

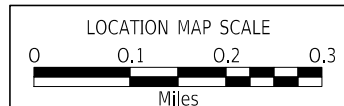
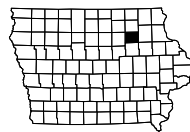
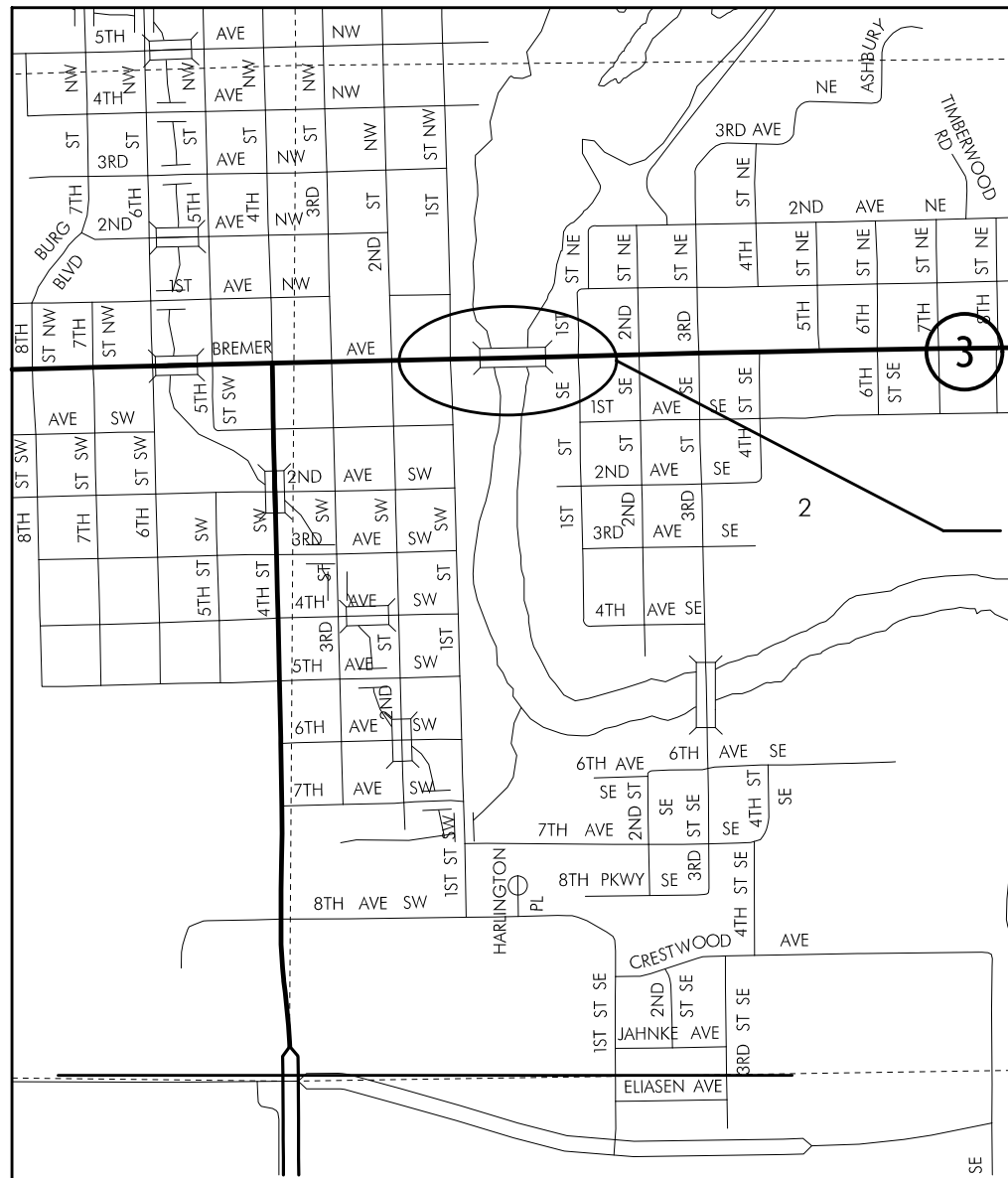
**BREMER Co.**  
 Bridges and Approaches-PPCB  
 BRF-003-6(69)--38-09

LETTING DATE  
 10/17/2023



PLANS OF PROPOSED IMPROVEMENT ON THE  
**PRIMARY ROAD SYSTEM**  
**BREMER COUNTY**  
**Bridges and Approaches-PPCB**  
 Cedar River 3.7 mi E of US 218 in Waverly

R-14W



T-92N

SCALES: As Noted

Refer to the Proposal Form for list of applicable specifications.

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

T-91N

PROJECT LOCATION

**DESIGN DATA URBAN**

2023	AADT	13,600	V.P.D.
2043	AADT	15,700	V.P.D.
2043	DHV	1,620	V.P.H.
	TRUCKS	3% / 4%	%
	Total Design ESALs		



REVISIONS	TOTAL
	...
PROJECT IDENTIFICATION NUMBER	
18-09-003-010	
PROJECT NUMBER	
BRF-003-6(69)--38-09	
R.O.W. PROJECT NUMBER	
NHSN-003-6(70)--2R-09	

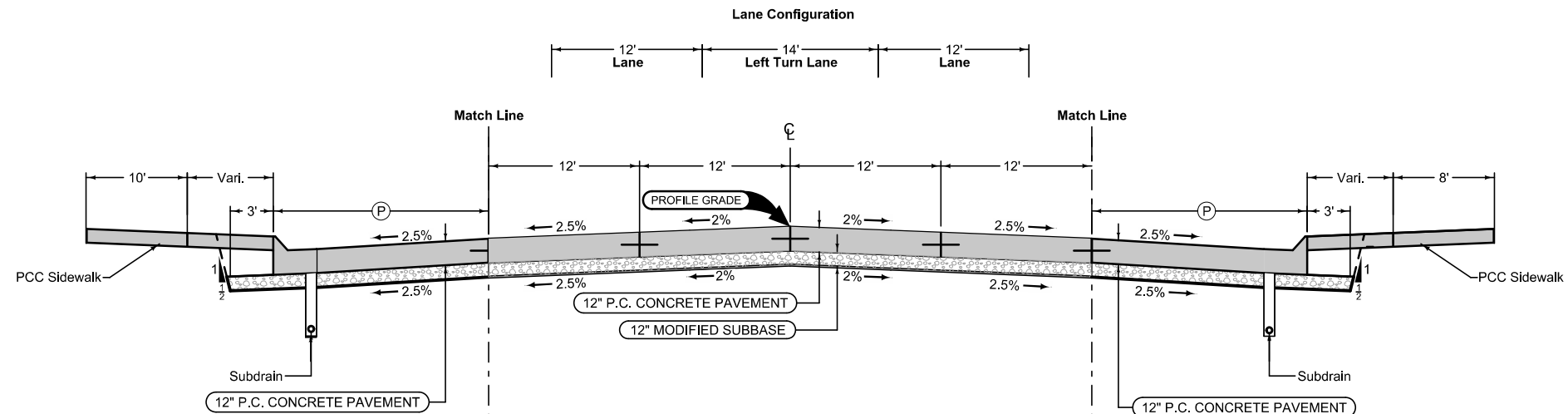
INDEX OF SHEETS	
No.	DESCRIPTION
<b>A Sheets</b>	<b>Title Sheets</b>
A.1	Title Sheet
<b>B Sheets</b>	<b>Typical Cross Sections and Details</b>
B.1	Typical Cross Sections and Details
<b>D Sheets</b>	<b>Mainline Plan and Profile Sheets</b>
* D.1	Plan & Profile Legend & Symbol Information Sheet
* D.2	IA 3 Plan and Profile
* D.3	IA 3 Plan 50 scale
<b>G Sheets</b>	<b>Survey Sheets</b>
G.1 - 3	Reference Ties and Bench Marks
<b>V Sheets</b>	<b>Bridge and Culvert Situation Plans</b>
V.1 - 2	Bridge and Culvert Situation Plans
<b>W Sheets</b>	<b>Mainline Cross Sections</b>
W.1 - 18	Mainline Cross Sections * Color Plan Sheets



PRELIMINARY PLANS

Subject to change by final design.

D5 PLAN - Date: 3/21/2022



**Curbed Shoulder**

Shoulder Jointing:  
 Longitudinal joint not required when distance from back of curb to nearest joint is less than 15':

Single pour: L-2  
 Staged : KT-2  
 Transverse: C at 17' spacing

2_Curb_ 04-21-20			
STATION TO STATION		(P) Feet	Curb Type See PV-102
137+97.42	138+37.42	9.5 - 3.0	6" Std.
138+37.42	138+67.42	3.0	6" Std.
142+19.58	142+49.58	3.0	6" Std.
142+49.58	142+89.58	3.0 - 9.5	6" Std.

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

4UP_ 04-21-20	
STATION TO STATION	
137+97.42	138+67.42
142+19.58	142+89.58

**Curbed Shoulder**

Shoulder Jointing:  
 Longitudinal joint not required when distance from back of curb to nearest joint is less than 15':

Single pour: L-2  
 Staged : KT-2  
 Transverse: C at 17' spacing

2_Curb_ 04-21-20			
STATION TO STATION		(P) Feet	Curb Type See PV-102
137+97.42	138+37.42	9.5 - 3.0	6" Std.
138+37.42	138+67.42	3.0	6" Std.
142+19.58	142+49.58	3.0	6" Std.
142+49.58	142+89.58	3.0 - 9.5	6" Std.

See Tab 100-24 or 100-25 for pavement quantities.  
 See Tab 112-9 for shoulder quantities.

**IA 3**

## SURVEY SYMBOLS

	BCL, Bridge Centerline
	BCL, Bridge Centerline
	BD, Bridge Deck
	BD, Bridge Deck
	BL, Topo Breakline
	BL, Topo Breakline
	BLD, Building or Foundation
	BLD, Building or Foundation
	BLS, Bridge Low Steel
	BLS, Bridge Low Steel
	BM, Bench Mark
	BRG, Bridge
	BRG, Bridge
	C, Centerline BL of Road -ML or SR
	C, Centerline BL of Road -ML or SR
	CON, Concrete or A/C Slab
	CON, Concrete or A/C Slab
	CP, Control Point
	CU, Back of Curb
	CU, Back of Curb
	DTM, Photogrammetry Elv Control Check
	EL1D, Electric Line Co. 1 - Quality D
	EL1D, Electric Line Co. 1 - Quality D
	ENT, Centerline BL of Entrance
	ENT, Centerline BL of Entrance
	FENO, FENO Monument
	FHD, Fire Hydrants
	FO1D, Fiber Optic Co. 1 - Quality D
	FO1D, Fiber Optic Co. 1 - Quality D
	FO2D, Fiber Optic Co. 2 - Quality D
	FO2D, Fiber Optic Co. 2 - Quality D
	GL1D, Gas Line Co. 1 - Quality D
	GL1D, Gas Line Co. 1 - Quality D
	GR, Ground Shot
	GU, Gutter In Front of Curb
	GU, Gutter In Front of Curb
	GV, Gas Valve
	IN, Storm Sewer Intake
	LIN, Miscellaneous Line
	LIN, Miscellaneous Line
	LUM, Luminaire
	MH, Utility Access -Manhole
	OUT, Tile Outlet
	PCP, Photo Control Point
	PIP, Pipe Culvert
	PIP, Pipe Culvert
	PLG, Location of General Photo
	PRO, Profile Shot
	SA1D, Sanitary Sewer Co. 1- Quality D
	SA1D, Sanitary Sewer Co. 1- Quality D
	SBR, Size of Bridge
	SI, Sign
	ST1D, Storm Sewer Co. 1 - Quality D
	ST1D, Storm Sewer Co. 1 - Quality D
	SWK, Sidewalk
	SWK, Sidewalk
	TL1D, Telephone Line Co. 1 - Quality D
	TL1D, Telephone Line Co. 1 - Quality D
	TOP, Top of Bridge Pier
	TOP, Top of Bridge Pier
	TSG, Traffic Signal
	TW, Top of Water
	WL1D, Water Line Co. 1 - Quality D
	WL1D, Water Line Co. 1 - Quality D
	WV, Water Valve

