

WOODBURY COUNTY

BRIDGE REPLACEMENT - PCCB
BRF-175-2(009)--38-97

LETTING DATE
Dec 15, 2026



PLANS OF PROPOSED IMPROVEMENT ON THE
**PRIMARY ROAD SYSTEM
WOODBURY COUNTY**
BRIDGE REPLACEMENT - PCCB
IA 175 over Reynolds Creek 1.6 mi W of Co Rd L37

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
18

PROJECT IDENTIFICATION NUMBER

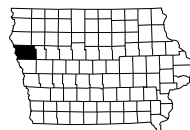
20-97-175-010

PROJECT NUMBER

BRF-175-2(009)--38-97

R.O.W. PROJECT NUMBER

INDEX OF SHEETS	
No.	DESCRIPTION
A Sheets	Title Sheets
* A.1	Title Sheet
* A.2	Location Map Sheet
B Sheets	Typical Cross Sections and Details
B.1	Typical Cross Sections and Details
D Sheets	Mainline Plan and Profile Sheets
* D.1	Legend & Symbol Information Sheet
* D.2	Plan & Profile
G Sheets	Survey Sheets
G.1 - 3	Reference Ties and Bench Marks
G.4	Survey Alignments
G.5	Alignment Coordinates
J Sheets	Traffic Control and Staging Sheets
* J.1	Detour Plan
W Sheets	Mainline Cross Sections
* W.1	Cross Sections Legend & Symbol Information Sheet
* W.2 - 7	Mainline Cross Sections
	* Color Plan Sheets



PRELIMINARY PLANS

Subject to change by final design.

D5 PLAN - 10/15/2024

FILE NO.

ENGLISH

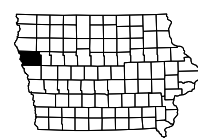
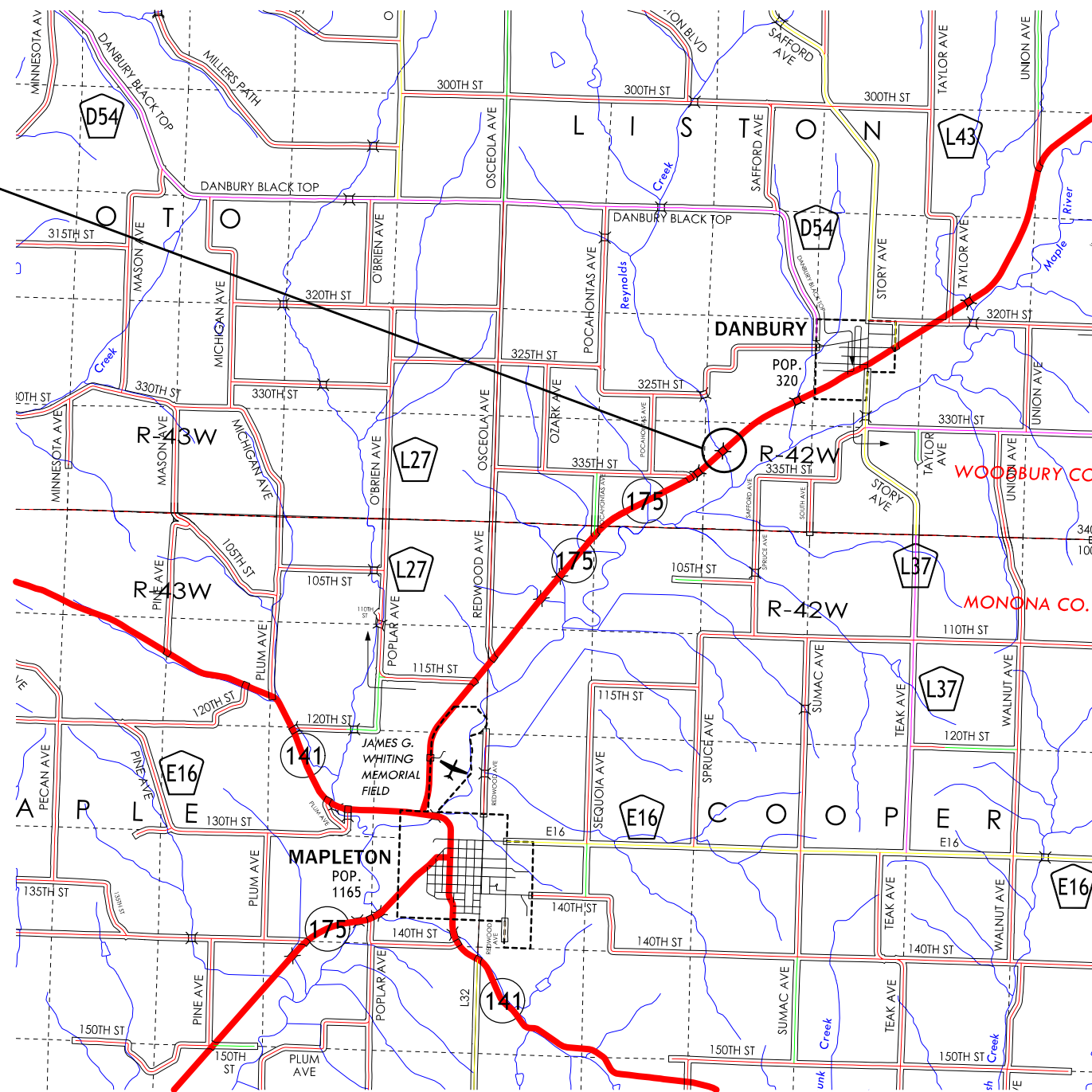
DESIGN TEAM **WHKS & Co.**

