

No.	DESCRIPTION
A Sheets	Title Sheets
A.1	Title Sheet
A.2	Location Map Sheet
B Sheets	Typical Cross Sections and Details
B.1 - 2	Typical Cross Sections and Details
C Sheets	Quantities and General Information
C.?	Estimated Project Quantities
C.?	Estimate Reference Information
C.?	Standard Road Plans
C.?	Index of Tabulations
C.?	General Notes
C.?	Tabulations
D Sheets	Mainline Plan and Profile Sheets
* D.1	Plan & Profile Legend & Symbol Information Sheet
* D.2	US 63
G Sheets	Survey Sheets
G.1 - 3	General Survey Information
G.4 - 5	Horizontal Control Tab. & Super for all Alignments
J Sheets	Traffic Control and Staging Sheets
J.1	Traffic Control Plan
J.2	511 Travel Restrictions
J.3	Coordinated Operations
* J.4	Detour Information
R Sheets	Erosion Control Sheets
RC.?	Est. Quantities, PPP, General Notes and Tabulations
* RR.?	Erosion Control Legend and Symbol Information Sheet
* RR.?	Drainage Basin and Erosion Control Device Maps
T Sheets	Earthwork Quantity Sheets
T.?	Earthwork Quantity Sheets
V Sheets	Bridge and Culvert Situation Plans
V.1 - 4	Bridge and Culvert Situation Plans
W Sheets	Mainline Cross Sections
W.1	Cross Sections Legend & Symbol Information Sheet
W.2 - 10	Mainline Cross Sections
	* Color Plan Sheets



PLANS OF PROPOSED IMPROVEMENT ON THE
PRIMARY ROAD SYSTEM
POWESHIEK COUNTY
 RCB Culvert-Unspecified
 Stream 4.4 mi N of Co Rd G17

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
..
PROJECT IDENTIFICATION NUMBER
22-79-063-010
PROJECT NUMBER
BRF-063-4(058)--38-79
R.O.W. PROJECT NUMBER

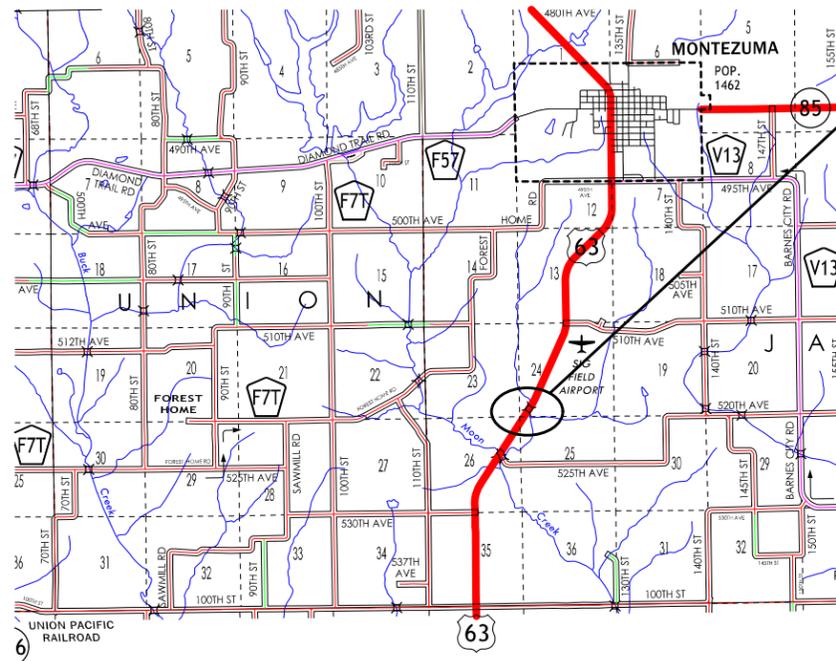
DESIGN DATA RURAL			
2027	AADT	1,700	V.P.D.
2047	AADT	2,000	V.P.D.
20 -	DHV	-	V.P.H.
	TRUCKS	24	%
	Total		
	Design ESALs	-	

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

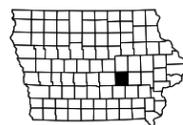
PRELIMINARY PLANS

Subject to change by final design.

D5 PLAN - Date: 6/20/2025



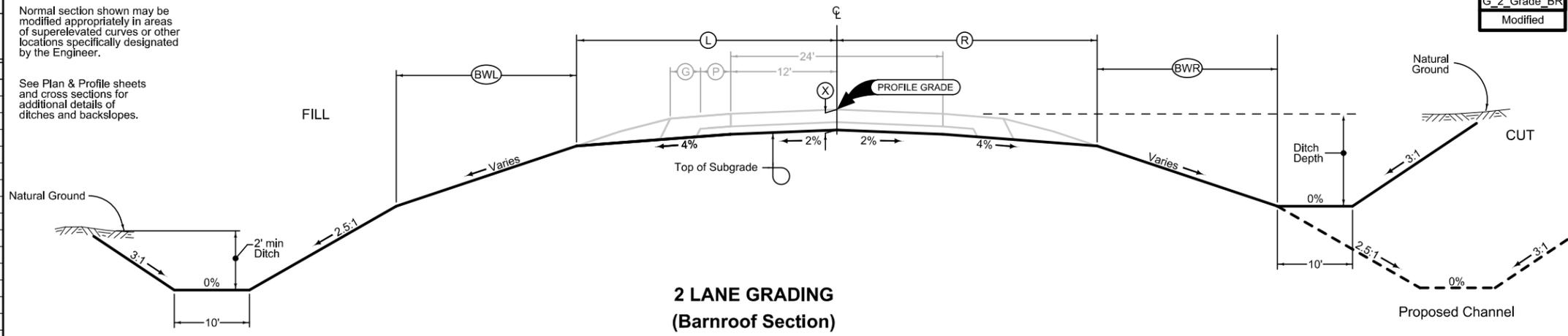
PROJECT LOCATION
 Ref. Loc. 85.1
 Existing FHWA # 700650
 Proposed FHWA # 700651



LOCATION			DIMENSIONS				
ROAD IDENTIFICATION	STATION TO STATION		(L) Feet	(R) Feet	(X) Inches	(BWL) Feet	(BWR) Feet
US 63	117+85.44	117+90.00	UAC	27-28.7	UAC	0	3-3.8
US 63	117+90.00	118+00.00	22.5-22.9	28.7-30	21.5	0	3.8-4.2
US 63	118+00.00	118+30.00	22.9-24.8	30-36.3	21.5	0-4.3	4.2-5.8
US 63	118+30.00	118+80.00	24.8-36.3	36.3	21.5	4.3-5.8	5.8
US 63	118+80.00	119+38.99	36.3-36.6	36.6	22	5.8-5.4	5.8-5.4
US 63	119+38.99	119+88.99	36.6	36.6-29.4	22	5.4	5.4-3.6
US 63	119+88.99	120+33.50	36.6	29.4-33	22	5.4	Var.
US 63	120+33.50	121+40.00	36.6-33.2	33-25	21.5	5.4-5.17	Var.
US 63	121+40.00	121+68.64	33.2-31.4	UAC	UAC	8.8-10.6	0

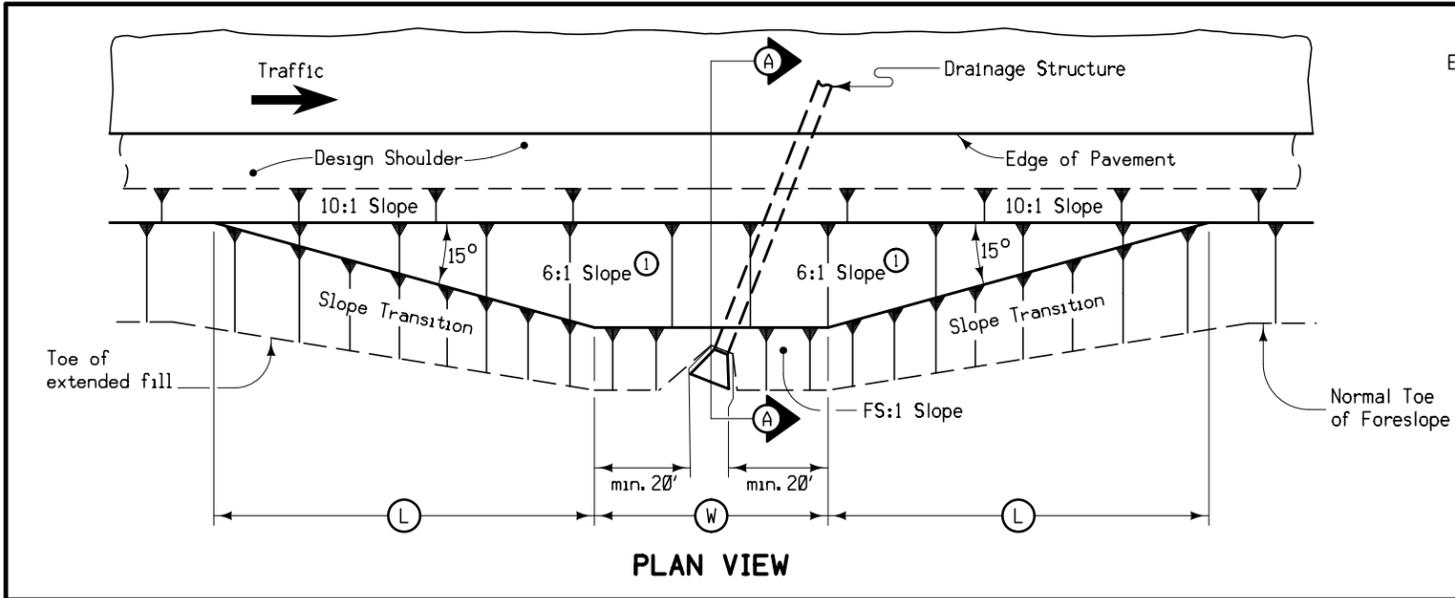
Normal section shown may be modified appropriately in areas of superelevated curves or other locations specifically designated by the Engineer.

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

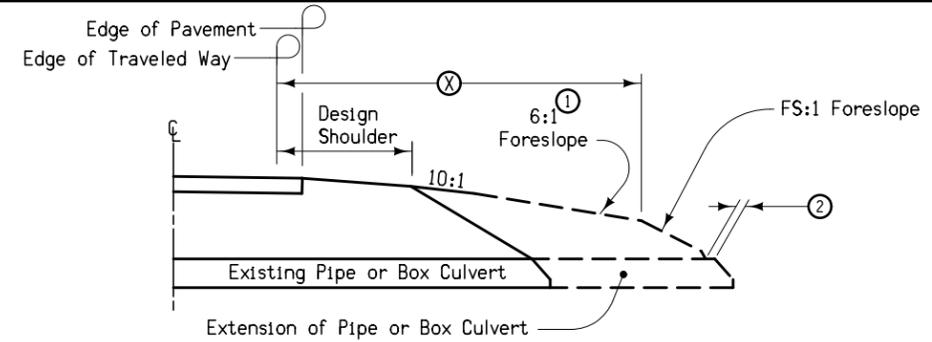


**2 LANE GRADING
(Barnroof Section)**

G_2_Grade_BR
Modified



PLAN VIEW



SECTION A-A

STRUCTURE LOCATION		(W) Feet	(L) Feet	(X) Feet	(FS)
STATION (3)	SIDE				
119+62.53	RT	110	50	30	2.5
119+62.53	LT	172	50	30	2.5

DESIGNER INFO
4312
Modified

At locations where an extended or newly constructed drainage structure extends beyond the normal foreslope cover, flatten as indicated so as to cover the structure. Minimum earth cover is 6 inches.

