LETTING DATE
Dec 15, 2026

Bridge Deck Overlay
IMX-035-6(139)170--02-35

FRANKLIN COUNTY

Index of Sheets	
No.	Description
Sheets	Bridge Plan
A.1	Title Sheet
A.2	Location Map Sheet
V.1	Estimated Quantities - Design 127
V.1 - V.12	Design No. 127
Road Sheets	Road Plan
A.3 - J.15	Road Plans
C.1 - C.2	Estimated Quantities - Road
C.4	Standard Plans - Road

IOWA DOT

PLANS OF PROPOSED IMPROVEMENT ON THE

INTERSTATE ROAD SYSTEM
FRANKLIN COUNTY
Bridge Deck Overlay

SR C-25 over I-35
4.5 miles N of Jct. IA 3

Refer to the Plan Sheets for list of applicable specifications.

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

IOWA ONE CALL
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www.iowaonecall.com
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Know what's below. Call before you dig.

Revisions

	TOTAL
	52
PROJECT IDENTIFICATION NUMBER	
22-35-035-020	
CONTRACT ID NUMBER	
PROJECT NUMBER	
IMX-035-6(139)170--02-35	
R.O.W. PROJECT NUMBER	
PROJECT DIRECTORY NUMBER	
3503502022	

Standard Road Plans

Standard Road Plans are listed on Sheet Number C.4

Design Data Rural

(SR C-25)

2021 AADT 880 V.P.D.

Design Data Rural

(I-35 S.B.)

2024 AADT 8,150 V.P.D.

Trucks 30 %

(I-35 N.B.)

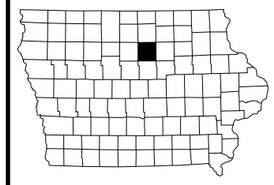
2024 AADT 8,150 V.P.D.

Trucks 30 %

Iowa DOT Bridges and Structures
Consultant Coordinator Contact:
Christian Yi

Scan the QR code or click the link below to leave plan quality feedback and help us improve future projects.

Design QR Feedback Link



Index Of Seals

Sheet No.	Name	Type
A.1	R. Calvin Martin	Structural Design
A.3	Lucas D. Fatka	Roadway Design

Structural Design

LICENSED PROFESSIONAL ENGINEER
R. Calvin Martin
27875
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: 9/15/2026

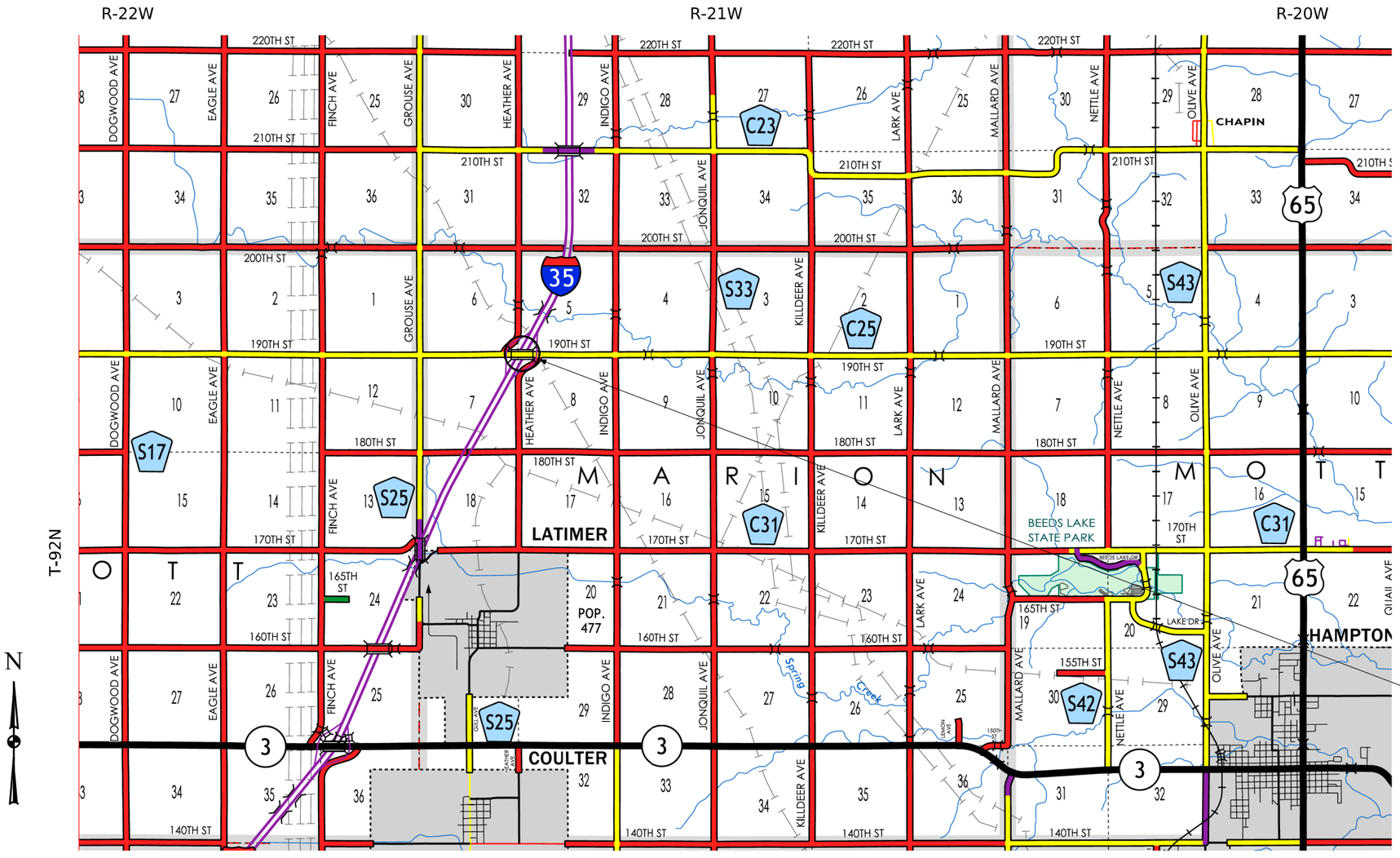
Robert Calvin Martin
Printed or Typed Name

My license renewal date is December 31, 2026

Pages or sheets covered by this seal: A.1-A.2, V.1-V.12

FILE NO. 32366	ENGLISH	DESIGN TEAM WHKS & Co.	FRANKLIN COUNTY	PROJECT NUMBER IMX-035-6(139)170--02-35	SHEET NUMBER A.1

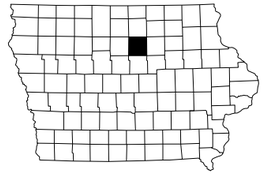
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Design No. 127
FHWA No. 602450

Franklin County Location Map

Not To Scale



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

FILE NO. 32366	ENGLISH	DESIGN TEAM WHKS & Co.		FRANKLIN COUNTY	PROJECT NUMBER IMX-035-6(139)170--02-35	SHEET NUMBER A.2

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ESTIMATED BRIDGE REPAIR QUANTITIES

ITEM NO.	ITEM CODE	ITEM	UNIT	TOTAL
1	2401-6750001	REMOVALS, AS PER PLAN	LS	1
2	2403-0100000	STRUCTURAL CONCRETE (MISCELLANEOUS)	CY	13
3	2404-7775005	REINFORCING STEEL, EPOXY COATED	LB	1,292
4	2413-0698074	DECK REPAIR, CLASS A	SY	98.3
5	2413-1200000	STEEL EXTRUSION JOINT WITH NEOPRENE	LF	76.4
6	2413-1200100	NEOPRENE GLAND INSTALLATION AND TESTING	LF	76.4
7	2426-6772016	CONCRETE REPAIR	SF	18
8	2533-4980005	MOBILIZATION	LS	1
		Alt. AA Option 1		
9	2413-0698066	DECK OVERLAY (CLASS O PCC)	SY	1,165.90
		Alt. AA Option 2		
10	2403-1000010	TRIAL BATCH AND TEST PLACEMENT (FIBER REINFORCED CONCRETE)	LS	1
11	2413-0698067	DECK OVERLAY (CLASS HPC-O PCC)	SY	1,165.90
12	2413-1000005	FIBER REINFORCEMENT FOR CONCRETE REPAIR/OVERLAY	SY	1,165.90

ESTIMATE REFERENCE INFORMATION

ITEM NO.	ITEM CODE	ITEM DESCRIPTION
1	2401-6750001	REMOVALS, AS PER PLAN Includes all work for removal and off-site disposal of the top of backwall, steel sliding plate joint, conduit expansion fittings, abutment diaphragm, and portions of the existing deck, curb and retrofit rail at both abutments. 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 (MISCELLANEOUS) Includes all resilient joint filler required. Includes cleaning existing concrete curb, retrofit rail, and abutment seats as noted in these plans, and furnishing and placing concrete sealer. Includes furnishing and installing "E" joints at both abutments. Includes furnishing and installing expansion fittings for conduits at all corners. Includes costs of setting bars as dowels in the abutment backwalls.
3	2404-7775005	REINFORCING STEEL, EPOXY COATED Includes all required mechanical splicers.
4	2413-0698074	DECK REPAIR, CLASS A - -
5	2413-1200000	STEEL EXTRUSION JOINT WITH NEOPRENE Includes all necessary hardware and accessories including the anchorage system, temporary erection material and the 3/8" curb plates with their anchorage system. Excludes installation of neoprene gland. Skew or expansion conditions do not allow the use of the DS Brown joint for this installation.
6	2413-1200100	NEOPRENE GLAND INSTALLATION AND TESTING Includes installation of neoprene gland and water testing of joint.
7	2426-6772016	CONCRETE REPAIR - -
8	2533-4980005	MOBILIZATION - -
9	2413-0698066	DECK OVERLAY (CLASS O PCC) - -
10	2403-1000010	TRIAL BATCH AND TEST PLACEMENT (FIBER REINFORCED CONCRETE) Refer to the Developmental Specification for Fiber Reinforcement for Structural Concrete for additional information.
11	2413-0698067	DECK OVERLAY (CLASS HPC-O PCC) - -
12	2413-1000005	FIBER REINFORCEMENT FOR CONCRETE REPAIR/OVERLAY Refer to the Developmental Specification for Fiber Reinforcement for Structural Concrete for additional information.

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Roadway Quantities shown elsewhere in these plans.

Design For Repair to 29°07'30" Skew LA

330'-0" x 32' Continuous Welded Girder Bridge

58'-0" End Spans — 107'-0" Interior Spans

Estimated Quantities

STA. 3790+62.4 (SR C-25) — Turn-in Date: October, 2026

Franklin County

IOWA DEPARTMENT OF TRANSPORTATION

Design No. 127 — Design Sheet No. 1 of 12 — FHWA No. 602450

General Notes

This design is for repairs to the existing 330'-0" x 32' continuous welded girder bridge on SR C-25 over I-35 in Franklin County.

Electronic copies of original and repair design plans are available to the Contractor as part of the E-Files supplied with the contract documents. Dimensions shown on these plans are based on design plans (Original Design No. 4470, Retrofit Rail Design No. 292).

See Design Sheet No. 3 for list of repair items.

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.

Faint lines on plans indicate the existing structure.

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

These bridge plans label all reinforcing steel with english notation (5a1 is $\frac{5}{8}$ 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

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

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

Construction stages 1 & 2 as detailed on these plans may be reversed at the Contractor's option subject to the Engineer's approval.

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.

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 curb and railing are to be cleaned and sealed in accordance with Article 2403.03, P, of the Standard Specifications. The new sections of curb and rail shall not be sealed. All costs associated with cleaning and sealing of the concrete rails shall be included in the unit price bid item "Structural Concrete (Miscellaneous)".

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

Areas of curb indicated on the "Situation Plan" and Design Sheet No. 12 or designated by the Engineer are to be repaired using concrete repair notes and details included in these plans.

Present deck thickness is about 8 inches nominal and $8\frac{1}{2}$ inches at the ℄ of bridge. The Contractor shall exercise care in removing concrete in order to prevent unnecessary unbonding of reinforcing steel.

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

Plan quantity of deck repair is based on the "Survey Plot" as shown in these plans. Hatched portions represent Class A Bridge Deck Repair. Cross hatched portions, if shown, represent Class B Bridge Deck Repair. The plan quantity for "Class A Deck Repair" is estimated as 98.2 SY based on automated sounding of the deck plus 25% increase for estimating purposes. Actual spalled and hollow areas as determined by the Engineer at the time of construction, shall be repaired.

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.

If the Contractor uses HPC-O mix the surface shall be cured for at least 168 hours. For the first 96 hours, keep the burlap continuously wet by means of an automatic sprinkling or wetting system. After 96 hours, the Contractor may cover the wet burlap with a layer of 4 mil polyethylene film for a minimum of 72 hours in lieu of using the sprinkling or wetting system. If the polyethylene film is used, the Contractor will be required to verify the burlap remains wet for the 72 hour period.

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 1 overlay is prepared for placement of the new concrete for Stage 2 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.

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.

The Bridge Contractor is to provide a method of removal that will prevent feather edging at the bottom of the existing deck. Care shall be taken when exposing existing reinforcing so the bond to existing concrete is not broken at the concrete break lines.

The lump sum bid for "Removals, as Per Plan" shall include all costs associated with removing the top of existing backwall, the sliding plate joint, the end of deck & diaphragm, and portions of the curb and retrofit rail at both abutments. 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.

The Contractor's attention is directed to the existing conduit in the bridge curbs and wingwalls.

The Contractor shall install new expansion fittings at all corners of the bridge.

The Contractor shall shift or modify the conduit and expansion fitting as necessary to prevent interference with the steel extrusion joint at all corners of the bridge.

Cost of these operations will be considered incidental to the cost of the "Structural Concrete (Miscellaneous)". Any damage to the conduit or wiring by the Contractor will be the responsibility of the Contractor and repaired at no extra cost to the State.

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.

Developmental Specifications for Fiber Reinforcement for 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.

Structural steel in accordance with Section 10 ASTM A709 Grade 36 (AASHTO M270 Grade 36).

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	Steel Extrusion Joints and Curb Plates	(139)_Franklin_Design127_SteelExtrusionJoints.pdf	No

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

Design History at this Site
(Includes this Design)

Des. No.	Type of Work
4470	Original Design
292	Retrofit Rail
127	Deck Overlay

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Design For Repair to 29°07'30" Skew LA

330'-0" x 32' Continuous Welded Girder Bridge

58'-0" End Spans — 107'-0" Interior Spans

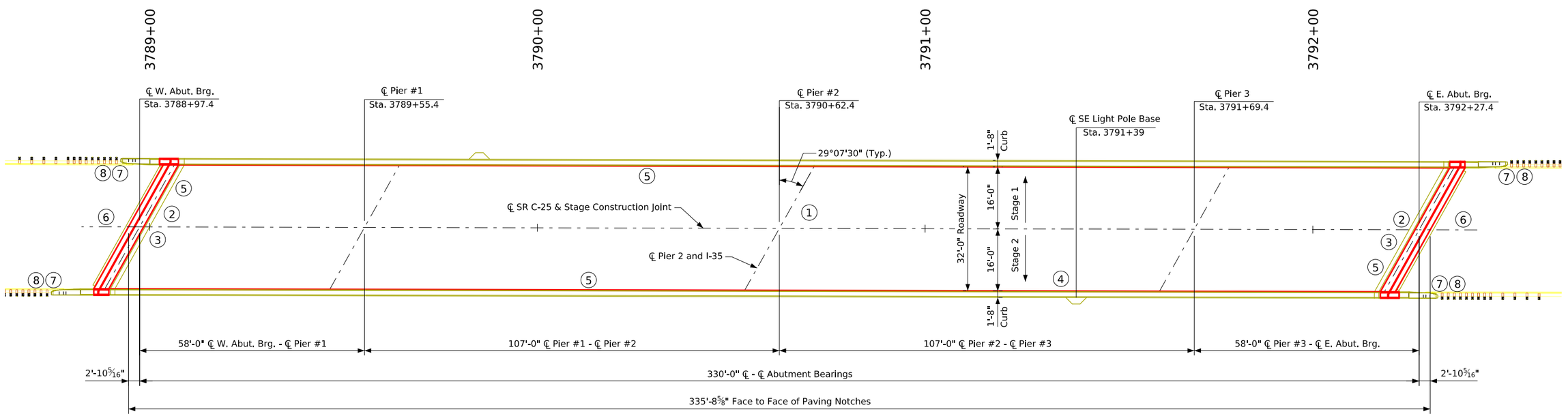
General Notes

STA. 3790+62.4 (SR C-25) — Turn-in Date: October, 2026

Franklin County

IOWA DEPARTMENT OF TRANSPORTATION

Design No. 127 — Design Sheet No. 2 of 12 — FHWA No. 602450



Situation Plan

Repairs Shall Consist Of:

1. Scarify the Deck, perform Class A repairs, and overlay bridge deck.
2. Remove and reconstruct the top of backwall, portions of the deck and diaphragm, and portions of the curb and barrier rail at both abutments.
3. Remove the existing sliding plate joints and install steel extrusion joints with neoprene glands at both abutments.
4. Perform concrete repairs to the south curb.
5. Clean and seal the barrier rails, curbs, and abutment seats.
6. Overlay the bridge approaches with HMA to accomodate grade raise.
7. Remove and replace the existing guardrails.
8. Construct paved shoulder next to the new guardrails.

