LETTING DATE
Jan 19 2028

Bridge-Unspecified
BRF-006-5(026)--38-79

POWESHIEK COUNTY

INDEX OF SHEETS

IOWA | DOT

PLANS OF PROPOSED IMPROVEMENT ON THE

PRIMARY ROAD SYSTEM
POWESHIEK COUNTY

Bridge-Unspecified

Stony Creek 0.4 mi W of W Jct Co Rd V18

SCALES: As Noted

Refer to the Proposal Form for list of applicable specifications.

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

IOWA ONE CALL
1-800-292-8989
www.iowaonecall.com
811 Know what's below. Call before you dig.

REVISIONS

TOTAL	..
PROJECT IDENTIFICATION NUMBER	
23-79-006-010	
PROJECT NUMBER	
BRF-006-5(026)--38-79	
R.O.W. PROJECT NUMBER	

D03: Jul 1, 2025
D05: Nov 14, 2025
P09: Apr 19, 2026
D04: Sep 22, 2026
B03: Nov 2, 2026

DESIGN DATA RURAL

2040	AADT	2600	V.P.D.
20 –	AADT	–	V.P.D.
20 –	DHV	–	V.P.H.
TRUCKS		9	%
Total Design ESALs		–	

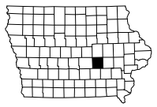
INDEX OF SEALS

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

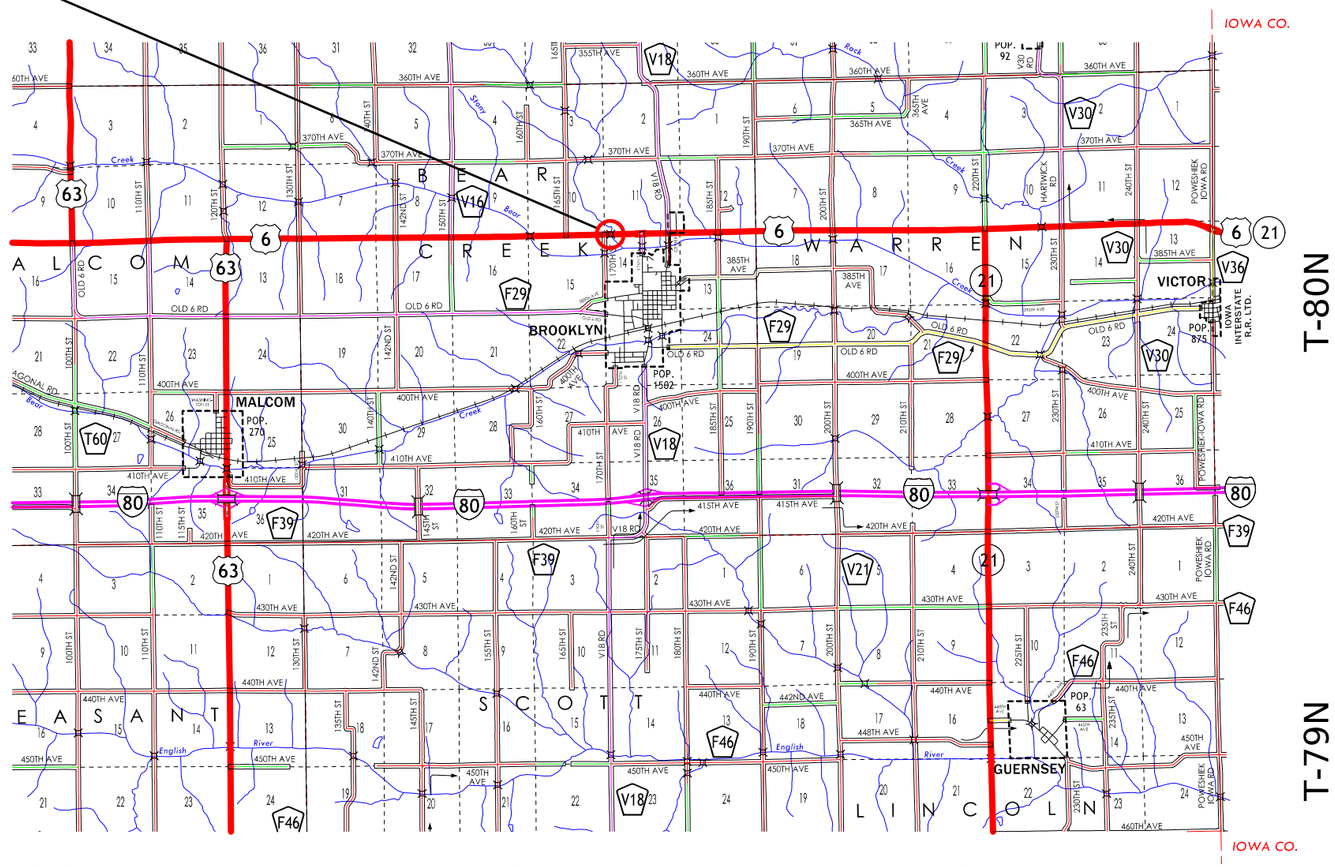
PRELIMINARY PLANS

Subject to change by final design.

D2 PLAN - June 02, 2025



PROJECT LOCATION:
BRIDGE
US-6 over Stony Creek
FHWA#: 45760 (EXST)
Maint. No. 7900.9S006



LOCATION MAP SCALE
0 1 2 3
Miles

FILE NO.	ENGLISH	DESIGN TEAM Flattery\Bell\Boudreaux	POWESHIEK COUNTY	PROJECT NUMBER BRF-006-5(026)--38-79	SHEET NUMBER A.2

7:57:11 AM 6/2/2025 nboudre pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\7900601023\Design\BRF-006-5(026)--38-79_Bridge-Unspecified\CADD_Files\Sheet_Files\A01_79006026Z0.dgn

IOWA DEPARTMENT OF TRANSPORTATION

TO OFFICE:	District 1	**DATE:**	Jul 25, 2024
ATTENTION:	Allison, Smyth	**PROJECT:**	Poweshiek County BRF-006-5(026)--38-79
FROM:	John Bartholomew		PIN: 23-79-006-010 Stony Creek 0.4 mi W of W Jct
BUREAU:	Design		Maint. No. 7900.9S006 FHWA: 45760
SUBJECT:	Project Concept Statement; (Final Approval, D0)		Design: 2453

This project involves the Replacement of the US 6 bridge (Maint. No 7900.9S006) over Stony Creek 0.4 mi W of W Jct Co Rd V18.

A concept review was held on June 6, 2024. Those present included Jeremey Vortherms from the District 1 Office; Abraham Kuol, Mohamad Dokmak, Jimmy Ellis, Christian Kennel from Bridge and Structures Bureau and Kevin Patel, John Bartholomew, Anthony Apland from the Design Bureau.

The two alternatives considered were:

1. Remove and replace the existing 102 ft. x 28 ft. bridge with a 150 ft. x 44 ft. , CCS bridge utilizing an off-site detour. Estimated cost of this alternative is **$1,938,200.**

2. Remove and replace the existing 102 ft. x 28 ft. bridge with a Culvert utilizing an off-site detour. This Alternate was discussed and dismissed.

Alternative 1 is the preferred alternative. Additional right of way/right of entry will be required. Traffic will be maintained by an off-site Detour.

The Draft Project Concept Statement was sent out for review and comment with concerns to be resolved by 7/9/2024. Comments received during the review period have been considered and resolved.

This project is recommended for construction in FY2028 . The Bridges and Structures Bureau will coordinate plan preparation with assistance from the Design Bureau.

JEB: ARA
Attach.
cc:

C. Purcell	M. Kennerly	K. Nicholson
M. Dell	J. Nelson	M. Nop
M. Swenson	D. Sprengeler	C. Poole
S. Majors	A. Poole	K. Brink
D. Newell	B. Bradley	J. Laaser-webb
W. Sorenson	E. Wright	M. Ross
A. Welch	J. Harris	M. Van Dyke
B. Hofer	G. Karssen	B. Azeltine
S. Anderson	D. Stokes	T. Jerman
K. Patel	R. Harris	M. Todsen
B. Dolan	T. Lovan	Z. Abrams
J. Bartholomew	J. Vortherms	A. Swisher
S. Nixon	S. Passick	J. Garton
A. Loonan	S. Ebel	J. Becker
R. Ellis	J. Ellis	S. Sersland
R. Meyer	M. Khoda	J. Hauber
S. Neubauer	K. Olson	FHWA

FINAL PROJECT CONCEPT STATEMENT

US 6 Bridge over Stony Creek 0.4 mi W of W Jct Co Rd V18.

Poweshiek County
BRF-006-5(026)--38-79
PIN: 23-79-006-010
Maint. No. 7900.9S006
FHWA No. 45760

Highway Division
Design Bureau

John Bartholomew, P.E.
515-239-1540

July 31, 2024

I. STUDY AREA

A. Project Description

This project involves the replacement of the US 6 bridge (Maint. No 7900.9S006) over Stony Creek 0.4 mi W of W Jct Co Rd V18.

Two alternatives were considered for this project:

1. Remove and replace the existing 102 ft. x 28 ft. bridge with a 150 ft. x 44 ft. , CCS bridge utilizing an offsite detour. Estimated cost of this alternative is **$1,938,200.**

2. Remove and replace the existing 102 ft. x 28 ft. bridge with a Culvert utilizing an offsite detour.

   Alternate #1 is the preferred alternative because of the Creek's flow requirement, Alternative #2 was discussed and dismissed.

B. Need for Project

This is a 102 ft. x 28 ft. concrete slab bridge that was built in 1954, overlaid in 1994, and is near the end of its useful life. The bridge is in poor condition. The deck has several wide cracks, heavy leaching, rust staining, hollows, and is breaking up around the expansion joints. The far abutment has a leaching crack and hollow and scaled areas with exposed steel. Support beams were added in 2020 at the end sections due to concerns with the concrete condition. The bridge was designed for live loads below the current standards. Due to its condition, the bridge should be replaced.

U.S. 6 Westbound U.S. 6 Eastbound

C. Present Facility

The existing structure is a 102 ft. x 28 ft. , CCSB bridge constructed in 1954. US 6 in the project area is 24 ft. wide HMA pavement with 2 ft. wide HMA shoulders and 3:1 foreslopes, constructed in 1954. HMA resurfacing was accomplished in 1994.

D. Traffic Estimates

The 2028 construction year and 2048 design year average daily traffic estimates are 2200 ADT with 13% trucks and 2600 ADT with 13% trucks, respectively.

E. Sufficiency Ratings

US 6 is classified as an Access route and is a maintenance service level A roadway. The Bridge Condition Index is 47 and the Bridge Condition Rating is Poor.

F. Access Control

Access rights will not be acquired for this project.

G. Crash History

During the five-year study period from January 1, 2019 through December 31, 2023, there were 3 crashes including, 3 personal property crashes. The PCR rating is "Negligible" with a value of "-0.12".

II. PROJECT CONCEPT

A. Alternative #1 - Replace with a bridge utilizing an offside detour

The existing 102 ft. x 34.9 ft. , continuous concrete slab bridge (CCS) will be replaced with a 3 span, 150 ft. x 44 ft. , CCS bridge. The typical cross section adjacent to the bridge will consist of a 24 ft. roadway with 10 ft. effective shoulders (2 ft. additional paved and 8 ft. granular) and 3:1 foreslopes.

There is a field entrance in the Northeast quadrant of the existing bridge that will have to be relocated east of the bridge, due to conflicts with the new bridge and overhead utility poles.

This bridge will be constructed on the existing vertical and horizontal alignment. New bridge approaches will be constructed. The existing guardrail will be replaced with new guardrail and the shoulders will be paved 20 ft. beyond the ends of the guardrail. Class 10 will be necessary to flatten the existing foreslopes and to construct the new guardrail blisters. Class E revetment will be placed under the bridge for slope protection. New bridge end drains will be constructed on both ends of the bridge. Apply erosion control and rural seeding and fertilizing to all disturbed areas.

Based on preliminary backwater results, a new wing dike may be needed.

A regulated material issue has been identified for the U.S. 6 bridge. Asbestos was found in the expansion joint/joint filler material in the vertical joints of the abutment notches. the quantity is estimated at 120 sq. ft. for removal.

It appears that right of way will be required for this project.

Traffic will be maintained by an off-site detour.

