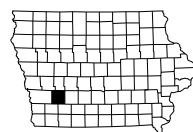


CASS COUNTY

Bridge-Unspecified  
BRF-006-2(046)--38-15

LETTING DATE  
Jan 19 2028



INDEX OF SHEETS	
No.	DESCRIPTION
<b>A Sheets</b>	<b>Title Sheets</b>
A.1	Title Sheet
A.2	Location Map Sheet
<b>B Sheets</b>	<b>Typical Cross Sections and Details</b>
B.1 - 2	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	"US Highway 6"
<b>G Sheets</b>	<b>Survey Sheets</b>
G.1 - 4	Reference Ties and Bench Marks
<b>J Sheets</b>	<b>Traffic Control and Staging Sheets</b>
* J.1	Traffic Control Plan
* J.2	Detour Route
<b>W Sheets</b>	<b>Mainline Cross Sections</b>
* W.1	Cross Sections Legend & Symbol Information Sheet
* W.2 - 16	US Highway 6 Cross Sections
	* Color Plan Sheets



PLANS OF PROPOSED IMPROVEMENT ON THE  
**PRIMARY ROAD SYSTEM**  
**CASS COUNTY**  
Bridge-Unspecified  
Spring Creek 1.4 mi E of IA 48

SCALES: As Noted

Refer to the Proposal Form for list of applicable specifications.

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



REVISIONS

TOTAL

28

PROJECT IDENTIFICATION NUMBER

22-15-006-010

PROJECT NUMBER

BRF-006-2(046)--38-15

R.O.W. PROJECT NUMBER

STPN-006-2(47)-2J-15

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

**PRELIMINARY PLANS**

Subject to change by final design.

**D3 PLAN - Date: 10-21-2024**

FILE NO.

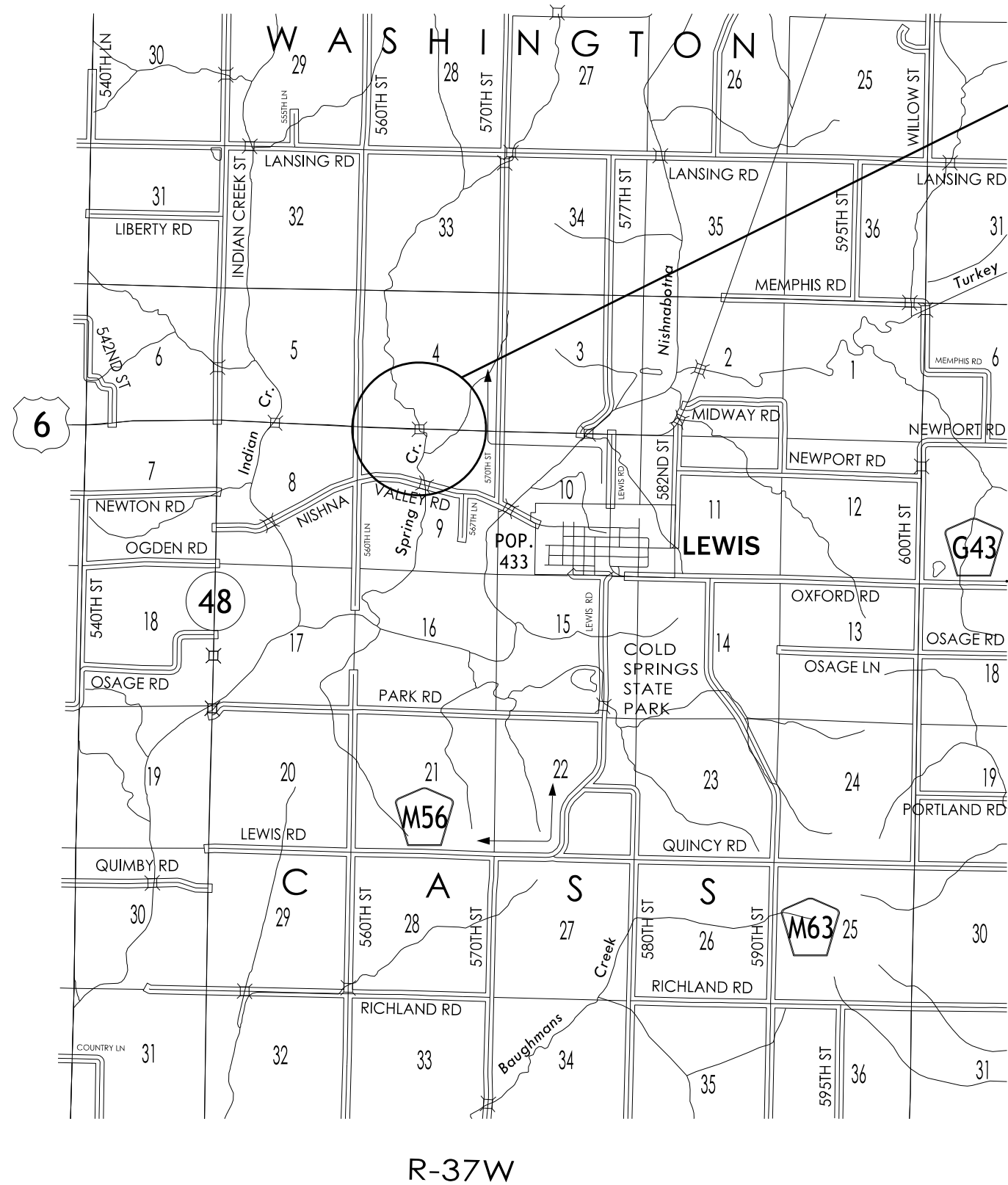
ENGLISH

DESIGN TEAM Flattery\Bell\Boudreaux\Schneider

CASS COUNTY

PROJECT NUMBER BRF-006-2(046)--38-15

SHEET NUMBER A.1

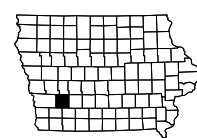
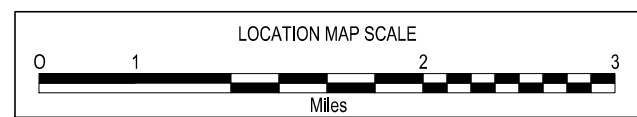


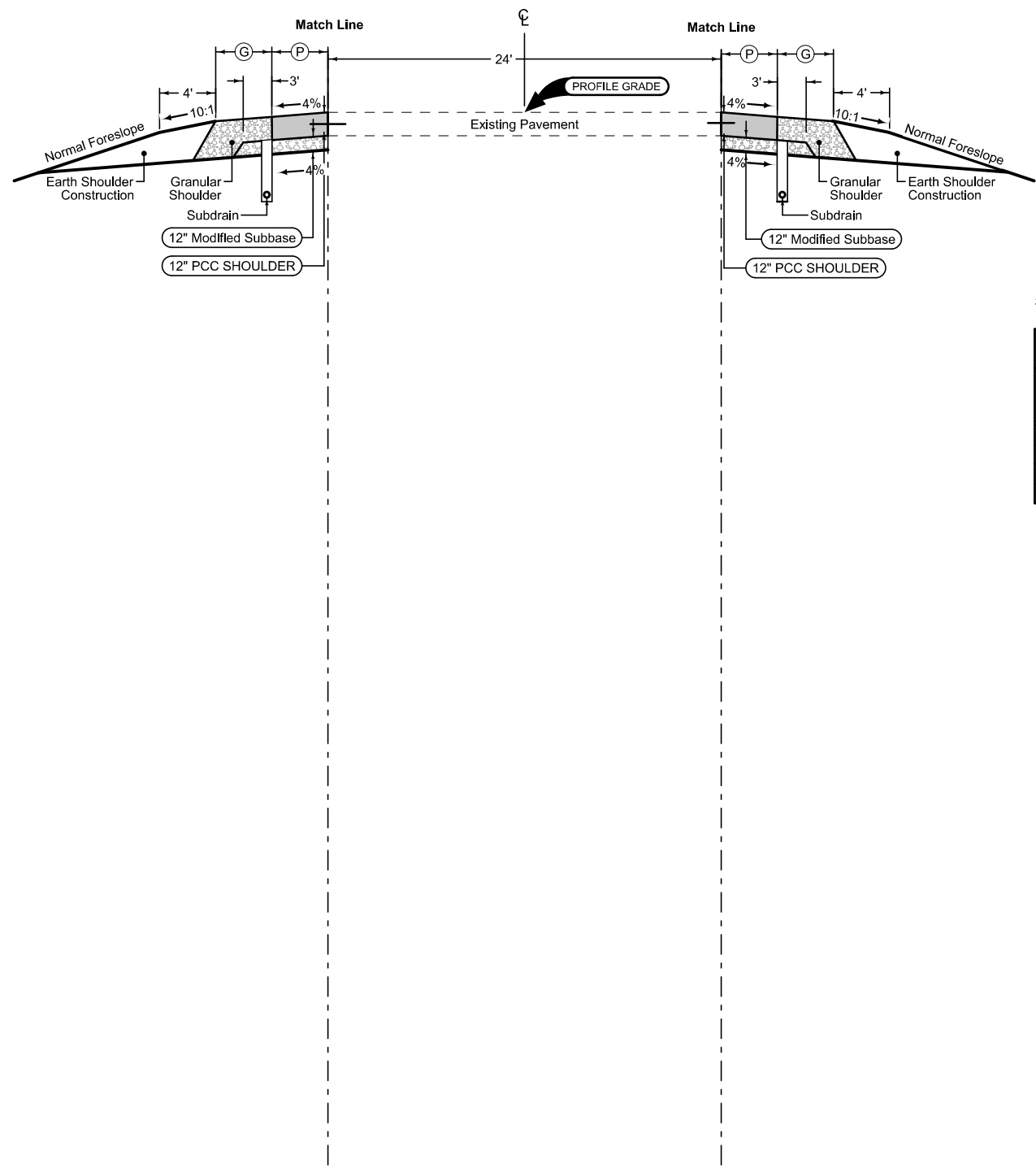
**BRIDGE PROJECT LOCATION**  
 Spring Creek 1.4 mi E of IA 48  
 FHWA/ASSET ID#: 17390  
 Maint. No. 1544.2S006



