



REVISIONS

TOTAL	..
PROJECT IDENTIFICATION NUMBER	20-23-136-040
PROJECT NUMBER	BRF-136-1(99)--38-23
R.O.W. PROJECT NUMBER	

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	IA 136
<b>G Sheets</b>	<b>Survey Sheets</b>
G.1 - 3	Reference Ties and Bench Marks
<b>J Sheets</b>	<b>Traffic Control and Staging Sheets</b>
J.1	Traffic Control Plan
<b>V Sheets</b>	<b>Bridge and Culvert Situation Plans</b>
* V.1	Bridge and Culvert Situation Plans
<b>W Sheets</b>	<b>Mainline Cross Sections</b>
W.1	Cross Sections Legend & Symbol Information Sheet
W.2 - 4	Mainline Cross Sections
	* Color Plan Sheets

PLANS OF PROPOSED IMPROVEMENT ON THE  
**PRIMARY ROAD SYSTEM**  
**CLINTON COUNTY**  
Bridge Replacement  
Branch Prairie Creek 1.2 Mi N of US 61

SCALES: As Noted

Refer to the Proposal Form for list of applicable specifications.

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



DESIGN DATA RURAL			
2025	AADT	800	V.P.D.
2045	AADT	900	V.P.D.
2045	DHV	100	V.P.H.
	TRUCKS	11	%
	Total Design ESALs	..	

INDEX OF SEALS		
SHEET NO.	NAME	TYPE
A.1	Michael J. Janecek	Primary Signature Block
V.1	Phillip M. Harpole	Hydraulic Design

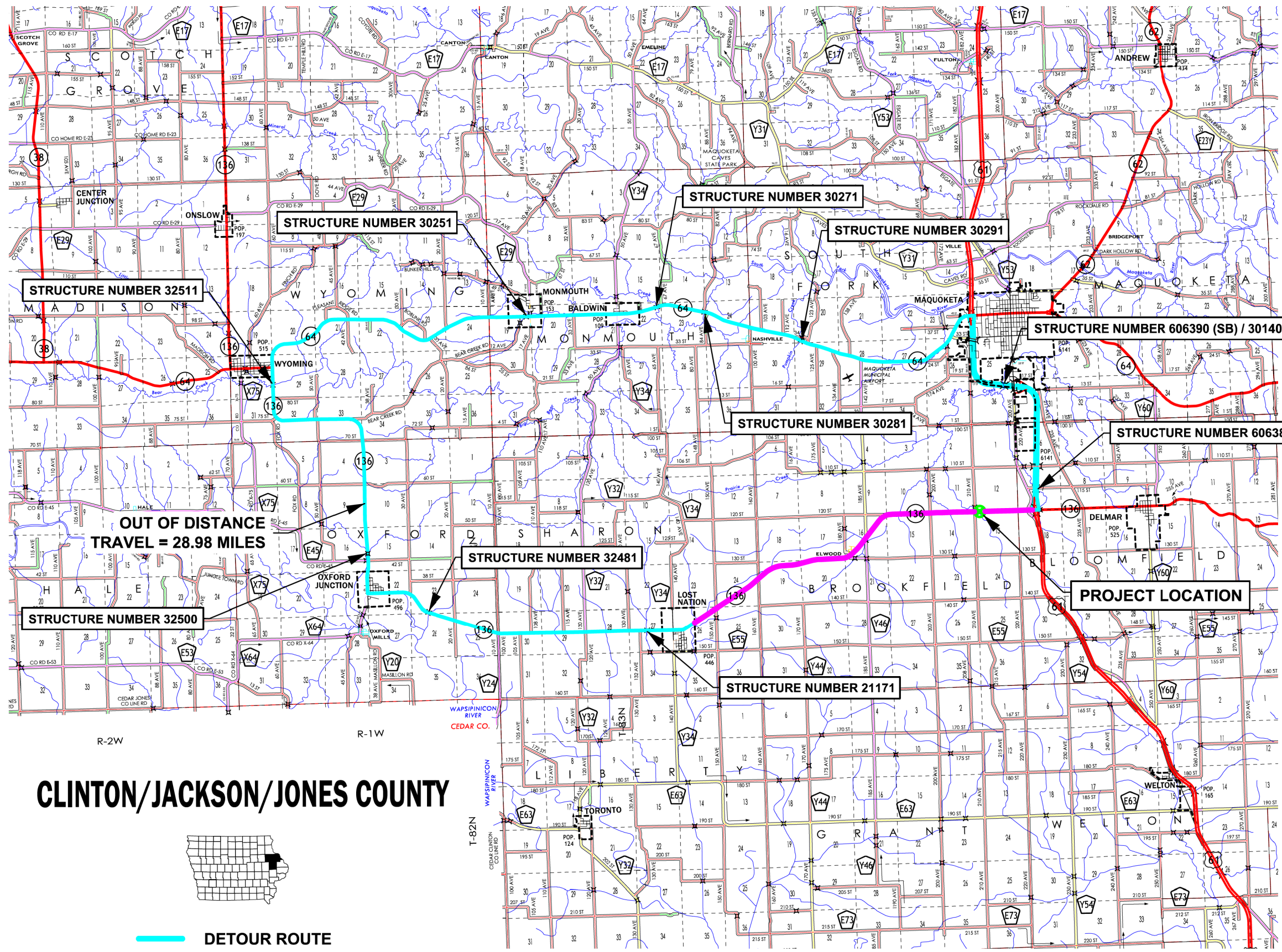
D4 PLAN – June 18, 2024  
D5 PLAN – Sept 16, 2022

PRELIMINARY PLANS

Subject to change by final design.

