LETTING DATE
July 21 2026

Bridge Deck Overlay
BRF-061-5(151)--38-82

SCOTT COUNTY

Index of Sheets

No.	Description
Bridge Sheets	Bridge Plan
A.1	Title Sheet
A.2	Location Map Sheet
V.1	Estimated Quantities - Design 0127
V.1 - V.18	Design 0127
V.19	Estimated Quantities - Design 0227
V.19 - V.37	Design 0227
Road Sheets	Road Plan
A.3 - U.2	Road Plans
C.1 - C.2	Estimated Quantities - Road
C.7	Standard Plans - Road

IOWA | DOT

Revisions

TOTAL	59
PROJECT IDENTIFICATION NUMBER	
22-82-061-020	
PROJECT NUMBER	
BRF-061-5(151)--38-82	
R.O.W. PROJECT NUMBER	
PROJECT DIRECTORY NUMBER	
8206102022	

PLANS OF PROPOSED IMPROVEMENT ON THE

PRIMARY ROAD SYSTEM
SCOTT COUNTY
Bridge Deck Overlay

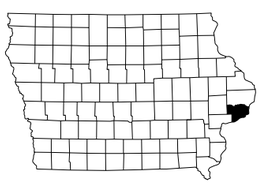
US 61 over 210th Street
1.1 mi N. of Jct I-80

Refer to the Plan Sheets for list of applicable specifications.

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

IOWA ONE CALL
1-800-292-8989
www.iowaonecall.com
811 Know what's below. Call before you dig.

Iowa DOT Bridges and Structures Bureau
Consultant Reviewer: Mike Vander Wert



Standard Road Plans

Standard Road Plans are listed on Sheet Number C.7

Design Data Urban

Refer to individual Situation Plans for Traffic Data information.

Index Of Seals

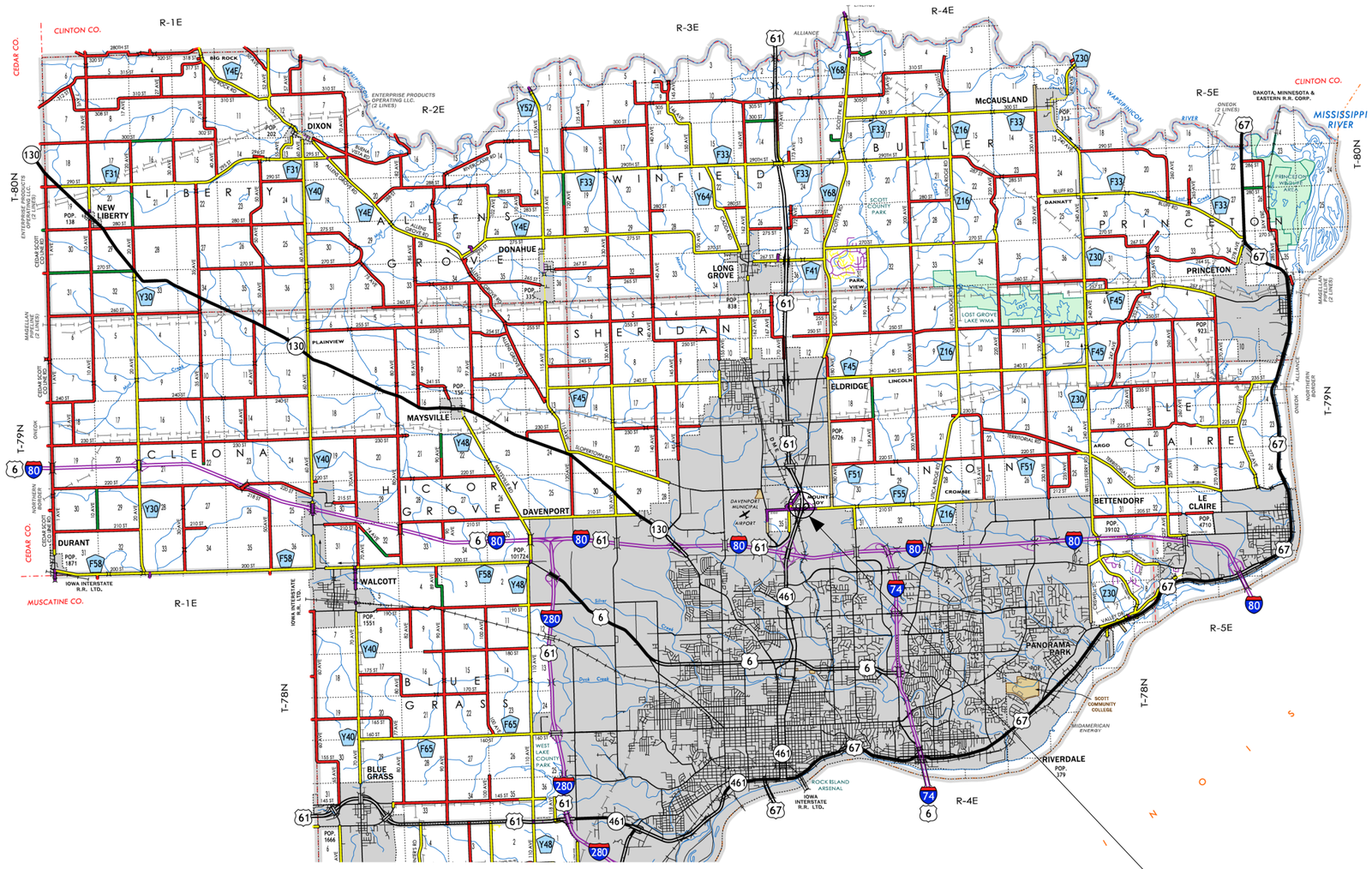
Sheet No.	Name	Type
A.1	Dallas R. Schechinger	Structural Design
A.3	Seth Morling	Roadway Design

Structural Design

LICENSED PROFESSIONAL ENGINEER
Dallas R. Schechinger
20298
IOWA

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 — Date 4/14/2026
Dallas R. Schechinger
Printed or Typed Name
My license renewal date is December 31, 2026
Pages or sheets covered by this seal: A.1, A.2, V.1 thru V.37



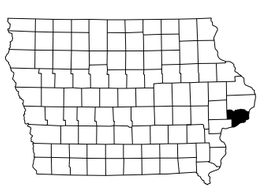
LEGEND

- 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 — ABBEY ROAD
- UNINCORPORATED PLACE — ELWOOD
- STATE PARKS
- STATE INSTITUTIONS
- FEDERAL LAND

Scott County Location Map

Not To Scale

Design Nos. 0127 (NB), 0227 (SB)
FHWA Nos. 604650 (NB), 604655 (SB)



FILE NO. 32417	ENGLISH	DESIGN TEAM Stanley Consultants, Inc.	SCOTT COUNTY	PROJECT NUMBER BRF-061-5(151)--38-82	SHEET NUMBER A.2

4:57:56 PM 4/10/2026 10117 pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\8206102022\Bridge\(151)_Bridge Deck Replacement\SHT_82061151_Stanley_0127_604650_Z11.dgn

Estimate Bridge Repair Quantities and Reference Notes – Design No. 127

Item No.	Item Code	Item	Unit	Quantities Estimated Design No. 127	Estimate Reference Notes
1	2401-6750001	Removals, as per Plan	LS	1.0	Includes all work for removal and off-site disposal of concrete abutment diaphragms, portions of the deck, sliding plate joints and portions of the abutment backwalls and barrier rails. Removal of scheduled items shall be in accordance with Section 2401, of the Standard Specifications. Any damage to material not to be removed shall be the responsibility of the Contractor and repaired at no extra cost to the state.
2	2403-0100000	Structural Concrete (Misc.)	CY	31.9	Includes all installation cost for dowels. Includes furnishing and installing preformed joint material. Includes furnishing and installing 1 inch diameter plastic conduit. Includes costs of labor and materials associated with excavation and granular backfill required for the removal and replacement of the paving notch and portion of the backwall. Includes labor, equipment, and materials required to replace or relocate the conduit expansion devices in the barrier rails as necessary at the southeast and northeast corners. Electrical and conduit work shall be in accordance with Section 2523 of the Standard Specifications.
3	2404-7775005	Reinforcing Steel, Epoxy Coated	LB	4,010	---
4	2404-7775009	Reinforcing Steel, Stainless Steel	LB	139	---
5	2413-0698074	Deck Repair, Class A	SY	228.8	---
6	2413-0698075	Deck Repair, Class B	SY	114.4	---
7	2413-1200000	Steel Extrusion Joint With Neoprene	LF	84.8	Includes all necessary hardware and accessories including the anchorage system, temporary erection material and the 3/8" steel curb plates with their anchorage system. Excludes installation of neoprene gland.
8	2413-1200100	Neoprene Gland Installation And Testing	LF	84.8	Includes installation of neoprene gland and water testing of joint.
9	2508-0970000	Containment	LS	1.0	---
10	2508-0991000	Painting Structural Steel	LS	1.0	Includes cleaning and painting of abutment bearings and portions of the steel girders as shown in these plans. Includes bridge cleaning for painting and blast cleaning of structural steel. Color shall match existing paint color of steel beam. The Contractor shall supply a color sample for review and approval prior to painting.
11	2533-4980005	Mobilization	LS	1.0	---
		Alternate AA Option 1			
12	2413-0698066	Deck Overlay (Class O PCC)	SY	1,144.2	Includes cleaning existing concrete at barrier rails, abutment seats, abutment wash areas, and abutment backwalls. Includes furnishing and placing concrete sealer at barrier rails, abutment seats, abutment wash areas, and abutment backwalls.
		Alternate AA Option 2			
13	2403-1000010	Trial Batch and Test Placement	LS	1.0	Refer to Developmental Specification for Fiber Reinforcement for Structural Concrete.
14	2413-0698067	Deck Overlay (Fiber-Reinforced Class HPC-O PCC)	SY	1,144.2	Includes cleaning existing concrete at barrier rails, abutment seats, abutment wash areas, and abutment backwalls. Includes furnishing and placing concrete sealer at barrier rails, abutment seats, abutment wash areas, and abutment backwalls. Refer to Developmental Specification for Fiber Reinforcement for Structural Concrete.
15	2413-1000005	Fiber Reinforcement for Concrete Repair/Overlay	SY	1,144.2	Refer to Developmental Specification for Fiber Reinforcement for Structural Concrete.

Roadway Quantities shown elsewhere in these plans.

Design For Repairs To 12°04'33.30" Skew RA

260'-0"×40'-0" Welded Plate Girder Bridge

67'-6" End Spans 125'-0" Interior Span

Estimated Bridge Quantities

STA. 478+93.08 (US 61) Turn-in Date: May 2026

Scott County

IOWA DEPARTMENT OF TRANSPORTATION

Design No. 0127 Design Sheet No. 1 of 18 FHWA No. 604650

General Notes:

This design is for repairs to the existing 260'-0" × 40'-0" Continuous Welded Girder Bridge located on northbound US 61 over 210th St. in Scott County. Electronic copies of original design plans will be made available to the Contractor as part of the e-files supplied with the contract documents.

See Design Sheet 3 for list of repairs.

Faint lines on plans indicate the existing structure.

All connecting dimensions and elevations used in the new details in these plans were developed based on the existing bridge plans. The Bridge Contractor shall field verify these details before starting construction.

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

Minimum clear distance from face of concrete to near reinforcing bar is to be 2" unless otherwise noted or shown.

These bridge plans label all reinforcing steel with english notation (5a1 is ⅝ inch diameter bar). English reinforcing steel received in the field may display the following "Bar Designation". The "Bar Designation" is the stamped impression on the reinforcing bars, and is equivalent to the bar diameter in millimeters.

English Size	3	4	5	6	7	8	9	10	11
Bar Designation	10	13	16	19	22	25	29	32	36

All reinforcing bars and bars noted as dowels supplied for this structure shall be deformed reinforcement unless otherwise noted or shown.

The top and interior faces of the existing concrete railing are to be cleaned and sealed in accordance with Article 2403.03, P, of the Standard Specifications. If new sections of rail are constructed, the new sections shall not be sealed. All costs associated with cleaning and sealing of the concrete rails shall be include in the unit price bid item "Bridge Deck Overlay".

In addition to the requirements of Article 2413.03, G, of the Standard Specifications, both exposed abutment backwalls, bridge seats, and wash surfaces shall have an application of concrete sealer in accordance with Article 2403.03, P, 3, of the Standard Specifications.

Keyway dimensions shown on the plans are based on nominal dimensions unless stated otherwise. In addition, the bevel used on the keyway shall be limited to a maximum of 10 degrees from vertical.

The lump sum bid for "Removals, as Per Plan" shall include all costs associated with removing the concrete abutment diaphragms, portions of the deck, abutment backwalls, paving notches sliding plate joints and portions of the barriers. Removal of scheduled items shall be in accordance with Section 2401 of the Standard Specifications. Any damage to any steel or concrete not to be removed shall be the responsibility of the Contractor and repaired at no extra cost to the State.

No preliminary deck survey is shown. The plan quantity for "Class A Bridge Deck Repair" is estimated as 20% of the total deck area. The actual quantity is determined by the Engineer after the surface course has been removed. Actual spalled and hollow areas as determined by the Engineer shall be repaired.

No preliminary deck survey is shown. The plan quantity for "Class B Bridge Deck Repair" is estimated as 10% of the total deck area. The actual quantity is determined in the field by the Engineer. Actual areas as determined by the Engineer shall be repaired.

Present deck thickness is about 8 inches. The Contractor shall exercise care in removing concrete in order to prevent unnecessary unbonding of reinforcing steel.

Bars indicated as dowels shall be set in drilled holes. Holes are to be 10"deep. The dowels shall be installed in accordance with the manufacturer's recommendations. Either of the following systems may be used as a bonding agent for vertical dowels, but only system "A" may be used for horizontal dowels:

A. Polymer grout system in accordance with article 2301.03, E, of the Standard Specifications.

B. Hydraulic cement grout systems. Drilled holes are to be 2½ times the dowel diameter and are to be blown clean with compressed air immediately prior to placing grout. The hydraulic cement grout shall be one of those approved in materials I.M. 491.13 and shall be used in accordance with the manufacturer's recommendations.

Ready mix trucks are not allowed on the prepared portion of the bridge deck.

Construction Stages I & II as detailed on these plans may be reversed at the Contractor's option subject to the Engineer's approval.

It is the intent of these plans to reuse the existing steel shear studs on top of the girders. The contractor shall exercise care not to damage these shear studs during the partial removal of the concrete deck operation. Any replacement of damaged shear studs will be as directed by the engineer and repaired at no cost to the state

The tops of the abutment backwalls as shown shall be constructed using structural concrete Class C. Promptly after the concrete has been placed and vibrated as provided in Articles 2403.03, C, and 2403.03, D, of the Standard Specifications, it shall be hand finished to provide a smooth surface with the proper crown. The Contractor may elect to use formwork which is marked or trimmed to the correct elevation and crown to provide the limits for the hand finishing.

Upon completion of the removal of concrete down to the classification line, the Engineer shall determine the areas of bridge deck to be repaired as "Deck Repair, Class A". Actual hollow areas, as determined by the Engineer, shall be repaired.

Utility Companies whose facilities are shown on the plans or known to be within the construction limits shall be notified by the Bridge Contractor of the starting date.

Surface raise, as shown on the plans, shall be considered a minimum. In order to limit the additional dead load surface raise shall be restricted to a maximum of ½" more than shown on the plans. Profile may be adjusted to the extent possible within these limits.

Scrape samples were taken from several areas of this bridge to get an indication of the existence of and level of total lead and total chromium. Analysis of total lead and total chromium on these samples were:

Location:	Total Lead	Total Chromium
Expansion Plate	2,000 PPM	840 PPM
Girder	3,040 PPM	329 PPM
Abutment Bearing	2,410 PPM	298 PPM

These analyses show the existence of these two toxic constituents. Levels indicated by these tests could create conditions above regulatory limits for health and safety requirements. No other constituents were analyzed. The bidder should not rely on the Iowa Dot's testing and analysis for any purpose other than as an indication of the existence of these two toxic constituents.

The lump sum bid for "Painting Structural Steel" shall include the cost of preparing all the existing structural steel for painting (including bearings) and field painting existing structural steel as noted in these plans. Cleaning and painting shall be in accordance with section 2508, of the standard specifications. An epoxy paint system shall be used.

Containment and disposal of waste shall be in accordance with section 2508, of the Standard Specifications. All costs associated with hauling and depositing of waste at the designated site/facility shall be the responsibility of the contractor and included in the contract price bid for the "containment" item.

Pollution Prevention Plan shown elsewhere in these plans.

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

Specifications:

Design:

AASHTO series of 2002.

Construction:

Iowa Department of Transportation Standard Specifications for Highway and Bridge Construction, Series 2023, plus applicable General Supplemental Specifications, Developmental Specifications, Supplemental Specifications and Special Provisions shall apply to construction work on this project.

- Development Specification for Fiber Reinforcement of Structural Concrete.

Design Stresses:

Design stresses for the following materials are in accordance with the AASHTO Standard Specifications for Highway Bridges, Series of 2002.

Reinforcing steel in accordance with Section 8, Grade 60.
Concrete in accordance with Section 8, f'c = 4.0 ksi.

During construction of this project the bridge contractor will be required to coordinate operations with those of other contractors working within the same area. Other work in progress during the same period of time will include, but is not limited to, construction of the following projects:

- BRF-061-5(153)--38-82
- BRF-061-5(157)--38-82
- NHSX-061-5(156)--3H-82

Working Drawing and Calculation Submittals

Working drawings and calculations shall be submitted for the following items shown in the table below. (Note additional working drawings and calculations may be required in accordance with Article 1105.03 of the Standard Specifications.)

Submittal requirements for working drawings and calculations shall be in accordance with 1105.03 of the Standard Specifications for Highway and Bridge Construction of the Iowa Department of Transportation. The absence of a certification requirement for a submittal does not relieve the Contractor of the responsibility to attain certification.

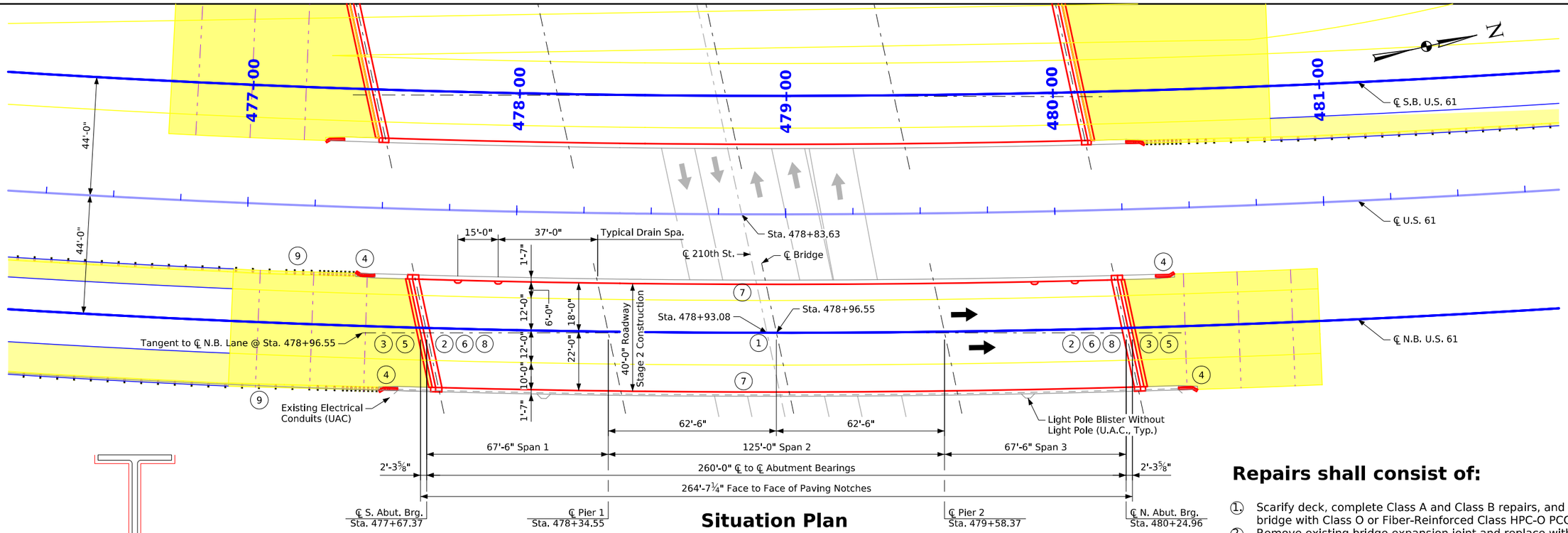
Calculation submittals in this table which are associated with working drawing submittals shall be submitted on the same day. Review time for calculation submittals shall be of the same duration as and run concurrently with review time for associated working drawings. The calculation submittals listed in the table are not meant to be an exhaustive list and do not relieve the Contractor from providing additional calculation submittals if requested by the Engineer.

No.	Working Drawing Description	Working Drawing File Name Convention For Submittal	Certified by Iowa P.E. (Yes/No)
1	Expansion Device and Curb Plates	(151)_Scott_Design127_ExpansionDevice.pdf	No
X			
X			
X			
X			
No.	**Calculation Description**	**Calculation File Name Convention For Submittal**	**Certified by Iowa P.E. (Yes/No)**
X			
X			
X			
X			

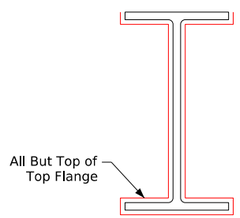
Design History at this Site
(Includes this Design)

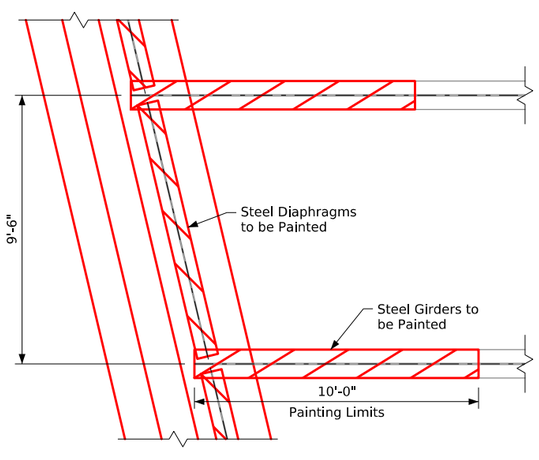
Des. No.	Type of Work
1080	Original Design
127	Bridge Deck Overlay

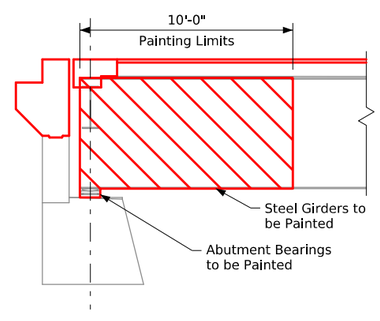
Design For Repairs To 12°04'33.30" Skew RA
260'-0"×40'-0" Welded Plate Girder Bridge
67'-6" End Spans 125'-0" Interior Span
General Notes
STA. 478+93.08 (US 61) Turn-in Date: May 2026
Scott County
IOWA DEPARTMENT OF TRANSPORTATION
Design No. 0127 Design Sheet No. 2 of 18 FHWA No. 604650



Situation Plan



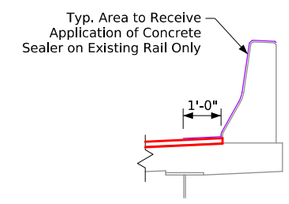




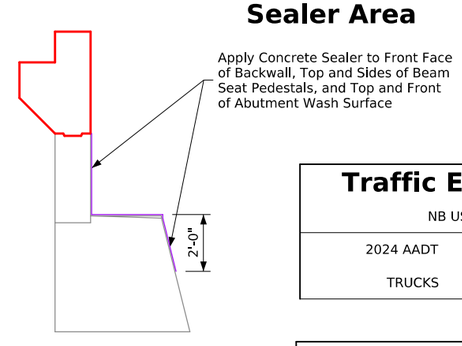
Note:
Clean and zone paint the beam ends, diaphragm, and bearings at each abutment. The painting zone should extend 10' from the beam ends.

Limits of Painting Structural Steel

Note: Details and limits of cleaning and painting shown above are typical for all 5 beams at both abutment ends.



Detail of Concrete Sealer Area



Abutment Concrete Sealer Details

Repairs shall consist of:

1. Scarify deck, complete Class A and Class B repairs, and overlay bridge with Class O or Fiber-Reinforced Class HPC-O PCC.
2. Remove existing bridge expansion joint and replace with new strip seal joint at both abutments.
3. Remove and replace paving notches and top of backwalls at both abutments.
4. Increase height of barrier rail end sections to be 34" tall after the grade raise.
5. ✱ Remove and replace approaches with 70' standard bridge approaches.
6. Clean and paint bearings and girders ends.
7. Seal top and inside face of barrier rails and barrier rail end sections to remain.
8. Seal abutment bearing seats and backwalls.
9. ✱ Replace guardrail at south end of bridge to meet current standards and adjust for grade raise.

✱ Note: Refer to roadway plans for additional information

Location

N.B. US 61 over 210th St
T-79N R-3E
Section 25 & 36
Sheridan Township
Scott County
FHWA No. 604650
Bridge Maint. No. 8224.1R061
Latitude 41.610603°
Longitude -90.563190°

Traffic Estimate

NB US 61

2024 AADT	16,450 V.P.D.
TRUCKS	11 %

Traffic Estimate

210th St.

2024 AADT	5,540 V.P.D.
TRUCKS	6 %

Design For Repairs To 12°04'33.30" Skew RA

260'-0"×40'-0" Welded Plate Girder Bridge

67'-6" End Spans — 125'-0" Interior Span

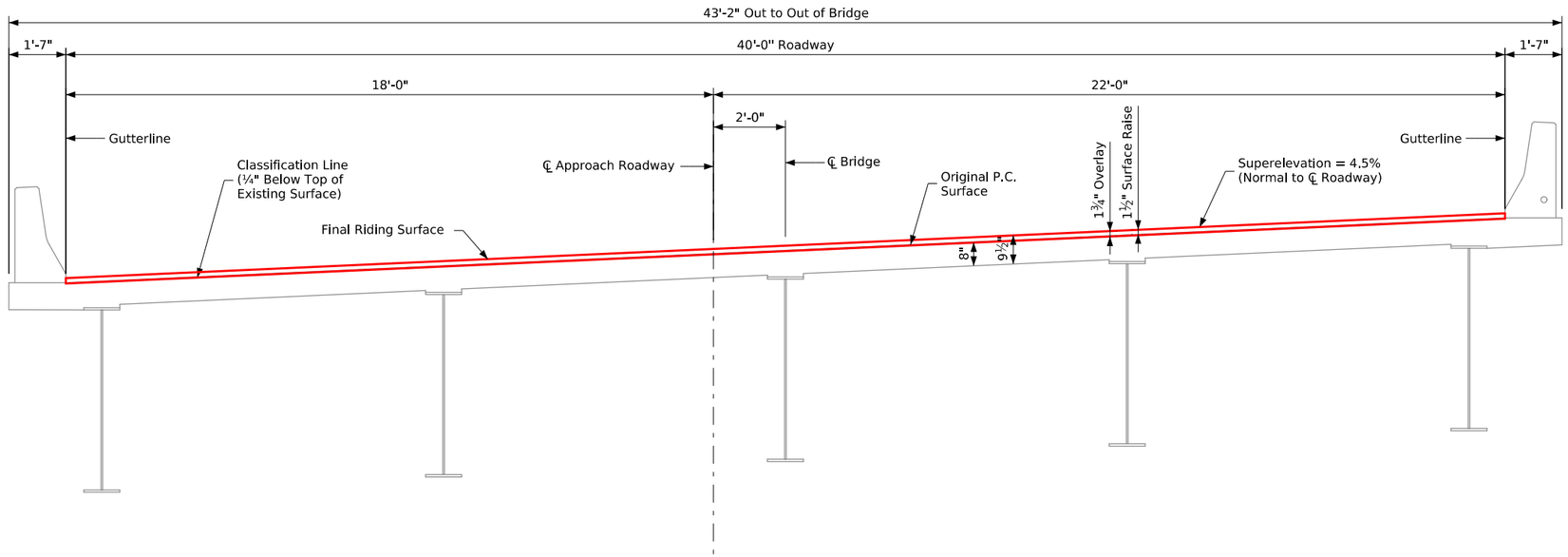
Situation Plan

STA. 478+93.08 (US 61) — Turn-in Date: May 2026

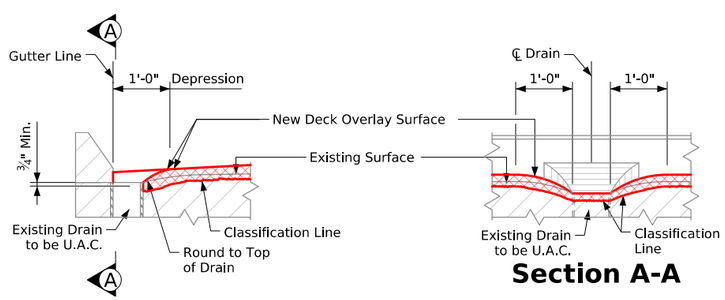
Scott County

IOWA DEPARTMENT OF TRANSPORTATION

Design No. 0127 — Design Sheet No. 3 of 18 — FHWA No. 604650

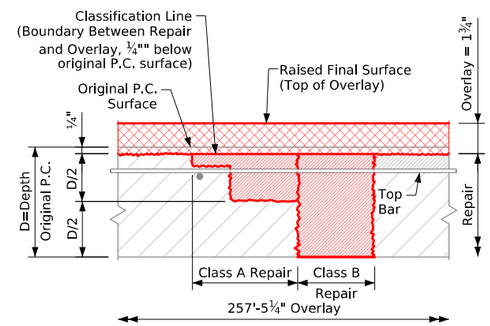


Typical Section
(Looking North)

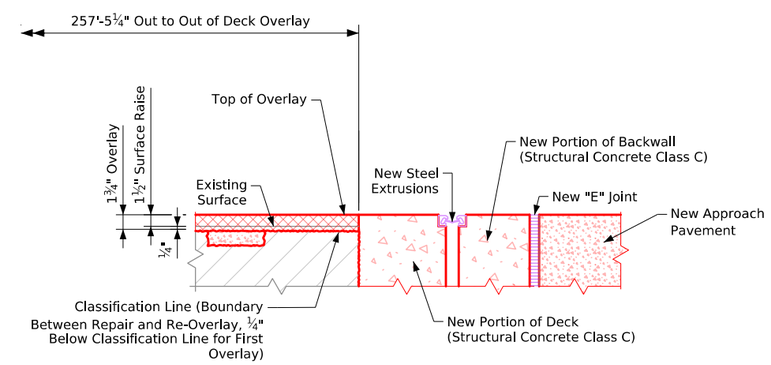


Section A-A

Deck Repair Detail at Drain
(Required at 4 Locations)



Repair and Overlay Definition



Part Longitudinal Section Along Roadway
Both Abutments

Design For Repairs To 12°04'33.30" Skew RA

260'-0"×40'-0" Welded Plate Girder Bridge

67'-6" End Spans — 125'-0" Interior Span

Deck Repair Details

STA. 478+93.08 (US 61) — Turn-in Date: May 2026

Scott County

IOWA DEPARTMENT OF TRANSPORTATION

Design No. 0127 — Design Sheet No. 4 of 18 — FHWA No. 604650

FILE NO. 32417	ENGLISH	DESIGN TEAM Stanley Consultants, Inc.	SCOTT COUNTY	PROJECT NUMBER BRF-061-5(151)--38-82	SHEET NUMBER V.4

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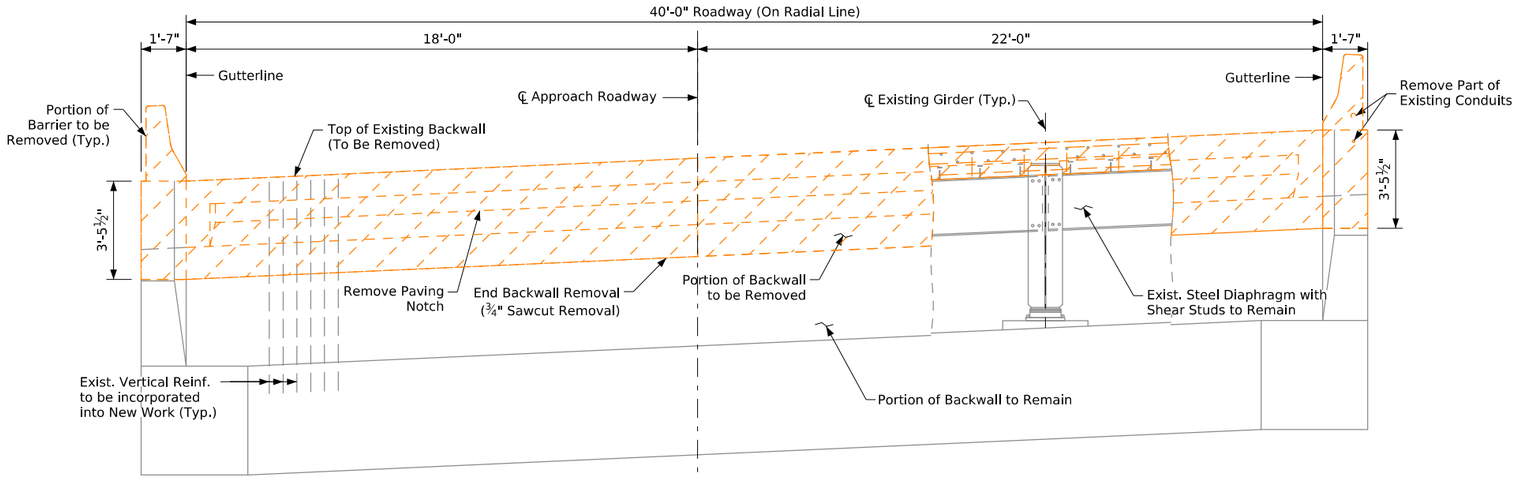
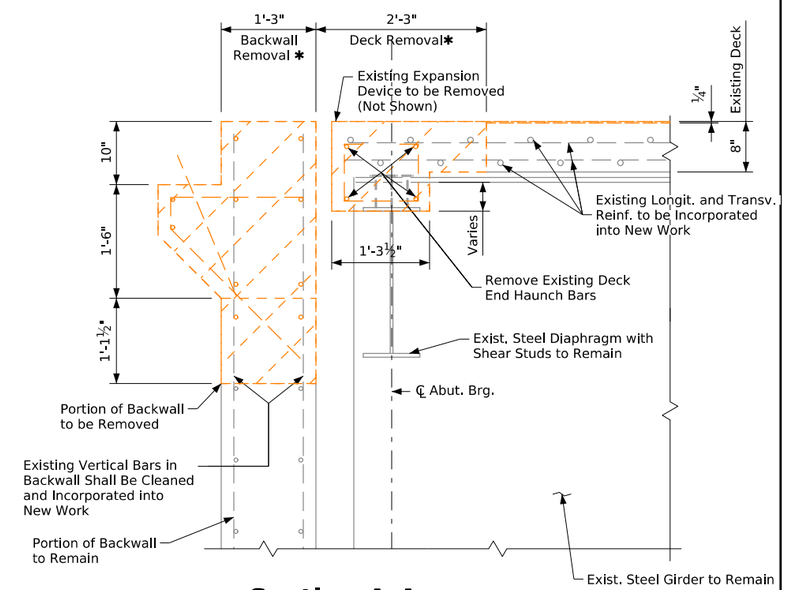
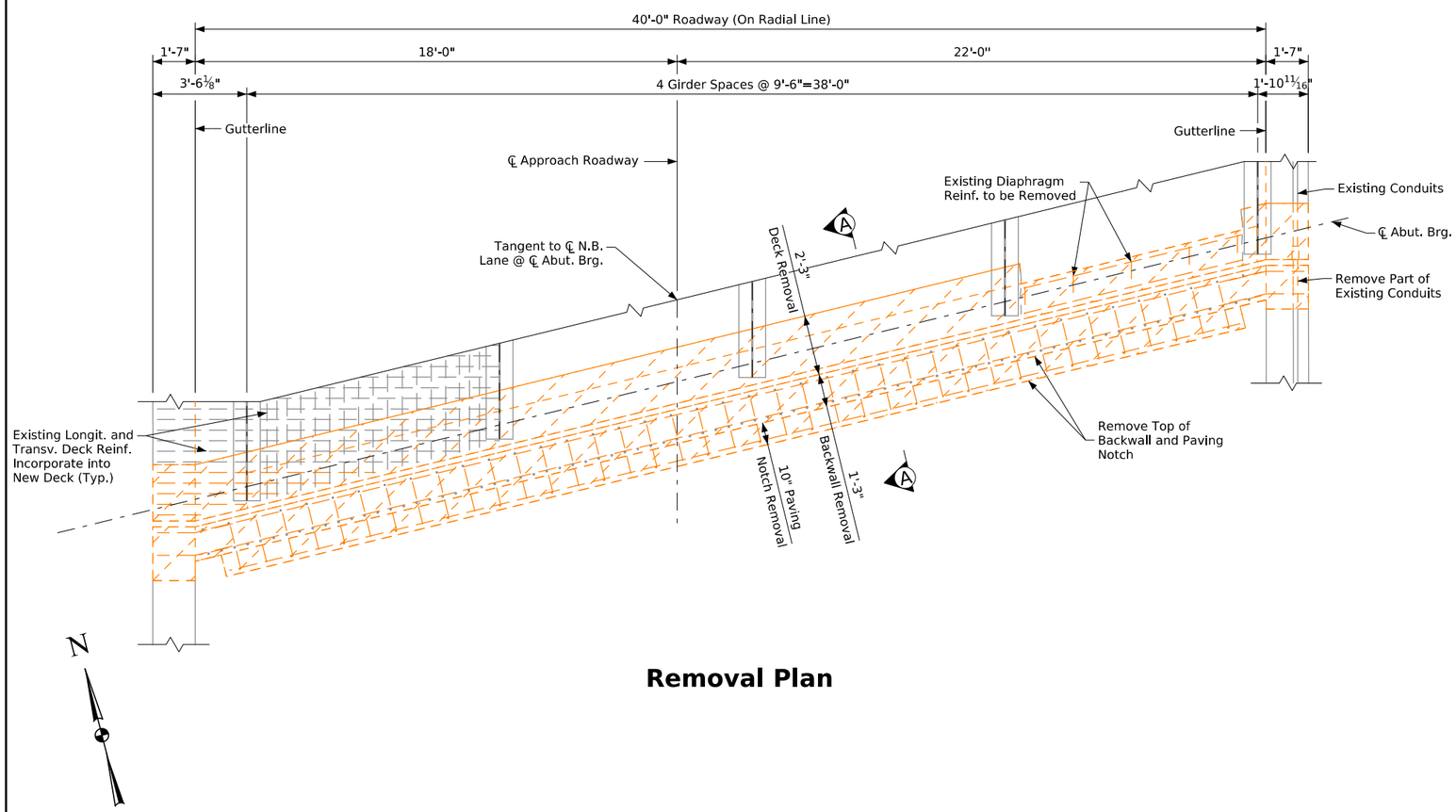


Abutment Backwall Rear Elevation
(Looking North)

✱ Measured Normal to Abutment



Section A-A



Removal Plan

Removal Notes:
Existing vertical bars in backwall, and longitudinal bars in deck shall be cleaned and incorporated into new work.
Cut all existing bars incorporated into new work as needed to maintain 2" clear. Bars or dowels to remain that are damaged or rendered unserviceable by removal operations shall be replaced by contractor at no extra cost.

