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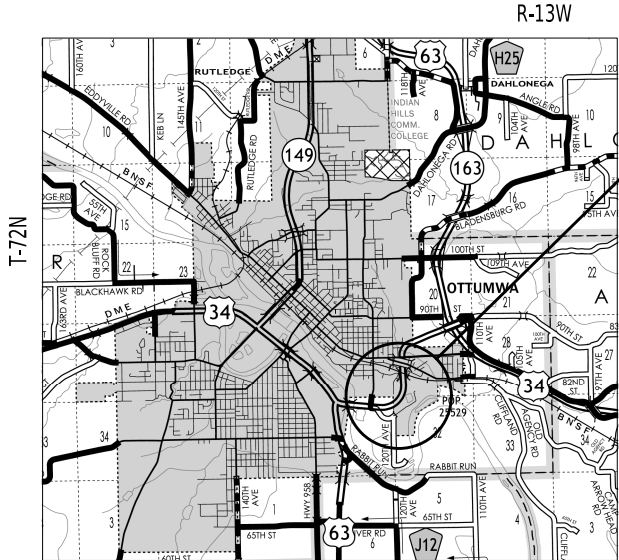


PLANS OF PROPOSED IMPROVEMENT ON THE
PRIMARY ROAD SYSTEM
Wapello COUNTY
Unknown Pavement Grade and Replace
In Ottumwa
Des Moines River Bridge to RR Bridge

SCALES: As Noted

Refer to the Proposal Form for list of applicable specifications.

Value Engineering Saves. Refer to Article 1105.14 of the Specifications.



PROJECT LOCATION

MAP NOT TO SCALE
SEE SHEET A.2 FOR URBAN MAP

DESIGN DATA RURAL			
20 29	AADT	10,600	V.P.D.
20 49	AADT	12,900	V.P.D.
20 -	DHV	-	V.P.H.
TRUCKS		14	%
Total			
Design ESALS		--	

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

D3 PLAN - 07/10/26
D5 PLAN - 10/02/26
DM5 PLAN - 06/27/28

PRELIMINARY PLANS

Subject to change by final design.

D2 PLAN - 06/18/26

REVISIONS

TOTAL

76

PROJECT IDENTIFICATION NUMBER

24-90-034-010

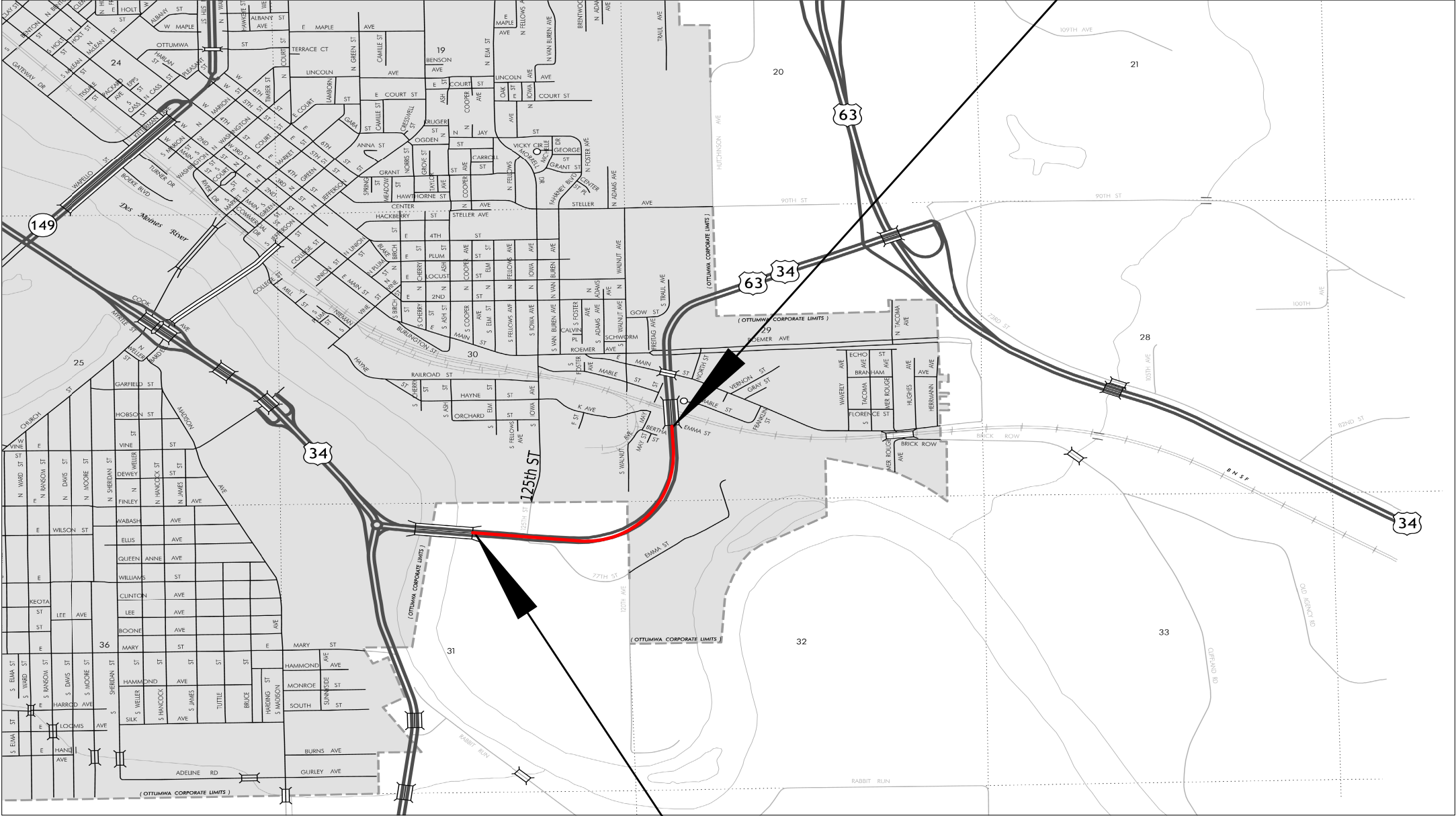
PROJECT NUMBER

NHSX-034-7(156)--3H-90

R.O.W. PROJECT NUMBER

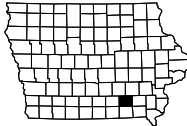
CITY OF OTTUMWA

END CONSTRUCTION
STA. 1986+66.46



BEGIN CONSTRUCTION
STA. 1942+00.00

MAP NOT TO SCALE



IOWA DEPARTMENT OF TRANSPORTATION

TO OFFICE: District 5
ATTENTION: Bob Younie
FROM: John Bartholomew
BUREAU: Design
SUBJECT: 2028 - 4R Project Concept - **FINAL**

DATE: January 8, 2024
PROJECT: Wapello County
NHSX-034-7(156)--3H-90
PIN: 24-90-034-010

DATE OF REVIEW: November 20, 2023 **PARTICIPANTS:** District 5 - Bob Younie, Steve McElmeel, Darrick Bielser; Construction and Materials Bureau - Danny Zeimen and Chris Brakke; Design Bureau - John Bartholomew, Kevin Patel and Hollie Richey

The two alternatives considered were:

- 1. Reconstruct mainline with head to head traffic with crossovers, the estimated cost for this alternative is \$4,211,500.
- 2. Reconstruct mainline one lane at a time per direction. (Inside/outside)
The estimated cost for this alternative is \$3,997,200.

Both alternatives are viable but final traffic control will be decided after D2.

PROJECT DATA:
ROUTE: U.S. 34 From: In Ottumwa, Des Moines River Bridge to RR Bridge
LENGTH: approximately 0.85 miles
PLANNING CLASSIFICATION: Commercial and Industrial
MAINTENANCE SERVICE LEVEL: B
TRAFFIC: 2029 --- 10,600 ADT with 14% trucks
2049 --- 12,900 ADT with 14% trucks
PRESENT PAVEMENT SURFACE: PCC with AAC
PRESENT PAVEMENT WIDTH: 24 ft.
PRESENT SHOULDER WIDTH: Inside curb, not shoulder, outside 10 ft. granular

Wapello County
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PIN: 24-90-034-010
Page 2

MP to MP	Dir.	Type	Avg. Str. No.	80% Str. No.	Jt. Str. No.	PCI	IRI	K Value
189.85 to 191.10	1	3	8	6	--	55	177	172
189.85 to 191.10	2	3	8	6	--	61	147	173

PAVEMENT HISTORY:

ORIGINAL PAVEMENT: 24 ft. wide, 10 in. PCC
COARSE AGGREGATE SOURCE: DOUDS STONE
YEAR CONSTRUCTED: 1967

RESURFACED: 1995, 4 in., 24 ft. wide AAC

EXISTING CONDITIONS AND CAUSES OF DISTRESS:

US 34 in the project area is in poor condition and beyond its service life. There is spalling occurring on the centerline joint and transverse joints. With the pavement age and underlying issues, its life cycle would not get the desired life out of another overlay. It is recommended that the roadway be reconstructed.

SAFETY CONSIDERATION:

Crash History

During the five-year study period from January 1, 2018 through December 31, 2022, there were 26 crashes including, 7 personal injury crashes and 19 personal property crashes. The crash rate is158/HMVM which is lower than the statewide municipal average of 250/HMVM. The intersection within this segment of US 34 is currently listed as a negligible PCR level intersection with a 0.00 PCR value.

FEASIBLE ALTERNATES:

ALTERNATIVE 1 RECONSTRUCTION - Reconstruct mainline with head to head traffic with crossovers

This project is in Ottumwa from the Des Moines River Bridge to the Railroad Bridge on US 34, a distance of approximately 0.85 miles. This roadway is a 4-lane divided highway with integrated curbed inside lanes and 10 ft. granular outside shoulders and a variable width median 7 ft. min. to 15 ft. max.

The existing mainline pavement, inside median curb and outside gravel shoulders (24 ft. wide pavement and 10 ft. wide outside gravel shoulder) will be removed. The new roadway typical section will consist of 9.5 inches of PCC pavement on 12 inches of modified subbase. The new PCC pavement will be 24 ft. wide. New 6 in. median curb and 10 ft. granular outside shoulders will be placed. The existing foreslopes will be used as constructed. The existing bridge approaches will remain, this project does not include the bridges or bridge approaches. New longitudinal subdrains and outlets will be installed. The variable width 6 in. thick depressed median will be removed and replaced.

Traffic control will be discussed at a later design event.

Right of way is not required.

Access to S Iowa Ave./77th Ave. will need to be maintained at all times.

ESTIMATED COST:

<u>Item</u>	<u>Estimated Cost</u>
PCC Pavement	\$1,409,900
Removal of Pavement	270,200
Modified Subbase	283,600
Intakes	34,700
Granular Shoulder	81,300
Curb	438,900
Excavation, Class 13 Waste	102,900
Longitudinal Subdrains (Includes Outlets)	73,800
Crossovers	150,000
Depressed Concrete Median	95,000
Pavement Markings, Multi-component	7,700
Traffic Control (5%)	210,600
Mobilization (5%)	210,600
M & C (20%)	<u>842,300</u>
Total Alternative No. 1	\$4,211,500

ALTERNATIVE 2 RECONSTRUCTION – Reconstruct mainline one lane at a time per direction. (Inside/outside)

Alternative 2 is similar to Alternative 1 except for traffic control. Alternative 2 will be reconstructed one lane at a time per direction, (inside/outside).

ESTIMATED COST:

<u>Item</u>	<u>Estimated Cost</u>
PCC Pavement	\$1,409,900
Removal of Pavement	270,200
Modified Subbase	283,600
Intakes	34,700
Granular Shoulder	81,300
Curb	438,900
Excavation, Class 13 Waste	102,900
Longitudinal Subdrains (Includes Outlets)	73,800
Depressed Concrete Median	95,000
Pavement Markings, Multi-component	7,700
Traffic Control (5%)	199,900
Mobilization (5%)	199,900
M & C (20%)	<u>799,400</u>
Total Alternative No. 2	\$3,997,200

RECOMMENDATIONS:

The recommended method of rehabilitation for this project is reconstructing mainline pavement and shoulders/curb as shown in Alternatives 1 and 2.

Right of way is not required.

This project may require a 404 permit. The area to the east of the Des Moines River is mapped wetland, and the wetlands are within the ROW. There are also potential wetlands within the ROW near the culvert at MP 191.32. This culvert is listed as needing repairs. If the repairs are done as part of this project a permit may be required. If clearing and grubbing is included in project those locations will need to be evaluated to determine if wetlands will be impacted. Mitigation may be needed if impacts to wetlands exceed 0.1 acre.

FUNDS PROGRAMMED:

This proposed 3R project is not yet in the 2024-2028 program. It has been identified by the District 5 office for construction in FY 2028. A schedule of events for plan development will be determined following approval of the Project Concept.

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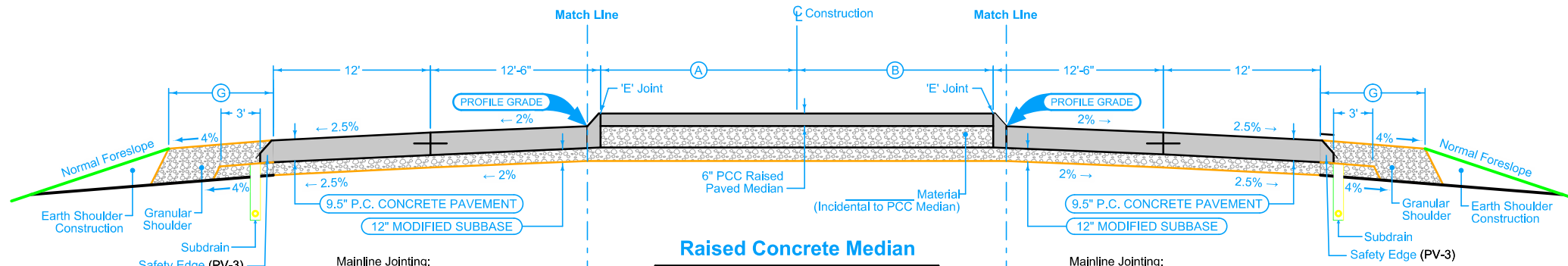
JEB: hsr
cc:
C. Purcell
M. Dell
M. A. Swenson
S. Majors
D. L. Newell
W. A. Sorenson
A. A. Welch
B. Hofer
S. J. Gent
T. Jerman
M. Todsen
T. Lovan
S. McElmeel
B. Lauderman
J. Woodcock
H. Torres-Cacho
FHWA

M. J. Kennerly
J. S. Nelson
R. A. Younie
A. Poole
B. Bradley
E. C. Wright
J. Harris
G. Karssen
S. Anderson
K. K. Patel
M. Van Dyke
N. Abuissa
D. Bielser
J. R. Phillips
B. M. Clancy
P. Leanos

K. D. Nicholson
M. Nop
D. E. Sprengeler
K. Brink
J. W. Laaser-Webb
M. E. Ross
C. C. Poole
B. E. Azeltine
D. Stokes
R. Harris
B. Dolan
C. Brakke
B. Beavers
J. Garton
B. Porter
D. Zeimen



FIELD EXAM NOTES/QUESTIONS				FIELD EXAM NOTES/QUESTIONS					
	There are existing raised depressed medians, are we wanting to simply replace those or replace them with typical raised medians? Replace earth filled median with paved median; keep depressed median where existing The concept mentions two options for staging, is there a preferred staging option? Utilize crossovers and head to head traffic for staging Will there be a request for a signal project? Or any alterations to existing signals for staging purposes? Signals will need adjusted for staging; Signals may be removed if roundabout is decided Any lighting changes needed as part of this project? No Are we UAC'ing existing culverts? UAC box culverts, replace CMP under entrance From as-builts, superelevation is 4.5% and the high side shoulder cross slope is 4%. This results in a breakover over the max of 8%. High side shoulder will superelevate to have 8% max breakover Does the City want any additional reconstruction of Emma St? There looks to be off-tracking on near US 34/Emma St intersection. If roundabout is decided, may not need. If not, add additional shoulder pavement								
FILE NO.	ENGLISH	DESIGN TEAM	Miller/Finch/Koch/Johnsen	Wapello	COUNTY	PROJECT NUMBER	NHSX-034-7(156)--3H-90	SHEET NUMBER	A.7



Granular Shoulder with Safety Edge

4_G_ 04-21-20		
STATION TO STATION		Ⓔ Feet
1942+00.00	1948+10.53	10'
1986+54.15	1986+66.46	10'

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

BEGIN STATION	END STATION
1942+00.00	1948+10.53
1986+54.15	1986+66.46

Raised Concrete Median

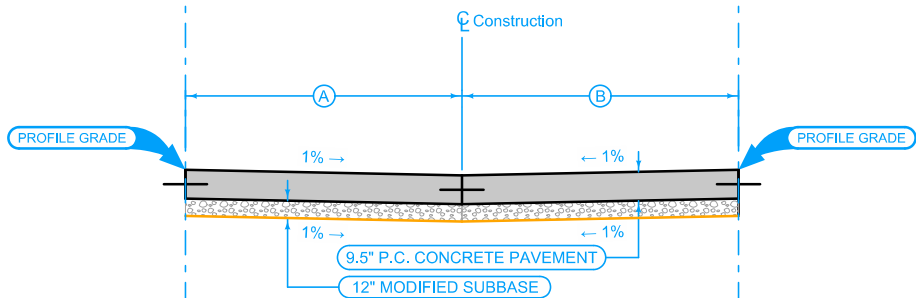
BEGIN STATION	END STATION	Ⓐ Feet	Ⓑ Feet
1942+00.00	1942+17.80	7'-6"	7'-6"

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

BEGIN STATION	END STATION
1942+00.00	1948+10.53

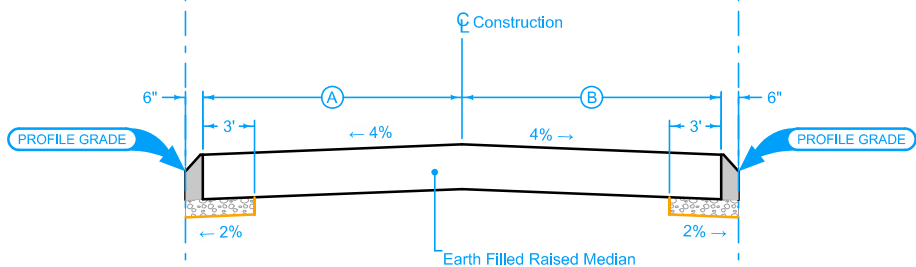
Granular Shoulder with Safety Edge

4_G_ 04-21-20		
STATION TO STATION		Ⓔ Feet
1942+00.00	1948+10.53	10'



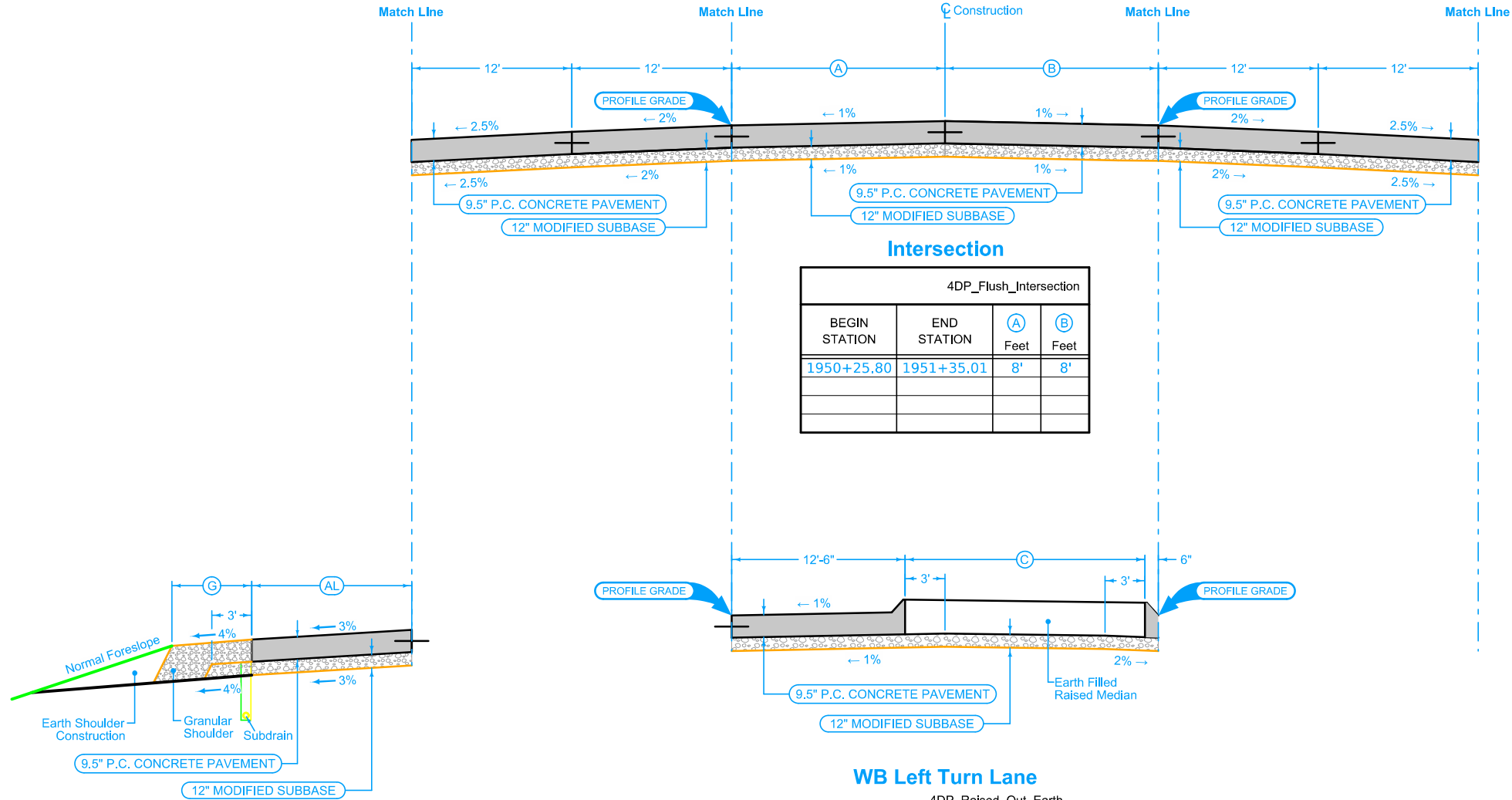
Median Crossover

4DP_Median_Crossover			
BEGIN STATION	END STATION	Ⓐ Feet	Ⓑ Feet
1942+17.80	1944+52.41	8'	8'
1982+15.00	1986+54.15	8'	8'



Raised Earth Median

4DP_Raised_Out_Earth			
BEGIN STATION	END STATION	Ⓐ Feet	Ⓑ Feet
1944+52.41	1948+10.53	7'-6"	7'-6"



4DP_Flush_Intersection			
BEGIN STATION	END STATION	(A) Feet	(B) Feet
1950+25.80	1951+35.01	8'	8'

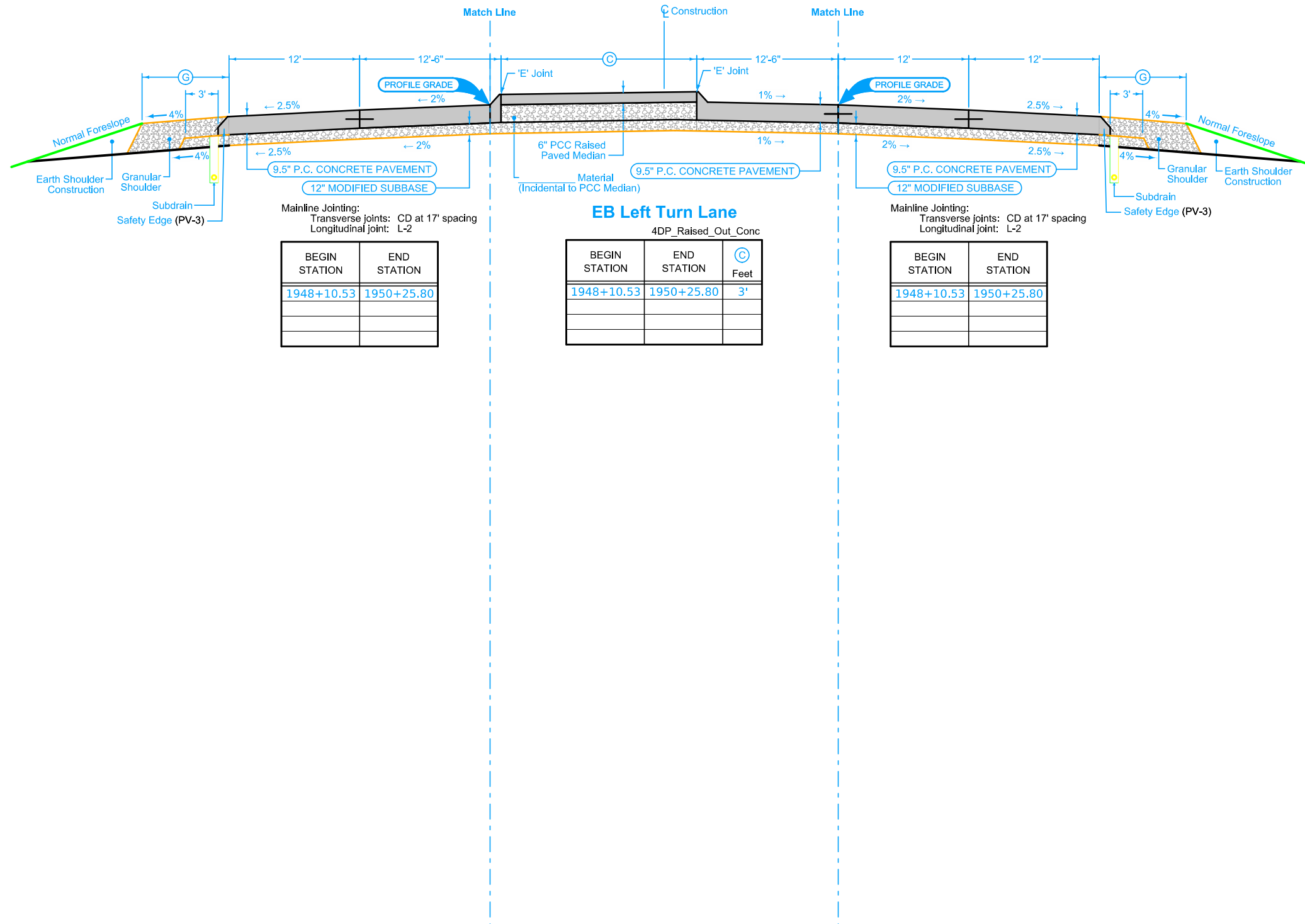
4DP_Raised_Out_Earth			
BEGIN STATION	END STATION	(C) Feet	
1951+35.01	1954+07.66	3'	

WB Right Turn Lane
Granular Shoulder

4_AL_Shldr_G_04-21-20	
(G) Feet	
4'	

WB Right Turn Lane

4_AuxLane_PCC_04-15-25				
Direction of Travel	BEGIN STATION	END STATION	(AL) Feet	
WB	1951+80.01	1956+95.52	12'	



Granular Shoulder with Safety Edge

4_G_ 04-21-20		
STATION TO STATION		Ⓔ Feet
1954+07.66	1982+15.00	10'

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

BEGIN STATION	END STATION
1954+07.66	1982+15.00

Superelevated Section

4DP_Raised_Super_Earth			
BEGIN STATION	END STATION	Ⓐ Feet	Ⓑ Feet
1954+07.66	1976+50.00	7'-6"	7'-6"

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

BEGIN STATION	END STATION
1954+07.66	1982+15.00

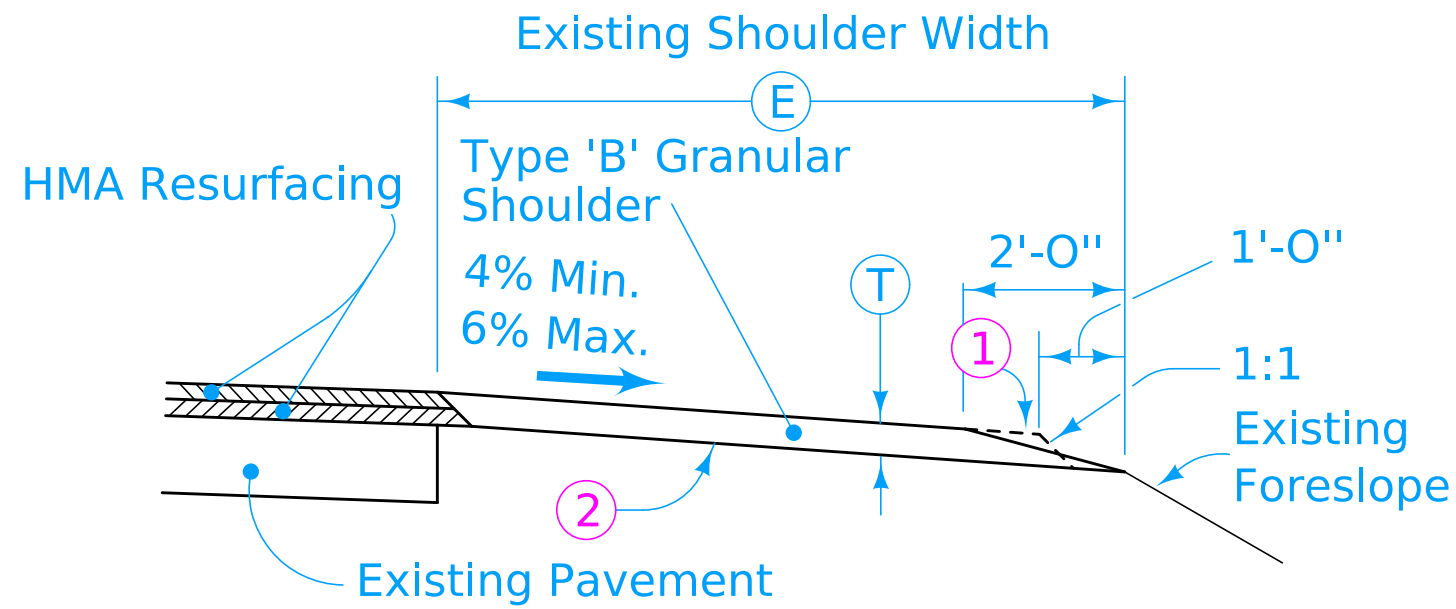
Granular Shoulder with Safety Edge

4_G_ 04-21-20		
STATION TO STATION		Ⓔ Feet
1954+07.66	1982+15.00	10'

Raised Depressed Concrete Median

4DP_Raised_Super_Depressed			
BEGIN STATION	END STATION	Ⓐ Feet	Ⓑ Feet
1976+50.00	1982+15.00	7'-6"	7'-6"

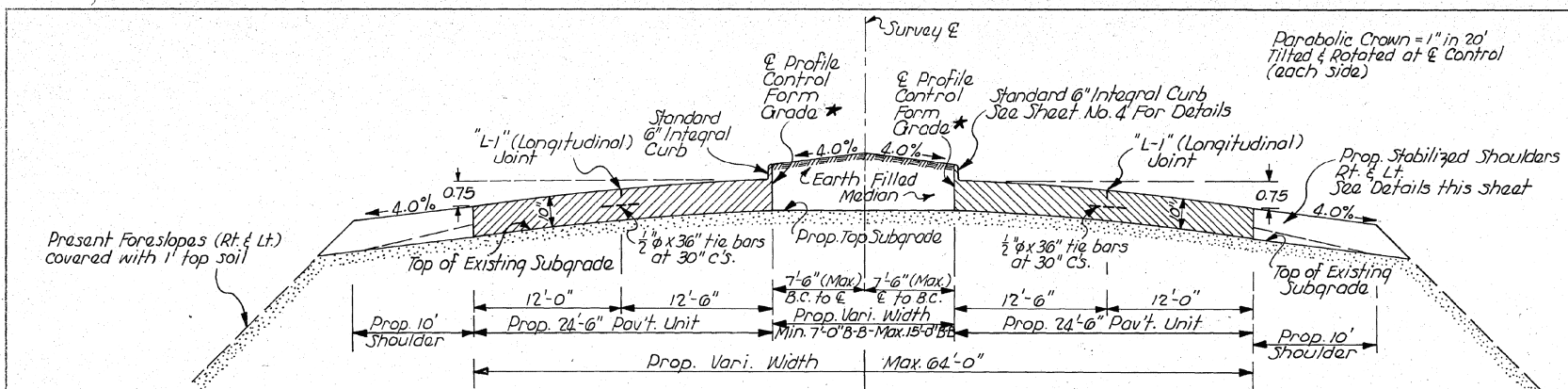
- ① The normal cross slope of the shoulder should be maintained until the cross slope of the roadway exceeds the normal shoulder cross slope. The transition of the shoulder cross slope should equal the transition rate of the roadway.
- ② The normal cross slope of the shoulder should be maintained until the algebraic difference between the cross slope of the shoulder and the cross slope of the roadway reaches 8%. Once the algebraic difference in cross slope reaches 8%, the shoulder cross slope should transition up at an equivalent transition rate as the adjacent roadway to maintain the 8% algebraic difference.



