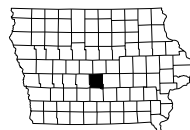


POLK COUNTY

Type  
NHSX-069-4(136)--3H-77

LETTING DATE  
Jan 01 2025



INDEX OF SHEETS	
No.	DESCRIPTION
<b>A Sheets</b>	<b>Title Sheets</b>
A.1	Title Sheet
A.2	Location Map Sheet
A.3 - 9	Concept Statement
<b>B Sheets</b>	<b>Typical Cross Sections and Details</b>
B.1 - 4	Typical Cross Sections and Details
<b>D Sheets</b>	<b>Mainline Plan and Profile Sheets</b>
* D.1	Plan & Profile Legend & Symbol Information Sheet
* D.2 - 5	"Mainline Name"
<b>E Sheets</b>	<b>Side Road Plan and Profile Sheets</b>
* E.1 - 3	"Side Road Name"
<b>G Sheets</b>	<b>Survey Sheets</b>
G.1 - 3	Reference Ties and Bench Marks
<b>J Sheets</b>	<b>Traffic Control and Staging Sheets</b>
* J.1 - 2	Traffic Control & Staging Notes
* J.3	Traffic Control & Staging Legend & Symbol Info. Sheet
* J.4	Staging Typical
* J.5 - 6	Traffic Control & Staging Stage 1
* J.7 - 8	Traffic Control & Staging Stage 2
* J.9 - 10	Traffic Control & Staging Stage 3
<b>L Sheets</b>	<b>Geometric, Staking and Jointing Sheets</b>
L.1 - 4	Turning Movements
<b>W Sheets</b>	<b>Mainline Cross Sections</b>
W.1	Cross Sections Legend & Symbol Information Sheet
W.2 - 27	Mainline Cross Sections
	* Color Plan Sheets



PLANS OF PROPOSED IMPROVEMENT ON THE  
**PRIMARY ROAD SYSTEM**  
**Polk COUNTY**  
 Type  
 U.S. Highway 69 (South Ankeny Boulevard)  
 from south of SE Peterson Drive  
 to 1st Street  
 SCALES: As Noted

Refer to the Proposal Form for list of applicable specifications.  
 Value Engineering Saves. Refer to Article 1105.14 of the Specifications.



REVISIONS

TOTAL	65
PROJECT IDENTIFICATION NUMBER	
PROJECT NUMBER	20-77-069-010
R.O.W. PROJECT NUMBER	NHSX-069-4(136)--3H-77

For Project Location Map refer to Sheet A.2

U.S. Hwy 69/ S Ankeny Boulevard			
DESIGN DATA URBAN			
20 --	AAVT	--	V.P.D.
20 --	AAVT	--	V.P.D.
20 --	DHV	--	V.P.H.
	TRUCKS	--	%
	Total		
	Design ESALs	--	

INDEX OF SEALS			
SHEET NO.	NAME	TYPE	BID QUANTITY SHEETS
A.1	X	Primary Signature Block	X
X	X	X	X

PRELIMINARY PLANS

Subject to change by final design.

D2 PLAN - Nov 2, 2023





**PROJECT IMPACTS:**

Designed by: Consultant

Design Impact	Assistance Requested (Y/N)	Remarks
ADA:	Y	
Agreements/Notification Letters:	Y	
Bridges and Structures:	N	
Consultant:	Y	
Contracts:	Y	
Design/Methods:	Y	
Location and Environment:	Y	
Maintenance: Des Moines North		
Project Management:	Y	
Railroad:	N	
RCE: Grimes		
Right of Way:	Y	
Soils:	Y	
Survey/Photogrammetry:	Y	
Systems Planning:	Y	
Traffic and Safety:	Y	
Utilities:	Y	

Cc:

- |                                  |                               |                                |
|----------------------------------|-------------------------------|--------------------------------|
| C. Purcell                       | M. J. Kennerly                | K. D. Nicholson                |
| M. Dell                          | J. S. Nelson                  | M. Carlson                     |
| M. A. Swenson                    | J. Hart                       | K. Brink                       |
| D. L. Newell                     | K. Olson                      | J. W. Laaser-Webb              |
| W. A. Sorenson                   | D. E. Sprengeler              | E. C. Wright                   |
| M. E. Ross                       | A. A. Welch                   | J. Harris                      |
| C. C. Poole                      | B. E. Azeltine                | B. D. Hofer                    |
| D. Stokes                        | S. J. Gent                    | S. Anderson                    |
| K. K. Patel                      | M. Collins                    | J. Ellis                       |
| C. Brakke                        | E. Engle                      | T. Quam                        |
| J. Bartholomew                   | N. Cuva                       | M. Buttz                       |
| D. Blue                          | D. L. Maifield                | J. Vortherms                   |
| S. Nielsen                       | E. D. Gansen                  | D. Heeren                      |
| M. Nop                           | W. W. Musgrove                | M. Ortiz-Pagan                 |
| V. Brewer                        | J. Garton                     | J. Becker                      |
| A. Smyth                         | A. Swisher                    | A. Loonan                      |
| F. Leong                         | S. Nixon                      | S. Passick                     |
| B. Adey                          | G. Kretlow                    | B. Ellis                       |
| J. Bennett                       |                               |                                |
| L. Hart, City of Ankeny          | A. Lust, City of Ankeny       | A. Quartell, City of Ankeny    |
| T. Boes, Snyder & Associates     | A. Burke, Snyder & Associates | T. Crouch, Snyder & Associates |
| J. Haldeman, Snyder & Associates |                               |                                |

**CONCEPT ANALYSIS & SUPPORTING DATA:**

Necessary supporting data may be linked in the analysis to ProjectWise.

No formal field review of the project was held.

**PAVEMENT:**

**Existing Conditions:**

The existing facility is an undivided four-lane roadway with no auxiliary turn lanes except left turn lanes at 1<sup>st</sup> Street. The existing pavement consisting of 10" concrete with a 2"-3" asphalt overlay along U.S. 69 (S Ankeny Boulevard) is starting to show signs of deterioration.

**ADA/Sidewalk:**

The widening of U.S. 69 (S Ankeny Boulevard) will require that the sidewalks and pedestrian ramps be reconstructed with this project.

**SAFETY:**

**Design Criteria:**

Design Element		Preferred	Acceptable Criteria	Project Values
<a href="#">Design Manual Section 1C-1</a> Last Updated: 04-29-19				
<b>Urban Multilane Roadways (Urban Arterials)</b>				
Design speed (mph)		The anticipated posted speed limit	30	35
<a href="#">Maximum superelevation rate (Refer to Section 2A-2)</a>		4%	8%	N/A
Design lane width (ft)		12	11	12
Full-depth paved width (ft)	Outside lane	Design lane width + curb and gutter unit or 12 feet for roadways with shoulders	Match design lane width	14.5
	Inside lane(s)	Design lane width + curb and gutter unit. 12' for roadways without a curb and gutter unit	Match design lane width	12.5
Right turn lane or an auxiliary lane (ft)		12	10	12
Left turn lane (ft)	With raised or painted median	12 ft + median	10 ft + median	12 + median
	With depressed median	12	10	N/A
Two-way left turn lane (ft)		14	11	N/A
Parking lane width (ft)		10	7	N/A
Pavement cross-slope (on tangent sections)	Through lanes	2%, However, when adjacent lanes slope in the same direction, increase slope by 0.5% per lane up to 3%	1.5% minimum, 3% maximum	2%, 2.5%
	Auxiliary and turn lanes	3%	3% maximum	3%
	Crown break at centerline	4%	4% maximum	4%
Shoulder cross-slope (on tangent sections)	Shoulders	4%	Shoulder cross-slope cannot be less than the adjacent lane, 6% max for paved or granular shoulders, 8% max for earth shoulders	N/A
	Curb and gutter units	Match pavement cross-slope	6% maximum	Match
	Parking lanes	1% greater than pavement cross-slope	6% maximum	N/A
<a href="#">Curb type (Refer to Section 3C-2)</a>	Design speed ≤ 45 mph	6-inch standard	any shape	6-inch standard
Foreslope	Adjacent to shoulder	10:1 for 4' then 6:1	3:1	N/A
	Beyond standard ditch depth and design clear zone	3.5:1	3:1	4:1
	Curbed roadways	2%	not steeper than 3:1	4%
Backslope		3:1	2.5:1	4:1

Transverse Slopes	w/ drainage structures	8:1	6:1	N/A
	w/o drainage structures	10:1	6:1	N/A
<a href="#">Ditches (Refer to Section 3G-1)</a>	Outside ditch (depth x width) (ft)	5 x 10	--	Varies (TBD)
<a href="#">Median width (ft) (Refer to Section 3E-1)</a>		<a href="#">See Section 3E-1</a>	0	18 15
*FHWA notification via email is required if acceptable criteria are not met on the NHS system (No formal design exception required)				
** If travel lanes are less than 12 ft wide contact the Methods Section for assistance.				

<a href="#">Design Manual Section 1C-1</a> Last Updated: 05-26-17		Design Criteria for Low-Speed Roadways														
Design Element	Preferred Criteria					Acceptable Criteria					Project Values					
	Design Speed, mph					Design Speed, mph										
	25	30	35	40	45	25	30	35	40	45						
<a href="#">Stopping sight distance (ft) (Refer to Section 6D-1)</a>		155	200	250	305	360	155	200	250	305	360	305 Pref	250 Accept			
<a href="#">Minimum horizontal curve radius (ft) and superelevation rate (Refer to Sections 2A-2 and 2A-3)</a>	Method 2 superelevation and side friction distribution	<a href="#">e = 4% max</a>					<a href="#">See Table 10 in Section 2A-3</a>					--				
	Method 5 superelevation and side friction distribution	<a href="#">e<sub>max</sub> = 6%</a>		<a href="#">e<sub>max</sub> = 8%</a>			144	231	340	485	643	144	231	340	485	643
<a href="#">Minimum vertical curve length (ft) (Refer to Section 2B-1)</a>		75	90	105	120	135	75	90	105	120	135	120 Pref	105 Accept			
Minimum rate of vertical curvature (K)	crest vertical curves		12	19	29	44	61	12	19	29	44	61	44 Pref	29 Accept		
	sag vertical curves	roadways without fixed-source lighting	26	37	49	64	79	26	37	49	64	79	N/A			
		roadways with fixed-source lighting	26	37	49	64	79	14	20	27	35	44	64 Pref	27 Accept		
Minimum gradient (%)	<a href="#">(Refer to Section 2B-1)</a>		0.5					0.3% with a curb, 0.0% without a curb					0.6			
Maximum gradient (%)	<a href="#">(Refer to Section 2B-1)</a>	Urban roadways	5					--	9	8	8	7	5			
		Rural roadways	5					--	--	--	6	6	N/A			
Clear zone		<a href="#">See "Preferred Clear Zone" table in Section 8A-2</a>					<a href="#">See "Acceptable Clear Zone" table in Section 8A-2</a>					10 ft.				

**Crash Analysis:**

See the ICAT quick report in Appendix C for the 5-year crash history summary.

**Corridor Crash History:**

Over the 5-year period from 2018 through 2022, the project area had a total of 229 crashes. There were one fatal and two serious injury crashes within the project limits over the period. Of the 229 total crashes, 50 (22%) occurred at non-intersection locations. The 2016-2020 segment PCR level for the corridor is in the HIGH level.

**Table 1. Study Area Corridor Crash Summary (2018 – 2022)**

Corridor	Crashes (Injury Crashes)	Crash Severity	Predominant Crash Types (Crashes)	Predominant Major Causes (Crashes)
U.S. 69 (S Ankeny Boulevard) from SE Peterson to 1 <sup>st</sup> Street	229 (63)	1 Fatal 2 Serious 18 Minor 42 Possible/Unknown 166 Property Damage Only	Rear-end (120) Broadside, front to side (42) Angle, oncoming left turn (28) Sideswipe, same direction (18)	Followed too close (61) Other (37) FTYROW: Making left turn (28) Ran traffic signal (19) Driver distraction (14)

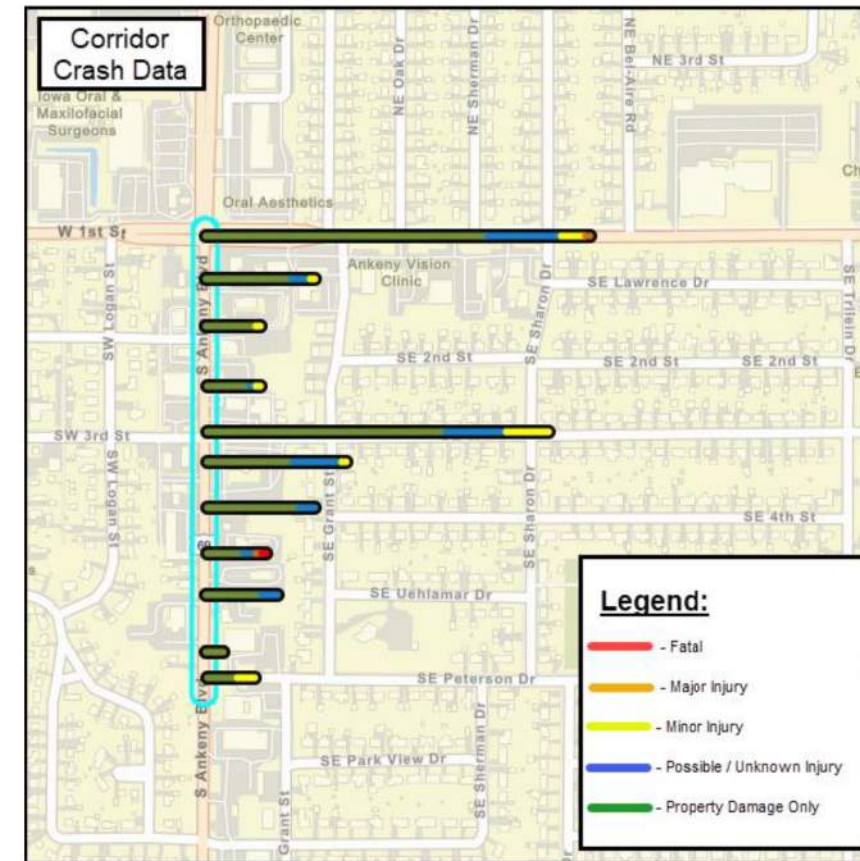
\*FTYROW = Failure to Yield Right of Way

**Intersection Crash History:**

The 3<sup>rd</sup> Street intersection offers the highest potential for intersection crash reduction and improvement in safety performance within the corridor. The 3<sup>rd</sup> Street intersection experienced 74 crashes in total with 24 (32%) resulting in personal injuries. The most common causes included following too close, failure to yield right of way while making a left turn, and running a traffic signal. The 1<sup>st</sup> Street intersection experienced 84 crashes in total, one involving serious injury and four involving minor injuries. Improvements were constructed at the 1<sup>st</sup> Street intersection in 2019, therefore the associated crash data includes time periods before, during, and after the improvements. These improvements have resulted in a reduction in overall and personal injury crashes since completed.

**Table 2. Intersection Crash Summary (2018-2022)**

Intersection	Crashes	Personal Injury Crashes	Major AADT	Minor AADT	PCR Level (2016-2020)
1 <sup>st</sup> Street	84	20	23,200	17,700	High
2 <sup>nd</sup> Street	10	1	22,750	350	Negligible
3 <sup>rd</sup> Street	74	24	22,750	2,600	High
Peterson Drive	11	3	21,300	1,350	Negligible



**Railroads:**

No railroads are located within 100 feet of the project area.

**Additional Safety & Operation Considerations:**

Four-Lane divided section with auxiliary lanes provides increased safety and operational benefits to the corridor. Evaluation of access consolidation will be performed during preliminary design.

**STRUCTURES and DRAINAGE:**

**Bridges:**

No bridges are located within the project limits.

**Culverts/Pipes:**

Drainage in the project area is conveyed in a storm sewer system that will be replaced with this project.

**Guardrail:**

No guardrail exists within the project limits.

**Drainage District:**

No coordination is needed with drainage districts.

**PROJECT IMPACTS:**

**Environmental:**

Minimal clearing and grubbing is anticipated to be done as a part of this project. No impacts to wetlands and parks have been identified or are anticipated. Historic/cultural resources evaluation will be performed in the preliminary engineering phase. Phase I Environmental Site Assessment will be performed with this project. Environmental geotechnical soil borings and analysis will be performed to identify the presence of possible soil contamination sites.

**TSMO/Traffic Control:**

Through traffic will be maintained throughout the entire project with at least one lane in each direction. Intermittent night work may be required.

**ROW:**

ROW acquisition is needed as a part of this project.

**Agreements/Notification Letters:**

A pre-design agreement has been executed with the City of Ankeny.

**Project Coordination:**

Coordination with the North Ankeny Boulevard Corridor Improvements project and the SE 3<sup>rd</sup> Street Area Utility Improvements – Phase 2 project will be necessary.

**Signal detection:**

The existing traffic signal installations at 1<sup>st</sup> Street and at 3<sup>rd</sup> Street will be replaced or modified to accommodate roadway widening and pedestrian ramp upgrades, and detection will be upgraded to include full vehicle and pedestrian actuation including advance detection on South Ankeny Boulevard and the City streets.

**Previous Projects List:**

Project Number	Project Type	Year
<b>Reference Location 94.13 to 94.92</b>		
F-69-4(1)20-77	10" PCC	1966
ESP-069-4(92)—2S-77	4" HMA	2012
<b>Reference Location 94.92 to 96.68</b>		
FN-69-4(55)—21-77	9" PCC	1992
MP-069-1(710)95—76-77	Diamond Grinding	2013

**Development Schedule:**

Task Name	Description	Finish Date
T01	Existing ROW, Property, and Sections Lines in CADD	06/02/2023
D00	Pre-Design Concept	06/23/2023
D01	Survey Plan and Photogrammetry (DTM)	06/02/2023
—	Traffic Study	08/07/2023
—	Phase 1 ESA	08/11/2023
U00	Prelim Utility Review (DOO + 1 Month)	07/23/2023
U01	General Project Info Submitted to Utilities (DOO + 2 Month)	08/23/2023
D02	Design Field Exam	09/28/2023
U02	Project Notification to Utilities (D02 + 4 Month)	01/28/2024 (DOT)
D05	Plans to Right Of Way	02/29/2024
R01	Right Of Way Layout	05/29/2024 (DOT)
P09	Public Information Meeting (PIM)	06/28/2024
U03	1 <sup>st</sup> Plan Submittal to Utilities (R01 + 4 Months)	09/29/2024 (DOT)
R00	Plot Plans and Summary Sheets to District	TBD (DOT)
A01	Approval of DOT Commission - Inclusion in 5-Year Program	TBD (DOT)
T02	Acquisition Plats and Legal Descriptions	08/28/2024 (DOT)
R02	ROW Appraisals	11/28/2024(DOT)
R03	ROW Negotiation	03/28/25 (DOT)
U04	2 <sup>nd</sup> Plan Submittal to Utilities (Plan Turn-in (-) 6 Months)	03/20/25 (DOT)
R04	Right Of Way Acquisition	09/29/25 (DOT)
R10	ROW Clearance	09/29/25 (DOT)
U06	Notice to Proceed to Utilities	09/29/25 (DOT)

U07	Utility Bid Attachment (Plan Turn-in)	09/2025 (DOT)
D08	Final Grade and Pave Plans	TBD
L03	Letting-Combination Grade and Pave	12/16/2025
C02	Construction Period (Field Work)	2026-2027

**Appendix:**

**Appendix A: Typical Section**



**Appendix B: Cost Estimate for Recommendation**

ENGINEER'S CONCEPTUAL OPINION OF PROBABLE PROJECT COSTS



SOUTH ANKENY BLVD (US69) 5-LANE DIVIDED FROM SW PETERSON DR. TO 1ST ST.  
Pre-design / Conceptual  
Ankeny, IA  
December 22, 2022

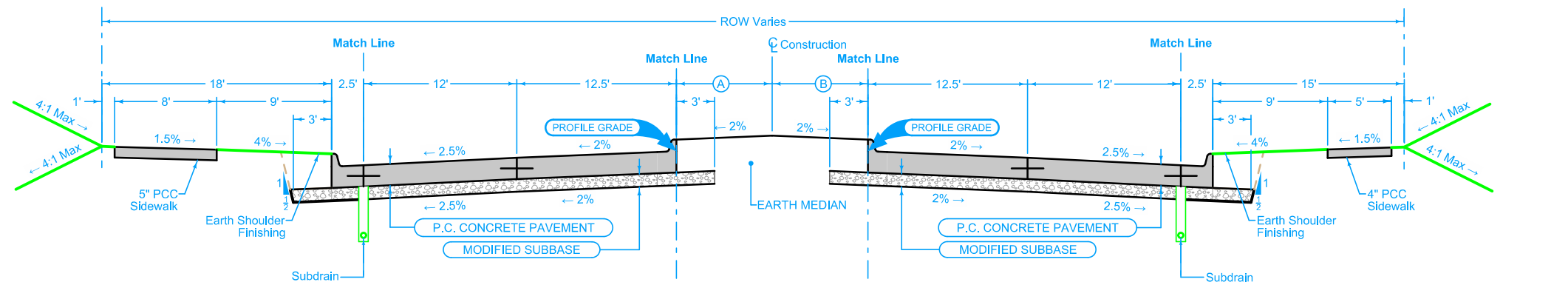
ITEM #	DESCRIPTION	UNIT	UNIT PRICE	QUANTITY - DOT ELIGIBLE	QUANTITY - NON-DOT ELIGIBLE	EXTENDED PRICE - DOT ELIGIBLE	EXTENDED PRICE - NON-DOT ELIGIBLE	TOTAL PRICE	COMMENTS
<b>EARTHWORK</b>									
2.1	Excavation, Class 10	CY	\$ 20	13,600		\$ 272,000	\$ -	\$ 272,000	
2.2	Topsoil, Import	CY	\$ 40	1,800		\$ 72,000	\$ -	\$ 72,000	8" Depth
2.3	Subgrade Preparation, 12" Depth	SY	\$ 6	18,100		\$ 108,600	\$ -	\$ 108,600	
2.4	Subbase, Modified, 12" Depth	SY	\$ 30	18,100		\$ 543,000	\$ -	\$ 543,000	
2.5	Compaction Testing	LS	\$ 30,000	0.9	0.1	\$ 27,000	\$ 3,000	\$ 30,000	
<b>SEWERS AND DRAINS</b>									
4.1	Sanitary Sewer, Trenched (8" Diameter)	(1) LF	\$ 125		1,800	\$ -	\$ 225,000	\$ 225,000	Assumes all existing sanitary sewer will be replaced
4.2	Sanitary Sewer, Trenched (15" Diameter)	LF	\$ 200		350	\$ -	\$ 70,000	\$ 70,000	For SE 3rd St Crossing
4.3	Sanitary Sewer Services, Remove and Replace	EA	\$ 5,000		32	\$ -	\$ 160,000	\$ 160,000	
4.4	Storm Sewer, Trenched (15"-24" Diameter)	LF	\$ 125	500		\$ 62,500	\$ -	\$ 62,500	Assumes all existing storm sewer will be replaced
4.5	Storm Sewer, Trenched (24"-42" Diameter)	LF	\$ 200	1,000		\$ 200,000	\$ -	\$ 200,000	Assumes all existing storm sewer will be replaced
4.7	Storm Sewer, Trenched (> 42" Diameter)	LF	\$ 300	150		\$ 45,000	\$ -	\$ 45,000	Assumes all existing storm sewer will be replaced
4.8	Subdrain, HDPE, Case C, 6" Diameter	LF	\$ 25	3,900		\$ 97,500	\$ -	\$ 97,500	
4.9	Subdrain Outlets and Connections, to Structure	EA	\$ 600	44		\$ 26,400	\$ -	\$ 26,400	
4.10	Sanitary Sewer Removals	LF	\$ 30		2,040	\$ -	\$ 61,200	\$ 61,200	Includes main and services
4.11	Storm Sewer Removals	LF	\$ 25	2,100		\$ 52,500	\$ -	\$ 52,500	
<b>WATERMAIN AND APPURTENANCES</b>									
5.1	Fire Hydrant Assembly	EA	\$ 8,000		3	\$ -	\$ 24,000	\$ 24,000	
5.2	Gate Valve, 16" Dia.	EA	\$ 15,000		7	\$ -	\$ 105,000	\$ 105,000	
5.3	Water Main, Trenched, PVC, < 12 In. Dia.	LF	\$ 110		360	\$ -	\$ 39,600	\$ 39,600	Includes fittings, connections and services
5.4	Water Main, Trenched, PVC, 16 In. Dia.	(2) LF	\$ 160		1,000	\$ -	\$ 160,000	\$ 160,000	Includes fittings, connections and services
5.5	Water Main Removals	LF	\$ 20		1,360	\$ -	\$ 27,200	\$ 27,200	Includes fittings, connections and services
5.6	Fire Hydrant & Water MH Removals	EA	\$ 1,500		3	\$ -	\$ 4,500	\$ 4,500	
<b>STRUCTURES FOR SANITARY AND STORM</b>									
6.1	Manhole, San. (48"-72" Diameter)	EA	\$ 10,000		7	\$ -	\$ 70,000	\$ 70,000	
6.2	Manhole, SW-401 (48"-72" Diameter)	EA	\$ 8,500		4	\$ -	\$ 34,000	\$ 34,000	
6.3	Intake, SW-505	EA	\$ 7,000		8	\$ -	\$ 56,000	\$ 56,000	
6.4	Intake, SW-506	EA	\$ 9,000		8	\$ -	\$ 72,000	\$ 72,000	
6.5	Adjustment of Fixtures	EA	\$ 1,500		5	\$ -	\$ 7,500	\$ 7,500	
6.6	Remove Storm Manholes	EA	\$ 2,000		7	\$ -	\$ 14,000	\$ 14,000	
6.7	Remove Sanitary Manholes	EA	\$ 3,000		4	\$ -	\$ 12,000	\$ 12,000	
6.8	Remove Intake	EA	\$ 1,500		8	\$ -	\$ 12,000	\$ 12,000	
<b>STREETS AND RELATED WORK</b>									
7.1	Pavement, PCC, 10" Depth	SY	\$ 100	13,800		\$ 1,380,000	\$ -	\$ 1,380,000	Main road
7.2	Pavement, PCC, 8" Depth	SY	\$ 95	1,200		\$ 114,000	\$ -	\$ 114,000	Sideroads
7.3	Concrete Median, 6" Depth, Integral Raised	SY	\$ 110	600		\$ 66,000	\$ -	\$ 66,000	
7.4	Full Depth Patches	SY	\$ 150	500		\$ 75,000	\$ -	\$ 75,000	For intersection and median tie-ins
7.5	Sidewalk, PCC, 6" Depth, 8' Width	SY	\$ 60	1,600		\$ 96,000	\$ -	\$ 96,000	Westside
7.6	Sidewalk, PCC, 5" Depth, 5' Width	SY	\$ 50	1,025		\$ 51,250	\$ -	\$ 51,250	Eastside
7.7	Drive & Parking Lots, PCC	SY	\$ 75	2,100		\$ 157,500	\$ -	\$ 157,500	Drive Approach & Parking Lot Replacements
7.8	Removal of Sidewalk, Driveways, & Parking Lots	SY	\$ 10	5,200		\$ 52,000	\$ -	\$ 52,000	
7.9	Median Removal	SY	\$ 20	200		\$ 4,000	\$ -	\$ 4,000	
7.10	Pavement Removal	SY	\$ 14	12,550		\$ 175,700	\$ -	\$ 175,700	
<b>TRAFFIC CONTROL</b>									
8.1	Temporary Traffic Signal	EA	\$ 15,000		2	\$ -	\$ 30,000	\$ 30,000	
8.2	Traffic Signals Replacement	EA	\$ 400,000		2	\$ -	\$ 800,000	\$ 800,000	SW 1st & 3rd St. (include removals)
8.3	Painted Pavement Markings, Durable	LS	\$ 15,000		1	\$ -	\$ 15,000	\$ 15,000	Includes Lines & Symbols
8.4	Temporary Traffic Control (5%)	LS	\$ 325,000		0.9	\$ 292,500	\$ 32,500	\$ 325,000	TLSS, PDMS, TC, and TBR included.
8.5	Signing	LS	\$ 40,000		1	\$ -	\$ 40,000	\$ 40,000	
<b>SITE WORK AND LANDSCAPING</b>									
9.1	Surface Restoration (Seeding)	AC	\$ 5,000		1.2	\$ -	\$ 6,000	\$ 6,000	
9.2	Erosion Control (2%)	LS	\$ 125,000		0.9	\$ 112,500	\$ 12,500	\$ 125,000	
<b>MISCELLANEOUS</b>									
11.1	Mobilization (8%)	LS	\$ 480,000		0.9	\$ 432,000	\$ 48,000	\$ 480,000	Includes staging costs
Subtotal:						\$ 5,602,000	\$ 1,055,000	\$ 6,657,000	Rounded
Contingency (20%):						\$ 1,121,000	\$ 211,000	\$ 1,332,000	Rounded
(3) CONSTRUCTION TOTAL:						\$ 6,723,000	\$ 1,266,000	\$ 7,989,000	

**Notes:**

(1) A new 8" sanitary sewer main will replace the existing main along S Ankeny Blvd from 1st St to Peterson Dr.