Bridge Items	Estimated Costs
New Bridge	$ 938,800
Bridge Removal	28,000
Cofferdam	50,000
Revetment	44,000
Asbestos Removal	5,000
Mobilization - 10%	106,100
M & C - 15%	233,400
Bridge Costs	**$ 1,405,300**

Roadway Items	
Bridge Approaches	$152,100
Removal of Pavement	9,400
Excavation Class 13	29,200
Guardrail (Includes Removal)	30,600
Paved Shoulders for Guardrail	14,400
Class 10 for Guardrail Blisters	44,100
Bridge End Drains	3,000
Seeding and Fertilizing	1,200
Right of Way	10,000
Pavement Markings	32,200
Erosion Control	50,000
Traffic Control - 5%	26,200
Mobilization - 5%	26,200
M & C - 20%	104,600
Roadway costs	**$ 532,900**
Project Total	**$1,938,200**

B. Detour Analysis

US 6 will be closed and an offsite detour will be utilized. It is anticipated the detour will be in place for approximately 180 days. The detour would follow Highway 398 South at the junction of U.S. 6 and Highway 398 to Historic U.S. 6, then West on Historic U.S. 6 to U.S. 63 then North to the junction of U.S. 6. Out of distance travel is 2.2 miles. The total distance user cost is anticipated to be $232,187. The cost for county road maintenance will be $8,862 as calculated by the Gas Tax Method. Detour signing costs will be $10,000.

C. Recommendations

It is recommended that the present structure be Replacement, as described in Alternative #1.

D. Construction Sequence

It is anticipated that all work on this project will be awarded to one prime contractor. The Bridges and Structures Bureau will coordinate the plan preparation with assistance from the Design Bureau.

E. ADA Accommodations

There are no bike paths or sidewalks adjacent to US 6; therefore, no ADA accommodations are planned in conjunction with this project.

F. Special Considerations

This will not be a traffic critical project.

The ABC Rating Score of 21 is less than the first stage filter threshold of 50, therefore this bridge will be considered further for Accelerated bridge construction.

No bike path or sidewalk will be required as part of this project.

Waterway is not on a state water trail or paddling route.

Right of Way will be required for this project.

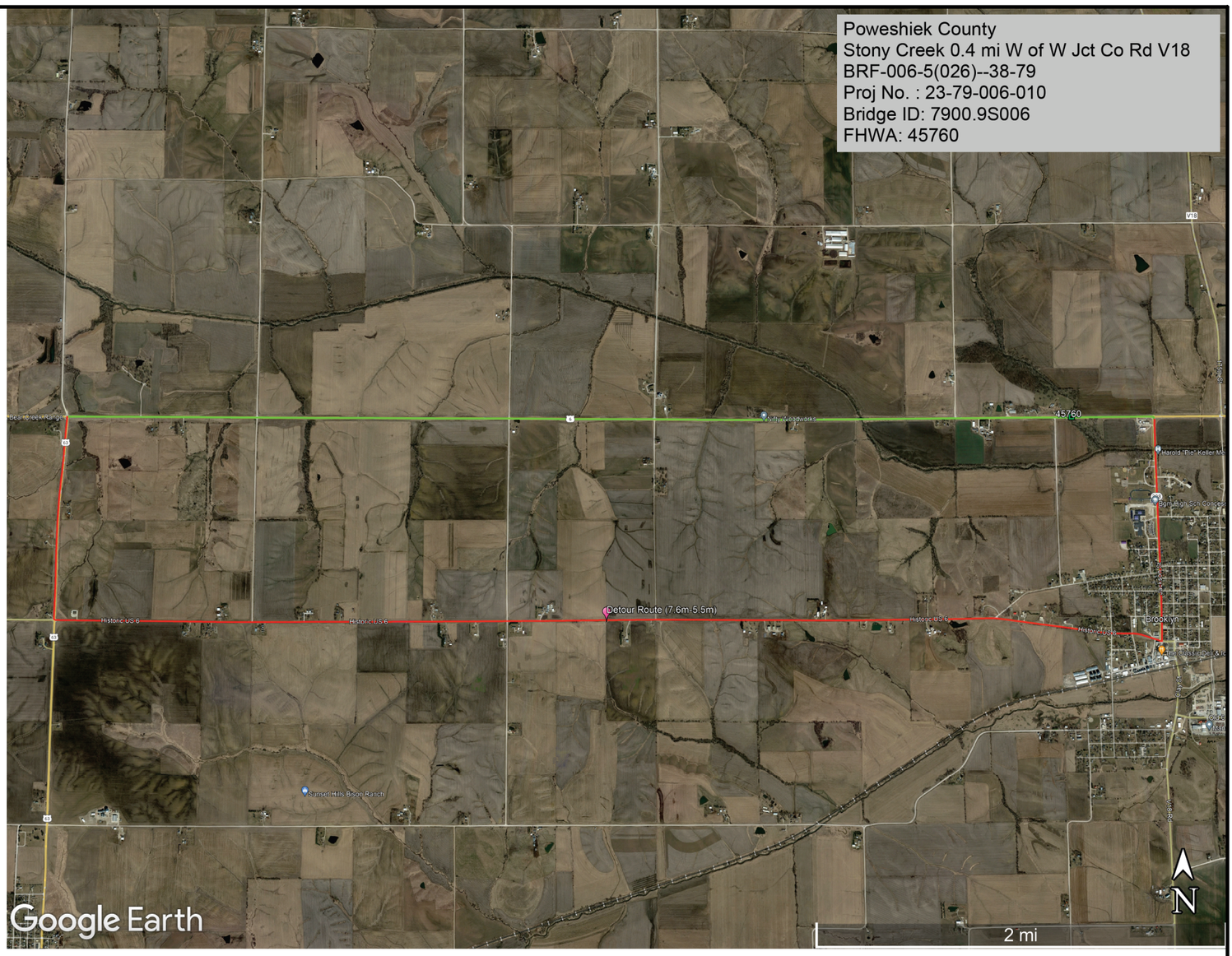
District 1 Design team will be completing the roadway design plans of this project.

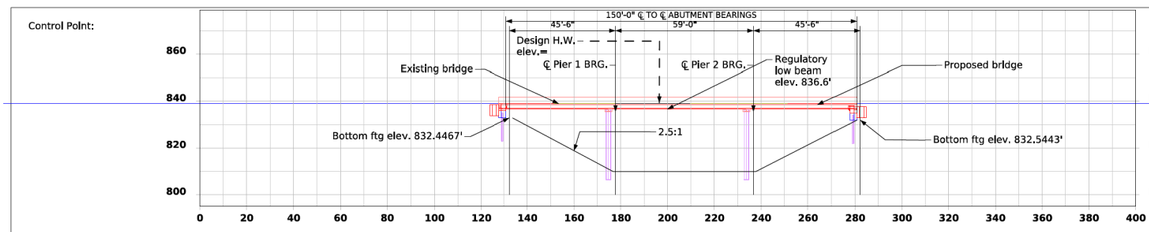
The Location and Environment Bureau has not reviewed this project at this time.

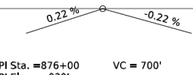
G. Program Status

Site data has been developed by the Design Bureau. This project is listed in the 2024-2028 Iowa Transportation Improvement Program, with $10,000 programmed for right of way in FY 2028, and $1,250,000 for Replacement in FY 2028. Costs for this project may be eligible for bridge replacement funds. A schedule of events will be developed following approval of the Project Concept.

JEB: ara







VPI Sta. =876+00 VC = 700'
VPI Elev. = 839'

Existing Profile
℄ Grade US 6

Hydraulic Data

RIDB: "StonyC_POW_0.25"
Drainage Area = 11.4 Sq. Mi.
Stream Slope (HGL) = 10.56ft./Mi.?
Avg. Low Water Stage = xxx ft?(check lidar/maint. sketches)

Operational Low Beam = 836.6 ft
Channel Low slab = 817.6 ft

Q_{25} = 3138 cfs
Stage = 828.9 ft

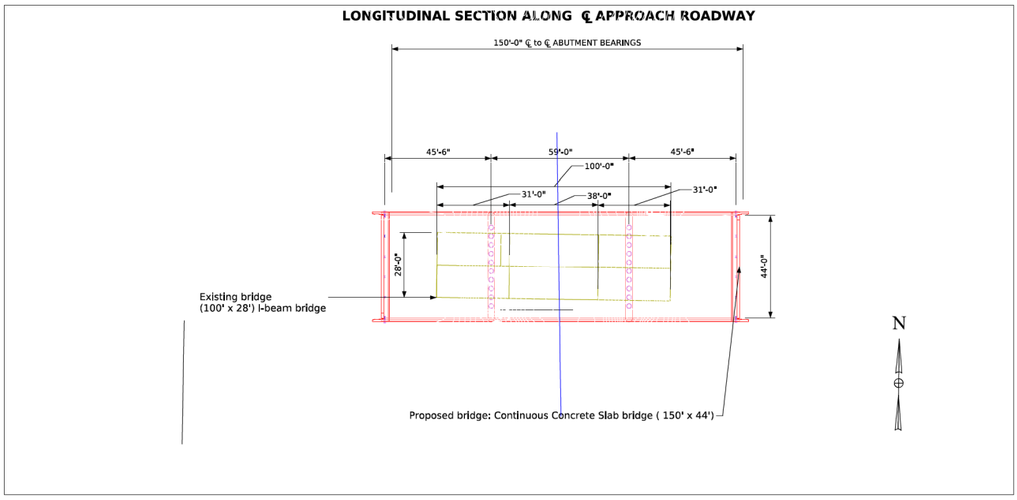
Q_{50} = 3847 cfs
Stage = 829.33
Operational Freeboard = 6.8 ft.
Avg. Bridge Velocity = 5.51 fps

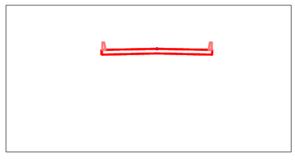
Q_{100} = 4550 cfs
Stage = 829.69
Operational Freeboard = 6.44 ft.
Backwater = 0.85 ft.
Avg. Bridge Velocity = 6.14 fps

Q_{200} = 5893 cfs
Stage = 830.31 ft
Calculated Design Scour = xxx.x, (Check Hec 18 calcs)

Q_{500} = 6443 cfs
Stage = 830.47 ft
Channel Freeboard = 5.66 ft.
Avg. Bridge Velocity = 7.69 fps
Calculated Check Scour = xxx.x

LONGITUDINAL SECTION ALONG ℄ APPROACH ROADWAY





Traffic Estimate

2040 AADT 2600 V.P.D.

TRUCKS 9 %
Total
Design ESALs

Utilities Note:

Utilities shown on this sheet are for information only.See Road Design sheets for utility information.

General Utility Symbols:

E - Electric Line
G - Gas Line
SAN - Sanitary Sewer
T - Telephone Line
W - Water Line
FO - Fiber Optic Line
GHP - Gas High Pressure
ST S - Storm Sewer
TV - TV
- Power Poles

Location

US 6 over Stony Creek, 04. mi. W. of W. Jct. Co. Rd. v18
In City of Brooklyn
T-80N R-34W
Section 11/14
Bear Creek Township
Poweshiek County
FHWA No. *045760*
Bridge Maint. No. 7900.9S006
Asset ID No.
FRA No. *(if applicable)*
Latitude 41.74628524°
Longitude -92.45358367°

0 20
Scale In Feet

Situation Plan

Situation Plan

Design For 0 Degree

150'-0" x 40'-0" Continuous Concrete Slab Bridge

45.5' END SPANS 59.0' INTERIOR SPAN
Situation Plan

STA. (879+68) Turn-in Date:05/20/2024

Poweshiek County
IOWA DEPARTMENT OF TRANSPORTATION

Design No. 0228	Design Sheet No. 1 of 1	FHWA/Asset 45761

FILE NO. 98765	ENGLISH	DESIGN TEAM IOWA DOT	Poweshiek COUNTY	PROJECT NUMBER BRF-006-5(026) --38-79	SHEET NUMBER V.1

SYSTEMTIME SYSTEMDATE USERNAME DGNSPEC

FILE NO. 9:18:21 AM 5/30/2025
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DESIGN TEAM FlatteryBellBoudreaux
emcdona
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POWESHIEK COUNTY
PROJECT NUMBER BRF-006-5(026)--38-79
SHEET NUMBER A.7

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Chad Coburn
Executive Director
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(515) 321-3336
clark.lundy@upnfiber.com

City of Brooklyn Needed

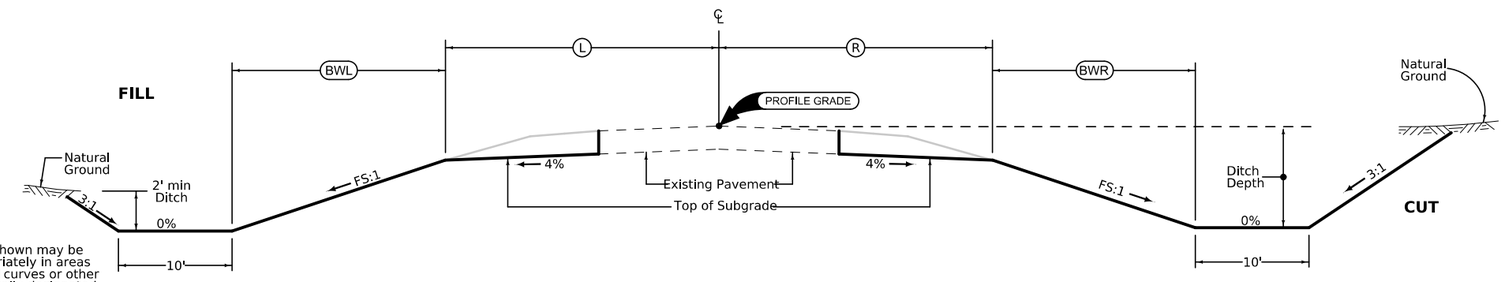
Utility Company Contacts

LOCATION			DIMENSIONS			
ROAD IDENTIFICATION	STATION TO STATION		(L) Feet	(R) Feet	(BWL) Feet	(BWR) Feet
US 6	XX	XX	XX	XX	XX	XX
Bridges and Approaches						
US 6	XX	XX	XX	XX	XX	XX

Normal section shown may be modified appropriately in areas of superelevated curves or other locations specifically designated by the Engineer.