Design For Repairs To 12°04'33.30" Skew RA

260'-0"×40'-0" Welded Plate Girder Bridge

67'-6" End Spans — 125'-0" Interior Span

South Abutment Removal Details

STA. 478+93.08 (US 61) — Turn-in Date: May 2026

Scott County

IOWA DEPARTMENT OF TRANSPORTATION

Design No. 0127 — Design Sheet No. 5 of 18 — FHWA No. 604650

FILE NO. 32417	ENGLISH	DESIGN TEAM Stanley Consultants, Inc.	SCOTT COUNTY	PROJECT NUMBER BRF-061-5(151)--38-82	SHEET NUMBER V.5

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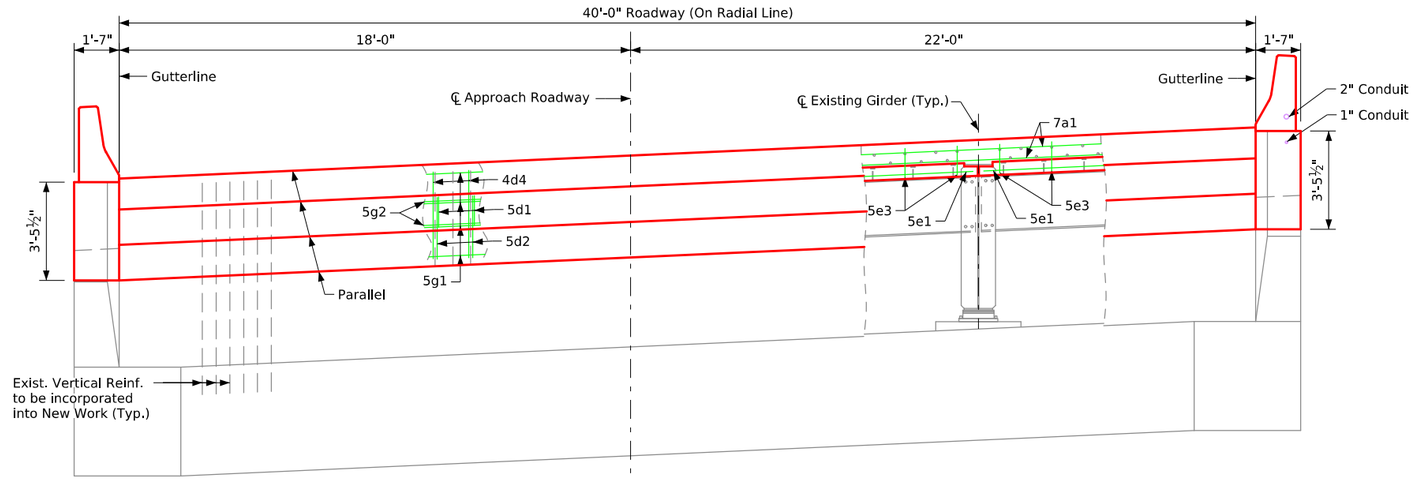
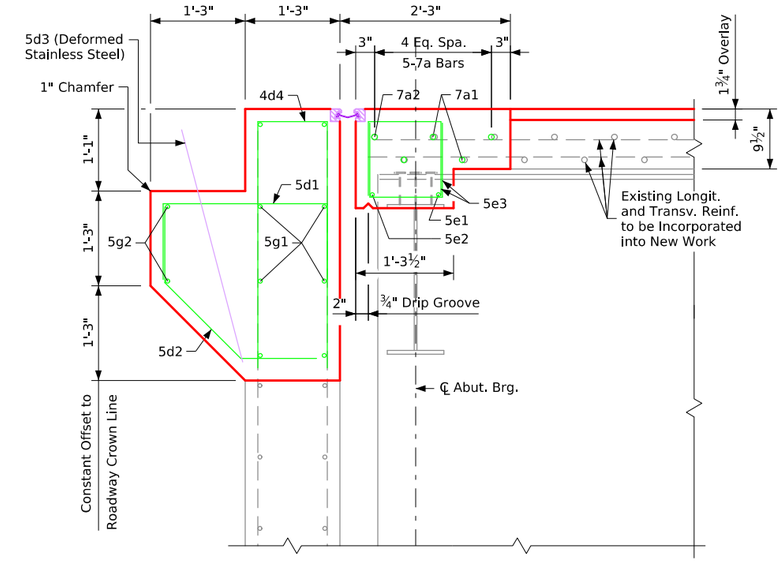
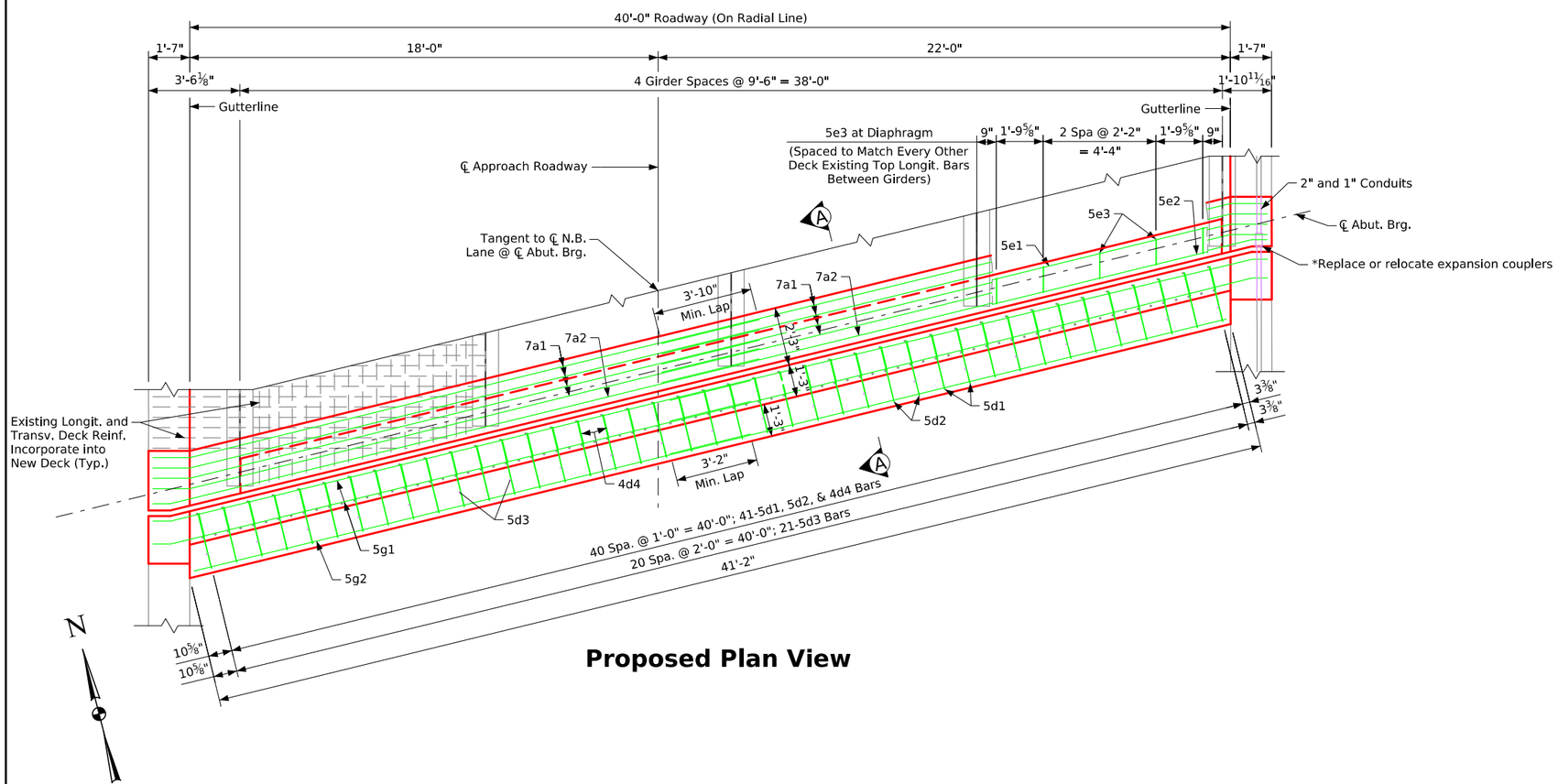


Proposed Abutment Backwall Rear Elevation
(Looking North)



Section A-A



Proposed Plan View

*Contractor shall replace or relocate expansion couplers as needed. This work shall be included in the bid price for "Structural Concrete (Misc.)".

Design For Repairs To 12°04'33.30" Skew RA

260'-0"×40'-0" Welded Plate Girder Bridge

67'-6" End Spans — 125'-0" Interior Span

South Abutment Details

STA. 478+93.08 (US 61) — Turn-in Date: May 2026

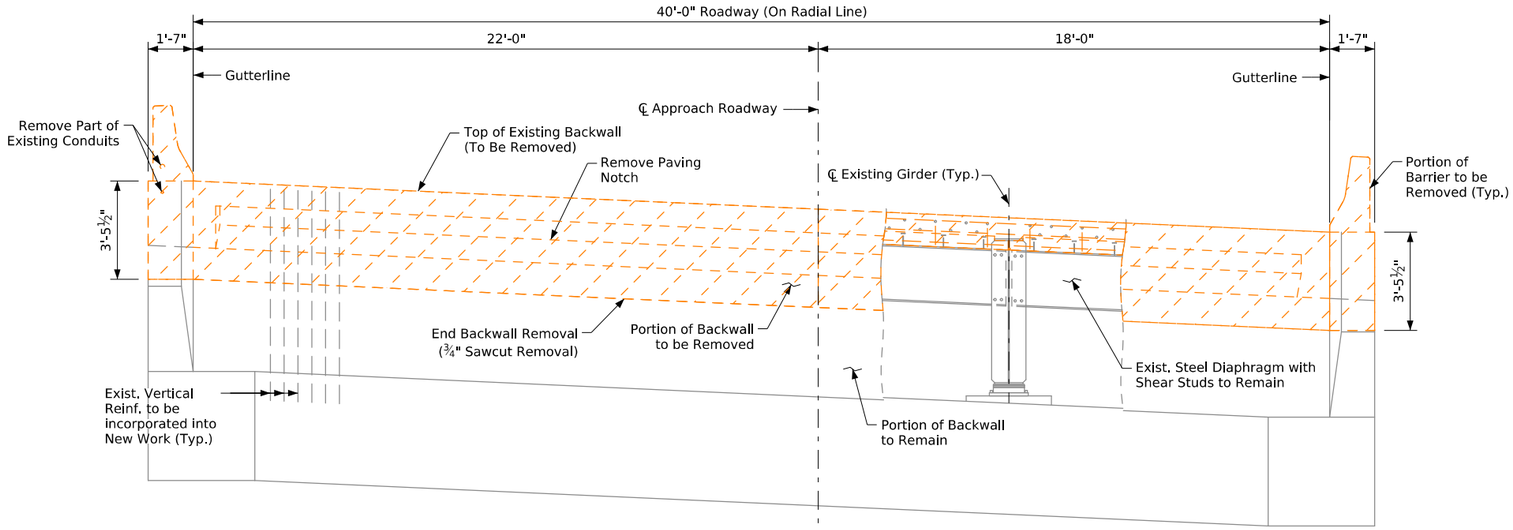
Scott County

IOWA DEPARTMENT OF TRANSPORTATION

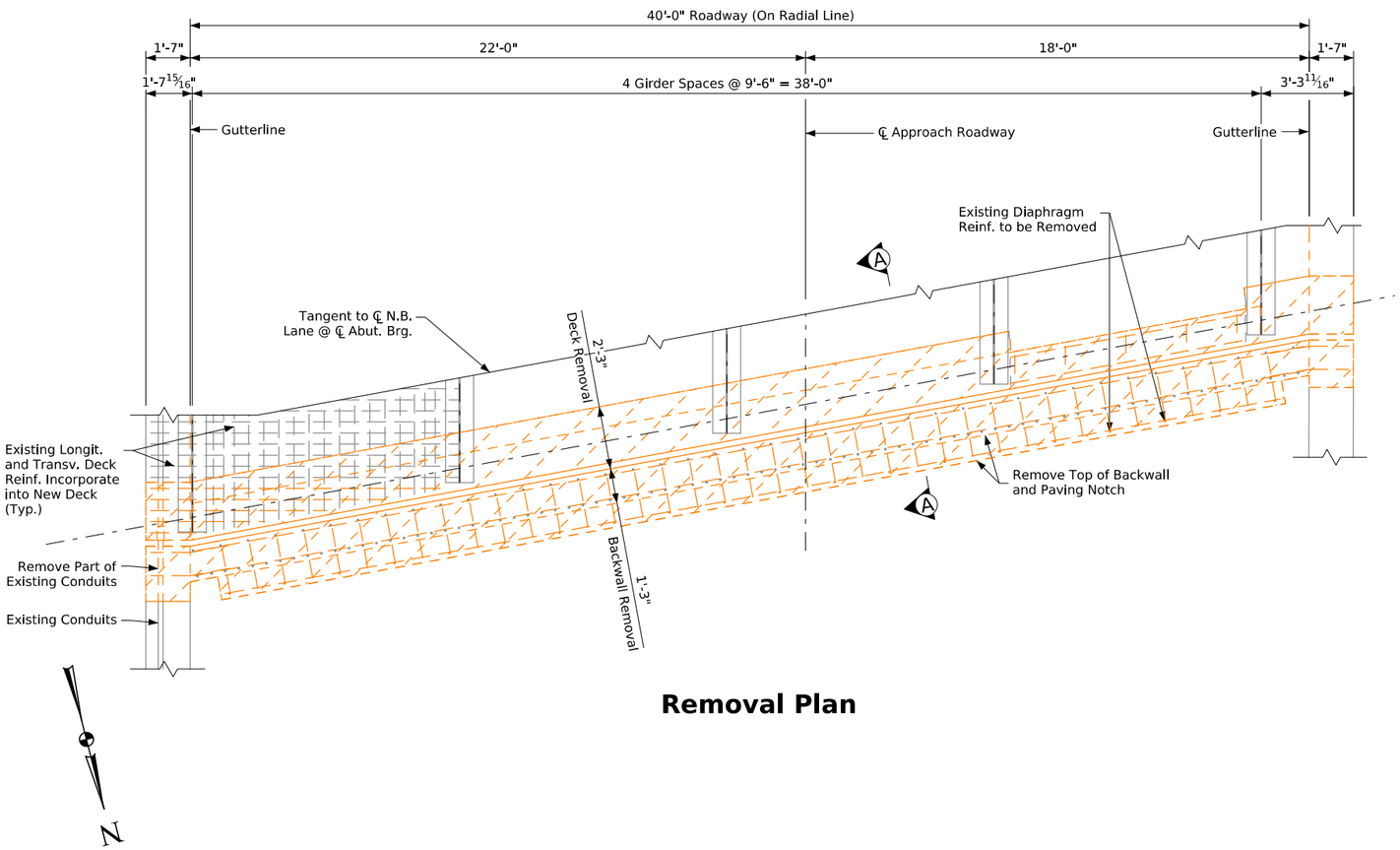
Design No. 0127 — Design Sheet No. 6 of 18 — FHWA No. 604650

FILE NO. 32417	ENGLISH	DESIGN TEAM Stanley Consultants, Inc.	SCOTT COUNTY	PROJECT NUMBER BRF-061-5(151)--38-82	SHEET NUMBER V.6

4:58:18 PM 4/10/2026 10117 pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\8206102022\Bridge\(151)_Bridge Deck Replacement\SHT_82061151_Stanley_0127_604650_Z11.dgn

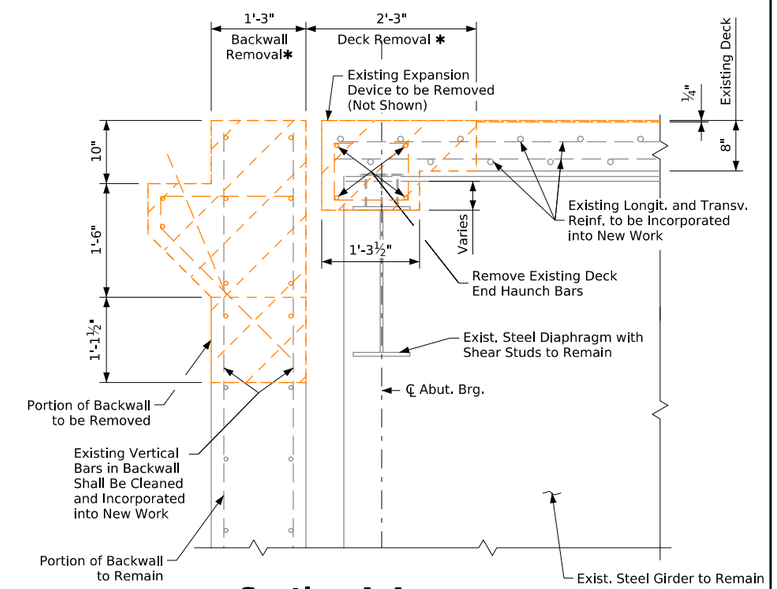


Abutment Backwall Rear Elevation
(Looking South)



Removal Plan

✱ Measured Normal to Abutment



Section A-A

Removal Notes:
Existing vertical bars in backwall, and longitudinal bars in deck shall be cleaned and incorporated into new work.
Cut all existing bars incorporated into new work as needed to maintain 2" clear. Bars or dowels to remain that are damaged or rendered unserviceable by removal operations shall be replaced by contractor at no extra cost.

Design For Repairs To 12°04'33.30" Skew RA

260'-0"×40'-0" Welded Plate Girder Bridge

67'-6" End Spans — 125'-0" Interior Span

North Abutment Removal Details

STA. 478+93.08 (US 61) — Turn-in Date: May 2026

Scott County

IOWA DEPARTMENT OF TRANSPORTATION

Design No. 0127 — Design Sheet No. 7 of 18 — FHWA No. 604650

FILE NO. 32417	ENGLISH	DESIGN TEAM Stanley Consultants, Inc.	SCOTT COUNTY	PROJECT NUMBER BRF-061-5(151)--38-82	SHEET NUMBER V.7

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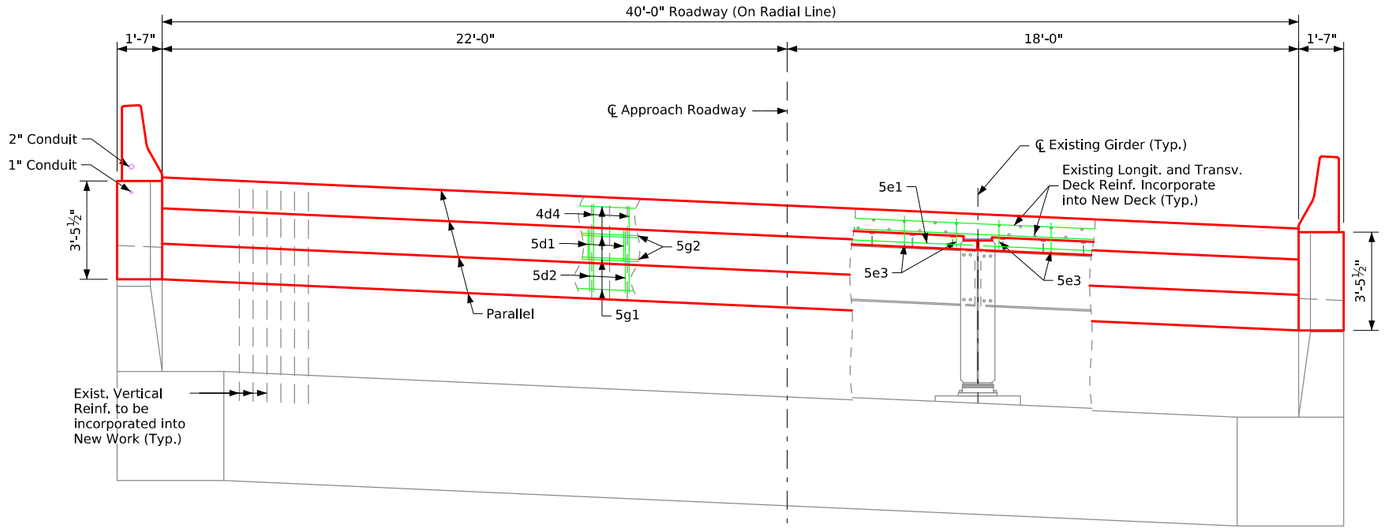
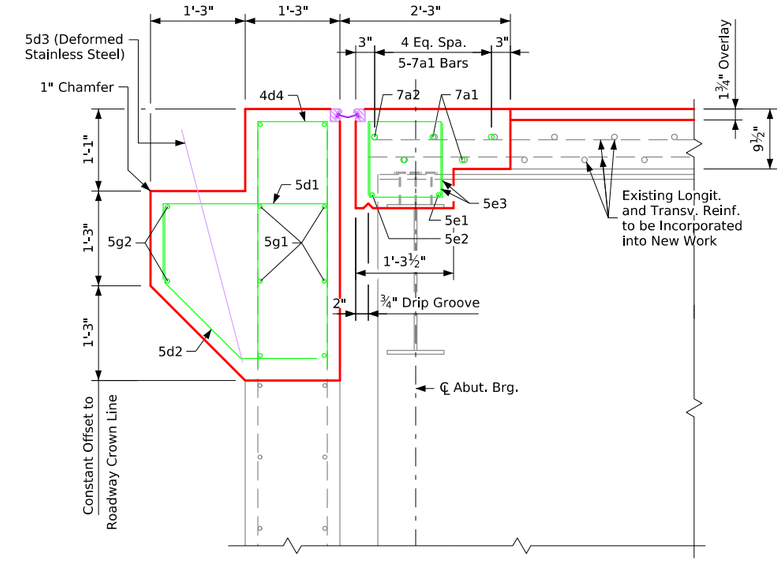
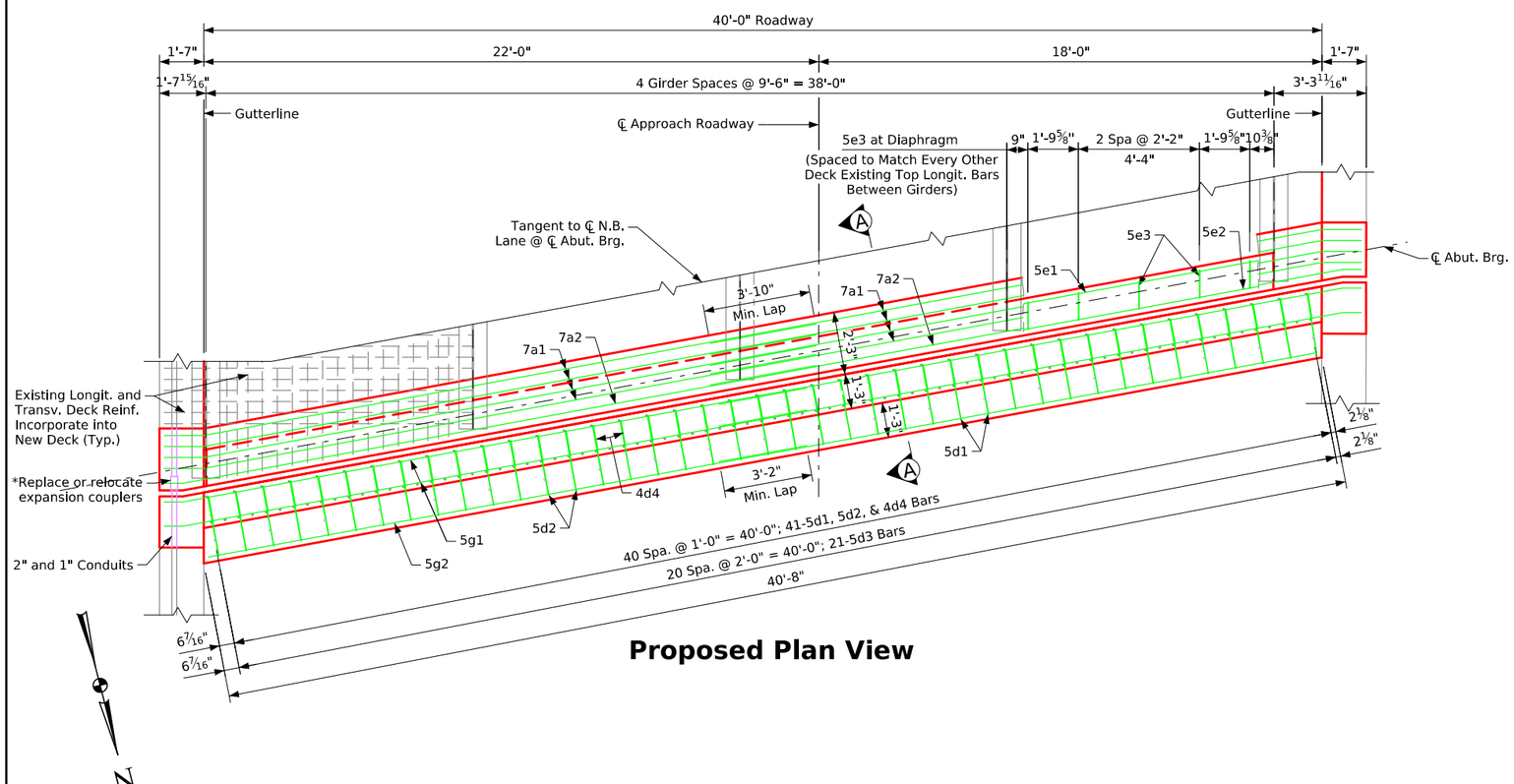


Proposed Abutment Backwall Rear Elevation
(Looking South)



Section A-A



Proposed Plan View

*Contractor shall replace or relocate expansion couplers as needed. This work shall be included in the bid price for "Structural Concrete (Misc.)".

Design For Repairs To 12°04'33.30" Skew RA

260'-0"×40'-0" Welded Plate Girder Bridge

67'-6" End Spans — 125'-0" Interior Span

North Abutment Details

STA. 478+93.08 (US 61) — Turn-in Date: May 2026

Scott County

IOWA DEPARTMENT OF TRANSPORTATION

Design No. 0127 — Design Sheet No. 8 of 18 — FHWA No. 604650

FILE NO. 32417	ENGLISH	DESIGN TEAM Stanley Consultants, Inc.	SCOTT COUNTY	PROJECT NUMBER BRF-061-5(151)--38-82	SHEET NUMBER V.8

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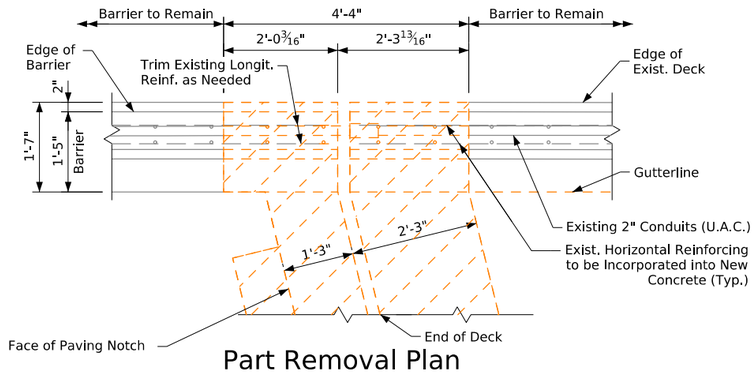
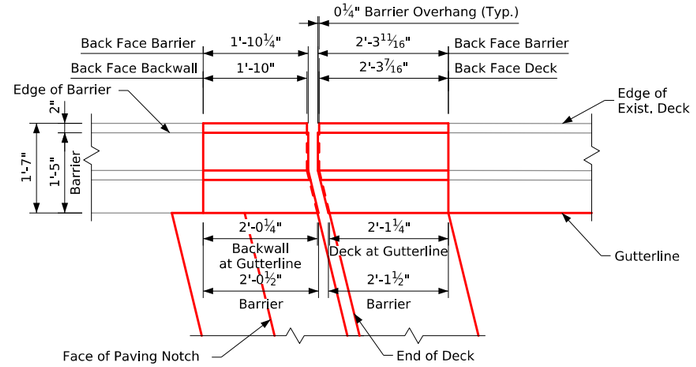
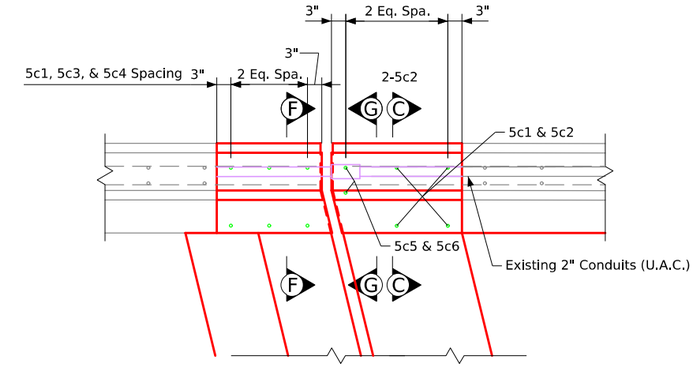


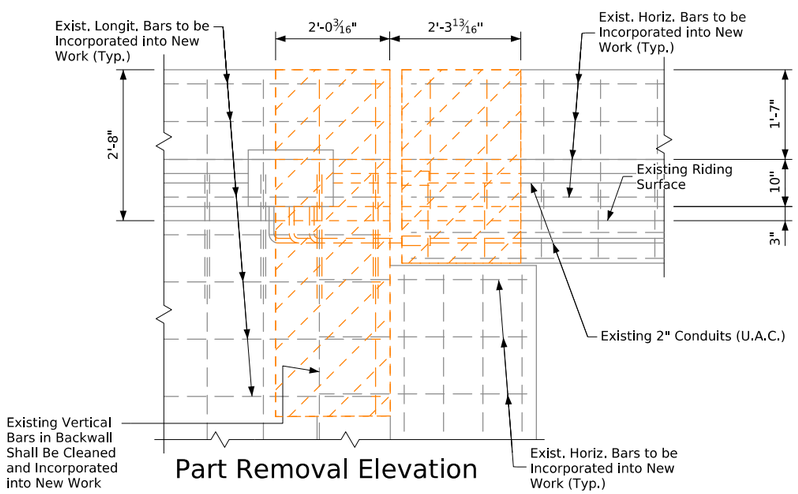
Part Removal Plan



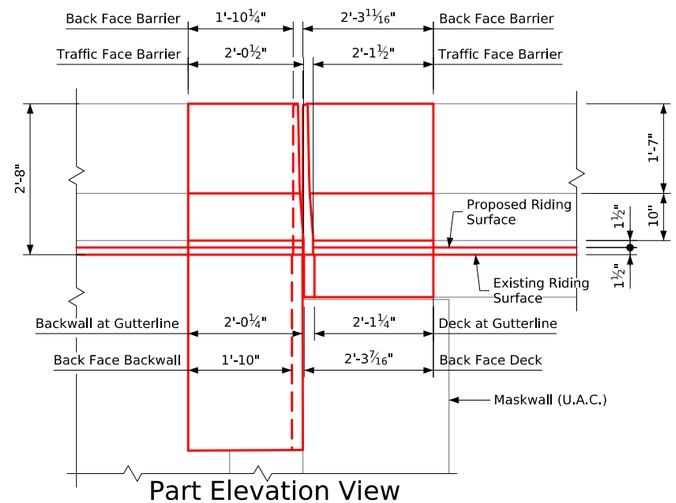
Part Plan View
(Reinforcing and Conduits Not Shown)



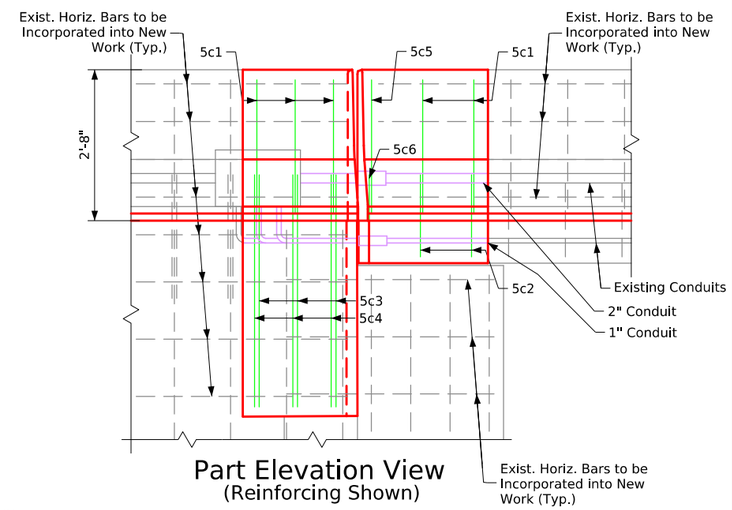
Part Plan View
(Reinforcing Shown)



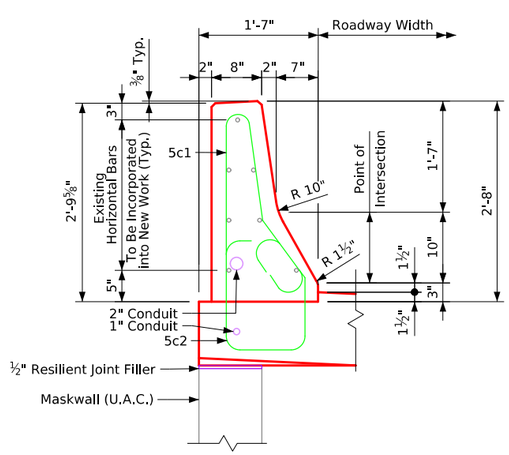
Part Removal Elevation



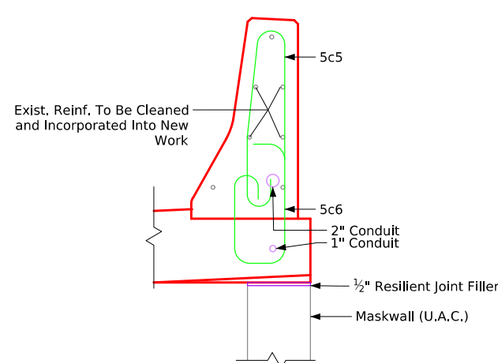
Part Elevation View
(Reinforcing and Conduits Not Shown)



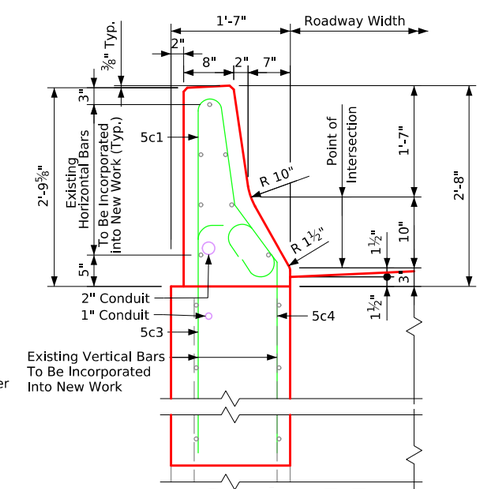
Part Elevation View
(Reinforcing Shown)



Section C-C



Section G-G



Section F-F

Note: Existing conduits and junction boxes along east side. Contractor shall carefully remove concrete around the existing conduits and junction boxes and incorporate into new work. Contractor shall replace or relocate expansion couplers as needed. This work shall be included in the bid price for "Structural Contrete (Misc.)". Contractor shall replace or relocate expansion couplers as needed. This work shall be included in the bid price for "Structural Concrete (Misc.)".