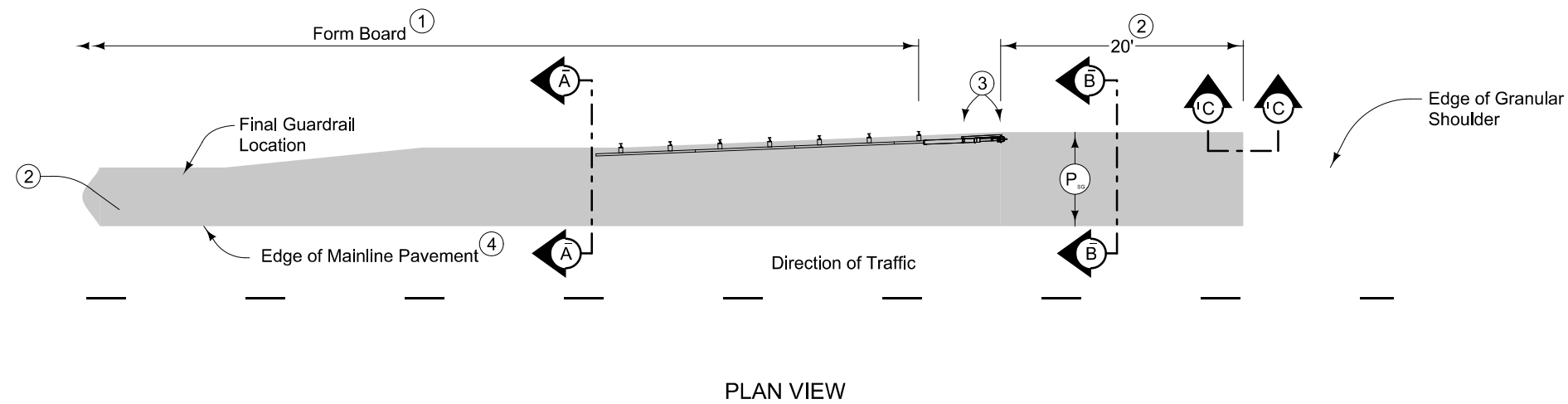
WOODBURY COUNTY

PROJECT NUMBER **BRF-175-2(009)--38-97**

SHEET NUMBER **A.1**

PROJECT LOCATION
Existing FHWA# 53360





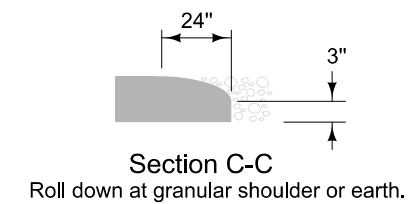
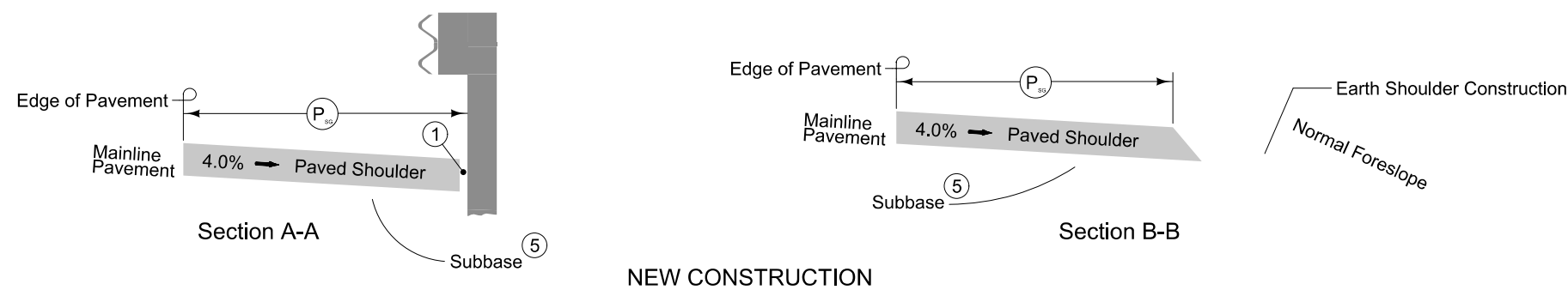
9" HMA Paved Shoulder at guardrail. 8" PCC may be substituted with the following jointing layout:

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.

Compaction of HMA is required to face of guardrail post. Hand compaction will be allowed under guardrail. Removal and reinstallation of guardrail will be allowed with no additional payment.

Refer to Tabulation 112-9 for shoulder quantities.

- ① PCC option only: When guardrail posts are installed prior to construction of PCC paved shoulder, fasten form board to the face of guardrail posts for the length shown.
- ② Continue paved shoulder 20 feet beyond the center of the first post.
- ③ Shoulder may be notched for first 2 posts or post sleeves may be installed through pavement. Do not drive posts through pavement.
- ④ 'KT-1 joint for PCC shoulder. 'B' joint for HMA shoulder.
- ⑤ Refer to other details in the plan.



Section C-C
Roll down at granular shoulder or earth.

PAVED SHOULDER AT GUARDRAIL
(GRANULAR SHOULDER ADJACENT TO MAINLINE)

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

- F02 CENTURYLINK
Sadie Hull
918-547-0247
sadie.hull@lumen.com
- T2
- F0 LONG LINES BROADBAND
Miles Patton
712-271-5550
miles.patton@longlines.biz
- F03 MIDAMER-ELEC
Gerald Rickabaugh
712-277-7476
gerald.rickabaugh@midamerican.com
- F03 MIDAMER-GAS
Gerald Rickabaugh
712-277-7476
gerald.rickabaugh@midamerican.com
- F03 MIDAMER-FIBER
Telecom On Call
515-281-2313
telecomoncall@midamerican.com
- F03 TEKSTAR COMMUNICATIONS INC
Steve Hoffman
218-346-8887
steve.hoffman@arvig.com

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	(132)	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
Red	(3)	Delineates Restricted Areas