(2) 16" Water Main is proposed between SE 3rd Street and the north side of Ordinance Road. This Project Phase will include the water main between SE 3rd St and Peterson Dr.

(3) Based on December 2022 dollars. Other costs anticipated with this project but not identified in this estimate are: preliminary engineering, property acquisition, construction engineering, street lighting, possible joint utility trench, possible MidAm underground conversion, and construction inflation.



Mainline Jointing:  
 Transverse joints: CD at 17' spacing  
 Longitudinal joint: L-2

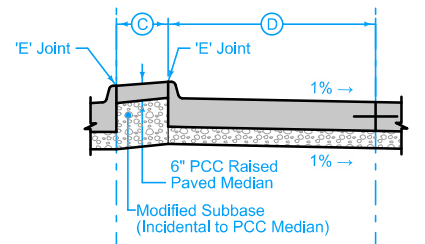
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324+75.45	336+25.00

4DP\_Raised\_Out\_04-21-20

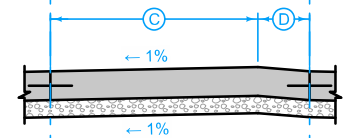
BEGIN STATION	END STATION	(A) Feet	(B) Feet
324+75.45	327+00.00	0 - 7.5	0 - 7.5
327+00.00	335+80.00	7.5	7.5
335+80.00	336+25.00	7.5 - 9.0	7.5 - 9.0

Mainline Jointing:  
 Transverse joints: CD at 17' spacing  
 Longitudinal joint: L-2

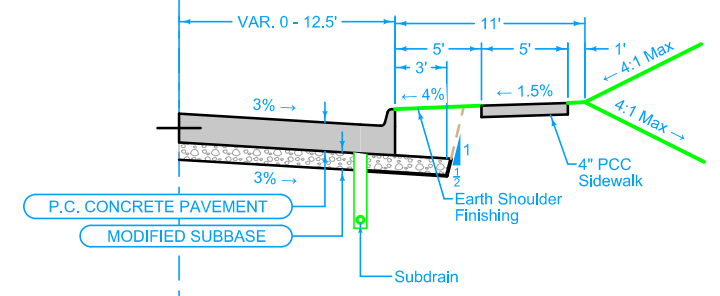
BEGIN STATION	END STATION
324+75.45	336+25.00



BEGIN STATION	END STATION	(C) Feet	(D) Feet
332+07.00	334+90.00	15	0
334+90.00	336+25.00	15-3	0-15



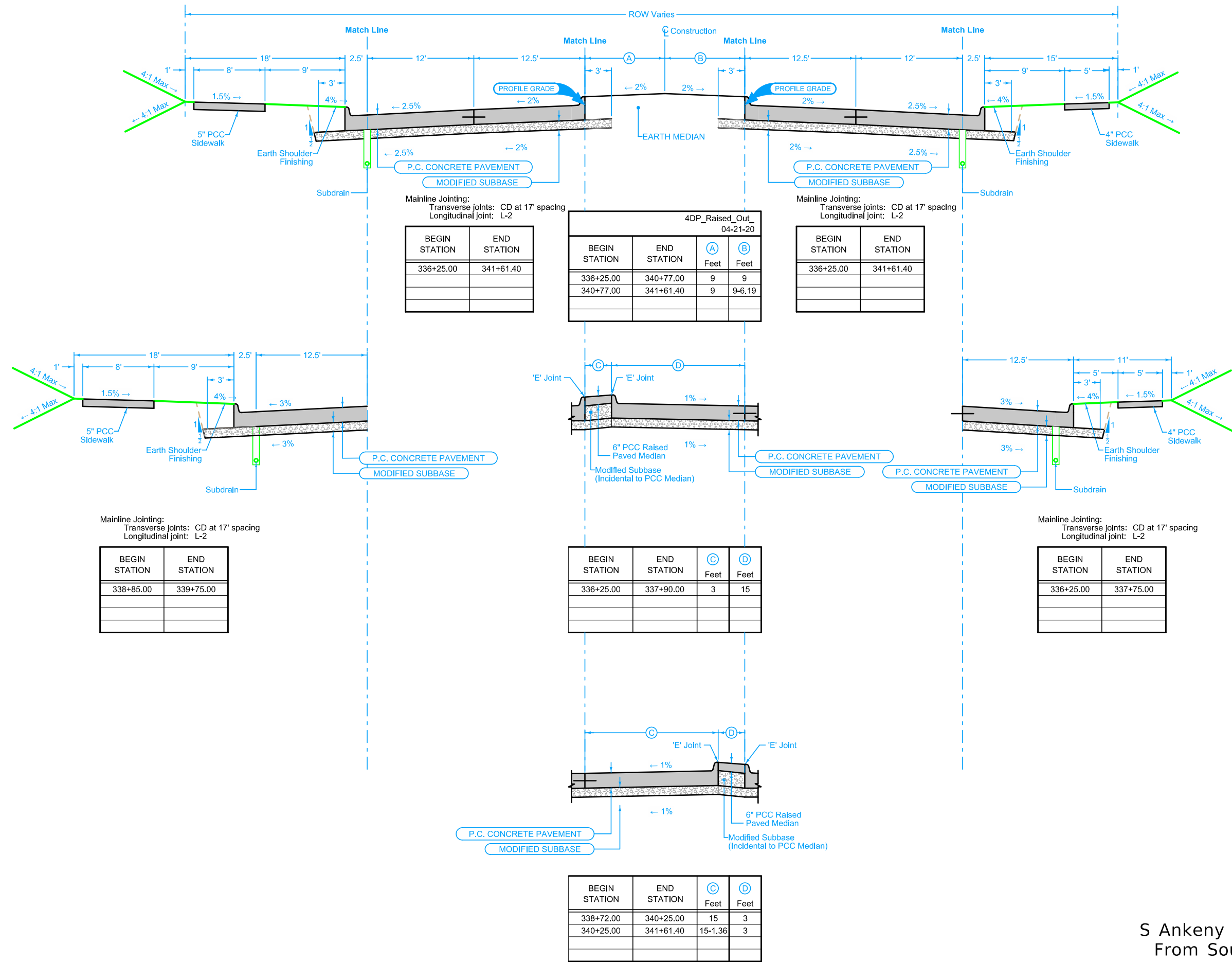
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329+89.00	330+25.00	12	3
330+25.00	331+45.00	12-0	3-15
331+45.00	332+07.00	7.5	7.5



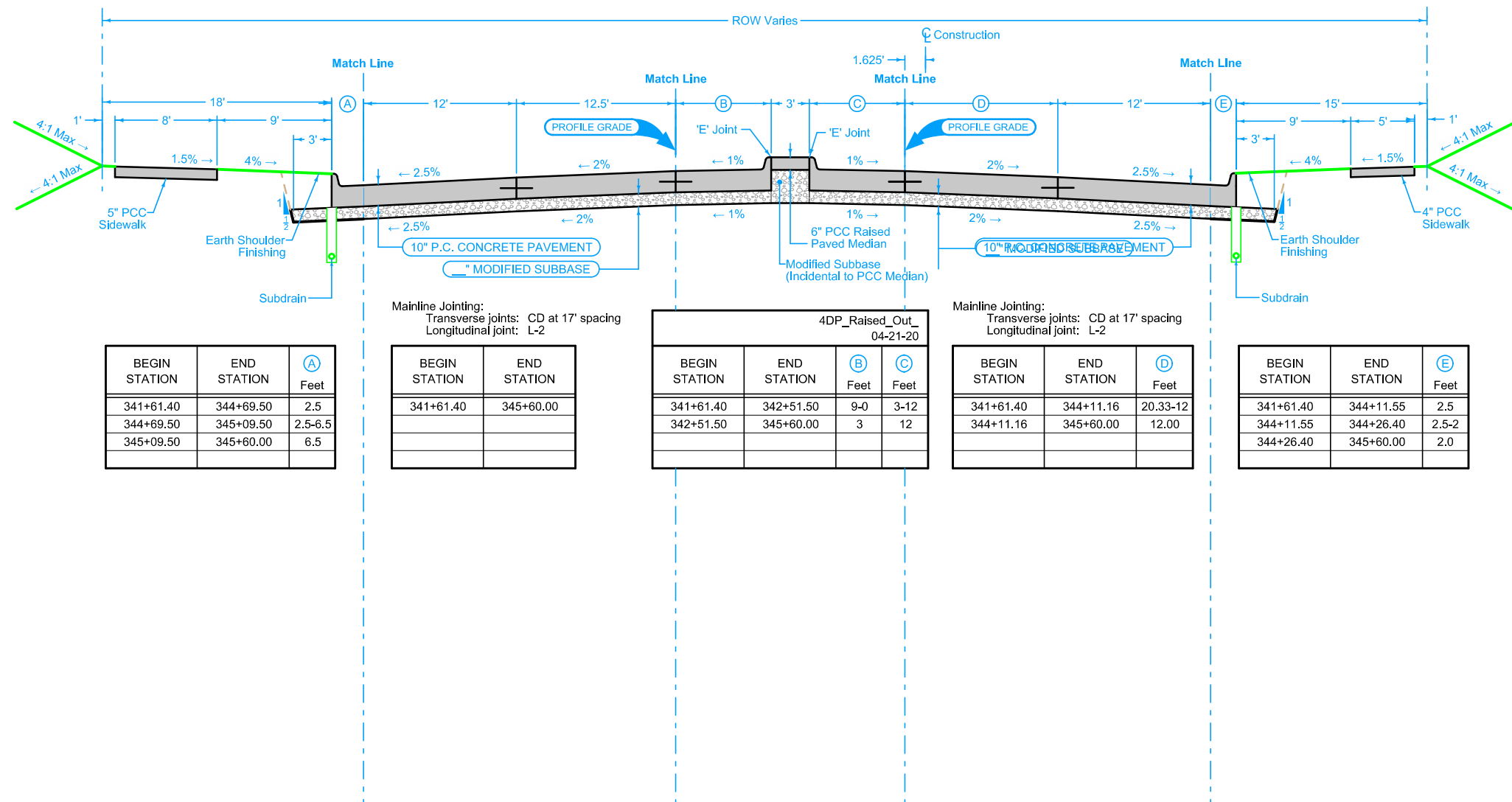
Mainline Jointing:  
 Transverse joints: CD at 17' spacing  
 Longitudinal joint: L-2

BEGIN STATION	END STATION
324+90.00	328+25.00
335+10.00	336+25.00

S Ankeny Boulevard (US 69)  
 From SE Peterson Drive  
 to South of 3rd Street



S Ankeny Boulevard (US 69)  
 From South of 3rd Street  
 to South of 2nd Street Intersection



BEGIN STATION	END STATION	(A) Feet
341+61.40	344+69.50	2.5
344+69.50	345+09.50	2.5-6.5
345+09.50	345+60.00	6.5

Mainline Jointing:  
 Transverse joints: CD at 17' spacing  
 Longitudinal joint: L-2

BEGIN STATION	END STATION
341+61.40	345+60.00

4DP\_Raised\_Out\_  
 04-21-20

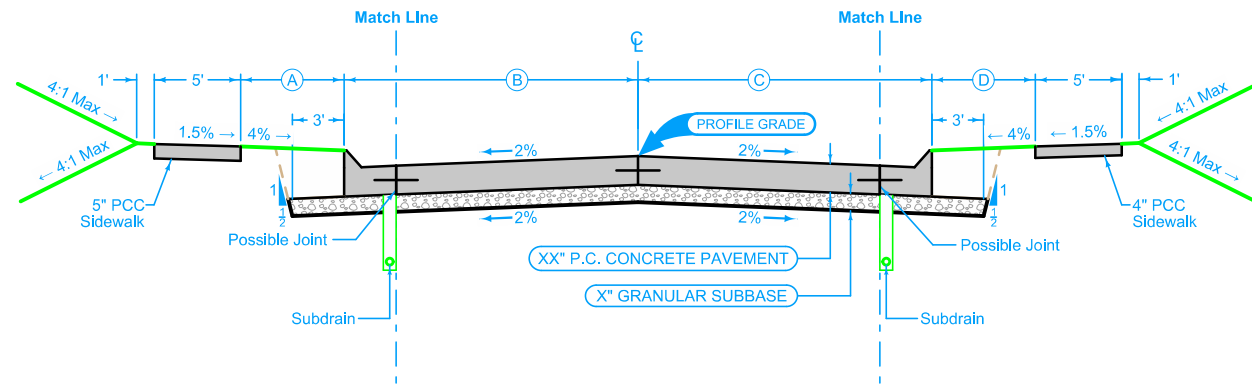
BEGIN STATION	END STATION	(B) Feet	(C) Feet
341+61.40	342+51.50	9-0	3-12
342+51.50	345+60.00	3	12

Mainline Jointing:  
 Transverse joints: CD at 17' spacing  
 Longitudinal joint: L-2

BEGIN STATION	END STATION	(D) Feet
341+61.40	344+11.16	20.33-12
344+11.16	345+60.00	12.00

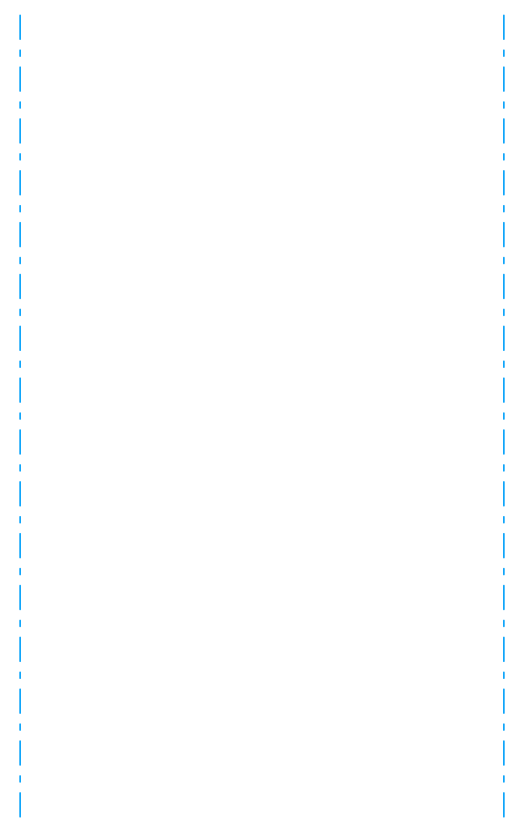
BEGIN STATION	END STATION	(E) Feet
341+61.40	344+11.55	2.5
344+11.55	344+26.40	2.5-2
344+26.40	345+60.00	2.0

S Ankeny Boulevard (US 69)  
 From South of SW 2nd Street  
 to 1st Street Intersection



4DP\_Raised\_Crowned\_04-21-20

ROAD NAME	BEGIN STATION	END STATION	A Feet	B Feet	C Feet	D Feet
SE PETERSON DRIVE	32844+34.50	32845+04.50	6.0	18.5	18.5	6.0
SW 3RD STREET	98+34.05	99+69.05	12.16	15.5	25.5	0.0
SE 3RD STREET	100+41.05	101+21.05	5.0	15.5	25.5	5.0
SW 2ND STREET	34227+43.37	34228+05.44	4.0	15.5	15.5	8.0



Side Roads

### SURVEY SYMBOLS

- Interstate Highway Symbol
- U.S. Highway Symbol
- Iowa Highway Symbol
- County Road Highway Symbol
- Evergreen Tree
- Deciduous Tree
- Fruit Tree
- Shrub (Bushes)
- Timber
- Hedge
- Stump
- Swamp
- Rock Outcrop
- Broken Concrete
- Revetment (Rip Rap)
- Cemetery
- Grave
- Cave
- Sink Hole
- Board Fence
- Chain Link or Security Fence
- Wire Fence
- Terrace
- Earth Dam or Dike (Existing)
- Tile Outlet
- Edge of Water
- Existing Drainage
- Right of Way Rail or Lot Corner
- Concrete Monument
- Well
- Windmill
- Beehive Intake
- Existing Intake
- Existing Utility Access (Manhole)
- Fire Hydrant
- Water Hydrant (Rural)

- Septic Tank
- Cistern
- L.P. Gas Tank (No Footing)
- Underground Storage Tank
- Latrine
- Satellite TV Dish
- Water Hook Up
- Radio Tower
- Tower Anchor
- Guardrail (Beam or Cable)
- Guard Post (one or two)
- Guard Post (over two)
- Filler Pipe
- Gas Valve
- Water Valve
- Speed Limit Sign
- Mile Marker Post
- Sign
- Traffic Signal Control Box
- Rail Road Signal Control Box
- Telephone Switch Box
- Electric Box

### UTILITY LEGEND

- SAN. City of Ankeny
- SAN. 2 City of Ankeny
- W City of Ankeny
- W2 City of Ankeny
- E2 City of Ankeny Traffic
- F04 Ankeny Community School
- F07 Aureon
- F0 Centurylink
- T1 Centurylink
- TV Mediacom
- F05 Metronet (Metro Fibernet)
- E1 MidAmerican - Electric
- G MidAmerican - Gas
- F02 Unite Private Networks
- F06 Verizon (MCI)

### 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

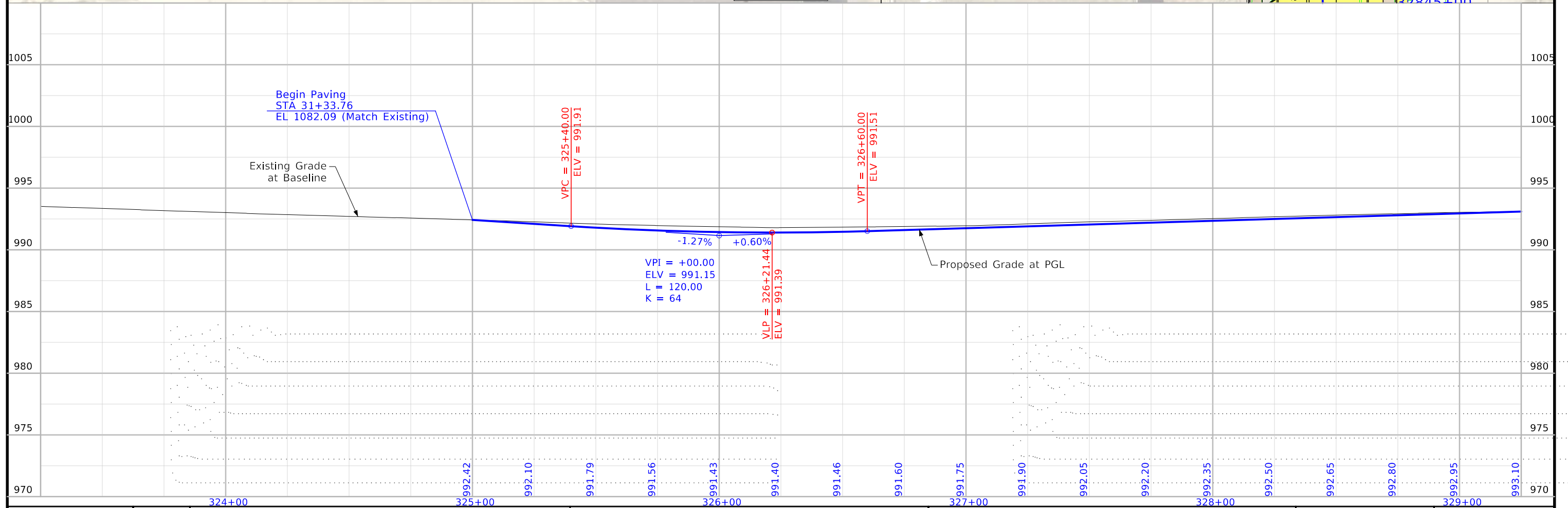
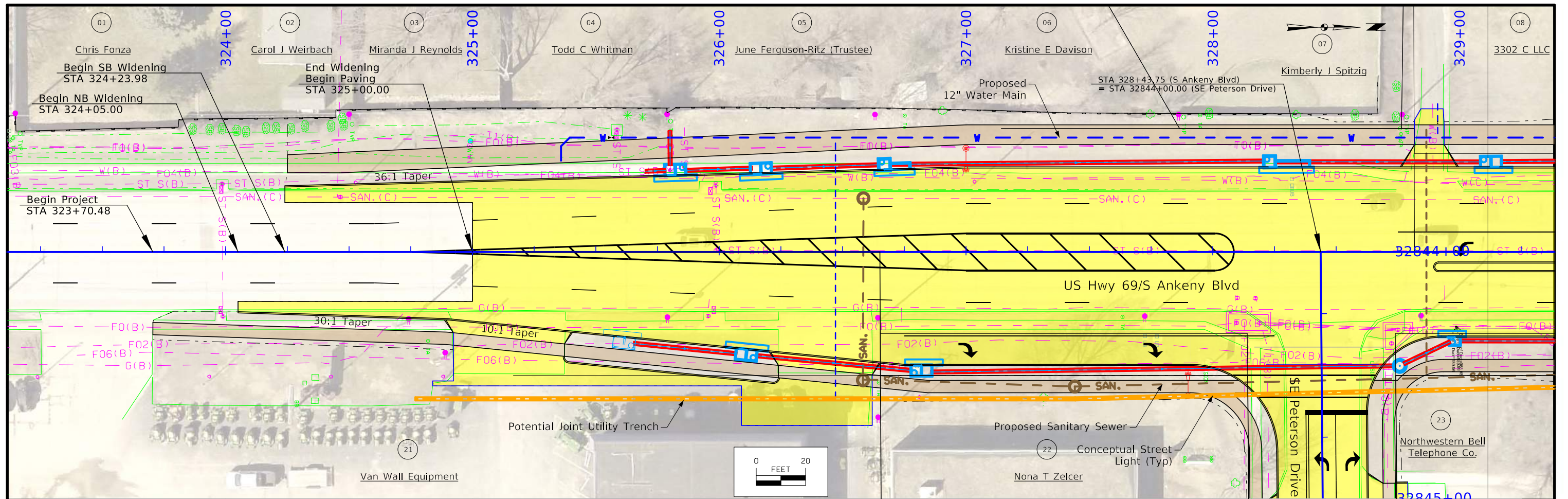
- Reference Point
- Station
- Survey Line
- Section Corner
- Ground Line Intercept
- Saw Cut
- Guardrail
- Trench Drain
- HighTension Cable Guardrail
- Sheet Pile
- Pavement Removal
- Clearing & Grubbing Area

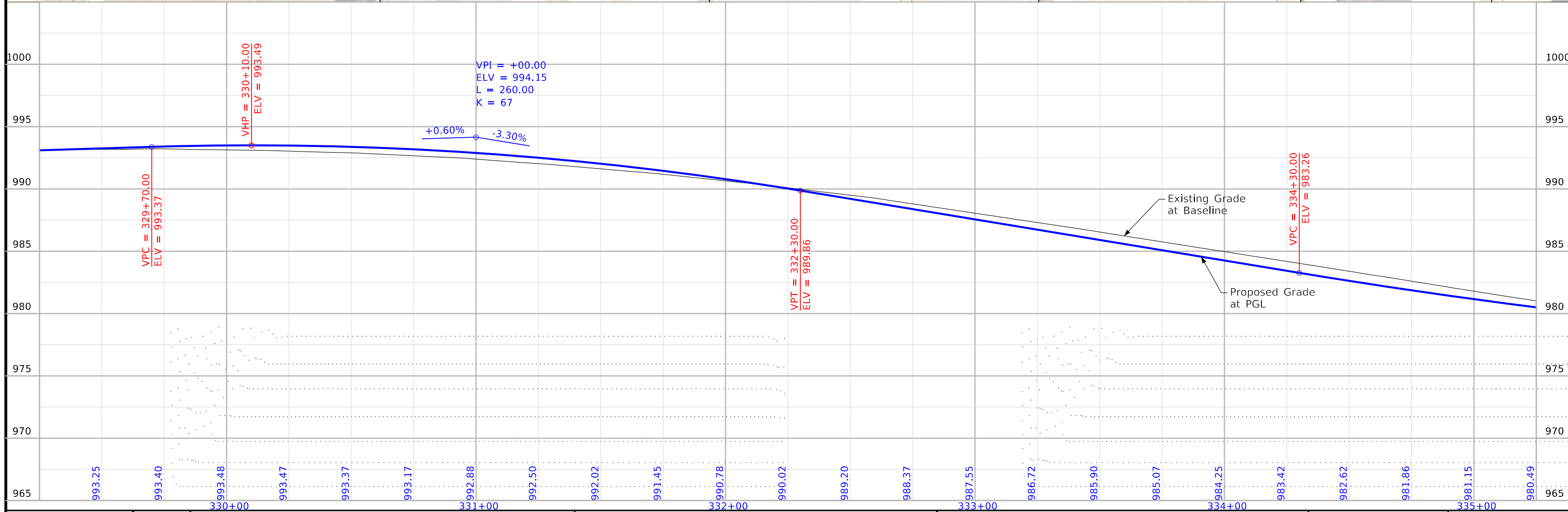
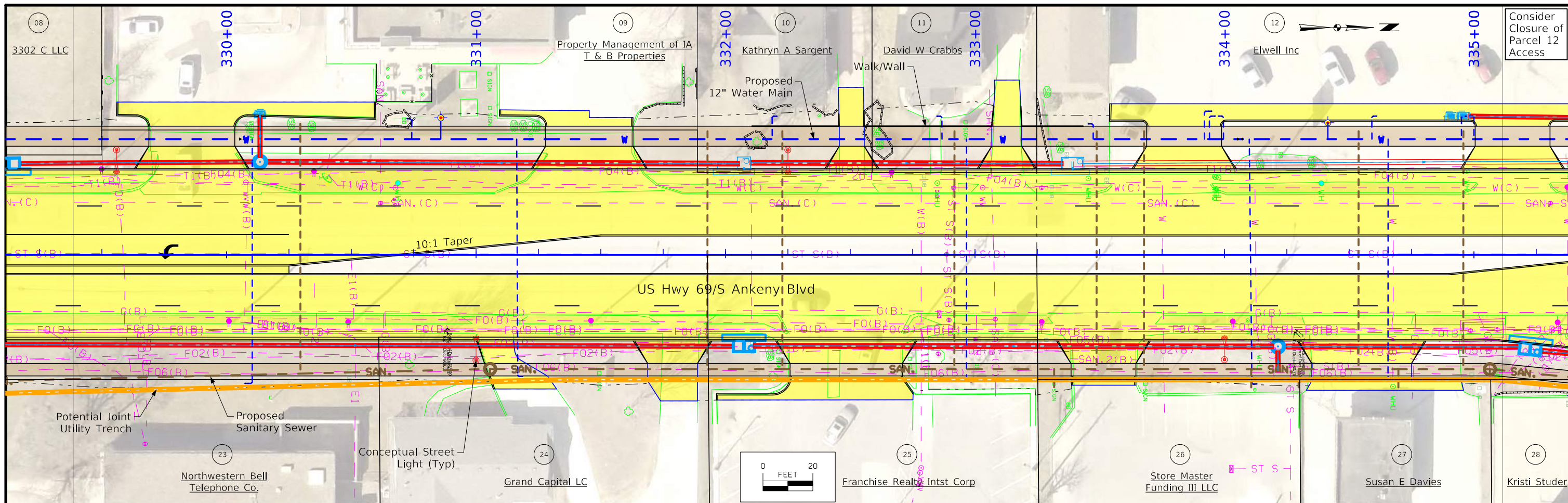
### RIGHT-OF-WAY LEGEND