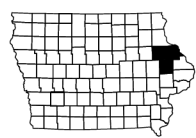
D3 PLAN – May 20, 2022





OUT OF DISTANCE  
TRAVEL = 28.98 MILES

# CLINTON/JACKSON/JONES COUNTY

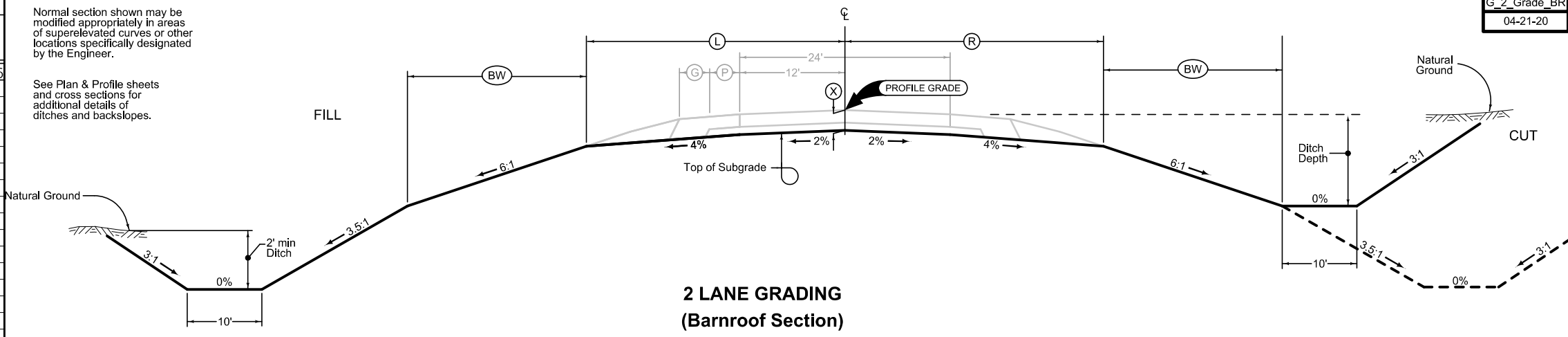


— DETOUR ROUTE

LOCATION		DIMENSIONS			
ROAD IDENTIFICATION	STATION TO STATION	(L) Feet	(R) Feet	(X) Inches	(BW) Feet
IA 136	834+24.45 835+77.20	33.94	33.94	16	2.06

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

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



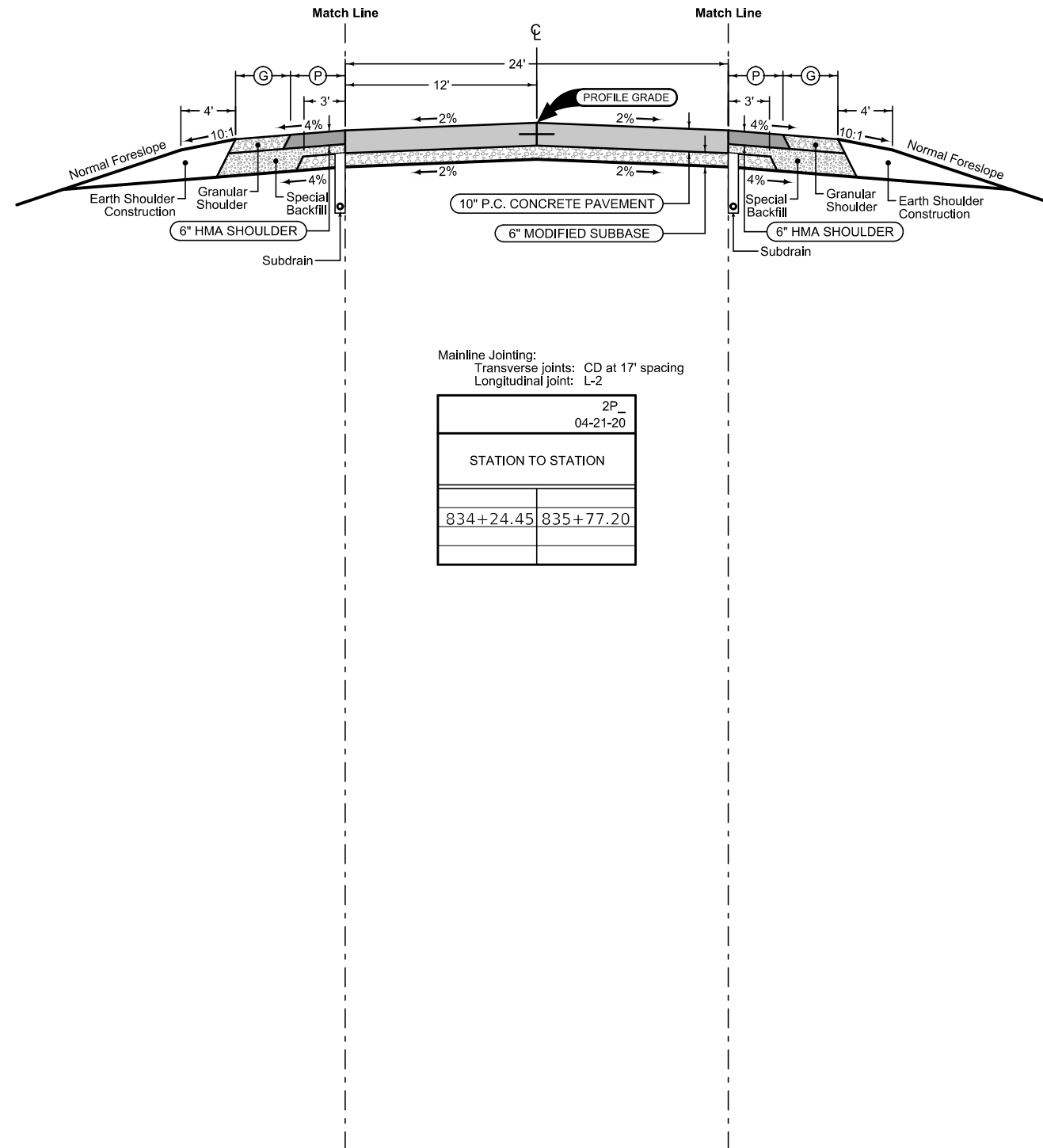
G\_2\_Grade\_BR  
04-21-20

**2 LANE GRADING  
(Barnroof Section)**

**Combination Shoulder**

Shoulder Jointing:  
Longitudinal joint: B

		2_C_04-21-20	
STATION TO STATION		(P) Feet	(G) Feet
834+24.45	835+77.20	4	4



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

		2P_04-21-20	
STATION TO STATION			
834+24.45	835+77.20		

**Combination Shoulder**

Shoulder Jointing:  
Longitudinal joint: B

		2_C_04-21-20	
STATION TO STATION		(P) Feet	(G) Feet
834+24.45	835+77.20	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
- Traffic Signal Control Box
- Rail Road Signal Control Box
- Telephone Switch Box
- 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

- E1, Electric Line Co. 1 - Quality D
- FO1D, Fiber Optic Co. 1 - Quality D
- FO2D, Fiber Optic Co. 2 - Quality D