## UTILITY LEGEND

### SURVEYED UTILITY OWNER SYMBOLS

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

#### Remark Abbreviations

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

	E1	EL1D, Electric Line City of Waverly - Quality D
	FO	FO1D, Fiber Optic City of Waverly - Quality D
	FO2	FO2D, Fiber Optic Century Link - Quality D
	G	GL1D, Gas Line MidAmerican - Quality D
	SAN	SA1D, Sanitary Sewer City of Waverly- Quality D
	ST S	ST1D, Storm Sewer City of Waverly - Quality D
	W	WL1D, Water Line City of Waverly - Quality D

## 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.		
(9)		Temporary Pavement Shading
(48)		Proposed Pavement Shading
(80)		Proposed Granular Shading
(112)		Proposed Grade and Pave Shading "In conjunction with a paving project"
(236)		Grading Shading
(8)		Proposed Sidewalk Shading
(230)		Proposed Sidewalk Landing Shading
(11)		Proposed Sidewalk Ramp Shading

## PROFILE VIEW COLOR LEGEND OF PLAN AND PROFILE SHEETS

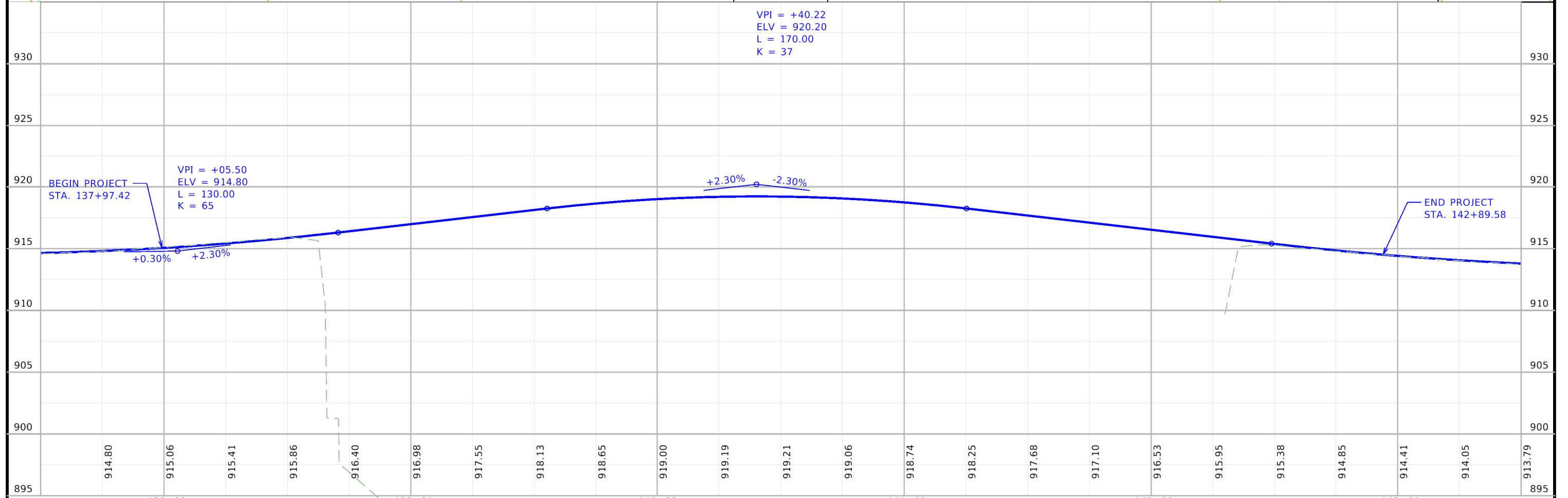
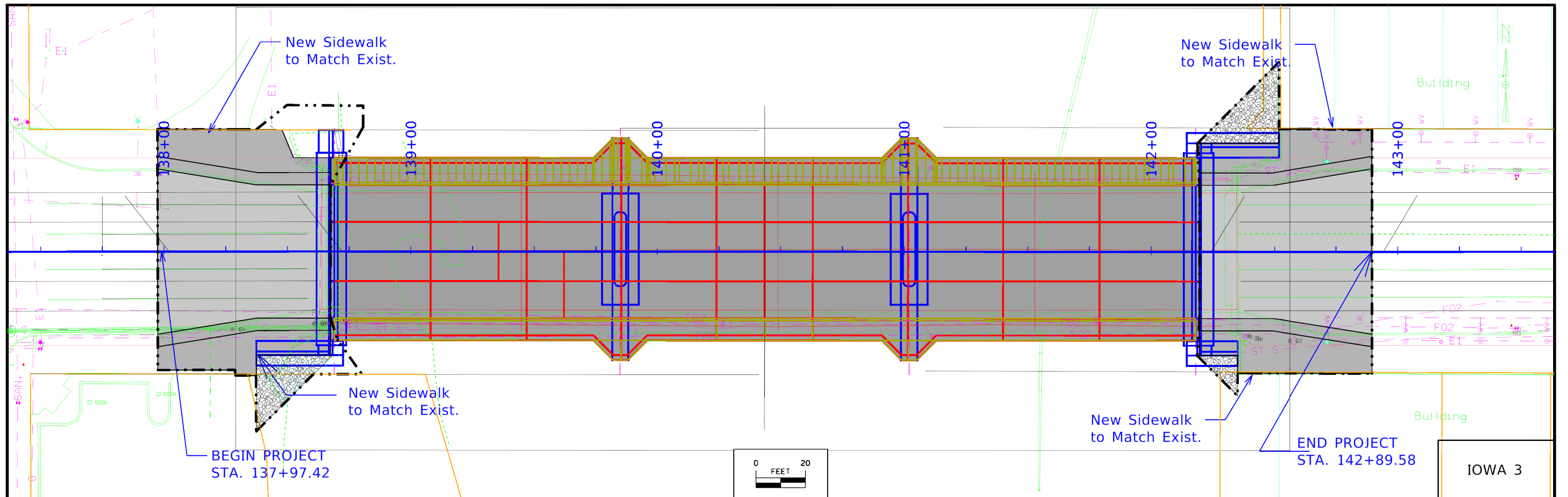
LINEWORK	Design Color No.	
Green	(2)	Existing Ground Line Profile
Blue	(1)	Proposed Profile and Annotation
Magenta	(5)	Existing Utilities
Blue, Light	(230)	Proposed Ditch Grades, Left
Black	(0)	Proposed Ditch Grades, Median
Rust	(14)	Proposed Ditch Grades, Right

Symbol	Description
	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

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

# PLAN AND PROFILE LEGEND AND SYMBOL INFORMATION SHEET

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



FILE NO. 32053	ENGLISH	DESIGN TEAM Strum / Bennett	BREMER COUNTY	PROJECT NUMBER BRF-003-6(69)--38-09	SHEET NUMBER D.02
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\* = CONDOMINIUMS-OWNER UNKNOWN

Washington TWP.  
T-91N R-14W  
SEC. 2

FRACTIONAL  
BLOCK 2  
ORIGINAL TOWN  
OF WAVERLY

CITY OF WAVERLY

2ND STREET NW

135+00

136+00

137+00

138+00

139+00

140+00

141+00

142+00

143+00

144+00

145+00

146+00

147+00

148+00

149+00

HARMON & LEVALLEY'S ADDITION

CITY OF WAVERLY

CEDAR RIVER

New Sidewalk  
to Match Exist.

New Sidewalk  
to Match Exist.

New Sidewalk  
to Match Exist.  
BEGIN PROJECT  
STA. 137+97.42

New Sidewalk  
to Match Exist.

END PROJECT  
STA. 142+89.58

2ND STREET SW

WILLIAM STURDEVANT ADDITION

CITY OF WAVERLY

CEDAR RIVER

Sta. 140+48.9  
370'x8'  
Continuous I-Beam Bridge

4 QUEENS REAL ESTATE, LLC

PARCEL FF

LOT 2

BLOCK 1

LOT 3

CITY OF WAVERLY  
LOT 4

E320 HOLDINGS LLC  
BEST VENTURES LLC

FRACTIONAL  
BLOCK 3  
ORIGINAL TOWN  
OF WAVERLY

1ST STREET SE

1ST STREET SW

1ST STREET NE

1ST STREET NW

2ND STREET SE

2ND STREET SW

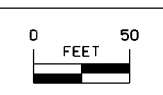
2ND STREET NE

2ND STREET NW

ST S

SJ S

2ND STREET SE



IA 3

## Survey Information

**Bremer County**  
**BRF-003-6(69)—38-09**  
**Cedar River 3.7 mi E of us 218 in Waverly**  
**Bridge-Unspecified**  
**PIN 18-09-003-010**  
**Sap-588.2**

### Party Personnel

Jason Page- Survey Party Chief  
John Hahn- Assistant Survey Party Chief

### Date(s) of Survey

Begin Date 08/08/2019  
End Date 03/01/2020

### General Information

Measurement units for this survey are US survey feet. This survey is for proposed replacement of the IA 3 bridge over the Cedar River in Waverly. Project datum and control information is provided by Design Survey Office. This project is a Full DTM with Photo control. This survey request was for the IA 3 and 3<sup>rd</sup> St river corridors.

### Vertical Control

Vertical datum for this survey is NAVD88 (Computed using Geoid12b). GRS80 Ellipsoidal Height was computed at project control Pts. CP1, CP2, B 30 and WAVERLY by conducting one concurrent six-hour static observation. Additional benchmarks were placed throughout the project using a GNSS Base-Rover setup relative to Pt. CP1, WAVERLY and Pt. CP2. Two observations with a minimum of four-hours between were collected and used in a weighted average.

This survey observed 2 NGS Control Monuments with published NAVD88 heights to compare to local ground control:

NGS 2nd. order class 0 mark designated B 30 has a published Elev. of 936.69  
Survey Elev. = 936.62

NGS 2nd. order class 0 mark designated WAVERLY has a published Elev. of 918.53  
Survey Elev. = 918.46

This survey observed 2 As-Built plan bench marks to compare to local ground control:

BM 121 As-built Plans Project U-88(6) Elev. 944.02 =  
BM 505 As-built Plans Project NHSN-003-6(63)—2R-09 Elev. 942.14  
BM 501 this Survey Elev. = 942.08

BM 514 As-built Plans Project NHSN-003-6(63)—2R-09 Elev. 918.77  
BM 506 this Survey Elev. = 918.69

### Horizontal Control

The project coordinate system for this survey is Iowa RCS Zone 5 (U.S. Survey Feet). This survey control is relative to IaRTN reference stations. IaRTN Reference Station coordinates are relative to the National Reference Station network datum: NAD83 (2011) for Epoch 2010.00. Coordinates were determined by conducting one concurrent six-hour static observation at project control Pts. CP1, CP2, B 30 and WAVERLY. Additional control points were placed throughout the project using a GNSS Base-Rover setup relative to Pt. CP1, WAVERLY and Pt. CP2. Two observations with a minimum of four-hours between were collected and used in a weighted average.