See Plan & Profile sheets and cross sections for additional details of ditches and backslopes.

G_2_Grade
MODIFIED



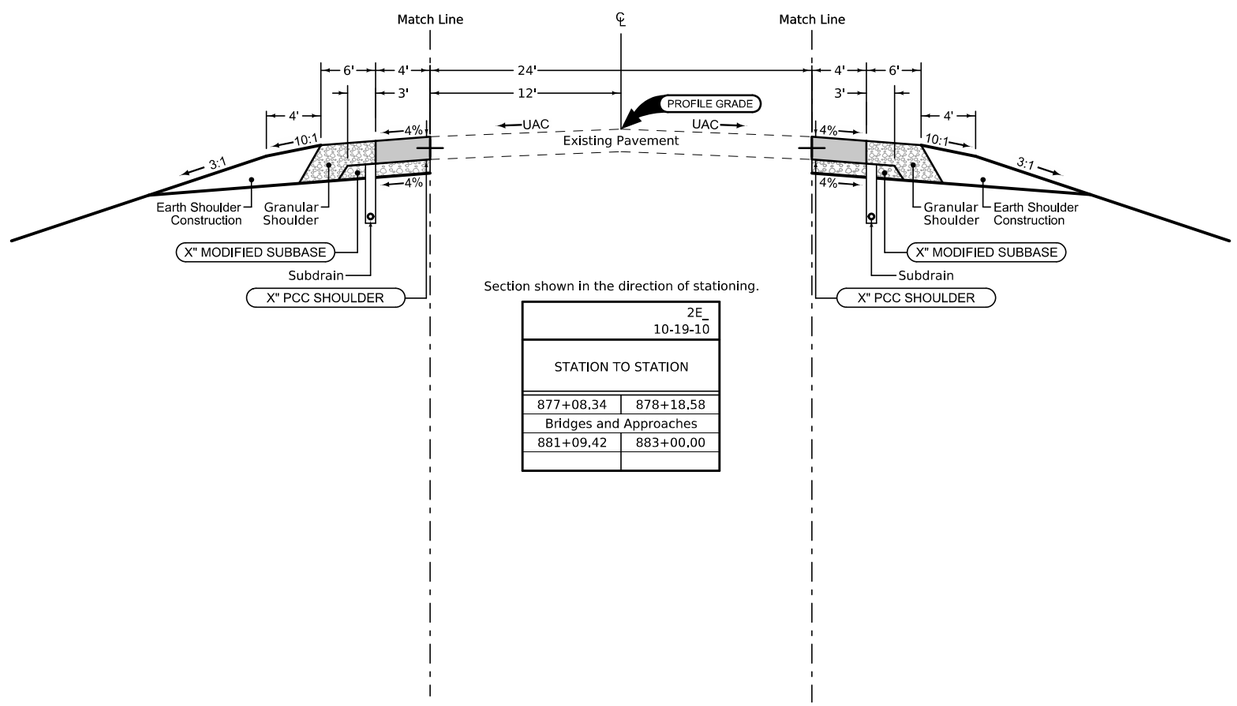
2 LANE GRADING

Full Depth PCC Combination Shoulder

Shoulder Jointing:
Longitudinal joint: BT-2
Transverse joints: C at 17' spacing

2_C_FullPCC_
04-20-21

STATION TO STATION	
887+50.46	878+18.58
Bridges and Approaches	
881+09.42	883+00.00



Section shown in the direction of stationing.

2E_
10-19-10

STATION TO STATION	
877+08.34	878+18.58
Bridges and Approaches	
881+09.42	883+00.00

Full Depth PCC Combination Shoulder

Shoulder Jointing:
Longitudinal joint: BT-2
Transverse joints: C at 17' spacing

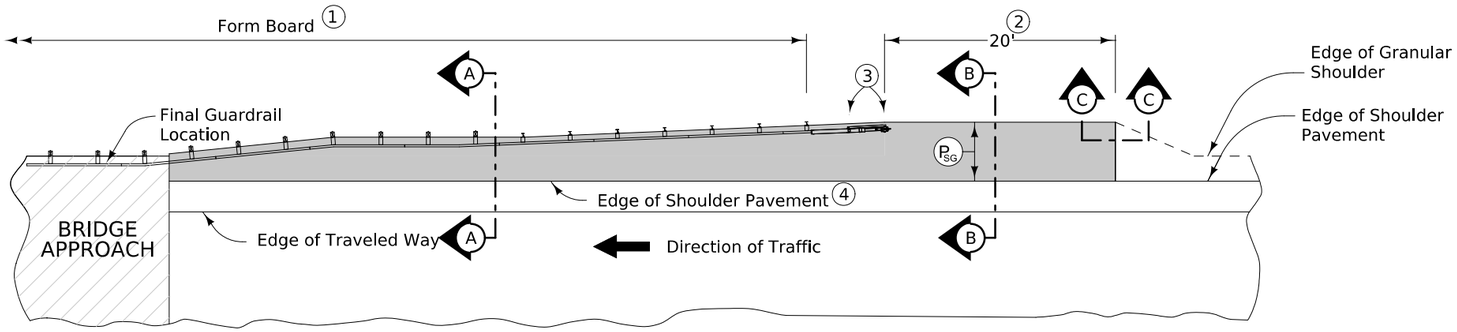
2_C_FullPCC_
04-20-21

STATION TO STATION	
877+08.34	878+18.58
Bridges and Approaches	
881+09.42	881+77.54

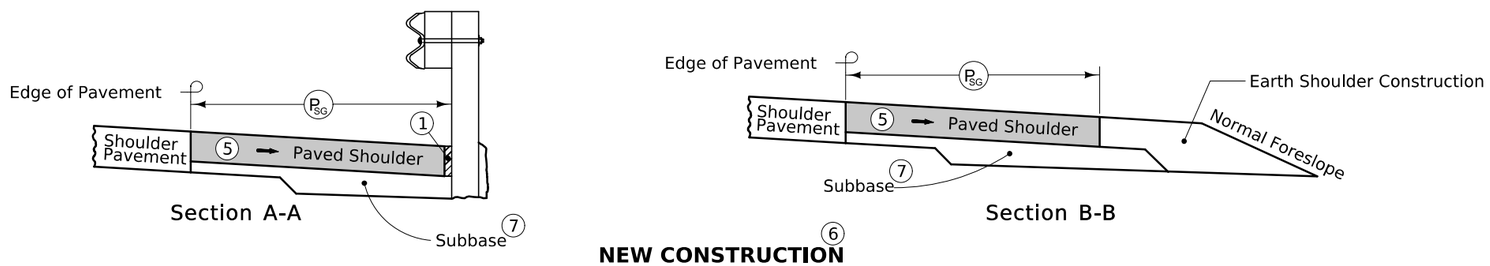
See Tab 112-9 for shoulder quantities.

US Highway 6

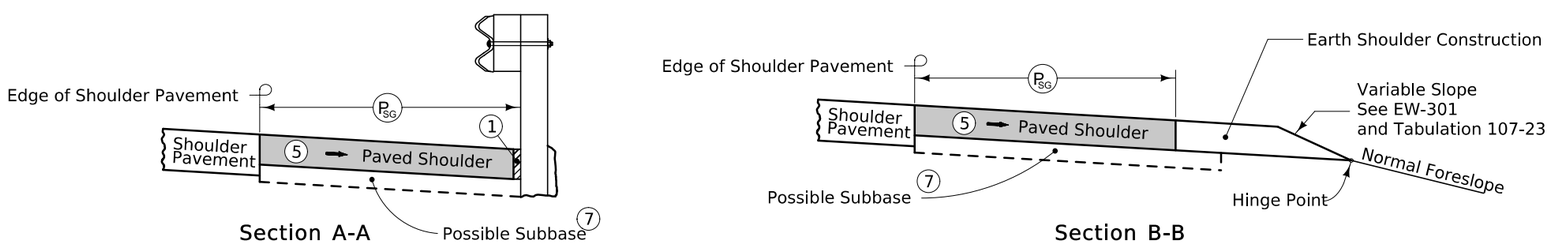
7157B
MODIFIED



PLAN VIEW



NEW CONSTRUCTION



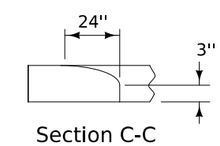
EXISTING SHOULDER

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. 'BT' joint (per PV-101) 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 C-C
Roll down at granular shoulder or earth.

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
- SB Shrub (Bushes)
- Timber
- Hedge
- Stump
- Swamp
- Rock Outcrop
- Broken Concrete
- Revetment (Rip Rap)
- Cemetery
- G Grave
- CV Cave
- SH 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
- WH Water Hydrant (Rural)
- ST Septic Tank
- C Cistern
- LP L.P. Gas Tank (No Footing)
- UST Underground Storage Tank
- Latrine
- Satellite TV Dish
- WHU Water Hook Up
- RT Radio Tower
- TA Tower Anchor
- Guardrail (Beam or Cable)
- GP Guard Post (one or two)
- Guard Post (over two)
- FP Filler Pipe
- GV Gas Valve
- WV Water Valve
- SL Speed Limit Sign
- MM Mile Marker Post
- SIGN Sign
- TCB Traffic Signal Control Box
- RRB Rail Road Signal Control Box
- TSB Telephone Switch Box
- EB Electric Box

UTILITY LEGEND

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

- W Poweshiek Water Association
- FO Brooklyn Mutual Telecom Co-op
- FO2 Aureon Network Services
- FO3 Unite Private Networks

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

RIGHT-OF-WAY LEGEND

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

PLAN AND PROFILE LEGEND AND SYMBOL INFORMATION SHEET

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

SURVEY SYMBOLS

- Interstate Highway Symbol
- U.S. Highway Symbol
- Iowa Highway Symbol
- County Road Highway Symbol
- Evergreen Tree
- Deciduous Tree
- Fruit Tree
- SB Shrub (Bushes)
- Timber
- Hedge
- Stump
- Swamp
- Rock Outcrop
- Broken Concrete
- Revetment (Rip Rap)
- Cemetery
- G Grave
- CV Cave
- SH 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
- WH Water Hydrant (Rural)
- ST Septic Tank
- C Cistern
- LP L.P. Gas Tank (No Footing)
- UST Underground Storage Tank
- Latrine
- Satellite TV Dish
- WHU Water Hook Up
- RT Radio Tower
- TA Tower Anchor
- Guardrail (Beam or Cable)
- GP Guard Post (one or two)
- Guard Post (over two)
- FP Filler Pipe
- GV Gas Valve
- WV Water Valve
- SL Speed Limit Sign
- MM Mile Marker Post
- SIGN Sign
- TCB Traffic Signal Control Box
- RRB Rail Road Signal Control Box
- TSB Telephone Switch Box
- EB Electric Box

UTILITY LEGEND

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

- W Poweshiek Water Association
- FO Brooklyn Mutual Telecom Co-op
- FO2 Aureon Network Services
- FO3 Unite Private Networks