- Proposed Right-of-Way
- Existing Right of Way
- Existing and Proposed Right-of-Way
- Easement and Existing Right-of-Way
- Easement (Temporary)
- Easement
- Access Control
- Property Line

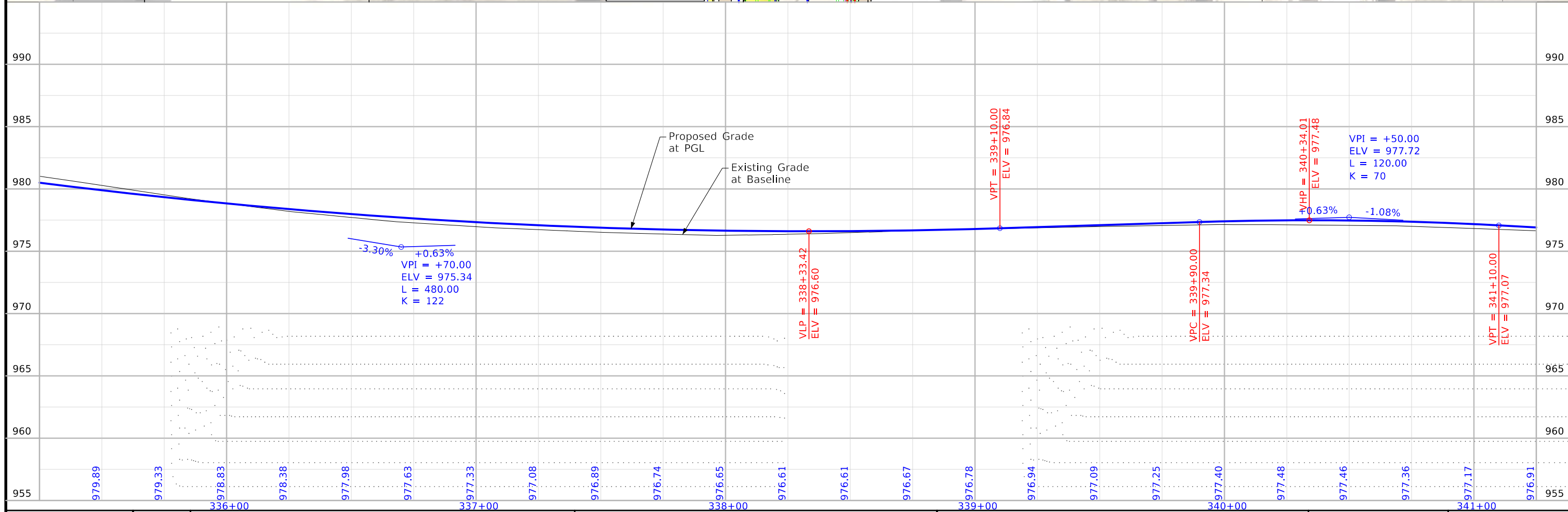
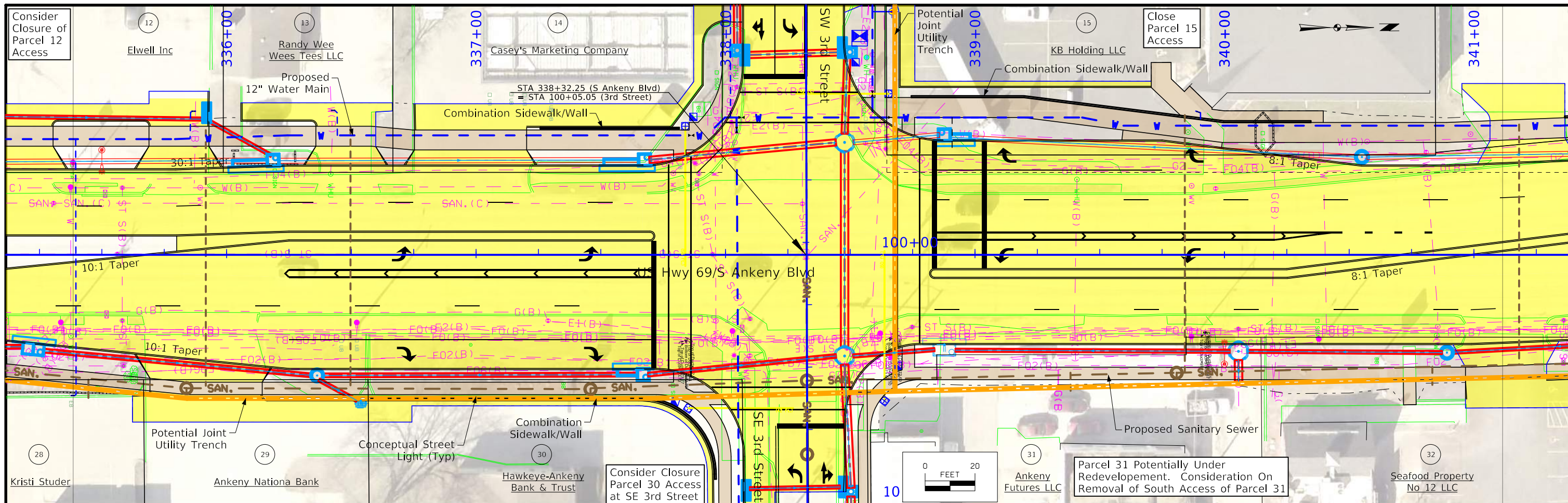
## PLAN AND PROFILE LEGEND AND SYMBOL INFORMATION SHEET

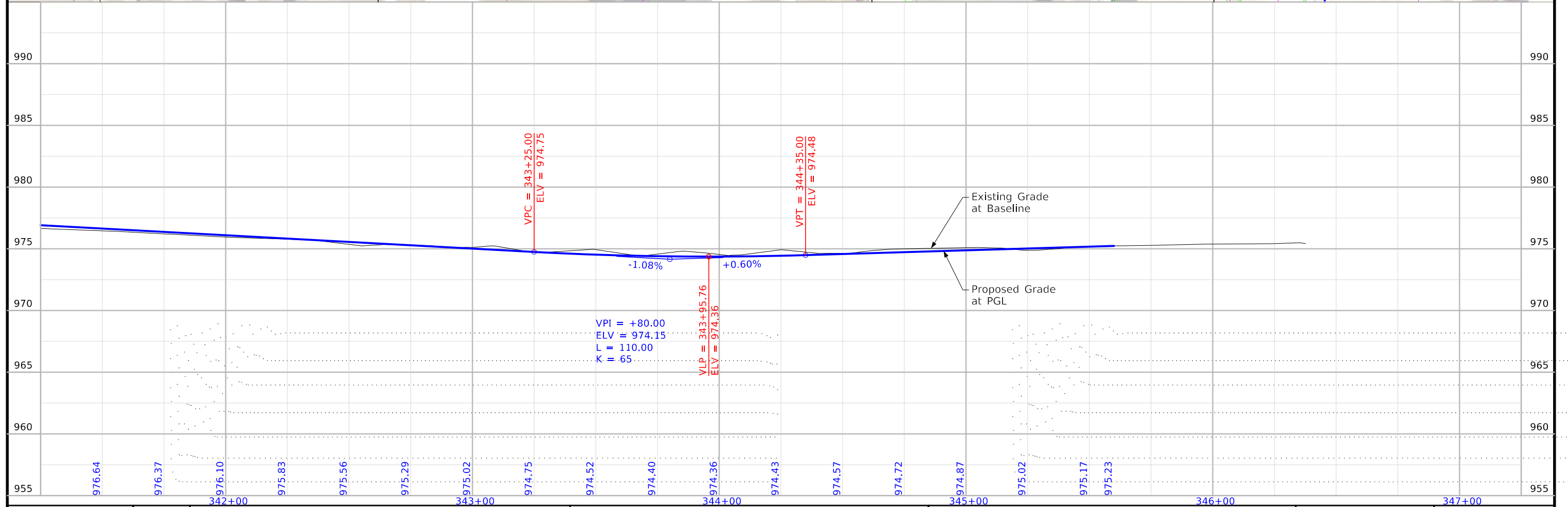
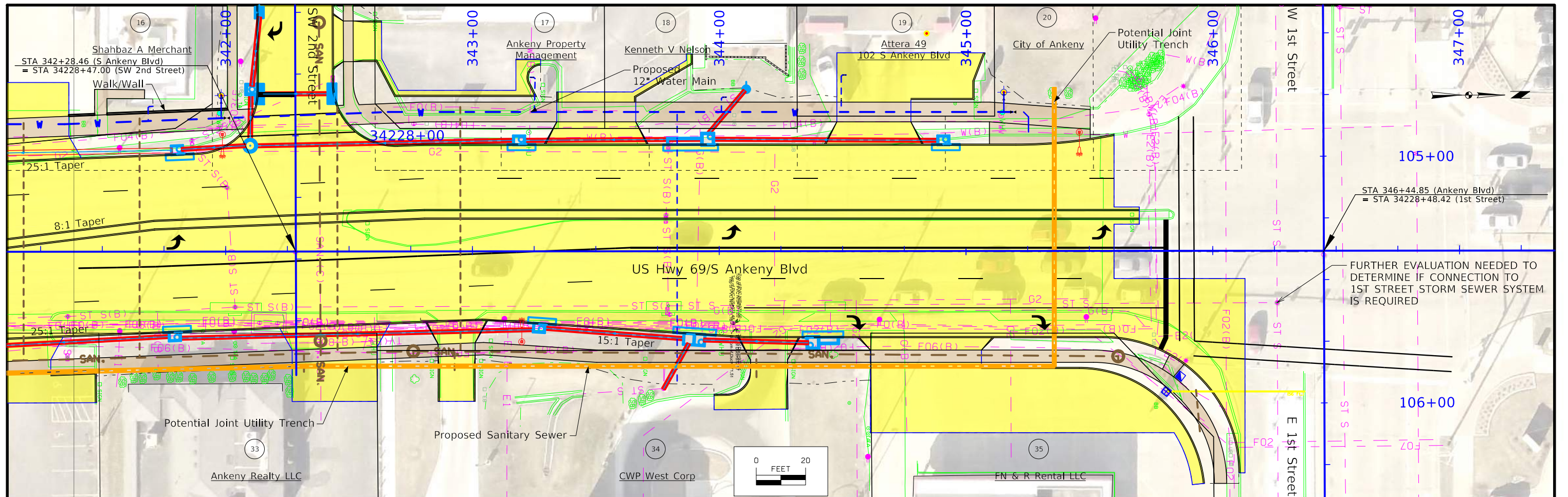
(COVERS SHEET SERIES D, E, F, & K)

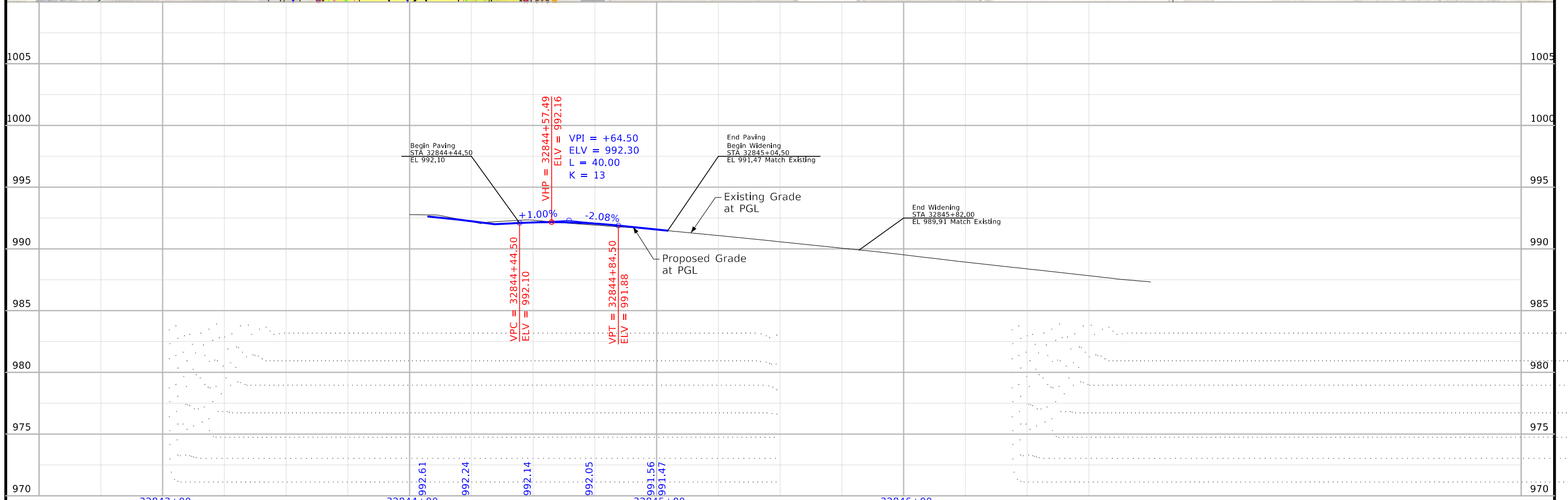
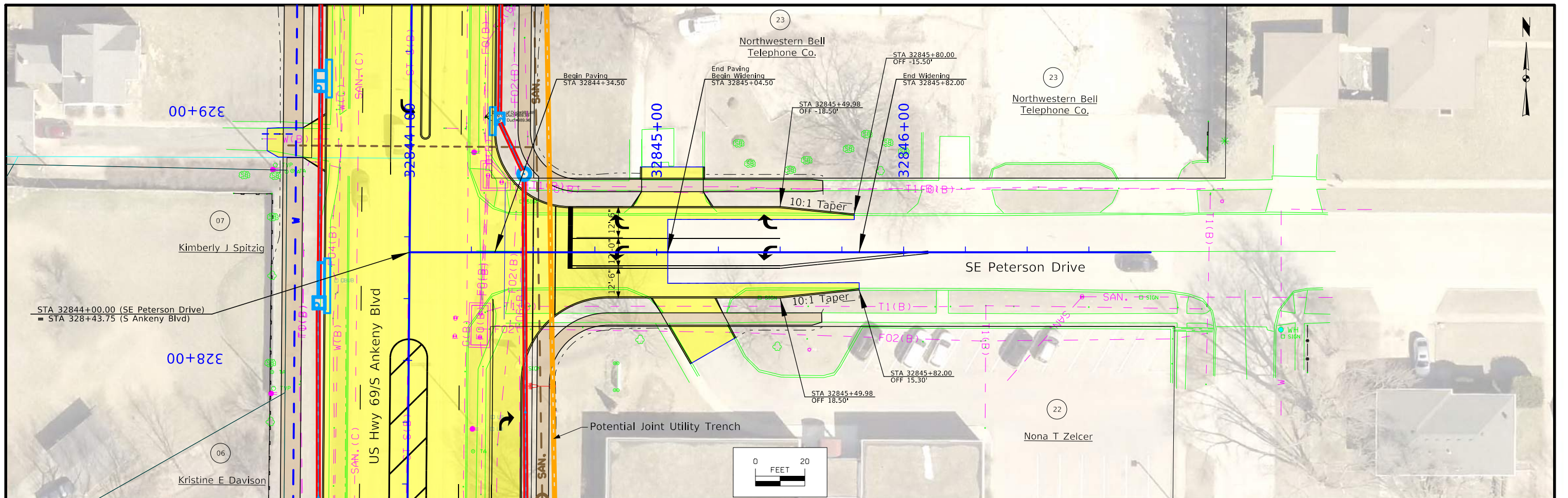




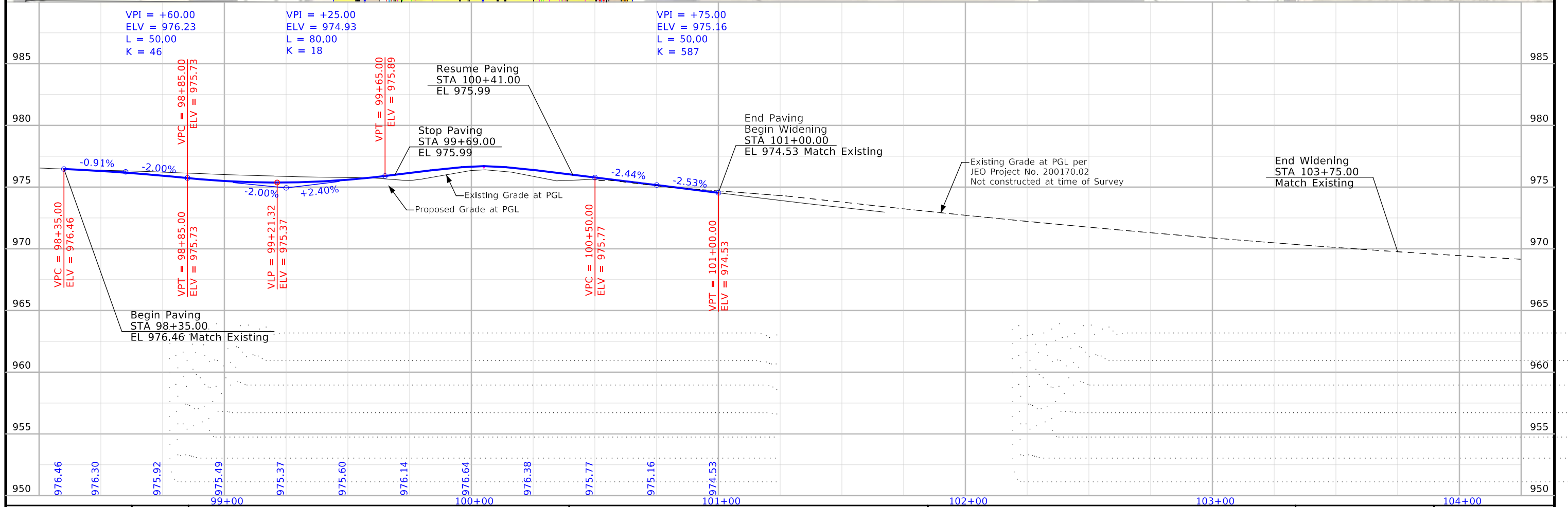
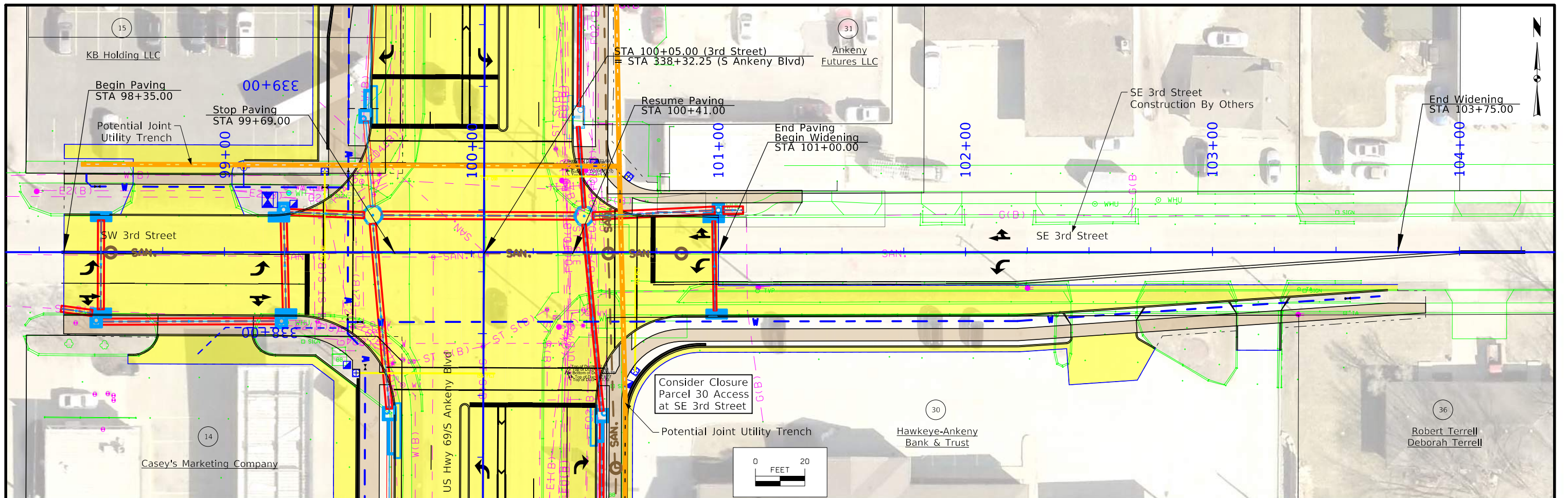


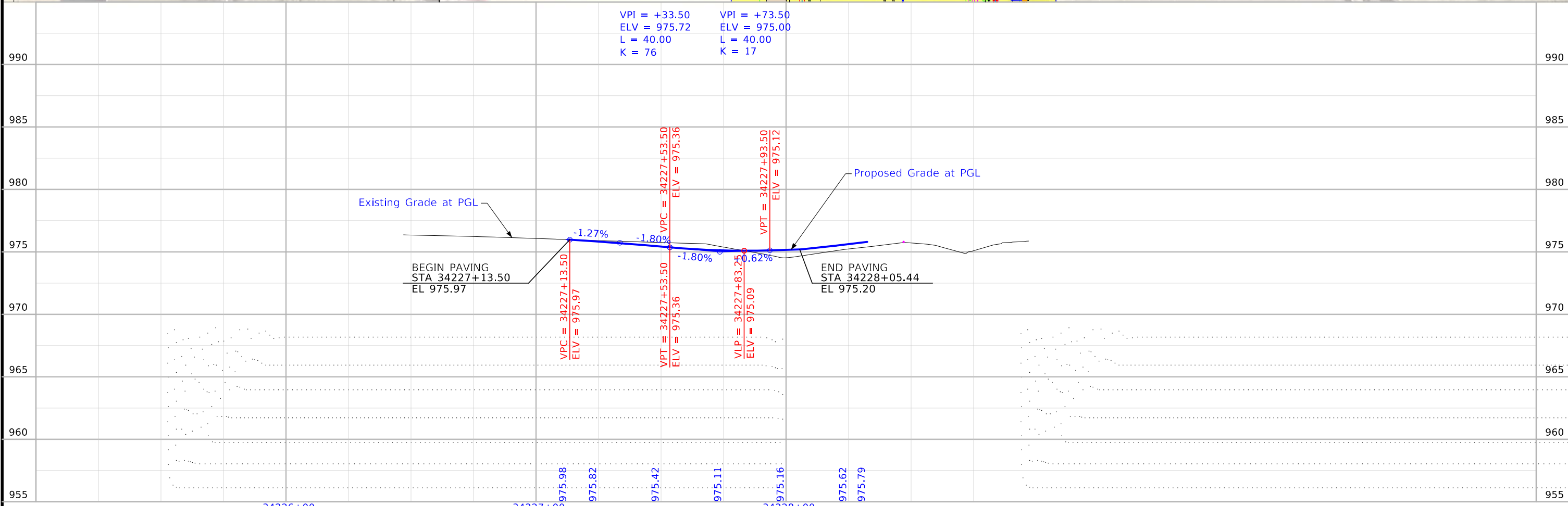
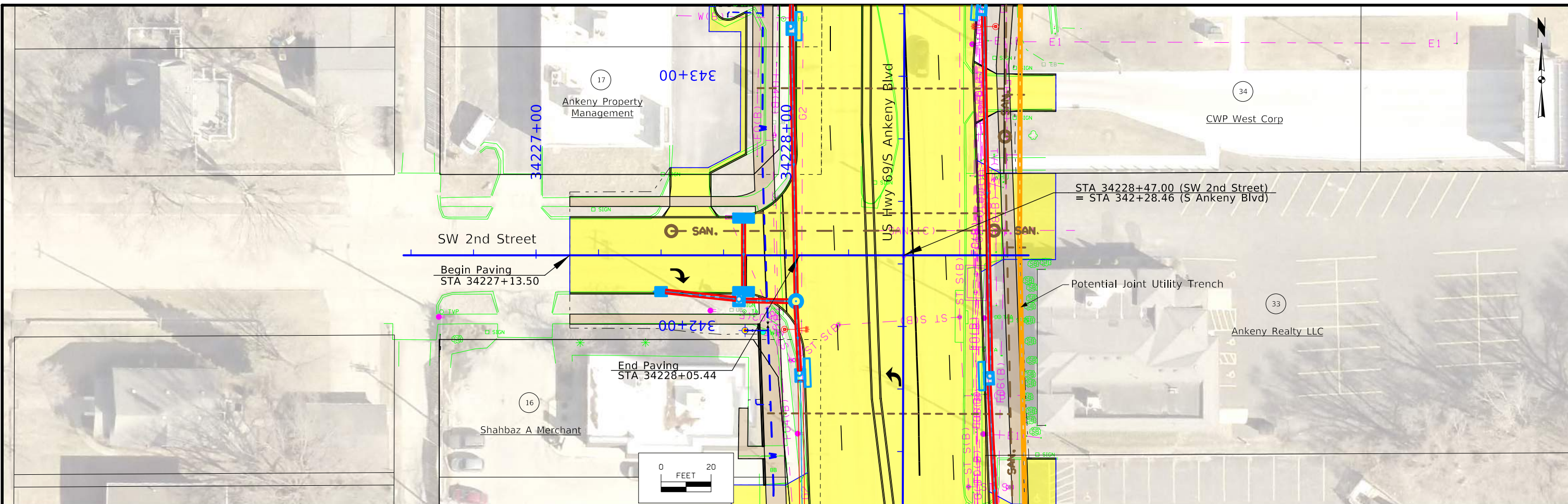






FILE NO.	ENGLISH	DESIGN TEAM Snyder & Associates	Polk COUNTY	PROJECT NUMBER NHSX-069-4(136)--3H-77	SHEET NUMBER E.1
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## Survey Information

**City of Ankeny - POLK County**  
**NHSX-069-4(136)--3H-77**  
**South Ankeny Blvd Improvements**  
**SE Peterson Dr. To 1<sup>st</sup> Street**  
**PIN 20-77-069-010**  
**SAP# \_\_\_\_\_**

### Party Personnel

Terry Coady- Survey Manager/PLS  
Adam Catrenich- Survey Party Chief  
Jason Pool- Survey Office Technician

### Date(s) of Survey

Begin Date 5/10/2023  
End Date 9/21/2023

### General Information

Measurement units for this survey are US survey feet. This survey is for Preliminary Engineering Survey for the proposed improvements to South Ankeny Boulevard (Hwy 69) in Ankeny, Iowa.

### Vertical Control

Vertical datum for this survey is relative to NAVD88 Geoid 12b. Vertical datum originated from project F-69-4(1)20-77 no longer exists. Additional primary control points elevations were added. Each primary control was acquired by one 20 minute observation in the AM and one 20 minute observation in the PM and then averaged.

### Horizontal Control

Measurement units for this survey are US Survey Feet.