N

Location

SR C-25 over I-35
T-92N R-21W
Section 5 & 8
Marion Township
Franklin County
FHWA No. 602450
Bridge Maint. No. 3570.2O035
Latitude 42.803519°
Longitude -93.359966°

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Design For Repair to 29°07'30" Skew LA

330'-0" x 32' Continuous Welded Girder Bridge

58'-0" End Spans — 107'-0" Interior Spans

Situation Plan

STA. 3790+62.4 (SR C-25)

Turn-in Date: October, 2026

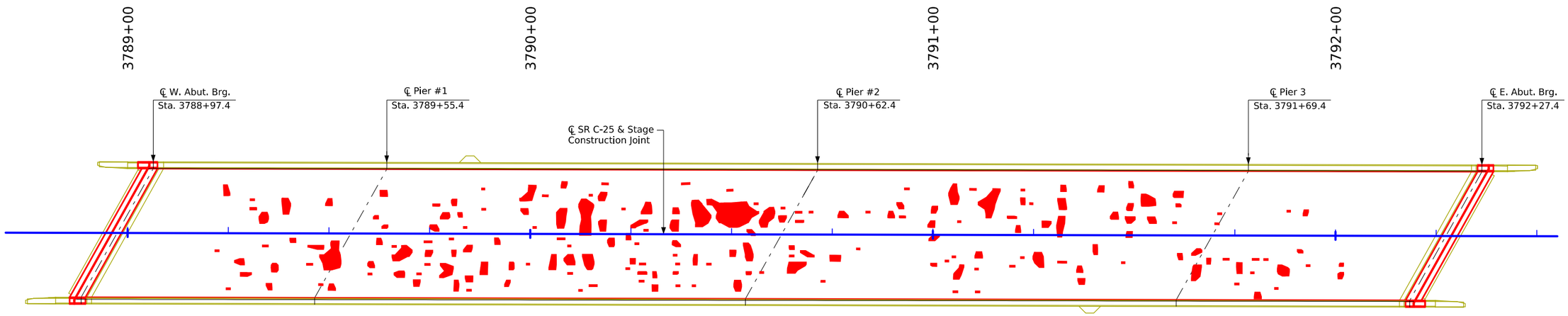
Franklin County

IOWA DEPARTMENT OF TRANSPORTATION

Design No. 127 | Design Sheet No. 3 of 12 | FHWA No. 602450

FILE NO. 32366	ENGLISH	DESIGN TEAM RCM/TJL/CVF	FRANKLIN COUNTY	PROJECT NUMBER IMX-035-6(139)170--02-35	SHEET NUMBER V.3

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Sounding Plot

Date of Completion: December 2025

Delamination

Note:
Class A Repair is based on area of delamination plus 25%.
Class A Repair = 78.6 SY (6.6% of Deck Area) * 1.25

N

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Design For Repair to 29°07'30" Skew LA

330'-0" x 32' Continuous Welded Girder Bridge

58'-0" End Spans | 107'-0" Interior Spans

Sounding Plot

STA. 3790+62.4 (SR C-25)

Turn-in Date: October, 2026

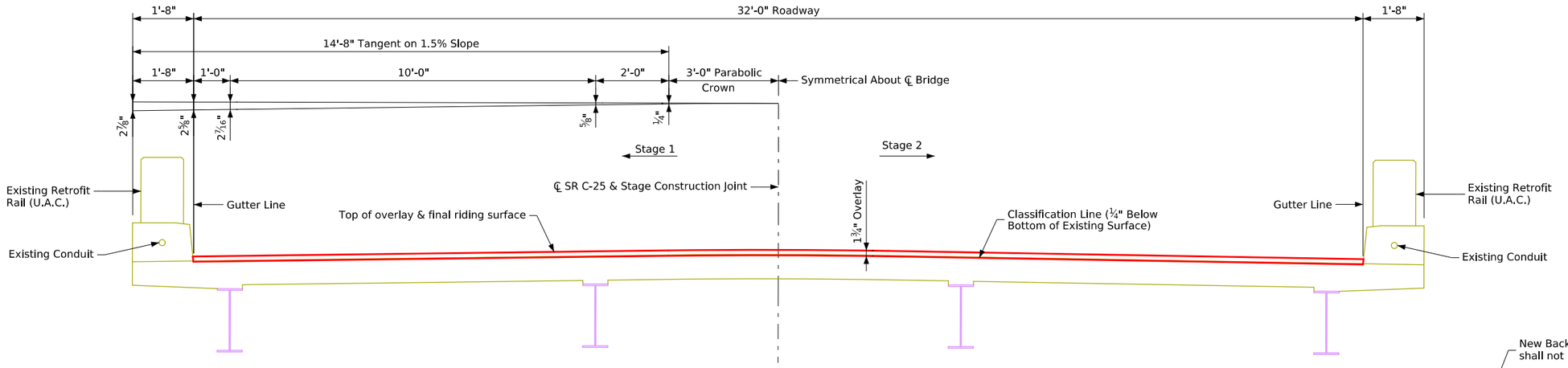
Franklin County

IOWA DEPARTMENT OF TRANSPORTATION

Design No. 127 | Design Sheet No. 4 of 12 | FHWA No. 602450

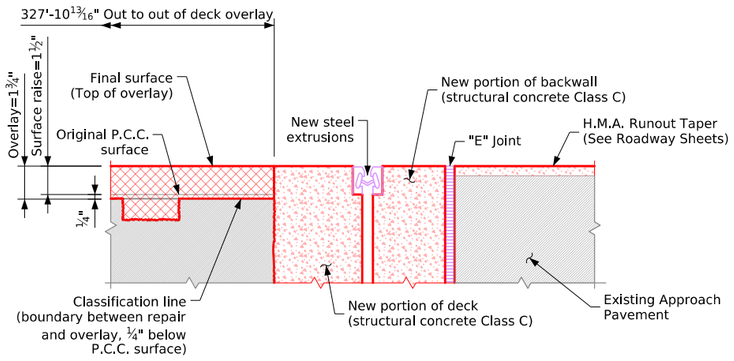
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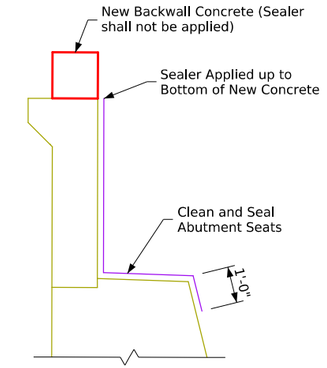
Typical Cross Section

(Looking Upstation)

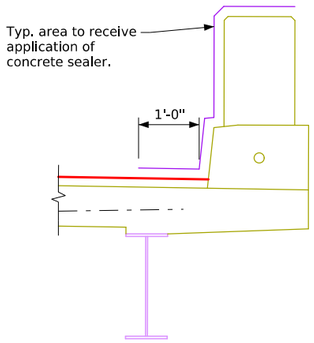


Part Longitudinal Section Along Roadway

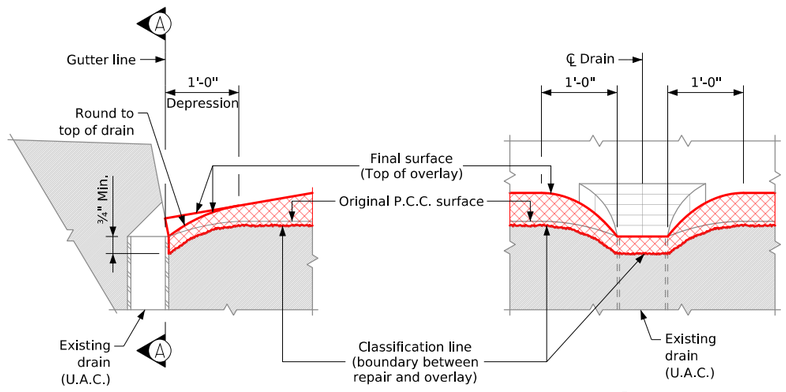
Both Abutments



Abutment Concrete Sealer Areas



Curb and Rail Concrete Sealer Areas

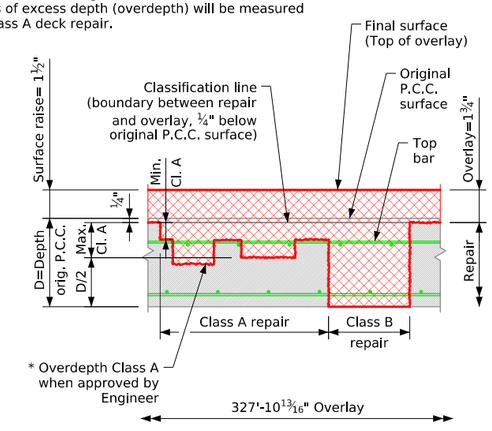


Section A-A

Deck Repair Detail at Drain

(Required at 8 Locations)

* Per IDOT Std. Spec. 2413.03.C.3.b, limited areas of Class A removal may exceed 50% of the floor thickness at the Engineer's direction. These limited areas of excess depth (overdepth) will be measured as Class A deck repair.



Repair and Overlay Definition

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Design For Repair to 29°07'30" Skew LA

330'-0" x 32' Continuous Welded Girder Bridge

58'-0" End Spans — 107'-0" Interior Spans

Deck Repair Details

STA. 3790+62.4 (SR C-25)

Turn-in Date: October, 2026

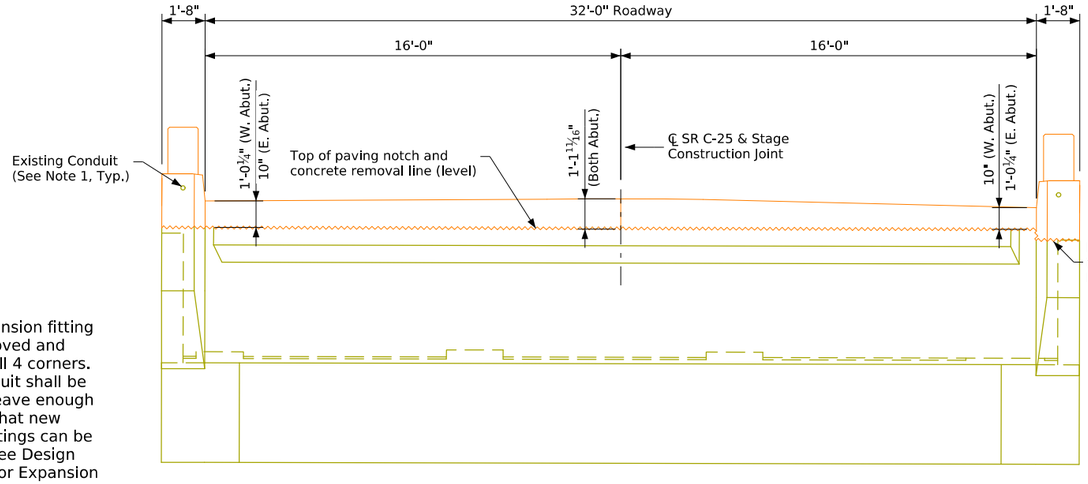
Franklin County

IOWA DEPARTMENT OF TRANSPORTATION

Design No. 127 — Design Sheet No. 5 of 12 — FHWA No. 602450

FILE NO. 32366	ENGLISH	DESIGN TEAM RCM/TJL/CVF	FRANKLIN COUNTY	PROJECT NUMBER IMX-035-6(139)170--02-35	SHEET NUMBER V.5

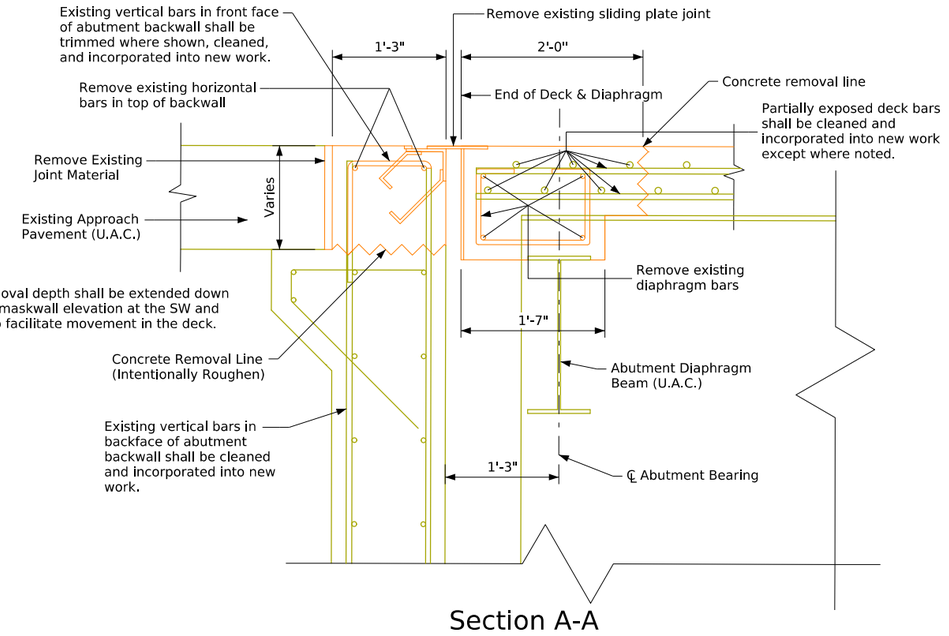
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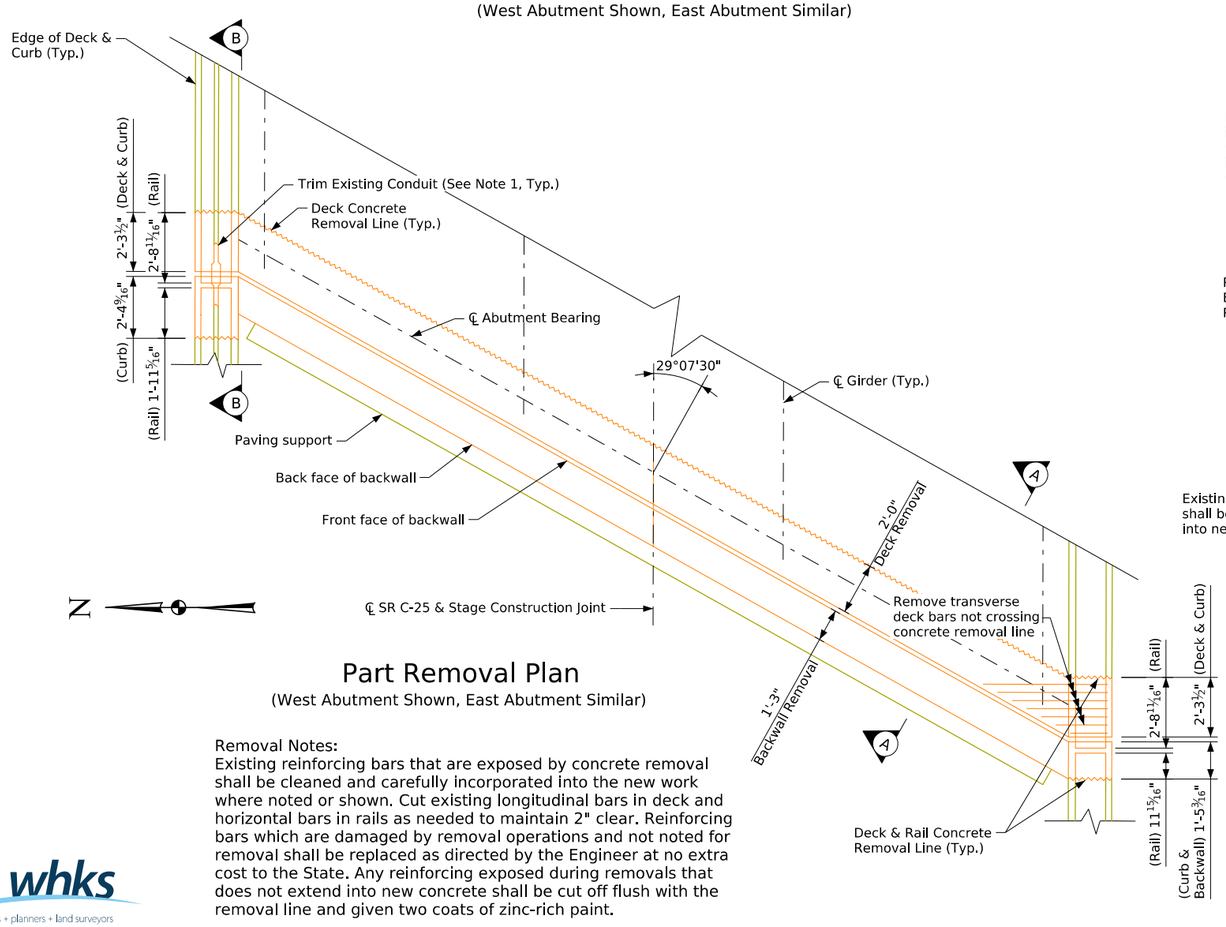
Note 1:
Existing expansion fitting shall be removed and replaced at all 4 corners. Existing conduit shall be trimmed to leave enough length such that new expansion fittings can be connected. See Design Sheet No. 9 for Expansion Fitting Details.