### Alignment Information

The horizontal alignment for this survey is a retrace of As-built Plans Project No. NHSN-003-6(63)—2R-09. Survey stationing was equated to the plan PI at Sta. 134+00.00 and run ahead without equation throughout the survey.

Survey stationing relates to as built plan stationing as follows:

PI Sta. 134+00.00 As-built Plans Project No. NHSN-003-6(63)—2R-09  
Survey PI Sta. 134+00.00

PI Sta. 138+57.90 As-built Plans Project No. NHSN-003-6(63)—2R-09  
Survey PI Sta. 138+57.89

PI Sta. 142+35.88 As-built Plans Project No. NHSN-003-6(63)—2R-09  
Survey PI Sta. 142+36.03

PI Sta. 144+17.46 As-built Plans Project No. NHSN-003-6(63)—2R-09  
Survey PI Sta. 144+17.47

PI Sta. 157+40.86 As-built Plans Project No. NHSN-003-6(63)—2R-09  
Survey PI Sta. 157+40.81

## CONTROL POINT VICINITY MAP

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



HORIZ. DATUM: NAD83(2011) EPOCH 2010.00

VERT. DATUM: NAVD88

1a. Regional Coordinate System Zone 2

Coordinate listing from next sheet will be used with 1aRTN for monument  
 recovery. No other reference ties are given.

HORIZONTAL AND VERTICAL PROJECT CONTROL COORDINATE LISTING

HORIZ. DATUM: NAD83(2011) EPOCH 2010.00

VERT. DATUM: NAVD88

1a. Regional Coordinate System Zone 2

Project Control Marks are Bench Marks

Point Name	Northing	Easting	Elevation	Feature Code-Descriptions
CP1	8927867.402	15440475.46	913.6	FENO SET MON 175 FT NORTH OF IOWA 3 AND 135 FT EAST OF 1ST ST NW 5 FT SW OF SIDEWALK INTERSECTION AND 32 FT WEST OF CONC FLOOD WALL
CP2	8925795.342	15442028.1	895.79	FENO SET MON IN BROOKWOOD PARK 380 FT NORTH OF 6TH AVE SE AND 300 FT EAST OF 3RD ST SE STEELL TRUSS BRIDGE 45 FT SE OF S BANK CEDAR RIVER AND 44 FT WEST OF DISK GOLF BASKET AND 43 FT NW OF GRAVEL PARK DRIVE
WAVERLY	8928036.156	15441684.47	918.46	CP FD NGS SECOND ORDER CLASS 0 BM 35FT S OF CL OF 1ST AVE NE 32FT W OF CL OF 3RD ST NE PROJECTING 2IN ABOVE GROUND

NO ACCESS RIGHTS ARE TO BE ACQUIRED ON THIS PROJECT.

Washington TWP.  
T-91N R-14W  
SEC. 2

CEDAR RIVER

CITY OF WAVERLY

CITY OF WAVERLY

TEMPORARY EASEMENT  
TO SHAPE

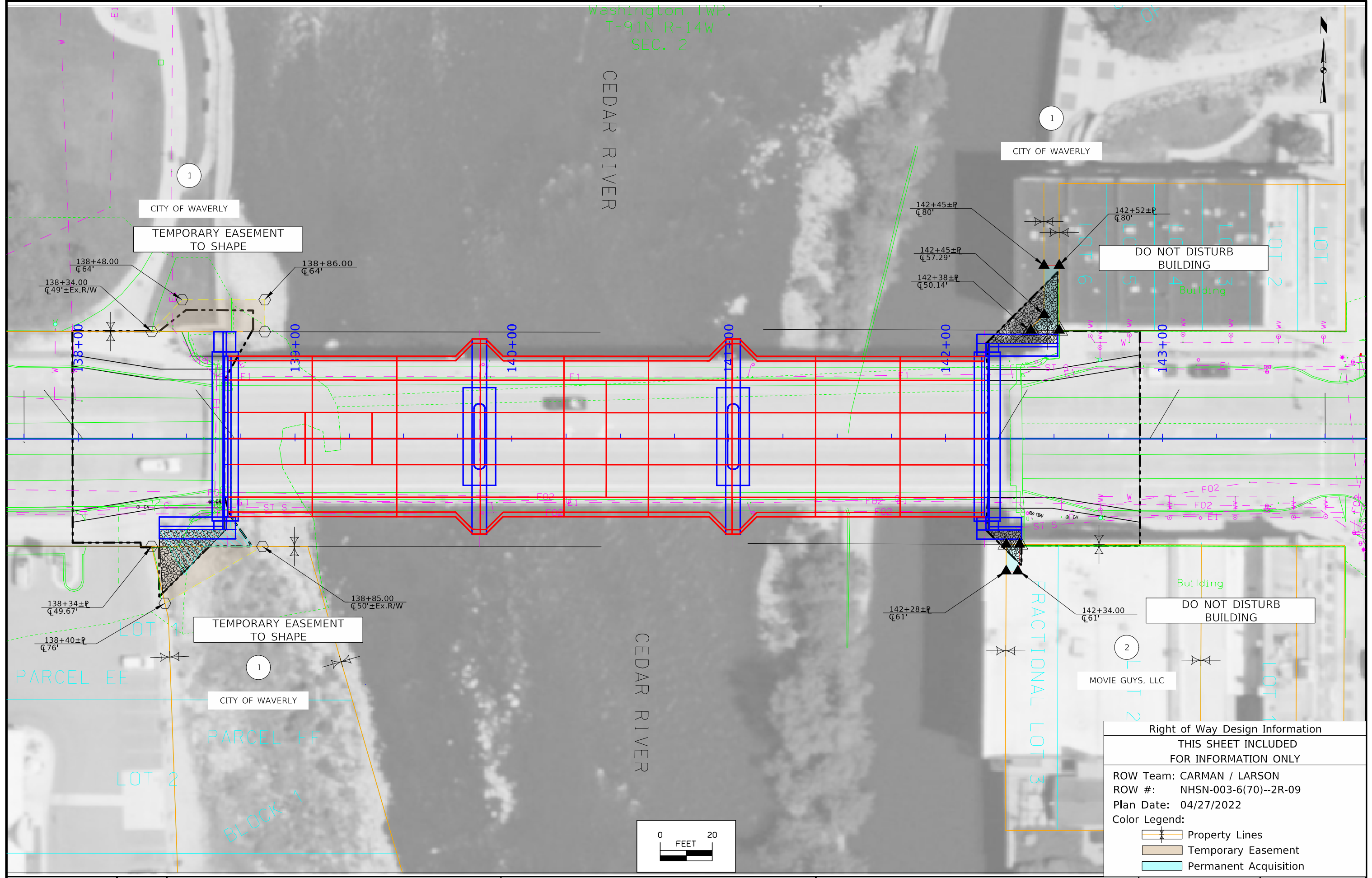
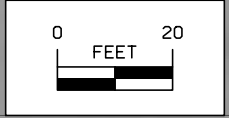
DO NOT DISTURB  
BUILDING

TEMPORARY EASEMENT  
TO SHAPE

DO NOT DISTURB  
BUILDING

MOVIE GUYS, LLC

Right of Way Design Information	
THIS SHEET INCLUDED FOR INFORMATION ONLY	
ROW Team: CARMAN / LARSON	
ROW #: NHSN-003-6(70)--2R-09	
Plan Date: 04/27/2022	
Color Legend:	
	Property Lines
	Temporary Easement
	Permanent Acquisition

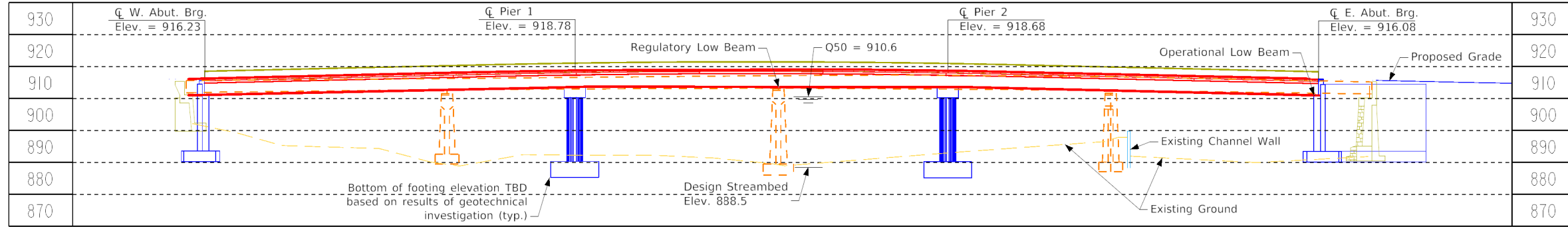


FILE NO.	ENGLISH	DESIGN TEAM	COUNTY	PROJECT NUMBER	SHEET NUMBER	H.1
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2:29:50 PM 4/27/2022 acarman pw:\NTP\wint1.dot.int.lan:PWMain\Documents\Projects\0900301018\ROW\ROW\_09003070.dgn



Control Point: CP1  
 Northing: 8927867.402 Easting: 15440475.46, Elev. 913.60  
 Feno set mon 175 ft north of Iowa 3 and 135 ft east of 1st st nw, 5 ft sw of sidewalk intersection and 32 ft west of conc flood wall.



## LONGITUDINAL SECTION ALONG Q APPROACH ROADWAY

Notes:  
 Top of bridge deck crown '0.03' below profile grade.  
 Class E revetment stone is either embedded or non-embedded as shown. See details on Design Sheet 2.

VPI Sta. = 138+05.50 VPI Elev. = 914.80 VC = 130.00'  
 VPI Sta. = 142+48.72 VPI Elev. = 915.40  
 g1 = +0.30% g2 = +2.30% g3 = -2.30%  
 VPI Sta. = 140+40.22 VPI Elev. = 920.20 VC = 170.00'

### Proposed ProfileGrade IA3

### Hydraulic Data

Drainage Area = 1560 sq. mi.  
 HGL downstream of bridge = 2 ft/mi  
 Avg. Low Water Stage = 894.5

Q25 = 33,900 cfs  
 Stage = 909.1  
 Q50 = 39,800 cfs  
 Stage = 910.6  
 Regulatory Low Beam = 913.97

Q100 = 45,300 cfs  
 Stage = 911.7  
 Operational Low Beam = 910.87  
 Backwater = 0.1 ft.  
 Avg. Bridge Velocity = 6.8 fps  
 Q overtop = 49,500 cfs  
 Avg. Bridge Velocity = 7.2 fps  
 \* Calc. Design and Check Scour:  
 West Abut. = 882.1  
 Pier 1 = 873.5  
 Pier 2 = 873.5  
 East Abut. = 867.5

Roadway Overtop 913.4  
 STA. 144+00

Q200 = 53,500 cfs  
 Q500 = 59,100 cfs

Extreme HW Stage = est. 914  
 Date = June 2008

City of Waverly F.I.S. LOMR  
 Dated 10-24-2014 Datum = NAVD88  
 is the same as the project datum.

\* The project design and check scour will be limited by the elevation to competent rock.

