

CEDAR COUNTY

PCC PAVEMENT NEW
IMX-080-8(352)268--02-16

LETTING DATE
Jan 16, 2030



PLANS OF PROPOSED IMPROVEMENT ON THE
**PRIMARY ROAD SYSTEM
CEDAR COUNTY
PCC PAVEMENT NEW**
I-80
WILTON TRUCK PARKING
1.4 MILES EAST OF W JCT 38 (WB)
SCALES: As Noted

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



INDEX OF SHEETS	
No.	DESCRIPTION
A Sheets	Title Sheets
* A.1	Title Sheet
* A.2	Location Map Sheet
* A.3 - 5	Standards
B Sheets	Typical Cross Sections and Details
B.1	Typical Cross Sections and Details
D Sheets	Mainline Plan and Profile Sheets
* D.1	Plan & Profile Legend & Symbol Information Sheet
* D.2 - 5	I80 W.B. Plan and Profile Sheets
G Sheets	Survey Sheets
* G.1 - 3	Reference Ties and Bench Marks
J Sheets	Traffic Control and Staging Sheets <-- H Sheets
* J.1 - 2	Traffic Control Layout and Staging Notes
* J.3	Traffic Control and Staging Legend and Symbol Sheet
* J.4 - 6	Traffic Control Plan
K Sheets	Interchange Sheets
* K.1	Interchange Layout Sheets
* K.2 - 4	RAMP Plan and Profile Sheets
U Sheets	Modified Standards and Detail Sheets
U.1 - 4	Modified Standards and Detail Sheets
W Sheets	Mainline Cross Sections
* W.1	Cross Sections Legend & Symbol Information Sheet
* W.2 - 38	Mainline Cross Sections
X Sheets	Side Road Cross Sections
* X.1 - 15	Side Road Cross Sections
	* Color Plan Sheets

REVISIONS		TOTAL
		81
PROJECT IDENTIFICATION NUMBER		
22-16-080-050		
PROJECT NUMBER		
IMX-080-8(352)268--02-16		
R.O.W. PROJECT NUMBER		
IMX-080-8(355)268--0E-16		
		-
		-

ANTICIPATED PROJECT DEVELOPMENT SCHEDULE:

D00	PRE-DESIGN CONCEPT	05/02/2023
D01	DESIGN SURVEY	12/04/2024
D02	FIELD EXAM	05/02/2025
D03	PLANS FOR PRELIMIM. BRIDGE	06/06/2025
B02	DRAINAGE PLANS TO PRELIM BRIDGE	10/03/2025
S02	SOILS RELATED R/W ISSUES	11/14/2025
R01/R02	R/W LAYOUT, PLOT PLAN AND SUMMARY SHEETS	04/17/2026
P09	PUBLIC INFORMATIONAL MEETING	06/17/2026
L03	LETTING	01/16/2030

I-80 WB Lanes
DESIGN DATA RURAL

2023	AADT	19000	V.P.D.
20 --	AADT	-	V.P.D.
20 --	DHV	-	V.P.H.
	TRUCKS	39	%
	Total Design ESALs	-	

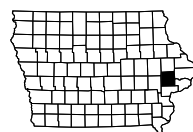
INDEX OF SEALS

SHEET NO.	NAME	TYPE	BID QUANTITY SHEETS
A.1	MARK DURBAHN	Primary Signature Block	X

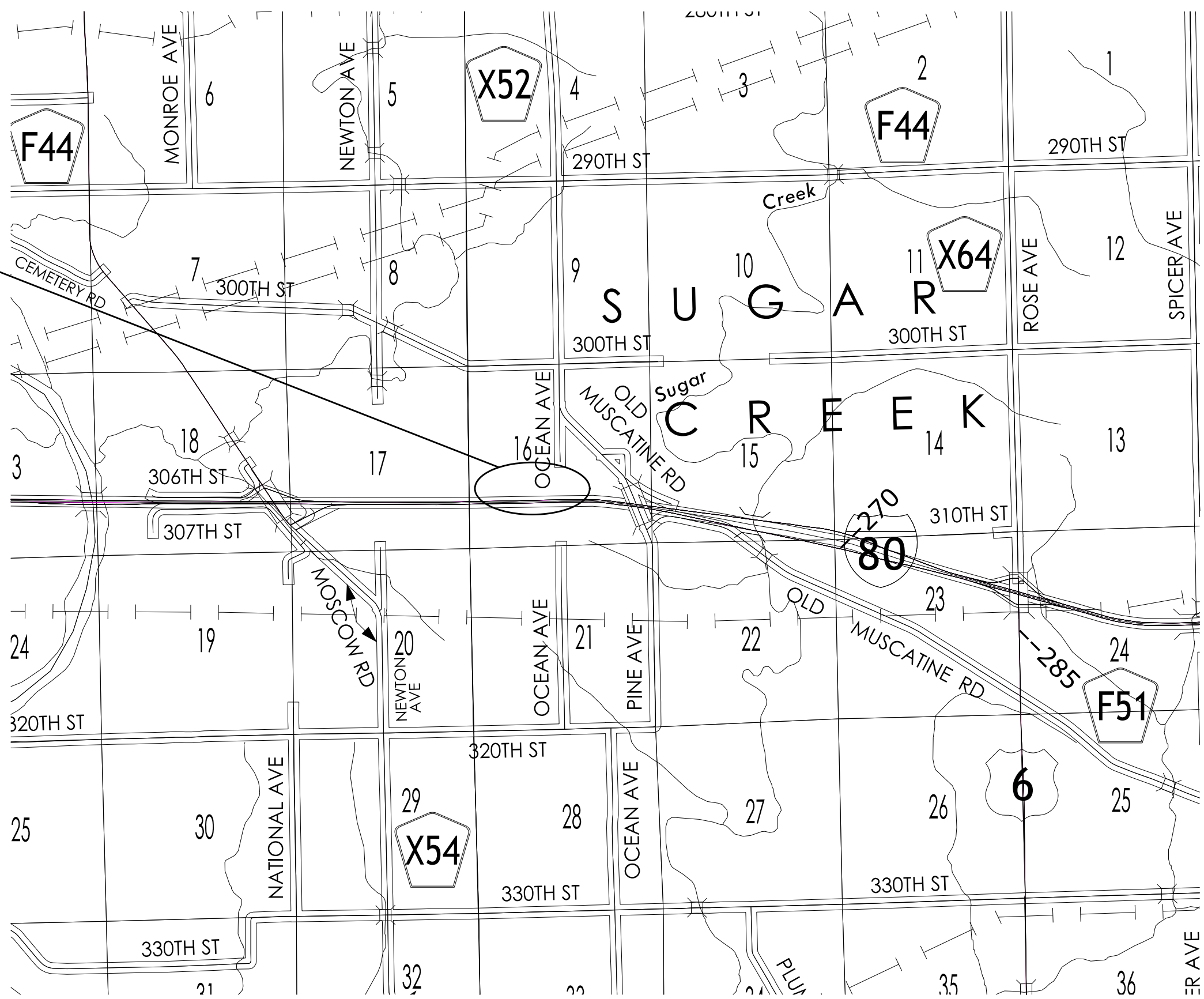
PRELIMINARY PLANS

Subject to change by final design.

D5 PLAN - Date: TBD



PROJECT LOCATION



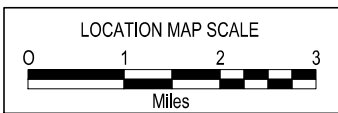
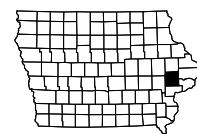
HIGHWAY AND TRANSPORTATION MAP
CEDAR COUNTY
IOWA

Prepared By

SYSTEMS PLANNING BUREAU
 Phone: (515) 239-1664
 WWW.IOWADOT.GOV/MAPS



In Cooperation With
United States
Department of Transportation
 JANUARY 1, 2025



Roadway	I-80 WB Truck Parking - Wilton		
PIN Number	22-16-080-050	Submittal Date	
Project Number	IMX-080-8(352)268--02-16		Approval Date
District	District 6	Assistant District Engineer	
County	CEDAR	or	
Route	I-80	Office Director	
Location	1.4 m E of W Jct IA 38 (WB)		
Work Type	PCC Pavement - Grade and Replace		
Segment Manager			
Designer	AECOM		

[Design Manual Section 1C-1](#)
[Last Updated: 04-29-19](#)

Ramps

Design Element		Preferred Values	Acceptable Values	Project Values
Design speed (mph)		See Design Speed for Ramps Table Below	See Design Speed for Ramps Table Below	60
Design lane width (ft)				
Turn-lane width (ft)	Interstate ramps	12	12	N/A
	Non-Interstate ramps	12	10	N/A
Pavement cross-slope (on tangent sections)		2%	1.5% minimum, 2% maximum	2%
Shoulder cross-slope (on tangent sections)		4	Shoulder cross-slope cannot be less than the adjacent lane, 6% max for paved or granular shoulders, 8% max for earth shoulders	4%
Foreslope (For fill areas greater than 40 ft, contact the Soils Design Section for assistance)	Adjacent to shoulder	10:1 for 4' then 6:1	4:1 for interstates*, 3:1 for other roadways	10:1/6:1
	Beyond standard ditch depth and design clear zone	3.5:1	3:1	3.5:1
	Curbed roadways	2%	not steeper than 3:1	2%
Bridge width—new**		design lane widths + effective shoulder widths	design lane widths + effective shoulder widths	N/A
Bridge width—existing**		design lane widths + effective shoulder widths	design lane widths + effective shoulder widths	N/A
Vertical clearance (ft) (above lanes, shoulders and 25 feet left and right of the center of railroad tracks)	Over primary	16.5	16	N/A
	over non-primary	16.5 at interchange locations, 15 at all other locations	14	
	over railroad	23.3	23.3	
	sign truss and pedestrian bridges	17.5	17	
Structural Capacity		Contact Office of Bridges and Structures	Contact Office of Bridges and Structures	

*Design Exception required for ramps on the Interstate system only

**FHWA notification via email is required if acceptable criteria is not met on the Interstate or NHS systems (No formal design exception required)

Effective Shoulder Width and Type for Ramps

Design Element	Ramp Type												Project Values		
	Preferred						Acceptable								
	Diagonal		Loop	Semi-Directional		Directional		Diagonal		Loop	Semi-Directional			Directional	
	one lane	two lane		one lane	two lane	one lane	two lane	Radius*> 500 feet*	one lane		two lane	Radius > 500 feet*		one lane	two lane
Full depth paved width (ft)	16	24	18	16	24	16	24	14	22	17	14	22	14	22	16
Design lane width (ft)	16	12	18	16	12	16	12	14	11	17	14	11	14	11	16
Paved shoulder width (ft) (in the direction of travel)**	Left	4	4	4	4	4	4	4	4	4	4	4	4	4	4
	Right	6	6	6	6	6	8	8	6	6	6	6	6	8	8
***Granular shoulder width (ft) (in the direction of travel)	Left	4	-	-	-	-	-	4	-	-	-	-	-	-	N/A
	Right	6	-	-	-	-	-	6	-	-	-	-	-	-	N/A
Curb type	Interstate	4-inch sloped						4-inch sloped						4-inch	
	Non-Interstate	4-inch sloped						6-inch sloped						N/A	

*For radii less than 500 feet, refer to design widths of pavement for turning roadways in [A Policy on Geometric Design of Highways and Streets](#)

**Left and right shoulders widths may be reversed if needed to provide additional sight distance

***Non-Interstate interchanges only

Notes:

Ramp Design Speed (mph) = 60

Design Criteria for Ramps Based Upon Design Speed

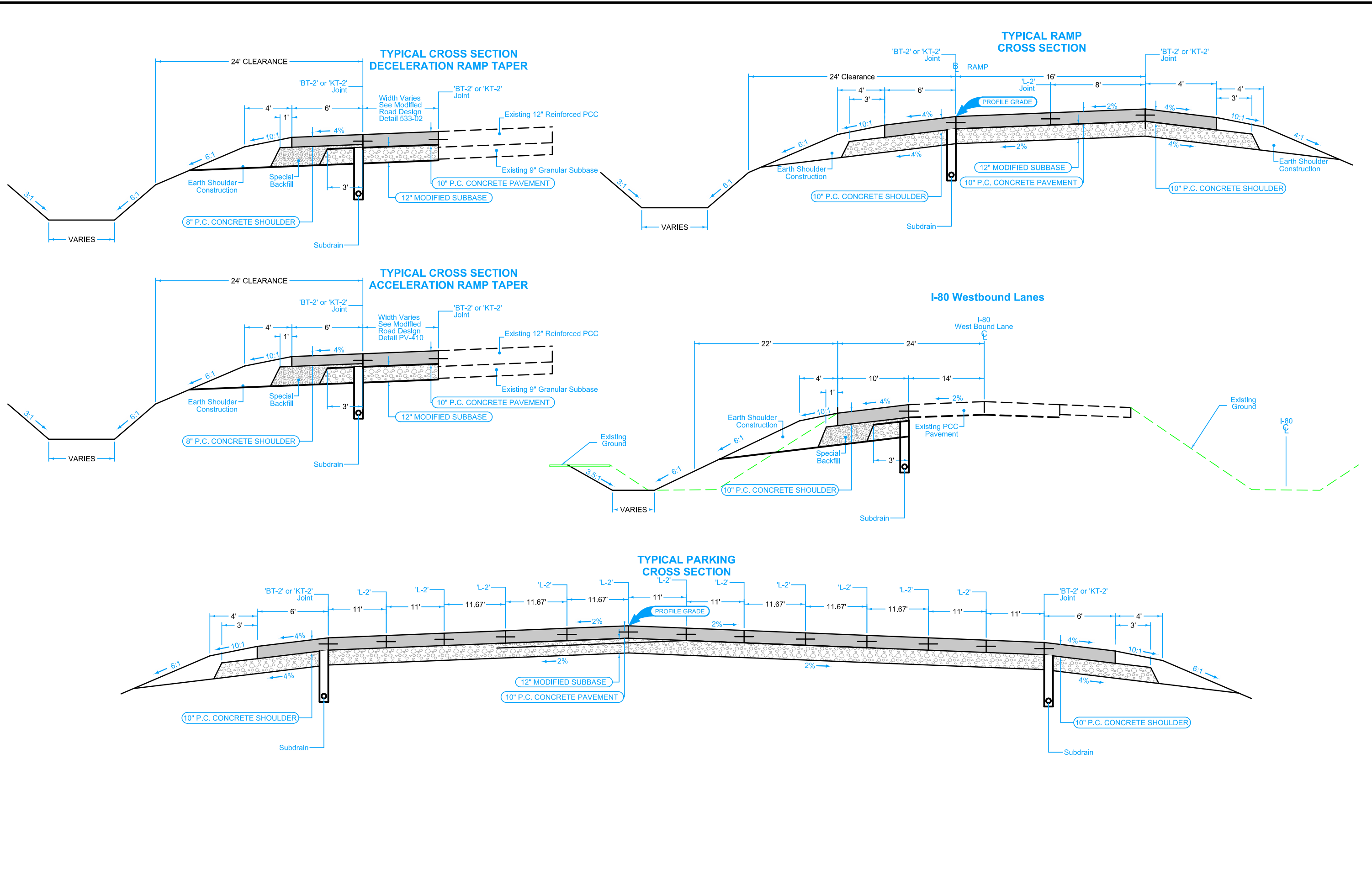
Design Element	Preferred Criteria								Acceptable Criteria								Project Values																
	Design Speed, mph								Design Speed, mph																								
	25	30	35	40	45	50	55	60	25	30	35	40	45	50	55	60																	
Stopping sight distance (ft) (Refer to Section 6D-1)	155	200	250	305	360	425	495	570	155	200	250	305	360	425	495	570	570																
Minimum horizontal curve radius (ft) and superelevation rate (Refer to Sections 2A-2 and 2A-3)	Method 2 superelevation and side friction distribution e = 4% max								See Table 10 in Section 2A-3																								
	Method 5 superelevation and side friction distribution e _{max} = 6%								144	231	340	485	643	833	1060	1330	144	231	340	485	643	833	1060	1330	1330								
	Method 5 superelevation and side friction distribution e _{max} = 8%								--	--	--	--	--	--	--	--	134	214	314	444	587	758	960	1200									
Minimum vertical curve length (ft) (Refer to Section 2B-1)	75	90	105	120	135	150	165	180	75	90	105	120	135	150	165	180	180																
Minimum Rate of Vertical Curvature (Refer to Section 2B-1)	crest vertical curves								12	19	29	44	61	84	114	151	12	19	29	44	61	84	114	151	151								
	sag vertical curves								roadways without fixed-source lighting								26	37	49	64	79	96	115	136	26	37	49	64	79	96	115	136	136
									roadways with fixed-source lighting								26	37	49	64	79	96	115	136	14	20	27	35	44	54	66	78	136
Minimum gradient (%) (Refer to Section 2B-1)	0.5								0.3% with a curb, 0.0% without a curb								0.5																
Maximum gradient (%) on ramps (Refer to Sections 2B-1)	Upgrades								8	7	6	6	5	5	5	5	8	7	6	6	5	5	5	5	4								
	Downgrades								4								Equal to the maximum upgrade gradient. In special cases, may be 2% greater but in no case greater than 8%																
Clear zone	See "Preferred Clear Zone" table in Section 8A-2								See "Acceptable Clear Zone" table in Section 8A-2																								

Ramp Design Speed (mph) = **60**

Design Speed for Ramps

[Design Manual Section 1C-1](#)
Last Updated: 04-29-19

Design Element	Ramp Type										Project Values
	Preferred					Acceptable					
	All curves near free flow terminals	Diagonal	Loop	Semi-Directional	Directional	All curves near free flow terminals	Diagonal	Loop	Semi-Directional	Directional	
Curves near at-grade terminals		Curves near at-grade terminals									
Design speed (mph)	60	40	30	50	60	50	35	25	40	40	60
Maximum superelevation rate (Refer to Section 2A-2 for details)	6%	4%	6%			8%					



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

- E1 Eastern Iowa Light and Power
Mark Elder
Phone: 563-732-7360
Email: mark.elder@easterniowa.com
- F0 Iowa Communications Network

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.		Transparency
Pink, Dark	(13)		Temporary Pavement Shading	50%
Yellow	(4)		Proposed Pavement Shading	50%
Orange	(6)		Proposed Granular Shading	50%
Orange	(70)		Proposed Shoulder Granular Shading	50%
Yellow	(68)		Proposed Shoulder Paved Full Depth Shading	50%
Yellow	(132)		Proposed Shoulder Paved Partial Depth Shading	50%
Brown, Light	(236)		Grading Shading	50%
Orange, Light	(134)		Proposed Granular Entrance Shading	50%
Yellow	(220)		Proposed Paved Entrance Shading	50%
Tan	(8)		Proposed Sidewalk Shading	50%
Blue, Light	(230)		Proposed Sidewalk Landing Shading	50%
Pink	(11)		Proposed Sidewalk Ramp Shading	50%
Red	(3)		Proposed Structure Shading	50%
Red	(3)		Delineates Restricted Areas	0%

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

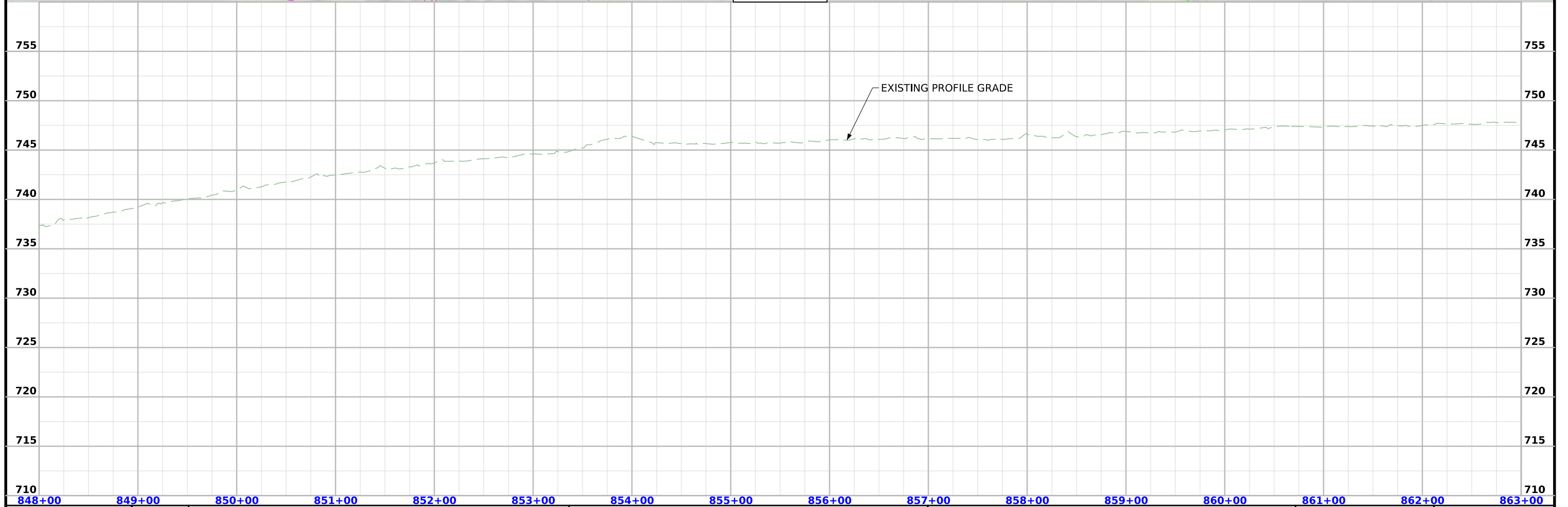
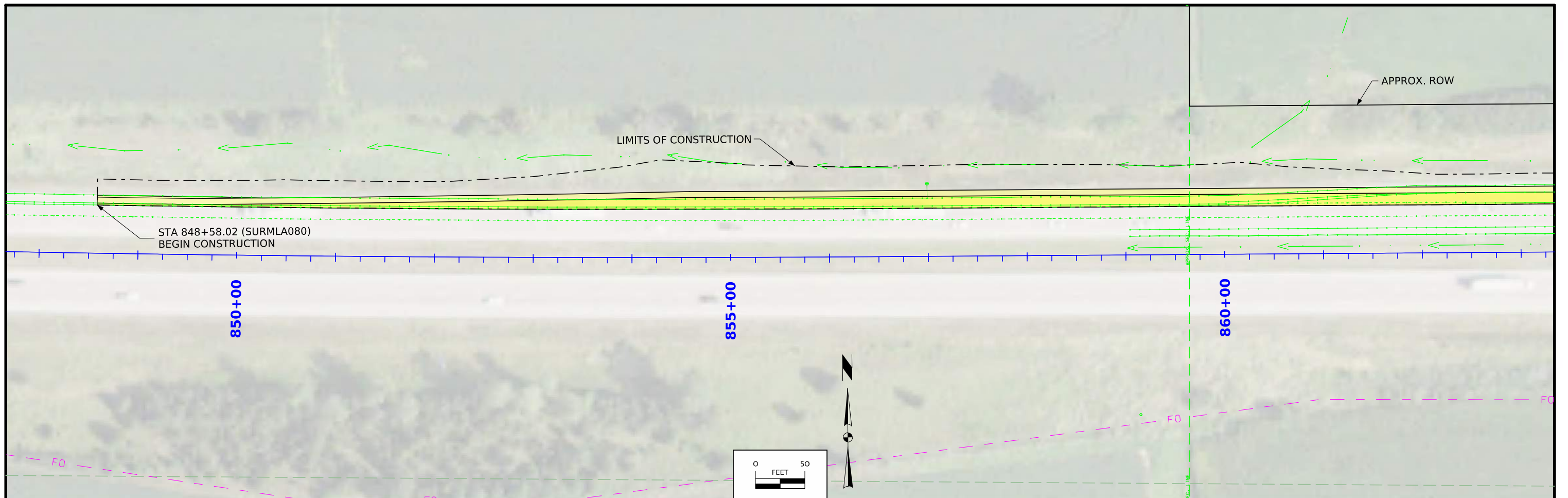
- Reference Point
- Station
- Survey Line
- Section Corner
- Ground Line Intercept
- Saw Cut
- Guardrail
- Trench Drain
- HighTension Cable Guardrail
- Sheet Pile
- Pavement Removal
- Clearing & Grubbing Area

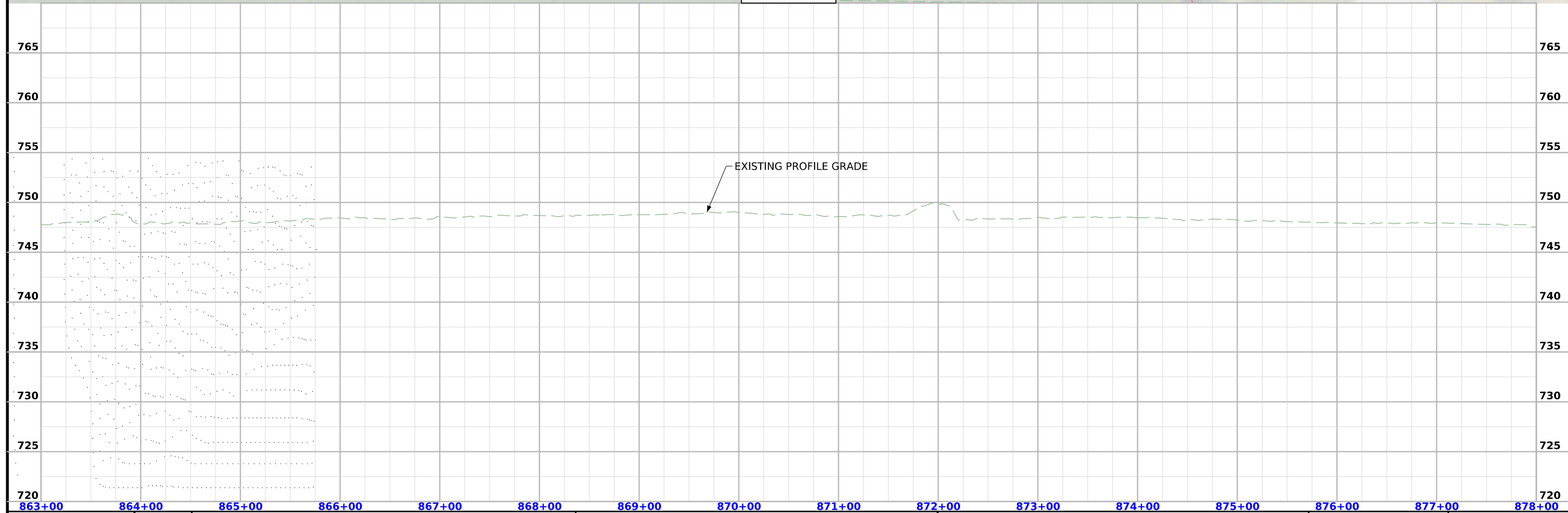
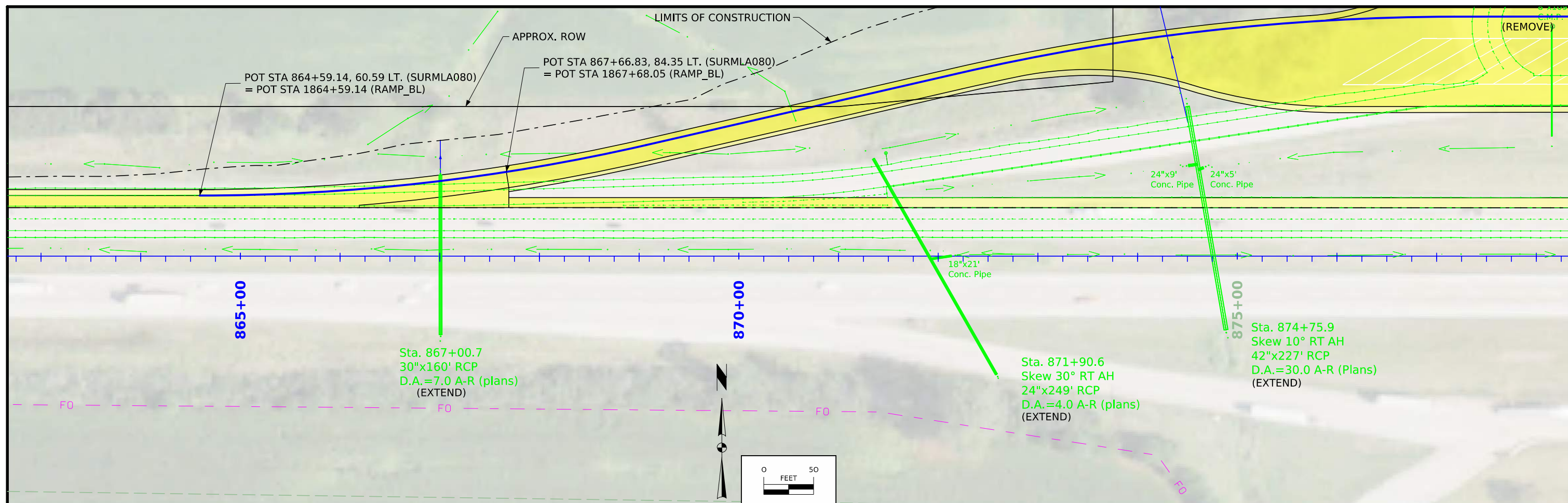
RIGHT-OF-WAY LEGEND

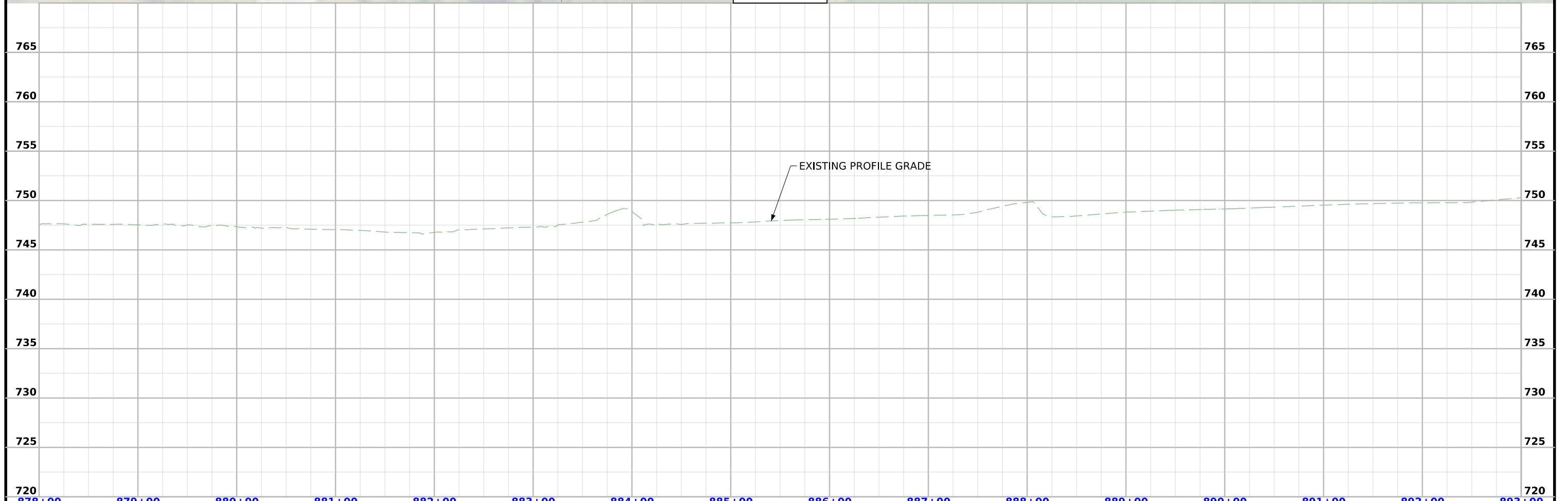
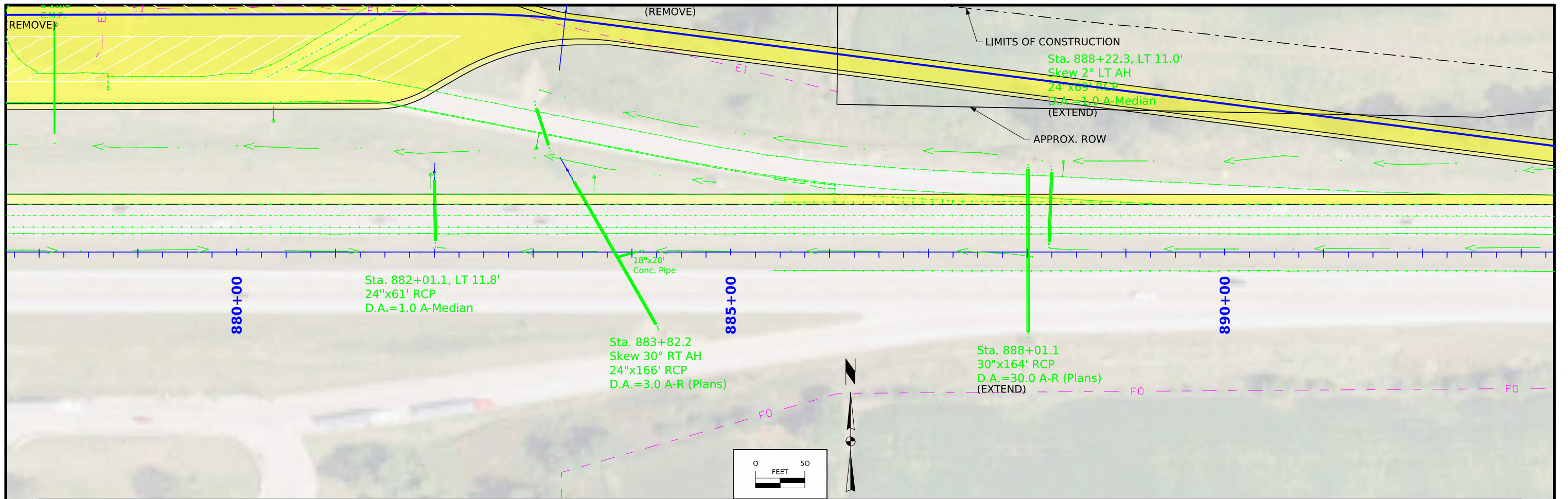
- Proposed Right-of-Way Symbol
- Proposed Right-of-Way Line
- Existing Right of Way
- Existing and Proposed Right-of-Way
- Easement and Existing Right-of-Way
- Easement (Temporary) Symbol
- Easement (Temporary) Line
- Easement
- C/A Access Control
- Property Line Symbol
- Property Line

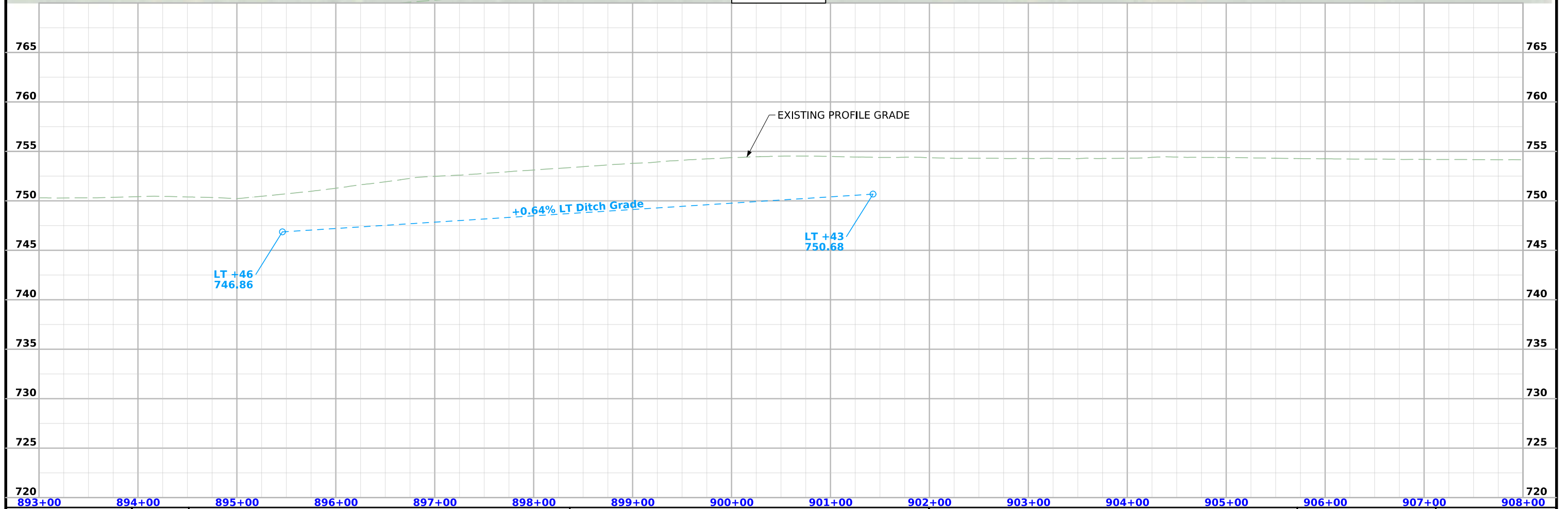
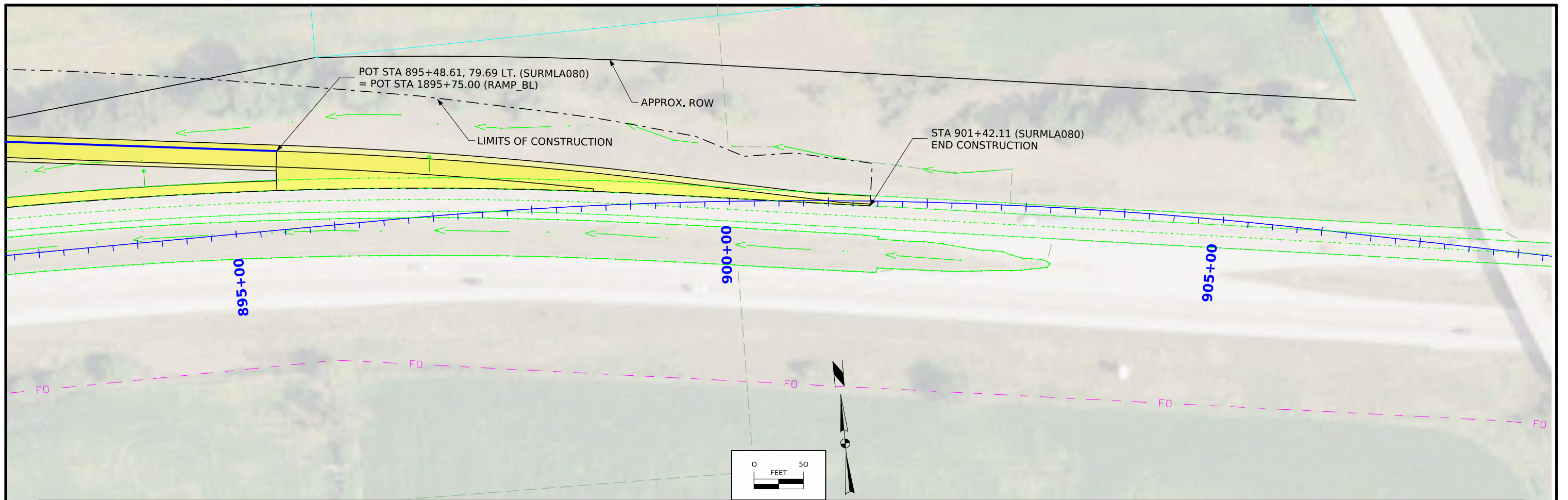
PLAN AND PROFILE LEGEND AND SYMBOL INFORMATION SHEET

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









Survey Information

SURVEY INDEX

County: Cedar
PIN: 22-16-080-050

Project Number: IMX-080-8(352)268--02-16

Location: Wilton Truck Parking Only Site 1.4 mi E of W Jct. IA 38 (WB)

Type of Work: PCC Pavement - Grade and Replace

Project Directory: 1608005022

Survey Personnel

John Hahn – Survey Party Chief
Jason Page – Engineering Technician Senior

Date(s) of Survey

Begin Date 12/04/2024
End Date 12/16/2024

General Information

This survey is for the Westbound Wilton Truck Parking Only Site 1.4 mi E of W Jct. IA 38. This survey request was for the US Interstate 80 corridor only. This project is a Partial Field DTM with Photo control.

