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V.2	Design 124
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PLANS OF PROPOSED IMPROVEMENT ON THE
PRIMARY ROAD SYSTEM
DAVIS COUNTY
Revetment

US 63 over Fabius Creek
2.1 miles south of S Jct SR J51

- Refer to the Plan Sheets for list of applicable specifications.
- Value Engineering Saves. Refer to Article 1105.14 of the Specifications.
- The Iowa Department of Transportation Standard Specifications for Highway and Bridge Construction, Series 2015, plus applicable general supplemental specifications development specifications, supplemental specifications and special provisions shall apply to construction work on this project



TOTAL
XX
PROJECT IDENTIFICATION NUMBER
23-26-063-010
CONTRACT ID NUMBER
PROJECT NUMBER
MB-063-5(505)3--77-26
R.O.W. PROJECT NUMBER
PROJECT DIRECTORY NUMBER
2606301023

Standard Road Plans

Standard Road Plans are listed on C.1, RC.1

Design Data Rural	
2021 AADT	70 V.P.D.
TRUCKS	0 %

Index Of Seals		
Sheet No.	Name	Type
A.1	Robert Tipton	Structural Design & Roadway Design

Structural Design

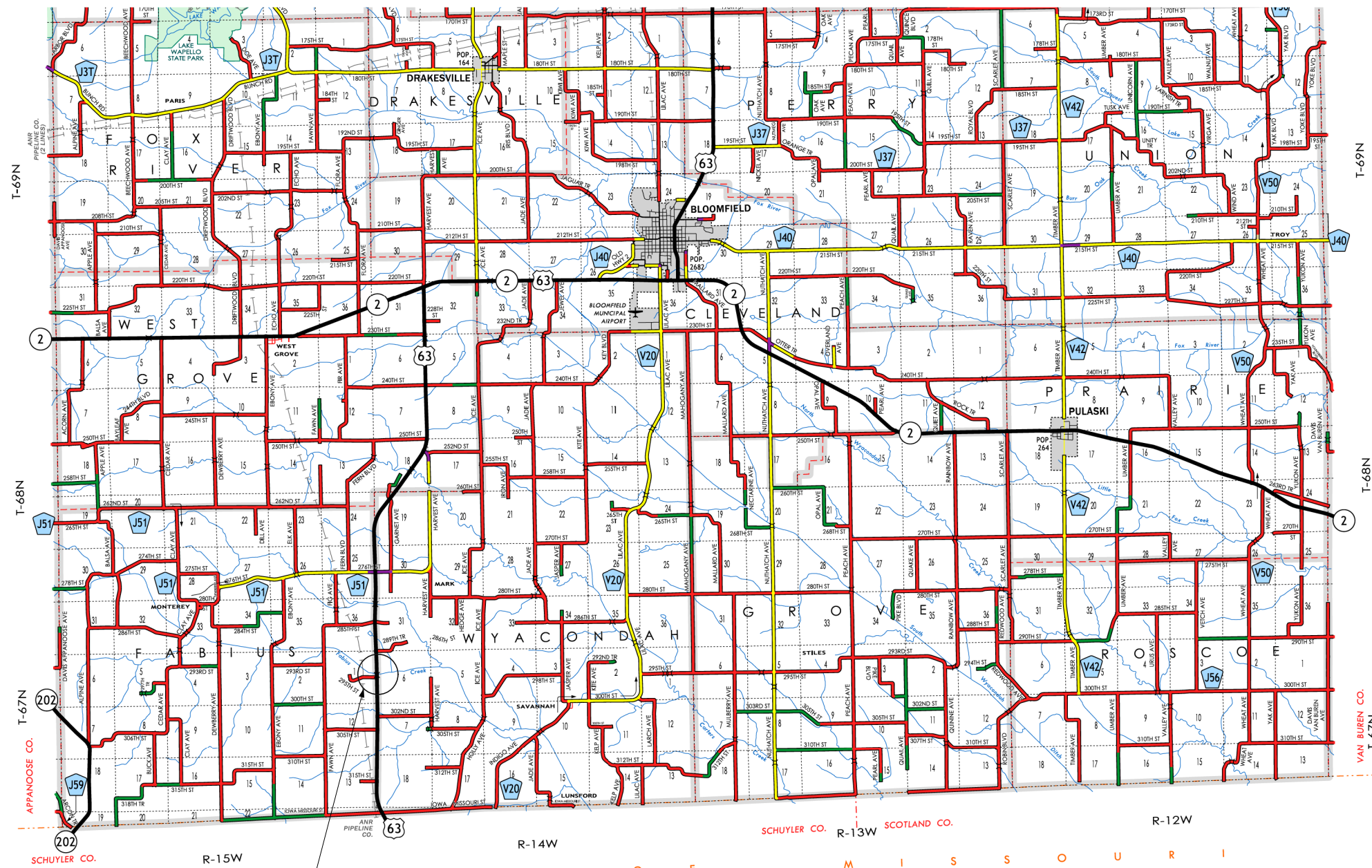
I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.