PROFILE VIEW COLOR LEGEND OF PLAN AND PROFILE SHEETS

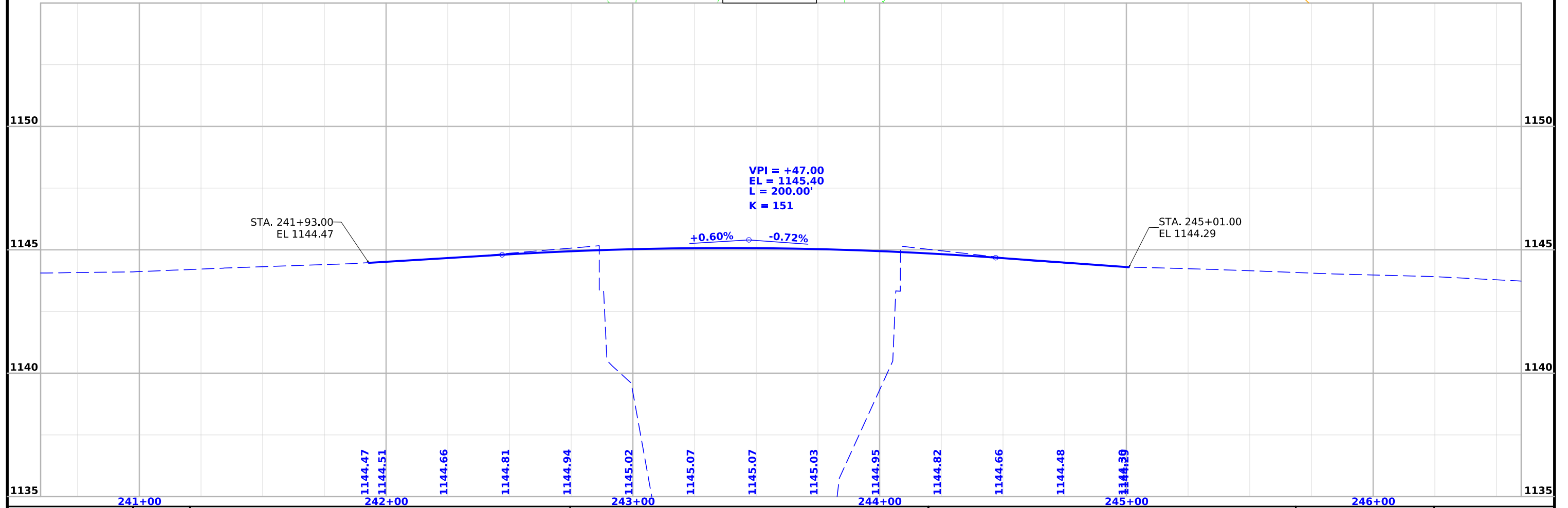
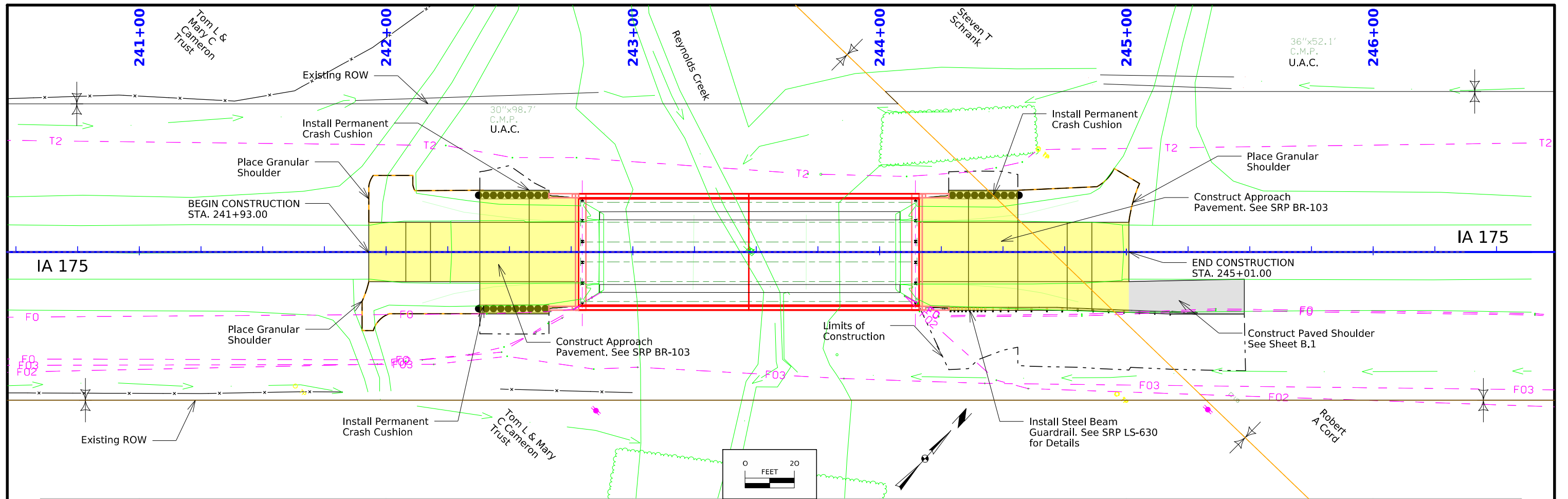
LINEWORK		Design Color No.
Green	(10)	Existing Ground Line Profile
Blue	(1)	Proposed Profile and Annotation
Magenta	(5)	Existing Utilities
Blue, Light	(230)	Proposed Ditch Grades, Left
Black	(0)	Proposed Ditch Grades, Median
Rust	(14)	Proposed Ditch Grades, Right