Project Control

This survey held 3 local Control Monuments as fixed, from previous project IM-080-7(132)266—13-16.

Point Name	Northing	Easting	Elevation	Code Description
FENO2	7932401.16	20650487.31	675.72	CP FND FENO MON AS DESCRIBED IN GOOD CONDITION
FENO3	7931576.61	20656608.15	750.54	CP FND FENO MON AS DESCRIBED IN GOOD CONDITION
FENO4	7931615.38	20662241.43	745.23	CP FND FENO MON AS DESCRIBED IN GOOD CONDITION

PROJECT DATUM: NAD83(2011) for EPOCH 2010.00
COORDINATE SYSTEM: IOWA REGIONAL COORDINATE SYSTEM ZONE 10
(U.S. SURVEY FOOT)
VERTICAL DATUM: NAVD88
GEOID MODEL: 2012bu3

Alignment Information

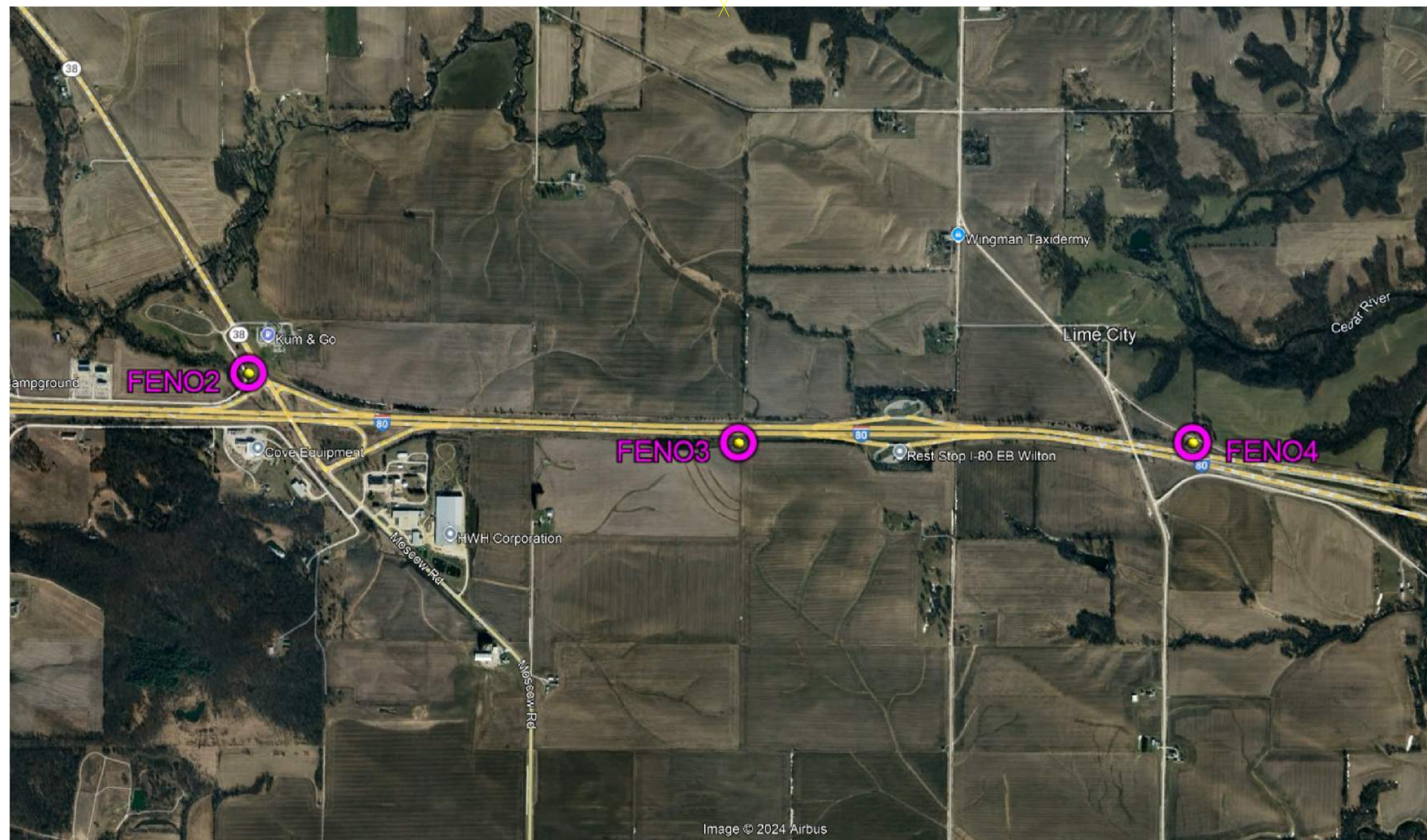
The Interstate 80 alignment chain was carried forward from previous project IM-080-7(132)266—13-16.

Utility Information

For logging data and other utility details see Utility Survey and Ownership Report in the Utility folder of the PrelimSurvey project directory.

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 - Iowa RCS Zone 10 (U.S. Survey Foot)

VERT. DATUM: NAVD88 - Geoid Model: 2012bu3

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

HORIZONTAL AND VERTICAL PROJECT CONTROL COORDINATE LISTING

HORIZ. DATUM: NAD83(2011) for EPOCH 2010.00
 1a. Regional Coordinate System Zone 10 (U.S. Survey Foot)

VERT. DATUM: NAVD88
 Geoid Model: 2012bu3

Point Name	Northing	Easting	Elevation	Code - Description
FENO2	7932401.16	20650487.31	675.72	CP FND FENO MON AS DESCRIBED IN GOOD CONDITION
FENO3	7931576.61	20656608.15	750.54	CP FND FENO MON AS DESCRIBED IN GOOD CONDITION
FENO4	7931615.38	20662241.43	745.23	CP FND FENO MON AS DESCRIBED IN GOOD CONDITION

Cedar IMN-080-8(355)268--0E-16
 Wilton Truck Parking Only Site 1.4 mi E of W Jct IA 38 (WB)
[1608005022](#)

Project Code 22-16-080-050

Route 180

Parcel No	Owner Name	State		County		City		Excess	Temp Ease		Mitigation	Other	Relocation Needed	A/C Only	Total Acq
		Fee	Ease	Fee	Ease	Fee	Ease								
1	Shirley I Meyer	0.82 AC													
2	Melanie B Langley Trust	1.67 AC													

2 Parcels

NO ACCESS RIGHTS ARE TO BE ACQUIRED ON THIS PROJECT.

ACCESS CONTROL PREVIOUSLY ACQUIRED.

1

SHIRLEY I MEYER

STATE OF IOWA

STA: 873+75.30
OFF: 295.00' LT

STA: 871+70.00
OFF: 250.00' LT

STA: 868+95.00
OFF: 149.84' LT

24"x9" Conc. Pipe
24"x5" Conc. Pipe

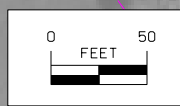
16"x21" Conc. Pipe

Sta. 882+00.1, LT 11.8'
24"x61" RCP
D.A.=1.0 A Median

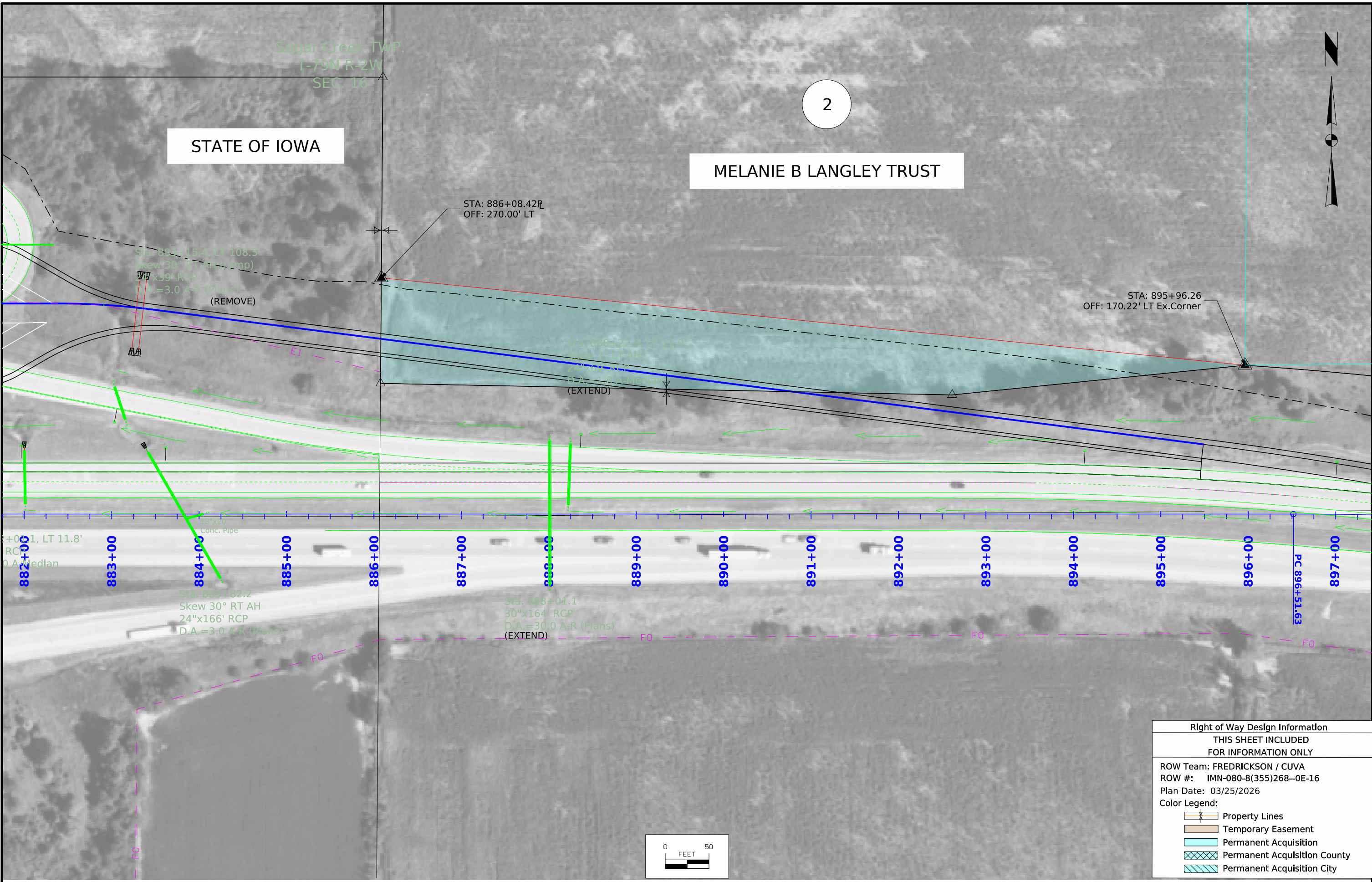
Sta. 874+75.9
Skew 10° RT AH
42"x227" RCP
D.A.=30.0 A-R (Plans)
(EXTEND)

Sta. 871+90.6
Skew 30° RT AH
24"x249" RCP
D.A.=4.0 A-R (Plans)
(EXTEND)

868+00 869+00 870+00 871+00 872+00 873+00 874+00 875+00 876+00 877+00 878+00 879+00 880+00 881+00 882+00 883+00



Right of Way Design Information	
THIS SHEET INCLUDED FOR INFORMATION ONLY	
ROW Team: FREDRICKSON / CUVA	
ROW #: IMN-080-8(355)268--0E-16	
Plan Date: 03/25/2026	
Color Legend:	
	Property Lines
	Temporary Easement
	Permanent Acquisition
	Permanent Acquisition County
	Permanent Acquisition City



STATE OF IOWA

MELANIE B LANGLEY TRUST

2

Sugar Creek TWP,
T-79N R-2W
SEC. 16

STA: 886+08.42R
OFF: 270.00' LT

STA: 895+96.26
OFF: 170.22' LT Ex.Corner

Sta. 883+15.4, LT 108.5
Skew 30° RT AH (Imp)
24"x39' RCP
D.A.=3.0 A-R (Plans)
(REMOVE)

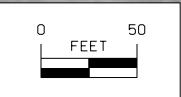
Sta. 888+22.3, LT 11.0'
Skew 2° LT AH
24"x69' RCP
D.A.=3.0 A-R Median
(EXTEND)

Sta. 883+82.2
Skew 30° RT AH
24"x166' RCP
D.A.=3.0 A-R (Plans)

Sta. 888+01.1
30"x164' RCP
D.A.=3.0 A-R (Plans)
(EXTEND)

PC 896+51.63

Right of Way Design Information	
THIS SHEET INCLUDED FOR INFORMATION ONLY	
ROW Team: FREDRICKSON / CUVA	
ROW #: IMN-080-8(355)268--0E-16	
Plan Date: 03/25/2026	
Color Legend:	
	Property Lines
	Temporary Easement
	Permanent Acquisition
	Permanent Acquisition County
	Permanent Acquisition City



108_23A
8/15/22

TRAFFIC CONTROL PLAN

1. Two lanes of WB I-80 shall remain open to traffic at all time. Shoulder closures as necessary will be allowed. For construction in the shoulder area, shift traffic per details shown elsewhere in the plans.
2. Notify DOT staff at least 2 weeks prior to expected closing date of rest area.

ITS Coordination

This project requires coordination with the DOT's ITS Maintenance Contractor to remove existing ITS device (cameras, sensors, poles, etc.) at the locations noted below:

Wilton WB Truck Parking Site

The contractor shall contact Jason Dale, DOT Traffic Operations, phone (515) 239-1995 at least 14 days prior to construction.

108_26A
8/15/22

STAGING NOTES

Shift I-80 traffic to inside shoulder. Close rest area.

- Remove existing tapers, ramps, parking area.
- Construct new ramp tapers. Construct truck parking area.

**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
Orange	(6)	Proposed Granular Surface Shading
Gray, Med	(80)	Previously Constructed Granular Surface Shading
Blue, Light	(230)	Proposed Pavement Shading
Pink, Dark	(13)	Temporary Pavement Shading
Brown, Light	(236)	Proposed Grading Limits Shading
Cyan	(7)	Proposed MSE or CIP Wall Shading
Red	(3)	Proposed Bridge Shading and Sign Trusses
Black w/Gray, Light Fill	(0,48)	Previously Constructed Structure

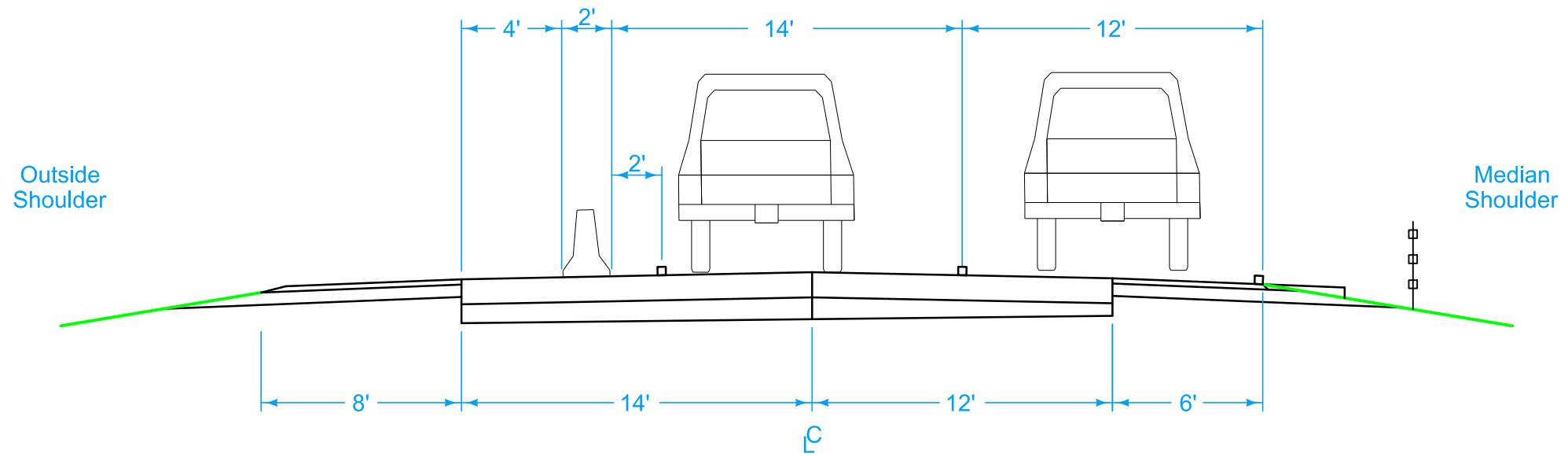
**PLAN VIEW PATTERN AND SYMBOL LEGEND
OF TRAFFIC CONTROL AND STAGING SHEETS**

	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**

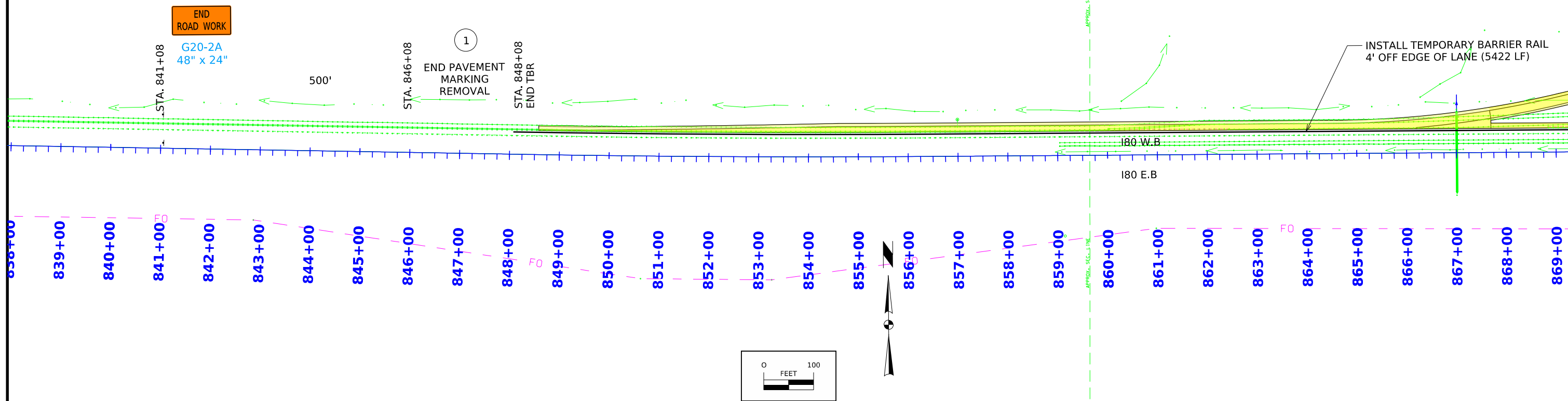
(COVERS SHEET SERIES J)



**INTERSTATE 80 W.B. CEDAR COUNTY
Traffic Control Lane Shift**

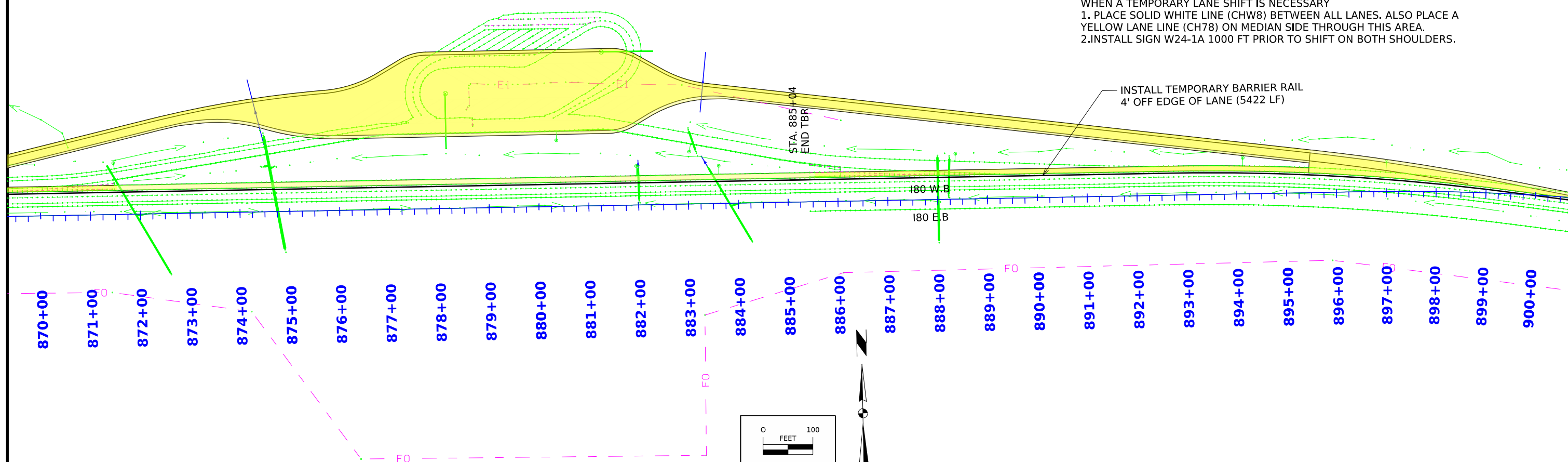
1 200 FT OR 40(W), WHICHEVER IS GREATER, WHERE (W) = LARGEST SHIFT DIMENSION

WHEN A TEMPORARY LANE SHIFT IS NECESSARY
 1. PLACE SOLID WHITE LINE (CHW8) BETWEEN ALL LANES. ALSO PLACE A YELLOW LANE LINE (CH78) ON MEDIAN SIDE THROUGH THIS AREA.
 2. INSTALL SIGN W24-1A 1000 FT PRIOR TO SHIFT ON BOTH SHOULDERS.



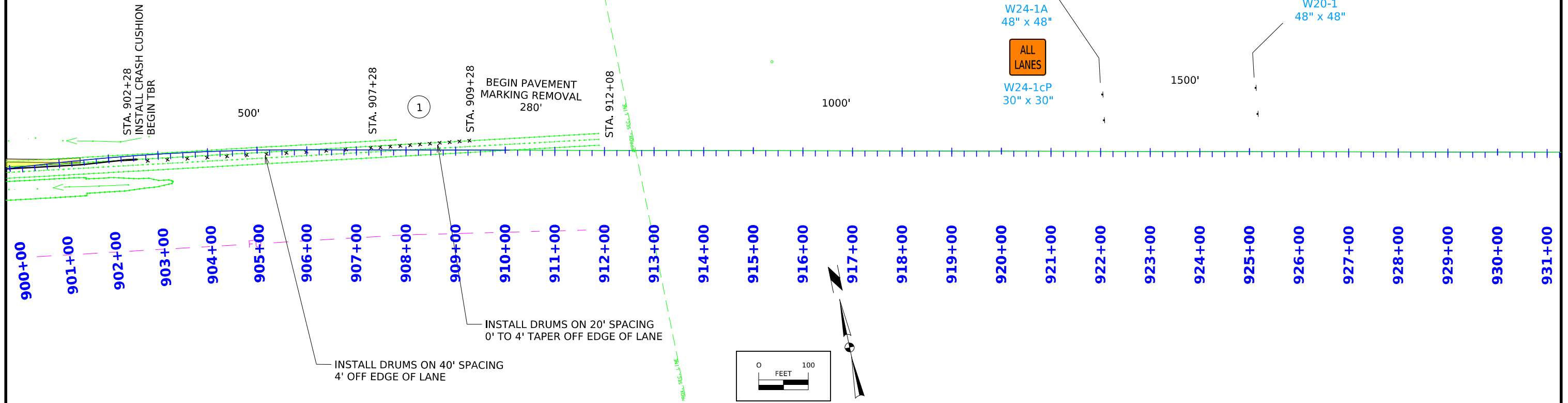
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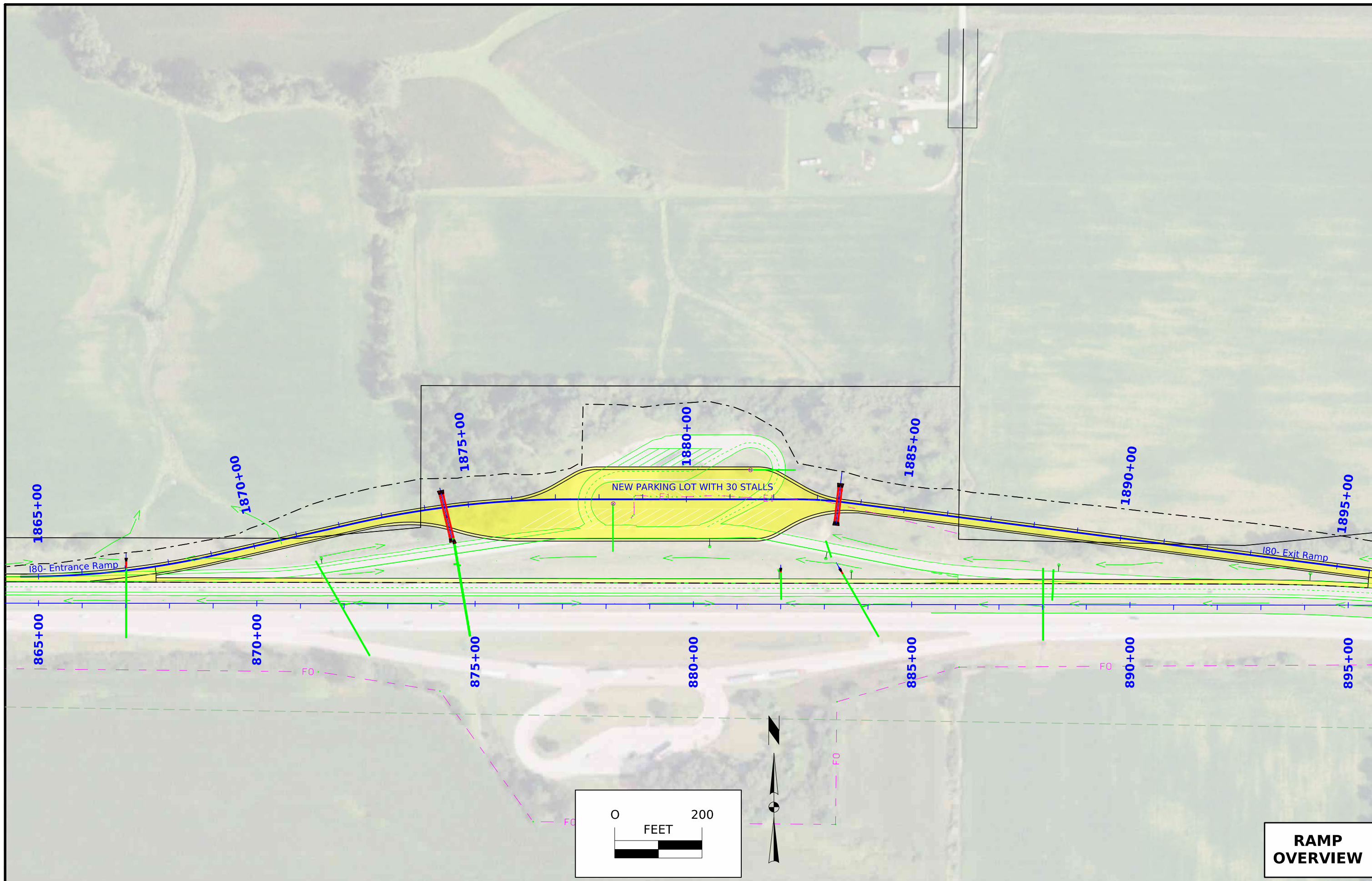
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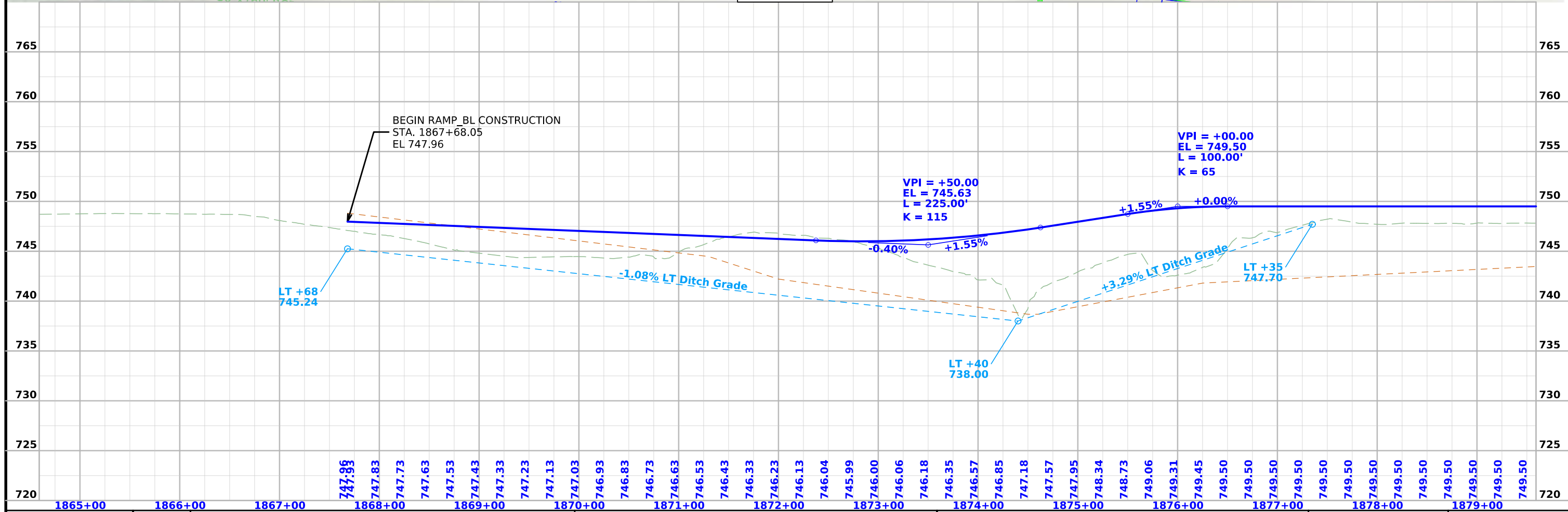
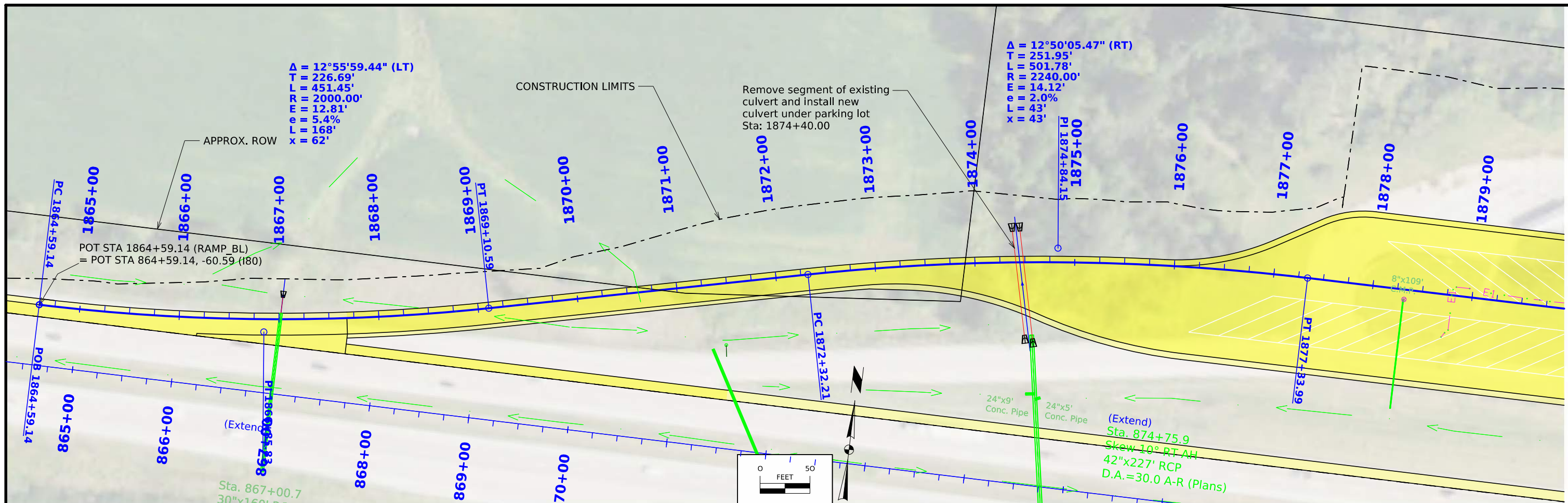


