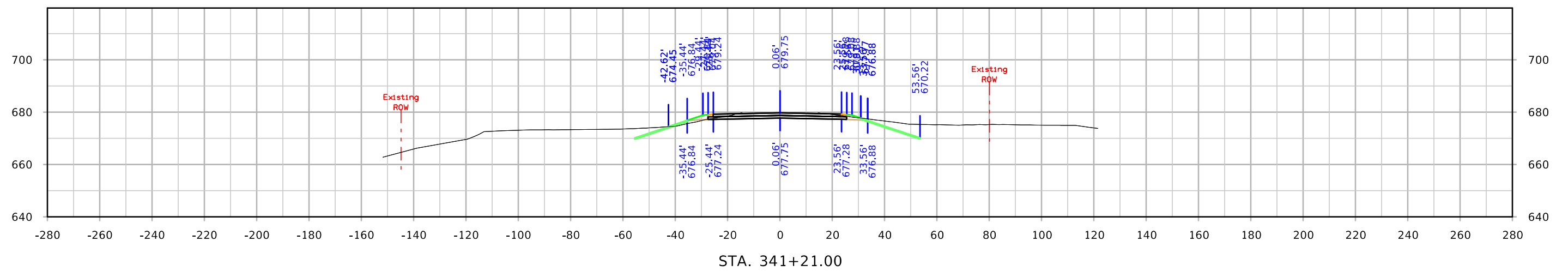
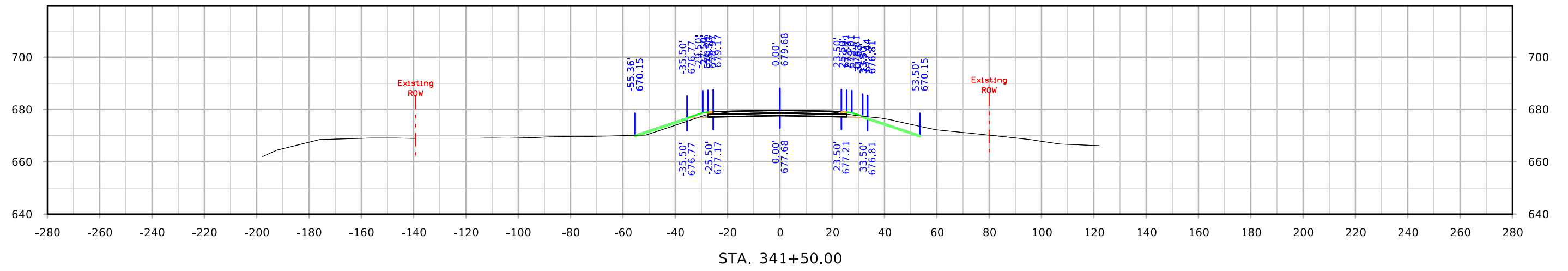


STA. 338+49.00

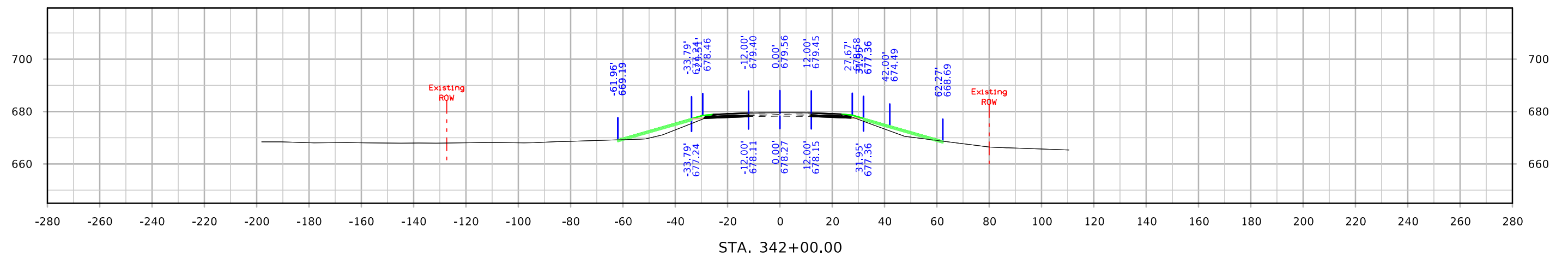
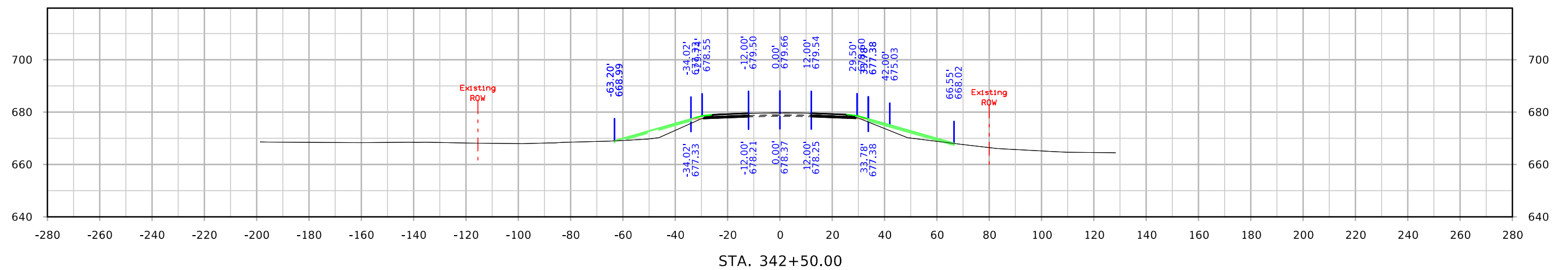
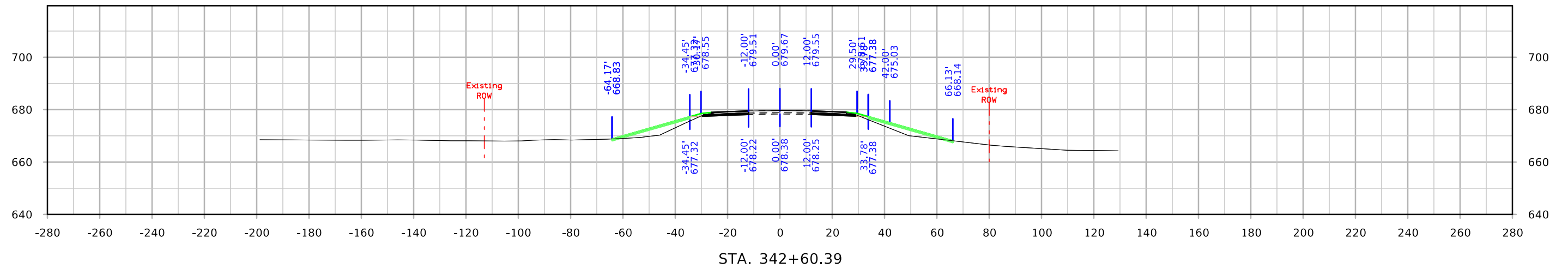
# US 30



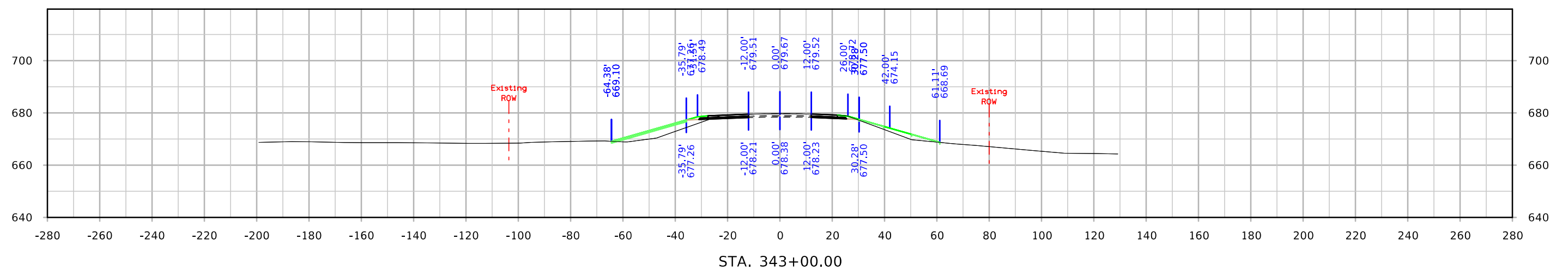
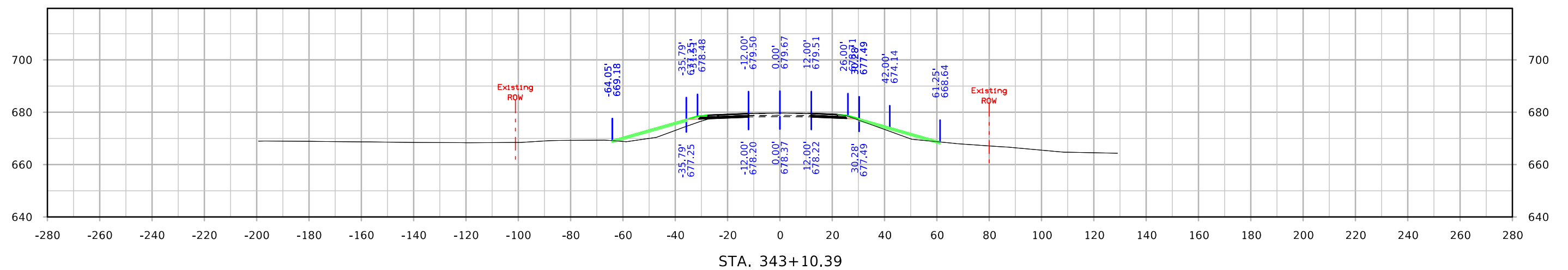
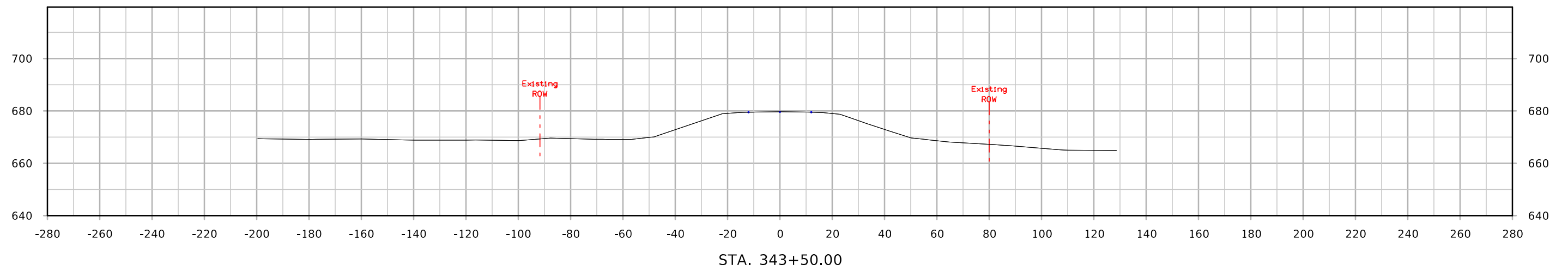
# US 30



# US 30



# US 30



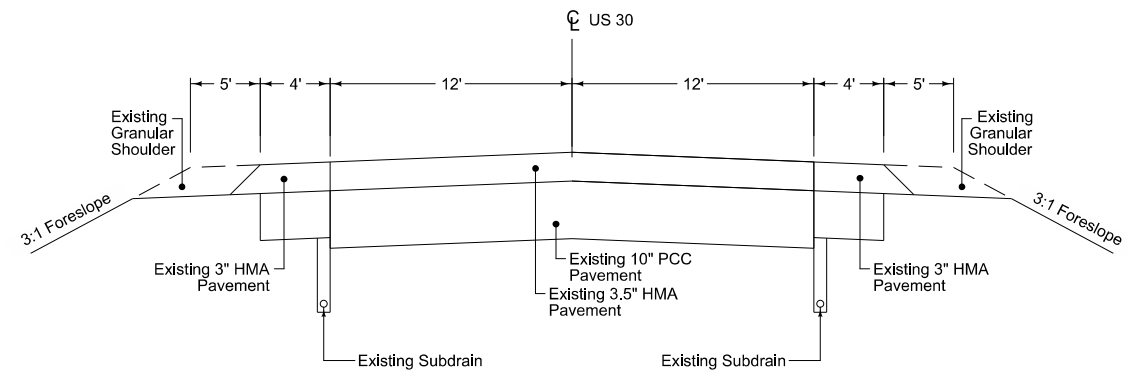
INDEX OF SHEETS	
No.	DESCRIPTION
<b>A Sheets</b>	<b>Title Sheets</b>
A.1	Title Sheet
<b>B Sheets</b>	<b>Typical Cross Sections and Details</b>
B.1 - 4	Typical Cross Sections and Details
<b>C Sheets</b>	<b>Quantities and General Information</b>
C.1	Project Description
C.1	Estimated Project Quantities
C.1	Estimate Reference Information
C.1	Standard Road Plans
<b>D Sheets</b>	<b>Mainline Plan and Profile Sheets</b>
* D.1	Plan & Profile Legend & Symbol Information Sheet
* D.2 - 3	US 30
<b>G Sheets</b>	<b>Survey Sheets</b>
G.1 - 4	Reference Ties and Bench Marks
G.5	Horizontal Control Tab. & Super for all Alignments
<b>J Sheets</b>	<b>Traffic Control and Staging Sheets</b>
J.1	Traffic Control Plan
J.1	Staging Notes
<b>U Sheets</b>	<b>500 Series, Mod.Stds. and Detail Sheets</b>
U.1	Detail Sheet
<b>W Sheets</b>	<b>Mainline Cross Sections</b>
* W.1	Cross Sections Legend & Symbol Information Sheet
* W.2 - 8	Mainline Cross Sections
	* Color Plan Sheets