### Location

IA 3 over Cedar River  
 City of Waverly, Iowa  
 Section 2, T-91N R-14W  
 Washington Township  
 Bremer County  
 FHWA No. 15571  
 Bridge Maint. No. 0921.4S003  
 Latitude 42.725777°  
 Longitude -92.470744°

Preliminary

Design For 0° Skew  
 349'-0 x 54'-0 PPCB Bridge  
 W/ 10'-0 & 8'-0 Sidewalks

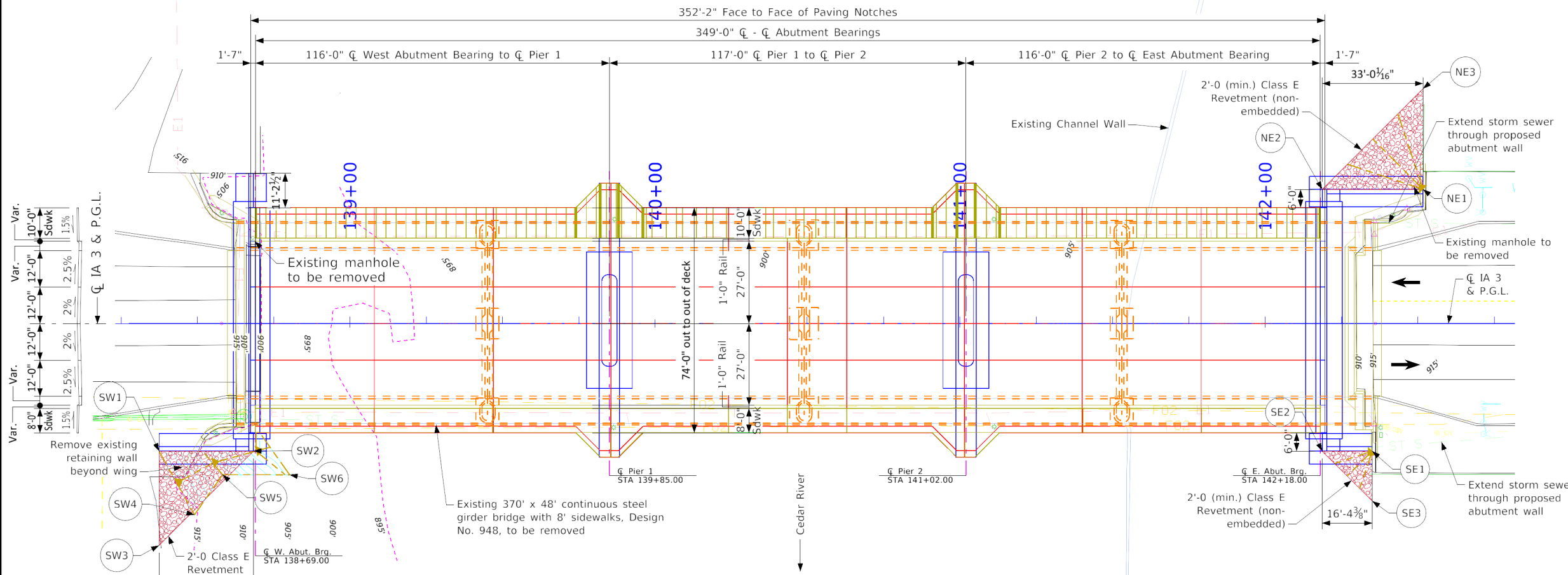
116'-0" End Spans 117'-0" Interior Span

### Situation Plan

STA. 140+43.50 (IA 3) January, 2022

### Bremer County

IOWA DEPARTMENT OF TRANSPORTATION  
 Design No. 0323 Design Sheet No. 1 of 2 FHWA No. 015571



## SITUATION PLAN

### Grading and Revetment Table

Points	West Abutment			Points	East Abutment		
	Station	Offset	Elev.		Station	Offset	Elev.
SW1	138+37.35	42.00' Rt.	915.7	NE1	142+51.72	44.00' Lt.	893.7
SW2	138+68.33	42.00' Rt.	902.5	NE2	142+18.67	44.00' Lt.	893.7
SW3	138+37.35	72.98' Rt.	916.0	NE3	142+51.72	77.05' Lt.	905.3
SW4	138+48.92	62.86' Rt.	915.7	SE1	142+35.03	42.00' Rt.	891.8
SW5	138+58.25	49.73' Rt.	910.0	SE2	142+18.67	42.00' Rt.	891.8
SW6	138+80.20	49.75' Rt.	902.5	SE3	142+35.03	58.36' Rt.	897.5

### HYDRAULIC DESIGN



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

*Patricia G. Schwarz* 1/27/2022  
 Signature Date  
 Printed or Typed Name Patricia G. Schwarz

My license renewal date is December 31, 2022

Pages or sheets covered by this seal: Sheets 1-2

Design For 0° Skew  
 349'-0 x 54'-0 PPCB Bridge  
 W/ 10'-0 & 8'-0 Sidewalks  
 116'-0" End Spans 117'-0" Interior Span  
 Situation Plan  
 STA. 140+43.50 (IA 3) January, 2022  
 Bremer County  
 IOWA DEPARTMENT OF TRANSPORTATION  
 Design No. 0323 Design Sheet No. 1 of 2 FHWA No. 015571

**Final Designer Notes:**

1. Bridge Aesthetics are to be applied.
2. Projected deck overlooks located over the pier ends (4 total) with possible additional structure to support City installed elements.
3. Potential elevated trail connection at SW abutment wing extension, with bearing notch and additional piles likely, configuration to be determined in final design.
4. Separation barriers 1 foot wide with bike railing (TBD). Coordinate with Bridge Bureau Methods section.
5. Aesthetic railings (possibly side mounted to deck) on the bridge and on approach, including retaining wall tie-ins.
6. Bridge-mounted street/walkway lighting and flood lighting for the nearby dam.
7. Other aesthetic features (form liners, surface treatments).
8. Existing abutments are intended to remain in place with limited removals to accommodate approach pavement. Special consideration for backfill between the proposed and existing abutments will be required. Proposed abutments and wing walls will be non-standard. Potential conflicts between proposed and existing abutment foundations and existing or proposed utility locations shall be considered.
9. T-piers are shown, but pier type shall be verified in final design.
10. A DNR Flood Plain Permit is required. Preliminary Design has submitted the application and will place the permit in the PW Regulatory\_Permits subdirectory folder upon receipt.
11. For Flood Plain Permit approval, a modeled "no rise" to upstream water surface is required as compared to existing conditions. Pier width of 3.5' was used in the hydraulic model, and a clear distance of 346' was used between front faces of the high abutments. Any proposed wider pier or reduced clear distance between abutments shall be coordinated with Preliminary Bridge Design before proceeding.
12. Requirements for a State Paddling Route are applicable. Signage, plan notes, and bid items shall be addressed by the Design Bureau and included in the Road Plans.
13. BT-C Beams proposed.
14. Provide vent holes in the end span beams.
15. Coordinate with Bureau of Location and Environment regarding the need for pre-construction building survey and vibration monitoring during construction.
16. There are several utilities that will need to be accommodated across the bridge. The need for utility conduits shall be coordinated during final design.
17. IA 3 through the bridge will be closed during construction. Traffic will be maintained on an off-site detour.
18. Shallow bedrock is anticipated. Soils testing to allow for consideration of drilled shaft foundations is desired.
19. There is a potential that the 10' sidewalk on the north side of the bridge will be part of a future trail. For that reason, the sidewalk rail/fence or other details shall meet trail requirements.
20. Final design shall include needed updates to the bridge model and the Situation Plan/Situation Plan-Site/Situation Plan-Misc. plan sheets.
21. Non-standard abutment wings - A 90° angle between the abutment and abutment wings is anticipated. Effort is needed in the scope to include a determination of the wing geometry (alignment/profile/tie-in locations, etc.) Coordination with Bridge Methods and BRPrelim is required. The design geometry is desired to be added to the 3D Connect Model.
22. Evaluate use of semi-integral abutments. High concrete abutments are likely.
23. Rock excavation adjacent to pier footings and the channel side of abutment and wing footings shall be stabilized by placing a layer of reinforced concrete not less than 8" thick over the limits of rock excavation. Joint material shall be placed between this concrete stabilizing layer and the pier footings and cofferdam (if used). Alternate methods of stabilization may be considered during Final Design.

**General Notes:** (To be incorporated into the General Notes of the final plan set. The final designer shall delete these notes from the final TS&L.) This design is for the replacement of the existing 370'-0" x 48' continuous steel girder bridge with 2-8' sdwks, Design No. 948, FHWA No. 15570, Maint. No. 0921.45003. Work under this design shall include removal of the existing retaining wall as required to construct the west abutment and southwest wing including portions extending south of the wing construction limits to support proposed grading shown on this plan.

**Traffic Estimate**

2023 AADT	13,600	V.P.D.
2043 AADT	15,700	V.P.D.
2043 DHV	1.620	V.P.H.
Trucks	3%/4%	%

**Utilities Legend:**

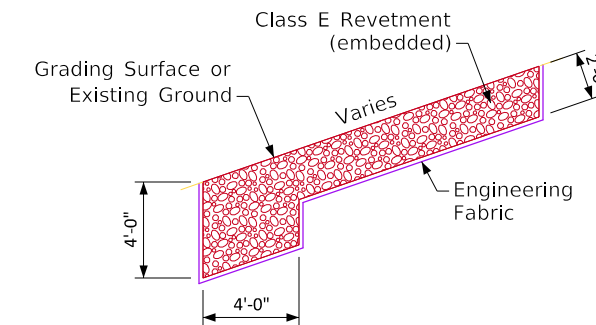
- E1 - Electric Line
- F02 - Fiber Optic
- G - Gas Line
- St S - Storm Sewer
- W - Water Line

Utilities shown on this sheet are for information only, see Road Design Sheets for final utility information.

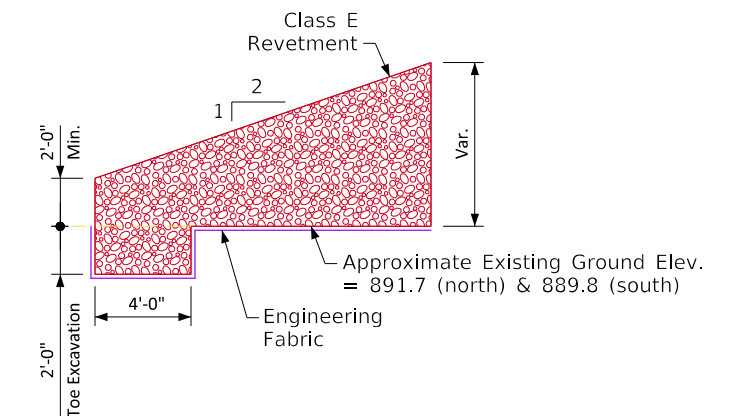
**Estimated Revetment Quantities**

Location	Revetment CL. E (Ton)	Engineering Fabric (SY)	Excavation Class 10 Channel (CY)
NE Corner	199.4	79.5	6.3
SE Corner	35.5	23.4	2.8
SW Corner	66.1	94.2	41.3
<b>Totals</b>	<b>301.0</b>	<b>197.1</b>	<b>50.4</b>

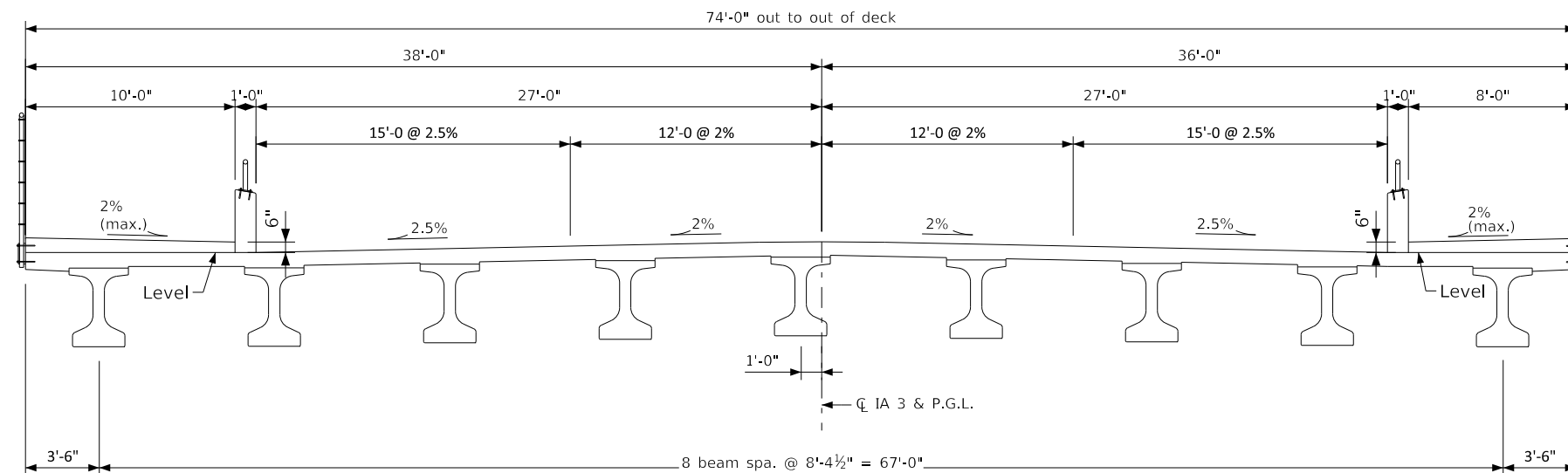
Excavation quantity is calculated from the existing surface at the east corners and from the grading surface or existing surface as applicable based on the limits at the southwest corner.