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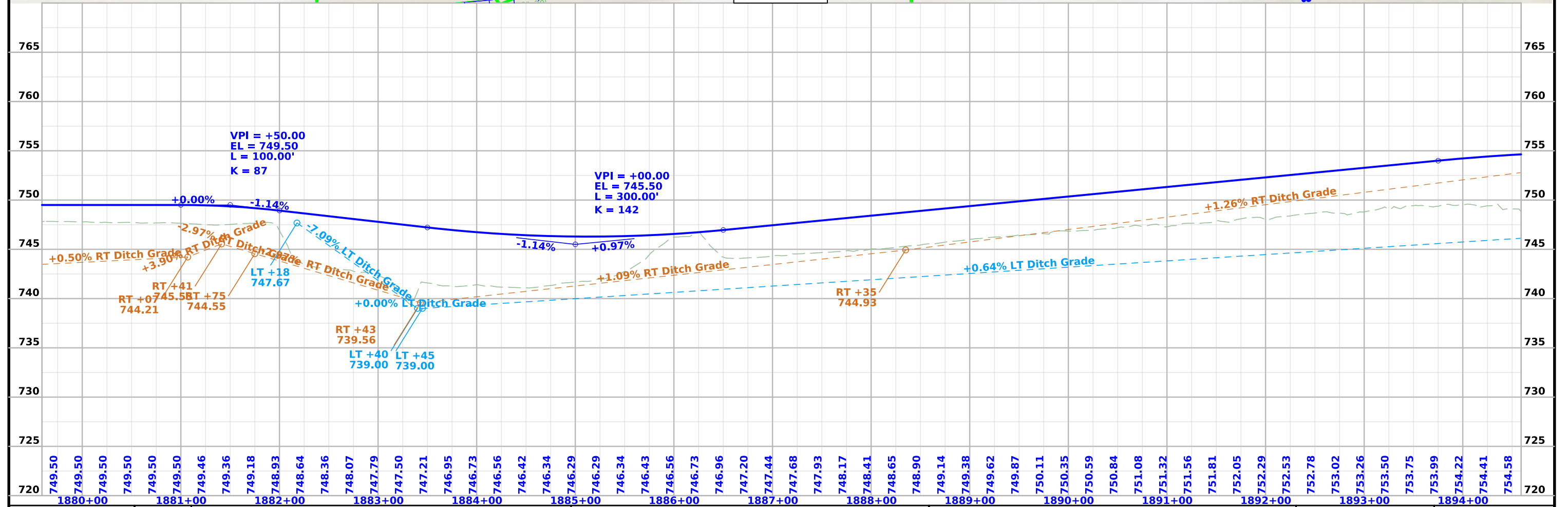
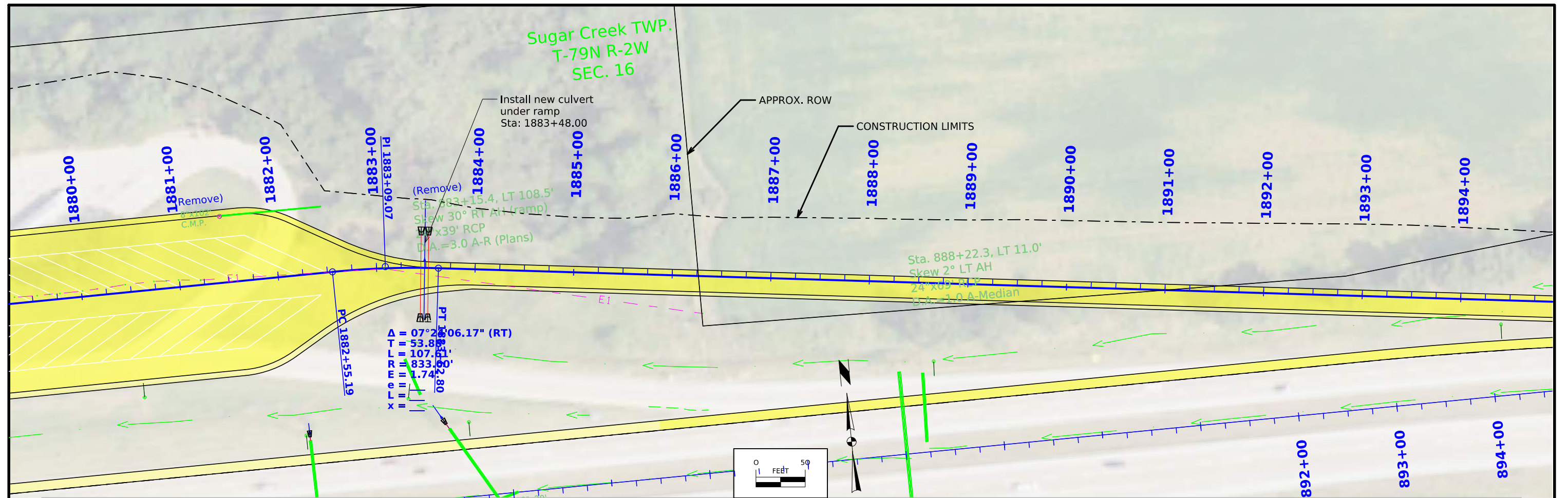
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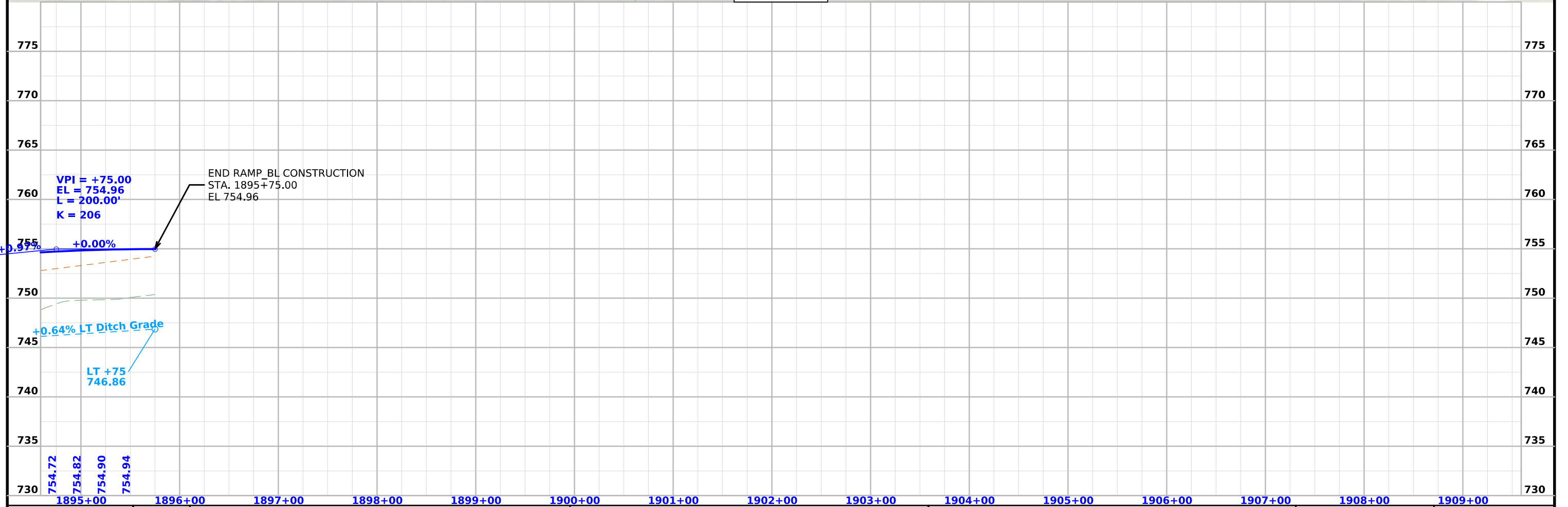
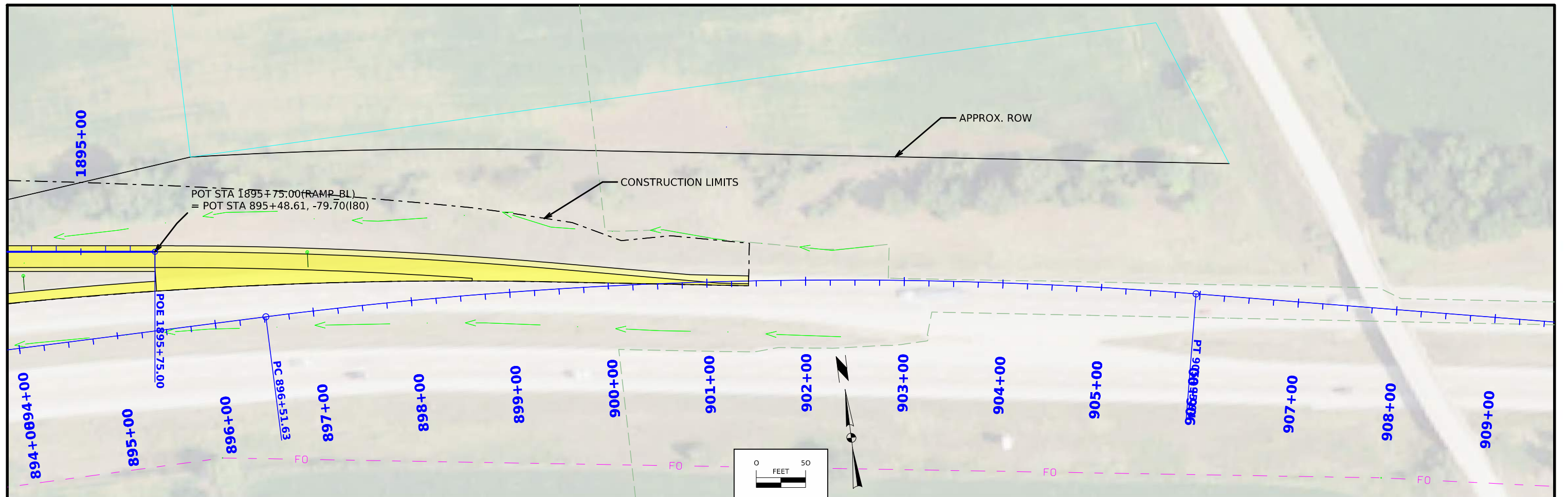




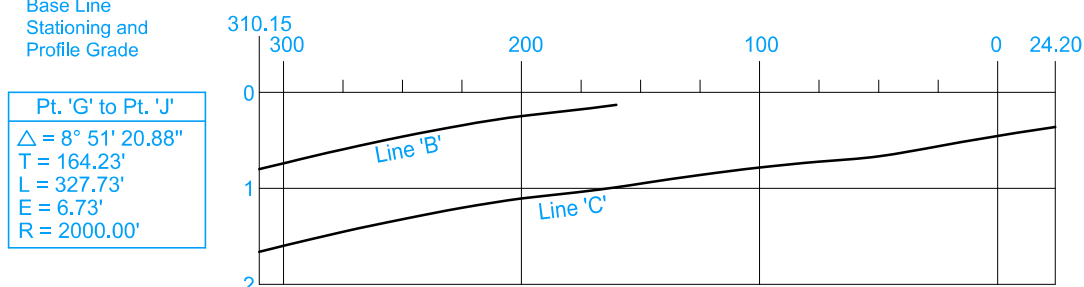
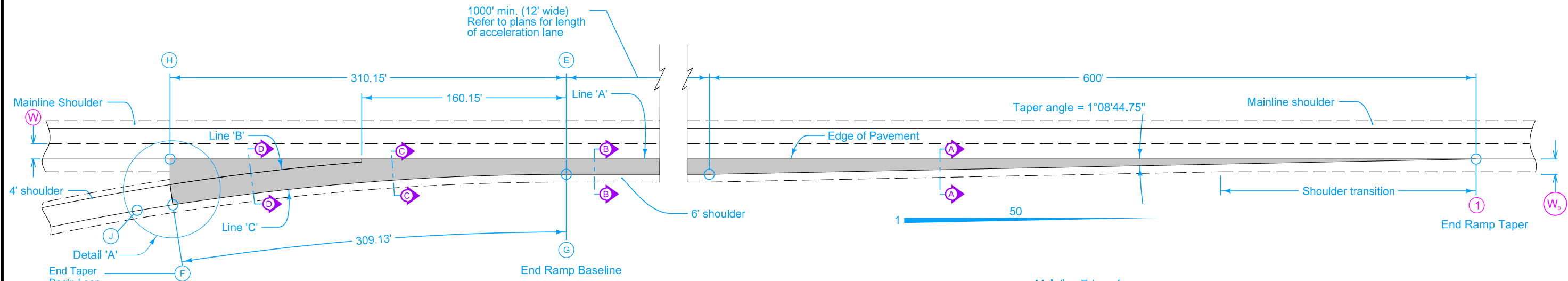
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FILE NO. 32872	ENGLISH	DESIGN TEAM AECOM	CEDAR COUNTY	PROJECT NUMBER IMX-080-8(352)268--02-16	SHEET NUMBER K.3
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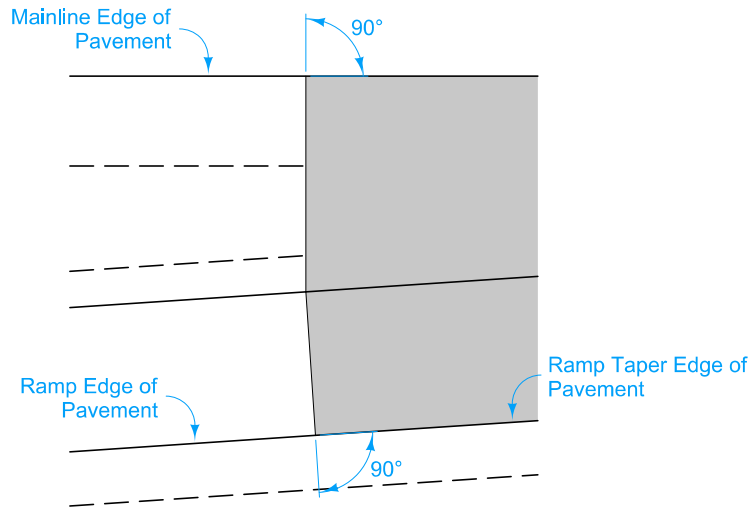
FILE NO. 32872	ENGLISH	DESIGN TEAM AECOM	CEDAR COUNTY				PROJECT NUMBER IMX-080-8(352)268--02-16	SHEET NUMBER K.4
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Pt. 'G' to Pt. 'J'
 $\Delta = 8^\circ 51' 20.88''$
 $T = 164.23'$
 $L = 327.73'$
 $E = 6.73'$
 $R = 2000.00'$

NOTE: The algebraic difference between ramp profile grade at point (F) and relative profile grade of mainline at point (H) is 0.62%

W ₀	Shoulder Width beyond Edge of Mainline Pavement		
	8'	10'	12'
12'	NA	100'	150'



DETAIL A

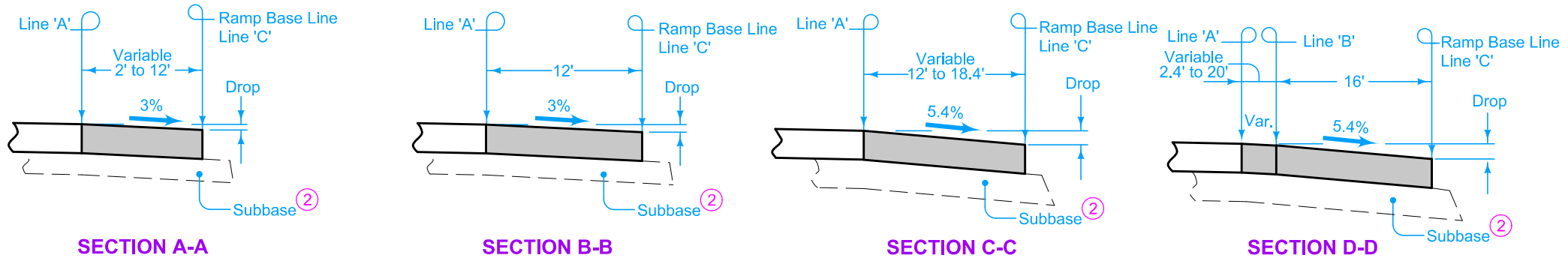
Construct ramp exit pavement the same thickness as mainline pavement.

For joint detail, see PV-101.

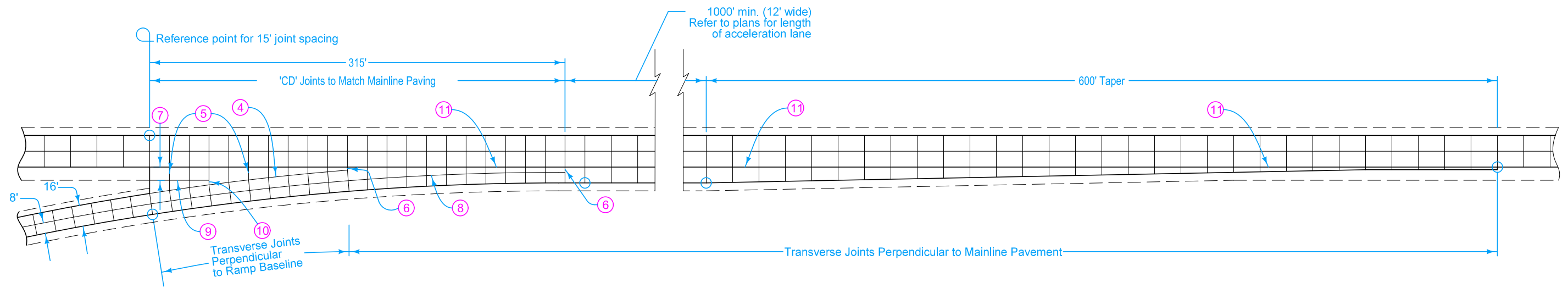
① For header construction detail at the end of taper, see Typical 7101 or Typical 7102.

② Construct subbase for ramp exit pavement the same thickness as mainline subbase.

DISTANCE FROM POINT (E) ALONG LINE 'A' (Ft.)		310.15	300	275	250	225	204	200	175	160.15	150	125	100	75	50	25	0	24.2		
From Line 'A' To Line 'B'	OFFSET (Ft.)	20.00	18.45	14.84	11.56	8.60	6.30	5.95	3.61	2.37										
	SLOPE (%)	Constant 4.0% Slope										4.11	4.92	5.40						
	DROP (Ft.)	0.80	0.74	0.59	0.46	0.34	0.25	0.24	0.18	0.13										
From Line 'B' To Line 'C'	OFFSET (Ft.)	Constant 16' Offset																		
	SLOPE (%)	Constant 5.4% Slope																		
	DROP (Ft.)	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86									
From Line 'A' To Line 'C'	OFFSET (Ft.)										17.63	15.91	14.50	13.41	12.63	12.16	12.00	12.00		
	SLOPE (%)										5.40	5.40	5.40	5.40	5.40	4.59	3.78	3.00		
	DROP (Ft.)	1.66	1.60	1.45	1.32	1.20	1.11	1.10	1.04	0.99	0.95	0.86	0.78	0.72	0.68	0.56	0.45	0.36		
DISTANCE FROM POINT (G) ALONG LINE 'C' (Ft.)		309.13	298.73	273.67	248.66	223.68	202.73	198.74	173.83	159.04	150.14	125.08	100.04	75.02	50.01	25.00	0.00			



REVISION	
3	04-20-21
533-02	
SHEET 1 of 2	
REVISIONS: Added Point J and Ramp Profile note.	
ROAD DESIGN DETAIL	
PARALLEL ACCELERATION TAPER FOR 16' RAMP (60 MPH DESIGN SPEED)	

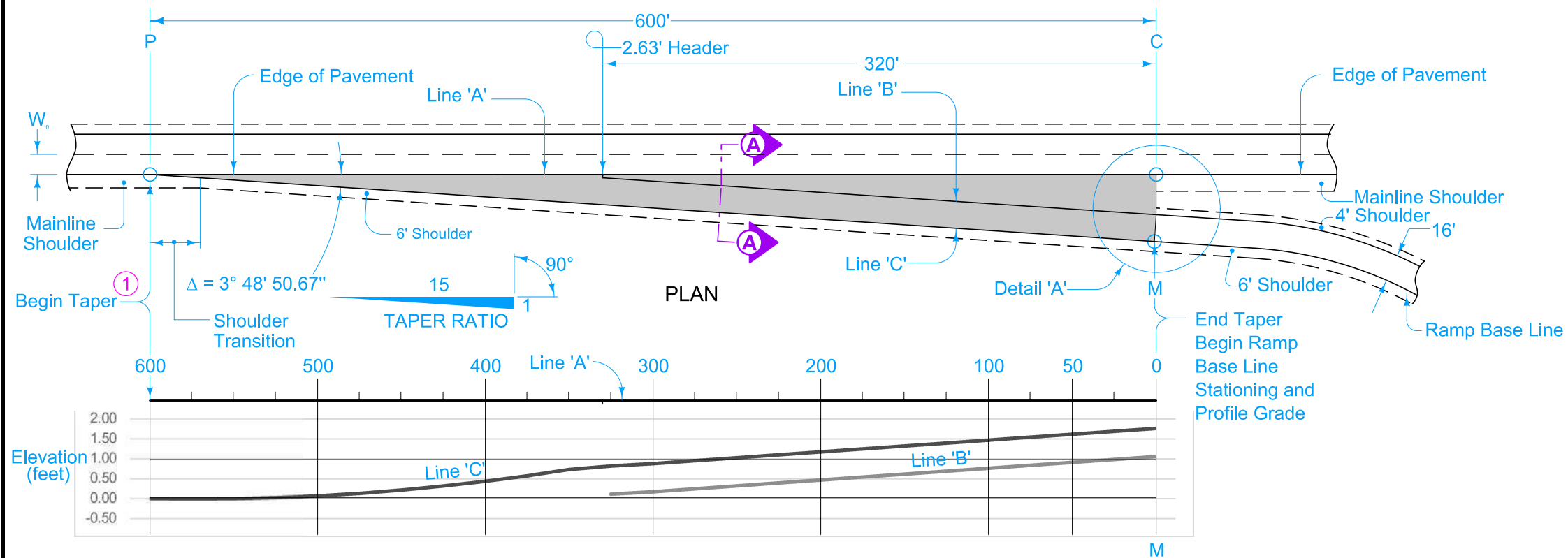


- ③ 'CD' Joints at 15' spacing.
- ④ 'BT-2' or 'KT-2' Joint.
- ⑤ 'C' Joint.
- ⑥ 'B' Joint. 2' minimum, 4' maximum.
- ⑦ 10' minimum or equal to mainline shoulder width.
- ⑧ 'L-2' Joint.
- ⑨ 'C' Joint parallel to mainline pavement.
- ⑩ 'B' or 'C' Joint. 2' minimum, 4' maximum.
- ⑪ 'BT-3' Joints at 17' spacing.

	REVISION	
	3	04-20-21
ROAD DESIGN DETAIL		533-02
		SHEET 2 of 2

REVISIONS: Added Point J and Ramp Profile note.

**PARALLEL ACCELERATION TAPER
FOR 16' RAMP
(60 MPH DESIGN SPEED)**



Construct ramp exit pavement the same thickness as mainline pavement.

Ramp exit pavement shown by shaded area is 1332 square yards.

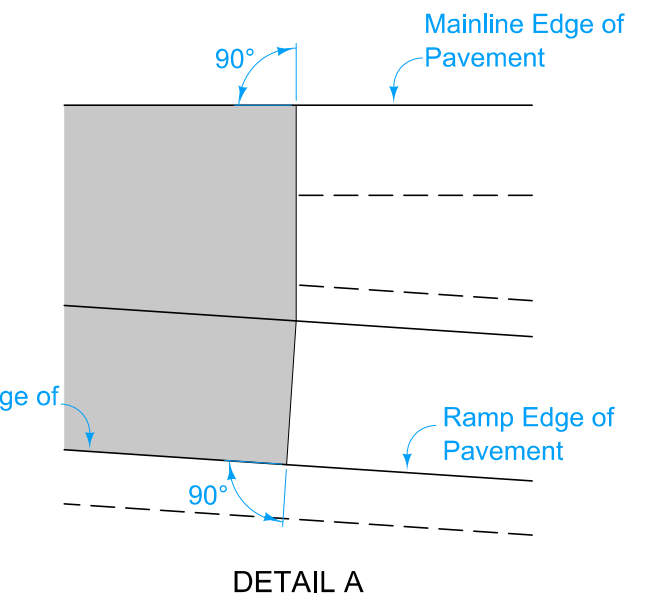
For joint details, see PV-101.

① For header construction details at the beginning of taper, see Typical 7101 or Typical 7102.

② Construct subbase for ramp exit pavement the same thickness as mainline subbase.

NOTE: The algebraic difference between profile grade for Ramp Base Line at M and relative profile grade of Mainline at C is 0.27%.

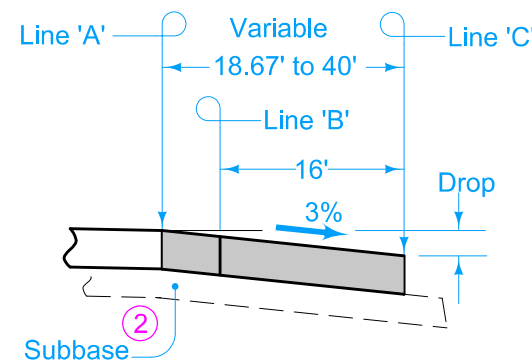
PROFILE



C Ramp Taper Edge of Pavement
M Ramp Edge of Pavement

TABLE OF OFFSETS AND DROPS FOR 16' RAMP TAPER																											
DISTANCE FROM POINT C ALONG LINE 'A' (FT.)		600	575	550	525	500	475	450	425	400	375	350	320	300	275	250	225	200	175	150	125	100	75	50	25	0	
From Line 'A' To Line 'B'	OFFSET (Ft.)												2.63	4.00	5.67	7.33	9.00	10.67	12.33	14.00	15.67	17.33	19.00	20.67	22.33	24.00	
	SLOPE (%)												-4.40	-4.40	-4.40	-4.40	-4.40	-4.40	-4.40	-4.40	-4.40	-4.40	-4.40	-4.40	-4.40	-4.40	-4.40
	DROP (Ft.)												-0.12	-0.18	-0.25	-0.32	-0.40	-0.47	-0.54	-0.62	-0.69	-0.76	-0.84	-0.91	-0.98	-1.06	
From Line 'B' To Line 'C'	OFFSET (Ft.)	-----Constant 16' Offset-----																									
	SLOPE (%)	-----Constant 16' Offset-----																									
	DROP (Ft.)	-----Constant 16' Offset-----																									
From Line 'A' To Line 'C'	OFFSET (Ft.)	0.00	1.67	3.33	5.00	6.67	8.33	10.00	11.67	13.33	15.00	16.67															
	SLOPE (%)	1.10	0.55	0.00	-0.55	-1.10	-1.65	-2.20	-2.75	-3.30	-3.85	-4.40															
	DROP (Ft.)	0.00	0.01	0.00	-0.03	-0.07	-0.14	-0.22	-0.32	-0.44	-0.58	-0.73	-0.82	-0.88	-0.95	-1.03	-1.10	-1.17	-1.25	-1.32	-1.39	-1.47	-1.54	-1.61	-1.69	-1.76	

M

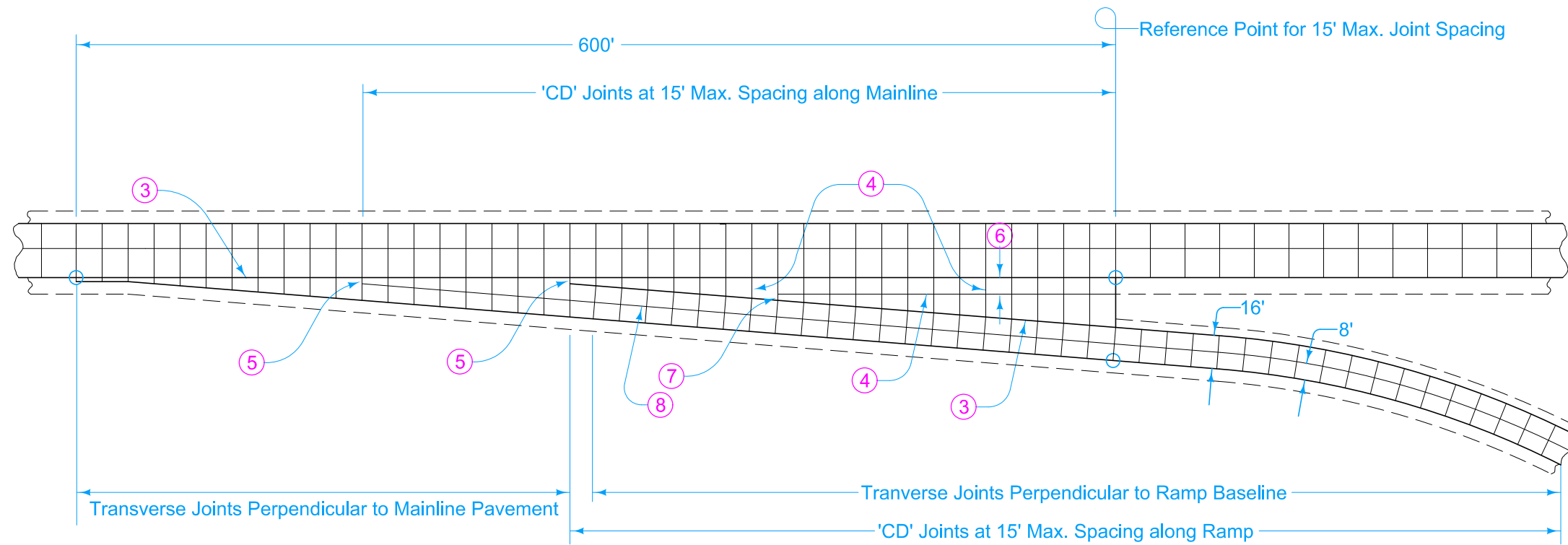


SECTION A-A

TABLE OF SHOULDER TRANSITION LENGTHS			
W _o	Shoulder Width beyond Edge of Mainline Pavement		
		8'	10'
12'	NA	60'	90'

NOTE: W_o is the width of the outside lane to the Edge of Pavement.

MODIFIED	PV-410
	SHEET 1 of 2
MODIFICATIONS: Adjusted drop values to match proposed superelevation	
DECELERATION TAPER FOR 16' RAMP	



- ③ 'BT-2' or 'KT-2' Joint.
- ④ 'C' Joint.
- ⑤ 'B' Joint. 2' minimum. 4' maximum.
- ⑥ 10' minimum or equal to mainline shoulder width.
- ⑦ 'B' or 'C' Joint. 2' minimum. 4' maximum.
- ⑧ 'L-2' Joint.

16' EXIT RAMP

MODIFIED	
	PV-410
STANDARD ROAD PLAN	SHEET 2 of 2
MODIFICATIONS: Adjusted drop values to match proposed superelevation	
DECCELERATION TAPER FOR 16' RAMP	

CROSS SECTION VIEW COLOR LEGEND

Design Color No.	Feature	Design Color No.	Feature
Aggregate			
(64)	Choke Stone	(8)	Behind Curb Cut
(42)	Engineering Fabric	(6)	Granular
(8)	Flooded Backfill	(13)	Granular Back Fill
(92)	Macadam Stone	(48)	Rock Undercut
(20)	Modified	(8)	Shoulder Earth Fill
(12)	Plowing Shaping	(2)	Side Slopes
(14)	Porous Backfill	(226)	Side Slopes Dressing
(8)	Revetment Class A	Substrata	
(6)	Revetment Class B	(128)	Boulder
(62)	Revetment Class C	(209)	Boulder Removed
(188)	Revetment Class D	(48)	Broken Weathered
(28)	Revetment Class E	(210)	Broken Weathered Removed
(12)	Shoulder Special Backfill	(3)	Core Out
(12)	Special Backfill	(115)	Core Out Remove Only
(20)	Subbase	(195)	Core Out Remove and Replace
(20)	Subbase Lower	(203)	Existing Pavement
(20)	Subbase Upper	(184)	Existing Pavement Remove Only
(118)	Subgrade Treatment	(200)	Existing Pavement Remove and Replace
Asphalt			
(207)	HMA Base Course	(6)	Loam
(207)	HMA Interim Course	(211)	Loam Removed
(207)	HMA Surface Course	(80)	Rock
Bridge			
(0)	Bridge	(212)	Rock Removed
Concrete			
(0)	Barrier Concrete	(4)	Select Sand
(0)	Barrier Concrete Footing	(214)	Select Sand Removed
(0)	Curb Gutter	(3)	Shale
(48)	Flowable Mortar	(215)	Shale Removed
(0)	Median Concrete	(10)	Topsoil
(0)	PCC Pavement	(2)	Topsoil Remove Only
(0)	Sidewalk	(4)	Topsoil Remove and Replace
Unsuitable / Waste			
(0)	Existing Pavement	(3)	Unsuitable Type A
Shoulder			
(209)	Shoulder HMA	(216)	Unsuitable Type A Removed
(0)	Shoulder PCC	(13)	Unsuitable Type B
(6)	Shoulder Granular	(217)	Unsuitable Type B Removed
Structural			
(112)	Noise Wall	(11)	Unsuitable Type C
(112)	Noise Wall Footing	(218)	Unsuitable Type C Removed
(112)	Retaining Wall Back	(3)	Waste
(112)	Retaining Wall Back Excavate	(219)	Waste Removed
(112)	Retaining Wall Face		
(112)	Retaining Wall Front Excavate		
(112)	Retaining Wall Front Footing		
(112)	Retaining Wall MSE Gutter		
(112)	Retaining Wall Reinforced Earth		

NOTES:

Text

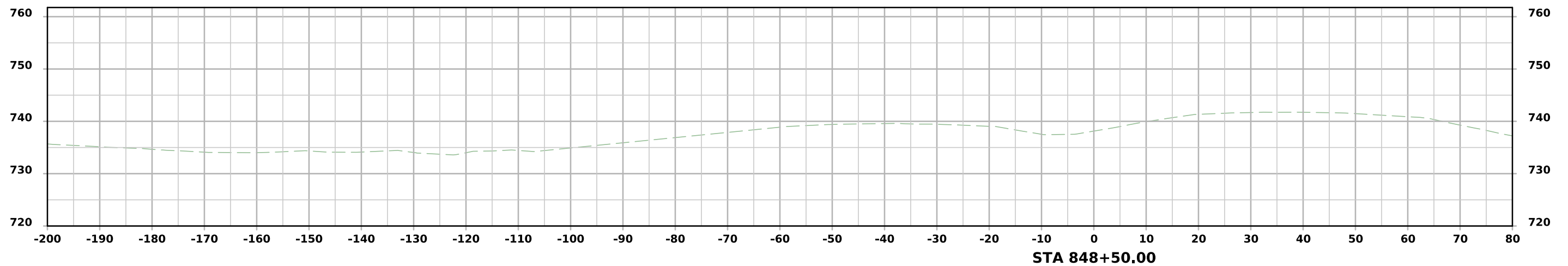
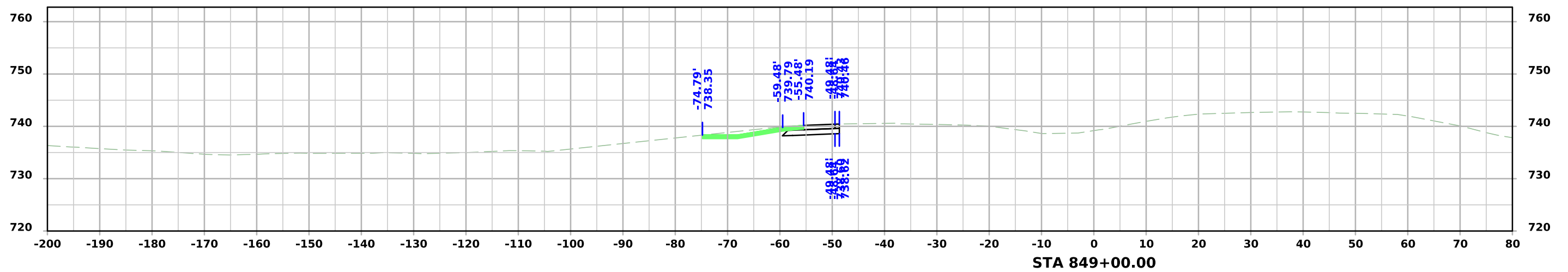
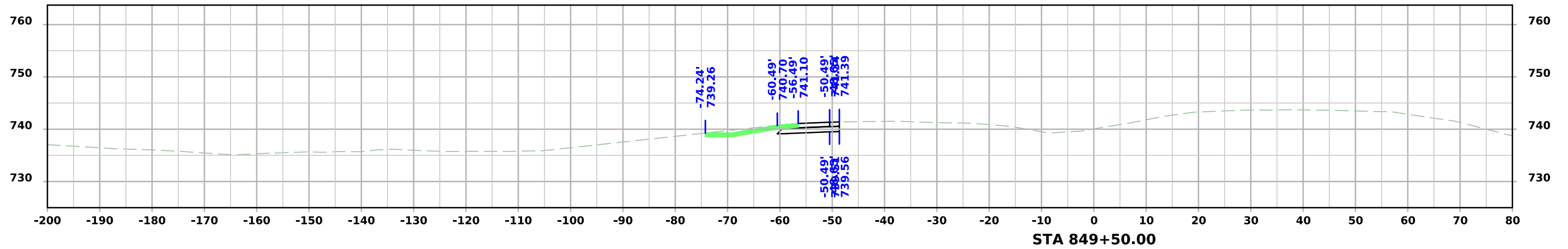
NOTES:

Text

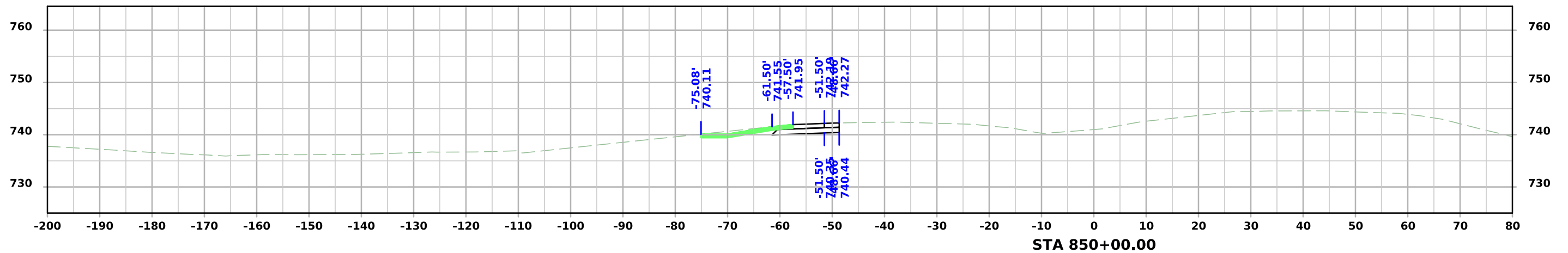
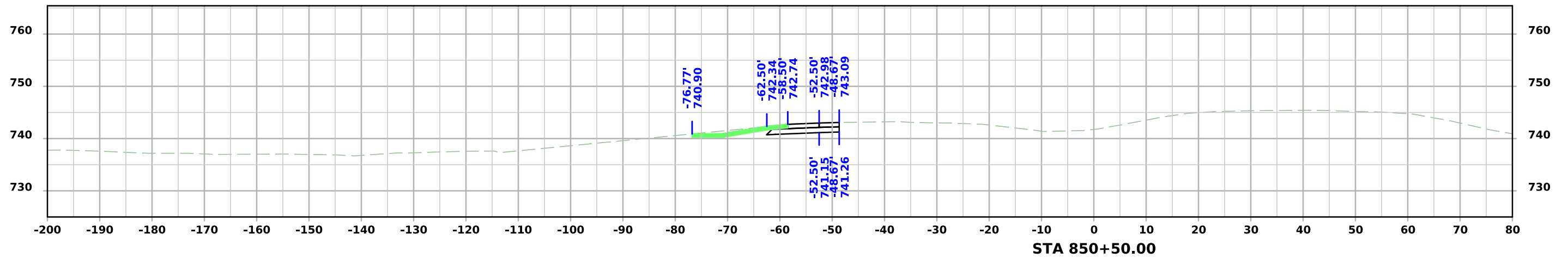
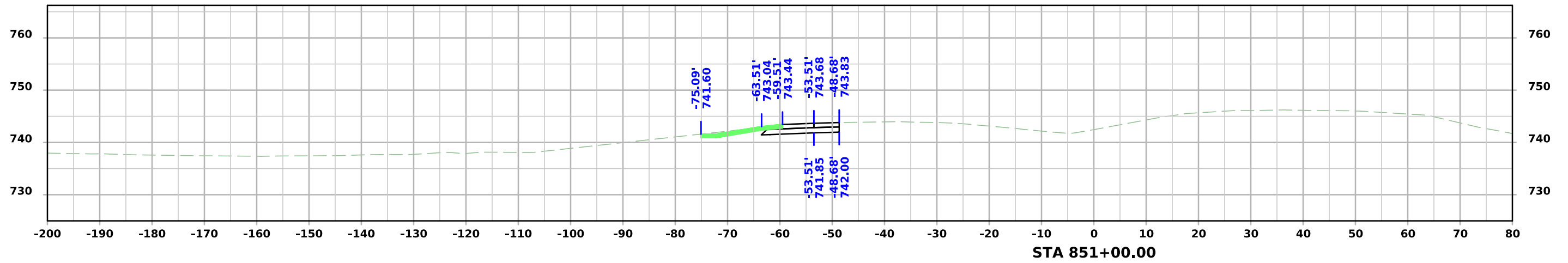
CROSS SECTIONS LEGEND AND INFORMATION SHEET