Design For Repairs To 12°04'33.30" Skew RA

260'-0"×40'-0" Welded Plate Girder Bridge

67'-6" End Spans — 125'-0" Interior Span

N.E. And S.W. Barrier Details

STA. 478+93.08 (US 61) — Turn-in Date: May 2026

Scott County

IOWA DEPARTMENT OF TRANSPORTATION

Design No. 0127 — Design Sheet No. 9 of 18 — FHWA No. 604650

FILE NO. 32417	ENGLISH	DESIGN TEAM Stanley Consultants, Inc.	SCOTT COUNTY	PROJECT NUMBER BRF-061-5(151)--38-82	SHEET NUMBER V.9

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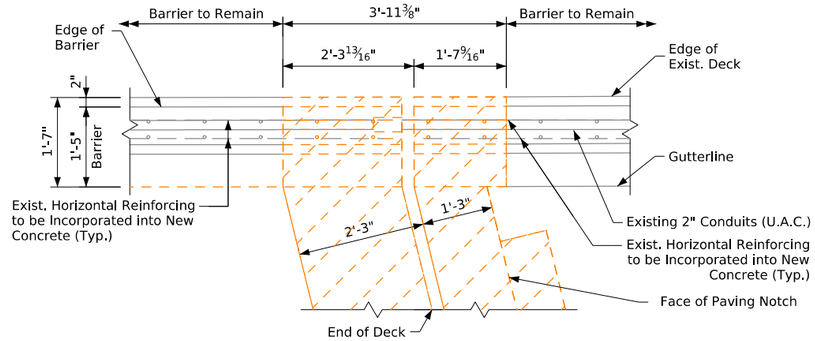
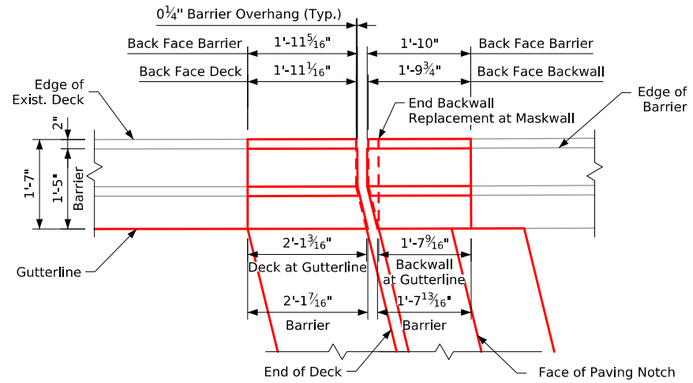
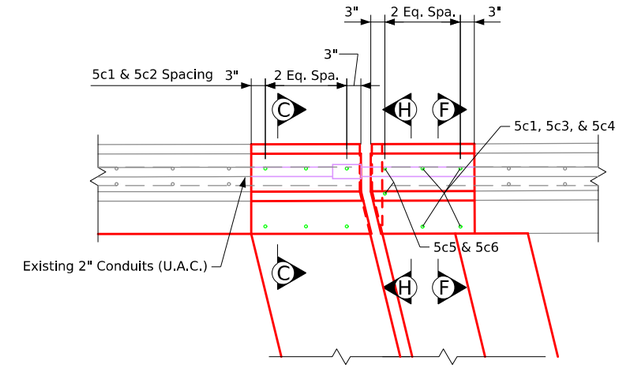


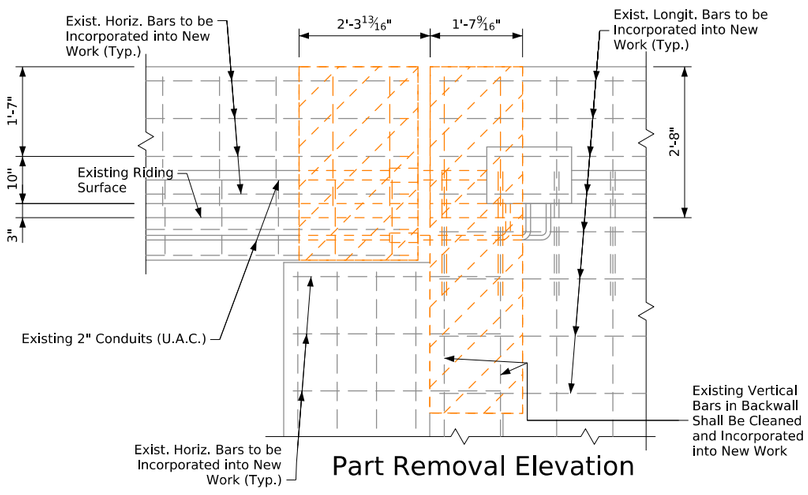
Part Removal Plan



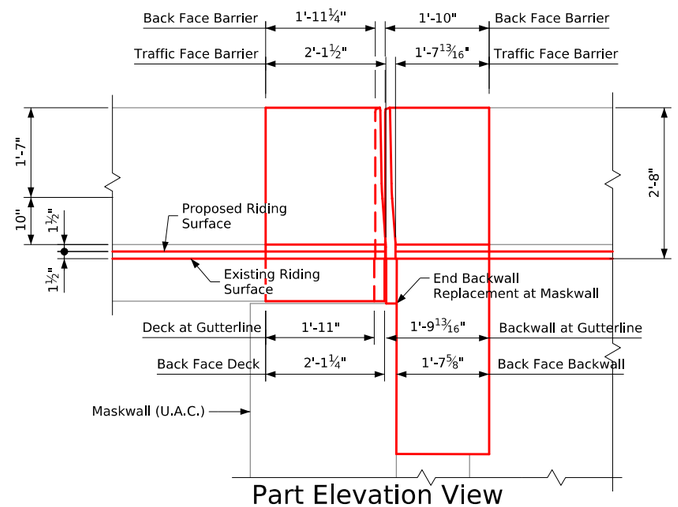
Part Plan View
(Reinforcing and Conduits Not Shown)



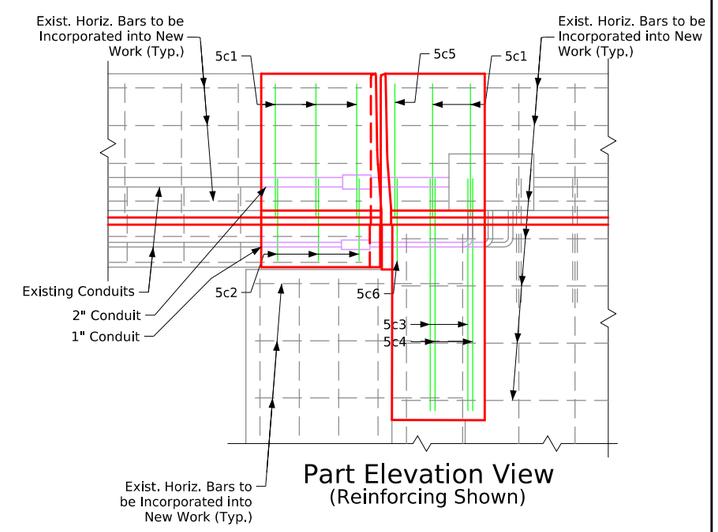
Part Plan View
(Reinforcing Shown)



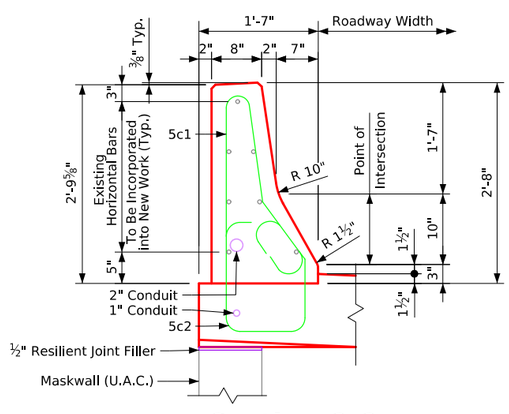
Part Removal Elevation



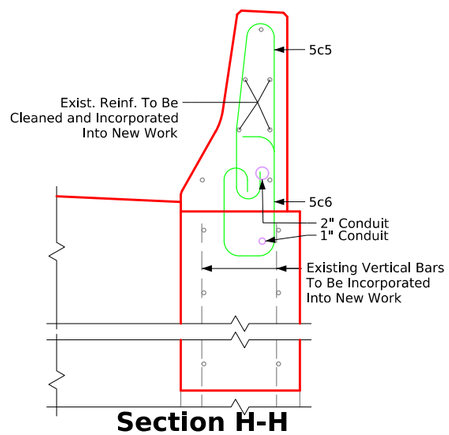
Part Elevation View
(Reinforcing and Conduits Not Shown)



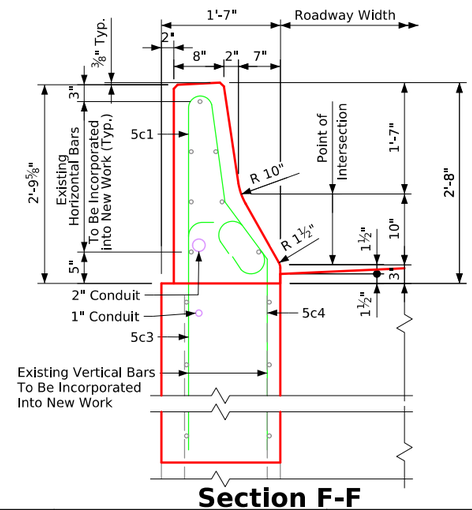
Part Elevation View
(Reinforcing Shown)



Section C-C



Section H-H



Section F-F

Note: Existing conduits and junction boxes along east side. Contractor shall carefully remove concrete around the existing conduits and junction boxes and incorporate into new work. Contractor shall replace or relocate expansion couplers as needed. This work shall be included in the bid price for "Structural Concrete (Misc.)".

Design For Repairs To 12°04'33.30" Skew RA

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67'-6" End Spans — 125'-0" Interior Span

N.W. And S.E. Barrier Details

STA. 478+93.08 (US 61) — Turn-in Date: May 2026

Scott County

IOWA DEPARTMENT OF TRANSPORTATION

Design No. 0127 — Design Sheet No. 10 of 18 — FHWA No. 604650

FILE NO. 32417	ENGLISH	DESIGN TEAM Stanley Consultants, Inc.	SCOTT COUNTY	PROJECT NUMBER BRF-061-5(151)--38-82	SHEET NUMBER V.10

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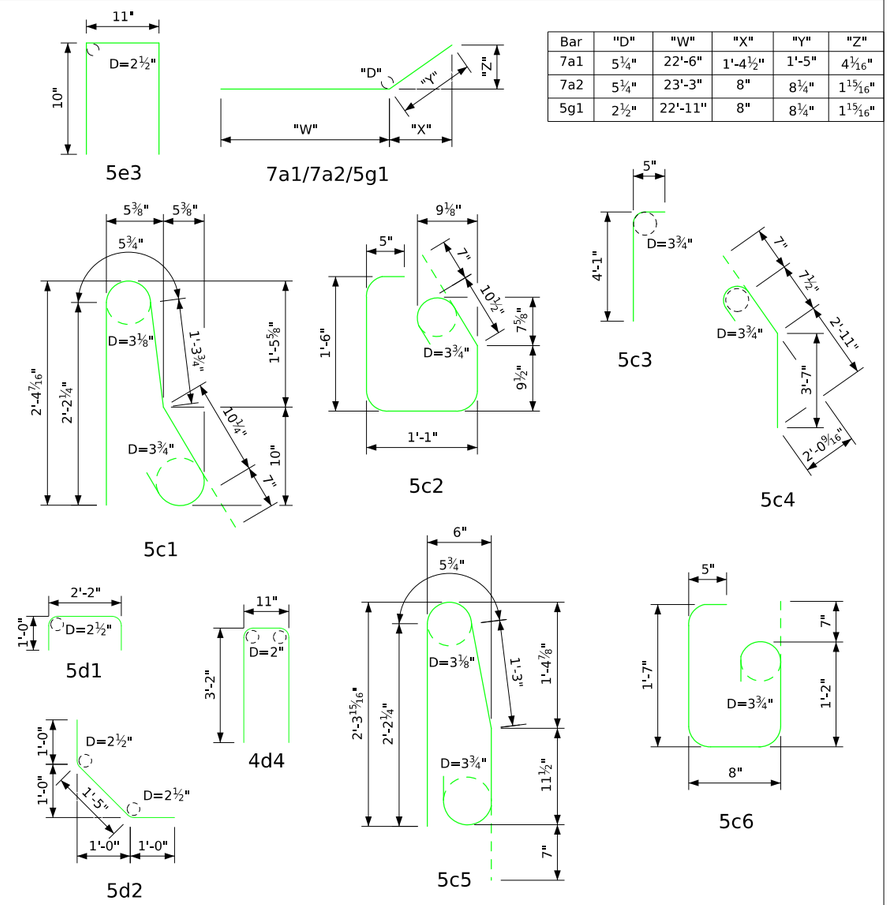
Bent Bar Details



Bar	"D"	"W"	"X"	"Y"	"Z"
7a1	5¼"	22'-6"	1'-4½"	1'-5"	4 1/16"
7a2	5¼"	23'-3"	8"	8¾"	1 15/16"
5g1	2½"	22'-11"	8"	8¼"	1 15/16"

Epoxy Reinforcing Steel - Both Abutments and Deck Ends

Bar	Location	Shape	No.	Length	Weight
7a1	Deck Transverse		16	23'-11"	782
7a2	Deck Transverse		4	23'-11"	196
5c1	Barrier Vertical		20	5'-5"	113
5c2	Barrier Vertical		10	5'-3"	55
5c3	Barrier Vertical		10	4'-6"	47
5c4	Barrier Vertical		10	4'-10"	50
5c5	Barrier Vertical		4	5'-6"	23
5c6	Barrier Vertical		4	4'-5"	18
5d1	Paving Notch		82	4'-2"	356
5d2	Paving Notch		82	3'-5"	292
4d4	Backwall, Vertical		82	7'-3"	397
5e1	Diaphragm, Between Girders		8	9'-5"	78
5e2	Diaphragm, Horizontal		4	20'-10"	87
5e3	Diaphragm, Hoops		80	2'-7"	216
5g1	Backwall, Longitudinal		32	23'-7"	788
5g2	Backwall, Longitudinal		8	22'-0"	184
				Total (lbs.)	3,682

Stainless Steel Bar List – Both Abutments

Bar	Location	Shape	No.	Length	Weight
5d3	Paving Notch Dowels		42	3'-2"	139
				Stainless Steel – Total Weight (lbs.)	139

Concrete Placement Summary

Location	Quantity (cy)
South Abutment Backwall, Paving Notch, & Rail	11.4
South End of Deck, Diaphragm, & Rail	3.9
North End of Deck, Diaphragm, & Rail	3.8
North Abutment Backwall, Paving Notch, & Rail	11.3
Total (cy)	30.4

Design For Repairs To 12°04'33.30" Skew RA

260'-0"×40'-0" Welded Plate Girder Bridge

67'-6" End Spans 125'-0" Interior Span

Abutment Details and Bar List

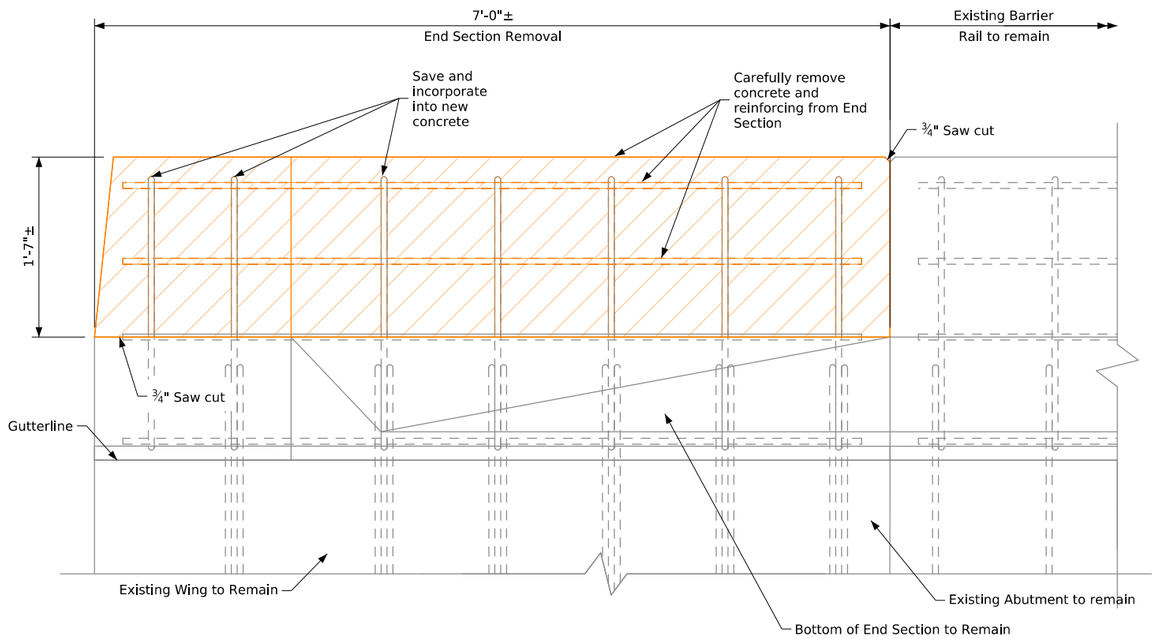
STA. 478+93.08 (US 61) Turn-in Date: May 2026

Scott County

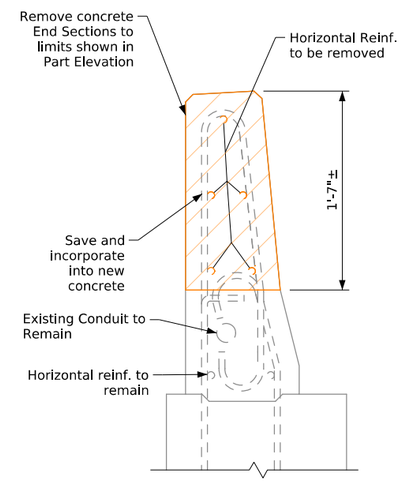
IOWA DEPARTMENT OF TRANSPORTATION

Design No. 0127 Design Sheet No. 11 of 18 FHWA No. 604650

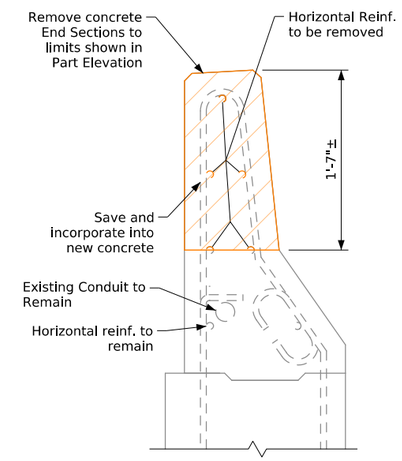
Mechanical Splice Assembly Notes:



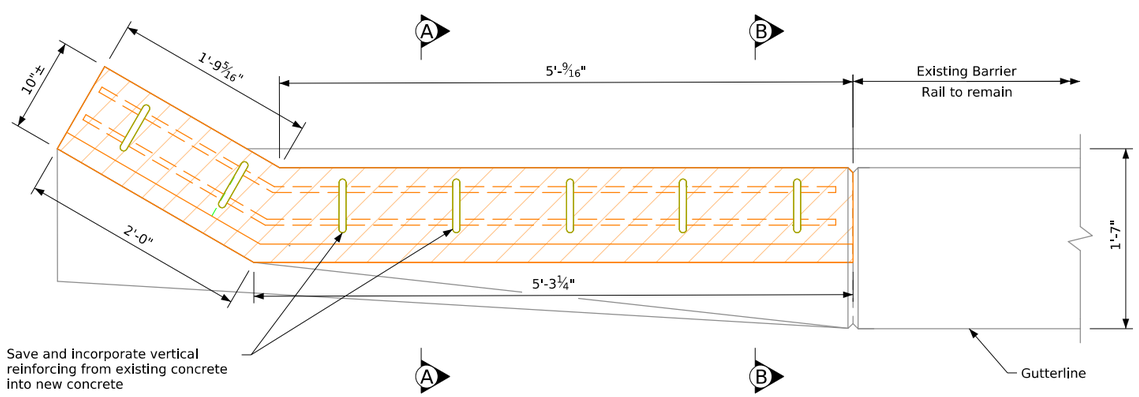
Part Elevation



Section A-A



Section B-B



Part Plan

Removal Notes

Hatched areas indicate concrete removal.

This sheet shows details of the partial barrier end section removal on the existing bridge. All partial removals shall be in accordance with Section 2401 of the Standard Specifications. All such removals shall be to neat saw cuts to provide clean straight surfaces at interfaces between new concrete and remaining concrete. The removal shall be done in a manner which will prevent any damage to the existing structure to remain. The Contractor shall assume full responsibility for any damage caused, and shall repair any damaged area to its original condition as directed by the Engineer, at the Contractor's expense. Any existing reinforcing steel which is to be "saved" that is exposed during removal operations is to be carefully protected, cleaned, and incorporated into new construction unless noted otherwise.

Start all removals with ¾" saw cut.

Design For Repairs To 12°04'33.30" Skew RA

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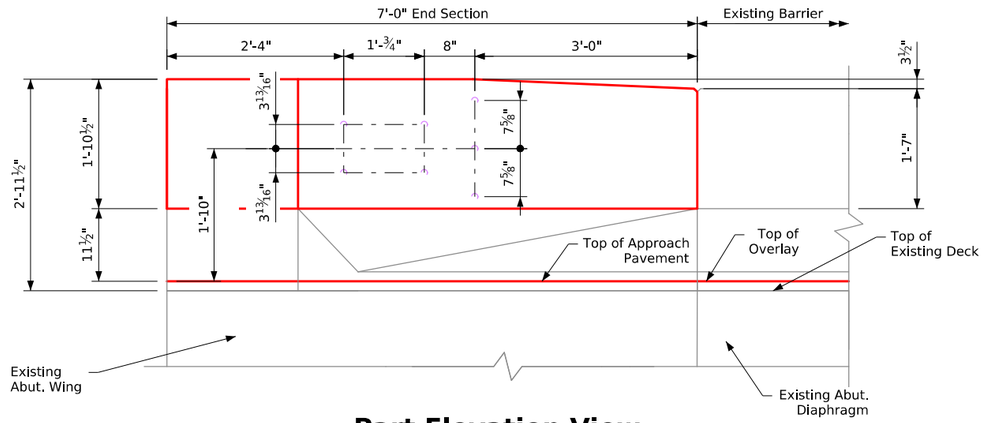
End Section Removals

STA. 478+93.08 (US 61) Turn-in Date: May 2026

Scott County

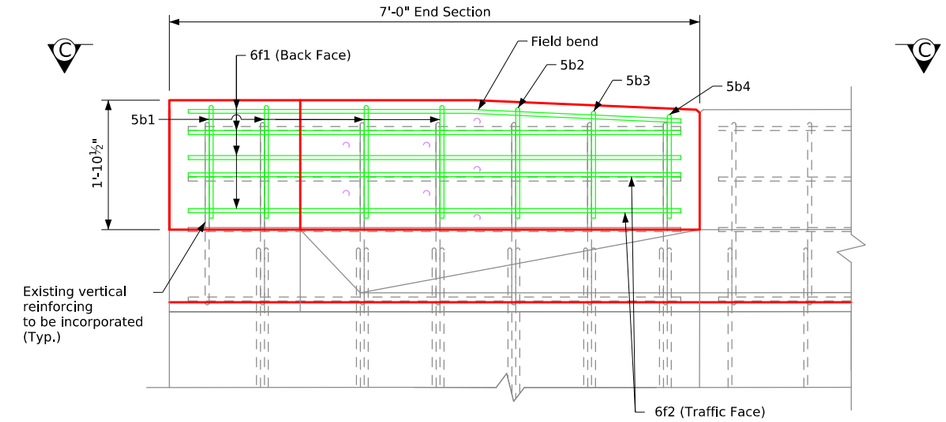
IOWA DEPARTMENT OF TRANSPORTATION

Design No. 0127 Design Sheet No. 12 of 18 FHWA No. 604650

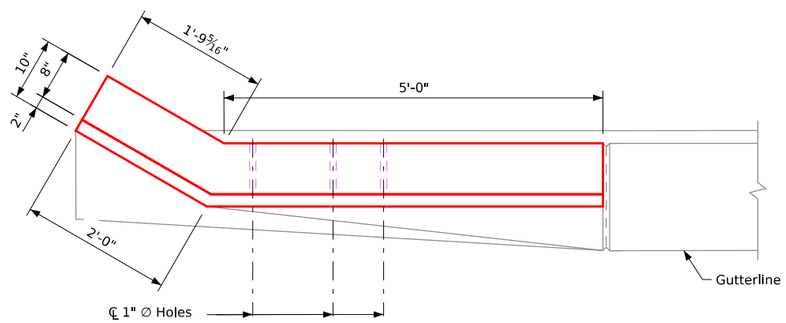


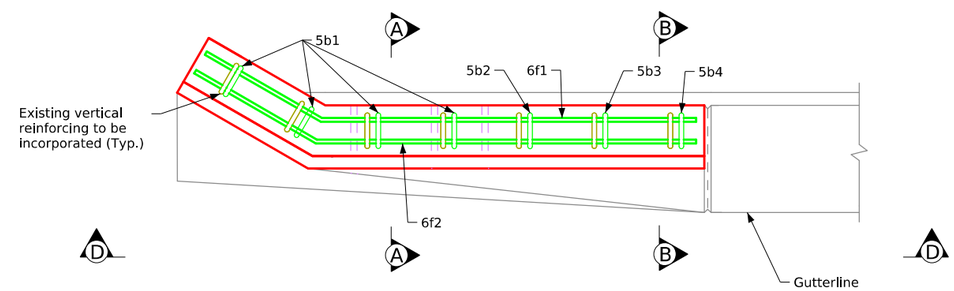
Part Elevation View

Provide 7 holes formed with 1"∅ plastic conduit. Cost to be included in price bid for "Structural Concrete (Misc.)"

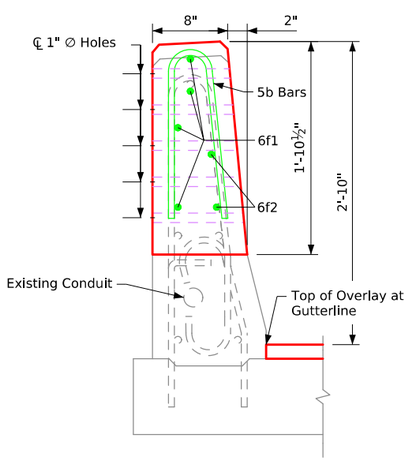


Part View D-D

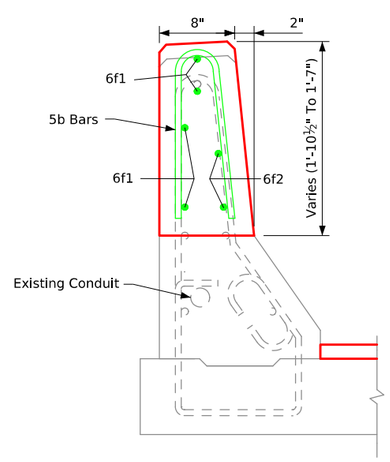




Part View C-C



Section A-A



Section B-B

NOTE:

Top of End Section concrete to remain shall be rough concrete.

Design For Repairs To 12°04'33.30" Skew RA

260'-0"×40'-0" Welded Plate Girder Bridge

67'-6" End Spans | 125'-0" Interior Span

End Section Details

STA. 478+93.08 (US 61) | Turn-in Date: May 2026

Scott County

IOWA DEPARTMENT OF TRANSPORTATION

Design No. 0127 | Design Sheet No. 13 of 18 | FHWA No. 604650

FILE NO. 32417	ENGLISH	DESIGN TEAM Stanley Consultants, Inc.	SCOTT COUNTY	PROJECT NUMBER BRF-061-5(151)--38-82	SHEET NUMBER V.13

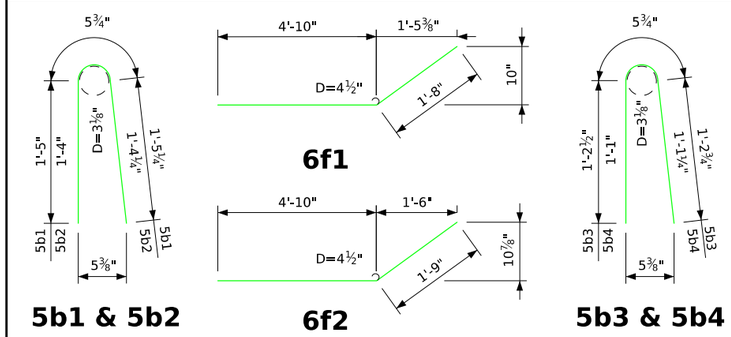
Epoxy Reinforcing Steel - One End Section

Bar	Location	Shape	No.	Length	Weight
5b1	Vertical End Section		4	3'-4"	14
5b2	Vertical End Section		1	3'-2"	3
5b3	Vertical End Section		1	2'-11"	3
5b4	Vertical End Section		1	2'-8"	3
6f1	Horizontal Back Face		4	6'-6"	39
6f2	Horizontal Back Face		2	6'-7"	20
				Total Weight (lbs.)	82

Concrete Placement Summary - One End Section

Location	CY
Barrier Rail One End Section	0.37
Total (CY)	0.37

Bent Bar Details



Note: All dimensions are out to out. D = pin diameter

Design For Repairs To 12°04'33.30" Skew RA

260'-0"×40'-0" Welded Plate Girder Bridge

67'-6" End Spans 125'-0" Interior Span

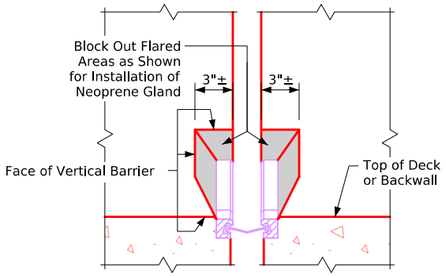
End Section Details

STA. 478+93.08 (US 61) Turn-in Date: May 2026

Scott County

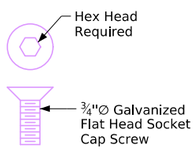
IOWA DEPARTMENT OF TRANSPORTATION

Design No. 0127 Design Sheet No. 14 of 18 FHWA No. 604650

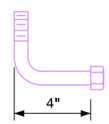


Blockout Detail

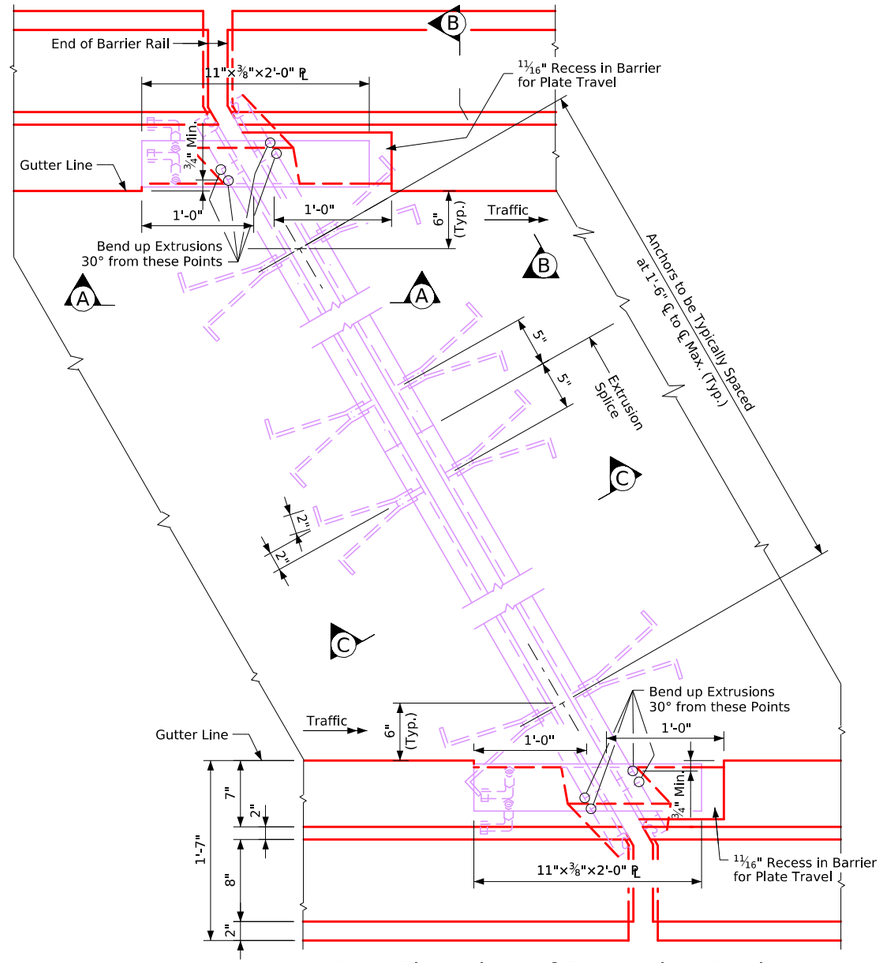
Contractor to note that the cap screw anchorage system for the ⅜" barrier plates are always to be placed on the oncoming traffic side.



Cap Screw Detail



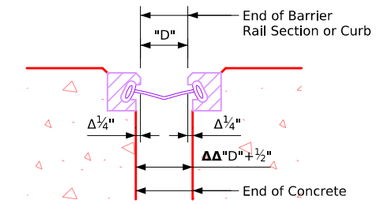
Bent Bolt Detail



Part Plan View of Expansion Device

Barrier Plate Note:

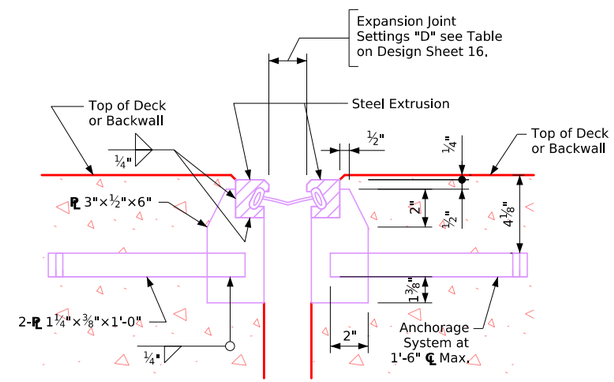
The material used for the curb plates is to be ASTM A36 steel. The bolts shall meet the requirements of ASTM A307. The plates, bolts, nuts and cap screws are to be galvanized in accordance with Article 4100.07 of the Standard Specifications.



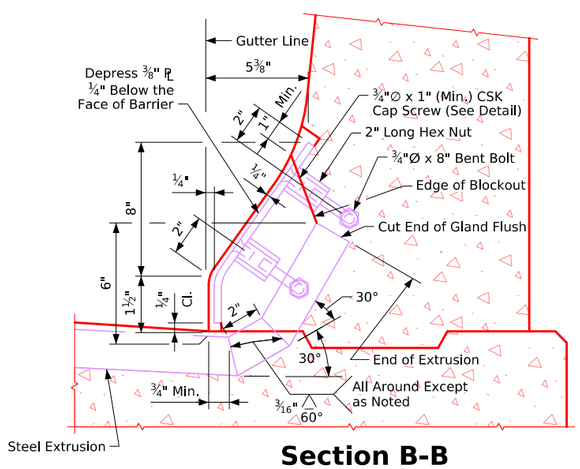
Expansion Opening Detail

Δ This dimension may vary slightly depending on manufacturer furnishing the joint.

ΔΔ Used for all out to out dimensions of deck. The dimensions may vary slightly depending manufacturer furnishing the joint.

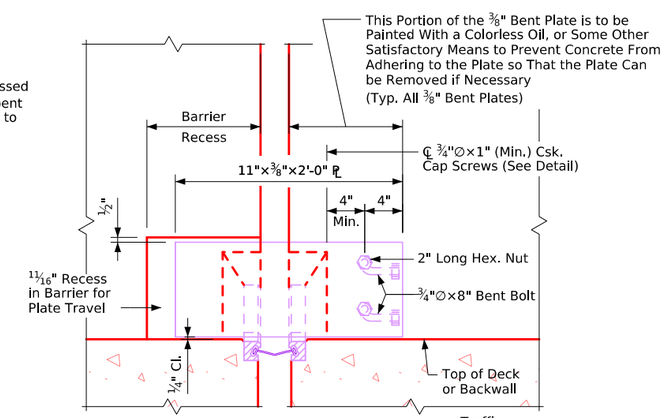


Section C-C



Section B-B

Note: It is intended that the 11/16" recessed area be formed so that when the ⅜" bent plate is installed the plate will be able to move freely in this recessed area.



Section A-A

(Drawn for 0° Skew for Illustrative Purposes)

Note:
See Design Sheet 16 for expansion device notes containing the steel extrusion notes, neoprene gland notes, and watertight integrity testing and repair notes.