**Section through southwest revetment wedge**



**Section through east revetment wedge**



**TYPICAL SECTION**

Note:  
The top surface of the widened portion of the deck and sidewalk at the overlooks shall be level.



engineers + planners + land surveyors

Preliminary

Design For 0° Skew

**349'-0" x 54'-0" PPCB Bridge**

**W/ 10'-0" & 8'-0" Sidewalks**

116'-0" End Spans      117'-0" Interior Span

**Situation Plan - Misc.**

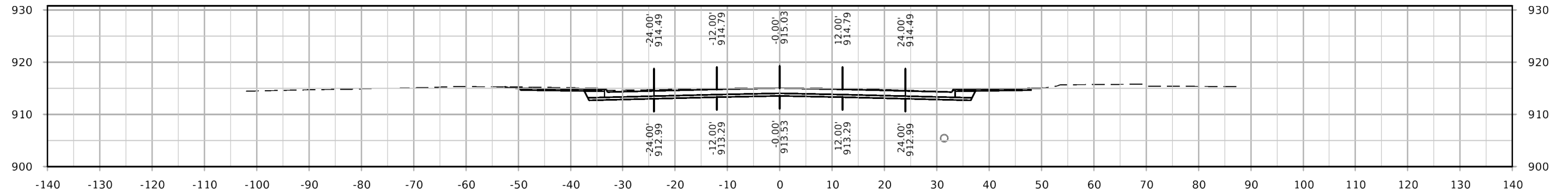
STA. 140+43.50 (IA 3)      January, 2022

**Bremer**

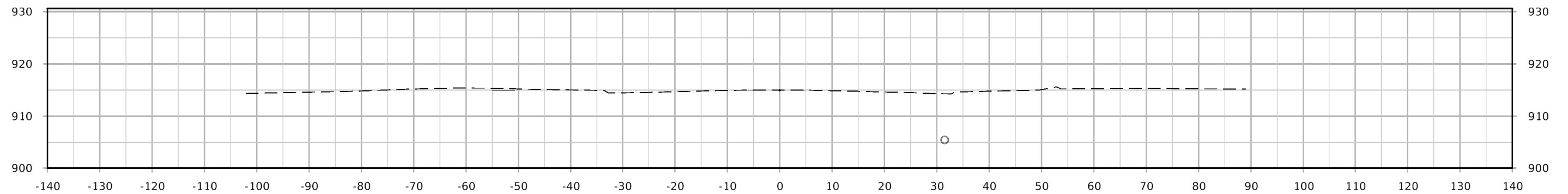
IOWA DEPARTMENT OF TRANSPORTATION

Design No. 0323      Design Sheet No. 2 of 2      FHWA No. 015571

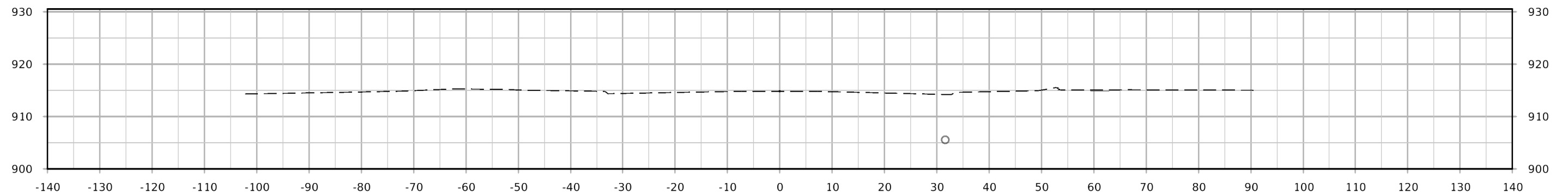




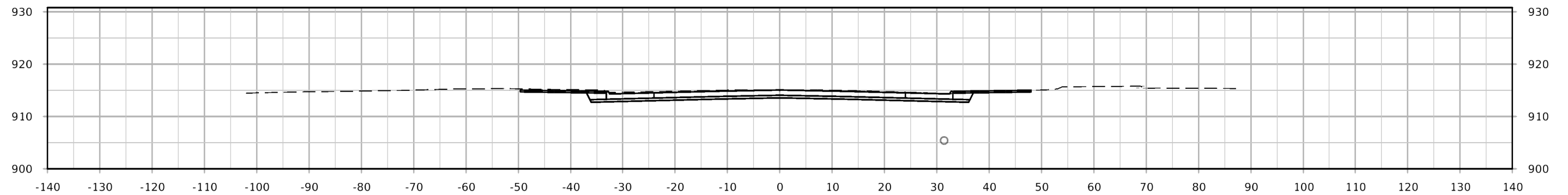
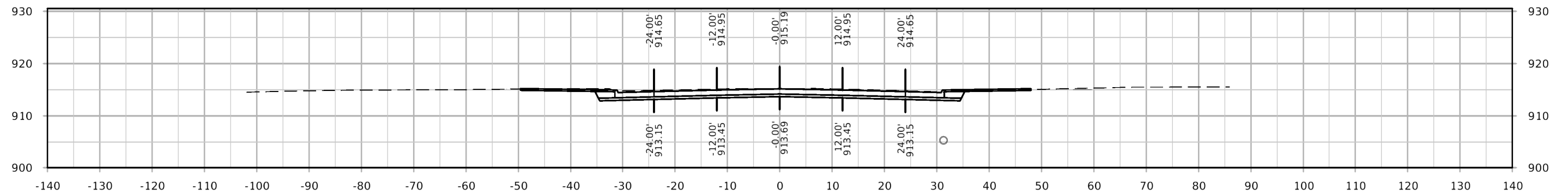
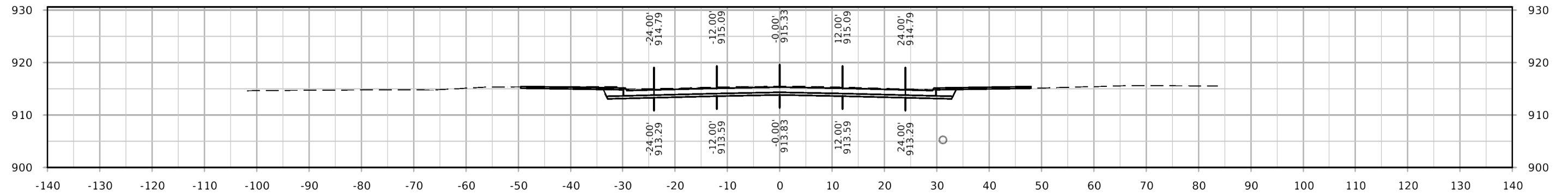
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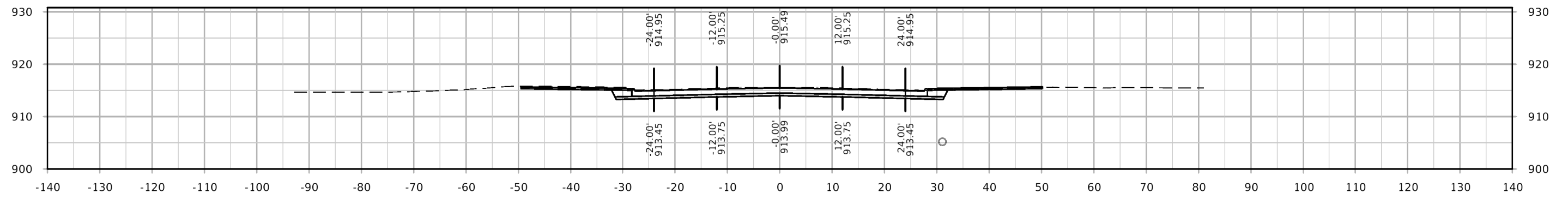
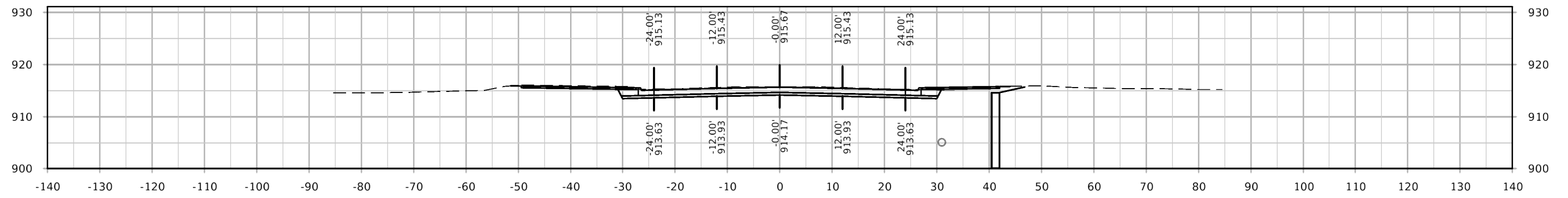
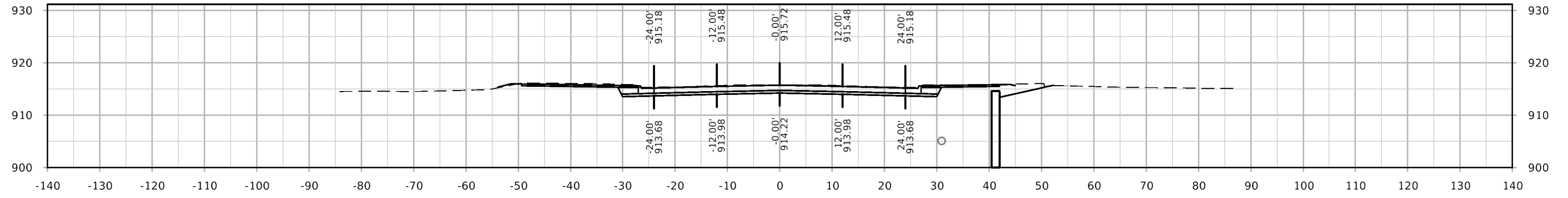