### PLAN VIEW COLOR LEGEND OF PLAN AND PROFILE SHEETS

LINEWORK		Design Color No.	
Green	(2)		Existing Topographic Features and Labels
Blue	(1)		Proposed Alignment, Stationing, Tic Marks, and Alignment Annotation
Magenta	(5)		Existing Utilities
SHADING		Design Color No.	
Lavender	(9)		Temporary Pavement Shading
Yellow	(4)		Proposed Pavement Shading
Orange	(6)		Proposed Granular Shading
Orange	(70)		Proposed Shoulder Granular Shading
Yellow	(68)		Proposed Shoulder Paved Full Depth Shading
Yellow	(70)		Proposed Shoulder Paved Partial Depth Shading
Gray, Dark	(112)		Proposed Grade and Pave Shading "In conjunction with a paving project"
Brown, Light	(236)		Grading Shading
Orange, Light	(134)		Proposed Granular Entrance Shading
Yellow	(220)		Proposed Paved Entrance Shading
Tan	(8)		Proposed Sidewalk Shading
Blue, Light	(230)		Proposed Sidewalk Landing Shading
Pink	(11)		Proposed Sidewalk Ramp Shading
Green, Light	(225)		Existing Pavement Shading
Red	(3)		Proposed Structure Shading

### PROFILE VIEW COLOR LEGEND OF PLAN AND PROFILE SHEETS

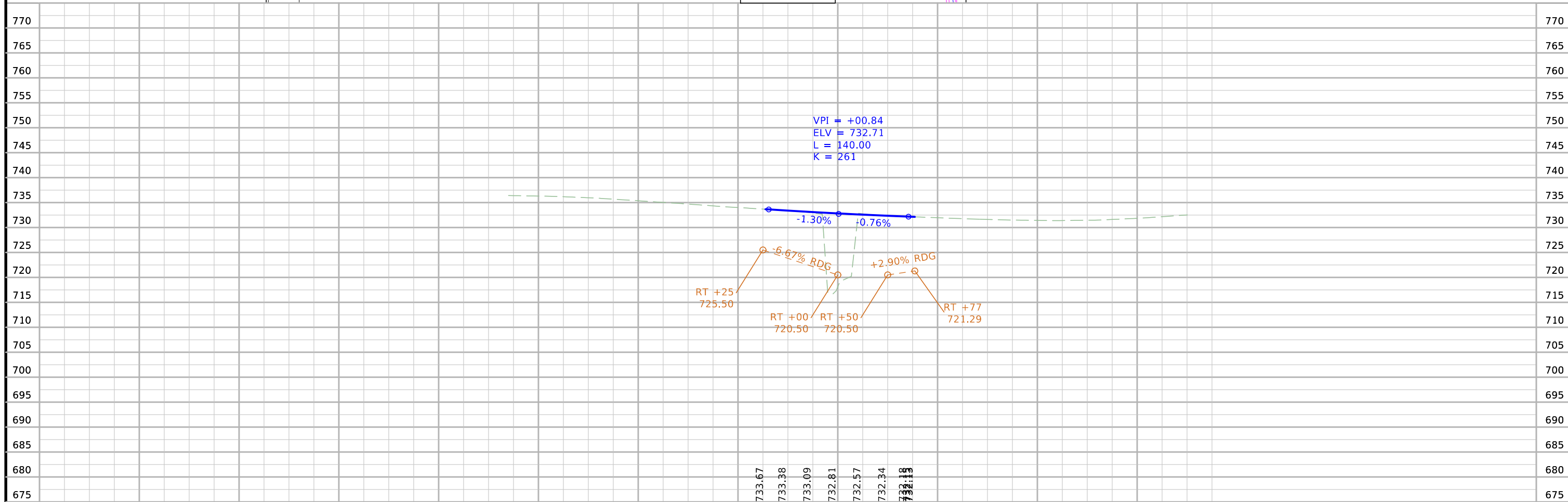
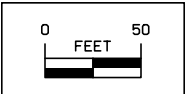
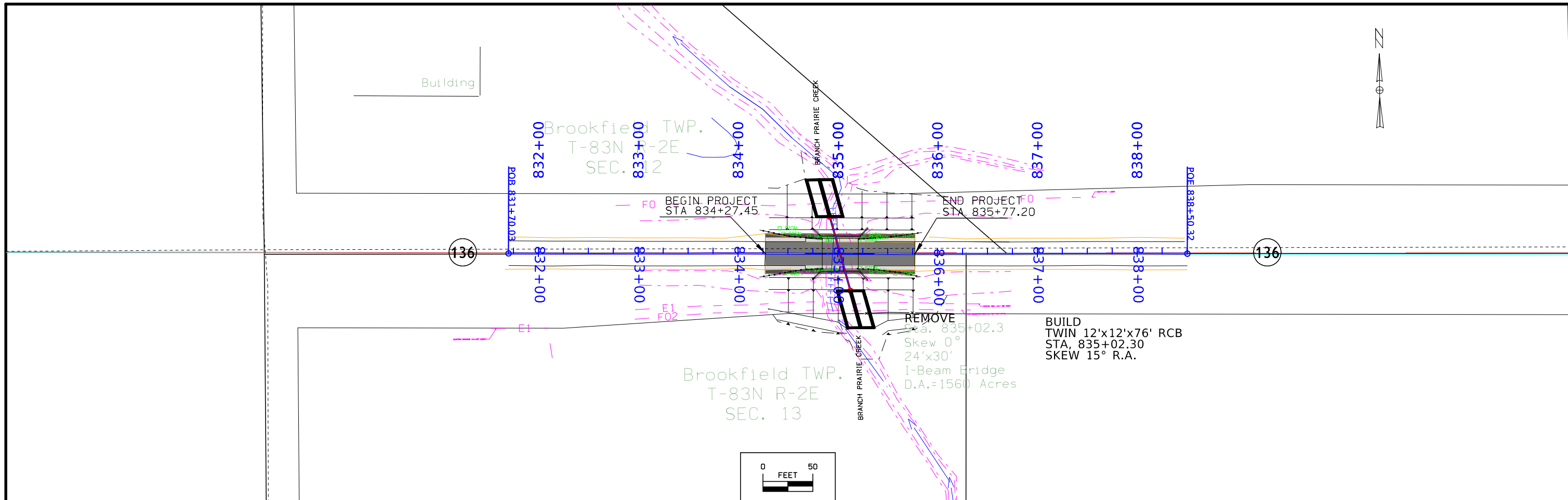
LINEWORK		Design Color No.	
Green	(2)		Existing Ground Line Profile
Blue	(1)		Proposed Profile and Annotation
Magenta	(5)		Existing Utilities
Blue, Light	(230)		Proposed Ditch Grades, Left
Black	(0)		Proposed Ditch Grades, Median
Rust	(14)		Proposed Ditch Grades, Right

- Reference Point
- 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
  - Existing Right of Way
  - Existing and Proposed Right-of-Way
  - Easement and Existing Right-of-Way
  - Easement (Temporary)
  - Easement
  - Access Control
  - Property Line