T-75N

R-37W





**Combination Shoulder**

Shoulder Jointing:  
Longitudinal joint: B

STATION TO STATION		(P) Feet	(G) Feet
835+25.00	835+62.15	4	2
835+62.15	835+82.80	4	2-8.5
840+94.49	841+20.00	4	9.8-2

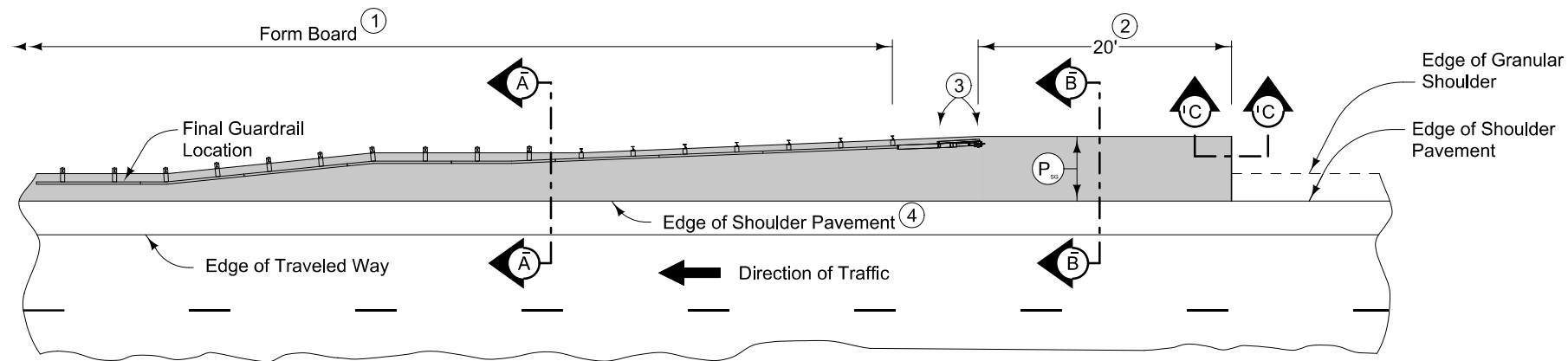
**Combination Shoulder**

Shoulder Jointing:  
Longitudinal joint: B

STATION TO STATION		(P) Feet	(G) Feet
834+73.00	835+26.19	4	2
835+26.19	835+51.51	4	2-9.8
840+63.20	840+85.00	4	8.5-2

See Tab 112-9 for shoulder quantities.

**US Highway 6**



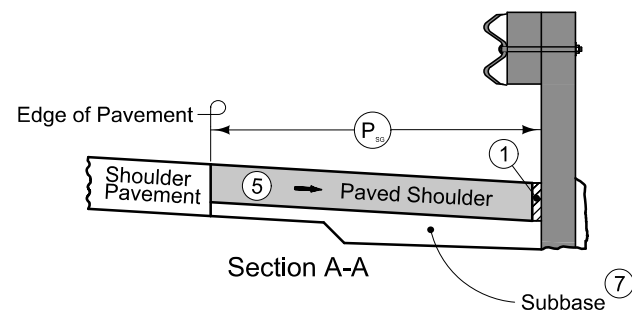
PLAN VIEW

8" PCC Paved Shoulder at guardrail with the following jointing layout.:

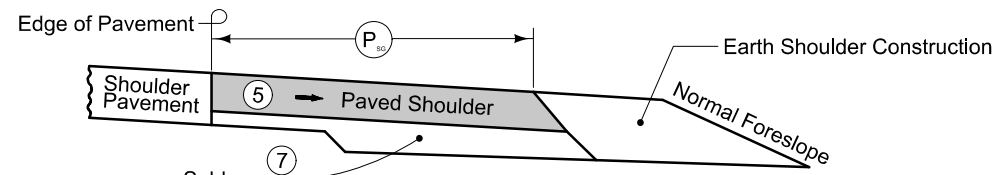
Match mainline pavement joint spacing. When mainline pavement is 8" or greater in thickness, place additional transverse 'C' joints in shoulder at mid-panel of the mainline pavement. Place longitudinal 'C' joint at P/2 from edge of mainline pavement when P is greater than 10' wide. Terminate longitudinal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

Refer to Tabulation 112-9 for shoulder quantities.

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

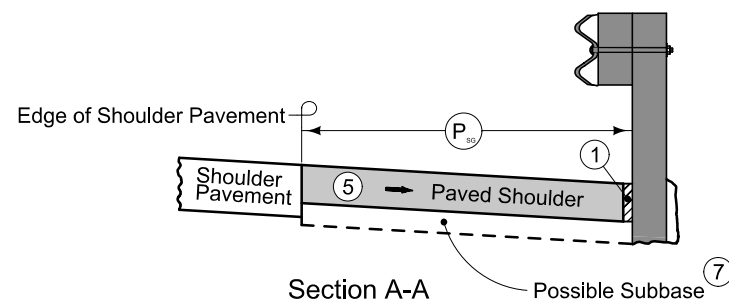


Section A-A

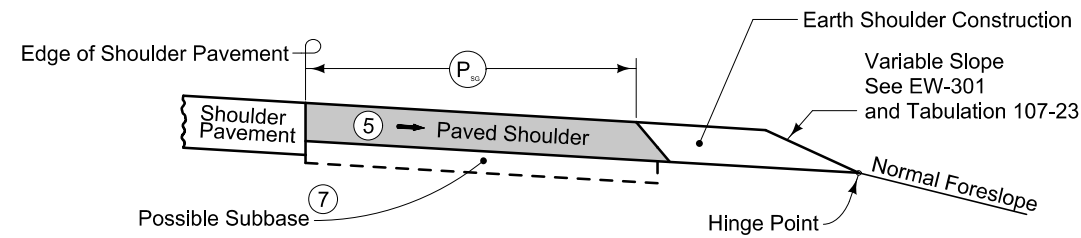


Section B-B

NEW CONSTRUCTION

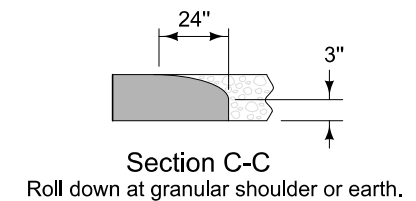


Section A-A



Section B-B

EXISTING SHOULDER



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

### 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

#### 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

PPA, MidAmerican Electric

### 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

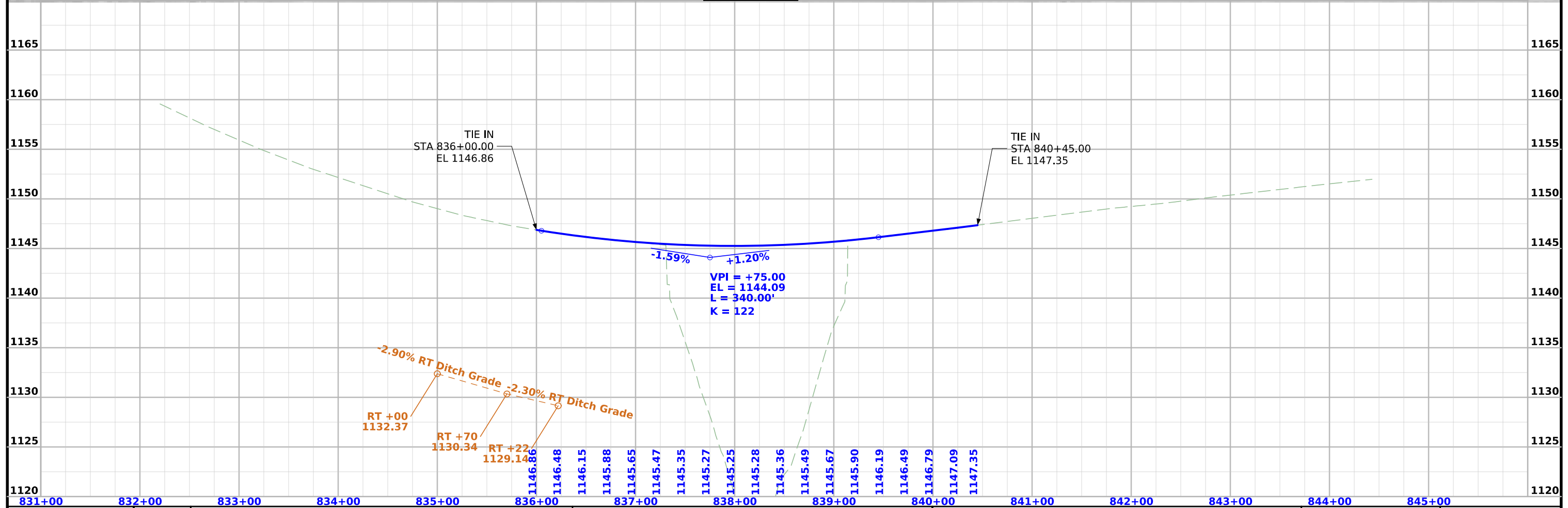
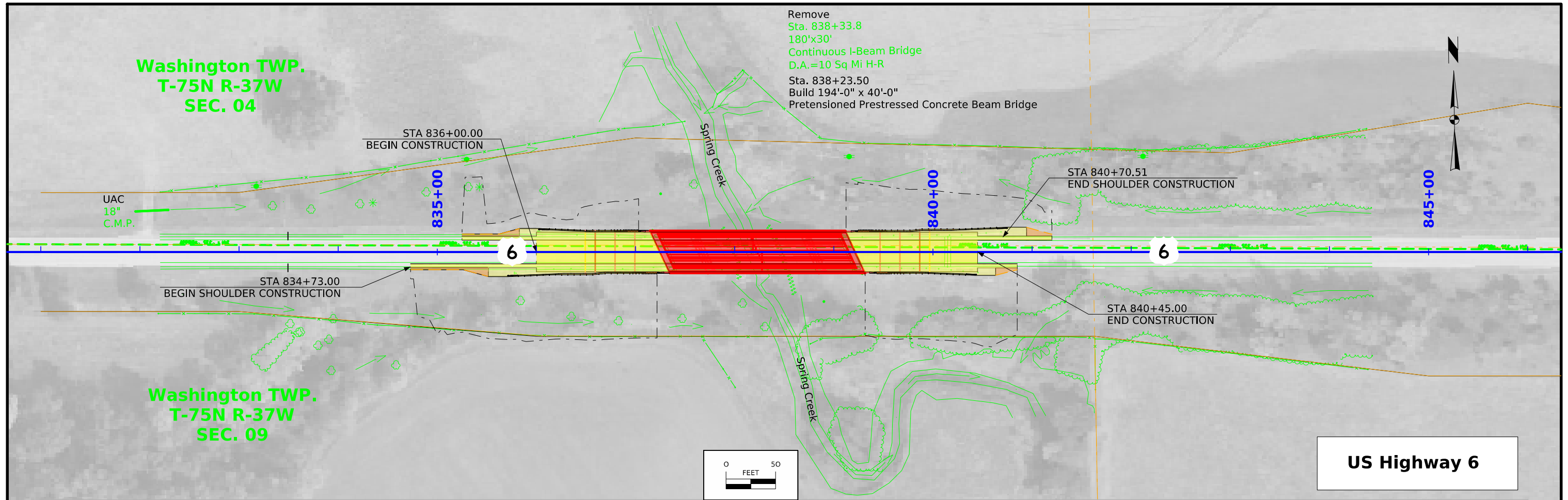
## PLAN AND PROFILE LEGEND AND SYMBOL INFORMATION SHEET