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 — Survey Line
- Station
- 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
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- Existing and Proposed Right-of-Way
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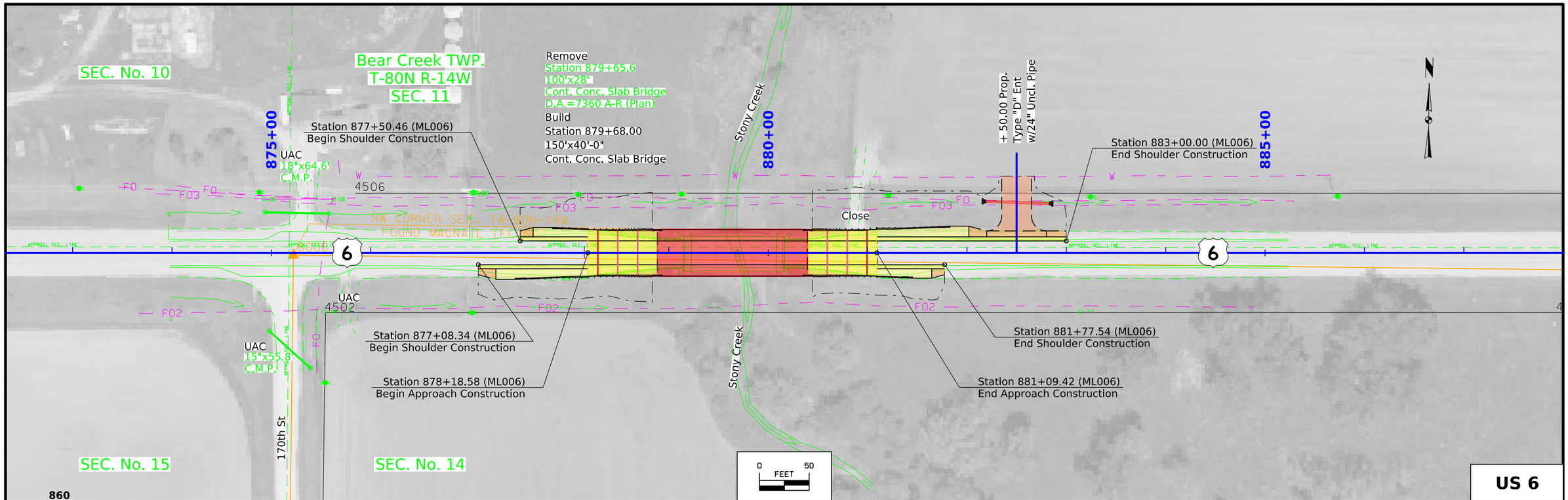
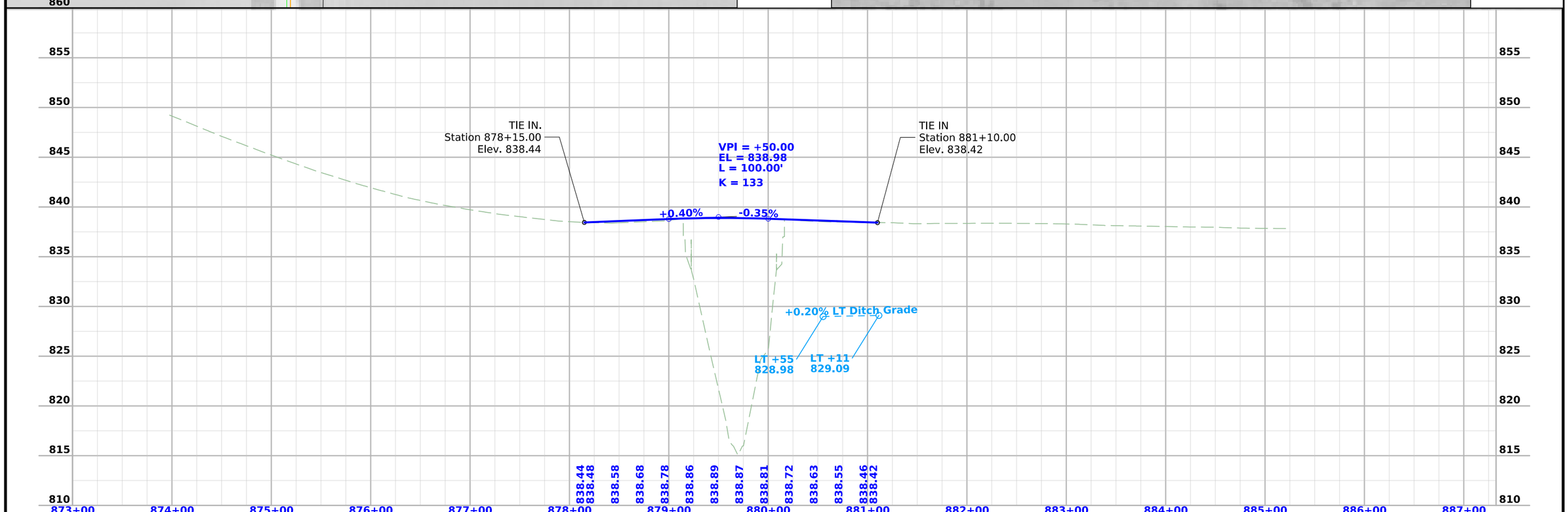
- C/A Access Control
- Property Line Symbol
- Property Line

PLAN AND PROFILE LEGEND AND SYMBOL INFORMATION SHEET

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





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108-23A
08-01-08

TRAFFIC CONTROL PLAN

US 6 will be closed to thru traffic during construction.
US 6 traffic shall be maintained via offsite detour. See Sheet JD.1 for detour.

108-25
10-21-14

511 TRAVEL RESTRICTIONS

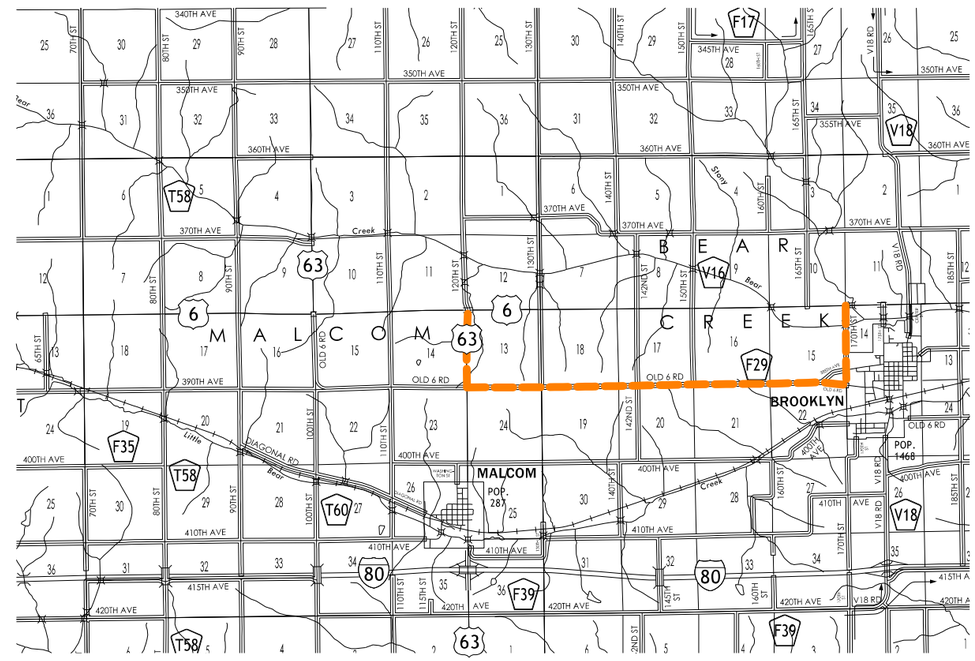
Route	Direction	County	Location Description	Feature Crossed	Object Type	Maint. Bridge No., Structure ID, or FHWA No.	Type of Restriction	Existing Measurement	Construction Measurement	Construction Measurement as Signed	Projected As Built Measurement	Remarks
			No Travel Restrictions expected at this time									

111-01
04-17-12

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
None provided	



R-15W

R-14W

N

T-80N

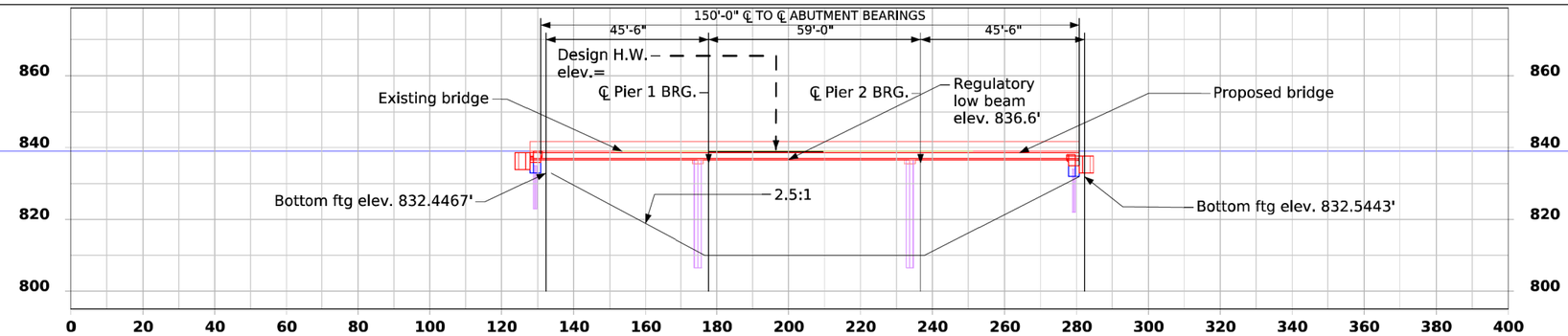
NOT TO SCALE

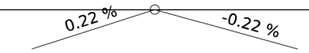
LEGEND
DETOUR ROUTE
US 6 DETOUR ROUTE

DETOUR
Stony Creek 0.4 mi W of W Jct
BRF-006-5(026)--38-79
PIN: 23-79-006-010

FILE NO. -	ENGLISH	DESIGN TEAM Flattery\Bell\Boudreaux	POWESHIEK COUNTY	PROJECT NUMBER BRF-006-5(026)--38-79	SHEET NUMBER JD.1

Control Point:





VPI Sta. =876+00 VC = 700'
VPI Elev. = 839'

Existing Profile
℄ Grade US 6

Hydraulic Data

RIDB: "StonyC_POW_0.25"
Drainage Area = 11.4 Sq. Mi.
Stream Slope (HGL) = 10.56ft./Mi.?
Avg. Low Water Stage = xxx ft?(check lidar/maint. sketches)