Signature Robert Tipton Date 03-03-2023

Printed or Typed Name _____

My license renewal date is December 31, 2024

Pages or sheets covered by this seal: A.1-A.2, V.1-V.2, C.1, J.1, RC.1 & RR.1-RR.2



LEGEND

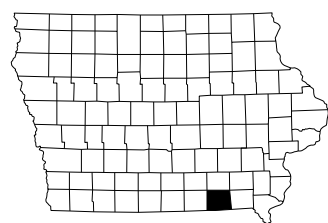
- INTERSTATE HIGHWAY
- PRIMARY HIGHWAY-DIVIDED
- PRIMARY HIGHWAY
- PORTLAND CEMENT CONCRETE ROAD
- ASPHALT ROAD
- BITUMINOUS ROAD
- GRAVEL ROAD
- EARTHEN ROAD
- INTERSTATE HIGHWAY
- UNITED STATES HIGHWAY
- STATE HIGHWAY
- COUNTY HIGHWAY
- RAILROAD
- PIPELINE
- AIRPORT
- HYDROLOGY
- BRIDGE
- STATE BOUNDARY
- COUNTY BOUNDARY
- CORPORATE BOUNDARY
- TOWNSHIP LINE
- SECTION LINE
- ROAD NAMES
- UNINCORPORATED PLACE
- STATE PARKS
- STATE INSTITUTIONS
- FEDERAL LAND



Design No. 124
FHWA No. 22451

Davis County Location Map

Not To Scale



ESTIMATED REVETMENT QUANTITIES

ITEM NO.	ITEM CODE	ITEM	UNIT	TOTAL	AS BUILT QUAN.
1	2104-2710020	Excavation, Class 10, Channel	CY	120	
2	2402-0425031	Granular Backfill	TON	361	
3	2507-3250005	Engineering Fabric	SY	463	
4	2507-6800061	Revetment, Class E	TON	494	
5	2533-4980005	Mobilization	LS	1	

ESTIMATE REFERENCE INFORMATION

ITEM NO.	ITEM CODE	DESCRIPTION
1	2104-2710020	Refer to Sheet V.2. All waste must be removed from the project site. Material excavated for the revetment repairs will be used for fill needed for the project. Fill estimates include 25% shrinkage factor. The waste will become the property of the Contractor. It shall be the Contractor's responsibility to provide disposal sites for waste. It shall be the Contractor's responsibility to ensure that areas (including haul roads) selected for waste or disposal not impact 1) culturally sensitive sites or graves or 2) wetlands or "Waters of the U.S.". Including streams or stream banks below the ordinary high-water mark, without an approved U.S. Army Corps of Engineers 404 permit. No payment for overhaul will be allowed for material hauled to these sites.
2	2402-0425031	Estimated at 1.7 ton/cu yd. Granular backfill will be measured in tons of material placed. Granular backfill shall meet the gradation requirements in accordance with Article 4133.04, of the Standard Specifications. Percent passing the No. 200 sieve shall not exceed 5%. Includes furnish and placement of backfill material due to an anticipated deficit in on-site excavated material. Granular backfill shall not be procured and delivered to the site until completion of rough grading indicates additional material is needed to finish to the lines and grades shown on the drawings, or as directed by the engineer. Granular embankment include a 25% shrinkage factor.
3	2507-3250005	The tabulation includes estimated locations for placement of "Engineering Fabric" to address erosion to be encountered during construction. Verify the specific locations with the Engineer prior to beginning placement. Bid item includes 30% additional quantity for other locations of erosion. Engineering fabric shall be material as specified for embankment erosion control in accordance with Article 4196.01.B.3, of the Standard Specifications. Material shall be measured in sq. yard of actual area covered. Refer to Bank Protection Detail on Sheet V.2.
4	2507-6800061	The tabulation includes estimated locations for placement of "Revetment, Class E" to address erosion to be encountered during construction. Verify the specific locations with the Engineer prior to beginning placement. Bid item includes 30% additional quantity for other locations of erosion. Estimated at 1.6 ton/cu yd. Class E revetment shall meet requirements of Article 4130. Broken Concrete and granite is not allowed. Refer to details and locations on Sheet V.2.