Rear Elevation

(West Abutment Shown, East Abutment Similar)



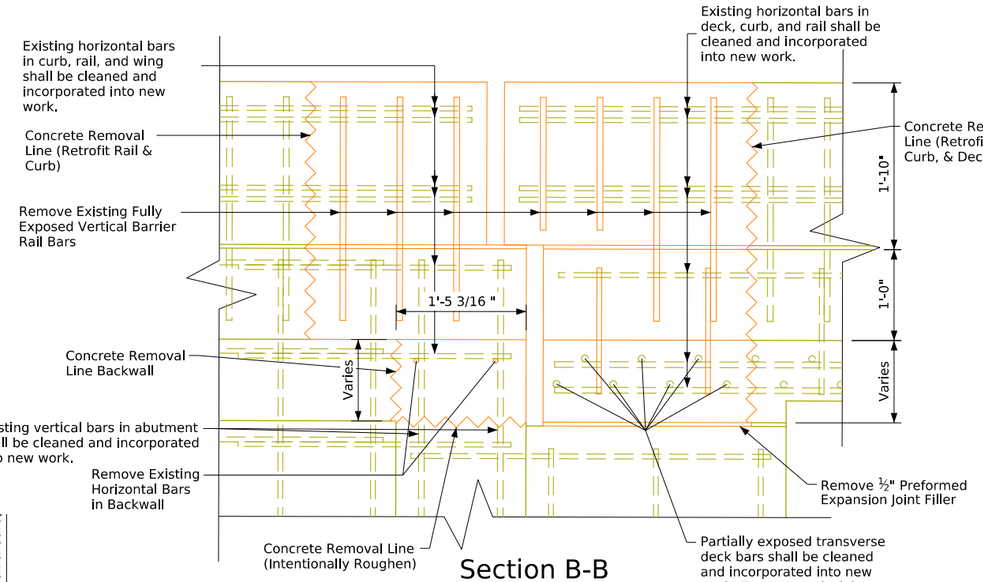
Section A-A



Part Removal Plan

(West Abutment Shown, East Abutment Similar)

Removal Notes:
Existing reinforcing bars that are exposed by concrete removal shall be cleaned and carefully incorporated into the new work where noted or shown. Cut existing longitudinal bars in deck and horizontal bars in rails as needed to maintain 2" clear. Reinforcing bars which are damaged by removal operations and not noted for removal shall be replaced as directed by the Engineer at no extra cost to the State. Any reinforcing exposed during removals that does not extend into new concrete shall be cut off flush with the removal line and given two coats of zinc-rich paint.



Section B-B

(Existing Conduit and Expansion Fitting not included for clarity)

Note:
Existing beam and abutment diaphragm shear connectors shall be cleaned and incorporated into new work. Contractor shall use extreme care when removing deck and diaphragm concrete to avoid damaging the top flanges and shear connectors.

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Design For Repair to 29°07'30" Skew LA

330'-0" x 32' Continuous Welded Girder Bridge

58'-0" End Spans — 107'-0" Interior Spans

Removal Details

STA. 3790+62.4 (SR C-25) — Turn-in Date: October, 2026

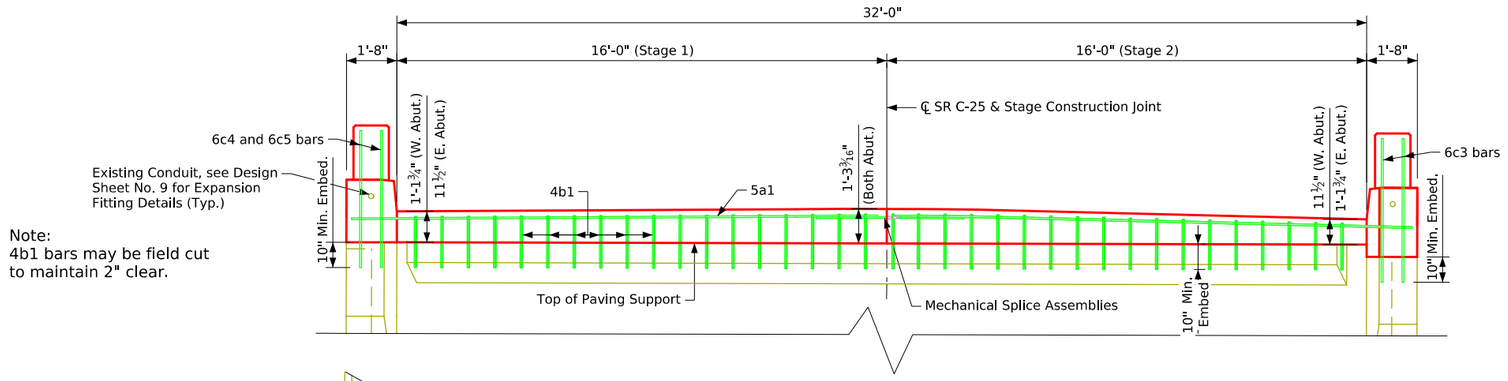
Franklin County

IOWA DEPARTMENT OF TRANSPORTATION

Design No. 127 — Design Sheet No. 6 of 12 — FHWA No. 602450

FILE NO. 32366	ENGLISH	DESIGN TEAM RCM/TJL/CVF	FRANKLIN COUNTY	PROJECT NUMBER IMX-035-6(139)170--02-35	SHEET NUMBER V.6

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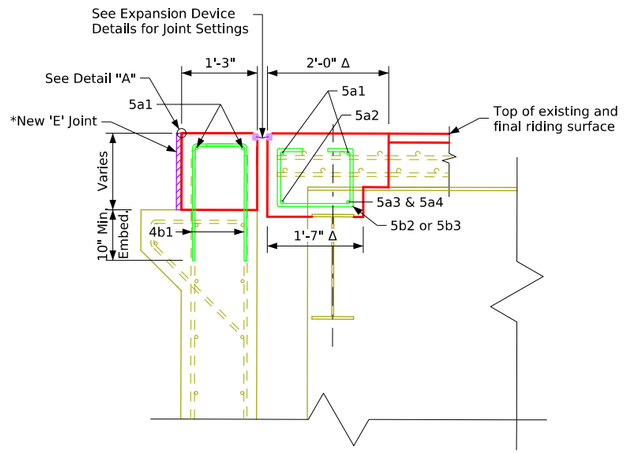


Note:
4b1 bars may be field cut to maintain 2" clear.

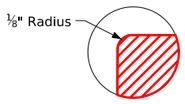
Rear Elevation

(West Abutment Shown, East Abutment Similar)
(Existing Reinforcing Not Shown for Clarity)

*See joint standard PV-101 for additional information



Section A-A



Detail "A"

Part Plan

(West Abutment Shown, East Abutment Similar)
(Existing Reinforcing, Strip Seal, Conduit, and Expansion Fittings Not Shown for Clarity)

Note:
Δ Dimension may be adjusted as necessary to achieve proper expansion joint opening.

**Replace the first 5 total top and bottom bars from the concrete removal line in the deck with 5 total new top and bottom bars.

See Design Sheet No. 8 for backwall, curb, and rail reinforcing at each abutment corner.

Concrete abutment diaphragms terminate at the outside face of exterior beam web where shown.

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Design For Repair to 29°07'30" Skew LA

330'-0" x 32' Continuous Welded Girder Bridge

58'-0" End Spans — 107'-0" Interior Spans

Abutment Repair Details

STA. 3790+62.4 (SR C-25)

Turn-in Date: October, 2026

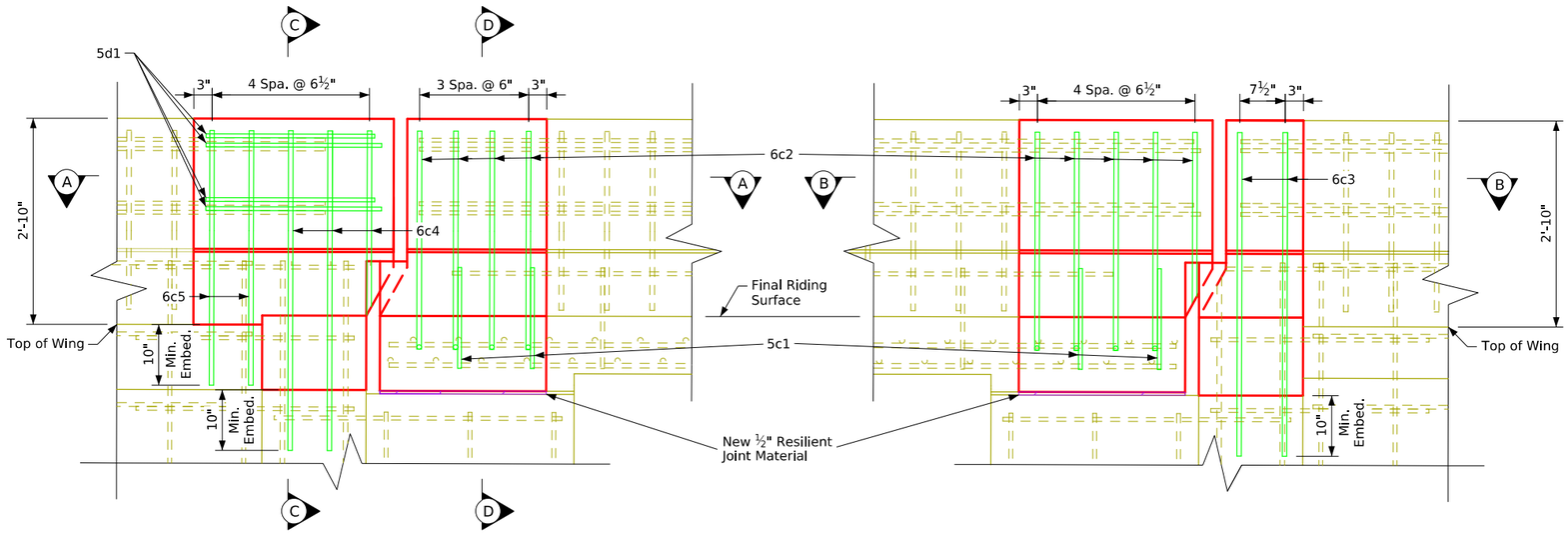
Franklin County

IOWA DEPARTMENT OF TRANSPORTATION

Design No. 127 | Design Sheet No. 7 of 12 | FHWA No. 602450

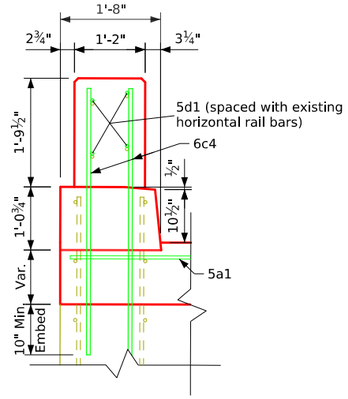
FILE NO. 32366	ENGLISH	DESIGN TEAM RCM/TJL/CVF	FRANKLIN COUNTY	PROJECT NUMBER IMX-035-6(139)170--02-35	SHEET NUMBER V.7

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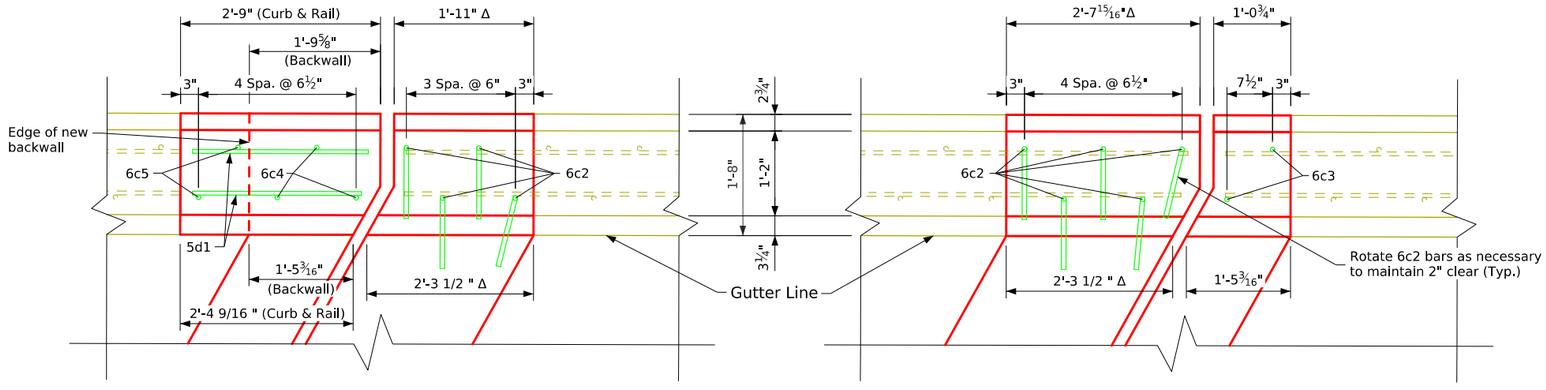
Section Thru NW & SE Rail

Section Thru NE & SW Rail



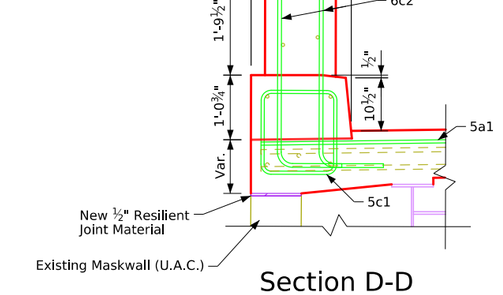
Section C-C

Note:
Δ Dimension may be adjusted as necessary to achieve proper expansion joint opening.



Section A-A
(NW Corner Shown, SE Corner Similar)

Section B-B
(NE Corner Shown, SW Corner Similar)



Section D-D

Note:
Existing conduit and new expansion fittings not shown for clarity. See Design Sheet No. 9 for Expansion Fitting Details.

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Design For Repair to 29°07'30" Skew LA

330'-0" x 32' Continuous Welded Girder Bridge

58'-0" End Spans — 107'-0" Interior Spans

Abutment Repair Details

STA. 3790+62.4 (SR C-25)

Turn-in Date: October, 2026

Franklin County

IOWA DEPARTMENT OF TRANSPORTATION

Design No. 127 — Design Sheet No. 8 of 12 — FHWA No. 602450

FILE NO. 32366	ENGLISH	DESIGN TEAM RCM/TJL/CVF	FRANKLIN COUNTY	PROJECT NUMBER IMX-035-6(139)170--02-35	SHEET NUMBER V.8

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Dowel Setting Note:

The 4b1, 6c3, 6c4, & 6c5 bars in the backwall shall be set as dowels 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.

The price bid for "Structural Concrete (Miscellaneous)" shall include the costs of setting bars as dowels in the abutment backwalls.

Mechanical Splice Assemblies:

The 5a1, 5a2, and 5a4 bars in the deck, diaphragm and backwall 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 I.M. 451 Appendix E. Reinforcing splice bars shall match the diameter of the bar being spliced.

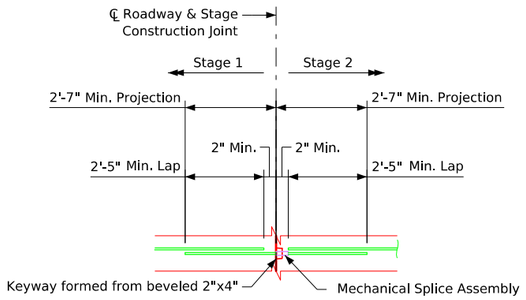
All mechanical splice assemblies to be used in splicing the 5a1, 5a2, and 5a4 bars in the deck, diaphragm, and backwall shall be epoxy coated.

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. The weight of mechanical splice assemblies is not included in the quantity shown for "Reinforcing Steel Epoxy Coated". A total of 12 epoxy coated splice assemblies will be required.

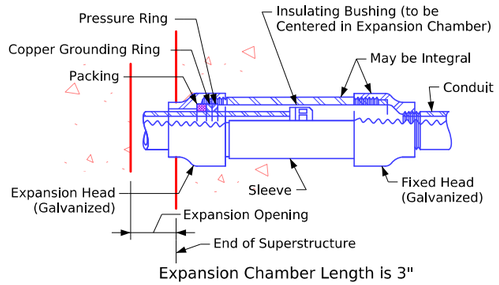
Expansion Fitting Notes:

Expansion fitting shall be as specified or as approved by the Engineer. Typical details are shown on this sheet.

The cost of furnishing and labor, including any additional work to do the installation, is to be included in the price bid for 'Structural Concrete (Miscellaneous)". A total of 4 expansion fitting will be required.