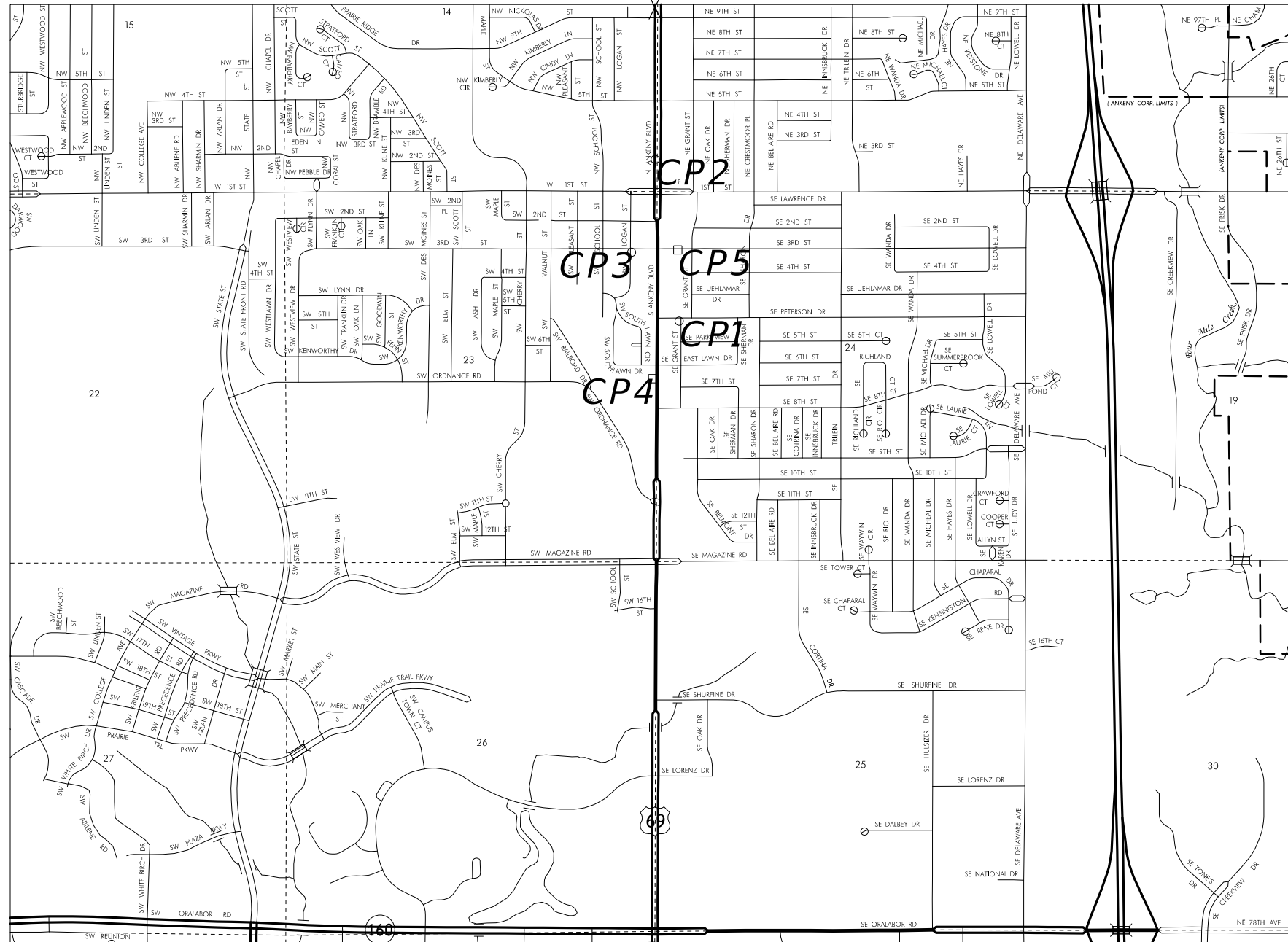
The project coordinate system is the Iowa Regional Coordinate System, Zone 8 Ames – Des Moines. The datum for the IaRTN is currently NAD83(2011)(Epoch 2010.000). Originally the IaRTN was on NAD83(CORS96)(Epoch 2002.0000), but switched over to NAD83(2011)(Epoch 2010.000) on January 7, 2013.

### Alignment Information

This horizontal alignment was provided by IDOT.

# 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) for EPOCH 2010.00 (IaRTN 2019 Adjustment) - Iowa RCS Zone 08 (U.S. Survey Foot)

VERT. DATUM: NAVD88 - Geoid Model: 2018u2 or 2018u3

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) for EPOCH 2010.00 (IaRTN 2019 Adjustment)  
 Ia. Regional Coordinate System Zone 08 (U.S. Survey Foot)

VERT. DATUM: NAVD88  
 Geoid Model: 2018u3 or 2018u2

Point Name	Northing	Easting	Elevation	Feature Definition	Description
CP1	7538104.29	18532050.52	988.02	CP	SET CUT "X" IN EAST BACK OF CURB PARKING LOT, 20 FT (+/-) WEST OF SE GRANT STREET, 20 FT (+/-) SOUTH OF SE PETERSON DRIVE, 10 FT (+/-) S OF NORTHEAST CORNER OF PARKING LOT, 75 FT (+/-) EAST OF BUILDING.
CP2	7540413.87	18531708.22	971.38	CP	SET MAG NAIL IN SOUTHWEST CORNER OF STORM SEWER STRUCTURE, WEST SIDE OF N. ANKENY BLVD., 30 FT (+/-) NORTH OF COMMERCIAL ENTRANCE, 425 FT (+/-) NORTH OF W. 1ST STREET, 225 FT (+/-) EAST OF MASSAGE ENVY COMMERCIAL BUILDING.
CP3	7539087.32	18531371.58	979.30	CP	SET CUT "X" IN EAST BACK OF CURB INTAKE AT SW LOGAN STREET, 40 FT (+/-) SOUTH OF SW 3RD STREET, 15 FT (+/-) SOUTH OF SIDEWALK, 350 FT (+/-) WEST OF S. ANKENY BLVD (HWY 69), 50 FT (+/-) WEST OF DYAMOND MEMORIAL.
CP4	7537281.85	18531672.76	996.69	FENO	SET FENO MONUMENT IN EXISTING RIGHT OF WAY JUST EAST OF 710 S. ANKENY BLVD MEADOW SPRINGS APPARTMENTS, 40 FT (+/-) WEST OF S. ANKENY BLVD (HWY 69), 25 FT (+/-) WEST OF SIDEWALK, 50 FT (+/-) NORTH OF APPARTMENTS ENTRANCE.
CP5	7539121.40	18532030.58	971.16	FENO	SET FENO MONUMENT IN EXISTING RIGHT OF WAY IN THE NORTHEAST PORTION OF 305 S. ANKENY BLVD BETWEEN THE TWO ENTRANCES TO THE PROPERTY, 5 FT (+/-) NORTH OF SIDEWALK, 15 FT (+/-) WEST OF FAR NORTHEAST ENTRANCE.



**TRAFFIC CONTROL PLAN**

1. Refer to following J-sheets for layouts of construction.
2. The Contractor shall coordinate traffic control with other projects in the area and special events.
3. Traffic control on this project shall be found in accordance with the current edition Manual of Uniform Traffic Control Devices (MUTCD) for the streets and highways as adopted by the Iowa Department of Transportation per 761 of the Iowa Administrative Code (IAC) Chapter 130.
4. Ingress and egress from the work area will be allowed only at locations specified in the contract documents or as approved by the Engineer. All truck hauling material to and from the work area shall display a 16-inch x 48-inch retro reflective sign with the legend "DO NOT FOLLOW INTO THE WORK AREA". The sign shall be orange with black lettering (4-inch height) and be comprised of Type VII sheeting.
5. All traffic control devices shall be furnished, erected, maintained, cleaned, and removed by the Contractor. All traffic control will remain the sole responsibility of the Contractor. The Contractor shall check traffic control devices daily and repair or replace damaged or misaligned devices promptly.
6. All post mounted signs shall be placed to provide a minimum of 2-foot clearance beyond the curb or edge of shoulder. All signs must be post mounted.
7. The location for storage of equipment by the Contractor during non-working hours shall be as approved by the Department. The Contractor will be responsible for securing a safe storage area for equipment and materials to be used on the project.
8. Proposed sign spacing may be modified as approved by the Department to meet existing field conditions or to prevent obstruction of the motorist's view of permanent signing.
9. The Contractor shall provide, prior to the start of construction, the name and 24-hour phone number of the Contractor's representative in charge of traffic control. Prompt response to traffic control related items is required.
10. Proposed changes in the traffic control plan shall be reviewed with the Department at least 48-hours before changes are made in the field.
11. Access for garbage, recycling, and postal service must be maintained at all times unless arranged otherwise by an agreement between the Contractor and property owner/business owner.
12. The Contractor shall communicate traffic control changes detailed in these plans with property owners/business owners along the project corridor at least two (2) weeks prior to changes.
13. The Contractor shall maintain access to all private residences and businesses at all times.
14. All temporary traffic WORK ZONE speed limit signage for US 69 (S Ankeny Blvd) shall be 25 MPH.

**STAGING NOTES**

The Contractor shall not start any work until after traffic control is in place and approved by the Department.

The Contractor is allowed to submit for review and approval a revised staging plan to the Department to meet the Contractor's construction schedule for specific items.

Utility companies will be relocating existing facilities with this project. The Contractor shall coordinate all construction with utility companies and their relocations and services. Contractor to protect and support existing utilities during construction.

Safety fence, signs, temporary delineators, drums, and barricades are considered incidental to the Traffic Control bid item.

Contractor to contact City of Ankeny a minimum of 10 days prior to implementing any traffic disruptions along US 69 or side streets

Contractor to contact the Department a minimum of 10 days prior to implementing any traffic disruptions along US 69.

Temporary material laydown and staging area shall be within the work area. No special staging area is available as a part of this Project. Contractor shall coordinate with adjacent property owners for any staging areas outside of established easements.

Contractor to provide all business directional / wayfinding signage during construction. Not all business directional / wayfinding signage is shown on the plans and additional singage may be required. Each business impacted by the construction shall have a wayfinding sign for each stage of construction.

Contractor to provide submittal of non-standard temporary traffic control signage for review and approval prior to fabrication.

Traffic control plans do not show all required signage. Contractor installation of traffic control to comply with Manual on Uniform Traffic Control Devices for Streets and Highways, as adopted by the Department per 761 of the Iowa Administrative Code (IAC), Chapter 130.

Pedestrian pathways shall be maintained or closed during construction. Type II or Type III closures are required when pathways are closed depending on width of pathway.

All detour signage shall be Type B font and of a size that is suitable for the posted speed limit at which the signs are placed.

**STAGE 0 TRAFFIC CONTROL & STAGING**  
**Public utilities**  
Perform water main, sanitary sewer, and storm sewer construction.  
Outside lane closures are allowed during this Stage.

- Perform this stage of work following Joint Utility Trench (JUT) construction (by others under a separate contract) completion and franchise utility relocation work to the JUT.
- Install traffic control for closure of outside lane of traffic along US 69 per Iowa DOT TC-419.
- Install temporary lane separator system (TLSS) along the centerline of US 69 within the limits of utility construction.
- Protect existing pavement along US 69.
- Maintain access to local properties and businesses at all times.

**STAGE 1 TRAFFIC CONTROL & STAGING**  
**Construction of new southbound lanes and west side streets.**  
Perform full depth saw cutting, remove the existing pavement, underground utilities, and permanent pavement per plans.

- Refer to other J-sheets for traffic control details and notes.
- Install TLSS through the entire project limits to prohibit left turns.
- Construct temporary signalization per plan.
- Close existing southbound lanes per plan.
- Close inside northbound lane per Iowa DOT TC-419.
- Shift southbound lane to existing inside northbound lane.
- Maintain access to local properties and businesses at all times.
- Prohibit left turns at SW 2nd Street, SE 3rd Street, Peterson Drive, SW Southland Drive, and SE East Lawn Drive.
- Close SW 3rd Street and provide detour.

**STAGE 2 TRAFFIC CONTROL & STAGING**  
**Construction of new northbound lanes and east side streets.**  
Perform full depth saw cutting, remove the existing pavement, underground utilities, and permanent pavement per plans.

- Refer to other J-sheets for traffic control details and notes.
- Install TLSS through the entire project limits to prohibit left turns.
- Construct temporary signalization per plan.
- Close existing northbound lanes per plan.
- Close inside southbound lane per Iowa DOT TC-419.
- Shift the northbound lane to the new inside southbound lane.
- Maintain access to local properties and businesses at all times.
- Prohibit left turns at SW 2nd Street, SW 3rd Street, and Peterson Drive.
- Close SE 3rd Street and Peterson Drive and provide detours.

**STAGE 3 TRAFFIC CONTROL & STAGING**  
**Construct concrete median along US 69.**










- Refer to other J-sheets for traffic control details and notes.
- Close inside southbound and northbound lanes per Iowa DOT TC-419.
- Open left turn lanes at intersections.
- Adjust traffic signalization per plans.



### 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

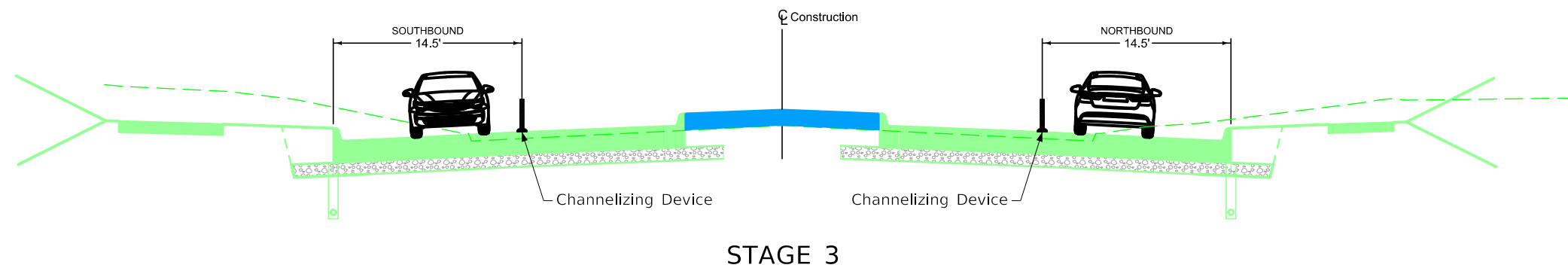
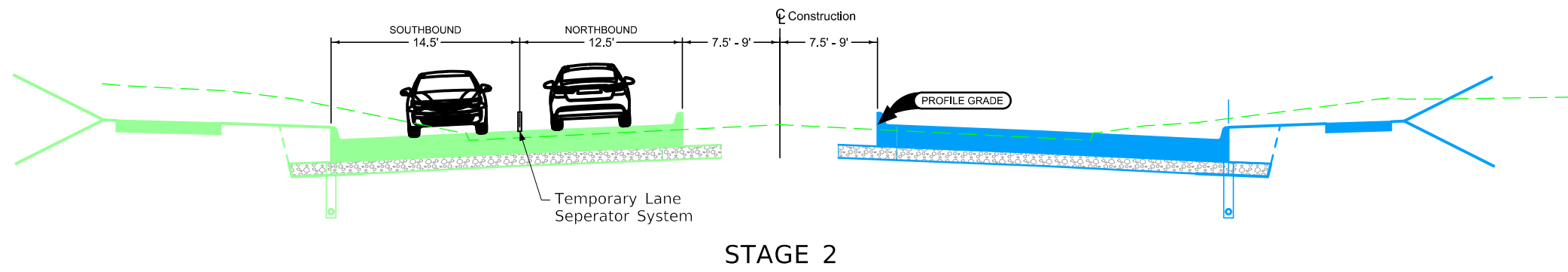
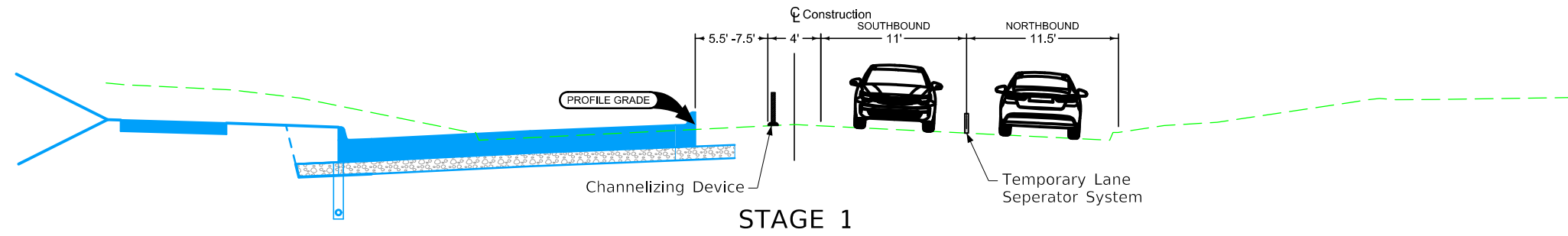
### PLAN VIEW PATTERN AND SYMBOL LEGEND OF TRAFFIC CONTROL AND STAGING SHEETS

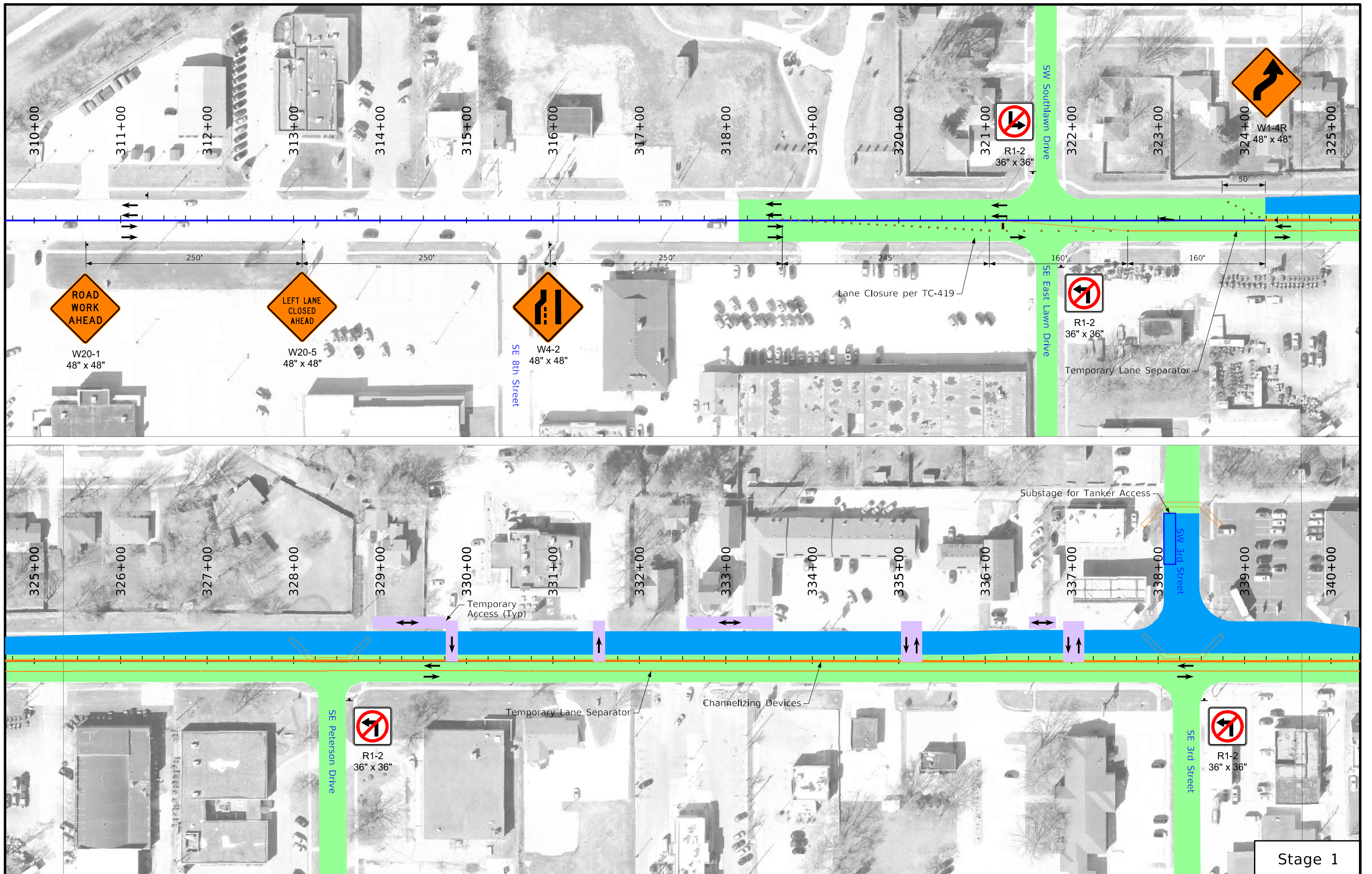
	Channelizing Device		Crash Cushion (Temp or Perm)
	Drum		Traffic Signal
	Temporary Lane Separator		Flagger
	Tubular Marker		Temporary Floodlighting
	Channelizer Marker		Traffic Sign
	Concrete Barrier Marker		Type III Barricade
	Delineator		Type A Warning Light
	Temporary Barrier Rail		Direction of Traffic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

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

## TRAFFIC CONTROL AND STAGING LEGEND AND SYMBOL INFORMATION SHEET

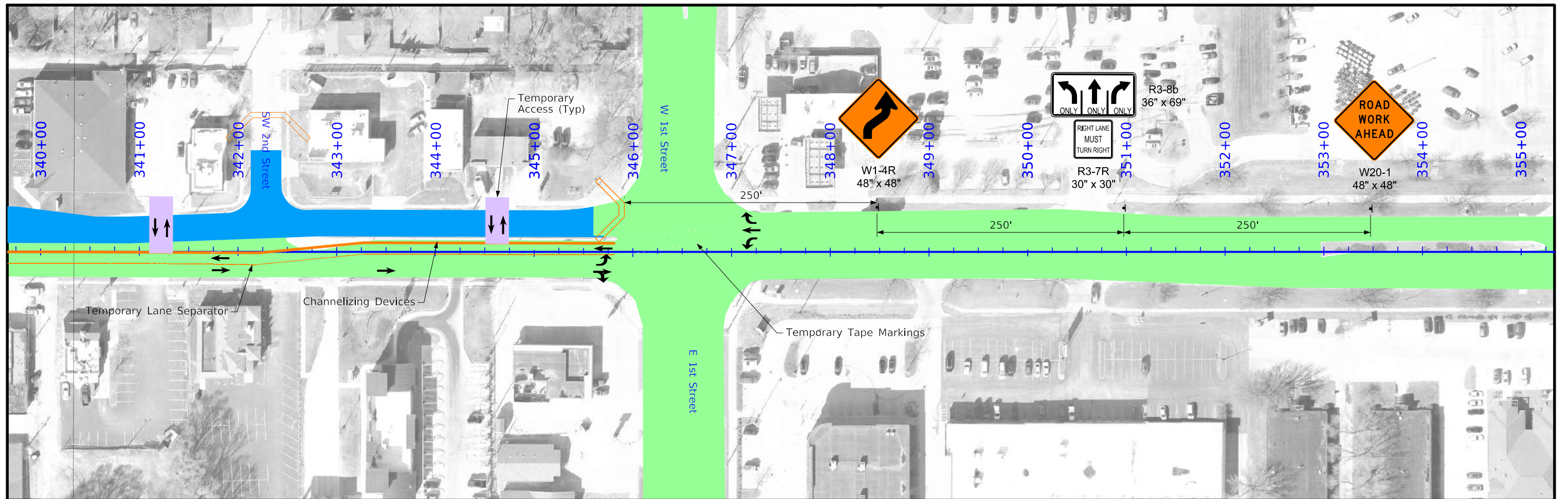
(COVERS SHEET SERIES J)



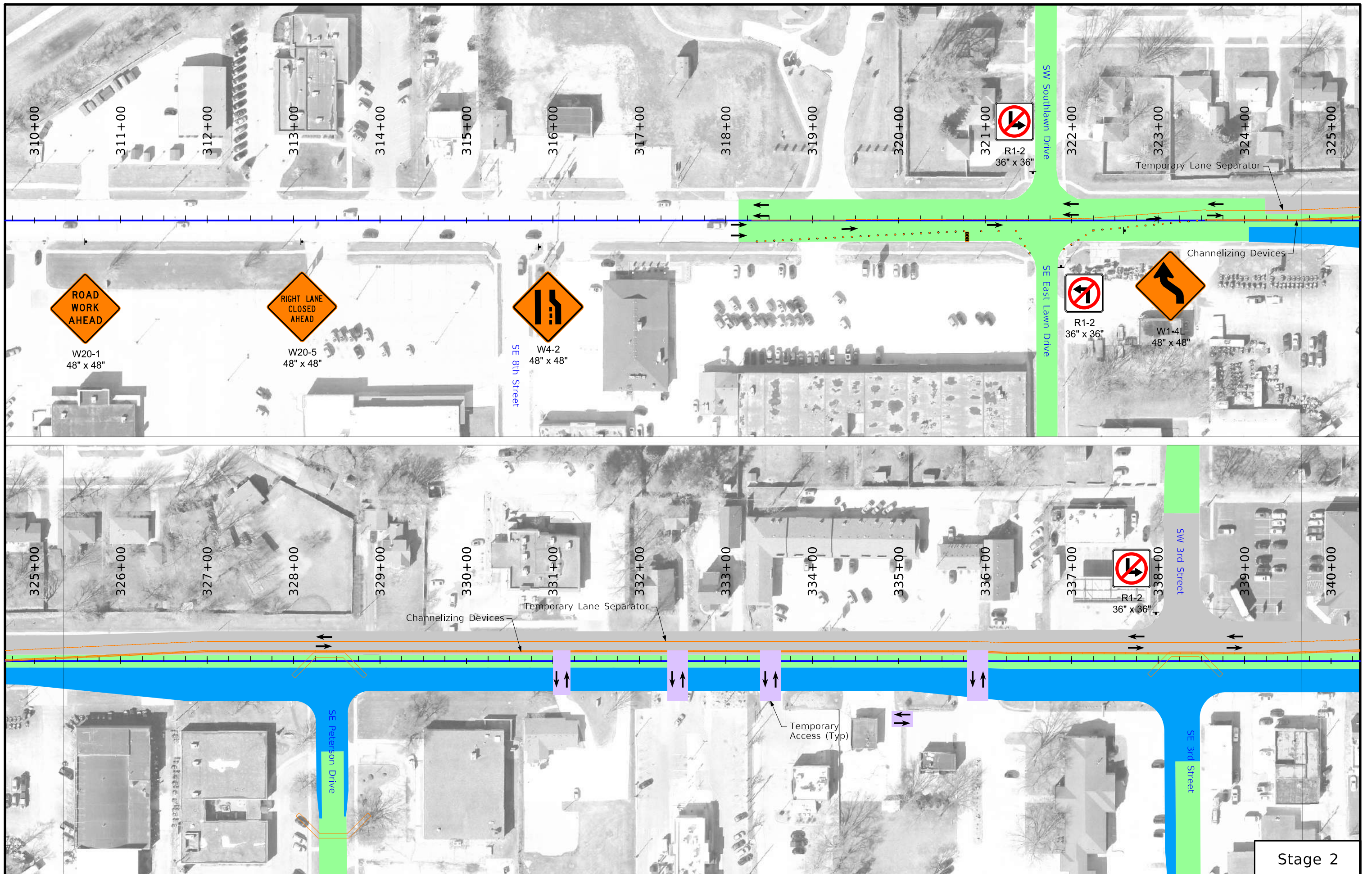


Stage 1

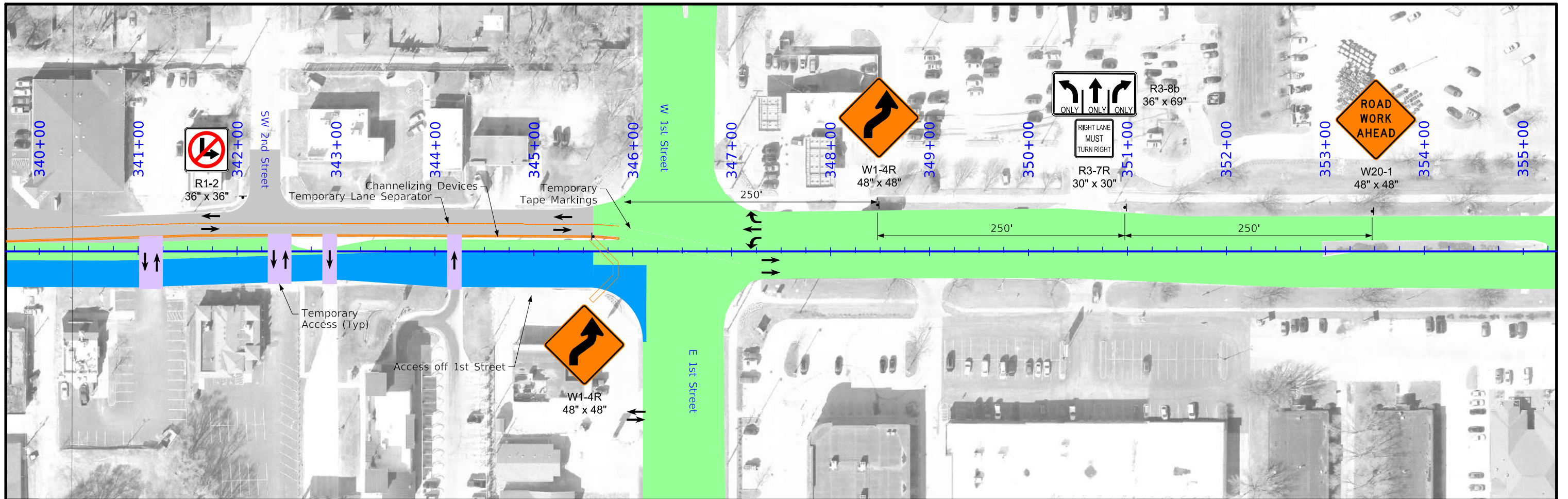
FILE NO.	ENGLISH	DESIGN TEAM Snyder & Associates	POLK COUNTY	PROJECT NUMBER NHSX-069-4(136)--3H-77	SHEET NUMBER J.5
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Stage 1