GENERAL NOTES:

This design is for repairs to the existing berm along US 63 over Fabius Creek, Design 171. Project location is approximately 2.1 mi. S. of S Jct SR J51. Electronic copies of original design plans will be made available to the contractor as part of the e-files supplied with the contract documents.

Repairs shall consist of:

1. Restore north berm at 2.5:1 slope as shown on sheet V.2.
2. Cover fill with engineering fabric.
3. Install Class E Revetment bank stabilization.

All dimensions and details shown on these plans pertinent to new construction shall be verified in the field by the contractor before starting construction

Refer to title sheet for traffic data.

Specifications:

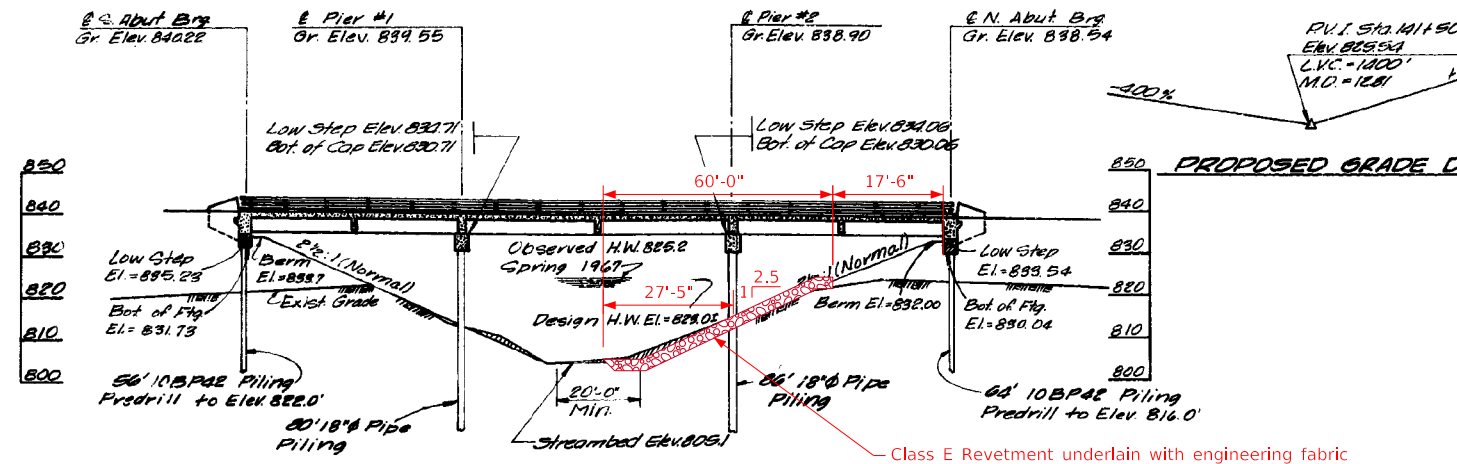
Construction: Iowa Department of Transportation Standard Specifications for Highway and Bridge Construction, Series of 2015, plus applicable general supplemental specifications, developmental specifications, supplemental specifications and special provisions shall apply to construction work on this project.

Traffic Control Plan
The roadway will be open to thru traffic. Refer to the Traffic Control Plan shown elsewhere in these plans.

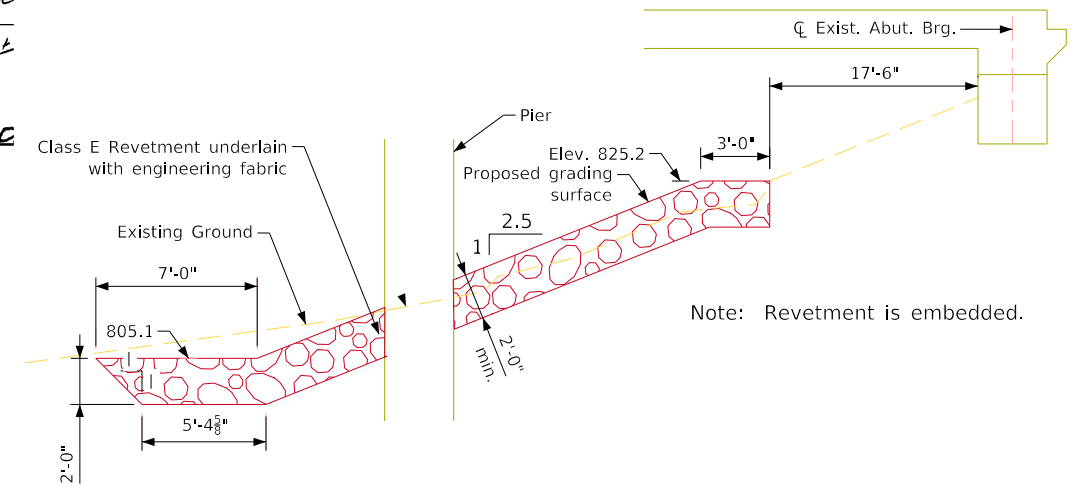
Roadway Quantities shown elsewhere in these plans.