## PLAN AND PROFILE LEGEND AND SYMBOL INFORMATION SHEET

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



FILE NO.	ENGLISH	DESIGN TEAM IOWA DOT / SHIVE HATTERY	CLINTON COUNTY	PROJECT NUMBER BRF-136-1(99)--38-23	SHEET NUMBER D.2
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**Clinton County**  
**BRF-136-1(99)-38-23**  
**State Highway 136 over Branch Prairie Creek**  
**PIN 20-23-136-040**  
**Sap-766.3**

QLD – Quality Level D Lowest guideline quality level

**A One-call utility locate request (Ticket# 552104699) was made August 02, 2021. The following Companies were listed:**

**Party Personnel**

Eddie Charles – Survey Party Chief

**Date(s) of Survey**

Begin Date                   08/20/2021  
End Date                       10/22/2021

**General Information**

Measurement units for this survey are US survey feet. This survey is for proposed Bridge reconstruction and reconstruction of State Highway 136, over Branch Prairie Creek; 1.2 miles North of US Highway 61. Project datum and control information is provided by Shive-Hattery Inc. This project is a Preliminary DTM Field Survey. This survey request was for the Bridge over Branch Prairie Creek, State Highway 136 Corridor and Branch Prairie Creek.

**Vertical Control**

IARTN  
Vertical datum for this survey is NAVD88 (Computed using Geoid12B). Additional benchmarks were placed throughout the project using a Total Station setup relative to Point 1 and Point 2. Vertical control was verified between control points with check shots by Total Station through multiple setup from various occupation points with a vertical error of less than 0.05 feet.

This survey found a local control benchmark monument (benchmark disc on bridge abutment in NW corner bridge). No vertical information was available at the time field work was completed.

**Horizontal Control**

**(Project Coordinates from Redundant IARTN Observations)**

The project coordinate system is modified Iowa Regional Coordinate System Zone 12 (U.S. Survey Feet This survey control is relative to the IARTN reference stations. IARTN Reference Station coordinates are relative to the National Reference Station network datum: NAD83 (2011) for Epoch 2010.00. Coordinates were determined by IARTN observations with appropriate occupation times. Additional control points were placed throughout the project using a Total Station setup relative to Point 1 and Point 2.

**Utility Information**

<b><u>Company (Quality)</u></b>	<b><u>Symbol</u></b>	<b><u>Remark</u></b>
Alliant Energy (ASE) PPA		Power Poles South of IA 136; Clear
CenturyLink	FOA	Buried Fiber Optic Line North of IA 136; Clear
Eastern Iowa Light & Power	ELA	Underground electric line Center of IA 136; Clear
F & B Communications	FOB TLA	Buried Fiber Optic Line South of IA 136; Marked
Lost Nation-Elwood Telephone (LN1)	FOC	Buried Fiber Optic Line South of IA 136; Marked

Following are the list of contacts made in the order they were received:

( ASE ) ALLIANT ENERGY  
Contact Name : Alliant Energy Field Engineer Contact Phone: 8002554268 Contact Email: [locate\\_IPL@alliantenergy.com](mailto:locate_IPL@alliantenergy.com)

( CTLIA01 ) CENTURYLINK  
Contact Name : SADIE HULL  
Contact Phone: 9185470147  
Contact Email: [sadie.hull@lumen.com](mailto:sadie.hull@lumen.com)

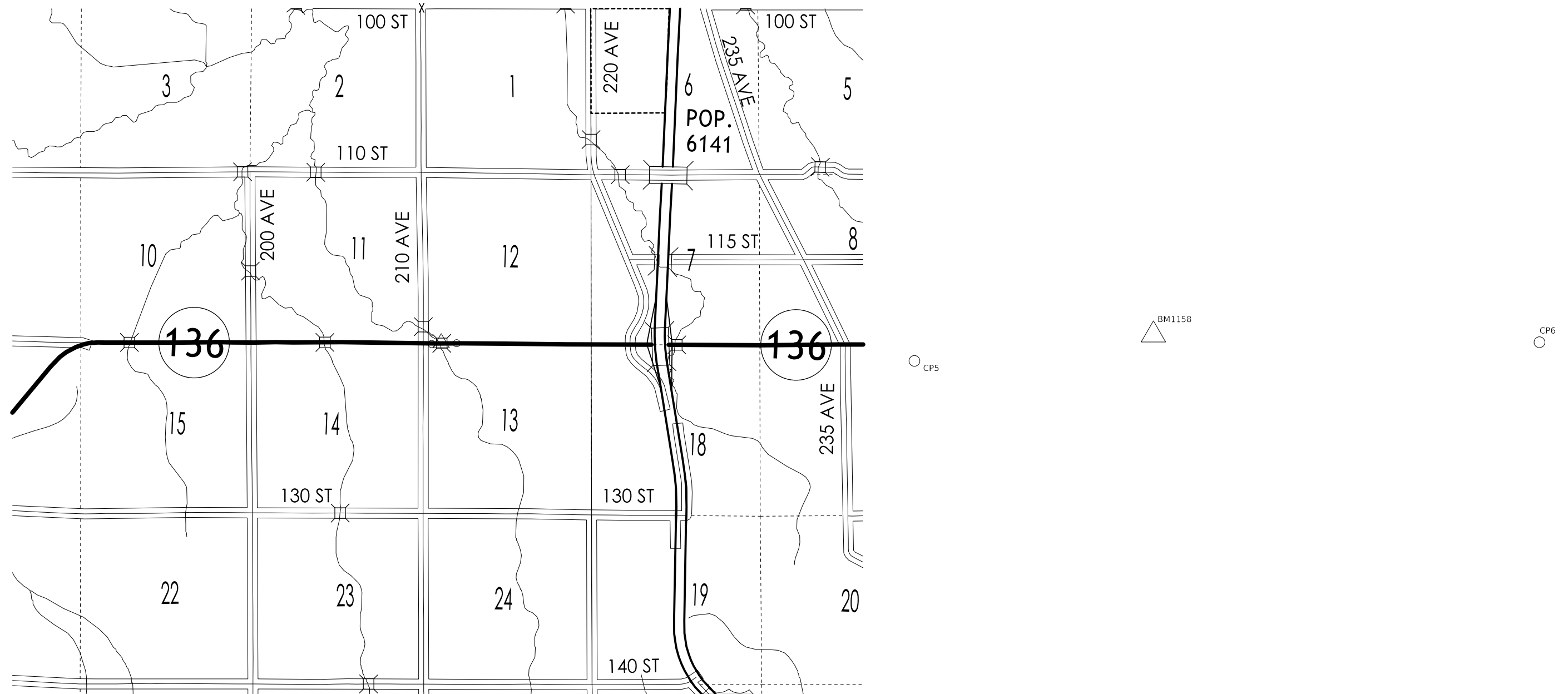
( ELP ) EASTERN IOWA LIGHT & POWER  
Contact Name : Mark Elder  
Contact Phone: 5637327360  
Contact Email: [mark.elder@easterniowa.com](mailto:mark.elder@easterniowa.com)