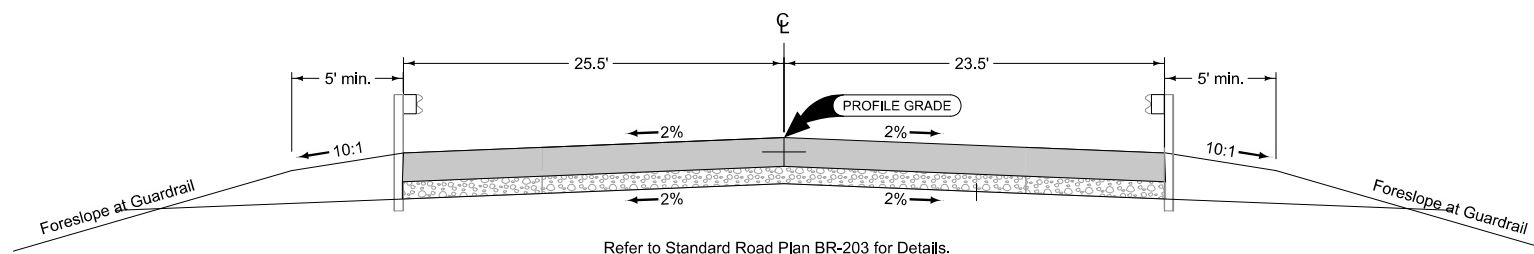
PLANS OF PROPOSED IMPROVEMENT ON THE  
**PRIMARY ROAD SYSTEM**  
**CLINTON COUNTY**  
**BRIDGE REPLACEMENT - PPCB**  
 Calamus Drainage Ditch 1.5 mi W of Co Rd Y44

**This phase of the project begins at:**  
**Station 351+00**  
**No ROW Acquired for the Project**  
**BRF-030-9(198)--38-23**

**Plan Set #3**  
**Pages 158-188**



**US 30 - EXISTING**



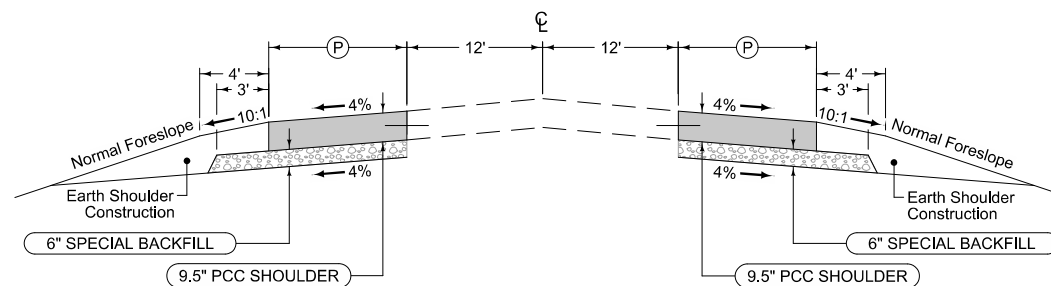
STATION TO STATION	
352+45.19	353+33.81
355+50.88	356+41.33

**US 30 - BRIDGE APPROACHES**

**Full Depth PCC Shoulder**

Shoulder Jointing:  
 Longitudinal joint: BT-2, L-2 or KT-2  
 Transverse joints: C at 17' spacing

2_P_FullPCC_04-20-21		
STATION TO STATION		(P) Feet
351+22.39	351+93.37	14
351+93.37	352+18.18	15.5
352+18.18	352+45.19	15.5-13.5
356+41.33	356+92.93	13.5
356+92.93	357+41.69	13.5-15.5
357+41.69	357+64.19	15.5

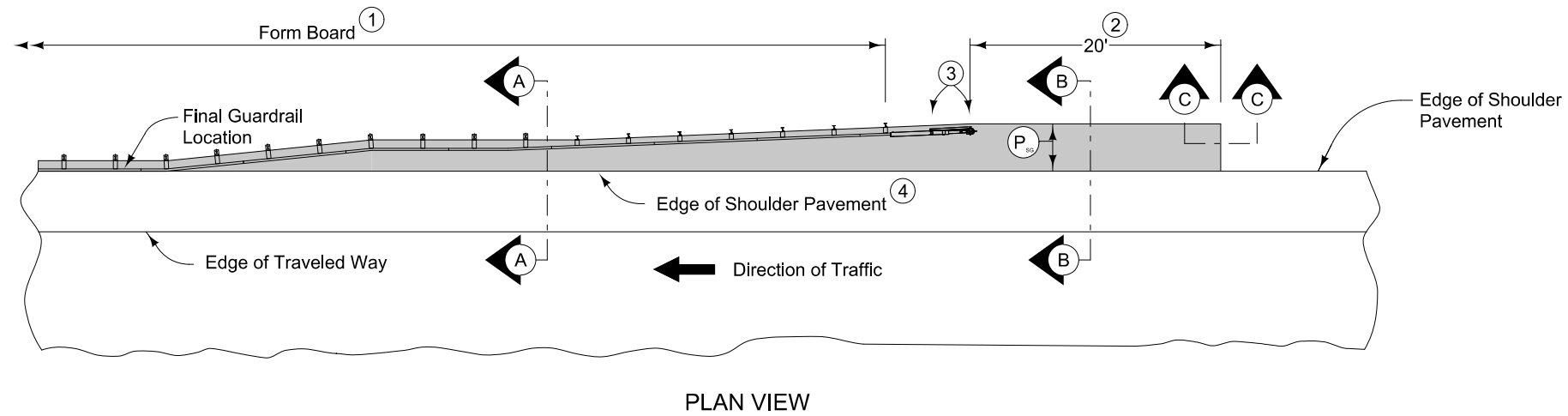


**Full Depth PCC Shoulder**

Shoulder Jointing:  
 Longitudinal joint: BT-2, L-2 or KT-2  
 Transverse joints: C at 17' spacing

2_P_FullPCC_04-20-21		
STATION TO STATION		(P) Feet
351+22.40	351+45.71	13.5
351+45.71	351+94.47	13.5-11.5
351+94.47	352+45.19	11.5
356+41.33	356+64.61	11.5-13.5
356+65.61	356+93.21	13.5
356+93.21	357+64.19	10

**US 30 - SHOULDERS**

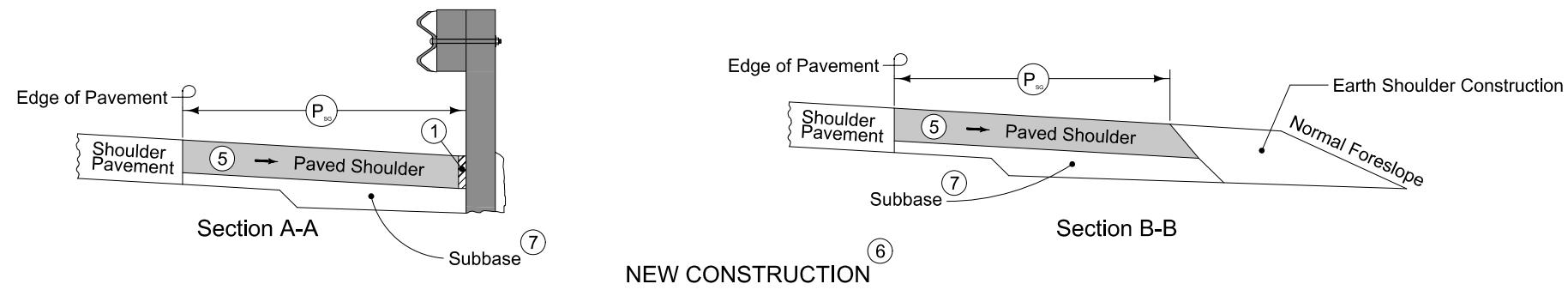


9.5" PCC Paved Shoulder at guardrail. 8" PCC may be substituted with the following jointing layout:

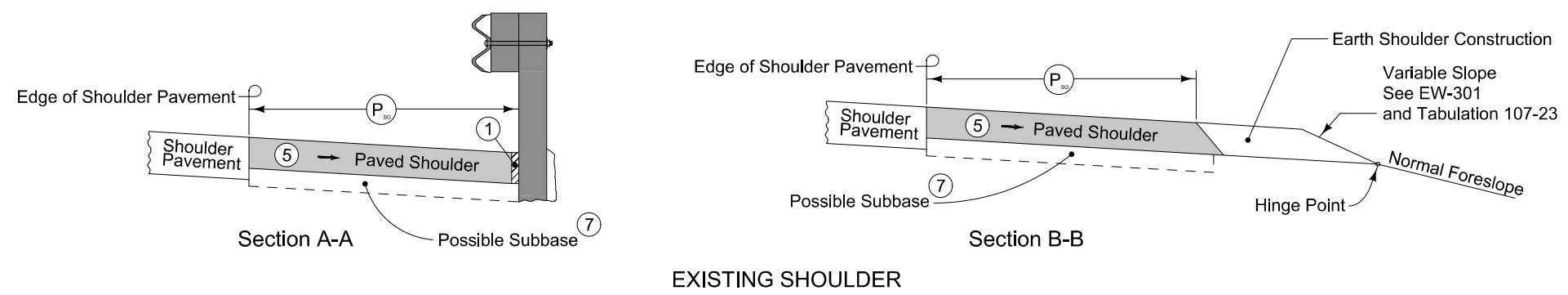
Match mainline pavement joint spacing. When mainline pavement is 8" or greater in thickness, place additional transverse 'C' joints in shoulder at mid-panel of the mainline pavement. Place longitudinal 'C' joint at P/2 from edge of mainline pavement when P is greater than 10' wide. Terminate longitudinal joint at transverse joint less than 10' in length.

Refer to Tabulation 112-9 for shoulder quantities.

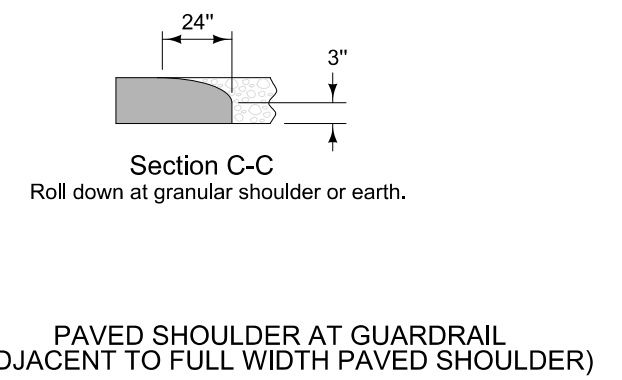
- ① PCC option only: When guardrail posts are installed prior to construction of PCC paved shoulder, fasten form board to the face of guardrail posts for the length shown.
- ② Continue paved shoulder 20 feet beyond the center of the first post.
- ③ Shoulder may be notched for first 2 posts or post sleeves may be installed through pavement. Do not drive posts through pavement.
- ④ 'KT' (per PV-101) joint for PCC shoulder. 'B' (per PV-101) joint for HMA shoulder.
- ⑤ Match shoulder slope.
- ⑥ The Contractor has the option to pave the paved shoulder at guardrail and the full width paved shoulder as one operation.
- ⑦ Refer to other details in the plan.



NEW CONSTRUCTION



EXISTING SHOULDER



PAVED SHOULDER AT GUARDRAIL (ADJACENT TO FULL WIDTH PAVED SHOULDER)







# ESTIMATED PROJECT QUANTITIES AND REFERENCE NOTES

Roadway Items : Roadway Items  
Non-Participating : Separate Funding

Item no.	Item Code	Item	Unit	Quantities			Estimate Reference Notes
				Estimated			
				Roadway Items	Non-Participating	Total	
1	2102-0425070	SPECIAL BACKFILL	TON	229		229	Refer to Tab 112-9 and Tab SS-1 in C sheets for locations and details. Existing HMA and PCC from Pavement removal may be used on the project as special backfill.
2	2102-2625000	EMBANKMENT-IN-PLACE	CY	100.7		100.7	Refer to Tab 107-23 in C Sheets for locations and additional details.  Provide borrow material according to Section 2102 of the Standard Specifications. Refer to  Material shall be provided by the Contractor. OR Material is available within the ROW, Sta. XXX+XX to Sta. XXX+XX, as directed by the Engineer.
3	2102-2713090	EXCAVATION, CLASS 13, WASTE	CY	244.7		244.7	Refer to Tab 112-9 and Tab SS-1 in C sheets for locations and details. Excavated material may be used as embankment-in-place.
4	2122-5190095	PAVED SHOULDER, P.C. CONCRETE, 9.5 IN.	SY	699		699	Refer to Tab 112-9 and Tab SS-1 in C sheets for locations and details. Refer to Detail 7158 on Sheet B.1 for additional details.
5	2123-7450000	SHOULDER CONSTRUCTION, EARTH	STA	4.8		4.8	Refer to Tab 112-9 in C sheets for locations and details.
6	2301-0690203	BRIDGE APPROACH, BR-203	SY	759.3		759.3	Refer to Tab 112-6 in C sheets for details and locations.
7	2412-0000100	LONGITUDINAL GROOVING IN CONCRETE, BRIDGE DECK	SY	1,747.9		1,747.9	Refer to Tab 100-28 in C sheets for locations and additional details.
8	2503-0500402	BRIDGE END DRAIN, DR-402	EACH	4		4	Refer to Tab 104-8A in C sheets for locations and additional details.
9	2505-4008120	REMOVAL OF STEEL BEAM GUARDRAIL	LF	626.2		626.2	Refer to Tab 110-7A in C sheets for locations and additional details.
10	2505-4008300	STEEL BEAM GUARDRAIL	LF	200		200	Refer to Tab 108-8A in C sheets for locations and additional details.
11	2505-4008410	STEEL BEAM GUARDRAIL BARRIER TRANSITION SECTION, BA-201	EACH	4		4	
12	2505-4021010	STEEL BEAM GUARDRAIL END ANCHOR, BOLTED	EACH	4		4	
13	2505-4021720	STEEL BEAM GUARDRAIL TANGENT END TERMINAL, BA-205	EACH	4		4	
14	2510-6745850	REMOVAL OF PAVEMENT	SY	1,039.8		1,039.8	Refer to Tab 110-1 in C sheets for locations and additional details. Not to include Removal of Pavement for approach work.
15	2527-9263109	PAINTED PAVEMENT MARKING, WATERBORNE OR SOLVENT-BASED	STA	52.74		52.74	Refer to Tab 108-22 in C sheets for locations and additional details.
16	2527-9263180	PAVEMENT MARKINGS REMOVED	STA	16.88		16.88	
17	2528-8400048	TEMPORARY BARRIER RAIL, CONCRETE	LF	2,600		2,600	Refer to Tab 108-33 in C sheets for locations and additional details. Refer also to Detail 8210 on Sheet B.2. All temporary barrier rail shall be nominal 12'-6 long concrete units.