- 1 Place and compact material to the dashed lines; then blade and shape to foreslope that portion above the solid line in the outer 2' and roll with loaded truck tire.
- 2 Existing shoulder surface to be shaped to a uniform cross slope prior to placing granular shoulder material. Shape to ensure the thickness of the granular shoulder material is not less than the thickness of the resurfacing.

TYPICAL SECTION
FOR TYPE 'B'
GRANULAR SHOULDER
ADJACENT TO HOT MIX ASPHALT
RESURFACING

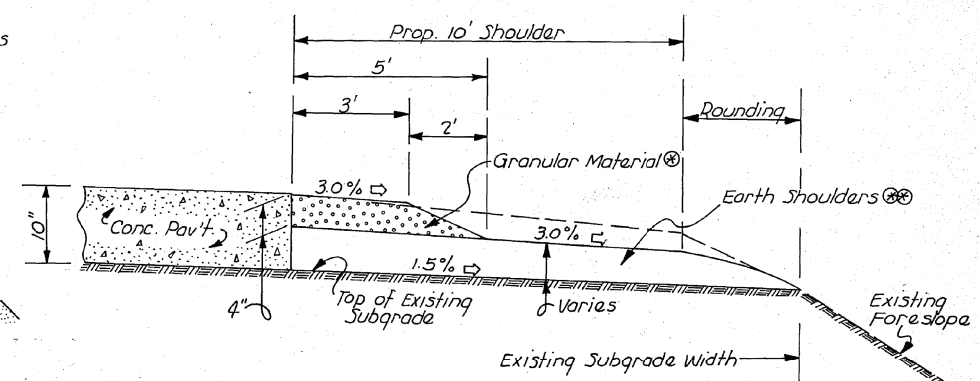
LOCATION				T	E
ROAD IDENTIFICATION	STATION TO STATION		SIDE	Inches	Feet



** Note: See Sheet No. 5 For Median Details and Design Variations.

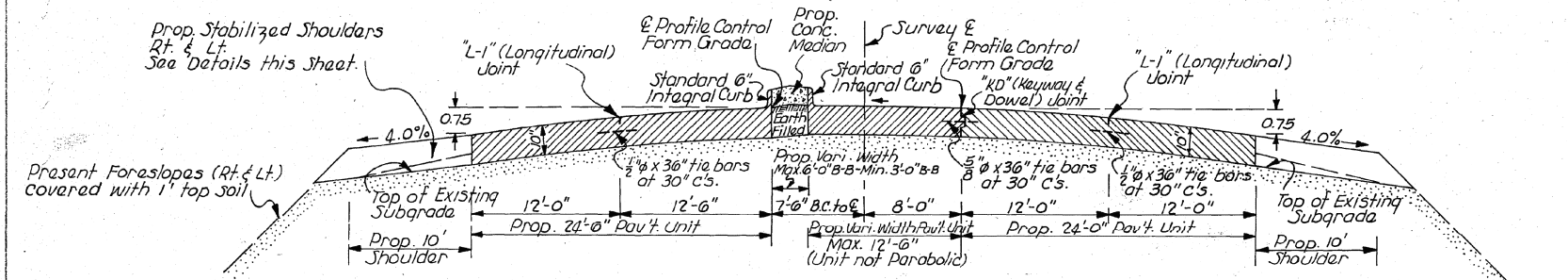
TYPICAL SECTION STA. 1940±25 TO STA. 1945±98
STA. 1949±59 TO STA. 1954±50
** STA. 1983±50 TO STA. 1986±95

★ NOTE:
PROFILE GRADE VARIES IN EACH LANE BECAUSE OF CORRECTION OF THE SUBGRADE. CORRECTION NEEDED BECAUSE OF ADDITIONAL STABILIZATION MATERIAL



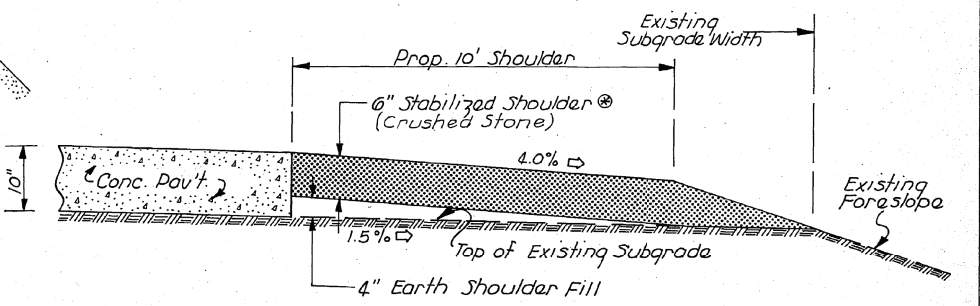
TYPICAL CROSS SECTION EARTH SHOULDERS WITH GRANULAR SURFACING
TYPICAL RT. & LT. STA. 1931±47 (B.O.P.) TO STA. 1932±07

Notes:
① Design volume of granular surfacing material on earth shoulder is 9.35 tons per shoulder per station.
② Earth Shoulder (10' width) Design Volume (+60%) = 28 cu.yds. per shoulder per station.



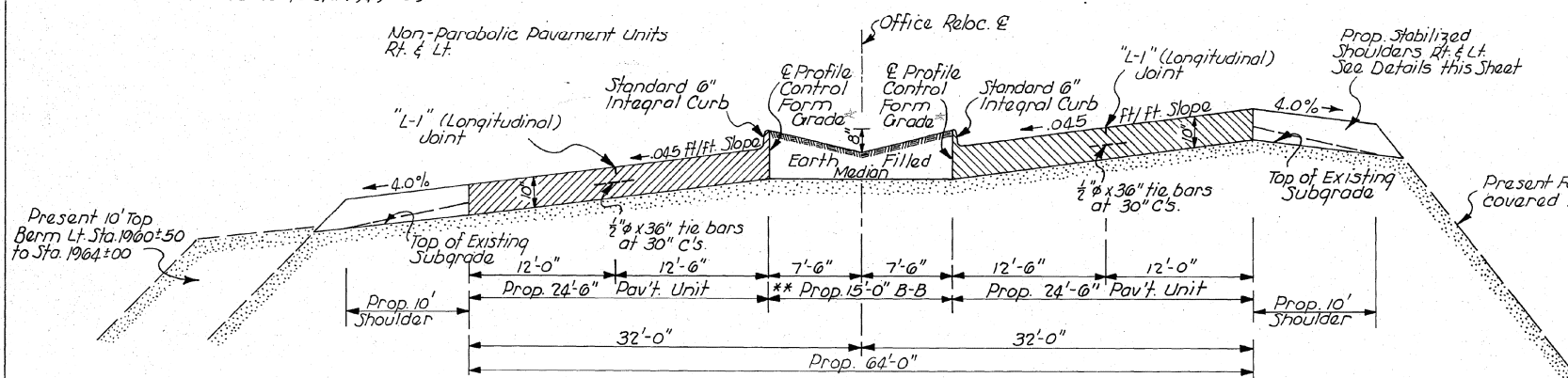
* Variation - Sta. 1948±75 to Sta. 1949±59

TYPICAL SECTION * STA. 1945±98 TO STA. 1949±59



TYPICAL CROSS SECTION STABILIZED SHOULDERS
TYPICAL RT. & LT. STA. 1939±64 TO STA. 1987±55

Notes:
① Design Rate Crushed Stone Stabilized Shoulder Material
Shldr. Width Foreslope Tons Per Shldr. Per Station
10' 2 1/2 : 1 38.77
10' 3 : 1 38.97



TABULATION OF EXISTING EMBANKMENT FORESLOPES

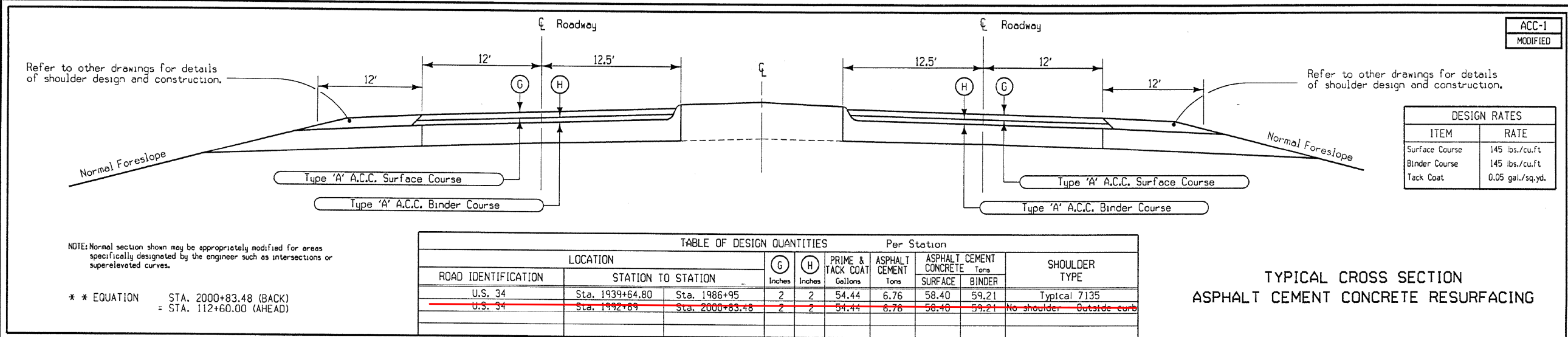
STA. 1939±64 TO STA. 1959±00	RT. & LT. SIDE	2 1/2 : 1 SLOPE
STA. 1959±00 TO STA. 1968±40	RT. SIDE ONLY	2 1/2 : 1 SLOPE
STA. 1959±00 TO STA. 1974±50	LT. SIDE ONLY	3 : 1 SLOPE
STA. 1968±40 TO STA. 1974±50	RT. SIDE ONLY	3 : 1 SLOPE
STA. 1974±50 TO STA. 1987±55	RT. & LT. SIDE	2 1/2 : 1 SLOPE

TYPICAL SECTION ** STA. 1954±50 TO STA. 1983±50

Revised May 17, 1967 - Notes for 'Stabilized Shoulders' Details. Replace 3% Asphalt Emulsion with 'Crushed Stone'

TYPICAL SECTIONS & SHOULDER DETAILS

EXISTING PAVEMENT TYPICAL SECTIONS
PCC PAVEMENT
(FOR INFORMATION ONLY)



OFFICE OF DESIGN • CADD • PRODUCED	STATE OF IOWA	FHWA REGION 7	FISCAL YEAR	WAPELLO	COUNTY	PROJECT NUMBER	NHS-34-7(45)--19-90
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EXISTING PAVEMENT TYPICAL SECTIONS
HMA OVERLAY
(FOR INFORMATION ONLY)

SURVEY SYMBOLS

	Interstate Highway Symbol		Septic Tank
	U.S. Highway Symbol		Cistern
	Iowa Highway Symbol		L.P. Gas Tank (No Footing)
	County Road Highway Symbol		Underground Storage Tank
	Evergreen Tree		Latrine
	Deciduous Tree		Satellite TV Dish
	Fruit Tree		Water Hook Up
	Shrub (Bushes)		Radio Tower
	Timber		Tower Anchor
	Hedge		Guardrail (Beam or Cable)
	Stump		Guard Post (one or two)
	Swamp		Guard Post (over two)
	Rock Outcrop		Filler Pipe
	Broken Concrete		Gas Valve
	Revetment (Rip Rap)		Water Valve
	Cemetery		Speed Limit Sign
	Grave		Mile Marker Post
	Cave		Sign
	Sink Hole		Traffic Signal Control Box
	Board Fence		Rail Road Signal Control Box
	Chain Link or Security Fence		Telephone Switch Box
	Wire Fence		Electric Box
	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)		

UTILITY LEGEND

	EL1D, Alliant Energy - Quality D Alliant Energy Electric Distribution Mary Montgomery Lead REROW Specialists marymontgomery@alliantenergy.com
	F01D, CenturyLink - Lumens - Quality D Lumen Centurylink Fiber Distribution Steve Parker Manager of Engineering & Construction 507-358-1978 steven.parker@lumen.com
	F02D, ICN - Quality D Iowa Communications Network Fiber Transmission David Augspurger Sr. Telecom Specialist OSP Lead 515-229-2013 david.augspurger@icn.state.ia.us
	F03D, Mahaska Communication Group - Quality D Mahaska Communications Group Jake Zickefoose Construction Supervisor 641-670-8099 jake.zickefoose@musco.com
	F04D, MediaCom - Quality D Mediacom Communications Corporation Fiber Distribution Nick Renfrew Construction Coordinator 845-637-9903 nrenfrew@mediacomcc.com
	SA1D, City of Ottumwa - Quality D City of Ottumwa Phillip Burgmeier Public Works Director burgmeierp@ottumwa.us
	SA1B, City of Ottumwa - Quality B City of Ottumwa Phillip Burgmeier Public Works Director burgmeierp@ottumwa.us
	ST1B, City of Ottumwa - Quality B City of Ottumwa Phillip Burgmeier Public Works Director burgmeierp@ottumwa.us
	ST1D, City of Ottumwa - Quality D City of Ottumwa Phillip Burgmeier Public Works Director burgmeierp@ottumwa.us
	WL1D, Ottumwa Water and Hydro - Quality D Ottumwa Water & Hydro Water Tim Albert Production Manager 641-799-4343 ottumwahydro@gmail.com

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
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
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
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

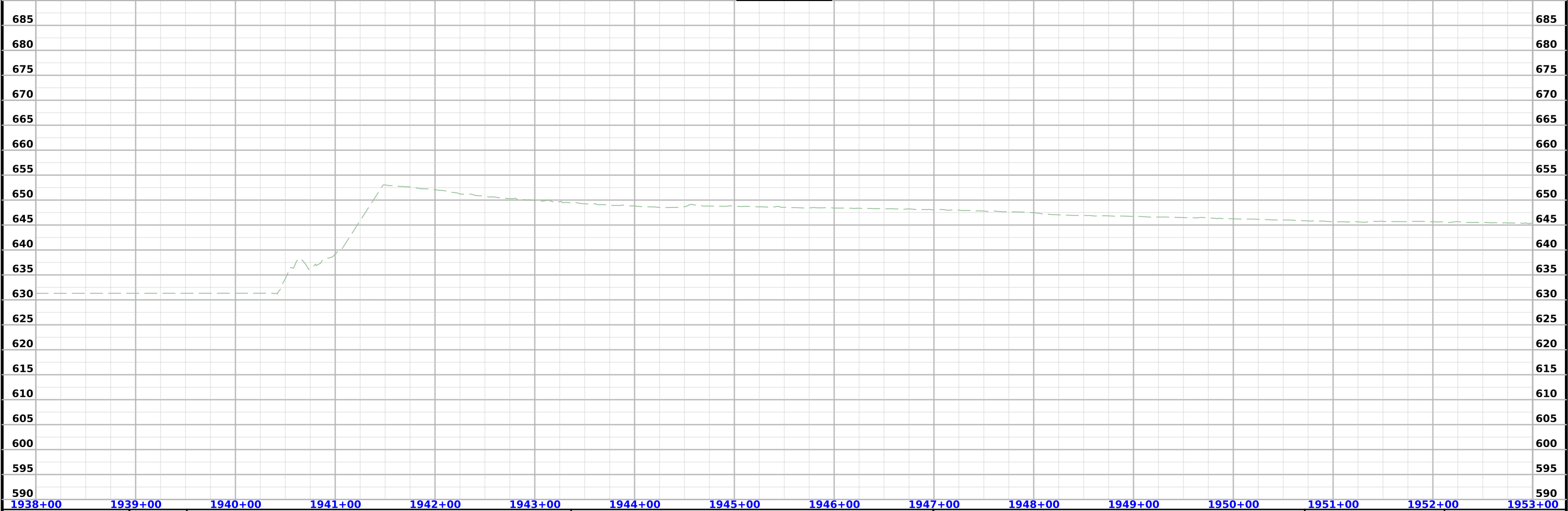
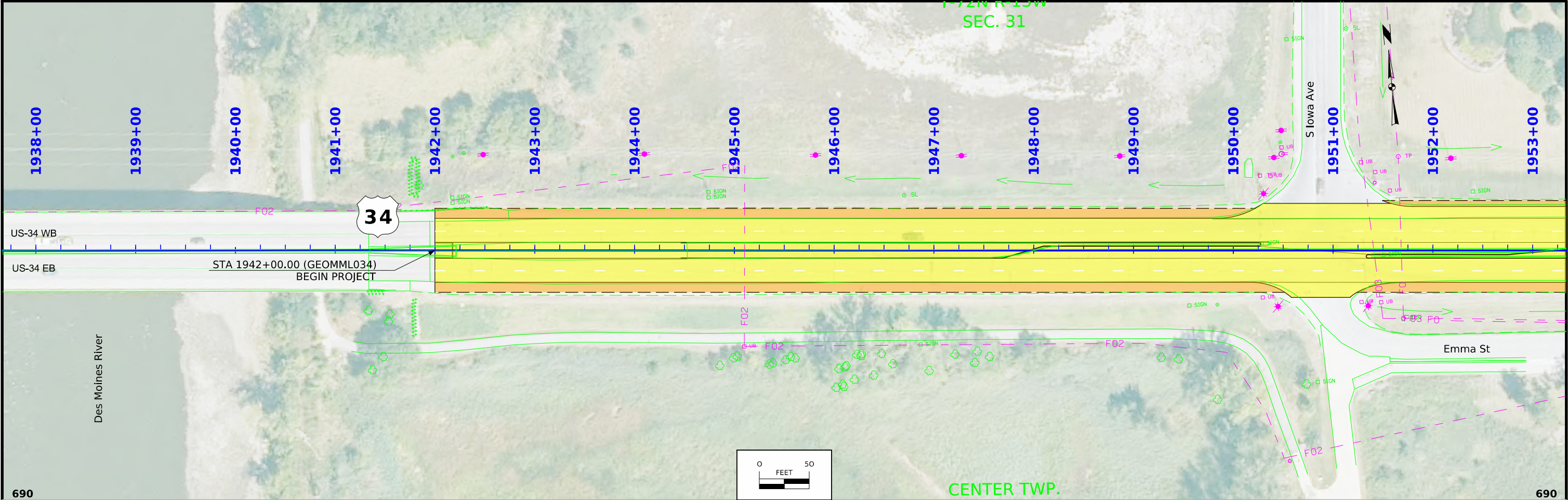
	Reference Point
	Station
	Survey Line
	Section Corner
	Ground Line Intercept
	Saw Cut
	Guardrail
	Trench Drain
	HighTension Cable Guardrail
	Sheet Pile
	Pavement Removal
	Clearing & Grubbing Area

RIGHT-OF-WAY LEGEND

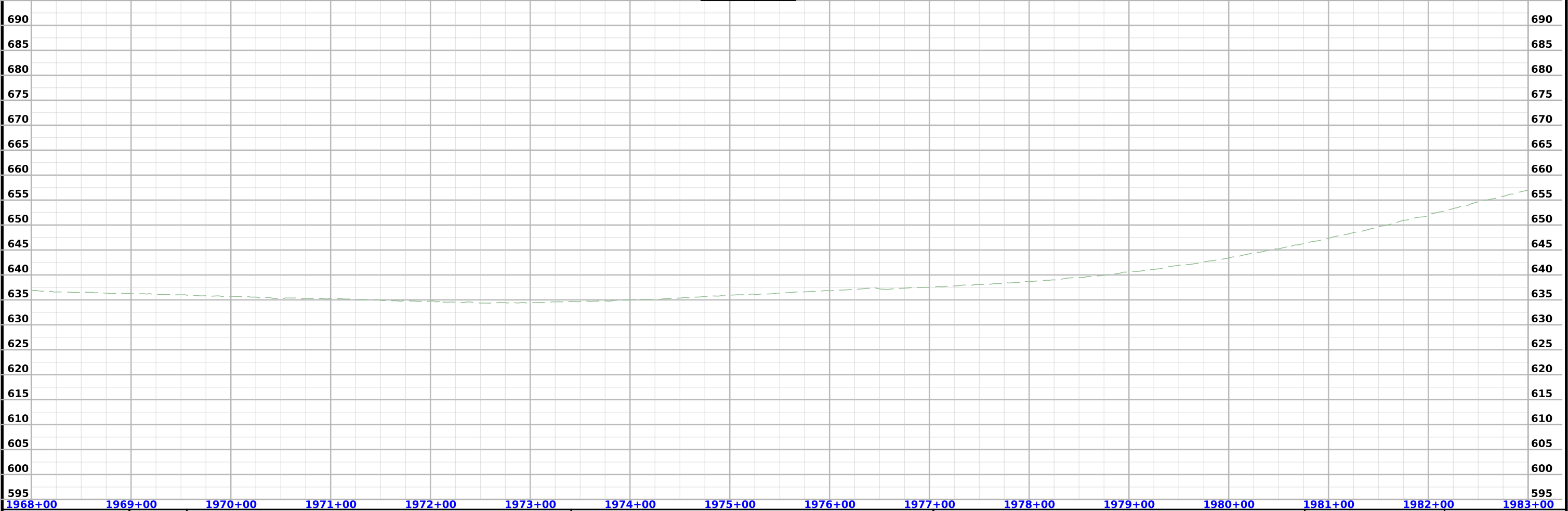
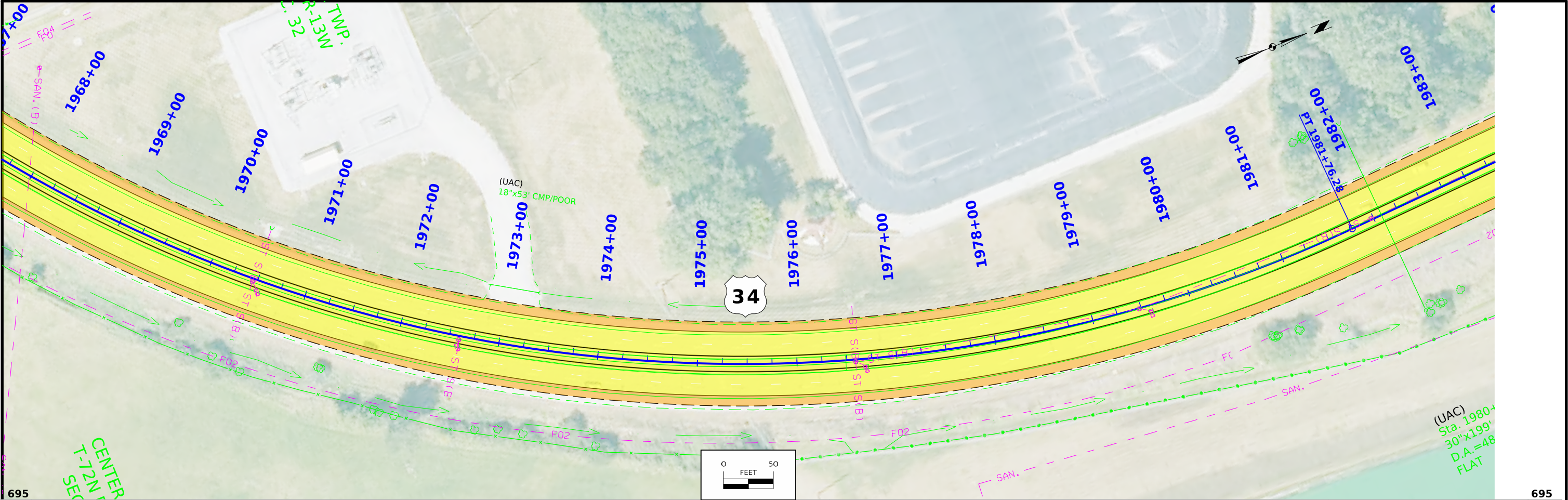
	Proposed Right-of-Way Symbol
	Proposed Right-of-Way Line
	Existing Right of Way
	Existing and Proposed Right-of-Way
	Easement and Existing Right-of-Way
	Easement (Temporary) Symbol
	Easement (Temporary) Line
	Easement
	C/A Access Control
	Property Line Symbol
	Property Line

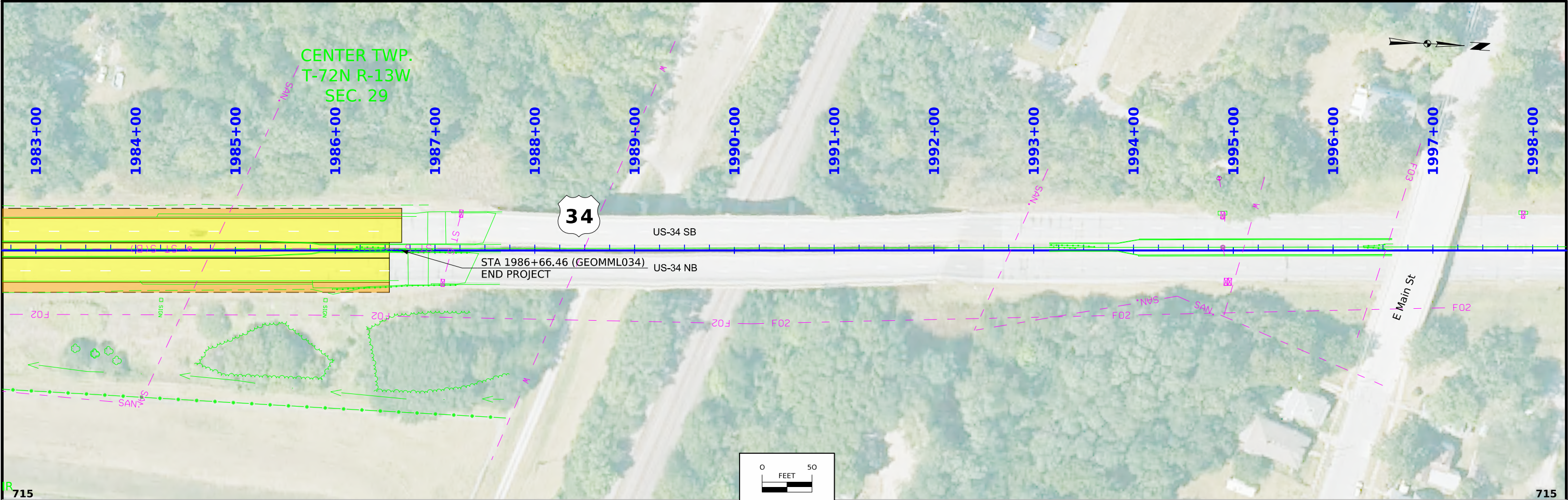
PLAN AND PROFILE
LEGEND AND SYMBOL
INFORMATION SHEET

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



FILE NO.	ENGLISH	DESIGN TEAM	Miller/Finch/Koch/Johnsen	Wapello COUNTY	PROJECT NUMBER	NHSX-034-7(156)--3H-90	SHEET NUMBER	D.2
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Survey Information

SURVEY INDEX

County: Wapello
PIN: 24-90-034-010
Project Number: NHSX-034-7(156)—3H-90
Location: US 34 in Ottumwa, Des Moines River Bridge to RR Bridge
Type of Work: Full DTM
Project Directory: 9003401024

Survey Personnel

Brad Duffy – Lead Survey Technician
Max Phillips – Survey Technician
Tom Hoylw – Lead Survey Technician
Robert Stichter – Survey Technician

Date(s) of Survey

Begin Date 04/20/2026
End Date 05/21/2026

General Information

This survey is for US Hwy 34 in Ottumwa from the Des Moines River bridge to the RR bridge. This project is a Full Field DTM survey with Project Control and alignment.