( FBM ) F & B COMMUNICATIONS  
Contact Name : Ken Laursen  
Contact Phone: 5633741236  
Contact Email: [locates@fbc-tele.com](mailto:locates@fbc-tele.com)

( LN1 ) LOST NATION-ELWOOD TELEPHONE  
Contact Name : Jody Holtz  
Contact Phone: 5636782470  
Contact Email: [jody@lencomm.com](mailto:jody@lencomm.com)

### CONTROL POINT VICINITY MAP

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



HORIZ. DATUM: NAD83(2011) EPOCH 2010.00

VERT. DATUM: NAVD88

Ia. Regional Coordinate System Zone 11

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) EPOCH 2010.00

VERT. DATUM: NAVD88

1a. Regional Coordinate System Zone 11  
Project Control Marks are Bench Marks

<b>POINT NAME</b>	<b>Y</b>	<b>X</b>	<b>Z</b>	<b>FEATURE DEFINITION - DESCRIPTION</b>
5	8239017.807	21459195.942	736.328	CP
6	8239041.106	21459976.103	734.959	CP
107	8239041.110	21459976.127	734.964	CP
1158	8239049.961	21459494.22	735.103	MISC DOT BRASS CAP

**NOTE:**

The first two digits in the control point name refer to the county number.  
The next 3 digits refer to the highway number.  
The next 3 digits refer to the highway milepost.  
The last digit refers to the distance from the referenced milepost to the nearest tenth of a mile.

**108-26A**  
08-01-08

### STAGING NOTES

Stage 1:  
With IA 136 traffic using detour, remove and replace bridge over the stream with a culvert.

Stage 2:  
Reopen IA 136 to normal traffic pattern.

**108-23A**  
08-01-08

### TRAFFIC CONTROL PLAN

1) While bridge and approaches are being removed and replaced with RCB culvert, IA 136 traffic shall be maintained via an off-site detour. Detours are furnished, maintained and removed by the Contractor. Refer to TC-252 for road closure and advanced signage details.

2) Contractor will furnish, install, maintain, and remove detour signs. All existing signs that conflict with detour shall be covered. These functions shall be included in the Traffic Control Bid Item.

**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									

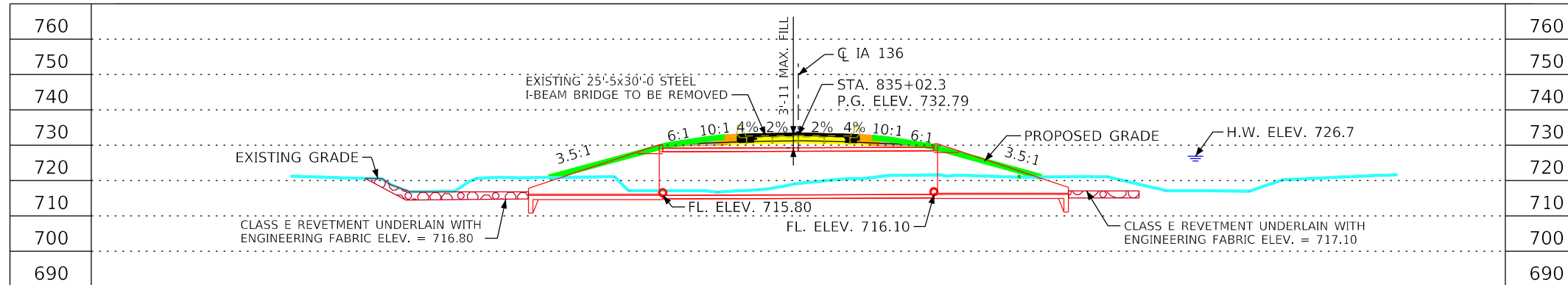
**111-01**  
04-17-12

### COORDINATED OPERATIONS

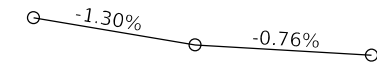
Other work in progress during the same period of time will include the construction of the projects listed. Coordinate operations with those of other contractors working within the same area.

Project	Type of Work

Control Point: 1158 Y=8239049.961, X=21459494.22, Z=735.103 MISC. DOT BRASS CAP



BENCH MARK NO.



VPI Sta. = 835+00.84 L = 140.00'  
VPI Elev. = 732.71

**Proposed Profile  
Grade IA 136**

**Notes:**

**GENERAL NOTES:**

- THIS DESIGN IS FOR THE REPLACEMENT OF THE EXISTING 25'-5x30' STEEL BEAM BRIDGE DESIGN NO. 551, CLINTON FHWA NO. 21120, MAINT. NO. 2331.2s136

**DESIGNER NOTES:**

- BURIED AND OVERHEAD UTILITIES TO BE RELOCATED TEMPORARILY OR PERMANENTLY AS REQUIRED FOR CONSTRUCTION.

**PLAN NOTES:**

- DRAINAGE THROUGH EXISTING CULVERT/CHANNEL MUST BE MAINTAINED THROUGHOUT CONSTRUCTION.
- FLOW LINE OF CULVERT HAS BEEN SET 1 FOOT BELOW STREAMBED.

**Hydraulic Data**

Drainage Area = 2.36 Sq. Mi.  
Q<sub>50</sub> = 1,750 CFS  
HW Elev. = 726.7  
Stream Slope = 27.9 Ft./Mi.  
Q<sub>100</sub> = 2,090 CFS  
HW Elev. = 727.5  
Q<sub>500</sub> = 3,020 CFS  
HW Elev. = 729.4

**Utilities Legend:**

- FO — Fiber Optic Line
- F02 — Fiber Optic Line
- E1 — Electric Line

UTILITIES SHOWN ON THIS SHEET ARE FOR INFORMATION ONLY, SEE ROAD DESIGN SHEETS FOR FINAL UTILITY INFORMATION.

