

PLANS OF PROPOSED IMPROVEMENT ON THE

PRIMARY ROAD SYSTEM BLACK HAWK COUNTY

BRIDGE REPLACEMENT

Elk Run Creek 0.3 mi E of Co Rd V43

SCALES: As Noted

Refer to the Proposal Form for list of applicable specifications.

Value Engineering Saves, Refer to Article 1105,14 of the Specifications,



PROJECT IDENTIFICATION NUMBER

22-07-281-010

PROJECT NUMBER

BRF-281-1(052)--38-07

R.O.W. PROJECT NUMBER

STPN-281-1(053)--2J-07

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PROJECT EVENT DATES

REVISIONS

D-2 - 08-15-2025 D-3 - 08-15-2025 D-5 - 10-31-2025 D-4 - 08-11-2026 B03 - 10-06-2026

DESI	GN D	DATA RU	JRAL
20 27	AADT	1,133	V.P.D.
20 47	AADT	1,280	V.P.D.
2047	DHV	132	V.P.H.
TRUCK	S	9	%
Total Design	ESALs	277,590	

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

PRELIMINARY PLANS

Subject to change by final design.

"In-Progress" - Date: 07-16-2025

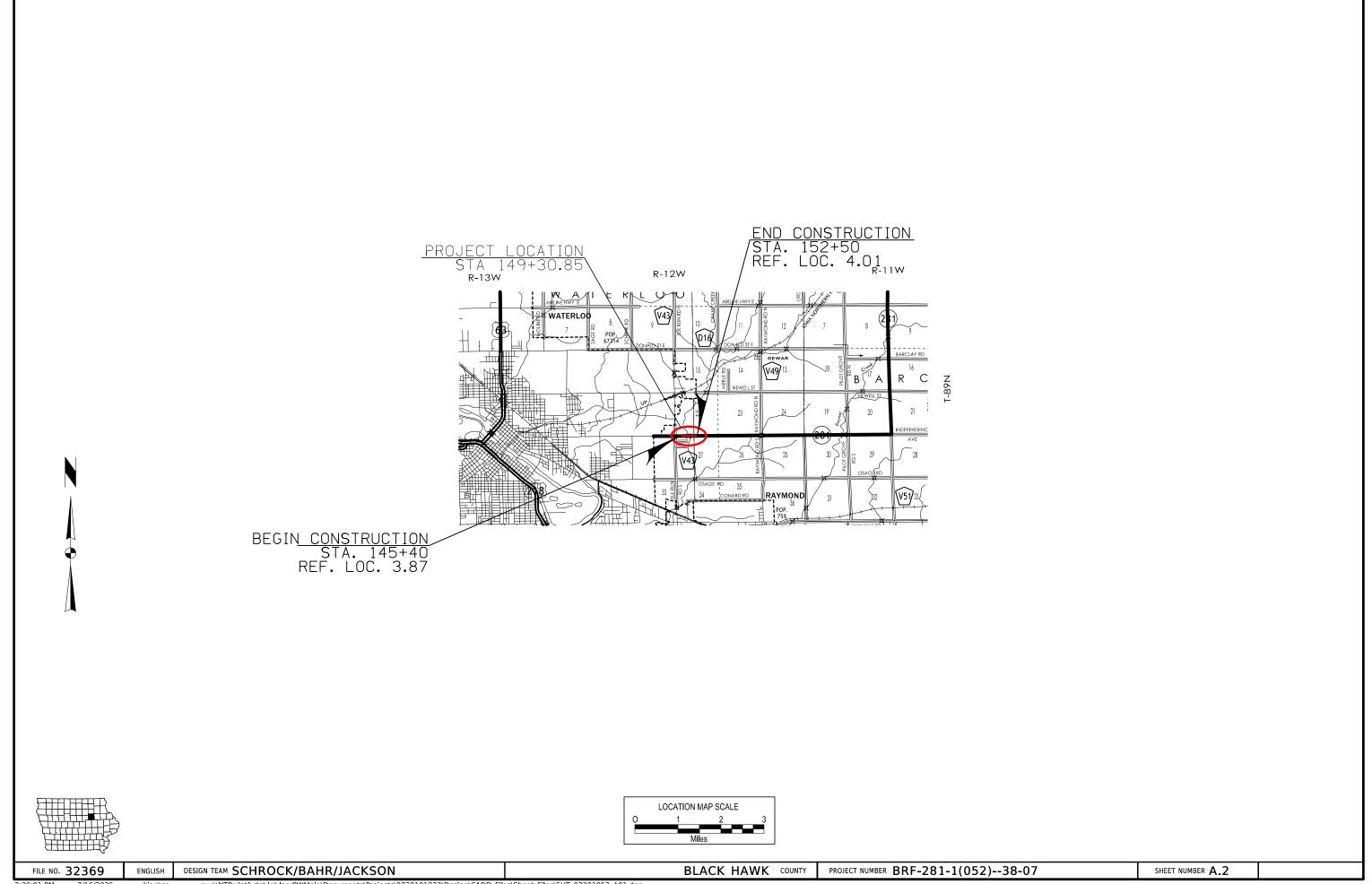
FILE NO. 32369 ENGLISH

DESIGN TEAM SCHROCK/BAHR/JACKSON

BLACK HAWK COUNTY

PROJECT NUMBER BRF-281-1(052)--38-07

SHEET NUMBER A.1



IOWA DEPARTMENT OF TRANSPORTATION

TO OFFICE: District 2 **DATE:** May 27, 2025

ATTENTION: Nick Humpal PROJECT: Black Hawk

BRF-281-1(052)—38-07

FROM: John E. Bartholomew PIN:22-07-281-010

BUREAU: Design

SUBJECT: Project Concept Statement; (Final Approval, D0)

This project involves the replacement of the IA 281 bridge (Maint No. 0704.0S281) over Elk Run Creek .3 miles E of Co Rd V43.

A concept review was held on April 04, 2025. Those present included Kip Siems, Ashton Johnson, Ron Loecher from the District 2 Office; Patricia Schwarz from the Bridges and Structures Bureau; Brandon Walls, Shawn Goetz, Shawn Goetz, Jim Galliart, Blake Walter, And Brock Struccker from the Location and Environment Bureau; and John Bartholomew, Jonathan Bahr, and Jackson Lewis from the Design Bureau.

The two alternatives considered were:

- 1. Replace existing 100 ft. x 30 ft. Continuous Concrete Slab Bridge with a 130 ft. x 40 ft. Continuous Concrete Slab Bridge Utilizing an off-site detour. This alternative is estimated to cost \$2,293,100
- 2. Replace existing 100 ft. x 30 ft. Continuous Concrete Slab Bridge with a 130 ft. x 40 ft. Continuous Concrete Slab Bridge Utilizing Staged Construction. This Alternative is estimated to cost \$2,461,600

Alternative 1 is the preferred alternative due to the increased cost and complexity of staged construction and the availability of a low out-of-distance travel detour route. Additional right of way/right of entry will be required. Traffic will be maintained by off-site detour.

The Draft Concept Statement was sent out for review and comment with concerns to be resolved by Friday, May 23, 2025. Comments received during the review period have been considered and resolved.

JEB: JDL Attach. cc:

C. Purcell	K. D. Nicholson	Y. Jia
M. Dell	J. S. Nelson	M. Nop
M. A. Swenson	D. E. Sprengeler	C. C. Poole
S. Majors	A. Poole	K. Brink
D. L. Newell	B. Smith	J. W. Laaser-Webb
W. A. Sorenson	E. C. Wright	M. E. Ross
A. A. Welch	J. Harris	M. Van Dyke
B. Hofer	G. Karssen	D. Johnson
H. Naraghi	S. Anderson	D. Stokes
J. Holst	R. Harris	B. Dolan
T. Lovan	M. Solberg	T. Gustafson
D. Dudley	L. Armstrong	R. Meyer
L. Narigon	J. Hauber	S. Sersland
M. E. Khoda	M. Gordy	M. Todsen
J. Ellis	P. Schwarz	T. Quam
B. Walls	R. Gelhaus	J. Bacon
P. Hjelmstad	M. Kelly	D. Erickson
K. Billhorn	B. Strueker	R. Loecher
A. Johnson	B. Walter	J. Bartholomew

FINAL PROJECT CONCEPT STATEMENT

IA 281 Bridge over Elk Run Creek 0.3 Miles East of County Road V43.

Black Hawk County BRF-281-1(052)—38-07 PIN: 22-07-281-010 Maint. No. 0704.0S281 FHWA No. 15110

> Highway Division Design Bureau

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

May 27, 2025

I. STUDY AREA

A. <u>Project Description</u>

This project involves the replacement of the IA 281 bridge (Maint. No. 0704.0S281) over Elk Run Creek 0.3 miles east of County Road V43.

The two alternatives considered were:

- 1. Replace existing 100 ft. x 30 ft. Continuous Concrete Slab Bridge with a 130 ft. x 40 ft. Continuous Concrete Slab Bridge Utilizing an off-site detour. The cost of this alternative is expected to be \$2,293,100
- 2. Replace existing 100 ft. x 30 ft. Continuous Concrete Slab Bridge with a 130 ft. x 40 ft. Continuous Concrete Slab Bridge Utilizing Staged Construction. The cost of this alternative is expected to be \$2,461,600

Alternative 1 is the preferred alternative due to the increased cost and complexity of staged construction, and the availability of a low out-of-distance travel detour route.

B. Need for Project

This is a 100'x30' concrete slab bridge that was built in 1955 and overlaid in 1976. The overlay has reached the end of its service life. The top of the deck has many transverse, longitudinal, and diagonal cracks. The Bottom of the deck has several cracks with leaching, hollow areas, and a spalled area with exposed rebar. The substructure also has several hollow areas, horizontal leaching cracks, scaled areas, and spalled areas. The bridge was designed for live loads below the current standards. Due to the condition, the bridge should be replaced. (see page 2 for Imagery)

Black Hawk County BRF-281-1(052)—38-07 PIN: 22-07-281-010 Page 2

Black Hawk 15110 Imagery



15110 along IA 281



Abutment deterioration



Bridge Profile against IA 281 including ditch drainage pipe



Substructure Pier 1

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C. Present Facility

The existing structure is a 100 ft. x 30 ft. continuous concrete slab bridge constructed in 1955.

IA 281 in the project area consists of 18 ft. wide 8 in. depth PCC pavement, 3 ft. wide Macadam stone widening on both sides of roadway, 3 ft. wide granular shoulders, and 3:1 foreslopes, constructed in 1923. HMA resurfacing and pavement widening was accomplished in 2012.

Traffic Estimates

The 2027 construction year and 2047 design year average daily traffic estimates are 1133 ADT with 9% trucks and 1280 ADT with 9% trucks, respectively.

Sufficiency Ratings

Route is classified as an "Access Route" route and is a maintenance service level "C" roadway. The Bridge Condition Index is 82.8 and the Bridge Condition Rating is "Fair".