- Reference Point
- Station
- Section Corner
- Ground Line Intercept
- Saw Cut
- Guardrail
- Trench Drain
- HighTension Cable Guardrail
- Sheet Pile

- ### 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)



Survey Information

SURVEY INDEX

Woodbury County
BRF-175-2(009)--38-97
Reynolds Creek 1.6 mi W of Co Rd L37
PIN: 20-97-175-010
Type of Work: Bridge
Project Directory: 9717501020
SAP: 868.1

Survey Personnel

Clayton Henningsen – Survey Party Chief
Jason Arn – Survey Party Chief

Date(s) of Survey

Begin Date 08/08/2023
End Date 02/17/2024

General Information

This survey is for IA Hwy 175 at Reynolds Creek bridge 1.6 mi west of county road L37. This survey request was for the IA Hwy 175 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 04
(U.S. SURVEY FOOT)
VERTICAL DATUM: NAVD88
GEOID MODEL: 2018u3

Alignment Information

The horizontal alignment for IA Hwy 175 has been provided by the district 3 survey office.

CONTROL POINT VICINITY MAP

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



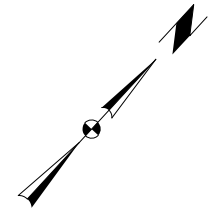
HORIZ. DATUM: NAD83(2011) for EPOCH 2010.00 (IaRTN 2019 Adjustment) - Iowa RCS Zone 04 (U.S. Survey Foot)

VERT. DATUM: NAVD88 - Geoid Model: 2018u3

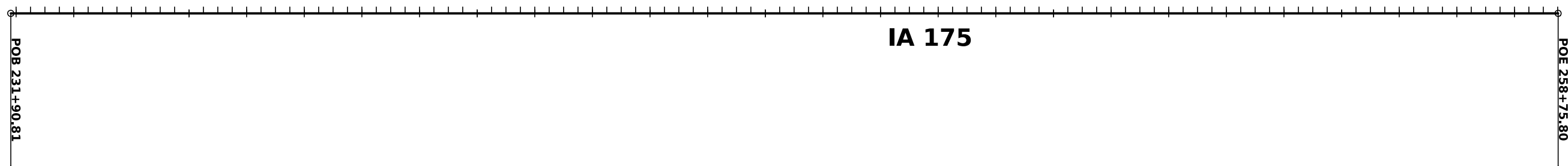
Coordinate listing from next sheet will be used with IaRTN for monument recovery. No other reference ties are given.

HORIZONTAL AND VERTICAL PROJECT CONTROL COORDINATE LISTING
 HORIZ. DATUM: NAD83(2011) for EPOCH 2010.00 (IaRTN 2019 Adjustment)
 Ia. Regional Coordinate System Zone 04 (U.S. Survey Foot)
 VERT. DATUM: NAVD88
 Geoid Model: 2018u3

<u>Point Name</u>	<u>Northing</u>	<u>Easting</u>	<u>Elevation</u>	<u>Feature Definition-Description</u>
8125	8484299.16	14257298.73	1196.43	CP WOODBURY CO MONUMENT AS DESCRIBED IN GOOD CONDITION
971750337	8486713.73	14251639.34	1142.60	CP SET FENO MONUMENT EAST EDGE FIELD ENT ON S. SIDE IA 175 APPROX. 350 FT EAST INTERSECTION IA 175 & 335TH ST
971750346	8489919.34	14255377.65	1138.91	CP SET FENO MONUMENT ON N. SIDE IA 175 NEAR ROW POST APPROX. 1 MILE WEST OF D54
MAPPOR	8472597.31	14239857.37	1114.43	CP NGS MONUMENT AS DESCRIBED IN GOOD CONDITION



232+00
233+00
234+00
235+00
236+00
237+00
238+00
239+00
240+00
241+00
242+00
243+00
244+00
245+00
246+00
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255+00
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257+00
258+00