Operational Low Beam = 836.6 ft
Channel Low slab = 817.6 ft

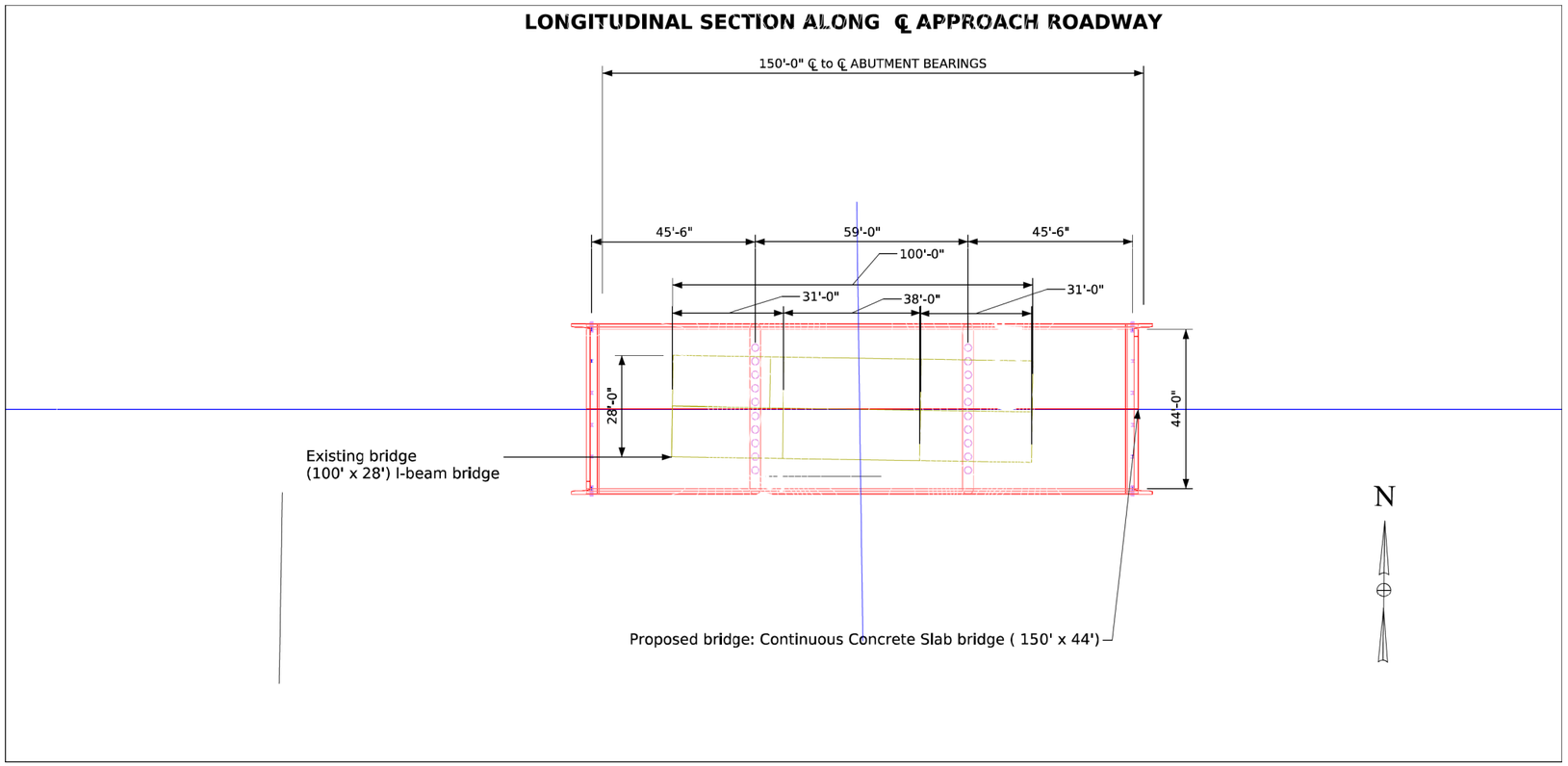
Q_{25} = 3138 cfs
Stage = 828.9 ft

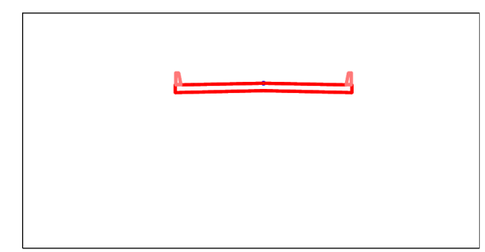
Q_{50} = 3847 cfs
Stage = 829.33
Operational Freeboard = 6.8 ft.
Avg. Bridge Velocity = 5.51 fps

Q_{100} = 4550 cfs
Stage = 829.69
Operational Freeboard = 6.44 ft.
Backwater = 0.85 ft.
Avg. Bridge Velocity = 6.14 fps

Q_{200} = 5893 cfs
Stage = 830.31 ft
Calculated Design Scour = xxx.x, (Check Hec 18 calcs)

Q_{500} = 6443 cfs
Stage = 830.47 ft
Channel Freeboard = 5.66 ft.
Avg. Bridge Velocity = 7.69 fps
Calculated Check Scour = xxx.x





Traffic Estimate

2040 AADT 2600 V.P.D.

TRUCKS 9 %
Total
Design ESALs

Utilities Note:

Utilities shown on this sheet are for information only.See Road Design sheets for utility information.

General Utility Symbols:

E - Electric Line
G - Gas Line
SAN. - Sanitary Sewer
T - Telephone Line
W - Water Line
FO - Fiber Optic Line
GHP - Gas High Pressure
ST S - Storm Sewer
TV - TV
- Power Poles

Location

US 6 over Stony Creek, 04. mi. W. of W. Jct. Co. Rd. v18
In City of Brooklyn
T-80N R-34W
Section 11/14
Bear Creek Township
Poweshiek County
FHWA No. *045760*
Bridge Maint. No. 7900.9S006
Asset ID No.
FRA No. *(if applicable)*
Latitude 41.74628524°
Longitude −92.45358367°

Situation Plan

Situation Plan

0 20
Scale In Feet

Not to Scale | For Information Only

Design For 0 Degree

150'-0" x 40'-0" Continuous Concrete Slab Bridge

45.5' END SPANS , 59.0' INTERIOR SPAN
Situation Plan

STA. (879+68) Turn-In Date:05/20/2024

Poweshiek County
IOWA DEPARTMENT OF TRANSPORTATION

Design No. 0228 Design Sheet No. 1 of 1 FHWA/Asset 45791

FILE NO.	ENGLISH	DESIGN TEAM Flattery\Bell\Boudreaux	POWESHIEK COUNTY	PROJECT NUMBER BRF-006-5(026)--38-79	SHEET NUMBER V.1

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CROSS SECTION VIEW COLOR LEGEND

Design Color No.	Feature
Aggregate	
(64)	Choke Stone
(42)	Engineering Fabric
(8)	Flooded Backfill
(92)	Macadam Stone
(20)	Modified
(12)	Plowing Shaping
(14)	Porous Backfill
(8)	Revetment Class A
(6)	Revetment Class B
(62)	Revetment Class C
(188)	Revetment Class D
(28)	Revetment Class E
(12)	Shoulder Special Backfill
(12)	Special Backfill
(20)	Subbase
(20)	Subbase Lower
(20)	Subbase Upper
(118)	Subgrade Treatment
Asphalt	
(207)	HMA Base Course
(207)	HMA Interim Course
(207)	HMA Surface Course
Concrete	
(0)	Barrier Concrete
(0)	Barrier Concrete Footing
(0)	Curb Gutter
(48)	Flowable Mortar
(0)	Median Concrete
(0)	PCC Pavement
(0)	Sidewalk
Shoulder	
(209)	Shoulder HMA
(0)	Shoulder PCC
(6)	Shoulder Granular
Existing	
(0)	Existing Pavement

Design Color No.	Feature
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
Grading	
(8)	Behind Curb Cut
(6)	Granular
(13)	Granular Back Fill
(48)	Rock Undercut
(8)	Shoulder Earth Fill
(2)	Side Slopes
(226)	Side Slopes Dressing
Substrata	
(128)	Boulder Substrata
(48)	Broken Weathered Substrata
(3)	Core Out Substrata
(203)	Existing Pavement Substrata
(6)	Loam Substrata
(80)	Rock Substrata
(4)	Select Sand Substrata
(3)	Shale Substrata
(10)	Topsoil Substrata
Unsuitable / Waste	
(3)	Unsuitable Type A
(13)	Unsuitable Type B
(11)	Unsuitable Type C
(3)	Waste

NOTES:

Text

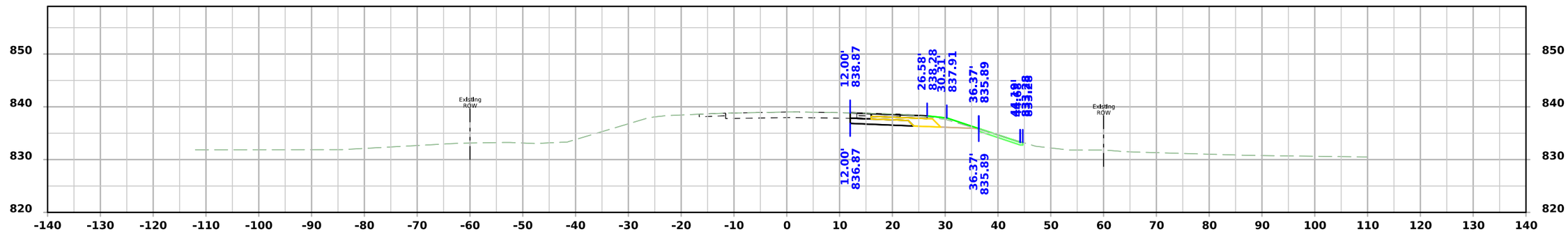
NOTES:

Text

CROSS SECTIONS
LEGEND AND INFORMATION SHEET

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

US 6



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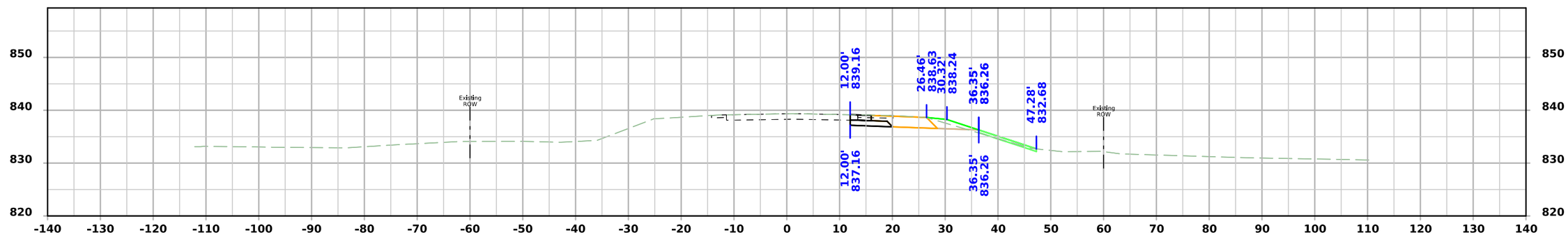

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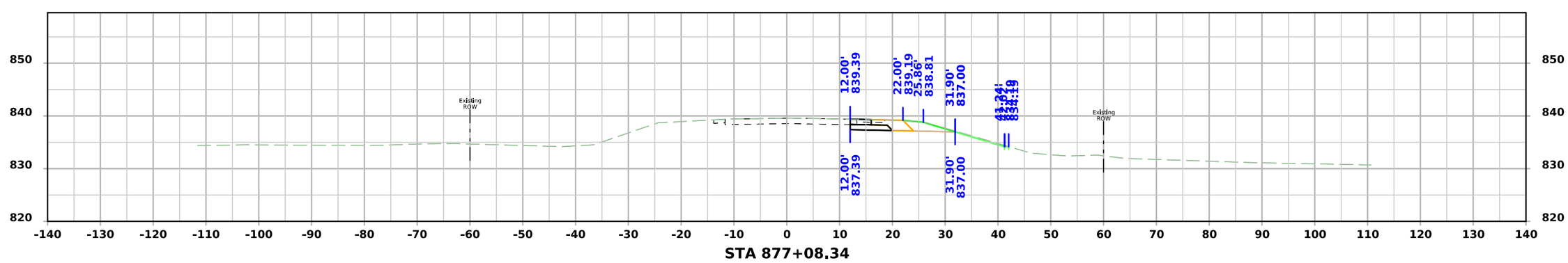

STA 877+08.34

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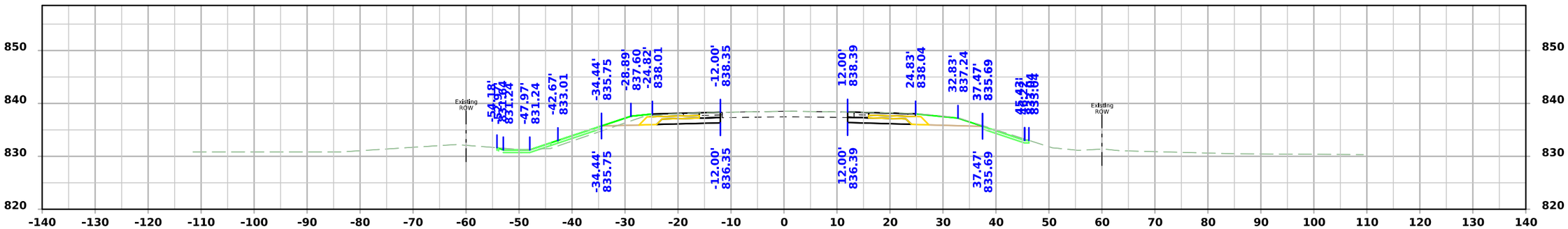
US 6



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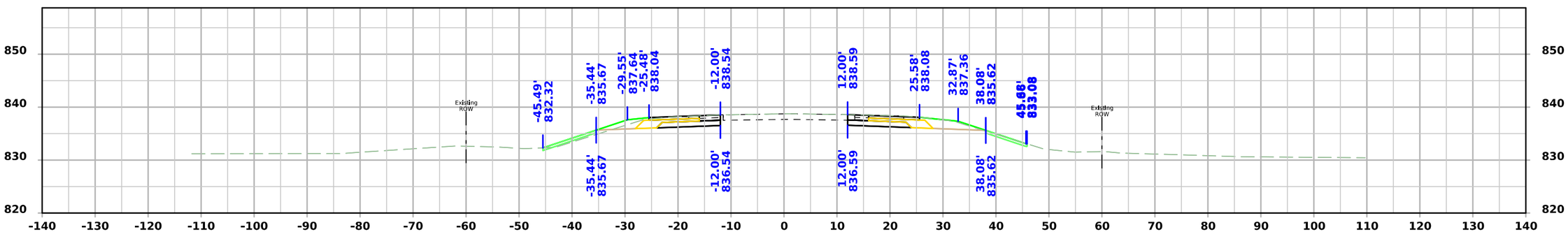