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

Washington TWP.  
T-75N R-37W  
SEC. 04

Washington TWP.  
T-75N R-37W  
SEC. 09

Remove  
Sta. 838+33.8  
180'x30'  
Continuous I-Beam Bridge  
D.A.=10 Sq Mi H-R  
Sta. 838+23.50  
Build 194'-0" x 40'-0"  
Pretensioned Prestressed Concrete Beam Bridge



FILE NO.	ENGLISH	DESIGN TEAM	CASS COUNTY	PROJECT NUMBER	SHEET NUMBER
		Flattery\Bell\Boudreaux\Schneider		BRF-006-2(046)--38-15	D.2

Survey Information

**SURVEY INDEX**

**Cass County**  
**BRF-006-2(46)--38-15**  
**Spring Creek 1.4 mi E of IA 48**  
**PIN: 22-15-006-010**  
**Type of Work: Bridge Unspecified**  
**Project Directory: 1500601022**

**Survey Personnel**

Paul Harry – Survey Party Chief  
Bob Fredrickson – Assistant Survey Party Chief

**Date(s) of Survey**

Begin Date 08/24/2023  
End Date 11/08/2023

**General Information**

This survey is for US Hwy 6 Bridge over Spring Creek. This project is a Full Field DTM survey.

**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**

Coordinates were determined for primary project control points by conducting concurrent six-hour static observations. Post processing is constrained to nearby Iowa Real Time Network reference stations. For additional details of the control survey, contact the Preliminary Survey department.

**PROJECT DATUM: NAD83(2011) for EPOCH 2010.00 (IaRTN 2019 ADJUSTMENT)**  
**COORDINATE SYSTEM: IOWA REGIONAL COORDINATE SYSTEM ZONE 07**  
**(U.S. SURVEY FOOT)**  
**VERTICAL DATUM: NAVD88**  
**GEOID MODEL: 2018u2**

**Alignment Information**

The horizontal alignment for U.S. Hwy 6 was provided by the District 4 ROW Office.

## 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 07 (U.S. Survey Foot)

VERT. DATUM: NAVD88 - Geoid Model: 2018u2

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



## 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 07 (U.S. Survey Foot)

VERT. DATUM: NAVD88 - Geoid Model: 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 07 (U.S. Survey Foot)  
 VERT. DATUM: NAVD88  
 Geoid Model: 2018u2

Point Name	Northing	Easting	Elevation	Code-Description
150060438	7189318.66	17366793.20	1225.08	CP SET FENO MONUMENT IN THE SOUTHWEST QUADRANT OF THE INTERSECTION OF US HWY 6 AND 560TH ST
150060448	7189312.01	17372202.75	1199.07	CP SET FENO MONUMENT IN THE NORTHEAST QUADRANT OF THE INTERSECTION OF US HWY 6 AND 570TH ST
C99	7159240.93	17360801.76	1102.55	CP FND NGS 2ND ORDER CLASS 0 VERTICAL MARK AS DESCRIBED
LEWIS	7197048.17	17372399.80	1272.67	CP FND NGS 2ND ORDER HORIZONTAL MARK AS DESCRIBED

**TRAFFIC CONTROL PLAN**

108-23A  
08-01-08

US 6 will be closed to thru traffic during construction.  
US 6 traffic shall be maintained via offsite detour. XXXXX will establish and maintain detour route. See Sheet X.X for detour.

**511 TRAVEL RESTRICTIONS**

108-25  
10-21-14

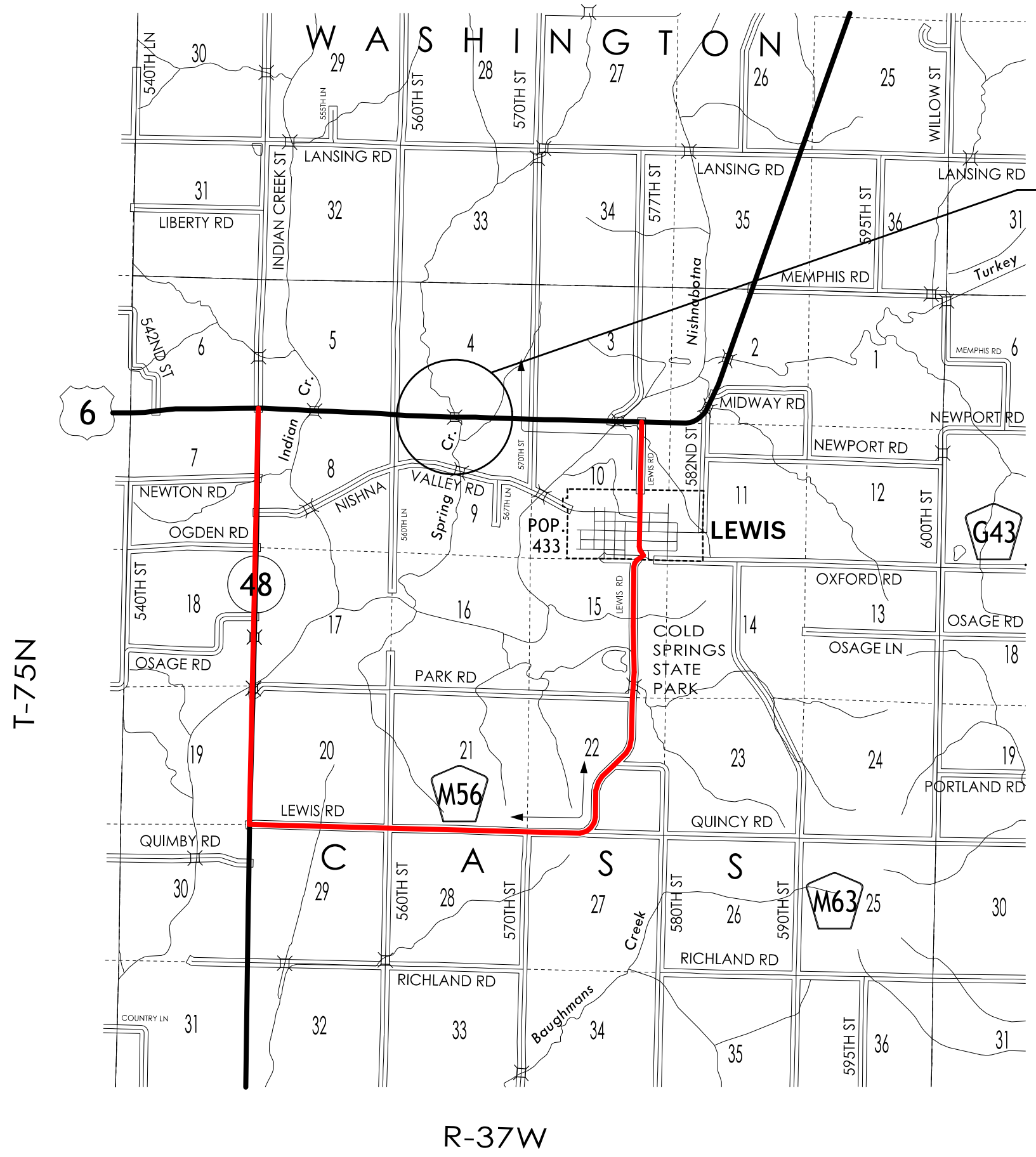
Route	Direction	County	Location Description	Feature Crossed	Object Type	Maint. Bridge No., Structure ID, or FHWA No.	Type of Restriction	Existing Measurement	Construction Measurement	Construction Measurement as Signed	Projected As Built Measurement	Remarks
			No Travel Restrictions expected at this time									

**COORDINATED OPERATIONS**

111-01  
04-17-12

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

Project	Type of Work
None provided	



BRIDGE PROJECT LOCATION  
 Spring Creek 1.4 mi E of IA 48  
 FHWA/ASSET ID#: 17390  
 Maint. No. 1544.2S006

**Detour Route**



**NOT TO SCALE**



## CROSS SECTION VIEW COLOR LEGEND

Design Color No.	Feature	Design Color No.	Feature
<b>Aggregate</b>			
(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	<b>Substrata</b>	
(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
<b>Asphalt</b>			
(207)	HMA Base Course	(6)	Loam
(207)	HMA Interim Course	(211)	Loam Removed
(207)	HMA Surface Course	(80)	Rock
<b>Bridge</b>			
(0)	Bridge	(212)	Rock Removed
<b>Concrete</b>			
(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
<b>Unsuitable / Waste</b>			
(0)	Existing Pavement	(3)	Unsuitable Type A
<b>Shoulder</b>			
(209)	Shoulder HMA	(216)	Unsuitable Type A Removed
(0)	Shoulder PCC	(13)	Unsuitable Type B
(6)	Shoulder Granular	(217)	Unsuitable Type B Removed
<b>Structural</b>			
(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:**