Design History at this Site (Includes This Design)	
Design No.	Type of Work
171	Original Plans
586	Barrier Rail
101	Overlay
124	Revetment

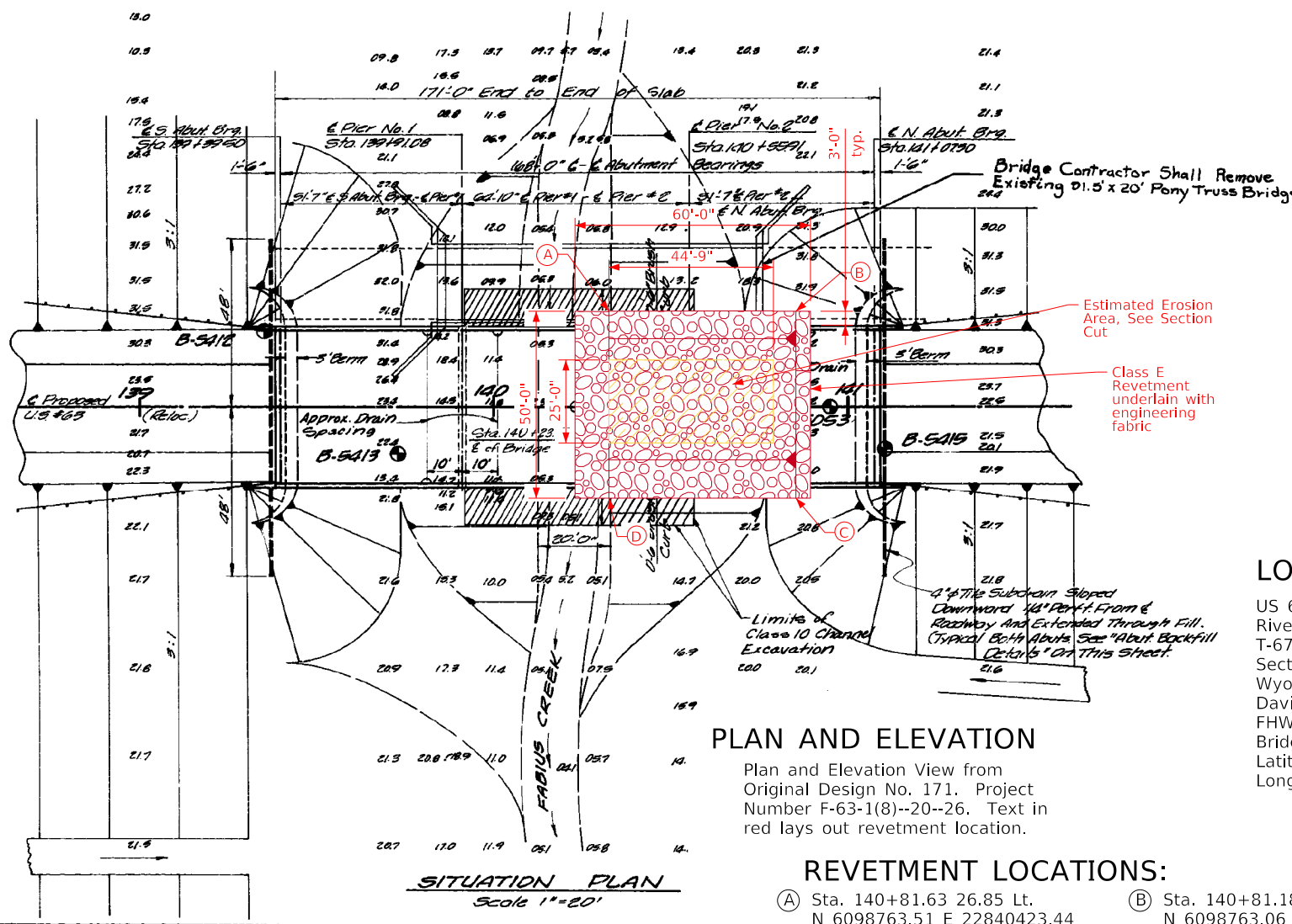
Design For Repairs to 0 Degree
**168'-0 x 44'-0 Pretensioned
 Prestressed Concrete Beam Bridge**
 51'-7 End Spans 64'-10 Interior Span
General Notes and Quantities
 STA. 140+23.50 (C US 63) Turn-In Date: June 2023
Davis County
 IOWA DEPARTMENT OF TRANSPORTATION
 Design No. 124 Design Sheet No. 1 of 2 FHWA No. 22451