Item no.	Item Code	Item	Unit	Quantities			Estimate Reference Notes
				Estimated			
				Roadway Items	Non-Participating	Total	
18	2529-5070110	PATCHES, FULL-DEPTH FINISH, BY AREA	SY	39.5		39.5	Refer to Tab. 102-6C on C Sheets for locations and additional details.
19	2529-5070120	PATCHES, FULL-DEPTH FINISH, BY COUNT	EACH	2		2	
20	2548-0000200	MILLED SHOULDER RUMBLE STRIPS, PCC SURFACE	STA	4.35		4.35	Refer to Tab. 112-10 on C Sheets for locations and additional details.
21	2548-0000320	MILLED CENTERLINE RUMBLE STRIPS, PCC SURFACE	STA	0.1		0.1	
22	2551-0000110	TEMP CRASH CUSHION	EACH	5		5	Refer to Tab 108-30 in C sheets for locations and additional details. Winterize sand filled or water filled crash cushions according to the manufacturer's recommendations if they are to remain in place during winter months.
23	2555-0000010	DELIVER AND STOCKPILE SALVAGED MATERIALS	LS		1	1	Refer to Tab. 110-13.

100-1D  
10-18-05

**PROJECT DESCRIPTION**

This project involves the replacement of the bridge on US 30 over East Channel Wapsipinicon River (Maint. No. 2399.35030).

111-25  
10-18-11

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105-4  
10-18-11

**STANDARD ROAD PLANS**

The following Standard Road Plans apply to construction work on this project.

Number	Date	Title
BA-200	04-20-21	Steel Beam Guardrail Components
BA-201	10-18-22	Steel Beam Guardrail Barrier Transition Section (MASH TL-3)
BA-202	04-16-24	Steel Beam Guardrail Bolted End Anchor
BA-205	10-17-23	Steel Beam Guardrail Tangent End Terminal (MASH TL-3)
BA-401	04-20-21	Temporary Barrier Rail (Precast Concrete)
BA-500	04-20-21	Temporary Crash Cushions Sand Barrel
BR-203	04-16-24	Double Reinforced 12" Approach
DR-306	10-17-23	Precast Concrete Headwall for Subdrain Outlets
DR-402	04-16-24	Rock Flume for Bridge End Drain
EW-202	04-19-16	Bridge Berm Grading without Recoverable Slope (Non-Barnroof Section)
EW-301	04-16-24	Guardrail Grading
PM-110	04-16-24	Line Types
PR-103	10-17-23	Full Depth PCC Patch with Dowels
PV-12	04-16-24	Milled Shoulder Rumble Strips
PV-13	04-16-24	Milled Centerline Rumble Strips
PV-101	04-19-22	Joints
PV-102	04-21-20	PCC Curb Details
SI-173	04-19-16	Object Markers
SI-211	10-18-22	Object Marker and Delineator Placement with Guardrail
SI-881	04-16-19	Special Signs for Workzones
SI-882	10-18-16	Special Signs for Restricted Width Traffic Control Zones
TC-1	10-15-19	Work Not Affecting Traffic (Two-Lane or Multi-Lane)

110-1 04-16-13 <b>REMOVAL OF PAVEMENT</b> Refer to Tabulation 102-5						
* Not a Bid Item						
Begin Station	End Station	Side	Pavement Type	Area		Remarks
				SY	LF	
336+64.61	337+69.20	Lt	HMA	126.4	117.0	Shoulder
336+64.41	337+69.08	Rt	HMA	131.7	117.0	Shoulder
337+69.14	338+39.28	Center	PCC	250.1	24.0	West Approach
341+10.70	341+80.68	Center	PCC	246.6	24.0	East Approach
341+80.69	343+15.40	Lt	HMA	139.7	147.0	Shoulder
341+80.69	343+15.40	Rt	HMA	145.3	147.0	Shoulder
Totals:				1039.8	576.0	

110-7A 04-17-12 <b>REMOVAL OF STEEL BEAM GUARDRAIL</b>					
① Lane(s) to which the installation is adjacent. ② Includes length of End Terminals and End Anchors.					
No.	Direction of Traffic	Location		Side	Removal of Guardrail ② LF
		Station to Station			
1	WB	336+81.69	338+38.25	Lt	156.6
2	EB	336+81.99	338+38.46	Rt	156.5
3	WB	341+11.68	342+68.09	Lt	156.4
4	EB	341+11.75	342+68.47	Rt	156.7
Total:					626.2

100-28 10-19-10 <b>LONGITUDINAL GROOVING</b>		
Location	Total	Remarks
	SY	
339+90.00	1294.7	Bridge
337+84.00	226.6	West Approach
341+96.00	226.6	East Approach
Total:	1747.9	

110-13 04-20-10 <b>DELIVERY AND STOCKPILING</b>					
Item Description	Quantity	Units	Delivery Location	Contact Name & Number	Remarks
Steel Beam Guardrail & Components	626.2	LF	IADOT DeWitt Maintenance Garage	Nathan Maderscheid Supervisor 563-659-3550	801 Westwood Dr. Dewitt, IA 52742

108-28 08-01-08 <b>TEMPORARY TRAFFIC SIGNALS</b>					
No.	Location Station	Type			Remarks
		One Lane Traffic	Haul Road	Intersection	
1	330+33.71	X			WB
2	330+33.71	X			EB
Total:		2			

107-23 10-18-11 <b>GRADING FOR GUARDRAIL INSTALLATIONS</b> Refer to EW-301																	
① Lane(s) to which the installation is adjacent.				Dimensions (Feet)										Earthwork		Remarks	
No.	Direction of Traffic	Station	Side	Foreslope at Guardrail	X1	Y1	X2	Y2	X3	Y3	X4	Y4	Z	Excavation Class 10	Embankment In Place		
														CY	CY		
1	EB	338+47.00	Rt	3:1	107.6	5.0								160.0	7.0	47.0	Refer to T Sheets for Earthwork Quantities. Refer to T Sheets for Earthwork Quantities. Refer to T Sheets for Earthwork Quantities. Refer to T Sheets for Earthwork Quantities.
2	EB	341+33.00	Rt	3:1	57.6	5.0								110.0	7.0	47.0	
3	WB	341+33.00	Lt	3:1	107.6	5.0								160.0	7.0	47.0	
4	WB	338+47.00	Lt	3:1	57.6	5.0								110.0	7.0	47.0	

112-6 04-18-17 <b>BRIDGE APPROACH SECTION</b> Refer to the Series.																				
* Not a bid item		Location			Approach Pavement				Standard Road Plans BR Series			Subdrain					Remarks			
Bridge Station	End	Skew Ahead		Thickness	Pay Length	Non-Reinf. Pavement Area	Single-Reinf. Pavement Area	Double-Reinf. Pavement Area	Approach	Fixed or Movable Abutment	Abutting Pavement	Perforated Subdrain 4"	Subdrain Outlet		Porous Backfill	Class 'A' Crushed Stone Backfill		Modified Subbase	Polymer Grid	Special Backfill
		LEFT	RIGHT										Inches	FT						
339+90.00	W	0		12.0	70.0	163.3	108.9	107.2	BR-203	Movable	Modified	60.0	337+84.00	Rt	2.3	0.2	545.300	432.8		Refer to sheet U.1 for Modified BR-211. Refer to sheet U.1 for Modified BR-211.
339+90.00	E	0		12.0	70.0	163.3	108.9	107.2	BR-203	Movable	Modified	60.0	341+96.00	Rt	2.3	0.2	545.300	432.8		
Totals:						326.7	217.8	214.4				120.0			4.6	0.3	1090.600			

102-6C 04-18-17 <b>FULL-DEPTH PATCHES</b> Possible Standards: PR-101, PR-102, PR-103, PR-104, PR-105, and PR-140.																				
Count	Station	Reference Location Sign	Lane	Dimension			PCC Patches				HMA Patches	Composite HMA	Subbase Patches	Subbase Patch w/ 'EF' Joint	Patch Subdrain	'CD' Joints	'CT' Joints	'EF' Joints	Anchor Lugs Removal	Remarks
				Length	Width	Patch Thickness	With Dowels	Without Dowels	C R C	Ramp with Dowels										
							PR-103	PR-102	PR-104	PR-105										
1	337+69.18		B	14.8	24.0	10.0	39.5													

**STEEL BEAM GUARDRAIL AT CONCRETE BARRIER OR BRIDGE RAIL END SECTION**

Possible Standards: BA-200, BA-201, BA-202, BA-205, BA-206, BA-210, BA-211, BA-221, BA-225, BA-250, BA-260, LS-625, LS-626, LS-630, LS-635, SI-172, SI-173 and SI-211.

- ① Lane(s) to which the obstacle is adjacent.
- ② Not a bid item. Incidental to guardrail installation.

No.	Direction of Traffic	Location		Layout Lengths					Long-Span System		Delineators and Object Markers ②				Bid Items										Remarks	
		Side	Station	Offset	BA-250, BA-260, LS-630, or LS-635					SI-211	Delineator SI-172	Object Marker SI-173			Bolted End Anchor	Post Adapter	Steel Beam Guardrail	Barrier Transition Section	BA-250 or LS-630				BA-260 or LS-635			
					VT1	VF	VT2	ET	White			Type 2	Type 3	End Terminal					Barrier Transition Section	End Terminal						
					FT	LF	LF	LF	LF			White	OM2-2	OM3-L					OM3-R	BA-202	BA-210	BA-200	BA-201	BA-205		BA-206
0 = Outside M = Median						STATION	TYPE	TYPE	TYPE	TYPE	EACH	EACH	EACH	EACH	TYPE	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH		
1	WB	O	338+47.00	24.8	65.625			47.7			3			1	A	1	25.0		1	1						
2	EB	O	338+47.00	22.8	115.625			47.7			3			1	A	1	75.0		1	1						
3	WB	O	341+33.00	24.8	115.625			47.7			3			1	A	1	75.0		1	1						
4	EB	O	341+33.00	22.8	65.625			47.7			3			1	A	1	25.0		1	1						
										Totals:				2	2		4		200.0		4	4				

104-8A  
04-19-22

**SCOUR PROTECTION OR ROCK FLUME FOR BRIDGE END DRAIN**

Refer to Standard Plan DR-401 and DR-402

Location		Bid Items			Scour Protection (DR-401)			Rock Flume (DR-402)			Remarks
Bridge Station	Bridge Corner	Distance DI-1 or DI-2	Bridge End Drain	Special Ditch Control, Wood Excelsior Mat	Turf Reinforced Mat (TRM), Type 2	Transition Mat	Macadam Stone Base	Engineering Fabric	Erosion Stone		
FT	TYPE	EC-101	EC-104	EC-105	TONS	SY	TONS				
298+00.00	SE	47.5	DR-402				1.160	49.2	31.050		
298+00.00	SW	47.5	DR-402				1.160	33.2	19.800		
298+00.00	NE	47.0	DR-402				1.160	43.4	27.000		
298+00.00	NW	47.0	DR-402				1.160	42.8	26.550		

108-33  
10-15-19

**TEMPORARY BARRIER RAIL**

Possible Standard: BA-401 Possible Detail: 560-7

\* Not a bid item. Anchorage requirements are based on TBR locations shown in the plans. TBR alignments that vary from what is shown in the plans may result in additional TBR sections requiring anchorage.

No.	Station to Station		Length	(Select One)		Anchored*	Modular Glare Screen System	Remarks
				Concrete BA-401	Steel 560-7			
1	336+89.42	342+77.77	575.0	X		Yes		Stage 1 Construction
2	336+90.72	342+79.31	575.0	X		Yes		Stage 1 Winter
3	336+90.72	342+79.31	575.0	X		Yes		Stage 1 Winter
4	336+98.01	345+94.10	875.0	X		Yes		Stage 2 Construction
Total:			2600.0					

108-30  
04-16-13

**CRASH CUSHIONS**

- \* Bid Item
- ① Lane(s) to which the installation is adjacent.
- ② Complete this section when using the Temporary Crash Cushion bid item and Earthwork is needed for Sand Barrel placement. Refer to BA-500

No.	Direction of Traffic	Location Station	Side	Obstacle Width	Crash Cushion (Select One)*					Sand Barrel Details ②					Earthwork*		Spare Parts Kit (Select One)*		Obstacle Description	Remarks
					Temporary	Temporary Reductive	Temporary Severe Use	Permanent	Permanent Severe Use	V	W	X	Y	Z	Excavation Class 10	Embankment in Place	Permanent	Severe Use		
										Length	Length	Length	Length	Length						
										FT	FT	FT	FT	FT						
1	EB	336+55.60	Lt	2.00	1						24.25	5.25	3.25	12.00					Temporary Barrier Rail	Stg 1 Construction
2	WB	343+12.13	Lt	2.00	1						24.25	5.25	3.25	12.00					Temporary Barrier Rail	Stg 1 Construction
3	Both	336+56.28	Lt	2.00	1						24.25	5.25	3.25	12.00					Temporary Barrier Rail	Stg 1 Winter
4	Both	343+13.94	Lt	2.00	1						24.25	5.25	3.25	12.00					Temporary Barrier Rail	Stg 1 Winter
5	EB	336+51.44	Lt	2.00	1						24.25	5.25	3.25	12.00					Temporary Barrier Rail	Stg 2 Construction
Total:					5															





### PAVEMENT MARKING LINE TYPES

See PM-110

\*BCY4 - Place on the same side of the roadway to match existing markings near the project.      \*\*\*MNY4 - Factor of 1.00 as value includes number of 4-inch passes to cover median nose area.  
 \*\*NPY4 - For estimating purposes only. No Passing Zone Lines will be located in the field.