Design For Repairs To 12°04'33.30" Skew RA

260'-0"×40'-0" Welded Plate Girder Bridge

67'-6" End Spans — 125'-0" Interior Span

Expansion Device Details

STA. 478+93.08 (US 61) — Turn-in Date: May 2026

Scott County

IOWA DEPARTMENT OF TRANSPORTATION

Design No. 0127 — Design Sheet No. 15 of 18 — FHWA No. 604650

FILE NO. 32417	ENGLISH	DESIGN TEAM Stanley Consultants, Inc.	Standard Sheet 1026S1 (Modified)	SCOTT COUNTY	PROJECT NUMBER BRF-061-5(151)--38-82	SHEET NUMBER V.15

Steel Extrusion Notes:

The Contractor shall submit for approval shop drawings of the expansion devices showing layout, material to be used, and provisions for the holding device during placement of concrete.

The expansion device shall be galvanized after welding. All curb plates including their anchorages shall be galvanized.

The expansion device is to be parallel to grade.

Cap screws shall be countersunk $\frac{1}{16}$" below top of the plate. The minimum grade of structural steel for the expansion device shall be ASTM A36.

Blockout details may be altered from those shown provided the gland may be installed and removed if necessary and the curb area remains watertight.

Shop splices of the steel extrusion will be permitted. Prior to making shop splices steel extrusion pieces shall have a minimum length of 15 feet. The individual length of pieces shall be chosen so that a minimum number of splices is required. All pieces shall be joined with a prequalified partial penetration single groove weld detailed on the shop drawing. All surfaces not in contact with concrete are to be ground flush. No weld shall be permitted in the internal section of the extrusion where the neoprene gland is to be installed.

The number of feet of steel extrusion installed shall be paid for at the contract price per foot based on plan quantities. The price bid for "Steel Extrusion Joint w/Neoprene" shall include the cost of furnishing but not the cost of installing the neoprene gland. The contract price bid for "Steel Extrusion Joint w/Neoprene" shall be full compensation for furnishing and installing steel extrusions. This work will consist of furnishing all required materials, (including the $\frac{3}{8}$" plates at the curbs and their anchorage systems), and the installation and adjustment of the expansion joints in accordance with the details shown on the plans and as directed by the Engineer. The furnishing and installation of all necessary hardware and accessories as supplied by the Expansion Joint Manufacturer are to be included in this work, including the anchorage system and any temporary erection material. All work and materials for the installation of the expansion joints are to comply with the written recommendations of the Expansion Joint Manufacturer.

Field Construction Notes:

If the steel extrusion is spliced in the field, the splice location shall be detailed on the shop drawings. The connection details shall include tab plates and prepared ends to accommodate the necessary welding. See details in these plans.

Galvanized coating damage by field welding shall be repaired in accordance with Construction and Materials I.M. 410.

Neoprene Gland Notes:

The neoprene gland is to be placed as one continuous piece from end to end of the steel extrusion.

The neoprene gland shall conform to ASTM-2628 modified to exclude recover test and compression set.

The Contractor shall install the gland above the minimum temperature of 45° and the minimum joint opening and corresponding maximum deck temperature shown in these plans. The deck temperature shall be measured by recording the surface temperatures on the underside of the deck adjacent to the joints. If the deck temperature does not fall within the specified temperature range before the Contractor has completed all other required work, it will be necessary for the Contractor to return to the project site to complete installation and testing of the neoprene gland. If the Contractor is required to return to the project site after all other required work has been completed, the Contractor shall complete installation and testing of neoprene gland at no extra charge to the State.

The number of feet of neoprene gland installed shall be paid for at the contract price per foot based on plan quantities. The price for "Neoprene Gland Installation and Testing" shall be full compensation for installing and testing of the new neoprene gland. This work will consist of cleaning the extrusion, installation of the neoprene gland and water tight testing of the expansion joint system. All work and materials necessary for the installation of the neoprene gland shall comply with the recommendations of the Expansion Joint Manufacturer. The price bid for "Neoprene Gland Installation and Testing" shall include all watertight integrity testing, leak repairs as directed by the Engineer, and subsequent watertight testing until a leak free installation is achieved.

Watertight Integrity Testing And Repair Notes:

After installation of each neoprene gland, the Contractor shall perform watertight integrity tests at the deck level to detect any leakage. The tests are to check for leakage at the upturned ends of the expansion device and for leakage along the expansion device across the deck and any medians or sidewalks. The Contractor may conduct a single test of the entire device including upturned ends or may conduct separate tests of upturned ends and one or more tests of overlapping lengths between the upturned ends.

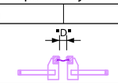
At each upturned end of the expansion device, the Contractor shall block out on the deck at least 3 feet of the expansion device leading to the upturned end and flood the area. A minimum water depth of 3" shall be maintained at the gutterline for at least 30 minutes. During the test, the Inspector shall observe for any overflow at the upturned end. At the conclusion of the test the Inspector will examine the underside of the joint for leakage. The expansion device is considered watertight if the Inspector observes no overflow during the test and if no dripping water or water droplets are visible in the underdeck areas near the upturned end.

The Contractor shall test the expansion device between upturned ends by blocking out and covering the device with ponded or flowing water to a depth of at least 1" at all points, for at least 30 minutes. Vertical curb surfaces may be tested with an unnozzled hose delivering approximately one gallon per minute directed to flow over the entire curb height for 30 minutes. At the conclusion of the test, the inspector will examine the underside of the joint for leakage. The expansion device is considered watertight if no dripping water or water droplets are visible in the underdeck areas along the full length of the expansion joint. Damp concrete that does not show dripping water or water droplets is not considered a sign of leakage.

If the expansion device leaks at an upturned end or along its length, the Contractor shall locate the leak(s) and take repair measures to stop the leakage. The repair measures shall be as recommended by the Manufacturer and approved by the Engineer prior to beginning corrective work.

If measures to eliminate leakage are taken, the Contractor shall perform subsequent watertight integrity tests subject to the same conditions as the original test.

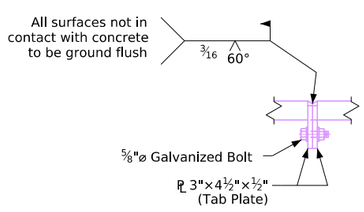
Expansion Device Settings

Temperature of Bridge Superstructure at Time of Setting (°F)	Expansion Joint			
	Watson-Bowman		D.S. Brown	
				
	South Abutment	North Abutment	South Abutment	North Abutment
10°	$2\frac{3}{8}$"	$1\frac{13}{16}$"	$2\frac{11}{16}$"	$1\frac{15}{16}$"
50°	$1\frac{13}{16}$"	$1\frac{5}{8}$"	$2\frac{1}{16}$"	$1\frac{11}{16}$"
90°	$1\frac{3}{16}$"	$1\frac{3}{8}$"	$1\frac{1}{2}$"	$1\frac{1}{2}$"

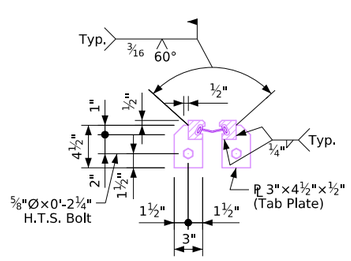
Note: Joint settings for other temperatures are proportional. Temperatures shown are concrete deck temperatures on the underside or shaded portion of the deck.

Table of Approved Expansion Devices

Location	Manufacturer	Type of Steel Extrusion	Neoprene Gland	Minimum Opening for Gland Installation	Corresponding Maximum Deck Temperature
Abutments	Watson–Bowman & Acme Corp.	A	SE-300	$1\frac{1}{2}$"	70°F
	D.S. Brown Co.	SSA2	A2R-400	2"	90°F
	Approved Equal				



End View



Section Thru Extrusion

Field Splice Detail

Design For Repairs To 12°04'33.30" Skew RA

260'-0"×40'-0" Welded Plate Girder Bridge

67'-6" End Spans 125'-0" Interior Span

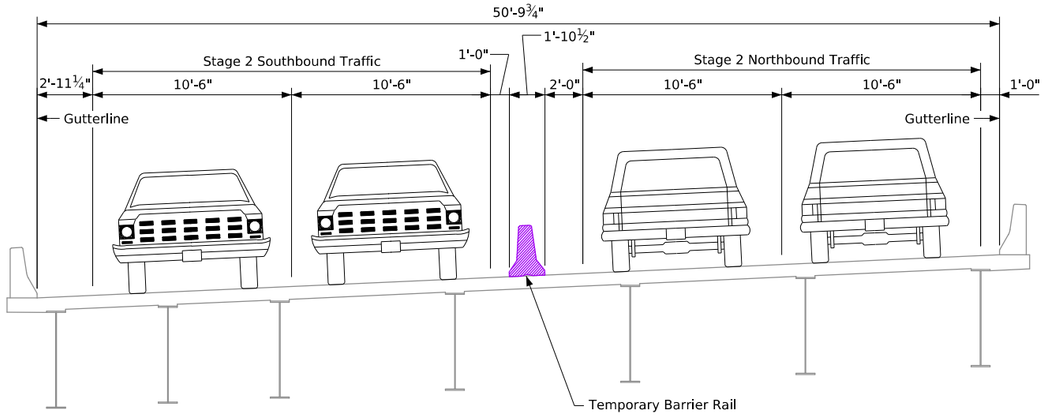
Expansion Device Notes

STA. 478+93.08 (US 61) Turn-in Date: May 2026

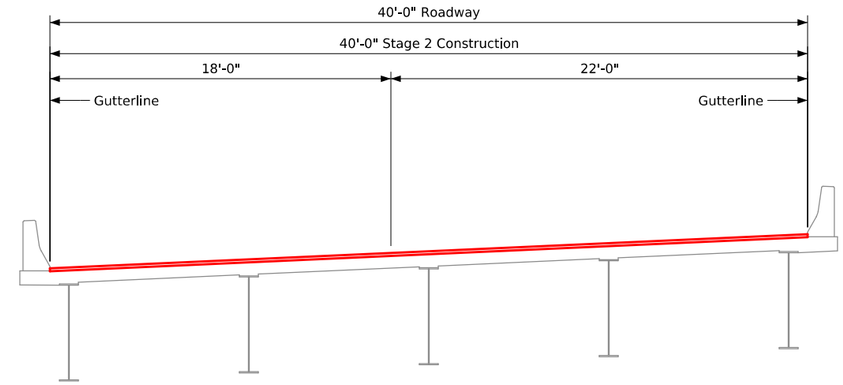
Scott County

IOWA DEPARTMENT OF TRANSPORTATION

Design No. 0127 Design Sheet No. 16 of 18 FHWA No. 604650



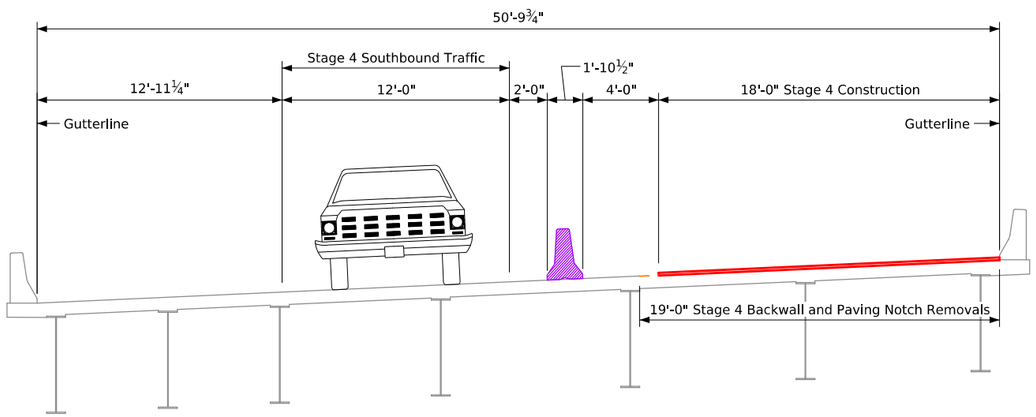
Southbound Lanes



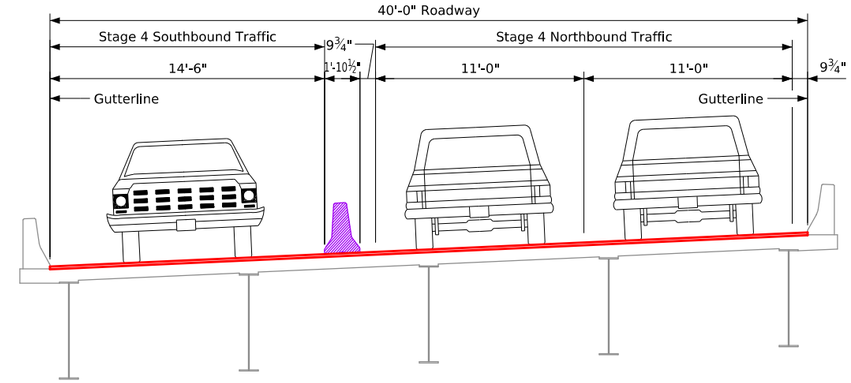
Northbound Lanes

Typical Stage 2 Construction

(Looking North, Dimensions measured from ℄ South Abutment)



Southbound Lanes



Northbound Lanes

Typical Stage 4 Construction

(Looking North, Dimensions measured from ℄ South Abutment)

Note: See General Notes on Design Sheet 2 for tied projects

Design For Repairs To 12°04'33.30" Skew RA

260'-0"×40'-0" Welded Plate Girder Bridge

67'-6" End Spans 125'-0" Interior Span

Staging Details

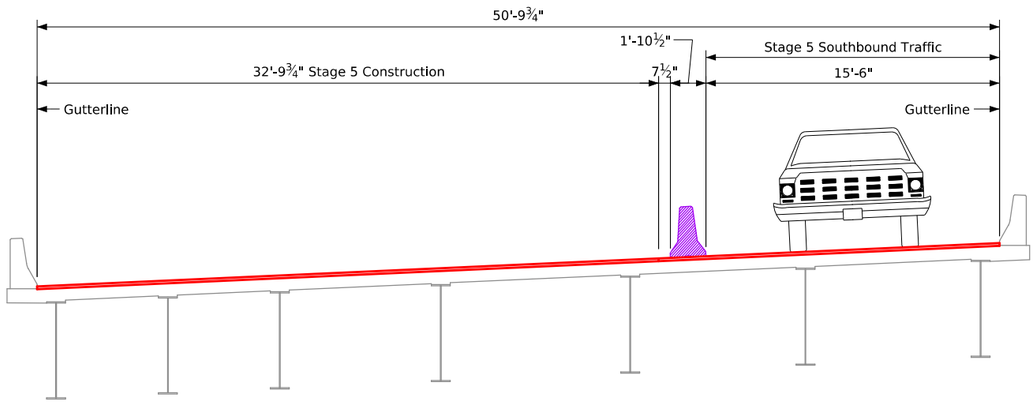
STA. 478+93.08 (US 61) Turn-in Date: May 2026

Scott County

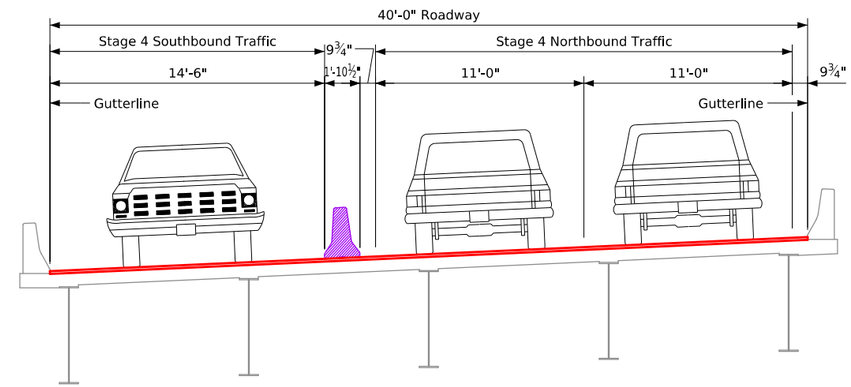
IOWA DEPARTMENT OF TRANSPORTATION

Design No. 0127 Design Sheet No. 17 of 18 FHWA No. 604650

FILE NO. 32417	ENGLISH	DESIGN TEAM Stanley Consultants, Inc.	SCOTT COUNTY	PROJECT NUMBER BRF-061-5(151)--38-82	SHEET NUMBER V.17



Southbound Lanes



Northbound Lanes

Typical Stage 5 Construction

(Looking North, Dimensions measured from ℄ South Abutment)

Note: See General Notes on Design Sheet 2 for tied projects

Design For Repairs To 12°04'33.30" Skew RA

260'-0"×40'-0" Welded Plate Girder Bridge

67'-6" End Spans 125'-0" Interior Span

Staging Details

STA. 478+93.08 (US 61) Turn-in Date: May 2026

Scott County

IOWA DEPARTMENT OF TRANSPORTATION

Design No. 0127 Design Sheet No. 18 of 18 FHWA No. 604650

Estimate Bridge Repair Quantities and Reference Notes – Design No. 227

Item No.	Item Code	Item	Unit	Quantities Estimated Design No. 227	Estimate Reference Notes
1	2401-6750001	Removals, as per Plan	LS	1.0	Includes all work for removal and off-site disposal of concrete abutment diaphragms, portions of the deck, sliding plate joints and portions of the abutment backwalls and barrier rails. Removal of scheduled items shall be in accordance with Section 2401, of the Standard Specifications. Any damage to material not to be removed shall be the responsibility of the Contractor and repaired at no extra cost to the state.
2	2403-0100000	Structural Concrete (Misc.)	CY	40.4	Includes all installation cost for dowels. Includes furnishing and installing preformed joint material. Includes furnishing and installing 1 inch diameter plastic conduit. Includes costs of labor and materials associated with excavation and granular backfill required for the removal and replacement of the paving notch and portion of the backwall. Includes labor, equipment, and materials required to replace or relocate the conduit expansion devices in the barrier rails as necessary at the southeast and northeast corners. Electrical and conduit work shall be in accordance with section 2523 of the Standard Specifications.
3	2404-7775005	Reinforcing Steel, Epoxy Coated	LB	4,918	Includes mechanical splicers in each abutment diaphragm, backwall, and end of deck.
4	2404-7775009	Reinforcing Steel, Stainless Steel	LB	182	---
5	2413-0698074	Deck Repair, Class A	SY	313.1	---
6	2413-0698075	Deck Repair, Class B	SY	156.6	---
7	2413-1200000	Steel Extrusion Joint With Neoprene	LF	112.4	Includes all necessary hardware and accessories including the anchorage system, temporary erection material and the 3/8" steel curb plates with their anchorage system. Excludes installation of neoprene gland.
8	2413-1200100	Neoprene Gland Installation And Testing	LF	112.4	Includes installation of neoprene gland and water testing of joint.
9	2426-6772016	Concrete Repair	SF	50	Includes concrete repairs to be made to the existing abutments and pier columns. Exact locations and areas shall be determined in the field by the Engineer. Refer to Concrete Repairs Sheet in plans for additional information.
10	2508-0970000	Containment	LS	1.0	---
11	2508-0991000	Painting Structural Steel	LS	1.0	Includes cleaning and painting of abutment bearings and portions of the steel girders as shown in these plans. Includes bridge cleaning for painting and blast cleaning of structural steel. Color shall match existing paint color of steel beam. The Contractor shall supply a color sample for review and approval prior to painting.
12	2533-4980005	Mobilization	LS	1.0	---
		Alternate AA Option 1			
13	2413-0698066	Deck Overlay (Class O PCC)	SY	1,565.6	Includes cleaning existing concrete at barrier rails, abutment seats, abutment wash areas, and abutment backwalls. Includes furnishing and placing concrete sealer at barrier rails, abutment seats, abutment wash areas, and abutment backwalls.
		Alternate AA Option 2			
14	2403-1000010	Trial Batch and Test Placement	EACH	1.0	Refer to Developmental Specification for Fiber Reinforcement for Structural Concrete.
15	2413-0698067	Deck Overlay (Fiber-Reinforced Class HPC-O PCC)	SY	1,565.6	Includes cleaning existing concrete at barrier rails, abutment seats, abutment wash areas, and abutment backwalls. Includes furnishing and placing concrete sealer at barrier rails, abutment seats, abutment wash areas, and abutment backwalls. Refer to Developmental Specification for Fiber Reinforcement for Structural Concrete.
16	2413-1000005	Fiber Reinforcement for Concrete Repair/Overlay	SY	1,565.6	Refer to Developmental Specification for Fiber Reinforcement for Structural Concrete.

Roadway Quantities shown elsewhere in these plans.

Design For Repairs to 12°18'42.77" Skew RA

260'-0"×Variable Width
Welded Plate Girder Bridge

67'-6" End Spans 125'-0" Interior Span

Estimated Bridge Quantities

STA. 478+73.99 (US 61) Turn-in Date: May 2026

Scott County

IOWA DEPARTMENT OF TRANSPORTATION

Design No. 0227 Design Sheet No. 1 of 19 FHWA No. 604655

General Notes:

This design is for repairs to the existing 260'-0" × Varies Continuous Welded Girder Bridge located on southbound US 61 over 210th St. in Scott County. Electronic copies of original design plans will be made available to the Contractor as part of the e-files supplied with the contract documents.

See Design Sheet 3 for list of repairs.

Faint lines on plans indicate the existing structure.

All connecting dimensions and elevations used in the new details in these plans were developed based on the existing bridge plans. The Bridge Contractor shall field verify these details before starting construction.

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

Minimum clear distance from face of concrete to near reinforcing bar is to be 2" unless otherwise noted or shown.

These bridge plans label all reinforcing steel with english notation (5a1 is ⅝ inch diameter bar). English reinforcing steel received in the field may display the following "Bar Designation". The "Bar Designation" is the stamped impression on the reinforcing bars, and is equivalent to the bar diameter in millimeters.

English Size	3	4	5	6	7	8	9	10	11
Bar Designation	10	13	16	19	22	25	29	32	36

All reinforcing bars and bars noted as dowels supplied for this structure shall be deformed reinforcement unless otherwise noted or shown.

The top and interior faces of the existing concrete railing are to be cleaned and sealed in accordance with Article 2403.03, P, of the Standard Specifications. If new sections of rail are constructed, the new sections shall not be sealed. All costs associated with cleaning and sealing of the concrete rails shall be include in the unit price bid item "Bridge Deck Overlay".

In addition to the requirements of Article 2413.03, G, of the Standard Specifications, both exposed abutment backwalls, bridge seats, and wash surfaces shall have an application of concrete sealer in accordance with Article 2403.03, P, 3, of the Standard Specifications.

Keyway dimensions shown on the plans are based on nominal dimensions unless stated otherwise. In addition, the bevel used on the keyway shall be limited to a maximum of 10 degrees from vertical.

The lump sum bid for "Removals, as Per Plan" shall include all costs associated with removing the concrete abutment diaphragms, portions of the deck, abutment backwalls, paving notches sliding plate joints and portions of the barriers. Removal of scheduled items shall be in accordance with Section 2401 of the Standard Specifications. Any damage to any steel or concrete not to be removed shall be the responsibility of the Contractor and repaired at no extra cost to the State.

No preliminary deck survey is shown. The plan quantity for "Class A Bridge Deck Repair" is estimated as 20% of the total deck area. The actual quantity is determined by the Engineer after the surface course has been removed. Actual spalled and hollow areas as determined by the Engineer shall be repaired.

No preliminary deck survey is shown. The plan quantity for "Class B Bridge Deck Repair" is estimated as 10% of the total deck area. The actual quantity is determined in the field by the Engineer. Actual areas as determined by the Engineer shall be repaired.

Present deck thickness is about 8 inches. The Contractor shall exercise care in removing concrete in order to prevent unnecessary unbonding of reinforcing steel.

The Contractor shall provide temporary shoring (sheet pile or other) to prevent the earth under the traffic lane, from sloughing in during construction. All cost of shoring, will be considered incidental to construction and no direct payment will be made. All material used for shoring shall remain the property of the Contractor. Shoring is to be removed only after backfilling has been completed. The Contractor shall submit shoring plans for review. In addition to the requirements noted above, Article 1107.07 of the Standard Specifications, still applies.

Bars indicated as dowels shall be set in drilled holes. Holes are to be 10"deep. The dowels shall be installed in accordance with the manufacturer's recommendations. Either of the following systems may be used as a bonding agent for vertical dowels, but only system "A" may be used for horizontal dowels:

A. Polymer grout system in accordance with article 2301.03, E, of the Standard Specifications.

B. Hydraulic cement grout systems. Drilled holes are to be 2½ times the dowel diameter and are to be blown clean with compressed air immediately prior to placing grout. The hydraulic cement grout shall be one of those approved in materials I.M. 491.13 and shall be used in accordance with the manufacturer's recommendations.

Surface preparation shall be according to Article 2413.03, B and C of the Standard Specifications. The Contractor shall ensure the vertical edge of the Stage 4 overlay is prepared for placement of the new concrete for Stage 5 by sandblasting or shot blasting, followed by an air blast. Ensure this cleaning removes all dirt, oil, and other foreign material. Ensure it removes all unsound concrete, laitance, or loose material from the surface and edges against which the surface mixture is to be placed. The cleaning should roughen the surface in order to provide satisfactory bond with the surfacing mixture.

Construction shall be done in stages with at least one lane traffic maintained at all times in accordance with "Traffic Control Plan" note.

Ready mix trucks are not allowed on the prepared portion of the bridge deck.

Screed extension or overlay beyond the longitudinal construction joint may be less than the 6 inches required by Article 2413.03, A, 4, of the Standard Specifications. The Engineer may require additional vibration or special finishing procedures adjacent to the longitudinal construction joint.

It is the intent of these plans to reuse the existing steel shear studs on top of the girders. The contractor shall exercise care not to damage these shear studs during the partial removal of the concrete deck operation. Any replacement of damaged shear studs will be as directed by the engineer and repaired at no cost to the state

The tops of the abutment backwalls as shown shall be constructed using structural concrete Class C. Promptly after the concrete has been placed and vibrated as provided in Articles 2403.03, C, and 2403.03, D, of the Standard Specifications, it shall be hand finished to provide a smooth surface with the proper crown. The Contractor may elect to use formwork which is marked or trimmed to the correct elevation and crown to provide the limits for the hand finishing.

Upon completion of the removal of concrete down to the classification line, the Engineer shall determine the areas of bridge deck to be repaired as "Deck Repair, Class A". Actual hollow areas, as determined by the Engineer, shall be repaired.

Utility Companies whose facilities are shown on the plans or known to be within the construction limits shall be notified by the Bridge Contractor of the starting date.

Surface raise, as shown on the plans, shall be considered a minimum. In order to limit the additional dead load surface raise shall be restricted to a maximum of ½" more than shown on the plans. Profile may be adjusted to the extent possible within these limits.

Scrape samples were taken from several areas of this bridge to get an indication of the existence of and level of total lead and total chromium. Analysis of total lead and total chromium on these samples were:

Location:	Total Lead	Total Chromium
Abutment Bearing	7,220 PPM	683 PPM
Expansion Plate	2,170 PPM	861 PPM
Girder	1,190 PPM	378 PPM

These analyses show the existence of these two toxic constituents. Levels indicated by these tests could create conditions above regulatory limits for health and safety requirements. No other constituents were analyzed. The bidder should not rely on the Iowa Dot's testing and analysis for any purpose other than as an indication of the existence of these two toxic constituents.

The lump sum bid for "Painting Structural Steel" shall include the cost of preparing all the existing structural steel for painting (including bearings) and field painting existing structural steel as noted in these plans. Cleaning and painting shall be in accordance with section 2508, of the standard specifications. An epoxy paint system shall be used.

Containment and disposal of waste shall be in accordance with section 2508, of the Standard Specifications. All costs associated with hauling and depositing of waste at the designated site/facility shall be the responsibility of the contractor and included in the contract price bid for the "containment" item.

Specifications:

Design:

AASHTO series of 2002.

Construction:

Iowa Department of Transportation Standard Specifications for Highway and Bridge Construction, Series 2023, plus applicable General Supplemental Specifications, Developmental Specifications, Supplemental Specifications and Special Provisions shall apply to construction work on this project.

- Development Specification for Fiber Reinforcement of Structural Concrete.

Design Stresses:

Design stresses for the following materials are in accordance with the AASHTO Standard Specifications for Highway Bridges, Series of 2002.

Reinforcing steel in accordance with Section 8, Grade 60.
Concrete in accordance with Section 8, f'c = 4.0 ksi.

During construction of this project the bridge contractor will be required to coordinate operations with those of other contractors working within the same area. Other work in progress during the same period of time will include, but is not limited to, construction of the following projects:

- BRF-061-5(153)--38-82
- BRF-061-5(157)--38-82
- NHSX-061-5(156)--3H-82

Working Drawing and Calculation Submittals

Working drawings and calculations shall be submitted for the following items shown in the table below. (Note additional working drawings and calculations may be required in accordance with Article 1105.03 of the Standard Specifications.)

Submittal requirements for working drawings and calculations shall be in accordance with 1105.03 of the Standard Specifications for Highway and Bridge Construction of the Iowa Department of Transportation. The absence of a certification requirement for a submittal does not relieve the Contractor of the responsibility to attain certification.

Calculation submittals in this table which are associated with working drawing submittals shall be submitted on the same day. Review time for calculation submittals shall be of the same duration as and run concurrently with review time for associated working drawings. The calculation submittals listed in the table are not meant to be an exhaustive list and do not relieve the Contractor from providing additional calculation submittals if requested by the Engineer.

No.	Working Drawing Description	Working Drawing File Name Convention For Submittal	Certified by Iowa P.E. (Yes/No)
1	Expansion Device and Curb Plates	(151)_Scott_Design227_ExpansionDevice.pdf	No
X	Temporary Shoring	(151)_Scott_Design227_Temporary Shoring.pdf	Yes
X			
X			
X			
No.	**Calculation Description**	**Calculation File Name Convention For Submittal**	**Certified by Iowa P.E. (Yes/No)**
X			
X			
X			
X			

Design History at this Site

(Includes this Design)

Des. No.	Type of Work
1180	Original Design
227	Bridge Deck Overlay

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

Pollution Prevention Plan shown elsewhere in these plans.

Design For Repairs to 12°18'42.77" Skew RA

260'-0"×Variable Width
Welded Plate Girder Bridge

67'-6" End Spans 125'-0" Interior Span

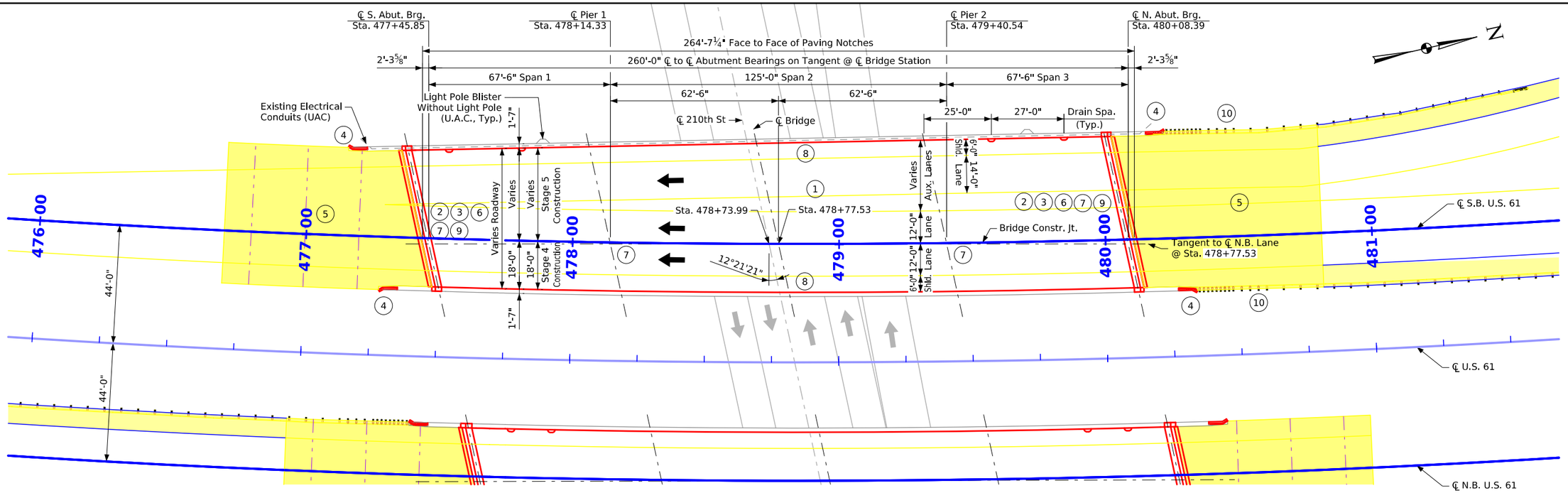
General Notes

STA. 478+73.99 (US 61) Turn-in Date: May 2026

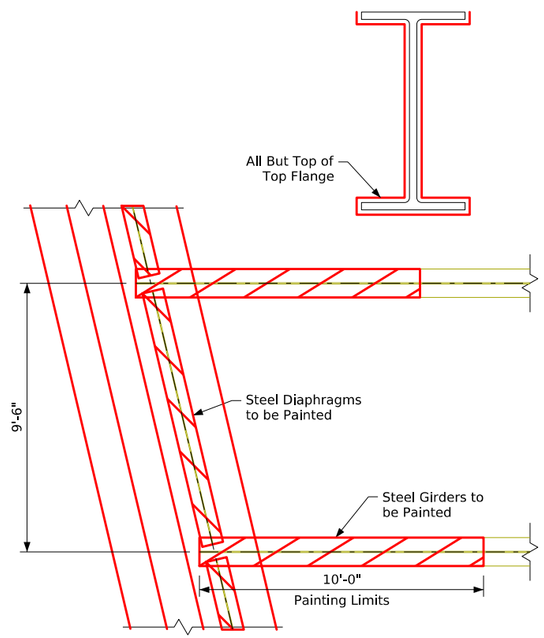
Scott County

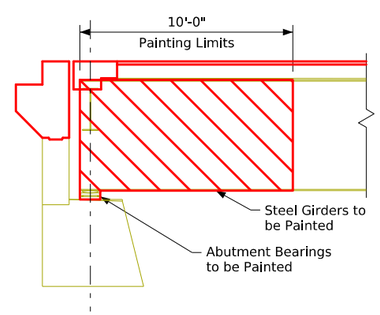
IOWA DEPARTMENT OF TRANSPORTATION

Design No. 0227 Design Sheet No. 2 of 19 FHWA No. 604655



Situation Plan

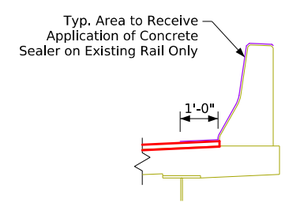




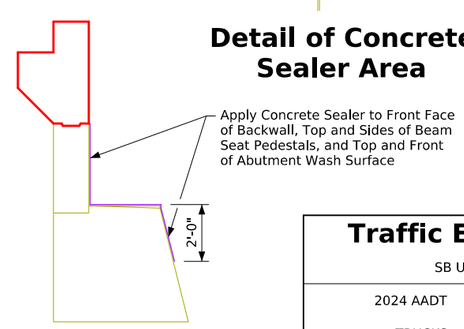
Note:
Clean and zone paint the beam ends, diaphragm, and bearings at each abutment. The painting zone should extend 10' from the beam ends.

Limits of Painting Structural Steel

Note: Details and limits of cleaning and painting shown above are typical for all 7 beams at both abutment ends.



Detail of Concrete Sealer Area



Abutment Concrete Sealer Details

Repairs shall consist of:

1. Scarify deck, complete Class A and Class B repairs, and overlay bridge with Class O or Fiber-Reinforced Class HPC-O PCC.
2. Remove existing bridge expansion joints and replace with new strip seal joint at both abutments.
3. Remove and replace top of backwalls and paving notches at each abutment.
4. Increase height of barrier rail end sections to be 34" tall after the grade raise.
5. ✱ Remove and replace approaches with 70' standard bridge approaches.
6. Clean and repaint bearings and girder ends.
7. Concrete repairs in the abutments, backwalls, and pier columns.
8. Seal top and inside face of barrier rails and barrier rail end sections to remain.
9. Seal abutment bearing seats and backwalls.
10. ✱ Replace guardrail at north end of bridge to meet current standards and adjust for grade raise.

✱ Note: Refer to roadway plans for additional information

Location

S.B. US 61 over 210th St
T-79N R-3E
Section 25 & 36
Sheridan Township
Scott County
FHWA No. 604655
Bridge Maint. No. 8224.1L061
Latitude 41.611428°
Longitude -90.563322°

Traffic Estimate

SB US 61

2024 AADT	16,450 V.P.D.
TRUCKS	11 %

Traffic Estimate

210th St.