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

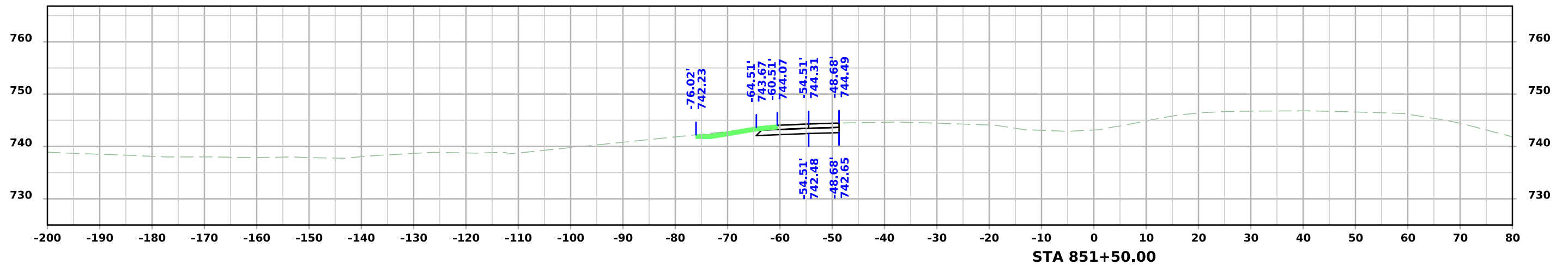
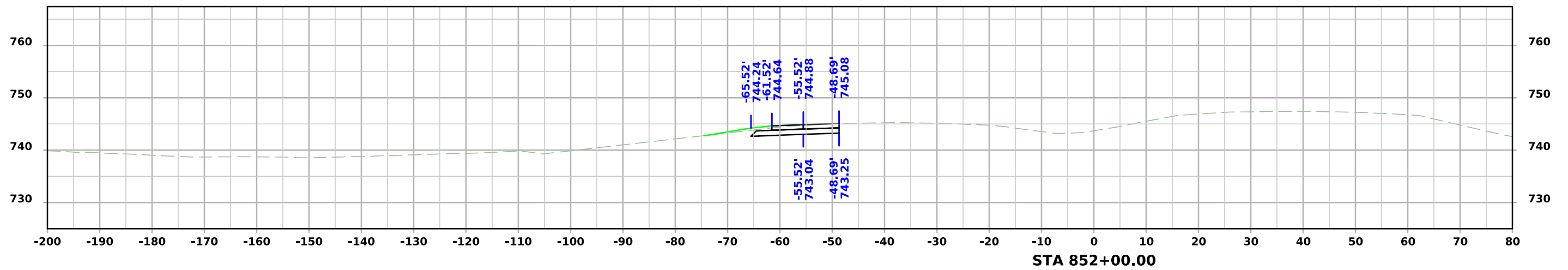
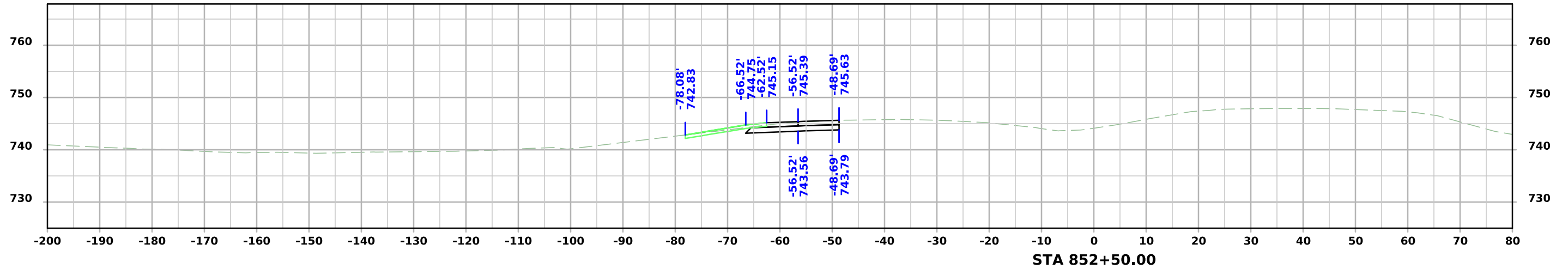
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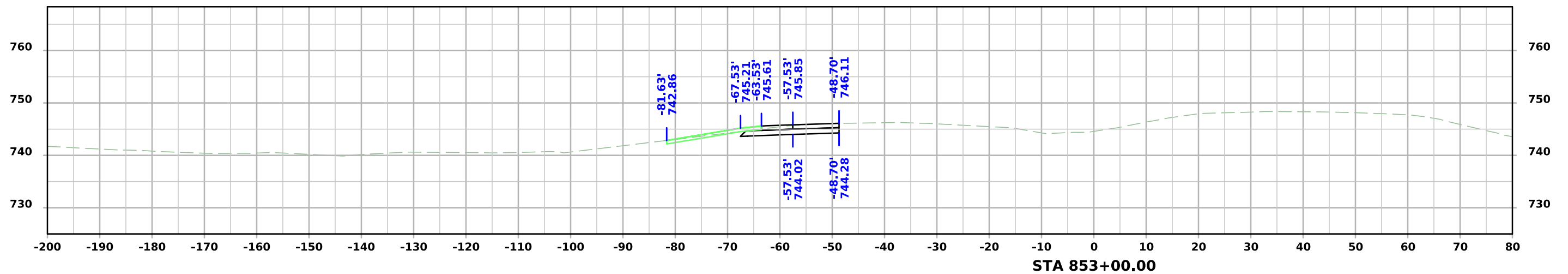
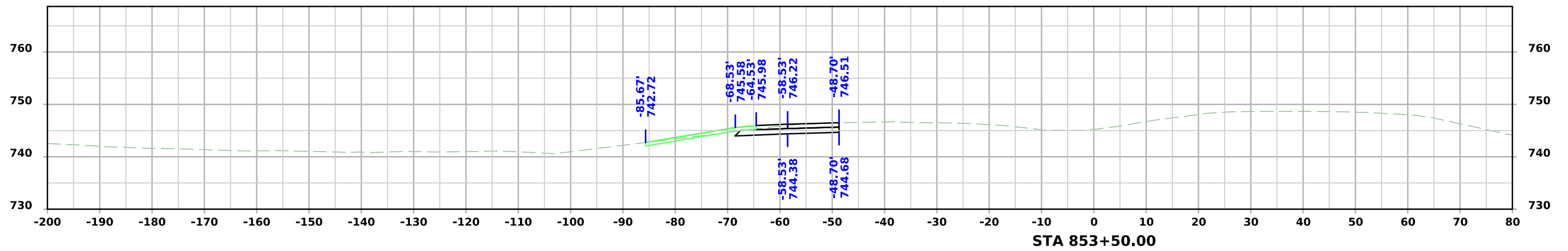
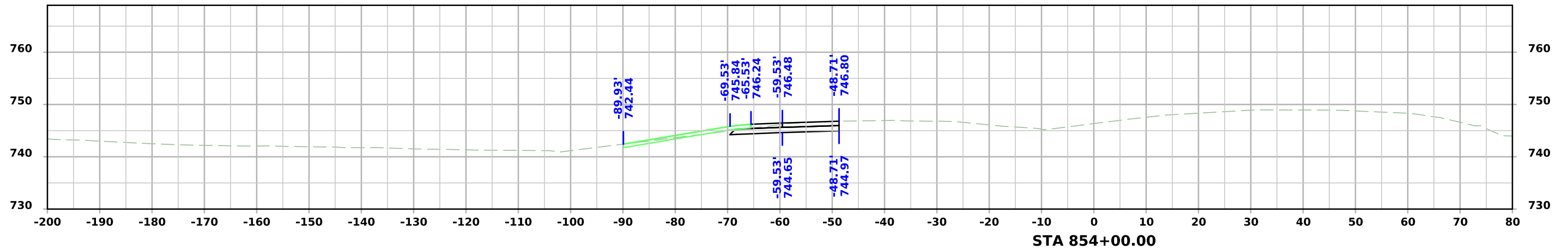
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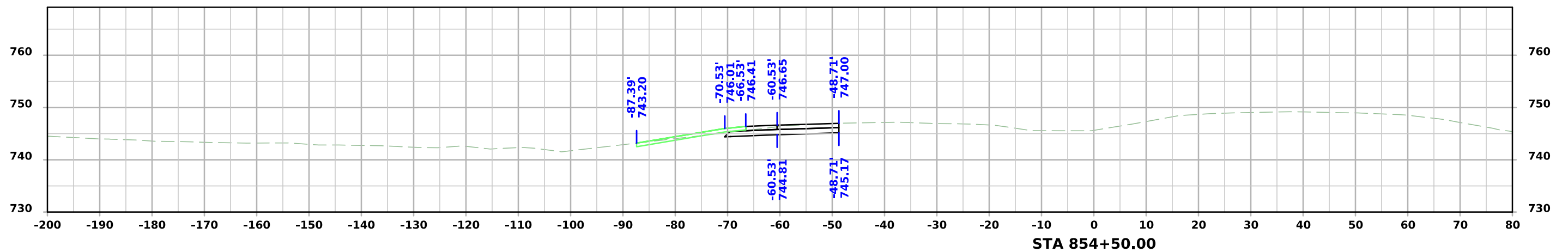
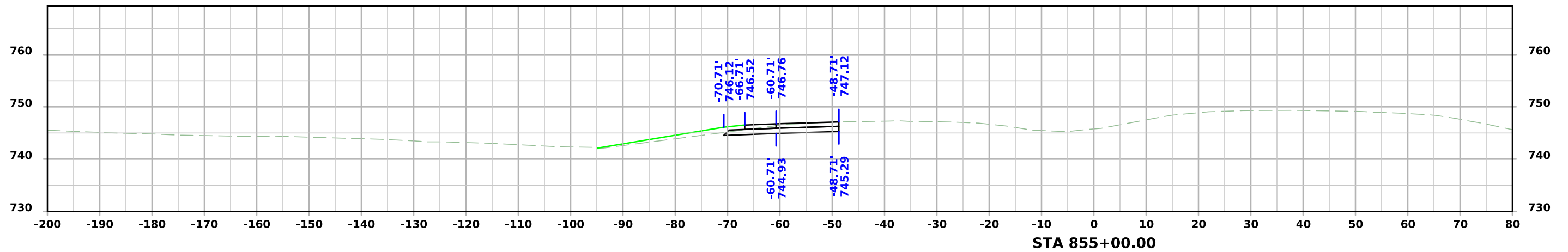
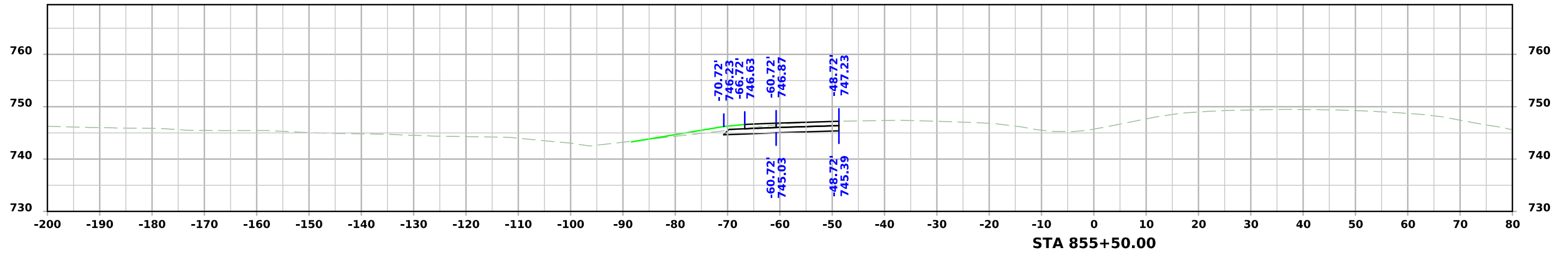
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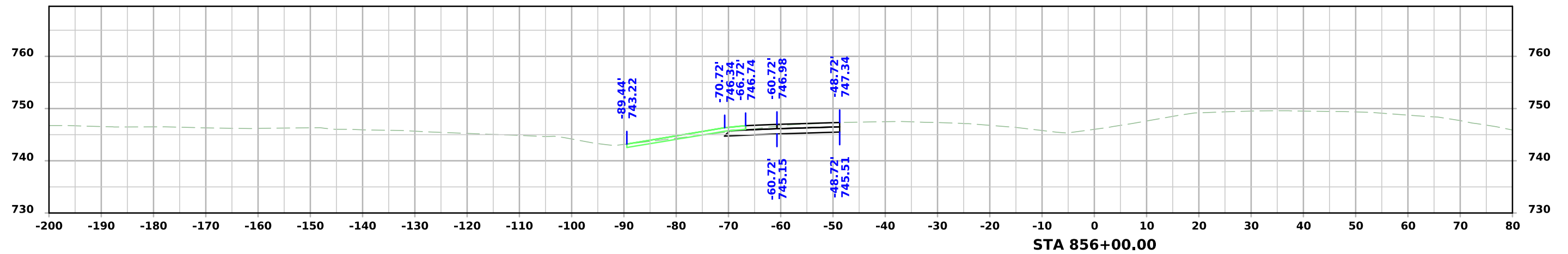
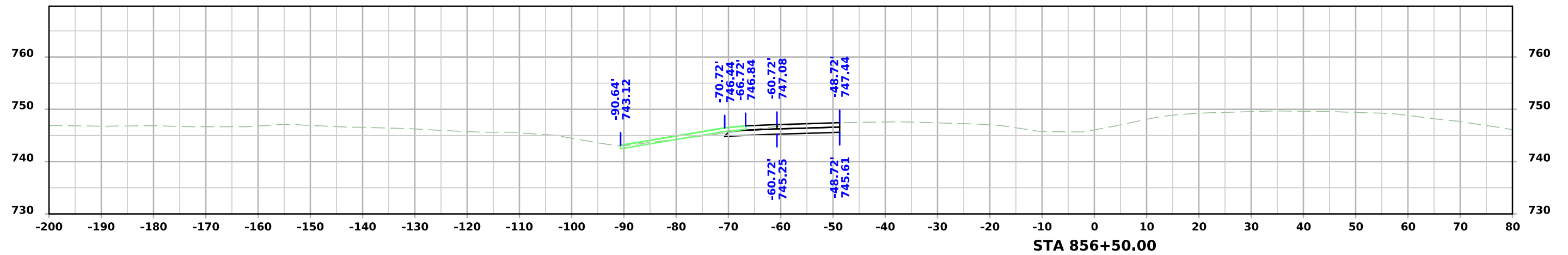
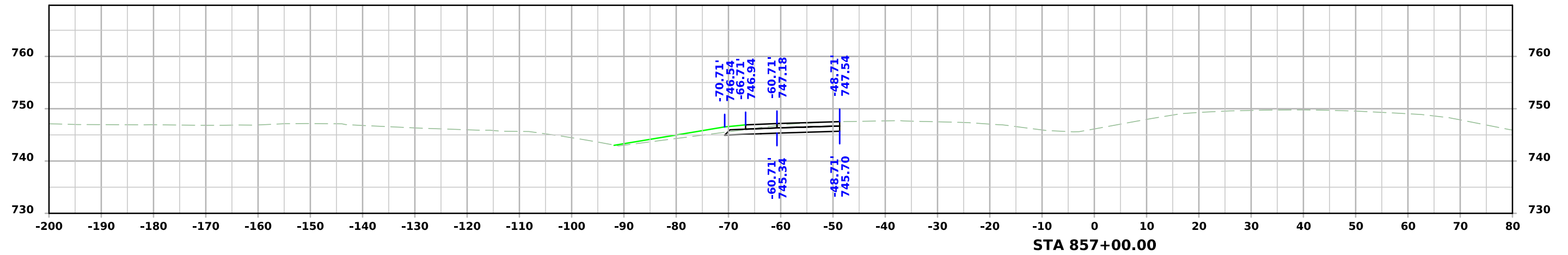
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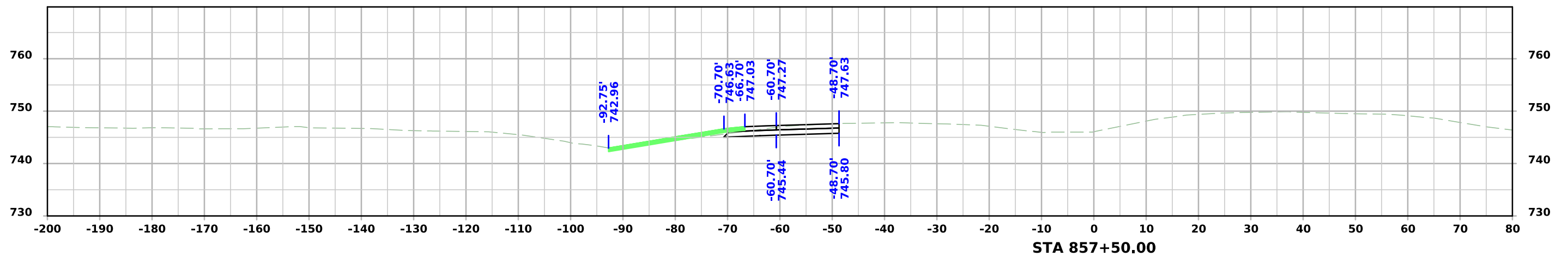
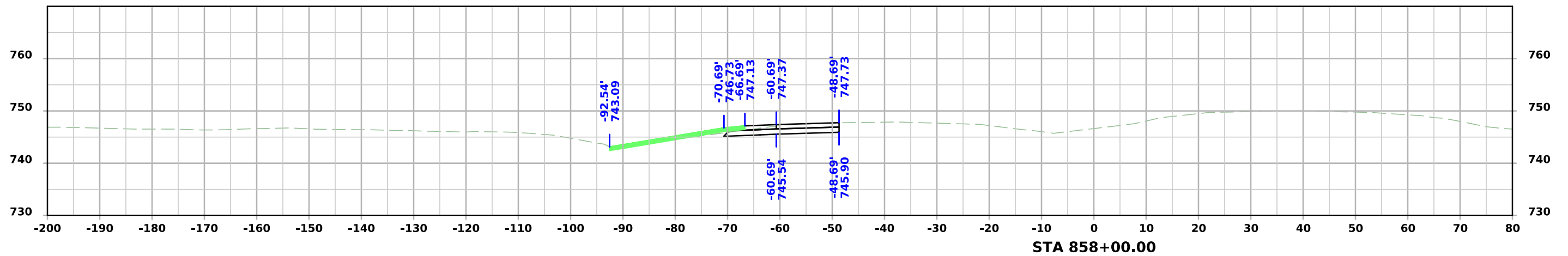
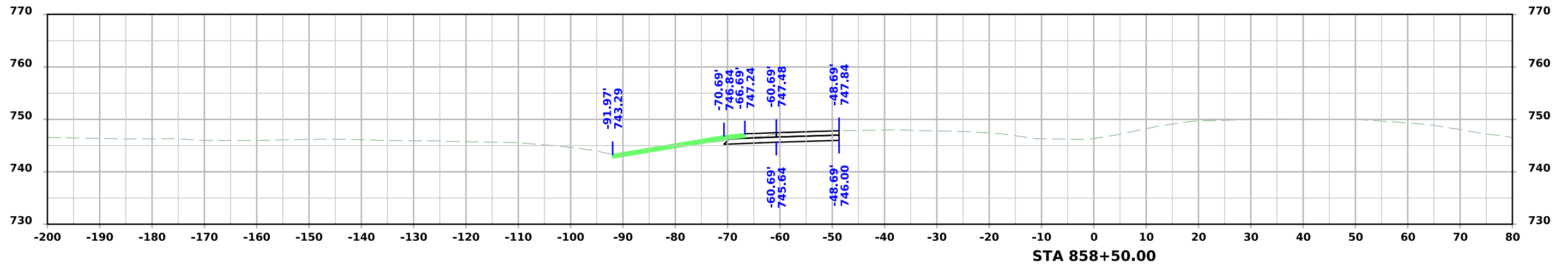
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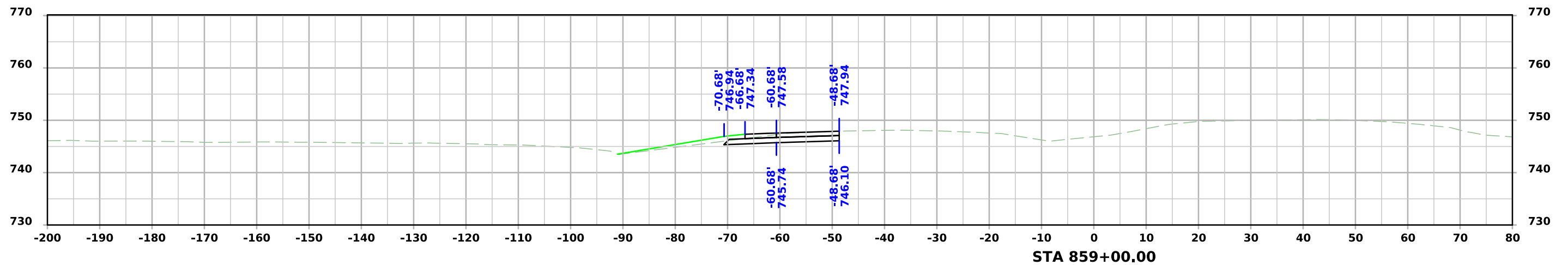
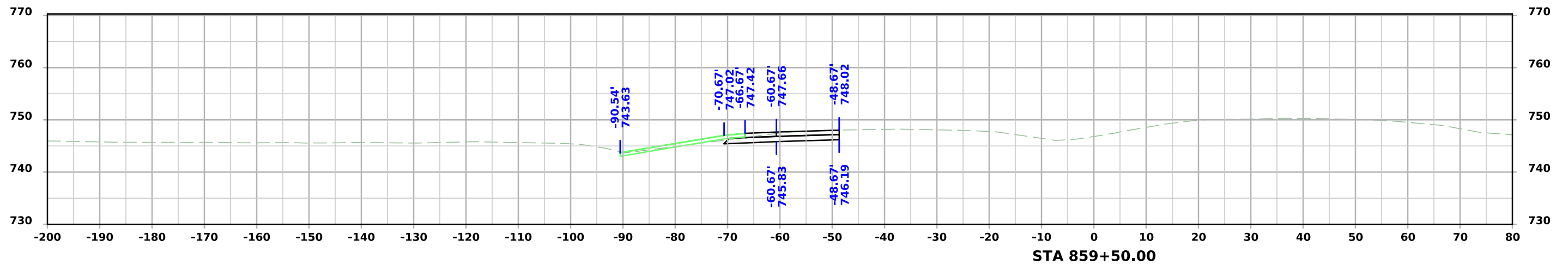
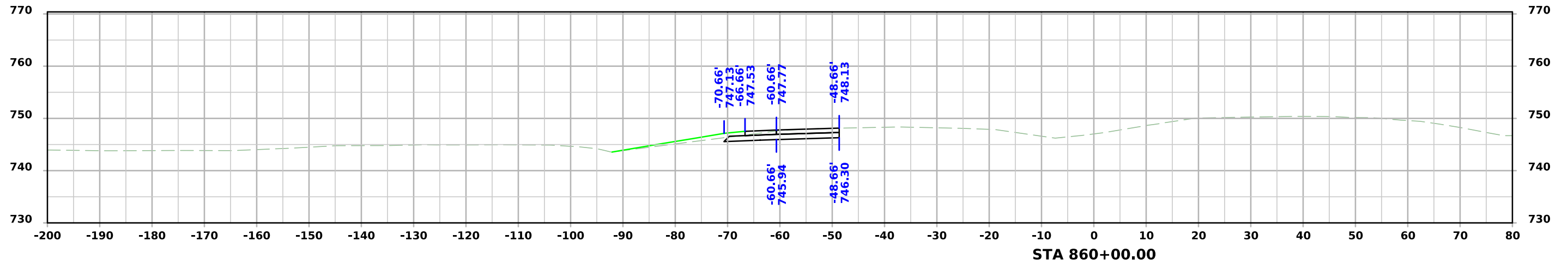
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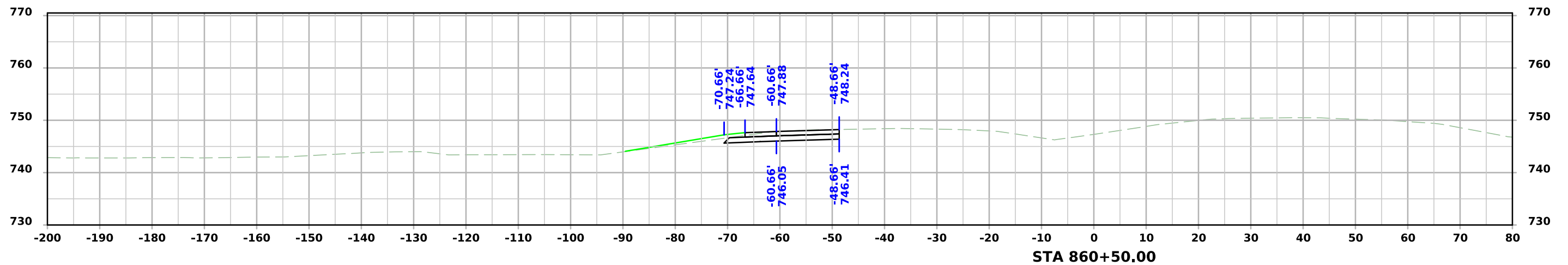
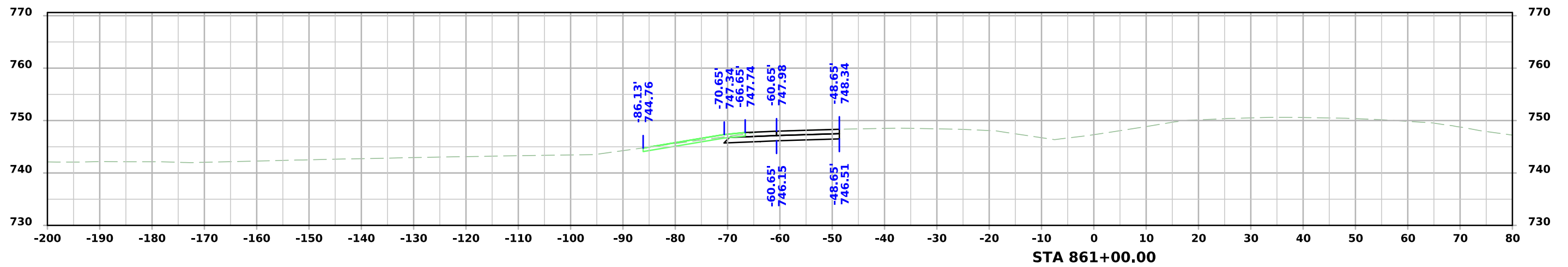
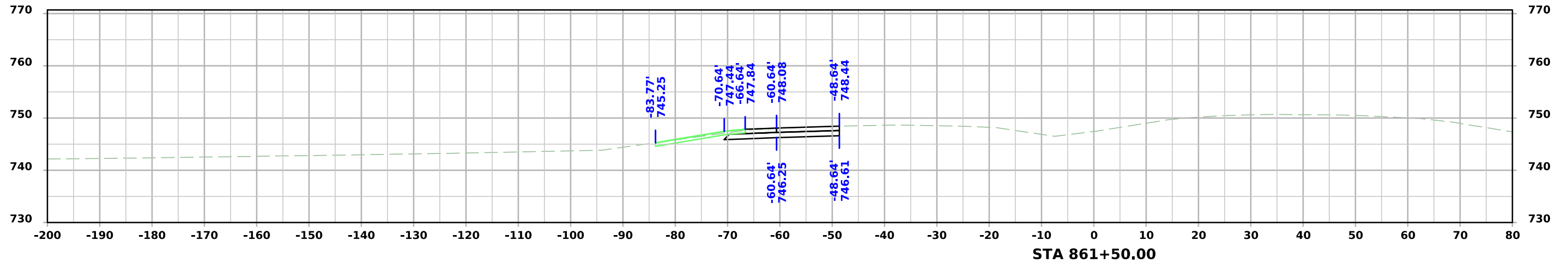
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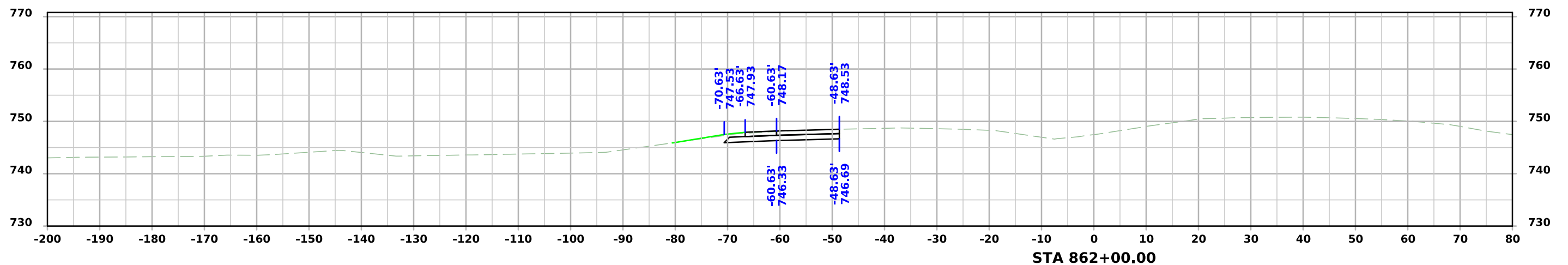
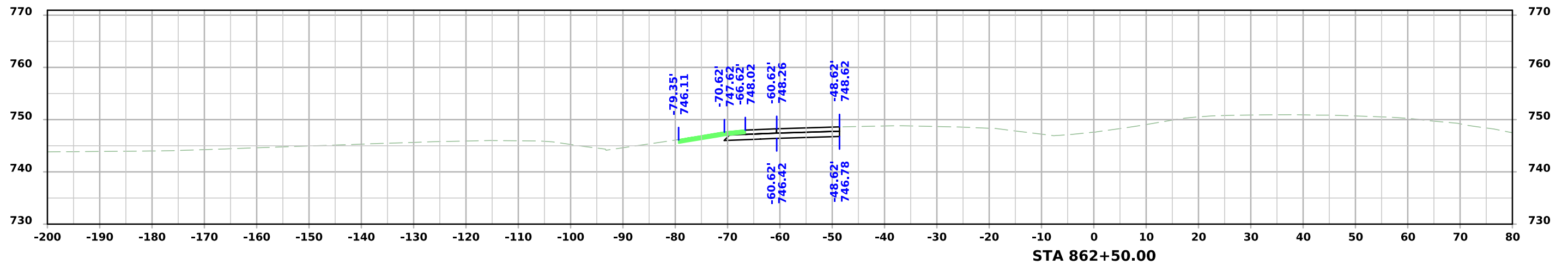
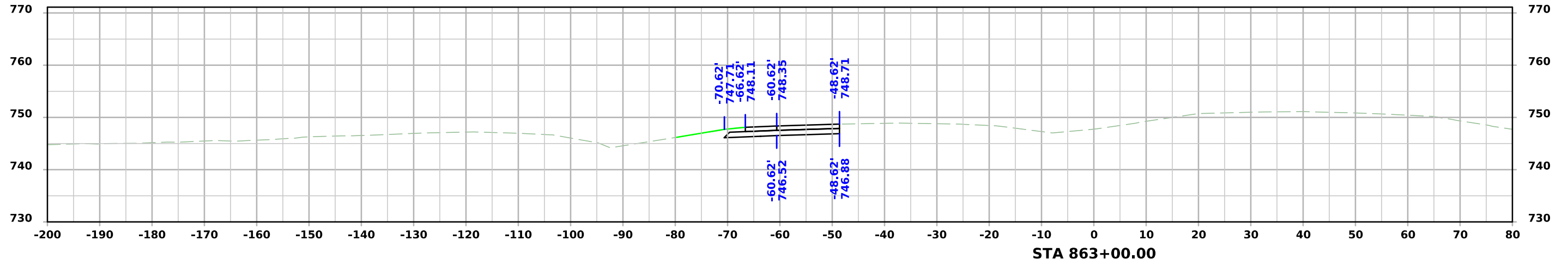
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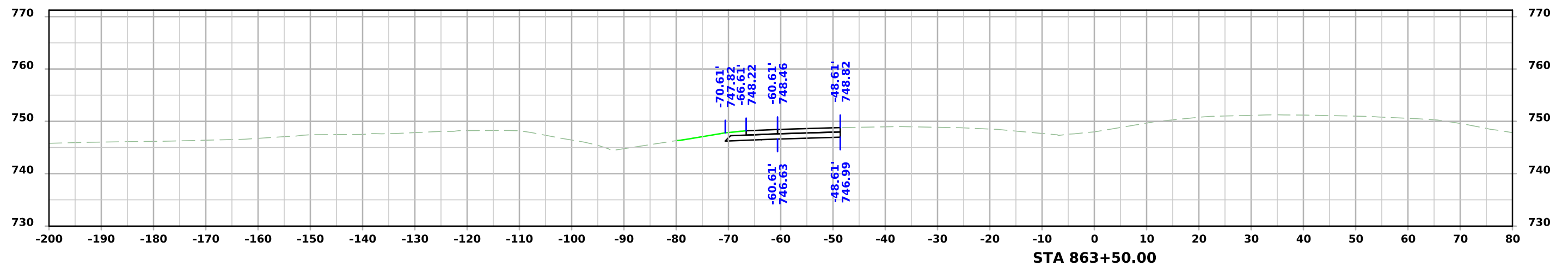
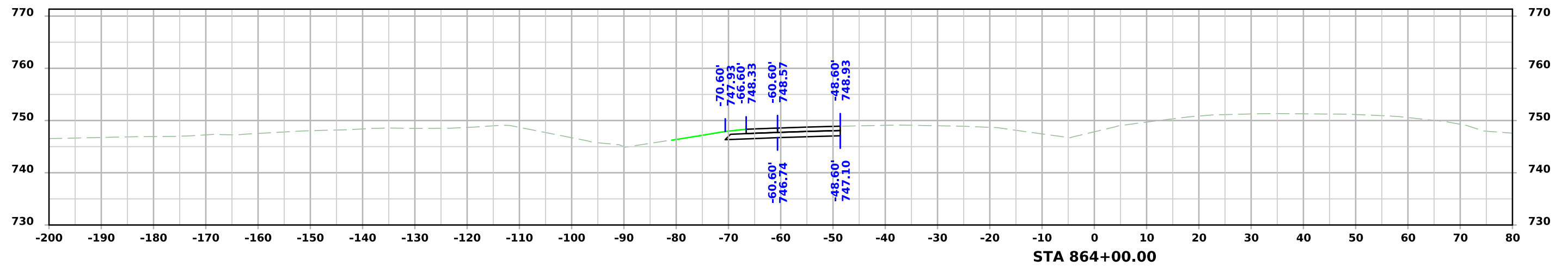
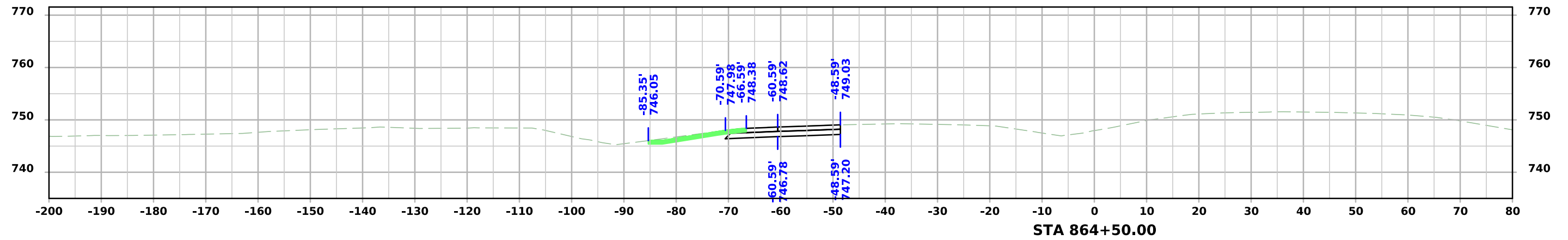
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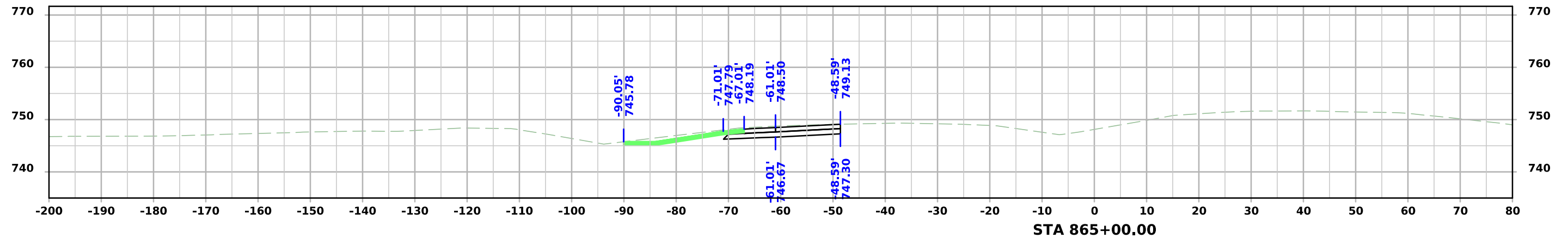
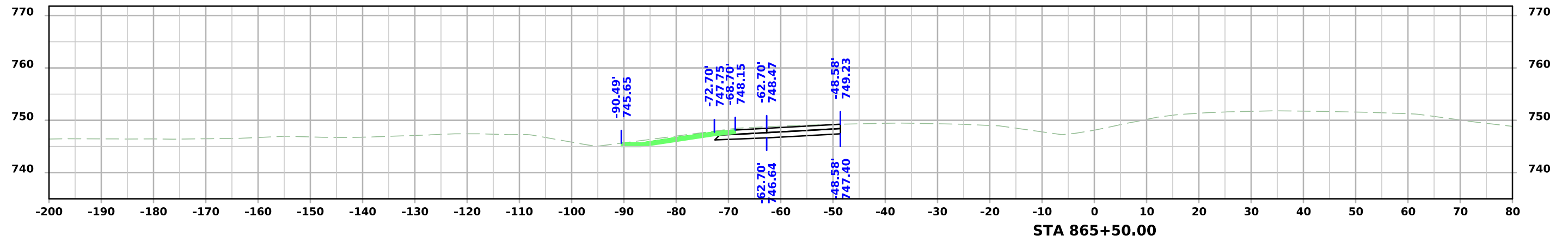
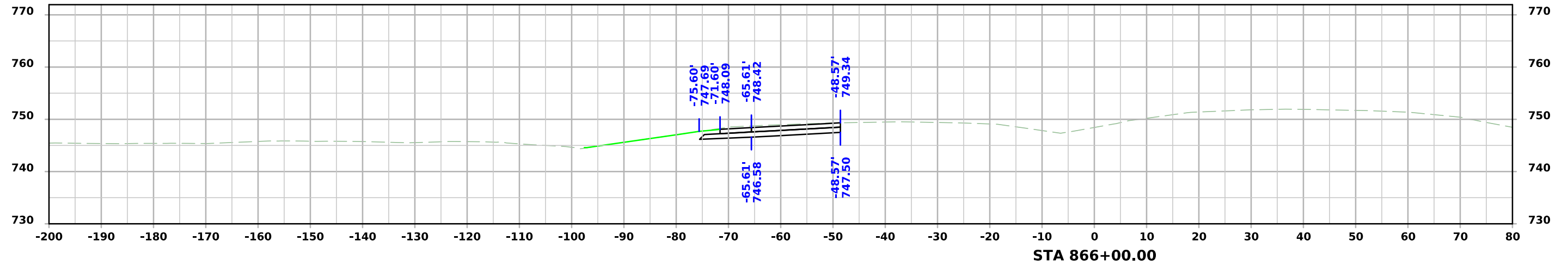
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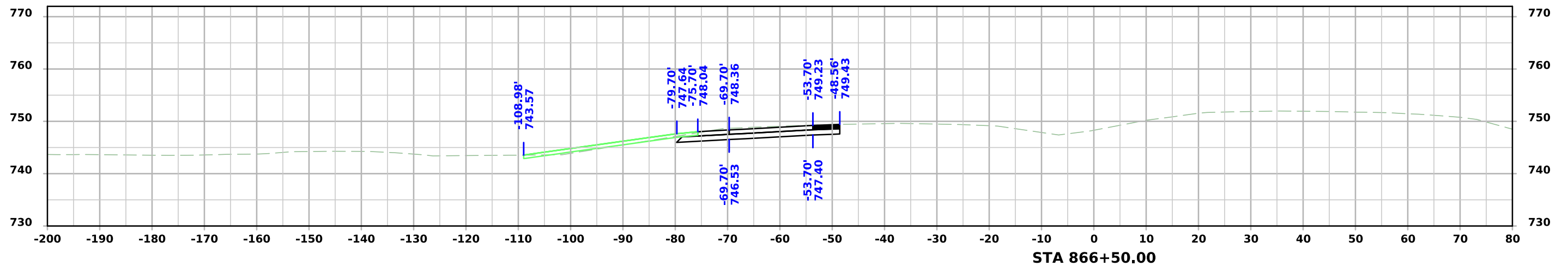