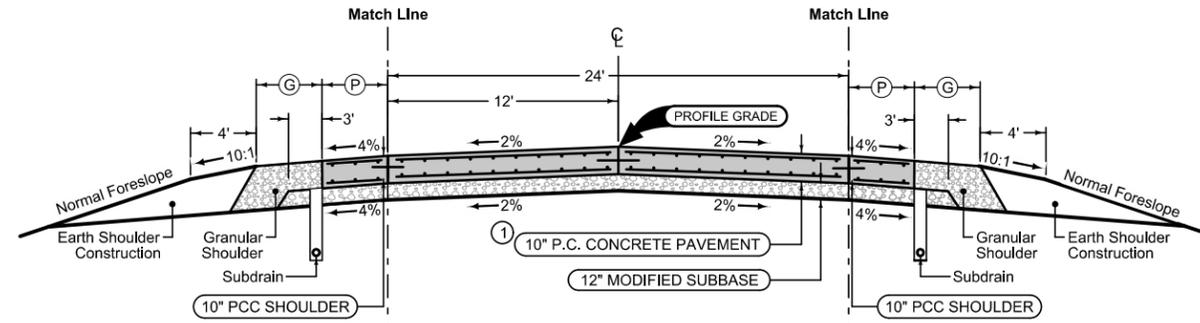
- ① Slope may be flatter than 6:1.
- ② 6 inch minimum for pipe installations or to top of headwall on RCB.
- ③ At ϵ of roadway.
- (W) = Pipe or RCB opening width plus 20 feet each side.

**BARNROOF FORESLOPE AT
SKEWED DRAINAGE STRUCTURE**

Combination Shoulder

Shoulder Jointing:
Longitudinal joint: B

2_C_04-21-20			
STATION TO STATION	(P) Feet	(G) Feet	
118+80.00	120+33.50	4	4



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

2P_04-21-20	
STATION TO STATION	
118+80.00	120+33.50

① Pavement to be placed according to PR-120.
Double reinforcing around culvert required.

Combination Shoulder

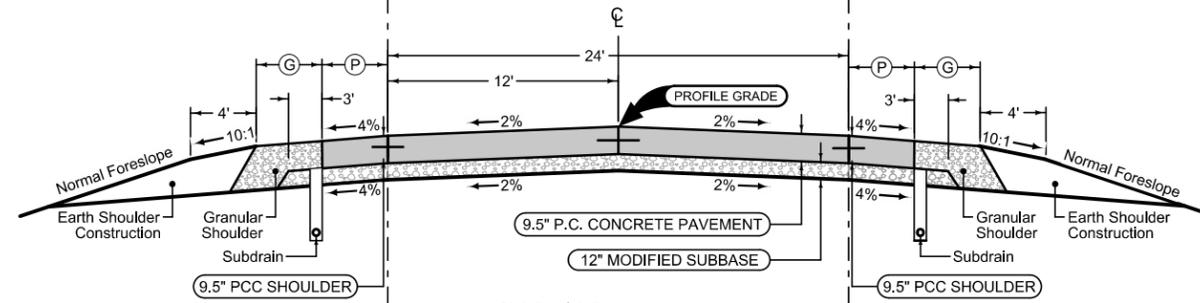
Shoulder Jointing:
Longitudinal joint: B

2_C_04-21-20			
STATION TO STATION	(P) Feet	(G) Feet	
118+80.00	120+33.50	4	4

Combination Shoulder

Shoulder Jointing:
Longitudinal joint: B

2_C_04-21-20			
STATION TO STATION	(P) Feet	(G) Feet	
117+90.00	118+80.00	4	2
120+33.50	121+40.00	4	4



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

2P_04-21-20	
STATION TO STATION	
117+90.00	118+80.00
120+33.50	121+40.00

Combination Shoulder

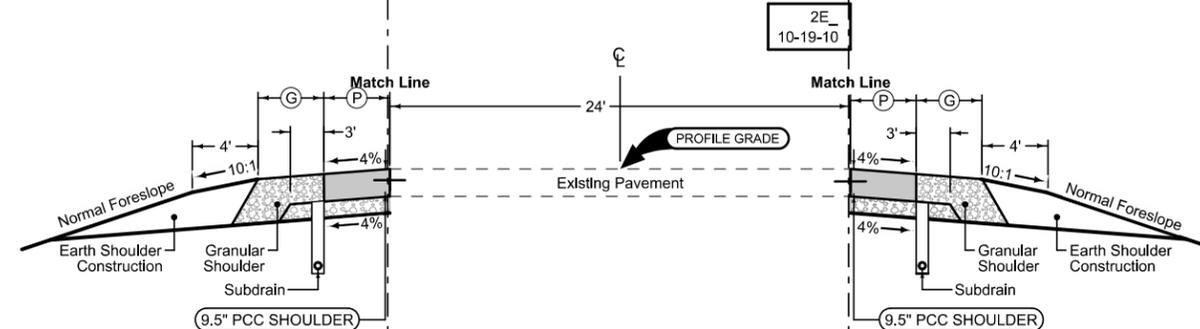
Shoulder Jointing:
Longitudinal joint: B

2_C_04-21-20			
STATION TO STATION	(P) Feet	(G) Feet	
117+90.00	118+80.00	4	4
120+33.50	121+40.00	4	4

Combination Shoulder

Shoulder Jointing:
Longitudinal joint: B

2_C_04-21-20			
STATION TO STATION	(P) Feet	(G) Feet	
121+40.00	121+68.64	4	4



2E_10-19-10

Combination Shoulder

Shoulder Jointing:
Longitudinal joint: B

2_C_04-21-20			
STATION TO STATION	(P) Feet	(G) Feet	
117+85.44	117+90.00	4	4

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 Sign
- TCB Traffic Signal Control Box
- RRB Rail Road Signal Control Box
- TSB Telephone Switch Box
- EB Electric Box

UTILITY LEGEND

Poweshiek Water Association
Chad Coburn (Water)
chad@poweshiekwater.com

MidAmerican Energy Company
Matt Novy (Electrical)
mdnovy@midamerican.com
515.242.4224

PLAN VIEW COLOR LEGEND OF PLAN AND PROFILE SHEETS

LINEWORK		Design Color No.	
Green	(2)		Existing Topographic Features and Labels
Blue	(1)		Proposed Alignment, Stationing, Tic Marks, and Alignment Annotation
Magenta	(5)		Existing Utilities
SHADING		Design Color No.	Transparency
Pink, Dark	(13)		Temporary Pavement Shading 50%
Yellow	(4)		Proposed Pavement Shading 50%
Orange	(6)		Proposed Granular Shading 50%
Orange	(70)		Proposed Shoulder Granular Shading 50%
Yellow	(68)		Proposed Shoulder Paved Full Depth Shading 50%
Yellow	(132)		Proposed Shoulder Paved Partial Depth Shading 50%
Brown, Light	(236)		Grading Shading 50%
Orange, Light	(134)		Proposed Granular Entrance Shading 50%
Yellow	(220)		Proposed Paved Entrance Shading 50%
Tan	(8)		Proposed Sidewalk Shading 50%
Blue, Light	(230)		Proposed Sidewalk Landing Shading 50%
Pink	(11)		Proposed Sidewalk Ramp Shading 50%
Red	(3)		Proposed Structure Shading 50%
Red	(3)		Delineates Restricted Areas 0%

PROFILE VIEW COLOR LEGEND OF PLAN AND PROFILE SHEETS

LINEWORK		Design Color No.	
Green	(10)		Existing Ground Line Profile
Blue	(1)		Proposed Profile and Annotation
Magenta	(5)		Existing Utilities
Blue, Light	(230)		Proposed Ditch Grades, Left
Black	(0)		Proposed Ditch Grades, Median
Rust	(14)		Proposed Ditch Grades, Right

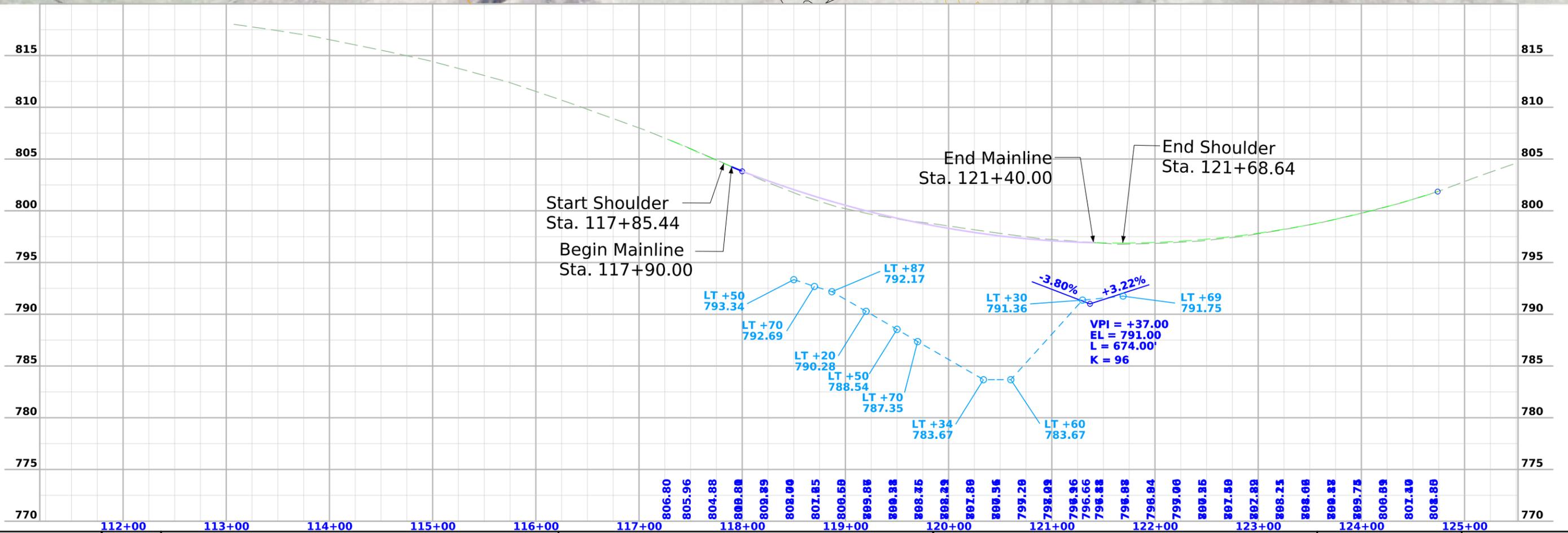
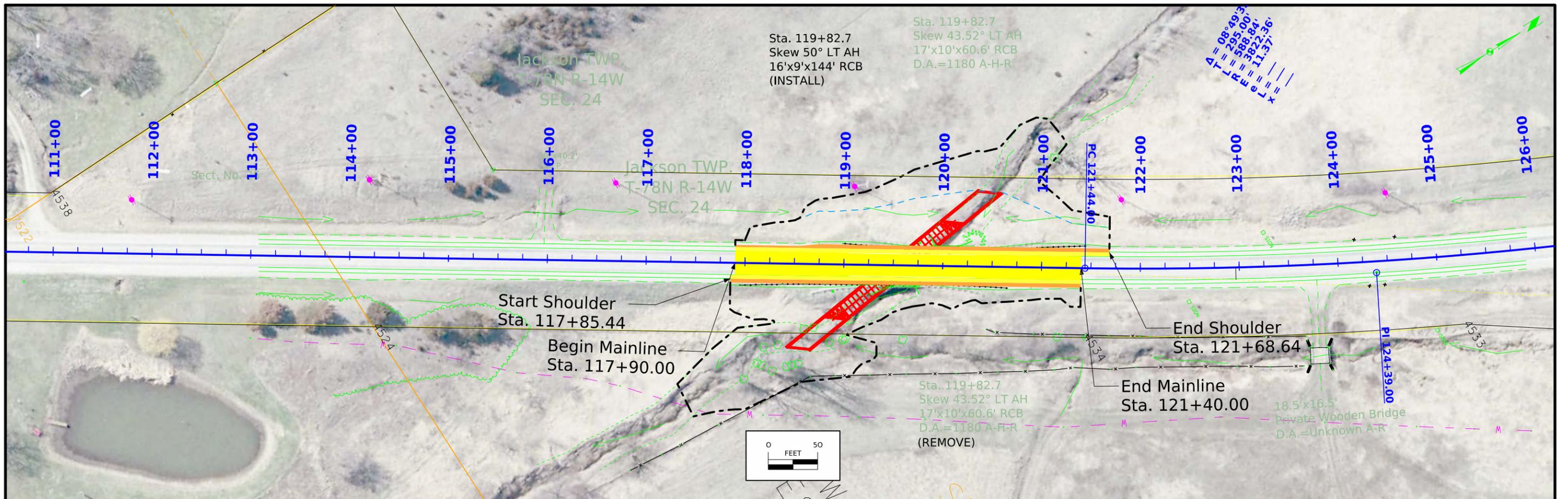
- Reference Point
- Station
- Survey Line
- Section Corner
- Ground Line Intercept
- Saw Cut
- Guardrail
- Trench Drain
- HighTension Cable Guardrail
- Sheet Pile
- Pavement Removal
- Clearing & Grubbing Area