F. Access Control

Access rights will not be acquired for this project.

G. Crash History

During the five-year study period from January 1, 2020, through December 31, 2024, there were 2 crashes including, 0 fatal crashes, 1 personal injury crashes, and 1 personal property crashes. PCR is .113 and is considered negligible.

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II. PROJECT CONCEPT

A. Feasible Alternatives

Alternative #1 - Replace with a bridge utilizing a off-site detour

The existing 100 ft. x 30 ft., Continuous Concrete Slab bridge will be replaced with a 130 ft. x 40 ft., Continuous Concrete Slab bridge. The typical cross section adjacent to the bridge approach will consist of a 24 ft. roadway with 4 ft. granular shoulders and 3:1 foreslopes.

The existing grade will need to be raised a minimum of 2 ft. which will require approximately 530 ft. of roadway reconstruction consisting of 9 in. PCC pavement over 12 in. Modified Subbase. New Bridge Approaches will be constructed. The existing guardrail will be replaced with new guardrail and the shoulders will be paved 20ft. beyond the ends of the guardrail. Class 10 will be necessary to flatten the existing foreslopes and to construct the new guardrail blisters. New bridge end drains will be constructed on both ends of the bridge on all corners.

Apply erosion control and rural seeding and fertilizing to all disturbed areas.

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	\$ 832,000
Bridge Removal	75,000
Cofferdam	100,000
Revetment	84,000
Mobilization - 10%	109,000
M & C - 15%	_ 240,000
Bridge Costs	\$ 1,440,000

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Roadway Items

Project Total

Bridge Approaches	\$167,500
Removal of Pavement	28,000
PCC Pavement	131,100
Special Backfill	1,500
Modified Subbase	30,300
Granular Shoulder	13,000
Embankment in place, contractor furnished	30,200
Guardrail (Includes Removal)	32,700
Paved Shoulders for Guardrail	63,000
Bridge End Drains	15,400
Bridge Sub Drain	20,000
Clearing and Grubbing	9,500
Seeding and Fertilizing	900
Erosion Control	10,000
Right of Way	10,000
Wetland Mitigation	50,000
Traffic Control - 5%	40,000
Mobilization - 5%	40,000
M & C - 20%	160,000
Roadway costs	\$ 853,100

Alternative #2 - Replace with a Bridge Using Staged Construction

The existing 100 ft. x 30 ft., Continuous Concrete Slab bridge will be replaced with a 130 ft. x 40 ft., Continuous Concrete Slab bridge. The typical cross section adjacent to the bridge approach will consist of a 24 ft. roadway with 4 ft. granular shoulders and 3:1 foreslopes.

\$2,293,100

The existing grade will need to be raised a minimum of 2 ft. which will require approximately 530 ft. of roadway reconstruction consisting of 9 in. PCC pavement over 12 in. Modified Subbase. New Bridge Approaches will be constructed. The existing guardrail will be replaced with new guardrail and the shoulders will be paved 20ft. beyond the ends of the guardrail. Class 10 will be necessary to flatten the existing foreslopes and to construct the new guardrail blisters. New bridge end drains will be constructed on both ends of the bridge on all corners.

Apply erosion control and rural seeding and fertilizing to all disturbed areas.

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

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> One lane of traffic will be maintained with temporary traffic signals during staged construction

Bridge Items	Estimated Costs
New Bridge	\$ 832,000
Bridge Removal	75,000
Cofferdam	100,000
Revetment	84,000
Staging	109,000
Mobilization - 10%	120,000
M & C - 15%	240,000
Bridge Costs	\$ 1,584,000
Roadway Items	
Bridge Approaches	\$167,500
Removal of Pavement	28,000
PCC Pavement	131,100
Special Backfill	1,500
Modified Subbase	30,300
Granular Shoulder	13,000
Embankment in place, contractor furnished	30,200
Guardrail (Includes Removal)	32,700
Paved Shoulders for Guardrail	63,000
Bridge End Drains	15,400
Bridge Sub Drain	20,000
Clearing and Grubbing	9,500
Seeding and Fertilizing	900
Temporary Pavement	11700
Temporary traffic signal	12800
Erosion Control	10,000
Right of Way	10,000
Wetland Mitigation	50,000
Traffic Control - 5%	40,000
Mobilization - 5%	40,000
M & C - 20%	160,000
Roadway costs	\$ 877,600
Project Total	\$2,461,600

PROJECT NUMBER BRF-281-1(052)--38-07

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B. Detour Analysis

IA 281 will be closed, and an offsite detour will be utilized. It is anticipated the detour will be in place for approximately 120 days. The detour would follow S Elk Run Rd south for 1.8 miles, then east on Dubuque Rd for .8 miles, then continue east on Lafayette Rd for 1.34 miles then north on S Raymond Rd for 2 miles. Out of distance travel is 4 miles. The Total distance User cost is anticipated to be \$120,325. The cost for county road maintenance will be \$6,711.16 calculated by the gas tax method. Detour signing costs will be 10,000.

C. Recommendations

It is recommended that the present structure be Replaced, as described in Alternative No. 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 IA 281; 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 constructed using conventional methods.

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

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

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Special survey:

The old channel east of the bridge at approximate station 152+00 to 153+00. There is an overflow bridge shown there in an old set of plans. The request is to see if there is an old drainage channel that drains out to the main channel.

Right of Way appears to be required for this project.

The Location and Environment Bureau has reviewed this project and (no) special concerns were noted.

G. Program Status

Site data has been developed by the Design Bureau. This project is listed in the 2025-2029 Iowa Transportation Improvement Program, with \$1,250,000 for replacement in FY 2027. 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:JDL

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Utilities

MIDAMER-GAS Jordyn Weber 3192914728

jlweber@midamerican.com

MEDIACOM Scott Lagow 8455449655

8455449655 <u>clagow@mediacomcc.com</u>

Centurylink Sadie Hull 9185470147

sadie.hull@lumen.com

MIDAMER-ELEC Jordyn Weber 3192914728

ilweber@midamerican.com

Bridge Bureau Attachment for Concept Statement

Date: April 15, 2025

By: P. Schwarz

Location: IA 281 over Elk Run Creek, 0.3 mi. E of Jct. SR V43

County: Black Hawk County
Phase No.: BRF-281-1(052)--38-07
Project Code: 22-07-281-010

- 1. Regulatory/Coordination
 - a. Iowa DNR Flood Plain permit = No. DA = 25.4 sq. mi. within unincorporated area of Black Hawk County
 - b. Iowa DNR Sovereign Lands permit = No
 - c. Local Record of Coordination = Yes, required at B1.
 - d. Flood Insurance Study = Yes, Detailed Zone AE Panel 19013C0307F dated July 18, 2011.
 - e. Drainage District = No
 - f. Corps of Engineers Section 408 = No
 - g. State Water Trail or Paddling Route = No
 - h. Historic Structure = No. NBI 037: 4- Not Determinable
 - i. Federally owned land in vicinity = No
 - j. USGS or Iowa Flood Center (IFC) gage or sensor impacted? Yes. IFIS ElkRun01 is indicated on the Iowa Flood Information System website.
 - k. Obstruction Evaluation/Airport Airspace Analysis per FAA website = No- the site is not within an airport buffer zone.
- 2. Hydrologic/Hydraulic Analysis/RIDB Dataset
 - a. Design discharge methodology = 2013 MRRE. Design discharges are available within the project directory, and a task to determine discharges does not need to be included with the B01 effort.
 - Hydraulic analysis done = Pre-survey level models are available (2DHECRAS from BLE, and 1D HECRAS). The B01 effort should include potential post survey and preliminary design refinements.
 - c. If DA > 10 sq. mi. Riverine Infrastructure Database (RIDB) dataset is required with B1 submittal = Yes (ElkRun_Black_4.77) Existing RIDB dataset is complete. Completion of the existing and proposed RIDB dataset is required to be included with the B01 effort.
 - d. Project development hydraulic analysis will comply with the RIDB Guidelines at a minimum.
- 3. Structure/Roadway Layout Considerations
 - a. Designers shall be aware of existing foundations from the previous pony truss bridge.
 - b. A Roadway profile grade raise of 2' is requested to reduce potential for low slab inundation.
- 4. Special construction issues
 - a. Maintenance photos indicate potential utilities attached to the bridge.
- 5. Special survey = See below.

