LETTING DATE
Dec. 15, 2026

Bridge Deck Overlay

IMX-035-8(056)209--02-98

Worth COUNTY

Index of Sheets

No.	Description
Sheets	Bridge Plan
A.1	Title Sheet
A.2	Location Map Sheet
V.1	Estimated Quantities - Design No. 127
V.2 - V.10	Design No. 127
Road Sheets	Road Plan
B.1-J.6	Road Plans
C.1 - C.2	Estimated Quantities - Road
C.9	Standard Plans - Road

IOWA DOT

PLANS OF PROPOSED IMPROVEMENT ON THE

INTERSTATE ROAD SYSTEM

Worth COUNTY

Bridge Deck Overlay

Co Rd A-38 over I-35, at Jct Co Rd A-38

Refer to the Plan Sheets for list of applicable specifications.

Value Engineering Saves. Refer to Article 1105.13 of the Specifications.

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

Revisions

	TOTAL
	45
PROJECT IDENTIFICATION NUMBER	
22-98-035-050	
PROJECT NUMBER	
IMX-035-8(056)209--02-98	
R.O.W. PROJECT NUMBER	
PROJECT DIRECTORY NUMBER	
9803505022	

Standard Road Plans

Standard Road Plans are listed on Sheet Number C.9.

Design Data Rural

I-35 (Total)

2024 AADT	19,000 V.P.D.
Trucks	32 %

Design Data Rural

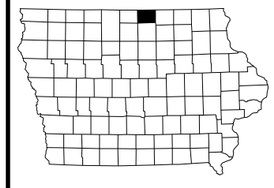
Co Rd A-38

2022 AADT	1,011 V.P.D.
Trucks	11 %
Total Design ESALs	300,000

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	Jaremy D. Kotta *	Structural Design
B.1	Tanner Clevanger *	Roadway Design

* WHKS & Co.

Structural Design

LICENSED PROFESSIONAL ENGINEER
Jaremy D. Kotta
18994
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