RIGHT-OF-WAY LEGEND

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

PLAN AND PROFILE LEGEND AND SYMBOL INFORMATION SHEET

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



Survey Information

SURVEY INDEX

County : Poweshiek
Project Code : 22-79-063-010
Phase Number : BRF-063-4(058)--38-79
Location : Stream 4.4 mi N of Co Rd G17
Work Code : 3001-RCB Culvert-Unspecified
Project Directory : 7906301022

Survey Personnel

Samuel Schilb – Assistant Survey Party Chief

Date(s) of Survey

Begin Date 11/13/2024
End Date 12/12/2024

General Information

This survey is for the replacement of the existing 17' x 10' RCB with a 16' x 9' x 144' Single Reinforced Concrete Box Culvert (RCB). This survey request was for the US Hwy 63 corridor only. 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.

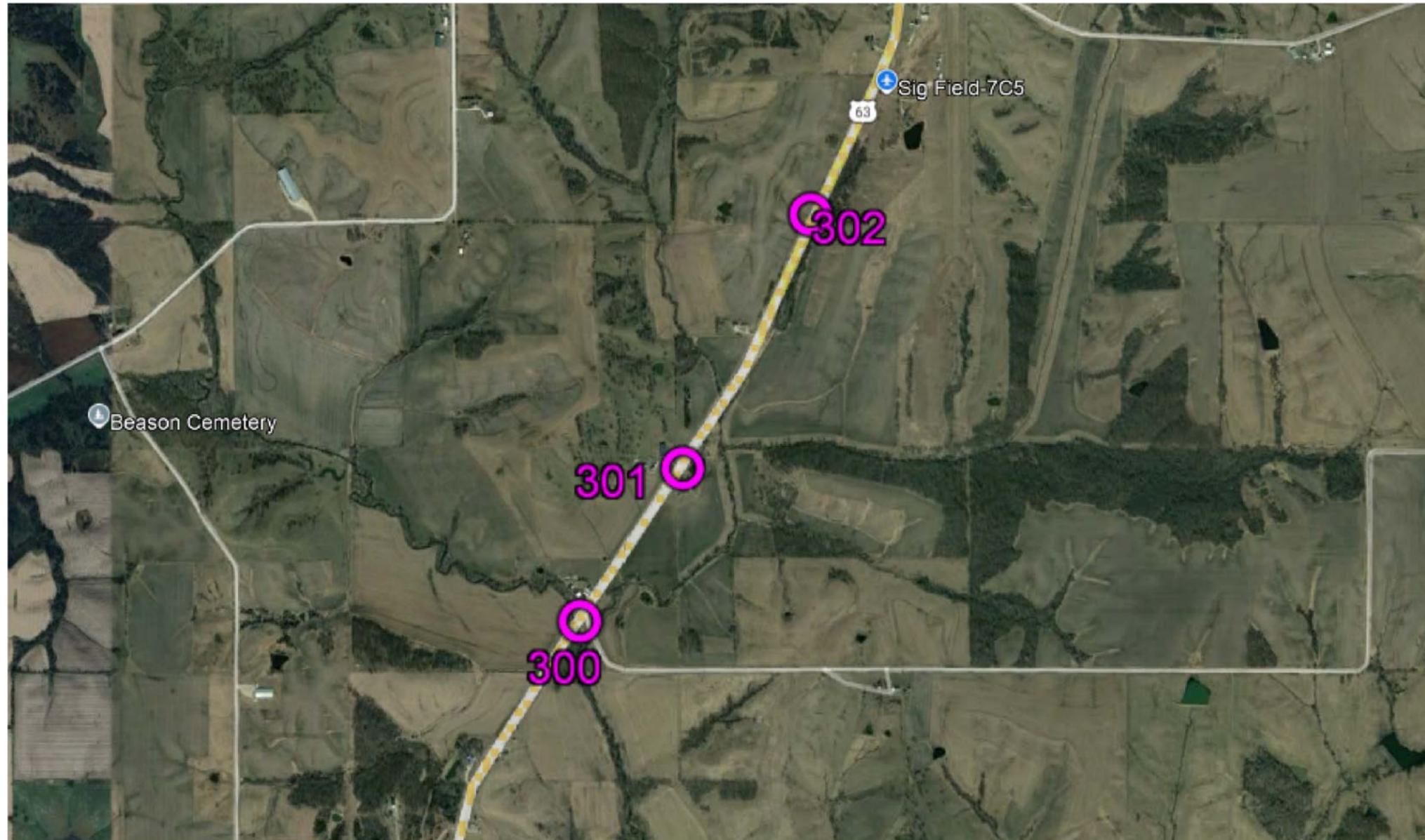
PROJECT DATUM: NAD83(2011) for EPOCH 2010.00 (IaRTN 2019 ADJUSTMENT)
COORDINATE SYSTEM: IOWA REGIONAL COORDINATE SYSTEM ZONE 09
(U.S. SURVEY FOOT)
VERTICAL DATUM: NAVD88
GEOID MODEL: 2018u3

Alignment Information

Provided by District 1 Right of Way Survey Crew.

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 09 (U.S. Survey Foot)

VERT. DATUM: NAVD88 - Geoid Model: 2018u3

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 09 (U.S. Survey Foot)
 VERT. DATUM: NAVD88
 Geoid Model: 2018u3

Point Name	Northing	Easting	Elevation	Code Description
302	7672181.56	19575539.98	843.55	CP Set IDOT FENO Monument 4" Below Surface
300	7667405.11	19572844.87	788.03	CP Set IDOT FENO Monument 4" Below Surface
301	7669181.72	19574005.94	816.96	CP Set IDOT FENO Monument 4" Below Surface

ALIGNMENT COORDINATES

Line No.	Name	Location	Point on Tangent Station	Point on Tangent Y Northing	Point on Tangent X Easting	Begin Spiral Station	Begin Spiral Y Northing	Begin Spiral X Easting	Begin Curve Station	Begin Curve Y Northing	Begin Curve X Easting	Simple Curve PI or Master PI Station	Simple Curve PI or Master PI Y Northing	Simple Curve PI or Master PI X Easting	End Curve Station	End Curve Y Northing	End Curve X Easting	End Spiral Station	End Spiral Y Northing	End Spiral X Easting
1.0	MLUS63	US 63	63+18.21	7665229.38	19571365.73															
2.0	MLUS63	US 63							121+44.00	7670093.953	19574571.3	124+39.00	7670340.284	19574733.63	127+32.84	7670608.605	19574856.23			
3.0	MLUS63	US 63	168+92.58	7674392.091	19576585.01															

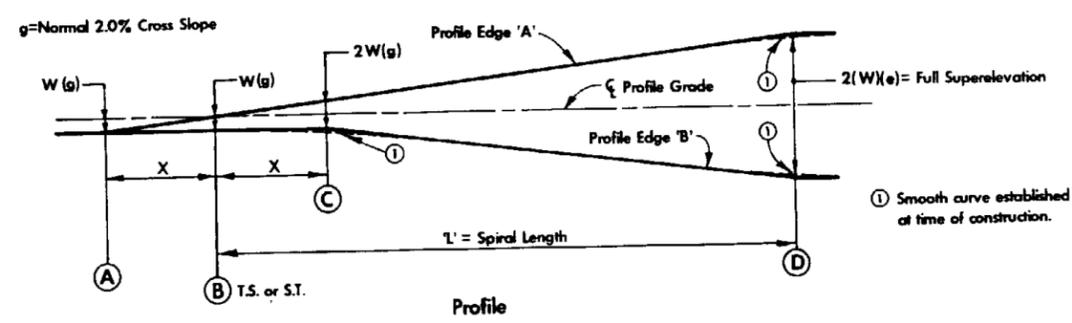
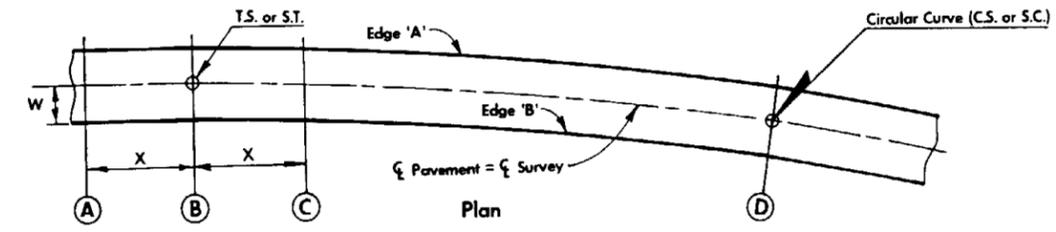
SPIRAL OR CIRCULAR CURVE DATA

Line No.	Name	Location	SCS	S	Ls	Ts	Es	Xc	Yc	L.T.	S.T.	C	T	L	R	E	Remarks
1.0	CL	MLUS63										8.827	295.004	588.841	3822.36	11.367	

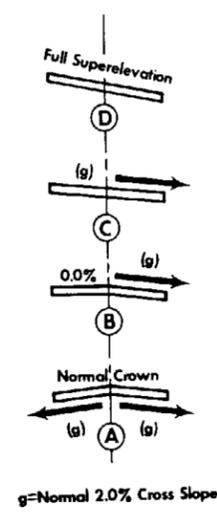
SUPERELEVATED CURVES

101-8
8-20-85

P.I. STATION	D	EXISTING		PROPOSED		WEDGE ASPH. CONC. TONS	SHLDR. FILL (INCL. 60% SHRINK) CU. YDS.	REMARKS
		e	L+X	V	e			
63+53±	3.00	.041		55	.060	220	698.71	156
124+38±	1.50	.029		55	.035	259	153.01	0
168+95±	3.00	.043		55	.060	220	517.28	98
203+57±	3.00	.039		55	.060	220	980.08	268
239+43±	3.00	.042		55	.060	220	1136.81	206



TRANSITION DETAILS WHEN SPIRAL IS USED
Pavement Crown Shall Be Removed At Point C



AXIS OF ROTATION AT CENTER LINE

GENERAL NOTES:

Details hereon cover construction details for superelevating a horizontal curve on a two lane roadway where the axis of rotation is about the centerline of the roadway.
Refer to specific curve data contained in detail project plans for transition lengths and rate of superelevation.