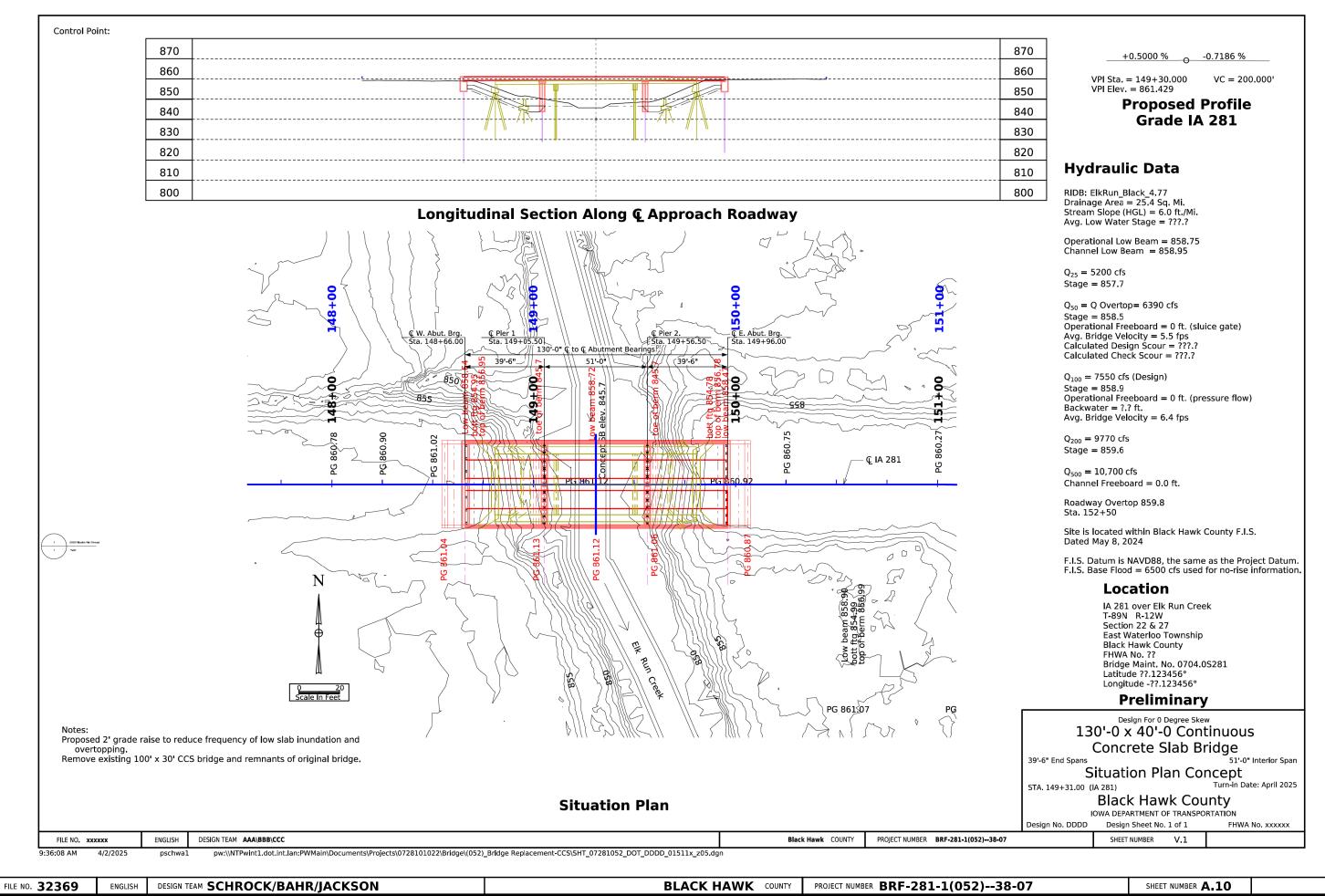
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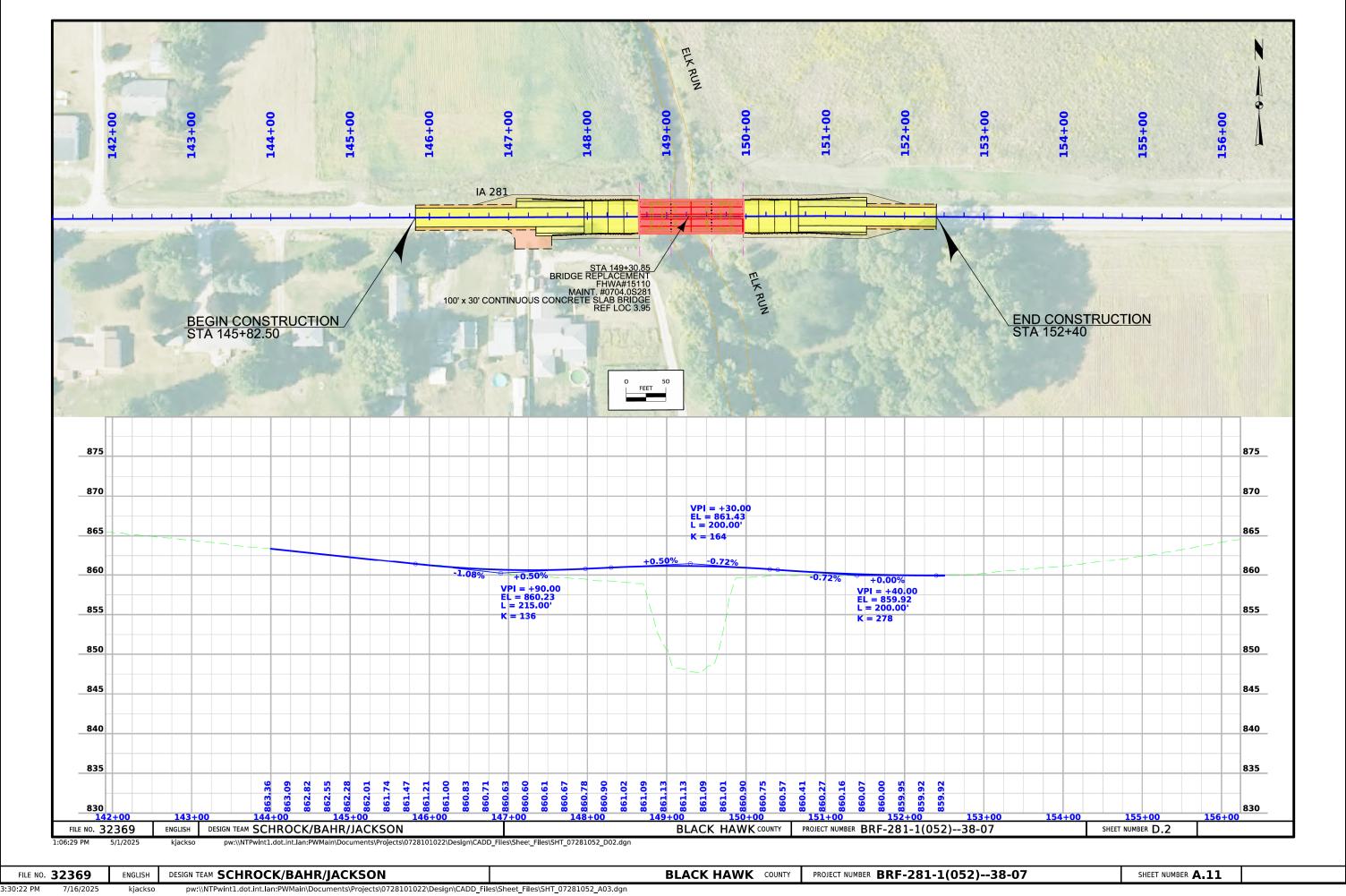
IA 281 over Elk Run Creek Concept Statement - Bridge Bureau Attachment

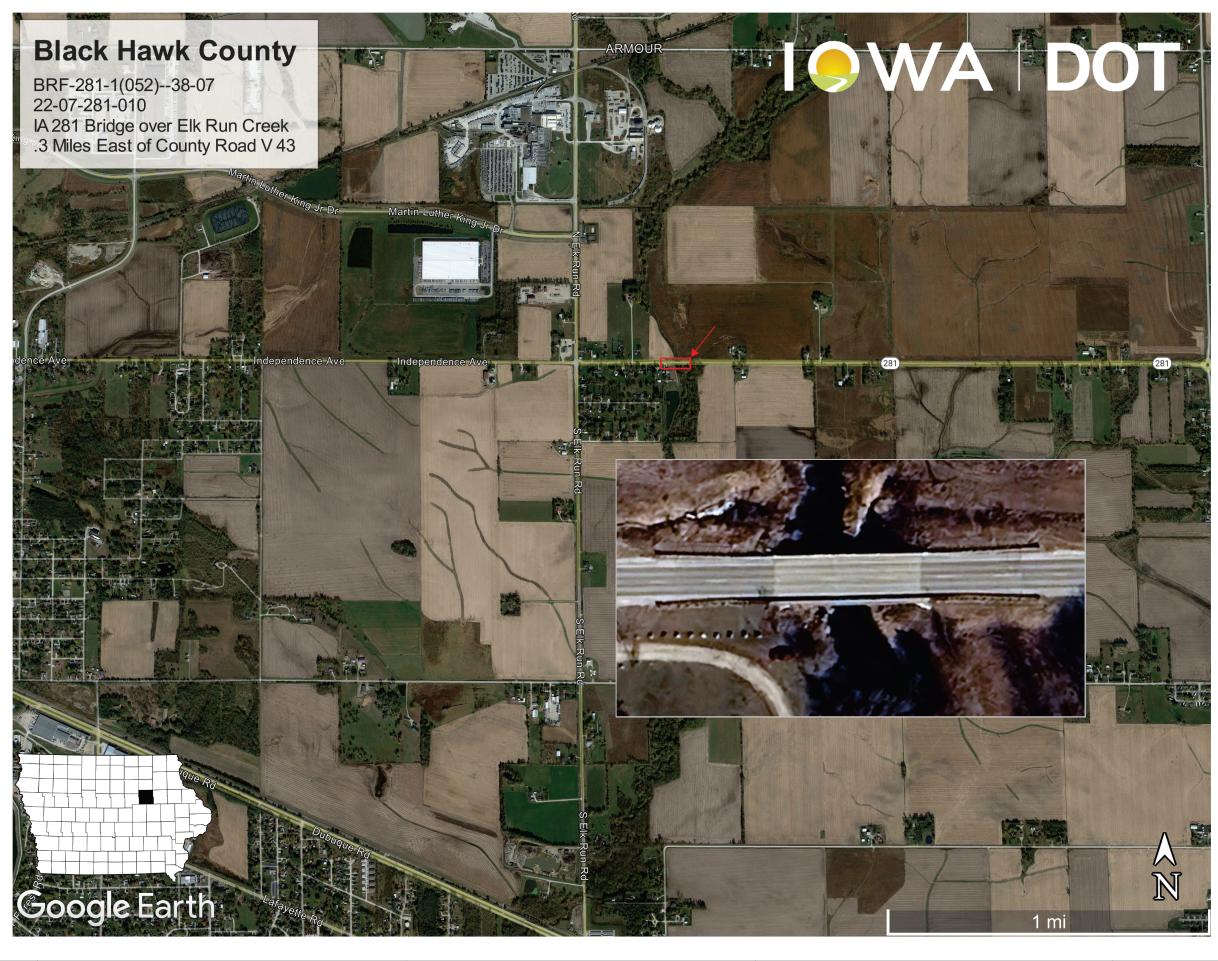
- 6. Aesthetic enhancements = Not anticipated, but a cost item and TSL note can be added if requested.
- 7. Other
 - a. Maintenance of Traffic To be determined: Off-site detour, On-Site detour, Staged construction, etc.