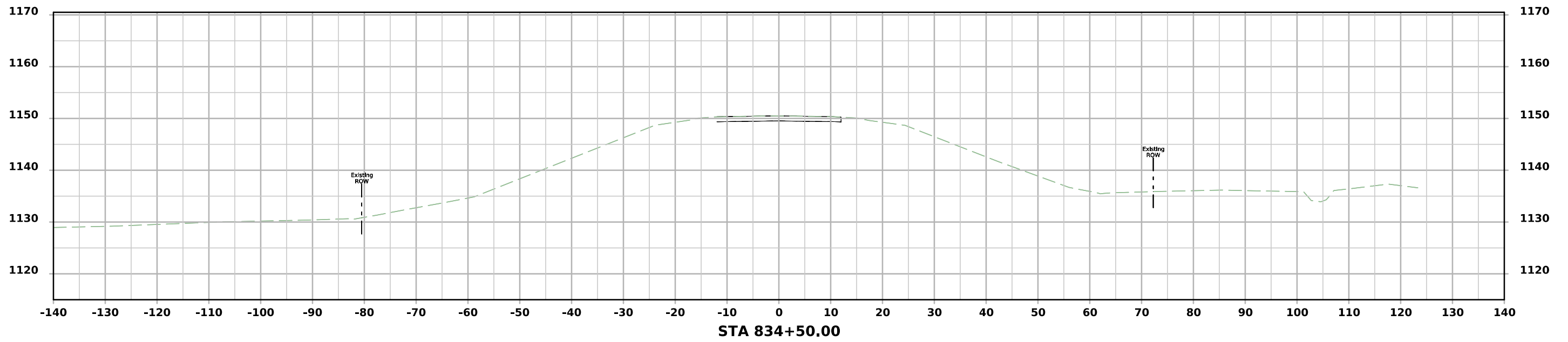
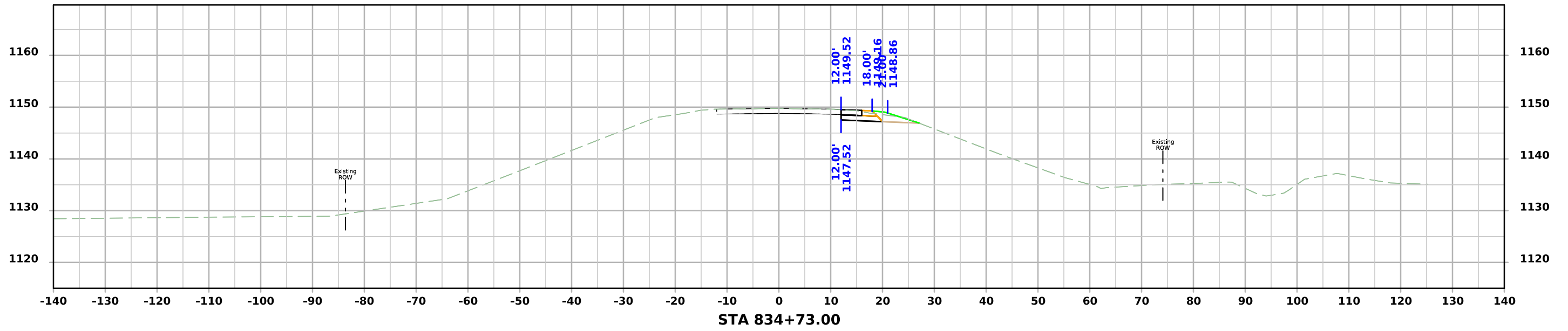
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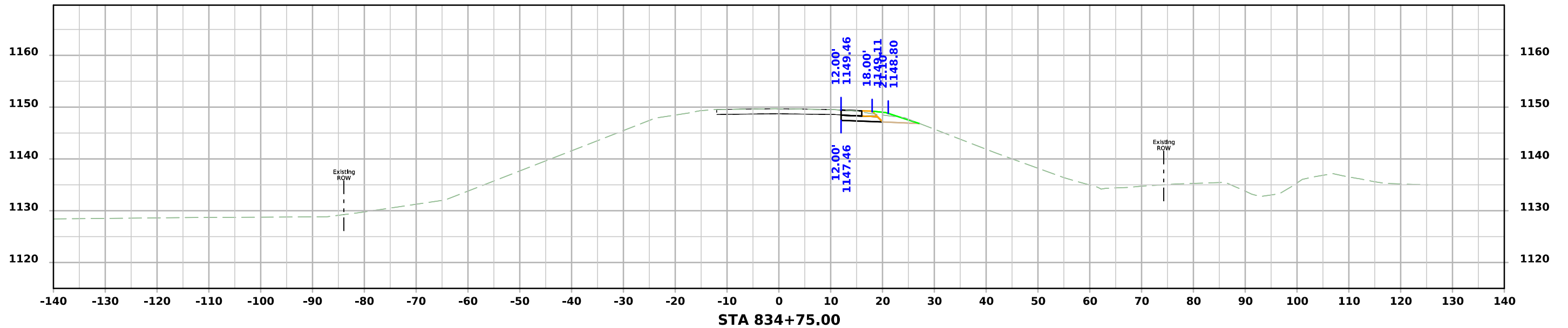
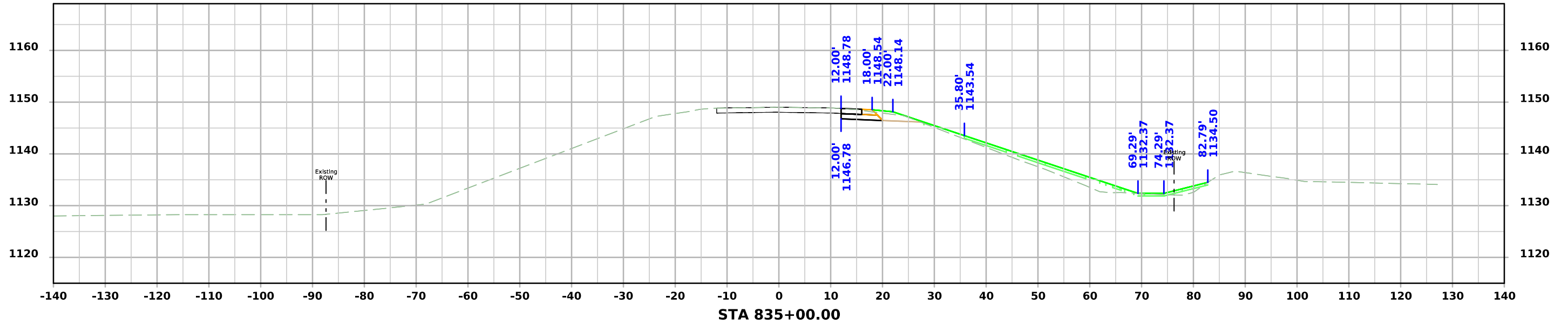
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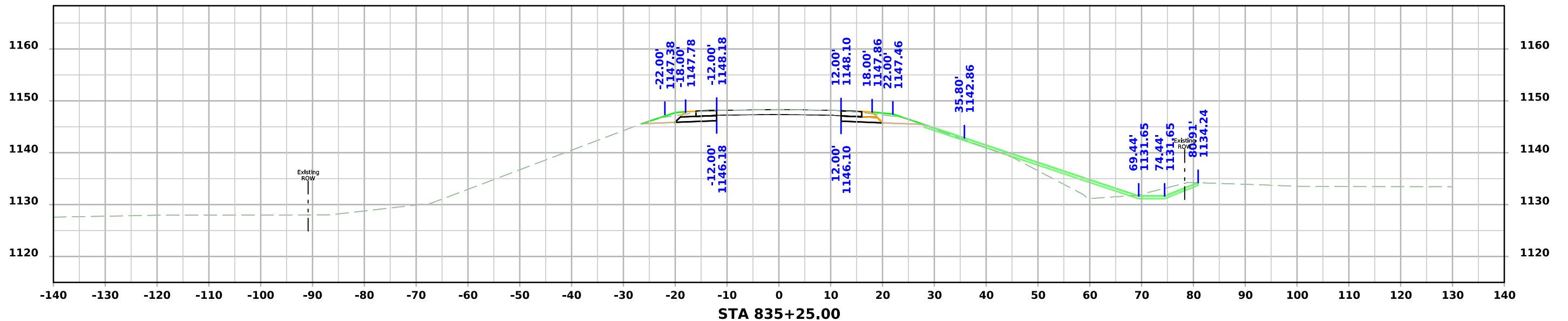
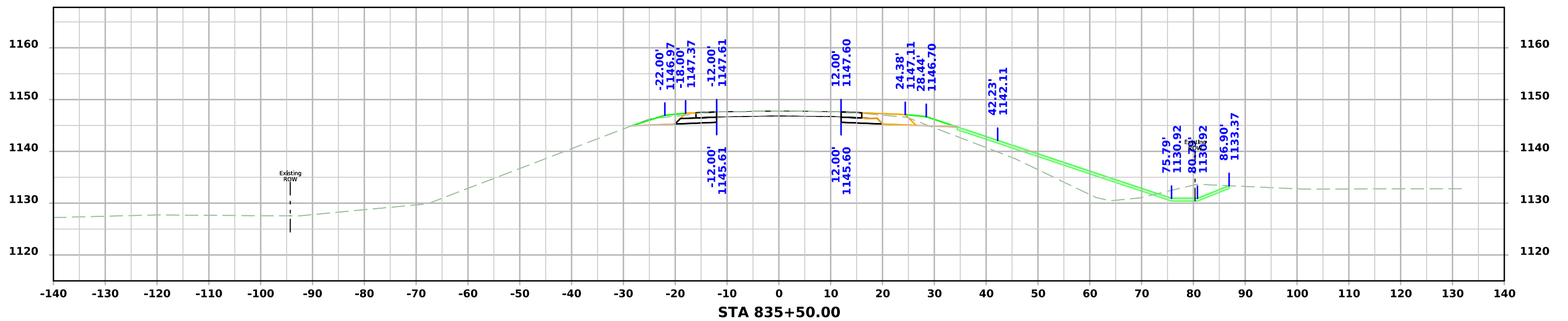
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## CROSS SECTIONS LEGEND AND INFORMATION SHEET