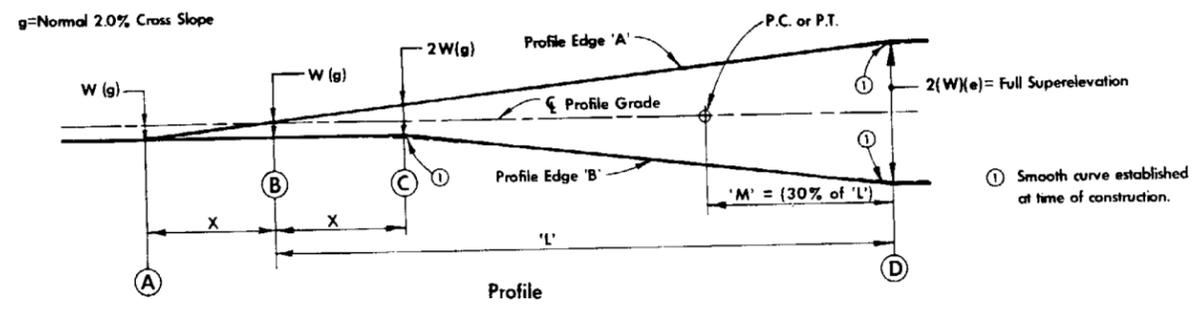
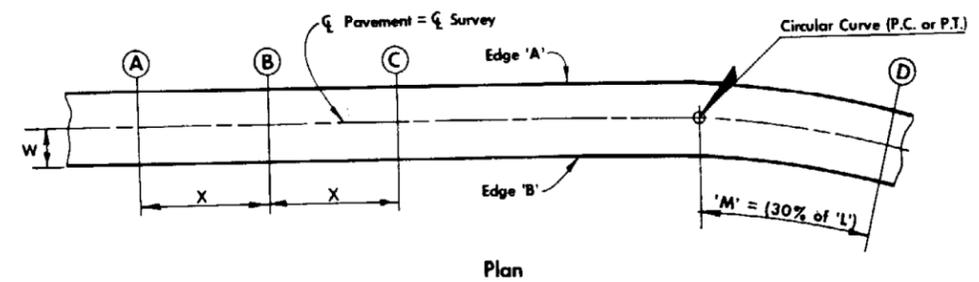
Design edge slope is the ratio of the longitudinal profiles between axis of rotation and outer edge of slab. The exact edge slope ratio for a given degree of curve and design speed may be determined by the following formula:

$$\text{Edge Slope Ratio} = \frac{L}{(e)(W)}$$

When spiral transitions are not required, normal practice shall be to place 30% of the transition length 'L' within the curve. The remaining transition length shall be placed on the tangent. 70% of full super shall be placed at the P.C. and P.T.

For details of shoulder treatment in area of superelevated curve, refer to appropriate Typical Cross Sections.

Unless otherwise specified, the transition lengths are measured at the centerline of the roadway.

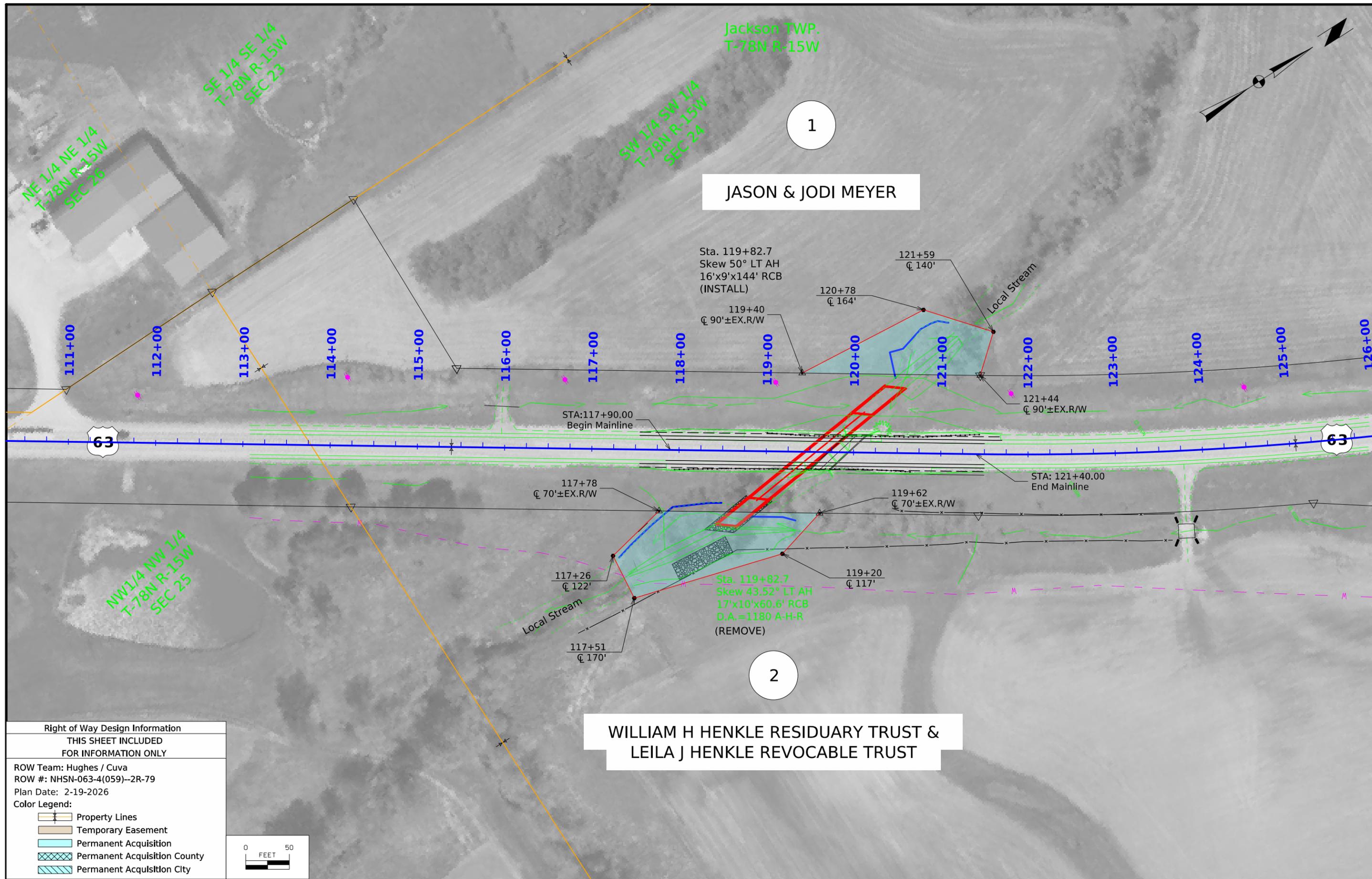


TRANSITION DETAILS WHEN SPIRAL IS NOT USED
Pavement Crown Shall Be Removed At Point C

MAXIMUM SUPERELEVATION RATE (e) = 0.08 ft./ft. (8.0%)

Iowa Department of Transportation Highway Division	
NO. 3	STANDARD ROAD PLAN RP-1
DATE 3-13-86	
RECOMMENDED	<i>George F. Jenson</i> 4/15/86
APPROVED	<i>George F. Jenson</i> 1/2/85
SUPERELEVATION DETAILS TWO LANE ROADWAYS	

NO ACCESS RIGHTS ARE TO BE ACQUIRED ON THIS PROJECT.



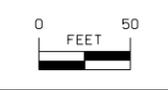
JASON & JODI MEYER

1

2

WILLIAM H HENKLE RESIDUARY TRUST &
LEILA J HENKLE REVOCABLE TRUST

Right of Way Design Information	
THIS SHEET INCLUDED FOR INFORMATION ONLY	
ROW Team: Hughes / Cuva	
ROW #: NHSN-063-4(059)--2R-79	
Plan Date: 2-19-2026	
Color Legend:	
	Property Lines
	Temporary Easement
	Permanent Acquisition
	Permanent Acquisition County
	Permanent Acquisition City



108_23A
8/15/22

TRAFFIC CONTROL PLAN

Traffic on US 63 shall be maintained at all times using an off-site detour throughout construction.
Refer to following J sheet for detour route and detour signing information.

511 TRAVEL RESTRICTIONS

Line No.	Route	Direction	County	Location Description	Feature Crossed	Object Type	Maint. Bridge No. or Structure ID or FHWA No.	Type of Restriction	Existing Measurement	Construction Measurement	Construction Measurement as Signed	Projected As Built Measurement	Remarks
1.0	US 63	Both	Poweshiek	US 63 over Stream 4.4 mi N of Co Rd G17		Traffic Control Device		Horizontal	24				Road Closure

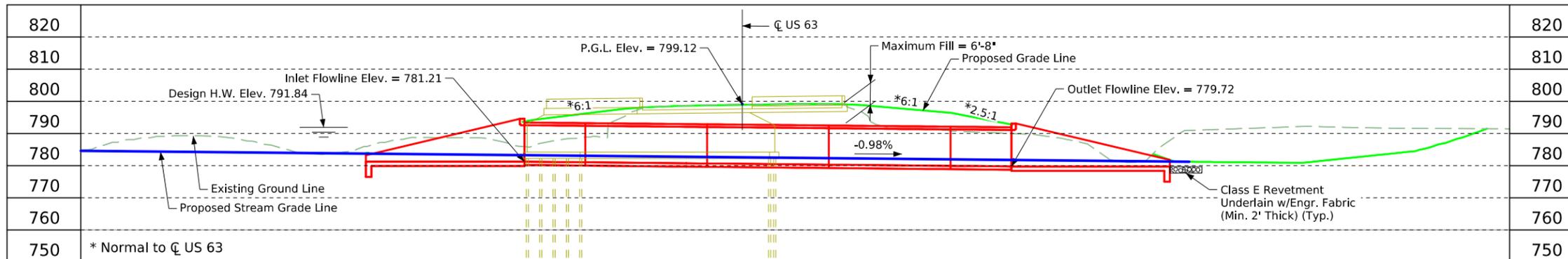
111_01
10/14/22

COORDINATED OPERATIONS

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

Project	Type of Work
None Provided	

Control Point 301: 7669181.717N, 19574005.935E, CP set IDOT FENO monument 4" below surface, Elev. 816.956



Longitudinal Section Along \bar{C} Culvert

Anticipated Settlement = x'-x"; Design Fill = 7'-0"

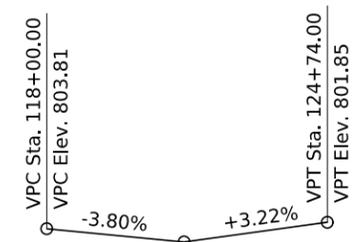
Note:
Flowline of culvert has been set 2'
below streambed.

Design Notes:
1. Revetment is proposed at the
culvert outlet due to the outlet velocity
exceeding policy limits.



Hydraulic Data

RIDB: Not Applicable
Drainage Area = 1178 Acres
 Q_{50} = 1075 cfs
HW Elev. = 791.84
Exit Velocity = 11.2 fps
Stream Slope = 33.8 Ft./Mi.



VPI Sta. = 121+37.00
VPI Elev. = 791.00
VC = 674'

Proposed Profile Grade US 63

Utilities Note:

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

General Utility Symbols:

W - Water Line - Poweshiek Water Association
- - - Power Poles - MidAmerican Energy Co.