Utility Information

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

Project Control

Nearby Iowa Real Time Network reference stations were utilized to obtain horizontal and vertical control on primary project control points. Between three and four (300 epoch) five-minute observations were taken with a minimum two-hour time span between and used in a weighted average to obtain final coordinate values.

A double-run level loop was run through control points 1, 2 and A201. The RTN derived elevations of control points 1 and 2 were held fixed. The estimated standard error of the observed height differences from loop closures was 0.0135 ft/mile. The estimated standard error of the observed height differences from the network adjustment was 0.0146 ft/mile.

The horizontal coordinates of A201 match the coordinates of 201 from plans BRF-034-7(150)—38-90 at two decimal places. The northing of A202 is 0.015’ greater than 202 from plans BRF-034-7(150)—38-90, the easting is 0.025’ less. The elevation of A201 is 0.057’ lower than 201 from plans BRF-034-7(150)—38-90. The elevation of A202 is 0.042’ lower than 202 from plans BRF-034-7(150)—38-90.

PROJECT DATUM: NAD83(2011) for EPOCH 2010.00 (IaRTN 2019 ADJUSTMENT)
COORDINATE SYSTEM: IOWA REGIONAL COORDINATE SYSTEM ZONE 12
(U.S. SURVEY FOOT)
VERTICAL DATUM: NAVD88
GEOID MODEL: 2018

Alignment Information

The horizontal alignment for U.S. Hwy 34 this survey is a retrace of As-built Plans No. F-U-34-7(6)—25-90. Survey stationing was equated to the plan PI at Sta. 1972+07.50 and carried back without equation and ahead to a plan equation.

Survey stationing relates to as built plan stationing as follows:

POT Sta. 1928+00.0 As-built Plans Project No. F-U-34-7(6)—25-90
Survey POT Sta. 1928+00.0

PI Sta. 1972+07.50 As-built Plans Project No. F-U-34-7(6)—25-90
Survey PI Sta. 1972+07.50.

EQ Sta. 1981+10.4 = 1982+79.09 As-built Plans Project No. F-U-34-7(6)—25-90
Survey EQ Sta. 1981+10.4 = 1982+79.09

POT Sta. 1999+00.0 As-built Plans Project No. F-U-34-7(6)—25-90
Survey POT Sta. 1999+00.0

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 12 (U.S. Survey Foot)

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

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 12 (U.S. Survey Foot)
VERT. DATUM: NAVD88
Geoid Model: 2018u3 or 2018u2

Point Name	Northing	Easting	Elevation	Code-Description
1	6235265.529	22875857.316	670.630	FENO-SET FENO AT GROUND SURFACE ALONG WB LANE OF US 34 121' SOUTH OF RR BRIDGE 12' NNW OF HOSPITAL SIGN 7.7' E OF CONCRETE SHOULDER 7' E OF S END OF GUARDRAIL
2	6233505.272	22872827.572	649.079	FENO-SET FENO AT GROUND SURFACE ALONG EB US 34 E OF DES MOINES RIVER BRIDGE 44.8' S OF A PP 35.4' E OF THE N'LY LEG OF DES MOINES RIVER SIGN 9.8' N OF E END OF GUARDRAIL
A201	6233651.912	22875180.011	631.755	CP-FOUND RAIL WITH CUT X 3 INCHES ABOVE GROUND SURFACE 57.5' NW OF US 34 WB EOP 40' NNW OF THE N END OF A 24 INCH RCP UNDER US 34 39.6' E OF CHAINLINK FENCE 19' N OF E END OF GUARDRAIL

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)

TRAFFIC CONTROL PLAN	108_23A 8/15/22
Maintain one lane of traffic on US 34 in each direction throughout the duration of the project.	

511 TRAVEL RESTRICTIONS

Line No.	Route	Direction	County	Location Description	Feature Crossed	Object Type	Maint. Bridge No. or Structure ID or FHWA No.	Type of Restriction	Existing Measurement	Construction Measurement	Construction Measurement as Signed	Projected As Built Measurement	Remarks
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FILE NO.	ENGLISH	DESIGN TEAM Miller/Finch/Koch/Johnsen	WAPELLO COUNTY	PROJECT NUMBER NHSX-034-7(156)--3H-90	SHEET NUMBER J.3	
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STAGING NOTES

Stage 1:
Traffic:
-Maintain traffic on US 34 at all times.
Construction:
-Construct temporary crossover pavement west of Des Moines River Bridge and north of RR Bridge.

Stage 2:
Traffic:
-EB lanes closed to traffic. Maintain one lane in each direction on US 34.
Construction:
-Construct EB lanes and partial median.

Stage 3:
Traffic:
-WB lanes closed to traffic. Maintain one lane in each direction on US 34.
Construction:
-Construct WB lanes and partial median.

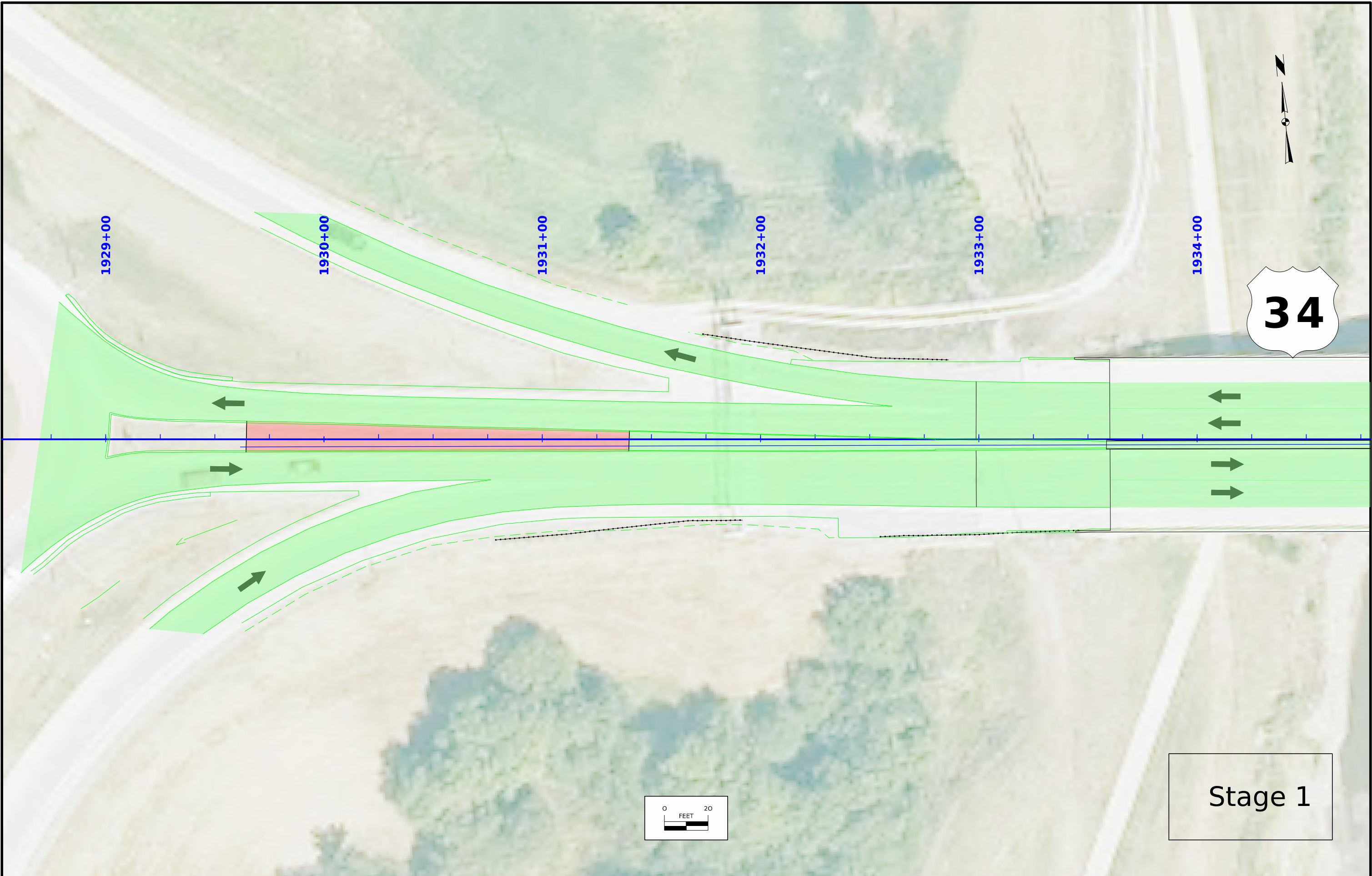
111_01
10/14/22

COORDINATED OPERATIONS

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

Project	Type of Work

Plan 1

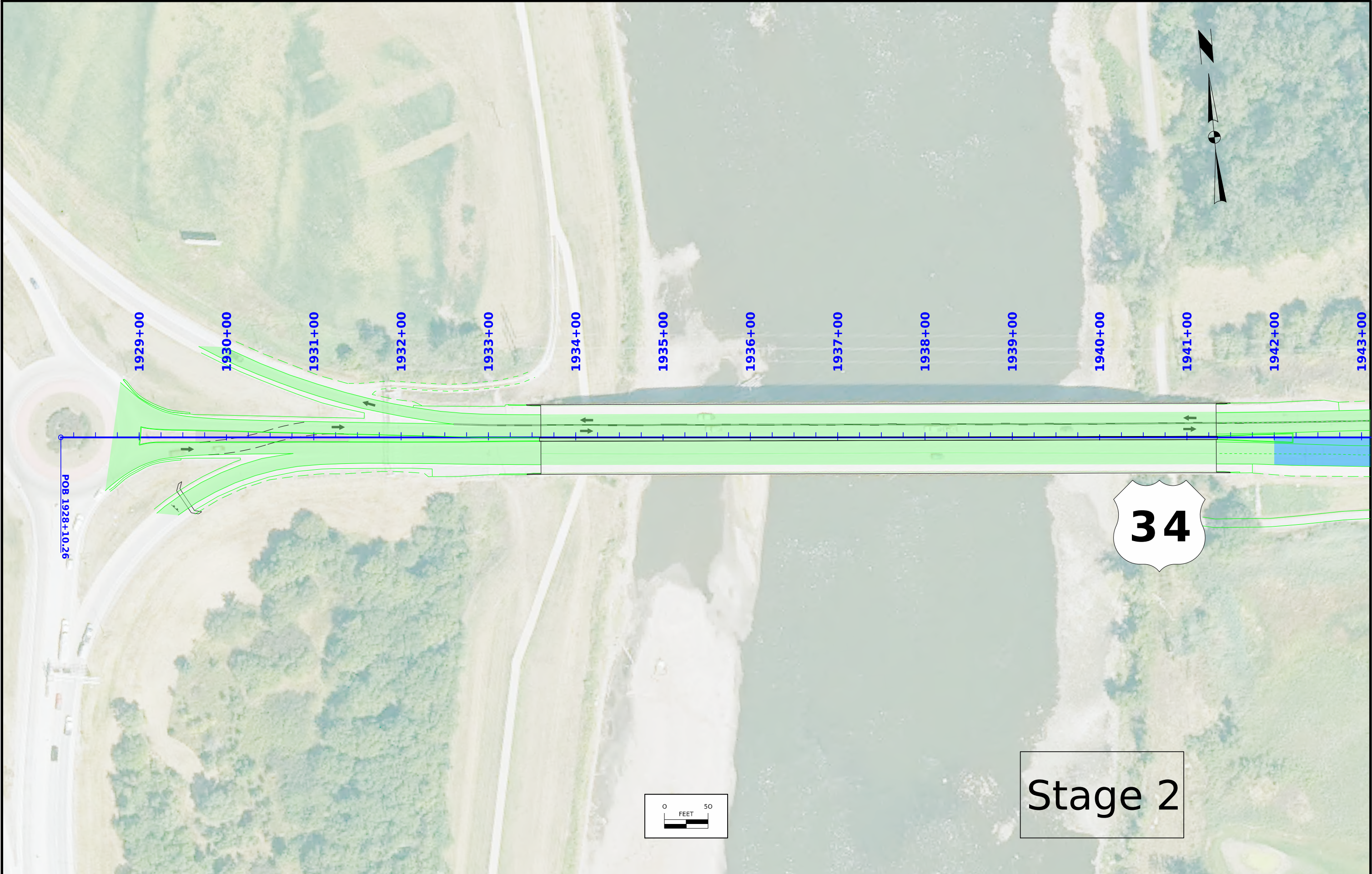


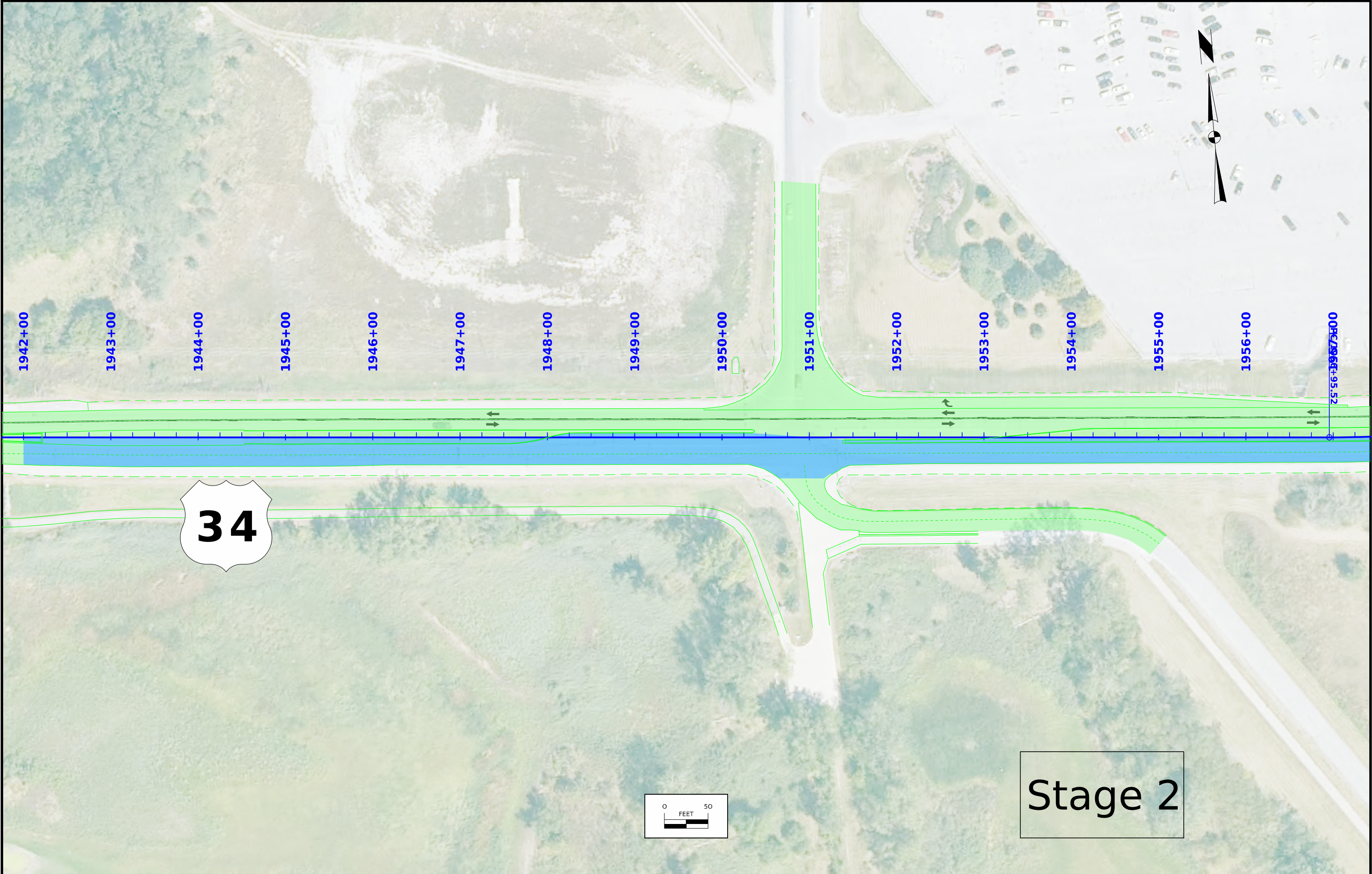
Stage 1

Plan 2

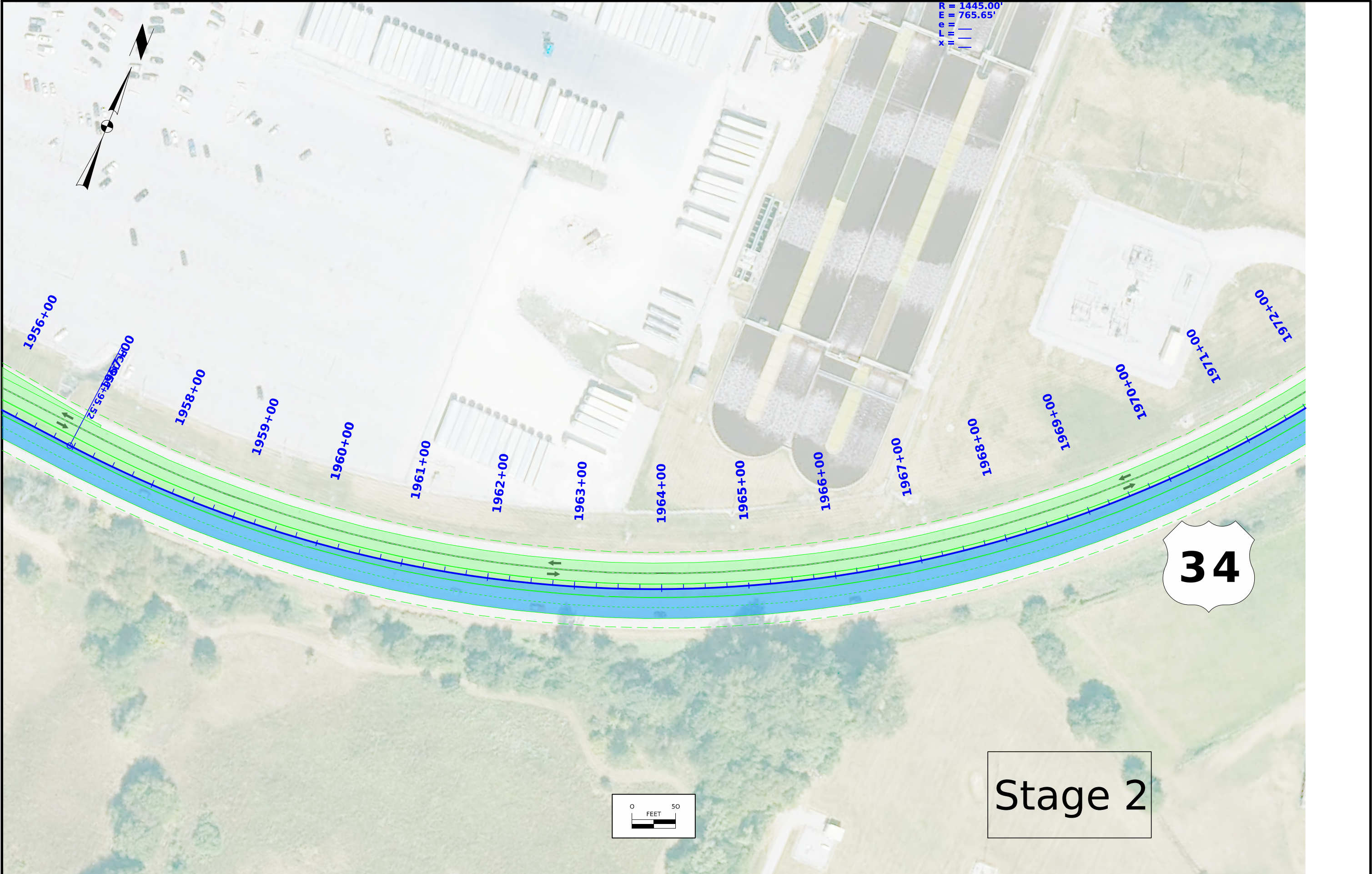


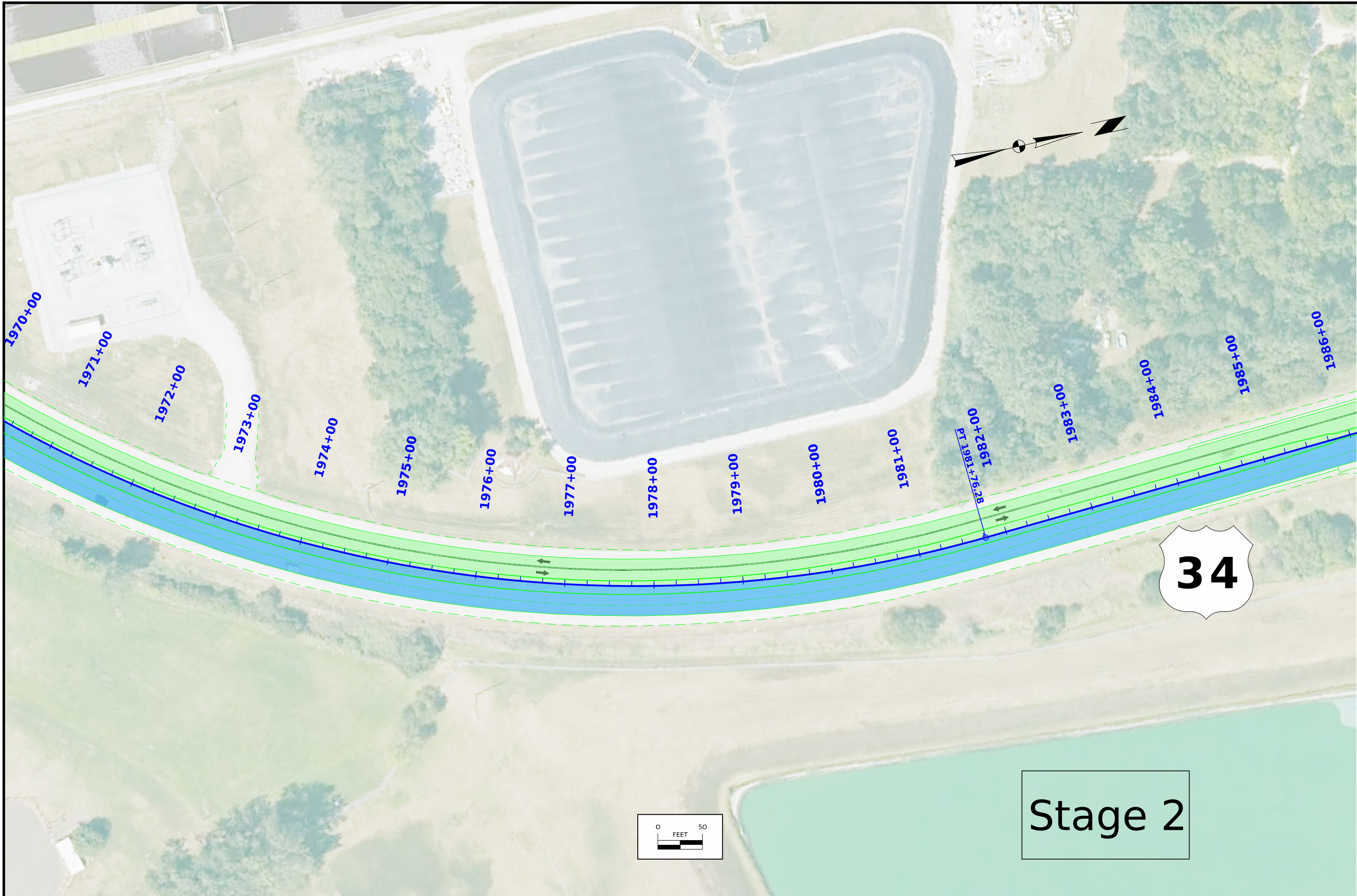
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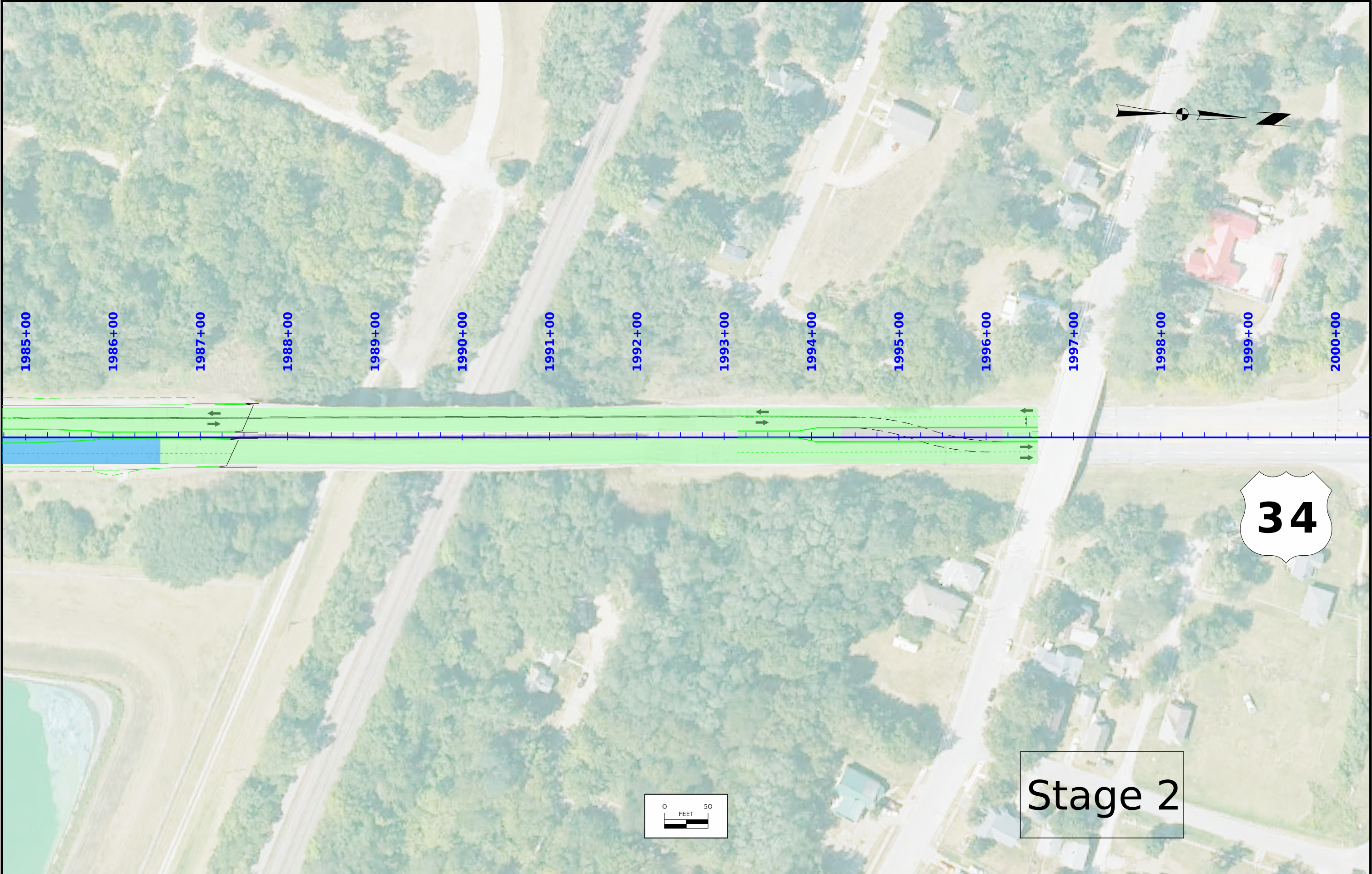