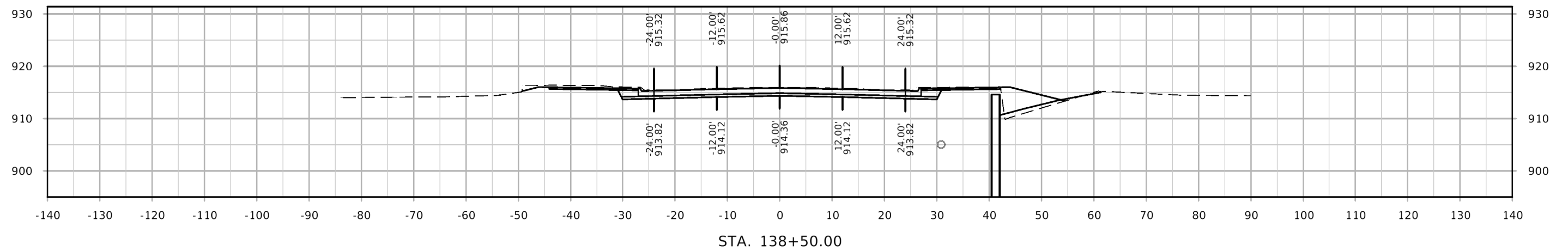
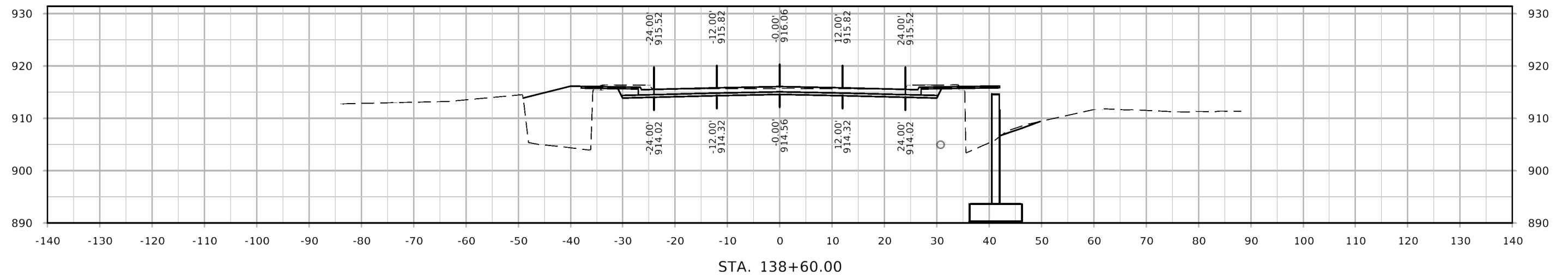
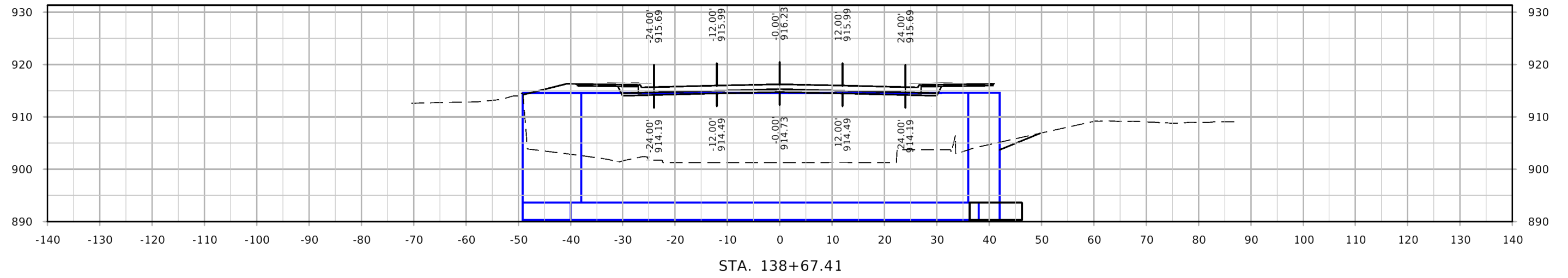
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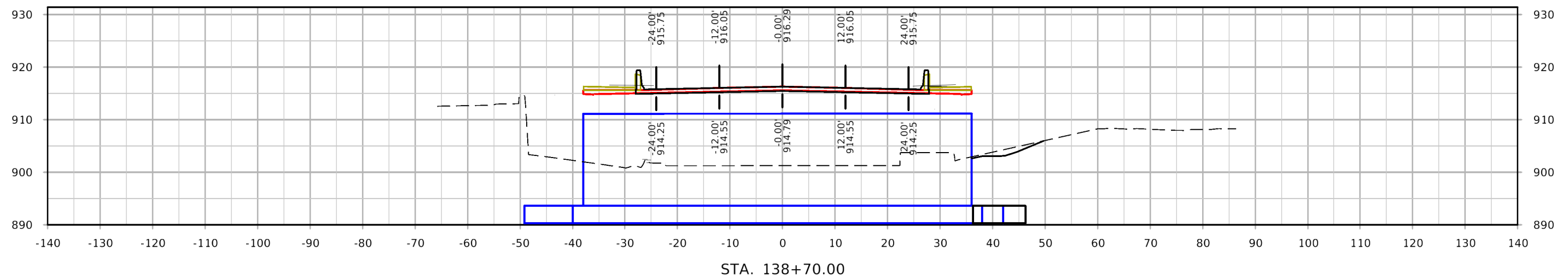
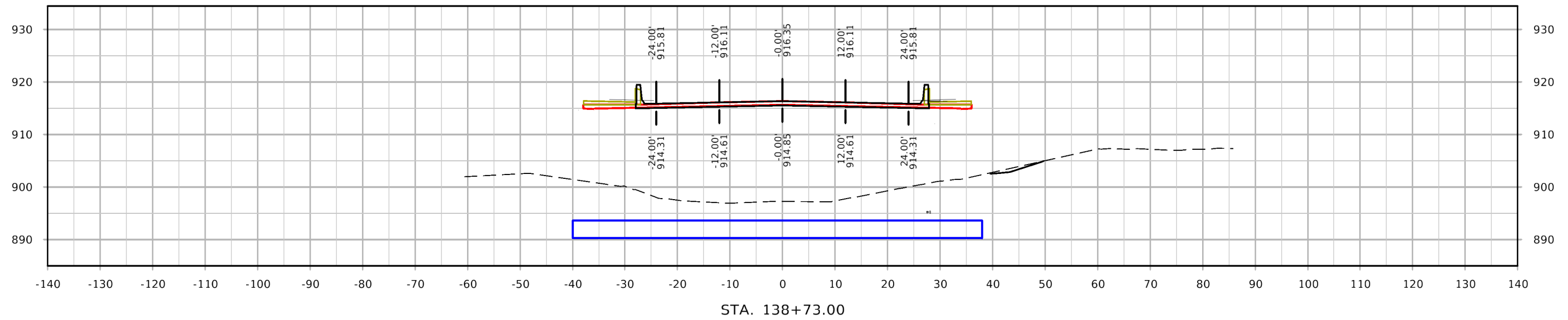


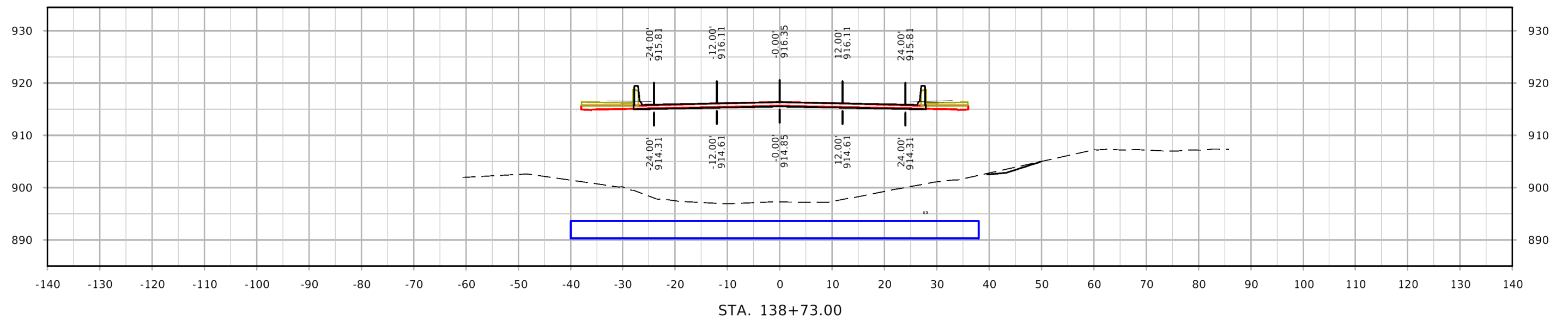
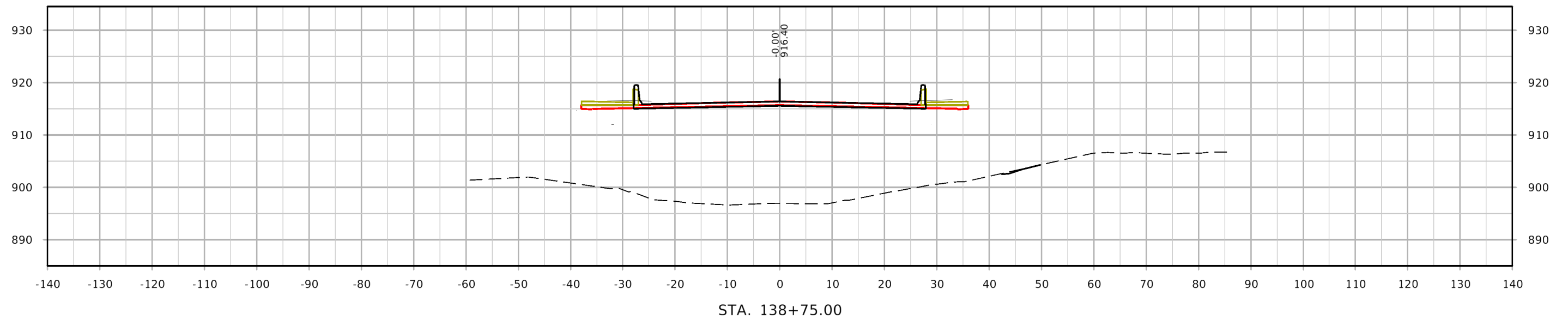
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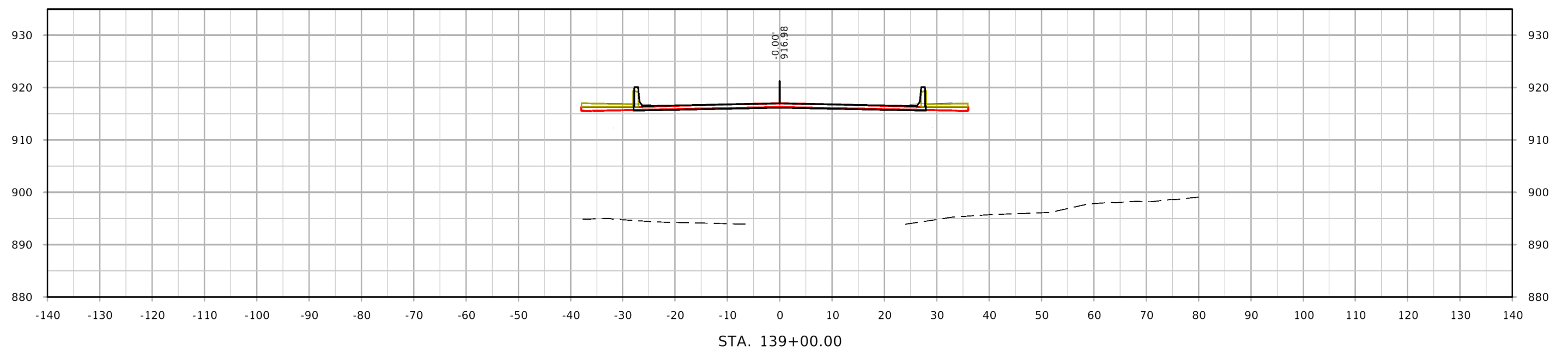
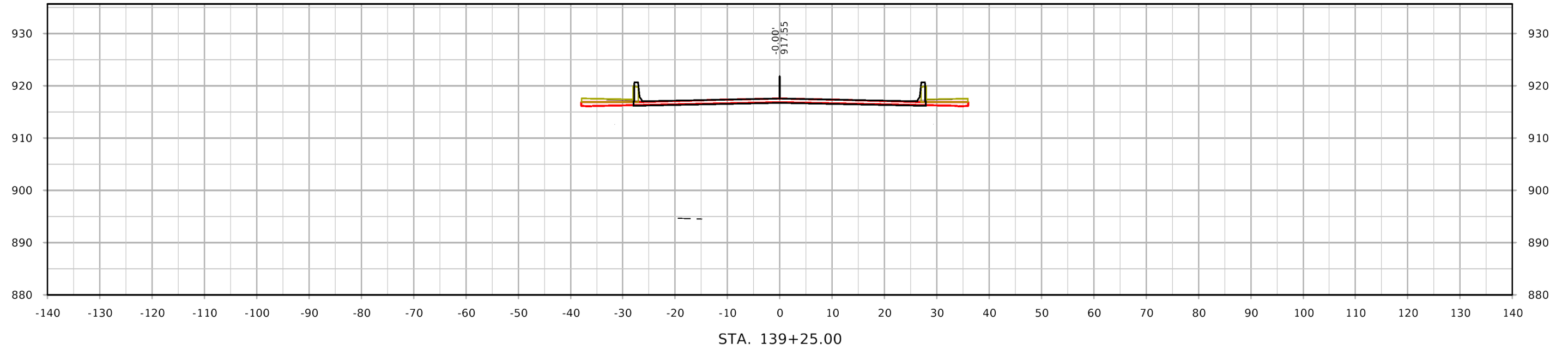