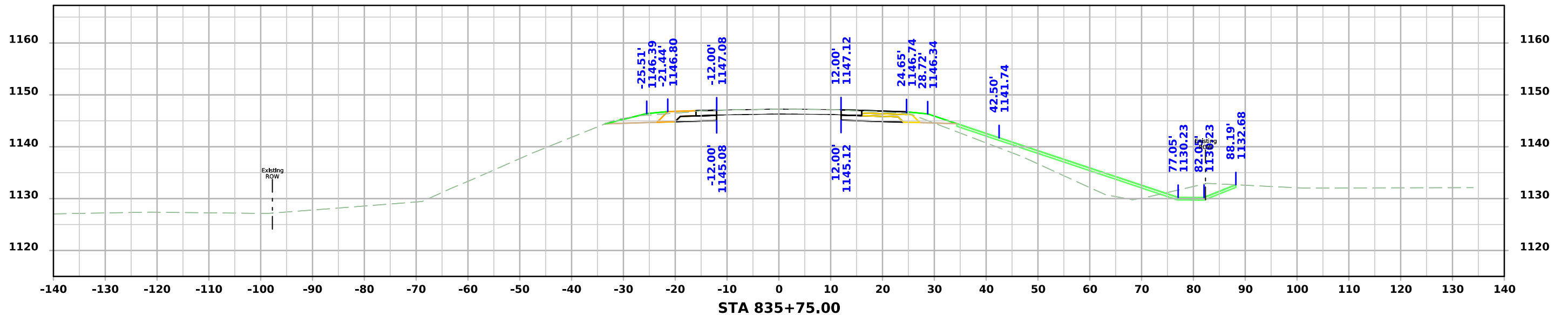
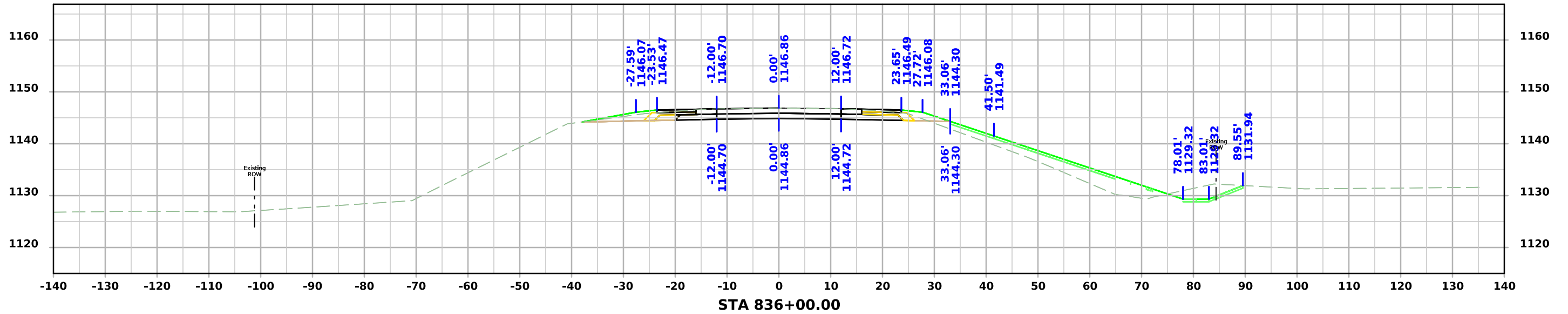
(COVERS SHEET SERIES W, X, Y, & Z)

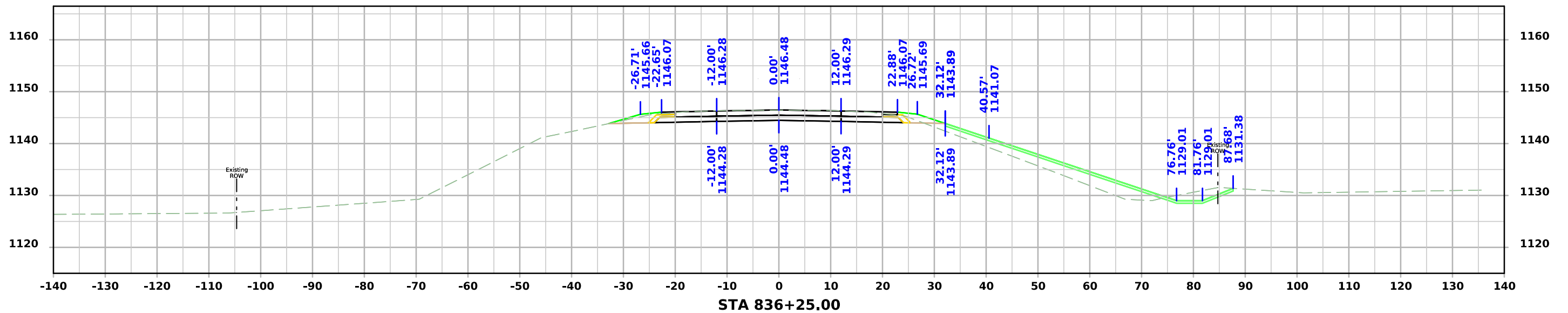
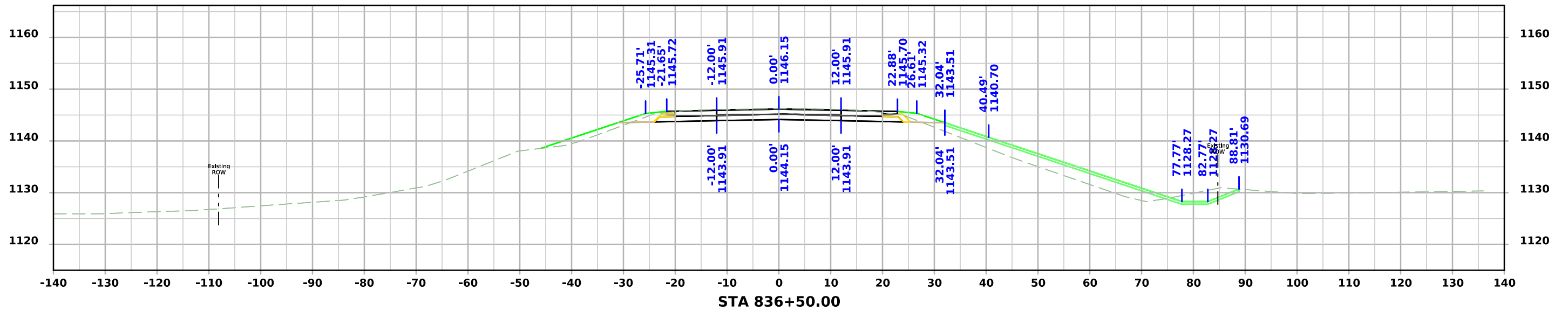


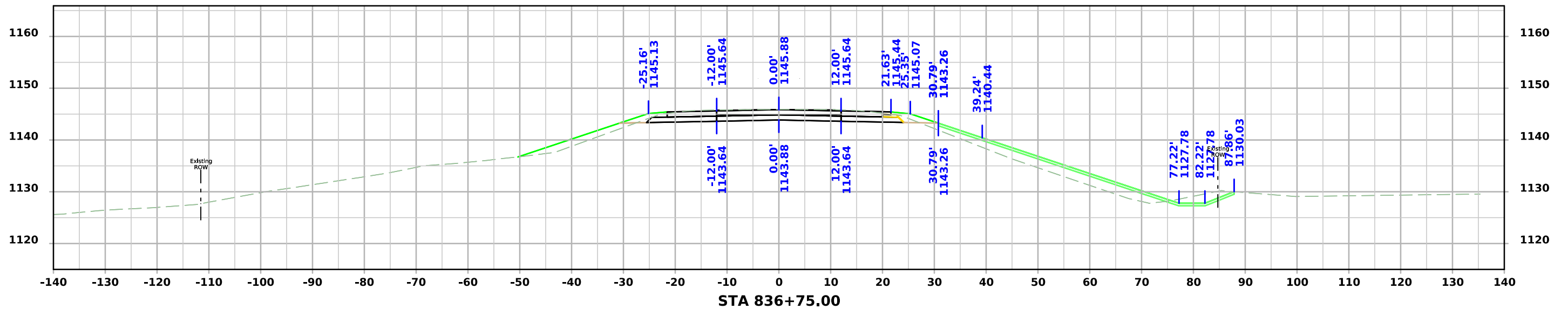
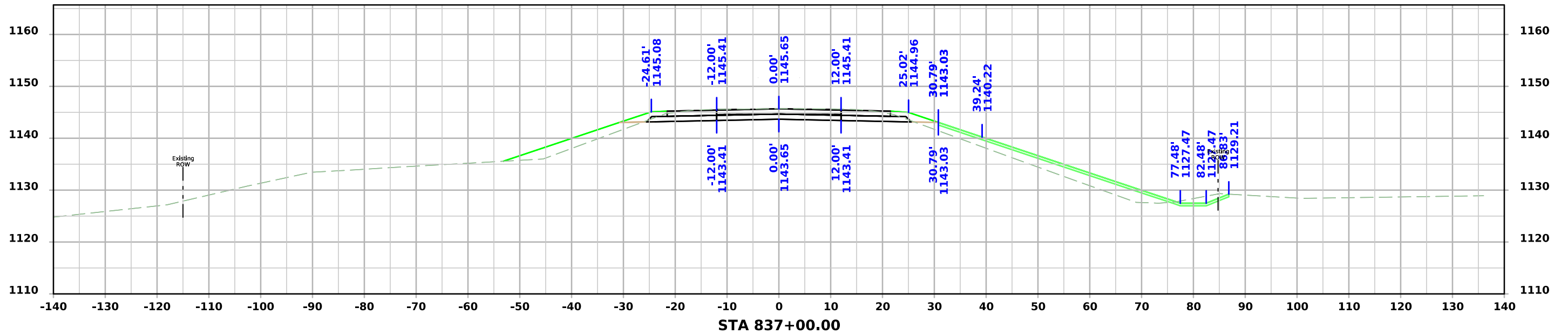