2024 AADT	5,540 V.P.D.
TRUCKS	6 %

Design For Repairs to 12°18'42.77" Skew RA

260'-0"×Variable Width
Welded Plate Girder Bridge

67'-6" End Spans — 125'-0" Interior Span

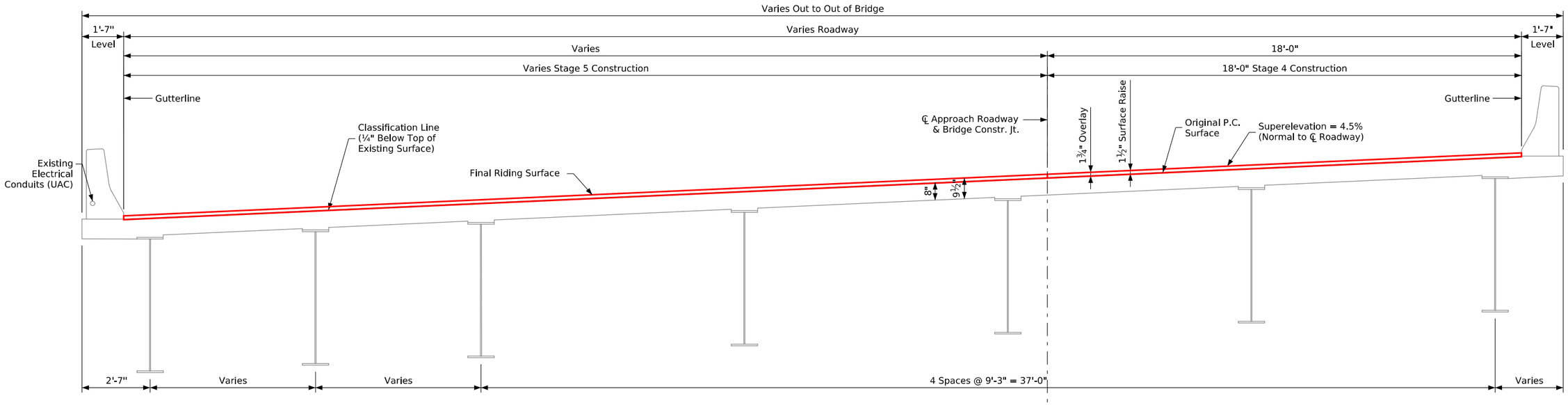
Situation Plan

STA. 478+73.99 (US 61) — Turn-in Date: May 2026

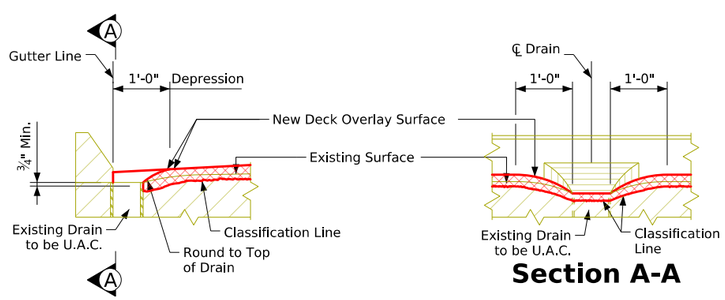
Scott County

IOWA DEPARTMENT OF TRANSPORTATION

Design No. 0227 — Design Sheet No. 3 of 19 — FHWA No. 604655

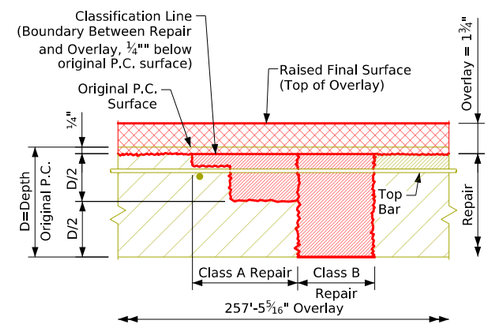


Typical Section
(Looking North)

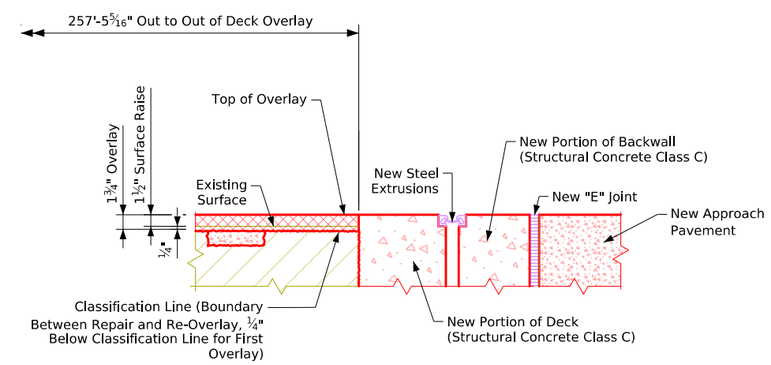


Section A-A

Deck Repair Detail at Drain
(Required at 4 Locations)



Repair and Overlay Definition



Part Longitudinal Section Along Roadway
Both Abutments

Design For Repairs to 12°18'42.77" Skew RA

260'-0"×Variable Width
Welded Plate Girder Bridge

67'-6" End Spans 125'-0" Interior Span

Deck Repair Details

STA. 478+73.99 (US 61) Turn-in Date: May 2026

Scott County

IOWA DEPARTMENT OF TRANSPORTATION

Design No. 0227 Design Sheet No. 4 of 19 FHWA No. 604655

FILE NO. 32417	ENGLISH	DESIGN TEAM Stanley Consultants, Inc.	Scott COUNTY	PROJECT NUMBER BRF-061-5(151)--38-82	SHEET NUMBER V.22

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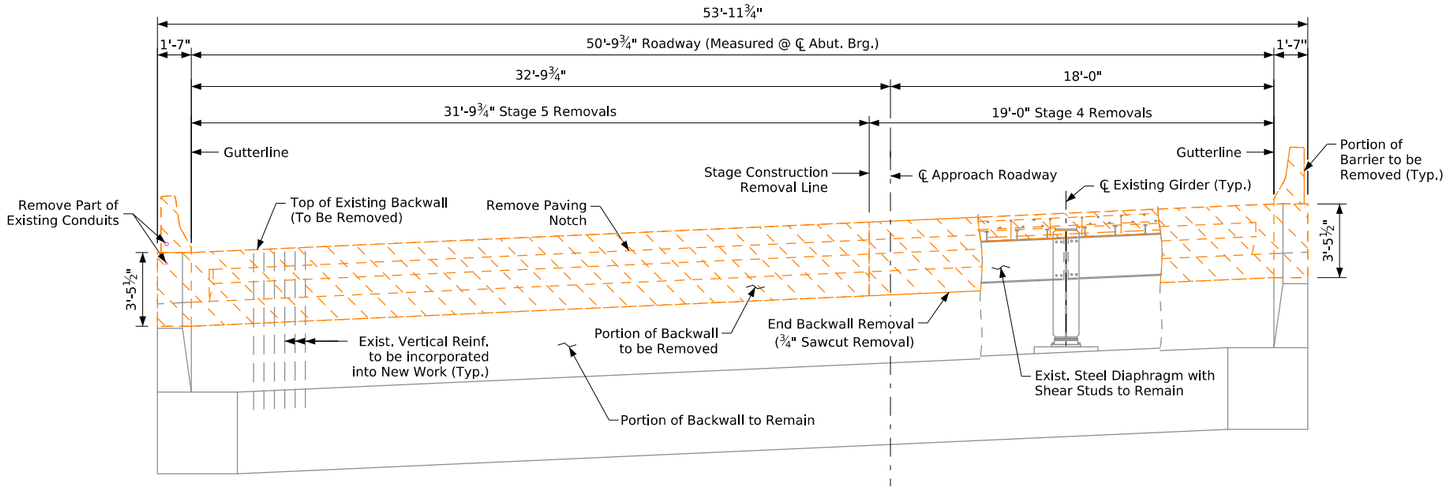
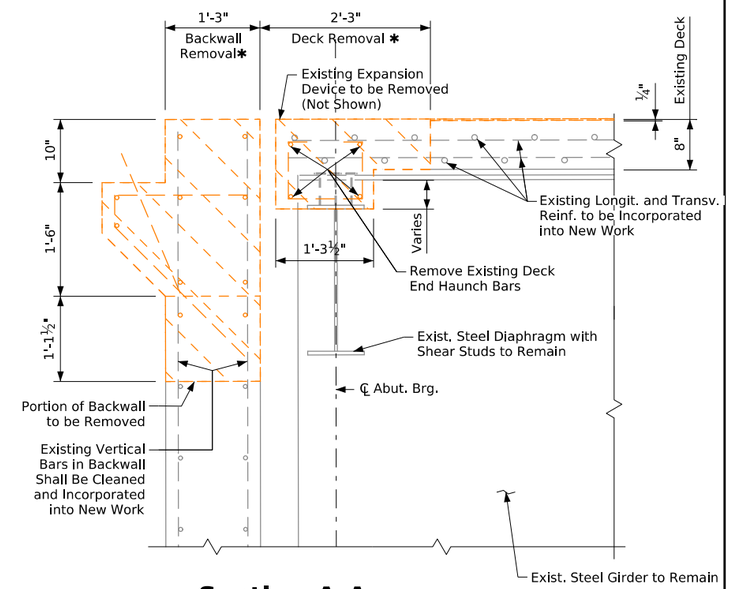
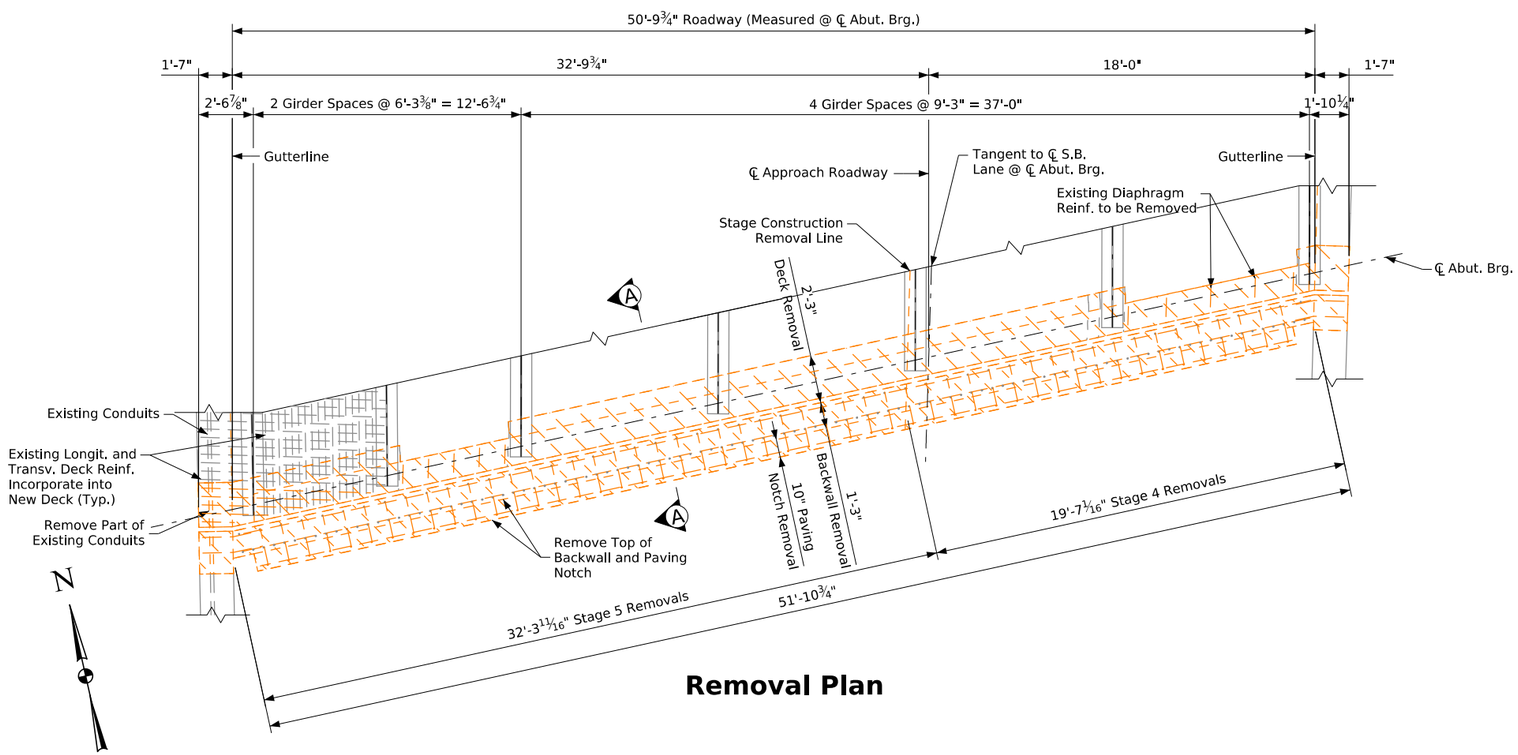


Abutment Backwall Rear Elevation
(Looking North)

✱ Measured Normal to Abutment



Section A-A



Removal Plan

Removal Notes:
Existing vertical bars in backwall, and longitudinal bars in deck shall be cleaned and incorporated into new work. Cut all existing bars incorporated into new work as needed to maintain 2" clear. Bars or dowels to remain that are damaged or rendered unserviceable by removal operations shall be replaced by contractor at no extra cost.

Design For Repairs to 12°18'42.77" Skew RA

260'-0"×Variable Width
Welded Plate Girder Bridge

67'-6" End Spans — 125'-0" Interior Span

South Abutment Removal Details

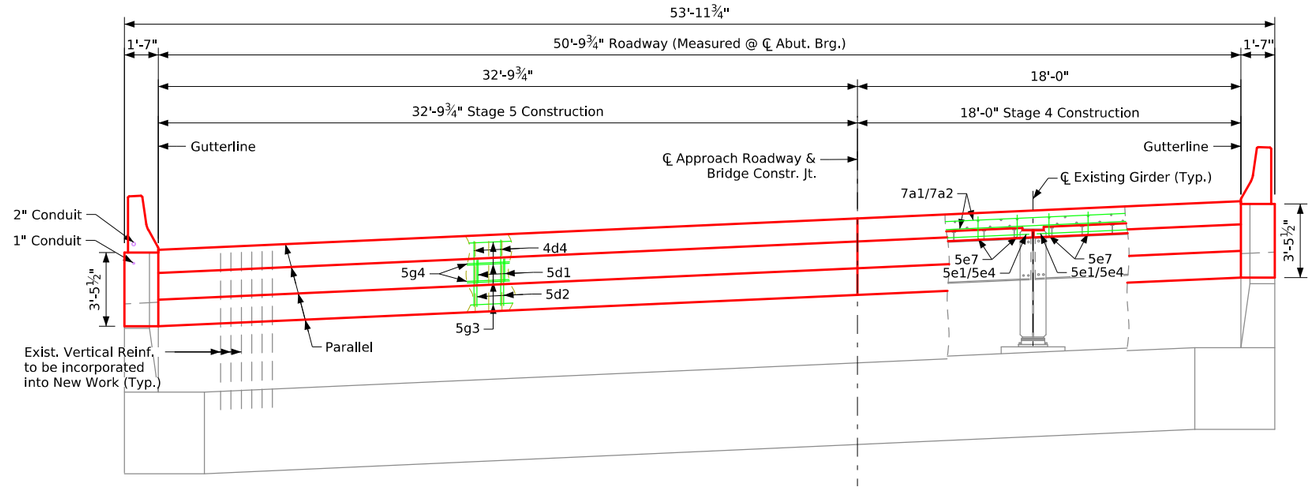
STA. 478+73.99 (US 61) — Turn-in Date: May 2026

Scott County

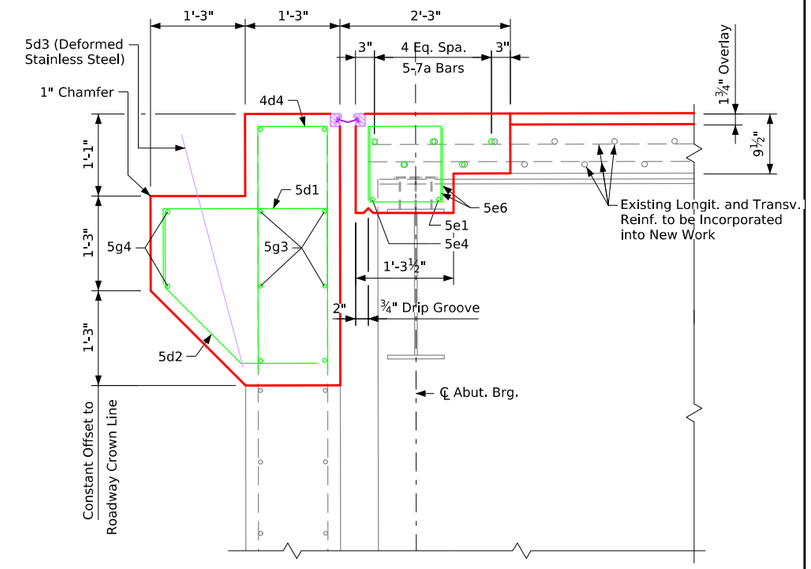
IOWA DEPARTMENT OF TRANSPORTATION

Design No. 0227 — Design Sheet No. 5 of 19 — FHWA No. 604655

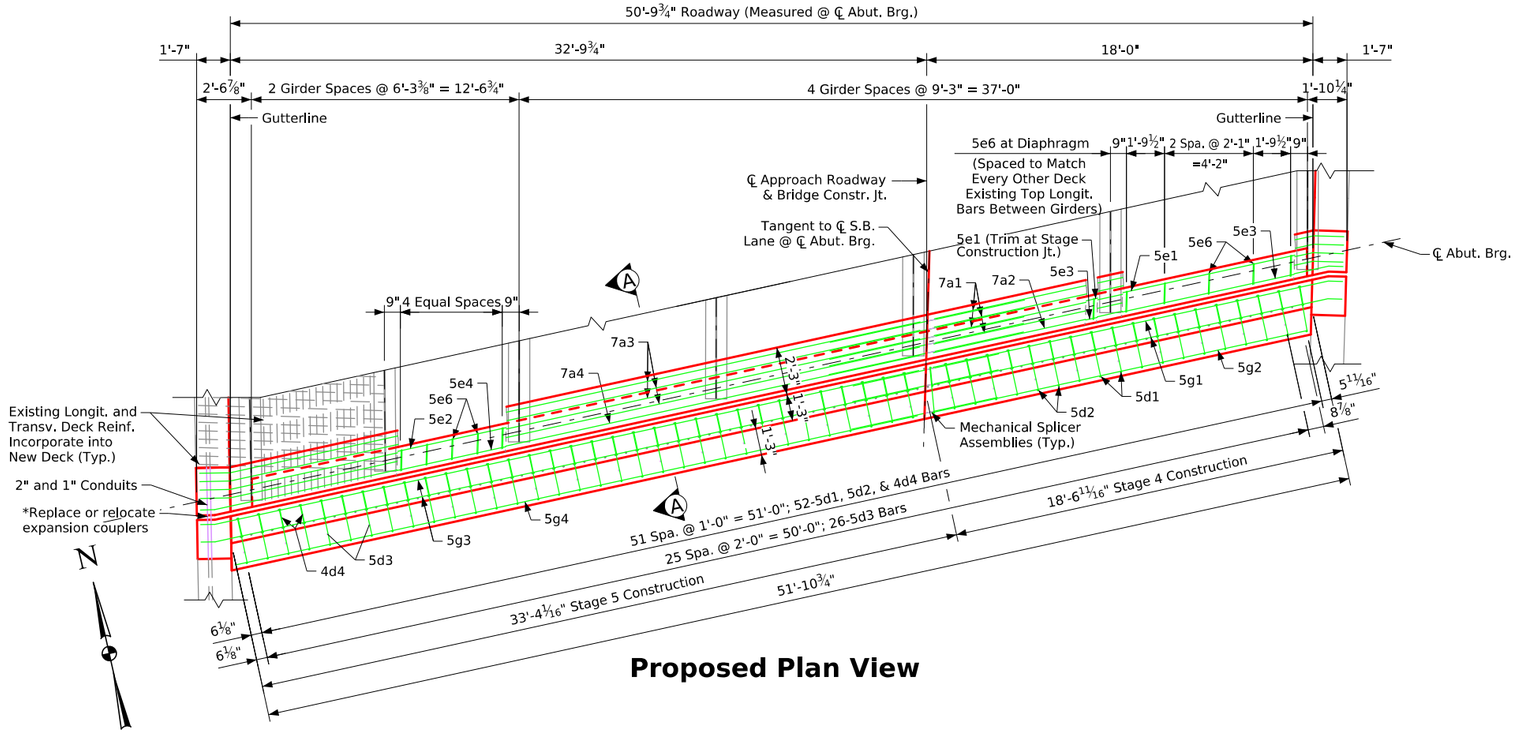
FILE NO. 32417	ENGLISH	DESIGN TEAM Stanley Consultants, Inc.	Scott COUNTY	PROJECT NUMBER BRF-061-5(151)--38-82	SHEET NUMBER V.23



Proposed Abutment Backwall Rear Elevation
(Looking North)



Section A-A



Proposed Plan View

*Contractor shall replace or relocate expansion couplers as needed. This work shall be included in the bid price for "Structural Concrete (Misc.)".

Design For Repairs to 12°18'42.77" Skew RA

260'-0"×Variable Width Welded Plate Girder Bridge

67'-6" End Spans — 125'-0" Interior Span

South Abutment Details

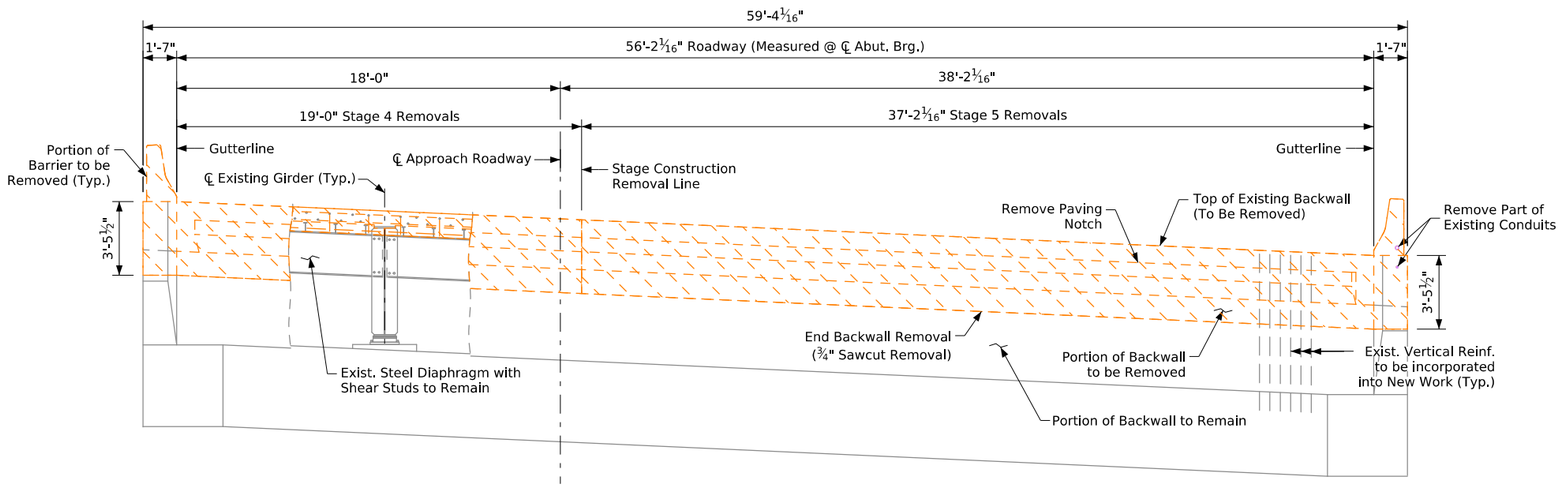
STA. 478+73.99 (US 61) — Turn-in Date: May 2026

Scott County

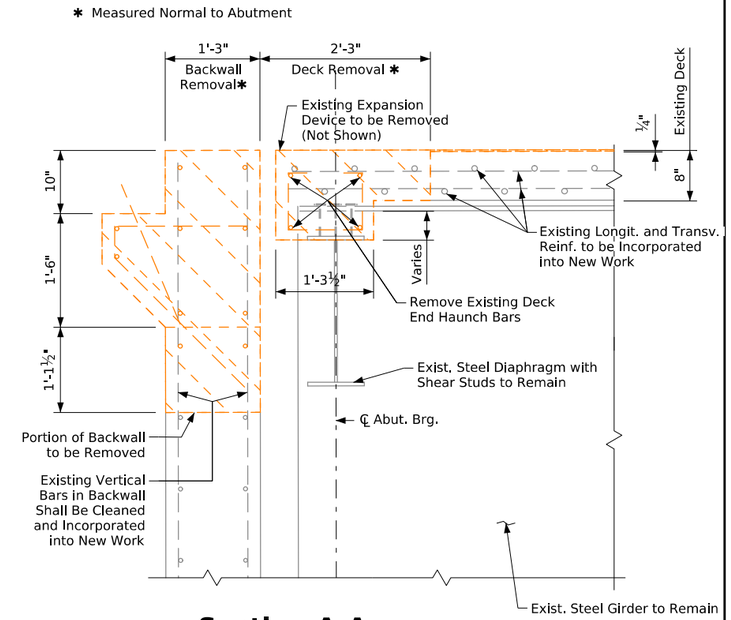
IOWA DEPARTMENT OF TRANSPORTATION

Design No. 0227 — Design Sheet No. 6 of 19 — FHWA No. 604655

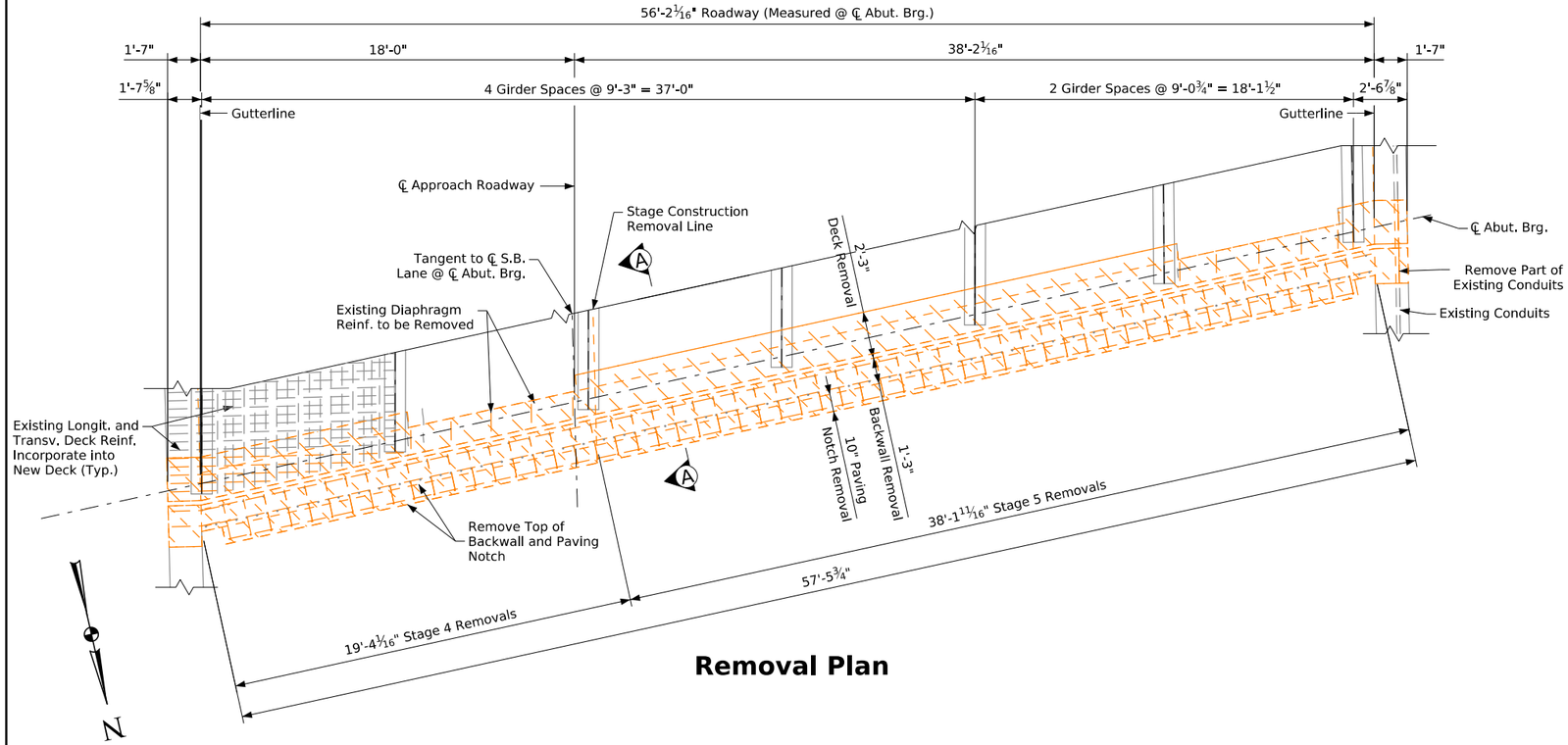
FILE NO. 32417	ENGLISH	DESIGN TEAM Stanley Consultants, Inc.	Scott COUNTY	PROJECT NUMBER BRF-061-5(151)--38-82	SHEET NUMBER V.24



Abutment Backwall Rear Elevation
(Looking South)



Section A-A



Removal Plan

Removal Notes:

Existing vertical bars in backwall, and longitudinal bars in deck shall be cleaned and incorporated into new work. Cut all existing bars incorporated into new work as needed to maintain 2" clear. Bars or dowels to remain that are damaged or rendered unserviceable by removal operations shall be replaced by contractor at no extra cost.

Design For Repairs to 12°18'42.77" Skew RA

260'-0"×Variable Width Welded Plate Girder Bridge

67'-6" End Spans — 125'-0" Interior Span

North Abutment Removal Details

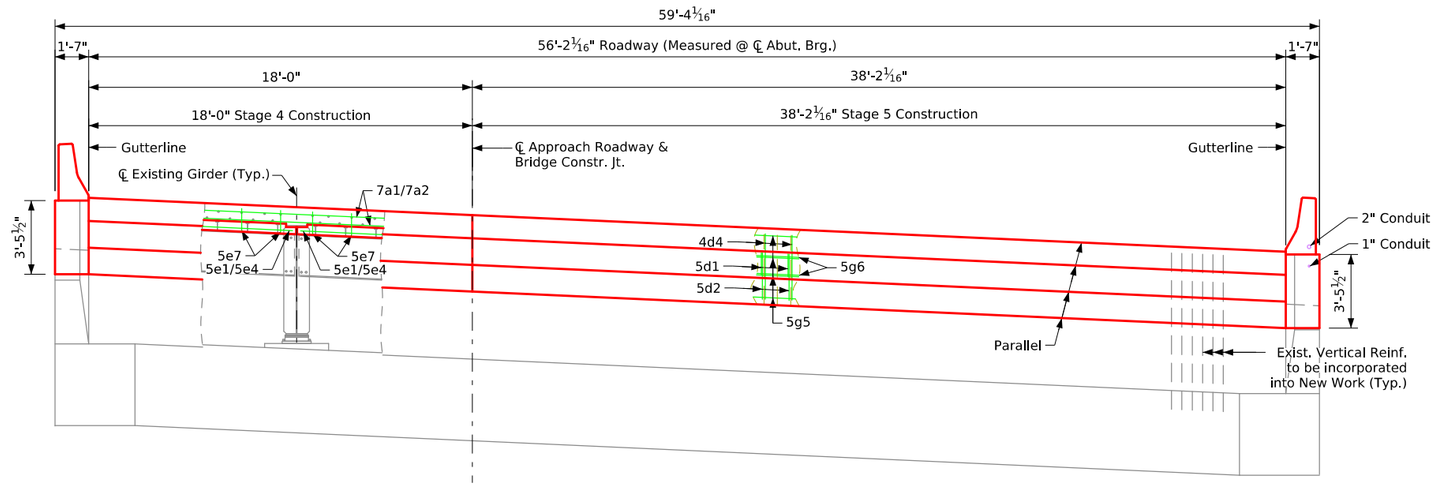
STA. 478+73.99 (US 61) — Turn-in Date: May 2026

Scott County

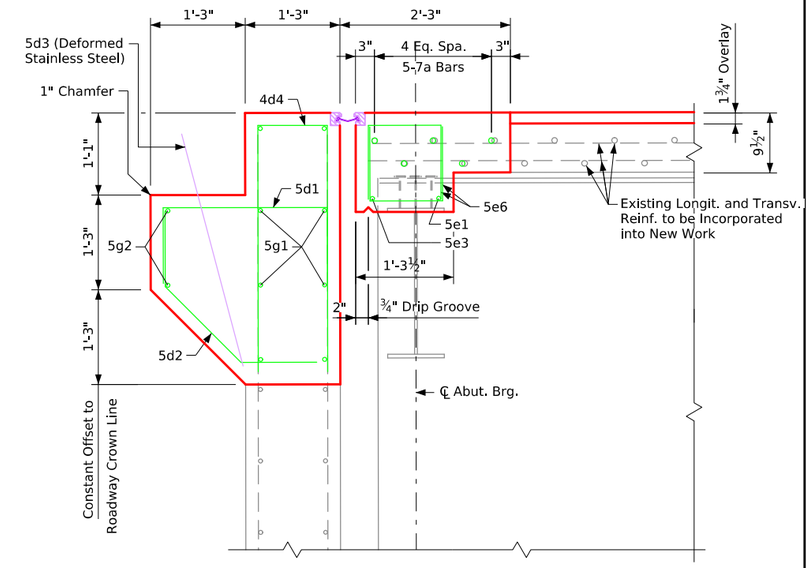
IOWA DEPARTMENT OF TRANSPORTATION

Design No. 0227 — Design Sheet No. 7 of 19 — FHWA No. 604655

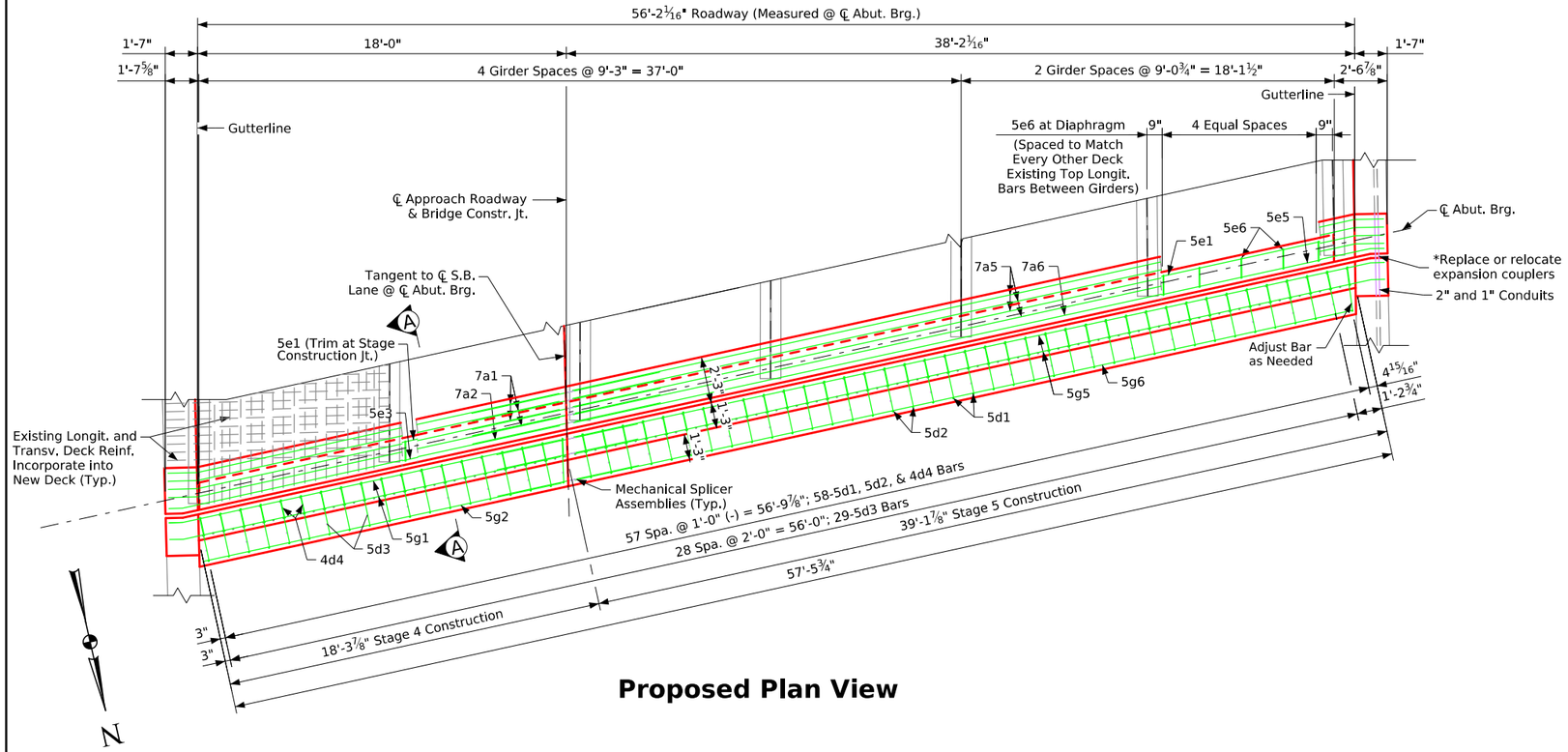
FILE NO. 32417	ENGLISH	DESIGN TEAM Stanley Consultants, Inc.	Scott COUNTY	PROJECT NUMBER BRF-061-5(151)--38-82	SHEET NUMBER V.25



Proposed Abutment Backwall Rear Elevation
(Looking South)



Section A-A



Proposed Plan View

*Contractor shall replace or relocate expansion couplers as needed. This work shall be included in the bid price for "Structural Concrete (Misc.)".