BCY4: Broken Centerline (Yellow) @ 0.25      DCY4: Double Centerline (Yellow) @ 2.00      NPY4: No Passing Zone Line (Yellow) @ 1.25      BLW4: Broken Lane Line (White) @ 0.25      ELW4: Edge Line Right (White) @ 1.00  
 ELY4: Edge Line Left (Yellow) @ 1.00      SLW2: Stop Line (White) @ 6.00

Road ID	Location			Marking Type	Length by Line Type (Unfactored)																Remarks		
					Side			BCY4*	DCY4	NPY4**	BLW4	ELW4	ELY4	SLW2									
					L	C	R	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA		STA	STA
<b>Stage 1 Construction</b>																							
US 30	335+34.50	337+69.18	BOTH	Removal of Paint		X			2.35														
US 30	341+96.00	345+94.10	BOTH	Removal of Paint		X			3.98														
US 30	335+34.50	335+34.50	EB	Waterborne/Solvent Paint		X						0.12											
US 30	341+96.00	345+94.10	EB	Waterborne/Solvent Paint	X					3.98													
<b>Stage 1 Winter</b>																							
US 30	335+34.50	337+69.18	BOTH	Waterborne/Solvent Paint		X			2.35														
US 30	341+96.00	345+94.10	BOTH	Waterborne/Solvent Paint		X			3.98														
US 30	335+34.50	335+34.50	EB	Removal of Paint		X						0.12											
US 30	330+64.26	345+94.10	EB	Waterborne/Solvent Paint			X			15.30													
US 30	330+74.02	337+79.00	WB	Waterborne/Solvent Paint			X			7.05													
US 30	341+91.00	345+94.10	WB	Waterborne/Solvent Paint			X			4.03													
<b>Stage 2 Construction</b>																							
US 30	335+30.00	336+45.00	BOTH	Removal of Paint		X			1.15														
	335+30.00	335+30.00	EB	Waterborne/Solvent Paint		X						0.12											
	335+30.00	337+79.00	BOTH	Waterborne/Solvent Paint		X	X			2.49													
	335+30.00	335+30.00	EB	Removal of Paint		X						0.12											
	335+30.00	337+79.00	BOTH	Removal of Paint		X	X			2.49													
	335+30.00	341+96.00	BOTH	Waterborne/Solvent Paint		X			6.66														
	330+74.02	337+79.00	WB	Removal of Paint			X			7.05													
	341+91.00	345+94.10	WB	Removal of Paint			X			4.03													
	337+84.00	341+96.00	EB	Waterborne/Solvent Paint			X			4.12													
	330+74.02	337+79.00	WB	Waterborne/Solvent Paint			X			7.05													
	341+91.00	345+94.10	WB	Waterborne/Solvent Paint			X			4.03													
Factored Total: Waterborne/Solvent Paint									3.25	-	-	-	48.05	-	1.44	-	-	-	-	-			
Factored Total: Removal of Paint									1.87	-	-	-	13.57	-	1.44	-	-	-	-	-			
Bid Quantity: Painted Pavement Markings, Waterborne or Solvent-Based											52.74												
Bid Quantity: Pavement Markings Removed											16.88												

### MILLED RUMBLE STRIPS

See PV-12 and PV-13

\* Calculated at 18" width for Shoulder.

Road Identification	Location			Rumble Strip Type (Centerline, Rt or Lt Shoulder)	Installation Length (L)	Fog Seal* (Milled Rumble Strip)		Effective Shoulder Width			Remarks
						Shoulder		PCC Paved	HMA Paved	Granular\Earth	
						IN	STA	FT	FT	FT	
US 30	337+15.11	337+83.50	PCC	Left Shoulder	12"	0.68				0.0	
US 30	337+84.50	337+94.00	PCC	Left Shoulder	12"	0.10				0.0	
US 30	337+69.68	337+94.00	PCC	Centerline	12"	0.24				0.0	
US 30	336+65.11	337+83.50	PCC	Right Shoulder	12"	1.18				0.0	
US 30	337+84.50	337+94.00	PCC	Right Shoulder	12"	0.10				0.0	
US 30	341+86.01	341+95.50	PCC	Left Shoulder	12"	0.09				0.0	
US 30	341+96.50	343+14.90	PCC	Left Shoulder	12"	1.18				0.0	
US 30	341+86.00	341+95.50	PCC	Centerline	12"	0.10				0.0	
US 30	341+86.01	341+95.50	PCC	Right Shoulder	12"	0.09				0.0	
US 30	341+96.50	342+64.90	PCC	Right Shoulder	12"	0.68				0.0	
Totals:						4.45					

## SURVEY SYMBOLS

<p>⊕ AST, Above Ground Storage Tank</p> <p>BB, Billboard</p> <p>BBB, Bottom of Bridge Beam</p> <p>BCL, Bridge Centerline</p> <p>BD, Bridge Deck</p> <p>BIN, Grain Bin</p> <p>BL, Topo Breakline</p> <p>BLD, Building or Foundation</p> <p>BLS, Bridge Low Steel</p> <p>BM, Bench Mark</p> <p>BNK, Stream Bank</p> <p>BRG, Bridge</p> <p>C, Centerline BL of Road -ML or SR</p> <p>CAV, Cave</p> <p>CEL, Cell Phone Tower</p> <p>CIS, Cistern</p> <p>CON, Concrete or A/C Slab</p> <p>CP, Control Point</p> <p>CRP, Corporation Line</p> <p>CS, Curve Point</p> <p>CU, Back of Curb</p> <p>CUL, Culvert</p> <p>D, Centerline Draw or Stream -Down</p> <p>DAB, Drainage Area Boundary</p> <p>DIK, Centerline of Dike or Dam</p> <p>DTM, Photogrammetry Elev Control Check</p> <p>DU, Centerline Draw or Stream -Up</p> <p>EB, Electrical Box</p> <p>EG, Edge of Gravel Road</p> <p>ENP, Edge Paved Entrance and Park Lot</p> <p>ENT, Centerline BL of Entrance</p> <p>ENU, Edge Unpaved Entrance and Parking</p> <p>EP, Edge of Paved Roads -ML or SR</p> <p>EW, Edge of Water</p> <p>FCL, Chain Link and Security Fence</p> <p>FENO, FENO Monument</p> <p>FHD, Fire Hydrants</p> <p>FLG, Flag Poles</p> <p>FP, Filler Pipe</p> <p>FW, Wire Fence</p> <p>FWD, Wood Fence</p> <p>GDC, Guard Rail Cable</p> <p>GDL, Guard Rail Steel</p> <p>GP, Guard Post -Less Than 4 Posts</p> <p>GPR, Guard Post -4 or More Posts</p> <p>GR, Ground Shot</p> <p>GRV, Grave</p> <p>GU, Gutter In Front of Curb</p> <p>GV, Gas Valve</p> <p>HDG, Hedge Row</p> <p>HS, Hydric Soil -Wetlands</p> <p>HT, Electrical Highline Tower</p> <p>IN, Storm Sewer Intake</p> <p>INB, Storm Sewer Beehive Intake</p> <p>LC, Lot Corner</p> <p>LIN, Miscellaneous Line</p> <p>LP, L.P. Tank</p> <p>LUM, Luminaire</p> <p>MH, Utility Access -Manhole</p> <p>MIS, Miscellaneous</p> <p>MM, Mile Marker Post</p> <p>OUT, Tile Outlet</p> <p>PC, Curve Point</p> <p>PCP, Photo Control Point</p> <p>PCT, Photo Control Target</p> <p>PI, Tangent Point</p> <p>PIP, Pipe Culvert</p> <p>PL, Location of Photo -Wetlands</p> <p>PLG, Location of General Photo</p> <p>POC, Curve Point</p> <p>POST, Spiral Point</p>	<p>PR, Electric Riser Pole</p> <p>PRO, Profile Shot</p> <p>PT, Curve Point</p> <p>REF, Reference Tie Point</p> <p>RET, Retaining Walls</p> <p>RIP, Rip-Rap</p> <p>ROC, Rock Outcropping</p> <p>ROW, Right of Way Mark</p> <p>RR, Centerline of Railroad Tracks</p> <p>RRB, Railroad Signal Box</p> <p>RRF, Railroad Frog</p> <p>RRR, Railroad Rail</p> <p>RRS, Railroad Signal</p> <p>RRW, Railroad Switch</p> <p>RT, Radio Tower</p> <p>S, Soil Sampling Site -Wetlands</p> <p>SBR, Size of Bridge</p> <p>SC, Spiral Point</p> <p>SCR, Section Corner</p> <p>SEP, Septic Tank</p> <p>SF, Silt Fence -Wetlands</p> <p>SG, Staff Gauge -Wetlands</p> <p>SH, Paved Shoulder</p> <p>SHR, Shrub</p> <p>SI, Sign</p> <p>SL, Speed Limit Sign</p> <p>SLN, Section Line</p> <p>SLO, Silo</p> <p>SNK, Sink Hole</p> <p>SNP, Unpaved Shoulder</p> <p>SP, Stream Profile</p> <p>STP, Stump</p> <p>SWK, Sidewalk</p> <p>SWP, Swamp or Marsh</p> <p>TA, Tower Anchor</p> <p>TBO, Telephone Booth</p> <p>TCB, Traffic Signal Box</p> <p>TDC, Tree Deciduous</p> <p>TDL, Traffic Detection Loop</p> <p>TER, Terrace</p> <p>TEV, Evergreen Tree</p> <p>TFR, Tree Fruit</p> <p>TGP, Telegraph Pole</p> <p>TIL, Tile Line</p> <p>TLNL, Tree Line Left</p> <p>TLNR, Tree Line Right</p> <p>TOP, Top of Bridge Pier</p> <p>TPA, Telephone Pole Co. 1</p> <p>TPB, Telephone Pole Co. 2</p> <p>TPC, Telephone Pole Co. 3</p> <p>TR, Telephone Riser Pole</p> <p>TRL, Trail</p> <p>TS, Spiral Point</p> <p>TSB, Telephone Switch Box</p> <p>TSG, Traffic Signal</p> <p>TSL, Traffic Signal and Luminare</p> <p>TV, Satellite TV Dish</p> <p>TVP, TV Pedestal</p> <p>TW, Top of Water</p> <p>UB, Utility Box</p> <p>UE, Utility Elevation</p> <p>UPH, Utility Pot Hole - Quality A</p> <p>UST, Underground Tank</p> <p>UV, Underground Utility Vault</p> <p>VS, Channel Cross Section</p> <p>WC, Wild Card -Misc. Field Shot</p> <p>WEL, Well</p> <p>WHD, Water Hydrant</p> <p>WHU, RV Water Hook Up</p> <p>WM, Wind Mill</p> <p>WND, Wind Turbine</p> <p>WV, Water Valve</p>
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## UTILITY LEGEND

— E1 —		Eastern Iowa Light & Power Chad Ruden chad.ruden@easterniowa.com
— F02 —		Sprint Mark Klinkenberg mark.klinkenberg2@t-mobile.com
— F0 —		F&B Communications Aaron Horman aaron@fbc-tele.com
— G —		Alliant Energy Mary Montgomery marymontgomery@alliantenergy.com
— T4 —		City of Wheatland Matt Cavey cityguys@fbcom.net
— W —		City of Wheatland Matt Cavey cityguys@fbcom.net
— [Symbol] —		Electric Transmission Chad Levi clevi@itctransco.com

## PLAN VIEW COLOR LEGEND OF PLAN AND PROFILE SHEETS

LINEWORK	Design Color No.	Description
Green	(2)	Existing Topographic Features and Labels
Blue	(1)	Proposed Alignment, Stationing, Tic Marks, and Alignment Annotation
Magenta	(5)	Existing Utilities
SHADING		
Design Color No.	Description	Design Color No.
Lavender (9)	Temporary Pavement Shading	
Yellow (4)	Proposed Pavement Shading	
Orange (6)	Proposed Granular Shading	
Orange (70)	Proposed Shoulder Granular Shading	
Yellow (68)	Proposed Shoulder Paved Full Depth Shading	
Yellow (132)	Proposed Shoulder Paved Partial Depth Shading	
Gray, Dark (112)	Proposed Grade and Pave Shading "In conjunction with a paving project"	
Brown, Light (236)	Grading Shading	
Orange, Light (134)	Proposed Granular Entrance Shading	
Yellow (220)	Proposed Paved Entrance Shading	
Tan (8)	Proposed Sidewalk Shading	
Blue, Light (230)	Proposed Sidewalk Landing Shading	
Pink (11)	Proposed Sidewalk Ramp Shading	
Green, Light (225)	Existing Pavement Shading	
Red (3)	Proposed Structure Shading	
Red (3)	Delineates Restricted Areas	

## PROFILE VIEW COLOR LEGEND OF PLAN AND PROFILE SHEETS

LINEWORK	Design Color No.	Description
Green	(10)	Existing Ground Line Profile
Blue	(1)	Proposed Profile and Annotation
Magenta	(5)	Existing Utilities
Blue, Light (230)		Proposed Ditch Grades, Left
Black	(0)	Proposed Ditch Grades, Median
Rust	(14)	Proposed Ditch Grades, Right

## SURVEYED UTILITY OWNER SYMBOLS

Sub-Surface Utility Mapping Quality Level is in accordance with CI/ASCE 38-02 Standard Guidelines for the Collection and Depiction of Existing Subsurface Utility Data.

Remark Abbreviations  
 QLA Quality Level A Highest guideline quality level  
 QLD Quality Level D Lowest guideline quality level

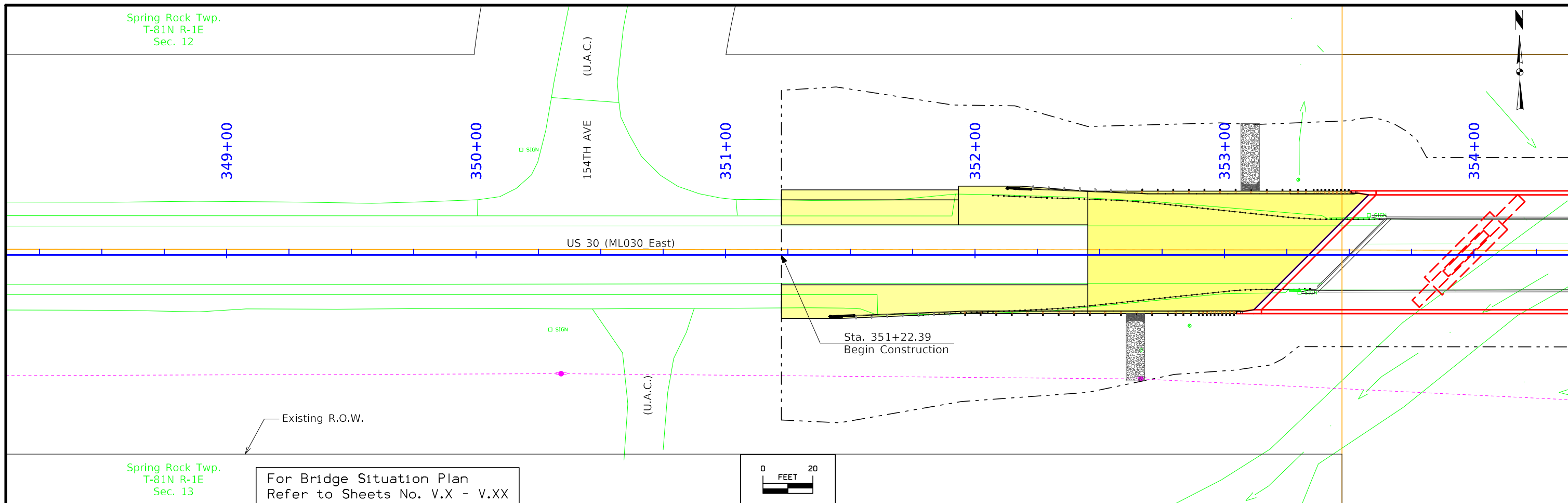
— E1 —		ELID, Eastern Iowa Light & Power
— F0 —		FOID, F&B Communications
— F02 —		FO2D, Sprint
— G —		GLID, Alliant Energy
— SAN —		SAID, City of Wheatland
— W —		WLID, City of Wheatland