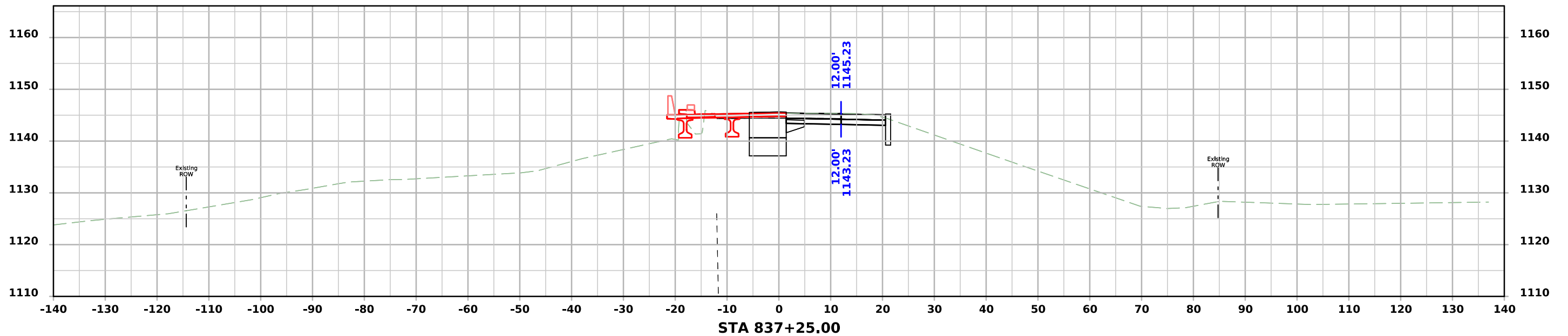
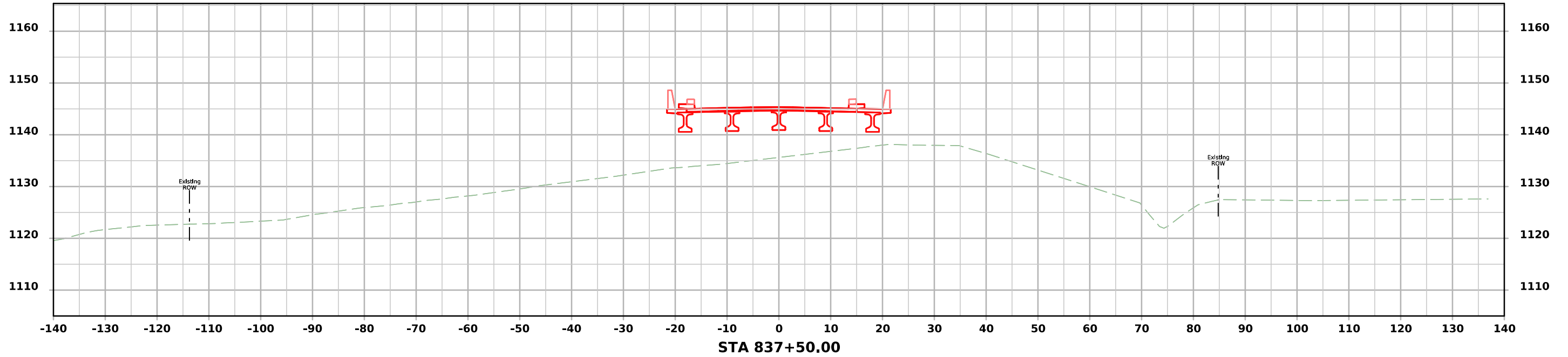




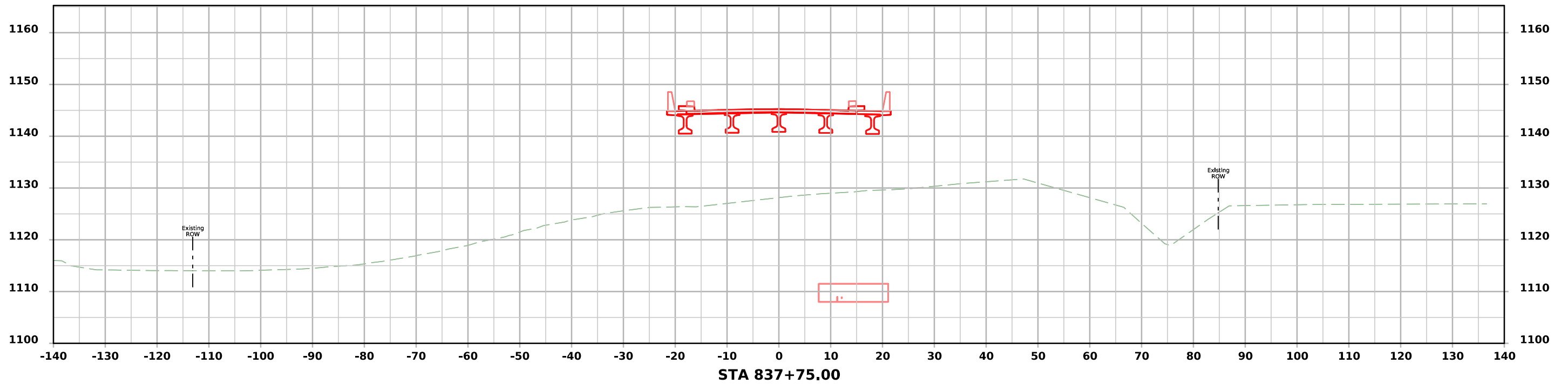
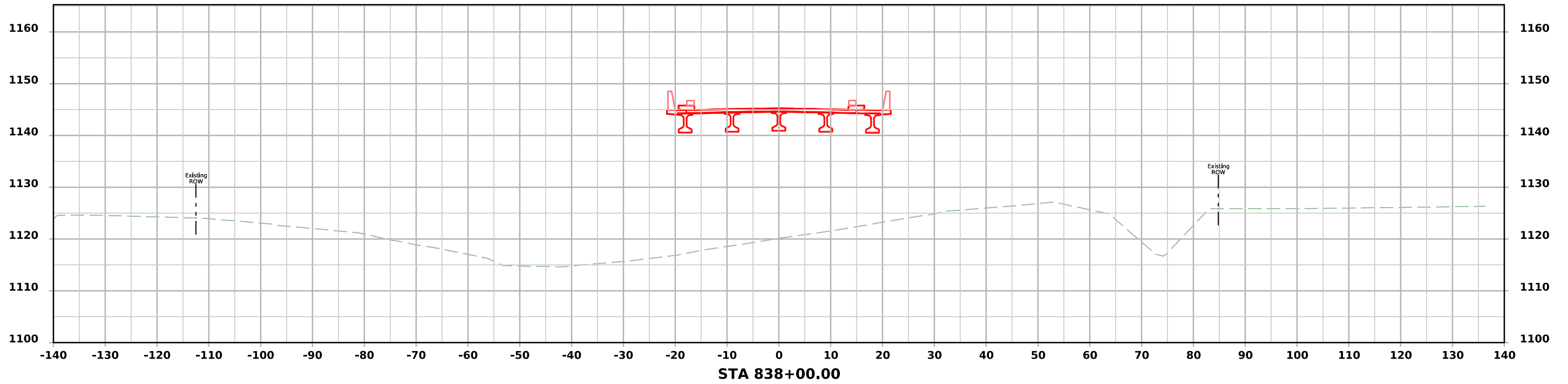




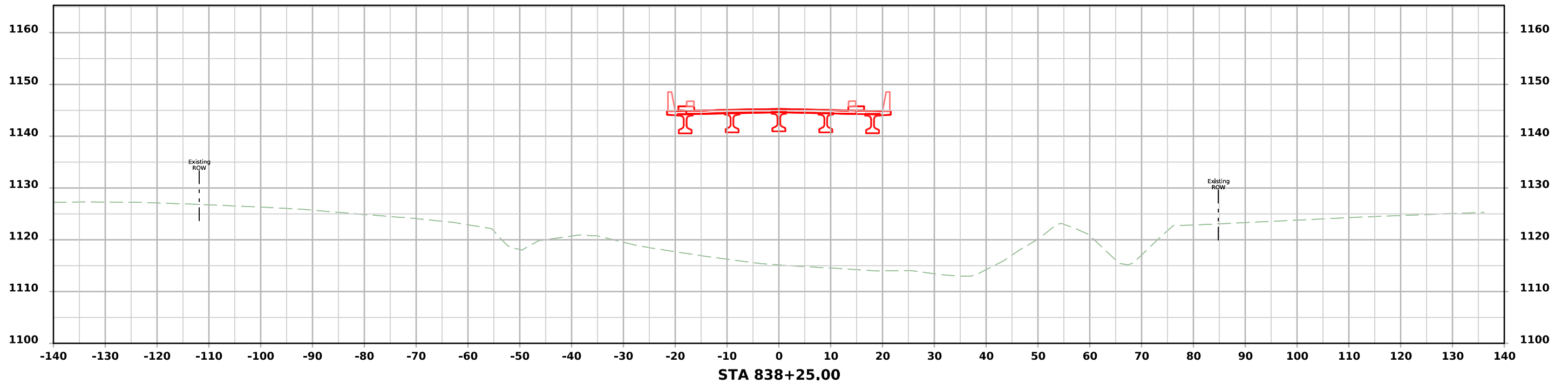
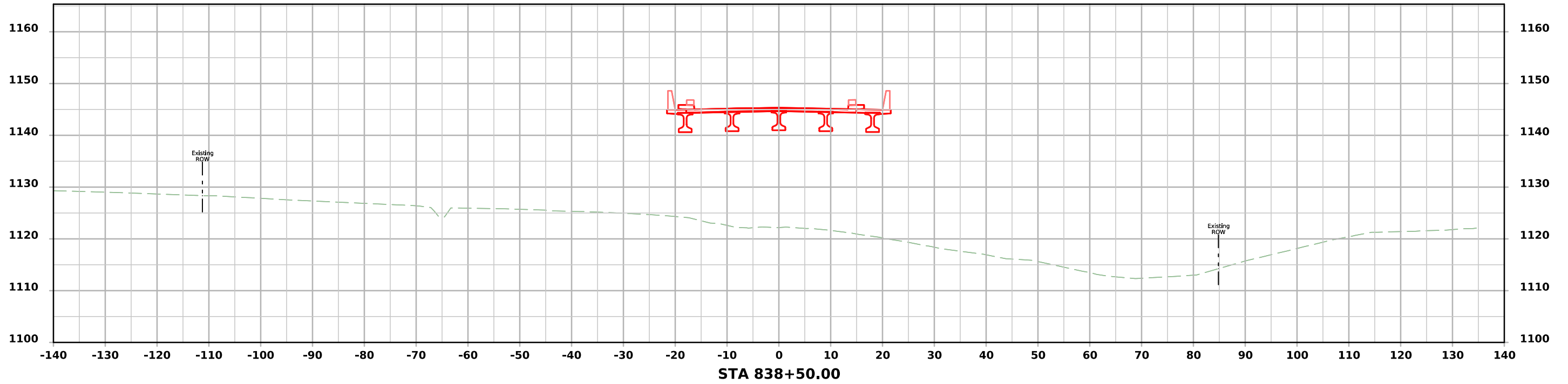
# US 6