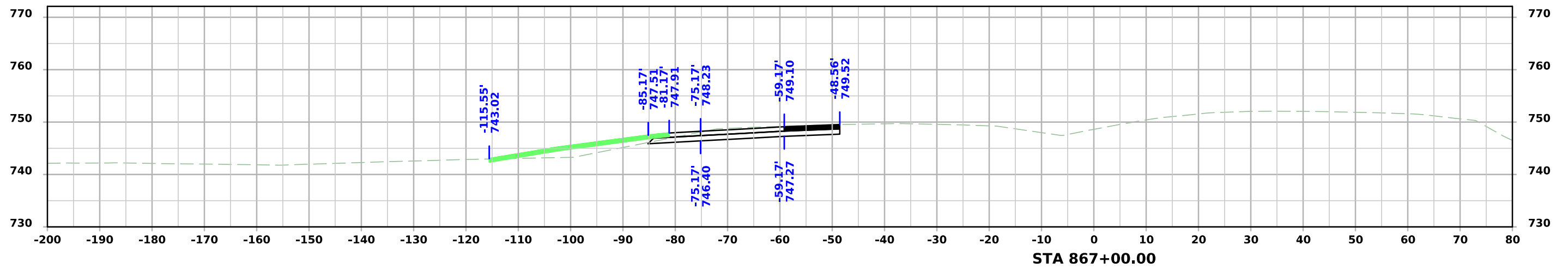
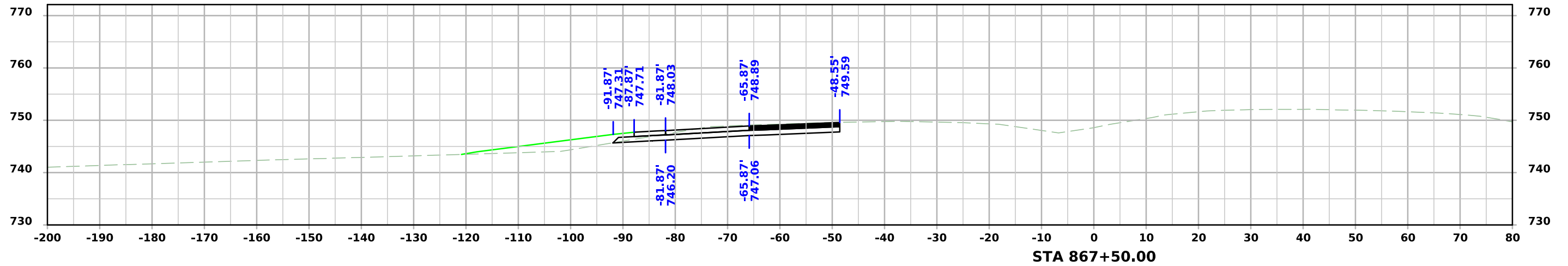
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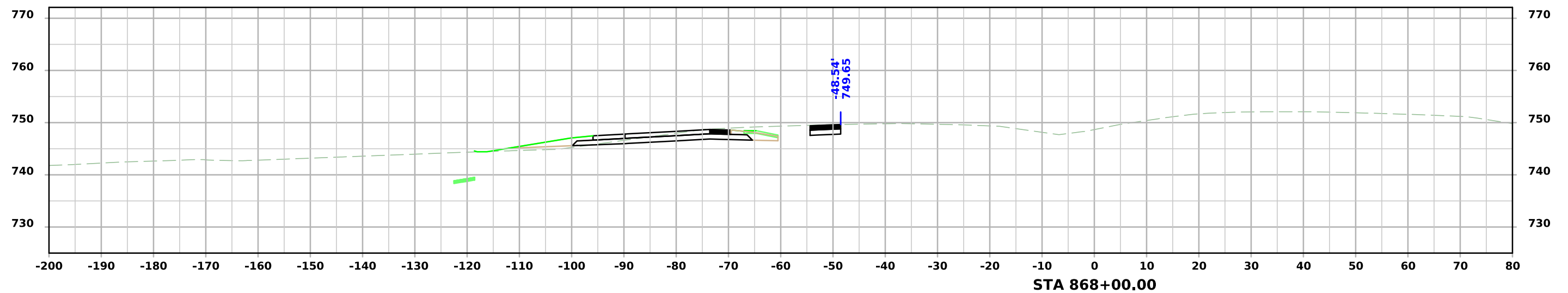
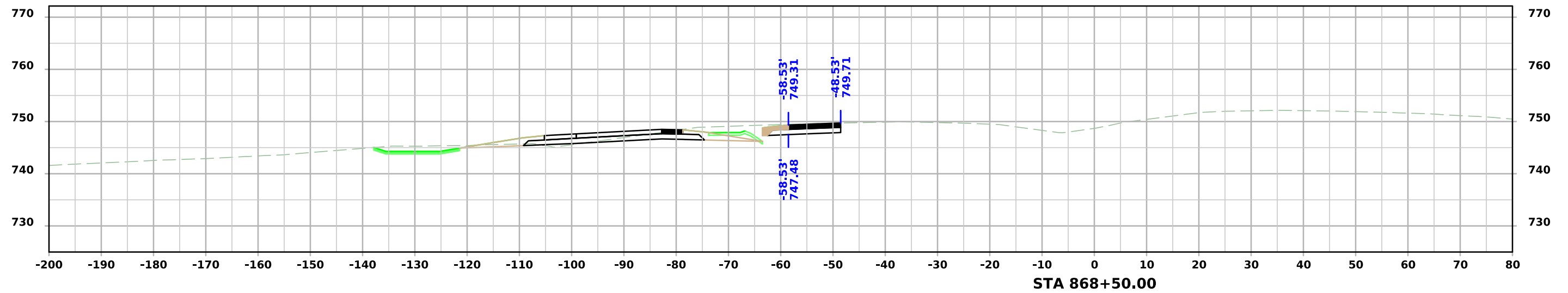
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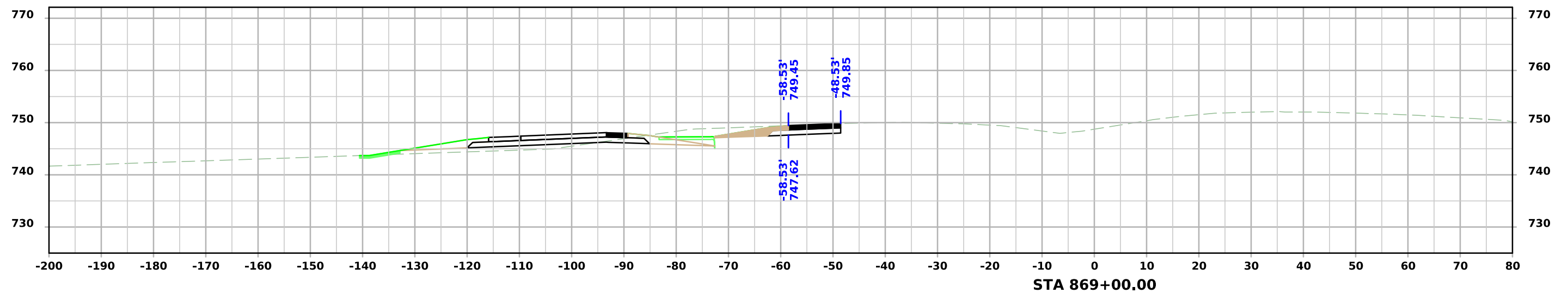
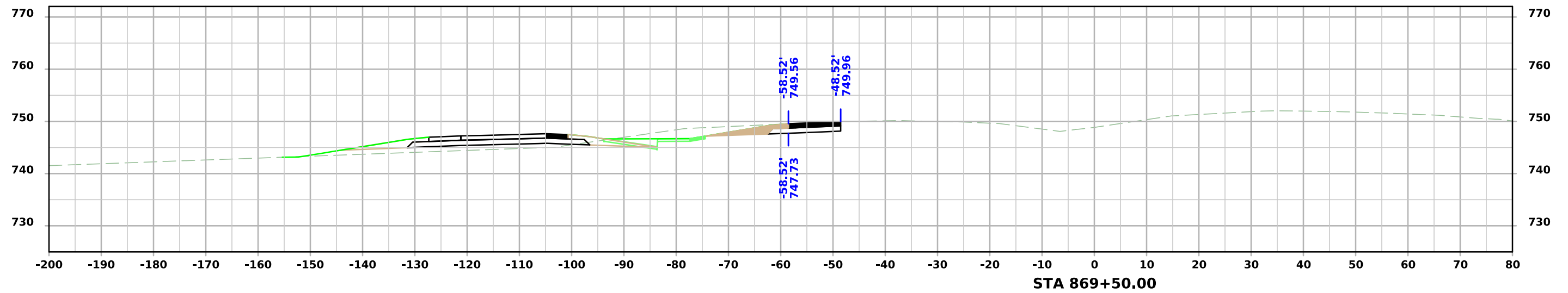
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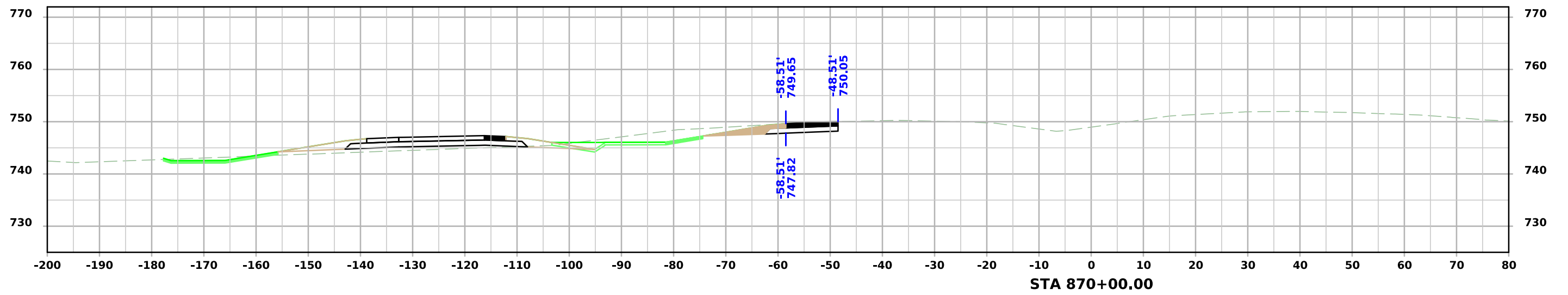
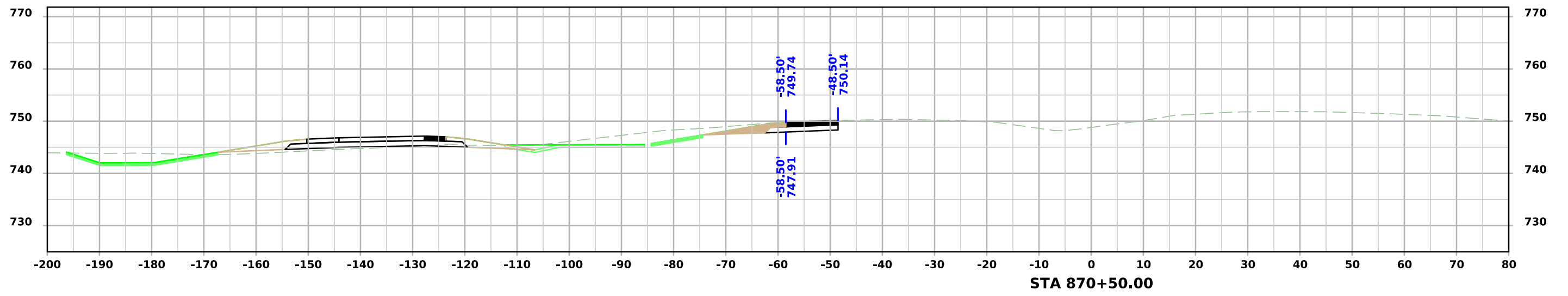
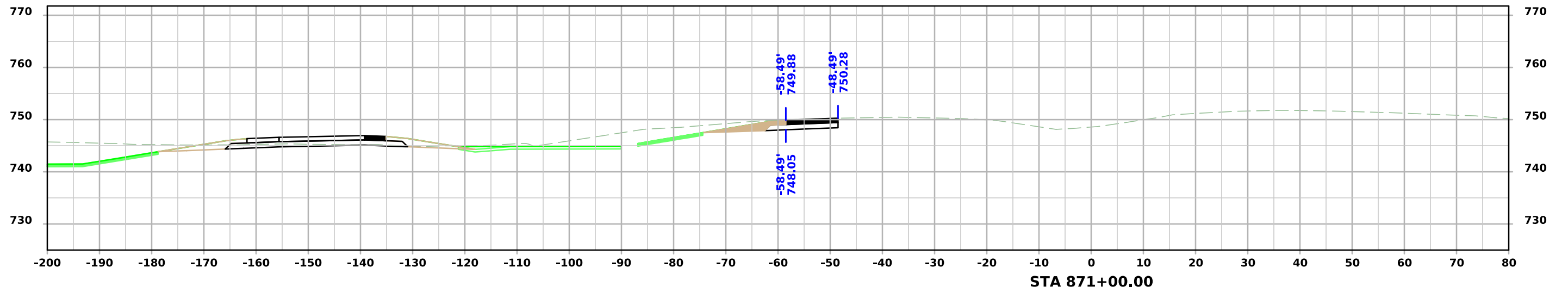
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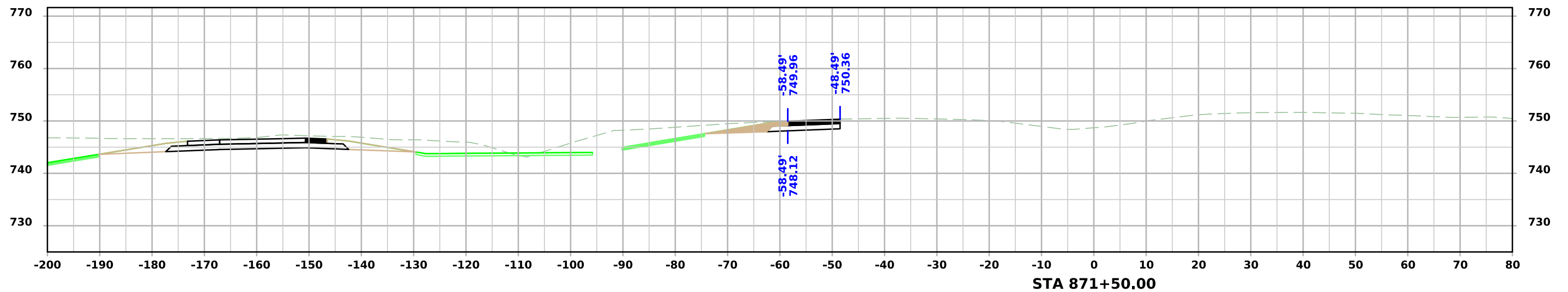
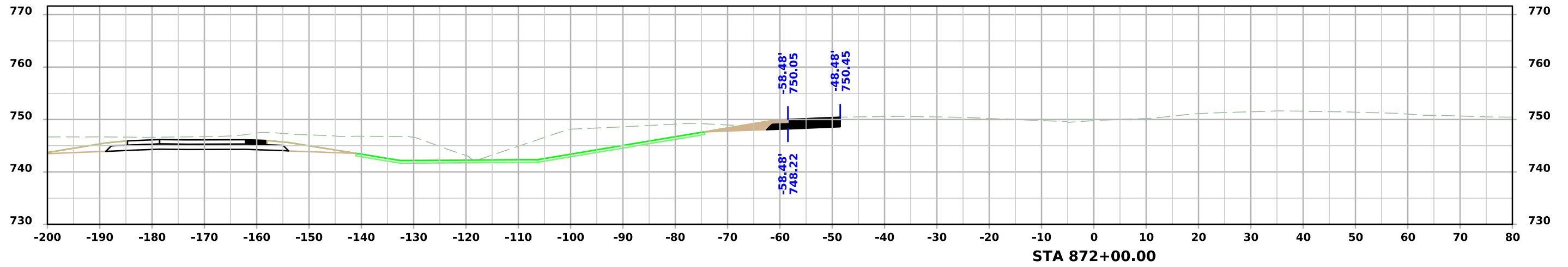
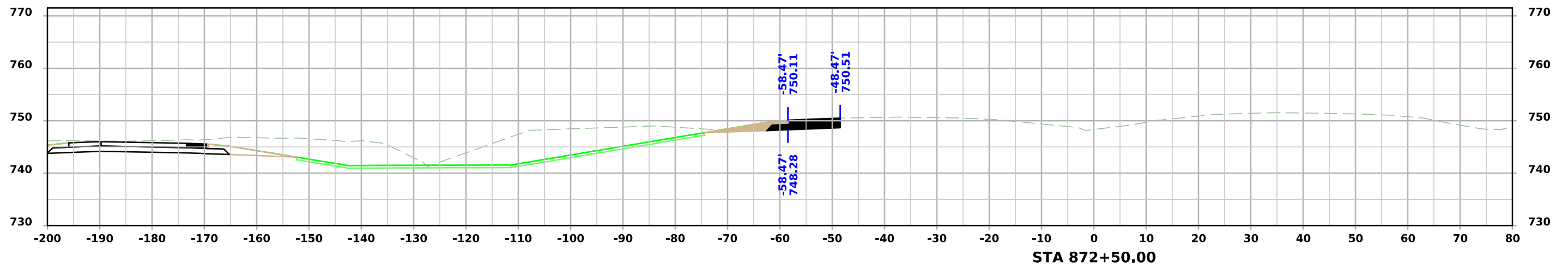
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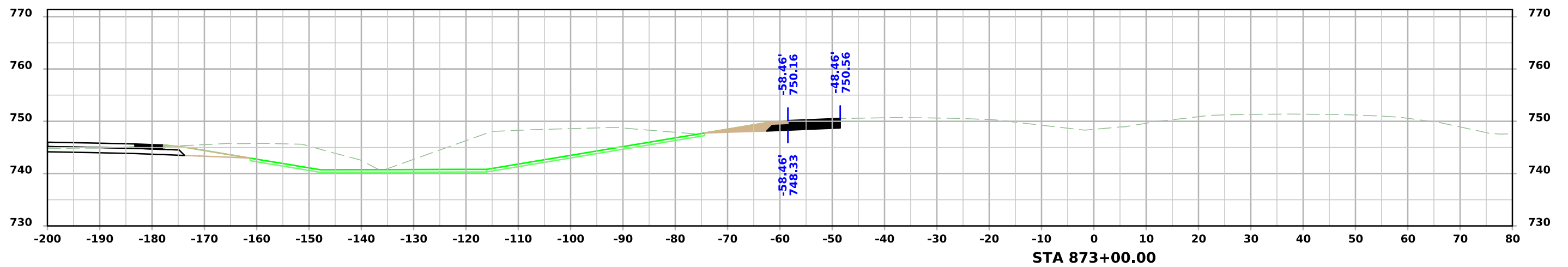
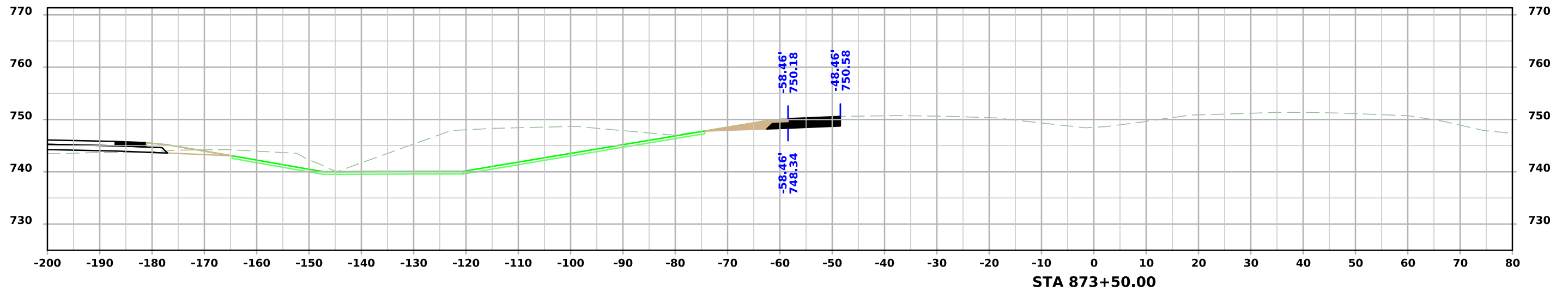
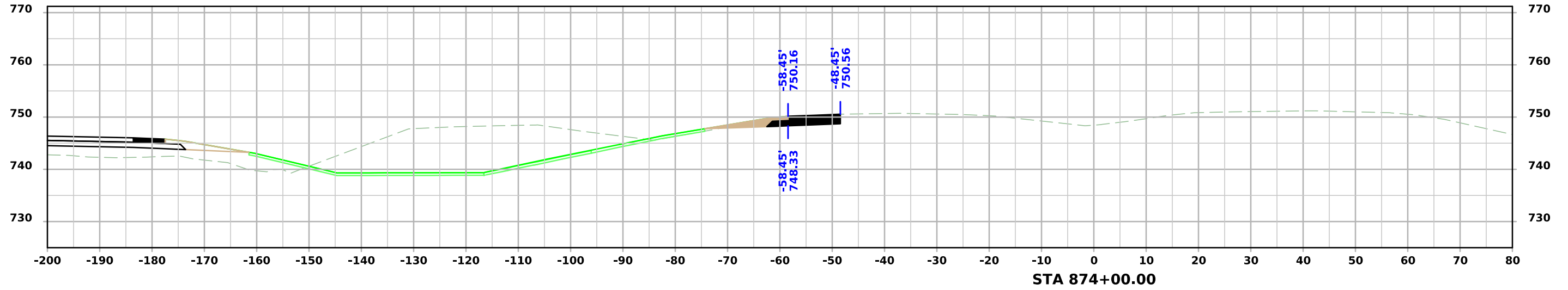
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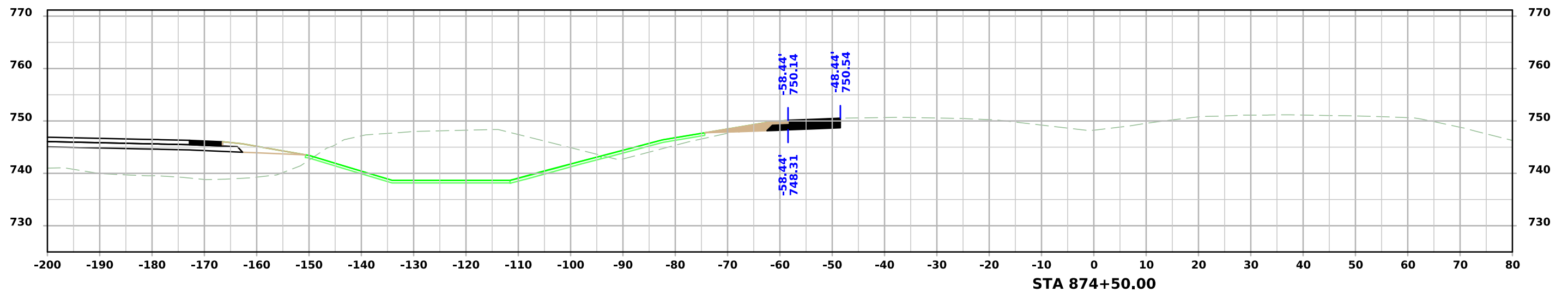
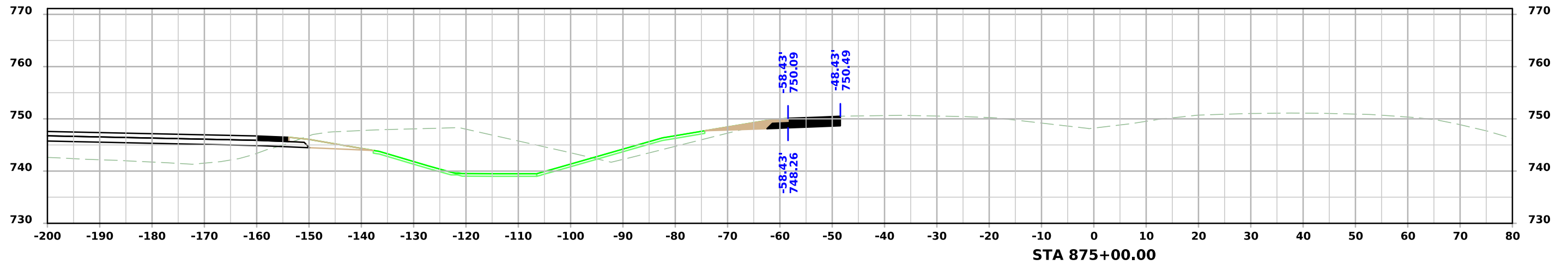
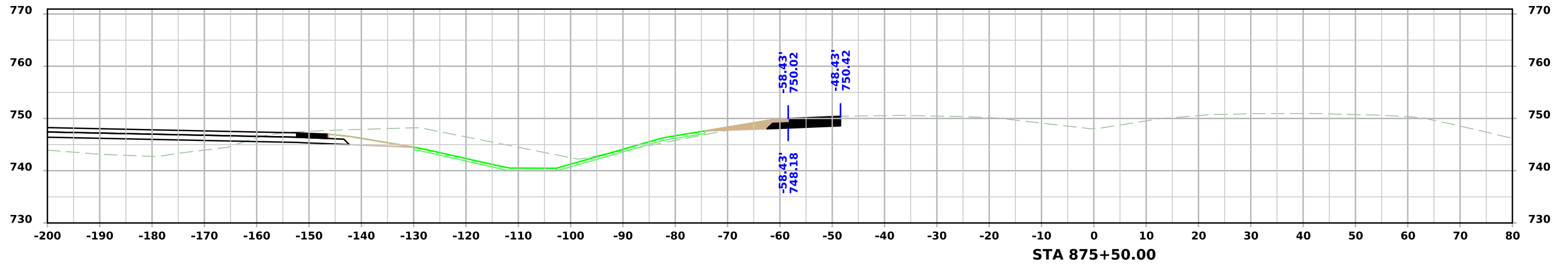
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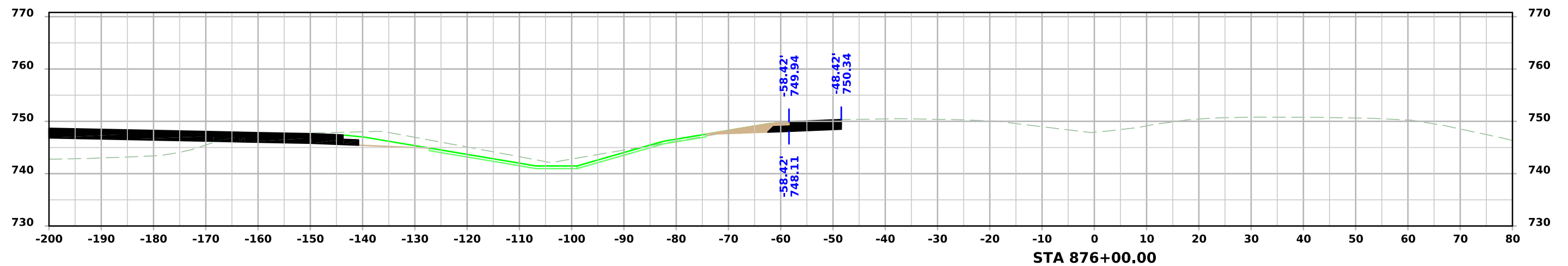
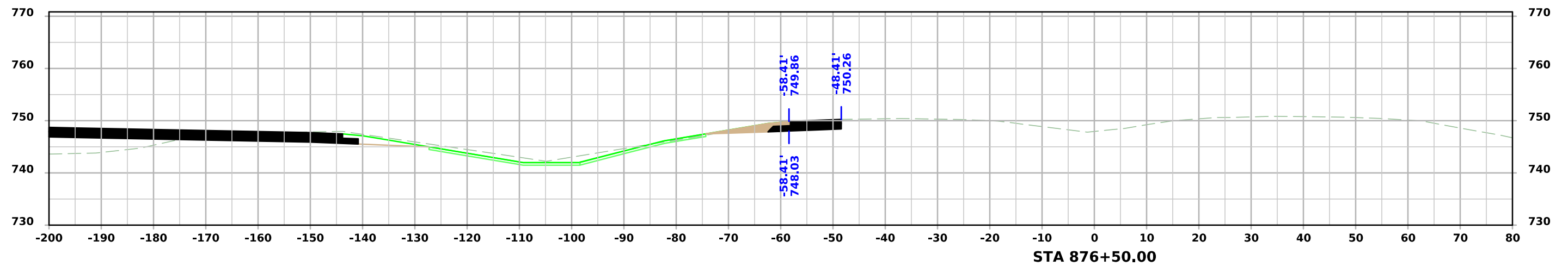
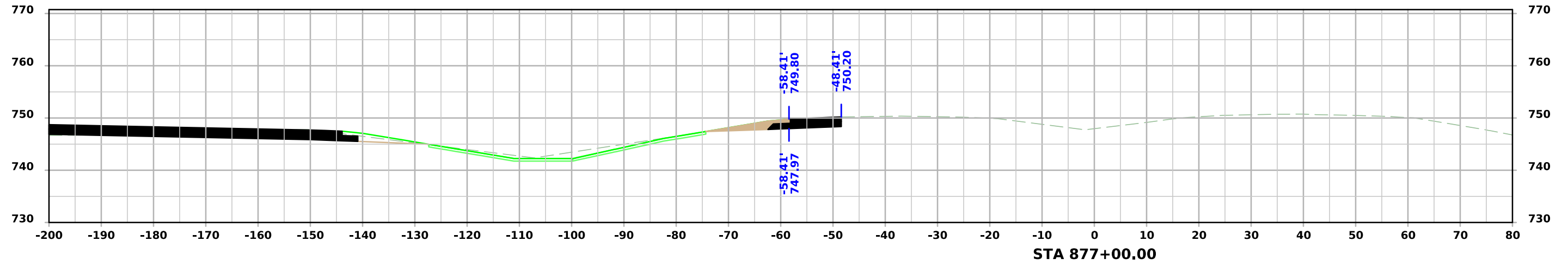
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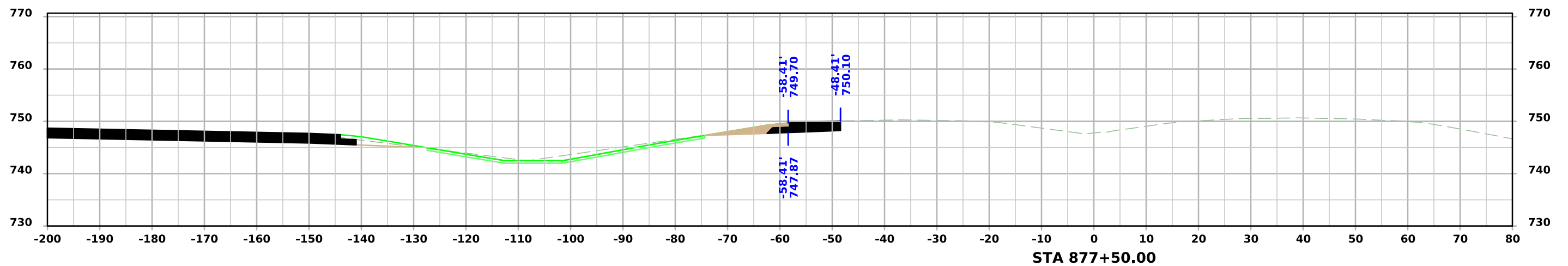
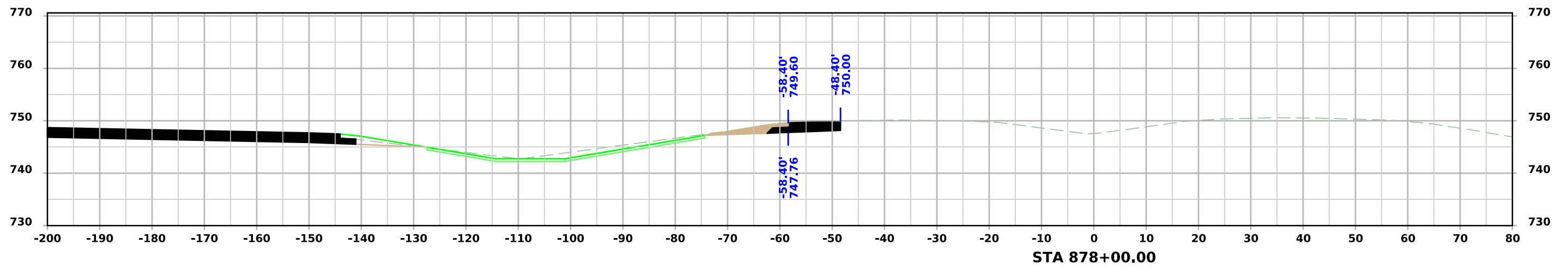
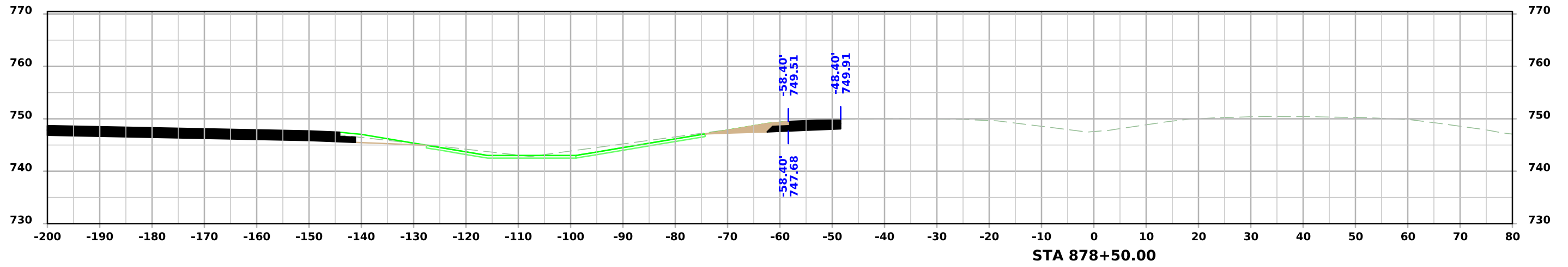
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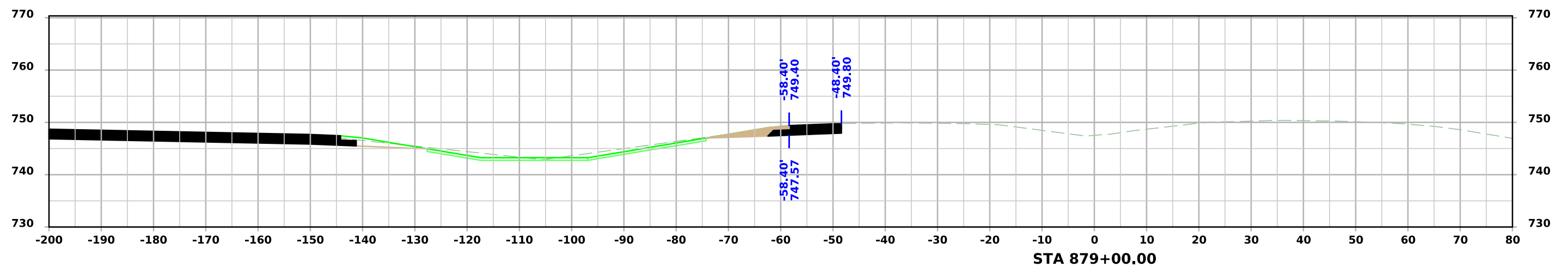
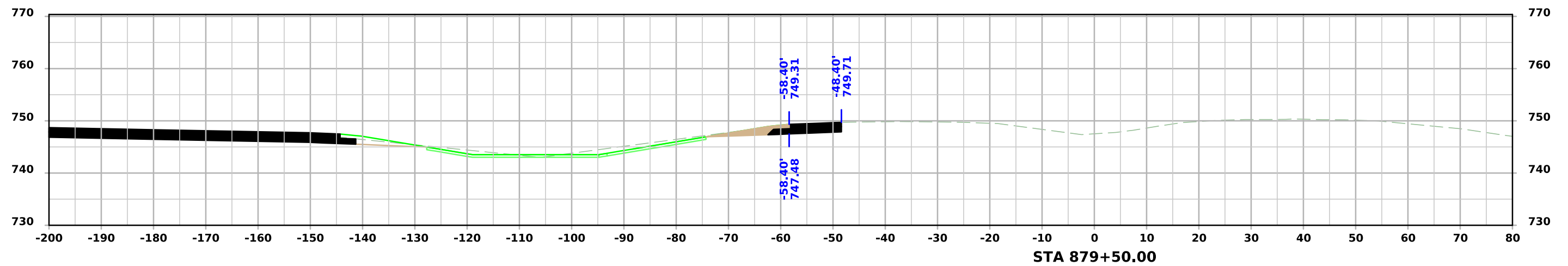
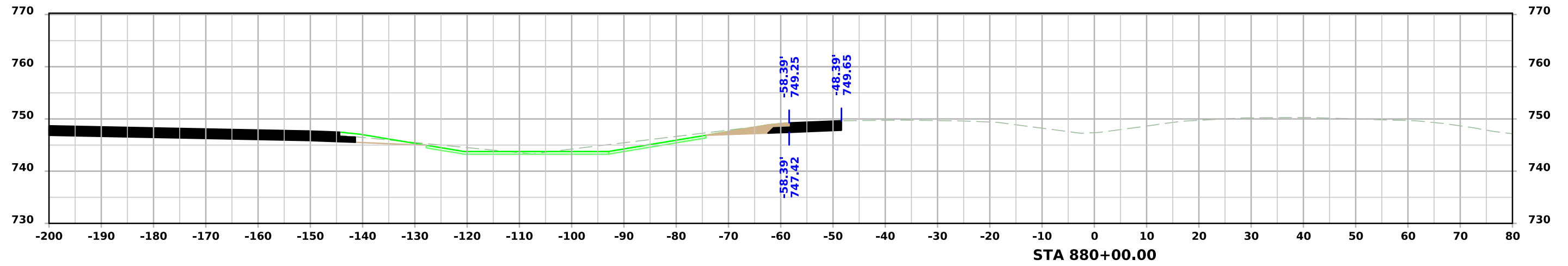
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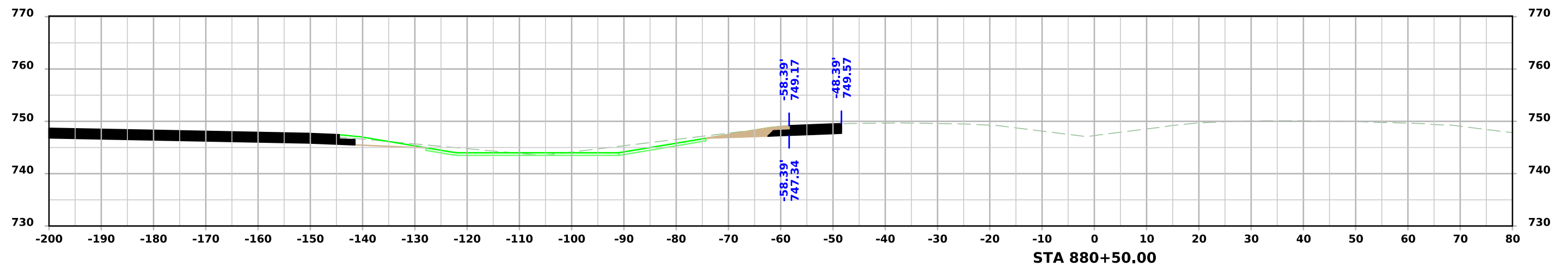
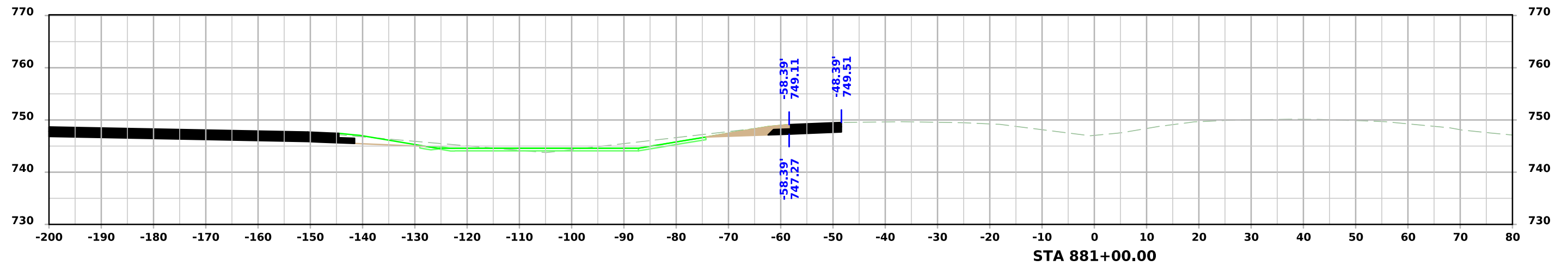
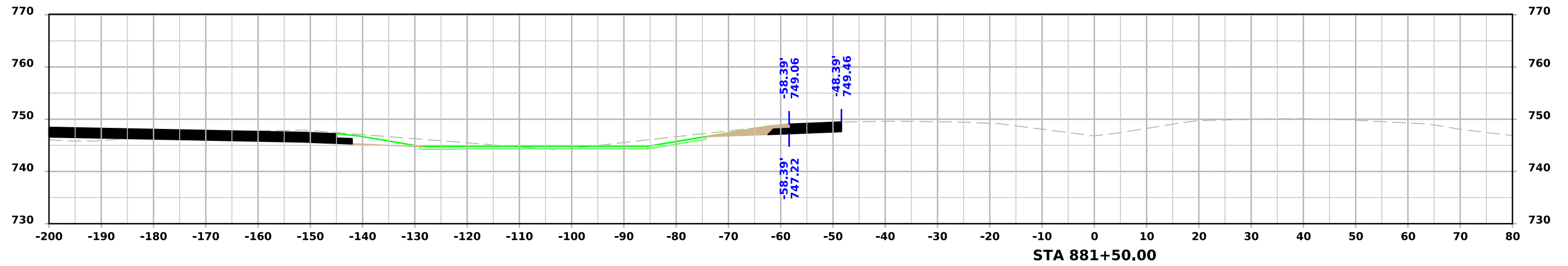