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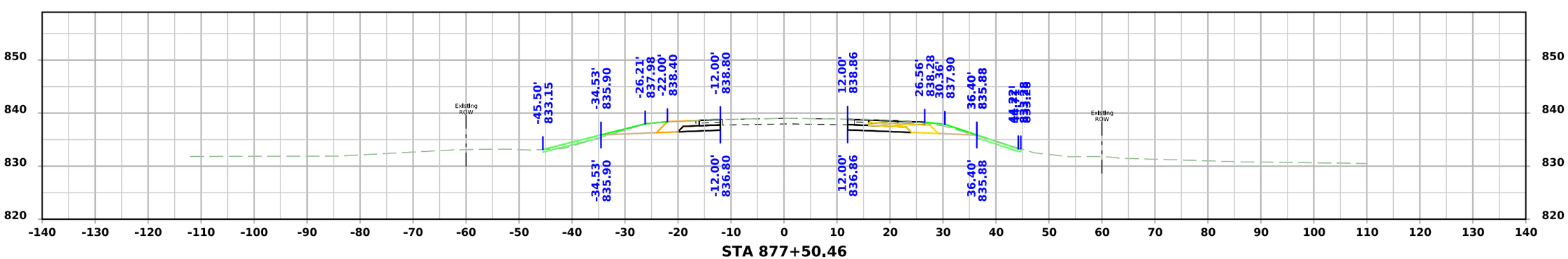

STA 877+50.46

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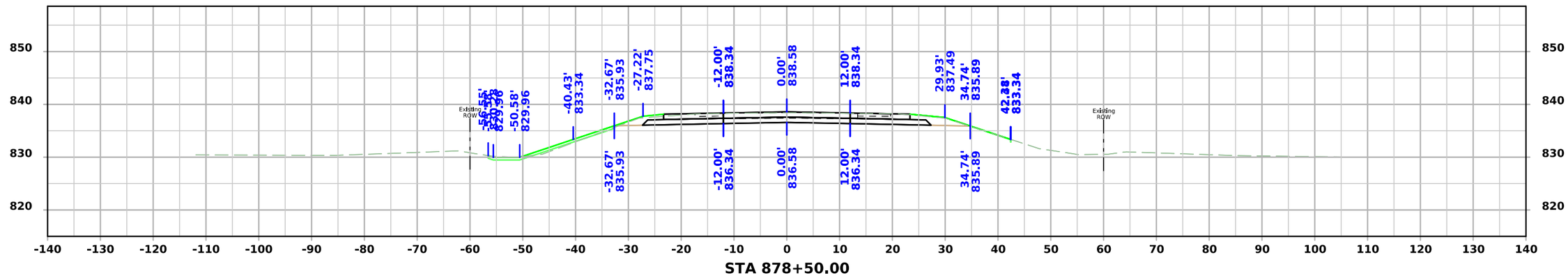
US 6



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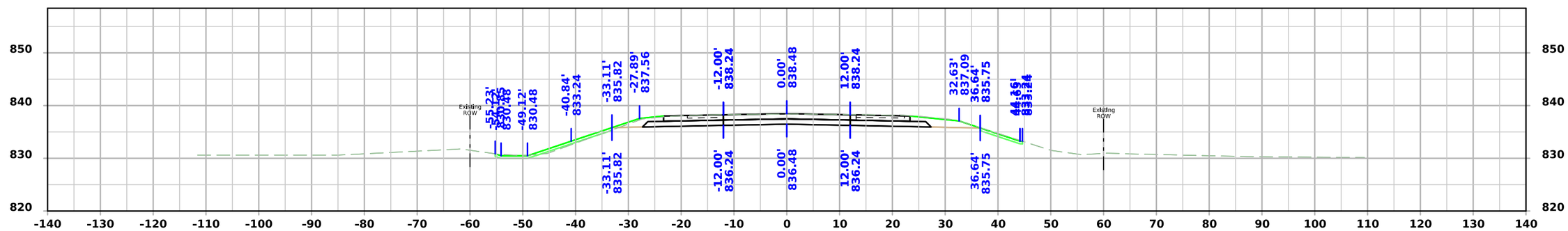

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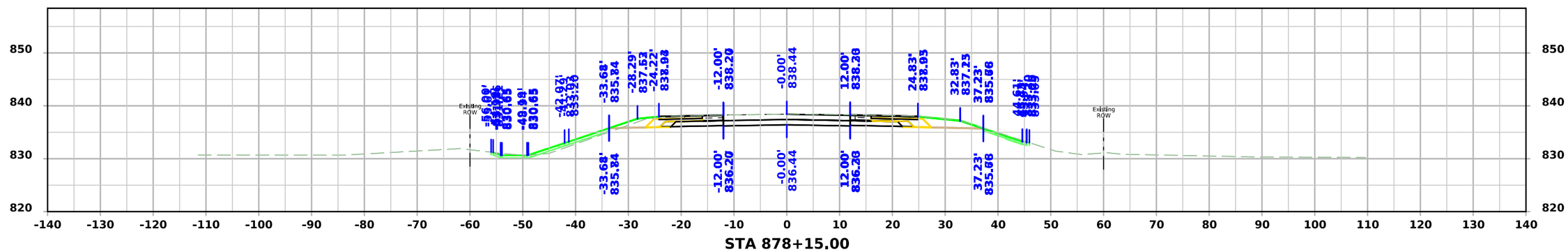

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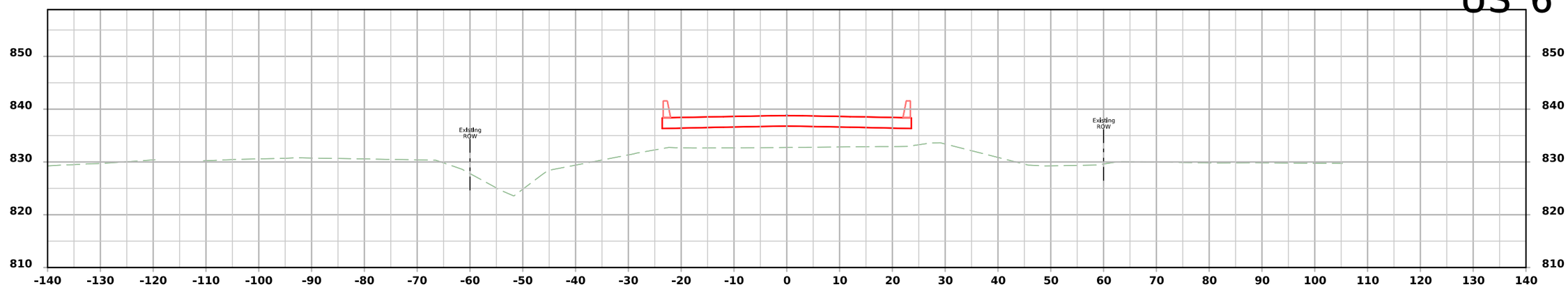
US 6



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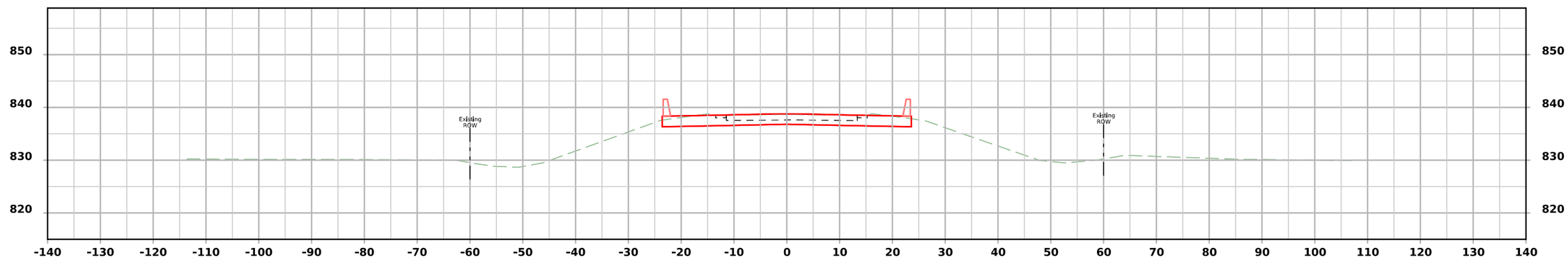

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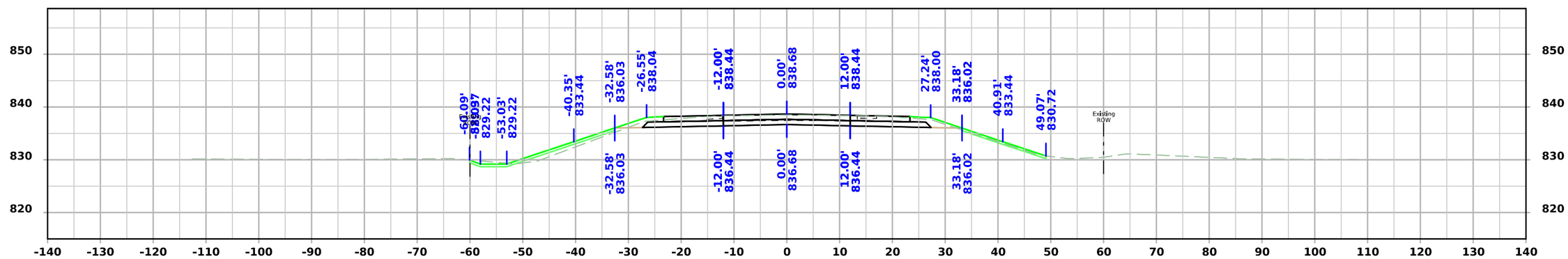

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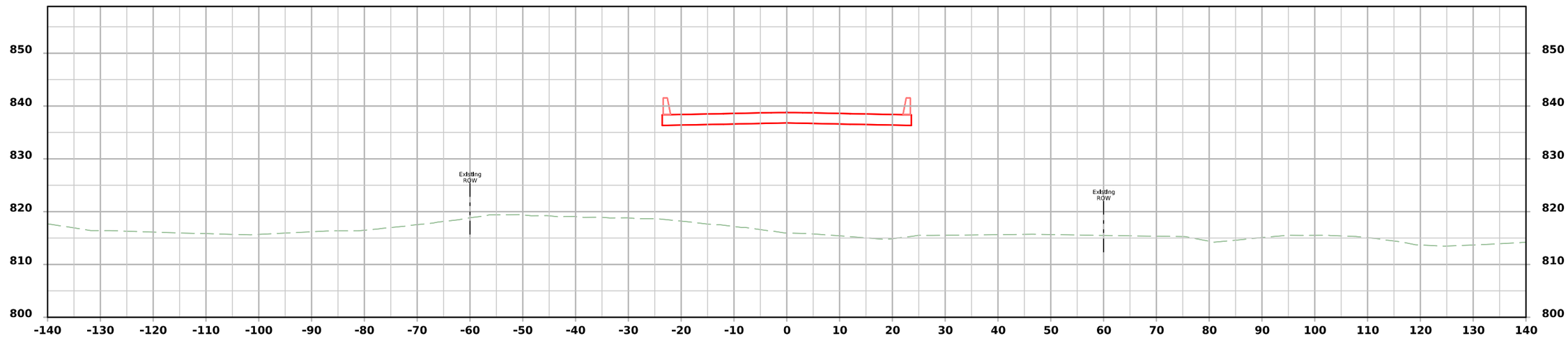
US 6



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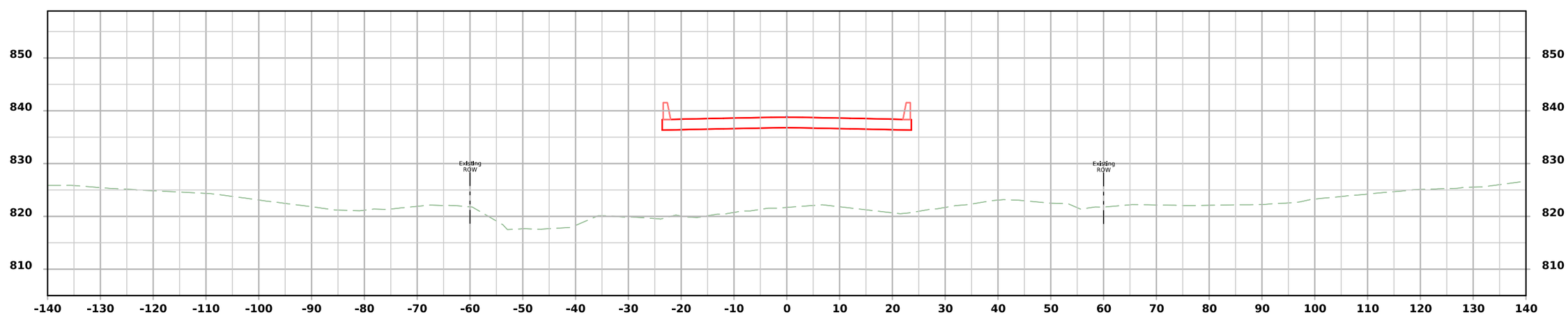