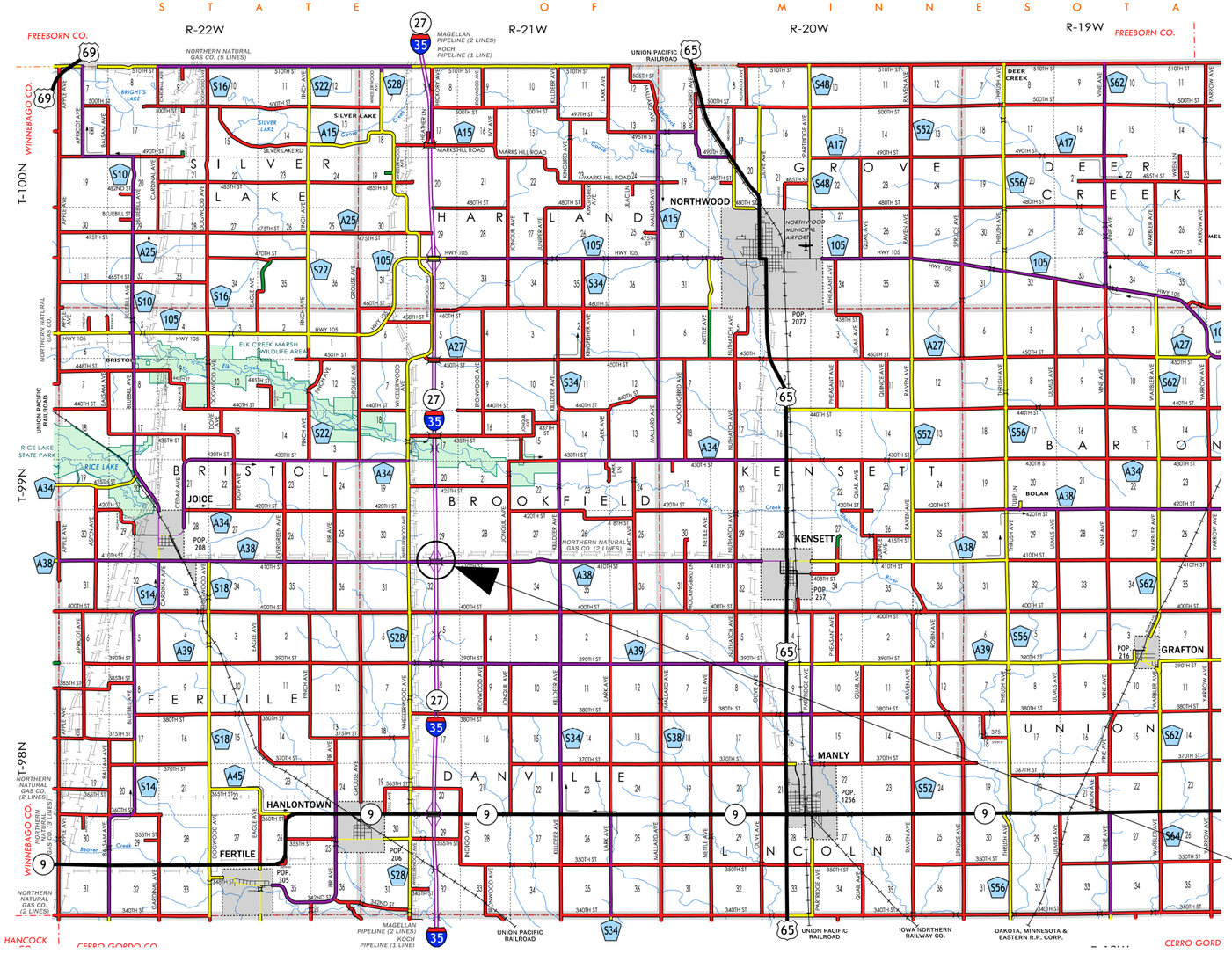
Jaremy D. Kotta
Printed or Typed Name

My license renewal date is December 31, 2027

Pages or sheets covered by this seal: A.1, A.2, V.1-V.10

FILE NO. 32365	ENGLISH	DESIGN TEAM WHKS & Co.	Worth COUNTY	PROJECT NUMBER IMX-035-8(056)209--02-98	SHEET NUMBER A.1

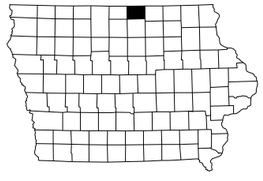
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N

Worth County Location Map

Not To Scale



Design No. 127
FHWA No. 356217

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. 32365	ENGLISH	DESIGN TEAM WHKS & Co.		Worth COUNTY	PROJECT NUMBER IMX-035-8(056)209--02-98	SHEET NUMBER A.2

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Estimated Bridge Repair Quantities - Worth 127

ITEM NO.	ITEM CODE	ITEM	UNIT	DESIGN NO. 127	As-Built Qty.
1	2401-6750001	Removals, As Per Plan	LS	1.00	
2	2403-0100000	Structural Concrete (Miscellaneous)	CY	10.8	
3	2404-7775005	Reinforcing Steel, Epoxy Coated	LB	1838.0	
4	2413-0698074	Deck Repair, Class A	SY	151.8	
5	2413-1200000	Steel Extrusion Joint with Neoprene	LF	68.0	
6	2413-1200100	Neoprene Gland Installation and Testing	LF	68.0	
7	2533-4980005	Mobilization	LS	1.00	
		Alternate AA Option 1			
8	2413-0698066	Deck Overlay (Class O PCC)	SY	1012.1	
		Alternate AA Option 1			
9	2403-1000010	Trial Batch and Test Placement (Fiber Reinforced Concrete)	LS	1.00	
10	2413-0698067	Deck Overlay (Class HPC-O PCC)	SY	1012.1	
11	2413-1000005	Fiber Reinforcement for Concrete Repair/Overlay	SY	1012.1	

ESTIMATE REFERENCE INFORMATION

ITEM NO.	ITEM CODE	DESCRIPTION
1	2401-6750001	Removals, As Per Plan
		Includes all work for removal and off-site disposal of the top of existing backwall, sliding plate joint, curb plates, end of deck and 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 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 curbs, retrofit rails, and abutment bridge seats, and furnishing and placing concrete sealer. Includes furnishing and installing "E" joints at both abutments. Includes costs of setting bars as dowels in the abutment backwalls, wings, and retrofit rails.
3	2404-7775005	Reinforcing Steel, Epoxy Coated
		Includes mechanical splicers in the abutment backwall and deck.
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.
6	2413-1200100	Neoprene Gland Installation and Testing
		Includes installation of neoprene gland and water testing of joint.
7	2533-4980005	Mobilization
		-
		Alternate AA Option 1
8	2413-0698066	Deck Overlay (Class O PCC)
		-
		Alternate AA Option 2
9	2403-1000010	Trial Batch and Test Placement (Fiber Reinforced Concrete)
10	2413-0698067	Deck Overlay (Class HPC-O PCC)
		-
11	2413-1000005	Fiber Reinforcement for Concrete Repair/Overlay
		-

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Roadway quantities shown elsewhere in these plans.