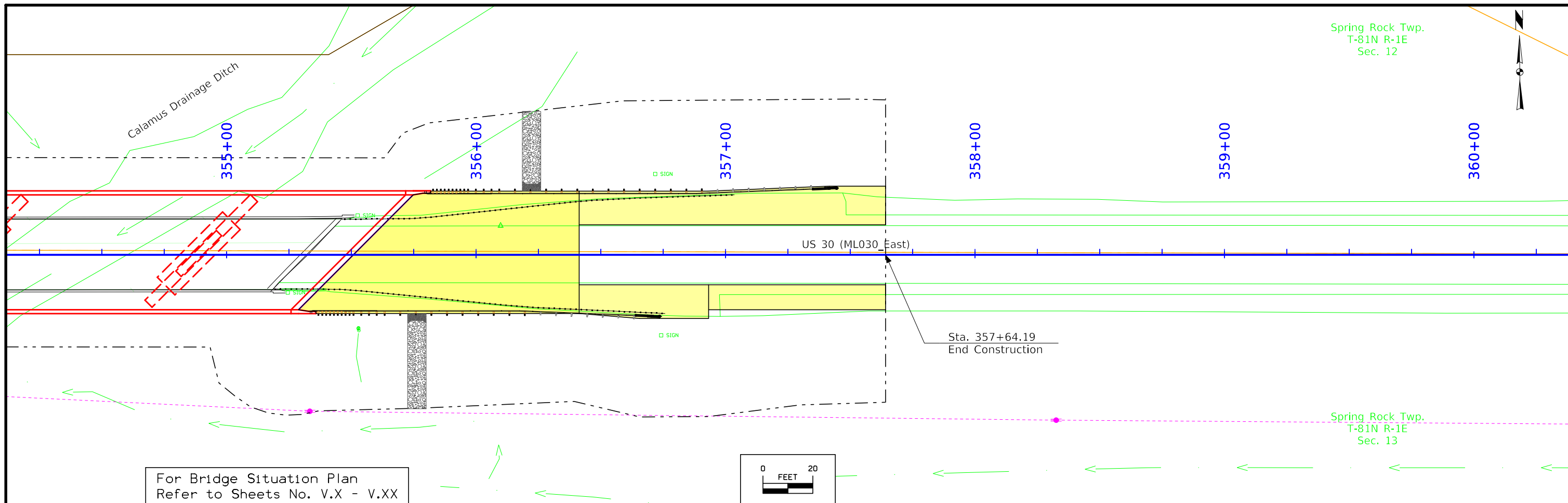
## RIGHT-OF-WAY LEGEND

<p>Reference Point</p> <p>Station</p> <p>Section Corner</p> <p>Ground Line Intercept</p> <p>Saw Cut</p> <p>Guardrail</p> <p>Trench Drain</p> <p>High Tension Cable Guardrail</p> <p>Sheet Pile</p> <p>Pavement Removal</p> <p>Clearing &amp; Grubbing Area</p>	<p>Proposed Right-of-Way</p> <p>Existing Right of Way</p> <p>Existing and Proposed Right-of-Way</p> <p>Easement and Existing Right-of-Way</p> <p>Easement (Temporary)</p> <p>Easement</p> <p>Access Control</p> <p>Property Line</p>
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# PLAN AND PROFILE LEGEND AND SYMBOL INFORMATION SHEET

(COVERS SHEET SERIES D, E, F, K & U)





## Survey Information

**Clinton County**  
**BRF-030-9(186)—38-23**  
**US30 Clinton County Survey**  
**From 130<sup>th</sup> Ave to 158<sup>th</sup> Ave - Wheatland**  
**PIN 18-23-030-030**

### Party Personnel

Jody Budde- PLS  
Wes Shimp- PLS  
Jon Miranda- Geospatial Lead Tech  
Ben Sullivan- Geospatial Lead Tech  
Matt Svec- Party Chief  
Lee Budde- Party Chief  
Aaron Paulsen- Party Chief  
Katerina Wyatt- Assistant Survey Party Chief  
Levi Suhr- Assistant Survey Party Chief  
Jason Flaherty – Assistant Survey Party Chief  
Scott Dillavou – Assistant Survey Party Chief

### Date(s) of Survey

Begin Date 11/17/2021  
End Date 02/28/2022

### General Information

Measurement units for this survey are US survey feet. This survey is for the preliminary design for the section of approximately 3 miles of US Highway 30 beginning in Wheatland at 130<sup>th</sup> Ave east to 158<sup>th</sup> Ave. There were also a total of 15 bridge structures surveyed which included 5 bridges along the UPRR line south of Hwy 30, near Wheatland, IA.

Project datum and control information is provided by Design Survey Office. This project is a Full DTM survey. Project horizontal datum is NAD83 (2011) epoch 2010.00, Iowa RCS Zone 11 (Dubuque-Davenport). Foth established three new FENO monuments to supplement existing project control at a 1.0 mile distribution along the project corridor throughout the project lifecycle and for future corridor area work.

### Vertical Control

Vertical datum for this survey is relative to NAVD88 (computed using Geoid18) for the new FENO marks: FENO 1, FENO 2 and FENO 3. This survey consisted of observing three new FENO 1-meter rod monuments and one existing USGS monument used by

the Iowa DOT previously using minimum 2hr initial static observations along with data from four Iowa RTN CORS sites: Anamosa (IAAN), Maquoketa (IAMQ), Tipton (IATI) and Davenport (IADA).

The published Ellipsoidal heights for the four Iowa RTN stations were held for the vertical adjustment portion of this survey using as-published RTN positions by the Iowa DOT dated August 6, 2021.

Additionally, three nearby Scott County GPS monuments were recovered and observed with published NAVD88 elevations were observed and used that are located within the Hwy 30 project corridor region:

Scott County GPS 601 has a published Elv of: 757.56 usft (Geoid12A)  
Adj Elv: 757.48

Scott County GPS 602 has a published Elv of: 706.44 usft (Geoid12A)  
Adj Elv: 706.49

Scott County GPS 642 has a published Elv of: 640.80 usft (Geoid12A)  
Adj Elv: 640.80

The final vertical adjustment results show standard deviations were less than 0.023 ft. at 95% confidence level (2 sigma) for the new FENO monuments.

### Horizontal Control

The project coordinate system for this survey is NAD83 (2011) Iowa RCS Zone 11 (Dubuque-Davenport), US survey feet. This survey control is relative to IaRTN reference stations. IaRTN Reference Station coordinates are relative to the National Reference Station network datum: NAD83 (2011) for Epoch 2010.00. Coordinates were determined by observing each mark for 120 minutes minimum.

For the January 2022 control survey FOTH added FENO monuments FENO 1, FENO 2 and FENO 3 to supplement an existing DOT control monument recovered along the project corridor, Pt 706. Existing monuments Scott Co GPS 601, 602 and 642 were recovered and observed as part of this survey. The existing DOT concrete monument with brass cap (Pt 706) is on the east end of the project. The as listed adjusted coordinates in this report were the result of combined field observations and adjustment to the four Iowa RTN stations as listed herein.

Four Iowa RTN CORS stations: Anamosa, Maquoketa, Davenport and Tipton were utilized for the horizontal adjustment portion of this survey. The published horizontal geodetic positions for the four Iowa RTN stations were held for the horizontal

## Survey Information

adjustment portion of this survey using as-published RTN positions by the Iowa DOT dated August 6, 2021.

The published horizontal positions of the existing three Scott County GPS Monuments 601, 602 and 642 were also confirmed and held fixed for the final horizontal constrained adjustment of the three new FENOs established by Foth.

The horizontal standard deviation of these adjusted observations was less than 0.015 ft. at 95% confidence level (2 sigma).

PC Sta. 220+30.9 As-built Plans Project No. F-Proj No. 147 (9)  
Survey PC Sta. 220+30.7

PT Sta. 239+21.2 As-built Plans Project No. F-Proj No. 147 (9)  
Survey PT Sta. 239+21.2

PC Sta. 268+98.6 As-built Plans Project No. F-Proj No. 147 (9)  
Survey PC Sta. 268+97.0

PT Sta. 287+08.6 As-built Plans Project No. F-Proj No. 147 (9)  
Survey PT Sta. 287+08.1

### Station Equation

As-built Plans POT Sta 366+23.9 (Back) = POT Sta 341+26.6(Ahead)  
Survey POT Sta 366+23.9 (Back) = POT Sta 341+26.6(Ahead)

END POT Sta. 350+00.0 As-built Plans Project No. F-Proj No. 147 (9)  
Survey POT Sta. 350+00.0

### PROJECT CONTROL COORDINATE LISTING

Point ID	Northing	Easting	Elevation	Description
706	8175524.45	21430991.30	673.72	Existing Concrete Monument with brass disk set flush with the ground. 35.9 feet east of 158th Ave, 62.9 feet south of Hwy 30, 9.6 feet southeast of a utility pole.
FENO 1	8175123.51	21416496.20	676.87	New FENO style monument set flush with the ground. 33.5 feet southwest of centerline of Hwy 30, 147.5 feet east of center of 130th Ave.
FENO 2	8175556.21	21421292.80	674.35	New FENO style monument set flush with the ground. 28.15 feet NW of NW cor of wingwall of NW cor of Hwy 30 bridge over a creek. 37.3 feet south southeast of utility pole. 114.0
FENO 3	8175553.56	21426066.29	667.37	New FENO style monument set flush with the ground. 90.8 feet south of centerline of Hwy 30, 48.15 feet southwest of utility pole.
Scott Co GPS 601	8154639.01	21398578.53	757.48	Existing Berntsen driven rod monument with 2 1/2" aluminum cap with access cover.
Scott Co GPS 602	8154565.39	21415761.26	706.49	Existing Berntsen driven rod monument with 2 1/2" aluminum cap with access cover.
Scott Co GPS 642	8152509.73	21458526.18	640.80	Existing Berntsen driven rod monument with 2 1/2" aluminum cap with access cover.

### Alignment Information

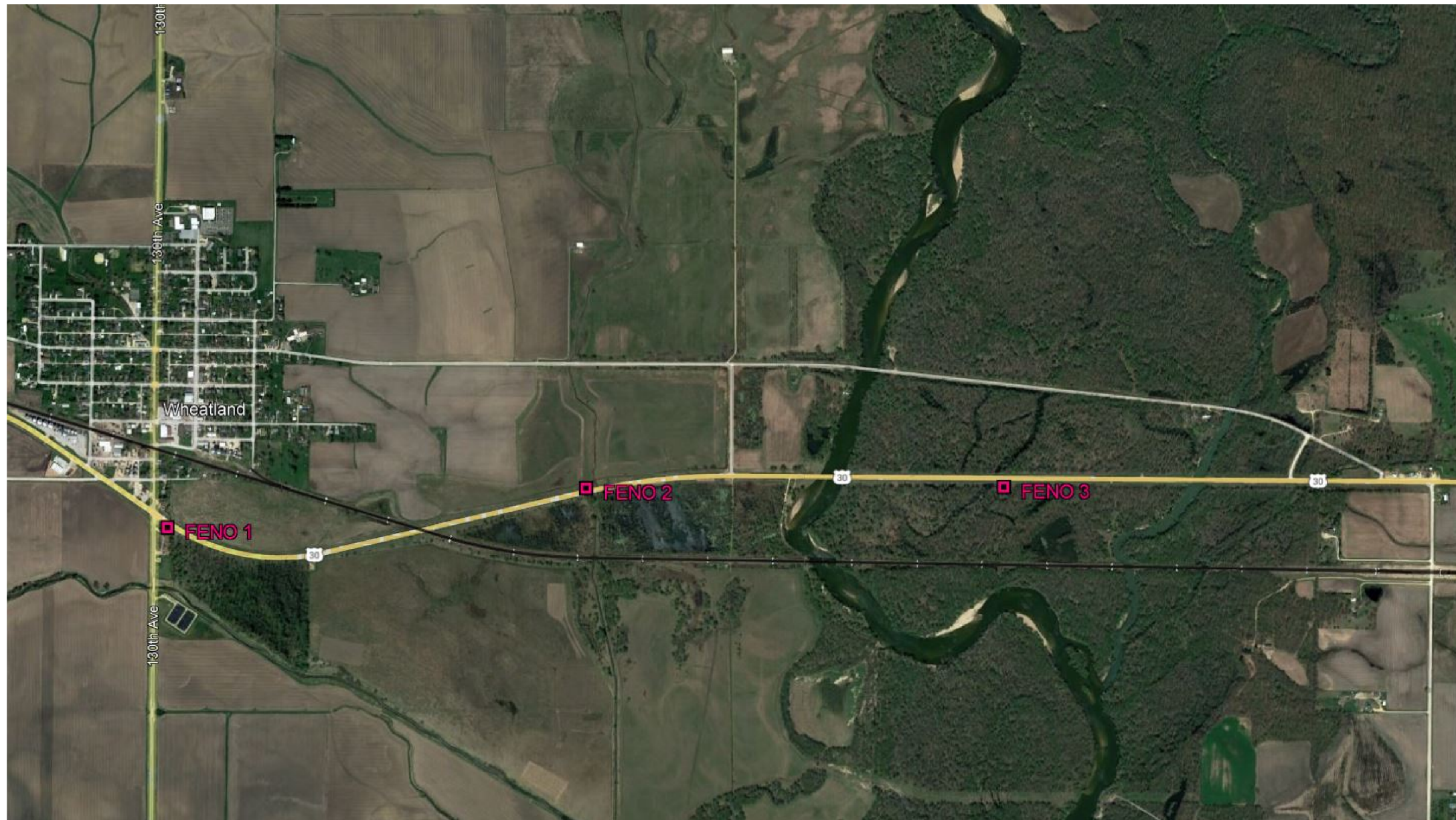
The horizontal alignment for this survey is a retrace of As-built Plans No. F-Proj No. 147 (9). Survey stationing was equated to the plan PT at STA 239+21.2 and run back and ahead throughout the survey.