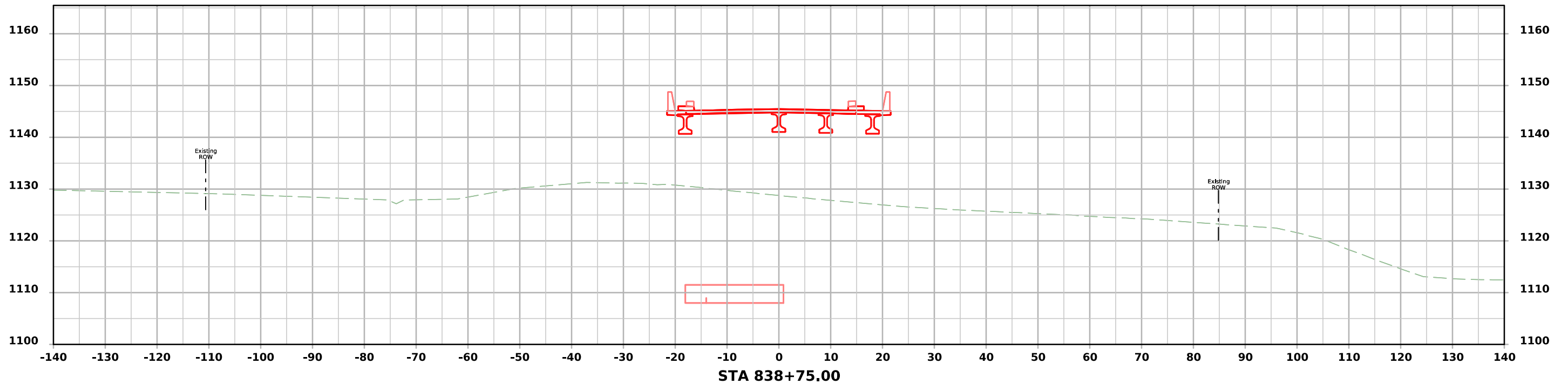
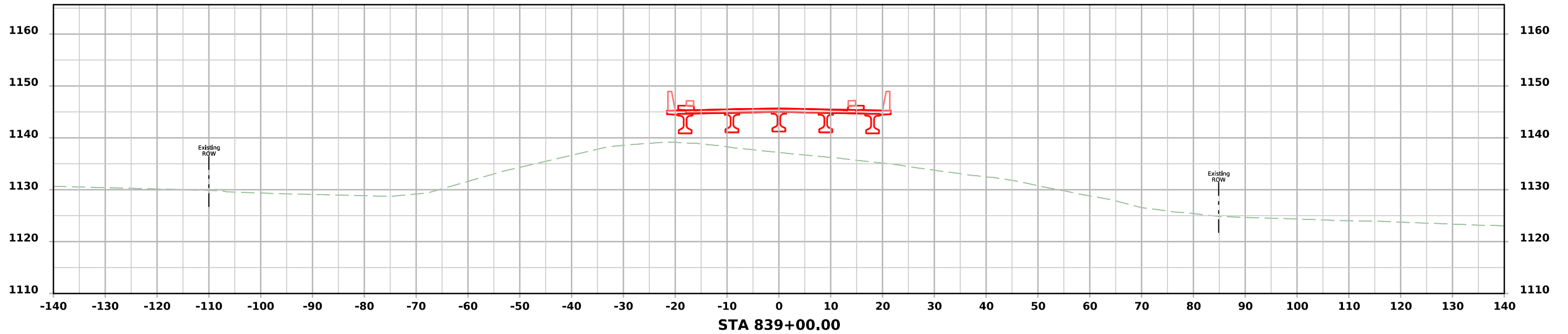
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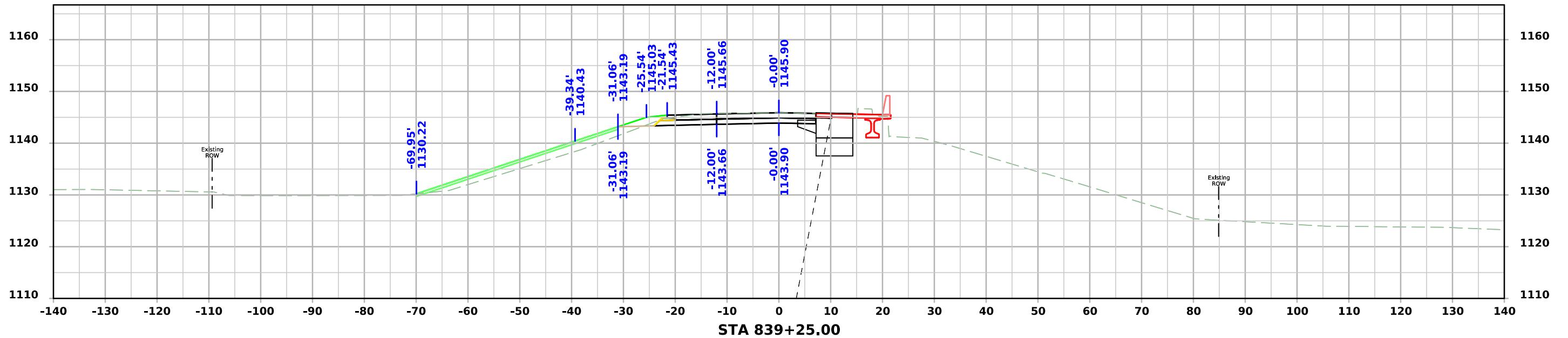
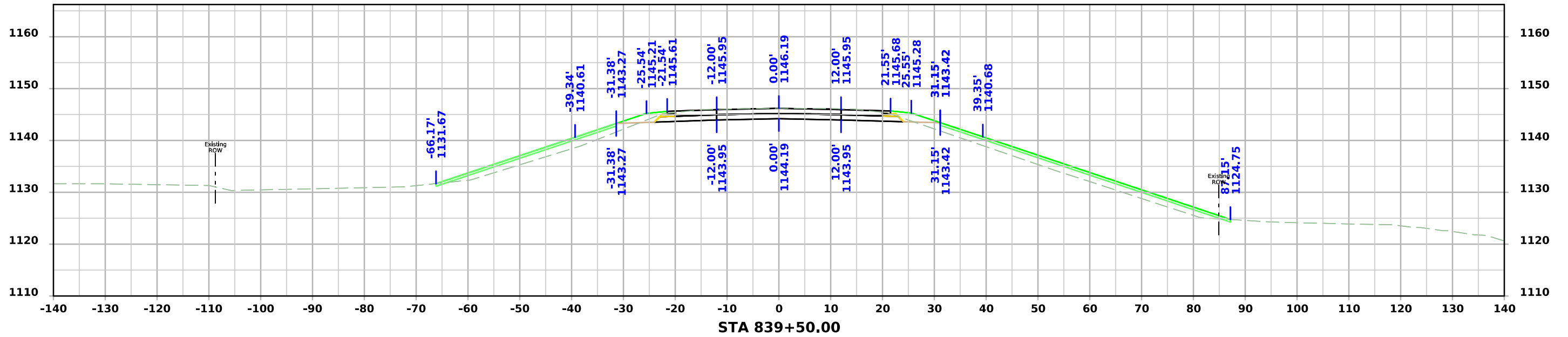