LONGITUDINAL SECTION ALONG E ROADWAY



Bank Protection Detail beyond erosion area
(Revetment to extend 3'-0" on either side of abutment cap)
(Not to scale)

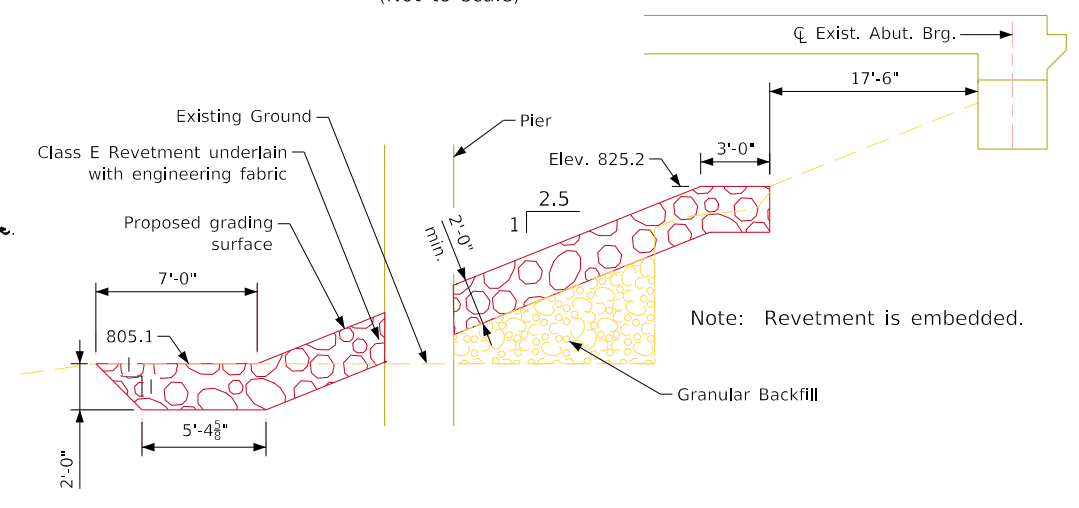


PLAN AND ELEVATION

Plan and Elevation View from Original Design No. 171. Project Number F-63-1(8)--20--26. Text in red lays out revetment location.

REVETMENT LOCATIONS:

- Ⓐ Sta. 140+81.63 26.85 Lt. N 6098763.51 E 22840423.44 Elev. 825.20
- Ⓑ Sta. 140+81.18 26.45 Rt. N 6098763.06 E 22840423.45 Elev. 825.20
- Ⓒ Sta. 140+31.63 27.27 Lt. N 6098713.52 E 22840424.54 Elev. 805.26
- Ⓓ Sta. 140+31.18 26.03 Rt. N 6098713.08 E 22840424.55 Elev. 805.26



Bank Protection Detail within erosion area
(Not to scale)

UTILITIES:

Telephone - Citizens Mutual Telephone
Water - Rathburn Regional Water
Electric - Southern Iowa Electric Cooperation
Utilities parallel (North-South) with US 63.
Utilities min. 80 feet outside of bridge deck.

Utilities Note:

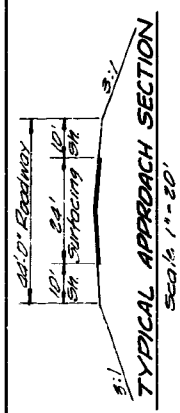
Utilities shown on this sheet are for information only. See Road Design sheets for final utility information.