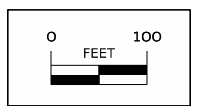


IA 175

POE 258+75.80

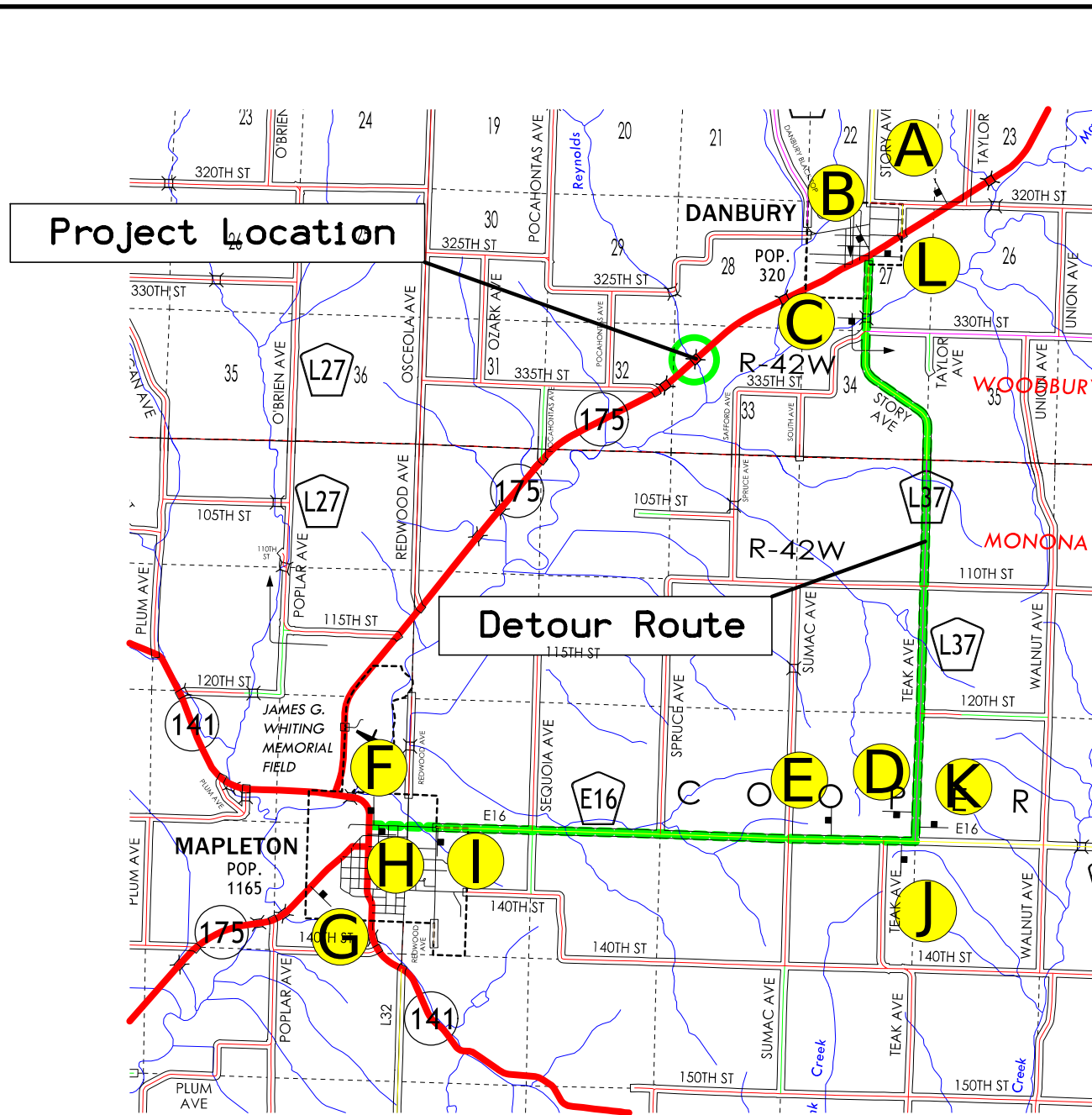
POB 231+90.81

**IA 175
SURVEY ALIGNMENT**

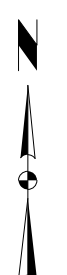


ALIGNMENT COORDINATES

Line No.	Name	Location	Poin 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	SURML175A	IA 175	231+90.85	8487154.289	14252135.249															
2.0	SURML175A	IA 175	258+75.85	8488971.030	145254112.276															