Design For Repair To 0° Skew

287'-0 x 32'-0 Continuous Welded Girder Bridge

50'-0" End Spans — 2 - 93'-6" Interior Spans

Estimated Bridge Repair Quantities

STA. 370+14.29 (I-35) — Turn-in Date: October, 2026

Worth County

IOWA DEPARTMENT OF TRANSPORTATION

Design No. 127 — Design Sheet No. 1 of 10 — FHWA No. 356217

FILE NO. 32365	ENGLISH	DESIGN TEAM JK\JS\LG	Worth COUNTY	PROJECT NUMBER IMX-035-8(056)209--02-98	SHEET NUMBER V.1	

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General Notes:

This design is for repairs to the existing 287'-0" x 32'-0" continuous welded girder bridge on County Road A-38 over I-35 in Worth County.

Electronic copies of original design plans and repair 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. 568A, Retrofit Rail Design 210).

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 Contractor of the construction 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.

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. Where new sections of rail are being constructed, the new sections 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 (Misc.)".

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.

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 $\frac{1}{2}$" more than shown on the plans. Profile may be adjusted to the extent possible within these limits.

Plan quantity of deck repair is based on the "Survey Plot" as shown in these plans. Shaded portions represent Class A bridge deck repair. The plan quantity for “Deck Repair, Class A” is estimated as 40.0 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.

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

The lump sum bid for "Removals, As Per Plan" shall include all costs associated with removing the top of existing backwall, sliding plate joint, curb plates, 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.

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.

Construction shall be done in stages with at least one lane trafic 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.

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

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

The 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.

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.

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, Grade 50, and Grade 50W (AASHTO M270 Grade 36, Grade 50, and Grade 50W).

Design History At This Site
(Includes This Design)

Des. No.	Type of Work
568A	Original Design
210	Retrofit Rail
127	Bridge Deck Overlay

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.

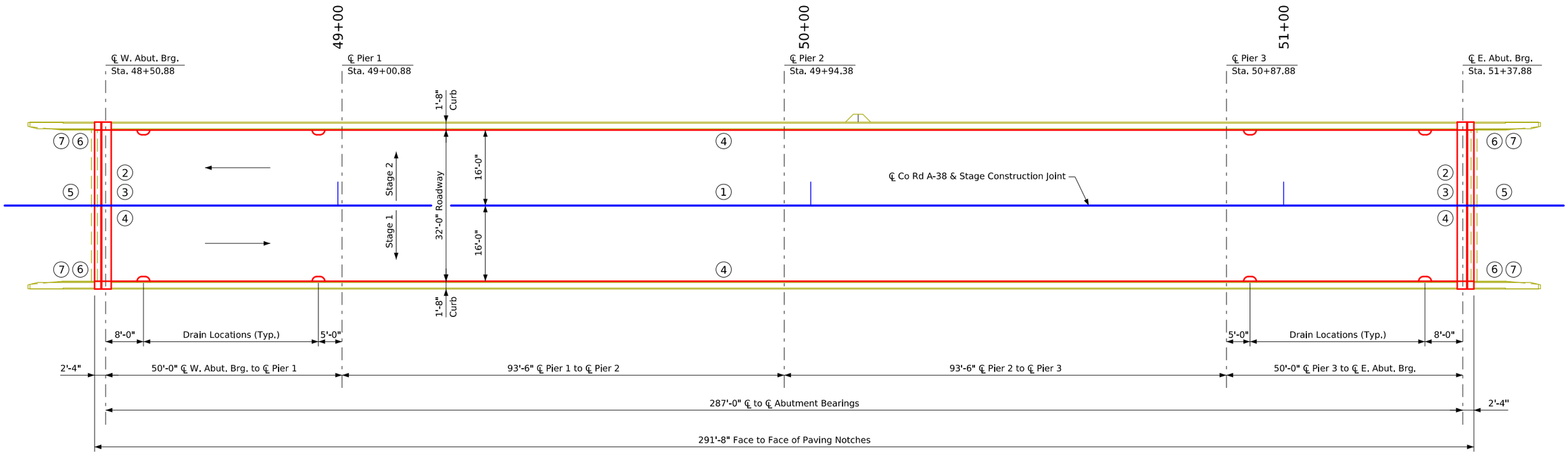
Calculation submittals in this table which are associated with working drawing submittals shall be submitted on the same day. Review time for calculation submittals shall be of the same duration as and run concurrently with review time for associated working drawings. The calculation submittals listed 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	(056)_Worth_Design127_SteelExtrusionJoints.pdf	No
2			
3			
4			