Mechanical Splice Detail



Expansion Fitting Detail

(4 Required)

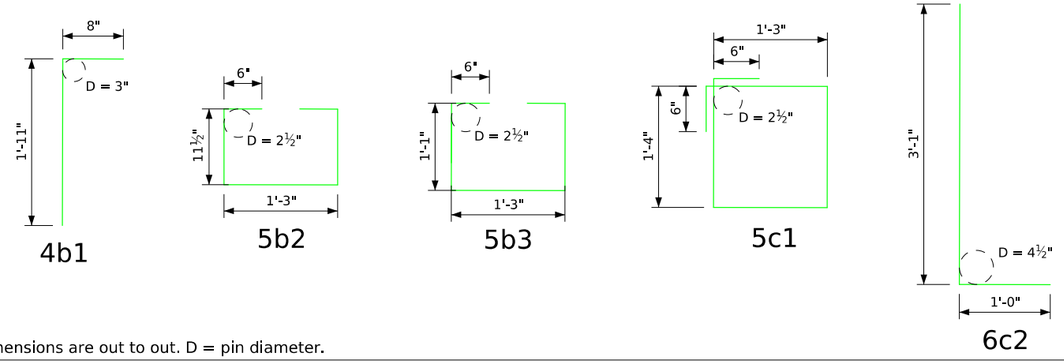
Epoxy Coated Reinforcing Steel - One Abutment

Bar	Location	Shape	No.	Length	Weight
5a1	Deck & Backwall, Horizontal		8	19'-7"	163
5a2	Diaphragm, Horizontal		2	16'-9"	35
5a3	Diaphragm, Horizontal		2	11'-0"	23
5a4	Diaphragm, Horizontal		2	5'-3"	11
7a5	Deck, Transverse		5	Varies	39
4b1	Backwall, Vertical, Dowel		72	2'-7"	124
5b2	Diaphragm, Vertical, Hoop		18	4'-2"	78
5b3	Diaphragm, Vertical, Hoop		9	4'-5"	41
5c1	Curb, Vertical, Hoop		4	6'-2"	26
6c2	Curb & Rail, Vertical		9	4'-1"	55
6c3	Backwall, Curb, & Rail, NE & SW Corners		2	5'-4"	16
6c4	Backwall, Curb, & Rail, NW & SE Corners		3	5'-1"	23
6c5	Curb & Rail, NW & SE Corners		2	4'-1"	12
5d1	Rail, Longitudinal		4	2'-5"	10
				Reinforcing Steel (Epoxy-Coated) - Total (lbs.)	646

Concrete Placement Summary

Location	Total
West Abutment - Stage 1	
Curb, Retrofit Rail, & Backwall	1.7
Deck & Diaphragm	1.6
West Abutment - Stage 2	
Curb, Retrofit Rail, & Backwall	1.5
Deck & Diaphragm	1.7
East Abutment - Stage 1	
Curb, Retrofit Rail, & Backwall	1.5
Deck & Diaphragm	1.7
East Abutment - Stage 2	
Curb, Retrofit Rail, & Backwall	1.7
Deck & Diaphragm	1.6
Total (Cubic Yards)	13.0

Bent Bar Details



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

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Design For Repair to 29°07'30" Skew LA

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58'-0" End Spans — 107'-0" Interior Spans

Abutment Repair Details

STA. 3790+62.4 (SR C-25) — Turn-in Date: October, 2026

Franklin County

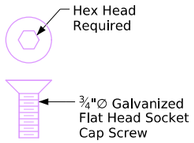
IOWA DEPARTMENT OF TRANSPORTATION

Design No. 127 — Design Sheet No. 9 of 12 — FHWA No. 602450

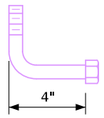
Joint Setting Table

Temp.	Dim "D"	Dim "Y"
10°	$2\frac{7}{16}$"	$2\frac{13}{16}$"
50°	2"	$2\frac{5}{16}$"
90°	$1\frac{9}{16}$"	$1\frac{3}{4}$"

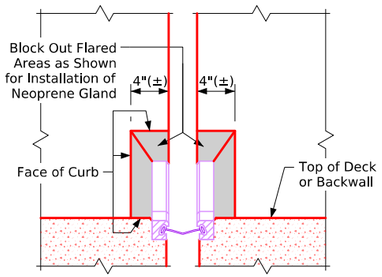
Note: Joint settings for other temperatures are proportional. Temperatures shown are concrete deck temperatures on the underside or shaded portion of the deck.



Cap Screw Detail

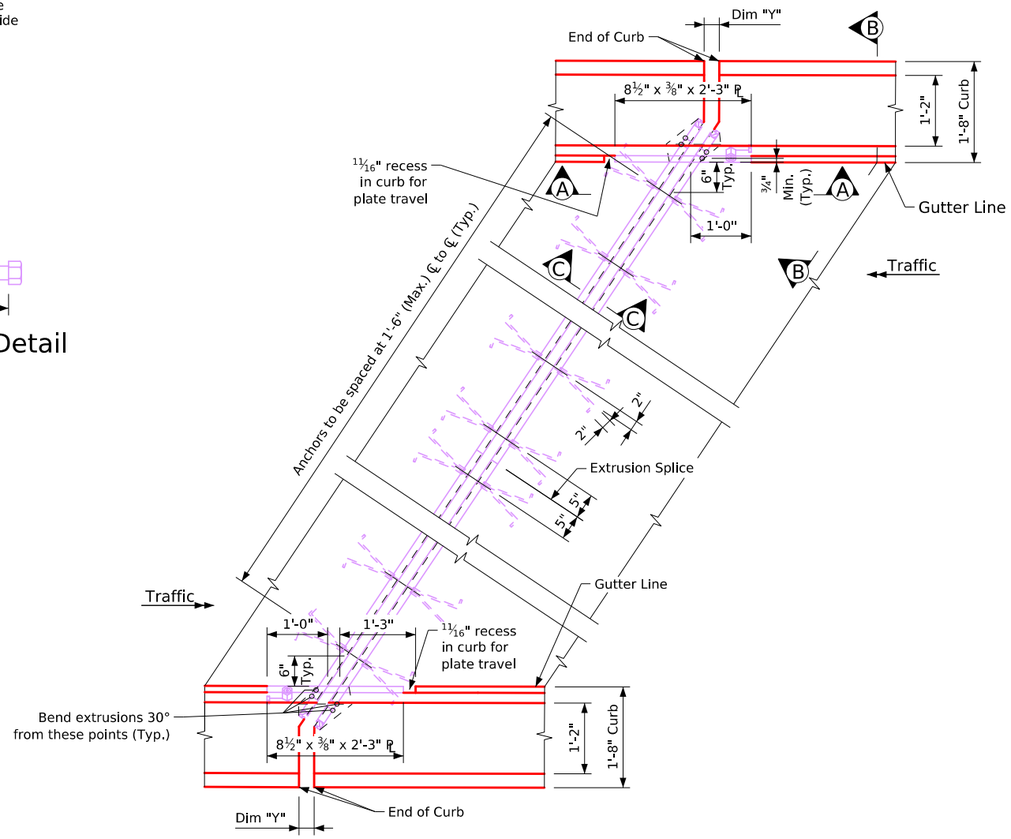


Bent Bolt Detail



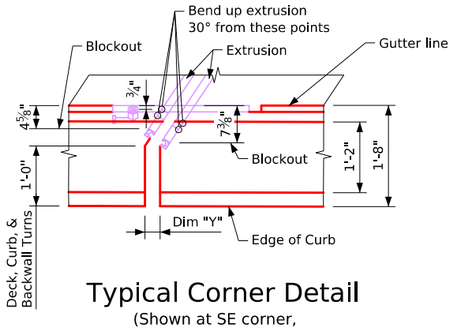
Blockout Detail
(Drawn for 0° Skew for Illustrative Purposes)

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

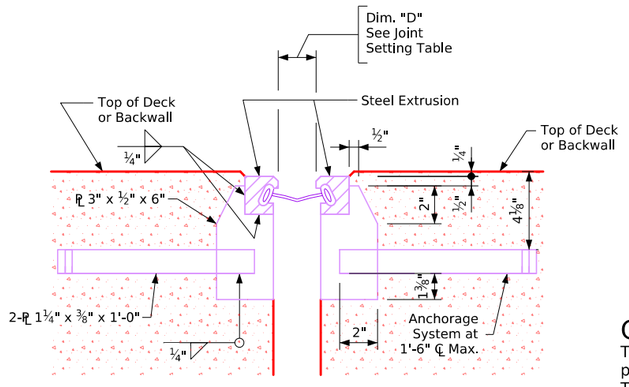


Part Plan View of Expansion Device

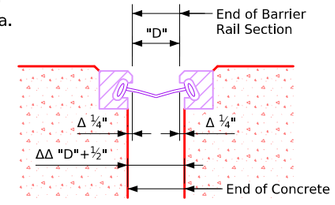
Note: It is intended that the $11\frac{1}{16}$" recessed area be formed so that when the ⅜" curb plate is installed, the plate will be able to move freely in this recessed area.



Typical Corner Detail
(Shown at SE corner, similar at all other corners)



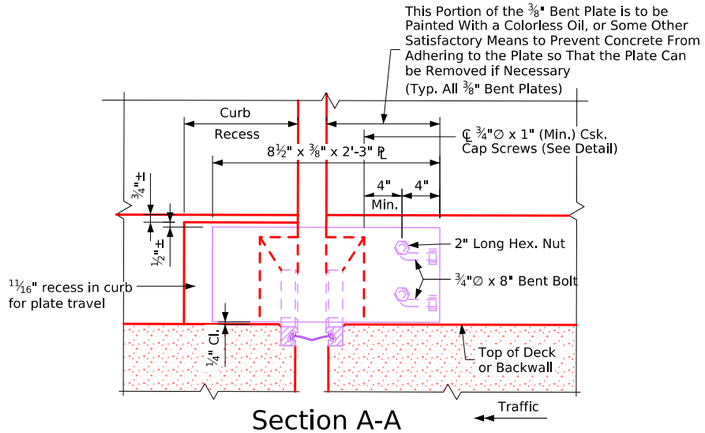
Section C-C



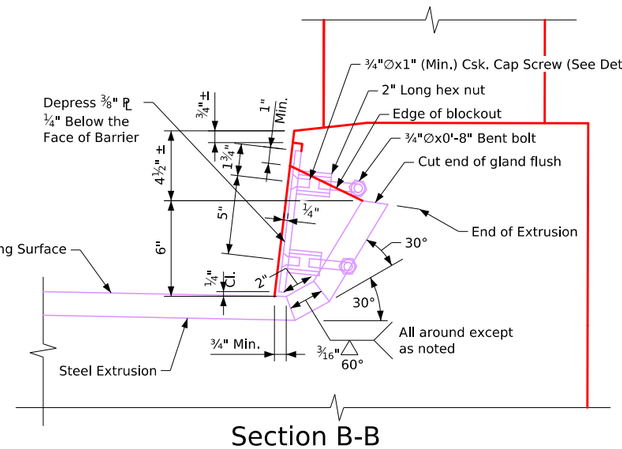
Expansion Opening Detail

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 A-A
(Drawn for 0° Skew for Illustrative Purposes)



Section B-B
(drawn for 0° skew for illustrative purposes)

Table of Approved Expansion Devices

Manufacturer	Type of Steel Extrusion	Neoprene Gland	Minimum Opening for Gland Installation	Corresponding Maximum Deck Temperature
Watson-Bowman & Acme Corp.	A	SE-300	$1\frac{9}{16}$"	90°F
Approved Equal				

Curb 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.

Note:
See Design Sheet No. 11 for additional expansion device notes containing the Steel Extrusion Notes, Neoprene Grand Notes, and Watertight Integrity Testing and Repair Notes.

Design For Repair to 29°07'30" Skew LA

330'-0" x 32' Continuous Welded Girder Bridge

58'-0" End Spans — 107'-0" Interior Spans

Expansion Device Details

STA. 3790+62.4 (SR C-25) — Turn-in Date: October, 2026

Franklin County

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Design No. 127 — Design Sheet No. 10 of 12 — FHWA No. 602450

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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.

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 gutter line 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 under deck 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 under deck 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.

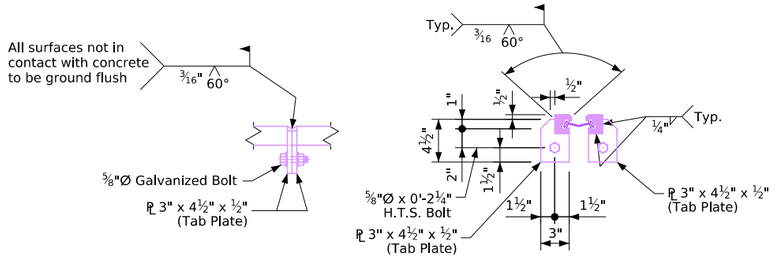
If the expansion device leaks at an upturned end or along its length, the Contractor shall locate the leak(s) and take repair measures to stop the leakage. The repair measures shall be as recommended by the Manufacturer and approved by the Engineer prior to beginning corrective work.

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

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.



End View Section Thru Extrusion

Field Splice Detail

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Expansion Device Details

STA. 3790+62.4 (SR C-25) Turn-in Date: October, 2026

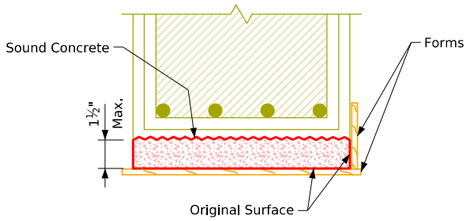
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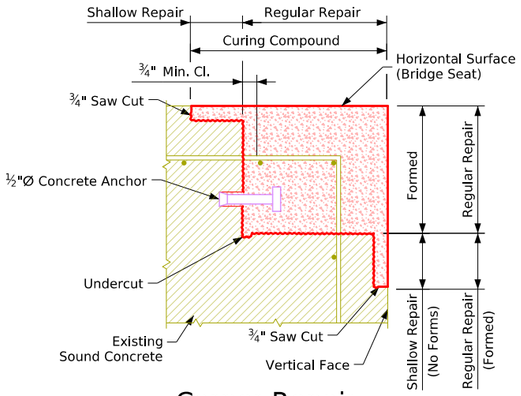
Design No. 127 Design Sheet No. 11 of 12 FHWA No. 602450

FILE NO. 32366	ENGLISH	DESIGN TEAM RCM/TJL/CVF	FRANKLIN COUNTY	PROJECT NUMBER IMX-035-6(139)170--02-35	SHEET NUMBER V.11

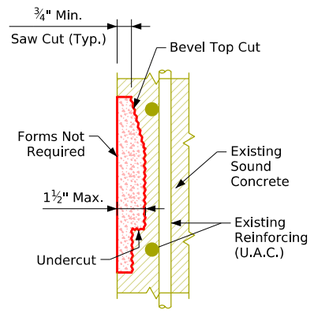
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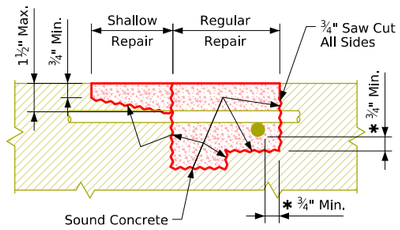
Shallow Repair Bottom Surface



Corner Repair

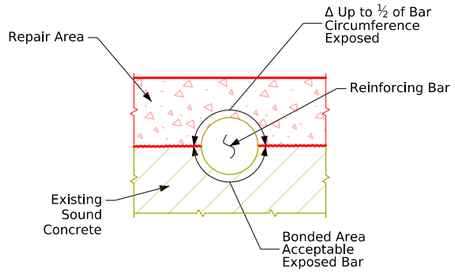


Shallow Repair Vertical Face

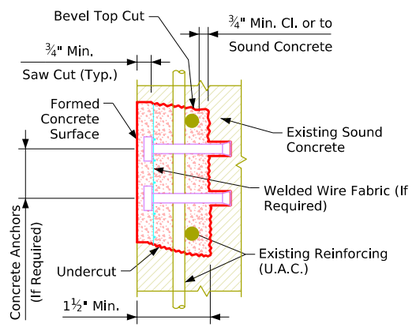


Repair Definition

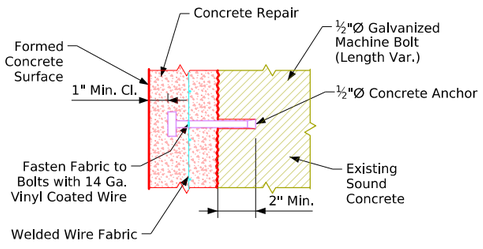
✱ Indicates Clearance for an Un-Bonded Rebar.



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

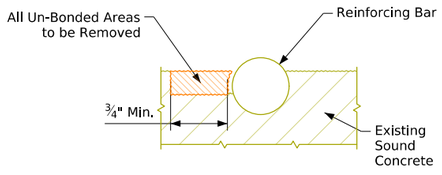


Regular Repair Vertical Face

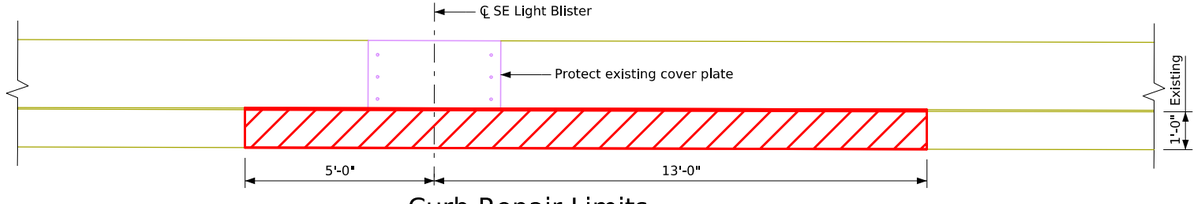


Anchor Detail

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



Concrete Removal Adjacent to Reinforcing



Curb Repair Limits
(South Barrier, Looking South)

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 sq in 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 sq ft 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 sq ft 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.	18
②	Regular repair	Sq. Ft.	0
		Total (Sq. Ft.)	18

Estimated Concrete Repair Quantities

Description	Units	Amount
Concrete Repair	Sq. Ft.	18

Legend

Indicates Shallow Repair

Indicates Regular Repair

whks
engineers + planners + land surveyors

Design For Repair to 29°07'30" Skew LA

330'-0" x 32' Continuous Welded Girder Bridge

58'-0" End Spans — 107'-0" Interior Spans

Concrete Repair Details

STA. 3790+62.4 (SR C-25)

Turn-in Date: October, 2026

Franklin County

IOWA DEPARTMENT OF TRANSPORTATION

Design No. 127 — Design Sheet No. 12 of 12 — FHWA No. 602450

FILE NO. 32366	ENGLISH	DESIGN TEAM RCM/TJL/CVF	FRANKLIN COUNTY	PROJECT NUMBER IMX-035-6(139)170--02-35	SHEET NUMBER V.12

12:04:20 PM 9/15/2026 tlangel pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\3503502022\Bridge\(139)_Bridge Deck Overlay\BRG_35035139_WHKS_127_602450_Z04