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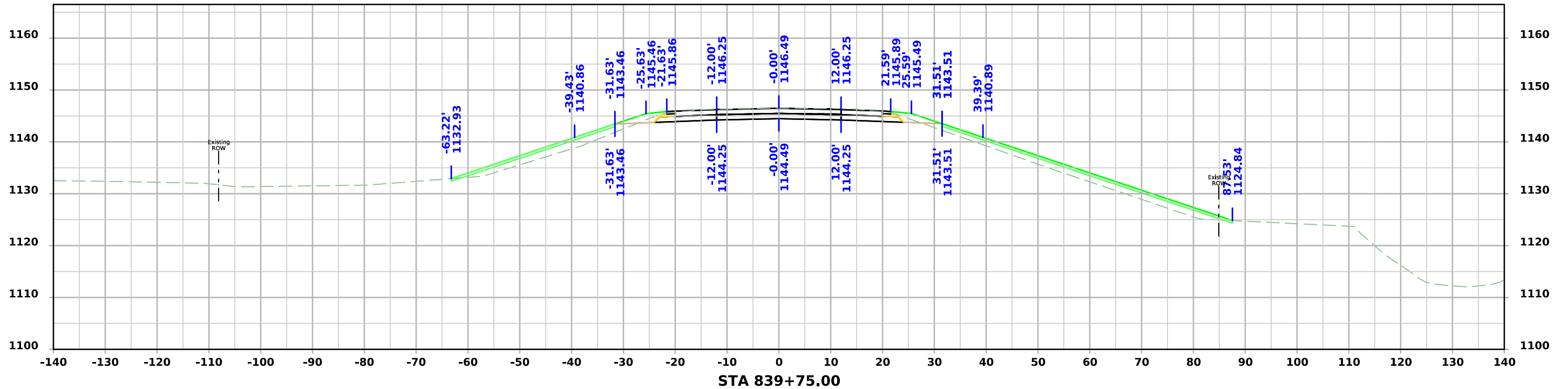
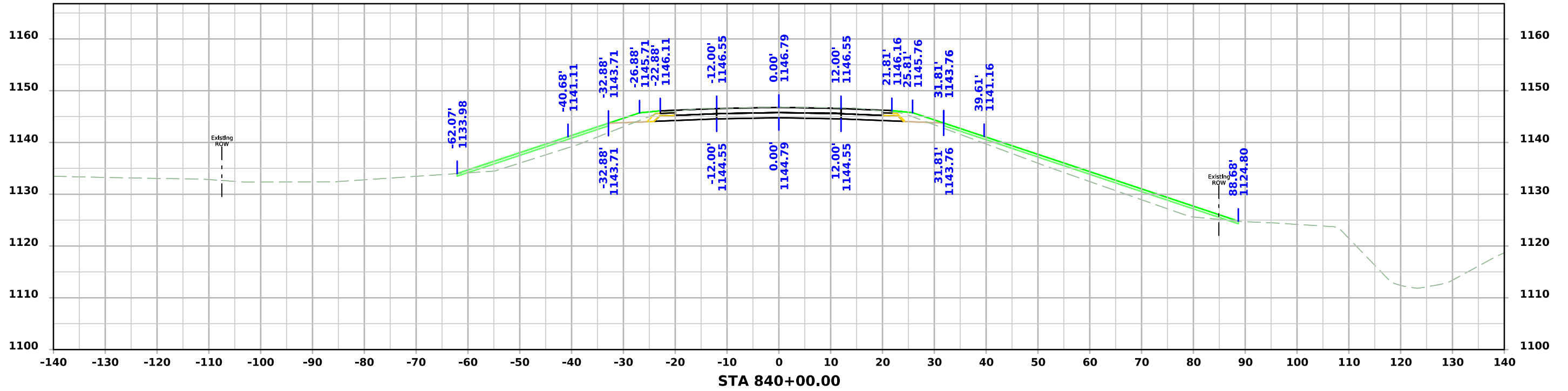
# US 6



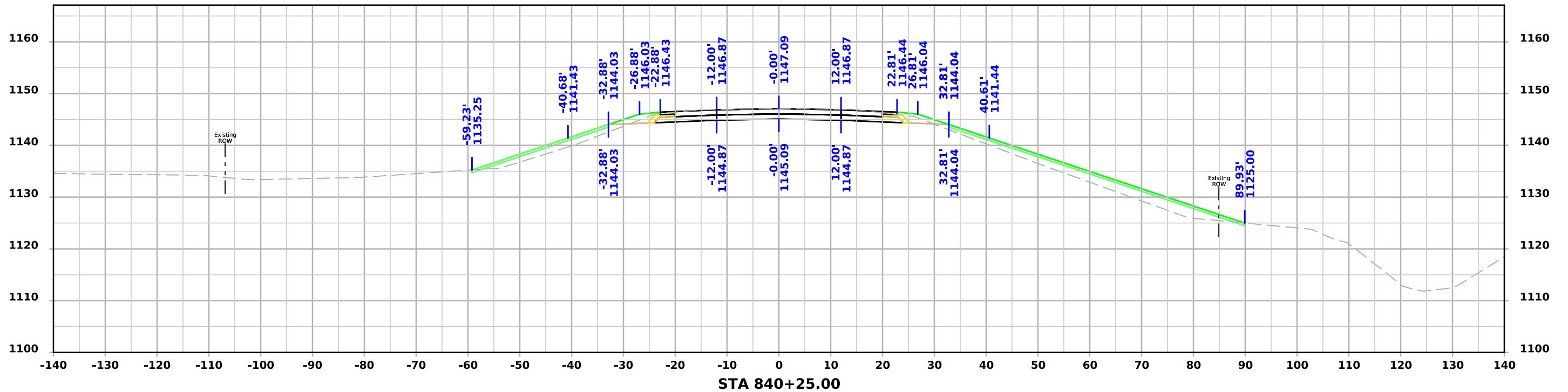
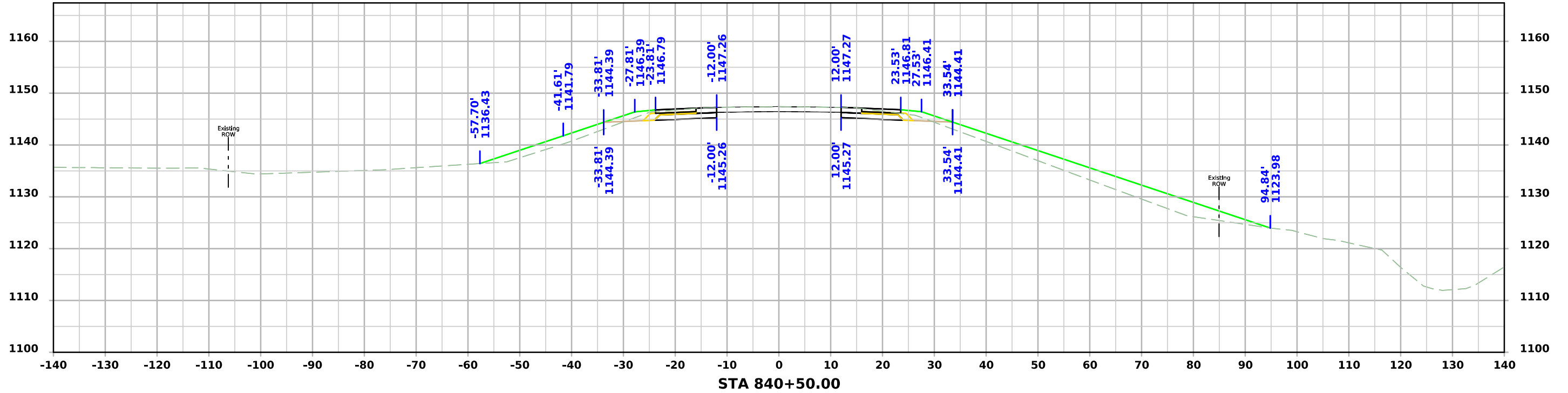




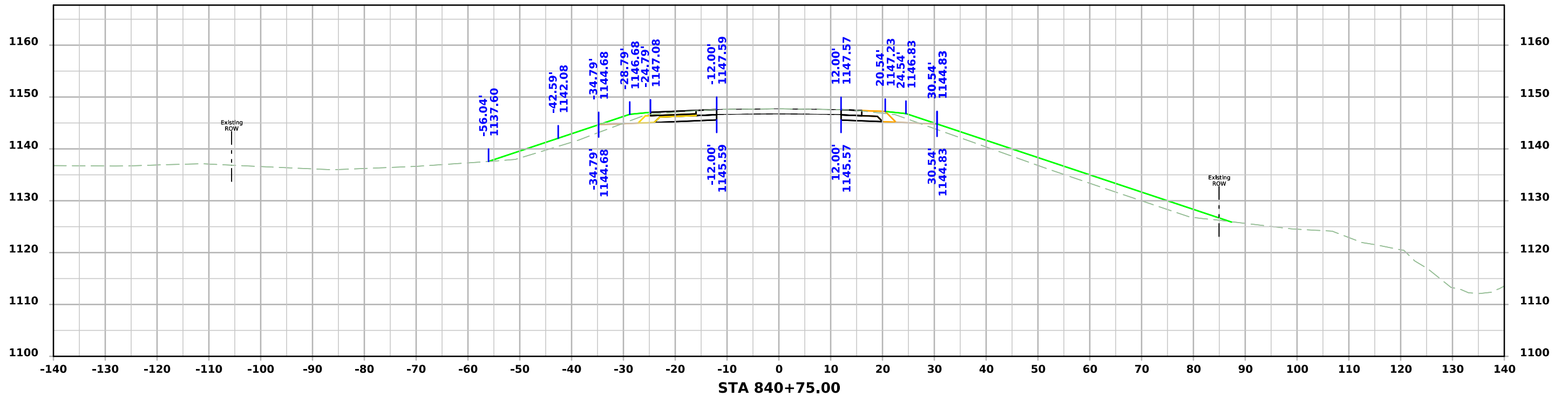
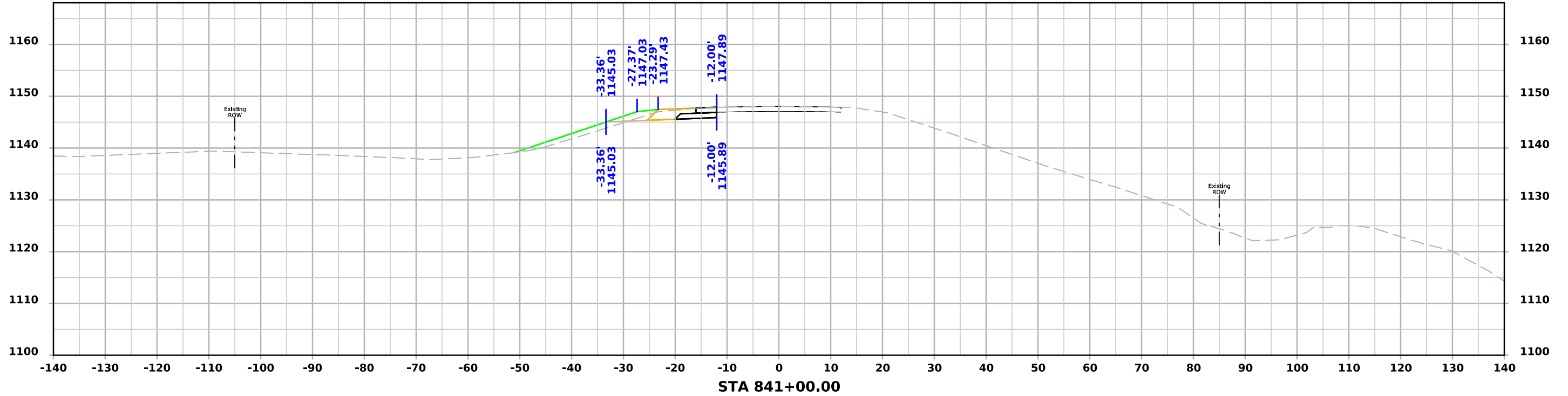
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