LOCATION

US 63 over Fabius Creek
River Overflow
T-67N R-14W
Section 6
Wyocandah Township
Davis County
FHWA No. 22451
Bridge Maint. No. 2602.5S063
Latitude 40.63182067
Longitude -92.52355331

HYDRAULIC DATA

DRAINAGE AREA = 28 SQ. MI.
Q = 4800 CFS
NOTE: HYDRAULIC DATA FROM ORIG. DESIGN NO. 171



TYPICAL APPROACH SECTION
Scale 1"=20'

DESIGNED BY: G.B.K. TRACED BY:
DETAILED BY: A.H. CHECKED BY:

Situation Plan

Design For Repairs to 0 Degree
168'-0 x 44'-0 Prestressed Concrete Beam Bridge
51'-7 End Spans 64'-10 Interior Span
Situation Plan
STA. 140+23.50 (C US 63) Turn-In Date: June 2023
Davis County
IOWA DEPARTMENT OF TRANSPORTATION
Design No. 124 Design Sheet No. 2 of 2 FHWA No. 22451

100-1D 10-18-05
PROJECT DESCRIPTION
This Project is to install 2 feet of Class E revetment along the north abutment berm.

100-4A 10-29-02		
ESTIMATE REFERENCE INFORMATION		
Item No.	Item Code	Description
1	2528-8445110	TRAFFIC CONTROL Refer to C.1 for Standard Road Plans and J sheets for Traffic Control Notes.
-	-	-
2	2101-0850001	CLEANING AND GRUBBING Refer to Sheet V.2. All material generated as a result of Clearing and Grubbing shall become the property of the contractor and must be disposed off site. All wood material must be disposed of according to Iowa Department of Agriculture and Land Stewardship Emerald Ash Borer Quarantine Order. For more information see www.iowatreepests.com.
-	-	-
-	-	-

100-0A 10-28-97					
ESTIMATED ROADWAY QUANTITIES (1 DIVISION PROJECT)					
Item No.	Item Code	Item	Unit	Total	As Built Qty.
1	2101-0850001	CLEANING AND GRUBBING	AC	0.1	
2	2528-8445110	TRAFFIC CONTROL	LS	1.00	
3	2528-8445113	FLAGGERS	EACH	See Proposal	

105-4 10-18-11		
STANDARD ROAD PLANS		
The following Standard Road Plans apply to construction work on this project.		
Number	Date	Title
TC-1	10-15-19	Work Not Affecting Traffic (Two-Lane or Multi-Lane)
TC-202	4-18-23	Work Within 15 ft of Traveled Way
TC-213	4-18-23	Lane Closure with Flaggers

SEE R AND V SHEETS FOR ADDITIONAL BID ITEMS AND QUANTITIES

262-6 10-18-05	
UTILITIES (NOT A POINT 25 PROJECT)	
This is NOT a POINT 25 project and is not subject to the provisions of IAC 761-115.25.	

Survey Information

SURVEY INDEX

COUNTY: DAVIS
PIN: 23-26-063-010
PROJECT NUMBER: MB-063-5(505)3--77-26
LOCATION: 2.1 MI. S OF S JCT SR J51
TYPE OF WORK: RIP RAP
PROJECT DIRECTORY: 2606301023

SURVEY PERSONNEL

Nolan Dotts – Survey Party Chief
Pedro Zamora – Assistant Survey Party Chief

DATE(S) OF SURVEY

Begin Date 02/28/2023
End Date 03/01/2023

GENERAL INFORMATION

This survey is for Rip Rap along the north bank of the North Fabius River below the US hwy 63 bridge.
This survey request was for the North Fabius River banks and berm transitions to US hwy 63.

UTILITY INFORMATION

For logging data and other utility details see Utility Survey and Ownership Report in the Utility Folder of the Prelim Survey Directory.

PROJECT CONTROL

Coordinates were determined Using the IRCS Network and taking 3 observations at each control point throughout the day and averaging those positions. For additional details of the control survey, contact ISG Inc.

PROJECT DATUM: NAD83(2011) for EPOCH 2010.00 (IaRTN 2019 Adjustment)
Coordinate system: IOWA REGIONAL COORDINATE SYSTEM ZONE 12 (U.S. SURVEY FOOT)
VERTICAL DATUM: NAVD88
GEOID MODEL: GEOID 12B

ALIGNMENT INFORMATION

The horizontal alignment for U.S. Hwy 63 is a retrace of As-Built Plans No. F-63-1(8)--20-26. Survey Stationing was equated to the CL of Pier No.1 at STA 139+91.08 and run back/ahead without equation throughout survey.