INDEX OF SHEETS

No.	DESCRIPTION
A Sheets	**Title Sheets**
* A.3	Roadway Title Sheet
B Sheets	**Typical Cross Sections and Details**
B.1 - 2	Typical Cross Sections and Details
C Sheets	**Quantities and General Information**
C.1 - 2	Estimated Roadway Quantities & Estimate Reference Information
C.3	Project Description
C.4	Standards
C.5	Index of Tabulations
C.6 - 18	Tabulations
D Sheets	**Mainline Plan Sheets**
* D.1	Legend Sheet
* D.2	Plan Sheet
J Sheets	**Traffic Control and Staging Sheets**
J.1	Traffic Control Plan
J.2	511 Travel Restrictions
J.3	Staging Notes
J.4	Staging Cross Sections
* J.5	Legend Sheet
* J.6 - 15	Traffic Control Plan Sheets
	* Color Plan Sheets

whks
engineers + planners + land surveyors
3737 Woodland Ave. Suite 111
West Des Moines, IA 50266

LICENSED PROFESSIONAL ENGINEER
Lucas D. Fatka
23466
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 Lucas D. Fatka Date 9/15/2026

Printed or Typed Name

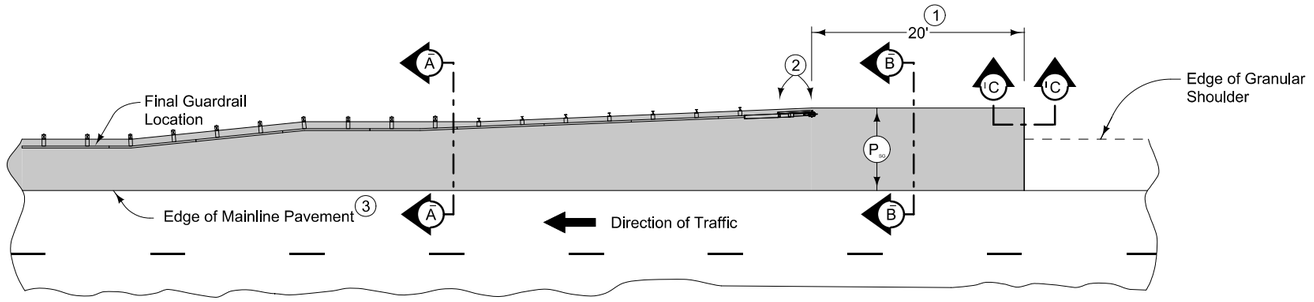
My license renewal date is December 31, 2027

Pages or sheets covered by this seal: A.3, B.1-B.2, C.1-C.18, D.1-D.2, J.1-J.15

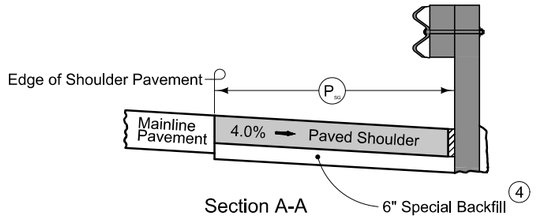
FILE NO. 32366	ENGLISH	DESIGN TEAM WHKS & CO.	FRANKLIN COUNTY	PROJECT NUMBER IMX-035-6(139)170--02-35	SHEET NUMBER A.3

SYSTEMTIME SYSTEMDATE USERNAME DGNSPEC

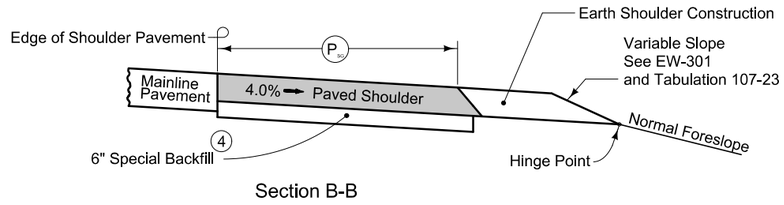
7156
10-18-22



PLAN VIEW



Section A-A



Section B-B

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.

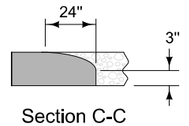
Refer to Tabulation 112-9 for shoulder quantities.

(1) Continue paved shoulder 20 feet beyond the center of the first post.

(2) Shoulder may be notched for first 2 posts or post sleeves may be installed through pavement. Do not drive posts through pavement.

(3) 'B' joint (per PV-101) for HMA shoulder.

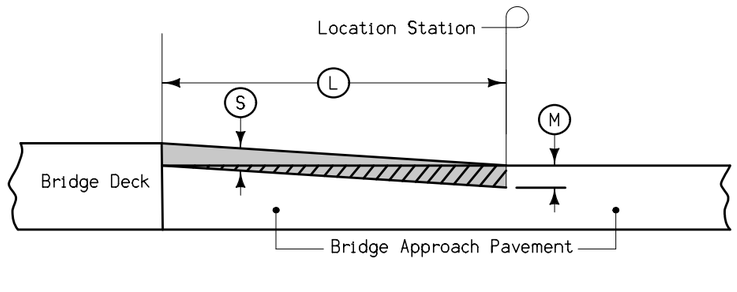
(4) Refer to Tab. 112_09.



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

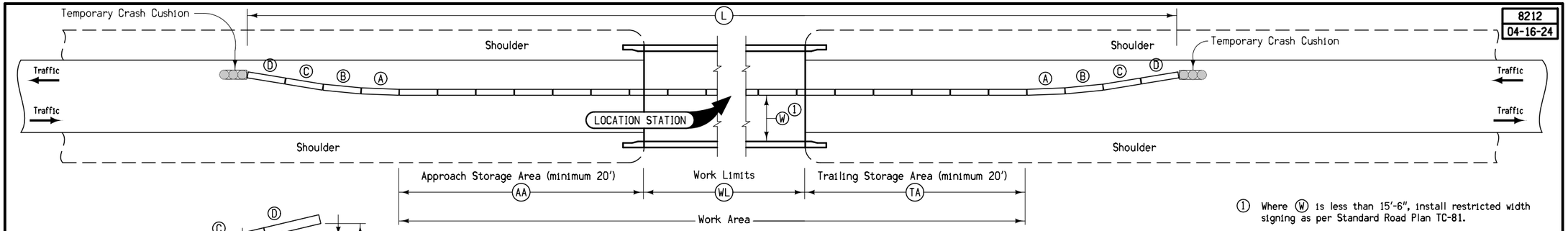
PAVED SHOULDER AT GUARDRAIL
(GRANULAR SHOULDER ADJACENT TO MAINLINE)

WHKS-1
MODIFIED



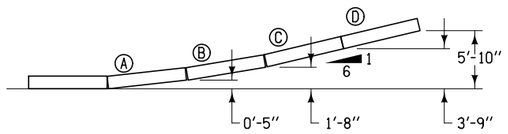
STATION	(L) Feet	(S) Inches	(M) Inches	REMARKS
3788+13	75	1.5	1.5	West Bridge Appoach
3793+12	75	1.5	1.5	East Bridge Appoach

SURFACE NOTCH FOR
SINGLE COURSE RESURFACING



8212
04-16-24

1 Where W is less than 15'-6", install restricted width signing as per Standard Road Plan TC-81.



BARRIER OFFSETS FOR FLARE SECTIONS

Station	Side	AA	WL	TA	L	Anchored	W (1)	Remarks
		Feet	Feet	Feet	Feet	X	Ft-Inches	
3790+62	WB	20'	700'	20'	840'	X	12'0"	STAGE 1
3790+62	EB	20'	700'	20'	840'	X	12'0"	STAGE 2

TEMPORARY CONCRETE BARRIER LAYOUT for Two-Way Traffic

ESTIMATED PROJECT QUANTITIES AND REFERENCE NOTES

Roadway Items : Roadway Items

Item no.	Item Code	Item	Unit	Quantities	Estimate Reference Notes
				Estimated	
				Roadway Items	
1	2102-0425071	SPECIAL BACKFILL	CY	157.3	Refer to Typical 7156 and Tab. 112-09.
2	2102-2625000	EMBANKMENT-IN-PLACE	CY	90	Refer to Tab. 107-23. Provide borrow material according to Section 2102 of the Standard Specifications. Material shall be provided by the Contractor. No cross sections will be provided.
3	2102-2713070	EXCAVATION, CLASS 13, ROADWAY AND BORROW	CY	375.5	Refer to Typical 7156 and Tab. 112-09. Dispose of excess material according to Article 1106.07 of the current Specifications.
4	2122-5500090	PAVED SHOULDER, HOT MIX ASPHALT MIXTURE, 9 IN.	SY	308.5	Refer to Typical 7156 and Tab. 112-09.
5	2122-7450080	SHOULDER STRENGTHENING, OPTIONAL HOT MIX ASPHALT MIXTURE OR PORTLAND CEMENT CONCRETE, 8 IN.	SY	635.4	Refer to the J Sheets and Tab. 112-09.
6	2214-5145150	PAVEMENT SCARIFICATION	SY	532	Refer to Tab. 102-16.
7	2303-1133500	HOT MIX ASPHALT STANDARD TRAFFIC, SURFACE COURSE, 1/2 IN. MIX, NO SPECIAL FRICTION REQUIREMENT	SY	532	
8	2303-1258283	ASPHALT BINDER, PG 58-28S, STANDARD TRAFFIC	TON	2.64	Binder quantity calculated as 6% of total quantity of Item 7 using binder density of 147 pcf. Refer to Tab. 112-09 and Tab. 102-16.
9	2412-0000100	LONGITUDINAL GROOVING IN CONCRETE, BRIDGE DECK	SY	1,191	Refer to Tab. 100-28.
10	2505-4008120	REMOVAL OF STEEL BEAM GUARDRAIL	LF	220	Refer to Tab. 110-07A.
11	2505-4008300	STEEL BEAM GUARDRAIL	LF	225	Refer to Tab. 108-08A.
12	2505-4008410	STEEL BEAM GUARDRAIL BARRIER TRANSITION SECTION, BA-201	EACH	4	
13	2505-4021010	STEEL BEAM GUARDRAIL END ANCHOR, BOLTED	EACH	4	
14	2505-4021720	STEEL BEAM GUARDRAIL TANGENT END TERMINAL, BA-205	EACH	4	
15	2527-9263181	PAVEMENT MARKINGS REMOVED	STA	100.15	Refer to Tab. 108-22. A separate tabulation sorted by line type will be provided in the e-Files for bid item totals.
16	2527-9263209	PAINTED PAVEMENT MARKINGS, WATERBORNE OR SOLVENT-BASED	STA	134.33	
17	2527-9263231	REMOVABLE TAPE MARKINGS, WET RETROREFLECTIVE	STA	25.73	

Item no.	Item Code	Item	Unit	Quantities	Estimate Reference Notes
				Estimated	
				Roadway Items	
18	2528-8400048	TEMPORARY BARRIER RAIL, CONCRETE	LF	1,680	Refer to the J Sheets, Sheet B.2, and Tab. 108-33. Temporary barrier rail shall be 128 nominal 12'-6" long concrete units.
19	2528-8400256	TEMPORARY TRAFFIC SIGNALS	EACH	1	Refer to the J Sheets and Tab. 108-28. This setup of Temporary Traffic Signals is considered one group installation.
20	2528-8445110	TRAFFIC CONTROL	LS	1	Refer to the J Sheets.
21	2551-0000110	TEMP CRASH CUSHION	EACH	4	Refer to the J Sheets and Tab. 108-30. Winterize sand filled or water filled crash cushions according to the manufacturer's recommendations if they are to remain in place during winter months.

100_01D

8/15/22

PROJECT DESCRIPTION

This project is for the bridge deck overlay of the 330' x 32' bridge on Franklin County road C-25 over Interstate 35, 6.0 miles east of the town of Alexander.
It also includes guardrail installation and HMA paving the shoulders and approaches.

STANDARDS

The following Standards apply to construction work on this project.

Number	Date	Title
BA-200	10-20-26	Steel Beam Guardrail Components
BA-201	10-18-22	Steel Beam Guardrail Barrier Transition Section (MASH TL-3)
BA-202	10-20-26	Steel Beam Guardrail Bolted End Anchor
BA-205	10-17-23	Steel Beam Guardrail Tangent End Terminal (MASH TL-3)
BA-401	04-20-21	Temporary Barrier Rail (Precast Concrete)
BA-250	10-20-26	Steel Beam Guardrail Installation at Concrete Barrier or Bridge End Post (MASH TL-3)
BA-500	04-20-21	Temporary Crash Cushions Sand Barrel
DR-401	04-16-24	Scour Protection for Bridge End Drain
EC-502	04-21-15	Seeding in Rural Areas
EW-301	10-20-26	Guardrail Grading
PM-110	10-15-24	Line Types
PR-202	10-21-14	Notches for Resurfacing (with or without Runout)
PV-101	10-20-26	Joints
TC-1	10-15-19	Work Not Affecting Traffic (Two-Lane or Multi-Lane)
TC-81	04-18-23	Restricted Width Signing (Less Than 14.5 Feet)
TC-202	04-18-23	Work Within 15 ft of Traveled Way
TC-213	04-18-23	Lane Closure with Flaggers
TC-217	10-20-26	Lane Closure with Signals and TBR

111_25
10/20/26

INDEX OF TABULATIONS

Tabulation	Tabulation Title	Sheet No.
	ESTIMATED ROADWAY QUANTITIES & ESTIMATE REFERENCE INFORMATION	C.1-2
100_01D	PROJECT DESCRIPTION	C.3
105_04	STANDARD ROAD PLANS	C.4
111_25	INDEX OF TABULATIONS	C.5
102_05	EXISTING PAVEMENT	C.6
112_09	SHOULDERS	C.7
107_23	GRADING FOR GUARDRAIL INSTALLATIONS	C.8
108_08A	STEEL BEAM GUARDRAIL AT CONCRETE BARRIER OR BRIDGE RAIL END SECTION	C.9
110_07A	REMOVAL OF STEEL BEAM GUARDRAIL	C.10
100_28	LONGITUDINAL GROOVING	C.11
108_22	PAVEMENT MARKING LINE TYPES	C.12 - C.13
108_28	TEMPORARY TRAFFIC SIGNALS	C.14
108_30	CRASH CUSHIONS	C.15
108_33	TEMPORARY BARRIER RAIL	C.16
102_16	NOTCHES AND RUNOUTS FOR RESURFACING	C.17
232_03A	EROSION CONTROL (RURAL SEEDING)	C.18
232_03C	EROSION CONTROL (NATIVE GRASS SEEDING)	C.18
262_06	UTILITIES (NOT A POINT 25 PROJECT)	C.18
262_07	TABULATION OF UTILITIES	C.18
108_23A	TRAFFIC CONTROL PLAN	J.1
108_25	511 TRAVEL RESTRICTIONS	J.2
108_26A	STAGING NOTES	J.3

EXISTING PAVEMENT

County	Route	Direction of Travel	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	Remarks
Franklin	C-25	Both	2020	HMA Resurfacing	STBG-SWAP-C035(103)--FG-35	HMA	3.0									
Franklin	C-25	Both	1998	HMA Resurfacing	STBG-SWAP-C035(103)--FG-35	HMA	3.0							Peters Pit A35516		

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	Station From	Station To	Side	P Width (FT)	L Length (FT)	Class 13 Excavation (CY) (3)(4)	Paved Shoulder (3) (SY)	Paved Shoulder at Grdrail (5)(7)(SY)	Subbase (3) (8) (CY)	Remarks
										6" Special Backfill Subbase for All Shoulders
										PAVED SHOULDER AT GUARDRAIL - 9" Thickness
County Road C-25	3786+93.00	3788+50.00	Right		157.00	38.2		91.6	15.30	
County Road C-25	3787+50.00	3788+50.00	Left		100.00	25.0		60.1	10.00	
County Road C-25	3792+75.00	3794+31.00	Left		156.00	38.3		91.8	15.30	
County Road C-25	3792+75.00	3793+75.00	Right		100.00	27.1		65.0	10.80	
										SHOULDER STRENGTHENING - 8" Inch Thickness
County Road C-25	3785+25.00	3788+50.00		4.0	325.00	112.3	288.8		48.10	Both Sides
County Road C-25	3792+75.00	3796+65.00		4.0	390.00	134.6	346.6		57.80	Both Sides
TOTALS						375.5	635.4	308.5	157.30	TOTALS

107_23
8/15/22

GRADING FOR GUARDRAIL INSTALLATIONS

Refer to EW-301.

(1) Lane(s) to which the installation is adjacent.

Direction of Traffic (1)	Station	Side	X1 (FT)	Y1 (FT)	X4 (FT)	Y4 (FT)	Z (FT)	Embankment-in-Place (CY)	Remarks
EB	3788+94.00	Left	65.1	5.0	125.3	10.0	57.0	20.3	
WB	3788+75.00	Right	102.6	5.0	165.8	10.0	57.0	24.7	
EB	3792+51.00	Left	102.6	5.0	165.8	10.0	57.0	24.7	
WB	3792+32.00	Right	65.1	5.0	125.3	10.0	57.0	20.3	
								90.0	TOTAL

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.