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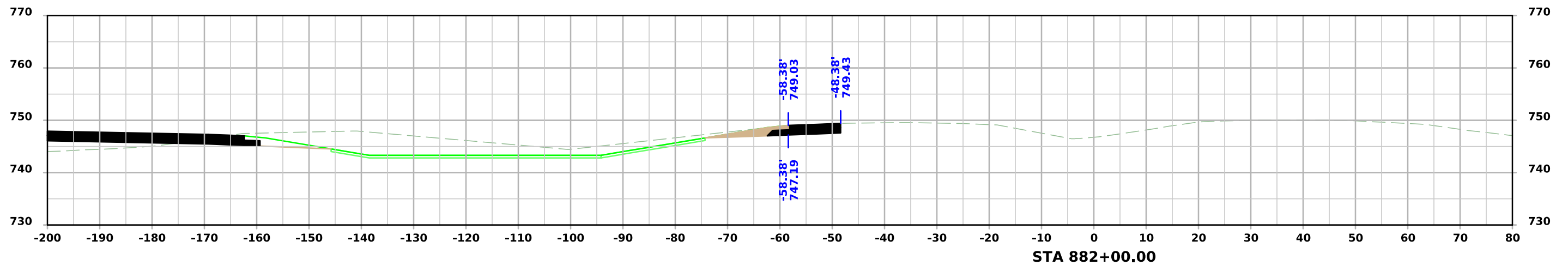
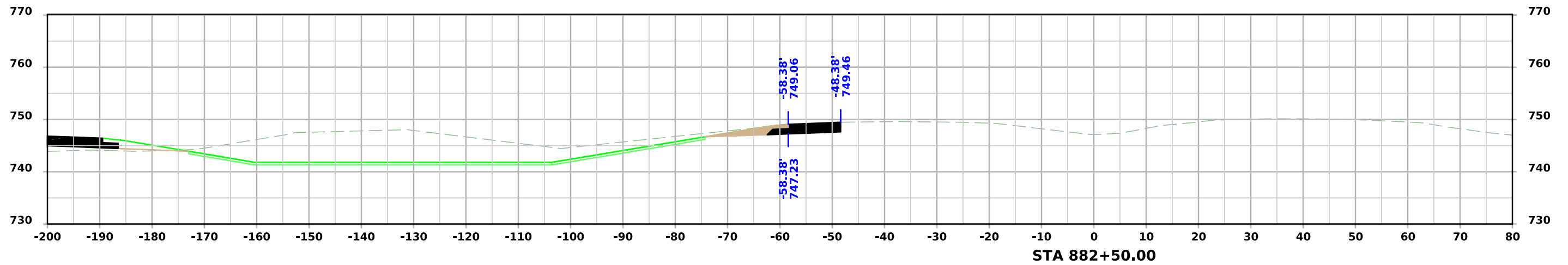
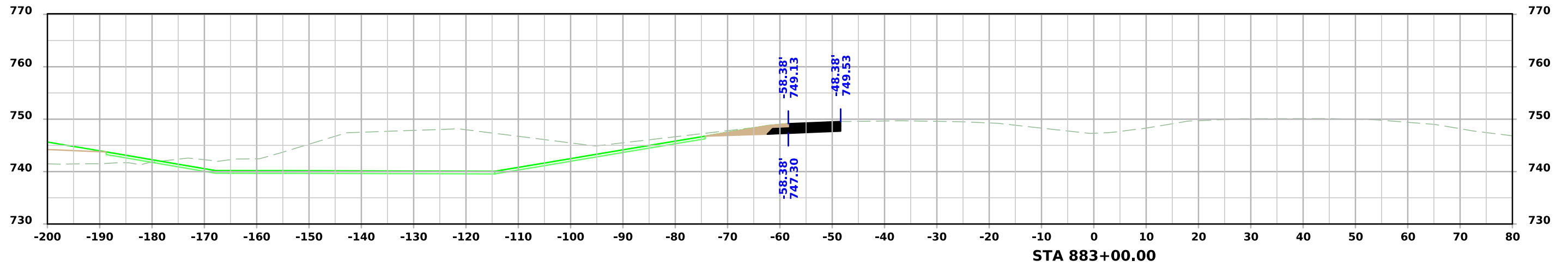
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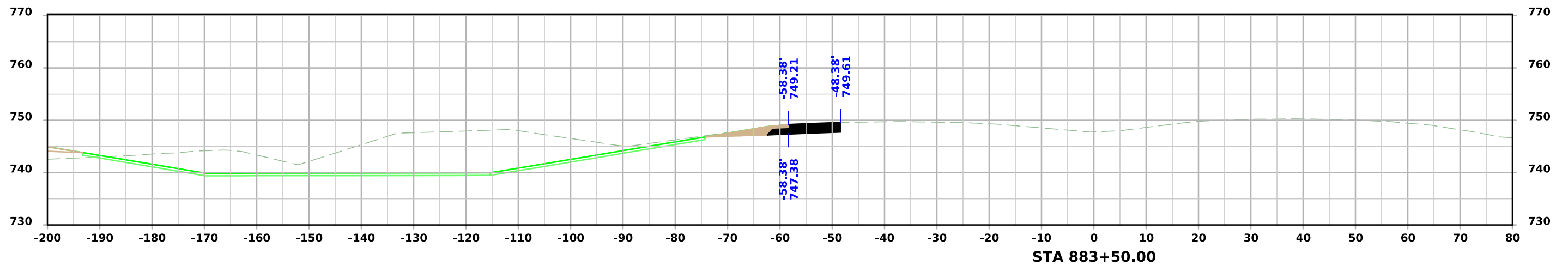
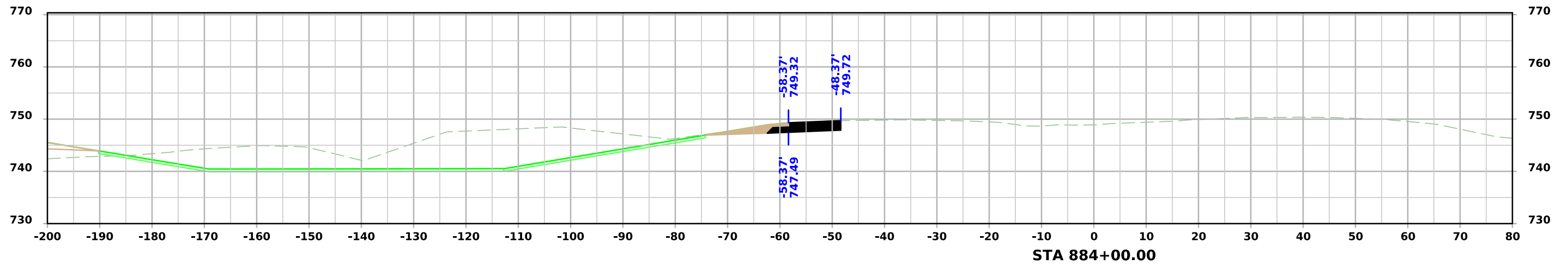
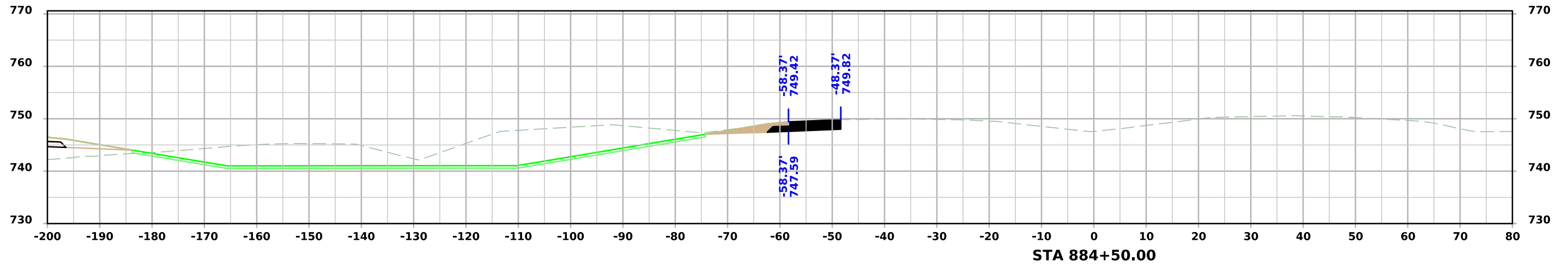
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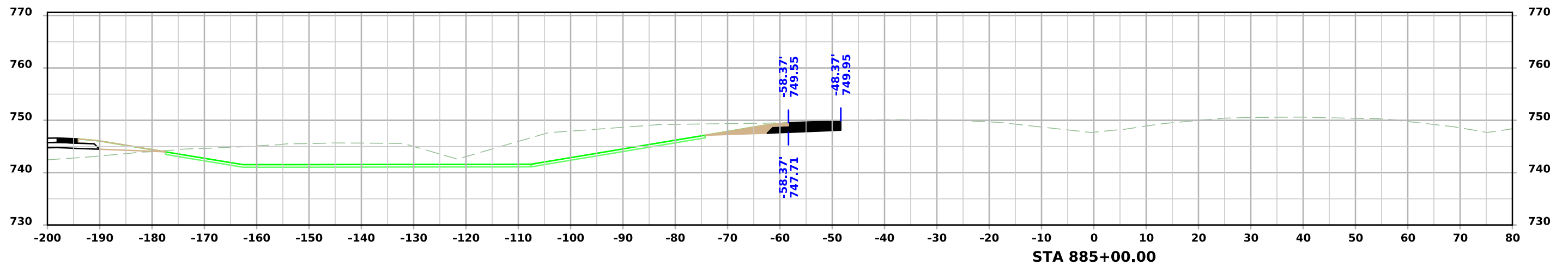
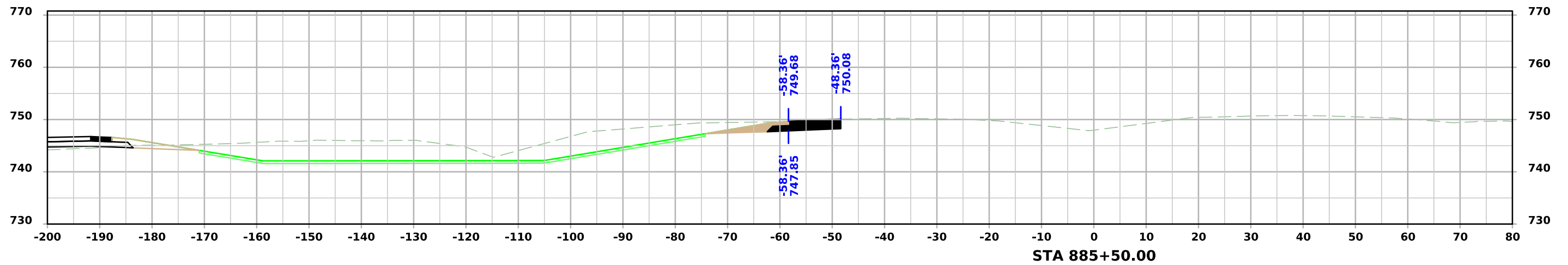
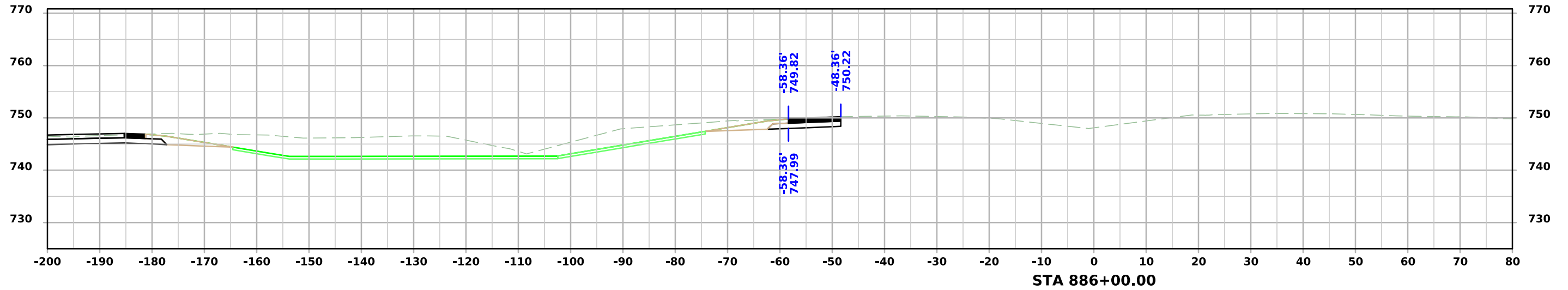
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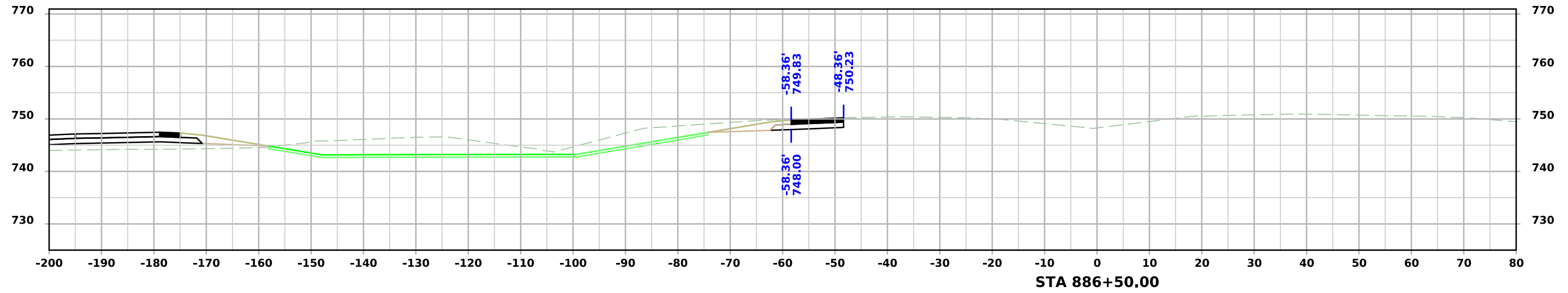
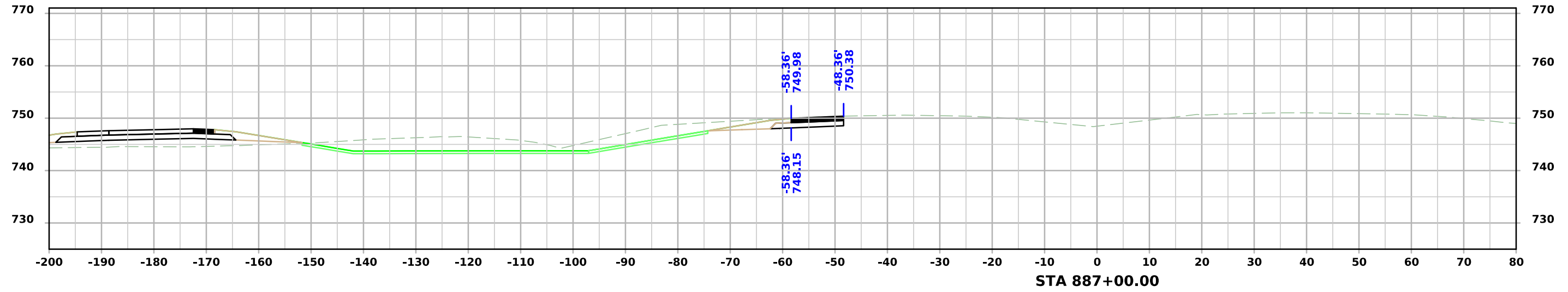
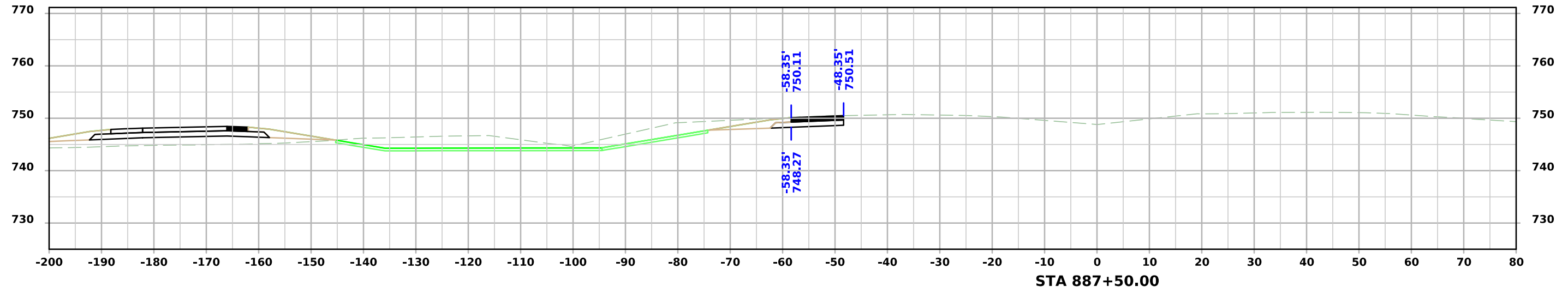
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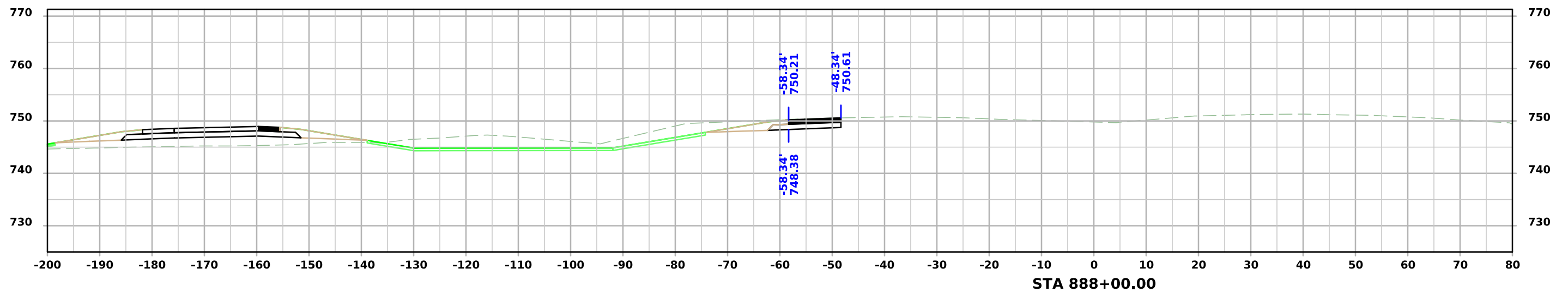
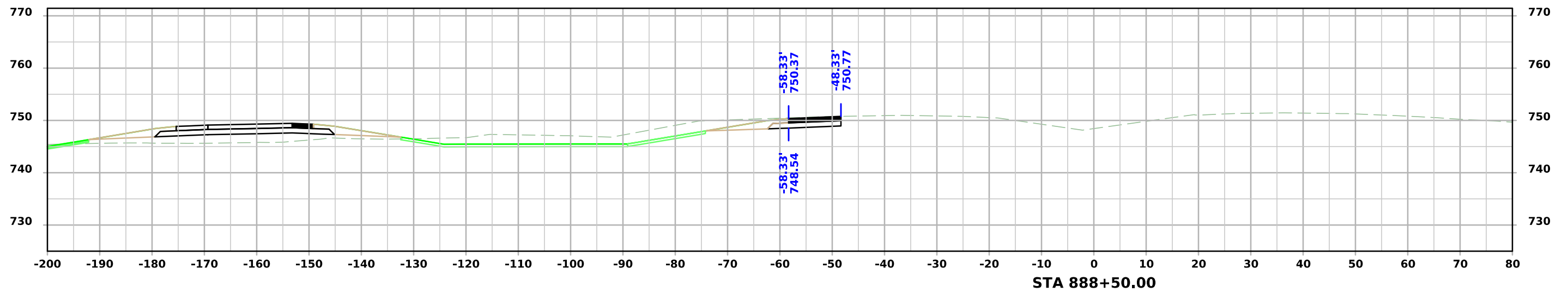
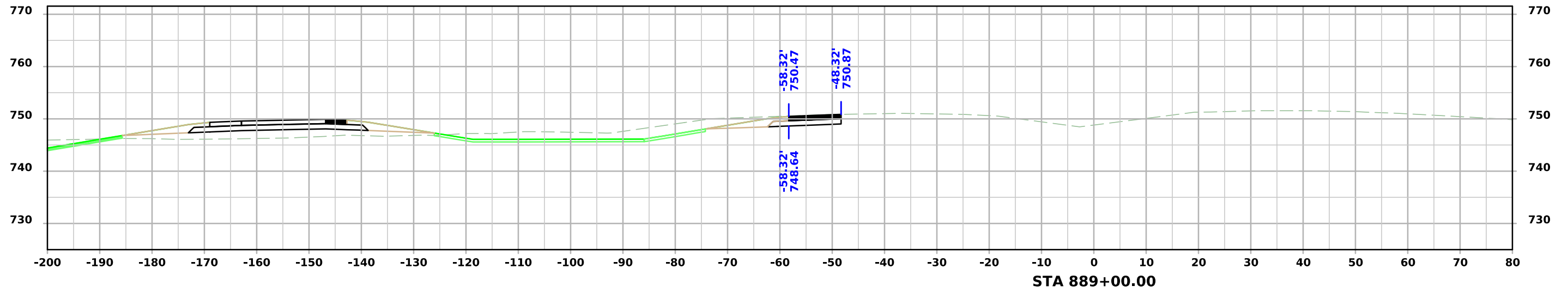
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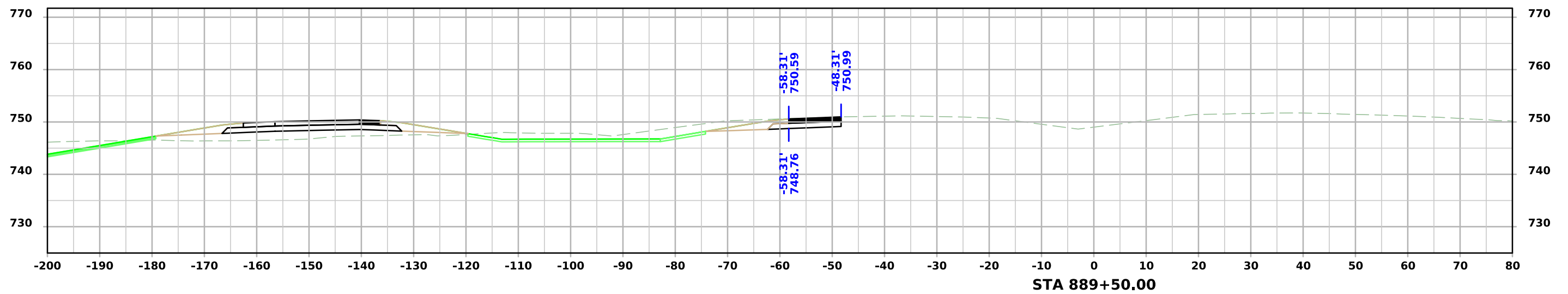
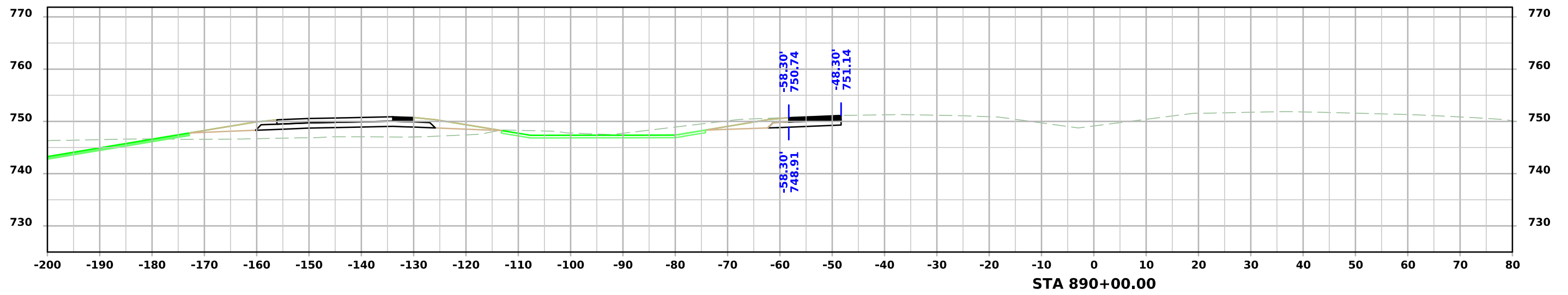
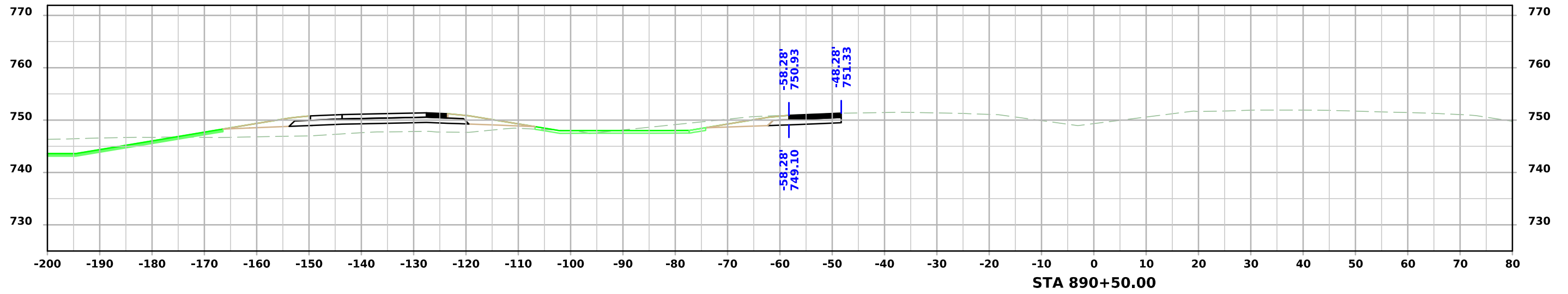
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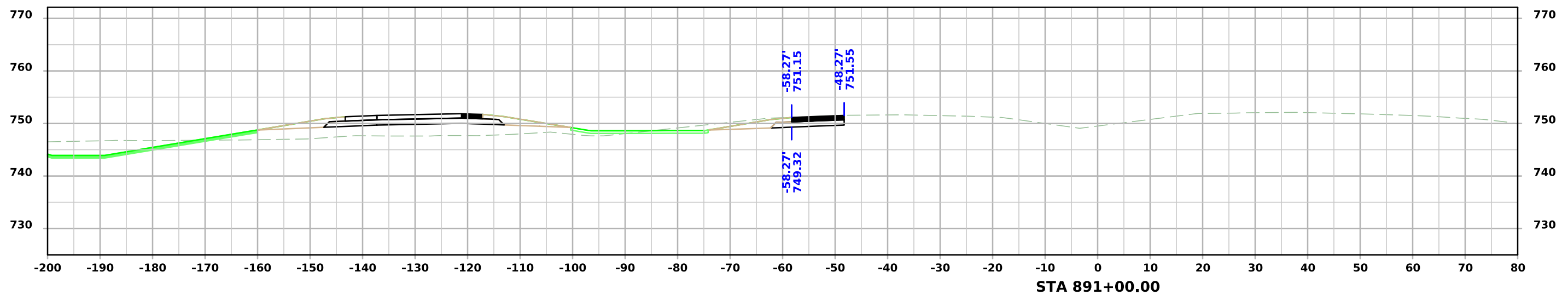
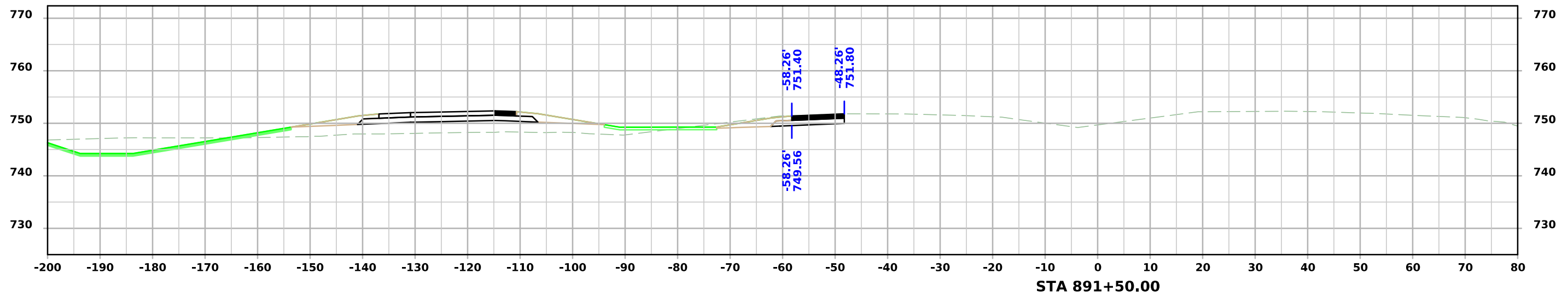
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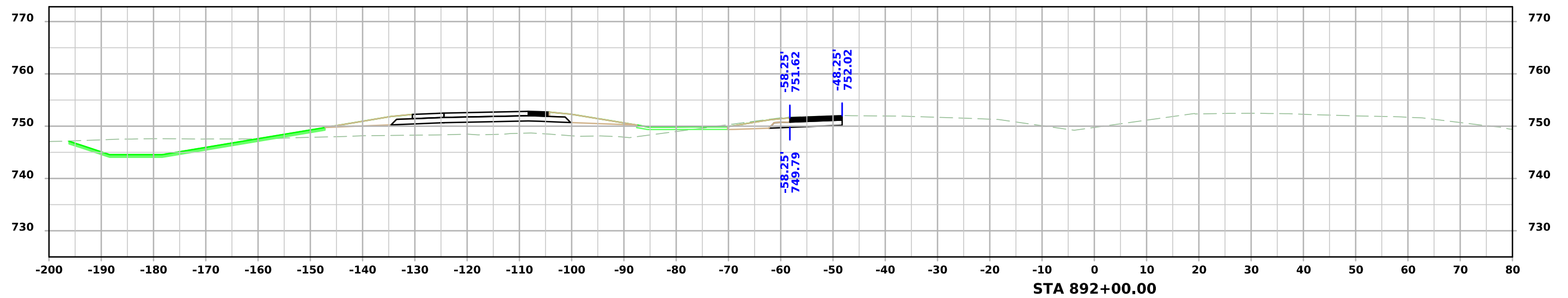
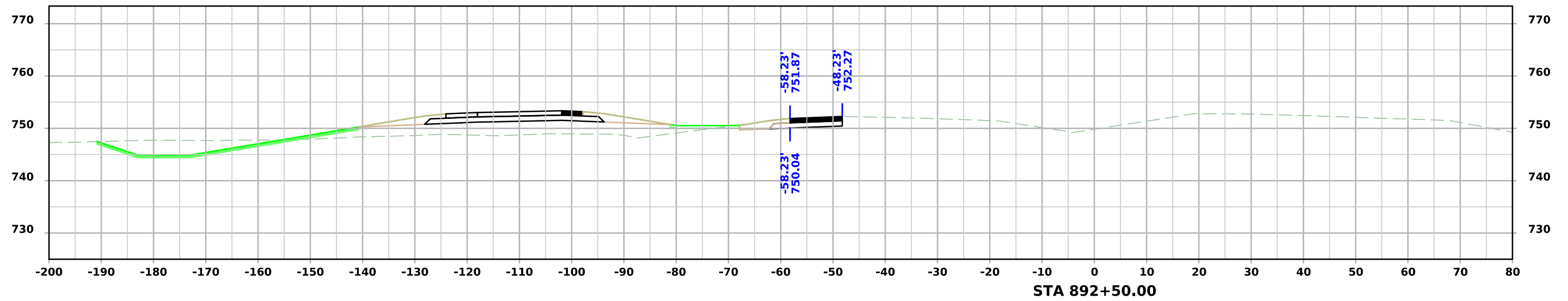
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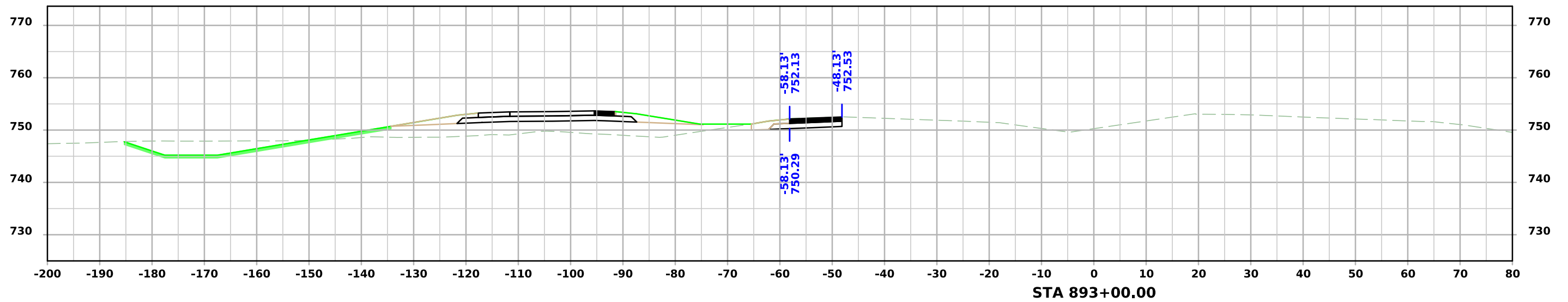
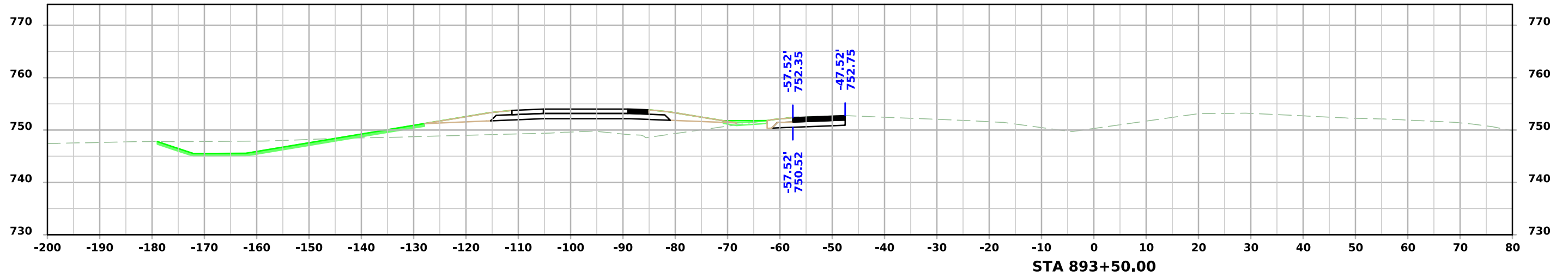
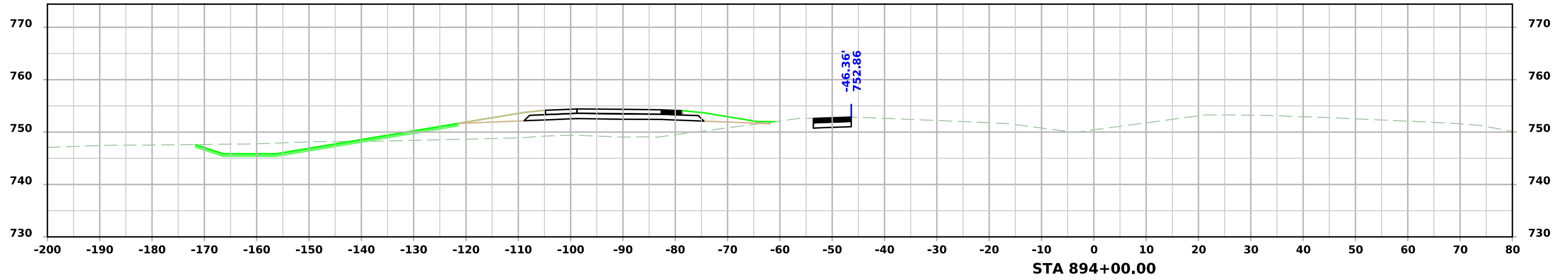
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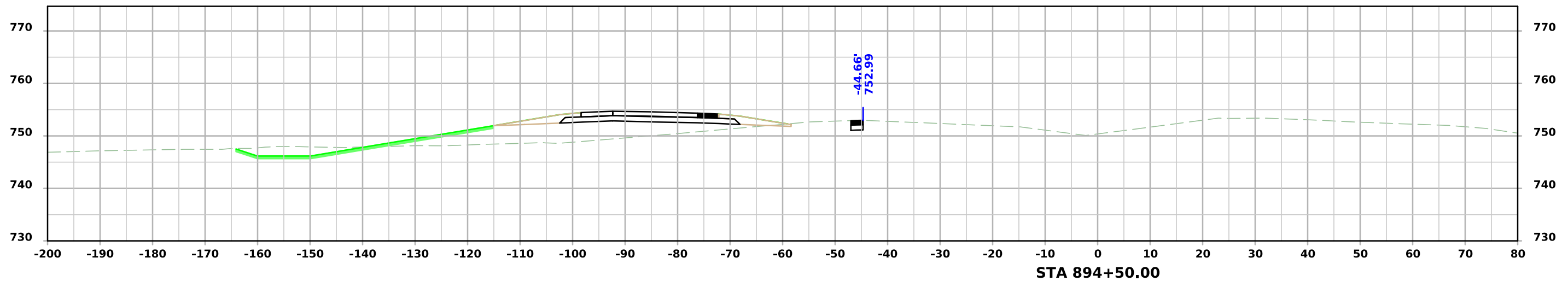
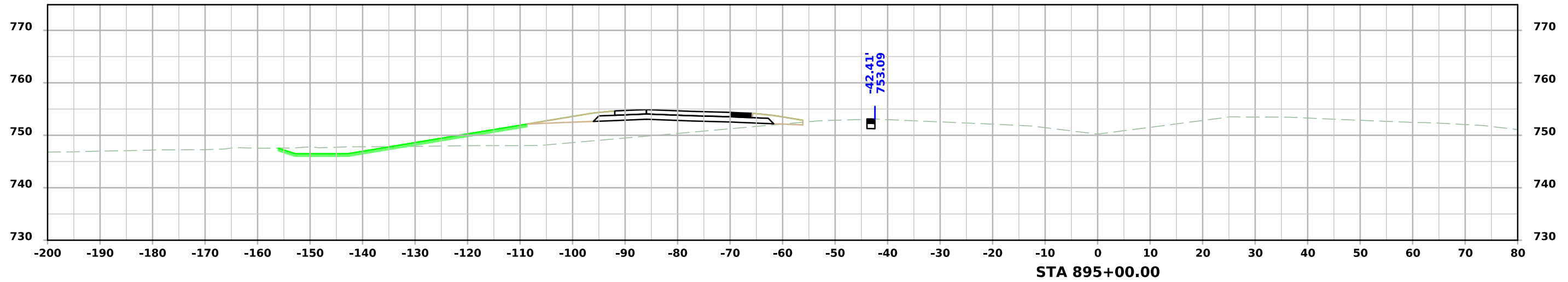
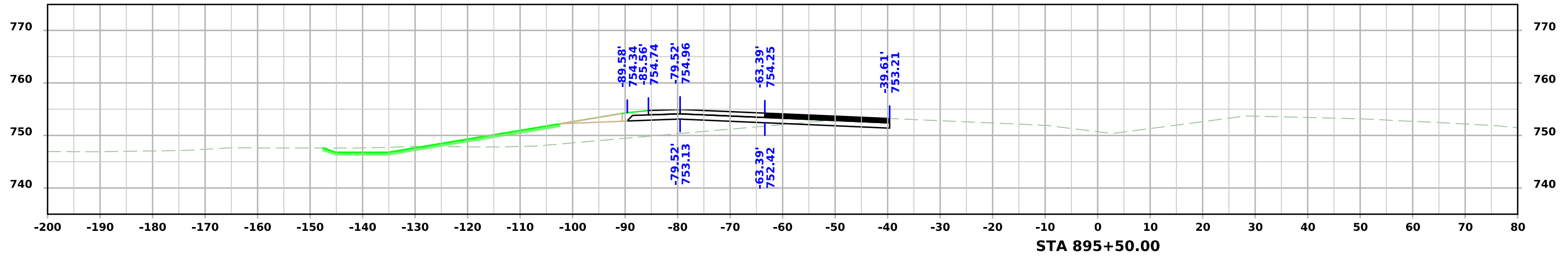
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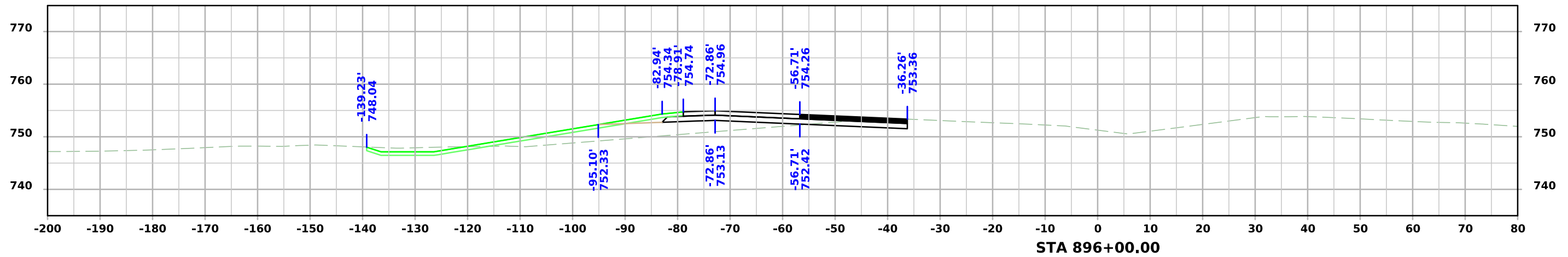
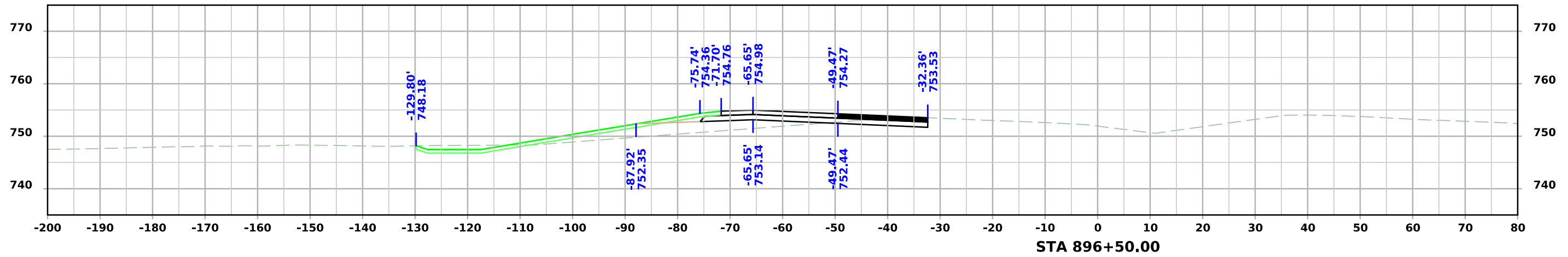
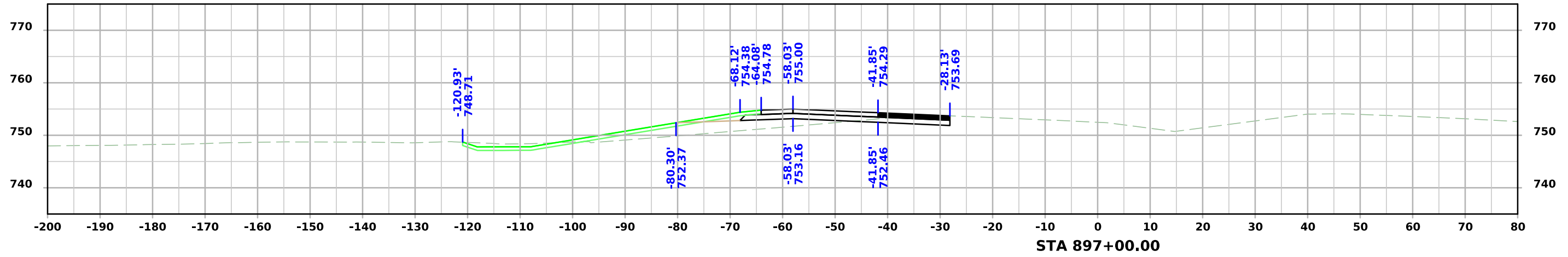