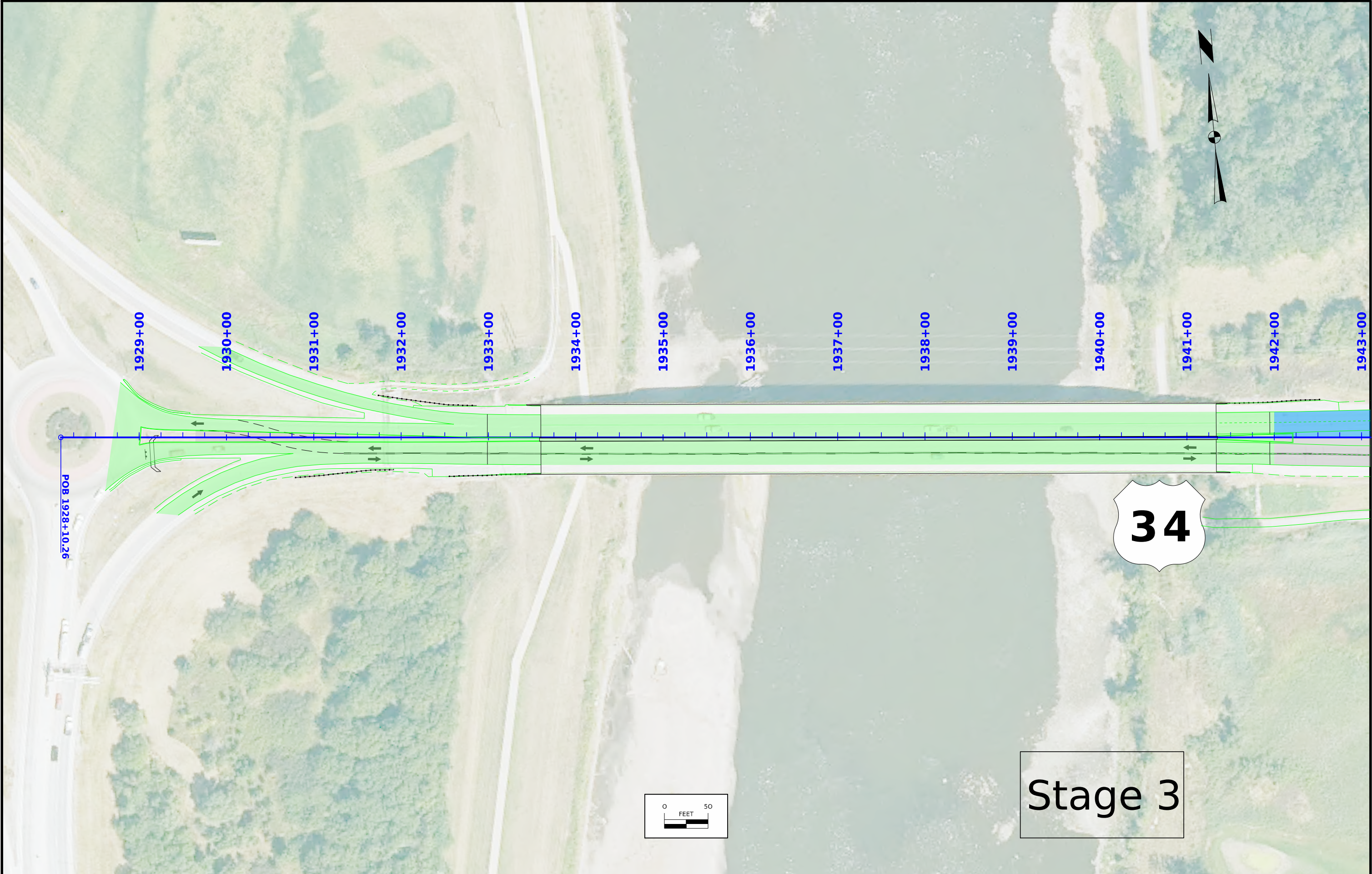


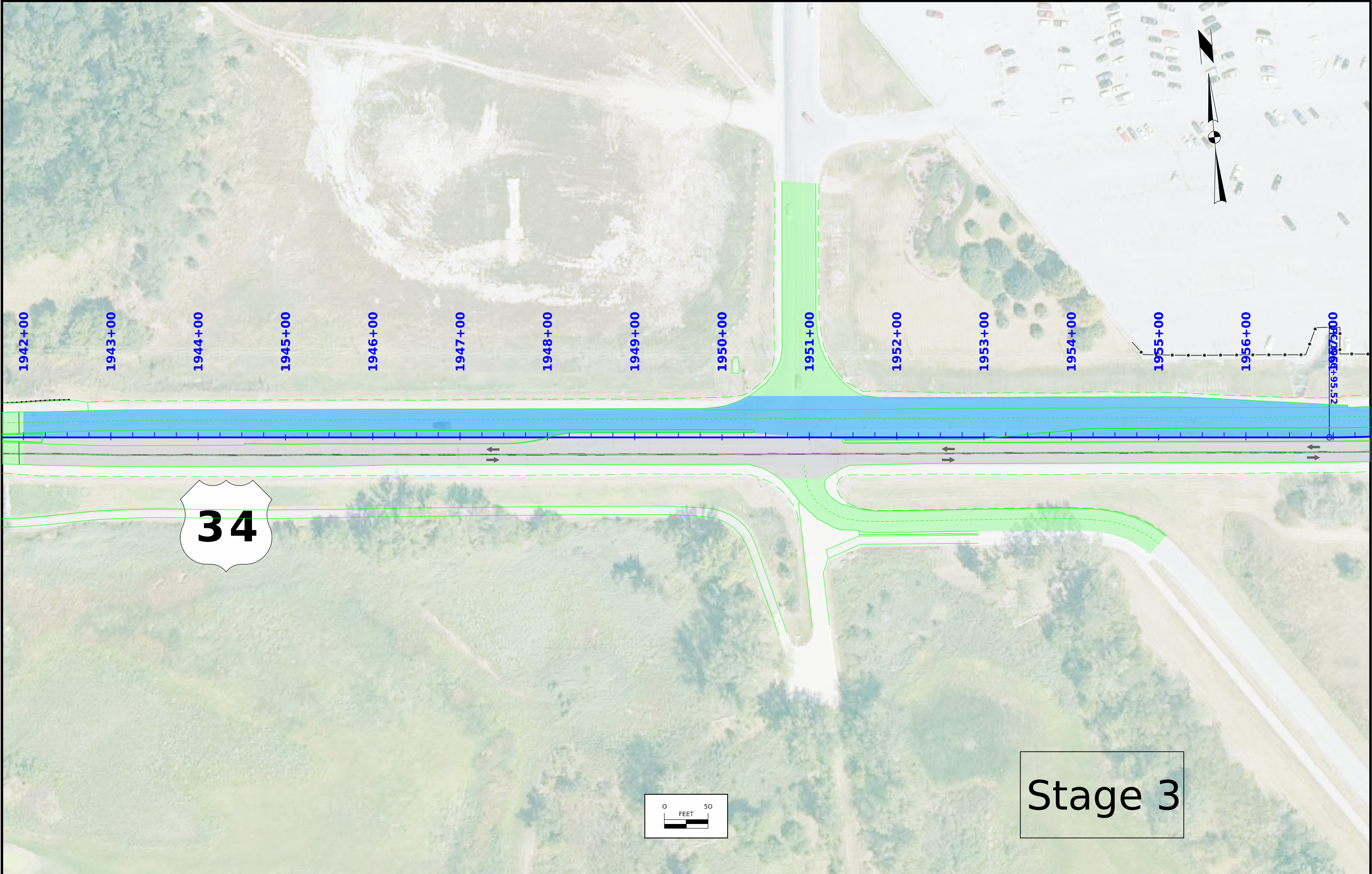
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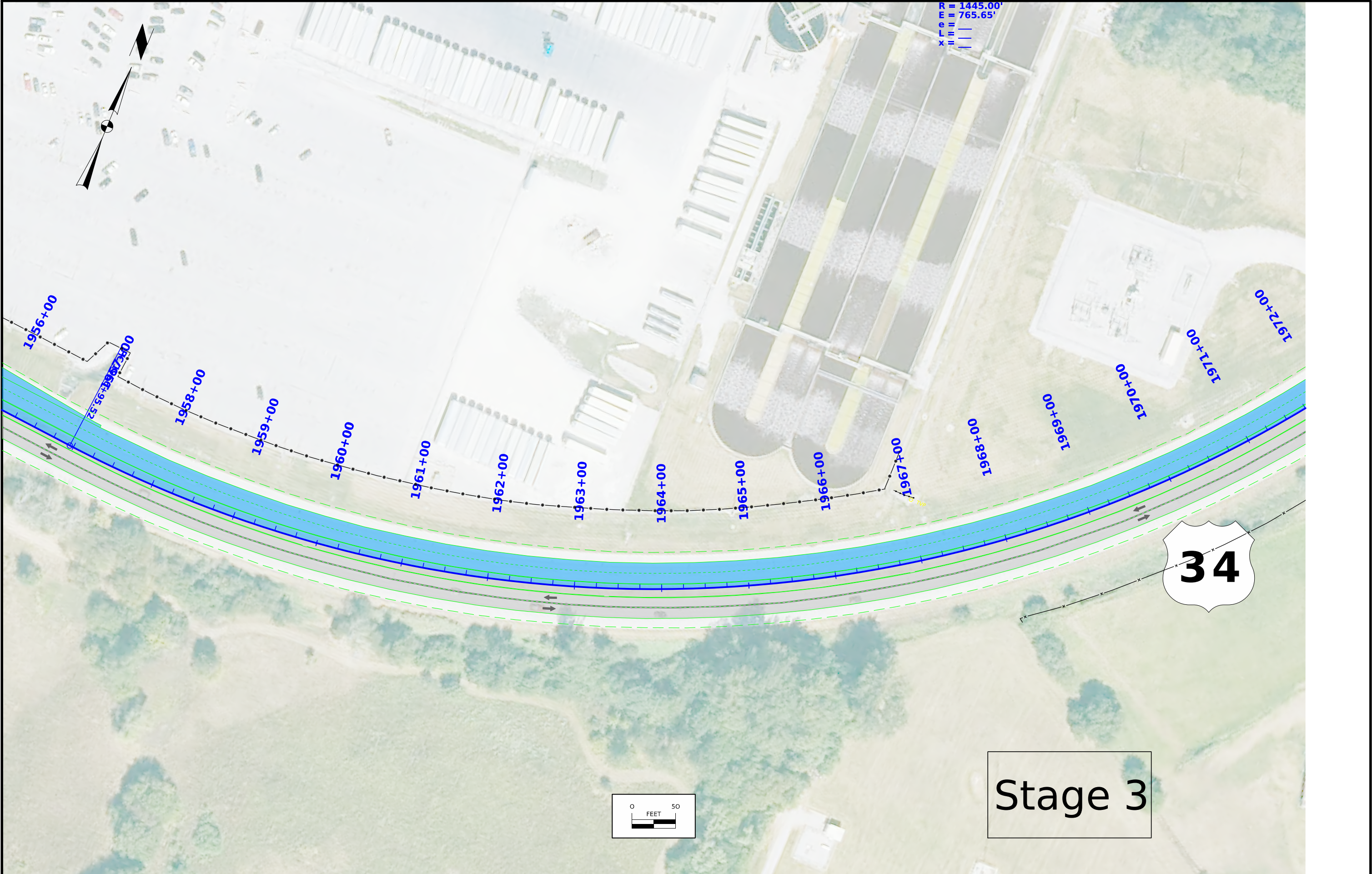


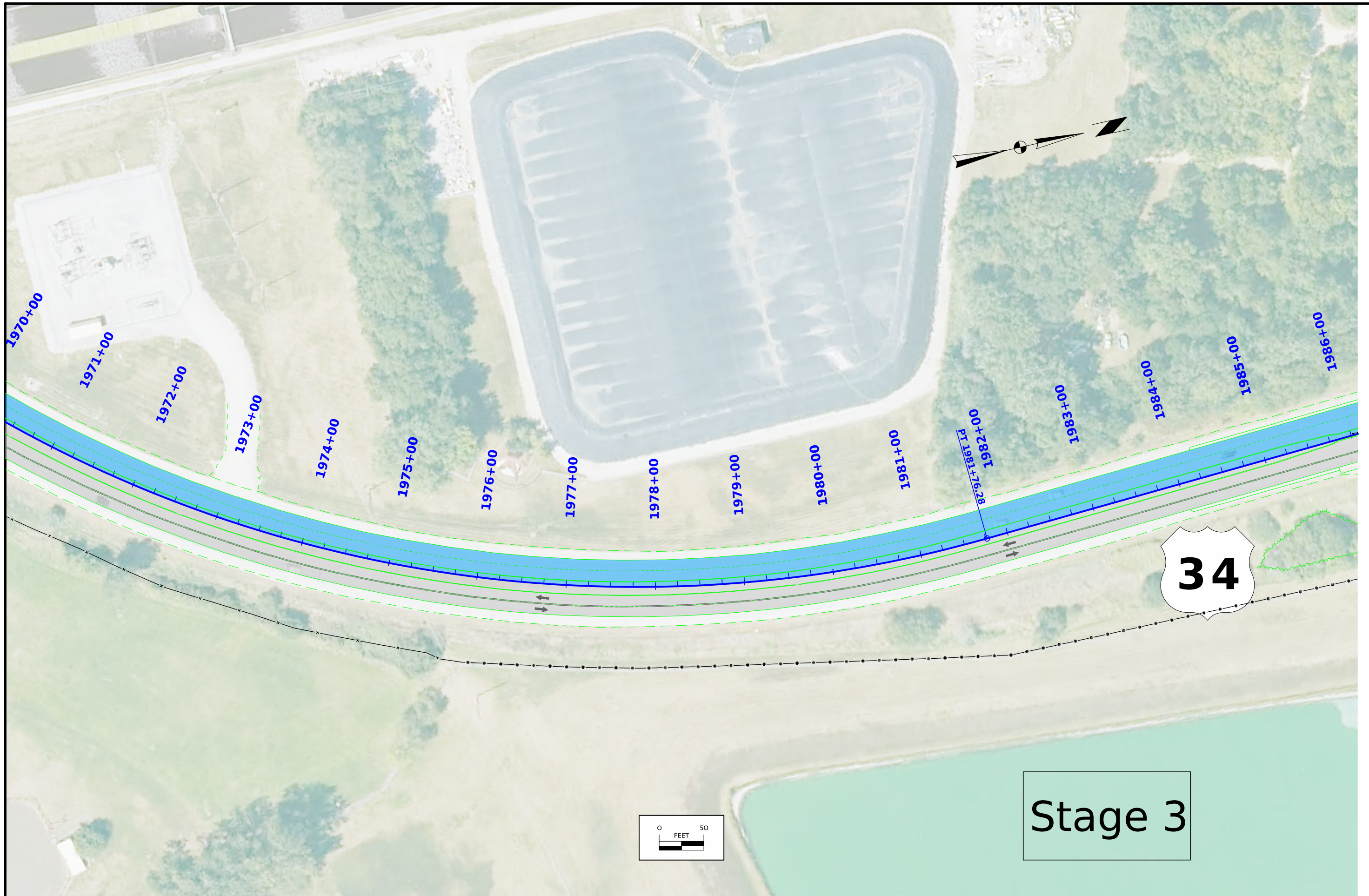


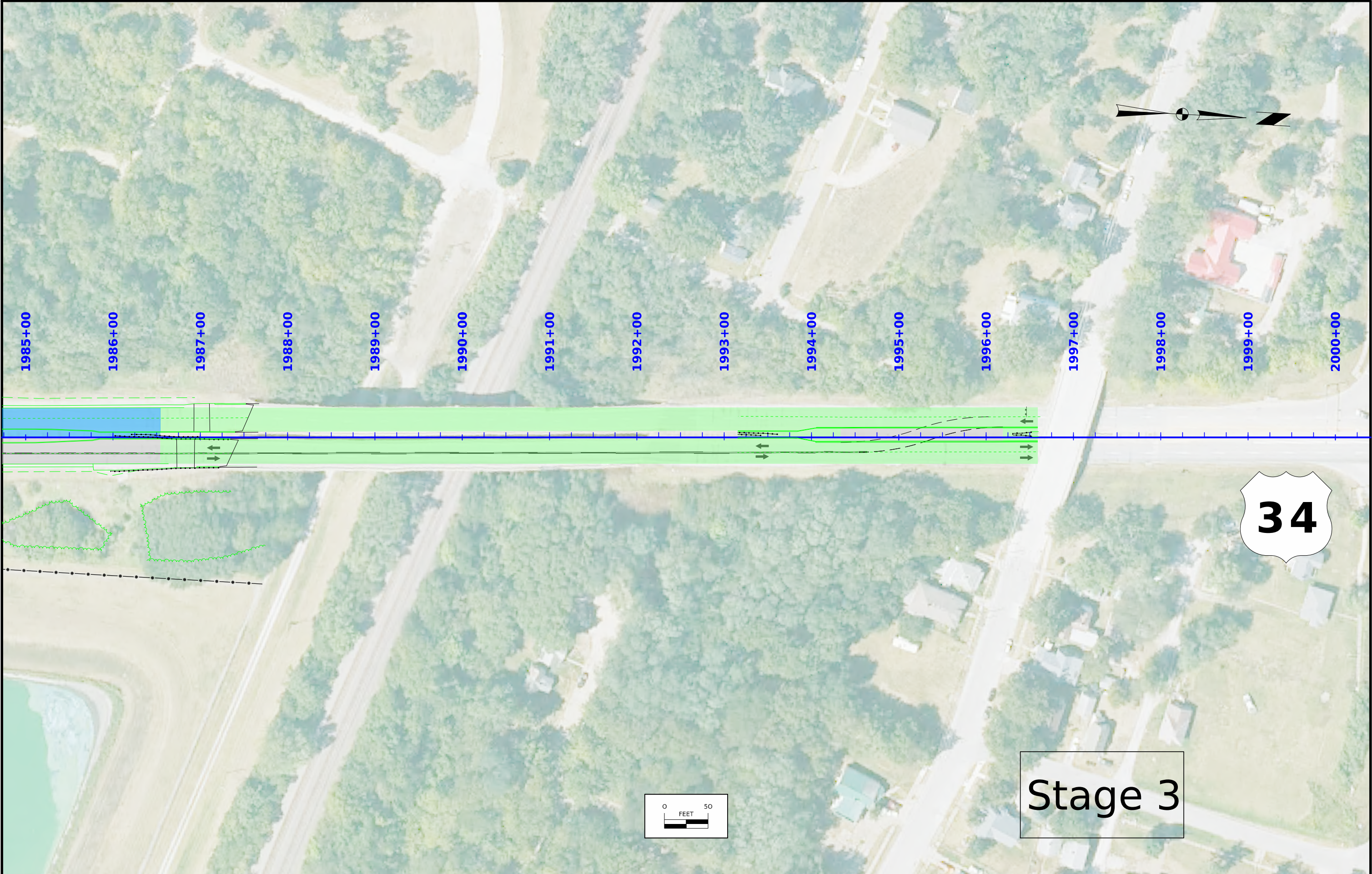












CROSS SECTION VIEW COLOR LEGEND			
Design Color No.	Feature	Design Color No.	Feature
Aggregate		Grading	
(64)	Choke Stone	(8)	Behind Curb Cut
(42)	Engineering Fabric	(6)	Granular
(8)	Flooded Backfill	(13)	Granular Back Fill
(92)	Macadam Stone	(48)	Rock Undercut
(20)	Modified	(8)	Shoulder Earth Fill
(12)	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		(6)	Loam
(207)	HMA Base Course	(211)	Loam Removed
(207)	HMA Interim Course	(80)	Rock
(207)	HMA Surface Course	(212)	Rock Removed
Bridge		(4)	Select Sand
(0)	Bridge	(214)	Select Sand Removed
Concrete		(3)	Shale
(0)	Barrier Concrete	(215)	Shale Removed
(0)	Barrier Concrete Footing	(10)	Topsoil
(0)	Curb Gutter	(2)	Topsoil Remove Only
(48)	Flowable Mortar	(4)	Topsoil Remove and Replace
(0)	Median Concrete	Unsuitable / Waste	
(0)	PCC Pavement	(3)	Unsuitable Type A
(0)	Sidewalk	(216)	Unsuitable Type A Removed
Existing		(13)	Unsuitable Type B
(0)	Existing Pavement	(217)	Unsuitable Type B Removed
Shoulder		(11)	Unsuitable Type C
(209)	Shoulder HMA	(218)	Unsuitable Type C Removed
(0)	Shoulder PCC	(3)	Waste
(6)	Shoulder Granular	(219)	Waste Removed
Structural			
(112)	Noise Wall		
(112)	Noise Wall Footing		
(112)	Retaining Wall Back		
(112)	Retaining Wall Back Excavate		
(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

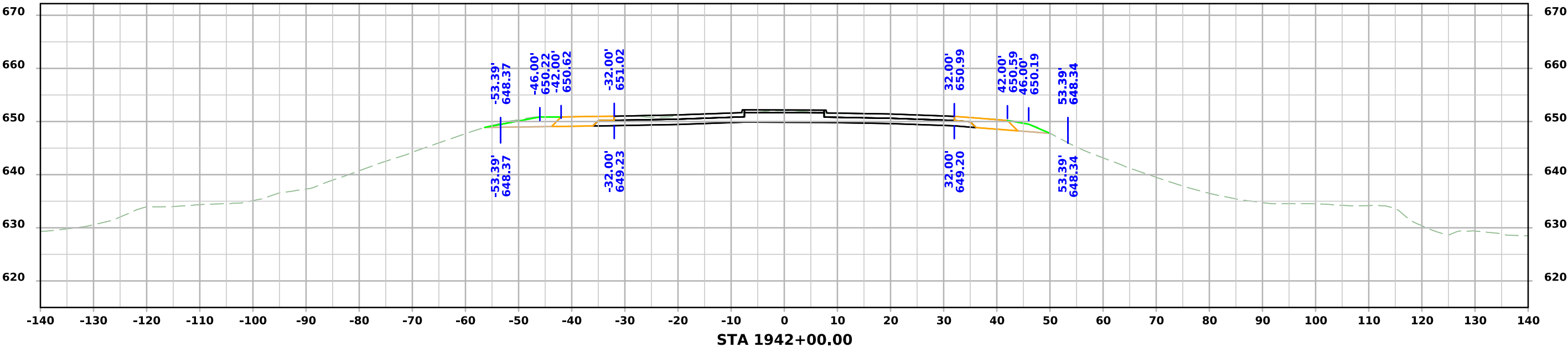
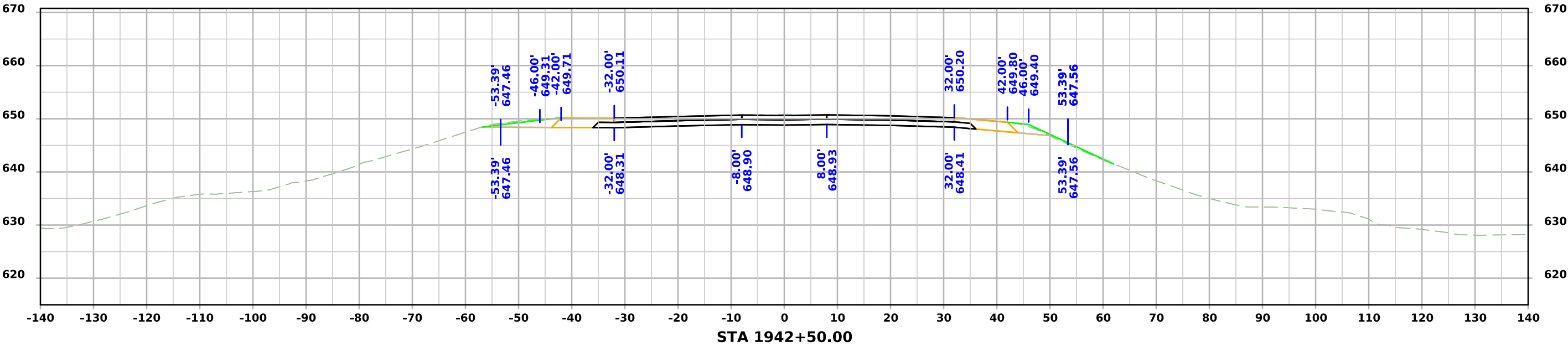
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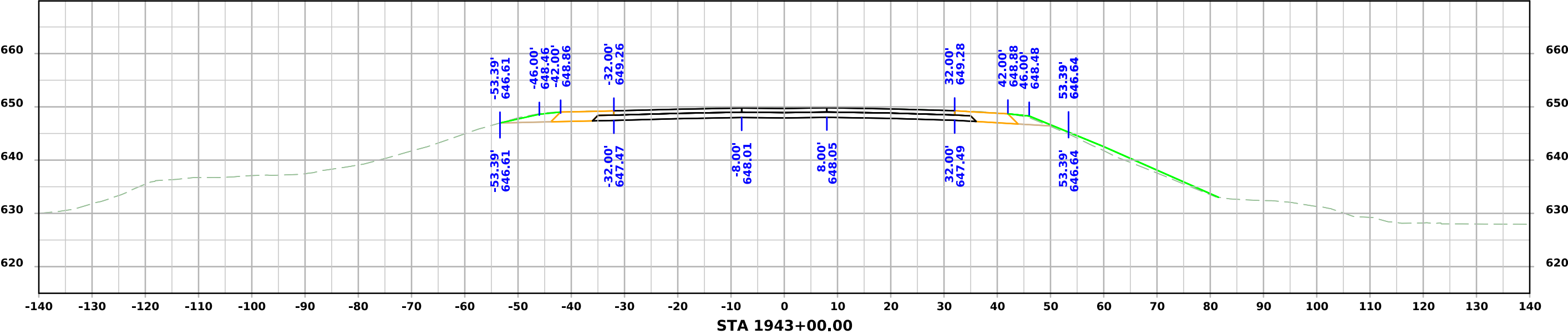
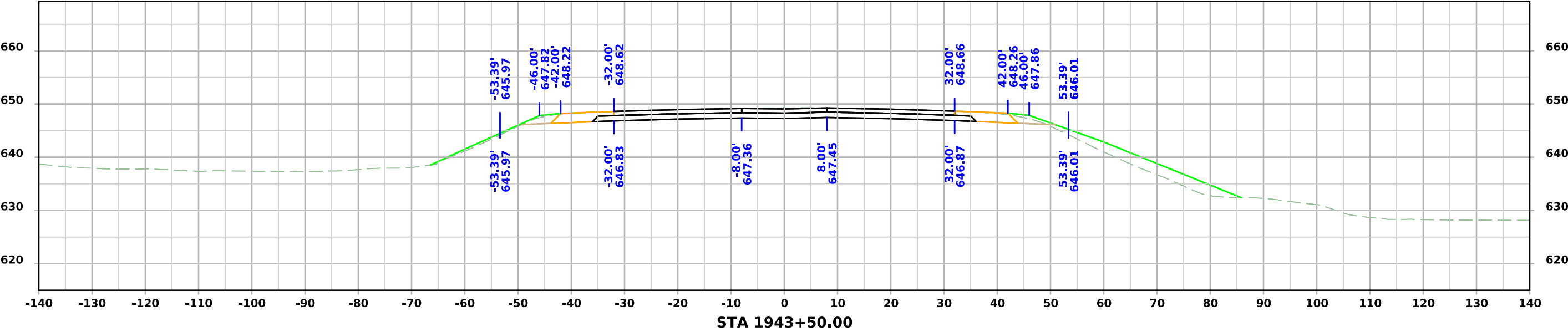
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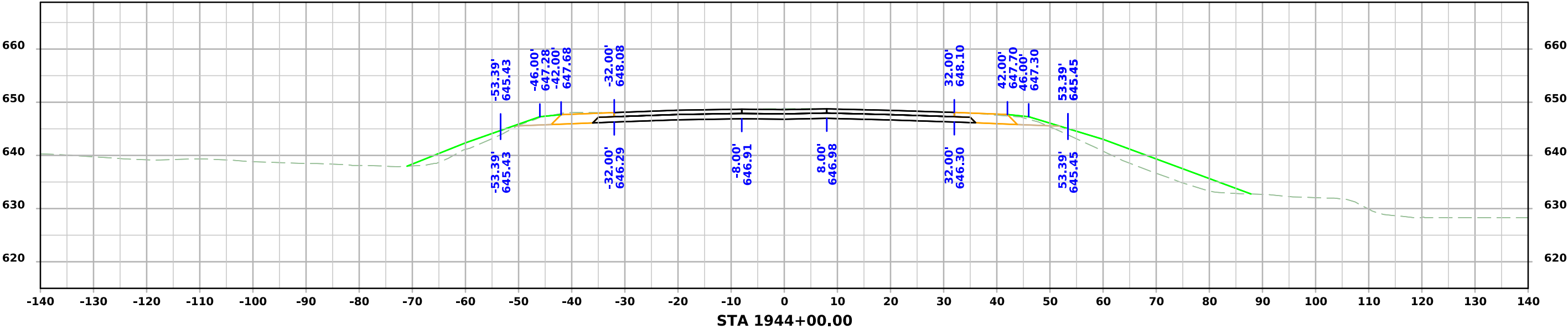
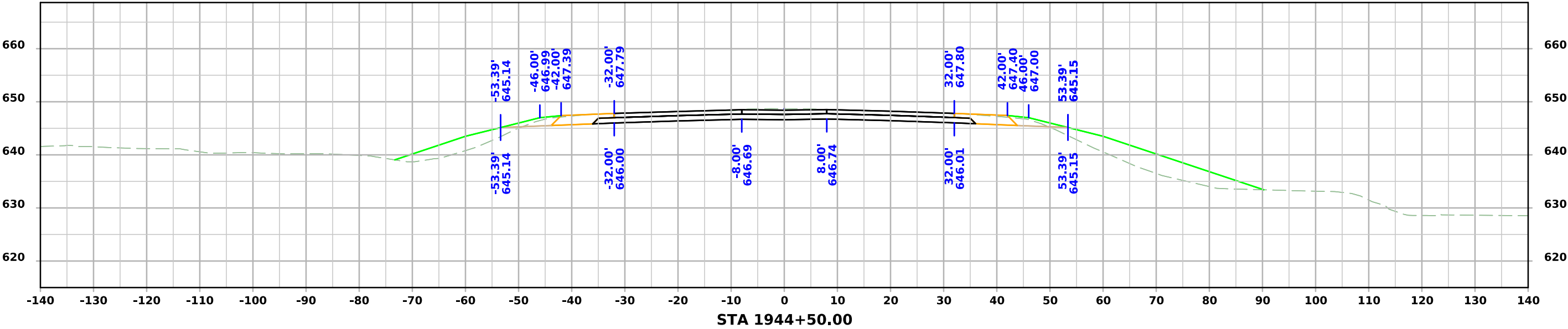
CROSS SECTIONS
LEGEND AND INFORMATION SHEET