Stage 2

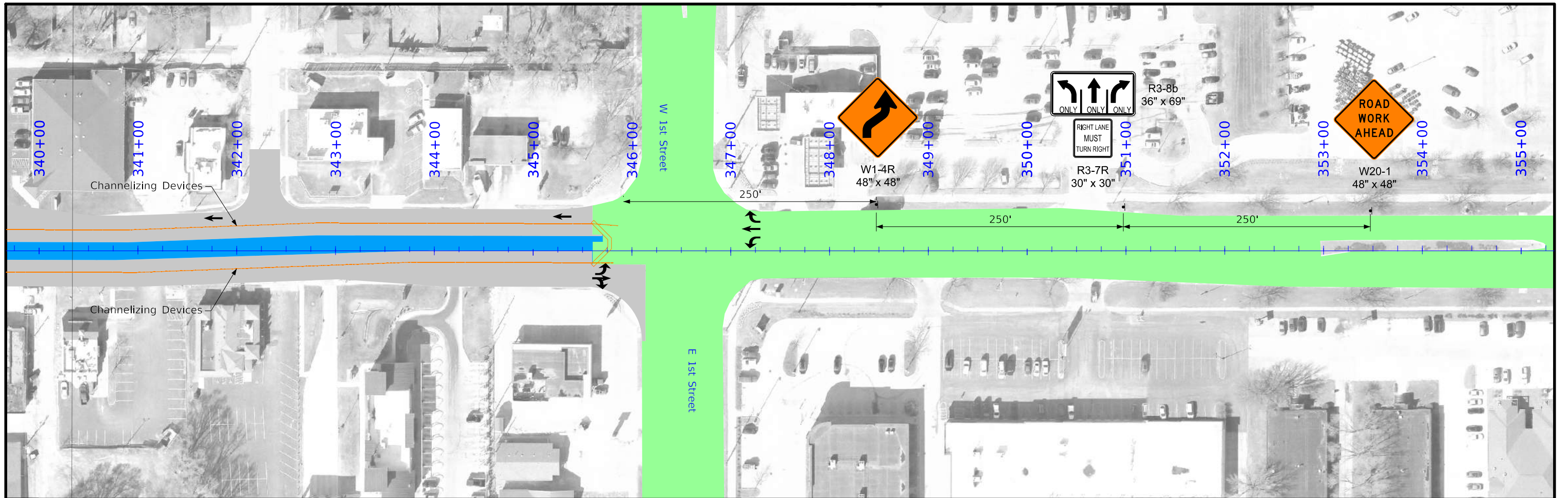


Stage 2





Stage 3



Stage 3



326+00

327+00

328+00

329+00

330+00

331+00

US Hwy 69/S Ankeny Blvd

SE Peterson Drive

32844+00

32845+00

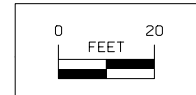
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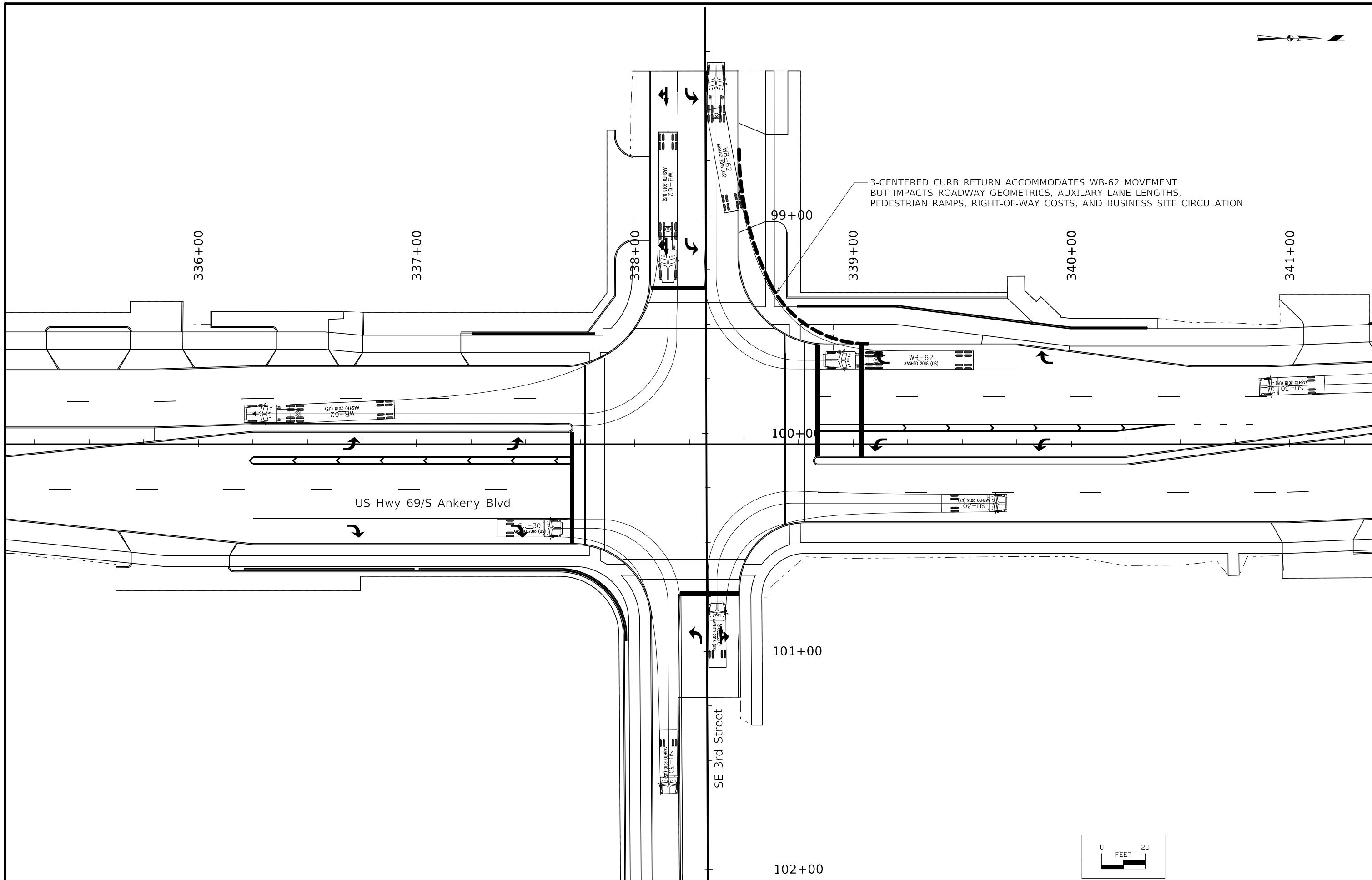
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ASHTO 2018 (US)

SU-30  
ASHTO 2018 (US)

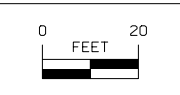
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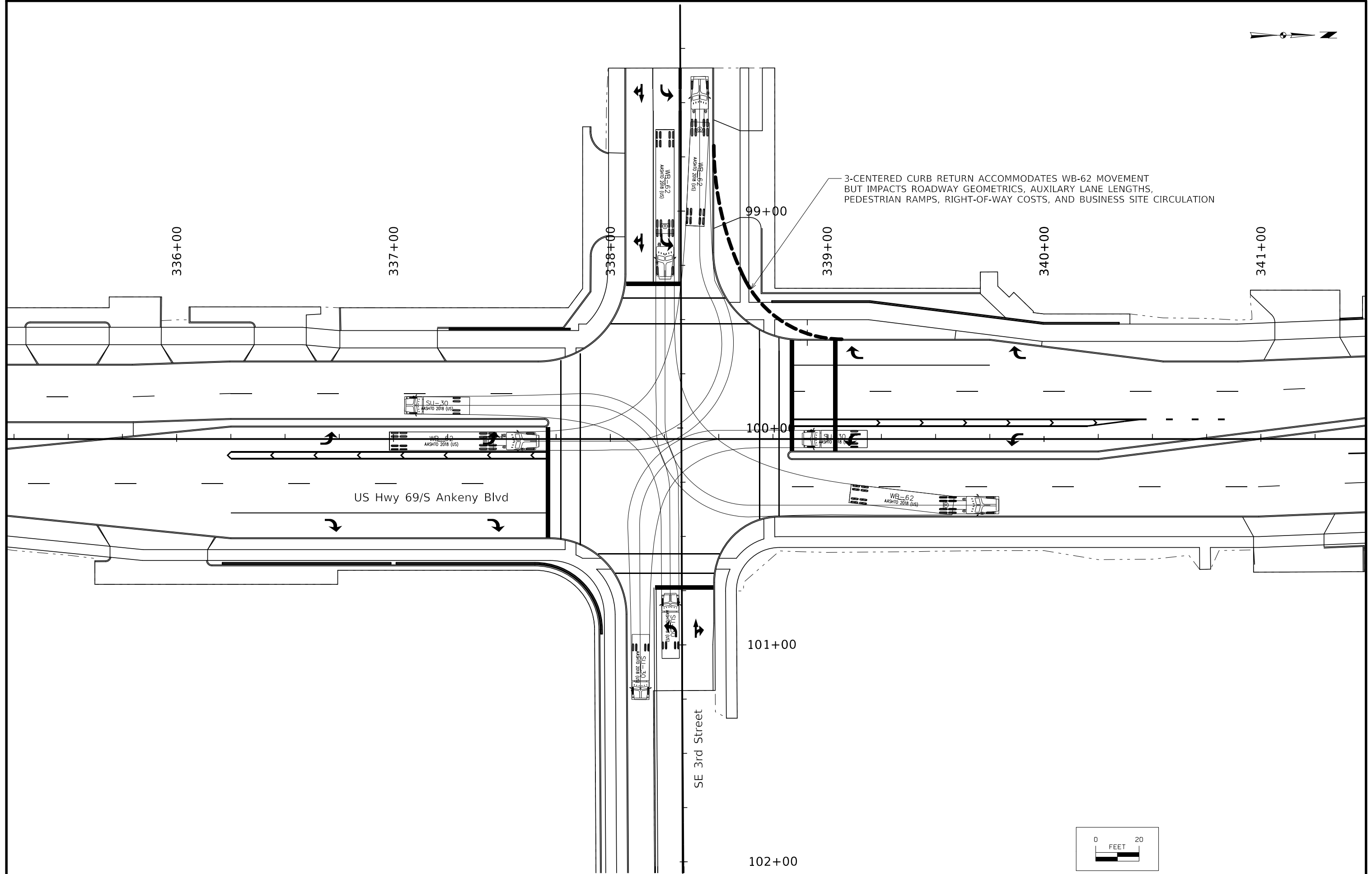
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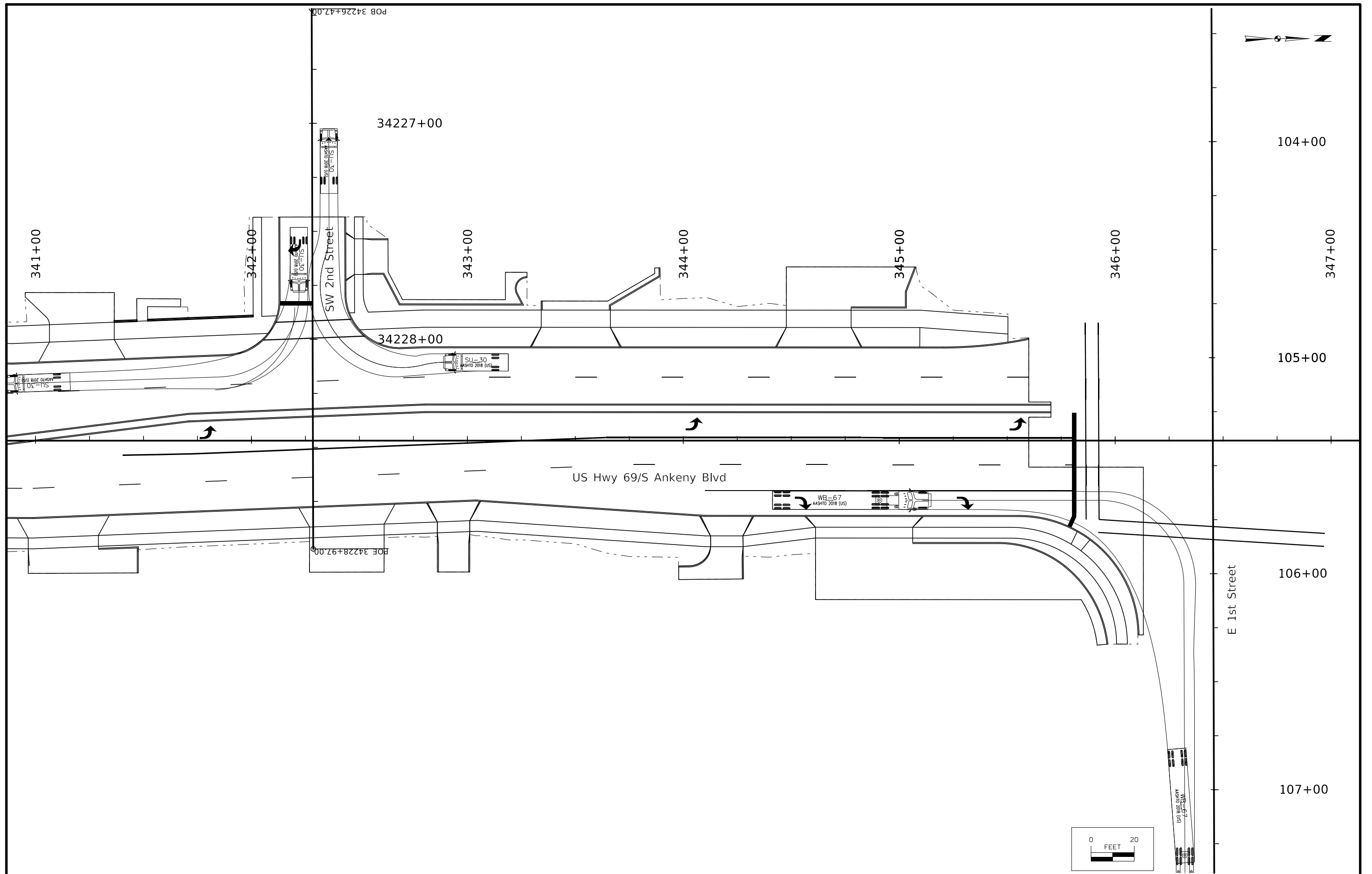




3-CENTERED CURB RETURN ACCOMMODATES WB-62 MOVEMENT  
 BUT IMPACTS ROADWAY GEOMETRICS, AUXILIARY LANE LENGTHS,  
 PEDESTRIAN RAMPS, RIGHT-OF-WAY COSTS, AND BUSINESS SITE CIRCULATION







## 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
<b>Existing</b>			
(0)	Existing Pavement	(3)	Waste
<b>Special Utility Consideration</b>			
		(3)	Existing Lumen Duct Bank

**NOTES:**

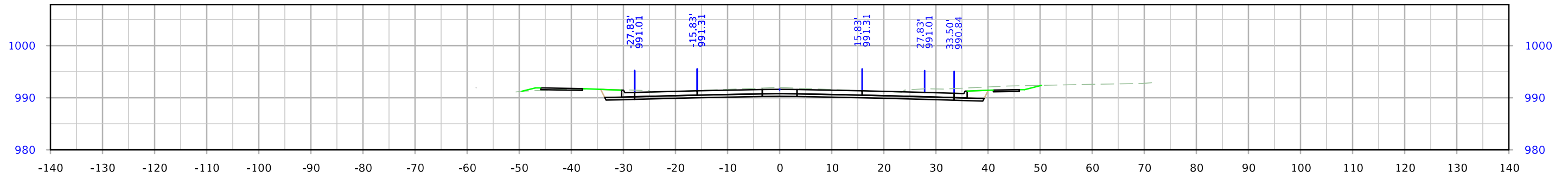
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**NOTES:**

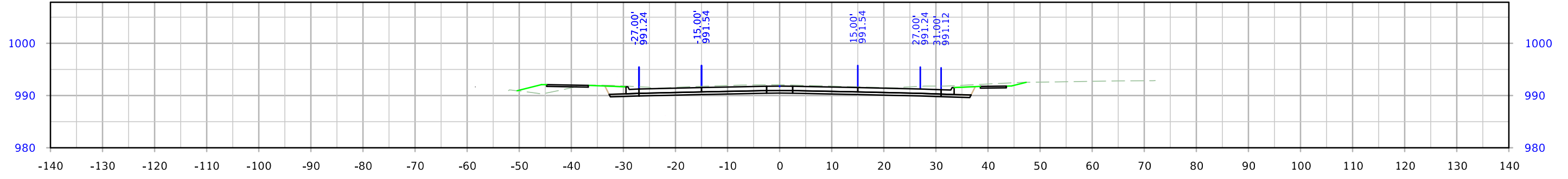
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## CROSS SECTIONS LEGEND AND INFORMATION SHEET

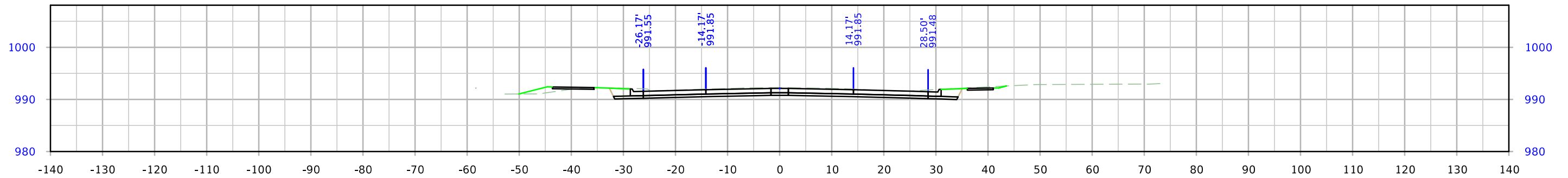
(COVERS SHEET SERIES W, X, Y, & Z)



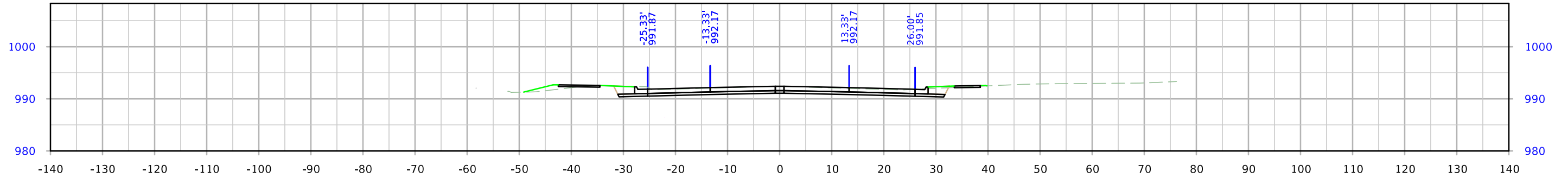
STA. 325+75.00



STA. 325+50.00



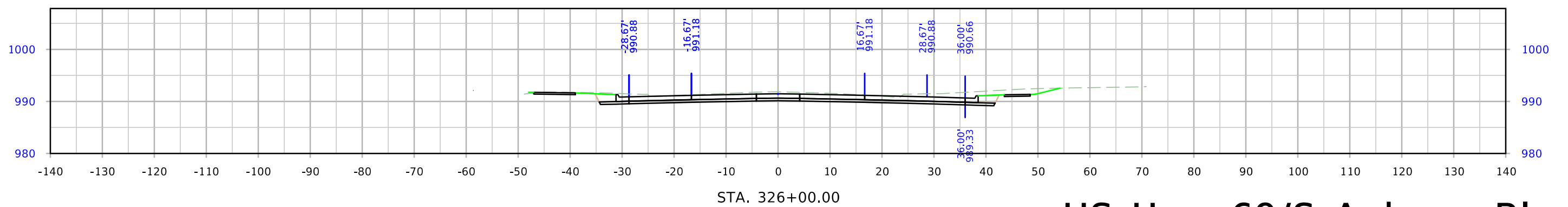
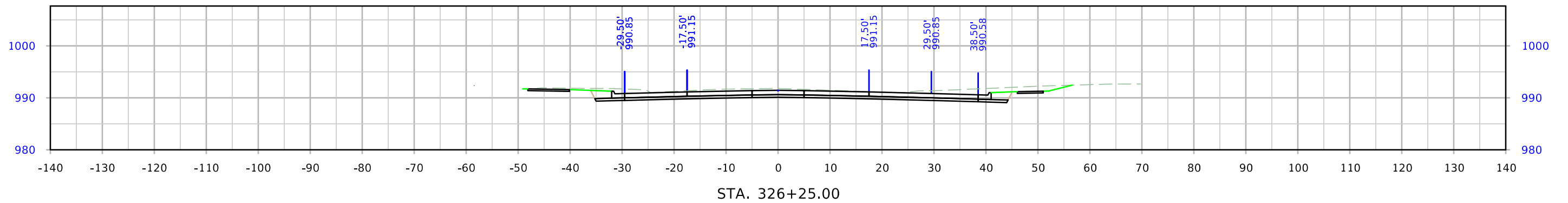
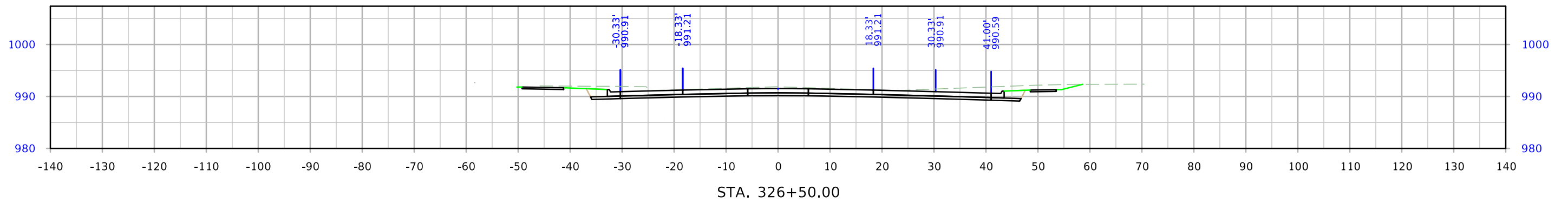
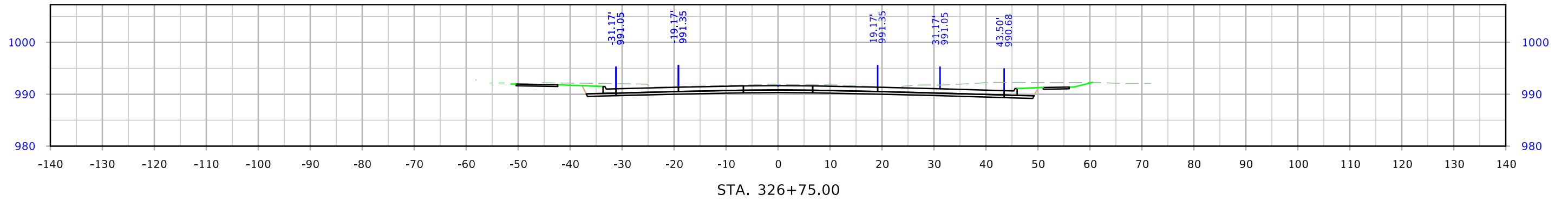
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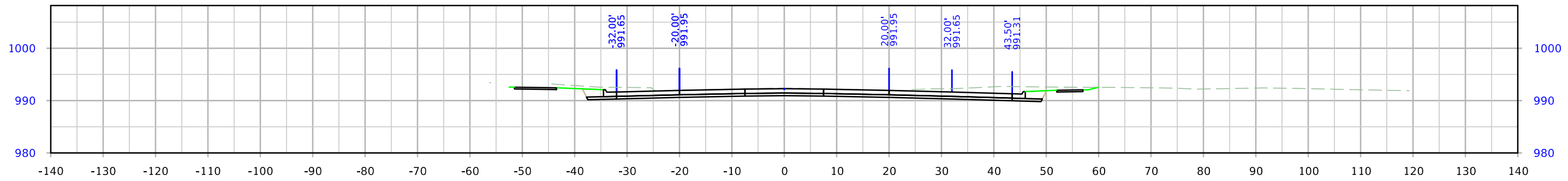
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# US Hwy 69/S Ankeny Blvd