*Mainline (US30) Survey stationing relates to as built plan stationing as follows:*

POB POT Sta. 211+54.50 As-built Plans Project No. F-Proj No. 147 (9)  
Survey POT Sta. 211+54.30

## CONTROL POINT VICINITY MAP

This map is a guide to the vicinity of the primary project control points. Primary control is for use with RTK base stations and for RTN validation. Future surveys will use primary project control to establish temporary control as needed for construction or other surveying applications.



HORIZ. DATUM: NAD83(2011) EPOCH 2010.00 - Ia. RCS Zone 11  
VERT. DATUM: NAVD88 - Geoid Model G018

Coordinate listing from next sheet will be used with IaRTN for monument recovery. No other reference ties are given.

HORIZONTAL AND VERTICAL PROJECT CONTROL COORDINATE LISTING

HORIZ. DATUM: NAD83(2011) EPOCH 2010.00  
 1a. Regional Coordinate System Zone 11

VERT. DATUM: NAVD88  
 Geoid Model G018  
 Project Control Marks are Bench Marks

Point ID	Northing	Easting	Elevation	Description
706	8175524.45	21430991.30	673.72	Existing Concrete Monument with brass disk set flush with the ground. 35.9 feet east of 158th Ave, 62.9 feet south of Hwy 30, 9.6 feet southeast of a utility pole.
FENO 1	8175123.51	21416496.20	676.87	New FENO style monument set flush with the ground. 33.5 feet southwest of centerline of Hwy 30, 147.5 feet east of center of 130th Ave.
FENO 2	8175556.21	21421292.80	674.35	New FENO style monument set flush with the ground. 28.15 feet NW of NW cor of wingwall of NW cor of Hwy 30 bridge over a creek. 37.3 feet south southeast of utility pole. 114.0 feet west of middle of small creek.
FENO 3	8175553.56	21426066.29	667.37	New FENO style monument set flush with the ground. 90.8 feet south of centerline of Hwy 30, 48.15 feet southwest of utility pole.
Scott Co GPS 601	8154639.01	21398578.53	757.48	Existing Berntsen driven rod monument with 2 1/2" aluminum cap with access cover.
Scott Co GPS 602	8154565.39	21415761.26	706.49	Existing Berntsen driven rod monument with 2 1/2" aluminum cap with access cover.
Scott Co GPS 642	8152509.73	21458526.18	640.80	Existing Berntsen driven rod monument with 2 1/2" aluminum cap with access cover.



**ALIGNMENT COORDINATES**

Name	Location	Point on Tangent			Begin Spiral			Begin Curve			Simple Curve PI or Master PI of SCS			End Curve			End Spiral		
		Station	Coordinates		Station	Coordinates		Station	Coordinates		Station	Coordinates		Station	Coordinates		Station	Coordinates	
			Y (Northing)	X (Easting)		Y (Northing)	X (Easting)		Y (Northing)	X (Easting)		Y (Northing)	X (Easting)		Y (Northing)	X (Easting)		Y (Northing)	X (Easting)
1	US 30 (ML030_East)	290+00.00	8175675.66	21423290.21															
2	US 30 (ML030_East)	369+00.00	8175582.88	21431189.67															

**108-23A**  
08-01-08

**TRAFFIC CONTROL PLAN**

US 30  
Refer to project number BRF-030-9(186)--38-23 for Traffic Control Plans.

**108-26A**  
08-01-08

**STAGING NOTES**

Refer to project number BRF-030-9(186)--38-23 for Staging Plans.

**108-25**  
10-21-14

**511 TRAVEL RESTRICTIONS**

Route	Direction	County	Location Description	Feature Crossed	Object Type	Maint. Bridge No., Structure ID, or FHWA No.	Type of Restriction	Existing Measurement	Construction Measurement	Construction Measurement as Signed	Projected As Built Measurement	Remarks
			Refer to project number BRF-030-9(186)--38-23.									

**111-01**  
04-17-12

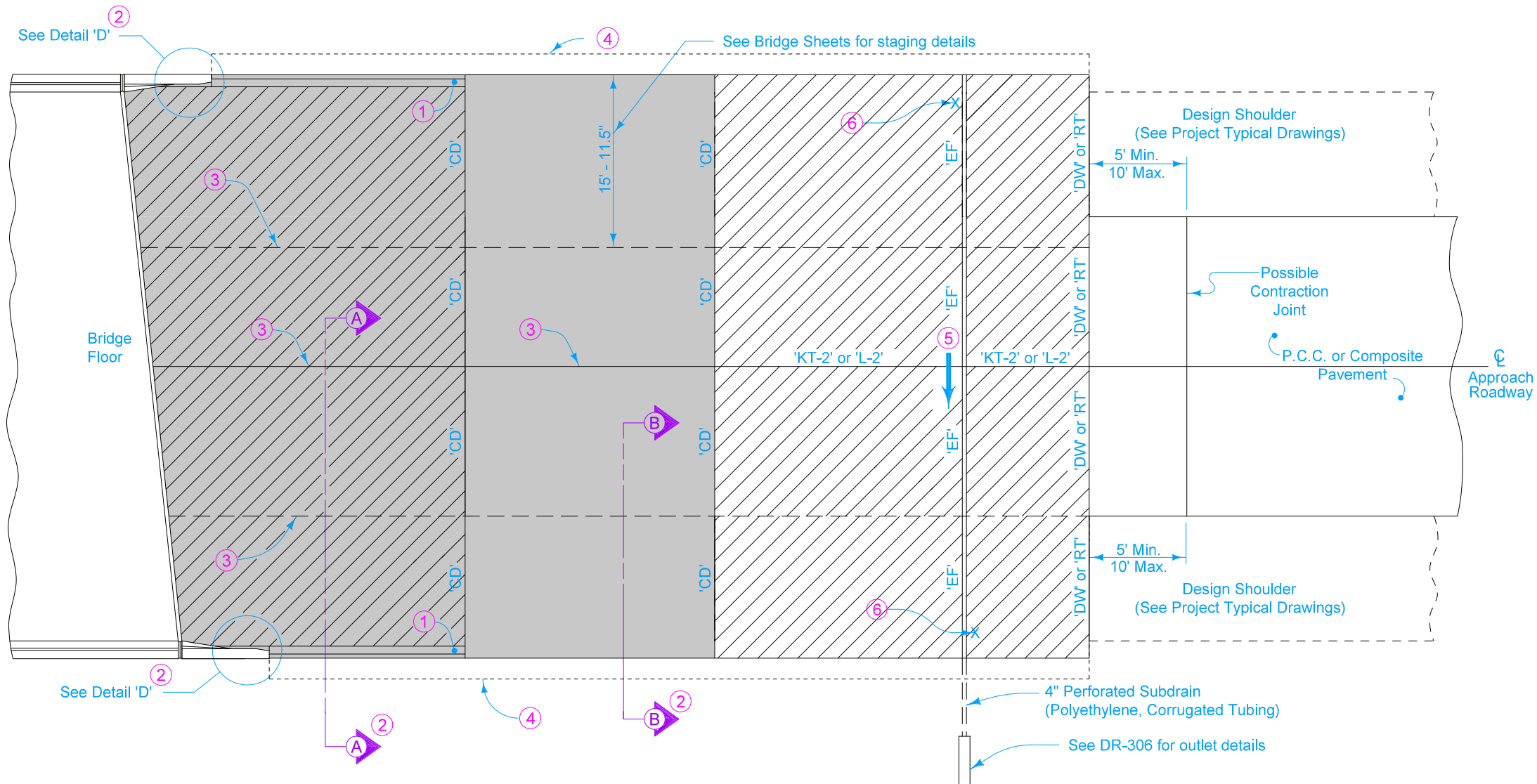
**COORDINATED OPERATIONS**

Other work in progress during the same period of time will include the construction of the projects listed. Coordinate operations with those of other contractors working within the same area.

Project	Type of Work
BRF-030-9(186)--38-23	Bridge Replacement
BRF-030-9(205)--38-23	Bridge Replacement




For joint details, see PV-101.

- ① Build 4 inch Sloped Curb to end of Double Reinforced Section. Refer to PV-102 for curb and runout details.
- ② See BR-201, BR-202, BR-203, or BR-204.
- ③ Longitudinal Joint (PV-101):  
Single Pour - Saw cut joint per Detail B.  
Two Pours - Use 'KS-1' joint (Single Reinforced Section).  
Use 'KS-2' joint (Double Reinforced Section).
- ④ Polymer Grid and excavation limits of Modified Subbase 2 feet outside of pavement edge. See BR-201, BR-202, BR-203, or BR-204.
- ⑤ Slope subdrain to drain.
- ⑥ Place an "X" in the plastic concrete near the 'EF' joint at the outside edge of pavement.



PLAN VIEW

Pay limits for contract item include the following areas:

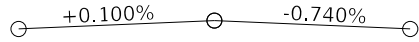
-  Double Reinforced Section
-  Single Reinforced Section
-  Non-Reinforced Section

<b>MODIFIED STANDARD ROAD PLAN</b>	3	10-18-22
	<b>BR-211</b>	
SHEET 1 of 1		

MODIFICATIONS: Revised longitudinal joint, location and added dimension.

**BRIDGE APPROACH  
(ABUTTING PCC OR  
COMPOSITE PAVEMENT)**

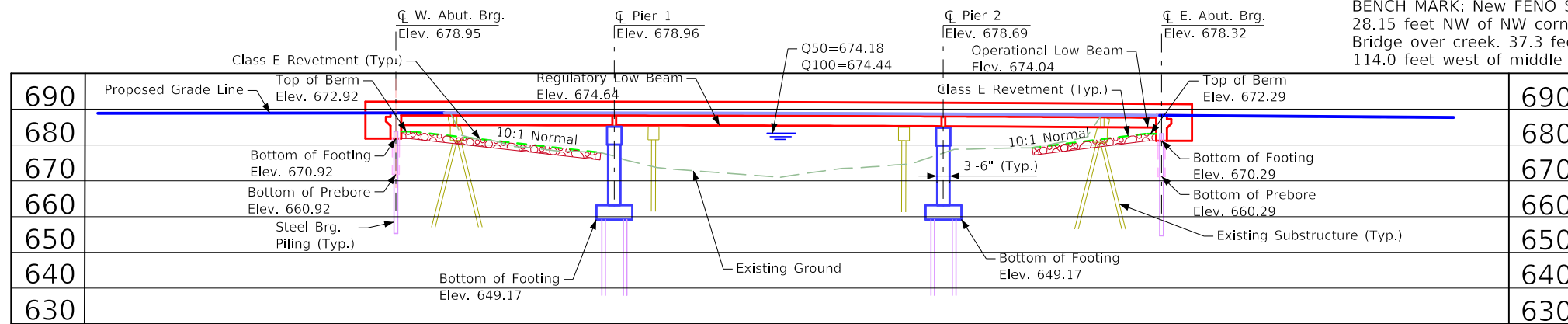
VPI STA. = 354+48.87  
 VPI ELEV. = 679.06  
 L = 200'



Proposed Profile  
 Grade US 30

Location

US 30 Over Calamus Ditch  
 T-81N R-1E  
 Section 12 & 13  
 Spring Rock Township  
 Clinton County  
 FHWA No. 020760  
 Bridge Maint. No. 2399.5S030  
 Latitude 41.829460°  
 Longitude -90.791465°

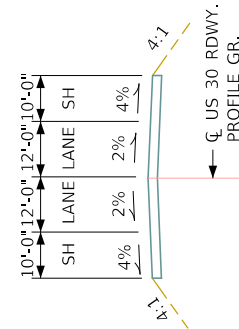


Longitudinal Section Along CL Us 30

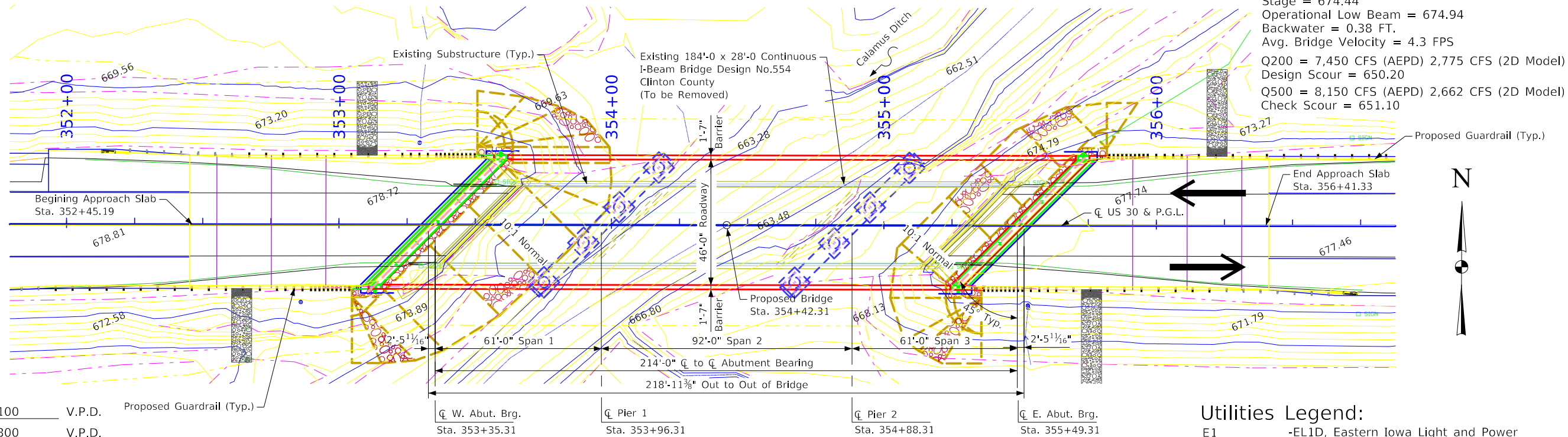
BENCH MARK: New FENO Style monument set flush with ground.  
 28.15 feet NW of NW corner of wingwall of NW corner of Hwy 30  
 Bridge over creek. 37.3 feet south southeast of utility pole.  
 114.0 feet west of middle of small creek.