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

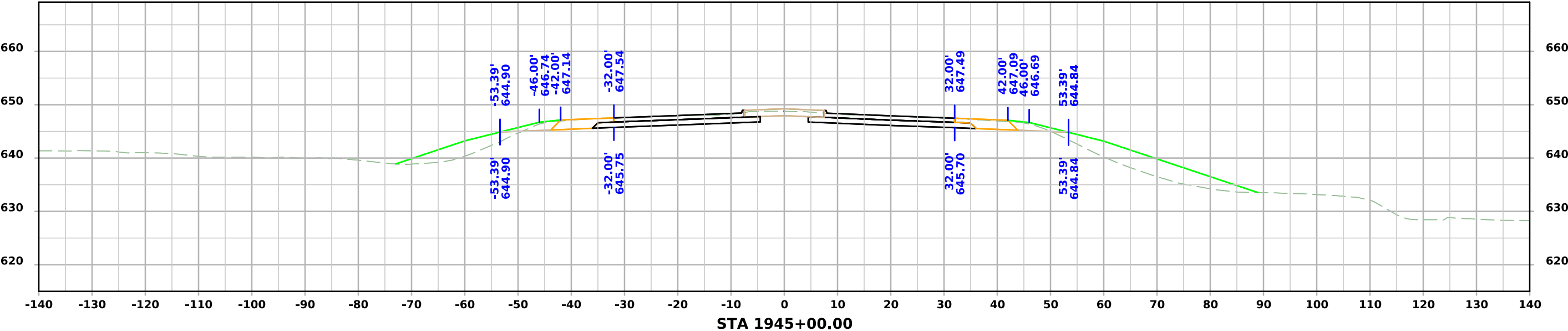
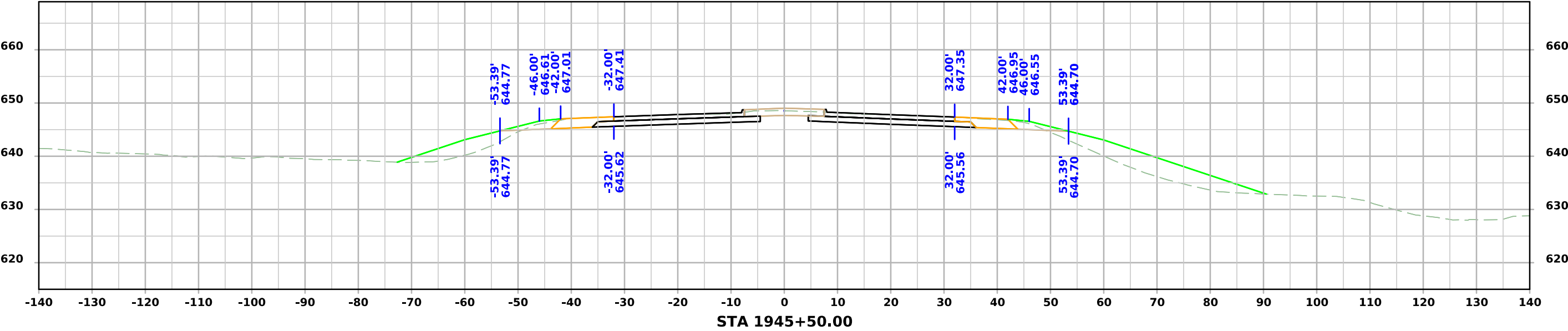
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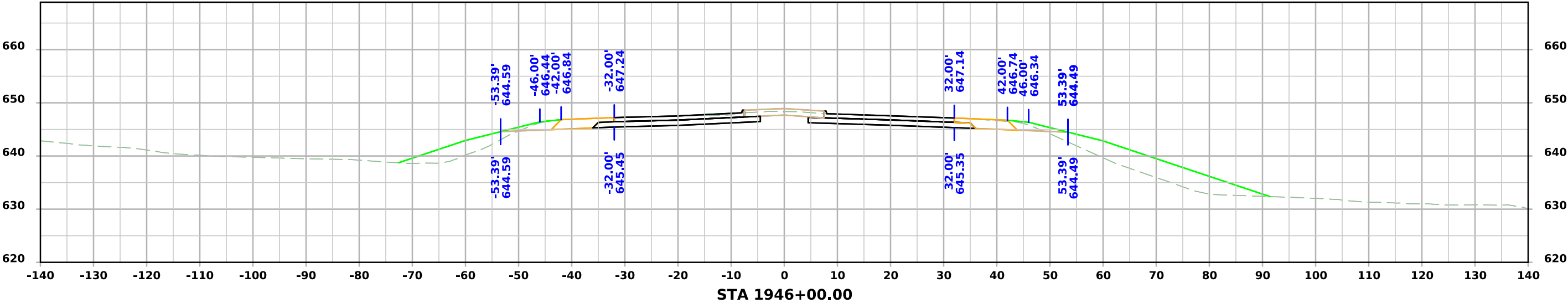
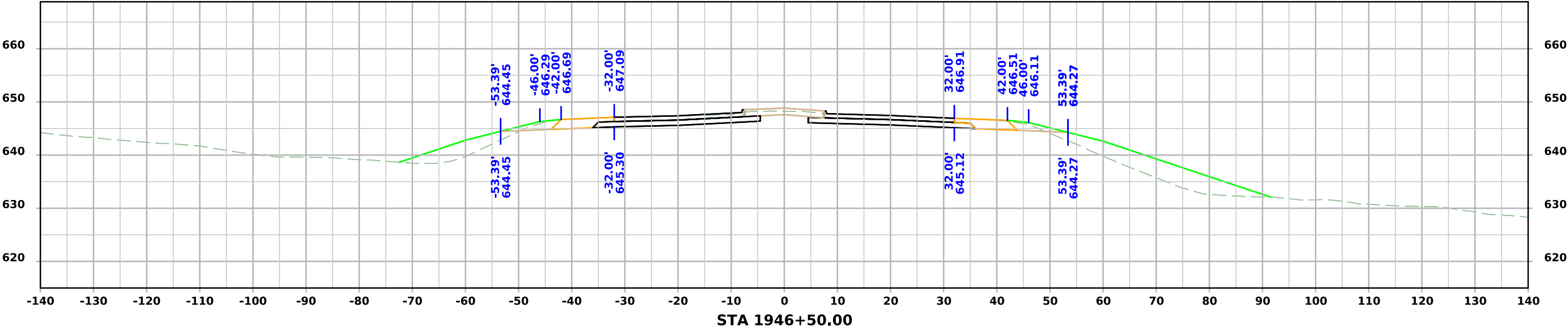


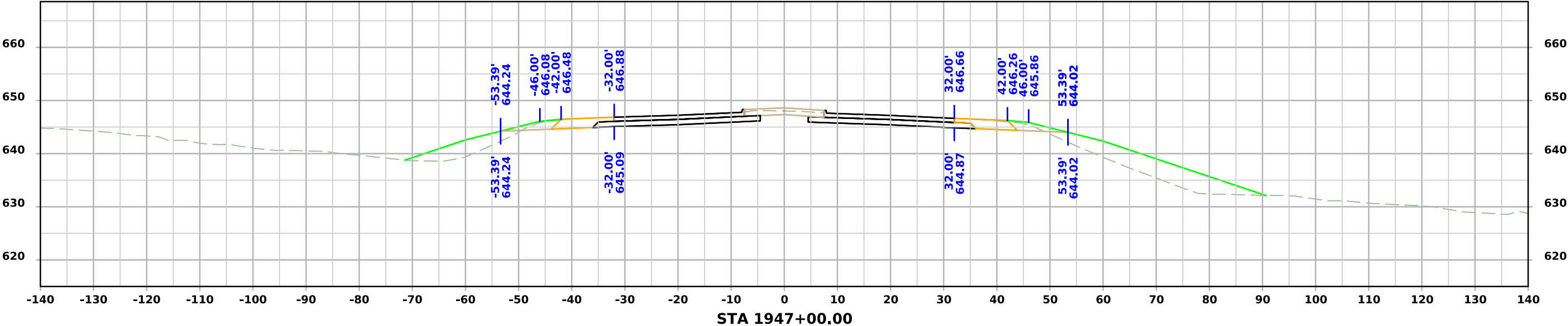
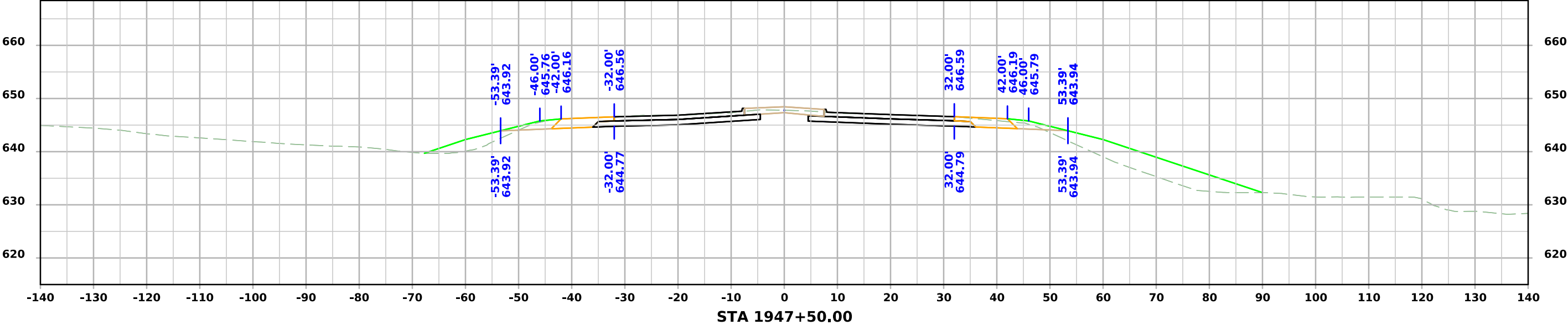


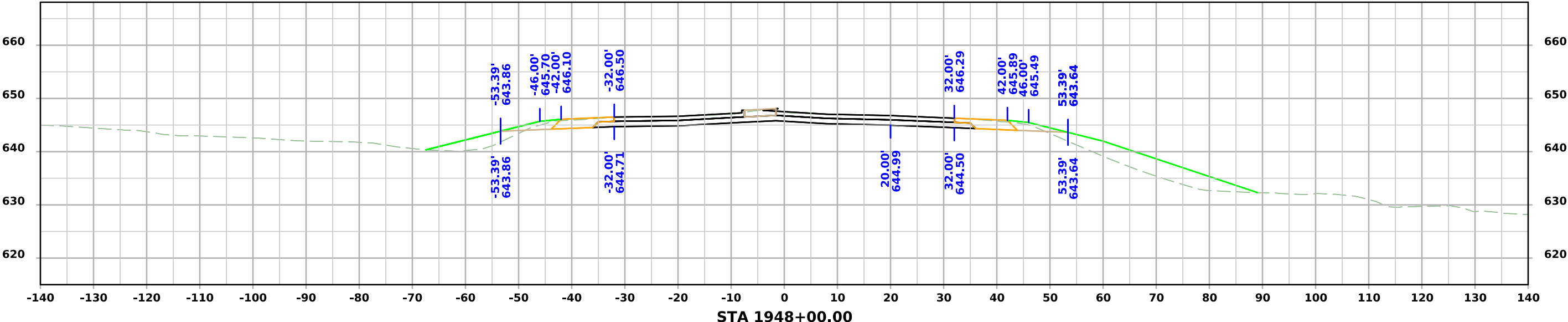
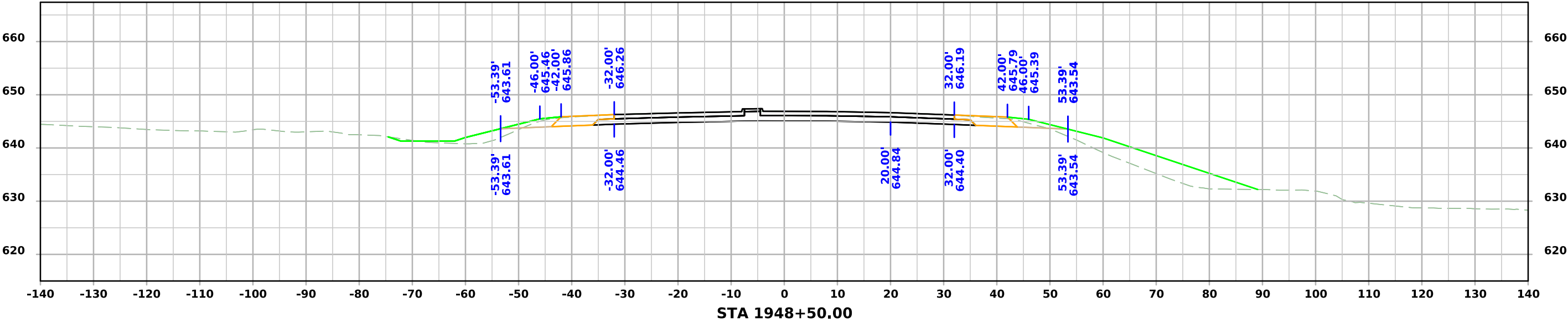


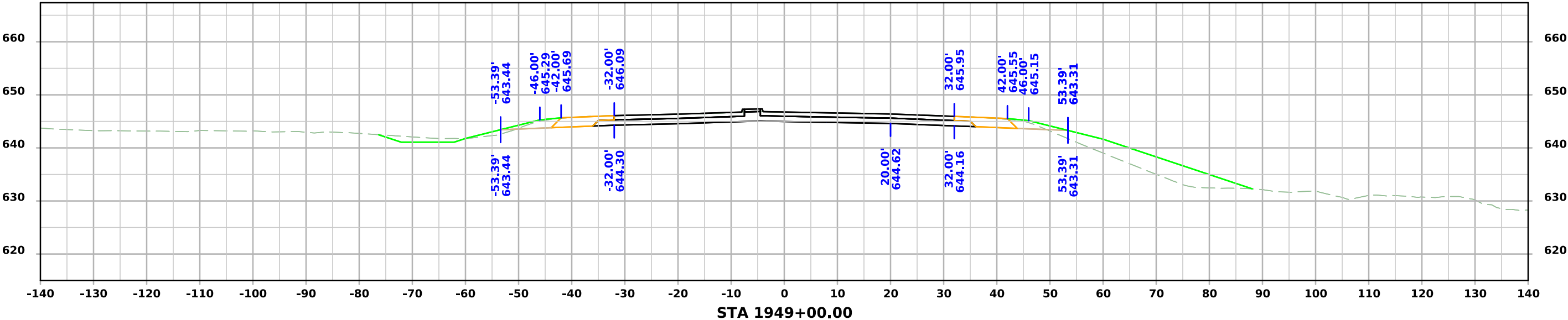
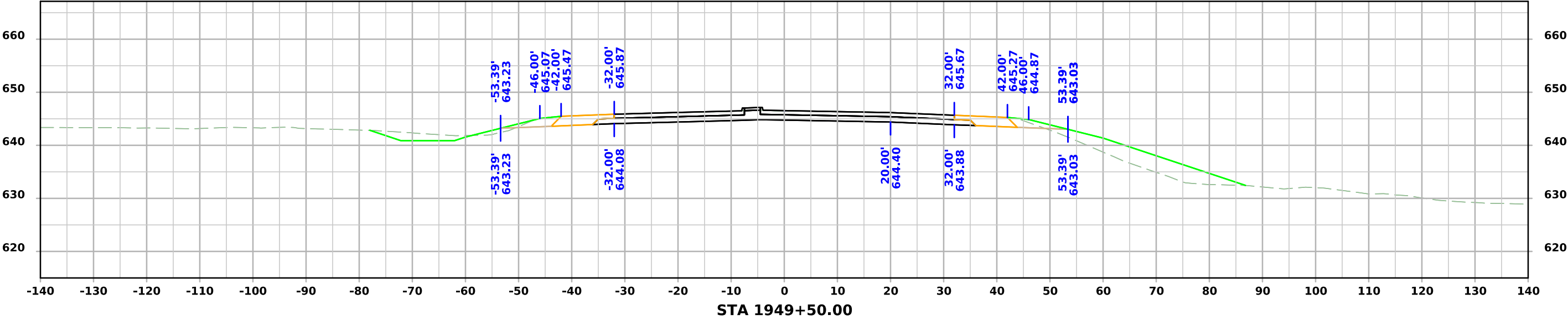
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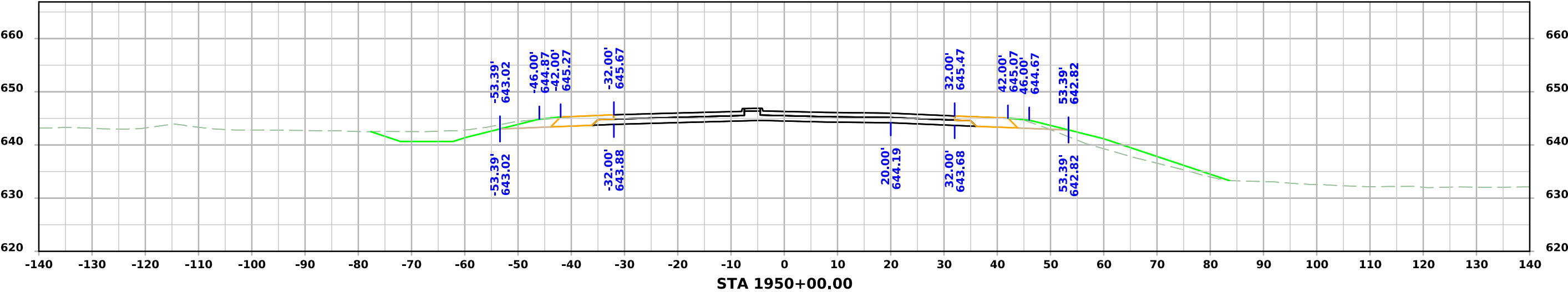
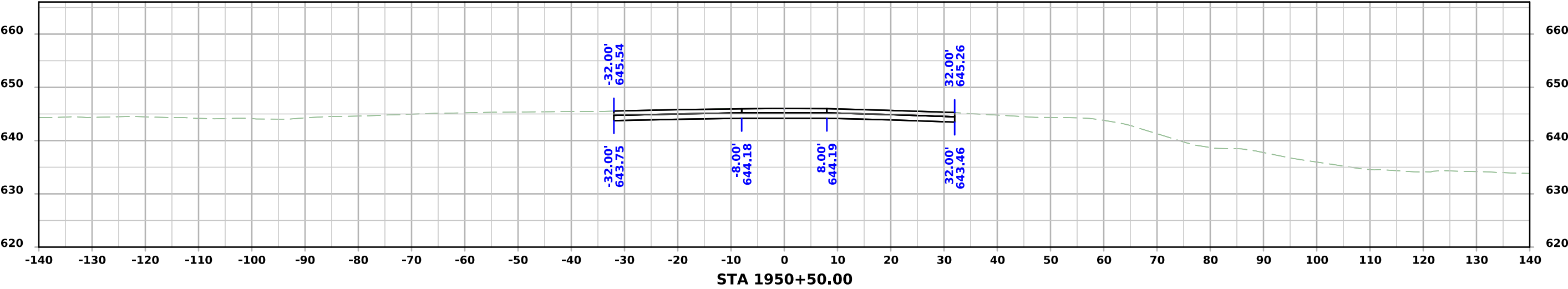
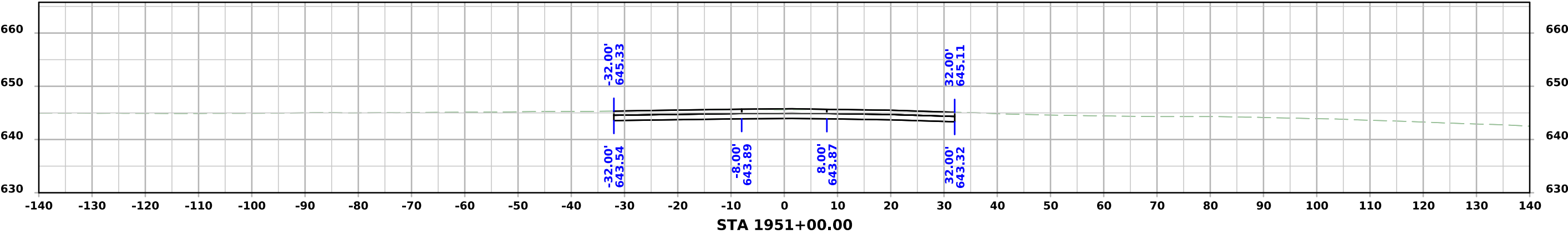




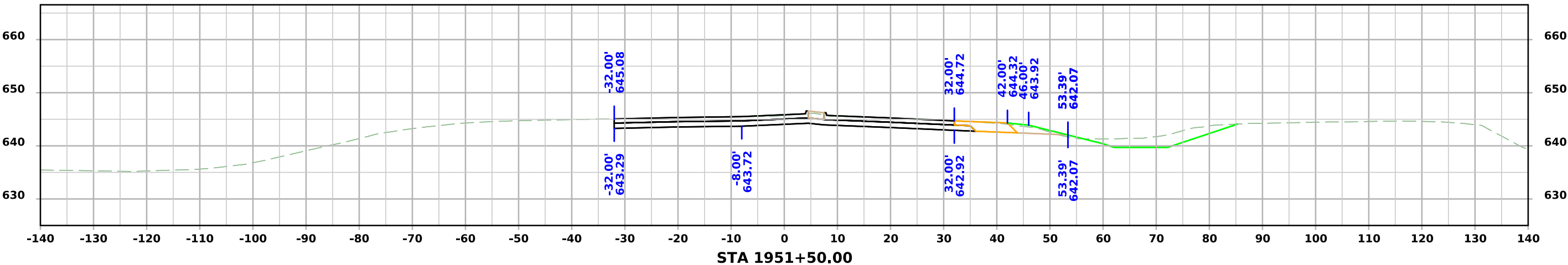
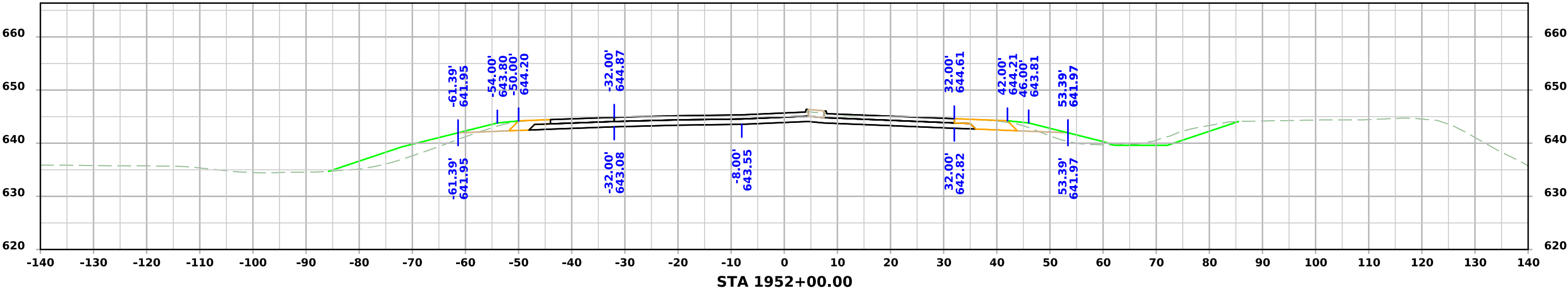
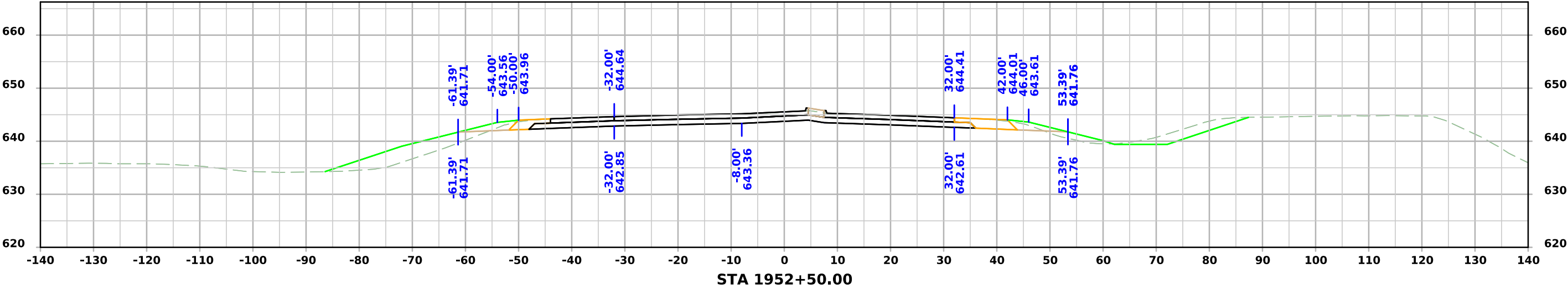