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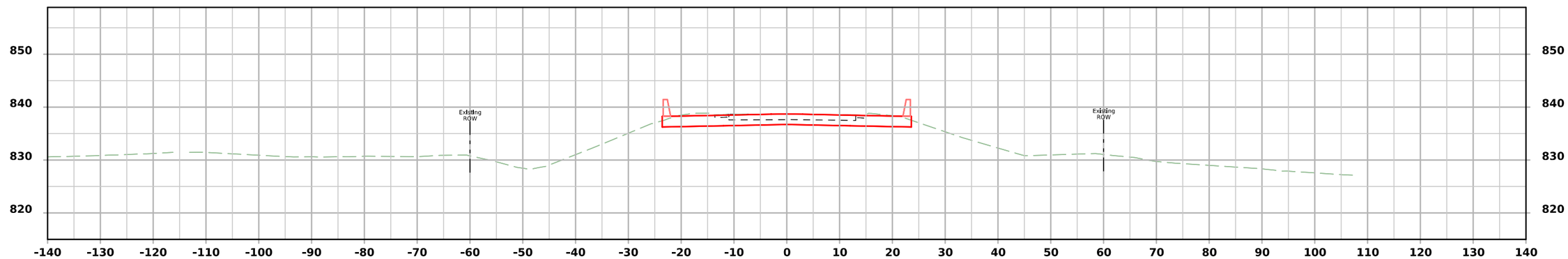
US 6



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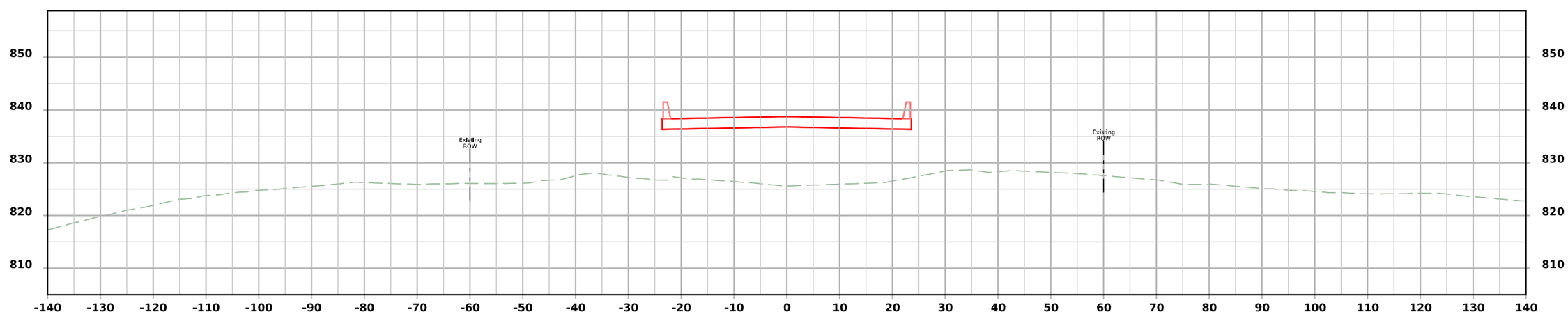

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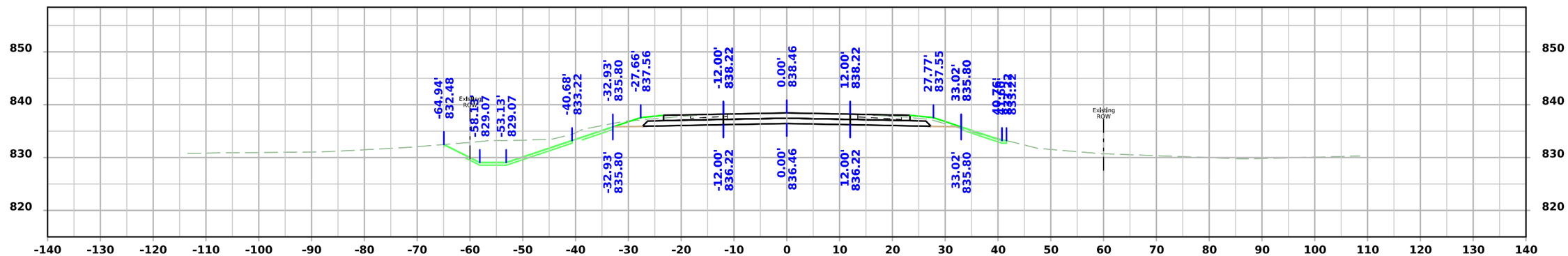
US 6



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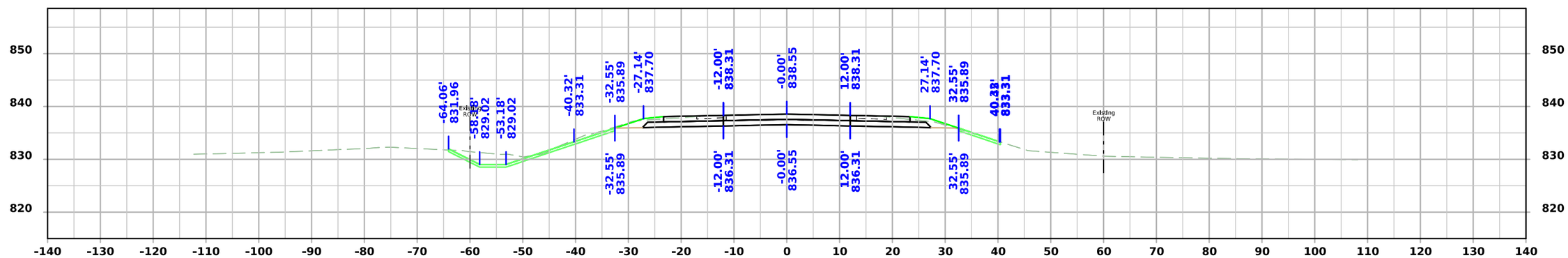

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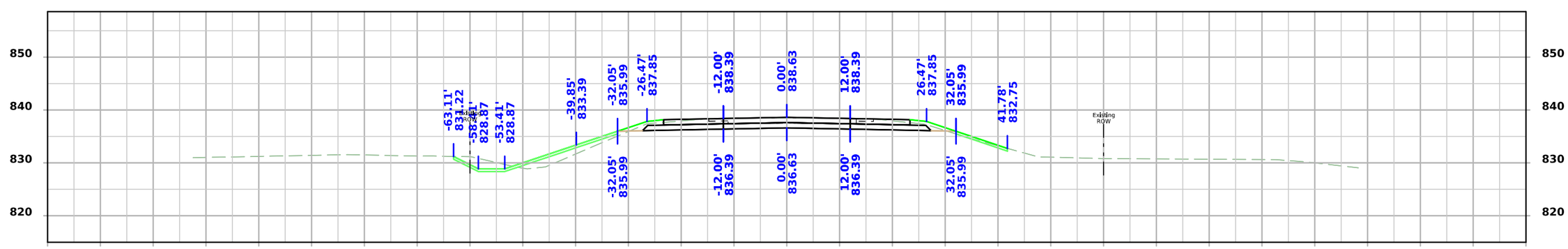

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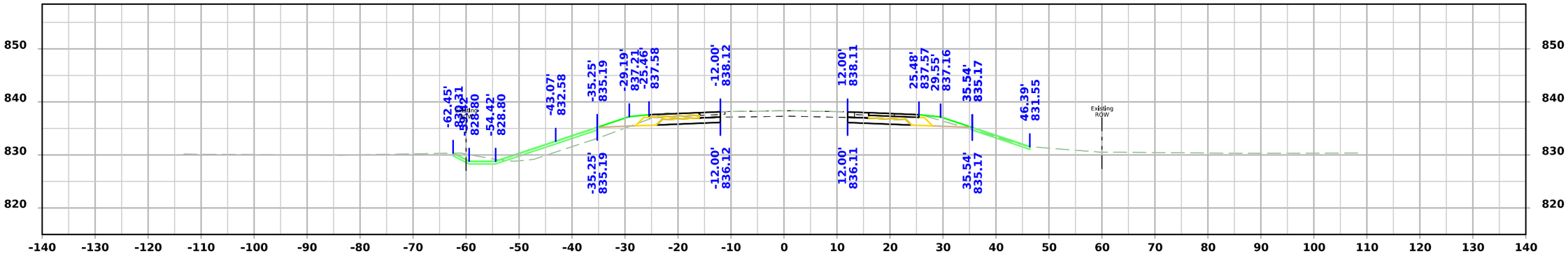
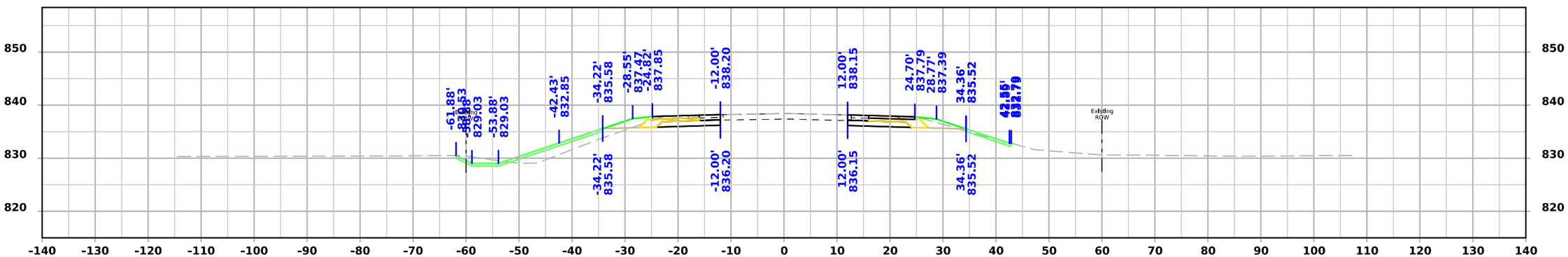
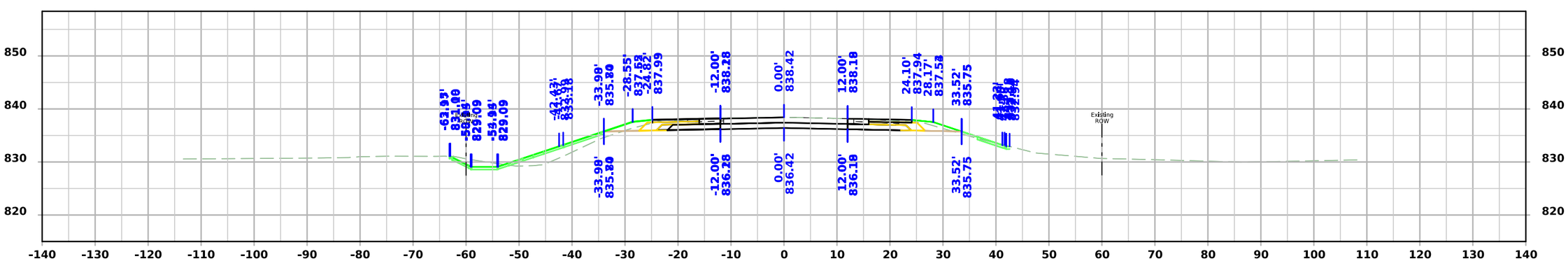
US 6