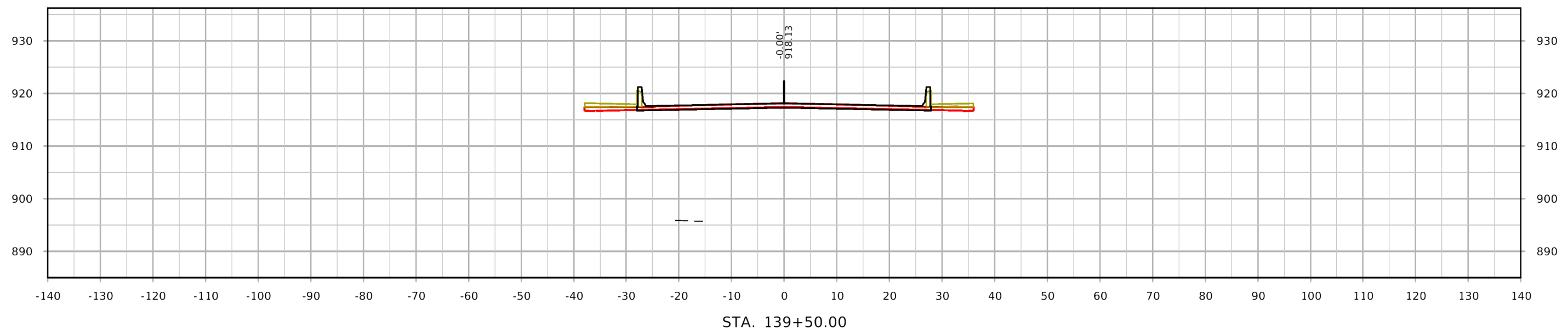
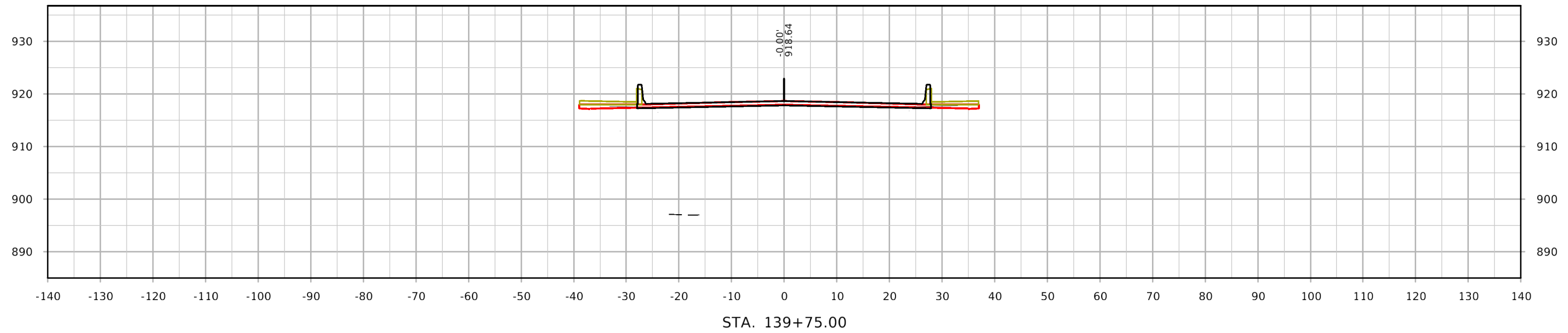




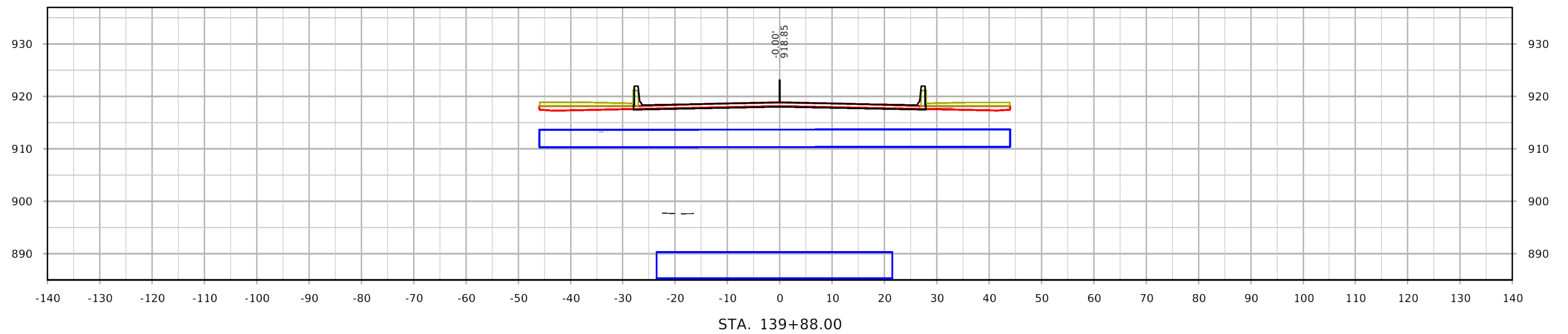
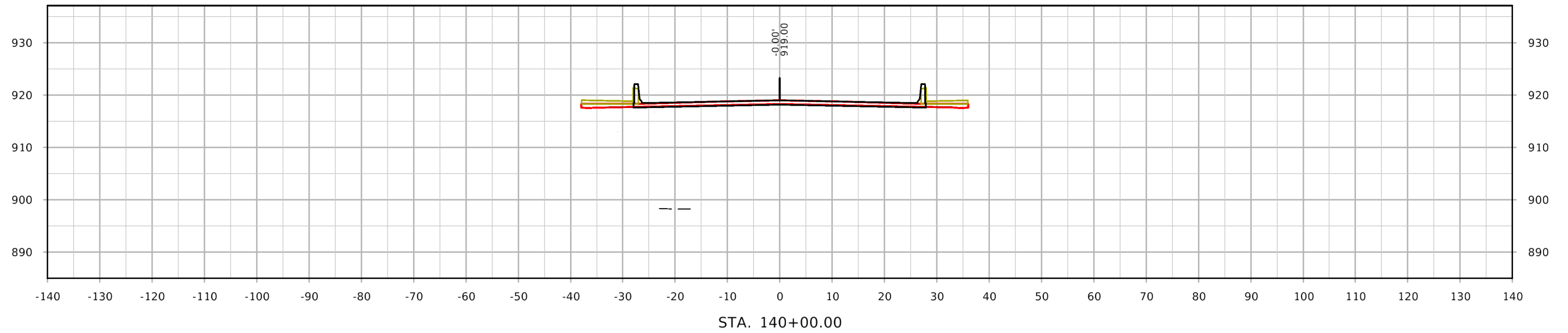


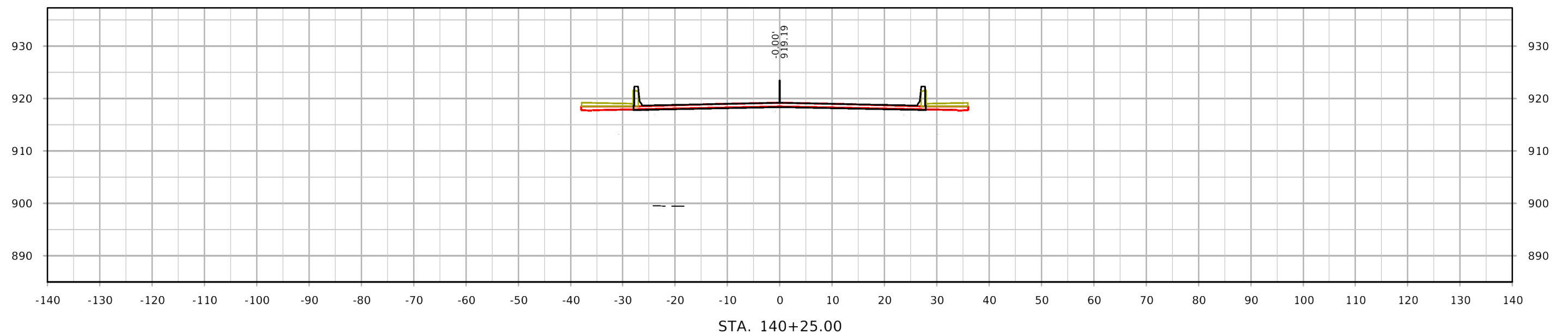
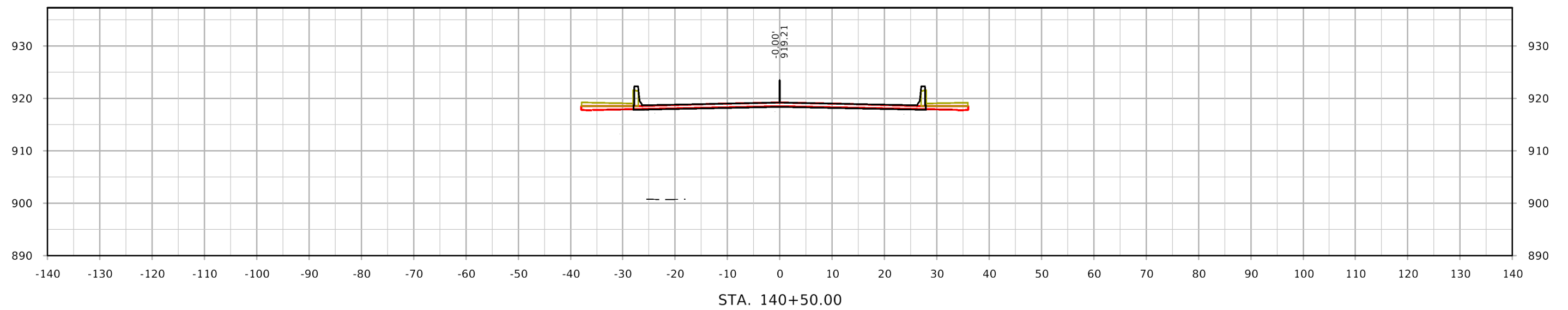