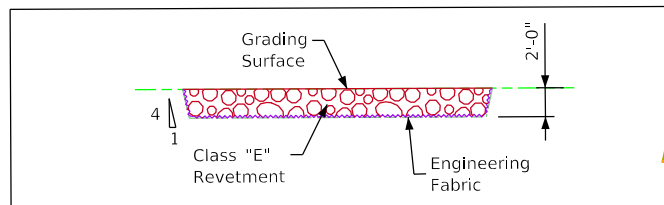
**Location**

IA 136 over Branch  
Prairie Creek  
T-83N R-2E  
Section 12-13  
Brookfield Township  
Clinton County  
FHWA No. ??  
Bridge Maint. No. 2331.2s136  
Latitude 42.003703°  
Longitude -90.682300°

**Traffic Estimate**

2025 AADT	800 V.P.D.
2045 AADT	900 V.P.D.
2045 DHV	100 V.P.H.
Trucks	11 %
Total	
Design ESALs	??,???

**LONGITUDINAL SECTION ALONG CL CULVERT**

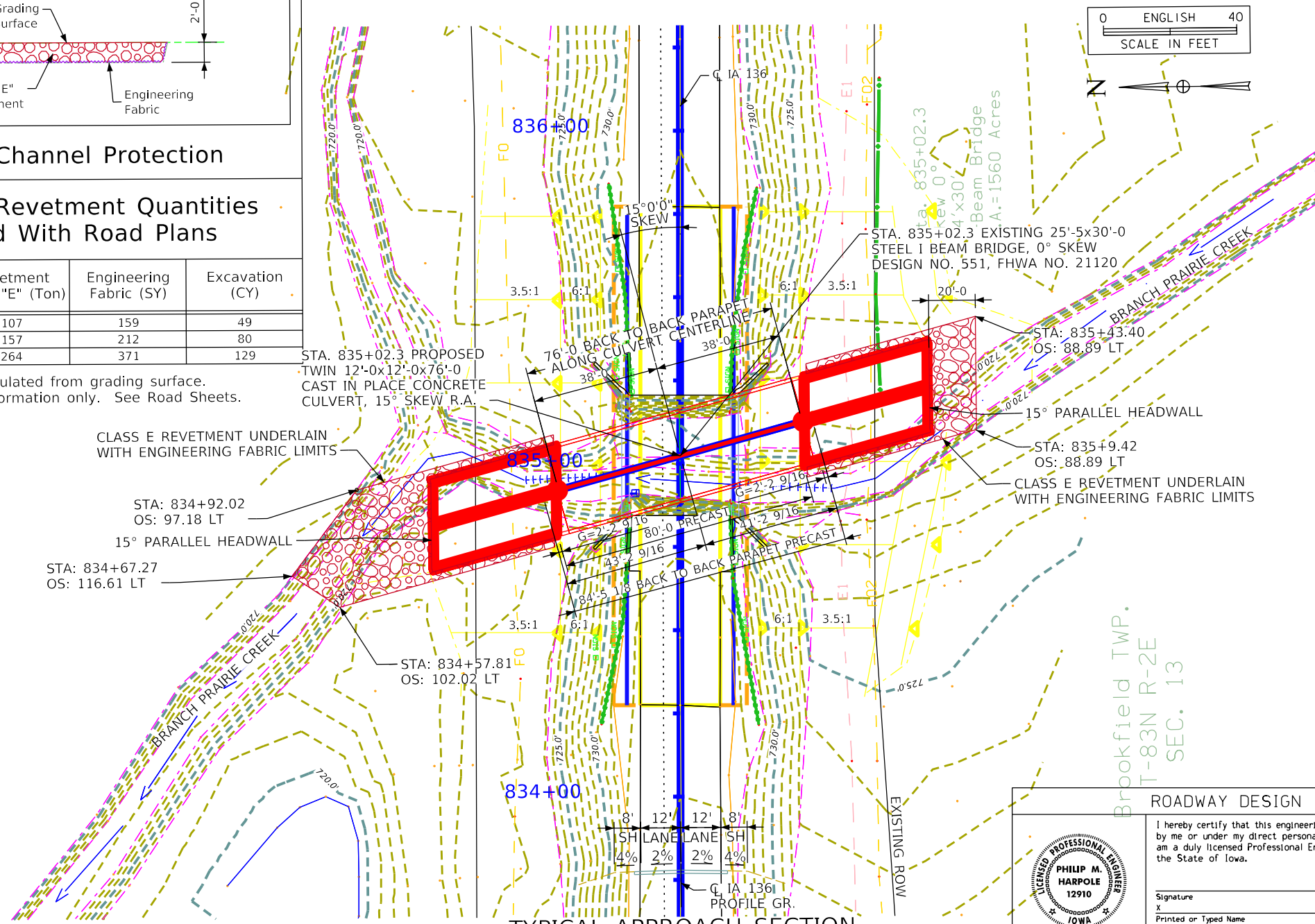


**Typical Channel Protection**

**Estimated Revetment Quantities  
Included With Road Plans**

Location	Revetment Class "E" (Ton)	Engineering Fabric (SY)	Excavation (CY)
Inlet	107	159	49
Outlet	157	212	80
Totals	264	371	129

Excavation quantity calculated from grading surface. Quantities shown for information only. See Road Sheets.



**TYPICAL APPROACH SECTION  
SITUATION PLAN**

ROADWAY 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.

Signature: PHILIP M. HARPOLE Date: XX-XX-XXXX

Printed or Typed Name: PHILIP M. HARPOLE

My license renewal date is December 31, 20XX

Pages or sheets covered by this seal: X

Professional Engineer Seal: PHILIP M. HARPOLE, 12910, IOWA

DESIGN FOR 15° SKEW R.A.

**TWIN 12'-0x12'-0x76'-0  
CAST IN PLACE CONCRETE CULVERT**

**SITUATION PLAN**

STA. 835+02.3 (IA 136)

Clinton County

IOWA DEPARTMENT OF TRANSPORTATION

DESIGN No. ### DESIGN SHEET No. 001 of 001 FHWA No. #####

MAY 2022

## 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 Substrata
(62)	Revetment Class C	(209)	Boulder Removed Substrata
(188)	Revetment Class D	(48)	Broken Weathered Substrata
(28)	Revetment Class E	(210)	Broken Weathered Removed Substrata
(12)	Shoulder Special Backfill	(3)	Core Out Substrata
(12)	Special Backfill	(195)	Core Out Remove and Replace Substrata
(20)	Subbase	(115)	Core Out Remove Only Substrata
(20)	Subbase Lower	(203)	Existing Pavement Substrata
(20)	Subbase Upper	(200)	Existing Pavement Remove and Replace Substrata
(118)	Subgrade Treatment	(184)	Existing Pavement Remove Only Substrata
<b>Asphalt</b>			
(207)	HMA Base Course	(6)	Loam Substrata
(207)	HMA Interim Course	(211)	Loam Removed Substrata
(207)	HMA Surface Course	(80)	Rock Substrata
<b>Concrete</b>			
(0)	Barrier Concrete	(212)	Rock Removed Substrata
(0)	Barrier Concrete Footing	(4)	Select Sand Substrata
(0)	Curb Gutter	(214)	Select Sand Removed Substrata
(48)	Flowable Mortar	(3)	Shale Substrata
(0)	Median Concrete	(215)	Shale Removed Substrata
(0)	PCC Pavement	(10)	Topsoil Substrata
(0)	Sidewalk	(4)	Topsoil Remove and Replace Substrata
		(2)	Topsoil Remove Only Substrata
<b>Shoulder</b>			
(209)	Shoulder HMA	<b>Unsuitable / Waste</b>	
(0)	Shoulder PCC	(3)	Unsuitable Type A
(6)	Shoulder Granular	(216)	Unsuitable Type A Removed
		(13)	Unsuitable Type B
<b>Existing</b>			
(0)	Existing Pavement	(217)	Unsuitable Type B Removed
		(11)	Unsuitable Type C
		(218)	Unsuitable Type C Removed
		(3)	Waste
		(219)	Waste Removed
<b>Structural</b>			
(0)	Bridge	<b>Trigger Switches</b>	
(21)	Guardrail	(27)	Do Not Construct
(112)	Noise Wall		
(112)	Noise Wall Footing		
(112)	Retaining Wall Back		
(112)	Retaining Wall Back Excavate		
(112)	Retaining Wall Face		
(112)	Retaining Wall Front Excavate		
(112)	Retaining Wall Front Footing		
(112)	Retaining Wall MSE Gutter		
(112)	Retaining Wall Reinforced Earth		