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

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Design For Repair To 0° Skew
287'-0 x 32'-0 Continuous Welded Girder Bridge
50'-0" End Spans — 2 - 93'-6" Interior Spans
General Notes
STA. 370+14.29 (I-35) — Turn-in Date: October, 2026
Worth County
IOWA DEPARTMENT OF TRANSPORTATION
Design No. 127 — Design Sheet No. 2 of 10 — FHWA No. 356217



Situation Plan

N

Repairs Shall Consist Of:

1. Scarify the deck, perform Class A repairs, and overlay the bridge.
2. Remove and reconstruct the top of backwall, portions of the deck and diaphragms, 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. Clean and seal the barrier rails, curbs, and abutment seats.
5. Overlay the bridge approaches with HMA to accomodate grade raise.
6. Remove and replace the existing guardrails.
7. Add paved shoulder next to the new guardrails.

Location

Co Rd A-38 over I-35
T-99N R-21W
Sections 29 & 32
Brookfield Township
Worth County
Bridge Maint. No. 9808.8O035
FHWA No. 356217
Latitude 43.357133°
Longitude -93.349504°

Design For Repair To 0° Skew

287'-0 x 32'-0 Continuous Welded Girder Bridge

50'-0" End Spans — 2 - 93'-6" Interior Spans

Situation Plan

STA. 370+14.29 (I-35) — Turn-in Date: October, 2026

Worth County

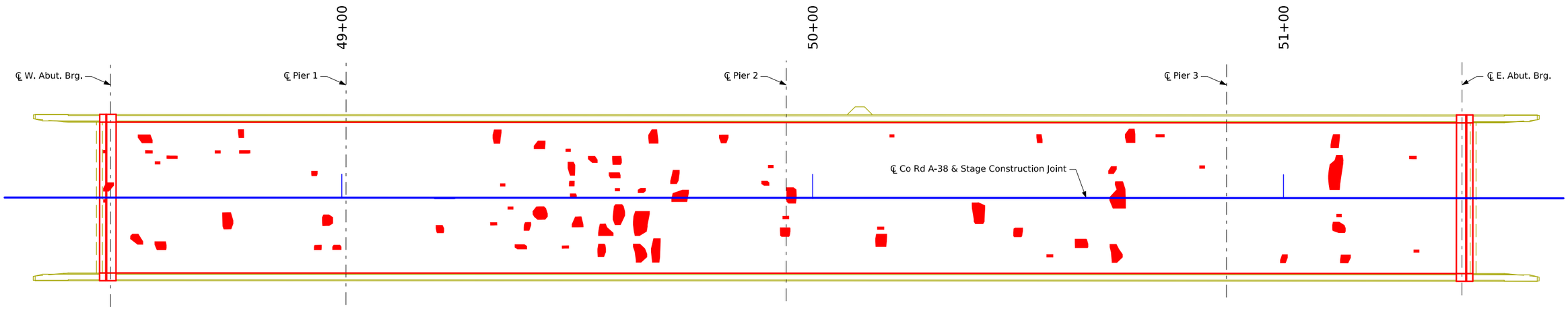
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Design No. 127 — Design Sheet No. 3 of 10 — FHWA No. 356217

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FILE NO. 32365	ENGLISH	DESIGN TEAM JK\JS\LG	Worth COUNTY	PROJECT NUMBER IMX-035-8(056)209--02-98	SHEET NUMBER V.3	

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Sounding Plot

Date of Completion: February 2026

Delam

Note:
Class A repair is based on area of delamination plus 25%.

Class A Repair = 40.0 SY (4.0% of Deck Area)

N

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Design For Repair To 0° Skew