Traffic Estimate

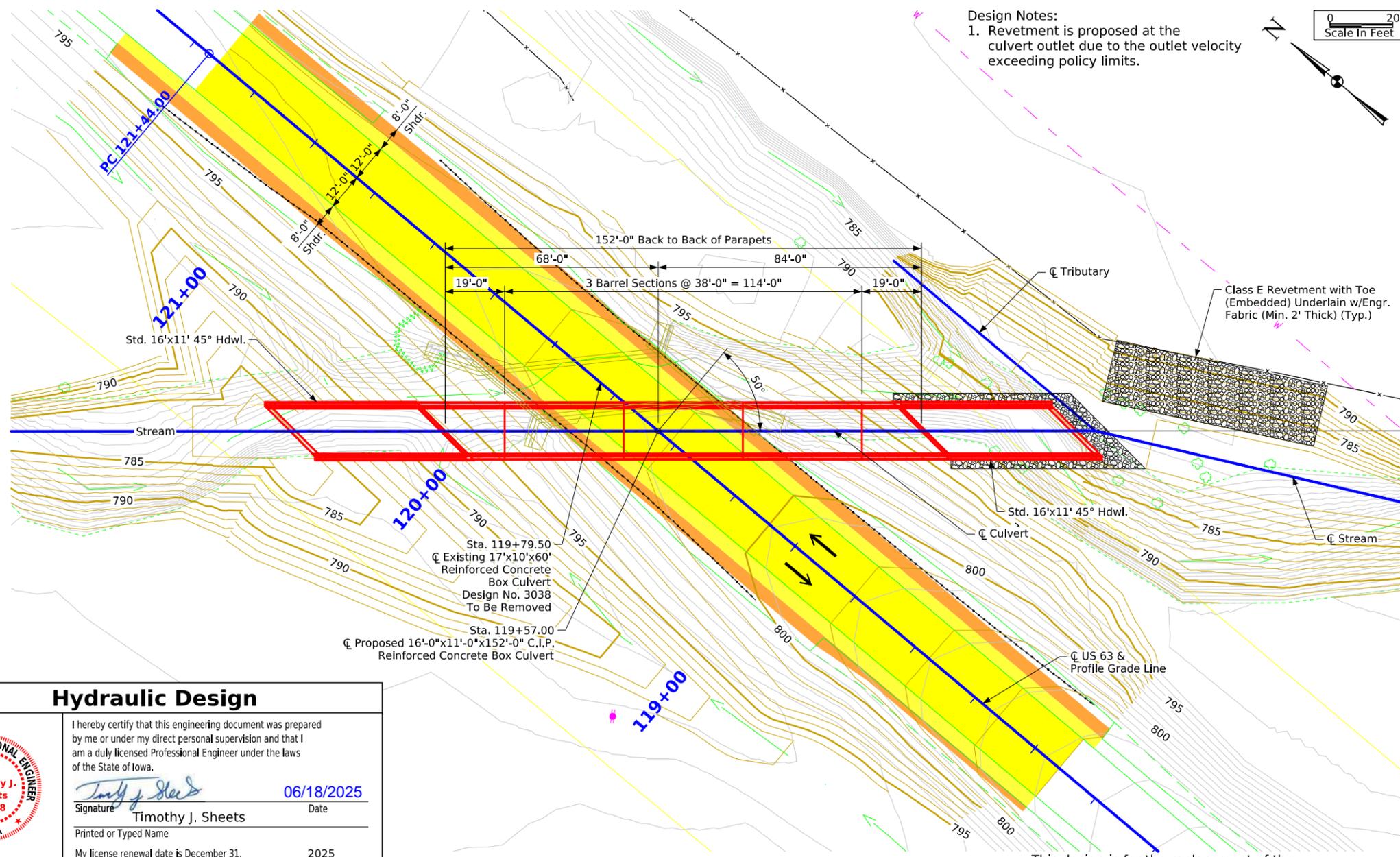
2027 AADT	1700 V.P.D.
2047 AADT	1700 V.P.D.
20?? DHV	?? V.P.H.
TRUCKS	24 %
Total	???
Design ESALs	???

Curve Data

PI Sta. 124+39.00
 Δ = 08°49'35" (Lt)
D = 01°29'56"
T = 295'
L = 588.84'
E = 11.37'
R = 3822.36'
PC Sta. 121+44.00
PT Sta. 127+32.84

Location

US 63 over Small Stream
T-78N R-15W
Section 24
Jackson Township
Poweshiek County
FHWA No. 700651
Bridge Maint. No. 7985.15063
Latitude 41.539472°
Longitude -92.544667°



Situation Plan

This design is for the replacement of the existing 17'x10'x60' reinforced concrete box culvert, Poweshiek Design No. 3038, FHWA No. 700650, Maint. No. 7985.15063.

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.

Timothy J. Sheets 06/18/2025
Signature Date
Printed or Typed Name
My license renewal date is December 31, 2025



Pages or sheets covered by this seal: V.1 - V.4

Design For 50 Degree LA
**16'-0" x 11'-0" x 152'-0" C.I.P.
Reinforced Concrete Box Culvert**

Situation Plan

STA. 119+57.00 (\bar{C} US 63) Turn-in Date: May 2025
Poweshiek County
IOWA DEPARTMENT OF TRANSPORTATION
Design No. 327 Design Sheet No. 1 of 2 FHWA/Asset 700651

PRELIMINARY BRIDGE TSL DEVELOPMENT REPORT
 US 63 over Small Stream
 Project No. BRF-063-4(058)--38-79
 PIN: 22-79-063-010
 File No. 32710
 Poweshiek County - Design No. 327
 16'-0" x 11'-0" x 152'-0" C.I.P.Reinforced Concrete Box Culvert or
 16'-0" x 11'-0" x 162'-4 $\frac{1}{2}$ " Precast Reinforced Concrete Box Culvert
 Location: 4.4 mi N of Co Rd G17
 Station 119+57.00 (C US 63)
 Maintenance No. 7985.1S063
 FHWA No. 700651
 Work Description: RCB Culvert New - Single Box
 Prepared for: Iowa DOT
 Prepared by: Foth IE

May 30, 2025

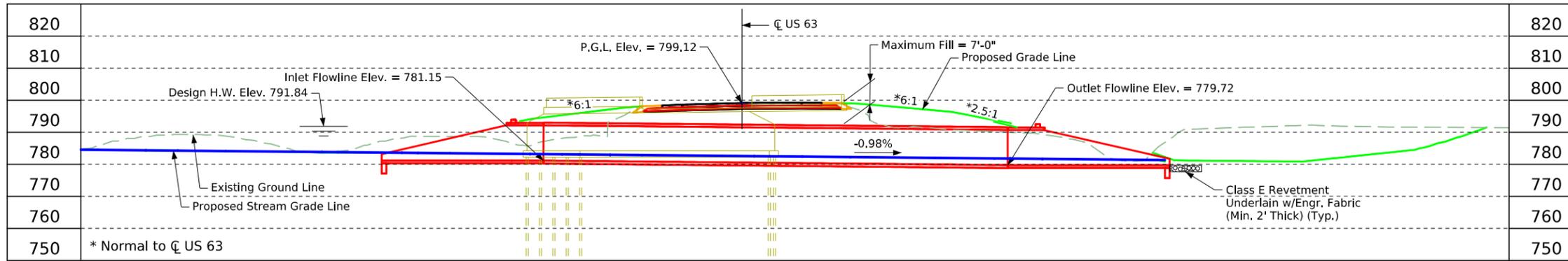
TSL DEVELOPMENT DETAILS

1. BDM 4.2.2 - Hydraulics
 - a. The Iowa Culvert Program was used to determine the size of the culvert.
 - b. The floor of the culvert has been placed 2'-0" below the streambed.
2. BDM 4.3.4 - Horizontal Alignment
 - a. The proposed culvert alignment is a straight tangent at a 50° skew from the roadway centerline.
3. BDM 4.3.5 - Vertical Alignment
 - a. The slope of the culvert was designed to closely match the natural stream slope adjacent to the culvert location.
4. BDM 4.3.6 - Length Determination
 - a. The overall length of the culvert barrel is based on having the proposed foreslope not exceed the top of the parapet (C.I.P.) or bottom of the parapet (P.C.) for the entire length of the parapet.
5. BDM 4.5.1.1 - Cast-in-Place RCB Headwalls
 - a. A standard 45° skew parallel wing headwall is proposed for the inlet and outlet.
6. BDM 4.5.2 - Precast RCBs
 - a. A standard 45° skew parallel wing headwall is proposed for the inlet and outlet.
7. BDM 4.5.8 - Revetment for RCBs
 - a. Revetment is proposed at the outlet of the box culvert because exit velocities exceed 6 ft/s.
 - b. Revetment is proposed along the bank of the stream downstream of the culvert to prevent erosion caused by the bend in the stream alignment.

Design For 50 Degree LA
**16'-0" x 11'-0" x 152'-0" C.I.P.
 Reinforced Concrete Box Culvert**
 TSL Development Report
 STA. 119+57.00 (C US 63) Turn-in Date: May 2025
Poweshiek County
 IOWA DEPARTMENT OF TRANSPORTATION
 Design No. 327 Design Sheet No. of FHWA/Asset 700651

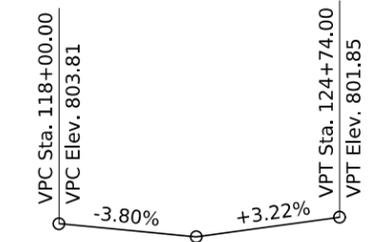
FILE NO. 32710	ENGLISH	DESIGN TEAM Foth	Poweshiek COUNTY	PROJECT NUMBER BRF-063-4(058)--38-79	SHEET NUMBER
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Control Point 301: 7669181.717N, 19574005.935E, CP set IDOT FENO monument 4" below surface, Elev. 816.956



Hydraulic Data

RIDB: Not Applicable
 Drainage Area = 1178 Acres
 Q₅₀ = 1075 cfs
 HW Elev. = 791.84
 Exit Velocity = 11.2 fps
 Stream Slope = 33.8 Ft./Mi.

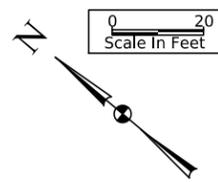


Longitudinal Section Along Centerline of Culvert

Anticipated Settlement = x'-x"; Design Fill = 7'-0"

Note:
 Flowline of culvert has been set 2' below streambed.

Design Notes:
 1. Revetment is proposed at the culvert outlet due to the outlet velocity exceeding policy limits.



Proposed Profile Grade US 63

Utilities Note:

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

General Utility Symbols:

W - Water Line - Poweshiek Water Association
 ● - Power Poles - MidAmerican Energy Co.

Traffic Estimate

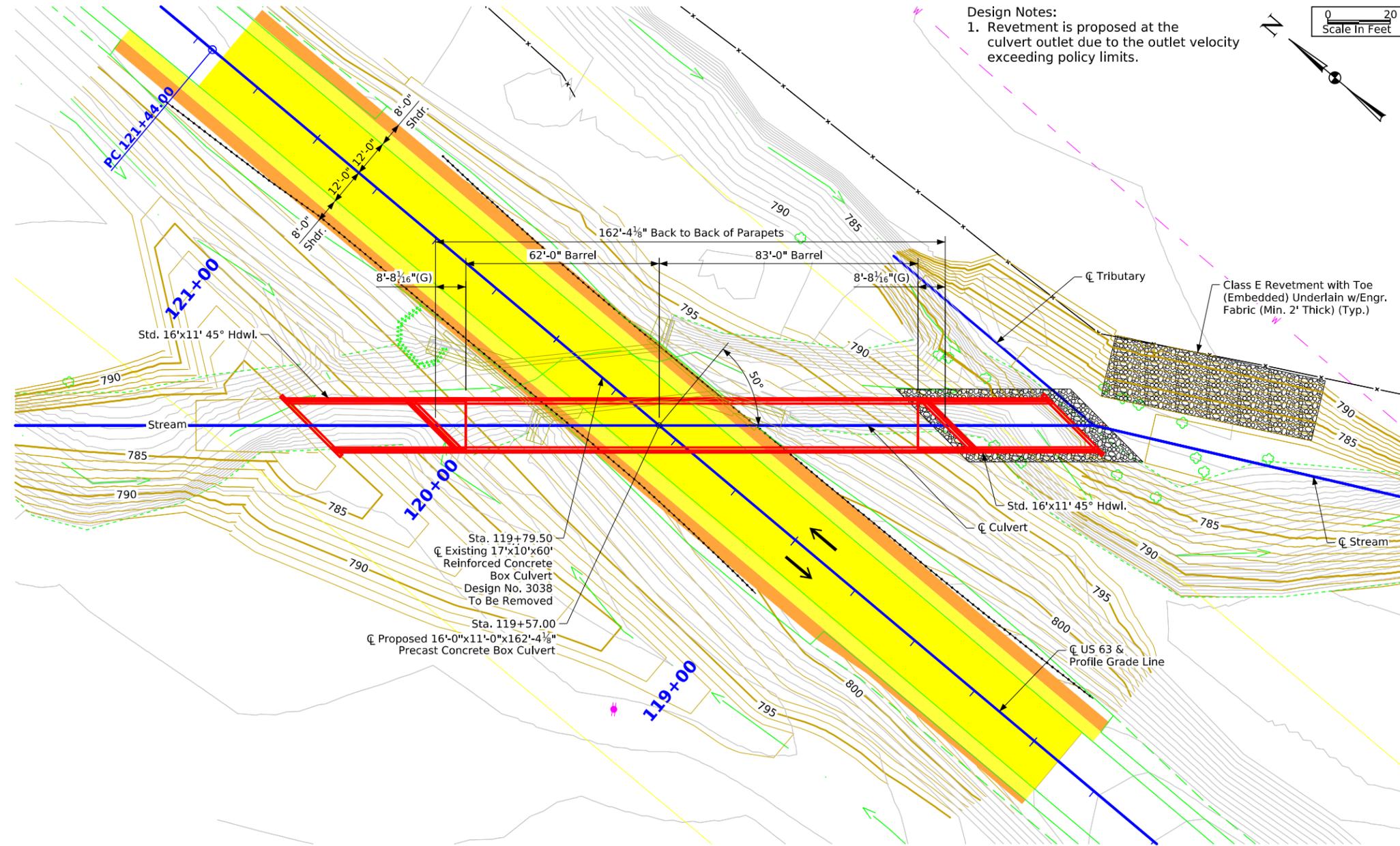
2027 AADT	1700 V.P.D.
2047 AADT	1700 V.P.D.
20?? DHV	?? V.P.H.
TRUCKS	24 %
Total Design ESALs	???