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)	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)	Steel Beam Guardrail BA-200 (LF)	Remarks
2-Lane	Left	3788+95.00	16.0	BA-201	1	BA-205	1	65.100			47.70	3		1	1	B	1	37.5	Northwest Corner of Bridge
2-Lane	Right	3788+77.00	16.0	BA-201	1	BA-205	1	102.600			47.70	3		1	1	B	1	75.0	Southwest Corner of Bridge
				BA-201		BA-205	1				47.70								
2-Lane	Left	3792+48.00	16.0	BA-201	1	BA-205	1	102.600			47.70	3		1	1	B	1	75.0	Northeast Corner of Bridge
2-Lane	Right	3792+30.00	16.0	BA-201	1	BA-205	1	65.100			47.70	3		1	1	B	1	37.5	Southeast Corner of Bridge
				BA-201		BA-205													
				BA-201	4	BA-205	4							4	4		4	225.0	TOTALS

110_07A
8/15/22

REMOVAL OF STEEL BEAM GUARDRAIL

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

No.	Direction of Traffic (1)	Station From	Station To	Side	Removal of Guardrail (2) (LF)
1		3788+40.00	3788+95.00	Left	55.0
2		3788+20.00	3788+75.00	Right	55.0
3		3792+50.00	3793+05.00	Left	55.0
4		3792+35.00	3792+90.00	Right	55.0
TOTAL					220.0

100_28
8/15/22

LONGITUDINAL GROOVING

Location	Total (SY)	Remarks
3790+62.00	1191.0	Bridge Deck

9/11/2026 2:34:34 PM KIRK.ROMSEY@IOWAID

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

Road ID	Station From	Station To	Lane	Marking Type	Left	Center	Right	Groove Marking Needed?	Groove Qty. (STA)	BCY4* Factored (STA)	CHW8 Factored (STA)	DCY4 Factored (STA)	DCY6 Factored (STA)	ELW4 Factored (STA)	ELW6 Factored (STA)	NPY4** Factored (STA)	NPY6** Factored (STA)	SLW2 Factored (STA)	Remarks
C25	3768+18.00	3778+99.00	Both	Removal of Paint		X		No		1.84									Stage 1
C25	3778+99.00	3782+81.00	EB	Removal of Paint		X		No								3.21			Stage 1
C25	3782+81.00	3787+49.00	Both	Removal of Paint		X		No				6.27							Stage 1
C25	3794+34.00	3798+52.00	Both	Removal of Paint		X		No				5.60							Stage 1
C25	3798+52.00	3803+49.00	WB	Removal of Paint		X		No								4.17			Stage 1
C25	3803+49.00	3813+18.00	Both	Removal of Paint		X		No		1.65									Stage 1
C25	3768+18.00	3783+18.00	EB	Waterborne/Solvent Paint		X		No									18.75		Stage 1
C25	3783+18.00	3783+18.00	EB	Waterborne/Solvent Paint			X	No										0.48	Stage 1
C25	3798+18.00	3798+18.00	WB	Waterborne/Solvent Paint	X			No										0.48	Stage 1
C25	3798+18.00	3813+18.00	WB	Waterborne/Solvent Paint		X		No									18.75		Stage 1
C25	3784+83.00	3796+69.00	EB	Removal of Paint			X	No						7.95					Stage 1
C25	3784+83.00	3786+60.00	EB	Wet Retroreflective Removable Tape			X	No			2.35								Stage 1
C25	3786+60.00	3795+21.00	EB	Waterborne/Solvent Paint			X	No			11.45								Stage 1
C25	3795+21.00	3796+69.00	EB	Wet Retroreflective Removable Tape			X	No			1.97								Stage 1
C25	3783+18.00	3786+60.00	WB	Wet Retroreflective Removable Tape	X		X	No			4.55								Stage 1
C25	3786+60.00	3787+45.00	WB	Waterborne/Solvent Paint			X	No			1.13								Stage 1
C25	3794+36.00	3795+21.00	WB	Waterborne/Solvent Paint			X	No			1.13								Stage 1
C25	3795+21.00	3798+18.00	WB	Wet Retroreflective Removable Tape	X		X	No			3.95								Stage 1
C25	3784+83.00	3786+60.00	EB	Removal of Removable Tape			X	No			2.35								Stage 2
C25	3786+60.00	3787+48.00	EB	Removal of Paint			X	No			11.45								Stage 2
C25	3794+34.00	3795+21.00	EB	Removal of Paint			X	No			11.45								Stage 2
C25	3795+21.00	3796+69.00	EB	Removal of Removable Tape			X	No			1.97								Stage 2
C25	3783+18.00	3786+60.00	WB	Removal of Removable Tape	X		X	No			4.55								Stage 2
C25	3786+60.00	3787+45.00	WB	Removal of Paint			X	No			1.13								Stage 2
C25	3794+36.00	3795+21.00	WB	Removal of Paint			X	No			1.13								Stage 2
C25	3795+21.00	3798+18.00	WB	Removal of Removable Tape	X		X	No			3.95								Stage 2
C25	3784+83.00	3787+48.00	WB	Removal of Paint	X			No						1.78					Stage 2
C25	3794+34.00	3796+75.00	WB	Removal of Paint	X			No						1.61					Stage 2
C25	3783+18.00	3786+60.00	EB	Wet Retroreflective Removable Tape	X		X	No			4.55								Stage 2
C25	3786+60.00	3787+45.00	EB	Waterborne/Solvent Paint	X			No			1.13								Stage 2
C25	3794+36.00	3795+21.00	EB	Waterborne/Solvent Paint	X			No			1.13								Stage 2
C25	3795+21.00	3798+19.00	EB	Wet Retroreflective Removable Tape	X		X	No			3.96								Stage 2
C25	3784+83.00	3786+60.00	WB	Wet Retroreflective Removable Tape	X			No			2.35								Stage 2
C25	3786+60.00	3795+21.00	WB	Waterborne/Solvent Paint	X			No			11.45								Stage 2
C25	3795+21.00	3796+75.00	WB	Wet Retroreflective Removable Tape	X			No			2.05								Stage 2
C25	3783+18.00	3786+60.00	EB	Removal of Removable Tape	X		X	No			4.55								Final
C25	3786+60.00	3787+45.00	EB	Removal of Paint	X			No			1.13								Final
C25	3794+36.00	3795+21.00	EB	Removal of Paint	X			No			1.13								Final
C25	3795+21.00	3798+19.00	EB	Removal of Removable Tape	X		X	No			3.96								Final

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

Road ID	Station From	Station To	Lane	Marking Type	Left	Center	Right	Groove Marking Needed?	Groove Qty. (STA)	BCY4* Factored (STA)	CHW8 Factored (STA)	DCY4 Factored (STA)	DCY6 Factored (STA)	ELW4 Factored (STA)	ELW6 Factored (STA)	NPY4** Factored (STA)	NPY6** Factored (STA)	SLW2 Factored (STA)	Remarks
C25	3784+83.00	3786+60.00	WB	Removal of Removable Tape	X			No			2.35								Final
C25	3786+60.00	3795+21.00	WB	Removal of Paint	X			No			11.45								Final
C25	3795+21.00	3796+75.00	WB	Removal of Removable Tape	X			No			2.05								Final
C25	3768+40.00	3778+99.00	EB	Removal of Paint		X		No									13.24		Final
C25	3768+40.00	3778+99.00	Both	Waterborne/Solvent Paint		X		No									13.24		Final
C25	3782+81.00	3783+18.00	EB	Removal of Paint		X		No									0.46		Final
C25	3783+18.00	3783+18.00	EB	Removal of Paint		X		No										0.48	Final
C25	3798+18.00	3798+18.00	WB	Removal of Paint		X		No										0.48	Final
C25	3798+18.00	3798+52.00	WB	Removal of Paint		X		No									0.43		Final
C25	3782+81.00	3798+52.00	Both	Waterborne/Solvent Paint		X		No					31.42						Final
C25	3803+49.00	3813+18.00	WB	Removal of Paint		X		No									12.11		Final
C25	3803+49.00	3813+18.00	WB	Waterborne/Solvent Paint		X		No											Final
C25	3784+82.00	3796+75.00	WB	Waterborne/Solvent Paint	X			No							11.93				Final
C25	3784+83.00	3796+69.00	EB	Waterborne/Solvent Paint			X	No							11.86				Final
Total										3.49	117.75	11.87	31.42	11.34	23.79	7.38	76.98	1.92	

108_28
8/15/22

TEMPORARY TRAFFIC SIGNALS

Item No.	Station	Signal Type	Remarks
1	3790+62.00	One Lane Traffic	Stage 1 - See J Sheets and TC-217
2	3790+62.00	One Lane Traffic	Stage 2 - See J Sheets and TC-217

CRASH CUSHIONS

* Bid Item
1. Lane(s) to which the installation is adjacent.
2. Complete this section when using the Temporary Crash Cushion bid item and Earthwork is needed for Sand Barrel placement. Refer to BA-500.

Lane	Station	Side	Obstacle Width (FT)	Crash Cushion Type	Crash Cushion Quantity	Obstacle Description	Remarks
WB	3786+94.00	Left	2.0	Temporary	1	Temporary Barrier Rail	Stage 1
WB	3794+87.00	Left	2.0	Temporary	1	Temporary Barrier Rail	Stage 1
EB	3786+94.00	Right	2.0	Temporary	1	Temporary Barrier Rail	Stage 2
EB	3794+87.00	Right	2.0	Temporary	1	Temporary Barrier Rail	Stage 2
					4		TOTAL

TEMPORARY BARRIER RAIL

Possible Standard: BA-401 Possible Detail: 560-7

* Not a bid item. Anchorage requirements are based on TBR locations shown in the plans. TBR alignments that vary from what is shown in the plans may result in additional TBR sections requiring anchorage.

Station From	Station To	Length (FT)	Barrier Rail Type	Anchored*	Modular Glare Screen System	Remarks
3786+90.00	3794+90.00	840.0	Concrete BA-401	Yes	No	Stage 1
3786+90.00	3794+90.00	840.0	Concrete BA-401	Yes	No	Stage 2
		1680.0				TOTAL

NOTCHES AND RUNOUTS FOR RESURFACING

Refer to PR-201 and PR-202.

(1) Bid item. Applies only to Types 'N1' and 'N3' on PR-202. Refer to 100-25 for remaining values.

Station	S (IN)	L (FT)	M (IN)	Pavement Scarification (SY) (1)	Remarks
3788+95.00	1.5	75.0	1.5	266.0	County Road C-25 - West Bridge Approach
3792+37.00	1.5	75.0	1.5	266.0	County Road C-25 - West Bridge Approach
+.00					
+.00				532.0	TOTAL

232_03A
9/28/22

EROSION CONTROL (RURAL SEEDING)

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

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

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

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

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

232_03C
8/28/24

EROSION CONTROL (NATIVE GRASS SEEDING)

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

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

SEED MIX:

Big bluestem (Andropogon geradii)	6 lbs. PLS/Acre (7.0 kg/ha)
Indiangrass (Sorghastrum nutans)	6 lbs. PLS/Acre (7.0 kg/ha)
Little bluestem (Schizachyrium scoparium)	6 lbs. PLS/Acre (7.0 kg/ha)
Partridge Pea (Chamaecrista fasciculata)	4 lbs. PLS/Acre (4.5 kg/ha)
Sideoats grama (Bouteloua curtipendula)	4 lbs. PLS/Acre (4.5 kg/ha)
Canada wildrye (Elymus canadensis)	2 lbs. PLS/Acre (2.2 kg/ha)
Switchgrass (Panicum virgatum)	1 lbs. PLS/Acre (1.1 kg/ha)
Oats (Avena sativa)	32 lbs./Acre (36.0 kg/ha)

Furnish Big bluestem, Indiangrass, Canada wildrye and Little bluestem that is debearded or equal to facilitate the application of seed.

Furnish seed certified as Source Identified Class (Yellow Tag) Source G0-Iowa. Oats are excluded from this requirement. Place seed according to the requirements of Article 4169.02 of the Standard Specifications.

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

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

262_06
9/28/22

UTILITIES (NOT A POINT 25 PROJECT)

This is NOT a POINT 25 project and is not subject to the provisions of IAC 761-115.25.

SURVEY SYMBOLS

- Interstate Highway Symbol
- U.S. Highway Symbol
- Iowa Highway Symbol
- County Road Highway Symbol
- Evergreen Tree
- Deciduous Tree
- Fruit Tree
- Shrub (Bushes)
- Timber
- Hedge
- Stump
- Swamp
- Rock Outcrop
- Broken Concrete
- Revetment (Rip Rap)
- Cemetery
- Grave
- Cave
- Sink Hole
- Board Fence
- Chain Link or Security Fence
- Wire Fence
- Terrace
- Earth Dam or Dike (Existing)
- Tile Outlet
- Edge of Water
- Existing Drainage
- Right of Way Rail or Lot Corner
- Concrete Monument
- Well
- Windmill
- Beehive Intake
- Existing Intake
- Existing Utility Access (Manhole)
- Fire Hydrant
- WH Water Hydrant (Rural)
- ST Septic Tank
- C Cistern
- LP L.P. Gas Tank (No Footing)
- UST Underground Storage Tank
- Latrine
- Satellite TV Dish
- WHU Water Hook Up
- RT Radio Tower
- TA Tower Anchor
- Guardrail (Beam or Cable)
- GP Guard Post (one or two)
- Guard Post (over two)
- FP Filler Pipe
- GV Gas Valve
- WV Water Valve
- SL Speed Limit Sign
- MM Mile Marker Post
- SIGN Sign
- TCB Traffic Signal Control Box
- RRB Rail Road Signal Control Box
- TSB Telephone Switch Box
- EB Electric Box

UTILITY LEGEND

T1 — FRONTIER COMMUNICATIONS
Uranan Thao
515-573-1268
frontierlocatemapsia@ftr.com

T2 — ROCKWELL COOPERATIVE TELEPHONE
David Severin
641-822-3211
rockwell@netins.net

G — NUSTAR PIPELINE OPERATING PART
Keely Hosmann
316-721-7073
keely.hosmann@nustarenergy.com

E1 — IOWA DOT
Michelle Smith
641-394-5634
michelle.smith@iowadot.us

PLAN VIEW COLOR LEGEND OF PLAN AND PROFILE SHEETS

LINEWORK	Design Color No.		
Green	(2)	Existing Topographic Features and Labels	
Blue	(1)	Proposed Alignment, Stationing, Tic Marks, and Alignment Annotation	
Magenta	(5)	Existing Utilities	
SHADING	**Design Color No.**		
Pink, Dark	(13)	Temporary Pavement Shading	50%
Yellow	(4)	Proposed Pavement Shading	50%
Orange	(6)	Proposed Granular Shading	50%
Orange	(70)	Proposed Shoulder Granular Shading	50%
Yellow	(68)	Proposed Shoulder Paved Full Depth Shading	50%
Yellow	(132)	Proposed Shoulder Paved Partial Depth Shading	50%
Brown, Light	(236)	Grading Shading	50%
Orange, Light	(134)	Proposed Granular Entrance Shading	50%
Yellow	(220)	Proposed Paved Entrance Shading	50%
Tan	(8)	Proposed Sidewalk Shading	50%
Blue, Light	(230)	Proposed Sidewalk Landing Shading	50%
Pink	(11)	Proposed Sidewalk Ramp Shading	50%
Red	(3)	Proposed Structure Shading	50%
Red	(3)	Delineates Restricted Areas	0%

PROFILE VIEW COLOR LEGEND OF PLAN AND PROFILE SHEETS

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

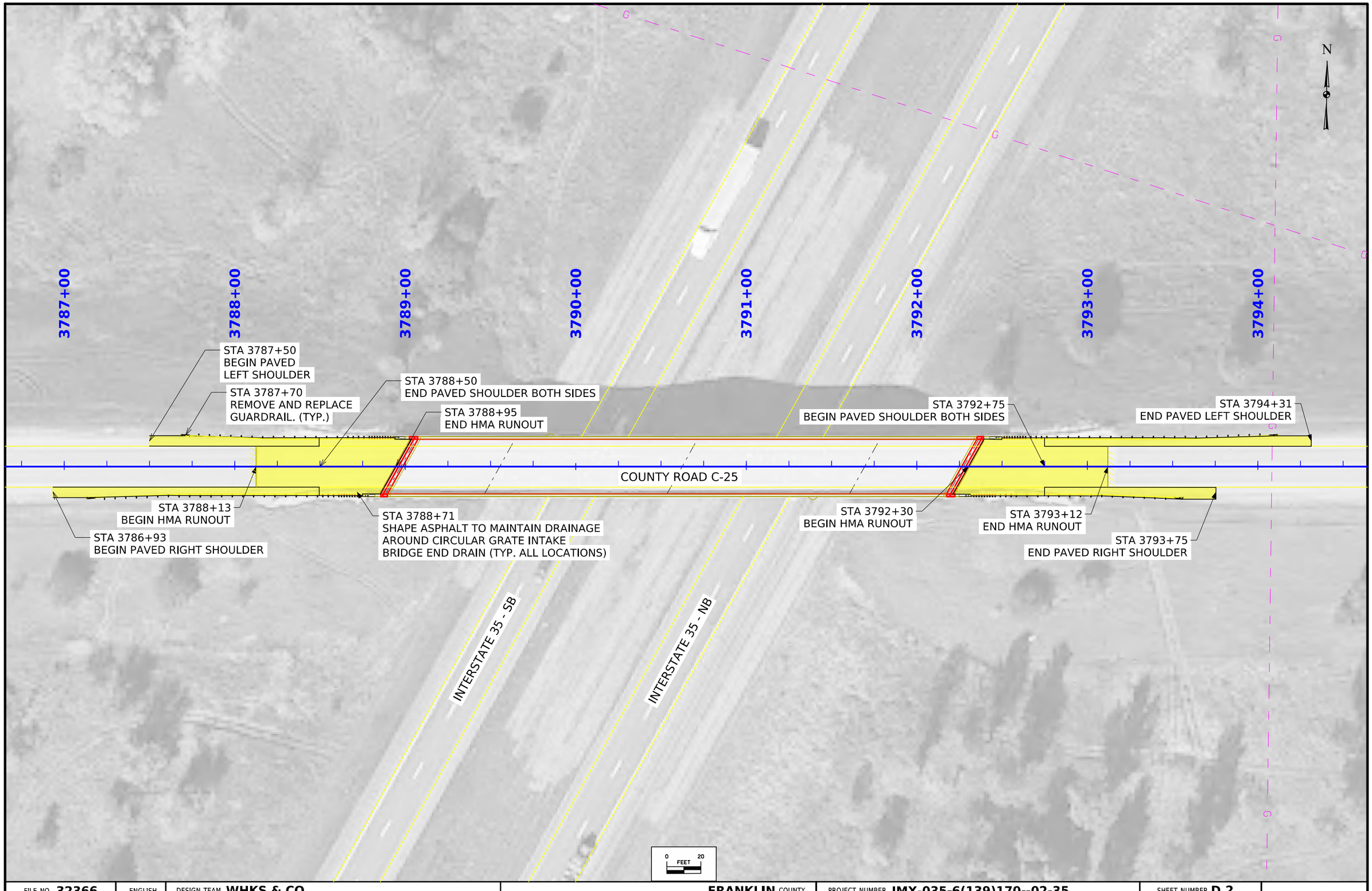
- Reference Point / Station — Survey Line
- Section Corner
- Ground Line Intercept
- Saw Cut
- Guardrail
- Trench Drain
- HighTension Cable Guardrail
- Sheet Pile
- Pavement Removal
- Clearing & Grubbing Area

RIGHT-OF-WAY LEGEND

- Proposed Right-of-Way Symbol
- Proposed Right-of-Way Line
- Existing Right of Way
- Existing and Proposed Right-of-Way
- Easement and Existing Right-of-Way
- Easement (Temporary) Symbol
- Easement (Temporary) Line
- Easement
- C/A Access Control
- Property Line Symbol
- Property Line

PLAN AND PROFILE LEGEND AND SYMBOL INFORMATION SHEET

(COVERS SHEET SERIES D)



FILE NO. **32366**	ENGLISH	DESIGN TEAM **WHKS & CO.**	**FRANKLIN** COUNTY	PROJECT NUMBER **IMX-035-6(139)170--02-35**	SHEET NUMBER **D.2**

SYSTEMTIME SYSTEMDATE USERNAME DGNSPEC

108_23A
8/15/22

TRAFFIC CONTROL PLAN

Traffic on Franklin County Road C-25 at the bridge over Interstate 35 will be maintained per Standard Road Plans listed on Tab. 105-4 and as detailed on the J Sheets. Standard Road Plan TC-213 shall be used to setup prior to Stage 1.