Design For Repairs to 12°18'42.77" Skew RA

260'-0"×Variable Width Welded Plate Girder Bridge

67'-6" End Spans — 125'-0" Interior Span

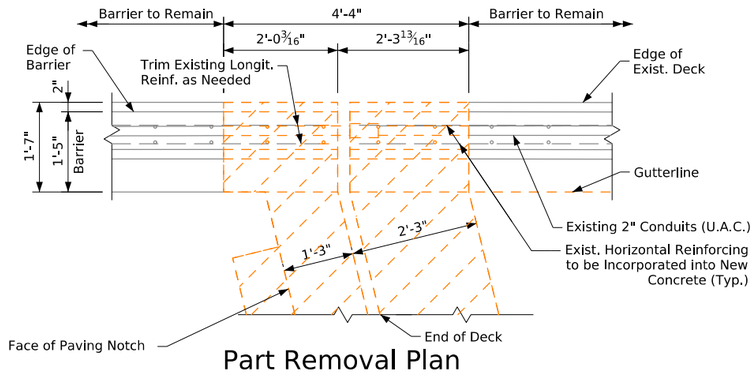
North Abutment Details

STA. 478+73.99 (US 61) — Turn-in Date: May 2026

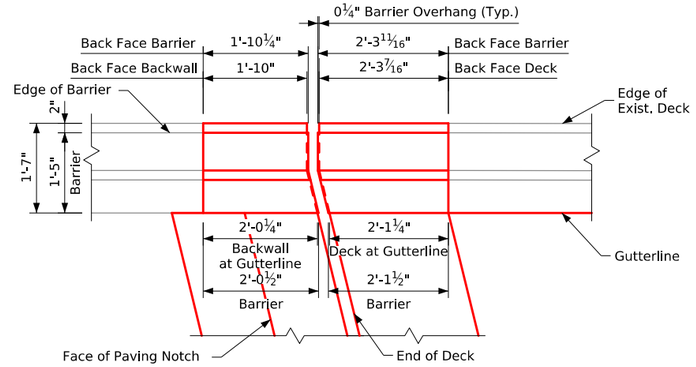
Scott County

IOWA DEPARTMENT OF TRANSPORTATION

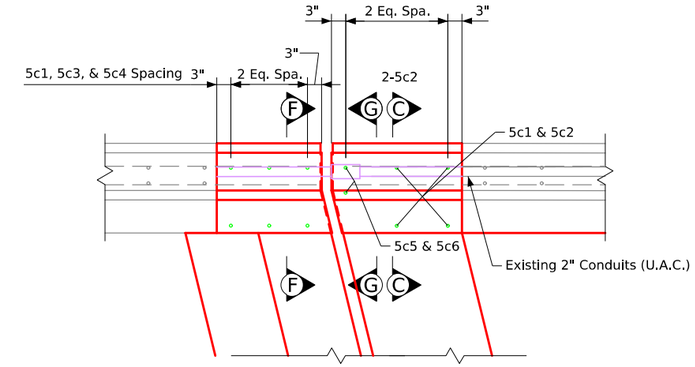
Design No. 0227 — Design Sheet No. 8 of 19 — FHWA No. 604655



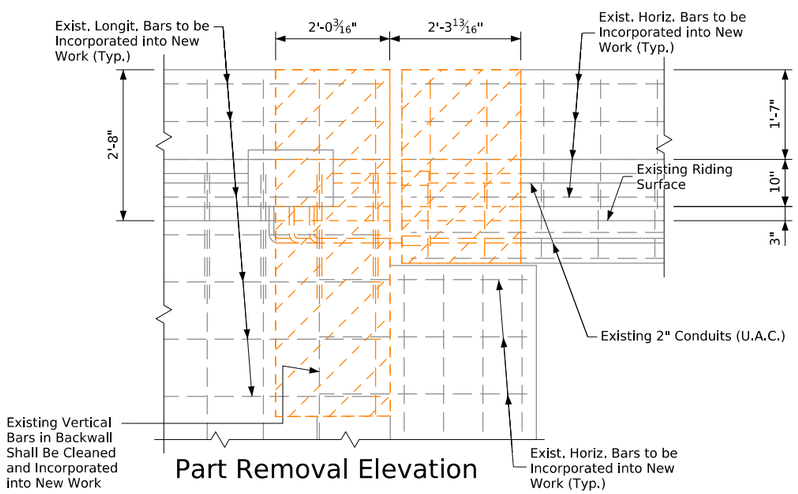
Part Removal Plan



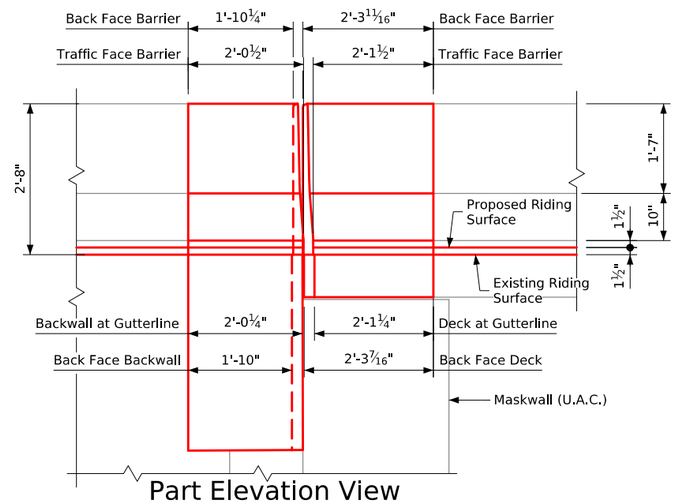
Part Plan View
(Reinforcing and Conduits Not Shown)



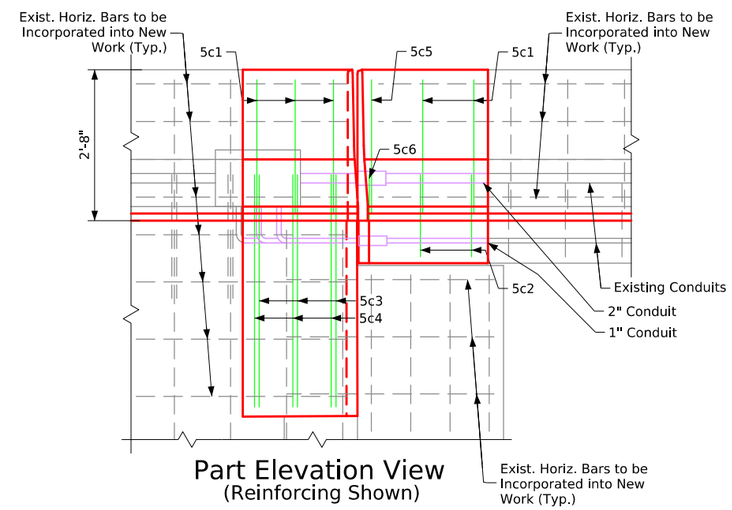
Part Plan View
(Reinforcing Shown)



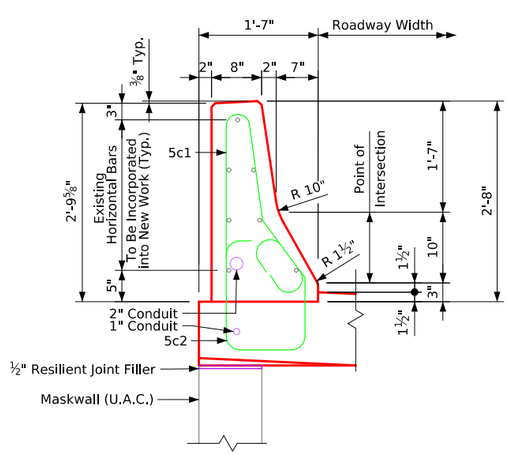
Part Removal Elevation



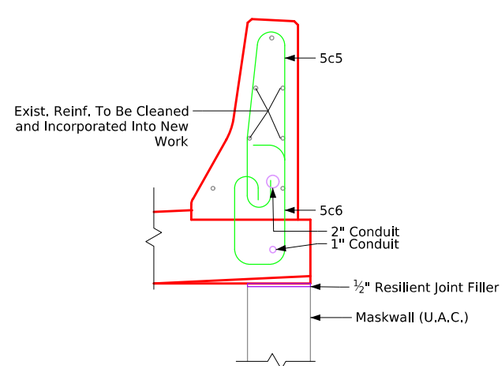
Part Elevation View
(Reinforcing and Conduits Not Shown)



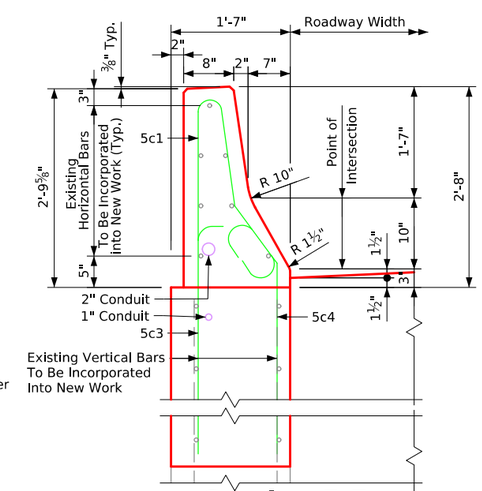
Part Elevation View
(Reinforcing Shown)



Section C-C



Section G-G



Section F-F

Note: Existing conduits and junction boxes along east side. Contractor shall carefully remove concrete around the existing conduits and junction boxes and incorporate into new work. Contractor shall replace or relocate expansion couplers as needed. This work shall be included in the bid price for "Structural Contrete (Misc.)". Contractor shall replace or relocate expansion couplers as needed. This work shall be included in the bid price for "Structural Concrete (Misc.)".

Design For Repairs to 12°18'42.77" Skew RA

260'-0"×Variable Width Welded Plate Girder Bridge

67'-6" End Spans — 125'-0" Interior Span

N.E. And S.W. Barrier Details

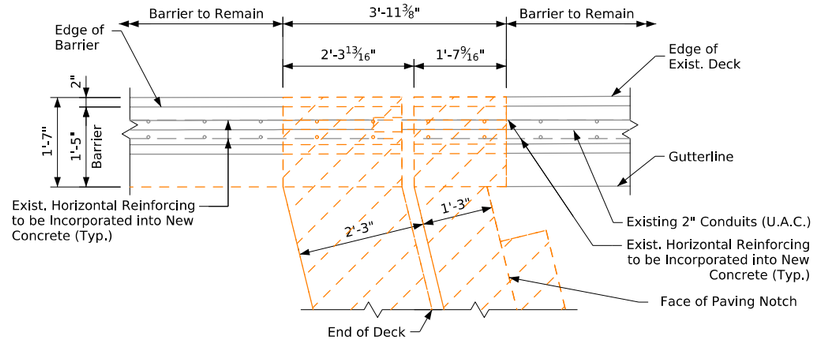
STA. 478+73.99 (US 61) — Turn-in Date: May 2026

Scott County

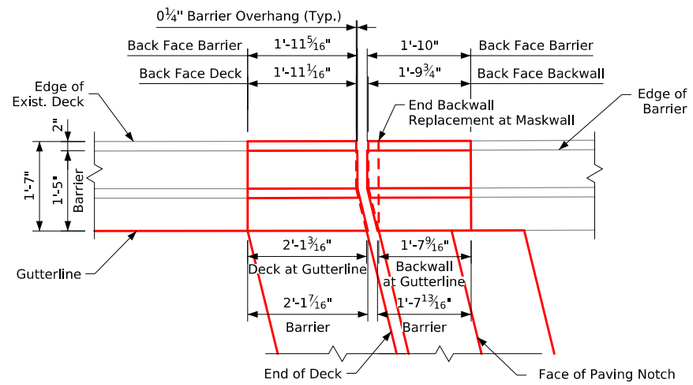
IOWA DEPARTMENT OF TRANSPORTATION

Design No. 0227 — Design Sheet No. 9 of 19 — FHWA No. 604655

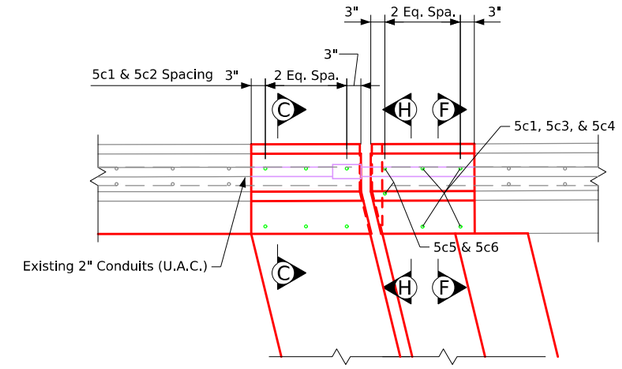
FILE NO. 32417	ENGLISH	DESIGN TEAM Stanley Consultants, Inc.	Scott COUNTY	PROJECT NUMBER BRF-061-5(151)--38-82	SHEET NUMBER V.27



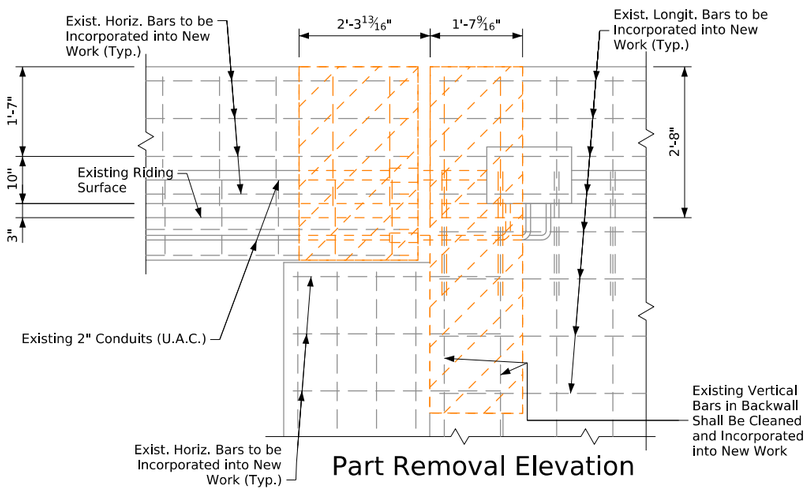
Part Removal Plan



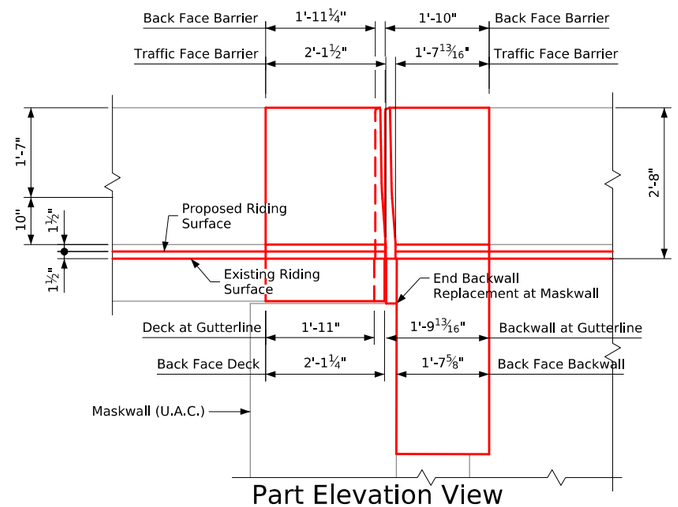
Part Plan View
(Reinforcing and Conduits Not Shown)



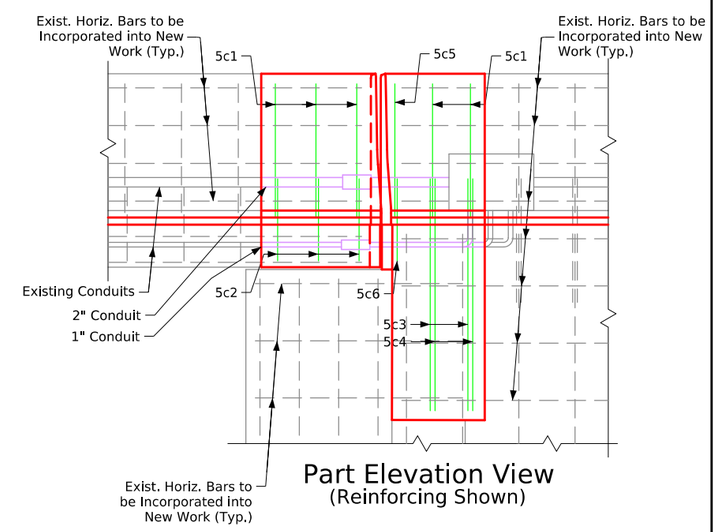
Part Plan View
(Reinforcing Shown)



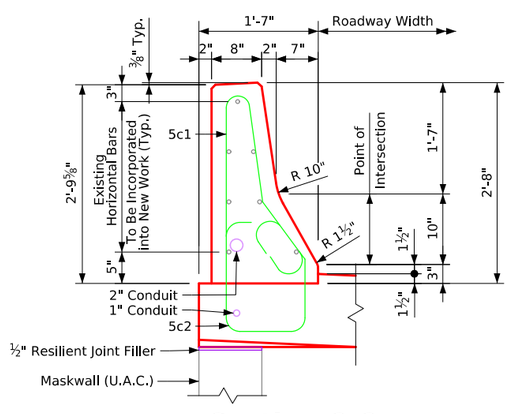
Part Removal Elevation



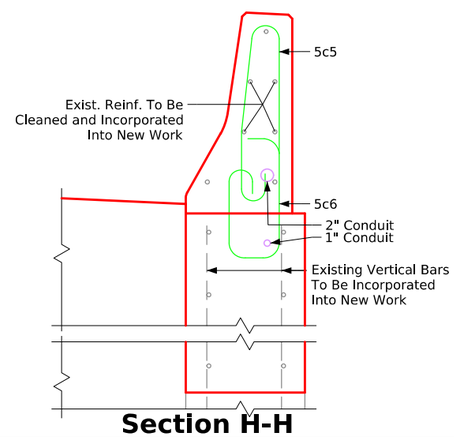
Part Elevation View
(Reinforcing and Conduits Not Shown)



Part Elevation View
(Reinforcing Shown)



Section C-C



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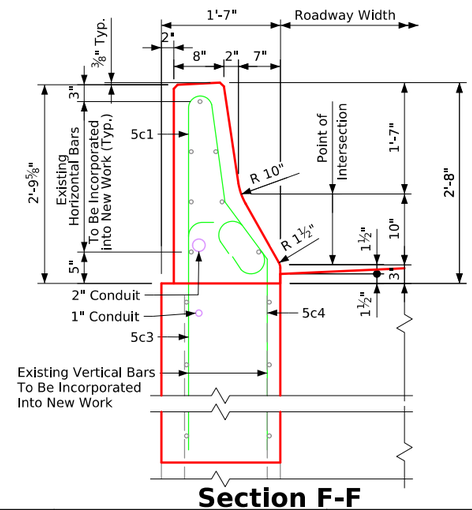


Section F-F

Note: Existing conduits and junction boxes along east side. Contractor shall carefully remove concrete around the existing conduits and junction boxes and incorporate into new work. Contractor shall replace or relocate expansion couplers as needed. This work shall be included in the bid price for "Structural Concrete (Misc.)".

Design For Repairs to 12°18'42.77" Skew RA

260'-0"×Variable Width Welded Plate Girder Bridge

67'-6" End Spans — 125'-0" Interior Span

N.W. And S.E. Barrier Details

STA. 478+73.99 (US 61) — Turn-in Date: May 2026

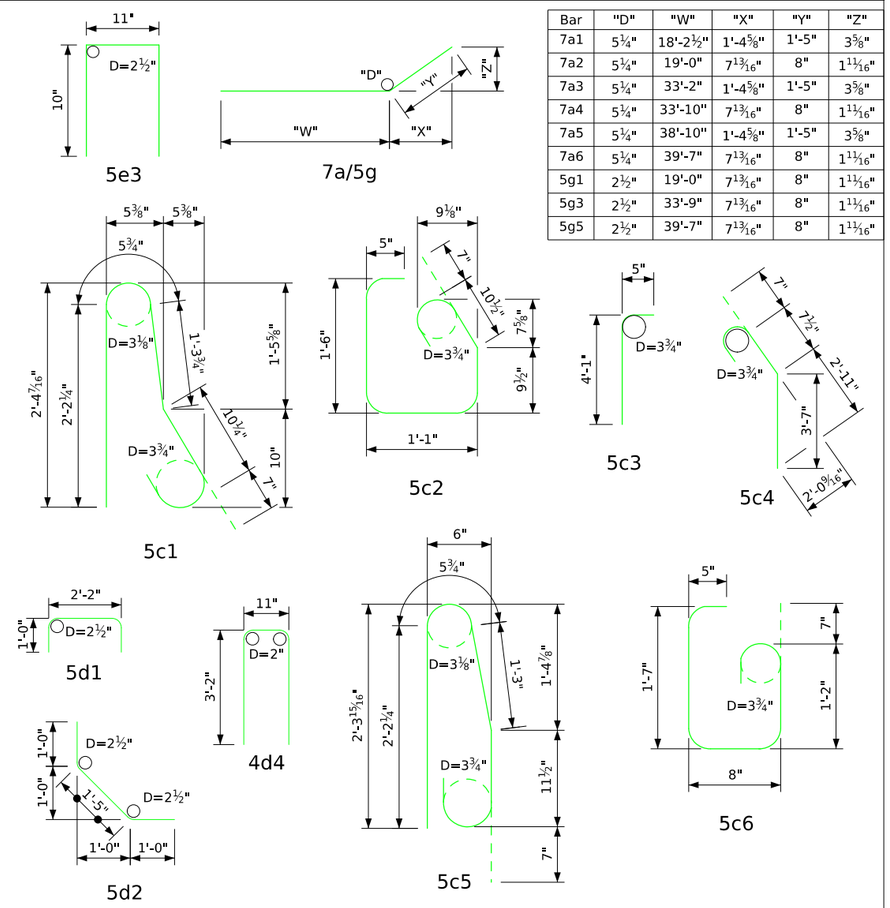
Scott County

IOWA DEPARTMENT OF TRANSPORTATION

Design No. 0227 — Design Sheet No. 10 of 19 — FHWA No. 604655

FILE NO. 32417	ENGLISH	DESIGN TEAM Stanley Consultants, Inc.	Scott COUNTY	PROJECT NUMBER BRF-061-5(151)--38-82	SHEET NUMBER V.28

Bent Bar Details



Bar	"D"	"W"	"X"	"Y"	"Z"
7a1	5¼"	18'-2½"	1'-4⅝"	1'-5"	3⅝"
7a2	5¼"	19'-0"	7 13/16"	8"	1 11/16"
7a3	5¼"	33'-2"	1'-4⅝"	1'-5"	3⅝"
7a4	5¼"	33'-10"	7 13/16"	8"	1 11/16"
7a5	5¼"	38'-10"	1'-4⅝"	1'-5"	3⅝"
7a6	5¼"	39'-7"	7 13/16"	8"	1 11/16"
5g1	2½"	19'-0"	7 13/16"	8"	1 11/16"
5g3	2½"	33'-9"	7 13/16"	8"	1 11/16"
5g5	2½"	39'-7"	7 13/16"	8"	1 11/16"

Note: All dimensions are out to out. D = pin diameter

Epoxy Reinforcing Steel - Both Abutments and Deck Ends

Bar	Location	Shape	No.	Length	Weight
7a1	Deck Transverse (Stage 4)		8	19'-8"	321
7a2	Deck Transverse (Stage 4)		2	19'-8"	80
7a3	Deck Transverse S. Abut. (Stage 5)		4	34'-7"	283
7a4	Deck Transverse S. Abut. (Stage 5)		1	34'-6"	71
7a5	Deck Transverse N. Abut. (Stage 5)		4	40'-3"	329
7a6	Deck Transverse N. Abut. (Stage 5)		1	40'-3"	82
5c1	Barrier Vertical		20	5'-5"	113
5c2	Barrier Vertical		10	5'-3"	55
5c3	Barrier Vertical		10	4'-6"	47
5c4	Barrier Vertical		10	4'-10"	50
5c5	Barrier Vertical		4	5'-6"	23
5c6	Barrier Vertical		4	4'-5"	18
5d1	Paving Notch		110	4'-2"	478
5d2	Paving Notch		110	3'-5"	392
4d4	Backwall, Vertical		110	7'-3"	533
5e1	Diaphragm, Between Girders		10	9'-2"	95
5e2	Diaphragm, Between Girders		2	6'-1"	13
5e3	Diaphragm, Horizontal		2	18'-0"	37
5e4	Diaphragm, Horizontal S. Abut. (Stage 5)		1	32'-0"	33
5e5	Diaphragm, Horizontal N. Abut. (Stage 5)		1	37'-9"	39
5e6	Diaphragm, Hoops		120	2'-7"	323
5g1	Backwall, Longitudinal (Stage 4)		16	19'-8"	328
5g2	Backwall, Longitudinal (Stage 4)		4	18'-0"	75
5g3	Backwall, Longitudinal S. Abut. (Stage 5)		8	34'-5"	287
5g4	Backwall, Longitudinal S. Abut. (Stage 5)		2	32'-9"	68
5g5	Backwall, Longitudinal N. Abut. (Stage 5)		8	40'-3"	336
5g6	Backwall, Longitudinal N. Abut. (Stage 5)		2	38'-8"	81
				Total (lbs.)	4,590

Stainless Steel Bar List – Both Abutments

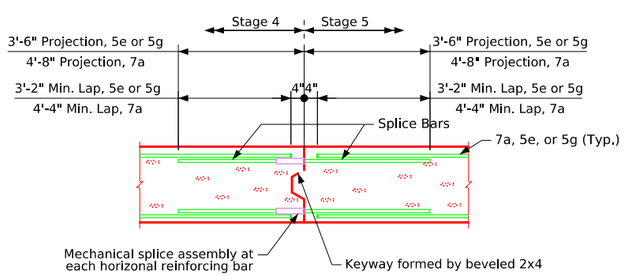
Bar	Location	Shape	No.	Length	Weight
5d3	Paving Notch Dowels		55	3'-2"	182
				Stainless Steel – Total Weight (lbs.)	182

Mechanical Splice Assembly Notes:

The 7a1-7a6 slab bars, 5e3-5e5 diaphragm bars, and 5g1-5g6 bars in the abutment backwalls and paving notches shall be spliced at the locations shown using mechanical splice assemblies. Mechanical splice assemblies consist of mechanical splicers and reinforcing splice bars as required to facilitate the use of the mechanical splicer. The mechanical splice assembly used shall meet the requirements of Materials I.M. 451 Appendix E. Reinforcing splice bars shall be a minimum of ⅝ inch dia.

All mechanical splice assemblies to be used shall be epoxy coated.

The cost of all splice assemblies is to be included in the price bid for "Reinforcing Steel Epoxy Coated" and no separate payment will be made. A total of 32 epoxy coated splice assemblies will be required



Mechanical Splice Detail

Concrete Placement Summary

Location	Stage 4	Stage 5
South Abutment Backwall, Paving Notch, & Rail	4.9	8.7
South End of Deck, Diaphragm, & Rail	1.8	3.0
North End of Deck, Diaphragm, & Rail	1.8	3.4
North Abutment Backwall, Paving Notch, & Rail	5.0	10.3
Total (cy)	13.5	25.4

Design For Repairs to 12°18'42.77" Skew RA

260'-0"×Variable Width

Welded Plate Girder Bridge

67'-6" End Spans 125'-0" Interior Span

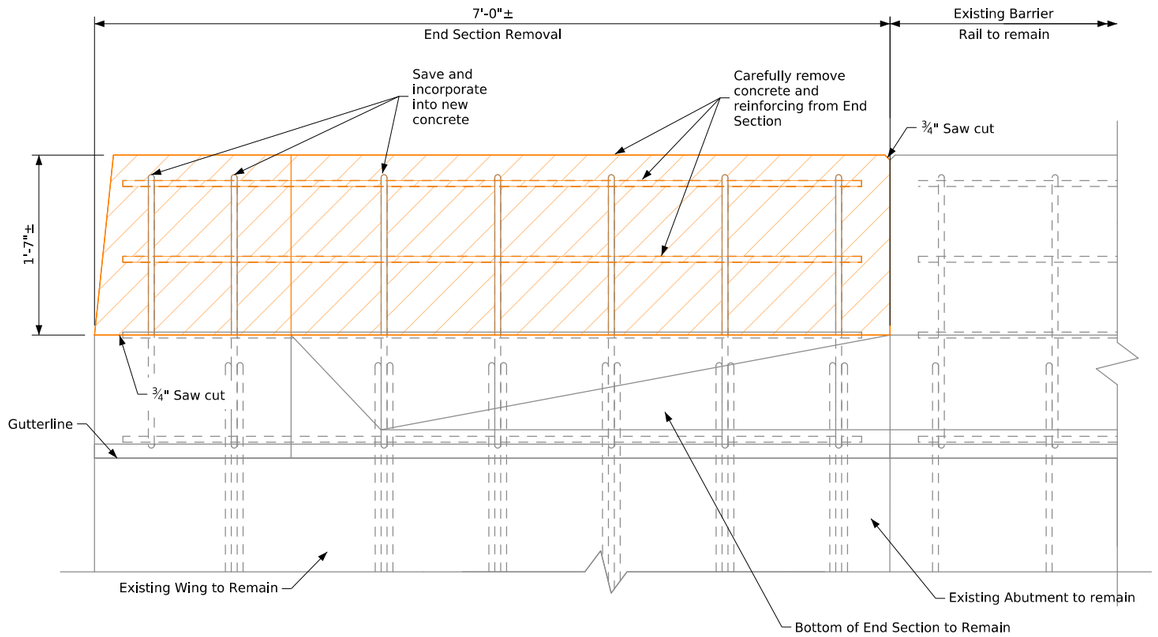
Abutment Details and Bar List

STA. 478+73.99 (US 61) Turn-in Date: May 2026

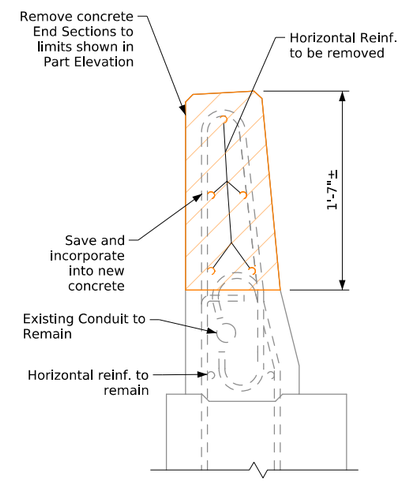
Scott County

IOWA DEPARTMENT OF TRANSPORTATION

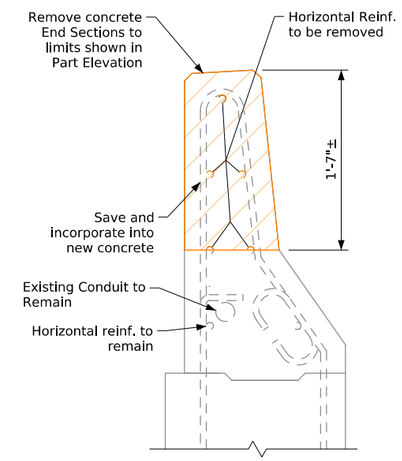
Design No. 0227 Design Sheet No. 11 of 19 FHWA No. 604655



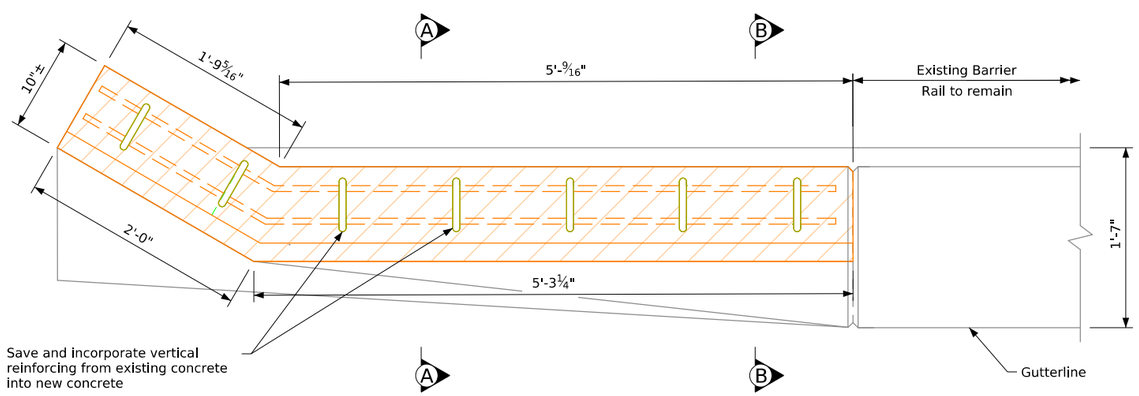
Part Elevation



Section A-A



Section B-B



Part Plan

Removal Notes

Hatched areas indicate concrete removal.

This sheet shows details of the partial barrier end section removal on the existing bridge. All partial removals shall be in accordance with Section 2401 of the Standard Specifications. All such removals shall be to neat saw cuts to provide clean straight surfaces at interfaces between new concrete and remaining concrete. The removal shall be done in a manner which will prevent any damage to the existing structure to remain. The Contractor shall assume full responsibility for any damage caused, and shall repair any damaged area to its original condition as directed by the Engineer, at the Contractor's expense. Any existing reinforcing steel which is to be "saved" that is exposed during removal operations is to be carefully protected, cleaned, and incorporated into new construction unless noted otherwise.

Start all removals with ¾" saw cut.

Design For Repairs to 12°18'42.77" Skew RA

260'-0"×Variable Width

Welded Plate Girder Bridge

67'-6" End Spans 125'-0" Interior Span

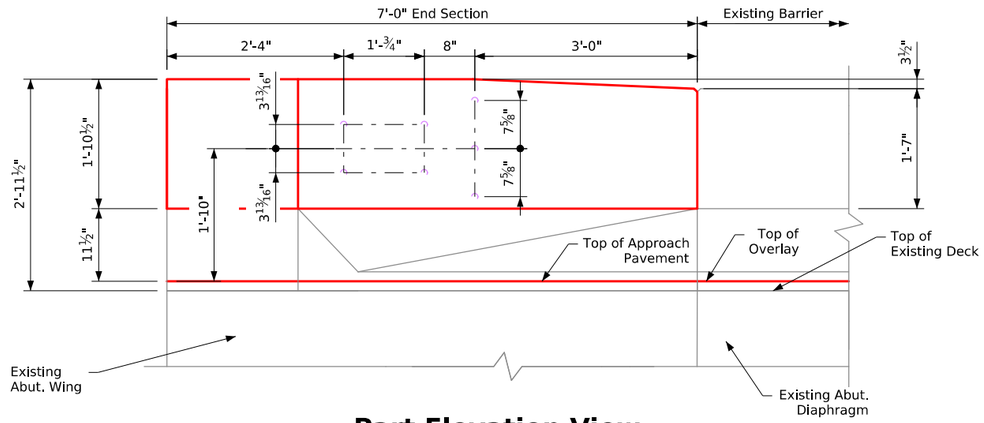
End Section Removals

STA. 478+73.99 (US 61) Turn-in Date: May 2026

Scott County

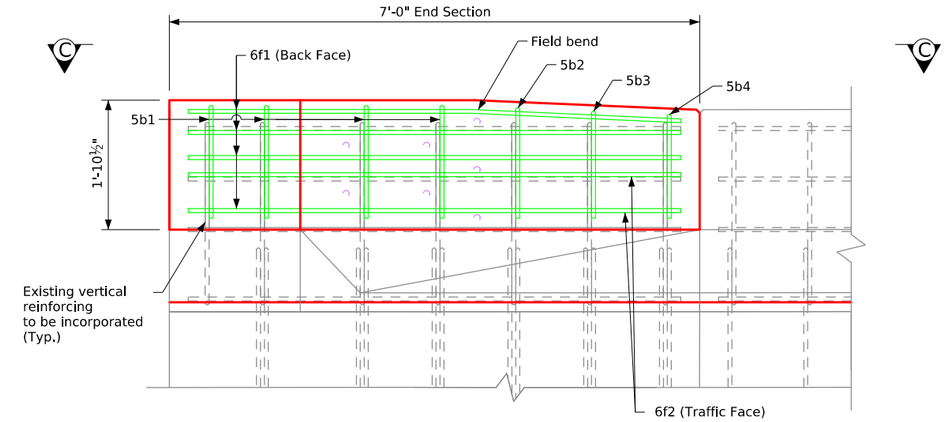
IOWA DEPARTMENT OF TRANSPORTATION

Design No. 0227 Design Sheet No. 12 of 19 FHWA No. 604655

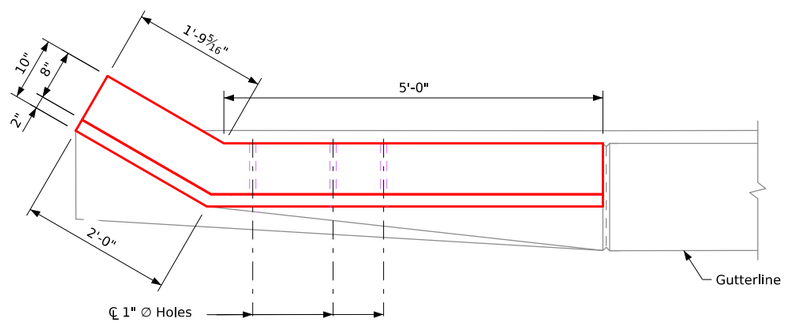


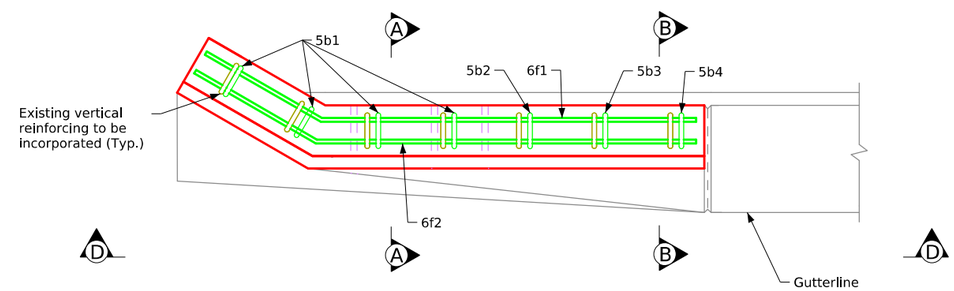
Part Elevation View

Provide 7 holes formed with 1"∅ plastic conduit. Cost to be included in price bid for "Structural Concrete (Misc.)"