Curve Data

PI Sta. 124+39.00
 Δ = 08°49'35" (Lt)
 D = 01°29'56"
 T = 295'
 L = 588.84'
 E = 11.37'
 R = 3822.36'
 PC Sta. 121+44.00
 PT Sta. 127+32.84

Location

US 63 over Small Stream
 T-78N R-15W
 Section 24
 Jackson Township
 Poweshiek County
 FHWA No. 700651
 Bridge Maint. No. 7985.15063
 Latitude 41.539472°
 Longitude -92.544667°

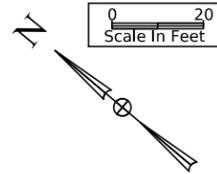


Situation Plan

This design is for the replacement of the existing 17'x10'x60' reinforced concrete box culvert, Poweshiek Design No. 3038, FHWA No. 700650, Maint. No. 7985.15063.

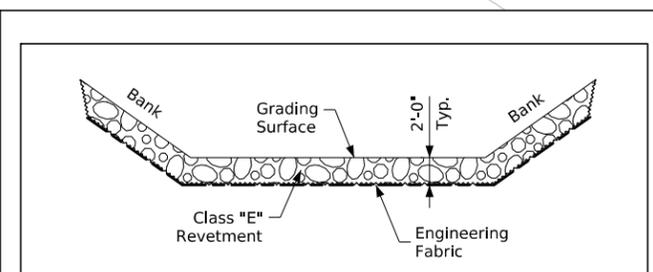
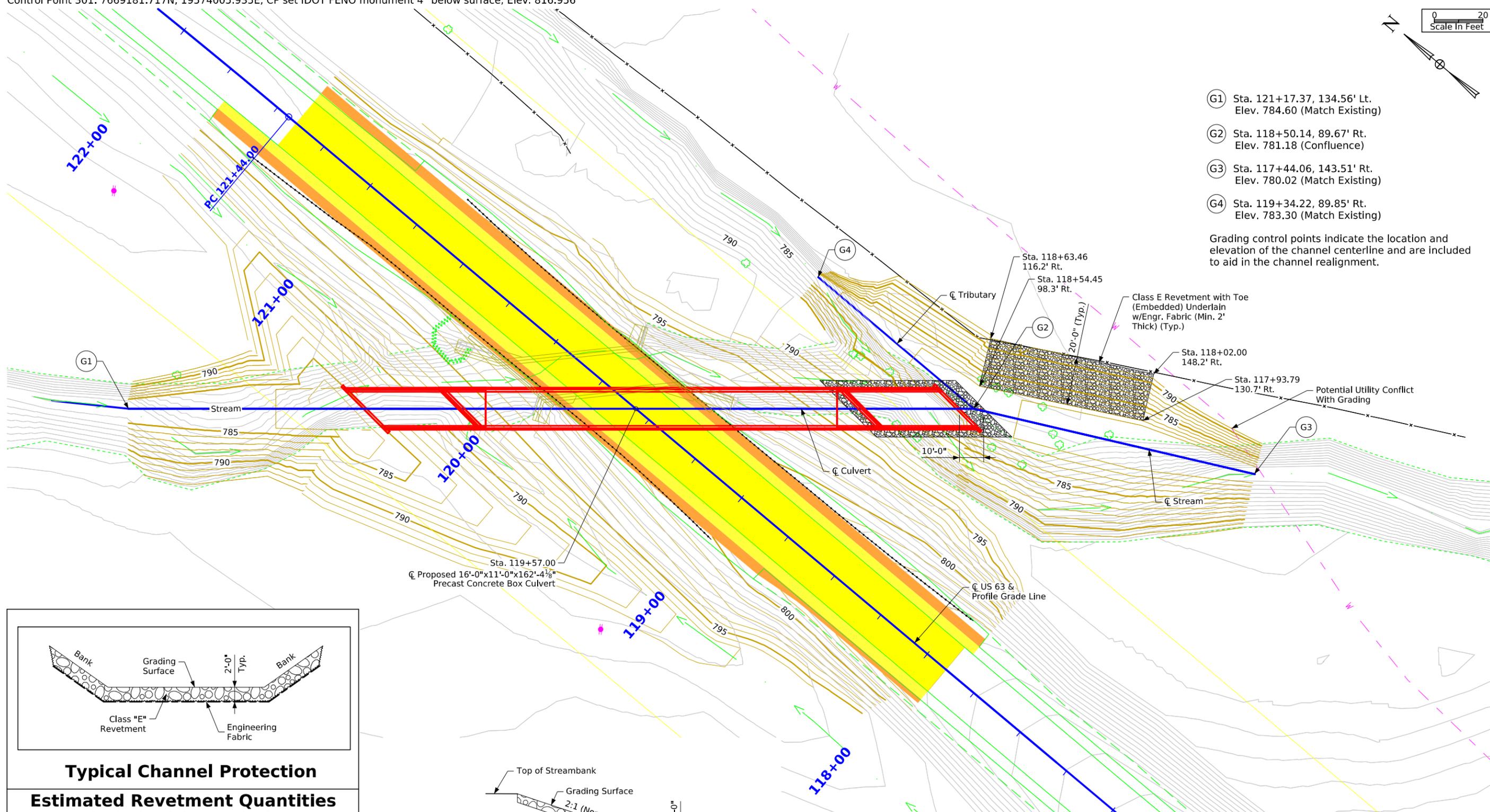
Design For 50 Degree LA
16'-0" x 11'-0" x 162'-4 1/8" Precast Reinforced Concrete Box Culvert
 Situation Plan
 STA. 119+57.00 (Centerline US 63) Turn-in Date: May 2025
Poweshiek County
 IOWA DEPARTMENT OF TRANSPORTATION
 Design No. 327 Design Sheet No. 1 of 2 FHWA/Asset 700651

Control Point 301: 7669181.717N, 19574005.935E, CP set IDOT FENO monument 4" below surface, Elev. 816.956



- G1 Sta. 121+17.37, 134.56' Lt. Elev. 784.60 (Match Existing)
- G2 Sta. 118+50.14, 89.67' Rt. Elev. 781.18 (Confluence)
- G3 Sta. 117+44.06, 143.51' Rt. Elev. 780.02 (Match Existing)
- G4 Sta. 119+34.22, 89.85' Rt. Elev. 783.30 (Match Existing)

Grading control points indicate the location and elevation of the channel centerline and are included to aid in the channel realignment.

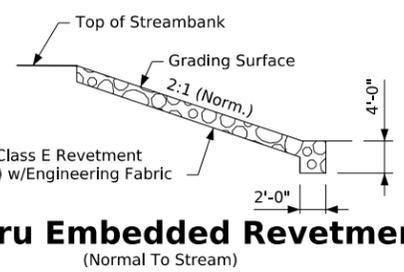


Typical Channel Protection

Estimated Revetment Quantities Included With Road Plans

Location	Revetment Class "E" (Ton)	Engineering Fabric (SY)	CL. 10 Channel Excavation (CY)
Streambank	165	195	103
Outlet	70	127	43
Totals	235	322	146

Excavation quantity calculated from grading surface. Excavation quantity is for embedded revetment core out only, and does not include excavation to the grading surface. Excavation quantity to the grading surface is determined by Road Design and included in the Road Plans. Quantities shown for information only. See Road Sheets.



Section Thru Embedded Revetment Slope
(Normal To Stream)

Design For 50 Degree LA
16'-0" x 11'-0" x 162'-4 1/8" Precast Reinforced Concrete Box Culvert
 Situation Plan - Site
 STA. 119+57.00 (C US 63) Turn-In Date: May 2025
Poweshiek County
 IOWA DEPARTMENT OF TRANSPORTATION
 Design No. 327 Design Sheet No. 2 of 2 FHWA/Asset 700651

Site Plan

CROSS SECTION VIEW COLOR LEGEND

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

NOTES:

Text

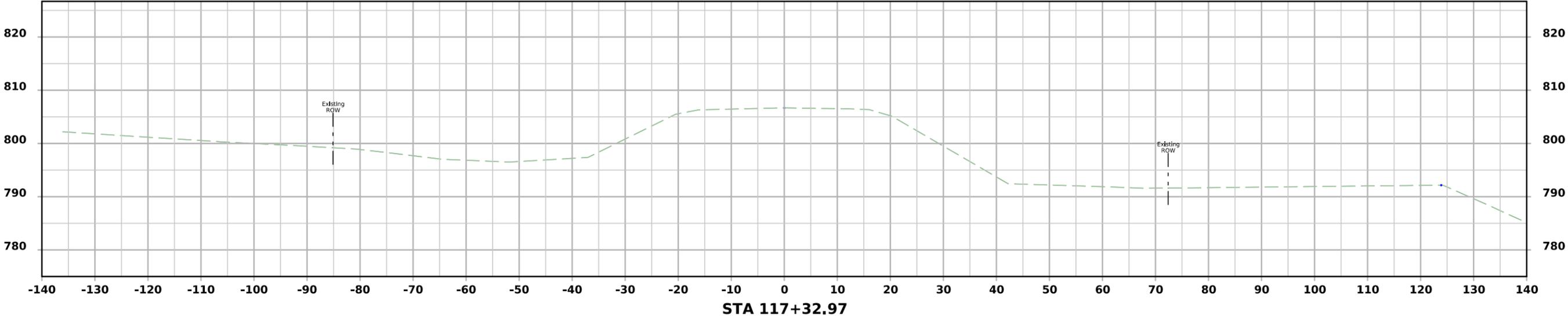
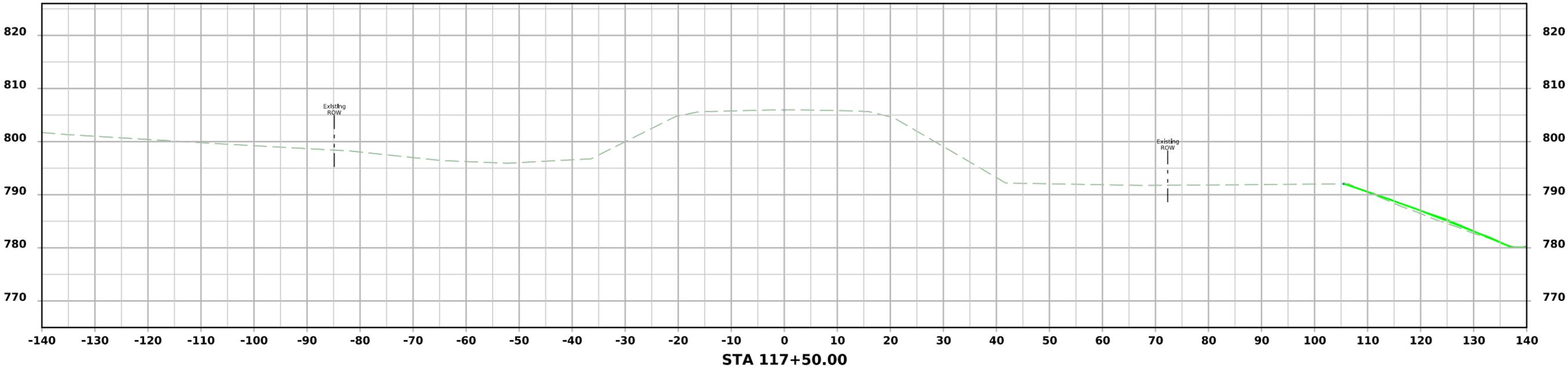
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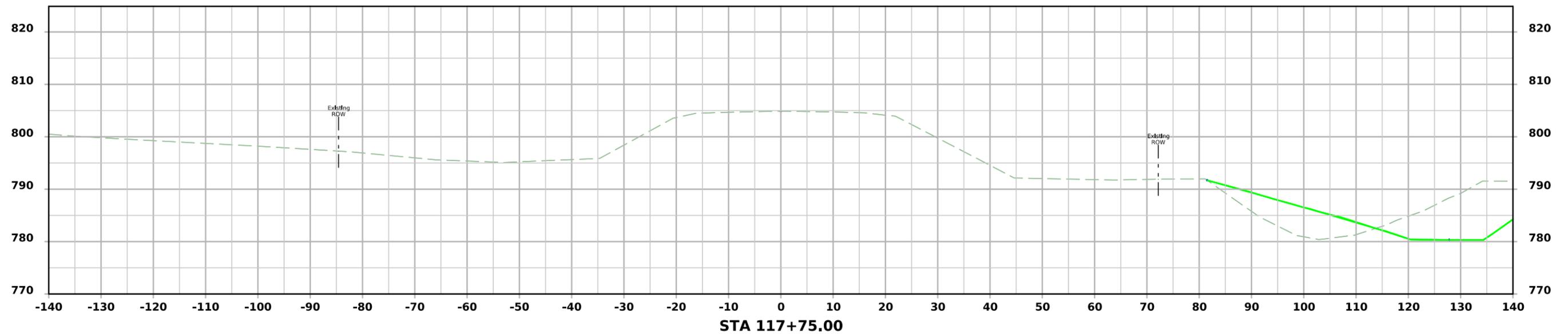
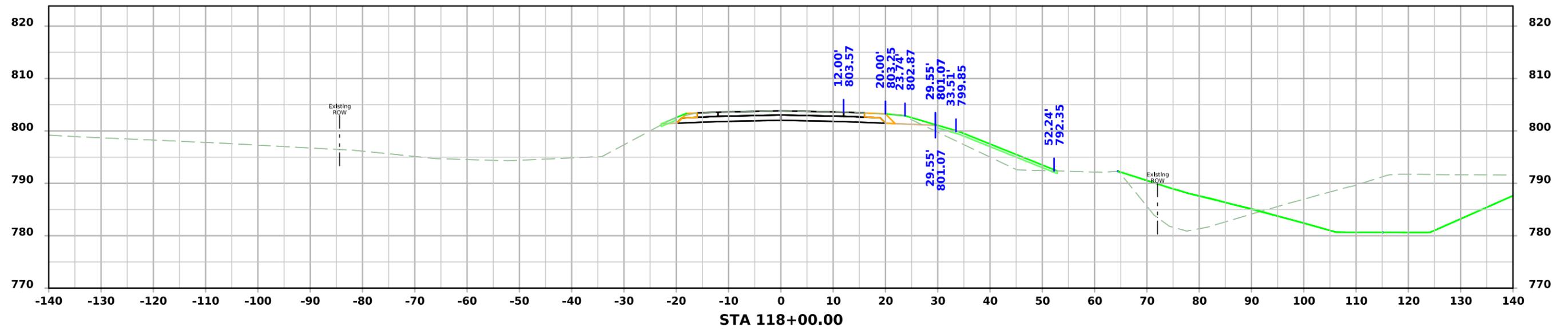
CROSS SECTIONS LEGEND AND INFORMATION SHEET