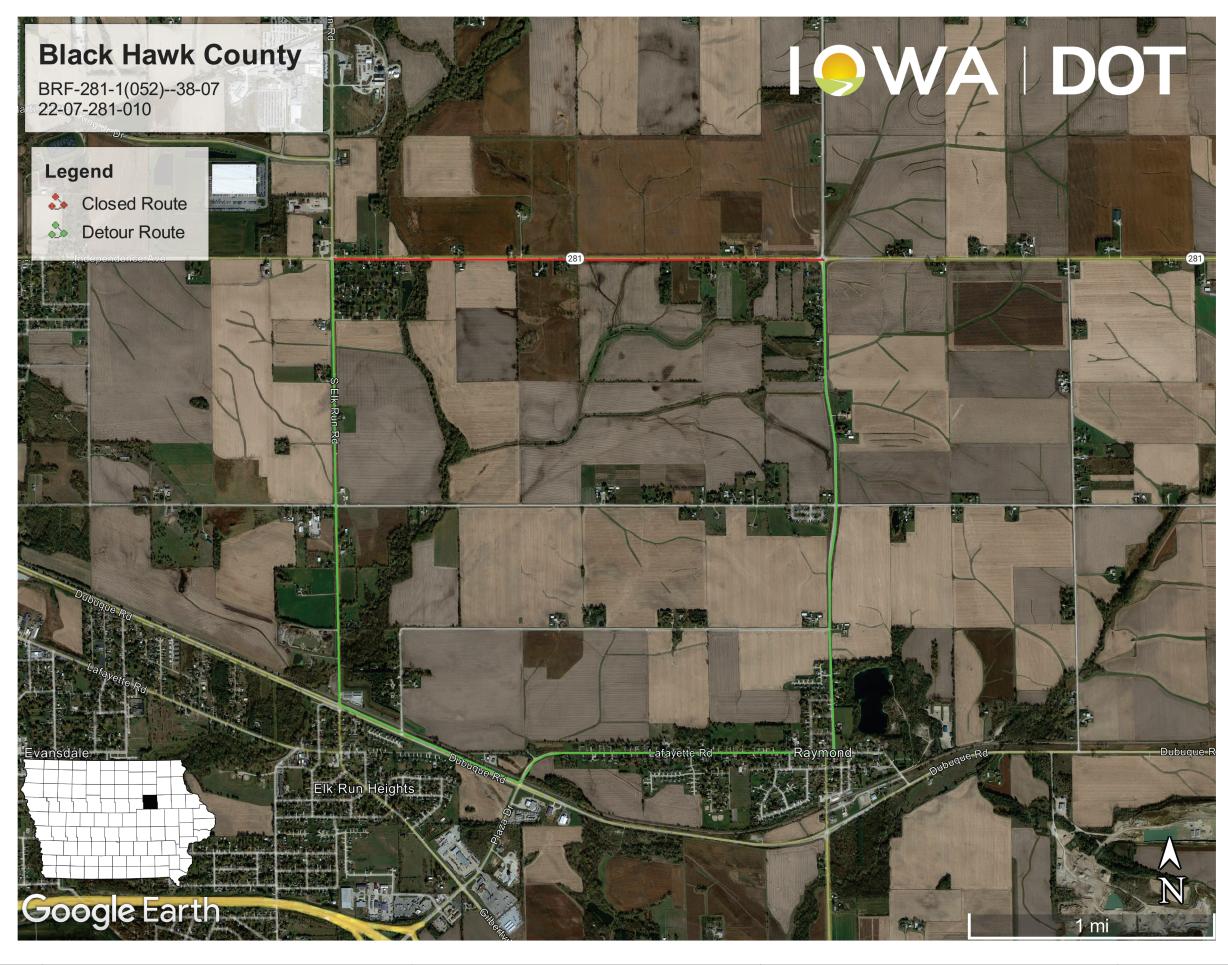
Special Survey:

1. The old channel east of the bridge at approximate station 152+00 to 153+00. There is an overflow bridge shown there in an old set of plans. The request is to see if there is an old drainage channel that drains out to the main channel.









FILE NO. **32369**

D2 Questions for District 5 – with Responses in GREEN Text

Date X/XX/2025

Time: X:XXxm to X:XXx via Microsoft Teams.

Description: D2 Field Exam Location: Microsoft Teams

Attendees:

Ames Road Design: Jonathan Bahr (Transportation Engineer Specialist), Kyle Schrock (Road Design Section Manager), Yan Jia (Transportation Engineer Administrator), Kolby Kohl (Road Design Intern). District 2: Mary Kelly (Assistant District Engineer), Ashton Johnson (Transportation Engineer Associate). Bridge Bureau: Jimmy Ellis (Preliminary Bridge Manager), Patricia Schwarz (Preliminary Bridge Engineer). Location and Environment Bureau: Jill Garton (Protected Species), Brandy Beavers (Environmental Specialist Senior), Jacob Woodcock (Cultural Resources).

Pre-Design: Yuejia Gu (Transportation Engineer Associate), Joe Adams (Design Technician Specialist), John Bartholomew (Transportation Engineer Specialist).

County: Black Hawk

Project Code: 22-07-281-010

Phase Number: BRF-281-1(052)--38-07 Location: Elk Run Creek 0.3 mi E of Co Rd V43 Work Code: 2022-Bridge Replacement-CCS

Project Directory: 0728101022

1. PROJECT LIMITS

a. Beginning of Project: Beginning of Project depends on proposed profile.

b. End of Project: End of Project depends on proposed profile.

2. PAVEMENT DESIGN

a. Road Design has been working with Danny Zeimen in Materials to determine the appropriate Pavement Specifications. Road Design sent a coordination e-mail to Danny Zeimen on 5/29/2025. Danny Zeimen responded on 5/29/2025 and recommended that both the Mainline and Shoulder Pavement should be 9" PCC over 12" Modified Subbase. Road Design reviewed the recommendations and discussed their impacts to the Typical Sections on 5/29/2025 and 5/30/2025 (Refer to MEETING MINUTES). See TYPICAL





BRF-281-1(052)--38-SECTIONS Section of these Project Notes. 07 IA 281 Black Haw BRF-281-1(052)--38-0

3. TYPICAL SECTIONS and CROSS-SECTIONS

a. See MEETING MINUTES Section of these Project Notes for 5/29/2025 and 5/30/2025 Microsoft Teams Discussions between members of Road Design. Road Design discussed the impacts to the Typical Sections and Cross-Sections with respect to the Final Pavement Determination.

b. Review Typical Sections and Cross-Sections developed for the D2 Field Exam. The crosssections were designed to illustrate maximum impacts. Determine where and what components should be constricted (if any) in order to reduce the impacts (ie. foreslope design [10:1 x 4' wide shelf to 3:1 foreslope] or Ditch design [10' wide ditch bottom], etc.).

4. ROADWAY PROFILE

a. Discuss the Proposed Roadway Profile.

5. SAFETY CONSIDERATIONS

- a. Are there any additional safety considerations besides typical features (rumble strips, and full-width paved shoulder) that should be introduced to the scope of this project?
- b. There we no reported fatalities within the project vicinity between the current date (7/15/2025) and 2018 according to the Iowa Crash Analysis Tool.

6. SUPERELEVATED CURVES

a. There are no superelevated curves within the Project Limits.

7. ROADWAY SIGNAGE NEEDING ADJUSTMENT

a. 2025-07-15 Road Design Note: There may be Address Signage needing adjustment with this project, however, regulatory Roadway Signage (ie. Stop Ahead) will not be impacted by this project.

8. RAILROAD PERMITTING

a. 2025-07-15 Road Design Note: No Railroad Crossings are within or near the Project Corridor.

9. LONGITUDINAL SUBDRAINS

a. Danny Zeimen 'recommended 100% subdrain coverage' in his 5/29/2025 Pavement Determination e-mails for IA 281 (052) over Elk Run Creek. The Estimated Costs section of the Project Concept (Page 5) did not explicitly mention longitudinal shoulder subdrain (only Bridge Subdrain was mentioned). The 1923 Record Drawings (FA-62) for the original existing subdrain in the vicinity of the project was found and indicates 'tile' was installed at the time. The 2012 Record Drawings (STP-281-1(45)--2C-07) suggest there is longitudinal subdrain in the area because of the need to 'Protect Existing Longitudinal Subdrains' as noted on the Typical Section of Sheet B.1. The Survey suggests there is longitudinal subdrain in the area because of the surveyed 4" subdrain outlets along the roadside ditch. The Road Design Team will discuss the placement of longitudinal subdrain with Soils Bureau. Soils Bureau will put together the subdrain tabulation and should be the final say regarding whether 100% subdrain means that subdrain needs to be on both sides of a given portion of roadway or just on one side. Road Design suspects that if the subgrade is crowned then the longitudinal subdrain will need to be on both sides of a given portion of roadway. FYI, the Bridge Approaches have their own transverse subdrain system.

10. SLIDE REPAIR / EROSION

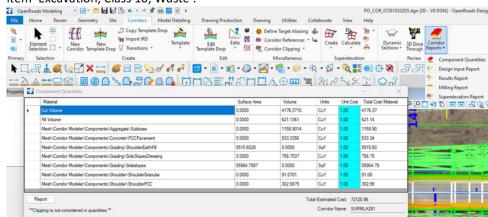
a. Slide Repair was NOT mentioned within the Project Concept and is assumed NOT to be necessary. Please confirm there are no locations within the Project Limits that require Slide Repair.

11. BENCHING

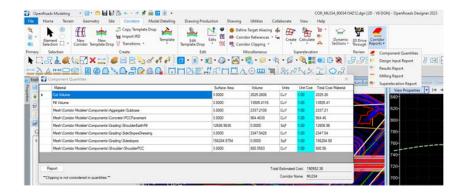
a. Is Benching necessary to install any of the proposed foreslope? Preliminary maximum height of the proposed 3:1 foreslope from the roadway surface down to the ditch bottom is approximately 13' (near the bridge).

12. EARTHWORK

a. 2025-07-15 Road Design Note: Preliminary quantities for the Earthwork for the D2 Cost Estimate were developed and will be updated following the Field Exam Meeting. The quantities were found using the Open Roads Modeling > Corridors Ribbon > Review > Corridor Reports > Component Quantities Tool (see snip below). It is simple to initialize, all you have to do is select your corridor after selecting the Component Quantities Tool. Embankment-In-Place material from off-site is not needed because the Cut Volume exceeds the Fill Volume by 3,555.23 CY (Cut Volume 4,176.37 CY vs Fill Volume 621.14 CY), Excavation (Class 10, Roadway and Borrow) is the Fill Volume in such a situation: 621.14 CY (Fill Volume 621.14 CY), and Topsoil, Strip Salvage and Respread was 756.75 CY (SideSlopesDressing). Haul-off of the excess 3,555.23 CY is included in the cost of bid item 'Excavation, Class 10, Waste'.



i. FYI, see this example from BRF-034-7(154)--38-90 US 34 over Bear Creek when Embankment is needed from offsite: Embankment-In-Place is 11,480.15 CY (Fill Volume 13,505.41 CY - Cut Volume 2,025.26 CY), Excavation (Class 10, Roadway and Borrow) is 2,025.26 CY (Cut Volume 2,025.26 CY), and Topsoil, Strip Salvage and Respread was 2,347.54 CY (SideSlopesDressing).



13. BRIDGE END DRAINS/EROSION ROCK FLUMES

a. The Estimated Costs section of the Project Concept (Page 5) indicates Bridge End Drains / Erosion Rock Flumes are necessary within the Approach Sections of the Bridge. The typical situation on this project is that Erosion Stone should extend to the toe of the back slope of the proposed ditch at all four quadrants of the Bridge (per Standard Road Plan DR-402 [Rock Flume for Bridge End Drain]). Notes on DR-402 mention that Erosion Stone should "extend to a minimum of 4' beyond the toe of foreslope where no backslope exists" (this effectively correlates with 4' beyond the proposed grade intercept point in such circumstances). Are there any special recommendations for the Bridge End Drains?

14. BRIDGE APPROACH

- a. According to Section 5.8.6.1.2 of the Bridge Design Manual: Double reinforced bridge approaches (BR-200s) are used for interstate and primary bridges. A 12-inch approach should be used for new construction.
- b. It has not yet been determined whether the abutment is a 'movable' abutment or a 'fixed' abutment: The body of the Project Concept did not indicate whether the Bridge will have Stub/Fixed Abutments or Integral/Movable Abutments. The Preliminary Bridge Drawing in the Project Concept did not show or indicate whether the abutment pilings were battered (fixed) or normal (movable). A 'Bridge Cost Analysis and Concept Statement' containing the abutment information wasn't published as part of the Concept Document and could not be found in ProjectWise. Please verify the abutment type so that the appropriate Bridge Approach Pavement Standard Road Plan is selected. The Note on the Bridge Approach Typical Section on the B Sheets will be updated as needed.
- c. The double reinforced section will NOT be longer than 20' (as measured along the centerline of the road) because the proposed Bridge does NOT have a skew. The Designer Information for Bridge Approach Pavement section of the Standard Road Plans say "If the need arises for the double reinforced section to be longer than the 20 foot minimum shown on BR-201, BR-202, BR-203, and BR-204, contact the Bridges and Structures Bureau to verify location of the lug for movable abutments." FYI, if the Abutment for this Bridge is Fixed (not Movable), then the location of the lug for Movable Abutments in such circumstances (double reinforced section is longer than the 20 foot minimum) is not applicable.