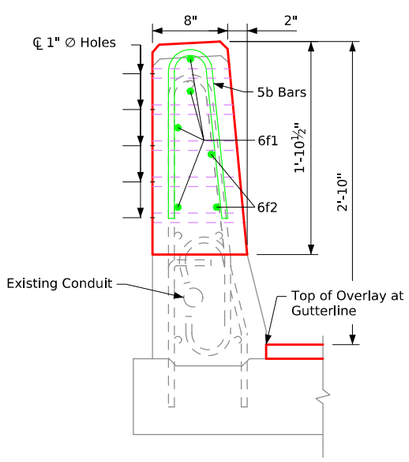


Part View D-D

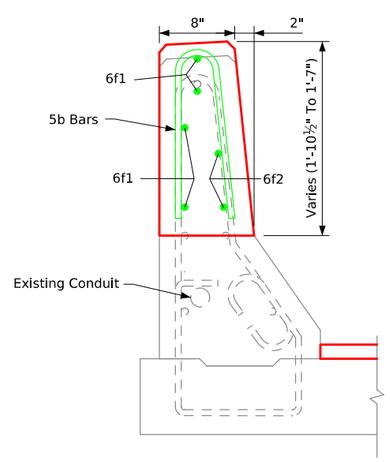




Part View C-C



Section A-A



Section B-B

NOTE:

Top of End Section concrete to remain shall be rough concrete.

Design For Repairs to 12°18'42.77" Skew RA

260'-0"×Variable Width Welded Plate Girder Bridge

67'-6" End Spans 125'-0" Interior Span

End Section Details

STA. 478+73.99 (US 61) Turn-in Date: May 2026

Scott County

IOWA DEPARTMENT OF TRANSPORTATION

Design No. 0227 Design Sheet No. 13 of 19 FHWA No. 604655

FILE NO. 32417	ENGLISH	DESIGN TEAM Stanley Consultants, Inc.	Scott COUNTY	PROJECT NUMBER BRF-061-5(151)--38-82	SHEET NUMBER V.31

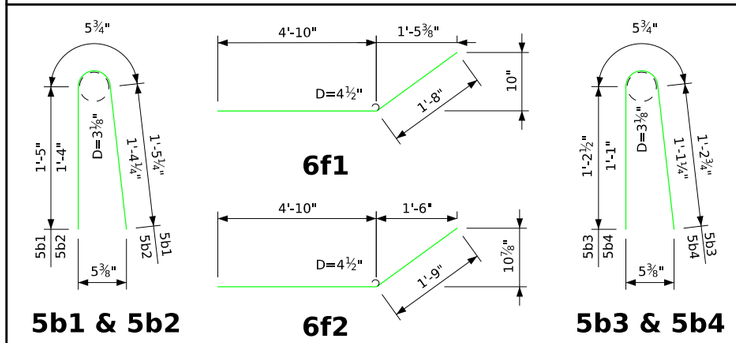
Epoxy Reinforcing Steel - One End Section

Bar	Location	Shape	No.	Length	Weight
5b1	Vertical End Section		4	3'-4"	14
5b2	Vertical End Section		1	3'-2"	3
5b3	Vertical End Section		1	2'-11"	3
5b4	Vertical End Section		1	2'-8"	3
6f1	Horizontal Back Face		4	6'-6"	39
6f2	Horizontal Back Face		2	6'-7"	20
				Total Weight (lbs.)	82

Concrete Placement Summary - One End Section

Location	CY
Barrier Rail One End Section	0.37
Total (CY)	0.37

Bent Bar Details



Note: All dimensions are out to out. D = pin diameter

Design For Repairs to 12°18'42.77" Skew RA

260'-0"×Variable Width

Welded Plate Girder Bridge

67'-6" End Spans 125'-0" Interior Span

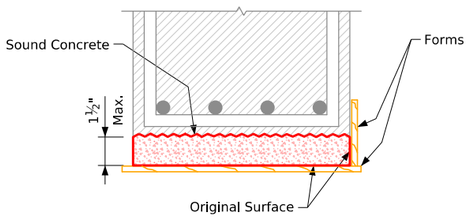
End Section Details

STA. 478+73.99 (US 61) Turn-in Date: May 2026

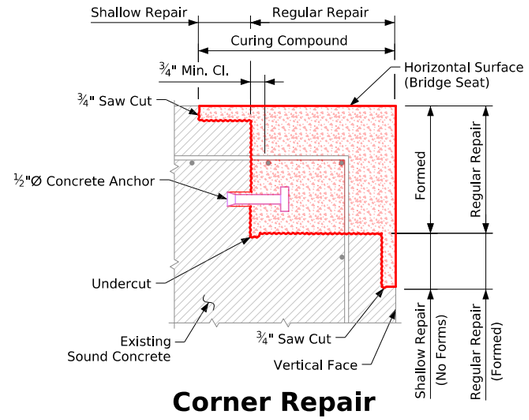
Scott County

IOWA DEPARTMENT OF TRANSPORTATION

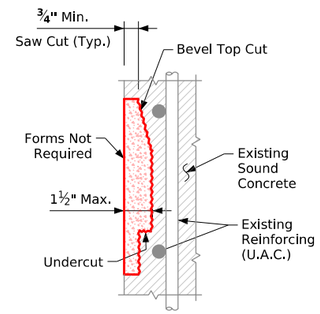
Design No. 0227 Design Sheet No. 14 of 19 FHWA No. 604655



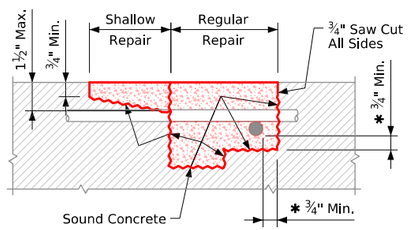
Shallow Repair Bottom Surface



Corner Repair

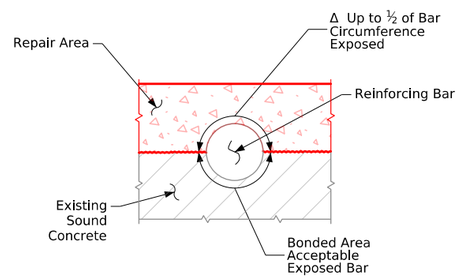


Shallow Repair Vertical Face

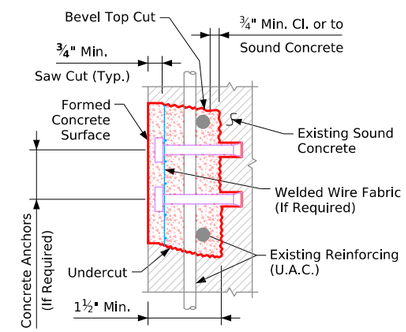


Repair Definition

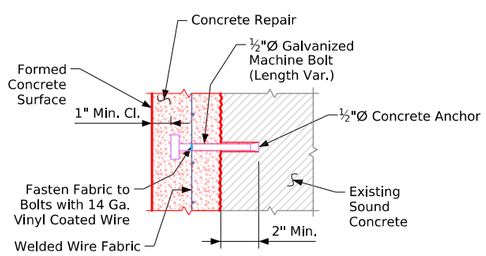
✱ Indicates Clearance for an Un-Bonded Rebar.



Δ If more than ½ of the rebar is exposed it shall be treated as an un-bonded rebar.

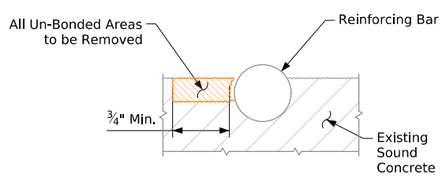


Regular Repair Vertical Face



Anchor Detail

For Spacing and Use of Concrete Anchors and WWF See the Repair Notes.



Concrete Removal Adjacent to Reinforcing

Repair Notes:

The spalled and hollow areas of this bridge as noted and shown in these plans shall be repaired as follows:

- All the costs of equipment and materials required to repair the spalled and hollow areas of this bridge shall be included in the price bid for "Concrete Repair".
- The price bid for "Concrete Repair" shall include the cost of all concrete anchors and welded wire fabric required by the plans.
- The Engineer shall determine and outline by visual and audible inspection the actual areas of the concrete repairs. The Contractor shall be paid for the actual amount of repairs made on a square foot basis based on the price bid per square foot.
- All existing reinforcing bars that are exposed by the concrete removal shall be cleaned and carefully incorporated into the new work, except badly deteriorated existing reinforcing which shall be replaced as directed by the Engineer.
- The concrete anchors required shall have a minimum pull out of 5,000 lbs based on 4,000 psi concrete. An anchor meeting the requirements of Iowa D.O.T. Materials I.M. 453.09 and the pull out load above is required. The anchors shall be galvanized and shall be installed according to recommendations of the Manufacturer. The cost of furnishing and installing the concrete anchors shall be included in the price bid for "Concrete Repair".
- The welded wire fabric shall be ASTM A185 and galvanized as per ASTM A-641. The WWF wires shall be spaced 3x3 or 4x4 and the wires shall have a nominal area of 0.014 to 0.029 square inch inclusive, example "WWF 3x3 - W1.4xW2.9".

Where reinforcement has been exposed and clearance around the periphery of the existing bar is provided, no supplemental reinforcing is required, except where existing reinforcement density and pattern are such that individual open spaces between bars are of 1.5 square feet or larger. For this condition ½"Ø concrete anchors and welded wire fabric shall be installed at the rate of one concrete anchor with WWF per each 1.5 square feet of area within each open space.

Repairing the structural concrete shall be in accordance with Section 2426 of the Standard Specifications.

Concrete Placement Quantities

Mark	Type	Units	Quantity
1	Shallow Repair	Sq. Ft.	25
2	Regular Repair	Sq. Ft.	25
		Total (Sq. Ft.)	50

Estimated Concrete Repair Quantities

Description	Units	Amount
Concrete Repair	Sq. Ft.	50

Note: Concrete repairs to be made on the existing abutments and pier columns. Exact locations and areas shall be determined in the field by the Engineer.

Design For Repairs to 12°18'42.77" Skew RA

260'-0"×Variable Width

Welded Plate Girder Bridge

67'-6" End Spans 125'-0" Interior Span

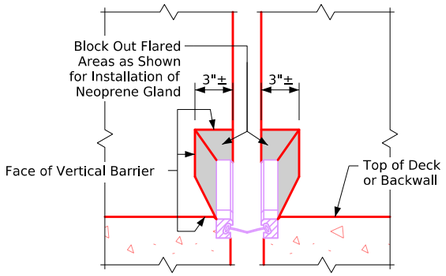
Concrete Repairs

STA. 478+73.99 (US 61) Turn-in Date: May 2026

Scott County

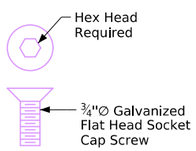
IOWA DEPARTMENT OF TRANSPORTATION

Design No. 0227 Design Sheet No. 15 of 19 FHWA No. 604655

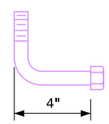


Blockout Detail

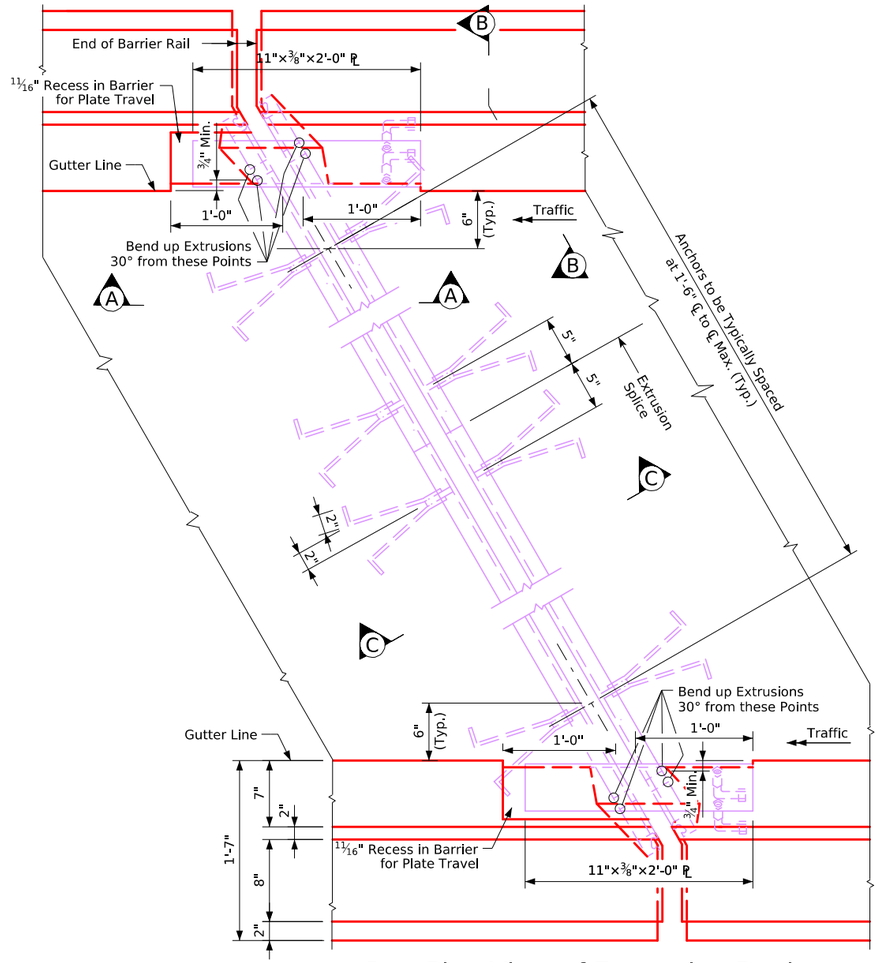
Contractor to note that the cap screw anchorage system for the ⅜" barrier plates are always to be placed on the oncoming traffic side.



Cap Screw Detail



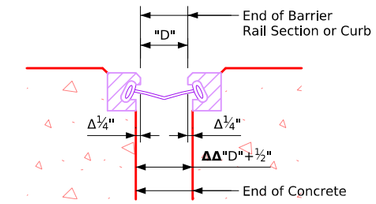
Bent Bolt Detail



Part Plan View of Expansion Device

Barrier Plate Note:

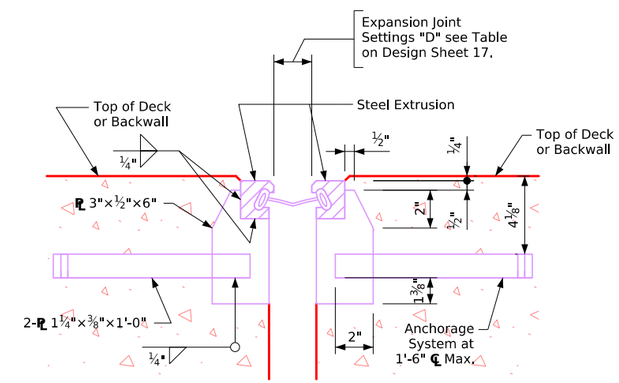
The material used for the curb plates is to be ASTM A36 steel. The bolts shall meet the requirements of ASTM A307. The plates, bolts, nuts and cap screws are to be galvanized in accordance with Article 4100.07 of the Standard Specifications.



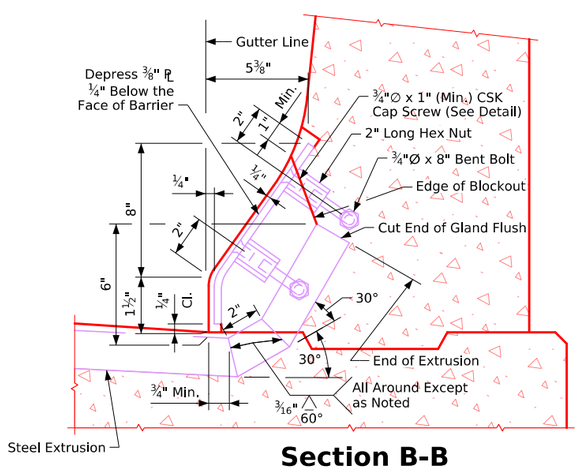
Expansion Opening Detail

Δ This dimension may vary slightly depending on manufacturer furnishing the joint.

ΔΔ Used for all out to out dimensions of deck. The dimensions may vary slightly depending manufacturer furnishing the joint.

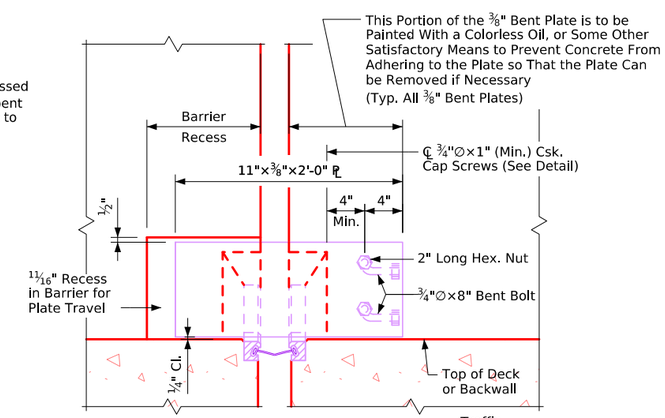


Section C-C



Section B-B

Note: It is intended that the 11/16" recessed area be formed so that when the ⅜" bent plate is installed the plate will be able to move freely in this recessed area.



Section A-A

(Drawn for 0° Skew for Illustrative Purposes)

Note:
See Design Sheet 17 for expansion device notes containing the steel extrusion notes, neoprene gland notes, and watertight integrity testing and repair notes.

Design For Repairs to 12°18'42.77" Skew RA

260'-0"×Variable Width Welded Plate Girder Bridge

67'-6" End Spans — 125'-0" Interior Span

Expansion Device Details

STA. 478+73.99 (US 61) — Turn-in Date: May 2026

Scott County

IOWA DEPARTMENT OF TRANSPORTATION

Design No. 0227 — Design Sheet No. 16 of 19 — FHWA No. 604655

FILE NO. 32417	ENGLISH	DESIGN TEAM Stanley Consultants, Inc.	Standard Sheet 1026S1 (Modified)	Scott COUNTY	PROJECT NUMBER BRF-061-5(151)--38-82	SHEET NUMBER V.34

Steel Extrusion Notes:

The Contractor shall submit for approval shop drawings of the expansion devices showing layout, material to be used, and provisions for the holding device during placement of concrete.

The expansion device shall be galvanized after welding. All curb plates including their anchorages shall be galvanized.

The expansion device is to be parallel to grade.

Cap screws shall be countersunk 1/16" below top of the plate. The minimum grade of structural steel for the expansion device shall be ASTM A36.

Blockout details may be altered from those shown provided the gland may be installed and removed if necessary and the curb area remains watertight.

Shop splices of the steel extrusion will be permitted. Prior to making shop splices steel extrusion pieces shall have a minimum length of 15 feet. The individual length of pieces shall be chosen so that a minimum number of splices is required. All pieces shall be joined with a prequalified partial penetration single groove weld detailed on the shop drawing. All surfaces not in contact with concrete are to be ground flush. No weld shall be permitted in the internal section of the extrusion where the neoprene gland is to be installed.

The number of feet of steel extrusion installed shall be paid for at the contract price per foot based on plan quantities. The price bid for "Steel Extrusion Joint w/Neoprene" shall include the cost of furnishing but not the cost of installing the neoprene gland. The contract price bid for "Steel Extrusion Joint w/Neoprene" shall be full compensation for furnishing and installing steel extrusions. This work will consist of furnishing all required materials, (including the 3/8" plates at the curbs and their anchorage systems), and the installation and adjustment of the expansion joints in accordance with the details shown on the plans and as directed by the Engineer. The furnishing and installation of all necessary hardware and accessories as supplied by the Expansion Joint Manufacturer are to be included in this work, including the anchorage system and any temporary erection material. All work and materials for the installation of the expansion joints are to comply with the written recommendations of the Expansion Joint Manufacturer.

Field Construction Notes:

If the steel extrusion is spliced in the field, the splice location shall be detailed on the shop drawings. The connection details shall include tab plates and prepared ends to accommodate the necessary welding. See details in these plans.

Galvanized coating damage by field welding shall be repaired in accordance with Construction and Materials I.M. 410.

Neoprene Gland Notes:

The neoprene gland is to be placed as one continuous piece from end to end of the steel extrusion.

The neoprene gland shall conform to ASTM-2628 modified to exclude recover test and compression set.

The Contractor shall install the gland above the minimum temperature of 45° and the minimum joint opening and corresponding maximum deck temperature shown in these plans. The deck temperature shall be measured by recording the surface temperatures on the underside of the deck adjacent to the joints. If the deck temperature does not fall within the specified temperature range before the Contractor has completed all other required work, it will be necessary for the Contractor to return to the project site to complete installation and testing of the neoprene gland. If the Contractor is required to return to the project site after all other required work has been completed, the Contractor shall complete installation and testing of neoprene gland at no extra charge to the State.

The number of feet of neoprene gland installed shall be paid for at the contract price per foot based on plan quantities. The price for "Neoprene Gland Installation and Testing" shall be full compensation for installing and testing of the new neoprene gland. This work will consist of cleaning the extrusion, installation of the neoprene gland and water tight testing of the expansion joint system. All work and materials necessary for the installation of the neoprene gland shall comply with the recommendations of the Expansion Joint Manufacturer. The price bid for "Neoprene Gland Installation and Testing" shall include all watertight integrity testing, leak repairs as directed by the Engineer, and subsequent watertight testing until a leak free installation is achieved.

Watertight Integrity Testing And Repair Notes:

After installation of each neoprene gland, the Contractor shall perform watertight integrity tests at the deck level to detect any leakage. The tests are to check for leakage at the upturned ends of the expansion device and for leakage along the expansion device across the deck and any medians or sidewalks. The Contractor may conduct a single test of the entire device including upturned ends or may conduct separate tests of upturned ends and one or more tests of overlapping lengths between the upturned ends.

At each upturned end of the expansion device, the Contractor shall block out on the deck at least 3 feet of the expansion device leading to the upturned end and flood the area. A minimum water depth of 3" shall be maintained at the gutterline for at least 30 minutes. During the test, the Inspector shall observe for any overflow at the upturned end. At the conclusion of the test the Inspector will examine the underside of the joint for leakage. The expansion device is considered watertight if the Inspector observes no overflow during the test and if no dripping water or water droplets are visible in the underdeck areas near the upturned end.

The Contractor shall test the expansion device between upturned ends by blocking out and covering the device with ponded or flowing water to a depth of at least 1" at all points, for at least 30 minutes. Vertical curb surfaces may be tested with an unnozzled hose delivering approximately one gallon per minute directed to flow over the entire curb height for 30 minutes. At the conclusion of the test, the inspector will examine the underside of the joint for leakage. The expansion device is considered watertight if no dripping water or water droplets are visible in the underdeck areas along the full length of the expansion joint. Damp concrete that does not show dripping water or water droplets is not considered a sign of leakage.

If the expansion device leaks at an upturned end or along its length, the Contractor shall locate the leak(s) and take repair measures to stop the leakage. The repair measures shall be as recommended by the Manufacturer and approved by the Engineer prior to beginning corrective work.

If measures to eliminate leakage are taken, the Contractor shall perform subsequent watertight integrity tests subject to the same conditions as the original test.

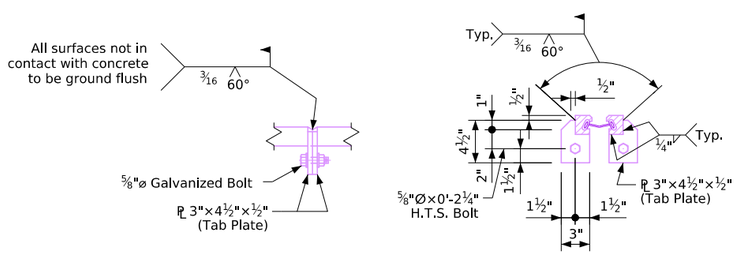
Expansion Device Settings

Temperature of Bridge Superstructure at Time of Setting (°F)	Expansion Joint			
	Watson-Bowman		D.S. Brown	
	"B"			
	South Abutment	North Abutment	South Abutment	North Abutment
10°	2 3/8"	1 13/16"	2 11/16"	1 15/16"
50°	1 13/16"	1 5/8"	2 1/16"	1 11/16"
90°	1 3/16"	1 3/8"	1 1/2"	1 1/2"

Note: Joint settings for other temperatures are proportional. Temperatures shown are concrete deck temperatures on the underside or shaded portion of the deck.

Table of Approved Expansion Devices

Location	Manufacturer	Type of Steel Extrusion	Neoprene Gland	Minimum Opening for Gland Installation	Corresponding Maximum Deck Temperature
Abutments	Watson-Bowman & Acme Corp.	A	SE-300	1 1/2"	70°F
	D.S. Brown Co.	SSA2	A2R-400	2"	90°F
	Approved Equal				



End View

Section Thru Extrusion

Field Splice Detail

Design For Repairs to 12°18'42.77" Skew RA

260'-0"×Variable Width
Welded Plate Girder Bridge

67'-6" End Spans 125'-0" Interior Span

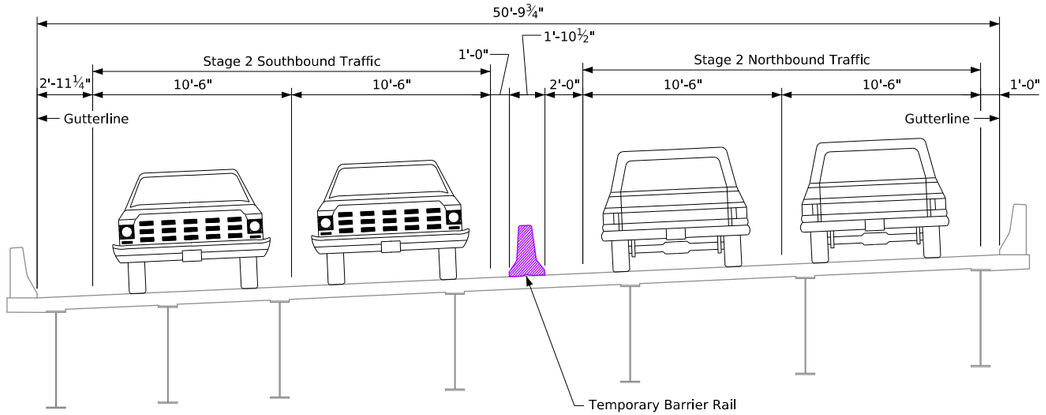
Expansion Device Notes

STA. 478+73.99 (US 61) Turn-in Date: May 2026

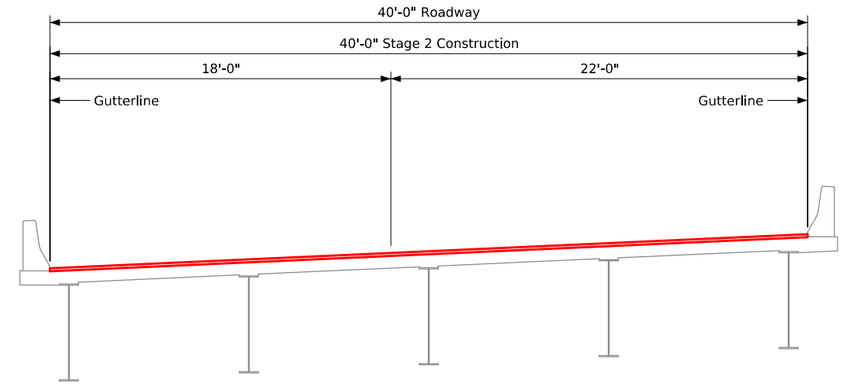
Scott County

IOWA DEPARTMENT OF TRANSPORTATION

Design No. 0227 Design Sheet No. 17 of 19 FHWA No. 604655



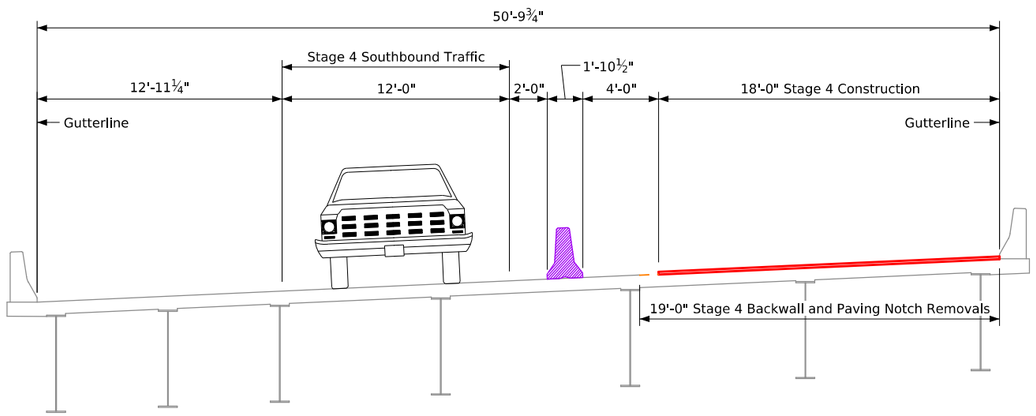
Southbound Lanes



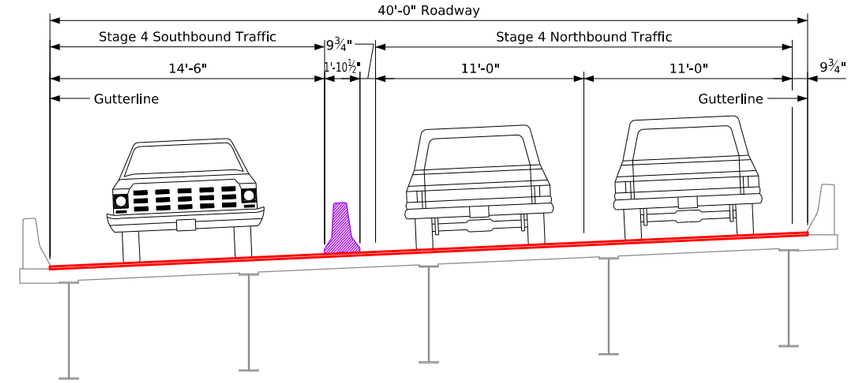
Northbound Lanes

Typical Stage 2 Construction

(Looking North, Dimensions measured from ℄ South Abutment)



Southbound Lanes



Northbound Lanes

Typical Stage 4 Construction

(Looking North, Dimensions measured from ℄ South Abutment)

Note: See General Notes on Design Sheet 2 for tied projects

Design For Repairs to 12°18'42.77" Skew RA

260'-0"×Variable Width Welded Plate Girder Bridge

67'-6" End Spans 125'-0" Interior Span

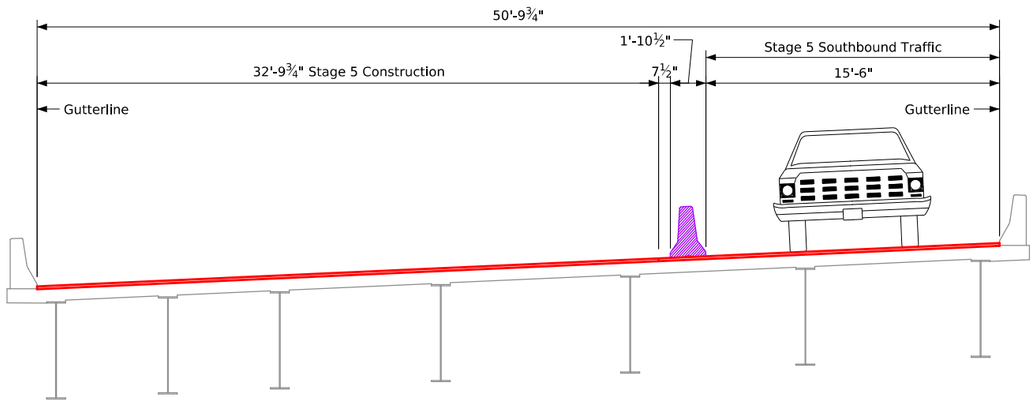
Staging Details

STA. 478+73.99 (US 61) Turn-in Date: May 2026

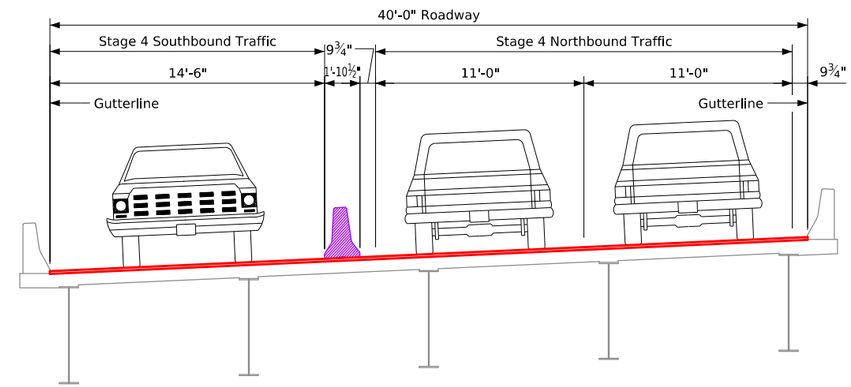
Scott County

IOWA DEPARTMENT OF TRANSPORTATION

Design No. 0227 Design Sheet No. 18 of 19 FHWA No. 604655



Southbound Lanes



Northbound Lanes

Typical Stage 5 Construction

(Looking North, Dimensions measured from ℄ South Abutment)

Note: See General Notes on Design Sheet 2 for tied projects

Design For Repairs to 12°18'42.77" Skew RA

260'-0"×Variable Width

Welded Plate Girder Bridge

67'-6" End Spans 125'-0" Interior Span

Staging Details

STA. 478+73.99 (US 61) Turn-in Date: May 2026

Scott County

IOWA DEPARTMENT OF TRANSPORTATION

Design No. 0227 Design Sheet No. 19 of 19 FHWA No. 604655

INDEX OF SHEETS

NO.	DESCRIPTION
A Sheets	**Title Sheets**
A.3	Index of Sheets
B Sheets	**Typical Sheets**
B.1	US 61 Typicals
C Sheets	**Quantities and General Information**
C.1-2	Estimated Project Quantities and Reference Notes
C.3	Project Description
C.7	Standard Road Plans
C.3-13	Tabulations
D Sheets	**Mainline Plan Sheets**
D.1	US 61
J Sheets	**Traffic Control and Staging Sheets**
J.1-2	Traffic Control Plan
U Sheets	**Detail Sheets**
U.1-2	Guardrail and Shoulder Layout

LICENSED PROFESSIONAL ENGINEER
SETH A. MORLING
P27141
IOWA

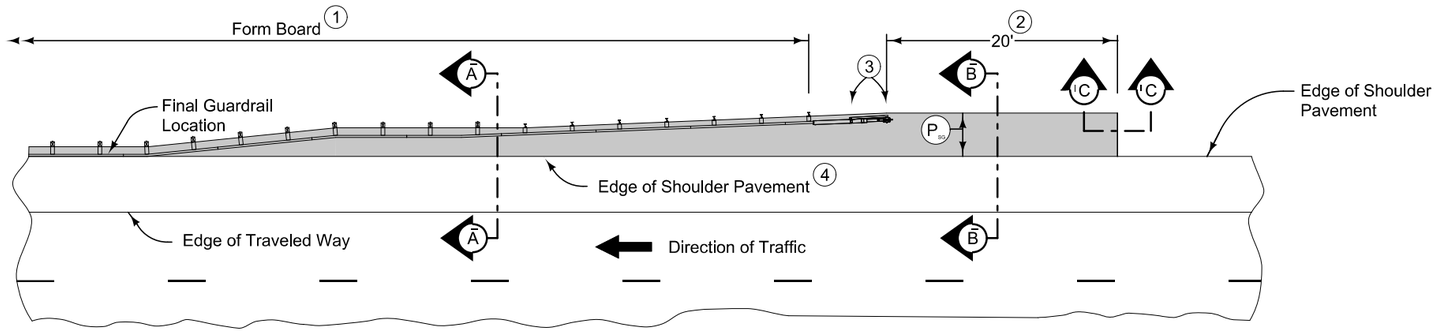
I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.