The contractor must coordinate with and notify the Franklin County Engineering Department and the RCE prior to beginning work.

See J Sheets for placement of traffic control signage.

Franklin County Engineer:
John (Jay) Waddingham
Phone - 641-456-4671
Email - jwaddingham@co.franklin.ia.us

Iowa DOT District 2 District Engineer:
Nick Humpal
Phone - 641-422-9446
Email - Nickolas.Humpal@iowadot.us

511 TRAVEL RESTRICTIONS

Route	Direction	County	Location Description	Feature Crossed	Object Type	Maint. Bridge No. or Structure ID or FHWA No.	Type of Restriction	Existing Measurement	Construction Measurement	Construction Measurement as Signed	Projected As Built Measurement	Remarks
County Road C-25	Both	Franklin	C-25 Bridge over I-35	Interstate 35	Traffic Control Device	FHWA NO. 602450	Horizontal	16'	12'	11'	16'	Stages 1 and 2

108_26A
8/15/22

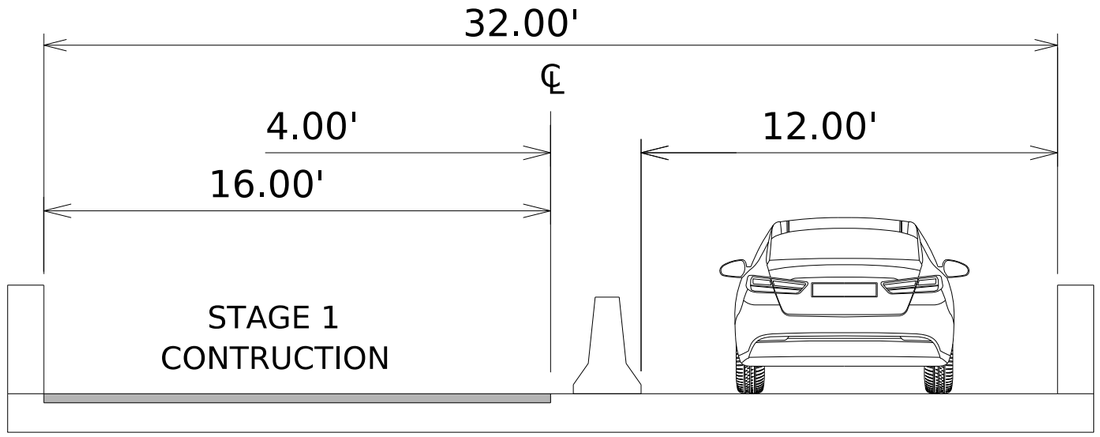
STAGING NOTES

These notes are for the bridge deck overlay of the 330' x 32' bridge on Franklin County road C-25 over Interstate 35, 6.0 miles east of the town of Alexander.

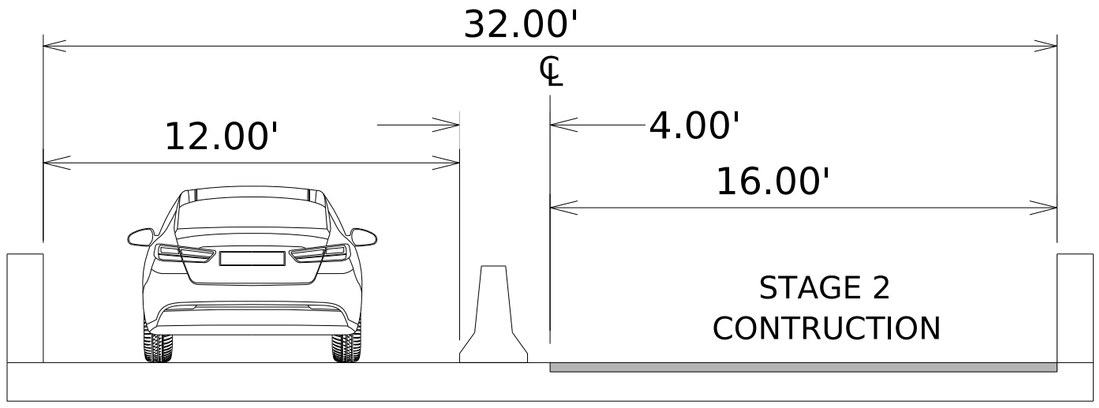
Before Stage 1
Traffic: Set up Stage 1 Traffic Control per TC-213.
Construction: None.

Stage 1
Traffic: Maintain traffic both directions per TC-217. See Sheets J.6 to J.10.
Construction: Complete the westbound half of the bridge repairs.

Stage 2
Traffic: Maintain traffic both directions per TC-217. See Sheets J.11 to J.15.
Construction: Complete the eastbound half of the bridge repairs.



STAGE 1
Looking East



STAGE 2
Looking East

Typical Staging Sections

CROSS SECTION VIEW COLOR LEGEND OF TRAFFIC CONTROL AND STAGING SHEETS

SHADING	Design Color No.	
Green, Light	(225)	Existing Pavement Shading
Gray, Light	(48)	Previously Constructed Pavement Shading
Gray, Med	(80)	Previously Constructed Granular Surface Shading
Blue, Light	(230)	Proposed Pavement Shading
Lavender	(9)	Temporary Pavement Shading
Brown, Med	(237)	Future Proposed Pavement Shading

CROSS SECTION VIEW PATTERN AND SYMBOL LEGEND OF TRAFFIC CONTROL AND STAGING SHEETS

	Pavement Removal		Proposed Granular Shoulder
	Proposed Granular Subbase		Temporary Shoulder
	Proposed Special Backfill		Existing Shoulder Strengthening
	Temporary Barrier Rail		Permanent Barrier Rail
			Channelizing Device

PLAN VIEW COLOR LEGEND OF TRAFFIC CONTROL AND STAGING SHEETS

LINEWORK	Design Color No.	
Green	(2)	Existing Topographic Features and Labels
Magenta	(5)	Pavement Marking Call Outs
Blue	(1)	Proposed Alignment, Stationing, Tic Marks, and Alignment Annotation
Yellow	(4)	Pavement Markings, Yellow
Off White	(254)	Pavement Markings, White
Violet	(15)	Temporary barrier rail, Unpinned
Flush Orange	(228)	Temporary barrier rail, Pinned

SHADING	Design Color No.	
Green, Light	(225)	Existing Pavement Shading
Gray, Light	(48)	Previously Constructed Pavement Shading
Gray, Med	(6)	Proposed Granular Surface Shading
Gray, Med	(80)	Previously Constructed Granular Surface Shading
Blue, Light	(230)	Proposed Pavement Shading
Pink, Dark	(13)	Temporary Pavement Shading
Brown, Light	(236)	Proposed Grading Limits Shading
Cyan	(7)	Proposed MSE or CIP Wall Shading
Red	(3)	Proposed Bridge Shading and Sign Trusses
Black w/Gray, Light Fill	(0,48)	Previously Constructed Structure

PLAN VIEW PATTERN AND SYMBOL LEGEND OF TRAFFIC CONTROL AND STAGING SHEETS

●	Channelizing Device		Crash Cushion (Temp or Perm)
✕	Drum		Traffic Signal
◘	Temporary Lane Separator		Flagger
◆	Tubular Marker		Temporary Floodlighting
♦	Channelizer Marker		Traffic Sign
△	Concrete Barrier Marker		Type III Barricade
☇	Delineator		Type A Warning Light
	Temporary Barrier Rail		Direction of Traffic
	Pavement Removal		Safety Closure
	Sand Barrel Layout	1	Lane Identification

NOTE: Device spacing according to Standard Road Plans unless specifically dimensioned.

TRAFFIC CONTROL AND STAGING LEGEND AND SYMBOL INFORMATION SHEET

(COVERS SHEET SERIES J)

N

3765+00
3766+00
3767+00
3768+00
3769+00
3770+00
3771+00
3772+00
3773+00
3774+00
3775+00

END ROAD WORK
G20-2A
48" x 24"

NO PASSING ZONE
W14-3
48" X 64" X 64"

ONE LANE ROAD AHEAD
W20-4
48" x 48"

COUNTY ROAD C-25

POB 3764+87.54

500'

500'

ROAD WORK AHEAD
W20-1
48" x 48"

35 M.P.H.
W13-1
24" x 24"

DO NOT PASS
R4-1
36" x 48"

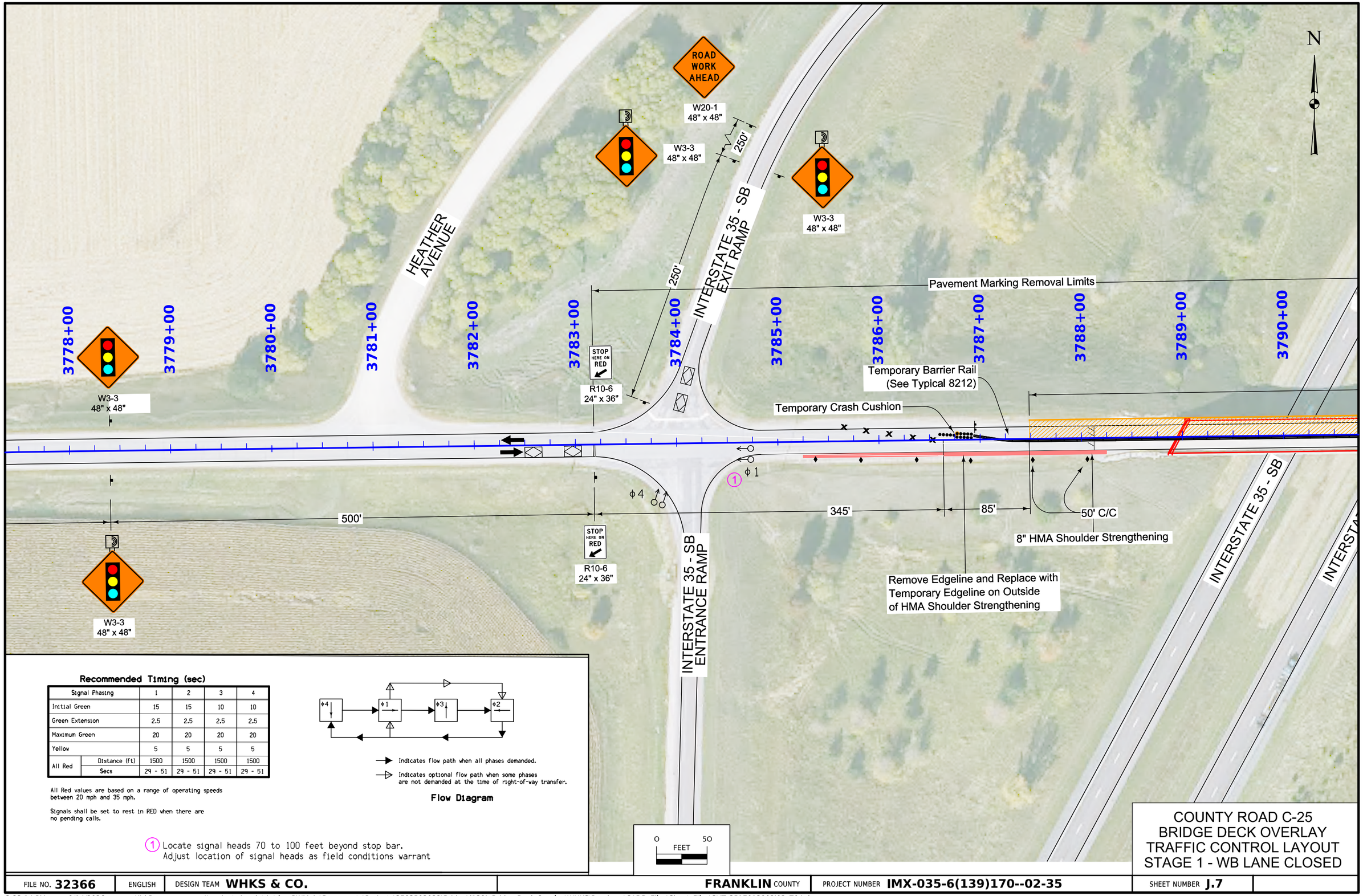
ONE LANE ROAD AHEAD
W20-4
48" x 48"

0 50
FEET

COUNTY ROAD C-25
BRIDGE DECK OVERLAY
TRAFFIC CONTROL LAYOUT
STAGE 1 - WB LANE CLOSED

FILE NO. 32366	ENGLISH	DESIGN TEAM WHKS & CO.	FRANKLIN COUNTY	PROJECT NUMBER IMX-035-6(139)170--02-35	SHEET NUMBER J.6	

2:18:50 PM 9/14/2026 KirkRomsey pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\3503502022\Bridge\(139)_Bridge Deck Overlay\WHKS\Roadway\CADD_Files\Sheet_Files\SHT_3517013902J02_Z04.dgn



Recommended Timing (sec)

Signal Phasing		1	2	3	4
Initial Green		15	15	10	10
Green Extension		2.5	2.5	2.5	2.5
Maximum Green		20	20	20	20
Yellow		5	5	5	5
All Red	Distance (ft)	1500	1500	1500	1500
	Secs	29 - 51	29 - 51	29 - 51	29 - 51

All Red values are based on a range of operating speeds between 20 mph and 35 mph.

Signals shall be set to rest in RED when there are no pending calls.

→ Indicates flow path when all phases demanded.

⇢ Indicates optional flow path when some phases are not demanded at the time of right-of-way transfer.

Flow Diagram

(1) Locate signal heads 70 to 100 feet beyond stop bar. Adjust location of signal heads as field conditions warrant

COUNTY ROAD C-25
BRIDGE DECK OVERLAY
TRAFFIC CONTROL LAYOUT
STAGE 1 - WB LANE CLOSED

FILE NO. **32366**	ENGLISH	DESIGN TEAM **WHKS & CO.**	**FRANKLIN** COUNTY	PROJECT NUMBER **IMX-035-6(139)170--02-35**	SHEET NUMBER **J.7**

3:23:14 PM 9/14/2026 KirkRomsey pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\3503502022\Bridge\(139)_Bridge Deck Overlay\WHKS\Roadway\CADD_Files\Sheet_Files\SHT_3517013902j02_Z04.dgn

N

INTERSTATE 35 - NB ENTRANCE RAMP

Pavement Marking Removal Limits

3791+00 | 3792+00 | 3793+00 | 3794+00 | 3795+00 | 3796+00 | 3797+00 | 3798+00 | 3799+00 | 3800+00 | 3801+00 | 3802+00 | 3803+00

685'

Temporary Barrier Rail
(See Typical 8212)

Temporary Crash Cushion

Edge Line

ϕ2 ①

ϕ3

STOP HERE ON RED
R10-6
24" x 36"

500'

W3-3
48" x 48"

INTERSTATE 35 - NB

8" HMA Shoulder Strengthening

85'

295'

Remove Edgeline and Replace with
Temporary Edgeline on Outside
of HMA Shoulder Strengthening

W3-3
48" x 48"
(Opposite of
other W3-3 Sign)

INTERSTATE 35 - NB EXIT RAMP

STOP HERE ON RED
R10-6
24" x 36"

250'

W3-3
48" x 48"

250'

ROAD WORK AHEAD
W20-1
48" x 48"

HEATHER AVENUE

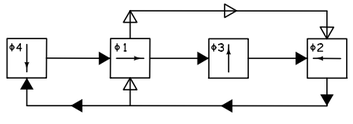
W3-3
48" x 48"

Recommended Timing (sec)

Signal Phasing		1	2	3	4
Initial Green		15	15	10	10
Green Extension		2.5	2.5	2.5	2.5
Maximum Green		20	20	20	20
Yellow		5	5	5	5
All Red	Distance (ft)	1500	1500	1500	1500
	Secs	29 - 51	29 - 51	29 - 51	29 - 51

All Red values are based on a range of operating speeds between 20 mph and 35 mph.