287'-0 x 32'-0 Continuous Welded Girder Bridge

50'-0" End Spans — 2 - 93'-6" Interior Spans

Sounding Plot

STA. 370+14.29 (I-35) — Turn-in Date: October, 2026

Worth County

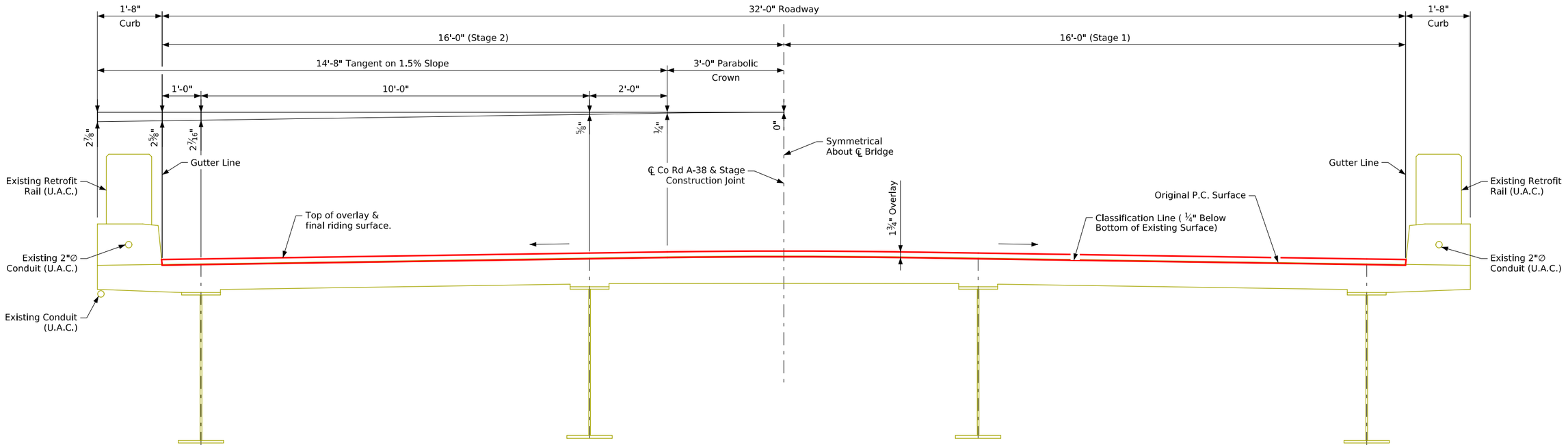
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Design No. 127 — Design Sheet No. 4 of 10 — FHWA No. 356217

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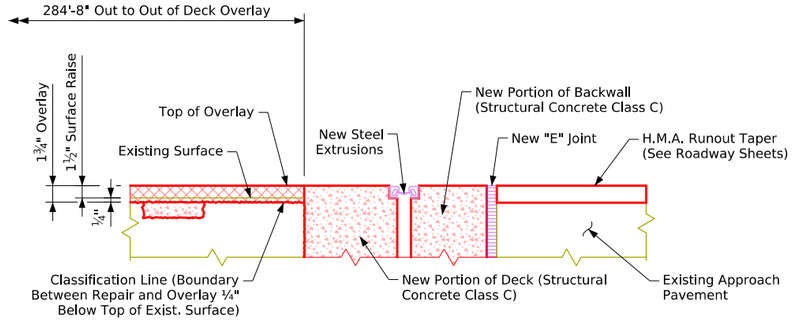
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Drawing-4



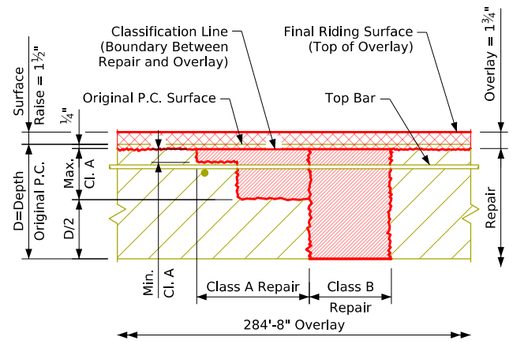
Typical Cross Section

(Looking Upstation)

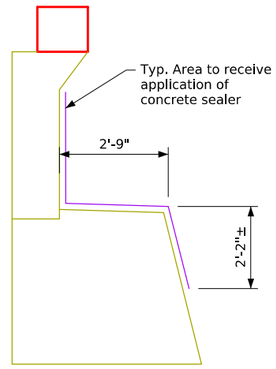


Part Longitudinal Section Along Roadway

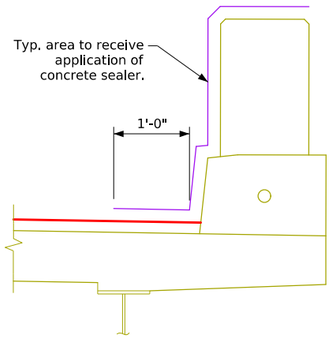
Both Abutments



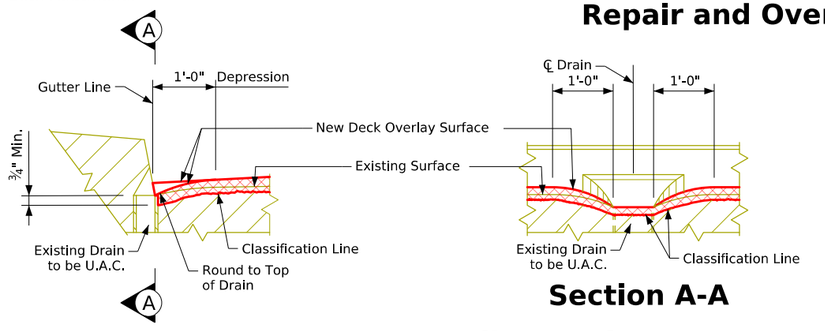
Repair and Overlay Definition



Abutment Concrete Sealer Detail



Detail of Concrete Sealer Area



Deck Repair Detail at Drain

(Required at 8 Locations)