**NOTES:**

Text

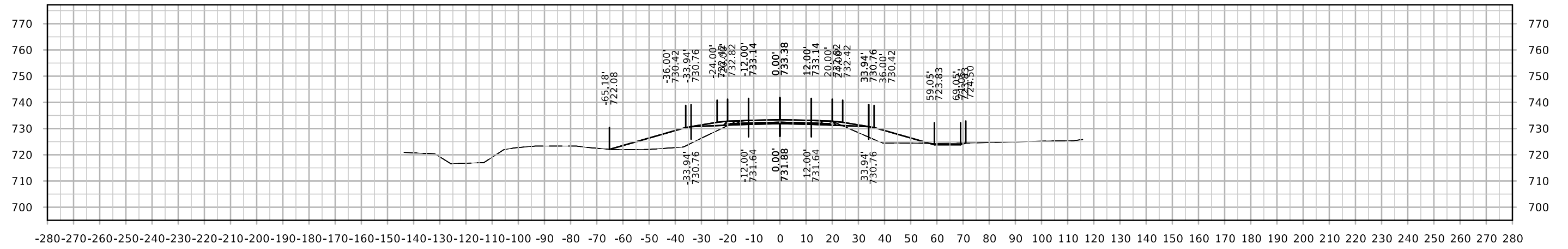
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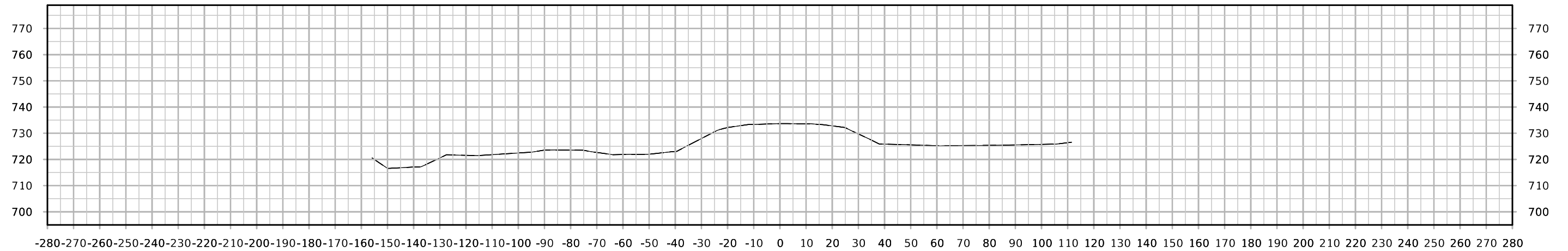
## CROSS SECTIONS LEGEND AND INFORMATION SHEET

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

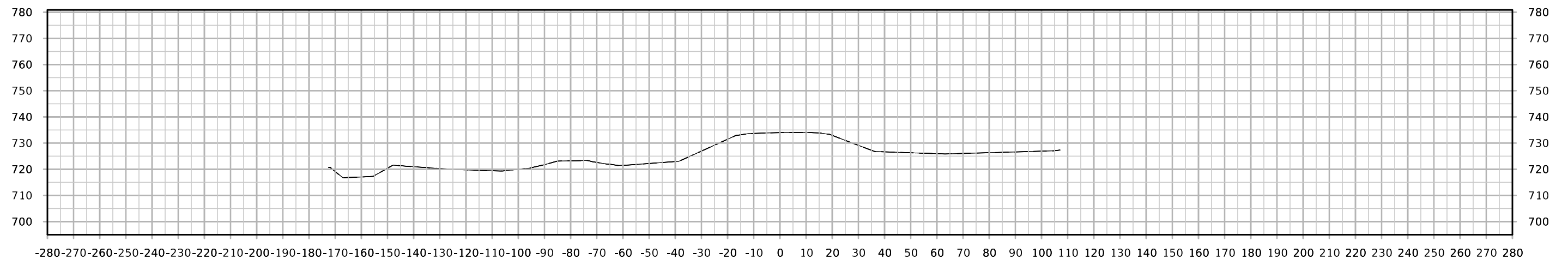
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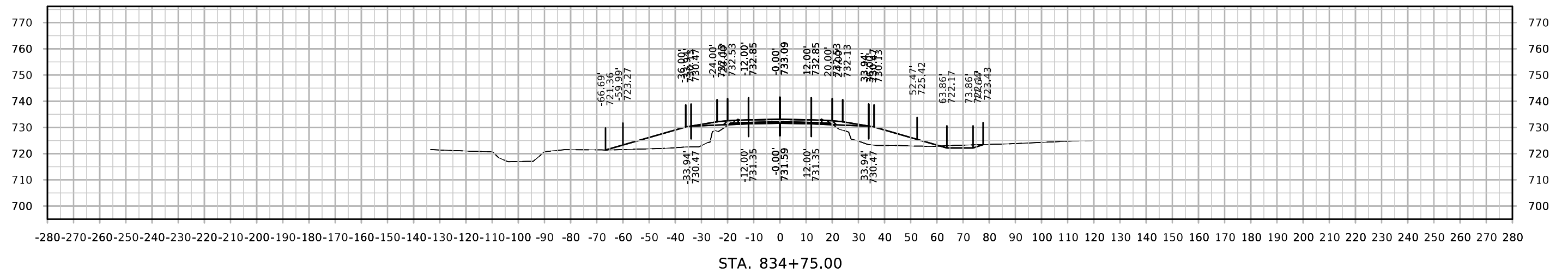
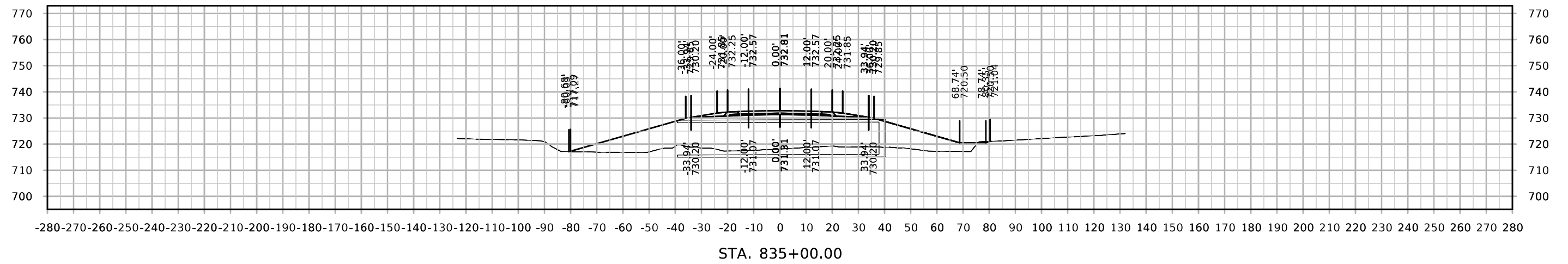
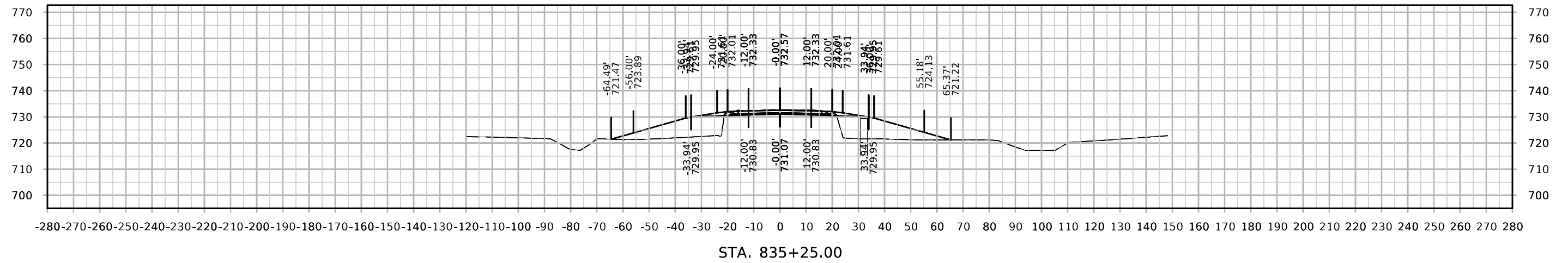
STA. 834+50.00