- d. Extended Wings: Please confirm whether the wings of the proposed bridge will be extended. Extended wings may have an impact to the design of the Bridge Approach (potential impact to be researched by Road Design if applicable).
- e. Skewed Bridge Deck: The Bridge Deck of the Proposed Bridge will NOT be skewed.

15. STEEL BEAM GUARDRAIL (3/18/2025 Project Notes):

- a. Posted Speed Limit: 55 MPH. Design Speed: 60 MPH.
- b. Driving Lane Width = 12 ft wide.
- c. Normal Shoulder Width: 8 ft wide at bridge.
- d. Bridge Width (Barrier to Barrier): 40 ft.
- e. ADT (counted in 2023, per Iowa DOT GIS Traffic Data): 1070 VPD (both directions combined)
- f. 973 Passenger, 48 Single Unit Truck, 49 Combination Truck
- g. Preferred Clear Zone (Design Manual Section 8A-2):
 - i. 24 feet for Foreslopes 6:1 or Flatter.
 - ii. 32 feet for Foreslopes Steeper than 6:1, up to and including 4:1.
- h. Acceptable Clear Zone (Design Manual Section 8A-2):
 - i. 20 feet for Foreslopes 6:1 or Flatter.
 - ii. 26 feet for Foreslopes Steeper than 6:1, up to and including 4:1.
- i. Runout Length (Lr, Design Manual Section 8B-6): 180 feet
- i. Refer to MEETING MINUTES Section of these Project Notes for discussion regarding specific guardrail design considerations.
- k. Extended Wings:
 - i. Are extended wings necessary on the Bridge? Extended wings may have an impact to the design of the Steel Beam Guardrail and the associated Concrete Barrier End Sections (potential impact to be researched by Road Design if applicable).
- I. Barrier Rail:
 - i. Is TL5 Barrier Rail being used on the proposed Bridge? The use of TL5 Barrier Rail (as opposed to TL4) is usually a question that would be asked by Bridge Bureau to the District. (FYI, the use of the TL5 Barrier Rail is a required when Bridges are over a Class 1 Railroad. The TL5 Barrier Rail is used through the entire bridge when specified. TL5 Barrier Rail is a higher rail than normal and provides additional safety over Railroads.)

16. HIGH-TENSION CABLE GUARDRAIL

a. High-Tension Cable Guardrail is not required on this IA 281 Bridge Replacement Project unless the proposed slopes are steeper than 3:1 and the ditch depth (measured from edge of traveled way to ditch bottom per Design Manual Section 3G-2) is higher than 8'.

17. SIDEROAD AND ENTRANCE TREATMENT

- a. There are eastbound residential entrances (Type C) at 146+27 (addresses 4232/4222/4224/4228), 147+14.5 (address 4240), and 147+43 (address 4248). There is an eastbound field entrance (Type D) at 151+32.5. Impacts to the respective entrances are summarized below:
 - i. 146+27 (addresses 4232/4222/4224/4228) Eastbound Residential Entrance (Type C):
 - 1. 2025-07-26 Road Design Note: The profile of this entrance will be UAC'd because the elevation of the proposed edge of shoulder effectively matches the elevation of the existing paved shoulder. The entrance may need to be excavated in order to install a new entrance culvert to correlate with the centerline of a proposed ditch.
 - ii. 147+14.5 (address 4240) Eastbound Residential Entrance (Type C):
 - 1. 2025-07-26 Road Design Note: The profile of this entrance will be
 - iii. 147+43 (address 4248) Eastbound Residential Entrance (Type C):
 - 1. 2025-07-26 Road Design Note: The profile of this entrance will be
 - iv. 151+32.5 Eastbound Field Entrance (Type D):
 - 1. 2025-07-26 Road Design Note: The profile of this entrance will be UAC'd because the elevation of the proposed edge of shoulder effectively matches the elevation of the existing paved shoulder. The entrance may need to be excavated in order to install a new entrance culvert to correlated with the centerline of a proposed ditch.
- b. 2025-06-26 Road Design Note: Horizontal Intersection Sight Distances and Vertical Intersection Sight Distances were checked for the entrances by Road Design according to Design Manual Section 6D-1 (Sight Distance). Refer to MEETING MINUTES dated 6/26/2025 for more information.
- c. Sideroads will NOT be impacted by this project (IA 281 (052)).

18. MAILBOXES

- a. The eastbound residential entrances (Type C) have mailboxes. Impacts to the mailboxes are outlined below:
 - i. 146+27 (addresses 4232/4222/4224/4228, four mailboxes at 146+44) Eastbound Residential Entrance (Type C):
 - 1. 2025-07-26 Road Design Note: Impacts to the mailboxes will be minimal because the elevation of the proposed edge of shoulder effectively matches the elevation of the existing paved shoulder, however, construction operations for the proposed ditch may necessitate temporary removal of the mailboxes.
 - ii. 147+14.5 (address 4240, mailbox at 146+98) Eastbound Residential Entrance (Type C):
 - 1. 2025-07-26 Road Design Note: The profile of this entrance will be raised. The mailbox will need to be removed and reinstalled.
 - iii. 147+43 (address 4248, mailbox at 147+55) Eastbound Residential Entrance (Type C):

1. 2025-07-26 Road Design Note: The profile of this entrance will be raised. The mailbox will need to be removed and reinstalled. The location of the mailbox will need to be discussed because there is not very much separation between the east radial return of the entrance and the end terminal of the proposed guardrail (refer to Mailbox Turnout Road Design Detail 5602 'Details of Mailbox Turnouts -Granular Surfaced' for typical mailbox installations).

19. SURVEY

- a. 2025-07-16 Road Design Notes: Survey was completed for this Project. Road Design reviewed the survey drawings and currently do not see a need for Supplemental Survey.
- b. Are additional soil borings needed for this project? FYI, the 'Bridge Bureau Attachment for Concept Statement' within the Project Concept did not reference a soil analysis or soil profile (existing Soil Profiles can typically be found in Record Drawings, whereupon a preliminary soil analysis can be made). Typically Soil Borings are needed at each pier and the abutments. The normal process is that once the TS&L is completed then the TS&L gets distributed to Soils Bureau and then Soils Bureau would come up with a plan for Soil Borings at the proposed Bridge. Additional soils testing is usually needed at Bridges where Bridge Bureau specifies the use of proposed Drilled Shafts.

20. SPECIAL FEATURES

a. Are there any special features not shown on the plans that need to be taken into consideration, either design or Traffic Control-wise?

21. RIGHT OF WAY

a. 2025-07-16 Road Design Note: ROW appears to be necessary for this Project. Refer to Grade Intercept Lines and ROW lines on the D Sheets and the Cross-Sections on the W sheets.

22. UTILITY IMPACTS

- a. Gas Main:
 - i. There is a Gas main along the north side of IA 281 with Gas Services extending south to the residential properties on the south side of IA 281. The Gas main is within DOT ROW. Most of the Gas main at the NW corner of the bridge is currently (2025-07-16) within a cut zone for the proposed ditch.
- b. Telephone (T1 Line):
 - i. There is T1 line located along the south side of IA 281. The T1 line is within DOT ROW. The T1 line currently runs underneath the existing granular shoulder west of the bridge and is just outside of the existing granular shoulder east of the bridge. The T1 line is attached to the south barrier wall of the existing bridge in a conduit according to the Survey.
 - ii. There are Qwest Telephone Pedestals at 146+70 RT and 147+76 RT that may be impacted by grading.

c. Power Lines:

- i. There are overhead power lines along the north side of IA 281 with Power Services extending south to the residential properties on the south side of IA 281. The power lines are attached to power poles. The power poles and overhead power lines are within DOT ROW.
 - 1. The power pole at the NW corner of the bridge at 147+28 is currently within a cut zone for the proposed ditch.
 - 2. The power pole at the NW corner of the bridge at 146+21 might not be impacted by grading (there is proposed grading in the area, but the proposed elevation at the pole currently matches existing).
 - 3. The power poles at the SW of the bridge (146+02, 146+40, 146+26) appear to be within a fill zone.
 - 4. The power poles at the NE corner of the bridge will not be impacted by grading.
- d. Drainage Utility Structures:
 - i. No Drainage Utility Structures (ie. intakes or manholes) were observed within the project limits.
- e. Utility Contacts:
 - i. Road Design will add the Utility to the 'Utility Legend' on Sheet D.1 of the Plan Set. Survey Bureau should be able to get the Utility Contact information for the project for Road Design. The Utility Contact information on the Project Concept can be used to help generate the list of all the Utility Contacts.

23. CULVERTS/PIPES

- a. This project will not impact any existing roadway culverts. It does not appear that any culverts will need to be installed.
- b. This project will impact existing entrance culverts along the eastbound side of IA 281.

24. EXISTING DRAINAGE PROBLEMS

a. Are there any existing drainage problems that may need to be mitigated (shoulder washout, standing water, etc.)?

25. STOCKPILED MATERIALS (TAB 110-13 DELIVERY AND STOCKPILING):

- a. Confirm that Maintenance would like the following Stockpiled Materials:
 - i. Existing Pavement
 - ii. Class 10 Excavation (earthwork balance is currently in haul-off situation)
 - iii. Class 13 Excavation (not applicable)
 - iv. Steel Beam Guardrail W-Beam
 - v. Steel Beam Guardrail Posts
 - vi. Cable Guardrail (not applicable) vii. Cable Guardrail Posts (not applicable)
- b. Verify the location of Stockpiled Materials (Primary Location? Secondary location? Is there a preferred distribution of materials across the sites?)
- c. Maintenance Contact Person and Phone Number:

26. CONTINGENCY PERCENTAGES

- a. HMA or PCC Pavement Contingency for Irregularities: 5.0% is Typical. Please confirm.
- b. Granular Shoulder: 20% has been used on recent projects. Please confirm.
- c. Patches Contingency (if found to be applicable): 15% is Typical. Please confirm.

27. RCE BID ITEMS

- a. Construction Survey?
- b. Field Lab?
- c. Field Office?
- d. Traffic Control/Work Hour Restrictions?
- e. Project Requiring Contractor Coordination (COORDINATED OPERATIONS TAB 111-01 on J Sheets)?
- f. Site Times Needed?
- g. Project Management?