Hydraulic Data

Drainage area = 17.0 SQ. MI.  
 Stream Slope = 9.5 FT./MI.  
 Q50 = 4,880 CFS (AEPD), 2,843 CFS (2D Model)  
 Stage = 674.18  
 Regulatory Low Beam = 675.44  
 Avg. Bridge velocity = 4.5 FPS  
 Q100 = 5,760 CFS (AEPD), 2,832 CFS (2D Model)  
 Stage = 674.44  
 Operational Low Beam = 674.94  
 Backwater = 0.38 FT.  
 Avg. Bridge Velocity = 4.3 FPS  
 Q200 = 7,450 CFS (AEPD), 2,775 CFS (2D Model)  
 Design Scour = 650.20  
 Q500 = 8,150 CFS (AEPD), 2,662 CFS (2D Model)  
 Check Scour = 651.10



Typical Approach Section



Situation Plan

Traffic Estimate

2024 AADT	3100	V.P.D.
2044 AADT	3800	V.P.D.
Trucks	20	%

Utilities Legend:

E1	-EL1D, Eastern Iowa Light and Power
F0	-FO1D, F&B Communications
F02	-FO2D, Sprint
G	-GL1D, Alliant Energy
SAN.	-SA1D, City of Wheatland
W	-WL1D, City of Wheatland

Utilities shown on this sheet are for information only, see road design sheets for final utility information.

Notes:

- Top of bridge deck at centerline US 30 is 0.03' below the profile grade to account for parabolic crown.
- Class E Revetment stone is embedded.

Hydraulic Design

I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.

Signature: Mark D. Werner Date: 9-20-2023  
 Printed or Typed Name: Mark D. Werner  
 My license renewal date is December 31, 2025

Pages or sheets covered by this seal: V.4, V.5

Design For 45 Degree LA  
**214'-0" X 46'-0" Pretensioned  
 Prestressed Concrete Beam Bridge**  
 61'-0" End Spans 92'-0" Interior Span  
**Situation Plan**  
 STA. 354+42.31 (US 30) Turn-In Date: Aug 2024  
**Clinton County**  
 IOWA DEPARTMENT OF TRANSPORTATION  
 Design No. 1125 Design Sheet No. 4 of 39 FHWA No. 020761

## CROSS SECTION VIEW COLOR LEGEND

Design Color No.	Feature	Design Color No.	Feature
<b>Aggregate</b>			
(64)	Choke Stone	(112)	Noise Wall
(42)	Engineering Fabric	(112)	Noise Wall Footing
(8)	Flooded Backfill	(112)	Retaining Wall Back
(92)	Macadam Stone	(112)	Retaining Wall Back Excavate
(20)	Modified	(112)	Retaining Wall Face
(12)	Plowing Shaping	(112)	Retaining Wall Front Excavate
(14)	Porous Backfill	(112)	Retaining Wall Front Footing
(8)	Revetment Class A	(112)	Retaining Wall MSE Gutter
(6)	Revetment Class B	(112)	Retaining Wall Reinforced Earth
(62)	Revetment Class C	<b>Grading</b>	
(188)	Revetment Class D	(8)	Behind Curb Cut
(28)	Revetment Class E	(6)	Granular
(12)	Shoulder Special Backfill	(13)	Granular Back Fill
(12)	Special Backfill	(48)	Rock Undercut
(20)	Subbase	(8)	Shoulder Earth Fill
(20)	Subbase Lower	(2)	Side Slopes
(20)	Subbase Upper	(226)	Side Slopes Dressing
(118)	Subgrade Treatment	<b>Substrata</b>	
<b>Asphalt</b>			
(207)	HMA Base Course	(128)	Boulder Substrata
(207)	HMA Interim Course	(48)	Broken Weathered Substrata
(207)	HMA Surface Course	(3)	Core Out Substrata
<b>Concrete</b>			
(0)	Barrier Concrete	(203)	Existing Pavement Substrata
(0)	Barrier Concrete Footing	(6)	Loam Substrata
(0)	Curb Gutter	(80)	Rock Substrata
(48)	Flowable Mortar	(4)	Select Sand Substrata
(0)	Median Concrete	(3)	Shale Substrata
(0)	PCC Pavement	(10)	Topsoil Substrata
(0)	Sidewalk	<b>Unsuitable / Waste</b>	
<b>Shoulder</b>			
(209)	Shoulder HMA	(3)	Unsuitable Type A
(0)	Shoulder PCC	(13)	Unsuitable Type B
(6)	Shoulder Granular	(11)	Unsuitable Type C
(3)	Waste	<b>Existing</b>	
(0)	Existing Pavement		

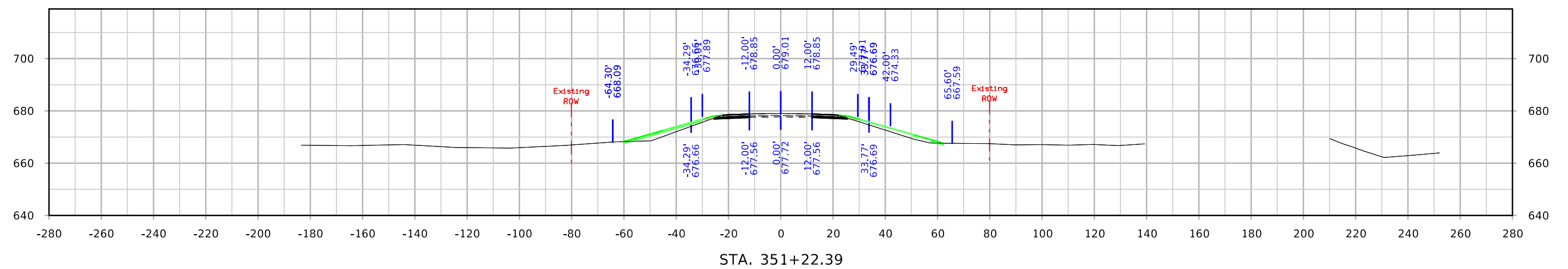
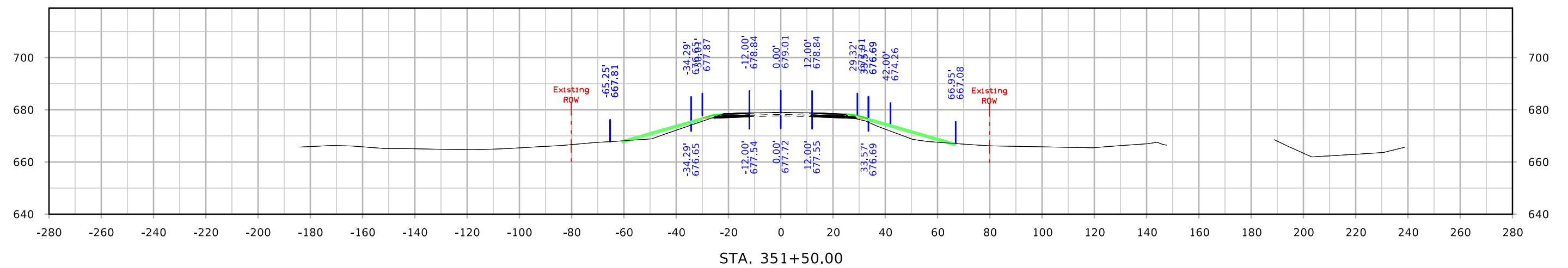
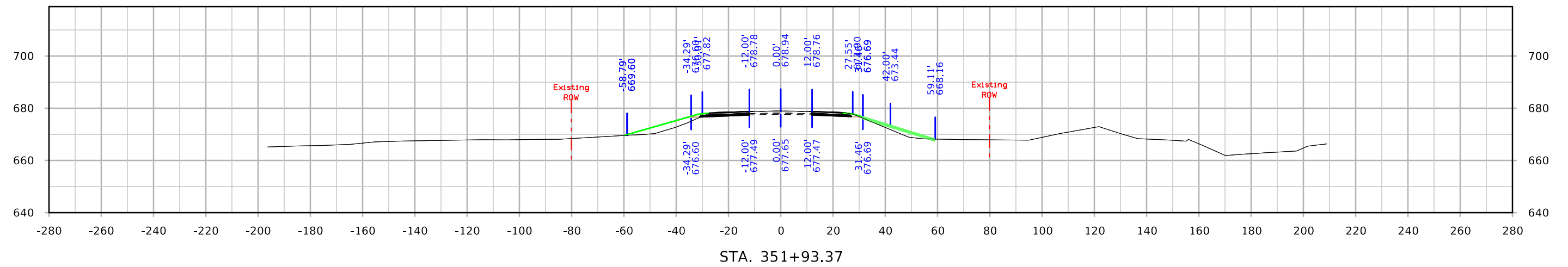
NOTES:

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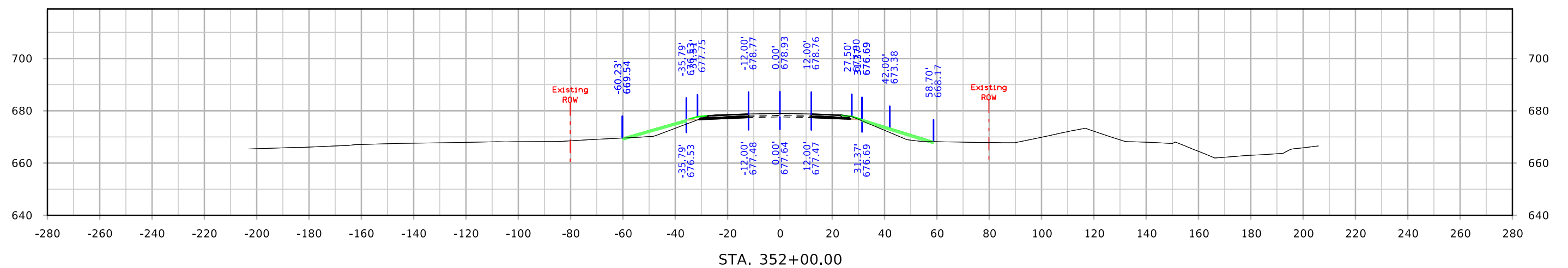
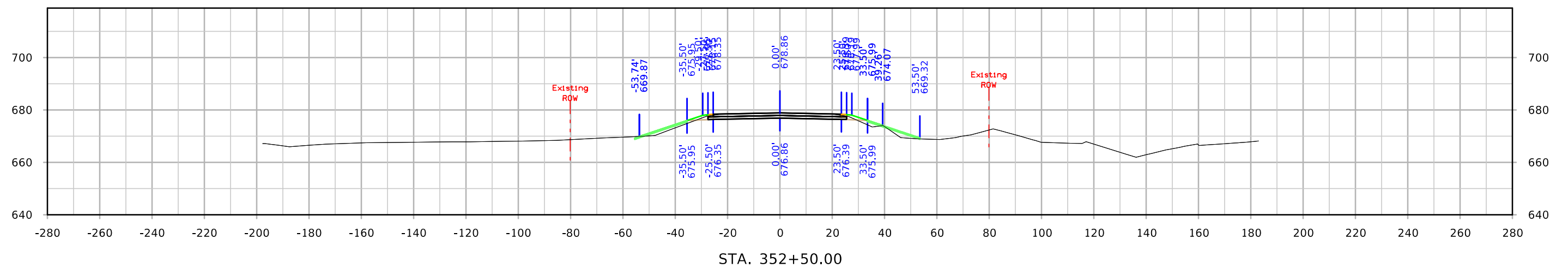
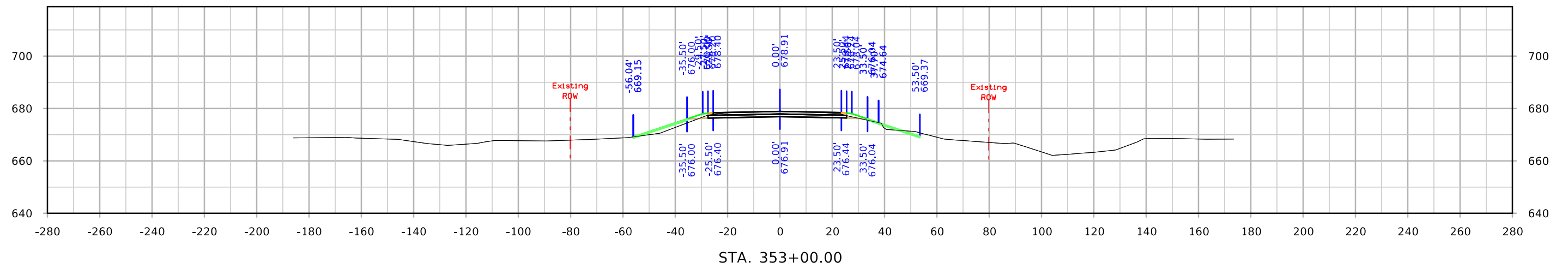
## CROSS SECTIONS LEGEND AND INFORMATION SHEET

(COVERS SHEET SERIES W, X, Y, & Z)