Survey stationing relates to As-Built plan stationing as follows:

CL of Pier No.1 STA 139+91.08 As-Built Plans Project No. F-63-1(8)--20-26
Survey CL of Pier No.1 STA 139+91.08

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 12 (U.S. Survey Foot)

VERT. DATUM: NAVD88 - Geoid Model: 2018u2 or 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 12 (U.S. Survey Foot)
 VERT. DATUM: NAVD88
 Geoid Model: 2018u3 or 2018u2

POINT NAME	NORTHING	EASTING	ELEVATION	FEATURE DEFINITION - DESCRIPTION
CP1	6098415.265	22840392.430	842.528	CP - IRON BAR YELLOW PLASTIC CAP
CP2	6097001.715	22840436.322	893.429	CP - IRON BAR YELLOW PLASTIC CAP
CP3	6098028.557	22840469.370	855.401	CP - IRON BAR YELLOW PLASTIC CAP
CP4	6099184.462	22840447.546	838.278	CP - IRON BAR YELLOW PLASTIC CAP
CP5	6098628.713	22840446.032	840.144	CP - MAGNETIC NAIL
CP10	6098626.863	22840381.295	830.671	CP - TEMPORARY NAIL
CP11	6098650.787	22840465.327	822.381	CP - TEMPORARY NAIL

ALIGNMENT COORDINATES

101-16
10-20-09

Name	Location	Point on Tangent			Begin Spiral			Begin Curve			Simple Curve PI or Master PI of SCS			End Curve			End Spiral		
		Station	Coordinates		Station	Coordinates		Station	Coordinates		Station	Coordinates		Station	Coordinates		Station	Coordinates	
			Y (Northing)	X (Easting)		Y (Northing)	X (Easting)		Y (Northing)	X (Easting)		Y (Northing)	X (Easting)		Y (Northing)	X (Easting)		Y (Northing)	X (Easting)
1	US 63	137+05.07	6098387.039	22840431.704															
2	US 63	144+43.82	6099125.611	22840415.501															

108-23A
08-01-08

TRAFFIC CONTROL PLAN

Traffic on US 63 shall be maintained at all times.

Lane closures on US 63:

- Lane closures shall be limited to delivery and removal of equipment and materials.

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 restrictions expected.									

100-1A
07-15-97

ESTIMATED PROJECT QUANTITIES (1 DIVISION PROJECT)

Item No.	Item Code	Item	Unit	Total	As Built Qty.
1	2602-0000150	STABILIZED CONSTRUCTION ENTRANCE, EC-303	LF	200	
2	2602-0000212	FLOATING SILT CURTAIN (HANGING)	LF	200	
3	2602-0000240	MAINTENANCE OF FLOATING SILT CURTAIN	LF	100	
4	2602-0000312	PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE, 12 IN. DIA.	LF	200	
5	2602-0000351	REMOVAL OF PERIMETER AND SLOPE OR DITCH CHECK SEDIMENT CONTROL DEVICE	LF	200	

100-4A
10-29-02

ESTIMATE REFERENCE INFORMATION

Item No.	Item Code	Description
1	2602-0000150	STABILIZED CONSTRUCTION ENTRANCE, EC-303
-	-	-
2	2602-0000212	FLOATING SILT CURTAIN (HANGING)
-	-	-
3	2602-0000240	MAINTENANCE OF FLOATING SILT CURTAIN
-	-	-
4	2602-0000312	PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE, 12 IN. DIA. Item is included for temporary perimeter sediment control, inlet protection, and water velocity reduction on slopes at locations to be determined during construction. Verify specific locations with the Engineer prior to beginning placement.
-	-	-
5	2602-0000351	REMOVAL OF PERIMETER AND SLOPE OR DITCH CHECK SEDIMENT CONTR OL DEVICE
-	-	-

100-10
10-21-14

FLOATING SILT CURTAINS

Refer to EC-202

Station	Hanging	Containment	Clean-out (Containment)	Maintenance of Floating Silt Curtain	Remarks
	LF	LF	LF	LF	
140+15.00	200.0			100.0	
Total	200.0			100.0	

282-1
10-19-10

RESTRICTED STREAM ACCESS

A low water crossing for the Contractor's convenience is not allowed on this project. Stream bank disturbance and access to Fabius Creek is not allowed unless specifically designated in the plans. No other access will be allowed.

281-3
10-17-17

STORM WATER BEST MANAGEMENT PRACTICES

When the following best management practices are used, they are intended to account for disturbed areas where storage volume cannot be provided: Floating Silt Curtains, PSSCD, Seeding

111-25
10-18-11

INDEX OF TABULATIONS

Tabulation	Tabulation Title	Sheet No.
RC Sheets		
100-1A	ESTIMATED PROJECT QUANTITIES (1 DIVISION PROJECT)	RC.1
100-4A	ESTIMATE REFERENCE INFORMATION	RC.1
100-10	FLOATING SILT CURTAINS	RC.1
105-4	STANDARD ROAD PLANS	RC.1
111-25	INDEX OF TABULATIONS	RC.1
232-3A	EROSION CONTROL (RURAL SEEDING)	RC.1
232-3C	EROSION CONTROL (NATIVE GRASS SEEDING)	RC.1
281-1	SECTION 404 PERMIT AND CONDITIONS	RC.1
281-3	STORM WATER BEST MANAGEMENT PRACTICES	RC.1
282-1	RESTRICTED STREAM ACCESS	RC.1

105-4
10-18-11

STANDARD ROAD PLANS

The following Standard Road Plans apply to construction work on this project.