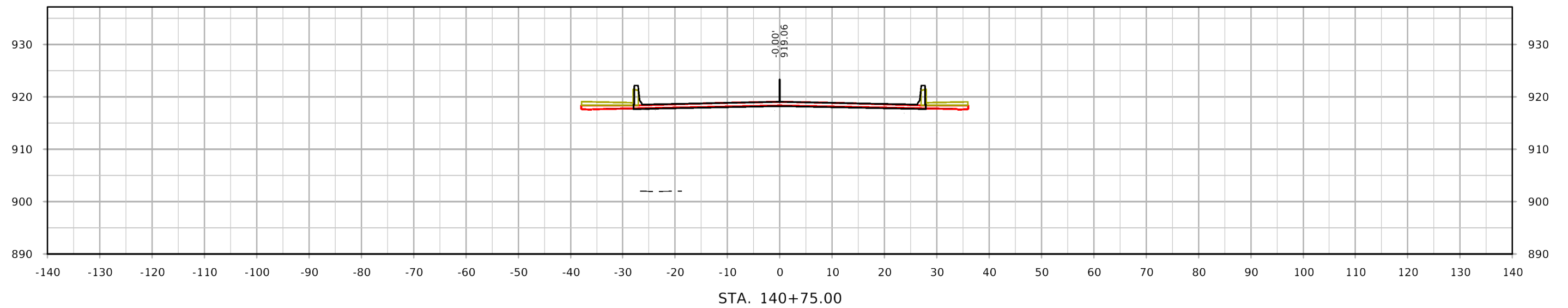
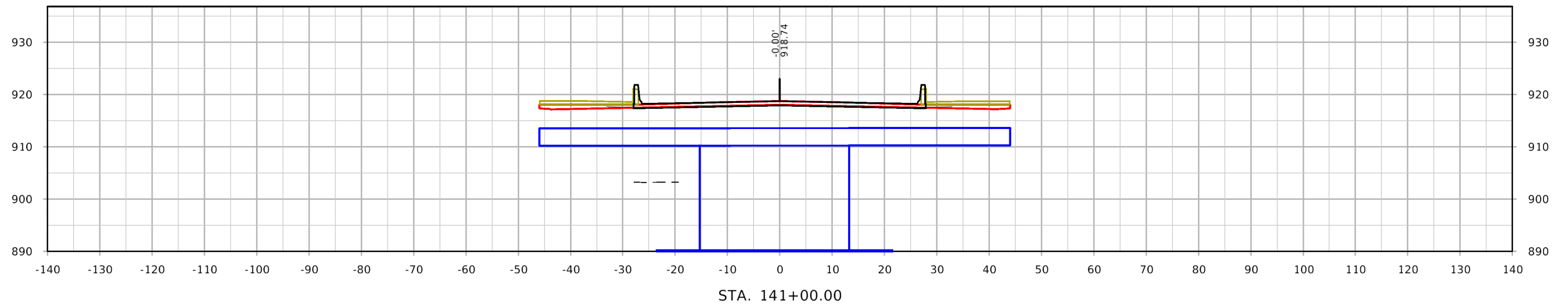


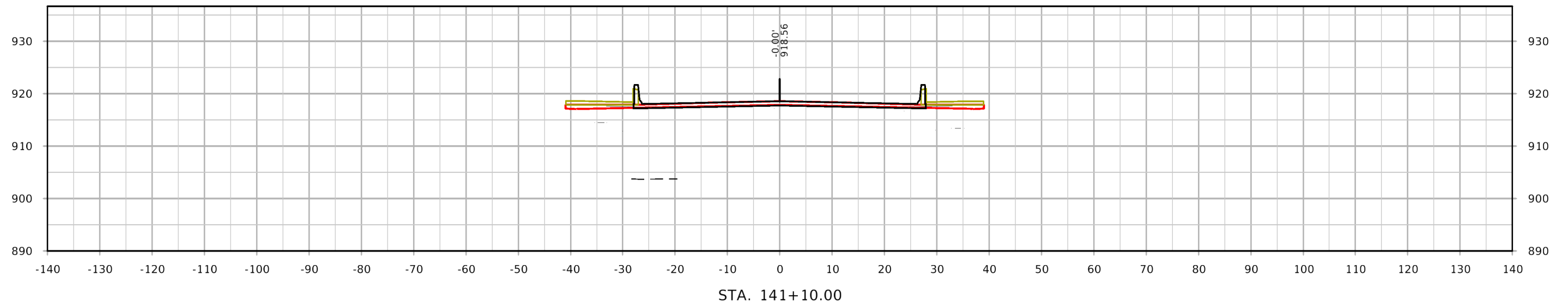
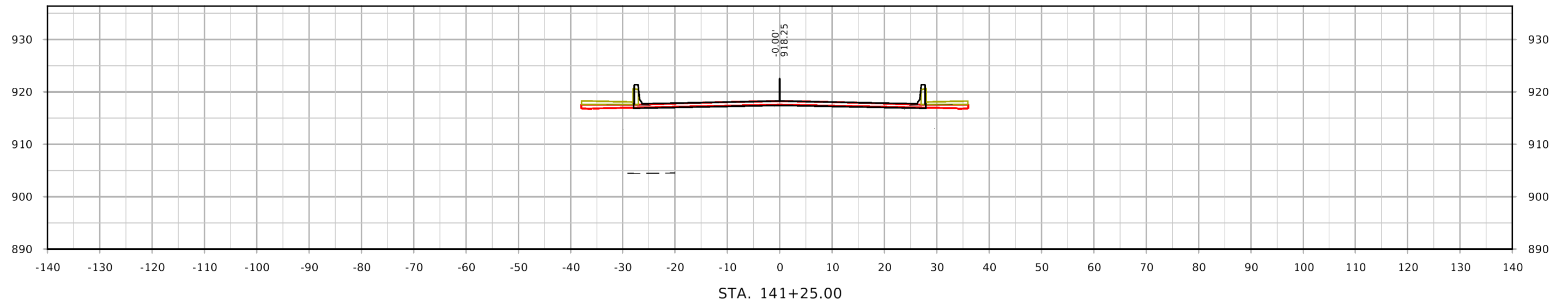
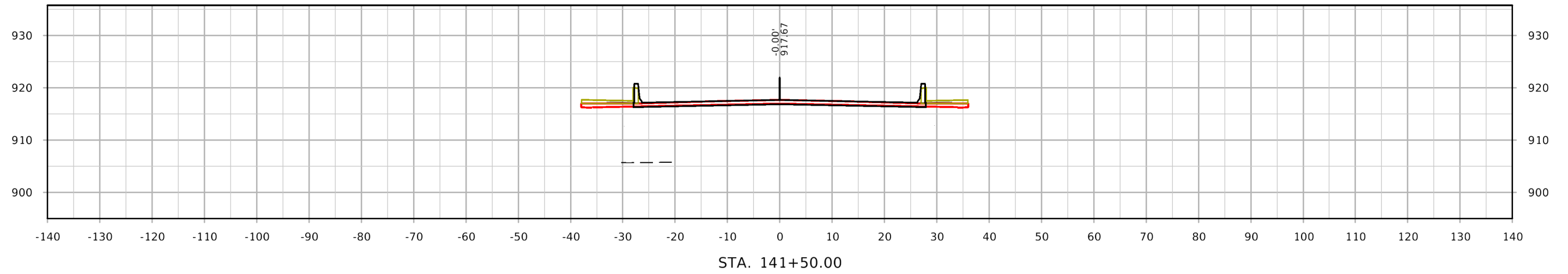


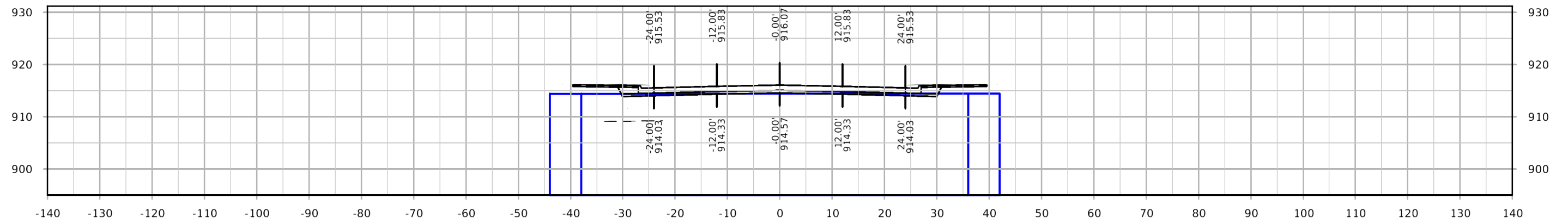




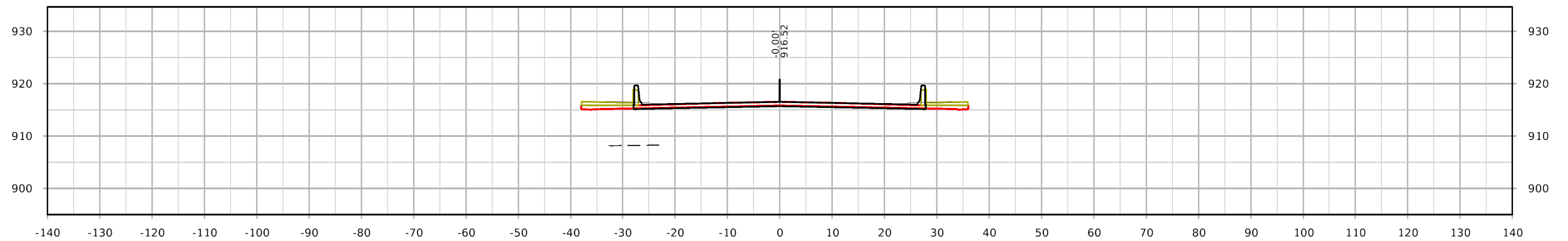




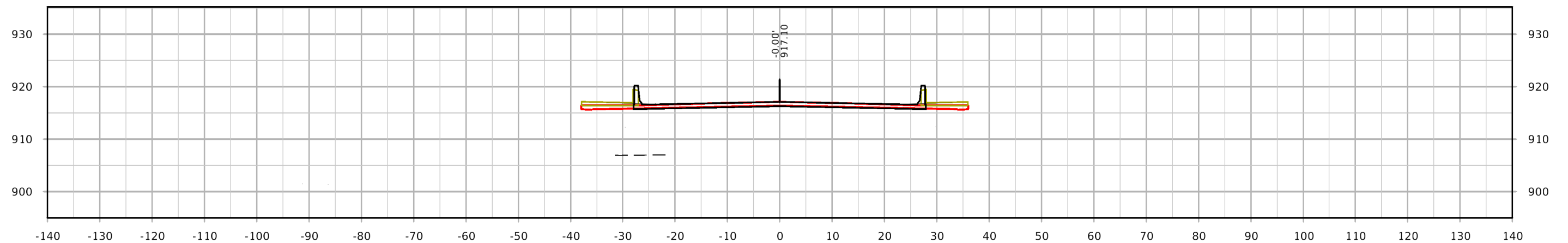




STA. 142+19.59



STA. 142+00.00



STA. 141+75.00