28. PCC PAVEMENT SAMPLES

a. Confirm whether the PCC Pavement Samples Bid Item needs to be included on this Project. PCC Pavement Samples were handled by specification (Pavement Samples verify thickness). According to the Specifications Section 2301 (Portland Cement Concrete Pavement) the type of thickness testing depends on the total area of PCC pavement of a given design thickness; if the total area of a given thickness of PCC pavement is more than 3,500 SY then non-destructive sampling is needed (see section 2301.04.A.2.c) and a PCC Pavement Samples Bid Item is needed. If the total area of a given thickness of PCC pavement is less than 3,500 SY then thickness measurements are taken with Depth Checks (see section 2301.04.A.2.d) and PCC Pavement Samples would then only be required if specifically requested by the District. This Bridge Replacement Project is currently scheduled to have less than 3,500 SY of 9" thick PCC, therefore a PCC Pavement Sample Bid Item will NOT be necessary by area count. Bridge Approach Pavement and the Bridge Decks are not included in the total area count. Does the District want to specifically request PCC Pavement Samples for this project?

29. TIED PROJECTS

a. Are there any Projects Expected to be Tied to this Project during the 12/15/2026 Letting?

30. DESIGN EVENT DATES

- a. D02 and D3 Event Dates are scheduled for 8/15/2025.
- b. B01 Bridges and Structures Layout 10/17/2025.
- c. D05 ROW Event is schedule for 10/31/2025
- d. D4 Final Plans due to Bridge is 8/18/2026
- e. B03 Contracts Turn-In is 8/3/2027.

31. LETTING DATE

a. The Letting Date is currently scheduled for 12/15/2026. Road Design Team does not have any exceptions regarding the Letting Date at this time. Winter Tree Clearing would need as separate letting if the Bridge Replacement Letting moves to a later date (ie. such as March 2027.

32. SPECIAL EVENTS

a. Are there any Special Events that need to be identified? If so, what are their schedules?

33. TRAFFIC CONTROL PLAN (TAB 108-23A on J SHEETS)

- a. Are there any special Traffic Control Notes that District would like to include on the Traffic Control Plan Tabulation?
 - i. See SPECIAL EVENTS Section of these Project Notes and DETOUR Section of these Project Notes.
 - ii. Does the District prefers that the Offsite Detour for this Bridge Replacement project be provided and installed by the Contractor (not the DOT). The project is being let in December, would this give the Contractor enough time before construction to get the appropriate Detour signage (October Lettings have previously been identified has providing enough time)?
- b. Confirm Contact Information on Traffic Control Plan Tabulation 108-23A (Kip Siems is listed as Maintenance Supervisor and the Waterloo phone number (319-233-3055) was taken from DOT Contacts Website).

34. STAGING NOTES (TAB 108-26A on J SHEETS)

a. Are there any special Staging Notes that District would like to include on the Staging Notes Tabulation?

35. DETOUR

- a. The Project Concept recommends that this Project be completed under Detour. The Detour Route provided in the Project Concept indicates the use of South Elk Run to Dubuque Road, to Lafayette Road, to S Raymond Drive (5.97 miles total). How come the use of South Elk Run to Osage Road, to S Raymond Drive (4.04 miles total) was not
- b. The official Detour Map and Signage should be provided by the District for inclusion in the plan set. It is recommended that the Detour Plans begin on sheet J.100 to avoid cross-over with other J sheets developed by Road Design. Please provide the District Contact who will be developing the Detour Plans.

36. AGREEMENTS

a. Are any Agreements necessary for this Project?

37. DESIGN EXCEPTIONS

a. Are there any portions of this Project that may need require Design Exceptions?
 Exceptions or Deviations should be documented in these Project Notes and/or the Design Criteria document.

38. SHOULDER RUMBLES

a. Review the need for Shoulder Rumble Strips / STRIPES on this project (Rumble STRIPES are placed under the traffic edge line and increase the functional width of the shoulder). Minimum functional width for a paved shoulder used by bicyclists is 4 feet (Bicyclist Operating Space, Section 3.2 – Figure 3-1 of the AASHTO Bike Guide 2012 and Section 4.9 [Bicycling in Rural Context] of the lowa DOT Bicycle and Pedestrian Long-Range Plan). This project is technically within unincorporated Black Hawk County (outside of Waterloo City Limits) and therefore is considered 'Rural'. Shoulder rumbles are typically included in 'Rural' Areas. The Roadway does NOT currently have shoulder rumbles. Perhaps it is worth waiting for corridor improvement project to install shoulder Rumbles. FYI, PV-12 (Milled Shoulder Rumble Strips): Shoulder Rumbles stop 60' from the Bridge Deck.

39. CENTERLINE RUMBLES

a. Review the need for Centerline Rumbles on this Project. Centerline Rumbles are typically installed on Roadway Projects per Design Manual Section 3C-5 (Centerline rumble strips must be placed on all new or existing two lane Primary rural roads with at least 11 foot lane widths). This project is technically within unincorporated Black Hawk County (outside of Waterloo City Limits) and therefore is considered 'Rural'. Centerline rumbles are typically included in 'Rural' Areas. The Roadway does NOT currently have shoulder rumbles. Perhaps it is worth waiting for corridor improvement project to install Centerline Rumbles. FYI, PV-13 (Milled Centerline Rumble Strips): Centerline Rumbles stop 60' from the Bridge Deck.

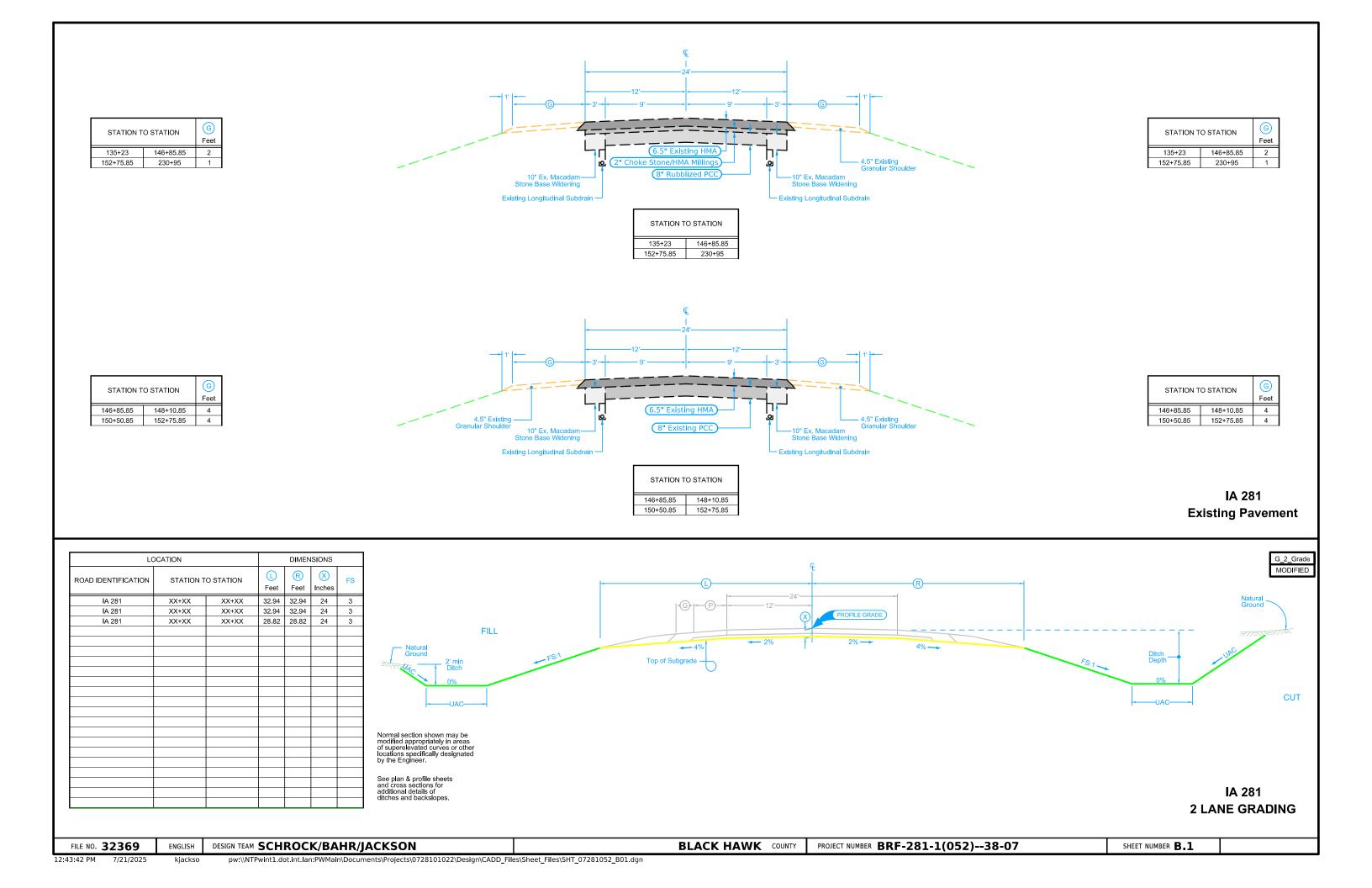
40. RUMBLE PANELS

- a. 2025-07-16 Road Design Note: There is an existing Rumble Panel west of the bridge that is within the pavement reconstruction limits that will need to be replaced. If new pavement is confirmed to be PCC, then the rumble panel will be cut into 'existing' PCC pavement that has just been poured. Tabulation 112-7 will be provided accordingly.
- 41. THREATENED AND ENDANGERED SPECIES REVIEW (OLE) / SUITABLE BAT HABITAT / TREE CLEARING
 - a. Verify the language needed in the Clearing and Grubbing Estimate Reference Note (ie. review the need for Iowa DOT Spec 2101.01A regarding tree clearing dates per direction from Threatened and Endangered Species).
 - b. Winter Tree Clearing and Letting Date:
 - i. Tree Clearing may need a separate Letting if the Bridge Replacement Letting moves to a later date (ie. such as March 2028).

- c. Tree Impacts Due to proposed Roadway Foreslopes:
 - i. Review the proposed Grade Intercept Lines with respect to the impacts to the trees around the Project. The maximum offsets of the Grade Intercept Lines as measured from the outside edge of the normal 4' Shoulder are:
 - 1. 72' at the NW corner of the bridge.
 - 2. 43' at the NE corner of the bridge.
 - 3. 50' at the SW corner of the bridge.
 - 4. 45' at the SE corner of the bridge.
- d. Stream Impacts Due to Bridge Construction:
 - i. Review Stream Impacts Due to Bridge Construction.

42. UTILITIES (POINT 25 OR NOT A POINT 25 PROJECT)

a. Is this project a Point 25 Project or Not a Point 25 Project? "Utility Process (formerly "Utility Status") is found in Masterworks in the following path: Project/Project Phases/Project #/Utility Coordination/Utility Process. According to Masterworks, this Project (IA 281 (052)) is a Non-Point 25 Project. Should this be revisited because it appears as though utility services may be impacted?