Number	Date	Title
EC-202	10-21-14	Floating Silt Curtain
EC-204	04-20-21	Perimeter, Slope and Ditch Check Sediment Control Devices
EC-303	10-20-20	Stabilized Construction Entrance
EC-502	04-21-15	Seeding in Rural Areas

232-3A
10-19-21

EROSION CONTROL (RURAL SEEDING)

Area to be seeded is estimated to be less than 1 acre. If the contractor determines the area exceeds 2 acres, notify the Engineer. Approved quantity in excess of 2 acres will be paid for as extra work according to Article 1109.03,8 of the Standard Specifications.

Following the completion of work in a disturbed area and according to the seeding dates in Section 2601 of the Standard Specifications, place seed, fertilizer, and mulch on the disturbed area lying 8 feet adjacent to shoulder and median as follows:

Place seed and fertilize according to the requirements of Article 2601.03,C,3 and Section 4169 of the Standard Specifications.

Place mulch according to the requirements of Articles 2601.03,E,2,a and 4169.07,A of the Standard Specifications.

Preparing the seedbed, furnishing and applying seed, fertilizer, and mulch are all incidental to mobilization and will not be paid for separately.

281-1
10-18-16

SECTION 404 PERMIT AND CONDITIONS

Construct this project according to the requirements of U.S. Army Corps of Engineers Nationwide, Permit No.3. A copy of this permit is available from the Iowa DOT website (<http://www.envpermits.iowadot.gov/>). The U.S. Army Corps of Engineers reserves the right to visit the site without prior notice.

LINE STYLE LEGEND OF EROSION CONTROL SHEETS

LINETYPE	Design Element
	Silt Fence
	Perimeter and Slope Sediment Control Device (9")
	Perimeter and Slope Sediment Control Device (12")
	Perimeter and Slope Sediment Control Device (20")
	Open-Throat Curb Intake Sediment Filter
	Concentrated Flow
	Rock Check and Rock Check Dam
	Sheet Flow

PLAN VIEW COLOR LEGEND OF EROSION CONTROL SHEETS

LINWORK	Design Color No.	
Green	(2)	Existing Topographic Features and Labels
Blue	(1)	Proposed Alignment, Stationing, Tic Marks, and Alignment Annotation
Magenta	(5)	Existing Utilities
Black	(0)	Permanent Erosion Control Features
Blaze Orange	(222)	Temporary Erosion Control Features

SHADING	Design Color No.		Transparency
Citron	(234)	Mulching, All Types	50%
Light Brown	(238)	Special Ditch Control, Wood Excelsior Mat	0%
Grass Green	(233)	8FT Mow Strip	50%
Red	(3)	Delineates Restricted Areas	0%

CELL LEGEND OF EROSION CONTROL SHEETS

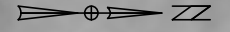
CELL	Design Element
	Temporary Sediment Control basin
	Erosion Control for Circular Intake or Manhole Well
	Erosion Control for Rectangular Intake or Manhole Well
	Grate Intake Sediment Filter Bag
	Silt Basin
	Silt Fence Tail
	Stormwater Drainage Basin Discharge Point

PATTERN LEGEND OF EROSION CONTROL SHEETS

	Seeding and Fertilizing		Turf Reinforcement Mat Type 1
	Seeding and Fertilizing (Rural)		Turf Reinforcement Mat Type 2
	Seeding and Fertilizing (Urban)		Turf Reinforcement Mat Type 3
	Native Grass Seeding		Turf Reinforcement Mat Type 4
	Salt Tolerant Seeding		Slope Protection, Wood Excelsior Mat
	Wetland Grass Seeding		Transition Mat
	Wildflower Seeding		Rock Features, Permanent
	Sodding		Rock Features, Temporary

EROSION CONTROL LEGEND AND SYMBOL INFORMATION SHEET

(COVERS SHEET SERIES R)



FABIUS CREEK

Proposed Floating Silt Curtain

US 63

UTL

US 63