STA 881+50.00



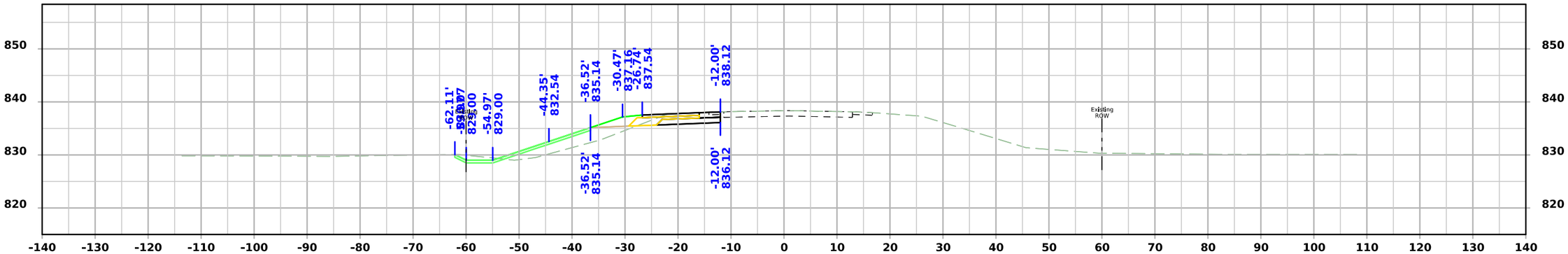
STA 881+25.00



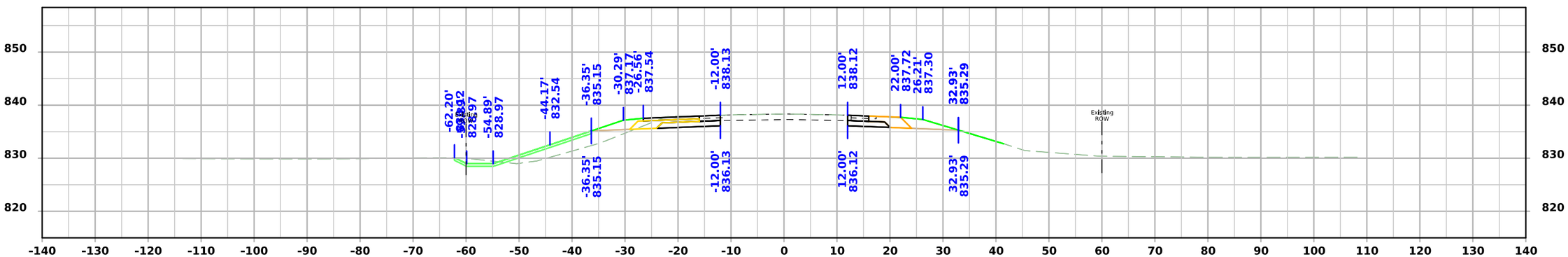
STA 881+10.00

FILE NO.	ENGLISH	DESIGN TEAM Flattery\Bell\Boudreaux	POWESHIEK COUNTY	PROJECT NUMBER BRF-006-5(026)--38-79	SHEET NUMBER W.9

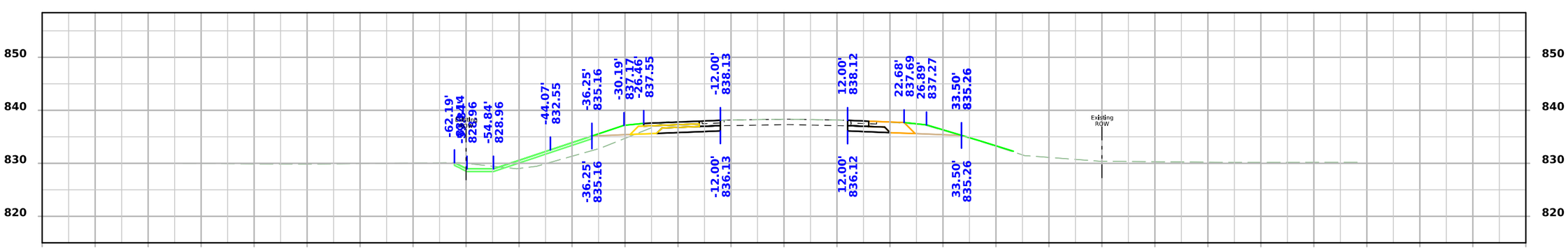
US 6



STA 882+00.00



STA 881+77.54

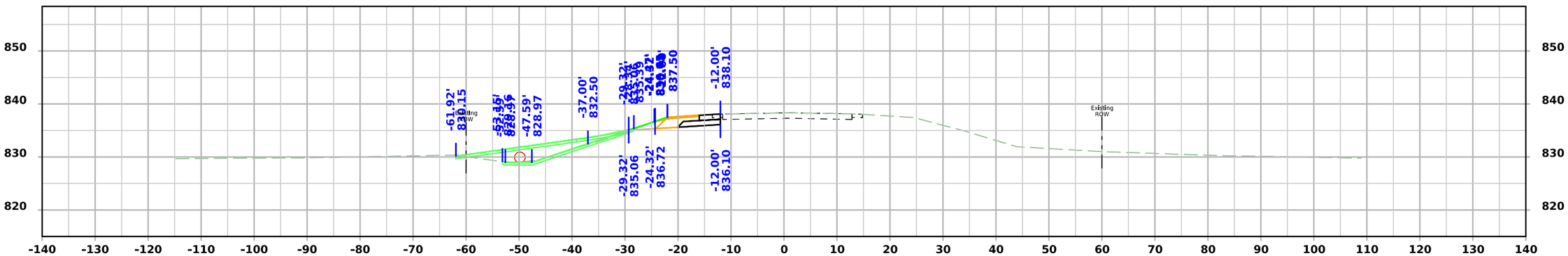


STA 881+75.00

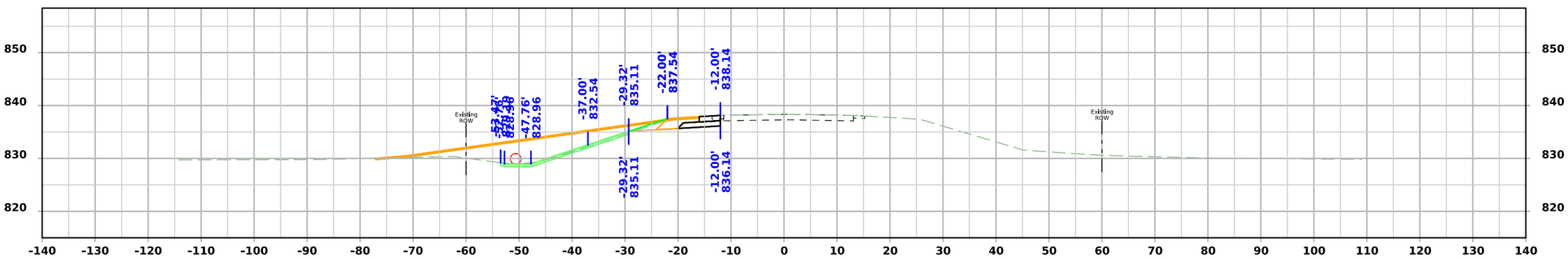
FILE NO.	ENGLISH	DESIGN TEAM Flattery\Bell\Boudreaux	POWESHIEK COUNTY	PROJECT NUMBER BRF-006-5(026)--38-79	SHEET NUMBER W.10

2:56:50 PM 5/30/2025 emcdona pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\7900601023\Design\BRF-006-5(026)--38-79_Bridge-Unspecified\CADD_Files\Cross_Sections\XS_W01_79006026Z09.dgn

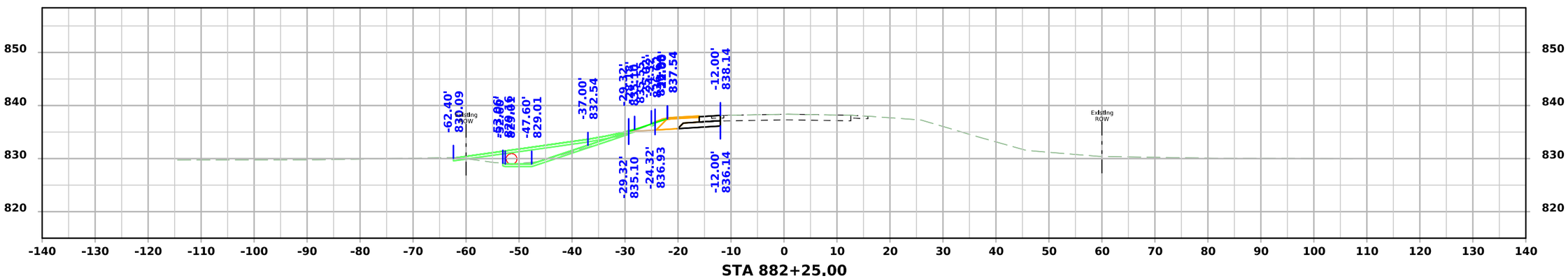
US 6



STA 882+75.00

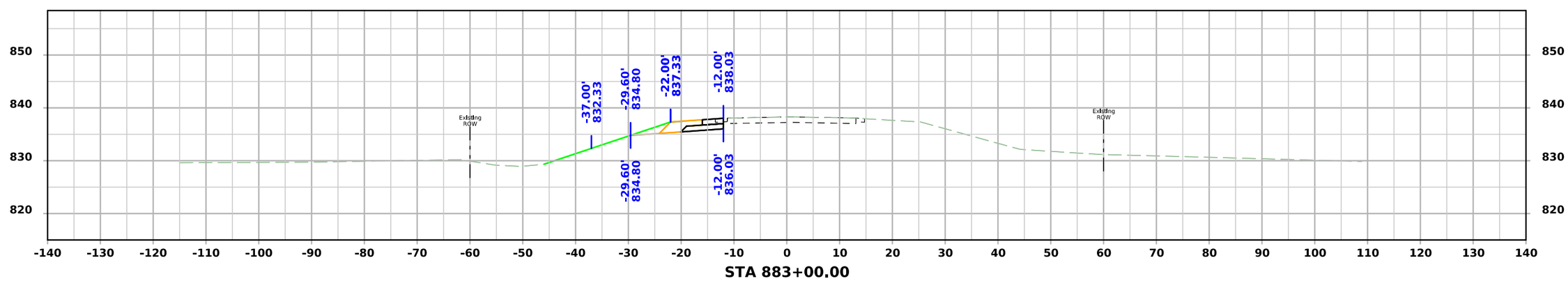


STA 882+50.00



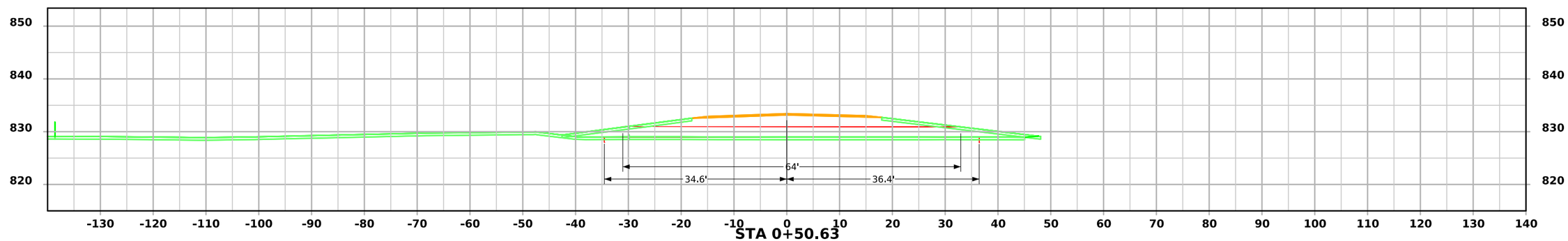
STA 882+25.00

FILE NO.	ENGLISH	DESIGN TEAM Flattery\Bell\Boudreaux	POWESHIEK COUNTY	PROJECT NUMBER BRF-006-5(026)--38-79	SHEET NUMBER W.11



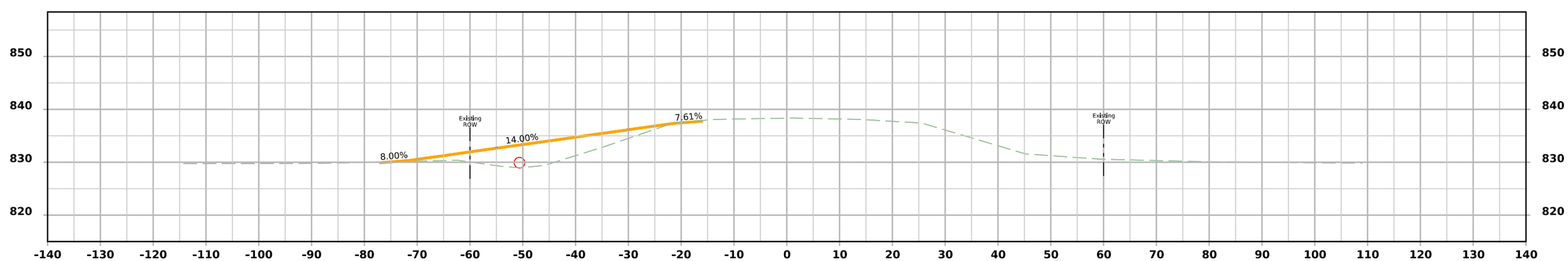
FILE NO.	ENGLISH	DESIGN TEAM Flattery\Bell\Boudreaux	POWESHIEK COUNTY	PROJECT NUMBER BRF-006-5(026)--38-79	SHEET NUMBER W.12

Entrance 882L



STA 0+50.63

Pipe for Entrance at STA 882+50.00 LT



Entrance STA 882+50.00

FILE NO.	ENGLISH	DESIGN TEAM Flattery\Bell\Boudreaux	POWESHIEK COUNTY	PROJECT NUMBER BRF-006-5(026)--38-79	SHEET NUMBER Z.100