		G_SR_ 4-21-20
STATION T	G Feet	
145+40	4	
151+52	4	

Granular Shoulder

			G_SR_ I-21-20
STATION TO STATION			G Feet
145+40	147+10		4
151+52	152+50		4

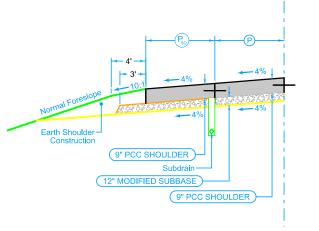
Granular Shoulder

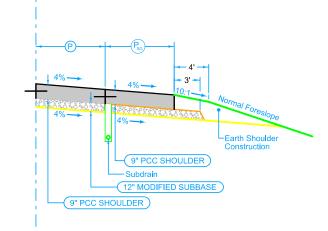
		G_SR_ 4-21-20	
STATION T	STATION TO STATION		
145+40	145+40 146+93		
151+80	151+80 152+50		

Paved Shoulder at Guardrail

PCC Shoulder Jointing:
 Longitudinal joint: BT-1 or BT-5
 Transverse joints: C at mainline spacing
HMA Shoulder Jointing:
 Longitudinal joint: B

2_P_Guard_ 04-21-20				
STATION T	STATION TO STATION		P _{ss} Feet Feet	
147+10	147+96	8	See Detail 7158-M for Details	
150+66	151+52	8	See Detail 7158-M for Details	





Paved Shoulder at Guardrail
PCC Shoulder Jointing:
 Longitudinal joint: BT-1 or BT-5
 Transverse joints: C at mainline spacing
HMA Shoulder Jointing:
 Longitudinal joint: B

2_P_Guard 04-21-2			
STATION T	O STATION	P Feet	P _{SS} Feet Feet
146+93	147+96	8	See Detail 7158-M for Details
150+66	151+80	8	See Detail 7158-M for Details

See Tab 100-24 or 100-25 for pavement quantities. See Tab 112-9 for shoulder quantities.

IA 281 Mainline, Paved Shoulder, and Paved Shoulder at Guardrail

FILE NO. **32369** DESIGN TEAM SCHROCK/BAHR/JACKSON BLACK HAWK COUNTY PROJECT NUMBER BRF-281-1(052)--38-07 SHEET NUMBER B.2

9" P.C. CONCRETE PAVEMENT 12" MODIFIED SUBBASE

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

STATION TO STATION

145+40

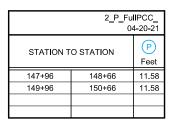
2P<u></u> 04-21-20

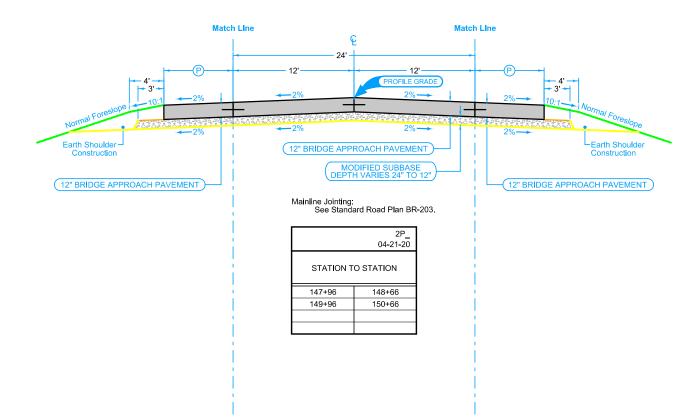
147+96

152+50

Shoulder at Bridge Approach

Mainline Jointing: See Standard Road Plan BR-205.





Shoulder at Bridge Approach

Mainline Jointing: See Standard Road Plan BR-205.

2_P_FullPCC_ 04-20-2						
STATION T	STATION TO STATION					
147+96	148+66	11.58				
149+96	150+66	11.58				
	·					

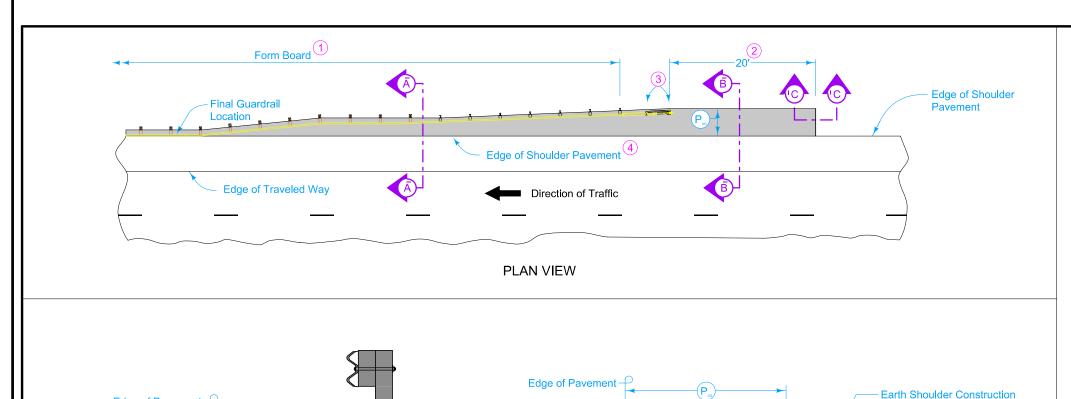
See Tab 112-6 for Bridge Approach Pavement quantities.
See Standard Road Plan BR-205 for details.

IA 281
Bridge Approach Pavement

SHEET NUMBER B.3

FILE NO. 32369 ENGLISH DESIGN TEAM SCHROCK/BAHR/JACKSON

BLACK HAWK COUNTY PROJECT NUMBER BRF-281-1(052)--38-07



NEW CONSTRUCTION

Shoulder Pavement

- Paved Shoulder

Section B-B

7158-M MODIFIED

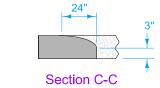
10" HMA Paved Shoulder at guardrail. 9" PCC may be substituted with the following jointing layout:

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) 'BT' (per PV-101) joint for PCC shoulder. 'B' (per PV-101) joint for HMA shoulder.
- (5) Match shoulder slope.
- 6 The Contractor has the option to pave the paved shoulder at guardrail and the full width paved shoulder as one operation.
- 7 Refer to other details in the plan.



Roll down at granular shoulder or earth.

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

FILE NO. 32369 ENGLISH DESIGN TEAM SCHROCK/BAHR/JACKSON

Edge of Pavement —

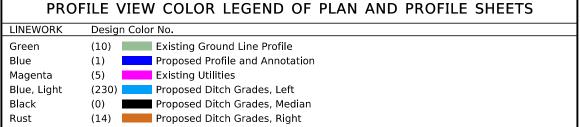
Shoulder Pavemen

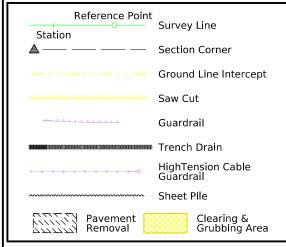
- Paved Shoulder

Section A-A

UTILITY LEGEND SURVEY SYMBOLS LINEWORK Septic Tank Interstate Highway Symbol Green U.S. Highway Symbol Cistern Blue Magenta (5) (LP) Iowa Highway Symbol L.P. Gas Tank (No Footing) SHADING County Road Highway Symbol Underground Storage Tank Pink. Dark (13)Yellow (4) Evergreen Tree Latrine (6) Orange Deciduous Tree Satellite TV Dish (70)Orange Yellow (68)Fruit Tree Water Hook Up Yellow (132)Shrub (Bushes) □ RT Radio Tower Brown, Light (236)(134)Orange, Light Timber Tower Anchor (220)Yellow Hedge Guardrail (Beam or Cable) Tan Blue, Light 2 Stump Guard Post (one or two) Pink (11)Guard Post (over two) (3) Red Red (3) Ш≣ Rock Outcrop Filler Pipe 0000 **Broken Concrete** Gas Valve Revetment (Rip Rap) Water Valve Green † Cemetery Speed Limit Sign ⊙ SI Blue Grave Mile Marker Post Magenta (5) (ĆV) Blue, Light Cave □ SIGN Sign Black (SH) Sink Hole □ TCB Traffic Signal Control Box Rust Board Fence □ RRB Rail Road Signal Control Box # Chain Link or Security Fence □ TSB Telephone Switch Box Station Wire Fence □ EB Electric Box Terrace Earth Dam or Dike (Existing) Tile Outlet Edge of Water **Existing Drainage** Right of Way Rail or Lot Corner Concrete Monument X Well Windmill Beehive Intake Existing Intake Existing Utility Access (Manhole) Fire Hydrant WH Water Hydrant (Rural)

PLAN VIEW COLOR LEGEND OF PLAN AND PROFILE SHEETS Design Color No. (2) Existing Topographic Features and Labels Proposed Alignment, Stationing, Tic Marks, and Alignment Annotation Existing Utilities Design Color No. Transparency Temporary Pavement Shading 50% **Proposed Pavement Shading** 50% Proposed Granular Shading 50% Proposed Shoulder Granular Shading 50% Proposed Shoulder Paved Full Depth Shading 50% Proposed Shoulder Paved Partial Depth Shading 50% **Grading Shading** 50% Proposed Granular Entrance Shading 50% Proposed Paved Entrance Shading 50% (8) Proposed Sidewalk Shading 50% (230) Proposed Sidewalk Landing Shading 50% Proposed Sidewalk Ramp Shading 50% Proposed Structure Shading 50% Delineates Restricted Areas 0%