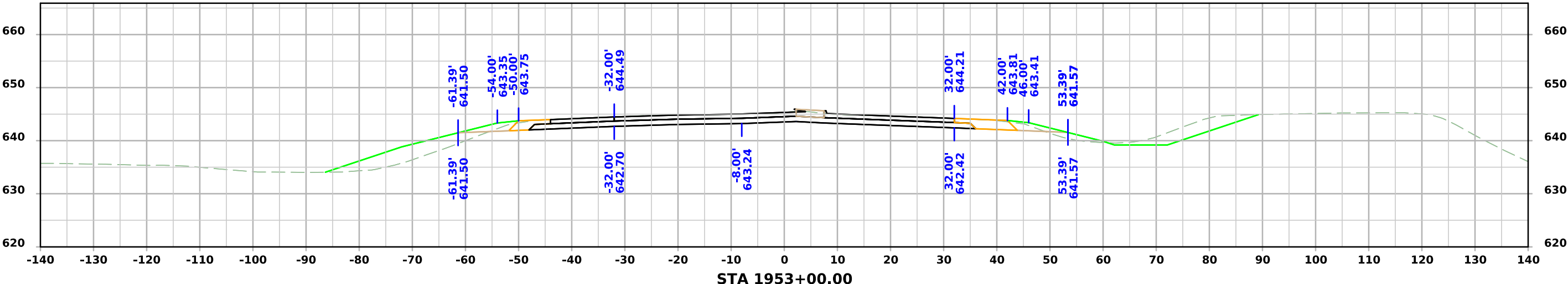
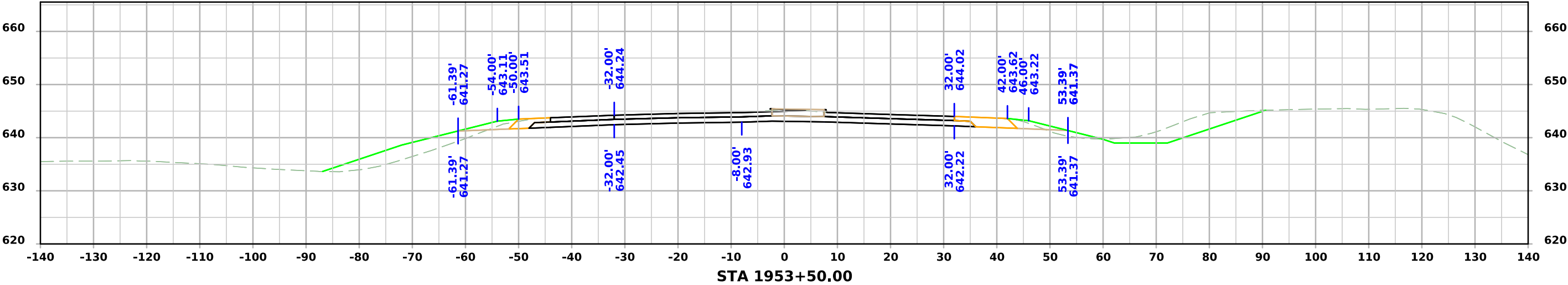
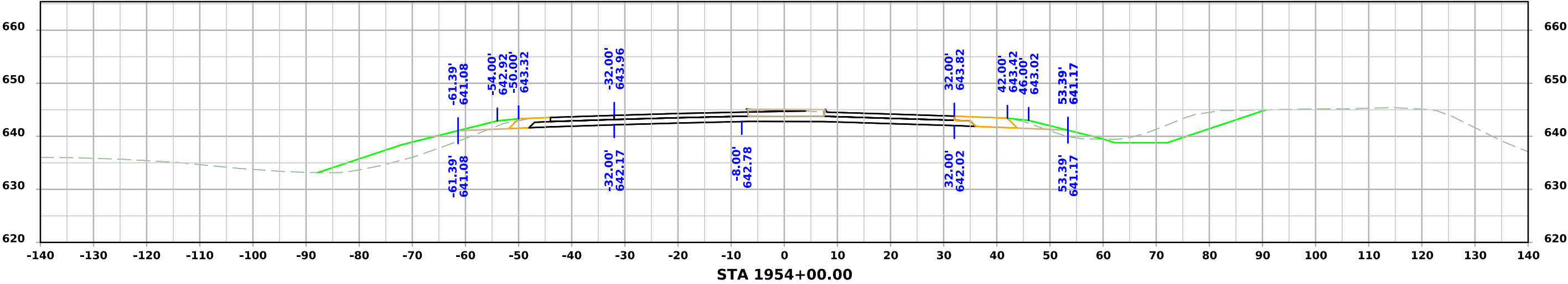
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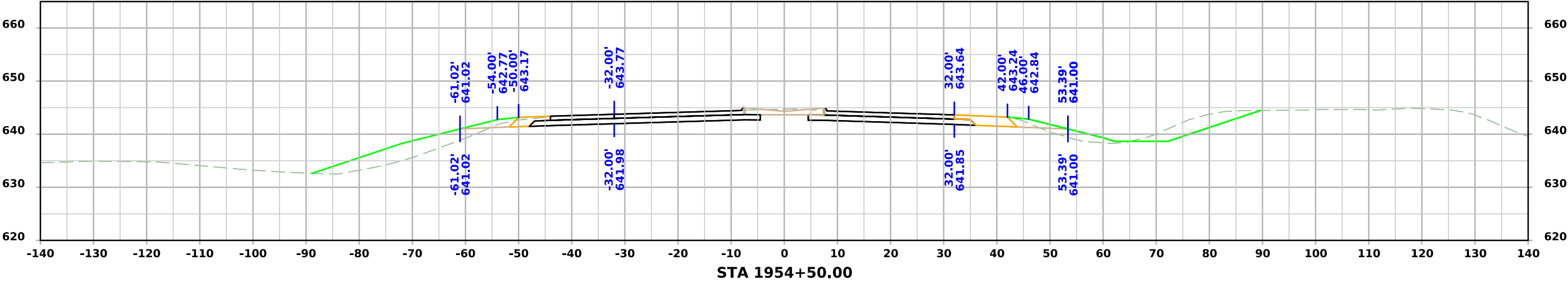
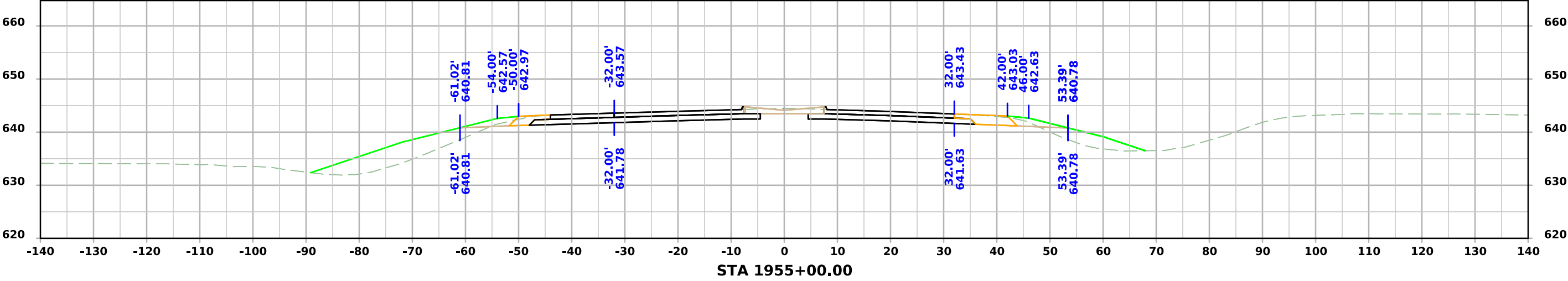
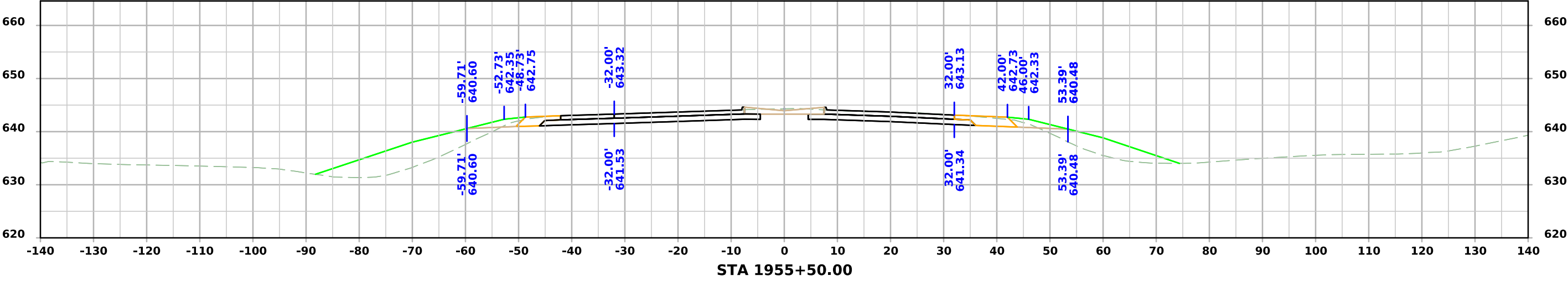
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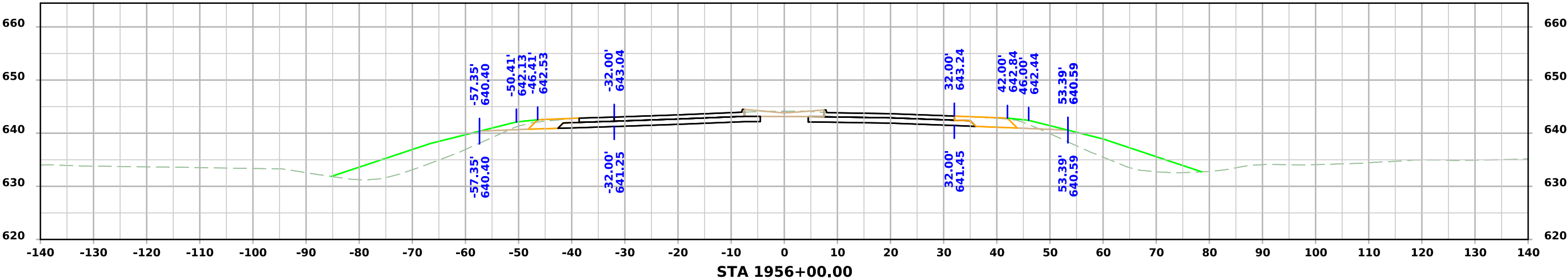
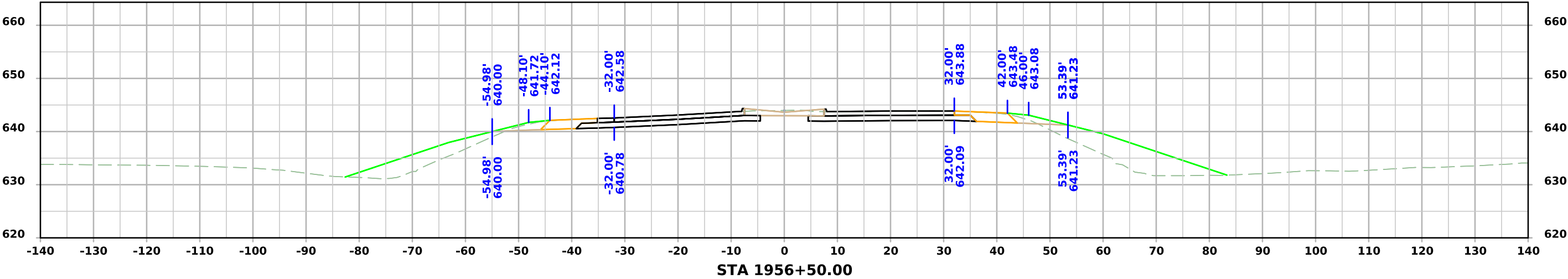
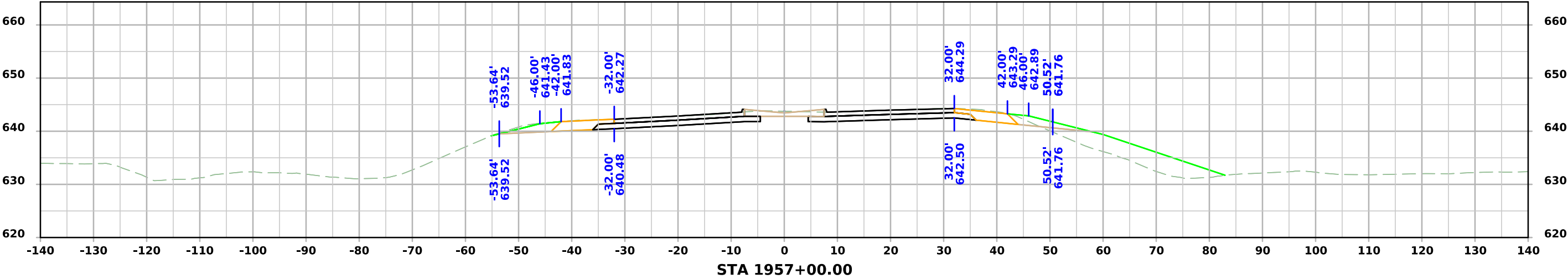
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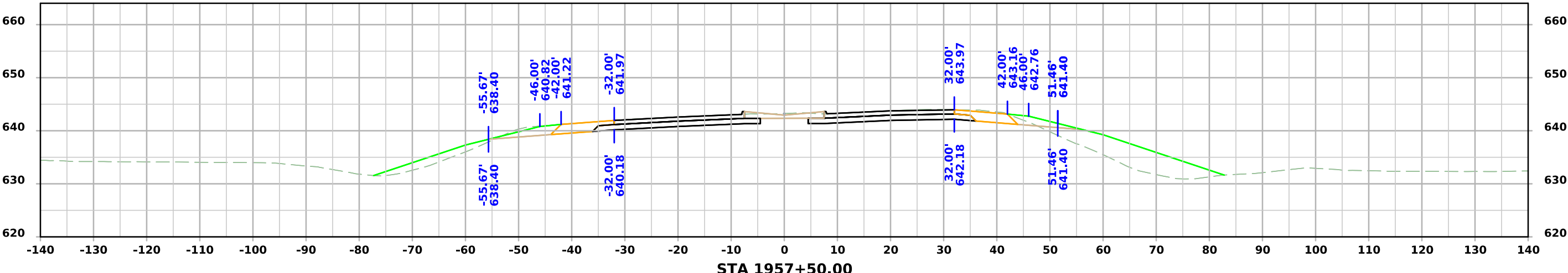
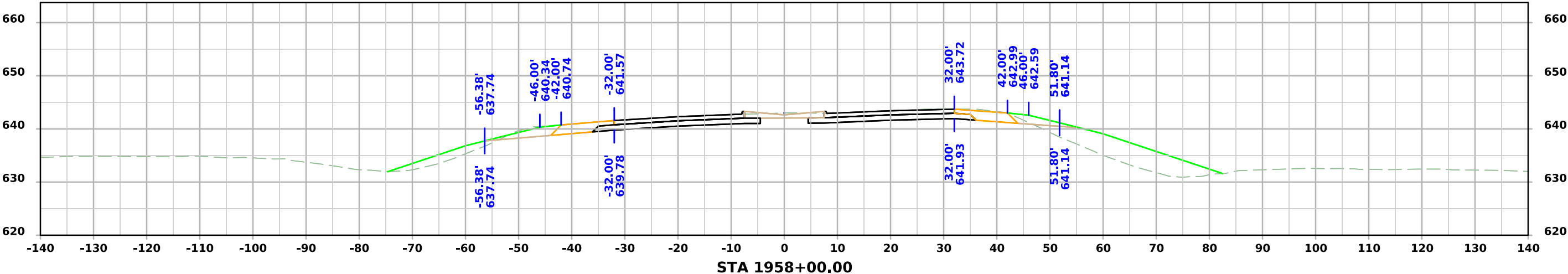
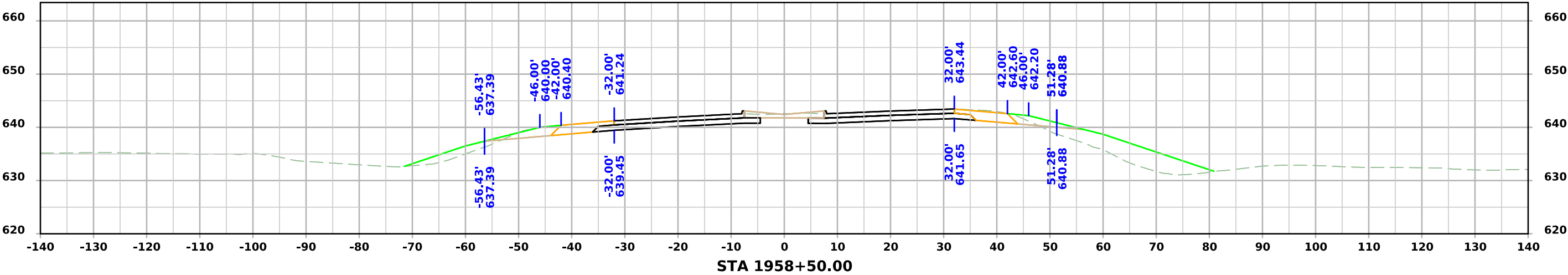
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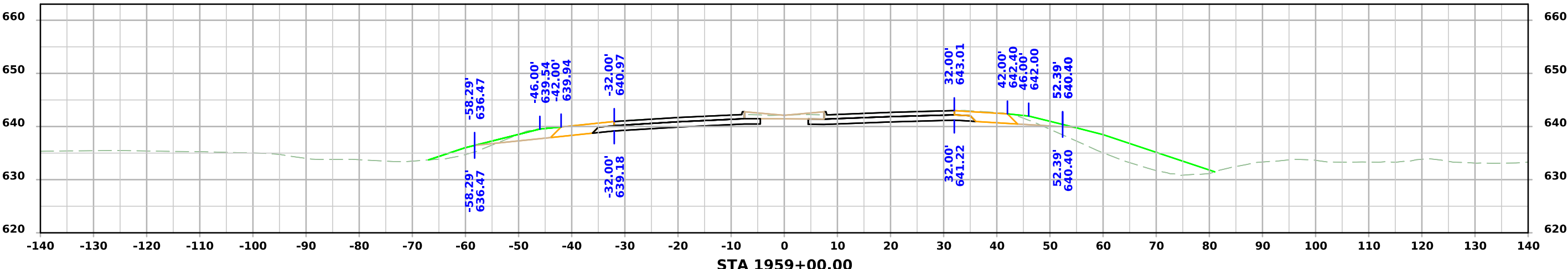
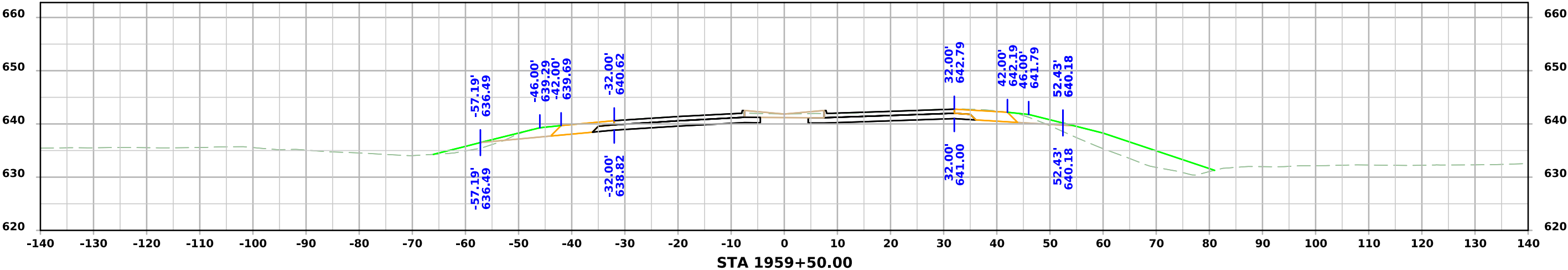
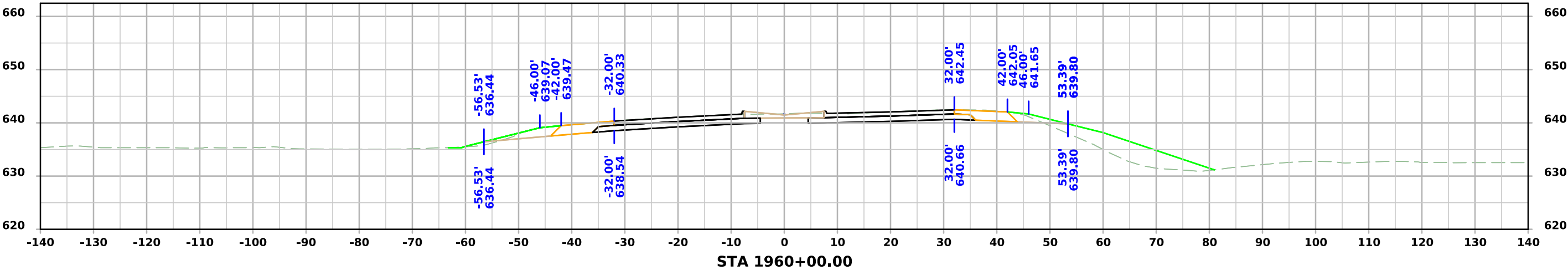
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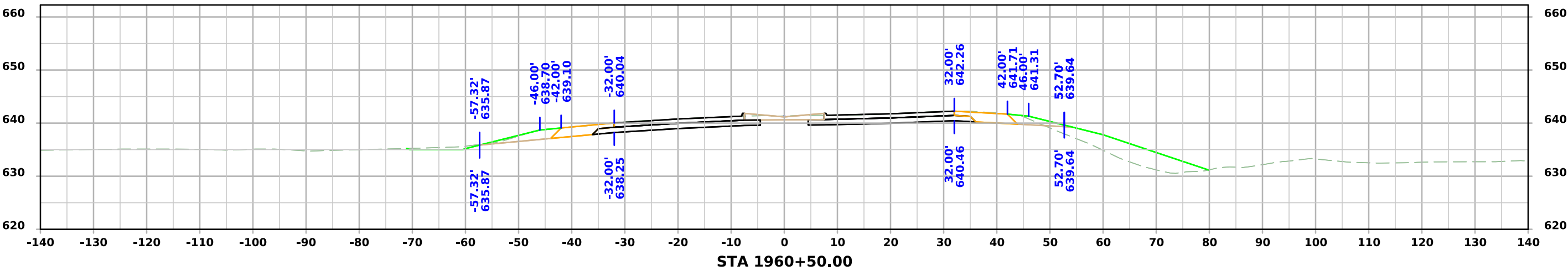
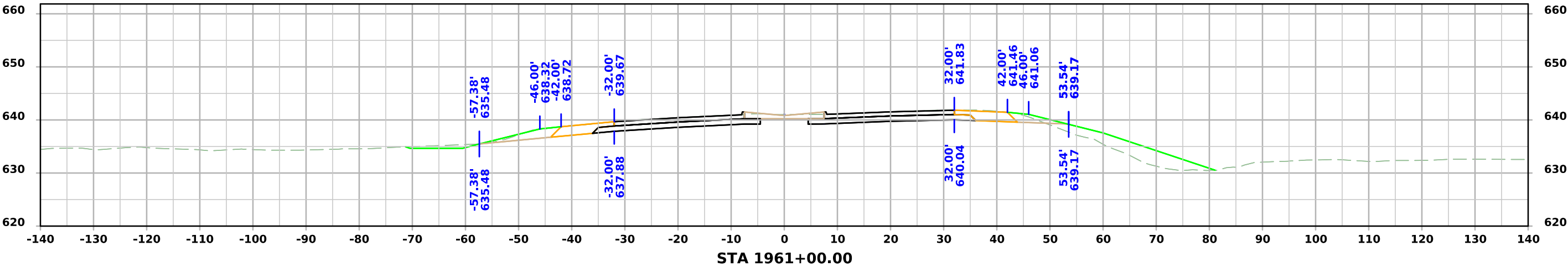
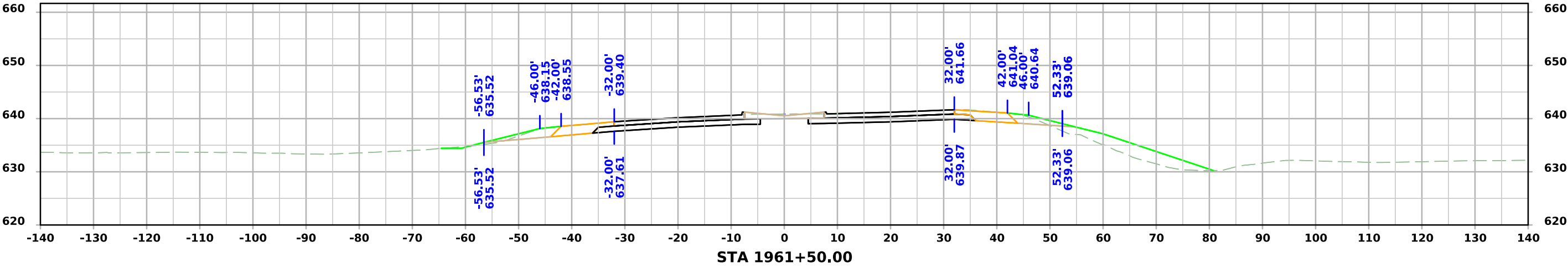
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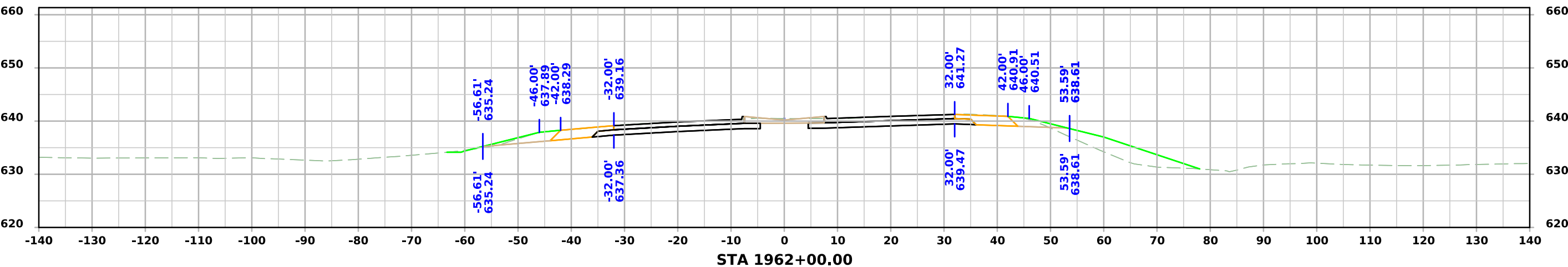
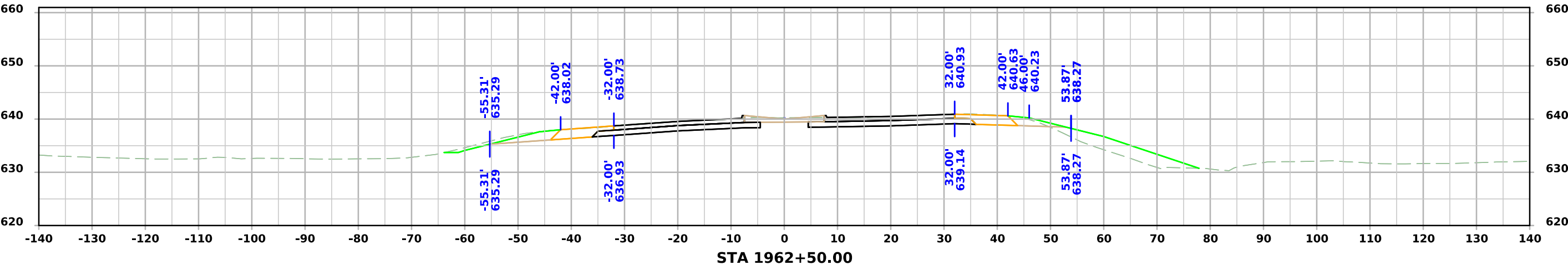
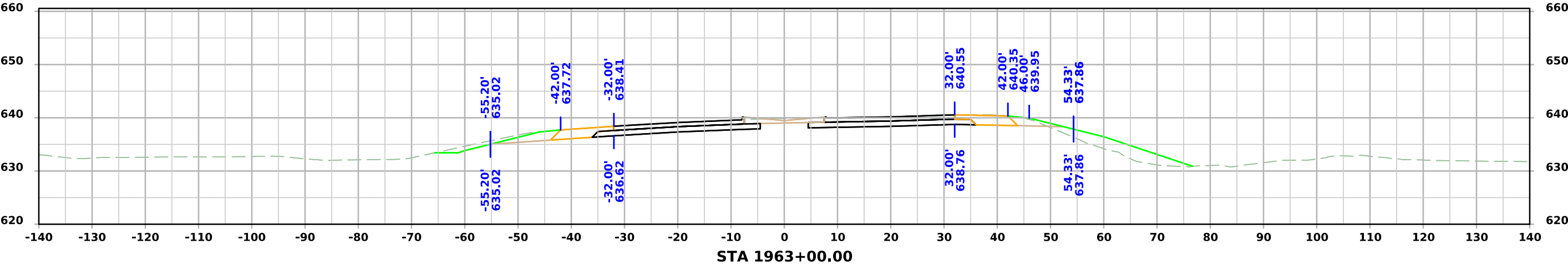
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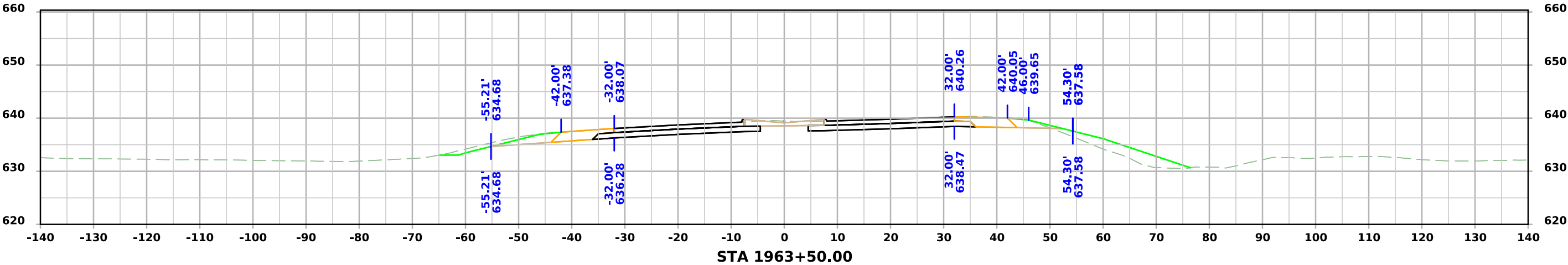
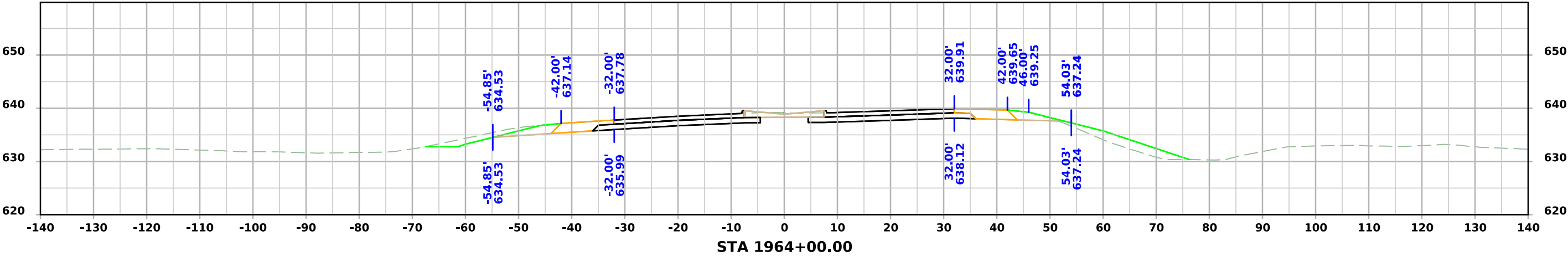
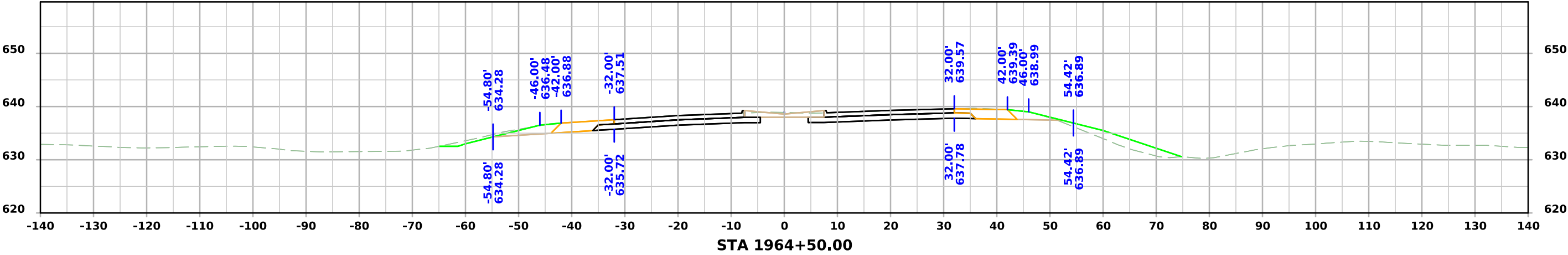
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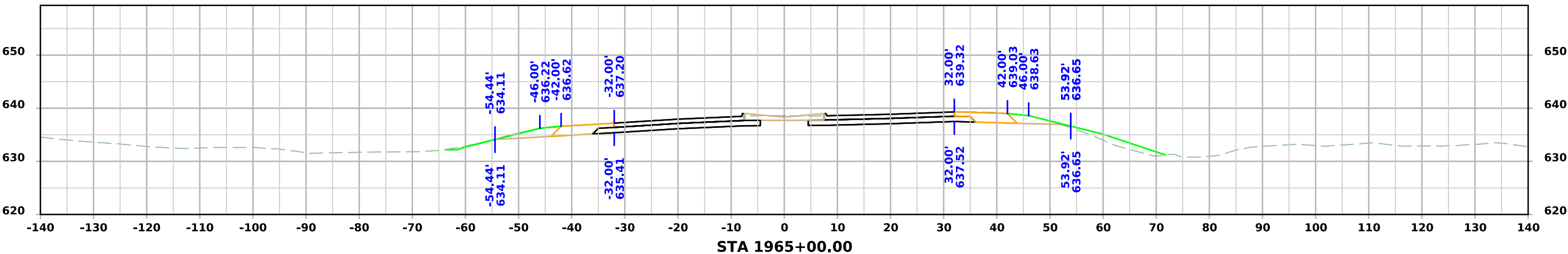
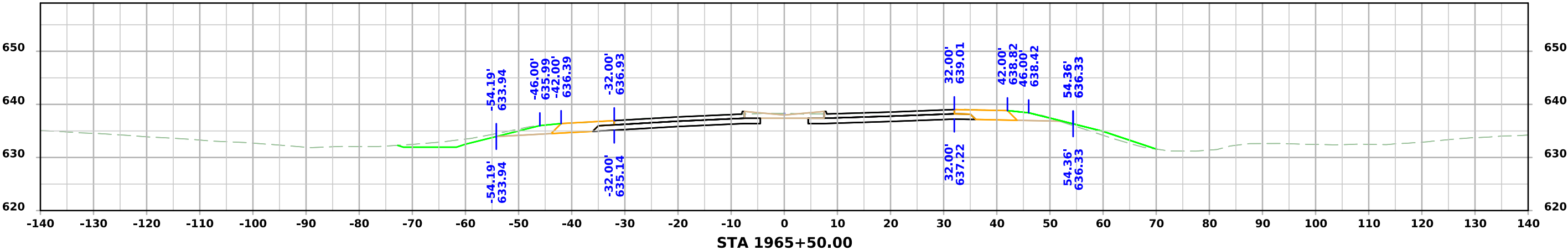
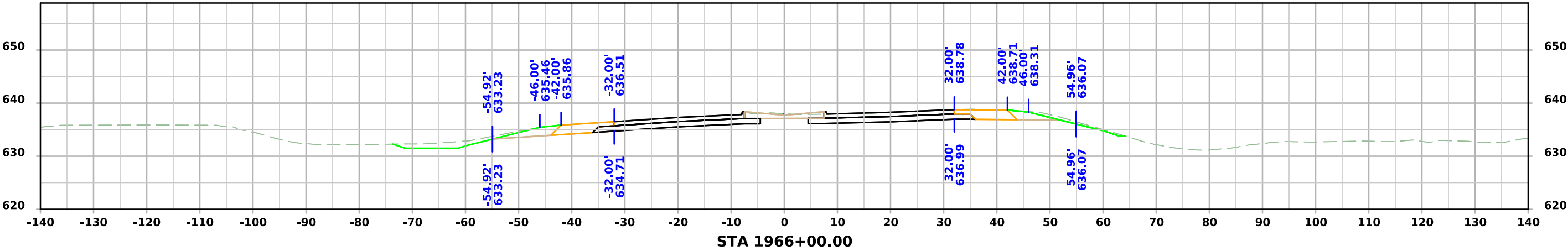
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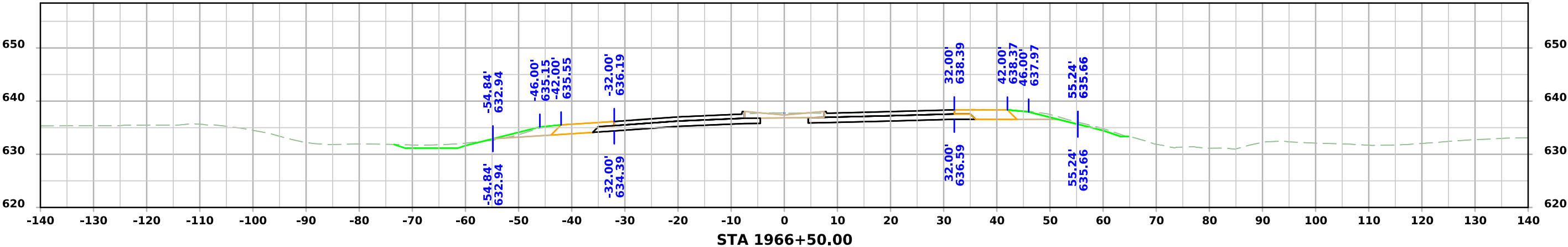
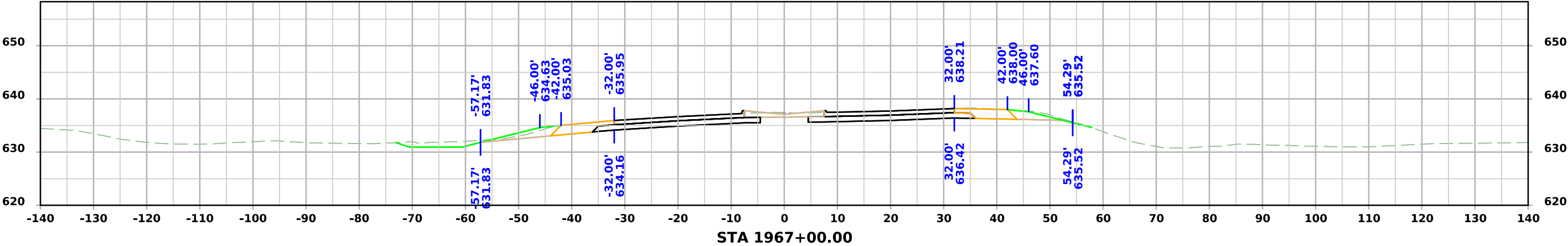
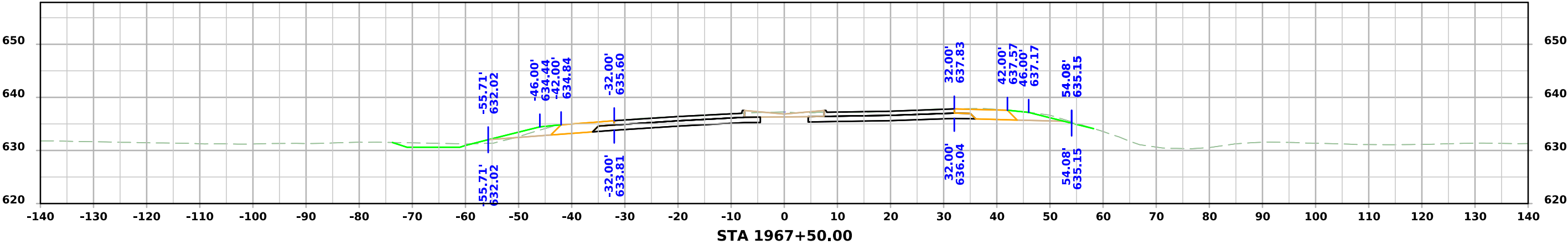