Section A-A

Design For Repair To 0° Skew

287'-0 x 32'-0 Continuous Welded Girder Bridge

50'-0" End Spans — 2 - 93'-6" Interior Spans

Deck Repair Details

STA. 370+14.29 (I-35) — Turn-in Date: October, 2026

Worth County

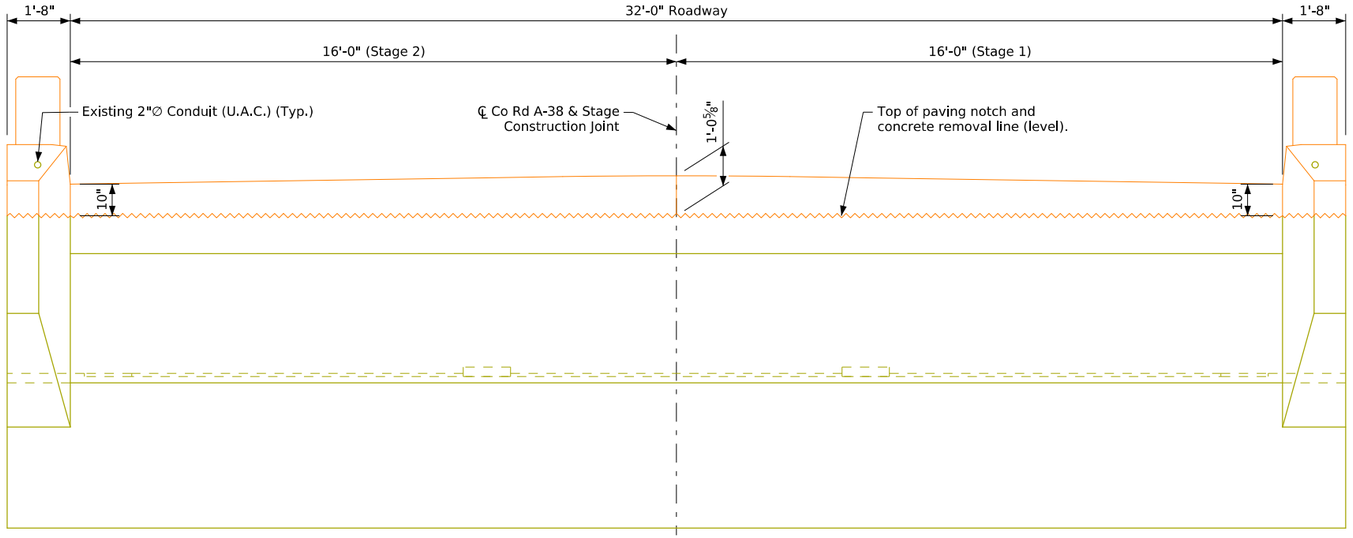
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Design No. 127 — Design Sheet No. 5 of 10 — FHWA No. 356217