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

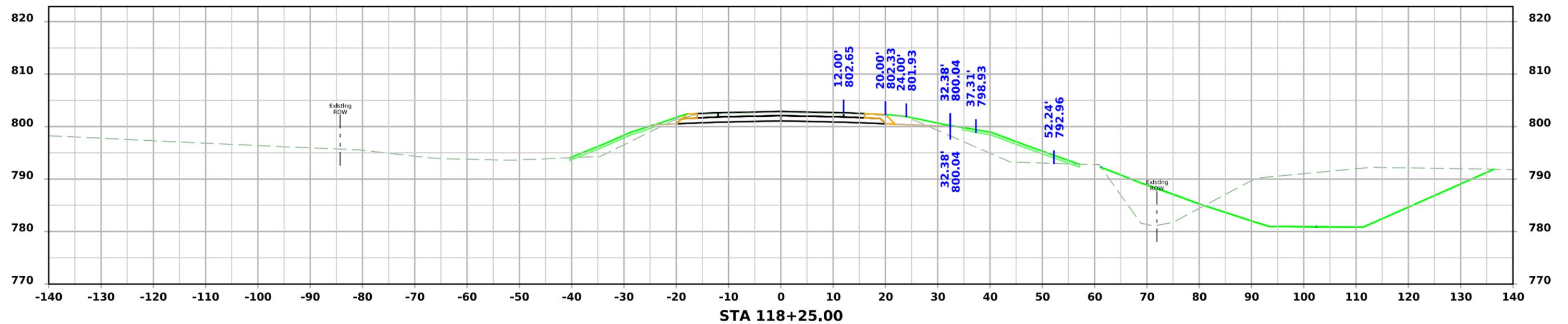
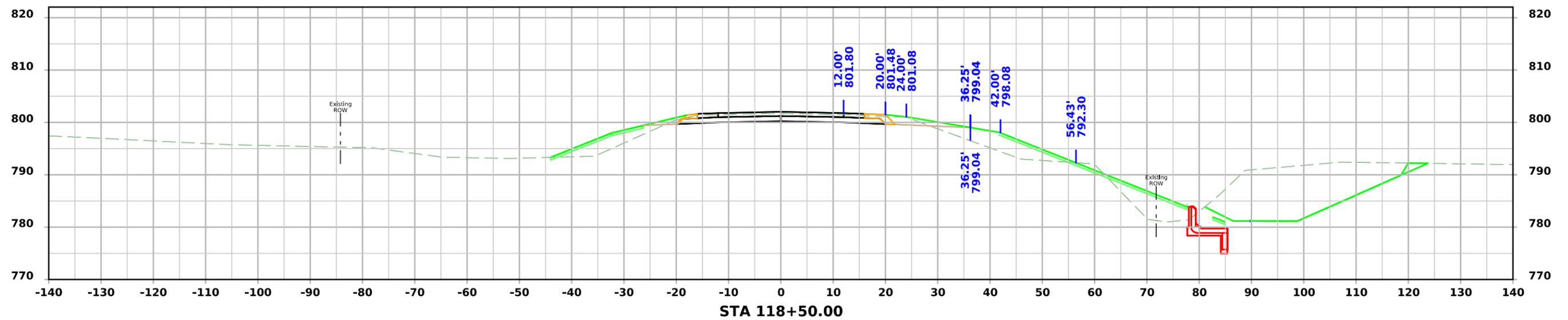
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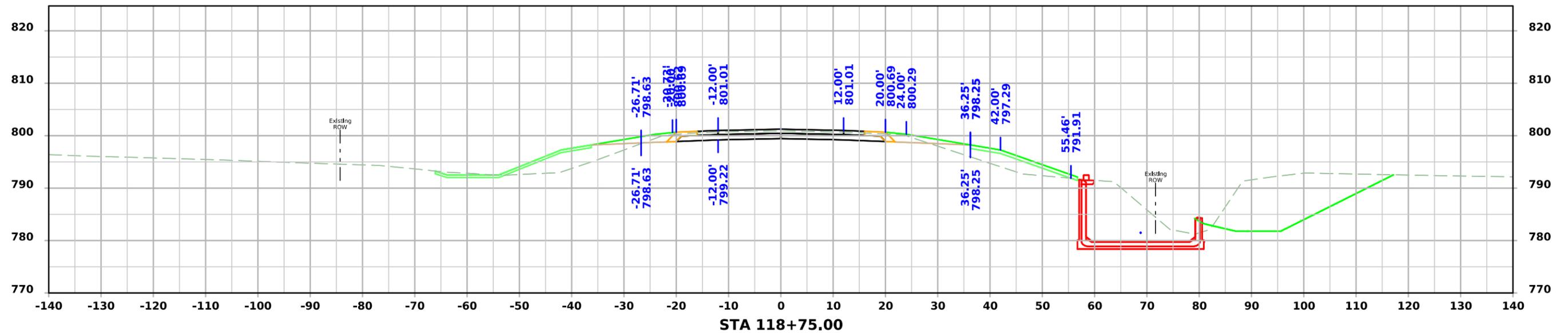
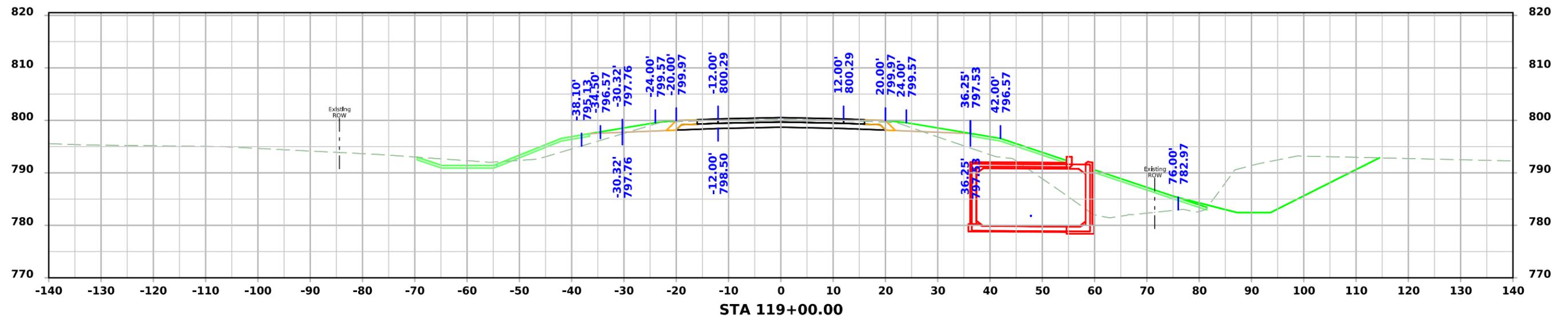
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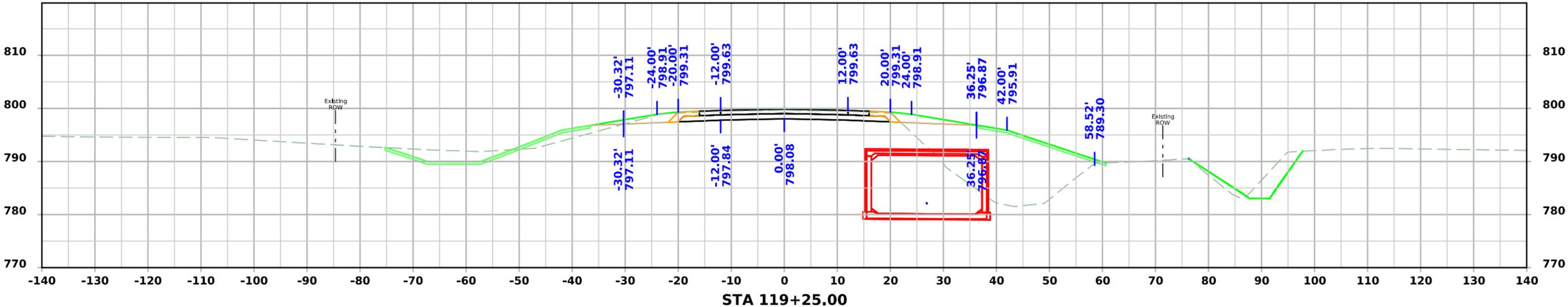
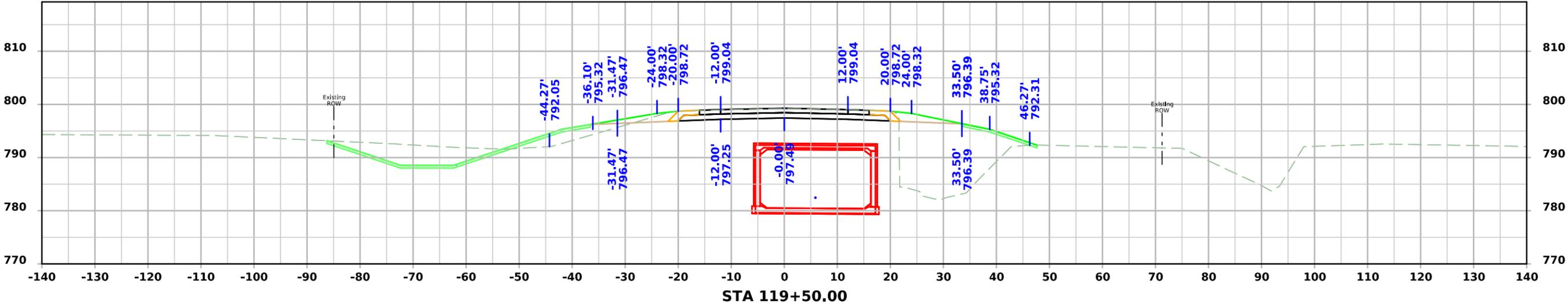
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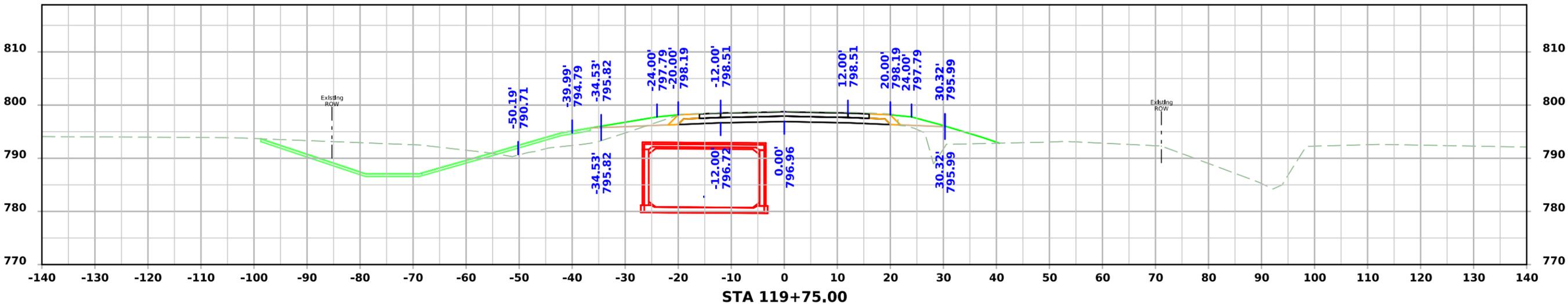
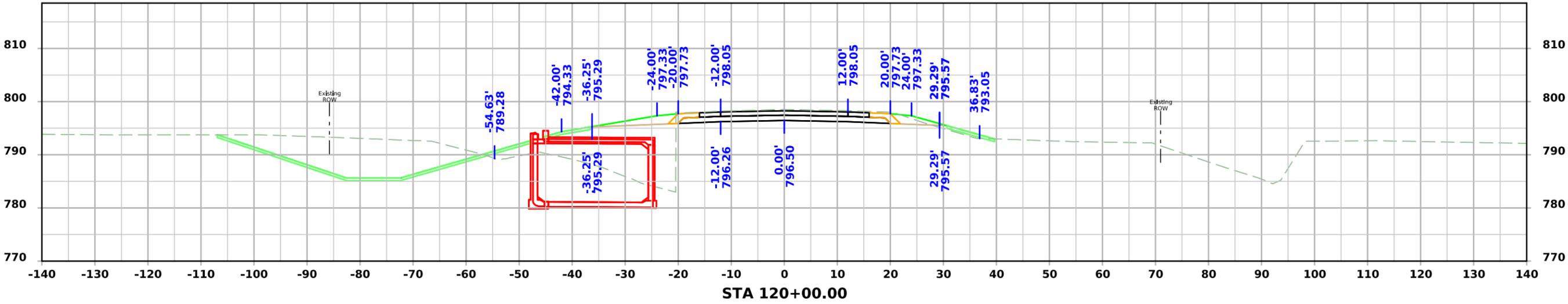
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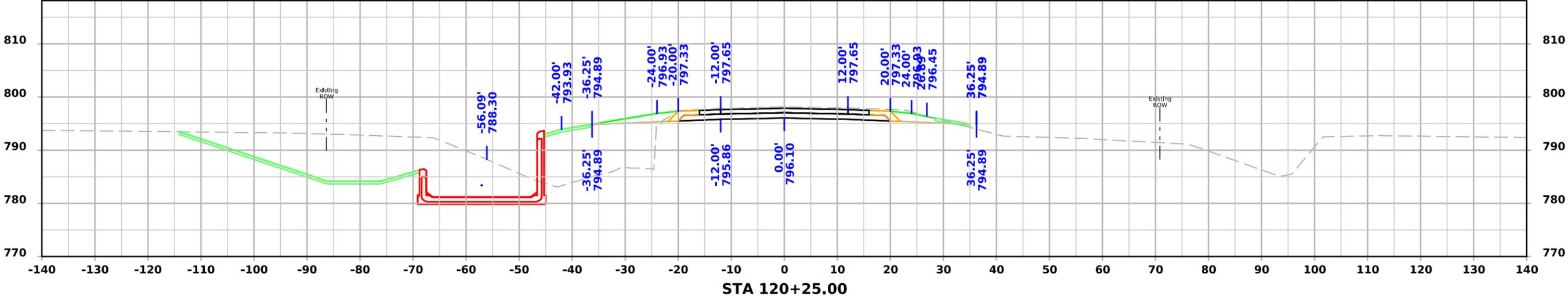
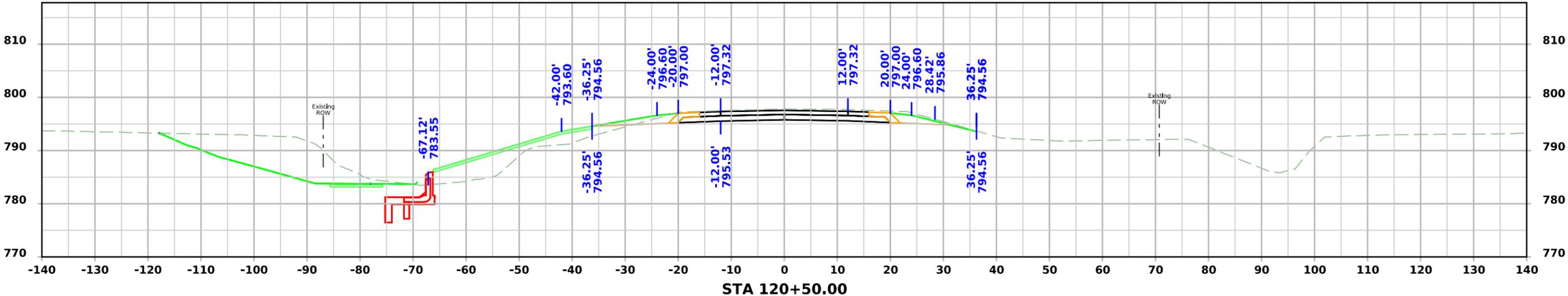
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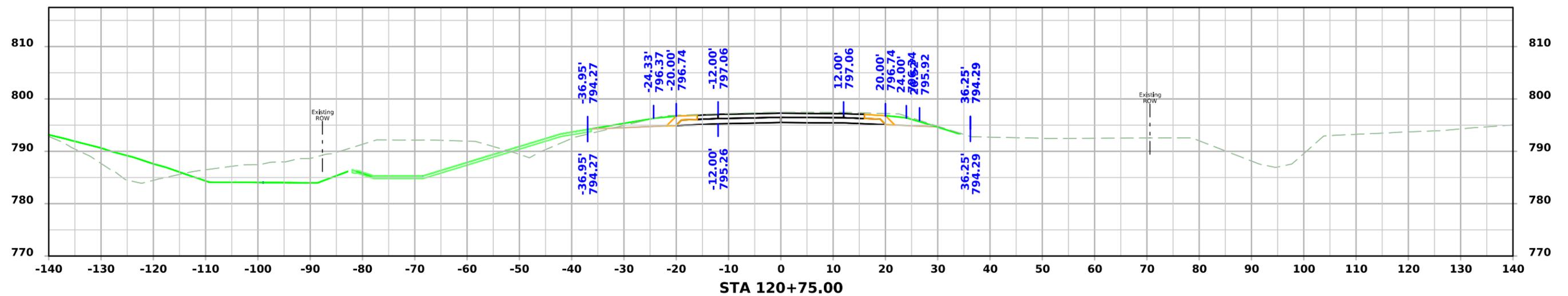
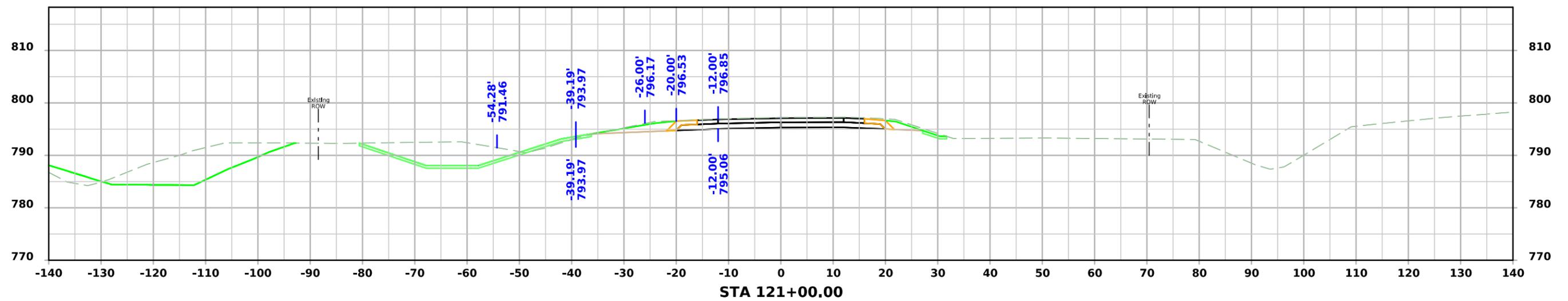
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