<p>A</p> <p>DETOUR M4-3, 24" X 12" WEST M3-1, 24" X 12" 175 M1-4, 24" X 24" ↑ M5-1R, 21" X 15"</p>	<p>B</p> <p>DETOUR M4-3, 24" X 12" WEST M3-1, 24" X 12" 175 M1-4, 24" X 24" ↶ M5-1R, 21" X 15"</p>	<p>C</p> <p>DETOUR M4-3, 24" X 12" WEST M3-1, 24" X 12" 175 M1-4, 24" X 24" ↑ M5-1R, 21" X 15"</p>	<p>D</p> <p>DETOUR M4-3, 24" X 12" WEST M3-1, 24" X 12" 175 M1-4, 24" X 24" ↷ M5-1R, 21" X 15"</p>
<p>E</p> <p>DETOUR M4-3, 24" X 12" WEST M3-1, 24" X 12" 175 M1-4, 24" X 24" ↑ M5-1R, 21" X 15"</p>	<p>F</p> <p>END DETOUR M4-8A, 24" X 18" WEST M3-1, 24" X 12" 175 M1-4, 24" X 24"</p>	<p>G</p> <p>DETOUR M4-3, 24" X 12" EAST M3-1, 24" X 12" 175 M1-4, 24" X 24" ↑ M5-1R, 21" X 15"</p>	<p>H</p> <p>DETOUR M4-3, 24" X 12" EAST M3-1, 24" X 12" 175 M1-4, 24" X 24" ↷ M5-1R, 21" X 15"</p>
<p>I</p> <p>DETOUR M4-3, 24" X 12" EAST M3-1, 24" X 12" 175 M1-4, 24" X 24" ↑ M5-1R, 21" X 15"</p>	<p>J</p> <p>DETOUR M4-3, 24" X 12" EAST M3-1, 24" X 12" 175 M1-4, 24" X 24" ↶ M5-1R, 21" X 15"</p>	<p>K</p> <p>DETOUR M4-3, 24" X 12" EAST M3-1, 24" X 12" 175 M1-4, 24" X 24" ↑ M5-1R, 21" X 15"</p>	<p>L</p> <p>END DETOUR M4-8A, 24" X 18" EAST M3-1, 24" X 12" 175 M1-4, 24" X 24"</p>



Detour Route Detail

CROSS SECTION VIEW COLOR LEGEND

Design Color No.	Feature	Design Color No.	Feature
Aggregate			
(64)	Choke Stone	(112)	Noise Wall
(42)	Engineering Fabric	(112)	Noise Wall Footing
(8)	Flooded Backfill	(112)	Retaining Wall Back
(92)	Macadam Stone	(112)	Retaining Wall Back Excavate
(20)	Modified	(112)	Retaining Wall Face
(12)	Plowing Shaping	(112)	Retaining Wall Front Excavate
(14)	Porous Backfill	(112)	Retaining Wall Front Footing
(8)	Revetment Class A	(112)	Retaining Wall MSE Gutter
(6)	Revetment Class B	(112)	Retaining Wall Reinforced Earth
(62)	Revetment Class C	Grading	
(188)	Revetment Class D	(8)	Behind Curb Cut
(28)	Revetment Class E	(6)	Granular
(12)	Shoulder Special Backfill	(13)	Granular Back Fill
(12)	Special Backfill	(48)	Rock Undercut
(20)	Subbase	(8)	Shoulder Earth Fill
(20)	Subbase Lower	(2)	Side Slopes
(20)	Subbase Upper	(226)	Side Slopes Dressing
(118)	Subgrade Treatment	Substrata	
Asphalt			
(207)	HMA Base Course	(128)	Boulder Substrata
(207)	HMA Interim Course	(48)	Broken Weathered Substrata
(207)	HMA Surface Course	(3)	Core Out Substrata
Concrete			
(0)	Barrier Concrete	(203)	Existing Pavement Substrata
(0)	Barrier Concrete Footing	(6)	Loam Substrata
(0)	Curb Gutter	(80)	Rock Substrata
(48)	Flowable Mortar	(4)	Select Sand Substrata
(0)	Median Concrete	(3)	Shale Substrata
(0)	PCC Pavement	(10)	Topsoil Substrata
(0)	Sidewalk	Unsuitable / Waste	
Shoulder			
(209)	Shoulder HMA	(3)	Unsuitable Type A
(0)	Shoulder PCC	(13)	Unsuitable Type B
(6)	Shoulder Granular	(11)	Unsuitable Type C
Existing			
(0)	Existing Pavement	(3)	Waste

CROSS SECTIONS LEGEND AND INFORMATION SHEET

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