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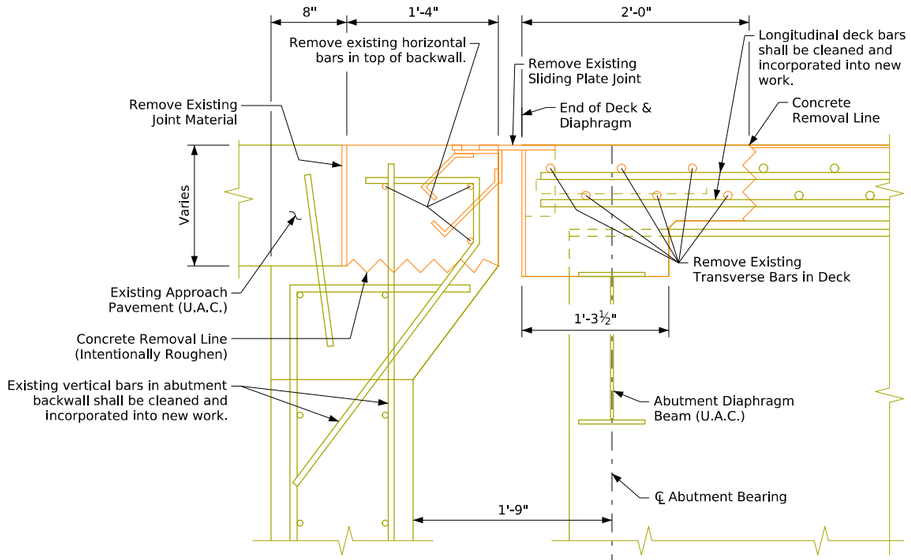
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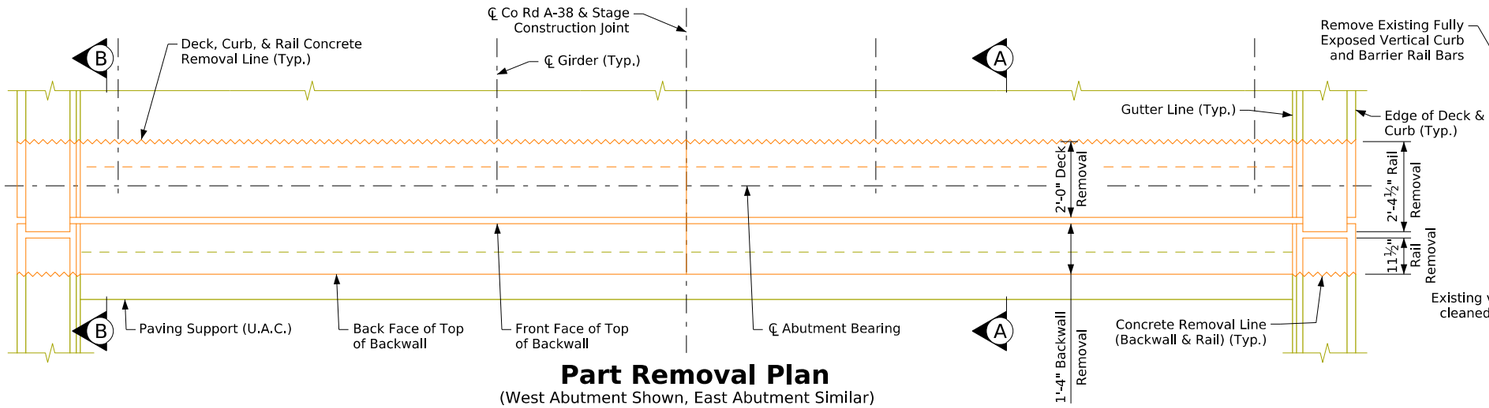


Rear Elevation

(West Abutment Shown, East Abutment Similar)

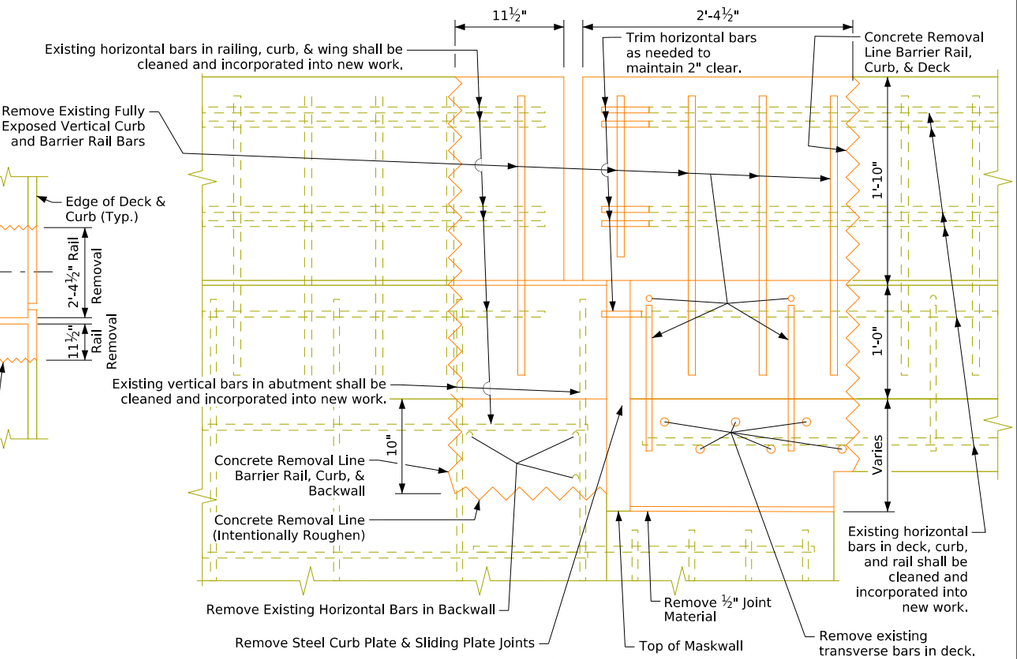


Section A-A



Part Removal Plan

(West Abutment Shown, East Abutment Similar)



Section B-B

(Existing Sliding Plate and Curb Plates Not Shown for Clarity)

Removal Notes:

Existing reinforcing bars that are partially 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.