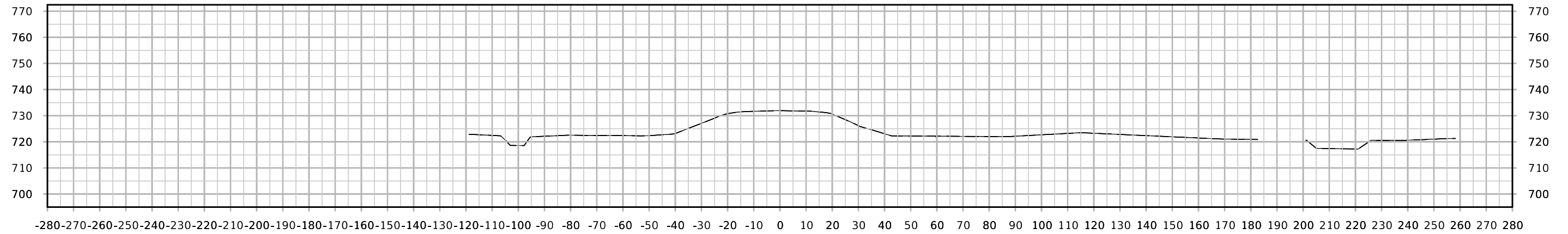


STA. 834+25.00

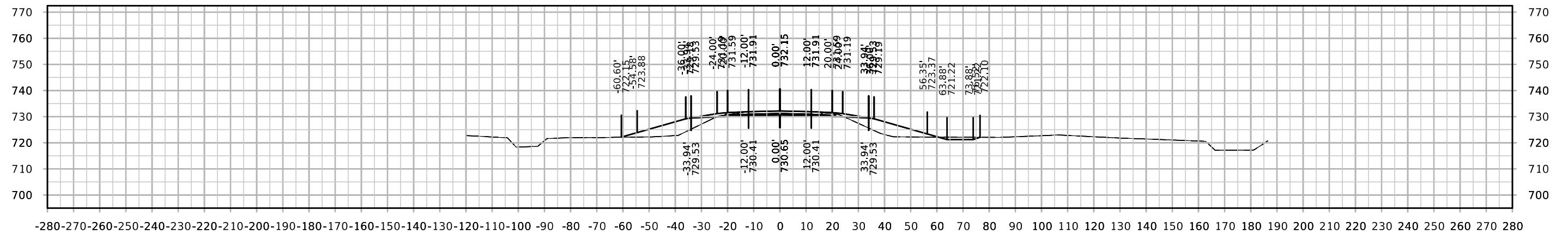


STA. 834+00.00

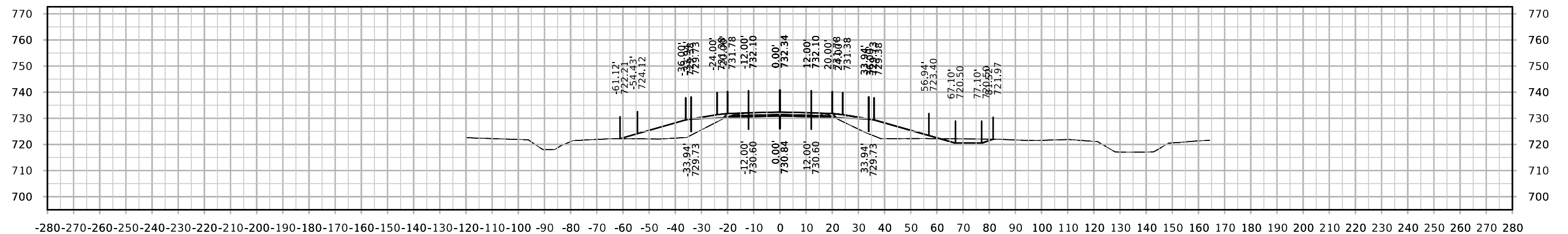




STA. 836+00.00



STA. 835+75.00



STA. 835+50.00