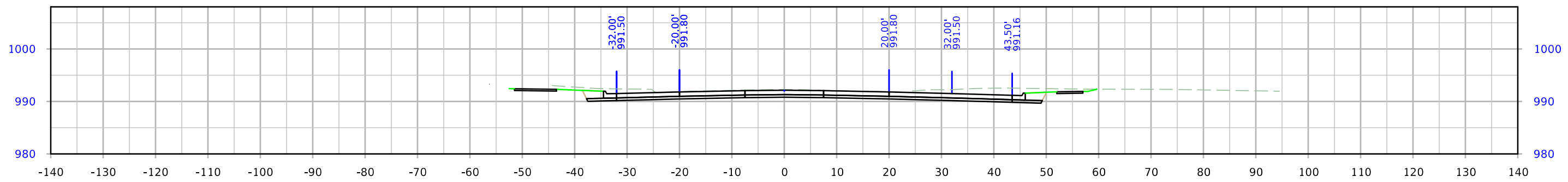




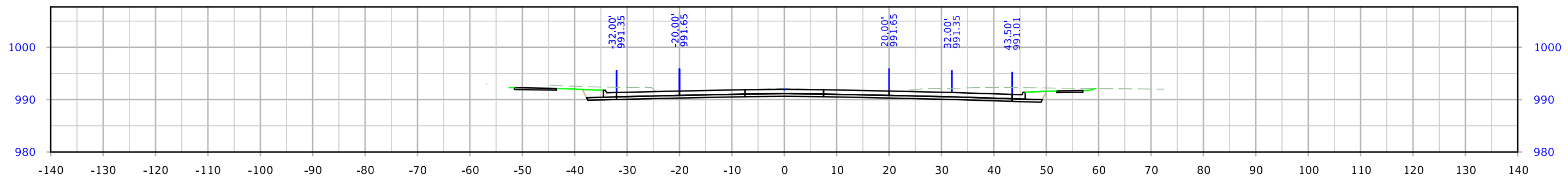
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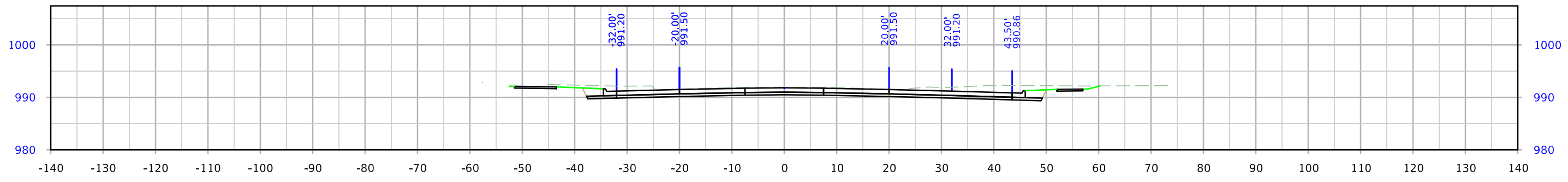
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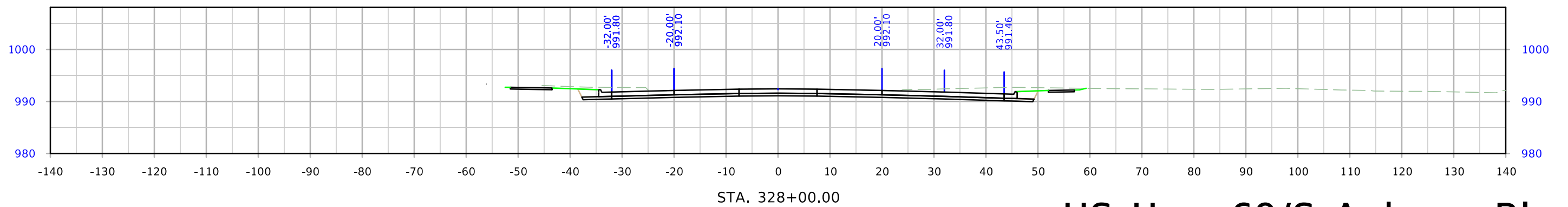
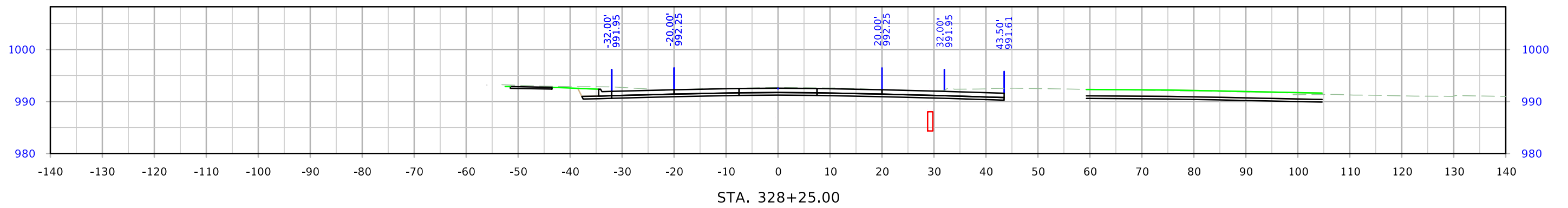
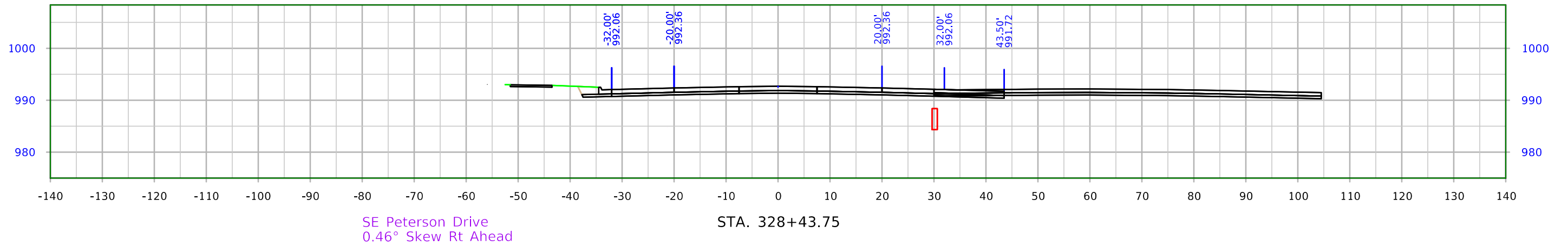
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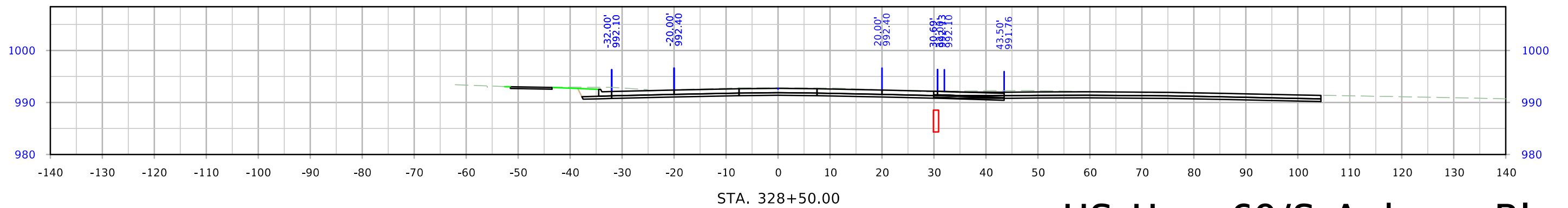
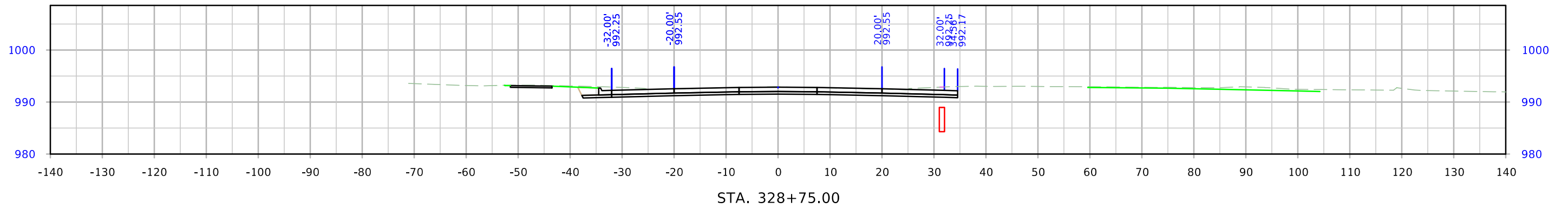
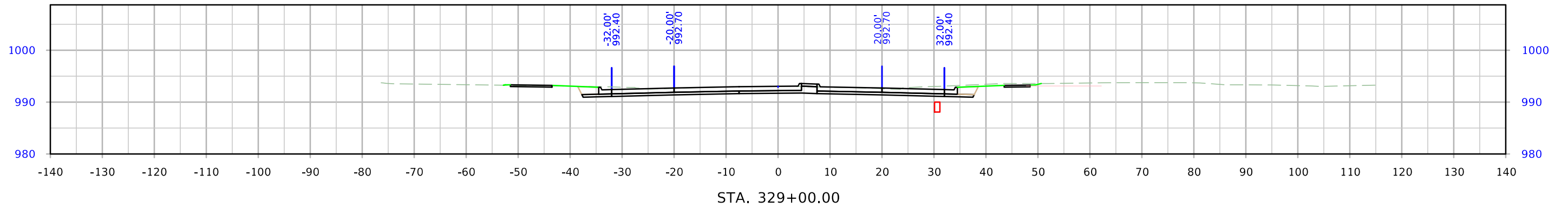
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NOTE:  
LUMEN DUCT BANK. LOCATION, DIMENSION, AND ELEVATION APPROXIMATE ONLY.



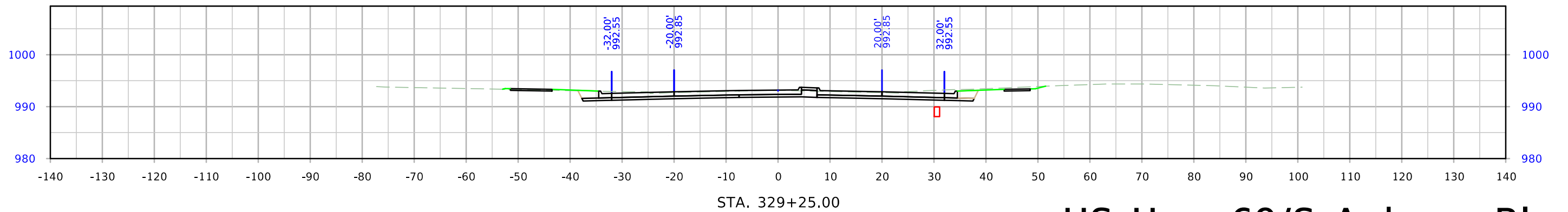
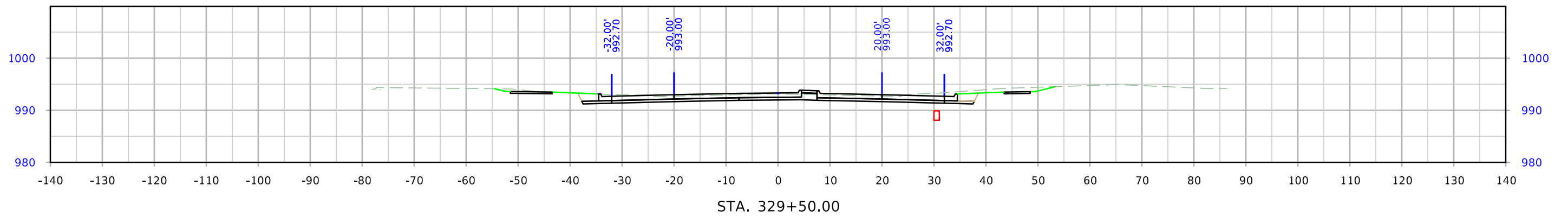
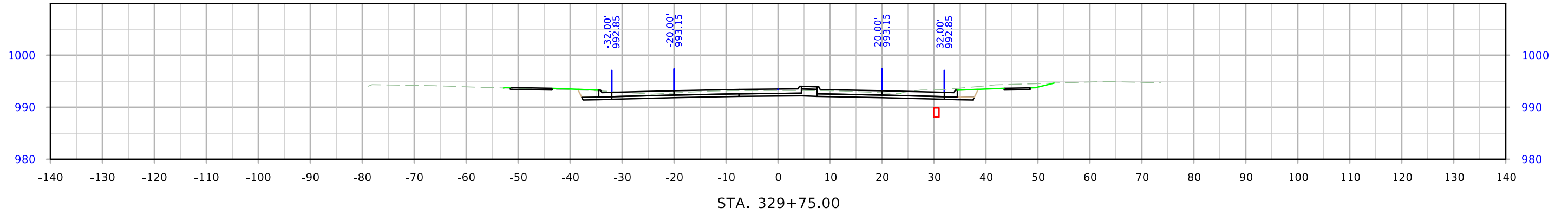
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NOTE:  
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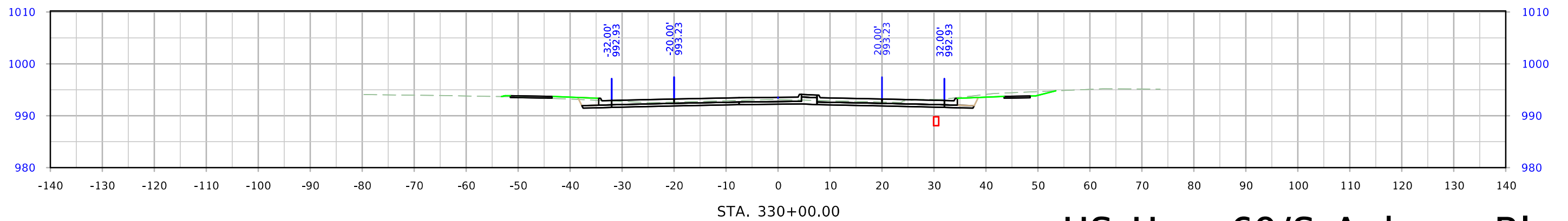
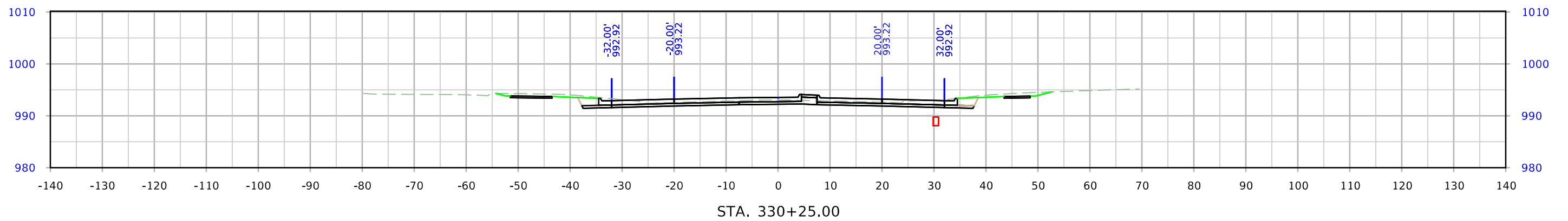
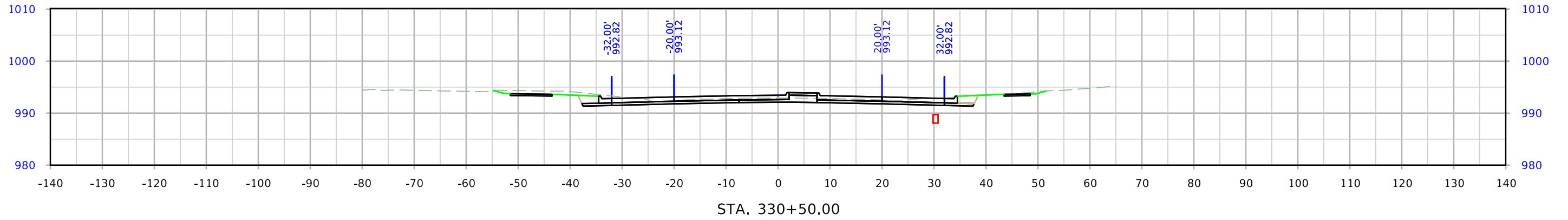
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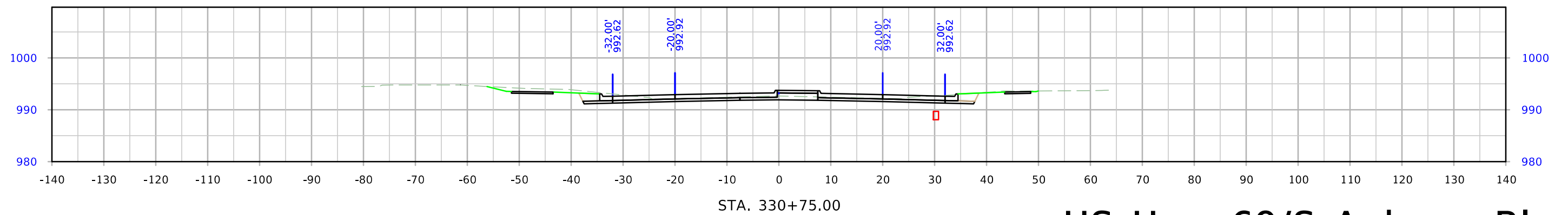
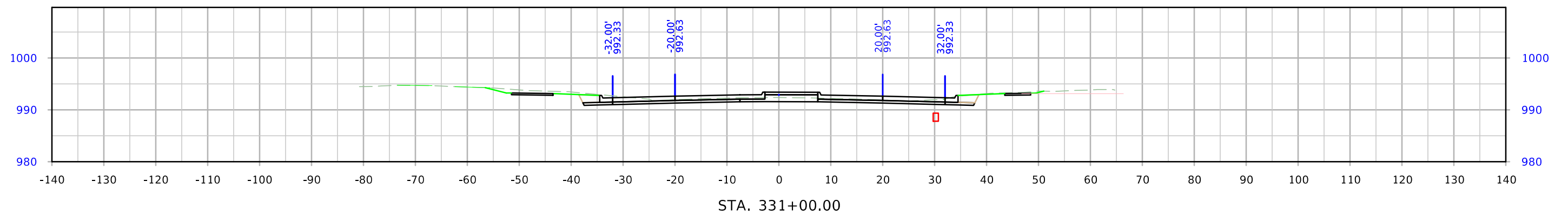
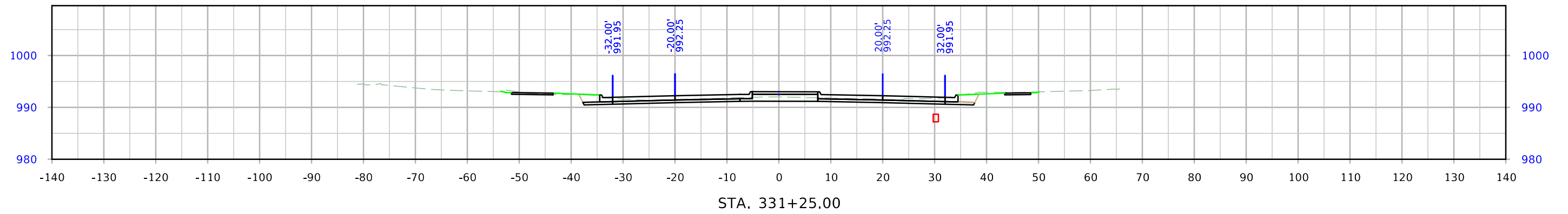
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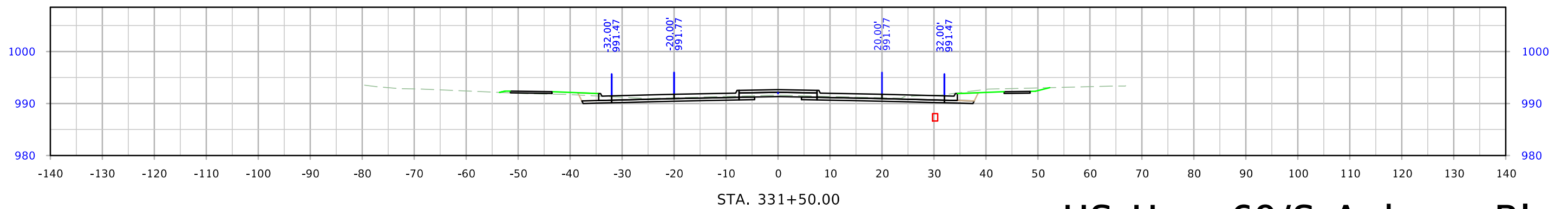
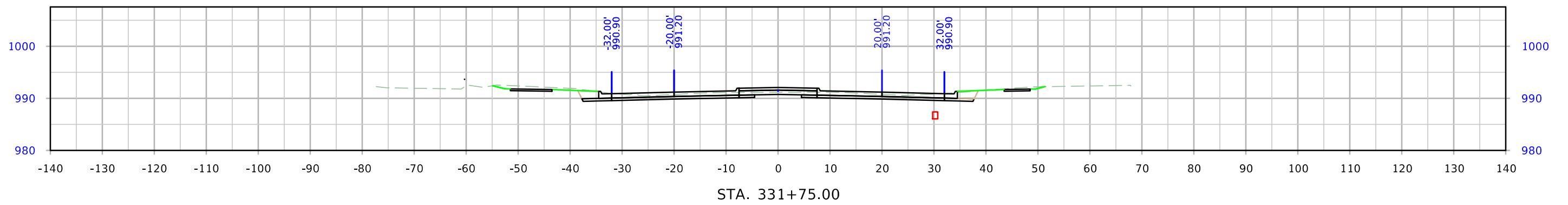
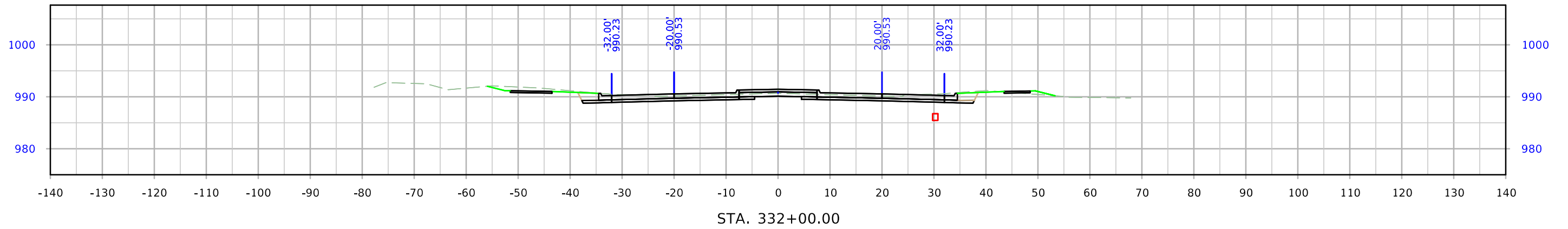
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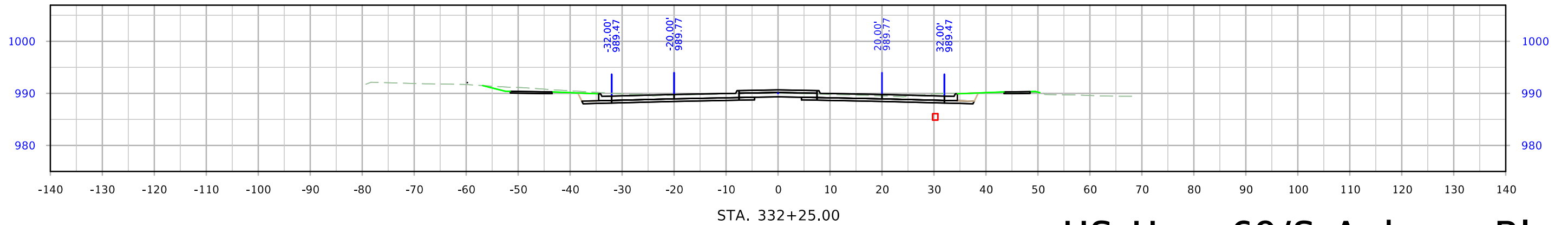
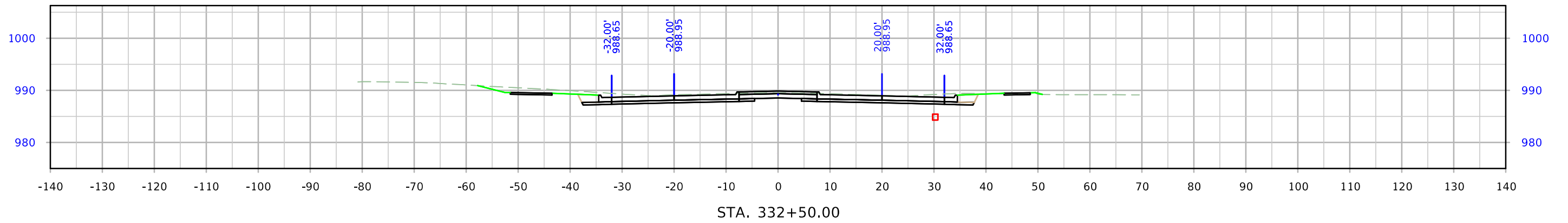
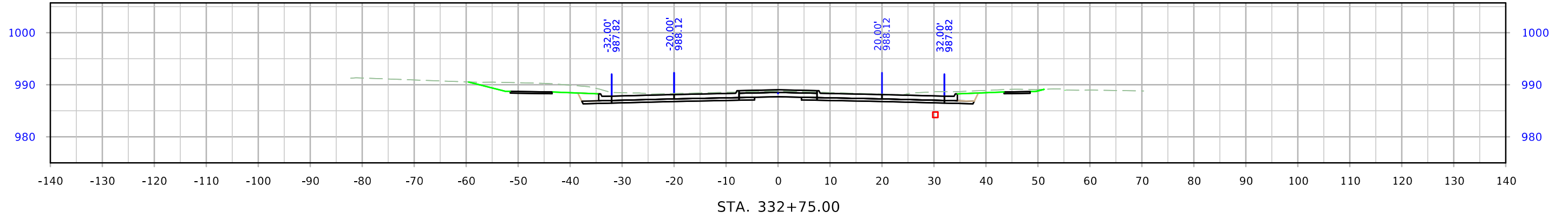
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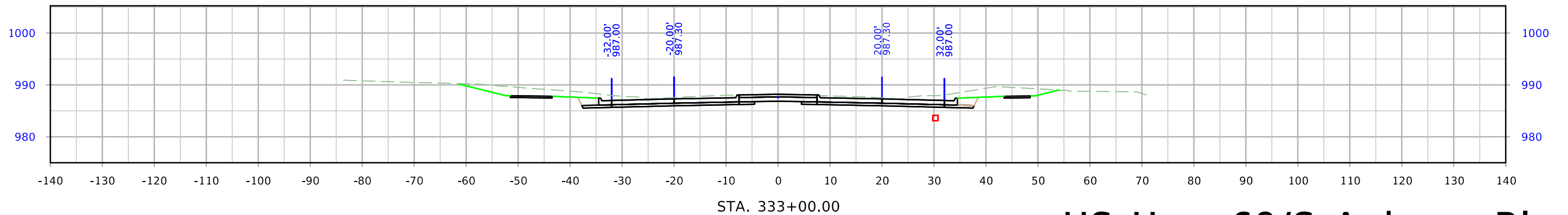
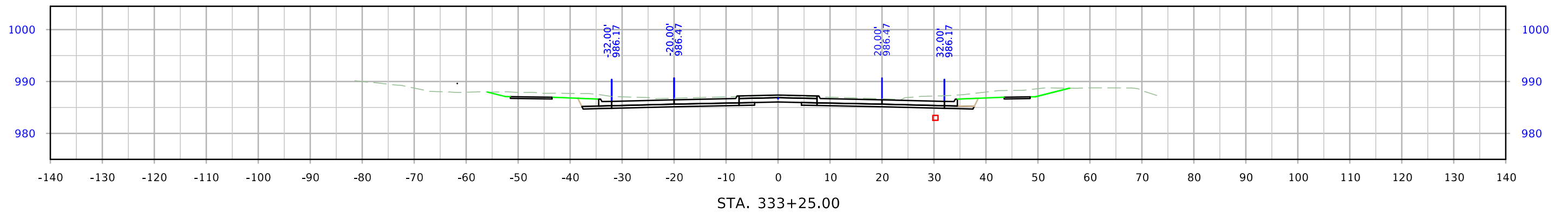
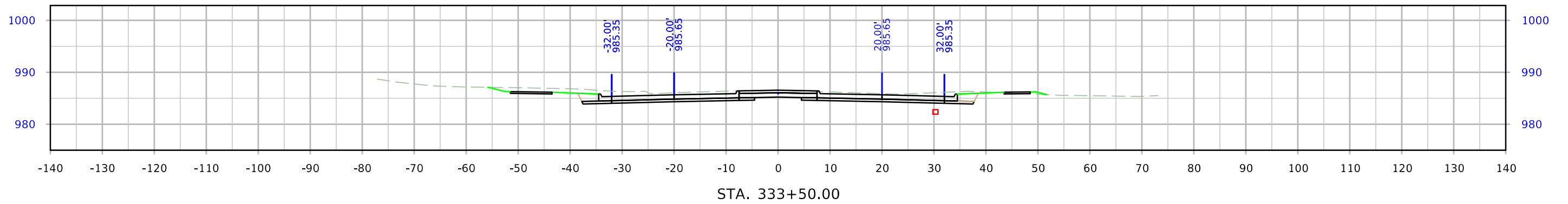