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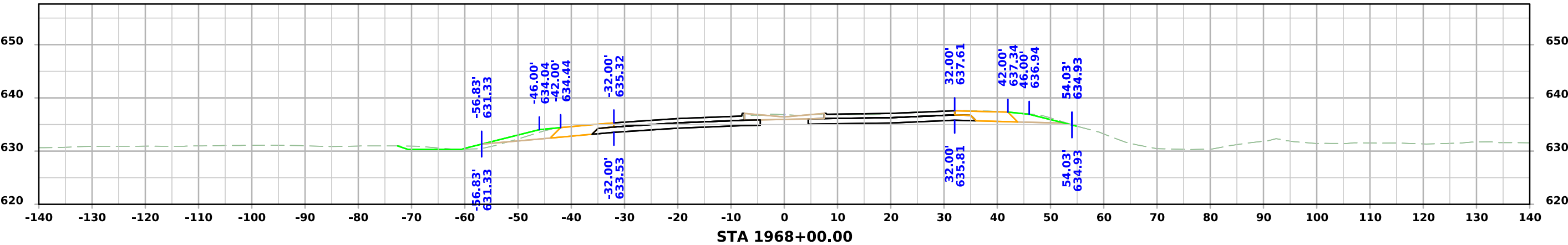
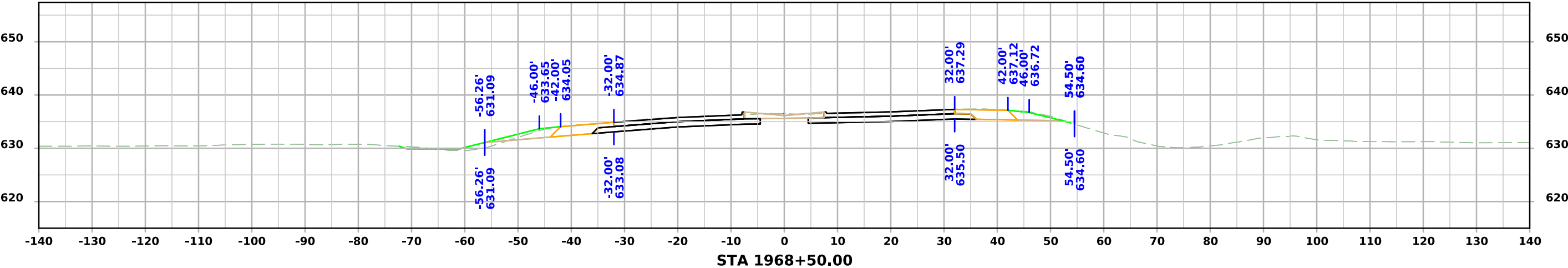
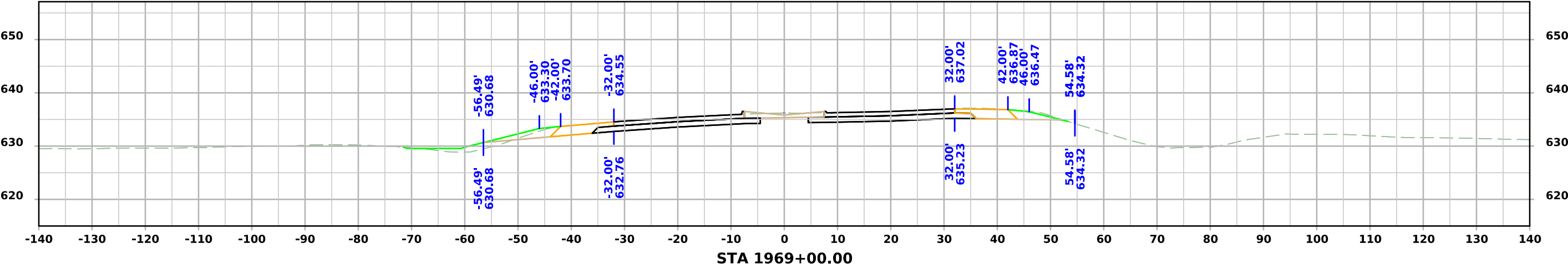


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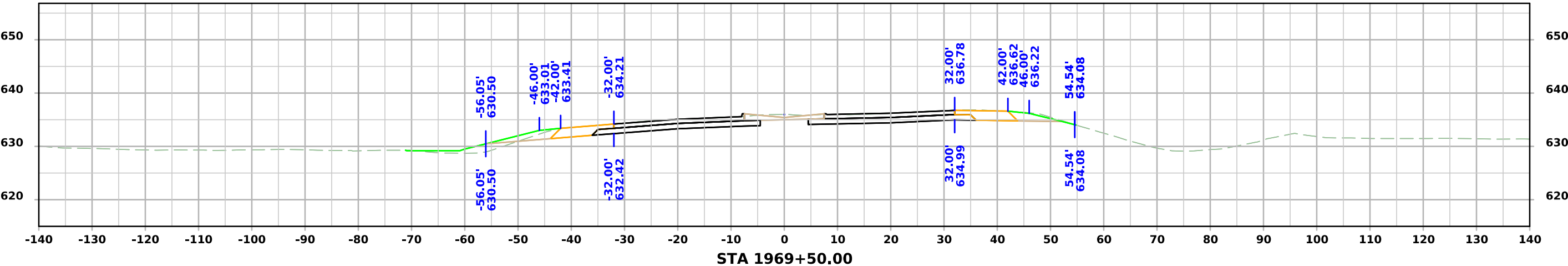
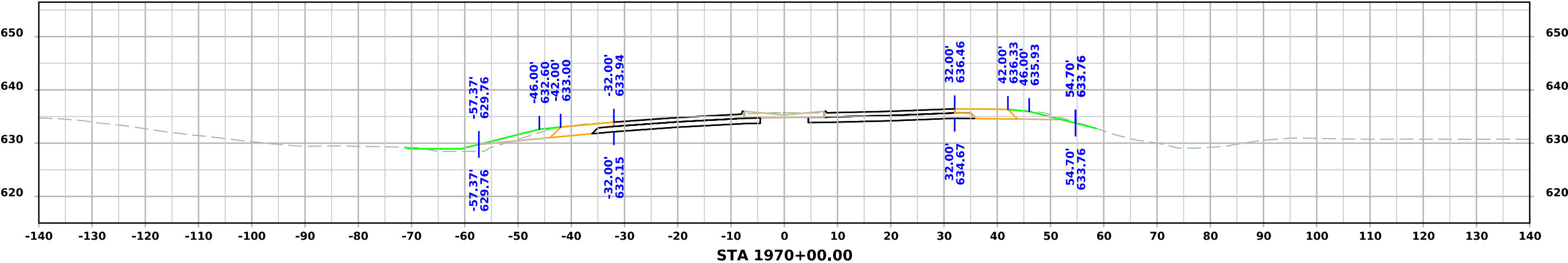
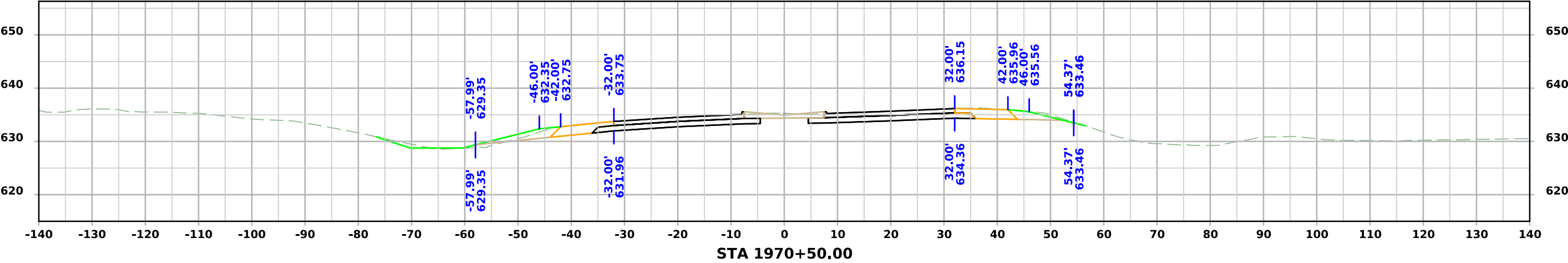




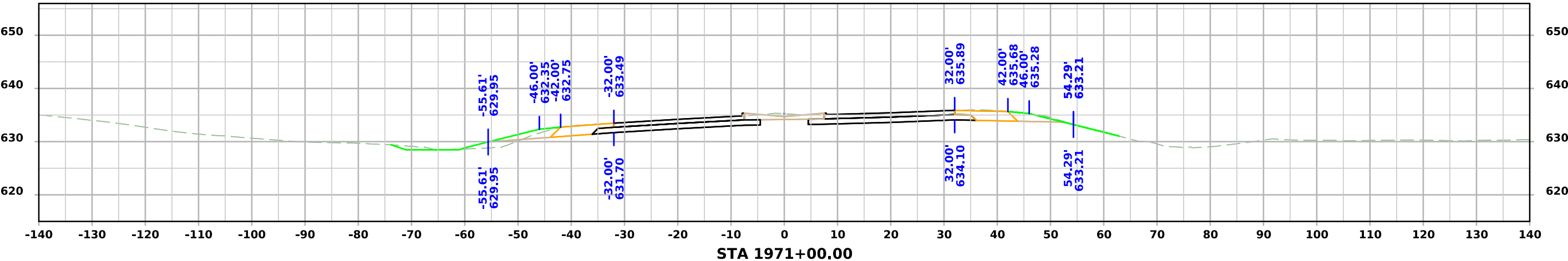
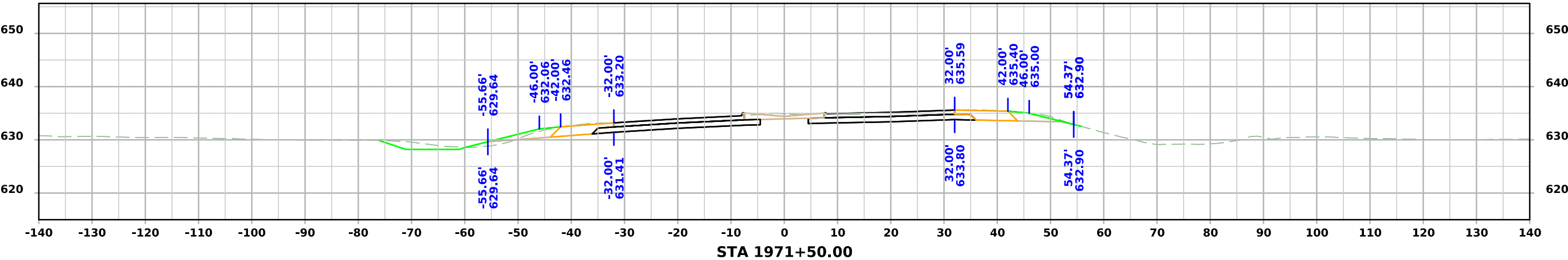
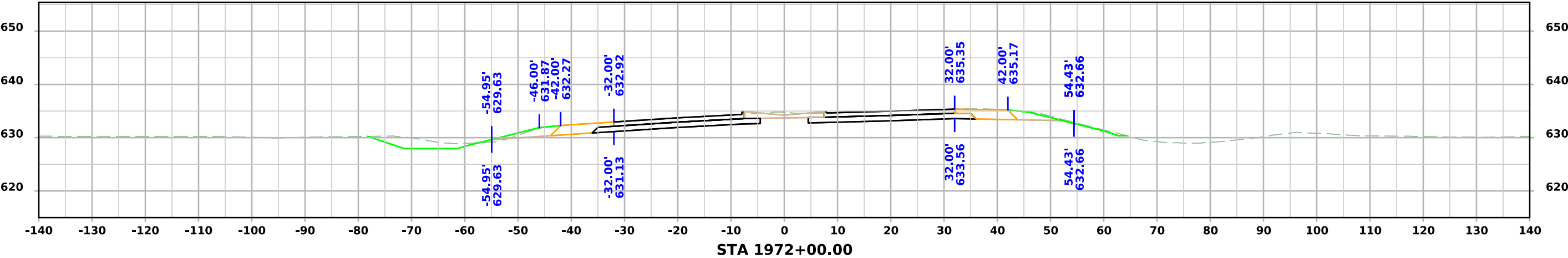
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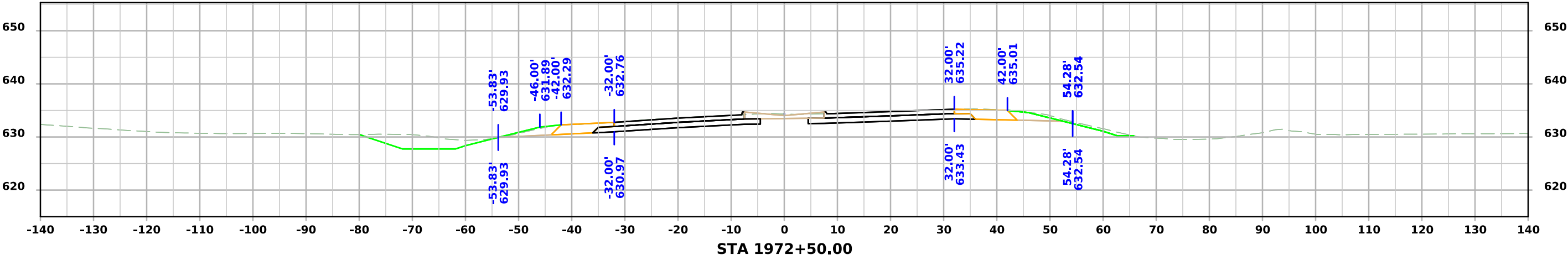
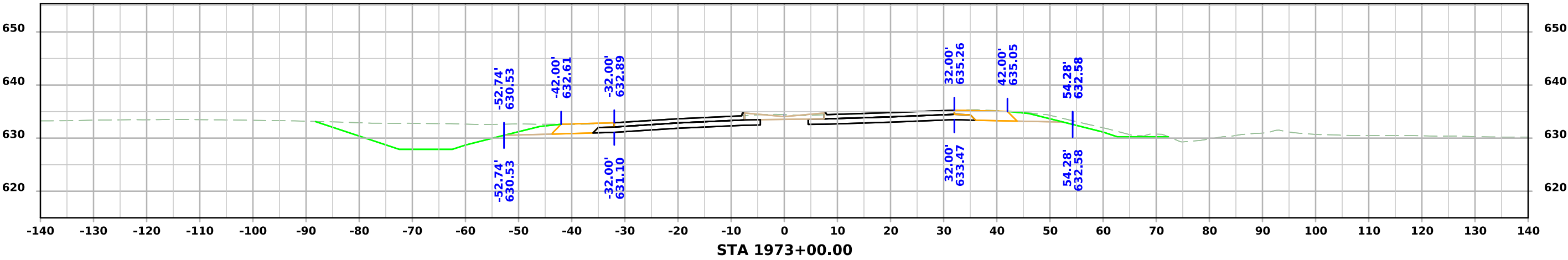
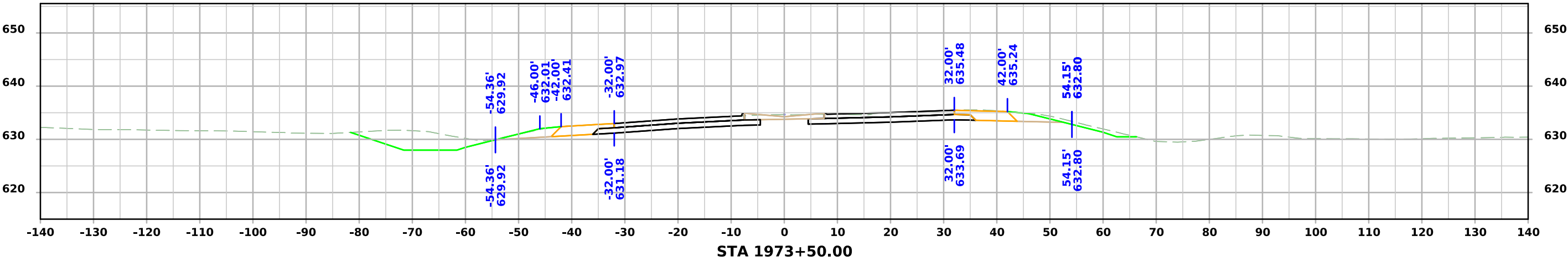
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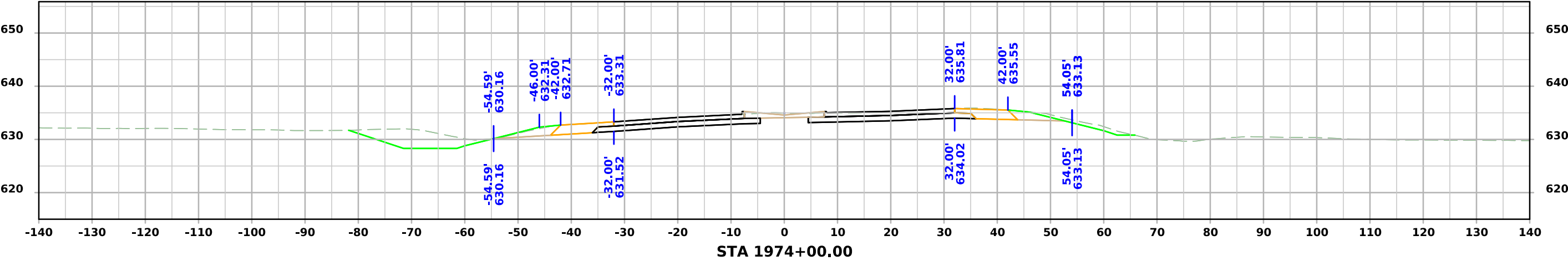
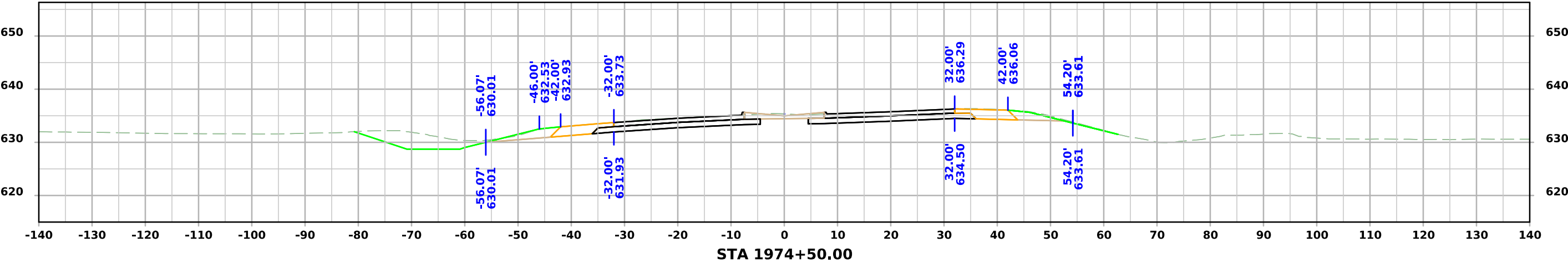
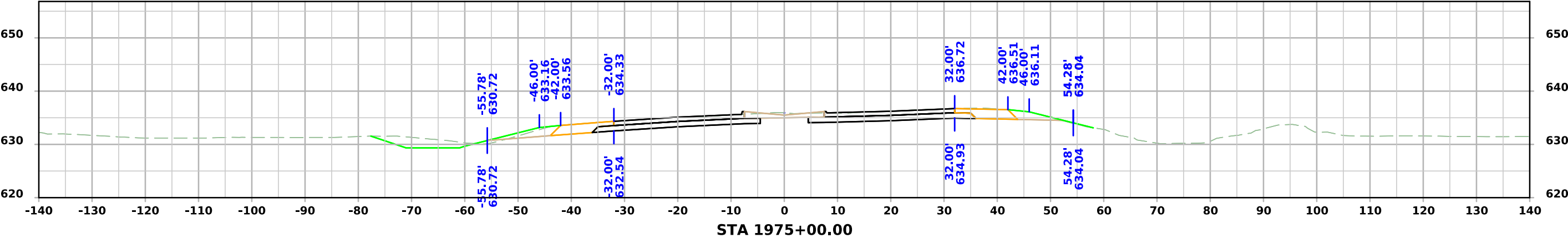
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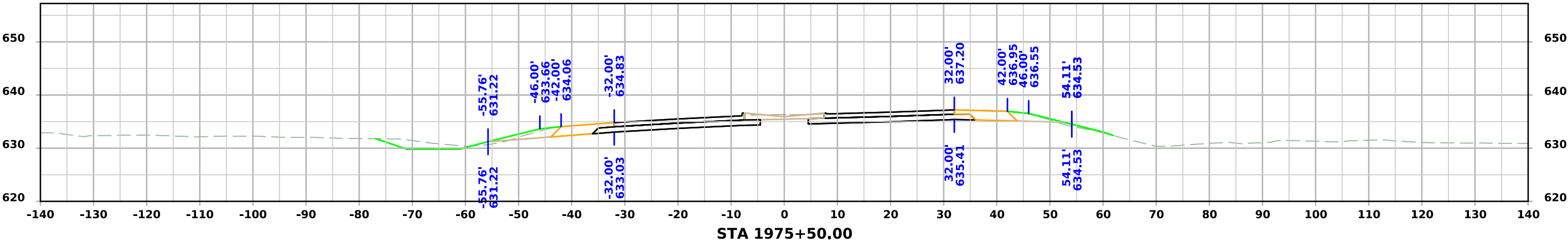
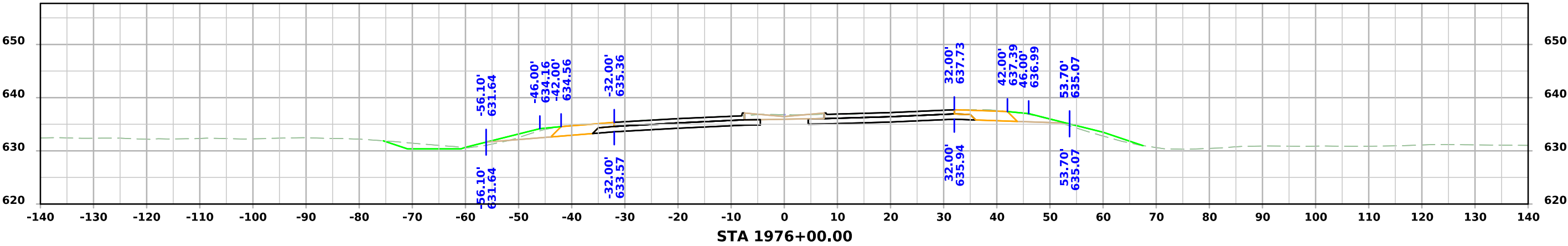
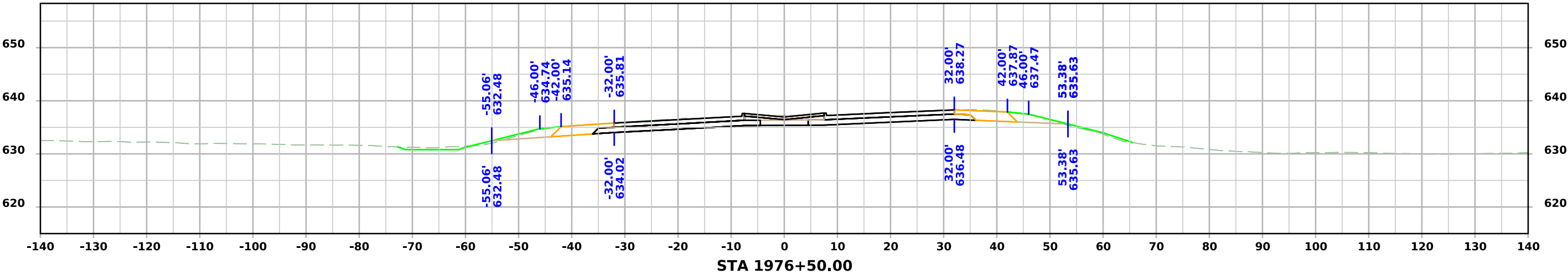
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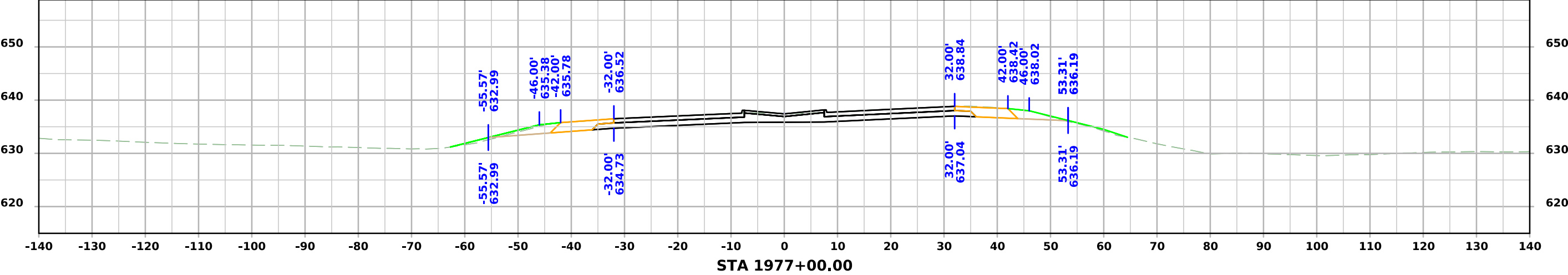
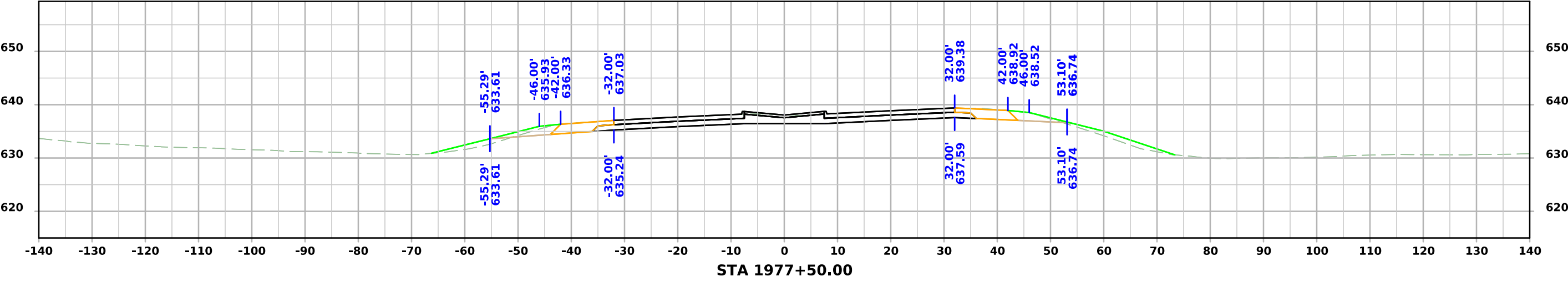
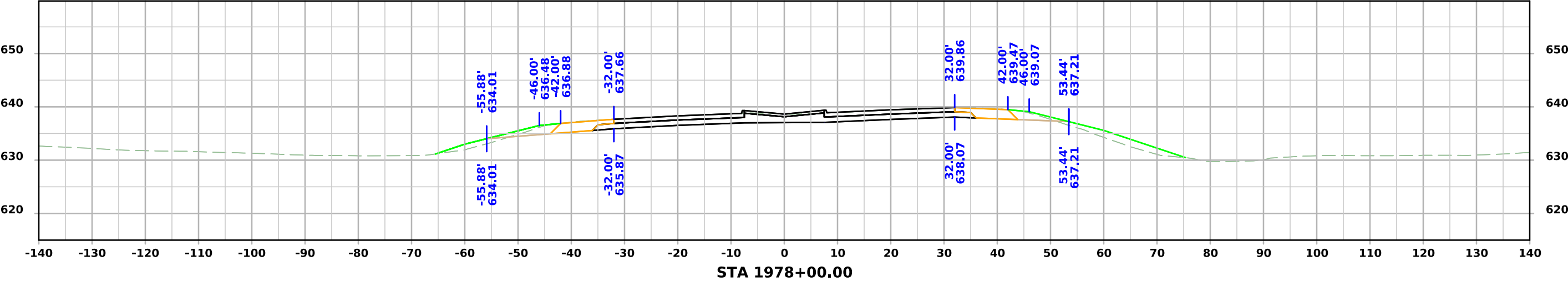
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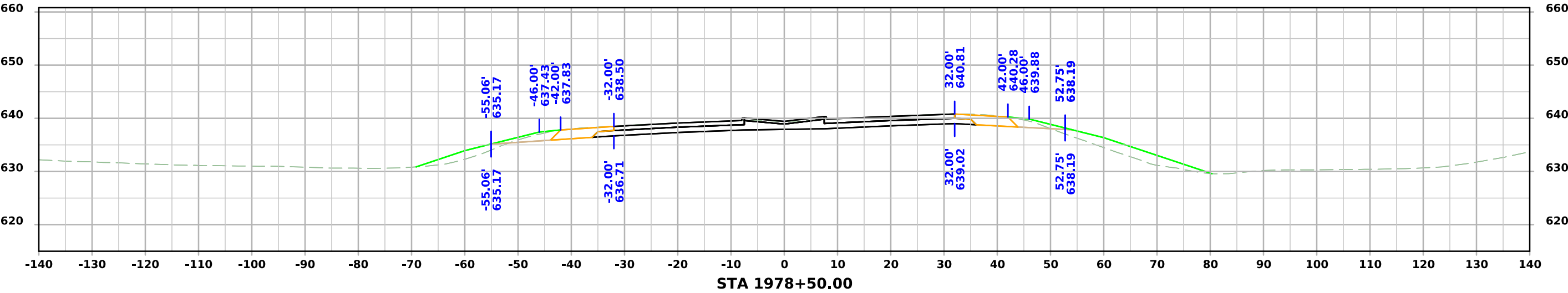
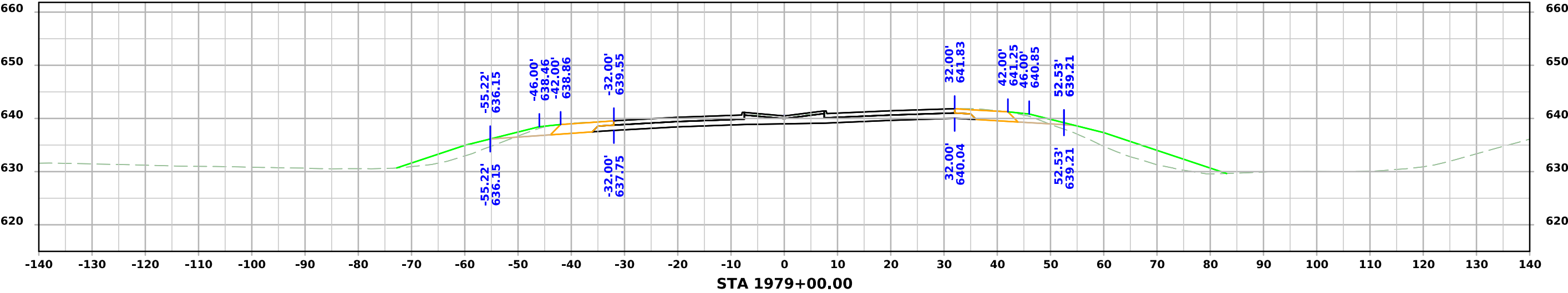
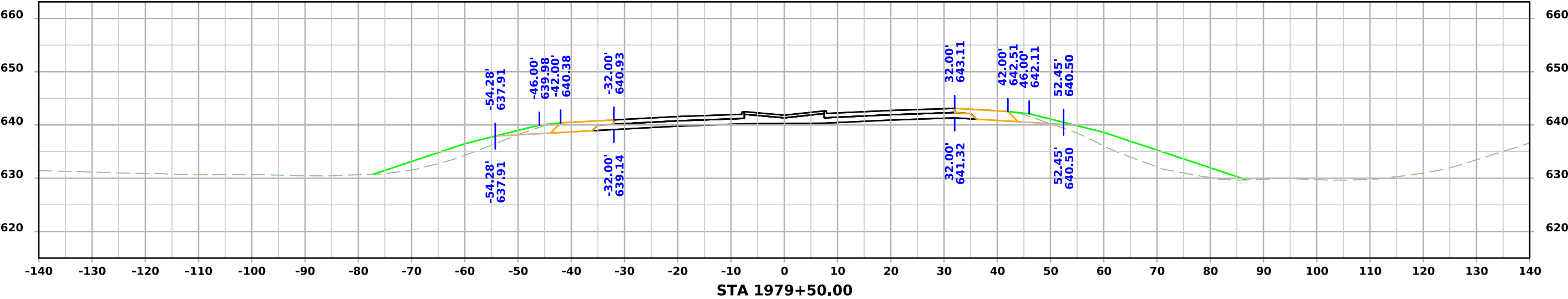
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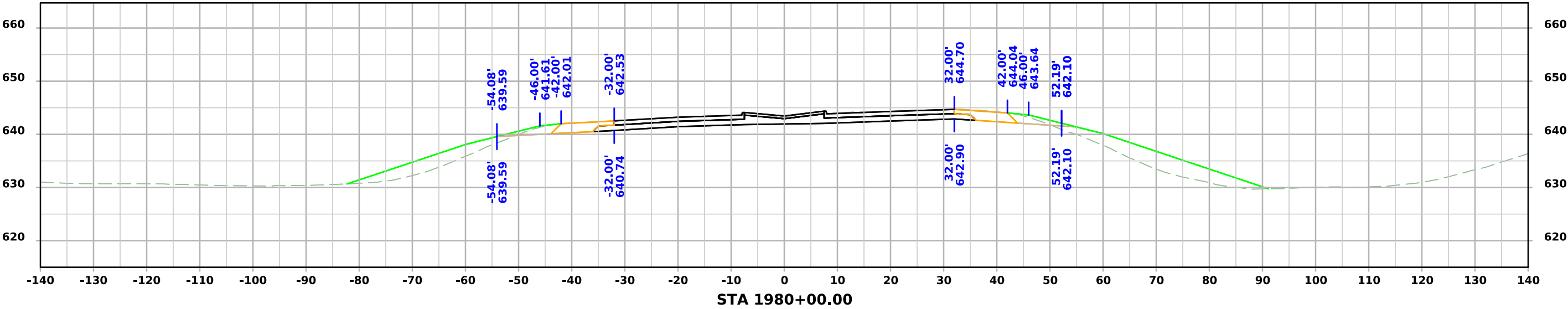
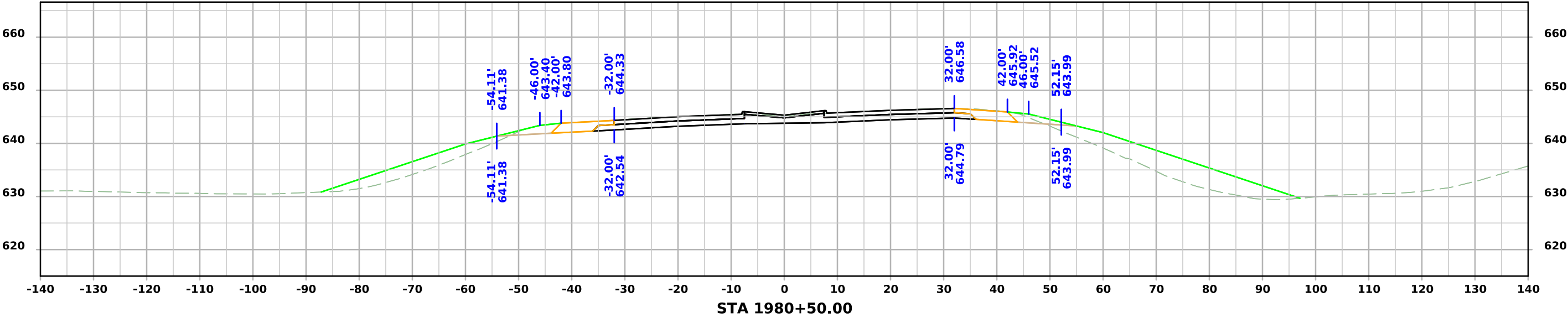