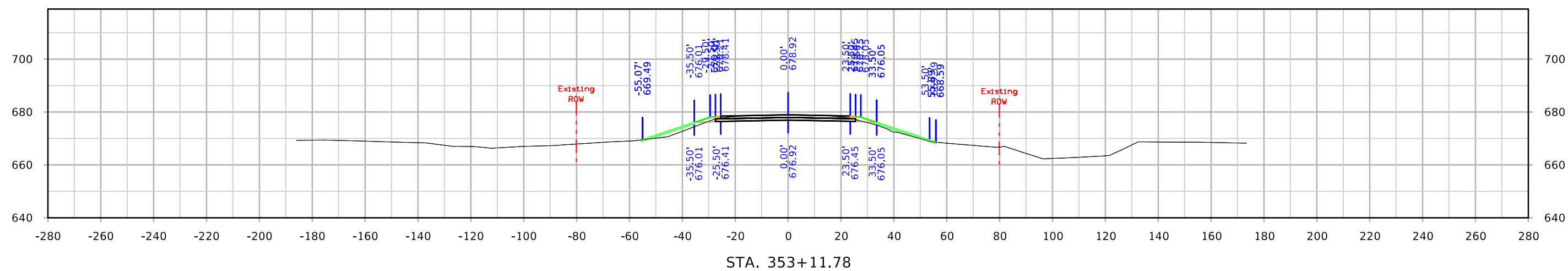
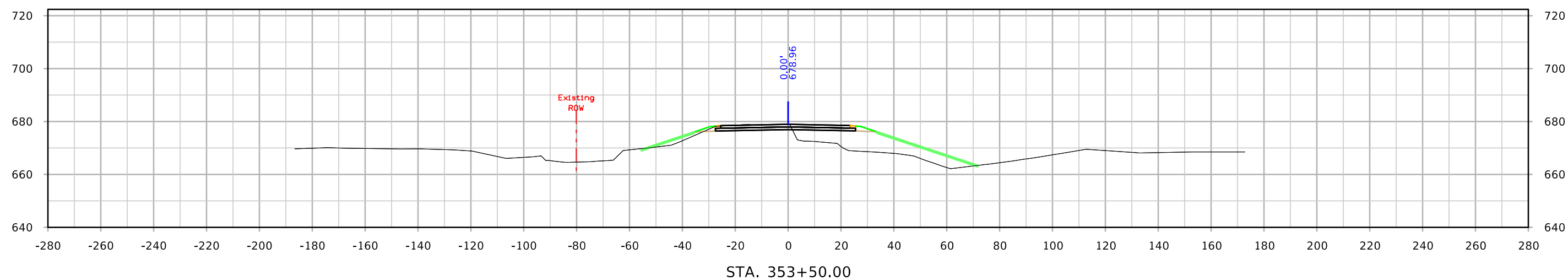
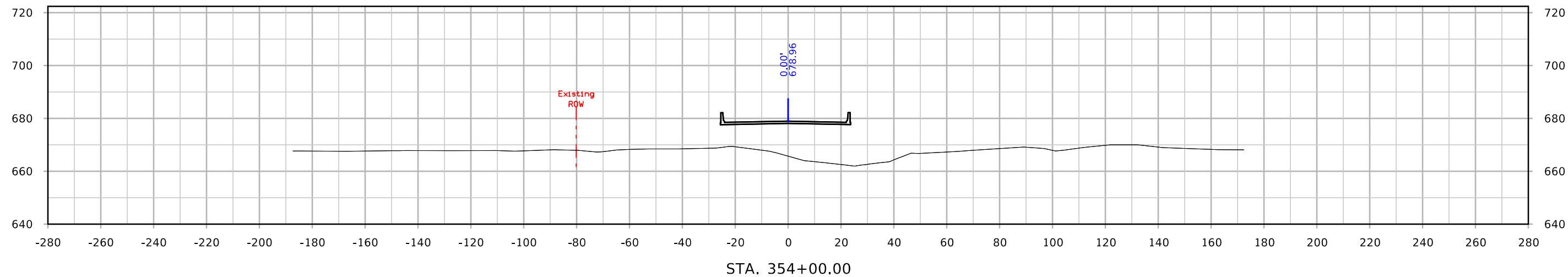
# US 30



# US 30

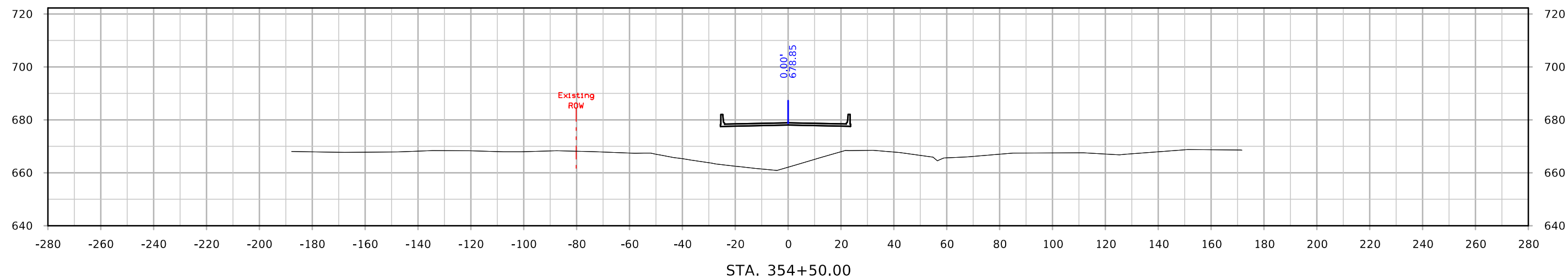
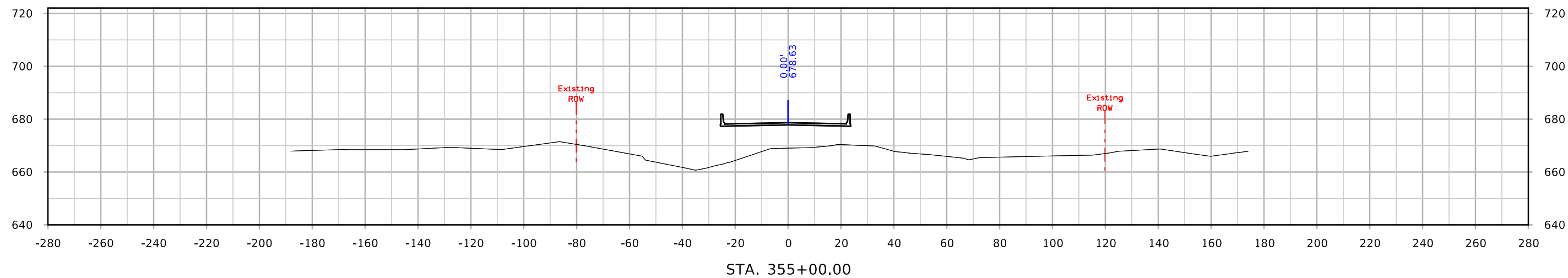
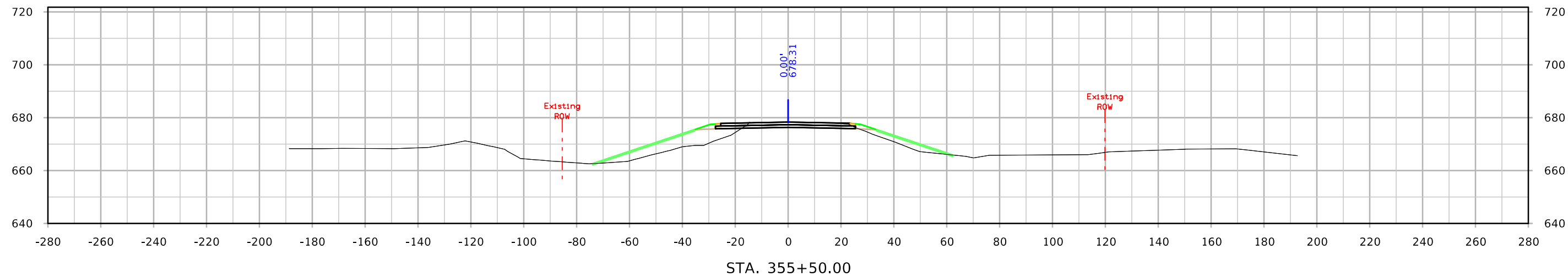


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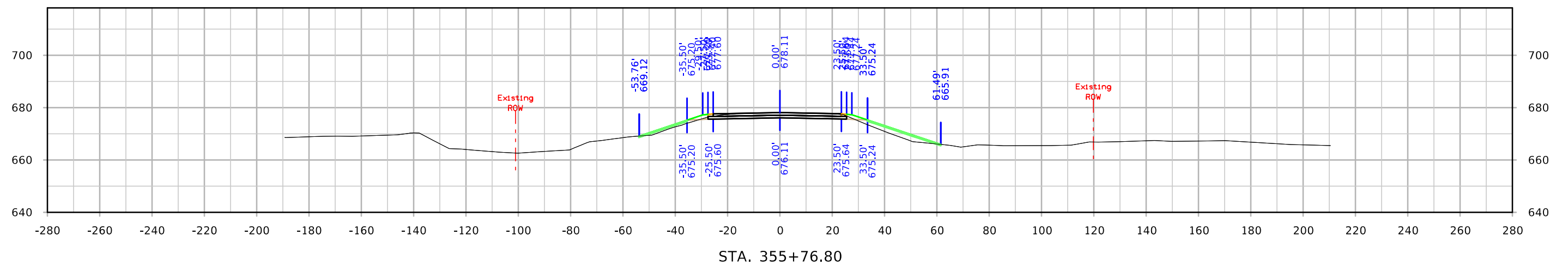
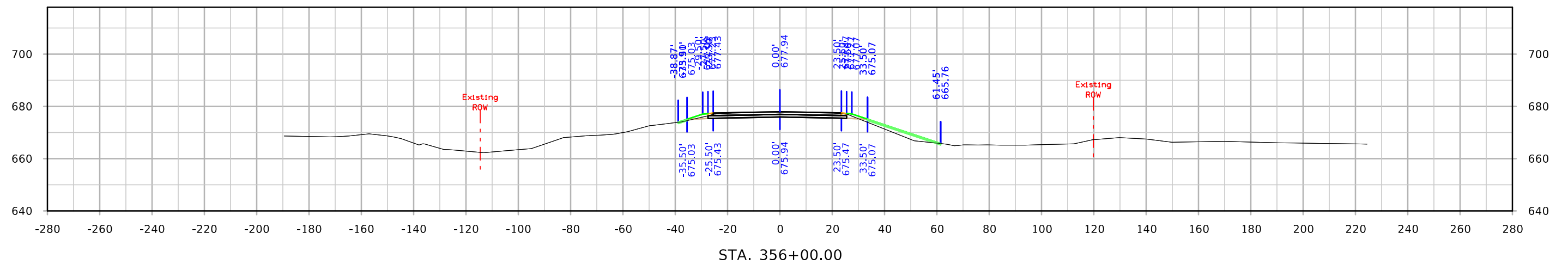
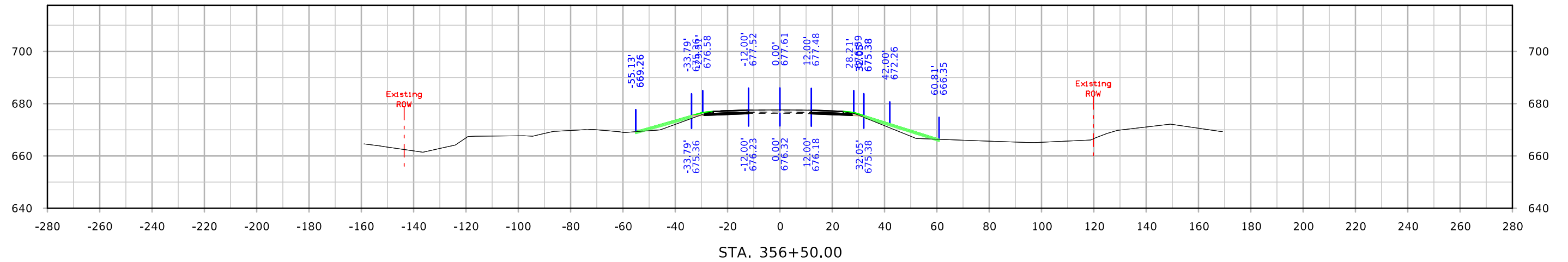




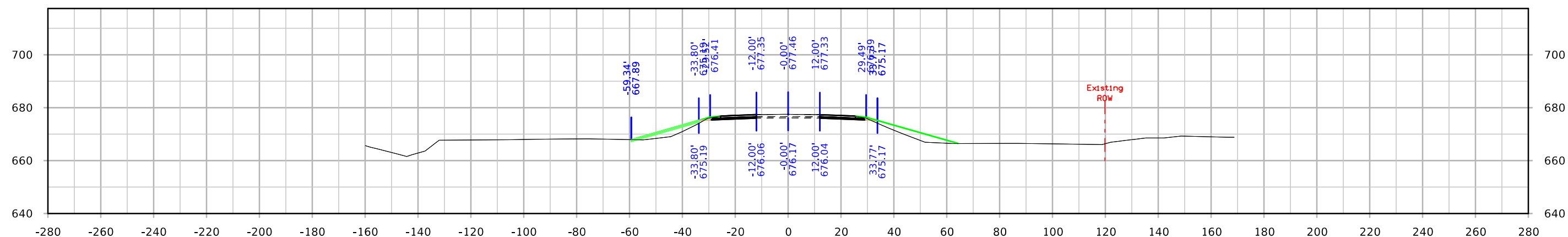
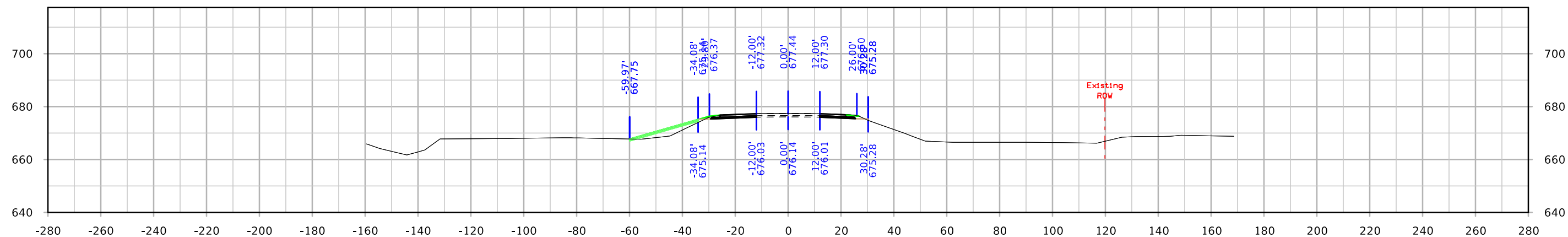
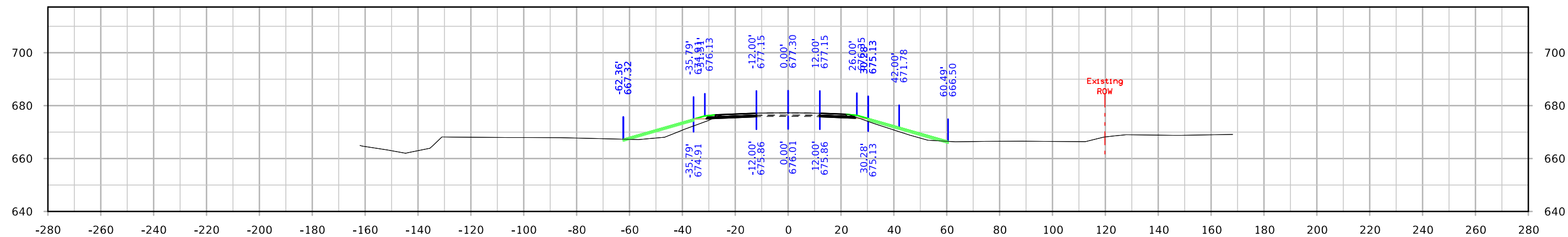
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