Signals shall be set to rest in RED when there are no pending calls.



→ Indicates flow path when all phases demanded.

⇢ Indicates optional flow path when some phases are not demanded at the time of right-of-way transfer.

Flow Diagram

① Locate signal heads 70 to 100 feet beyond stop bar.
Adjust location of signal heads as field conditions warrant

0 50
FEET

COUNTY ROAD C-25
BRIDGE DECK OVERLAY
TRAFFIC CONTROL LAYOUT
STAGE 1 - WB LANE CLOSED

32366		WHKS & CO.	FRANKLIN COUNTY	PROJECT NUMBER IMX-035-6(139)170--02-35	SHEET NUMBER J.8	

N

3804+00
3805+00
3806+00
3807+00
3808+00
3809+00
3810+00
3811+00
3812+00
3813+00
3814+00
3815+00
3816+00
3817+00

ONE LANE ROAD AHEAD
W20-4
48" x 48"

DO NOT PASS
R4-1
36" x 48"

500'
500'
500'

COUNTY ROAD C-25

ONE LANE ROAD AHEAD

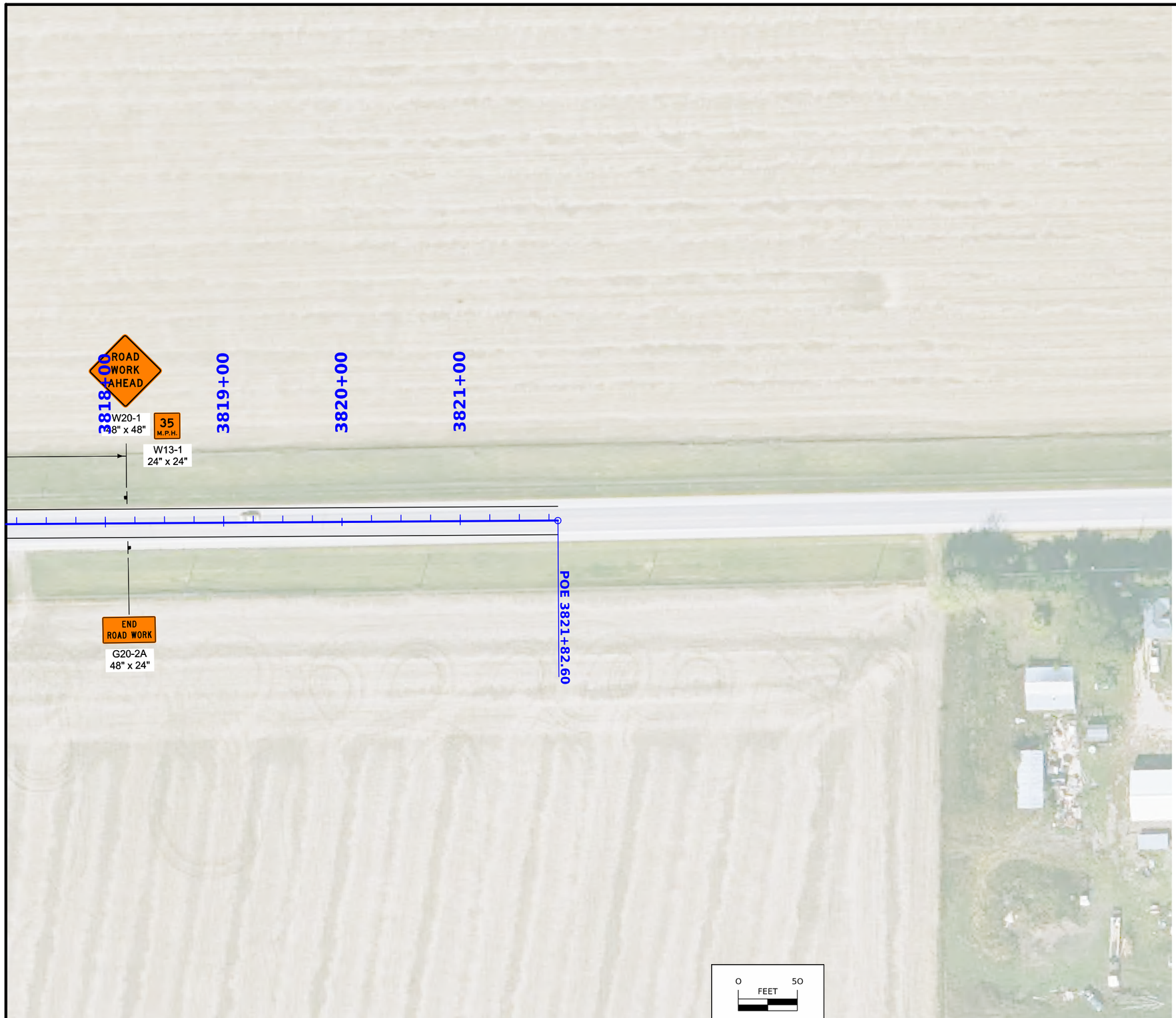
NO PASSING ZONE
W14-3
48" X 64" X 64"

0 50
FEET

COUNTY ROAD C-25
BRIDGE DECK OVERLAY
TRAFFIC CONTROL LAYOUT
STAGE 1 - WB LANE CLOSED

FILE NO. 32366	ENGLISH	DESIGN TEAM WHKS & CO.	FRANKLIN COUNTY	PROJECT NUMBER IMX-035-6(139)170--02-35	SHEET NUMBER J.9	

2:15:16 PM 9/14/2026 KirkRomsey pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\3503502022\Bridge\(139)_Bridge Deck Overlay\WHKS\Roadway\CADD_Files\Sheet_Files\SHT_3517013902j02_Z04.dgn



N

COUNTY ROAD C-25
BRIDGE DECK OVERLAY
TRAFFIC CONTROL LAYOUT
STAGE 1 - WB LANE CLOSED

FILE NO. 32366	ENGLISH	DESIGN TEAM WHKS & CO.	FRANKLIN COUNTY	PROJECT NUMBER IMX-035-6(139)170--02-35	SHEET NUMBER J.10	

2:12:35 PM 9/14/2026 KirkRomsey pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\3503502022\Bridge\(139)_Bridge Deck Overlay\WHKS\Roadway\CADD_Files\Sheet_Files\SHT_3517013902j02_Z04.dgn

N

3765+00

3766+00

3767+00

3768+00

3769+00

3770+00

3771+00

3772+00

3773+00

3774+00

3775+00

END ROAD WORK
G20-2A
48" x 24"

NO PASSING ZONE
W14-3
48" X 64" X 64"

ONE LANE ROAD AHEAD
W20-4
48" x 48"

COUNTY ROAD C-25

POB 3764+87.54

500'

500'

ROAD WORK AHEAD
W20-1
48" x 48"

35 M.P.H.
W13-1
24" x 24"

DO NOT PASS
R4-1
36" x 48"

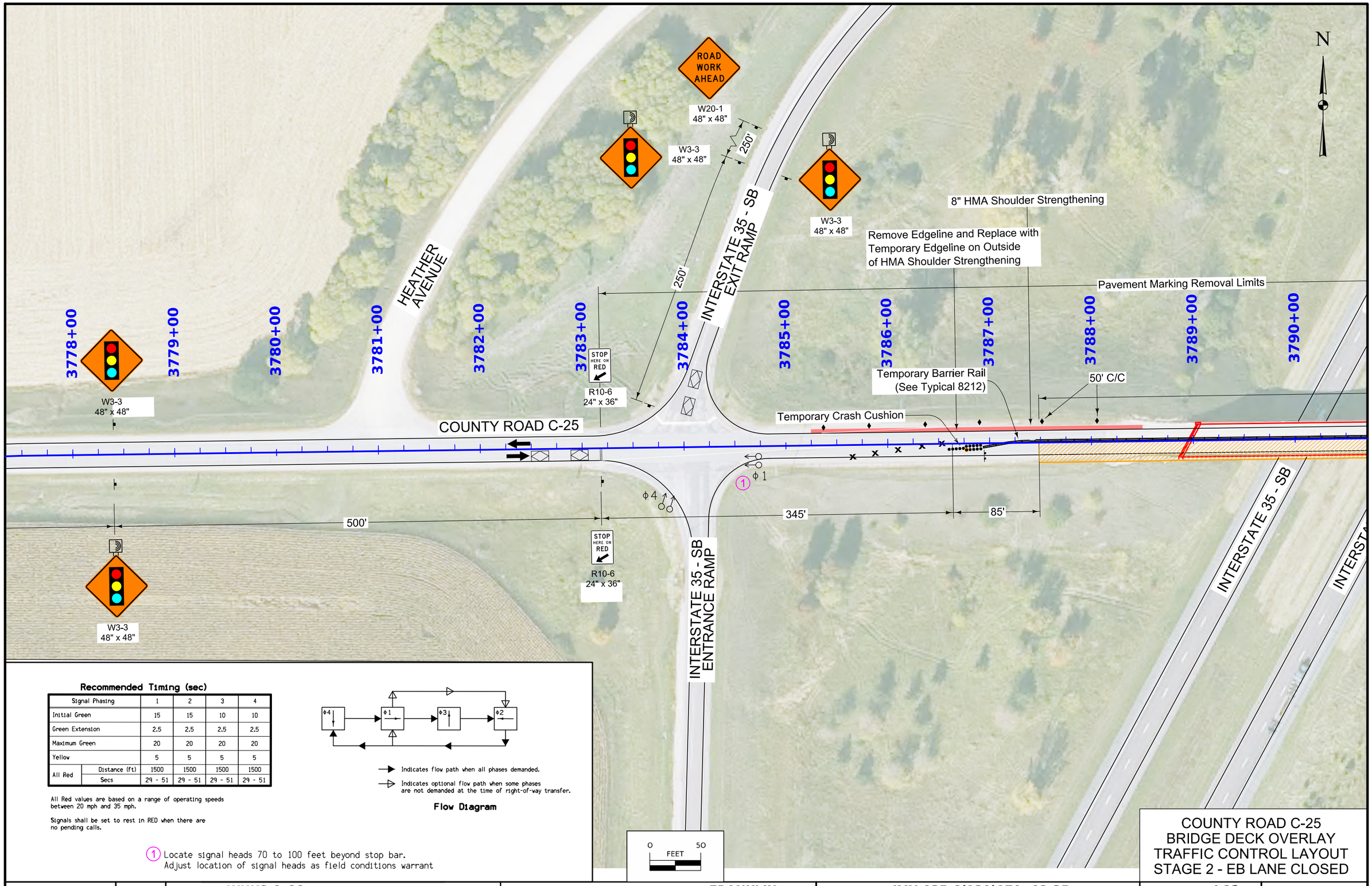
ONE LANE ROAD AHEAD
W20-4
48" x 48"

0 50
FEET

COUNTY ROAD C-25
BRIDGE DECK OVERLAY
TRAFFIC CONTROL LAYOUT
STAGE 2 - EB LANE CLOSED

FILE NO. 32366	ENGLISH	DESIGN TEAM WHKS & CO.	FRANKLIN COUNTY	PROJECT NUMBER IMX-035-6(139)170--02-35	SHEET NUMBER J.11

2:10:53 PM 9/14/2026 KirkRomsey pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\3503502022\Bridge\(139)_Bridge Deck Overlay\WHKS\Roadway\CADD_Files\Sheet_Files\SHT_3517013902j02_Z04.dgn



Recommended Timing (sec)

Signal Phasing		1	2	3	4
Initial Green		15	15	10	10
Green Extension		2.5	2.5	2.5	2.5
Maximum Green		20	20	20	20
Yellow		5	5	5	5
All Red	Distance (ft)	1500	1500	1500	1500
	Secs	29 - 51	29 - 51	29 - 51	29 - 51

All Red values are based on a range of operating speeds between 20 mph and 35 mph.

Signals shall be set to rest in RED when there are no pending calls.

→ Indicates flow path when all phases demanded.

→ Indicates optional flow path when some phases are not demanded at the time of right-of-way transfer.

Flow Diagram

(1) Locate signal heads 70 to 100 feet beyond stop bar. Adjust location of signal heads as field conditions warrant

COUNTY ROAD C-25 BRIDGE DECK OVERLAY TRAFFIC CONTROL LAYOUT STAGE 2 - EB LANE CLOSED

FILE NO. 32366	ENGLISH	DESIGN TEAM WHKS & CO.	FRANKLIN COUNTY	PROJECT NUMBER IMX-035-6(139)170--02-35	SHEET NUMBER J.12

3:25:59 PM 9/14/2026 KirkRomsey pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\3503502022\Bridge\(139)_Bridge Deck Overlay\WHKS\Roadway\CADD_Files\Sheet_Files\SHT_3517013902j02_Z04.dgn

N

8" HMA Shoulder Strengthening

Remove Edgeline and Replace with Temporary Edgeline on Outside of HMA Shoulder Strengthening

l Limits — Pavement Marking Removal Limits

3790+00 | 3791+00 | 3792+00 | 3793+00 | 3794+00 | 3795+00 | 3796+00 | 3797+00 | 3798+00 | 3799+00 | 3800+00 | 3801+00 | 3802+00

INTERSTATE 35 - NB ENTRANCE RAMP

STOP HERE ON RED
R10-6
24" x 36"

Temporary Barrier Rail (See Typical 8212)

685'

Temporary Crash Cushion

① ϕ2

Edge Line ϕ3

500'

COUNTY ROAD C-25

INTERSTATE 35 - SB

INTERSTATE 35 - NB

85'

295'

STOP HERE ON RED
R10-6
24" x 36"

INTERSTATE 35 - NB EXIT RAMP

250'

HEATHER AVENUE

W3-3
48" x 48"

W3-3
48" x 48"

250'

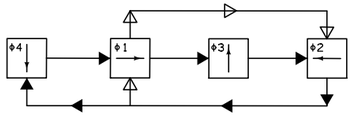
ROAD WORK AHEAD
W20-1
48" x 48"

Recommended Timing (sec)

Signal Phasing		1	2	3	4
Initial Green		15	15	10	10
Green Extension		2.5	2.5	2.5	2.5
Maximum Green		20	20	20	20
Yellow		5	5	5	5
All Red	Distance (ft)	1500	1500	1500	1500
	Secs	29 - 51	29 - 51	29 - 51	29 - 51

All Red values are based on a range of operating speeds between 20 mph and 35 mph.

Signals shall be set to rest in RED when there are no pending calls.



→ Indicates flow path when all phases demanded.

⇢ Indicates optional flow path when some phases are not demanded at the time of right-of-way transfer.

Flow Diagram

① Locate signal heads 70 to 100 feet beyond stop bar.
Adjust location of signal heads as field conditions warrant

0 50
FEET

COUNTY ROAD C-25 BRIDGE DECK OVERLAY TRAFFIC CONTROL LAYOUT STAGE 2 - EB LANE CLOSED

FILE NO. 32366	ENGLISH	DESIGN TEAM WHKS & CO.	FRANKLIN COUNTY	PROJECT NUMBER IMX-035-6(139)170--02-35	SHEET NUMBER J.13

3:28:25 PM 9/14/2026 KirkRomsey pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\3503502022\Bridge\(139)_Bridge Deck Overlay\WHKS\Roadway\CADD_Files\Sheet_Files\SHT_3517013902j02_Z04.dgn

N

3803+00
3804+00
3805+00
3806+00
3807+00
3808+00
3809+00
3810+00
3811+00
3812+00
3813+00
3814+00
3815+00
3816+00

500'
500'
500'

W3-3
48" x 48"

ONE LANE ROAD AHEAD
W20-4
48" x 48"

DO NOT PASS
R4-1
36" x 48"

W3-3
48" x 48"

ONE LANE ROAD AHEAD
W20-4
48" x 48"

NO PASSING ZONE
W14-3
48" X 64" X 64"

0 50
FEET

COUNTY ROAD C-25
BRIDGE DECK OVERLAY
TRAFFIC CONTROL LAYOUT
STAGE 2 - EB LANE CLOSED

FILE NO. 32366	ENGLISH	DESIGN TEAM WHKS & CO.	FRANKLIN COUNTY	PROJECT NUMBER IMX-035-6(139)170--02-35	SHEET NUMBER J.14

2:20:51 PM 9/14/2026 KirkRomsey pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\3503502022\Bridge\(139)_Bridge Deck Overlay\WHKS\Roadway\CADD_Files\Sheet_Files\SHT_3517013902J02_Z04.dgn

N

3817+00

3818+00

3819+00

3820+00

3821+00

ROAD WORK AHEAD

W20-1
48" x 48"

35
M.P.H.

W13-1
24" x 24"

END ROAD WORK

G20-2A
48" x 24"

POE 3821+82.60

0 50
FEET

COUNTY ROAD C-25
BRIDGE DECK OVERLAY
TRAFFIC CONTROL LAYOUT
STAGE 2 - EB LANE CLOSED

FILE NO. 32366	ENGLISH	DESIGN TEAM WHKS & CO.	FRANKLIN COUNTY	PROJECT NUMBER IMX-035-6(139)170--02-35	SHEET NUMBER J.15	

2:21:47 PM 9/14/2026 KirkRomsey pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\3503502022\Bridge\(139)_Bridge Deck Overlay\WHKS\Roadway\CADD_Files\Sheet_Files\SHT_3517013902J02_Z04.dgn