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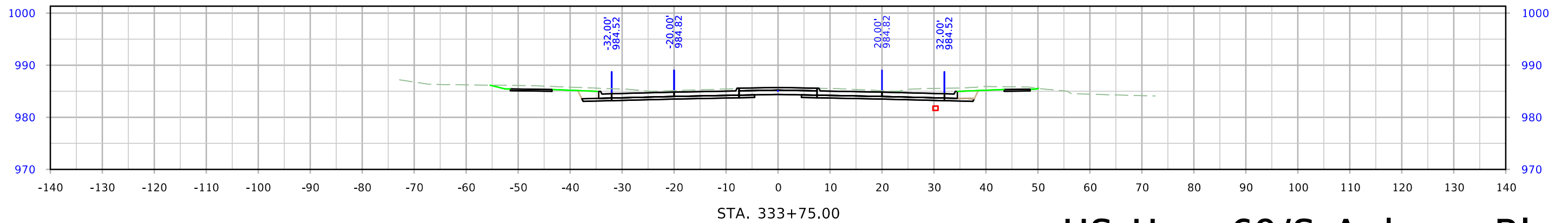
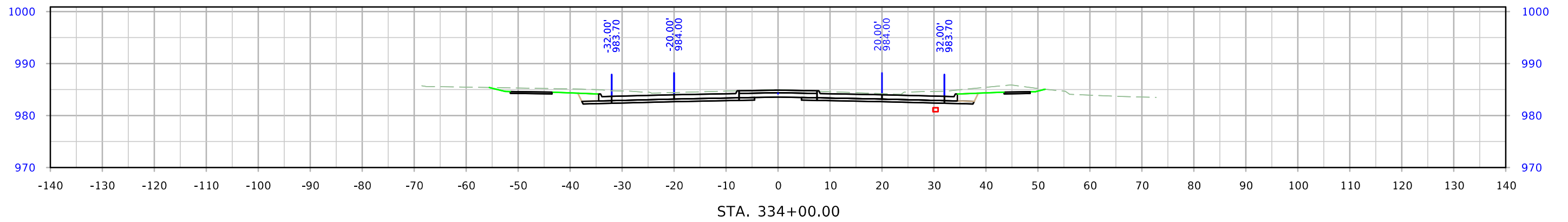
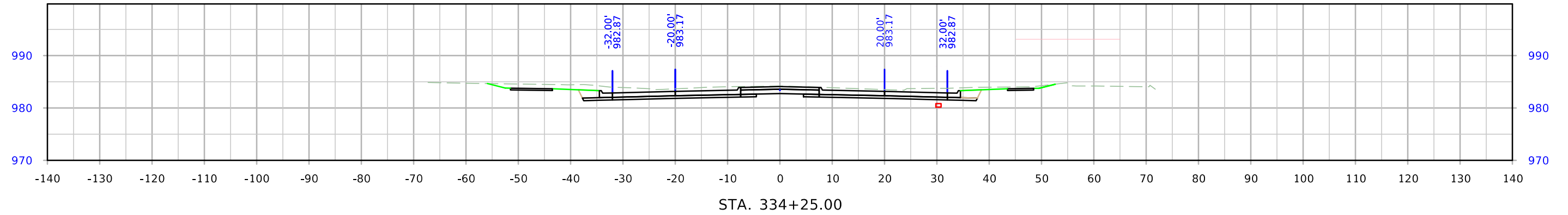
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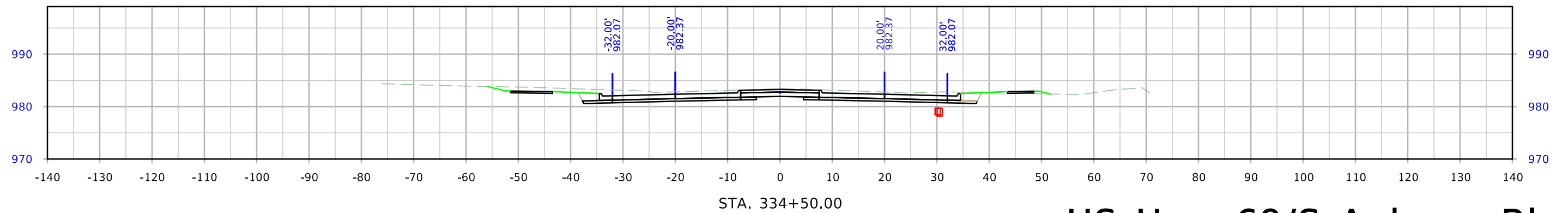
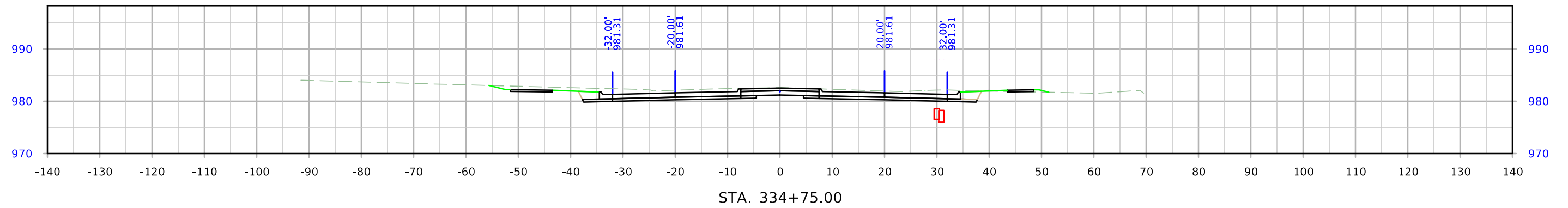
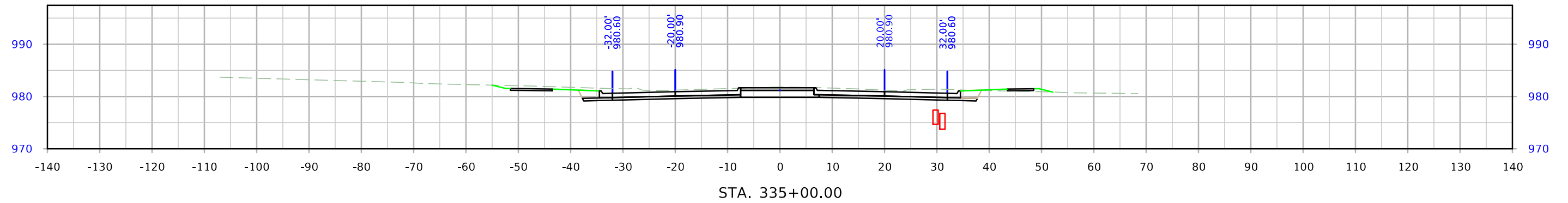
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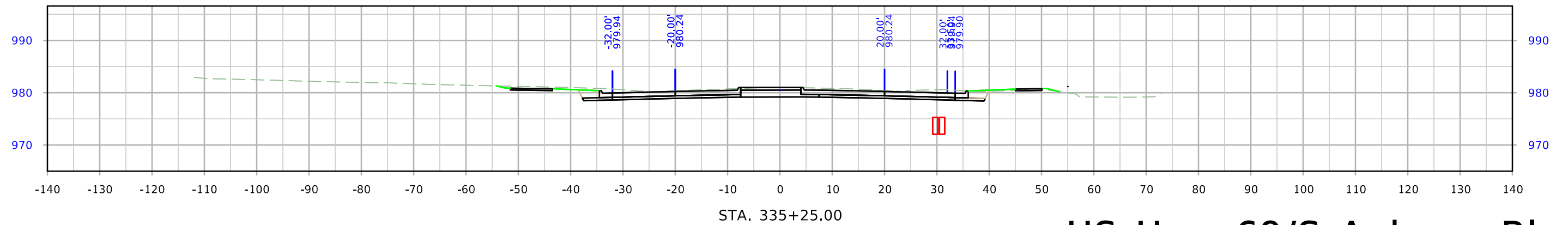
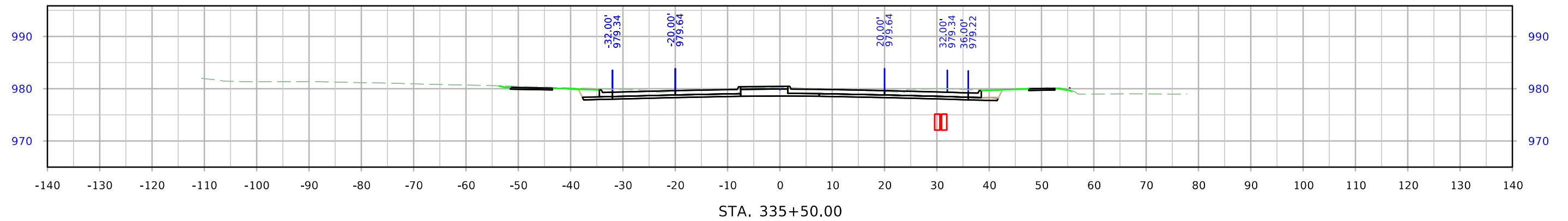
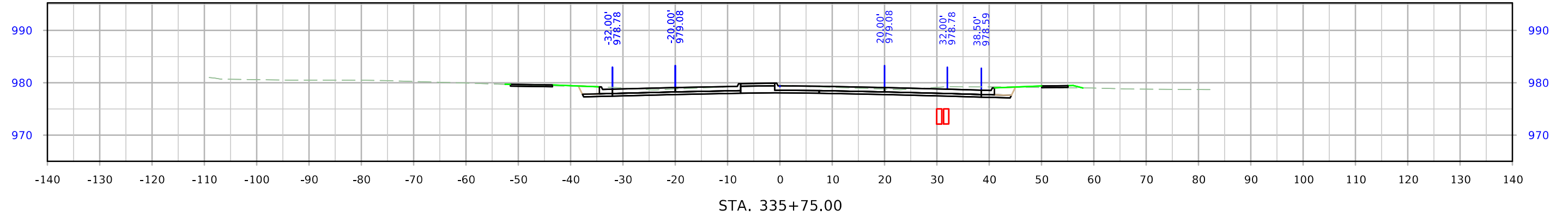
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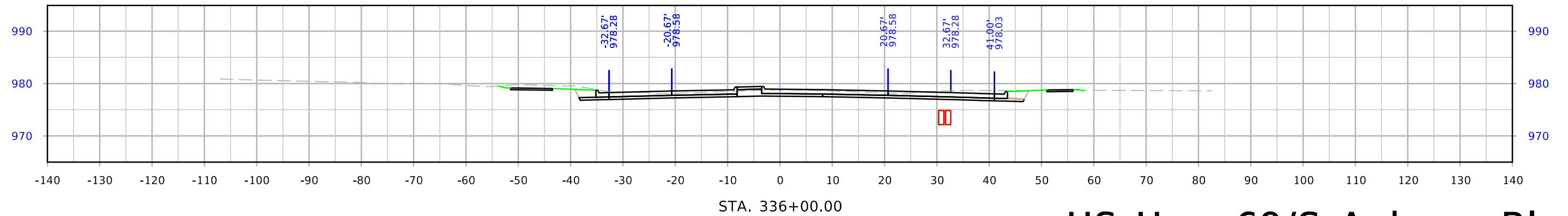
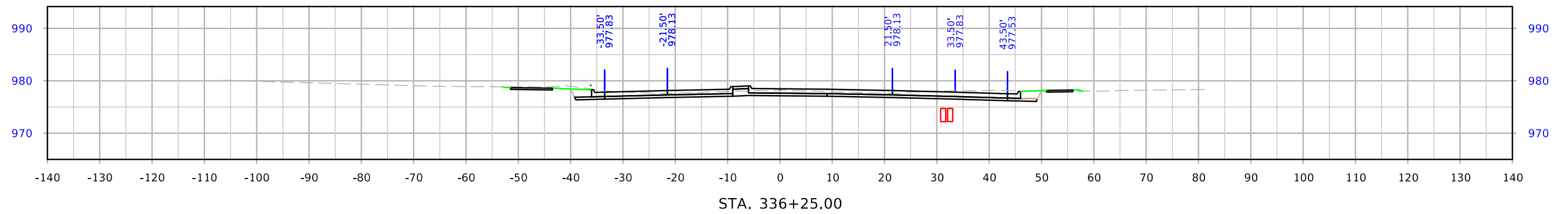
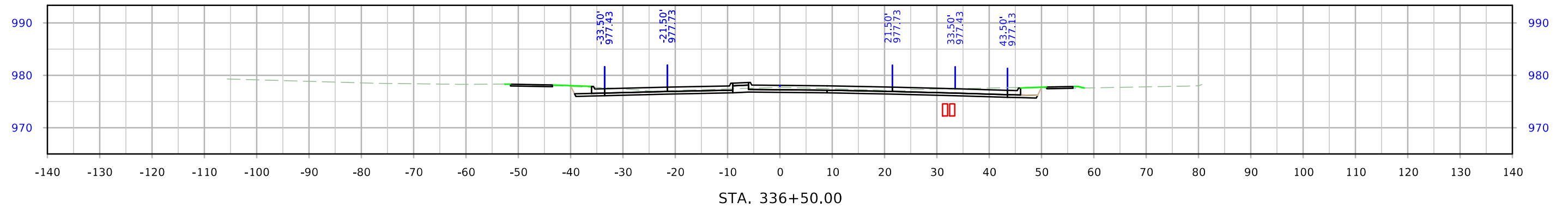
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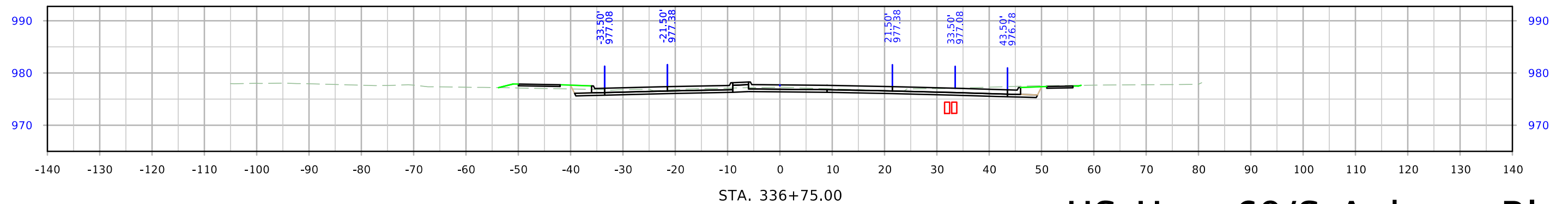
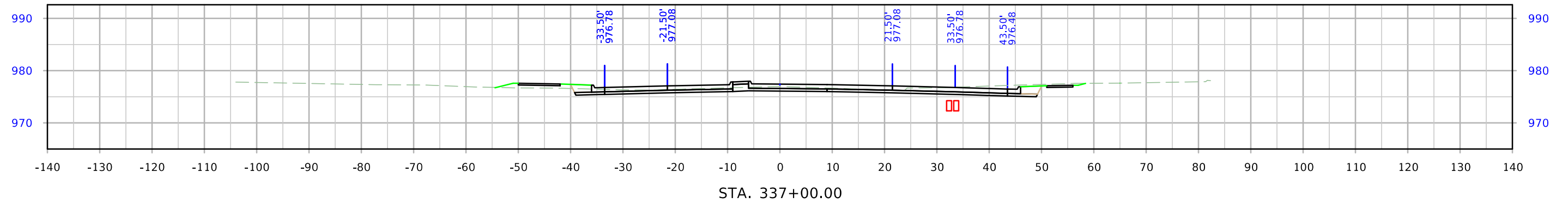
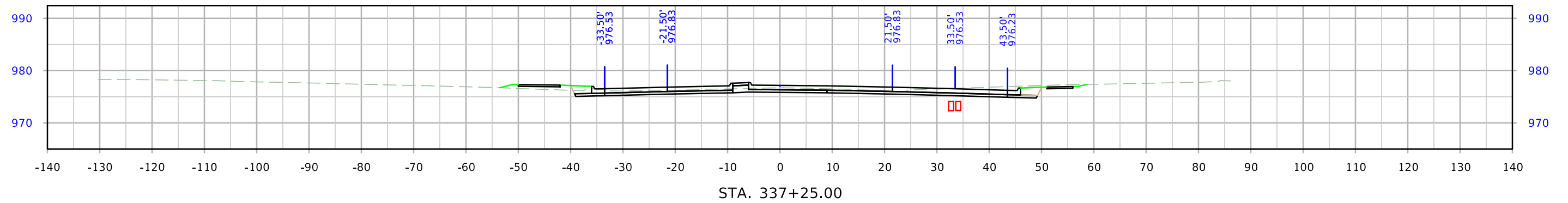
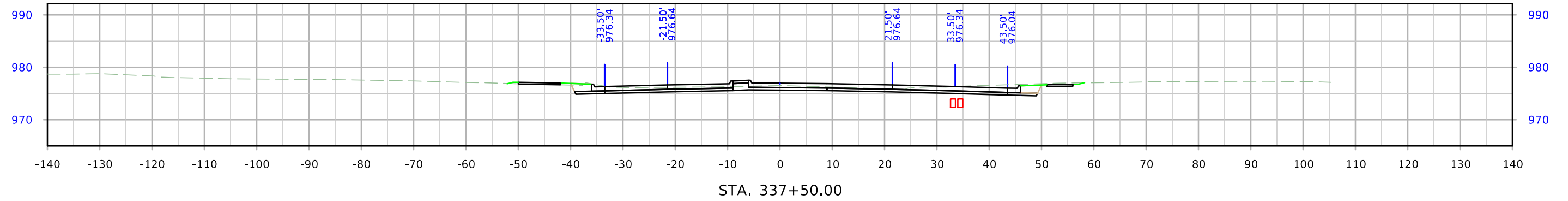
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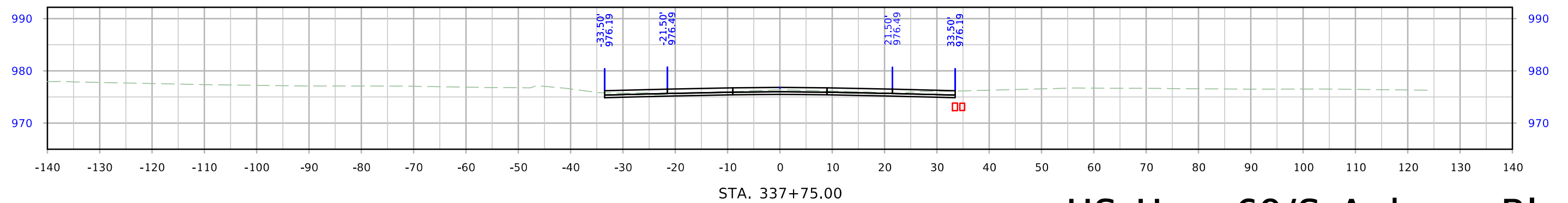
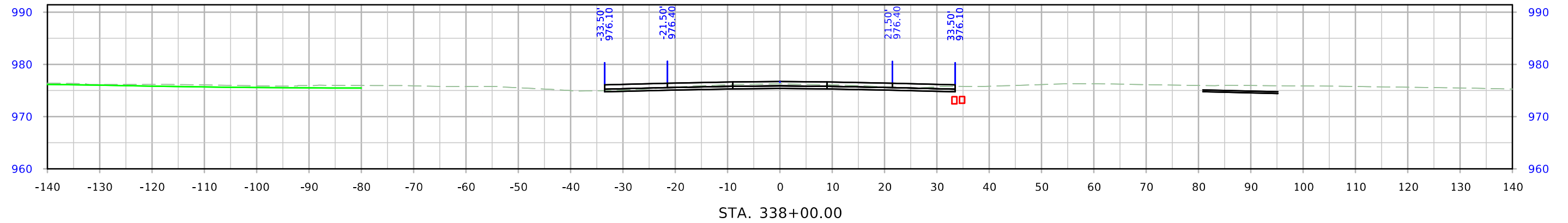
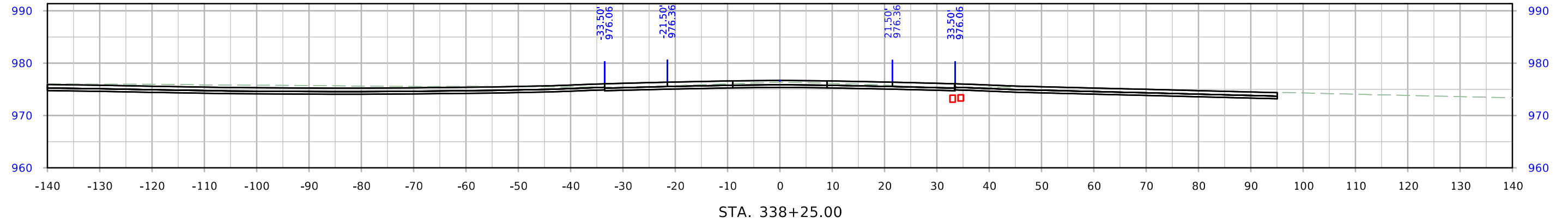
# US Hwy 69/S Ankeny Blvd

NOTE:  
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# US Hwy 69/S Ankeny Blvd

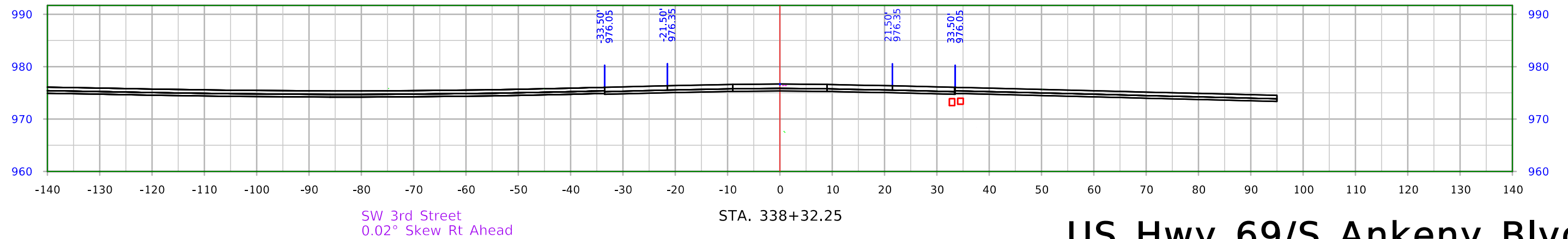
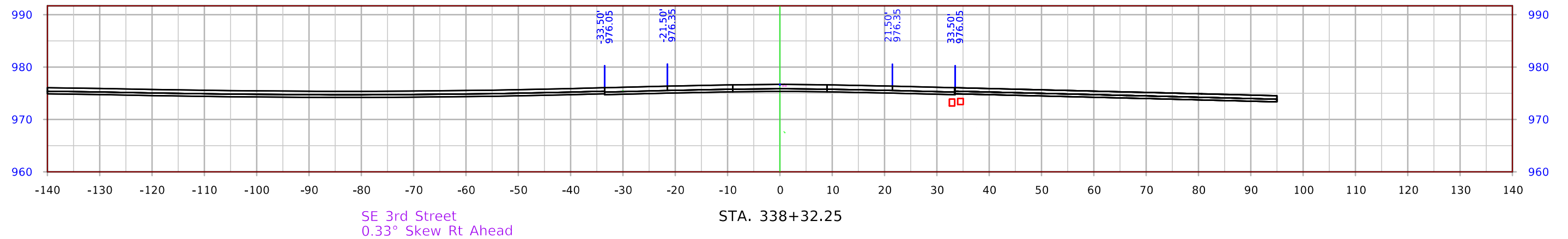
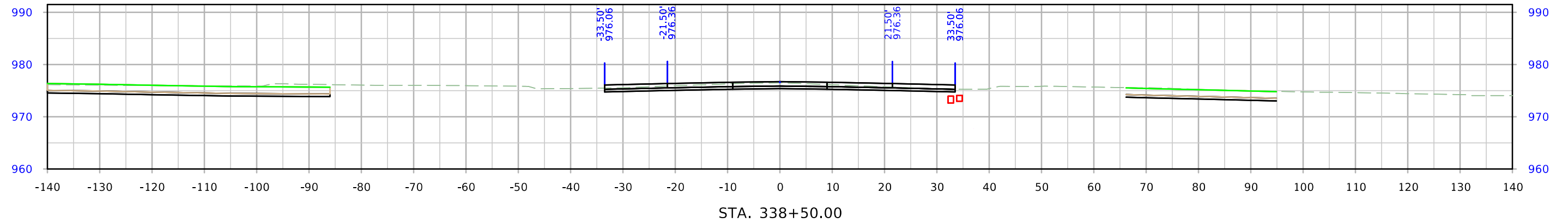
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# US Hwy 69/S Ankeny Blvd

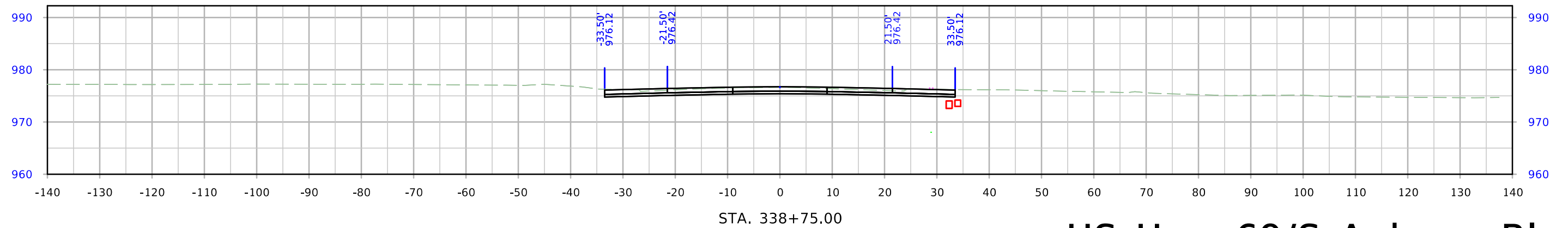
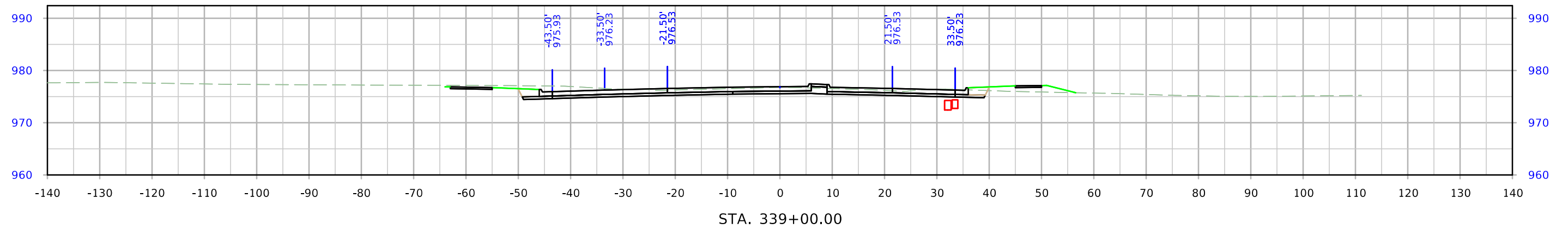
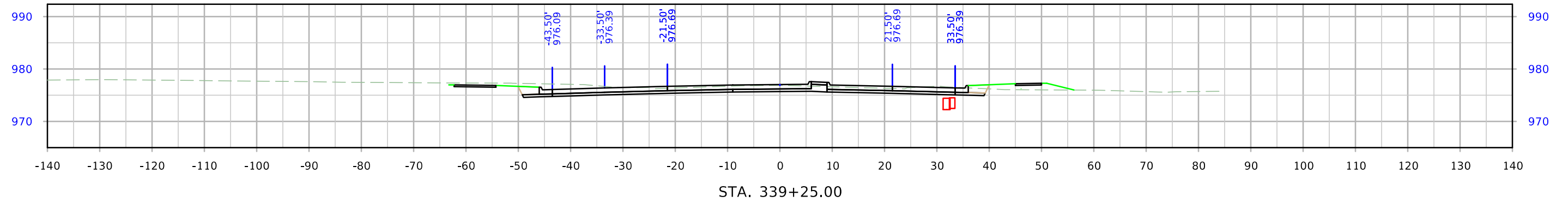


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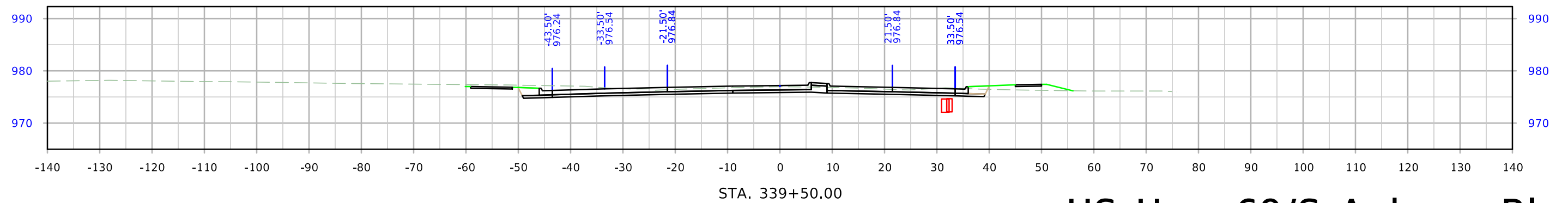
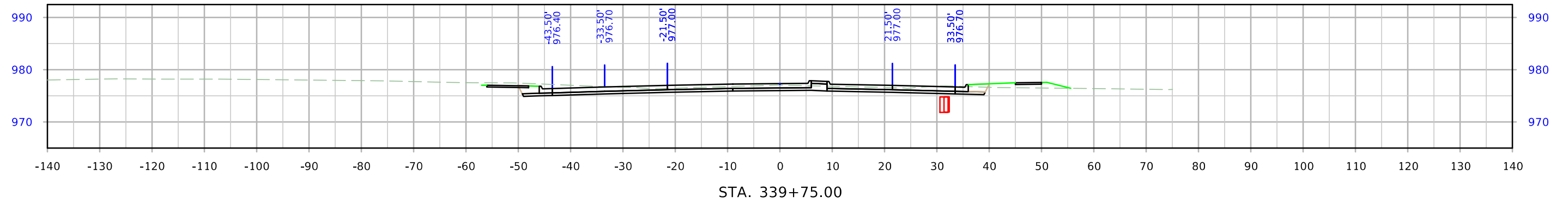
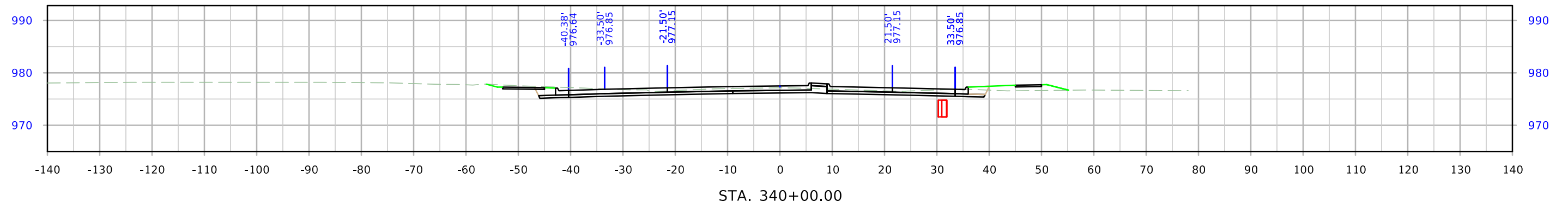
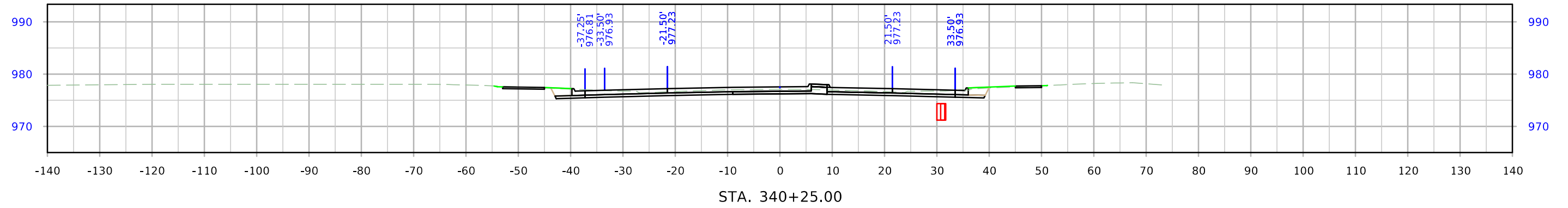
# US Hwy 69/S Ankeny Blvd

NOTE:  
LUMEN DUCT BANK. LOCATION, DIMENSION, AND ELEVATION APPROXIMATE ONLY.