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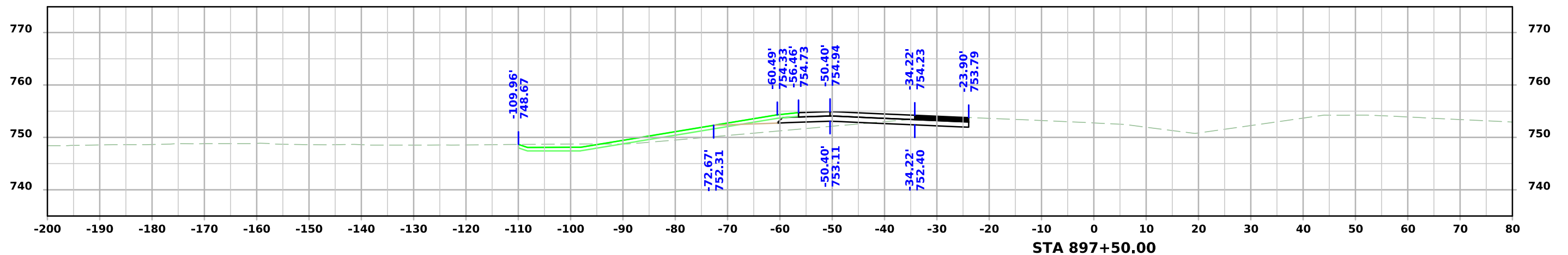
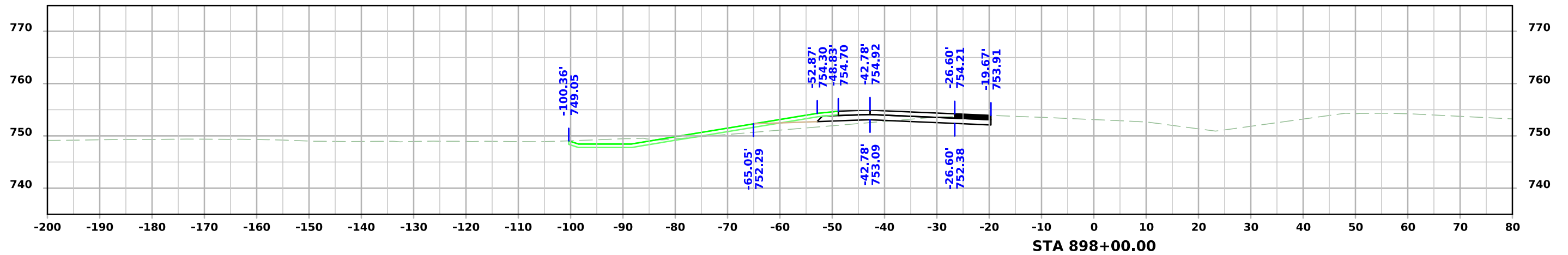
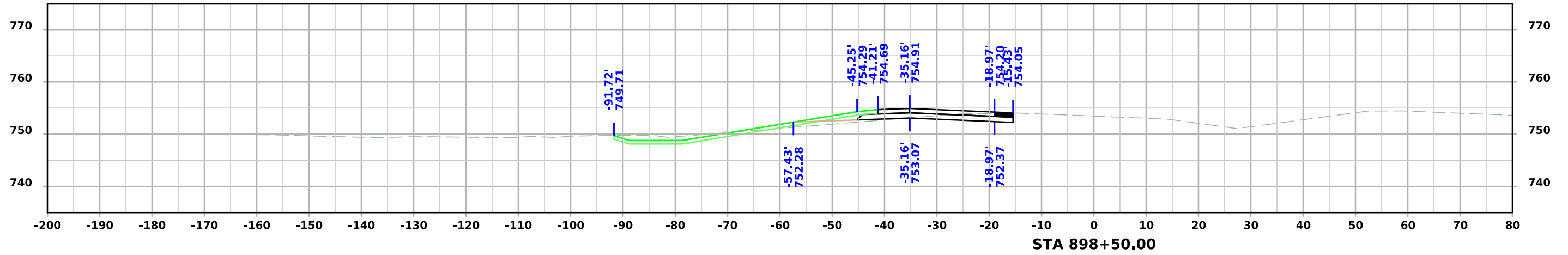
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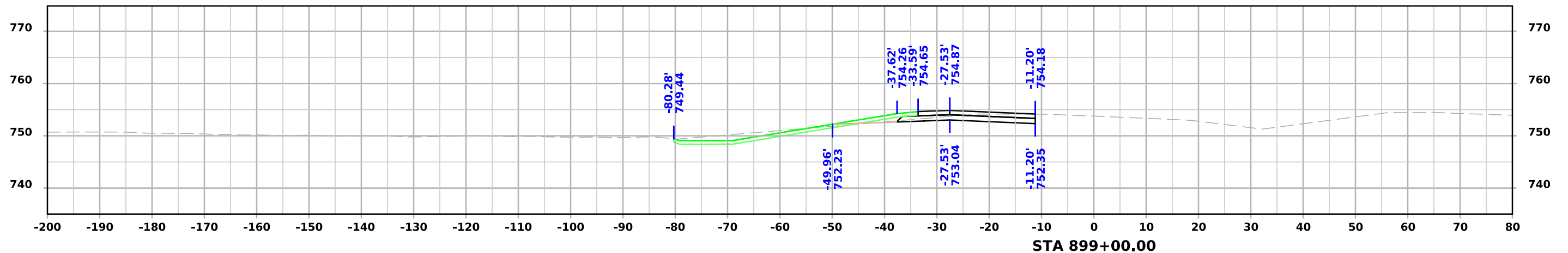
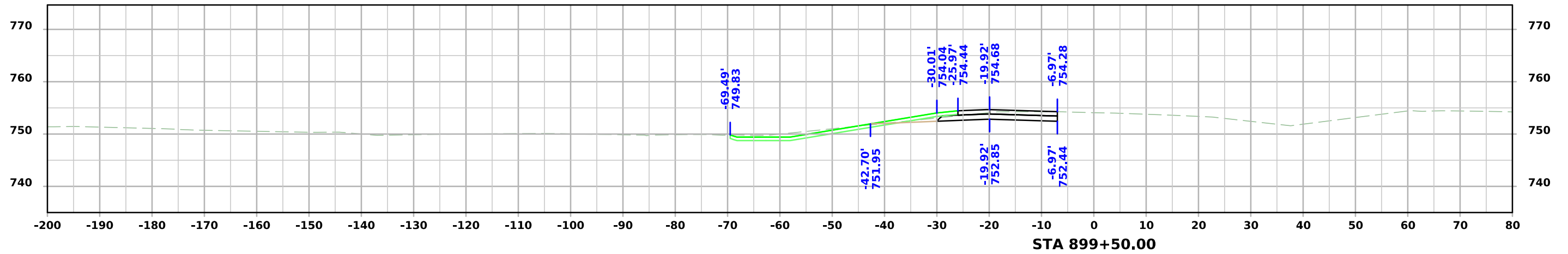
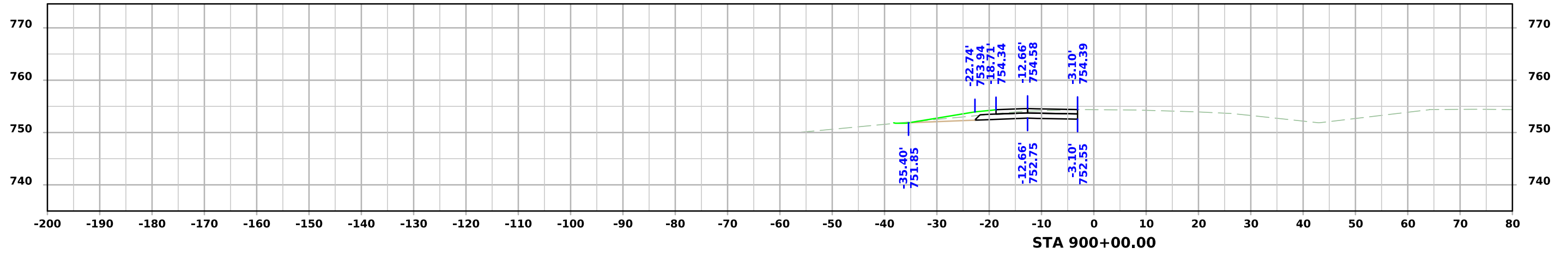
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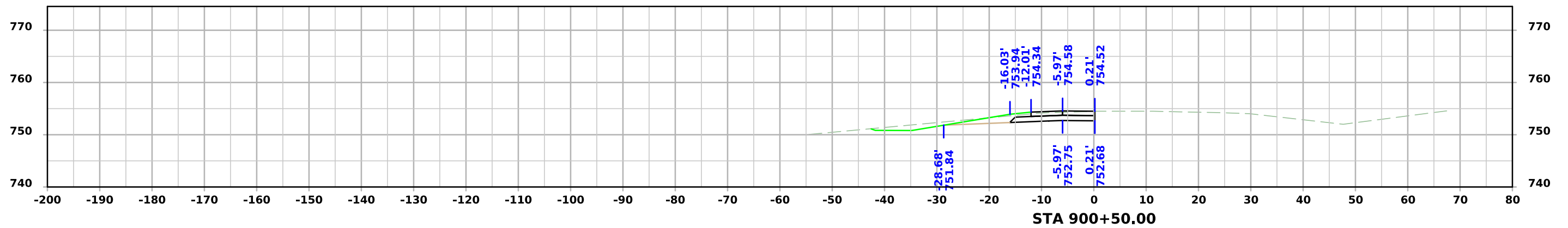
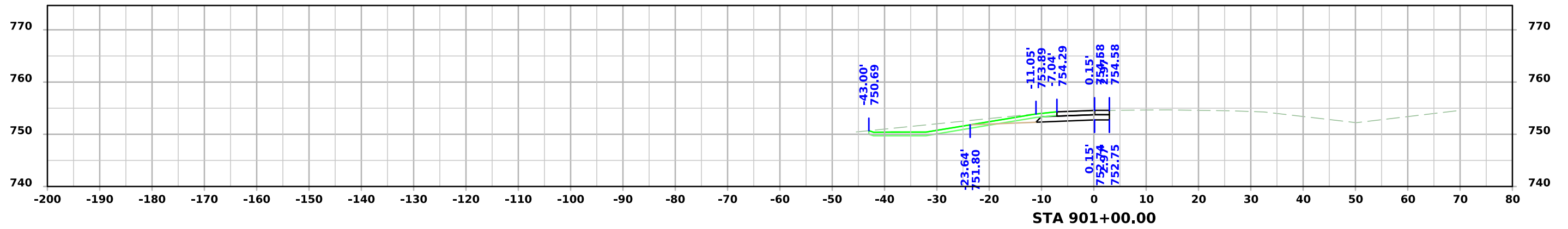
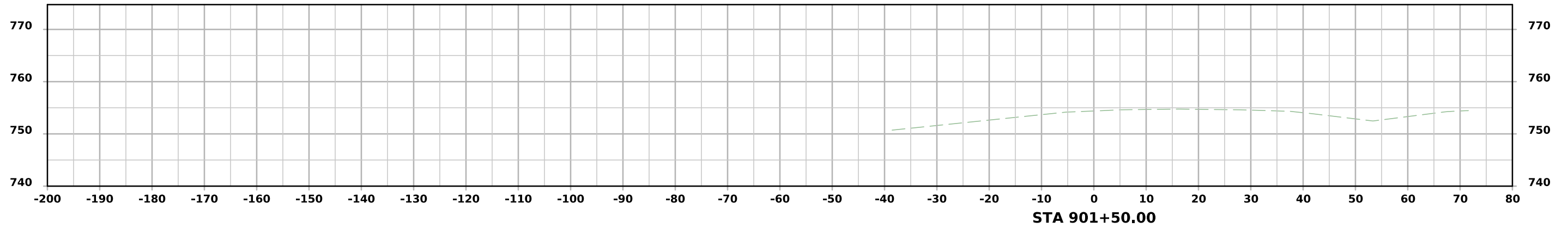
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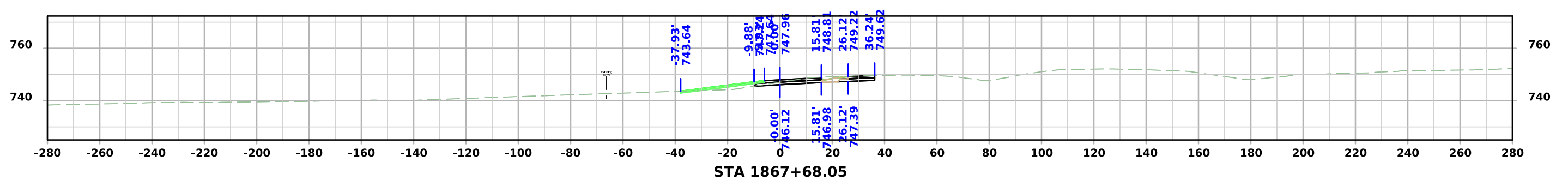
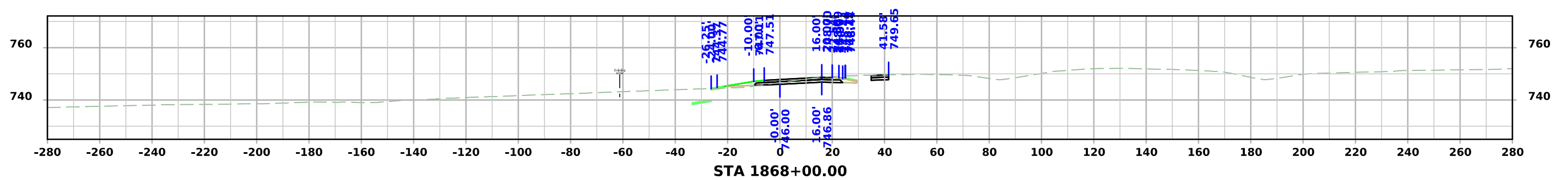
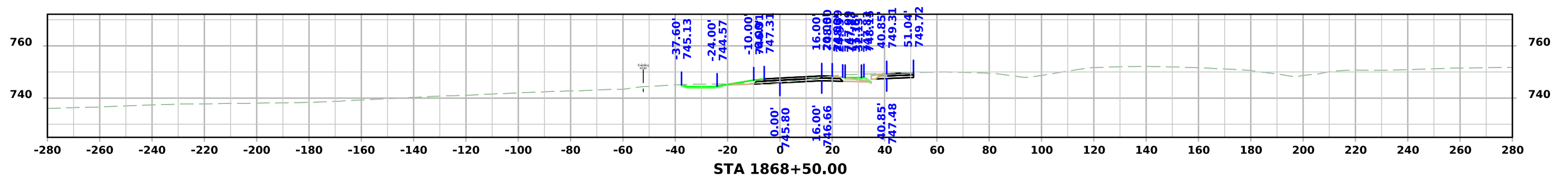
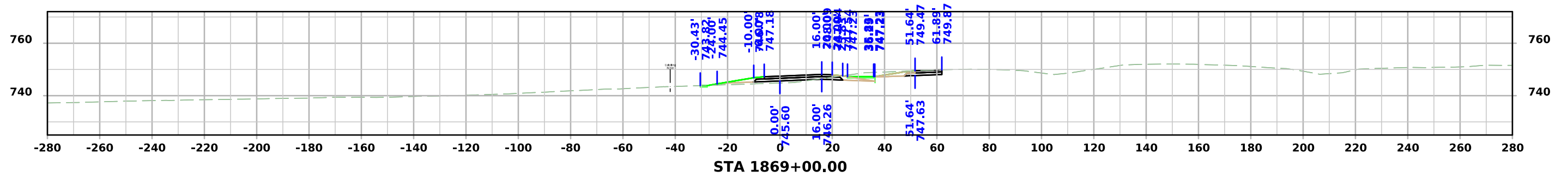
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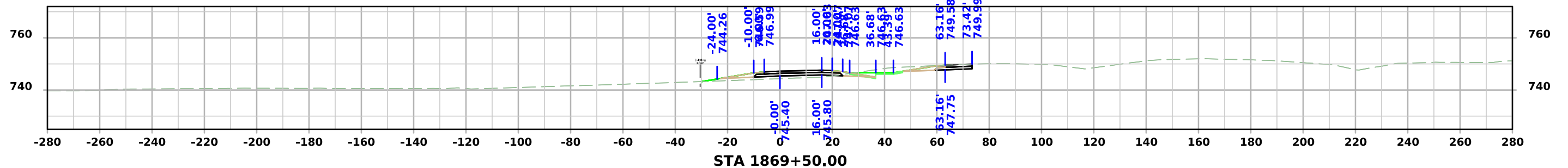
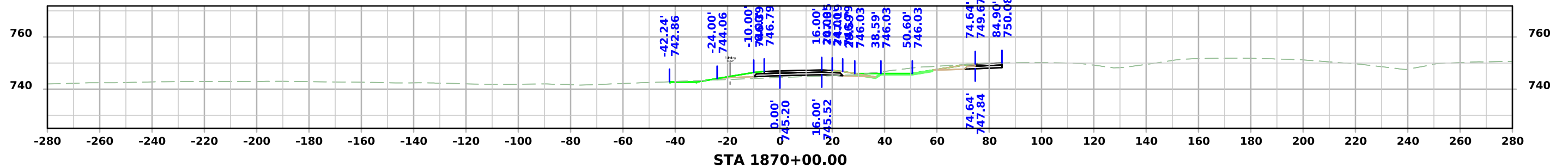
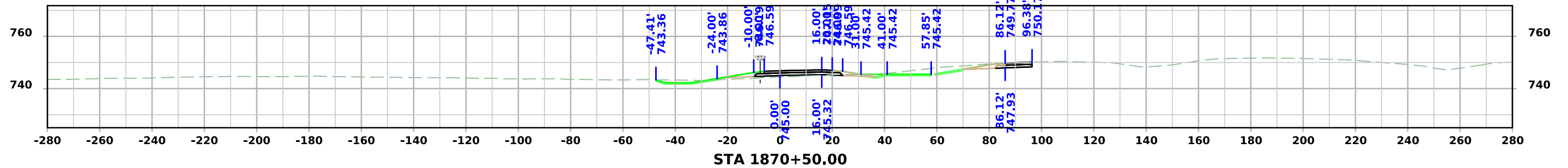
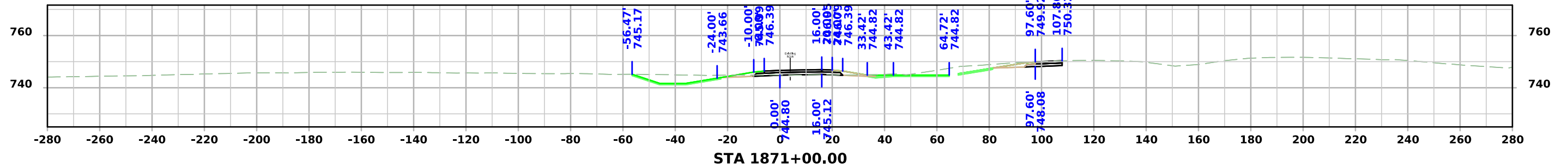
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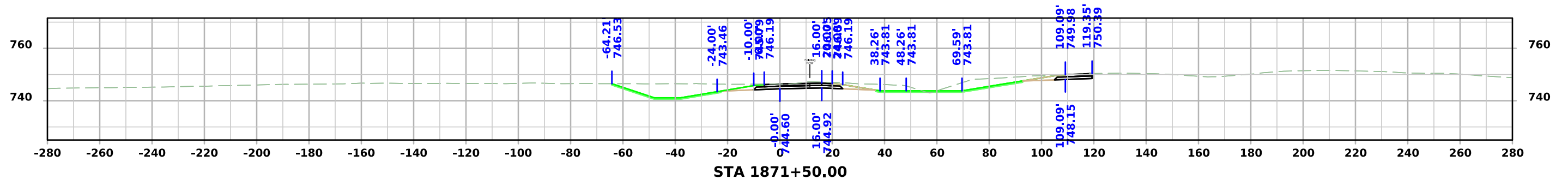
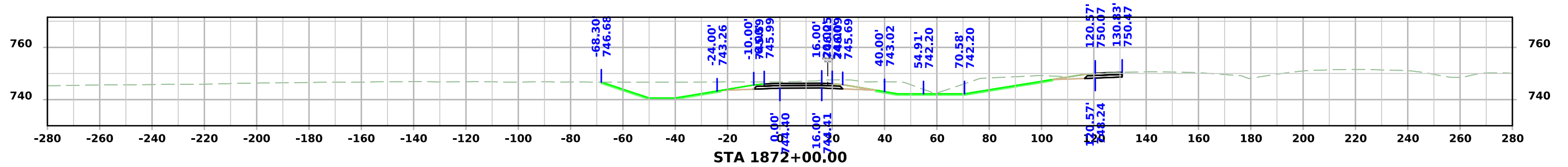
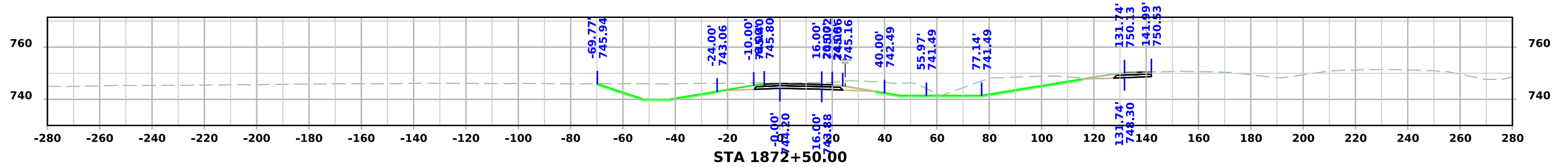
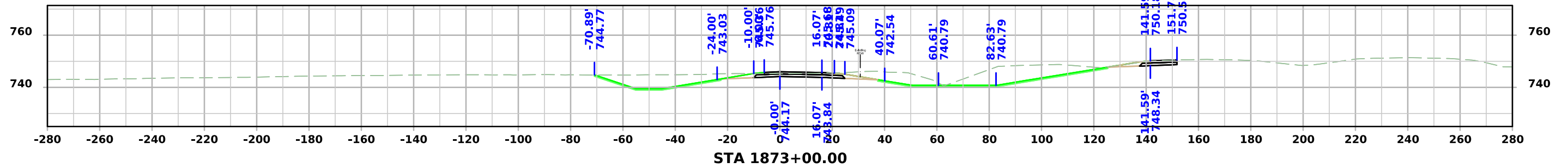
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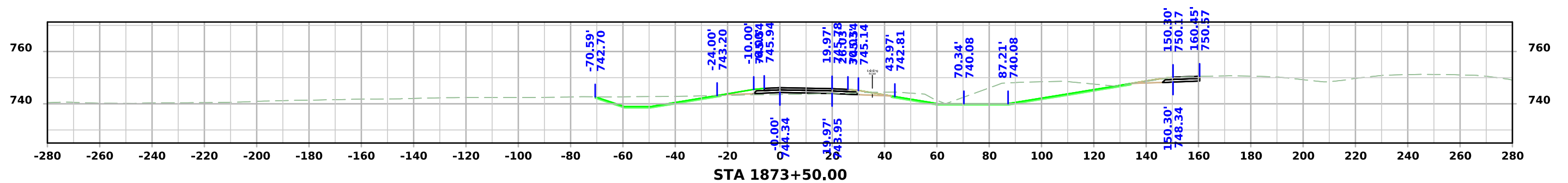
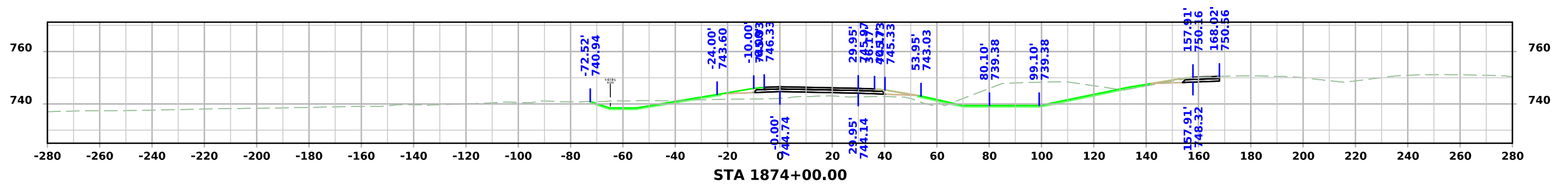
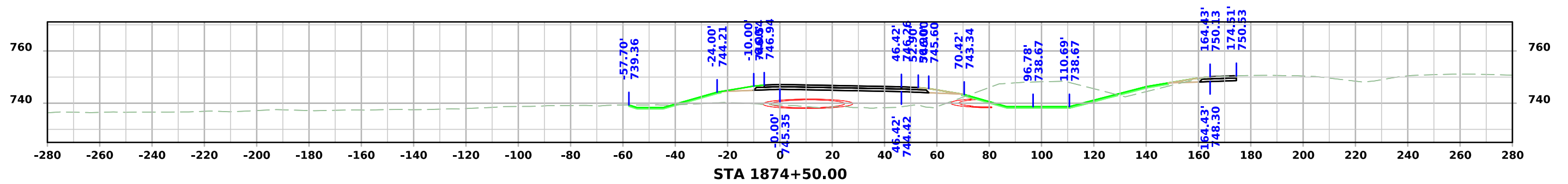
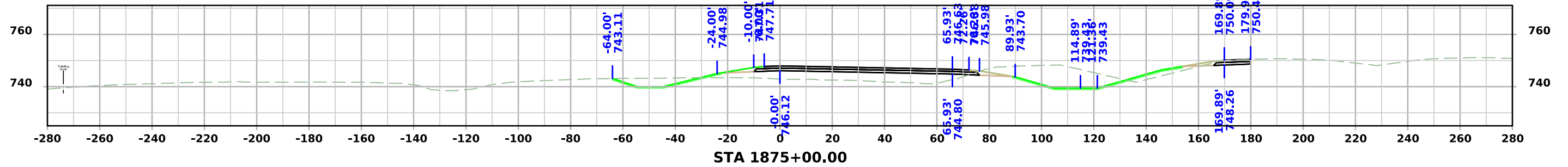
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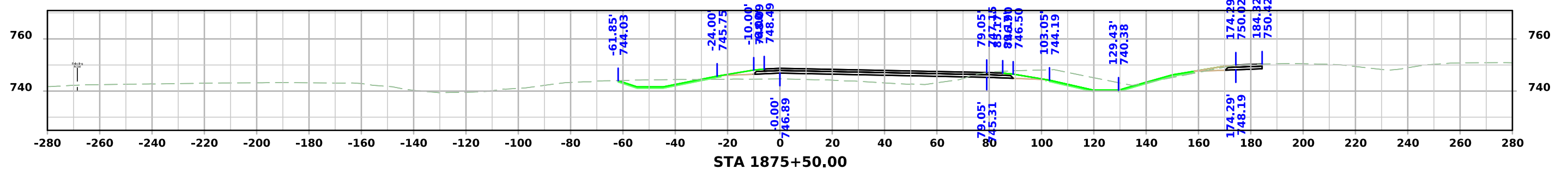
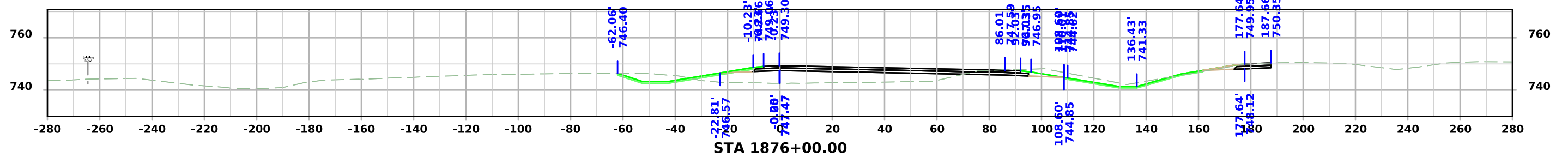
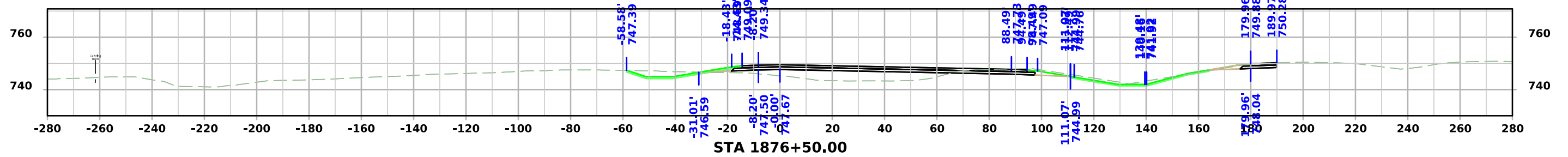
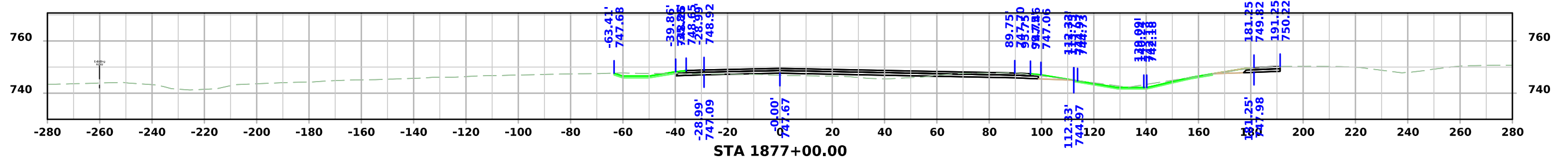
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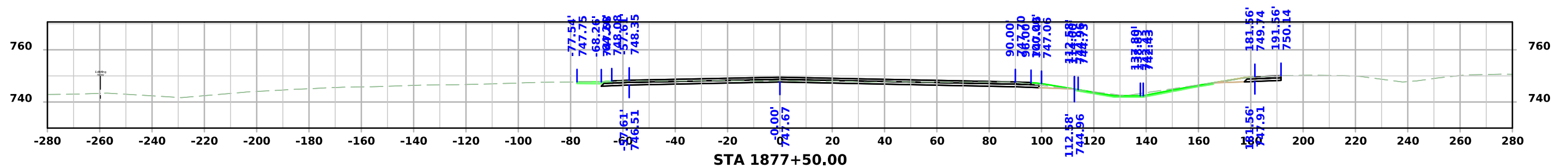
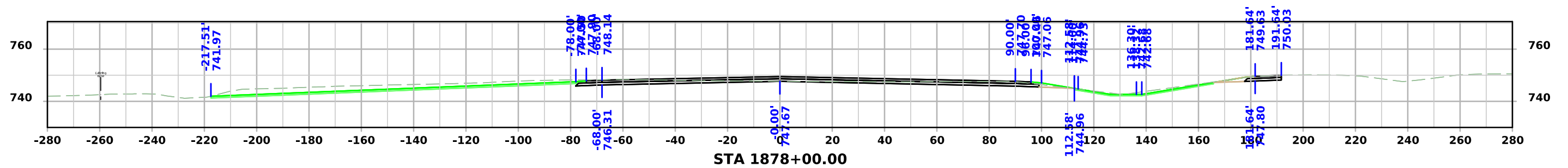
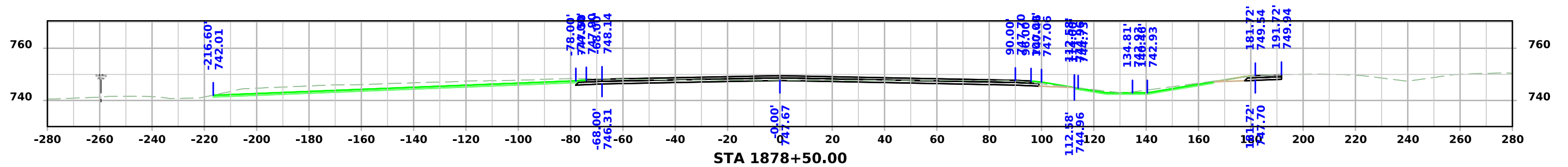