Seth Morling — 4/15/2026
Signature — Date

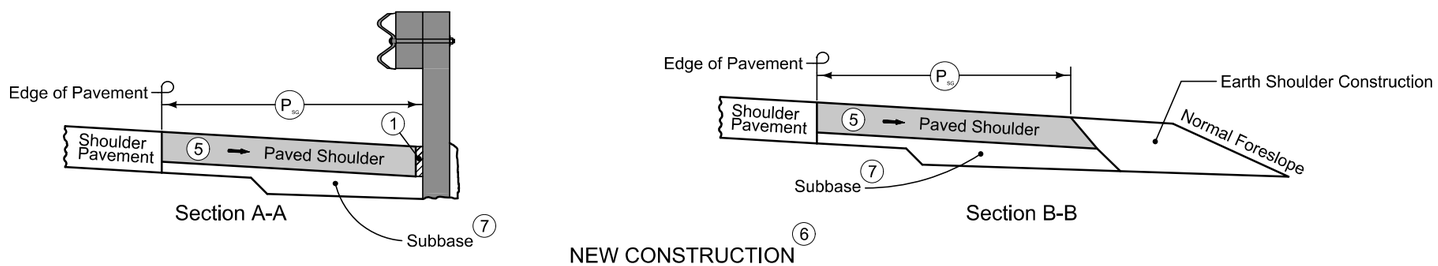
Seth A. Morling
Printed or Typed Name
My license renewal date is December 31, 20 26

Pages or sheets covered by this seal: A.3, B.1-2, C.1-13, D.1, J.1-2, U.1-2

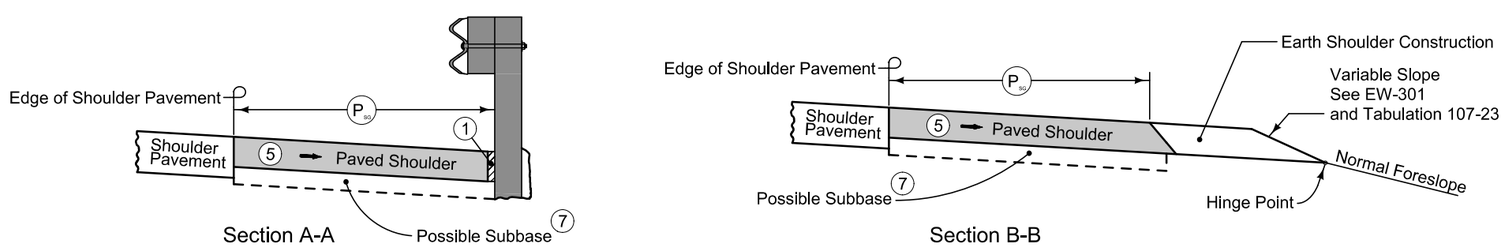
7158
10-21-25



PLAN VIEW



NEW CONSTRUCTION 6



EXISTING SHOULDER

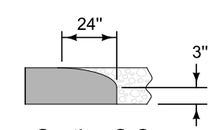
9" HMA Paved Shoulder at guardrail. 8" PCC may be substituted with the following jointing layout:

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. '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.



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

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

ESTIMATED PROJECT QUANTITIES AND REFERENCE NOTES

Roadway Items 1 : Participating (Federal Aid)
Alternate Shoulder Option 1 : HMA Shoulder Option
Alternate Shoulder Option 2 : PCC Shoulder Option

Item no.	Item Code	Item	Unit	Quantities				Estimate Reference Notes
				Estimated				
				Roadway Items 1	Alternate Shoulder Option 1	Alternate Shoulder Option 2	Total	
1	2102-0425070	SPECIAL BACKFILL HMA Shoulder Option	TON		236.56		236.56	Refer to Tab. 112-9 in C Sheets and Detail 7158 for locations and details. Calculated for 6" thick special backfill under HMA Shoulders. Special Backfill density estimated at 140lb/cu.ft.
2	2102-0425070	SPECIAL BACKFILL PCC Shoulder Option	TON			274.41	274.41	Refer to Tab. 112-9 in C Sheets and Detail 7158 for locations and details. Calculated for 7" thick special backfill under PCC Shoulders. Special Backfill density estimated at 140lb/cu.ft.
3	2102-2713090	EXCAVATION, CLASS 13, WASTE	CY	349			349	Refer to Tab. 112-9 in C Sheets. Dispose of excess material according to Article 1106.07 of the current specifications.
4	2122-5190008	PAVED SHOULDER, P.C. CONCRETE, 8 IN.	SY			751	751	Refer to Tab. 112-9 in C Sheets and Detail 7158 for locations and details.
5	2122-5500090	PAVED SHOULDER, HOT MIX ASPHALT MIXTURE, 9 IN.	SY		751		751	Refer to Tab. 112-9 in C Sheets and Detail 7158 for locations and details.
6	2123-7450000	SHOULDER CONSTRUCTION, EARTH	STA	7.17			7.17	Refer to Tab. 112-9 in C Sheets. Requires a minimum of 4 inches of topsoil. Place according to Article 2105.03,B of the Standard Specifications.
7	2301-0690203	BRIDGE APPROACH, BR-203	SY	1,537.8			1,537.8	Refer to Tab 112-6 in C Sheets for locations and details.
8	2412-0000100	LONGITUDINAL GROOVING IN CONCRETE, BRIDGE DECK	SY	3,698.5			3,698.5	Refer to Tab. 100-28 in C Sheets for locations and details.
9	2505-4008120	REMOVAL OF STEEL BEAM GUARDRAIL	LF	1,075			1,075	Refer to Tab. 110-7A in C Sheets for locations and details. Guardrail and posts to become property of the contractor.
10	2505-4008300	STEEL BEAM GUARDRAIL	LF	525			525	Refer to Tab. 108-8A in C Sheets for locations and details.
11	2505-4008410	STEEL BEAM GUARDRAIL BARRIER TRANSITION SECTION, BA-201	EACH	1			1	
12	2505-4008415	STEEL BEAM GUARDRAIL BARRIER TRANSITION SECTION, BA-209	EACH	5			5	Refer to Tab. 108-8A in C Sheets for locations and details.
13	2505-4021010	STEEL BEAM GUARDRAIL END ANCHOR, BOLTED	EACH	6			6	
14	2505-4021720	STEEL BEAM GUARDRAIL TANGENT END TERMINAL, BA-205	EACH	6			6	
15	2510-6745850	REMOVAL OF PAVEMENT	SY	1,858.2			1,858.2	Refer to Tabs.110-1 and 102-5 in C Sheets

Item no.	Item Code	Item	Unit	Quantities				Estimate Reference Notes
				Estimated				
				Roadway Items 1	Alternate Shoulder Option 1	Alternate Shoulder Option 2	Total	
16	2527-9263209	PAINTED PAVEMENT MARKINGS, WATERBORNE OR SOLVENT-BASED	STA	24.95			24.95	Refer to Tab. 108-22 in C Sheets for locations and details.
17	2527-9270112	GROOVES CUT FOR PAVEMENT MARKINGS	STA	24.95			24.95	
18	2601-2634100	MULCHING	ACRE	2.4			2.4	Perform mulching according to Article 2601.03, E, 2, of the Standard Specifications. Anchor mulch into the soil using mulch anchoring equipment with a minimum of two passes. Item is included for areas requiring reshaping and seedbed preparation. Use mulch that is Certified Noxious Weed Seed Free Mulch as certified by the Iowa Crop Improvement Association or adjacent states Crop Improvement Association. Mulch Rate: 1 1/2 tons of dry cereal straw or native grass straw per acre.
19	2601-2636015	NATIVE GRASS SEEDING	ACRE	0.3			0.3	Seed all areas outside eight feet adjacent to outside shoulder along mainline, side roads, and infield areas at interchanges with "Native Grass Seeding". Refer to Standard Road Plan EC-502
20	2601-2636043	SEEDING AND FERTILIZING (RURAL)	ACRE	0.9			0.9	Seed and fertilize all areas 8 foot adjacent to the shoulder mainline, medians, and side according to Article 2601.03, C, 3, of the Standard Specifications.
21	2601-2642100	STABILIZING CROP - SEEDING AND FERTILIZING	ACRE	1.2			1.2	Item is included for disturbed areas. Seed and fertilize all disturbed areas according to Article 2601.03, C, 1, of the Standard Specifications.
22	2602-0000312	PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE, 12 IN. DIA.	LF	1,750			1,750	Refer to Tab. 100-19. The tabulation includes estimated locations for placement of "Perimeter and Slope Sediment Control Device, 12 in. dia." to address erosion to be encountered during construction. Verify the specific locations with the Engineer prior to beginning placement. Bid item includes 25% additional quantity for field adjustments and replacements.
23	2602-0000351	REMOVAL OF PERIMETER AND SLOPE OR DITCH CHECK SEDIMENT CONTROL DEVICE	LF	1,750			1,750	Refer to Tab. 100-19. The tabulation includes estimated locations for placement of "Perimeter and Slope Sediment Control Device, 12 in. dia." to address erosion to be encountered during construction. Verify the specific locations with the Engineer prior to beginning placement. Bid item includes 25% additional quantity for field adjustments and replacements.
24	2602-0010010	MOBILIZATIONS, EROSION CONTROL	EACH	1			1	
25	2602-0010020	MOBILIZATIONS, EMERGENCY EROSION CONTROL	EACH	1			1	

100_01D
8/15/22

PROJECT DESCRIPTION

This project involves bridge deck overlays, bridge approaches, shoulders, and guardrail work on northbound and southbound US 61 over 210th St, located 1.1 mi. N of Jct. I-80.

PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE

Possible Standards: EC-204

Line No.	Station From	Station To	Side	Sediment Control Device Type	Diameter Size	Length (LF)	Remarks
1.0	474+80.00	477+60.00	Median	Perimeter and Slope	12 inch	280.00	North Bound
2.0	474+90.00	477+70.00	Right	Perimeter and Slope	12 inch	280.00	North Bound
3.0	480+20.00	481+00.00	Median	Perimeter and Slope	12 inch	80.00	North Bound
4.0	480+20.00	481+00.00	Right	Perimeter and Slope	12 inch	80.00	North Bound
5.0	476+60.00	477+60.00	Median	Perimeter and Slope	12 inch	100.00	South Bound
6.0	476+60.00	477+40.00	Left	Perimeter and Slope	12 inch	80.00	South Bound
7.0	479+90.00	481+90.00	Left	Perimeter and Slope	12 inch	200.00	South Bound
8.0	480+10.00	483+10.00	Median	Perimeter and Slope	12 inch	300.00	South Bound
Total:						**1400**	

LONGITUDINAL GROOVING

Line No.	Location	Total (SY)	Remarks
1.0	476+95.70	214.5	North Bound Approach
2.0	479+00.00	1082.0	North Bound Bridge
3.0	480+96.50	212.0	North Bound Approach
4.0	476+69.50	310.0	South Bound Approach
5.0	478+74.00	1512.0	South Bound Bridge
6.0	480+81.50	368.0	South Bound Approach
Total:		**3698.5**	

EXISTING PAVEMENT

Line No.	County	Route	Direction of Travel	Begin Ref. Location Sign	End Ref. Location Sign	Year	Type	Project Number	Surface Type	Surface Depth (IN)	Base Type	Base Depth (IN)	Subbase Type	Subbase Depth (IN)	Removal Type	Removal Depth (IN)	Coarse Aggregate Source	Coarse Aggregate Type	Course Aggregate Durability Class	Reinforcement Type	Remarks
1.0	Scott	US-61		123.02	127.55	2022	M	MP-061-6(724)123--76-82	PCC												PCC patching
2.0						2019	M	MP-061-6(721)122--76-82													HMA crack filling
3.0						2018	M	MP-061-6(719)123--76-82	PCC												PCC patching
4.0						2005		NHSN-61-5(129)--2R-82	AAC	1.5	AAC	1.5	AAC	2.0			MCCAUSLAND	C.LST.			
5.0						1983		FFD-561-1(6)--2N-82	PCC	9.5	CTB	4.0					MCCAUSLAND	C.LST.	I		

STANDARDS

The following Standards apply to construction work on this project.

Number	Date	Title
BA-200	4/21/2026	Steel Beam Guardrail Components
BA-201	10/18/2022	Steel Beam Guardrail Barrier Transition Section (MASH TL-3)
BA-202	4/15/2025	Steel Beam Guardrail Bolted End Anchor
BA-205	10/17/2023	Steel Beam Guardrail Tangent End Terminal (MASH TL-3)
BA-209	10/15/2024	Steel Beam Guardrail Barrier Transition Section (Mash Tl-3, 34in Mounting Height)
BA-250	10/21/2025	Steel Beam Guardrail Installation at Concrete Barrier or Bridge End Post (MASH TL-3)
BR-203	4/21/2026	Double Reinforced 12in Approach
BR-211	4/21/2026	Bridge Approach (Abutting PCC or Composite Pavement)
DR-306	10/17/2023	Precast Concrete Headwall for Subdrain Outlets
EC-204	10/19/2021	Perimeter, Slope and Ditch Check Sediment Control Devices
EC-502	4/21/2015	Seeding in Rural Areas
PM-110	10/15/2024	Line Types
PM-310	4/15/2025	Entrance and Exit Ramps
PV-101	10/21/2025	Joints
PV-102	10/21/2025	PCC Curb Details
SI-173	04-19-16	Object Markers
SI-211	10/18/2022	Object Marker and Delineator Placement with Guardrail
TC-1	10/15/2019	Work Not Affecting Traffic (Two-Lane or Multi-Lane)

STEEL BEAM GUARDRAIL AT CONCRETE BARRIER OR BRIDGE RAIL END SECTION

Possible Standards: BA-200, BA-201, BA-202, BA-205, BA-206, BA-209, BA-210, BA-211, BA-221, BA-225, BA-250, BA-260, LS-625, LS-626, LS-630, LS-635, SI-172, SI-173 and SI-211.

(1) Lane(s) to which the obstacle is adjacent.
(2) Not a bid item. Incidental to guardrail installation.

Line No.	Direction of Travel (1)	Side	Station	Offset (FT)	Barrier Transition Section	Barrier Transition Section (EA)	End Terminal	End Terminal Count (EA)	VT1 (LF)	VF (LF)	VT2 (LF)	ET (LF)	SI-211 (Type) (2)	Delineator SI-172 Type 1 (EA) (2)	Object Marker Type 2 (EA) (2)	Object Marker Type 3 Lt (EA)(2)	Object Marker Type 3 Rt (EA)(2)	Bolted End Anchor BA-202 (Type)	Bolted End Anchor BA-202 (EA)	Post Adapter BA-210 (EA)	Steel Beam Guardrail BA-200 (LF)	Remarks
1.0	NB	Outside	477+50.80	66.5	BA-209	1	BA-205	1	190.625			47.70	3				1	C	1		150.0	34" Mounting Height
2.0	NB	Median	477+40.97	25.6	BA-209	1	BA-205	1	190.625			47.70	3			1		C	1		150.0	34" Mounting Height
3.0	SB	Median	480+34.22	25.5	BA-209	1	BA-205	1	190.625			47.70	3			1		C	1		150.0	34" Mounting Height
4.0	SB	Outside	480+23.56	82.7	BA-209	1	BA-205	1	90.625			47.70	3				1	C	1		50.0	34" Mounting Height
5.0	SB	Median	477+28.03	25.5	BA-201	1	BA-205	1	53.125			47.70	3				1	C	1		12.5	Temp. for Stage 2
6.0	NB	Median	480+43.74	25.5	BA-209	1	BA-205	1	53.125			47.70	3				1	C	1		12.5	34" Mounting Height, Temp. for Stage 4/5
Total:						**6**		**6**											**6**		**525**	

PAVEMENT MARKING LINE TYPES

Line factors based on 6-inch wide continuous line.
*BCY4 - Place on the same side of the roadway to match existing markings near the project.
**NPY4 - Estimating purposes only. No Passing Zone Lines will be located in the field.
***MNY6 - Factor of 1.00 includes number of 6-inch passes to cover median nose area.

BCY4: Broken Centerline (Yellow) @ 0.17
BCY6: Broken Centerline (Yellow) @ 0.25
BLC6: Broken Line Contrast (White/Black) @ 0.50
BLW4: Broken Lane Line (White) @ 0.17
BLW6: Broken Lane Line (White) @ 0.25
CBW6: Crosswalk Bar (White) @ 10.00
CHW8: Channelizing Line (White) @ 1.33
CHW10: Channelizing Line (White) @ 1.67
CHY8: Channelizing Line (Yellow) @ 1.33
CHY10: Channelizing Line (Yellow) @ 1.67
CLW6: Crosswalk Line (White) @ 2.00
DCY4: Double Centerline (Yellow) @ 1.34
DCY6: Double Centerline (Yellow) @ 2.00
DDY4: Double Dotted Line (Yellow) @ 0.44
DDY6: Double Dotted Line (Yellow) @ 0.67
DLW4: Dotted Line (White) @ 0.22
DLW6: Dotted Line (White) @ 0.33
DLY4: Dotted Line (Yellow) @ 0.22
DLY6: Dotted Line (Yellow) @ 0.33
ELW4: Edge Line Right (White) @ 0.67
ELW6: Edge Line Right (White) @ 1.00
ELY4: Edge Line Left (Yellow) @ 0.67
ELY6: Edge Line Left (Yellow) @ 1.00
LDW8: Lane Drop (White) @ 0.33
LDW10: Lane Drop (White) @ 0.42
MNY6: Median Nose (Yellow) @ 1.00
NPY4: No Passing Zone Line (Yellow) @ 0.84
NPY6: No Passing Zone Line (Yellow) @ 1.25
RLW4: Ramp Edge Line Right (White) @ 0.67
RLW6: Ramp Edge Line Right (White) @ 1.00
RLY4: Ramp Edge Line Left (Yellow) @ 0.67
RLY6: Ramp Edge Line Left (Yellow) @ 1.00
SLW2: Stop Line (White) @ 4.00
SLW4: Solid Lane Line (White) @ 0.67
SLW6: Solid Lane Line (White) @ 1.00
SPW4: Sloped Curb 4" (White) @ 2.16
SPW6: Sloped Curb 6" (White) @ 2.28
SPY4: Sloped Curb 4" (Yellow) @ 2.16
SPY6: Sloped Curb 6" (Yellow) @ 2.28
STW6: Standard Curb 6" (Yellow) @ 2.03
STY6: Standard Curb 6" (Yellow) @ 2.03
YLW2: Yield Line (White) @ 1.15

Line No.	Road ID	Station From	Station To	Lane	Marking Type	Left	Center	Right	Groove Marking Needed?	Groove Qty. (STA)	BLW6 (STA)	BLW6 Factored (STA)	CHW10 (STA)	CHW10 Factored (STA)	ELW6 (STA)	ELW6 Factored (STA)	ELY6 (STA)	ELY6 Factored (STA)	RLW6 (STA)	RLW6 Factored (STA)	RLY6 (STA)	RLY6 Factored (STA)	Remarks
1.0	US 61 NB	476+95.70	480+96.50		Waterborne/Solvent Paint	X	X	X	Yes	9.02	4.01	1.00			4.01	4.01	4.01	4.01					
2.0	US 61 SB	476+69.50	480+81.50		Waterborne/Solvent Paint	X	X	X	Yes	10.30	8.24	2.06			4.12	4.12	4.12	4.12					
3.0	US 61 SB	479+15.15	480+81.50		Waterborne/Solvent Paint		X		Yes	5.54			3.32	5.54									
4.0	US 61 SB	480+81.50	480+90.70		Waterborne/Solvent Paint			X	Yes	0.09									0.09	0.09			
Total:										**24.95**		**3.06**		**5.54**		**8.13**		**8.13**		**0.09**			

REMOVAL OF PAVEMENT

Refer to Tabulation 102-5.

* Not a bid item.

Line No.	Station From	Station To	Side	Pavement Type	Area (SY)	Saw Cut* (LF)	Remarks
1.0	474+98.30	476+95.70	Right	PCC/HMA	88.9	204.0	NB, South Approach Shoulders
2.0	474+86.30	476+95.70	Left	PCC/HMA	93.8	215.0	NB, South Approach Shoulders
3.0	476+95.70	477+65.00		PCC/HMA	332.4	85.3	NB, South Approach
4.0	480+27.20	480+96.56		PCC/HMA	327.3	83.9	NB, North Approach
5.0	480+10.70	480+81.40		PCC/HMA	467.7	189.8	SB, North Approach
6.0	480+81.40	482+92.00	Right	PCC/HMA	92.9	213.0	SB, North Approach Shoulders
7.0	480+81.40	481+83.00	Left	PCC/HMA	44.8	104.7	SB, North Approach Shoulders
8.0	476+69.40	477+41.70		PCC/HMA	410.4	175.6	SB, South Approach
Total:					**1858.2**	**1271.3**	

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REMOVAL OF STEEL BEAM GUARDRAIL

(1) Lane(s) to which the installation is adjacent.
(2) Includes length of End Terminals and End Anchors.

Line No.	No.	Direction of Traffic (1)	Station From	Station To	Side	Removal of Guardrail (2) (LF)
	1	NB	475+23.00	477+50.80	Right	255.0
	3	SB	480+34.22	482+66.46	Median	235.0
	4	SB	480+23.56	481+56.42	Left	130.0
	2	NB	475+11.23	477+40.97	Median	255.0
	6	NB	480+40.00	481+40.00	Median	100.0
	5	SB	476+25.00	477+25.00	Median	100.0
Total:						**1075**

BRIDGE APPROACH SECTION

Refer to the BR Series.

* Not a bid item

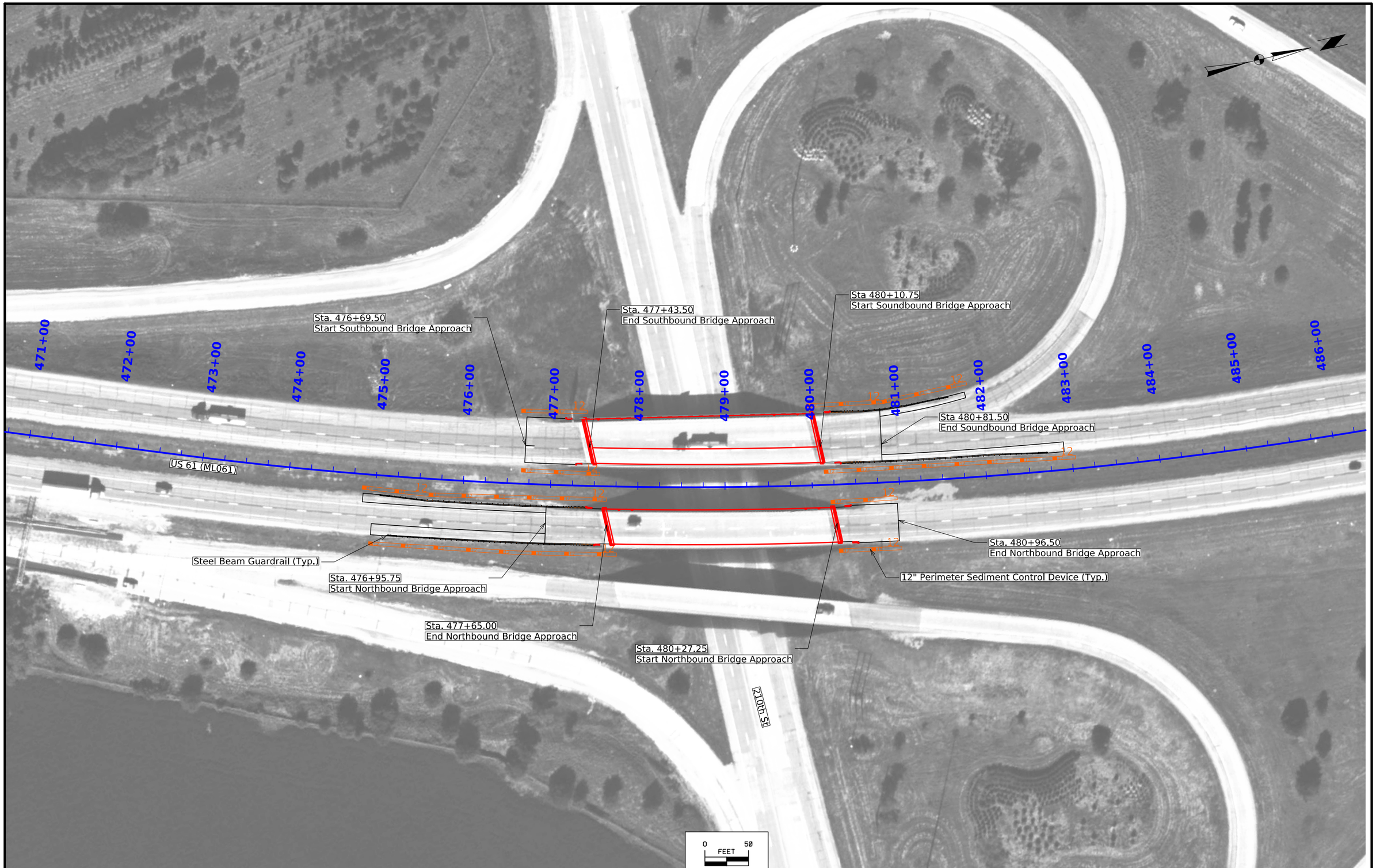
Line No.	Bridge Station	End	Skew Ahead Left (Degrees)	Skew Ahead Right (Degrees)	(T) Thickness (IN)	Pay Length (FT)	Non-Reinf. Area (SY)	Single-Reinf. Area (SY)	Double-Reinf. Area (SY)	SRP Approach	SRP Abutment Type	SRP Abutting Pavement	Perforated * 4" Subdrain (LF)	Subdrain * Outlet (STA)	Subdrain * Outlet Side	Porous * Backfill (CY)	Class 'A' * Crushed Stone Backfill (CY)	Modified * Subbase (TON)	Polymer * Grid (SY)	Special * Backfill (TON)	Remarks
1.0	478+93.00	S		12.0	12.0	70.0	144.7	95.5	92.2	BR-203	Fixed	BR-211	60.0	477+05.60	Right	2.3		343.507	363.5		
2.0	478+93.00	N		12.0	12.0	70.0	144.0	95.3	88.0	BR-203	Fixed	BR-211	60.0	480+86.60	Right	2.3		338.688	358.4		
3.0	478+74.00	S		12.0	12.0	73.2	174.2	116.2	120.0	BR-203	Fixed	BR-211	70.0	476+80.00	Left	2.3		417.217	441.5		
4.0	478+74.00	N		12.0	12.0	70.0	198.0	131.0	138.7	BR-203	Fixed	BR-211	80.0	480+71.30	Left	2.3		471.366	498.8		
Total:							**660.9**	**438**	**438.9**				**270**			**9.2**		**1570.778**	**1662.2**		

BR-203 Total = 1537.8 SY

SHOULDERS

(1) Lane(s) to which the shoulder is adjacent.
(2) See Typ. 7156, 7157, or 7158.
(3) Bid Item.
(4) Applies only for Paved Shoulders constructed on project with existing granular shoulders.
(5) Bid Item. Typ. 7156, 7157, or 7158.
(6) Does not include shrink.
(7) Paved shoulder thickness specified in Remarks.
(8) Subbase type specified in Remarks.

Roadway Identification	Direction of Travel (1)	Station From	Station To	Side	P Width (FT)	P SG Width (2) (FT)	G Width (FT)	L Length (FT)	Class 13 Excavation (CY)(3)(4)	HMA (TON)	HMA (TON/STA)	Binder (TONS)	Paved Shoulder (3) (SY)	Shoulder at Grdrail (5)(7)	Reinforced Paved Shoulder(3) (SY)	Special Backfill HMA Alt. (3) (TON)	Special Backfill HMA Alt. (TON/STA)	Special Backfill PCC Alt. (3) (TON)	Special Backfill PCC Alt. (TON/STA)	Pavement Scarification (SY)	Polymer Grid (SY)	Subbase (3) (8) (CY)	Granular Shoulder (3) (TON)	Granular Shoulder (TON/STA)	Shoulder Const. Alt (3) (STA)	Shoulder Const. Alt HMA (6) (CY)	Shoulder Const. Alt PCC (6) (CY)	Remarks
US 61	NB	474+98.30	476+95.70	Right	10	2.8 to 2.1		197.40	121.4	137.659	69.736	8.260	222.2	50.0		85.750	43.440	99.470	50.390						1.97	90.66	90.66	
US 61	NB	474+86.28	476+95.70	Left	6	4 to 1.4		209.42	90.0	103.339	49.345	6.200	140.6	45.1		58.485	27.927	67.843	32.395						2.09	96.18	96.18	
US 61	SB	480+81.40	482+91.50	Left	6	2.1 to 5.3		210.10	100.6	115.099	54.783	6.906	139.2	69.0		65.590	31.218	76.084	36.213						2.10	96.49	96.49	
US 61	SB	480+81.47	481+82.75	Right	6	2 to 0.8		101.28	37.0	42.763	42.222	2.566	66.7	18.2		26.740	26.402	31.018	30.626						1.01	46.51	46.51	
Total:									**349**	**398.86**		**23.932**	**568.7**	**182.3**		**236.565**		**274.415**							**7.17**	**329.84**	**329.84**	



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TRAFFIC CONTROL PLAN

1. Refer to J Sheets in Project BRF-061-5(157)--38-82 for staging.

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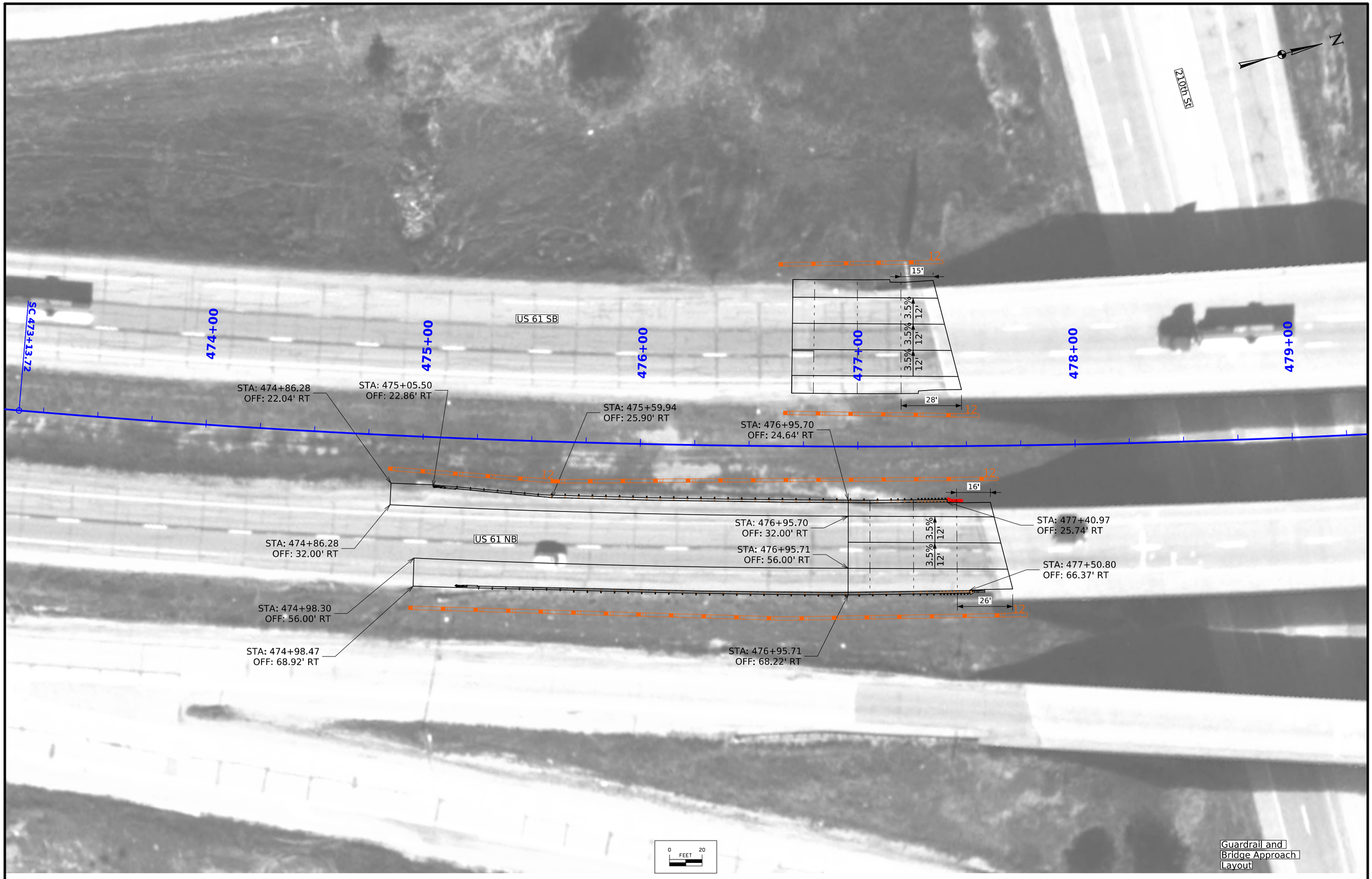
10/14/22

COORDINATED OPERATIONS

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

Project	Type of Work
BRF-061-5(147)--38-82	Bridge Deck Replacement
NHSX-061-5(156)--3H-82	HMA Resurfacing
BRF-061-5(153)--38-82	Bridge Deck Replacement
BRF-061-5(152)--38-82	Bridge Deck Overlay
BRF-061-5(151)--38-82	Bridge Deck Overlay
MP-061-6(732)123--76-82	PCC Patching
NHSX-061-5(154)--3H-82	PCC Pavement - Replace
MB-061-6(510)123--77-82	Bridge Repair



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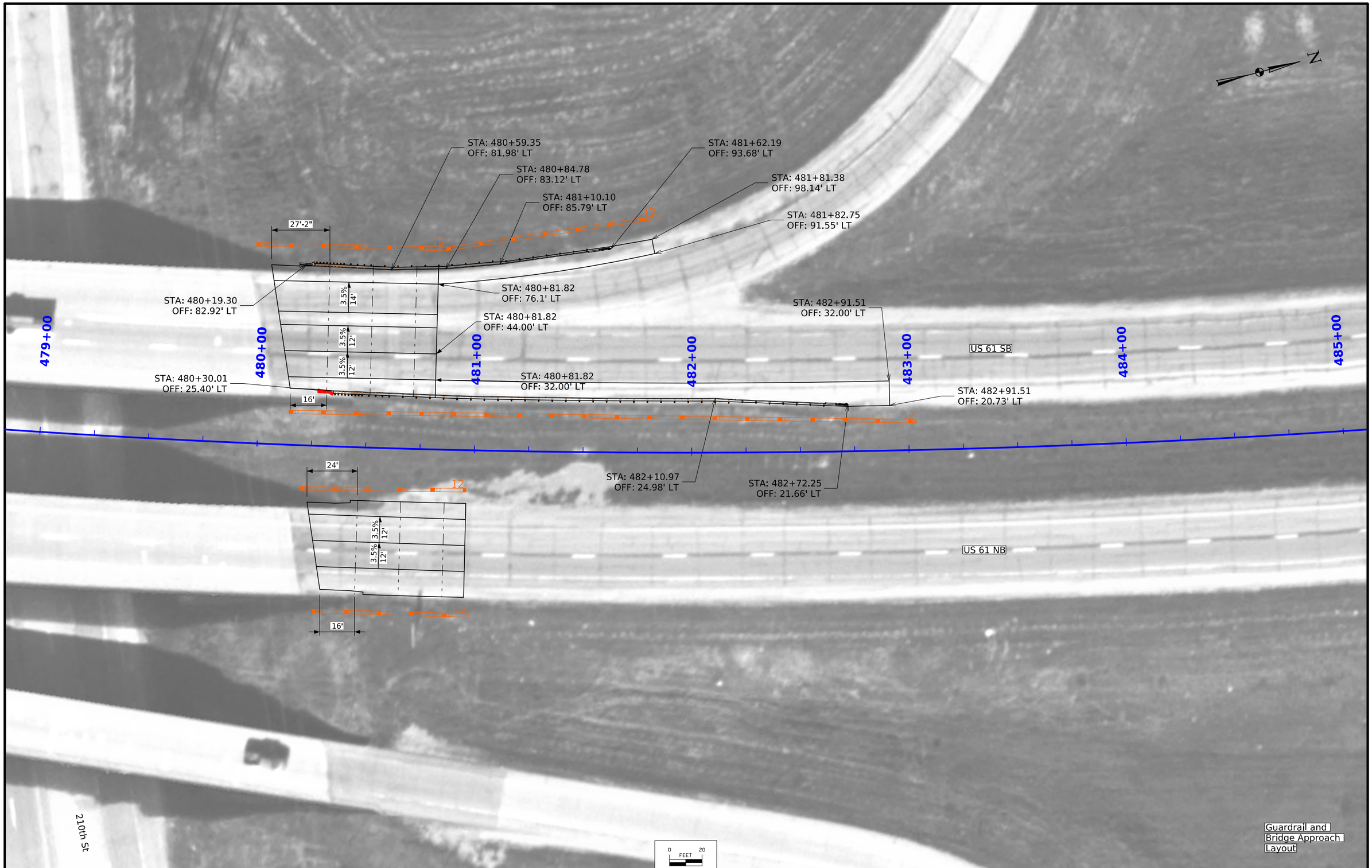

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