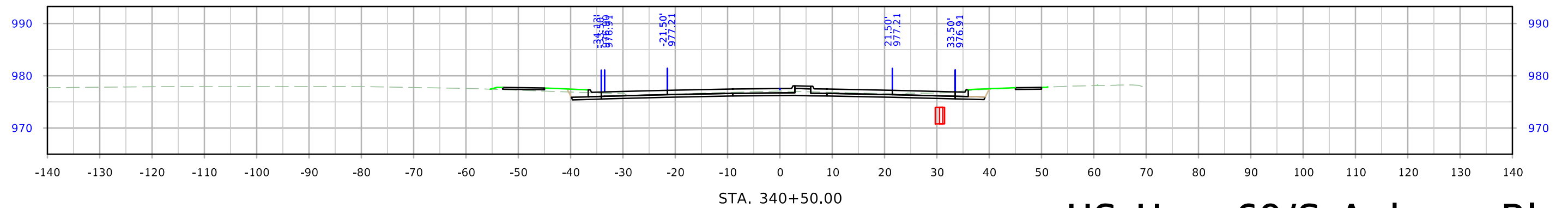
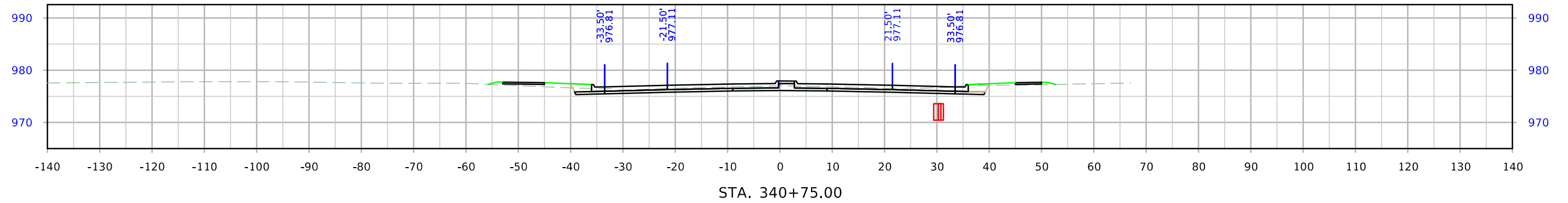
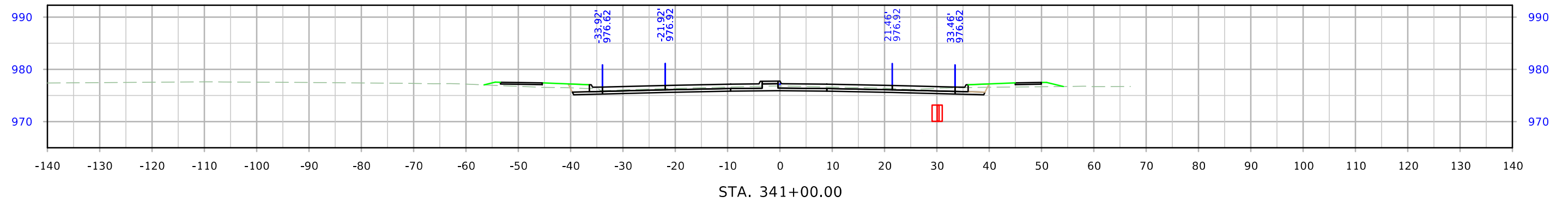
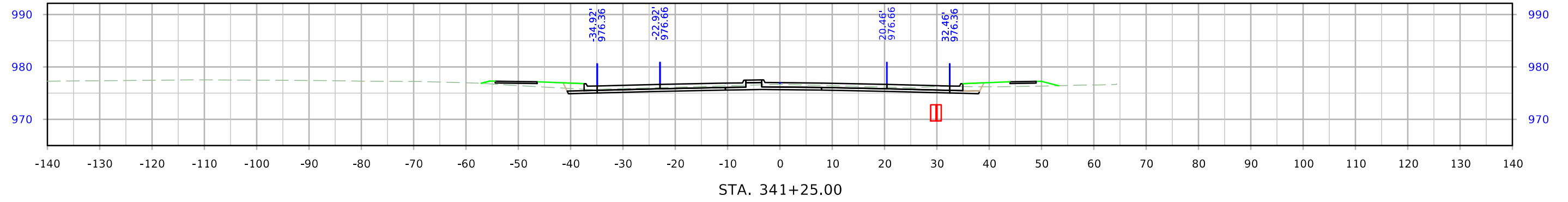
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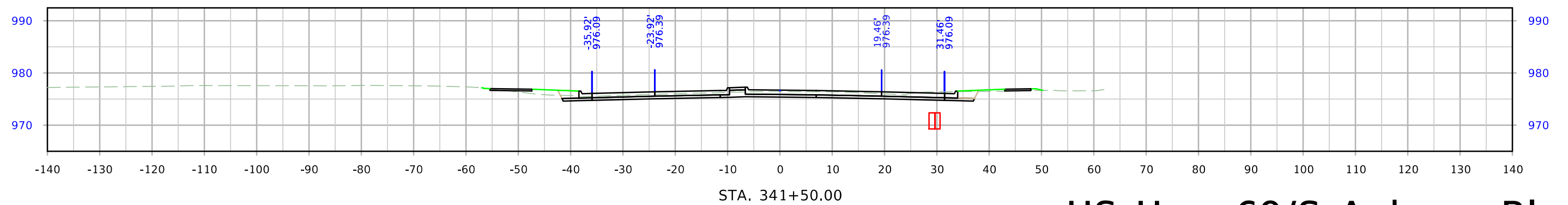
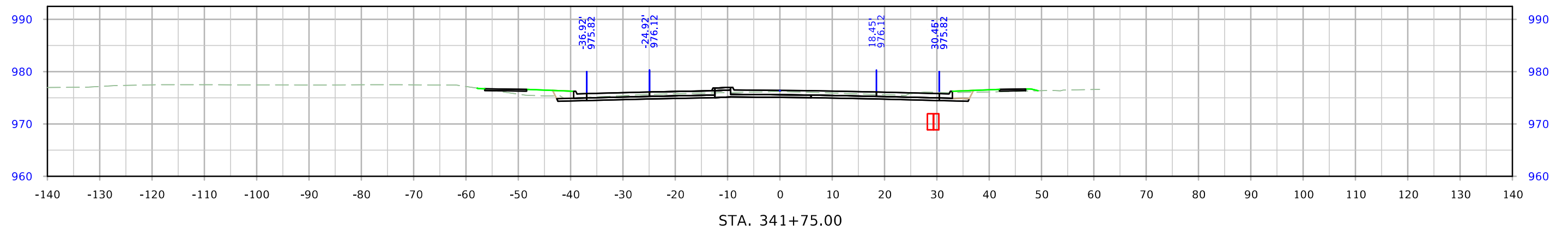
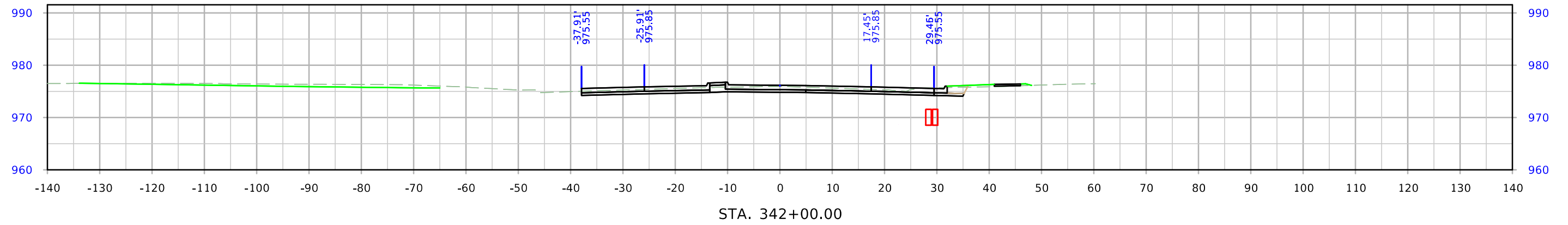
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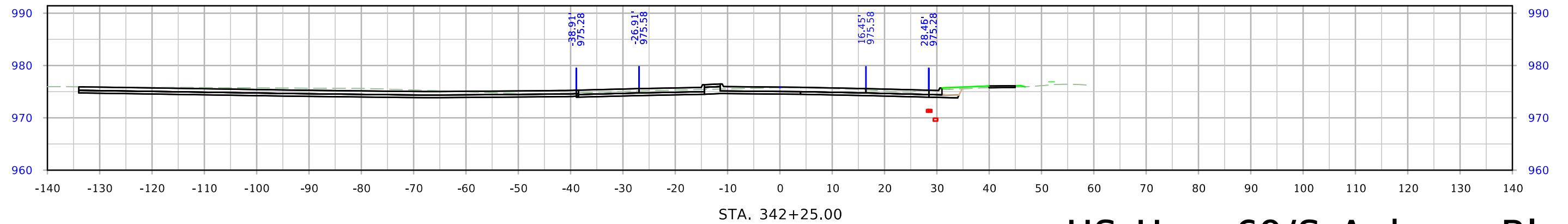
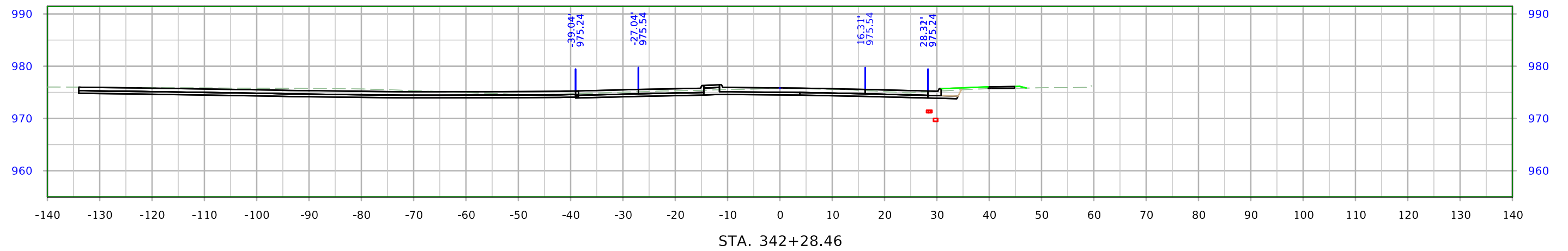
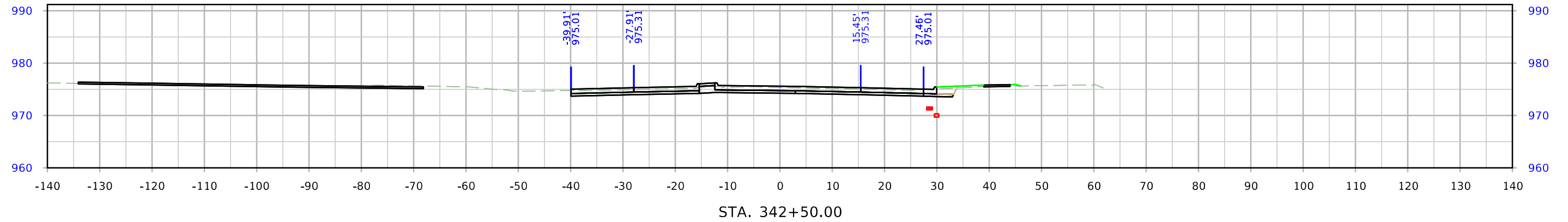
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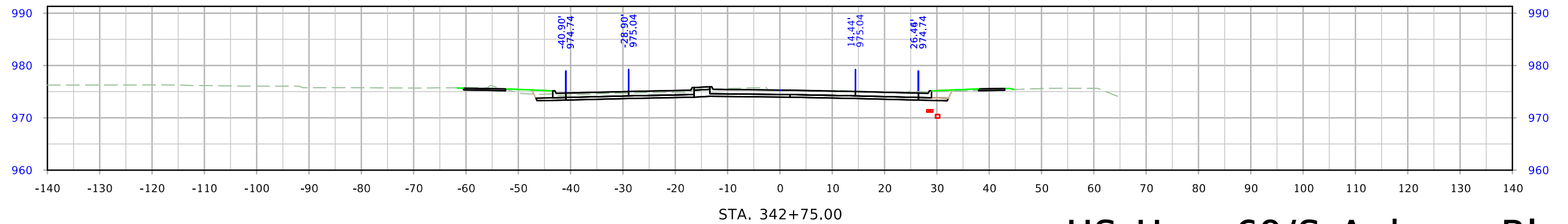
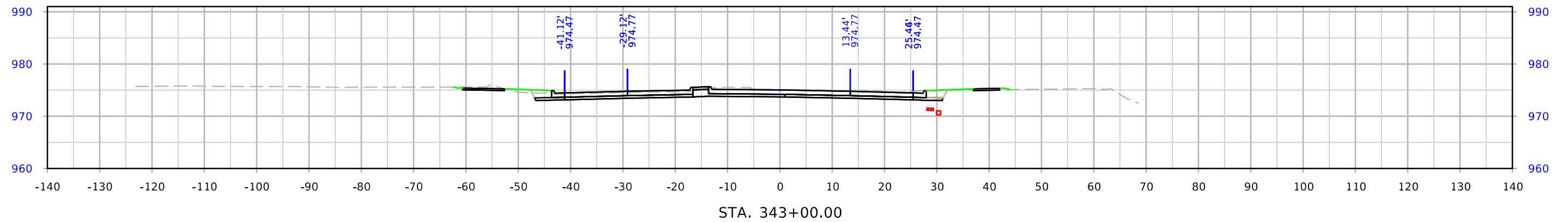
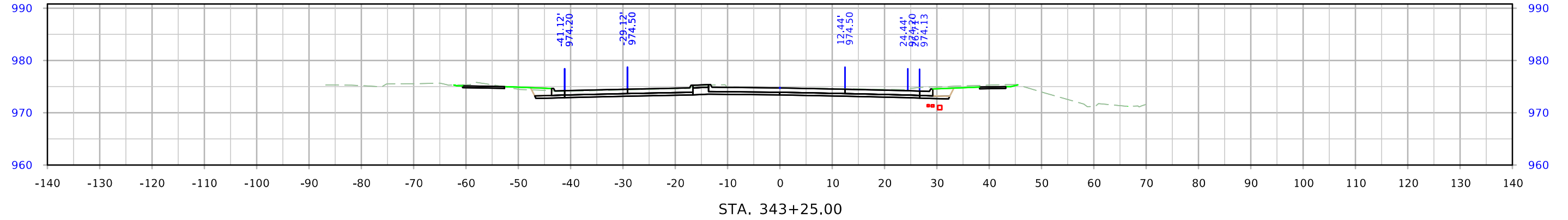
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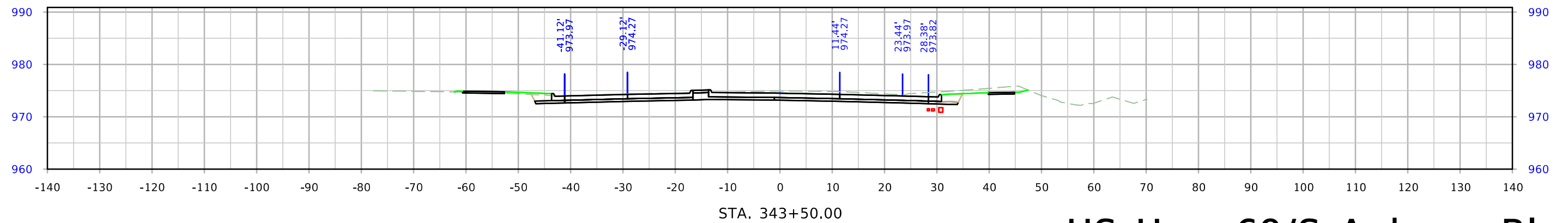
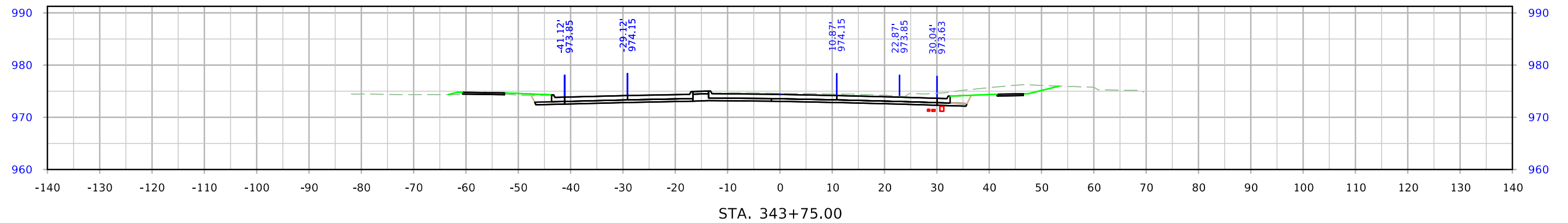
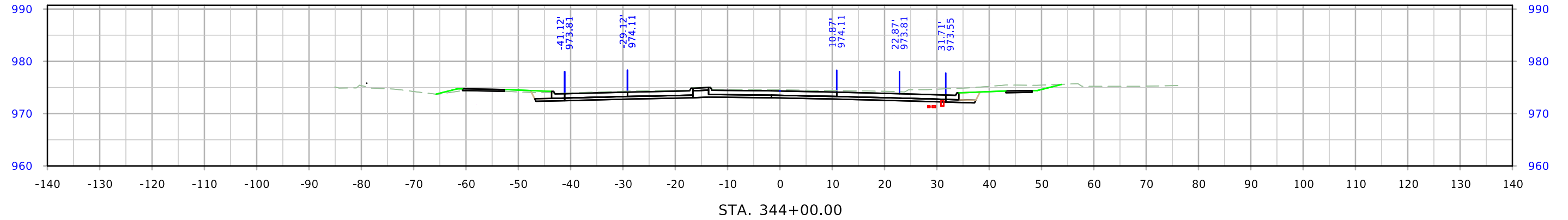
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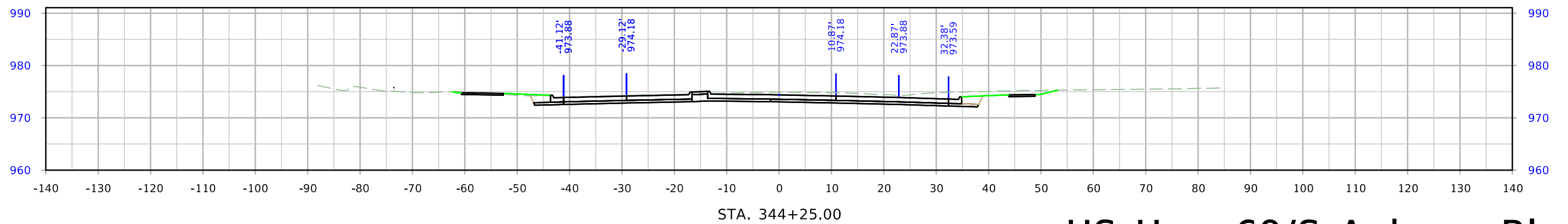
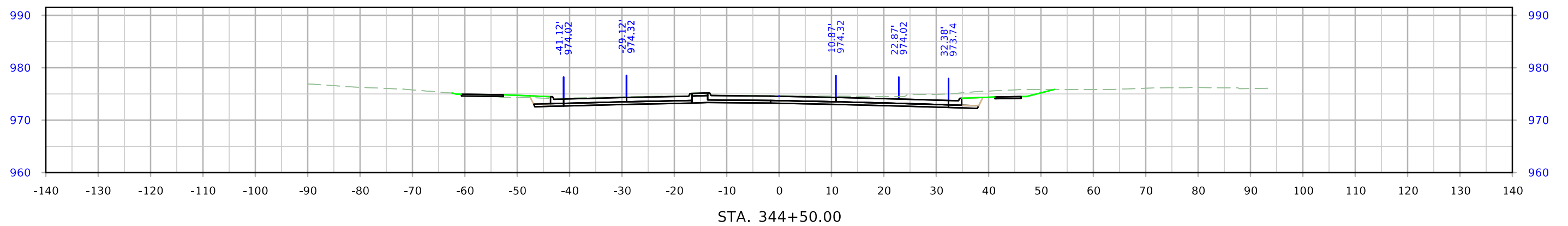
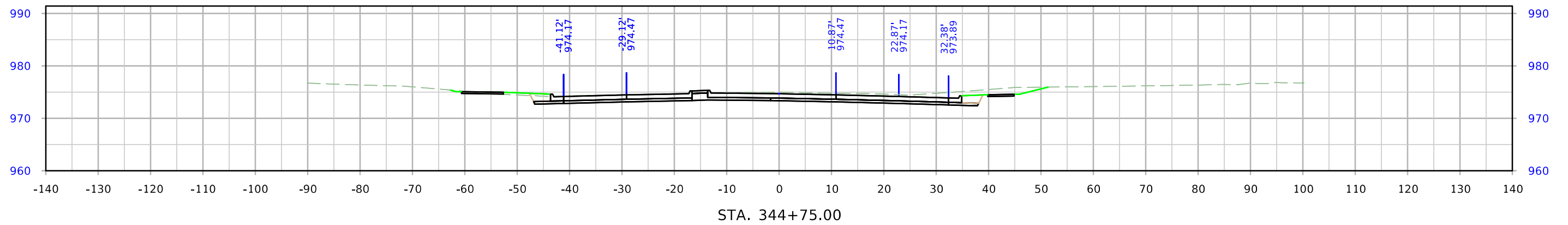
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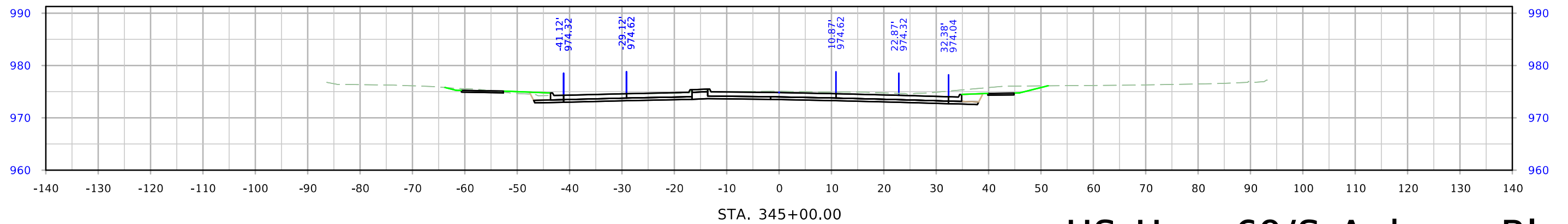
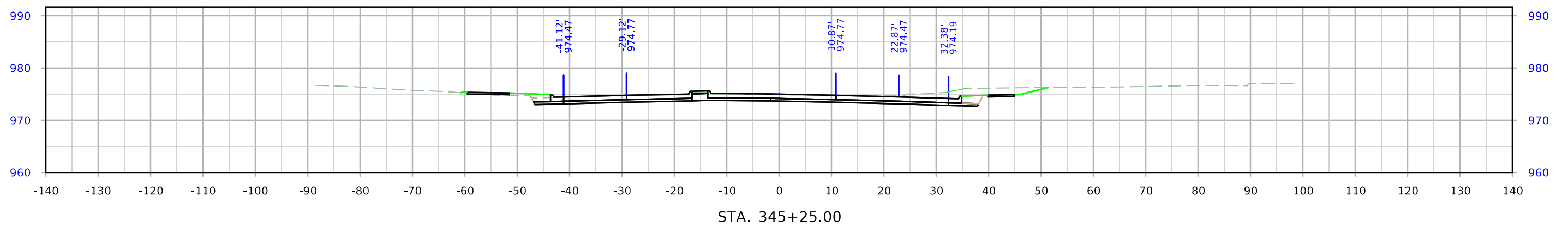
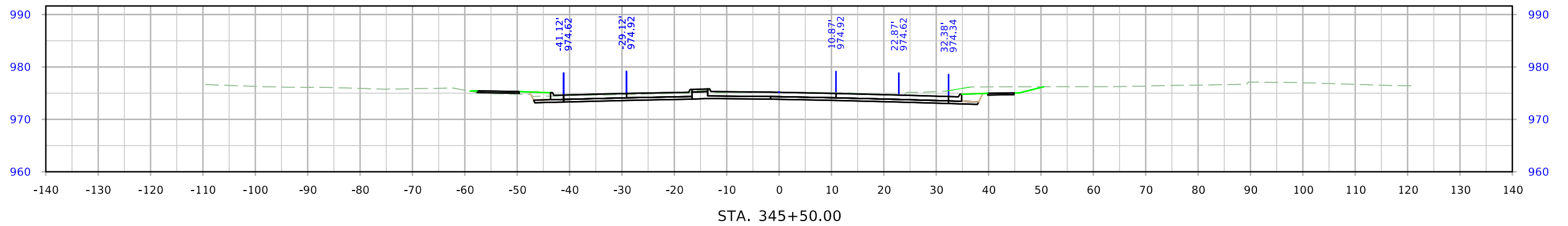


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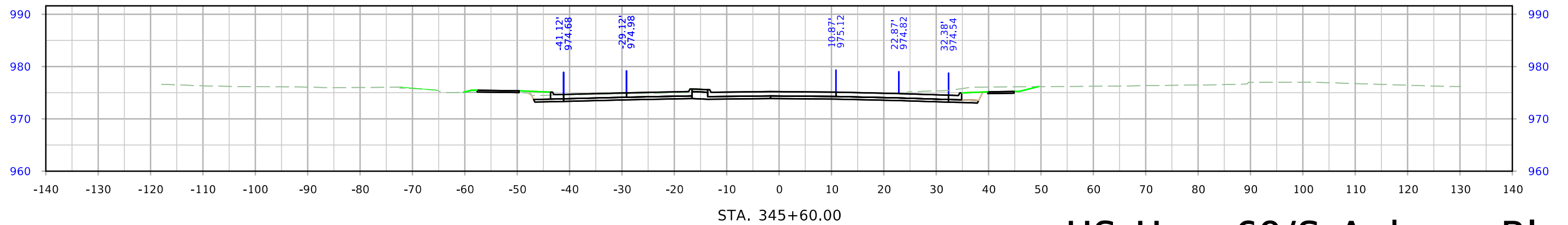




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