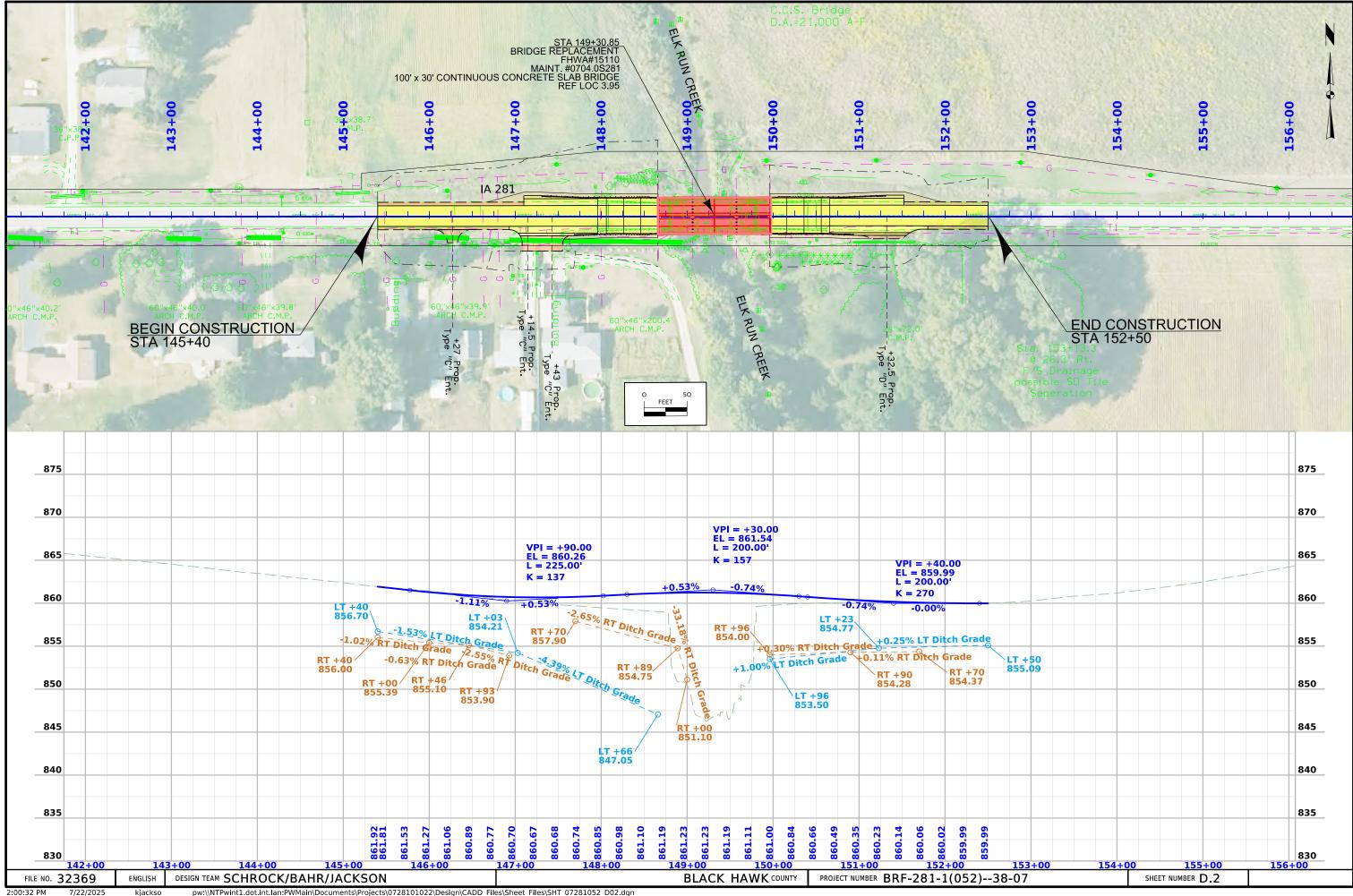






PLAN AND PROFILE LEGEND AND SYMBOL **INFORMATION SHEET**

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



Survey Information

SURVEY INDEX

County: Black Hawk
Project Code: 22-07-281-010
Phase Number: BRF-281-1(052)--38-07
Location: Elk Run Creek 0.3 mi E of Co Rd V43
Work Code: 2022-Bridge Replacement-CCS
Project Directory: 0728101022

Survey Personnel

Geoff Tinker – Survey Party Chief (Sr. Land Surveyor) Kokou Allade – Assistant Survey Party Chief

Date(s) of Survey

Begin Date 04/02/2025 End Date 05/12/2025

General Information

This project is a Full DTM Field Survey along IA 281 for Elk Run Creek Bridge at 0.3mi. East of County Road V43.

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, comprised of One (1) Static Session. Post processing was constrained to Iowa Real Time Network reference station "Waterloo" (IAWA) and checked upon station "Independence" (IAIN). 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 5

(U.S. SURVEY FOOT)

VERTICAL DATUM: NAVD88 GEOID MODEL: 2018u3

Alignment Information

The horizontal alignment for Iowa Hwy. 281 is a retracement of 1955 As-built Plans No. FN-62 (Doc. ID 615696), together with Centerline Description in Easement for Public Highway per Black Hawk County WD Bk. 116 p155 filed Aug. 15th, 1955. Survey stationing was equated to the plan BOP Sta. 132+38.70 at the Northwest (NW.) Corner of Section 27-T89N-R12W and carried ahead to East without equation throughout the survey.

Survey stationing relates to As-built plan stationing "and" Easement for Public Highway Centerline description as follows:

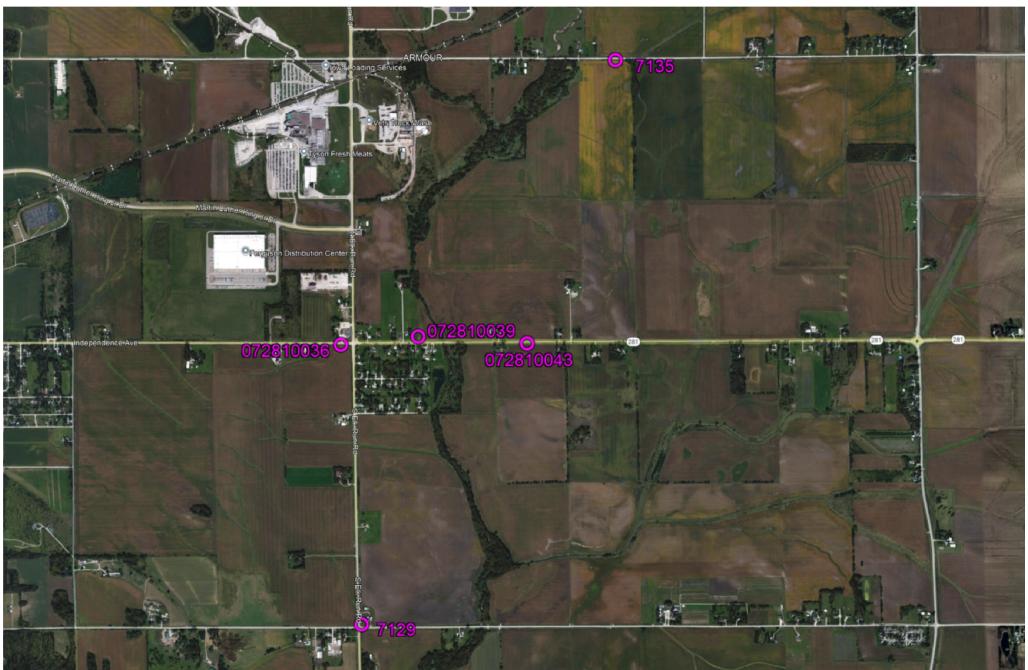
PI Sta. 132+38.7 As-built Plans Project No. FN-62 (vs. WD Bk.116 p155 = 132+39) Survey PI 132+38.70 = NW. Corner Sect. 27-T89N-R12W

PI Sta. 151+44.60 As-built Plans Project No. FN-62 and WD Bk.116 p155 Survey PI Sta. 151+44.60 at 2.1ft. North of North line NW. 1/4 Sect. 27-T89N-R12W Defl. 0°13'39" RT. (Calc.) vs. 0°13'30" RT. (FN-62 Plans)

PI Sta. "Unspecified" in As-built Plans Project No. FN-62 PI Sta. 158+76.0 per WD Bk.116 p155 Easement for Public Highway Centerline Survey PI Sta. 158+76.96 = North 1/4 Corner Sect. 27-T89N-R12W

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 05 (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) la. Regional Coordinate System Zone 05 (U.S. Survey Foot)

VERT. DATUM: NAVD88 Geoid Model: 2018u3

Northing	Easting	⊟evation	Code-Description Code-Description
0000000 50	45407744 40	054.04	
8839396.50	15497711.19	854.21	CP Fnd. CCP Berntsen 6ft. L. Rod Mon. w/ Cap under Access Cover flush w/ Ground at Black Hawk County GPS Network CP #94-129 per County Tie Sheet details
8849887.14	15502594.03	870.33	CP Fnd. CCP Berntsen 6ft. L. Rod Mon. w/ Cap under Access Cover flush w/ Ground at Black Hawk County GPS Network CP #94-135 per County Tie Sheet details.
8844622.17	15497373.92	874.25	FENO SET1m. L. FENO Mon3in. Dp. located about 235ft. West of CL Intersection IA. Hwy. 281 and Elk Run Road at 35.3ft. South of CL IA281 (Independence Ave.); and 2.3ft. East of Sta. 130 Sign; and 23.1ft. South of Edge HMA Pavement; and 35.5ft. East/SE of Phone Ped.; and 6ft. North of Field Edge
8844759.47	15498830.01	859.29	FENO SET 1m. L. FENO Mon6in. Dp. located about 1222ft. East of CL. Intersection IA. Hwy. 281 and Elk Run Road at 109ft. North of CL. IA281 (Independence Ave.); and 60ft. North of Wood Fence Post (w/o Fence); and 89.3ft. NW. of Top West end CMP at Field Entrance; and 88.7ft. North/NE of Stop Ahead Sign; and 144ft. North/NW. of Sta. 145 Sign at South side IA281.
8844605.07	15500869.90	871.15	FENO SET 1m. L. FENO Mon6in. Dp. located about 3260ft. East of CL. Intersection IA. Hwy. 281 and Elk Run Road at 34.6ft. South of CL IA281 (Independence Ave.); and 1.7ft. South of Sta. 165 Sign; and 85.7ft. SW. of Power Pole at North side IA281; and 5.3ft. North of Field Edge.
	8839396.50 8849887.14 8844622.17 8844759.47	8839396.50 15497711.19 8849887.14 15502594.03 8844622.17 15497373.92 8844759.47 15498830.01	8839396.50 15497711.19 854.21 8849887.14 15502594.03 870.33 8844622.17 15497373.92 874.25 8844759.47 15498830.01 859.29

108-23A 08-01-08

TRAFFIC CONTROL PLAN

IA 281:

- A. Route will be closed during construction. Contractor shall install hard closure at MP 3.95 on IA 281, per TC-252.
- B. Access to all properties shall be maintained at all times.
- C. Offsite detour will be provided and installed by the Contractor. Refer to J.2 for detour.

Contractor shall contact Kip Siems, Waterloo Highway Maintenance Supervisor, (319) 233-3055 a minimum of 10-days in advance of the closure for the coordination of the detour signing.

D. The Contractor shall place two (2) portable digital message signs (PDMS) prior to closing US 34.

Place one PDMS on eastbound IA 281, east of the intersection of IA 281 and S Elk Run Rd and one PDMS on westbound IA 281, west of the intersection of IA 281 and Raymond Rd. Place PDMS 7-10 days prior to the closure/detour of IA 281.

Use the following messages: 1st Display: "IA 281 Closed" 2nd Display: "Starting (Add Date)"

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
To Be Determined	

108-25 10-21-14

111-01

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									
											-	
											1	
									 			+

108-26A 08-01-08

STAGING NOTES

A. (TO BE DETERMINED) shall be completed prior to closing IA 281 and initiating the detour.

FILE NO. **32369**

DESIGN TEAM SCHROCK\BAHR\JACKSON

BLACK HAWK COUNTY PROJECT NUMBER

BRF-281-1(052)--38-07

SHEET NUMBER

J.1

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