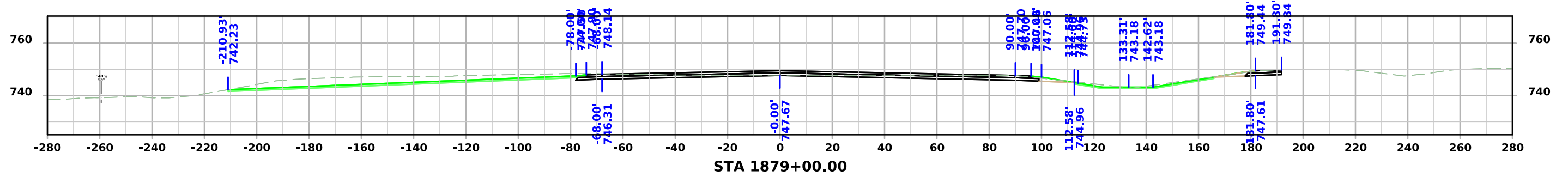
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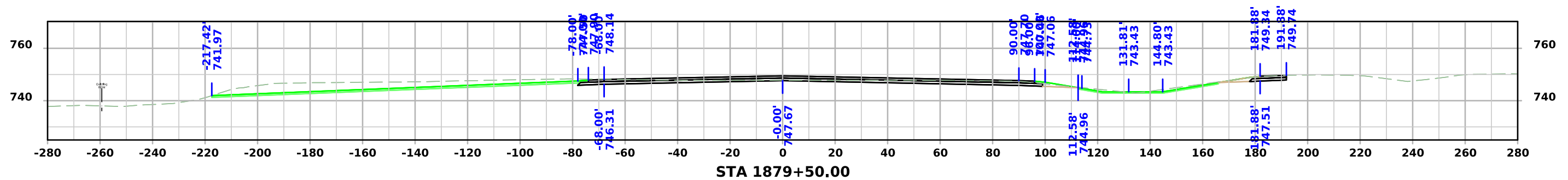
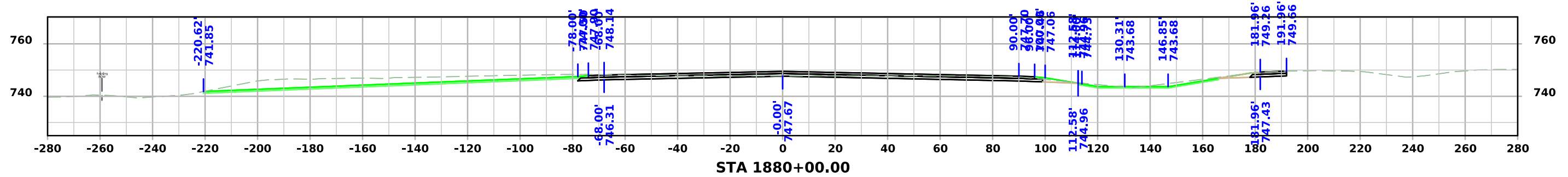
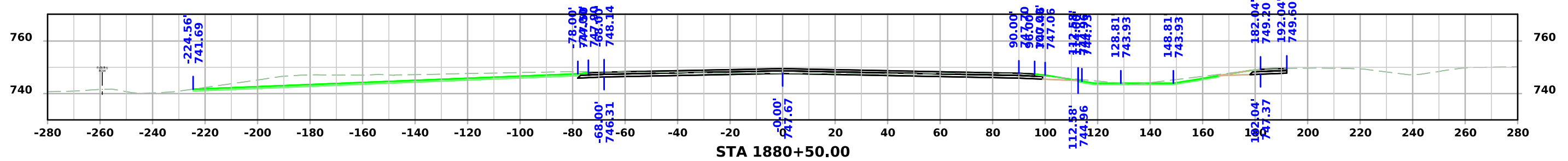
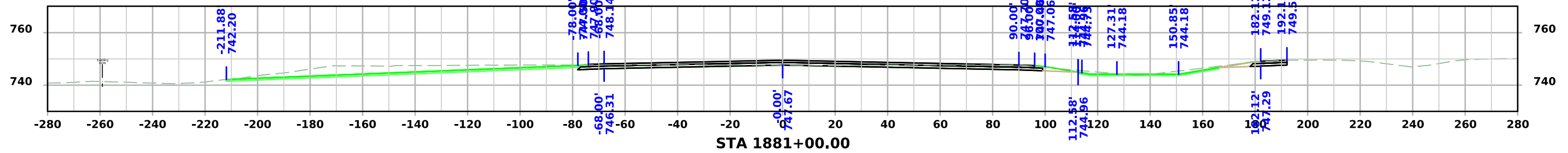
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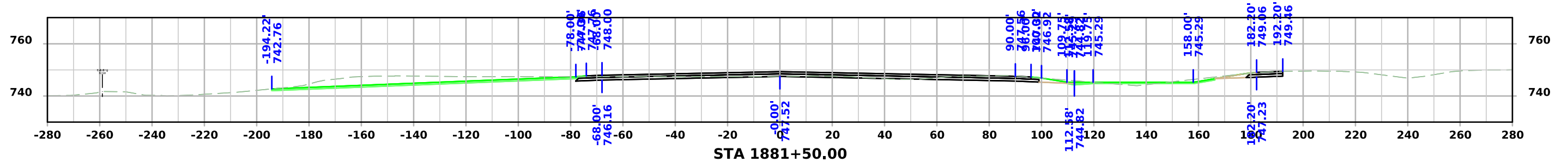
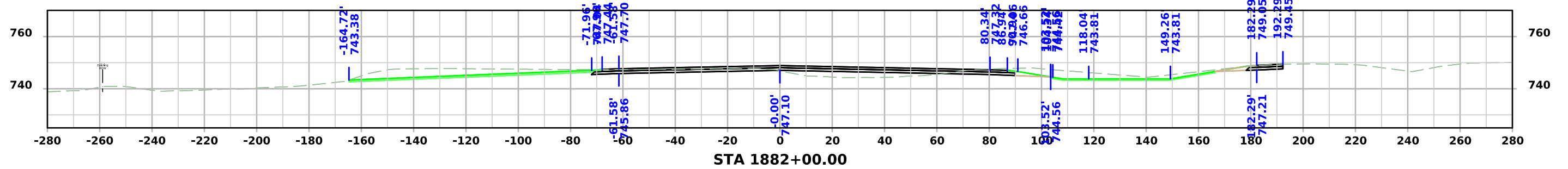
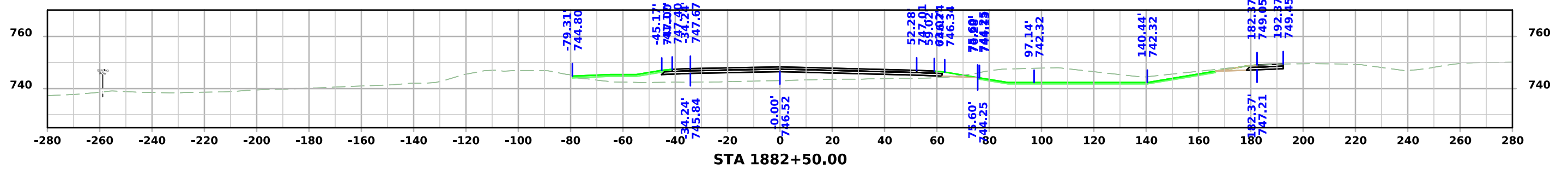
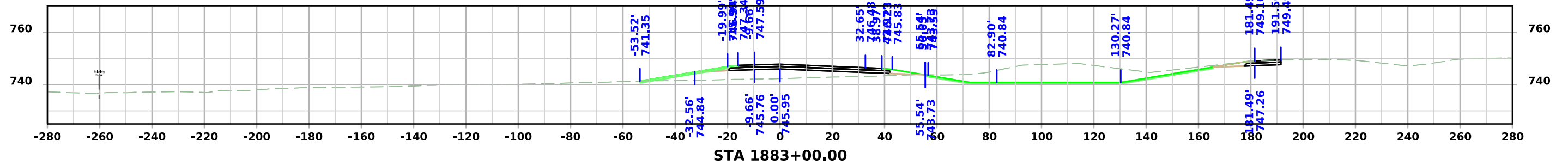
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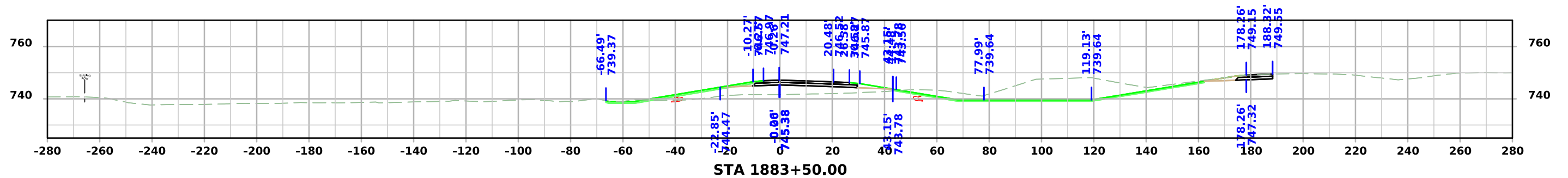
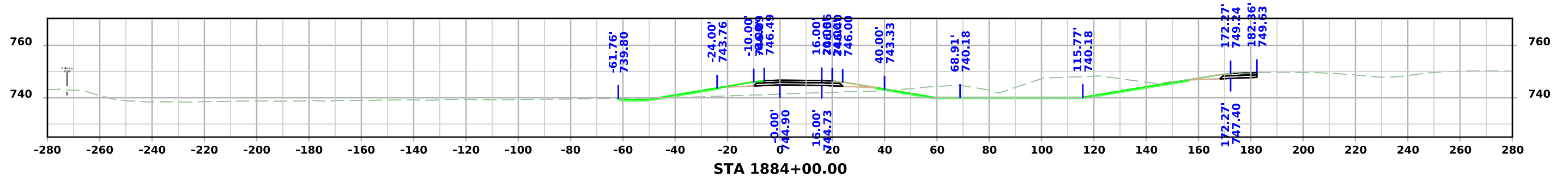
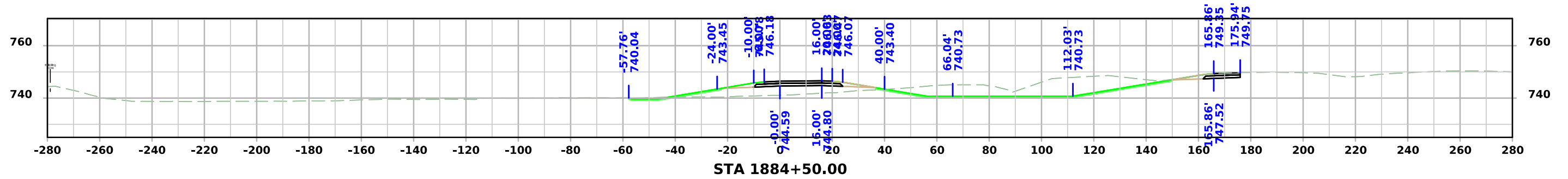
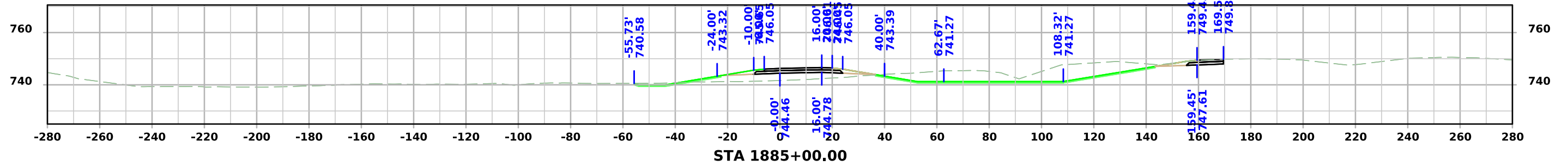
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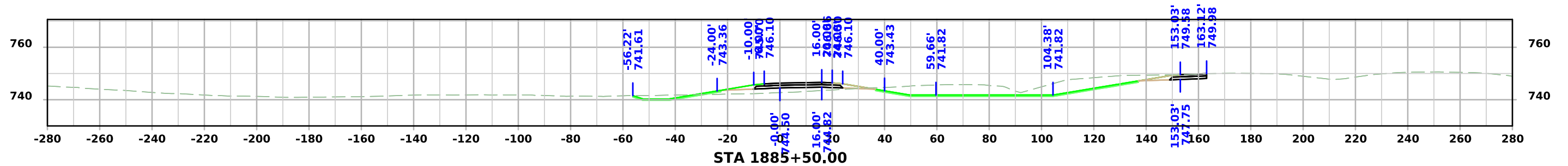
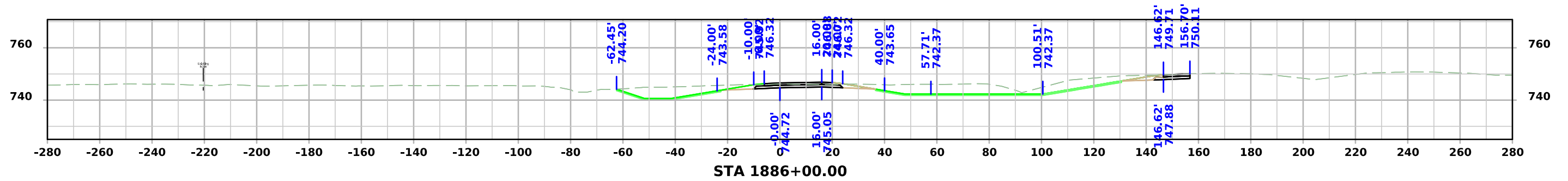
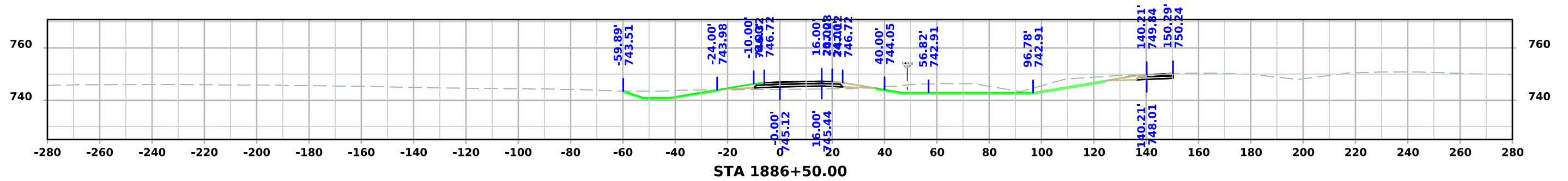
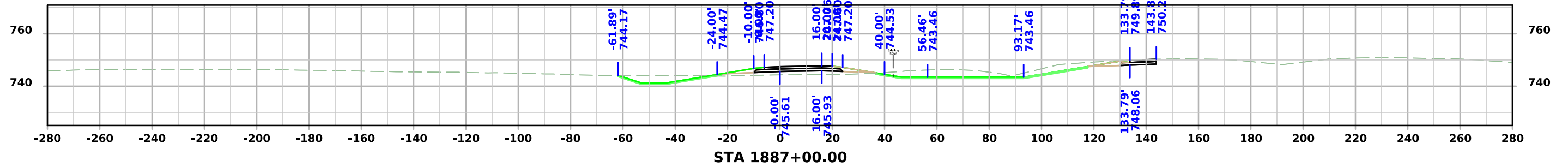
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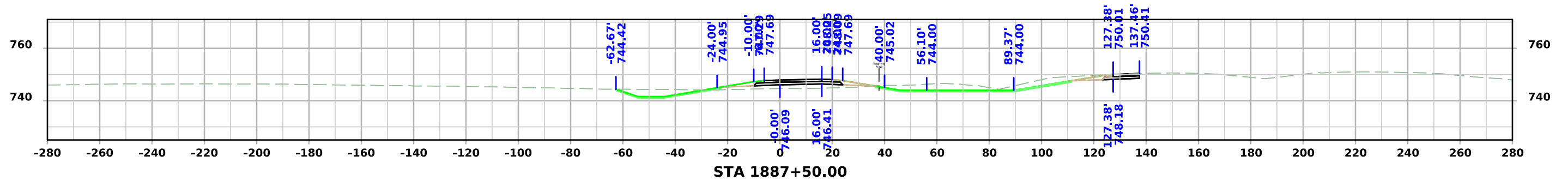
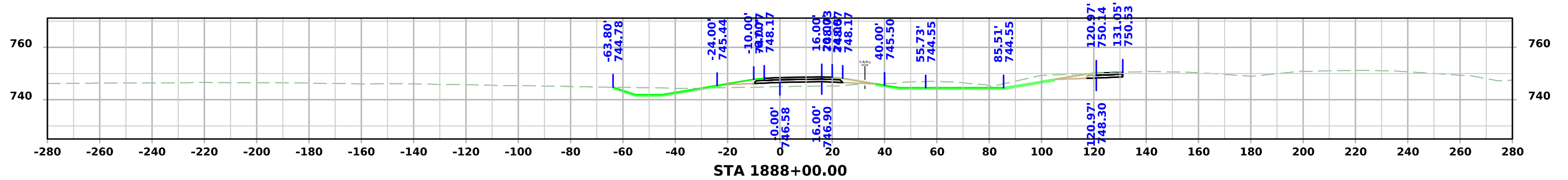
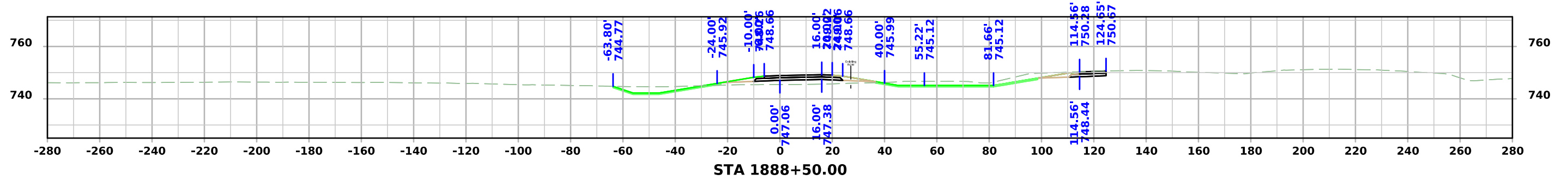
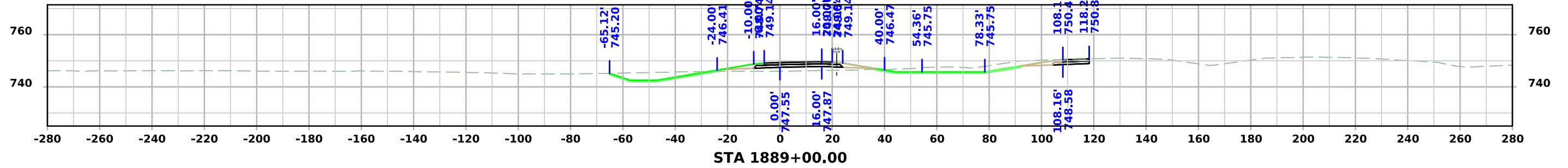
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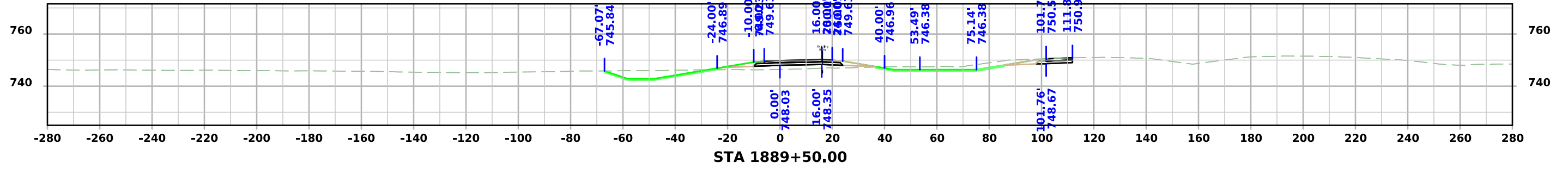
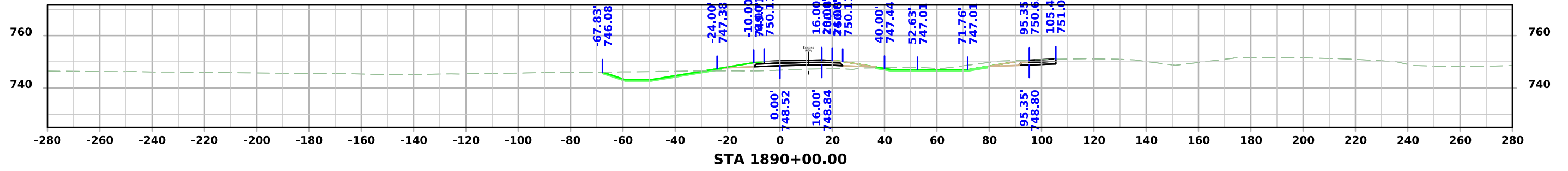
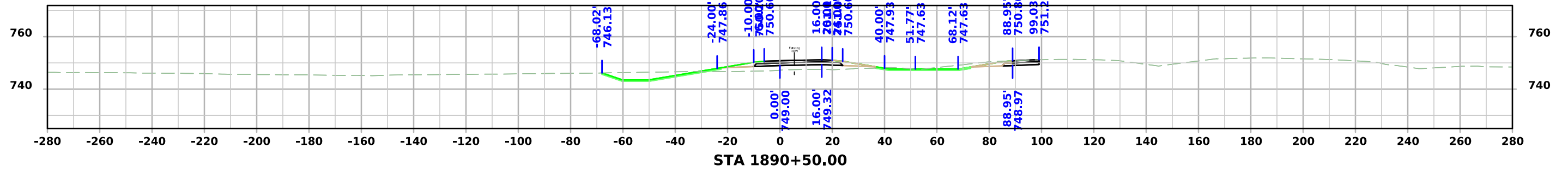
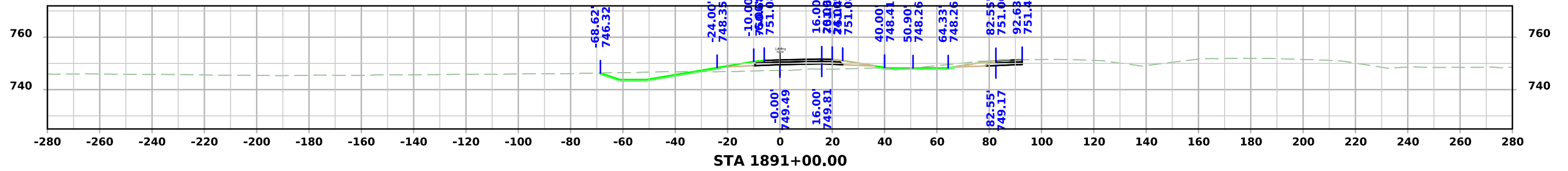
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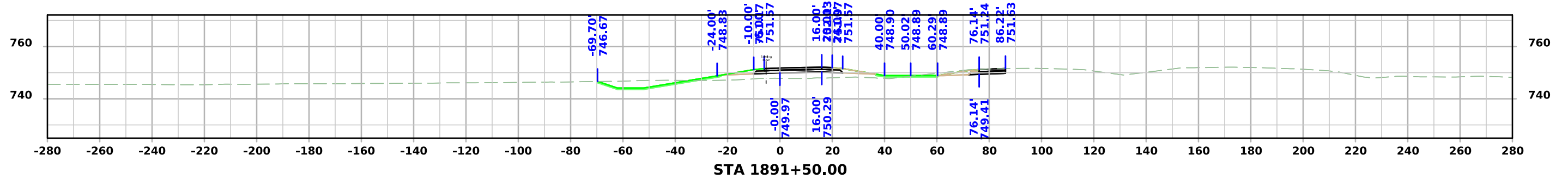
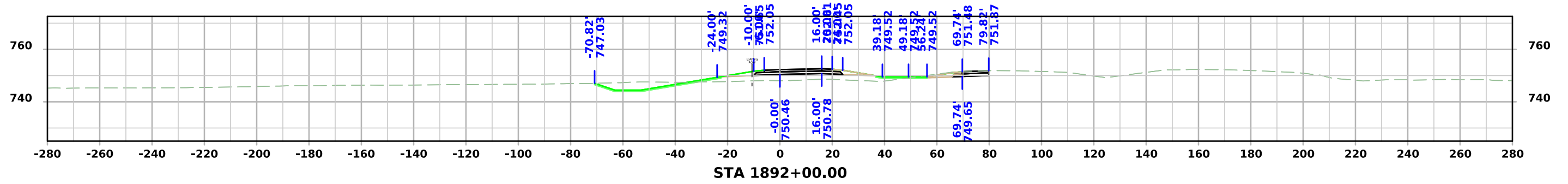
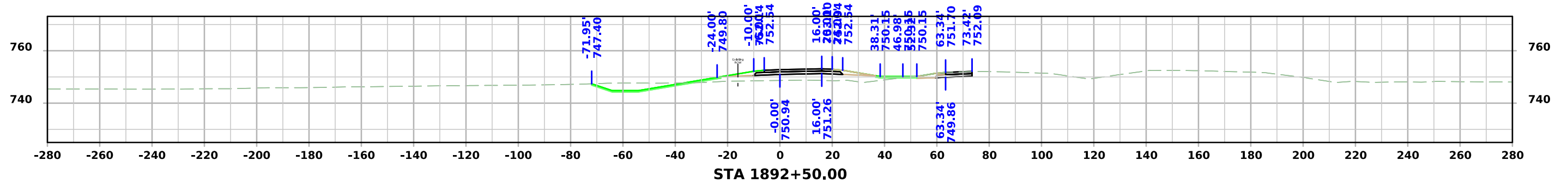
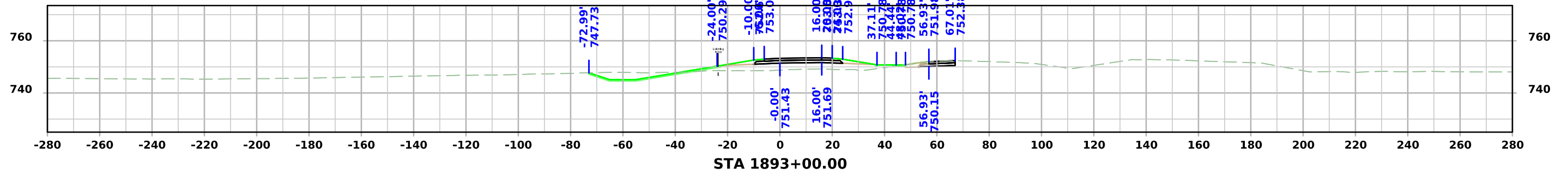
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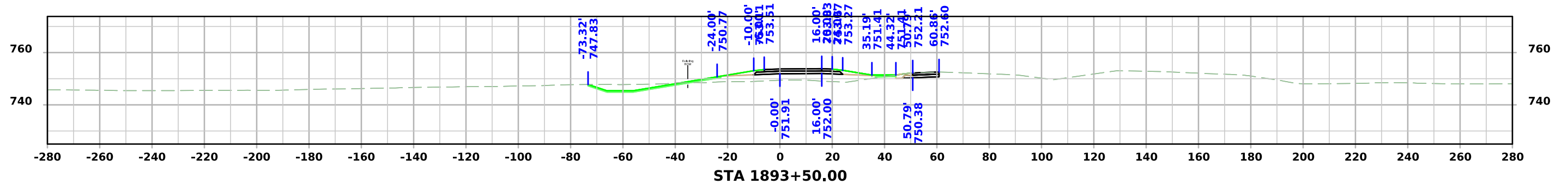
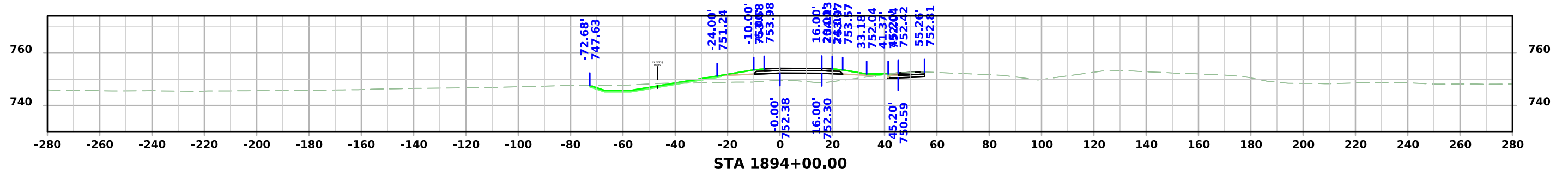
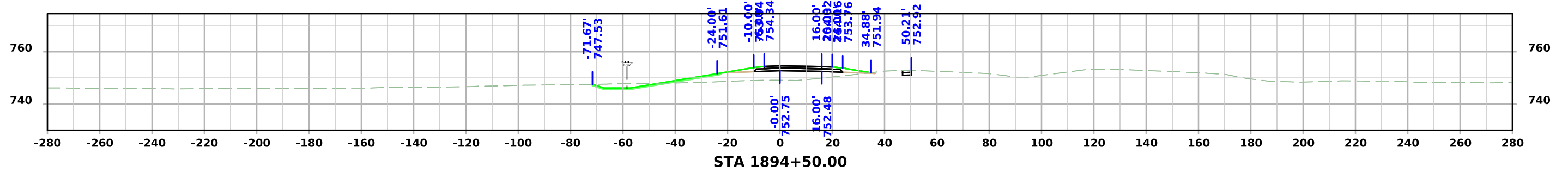
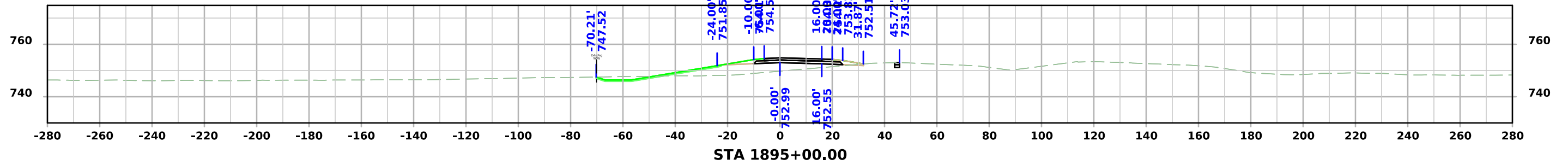
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