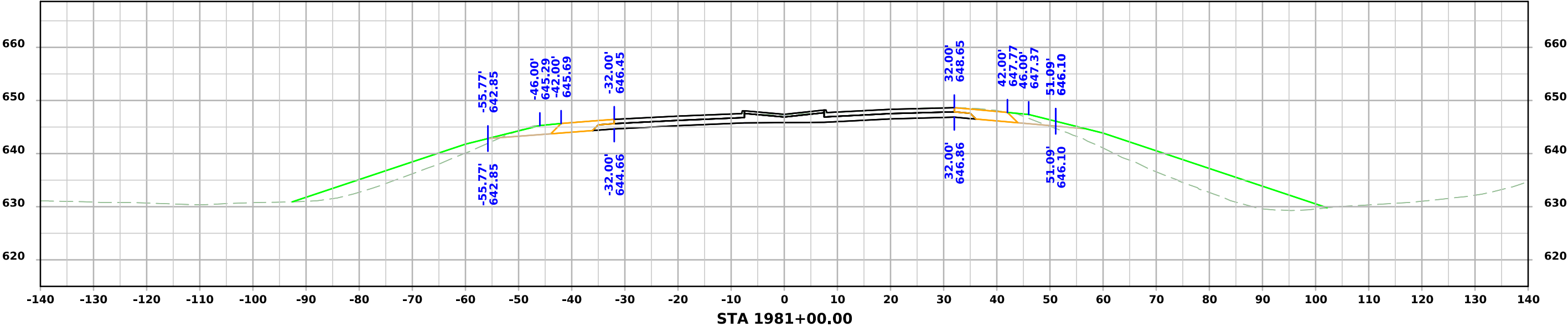
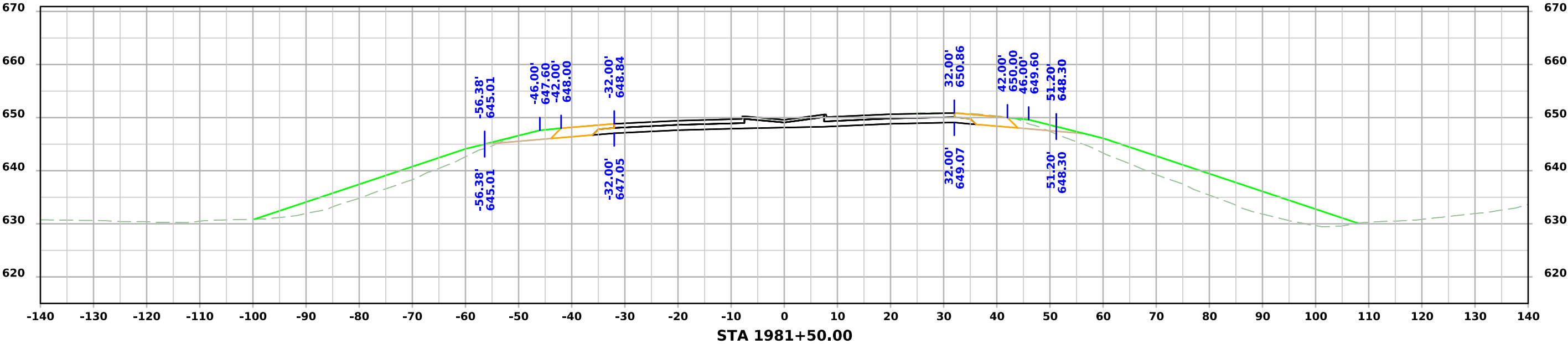
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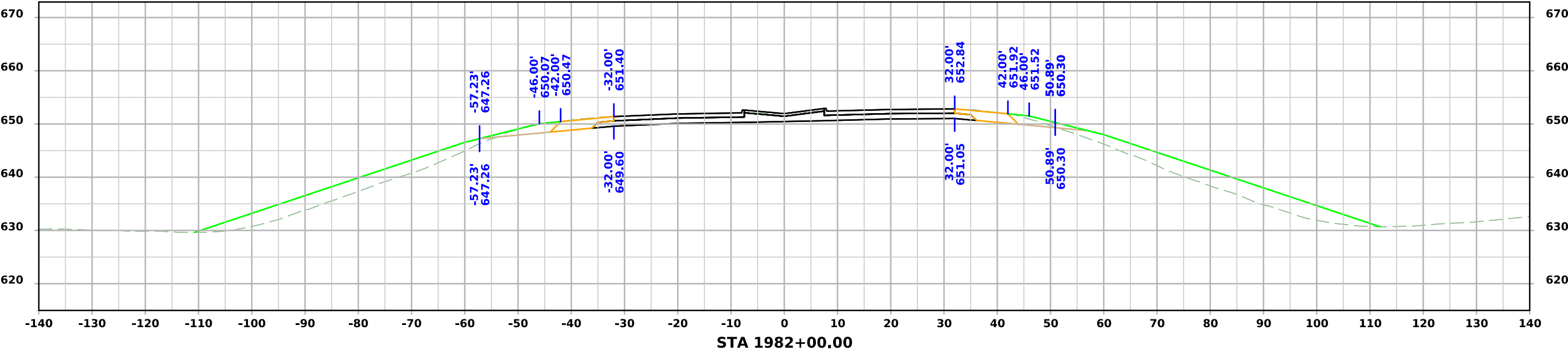
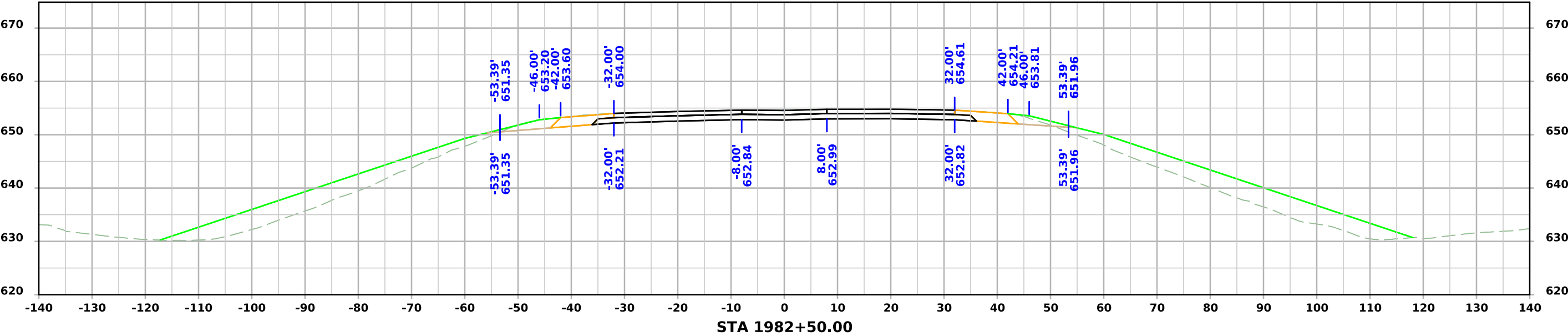
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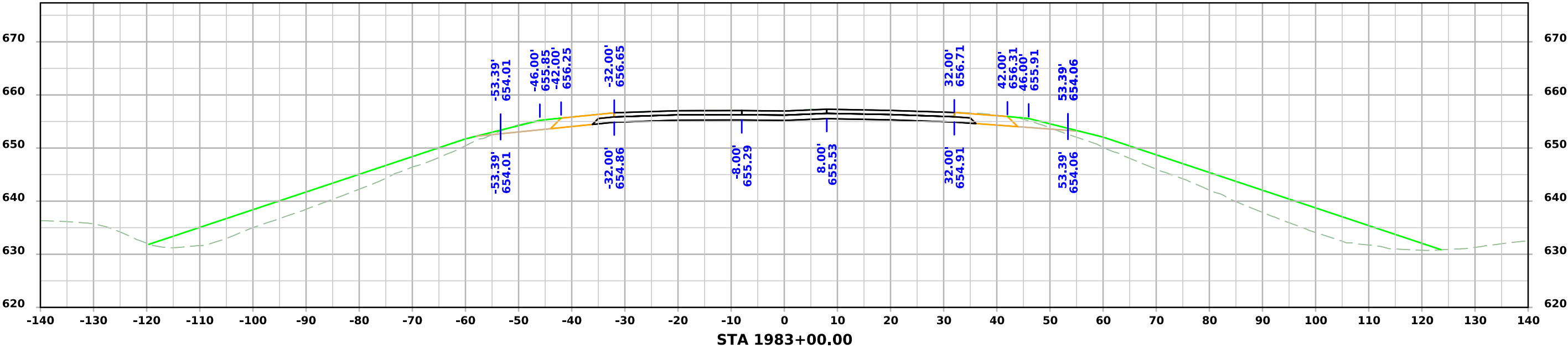
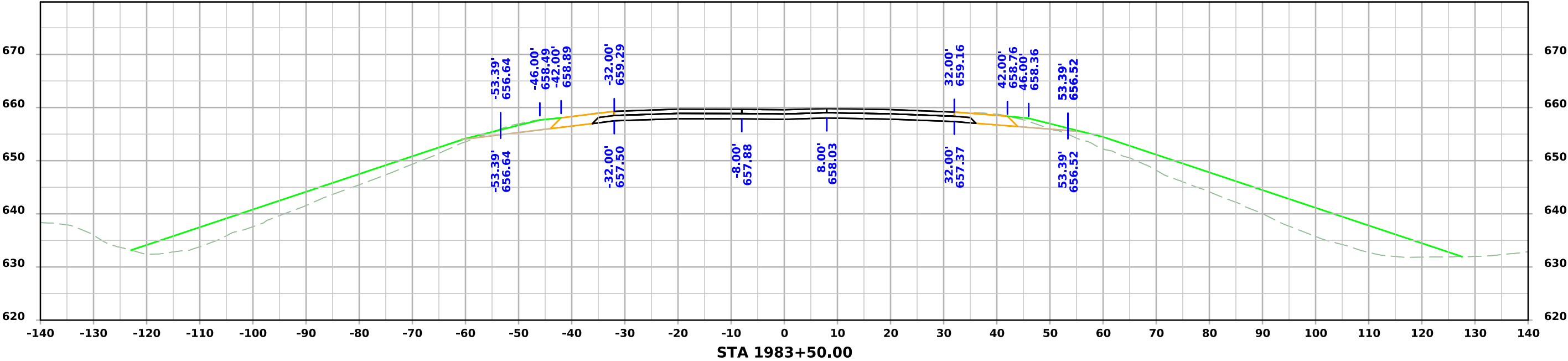




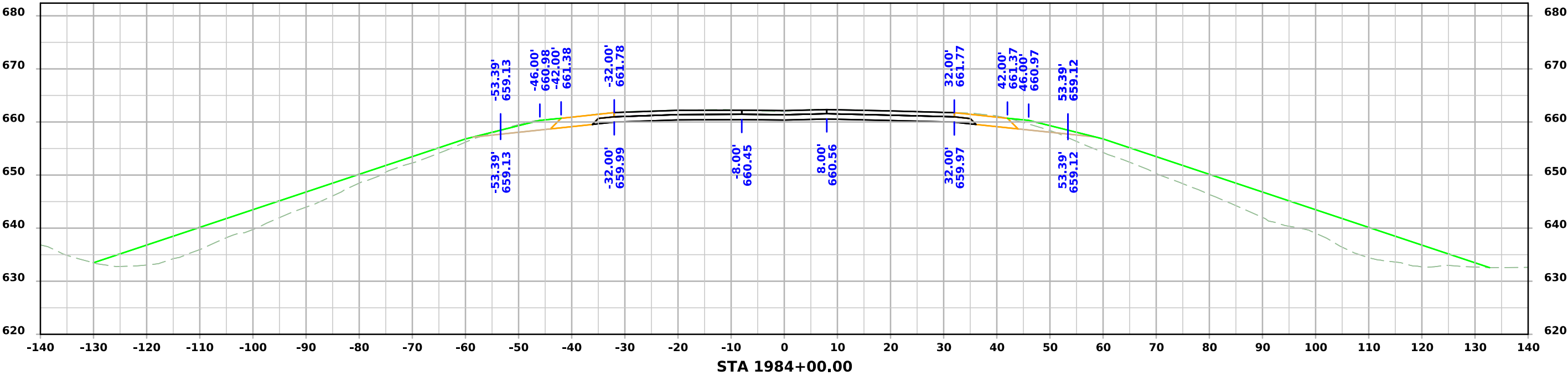
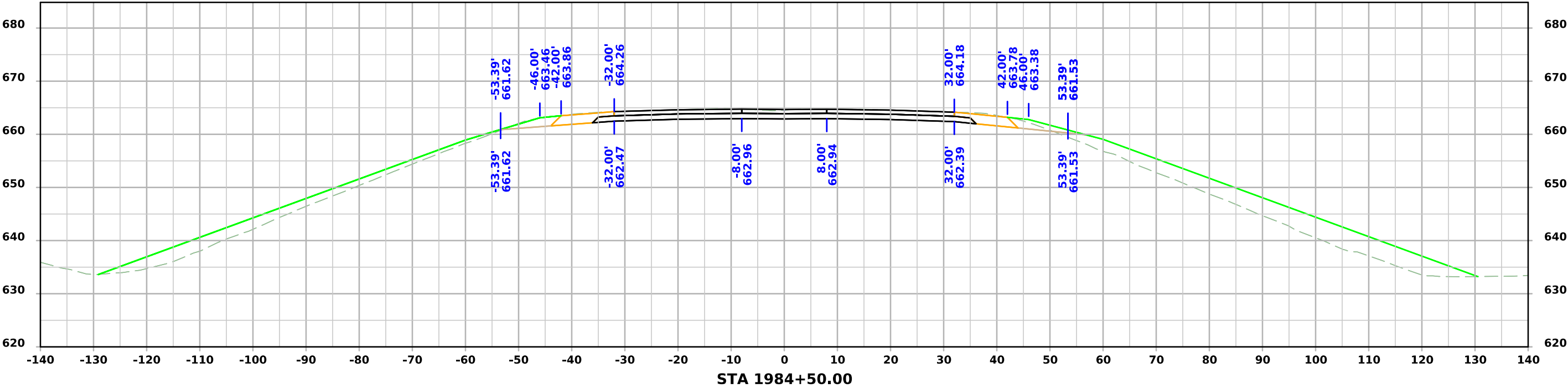


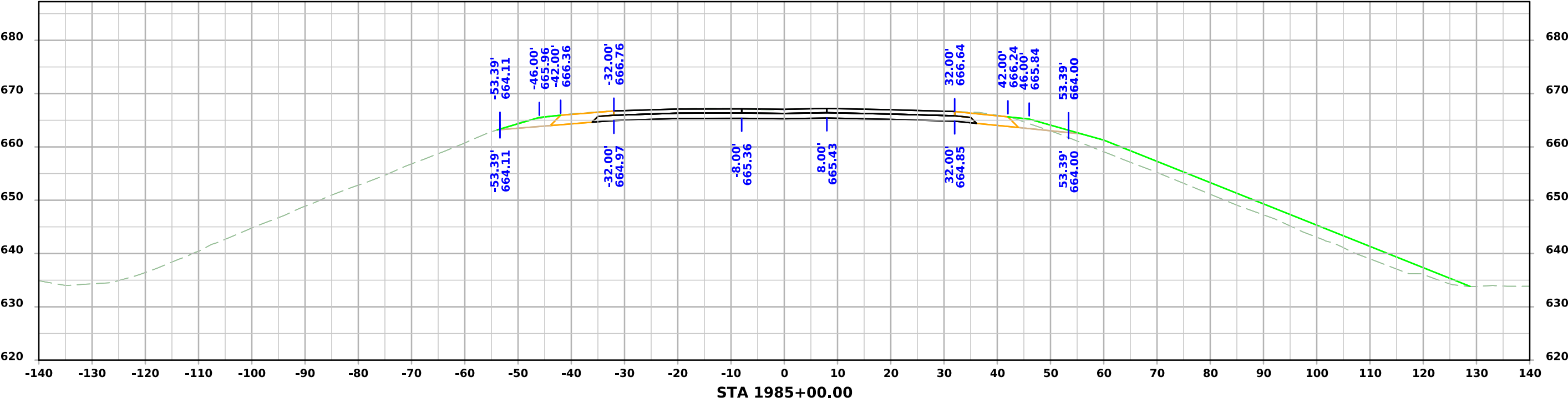
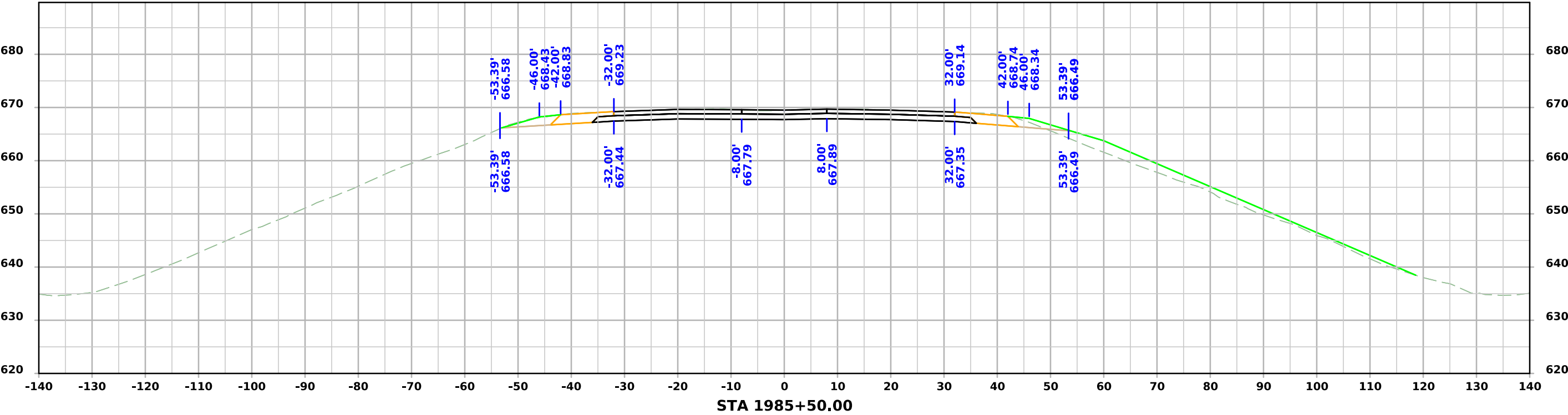
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