The Contractor's attention is directed to the existing conduit in the curbs and north deck overhang. Care shall be taken to protect the conduit from damage during removal operations and subsequent reconstruction activities. Any damage to the conduit or the wiring shall be the responsibility of the Contractor and repaired at no additional cost to the State. See Design Sheet 5 for additional details.

Note:

Existing beam shear lugs and abutment diaphragm flanges 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 lugs.

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Design For Repair To 0° Skew

287'-0 x 32'-0 Continuous Welded Girder Bridge

50'-0" End Spans — 2 - 93'-6" Interior Spans

Removal Details

STA. 370+14.29 (I-35) — Turn-in Date: October, 2026

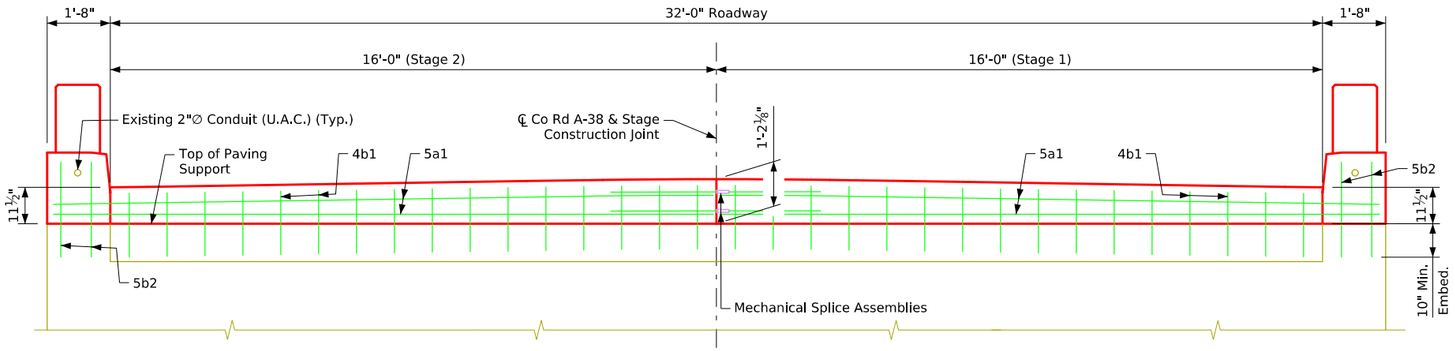
Worth County

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Design No. 127 — Design Sheet No. 6 of 10 — FHWA No. 356217

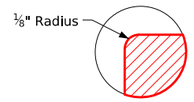
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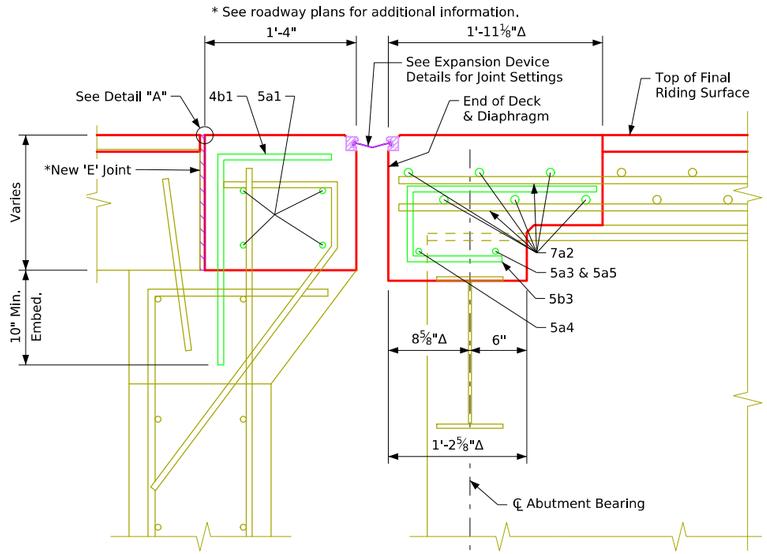


Rear Elevation

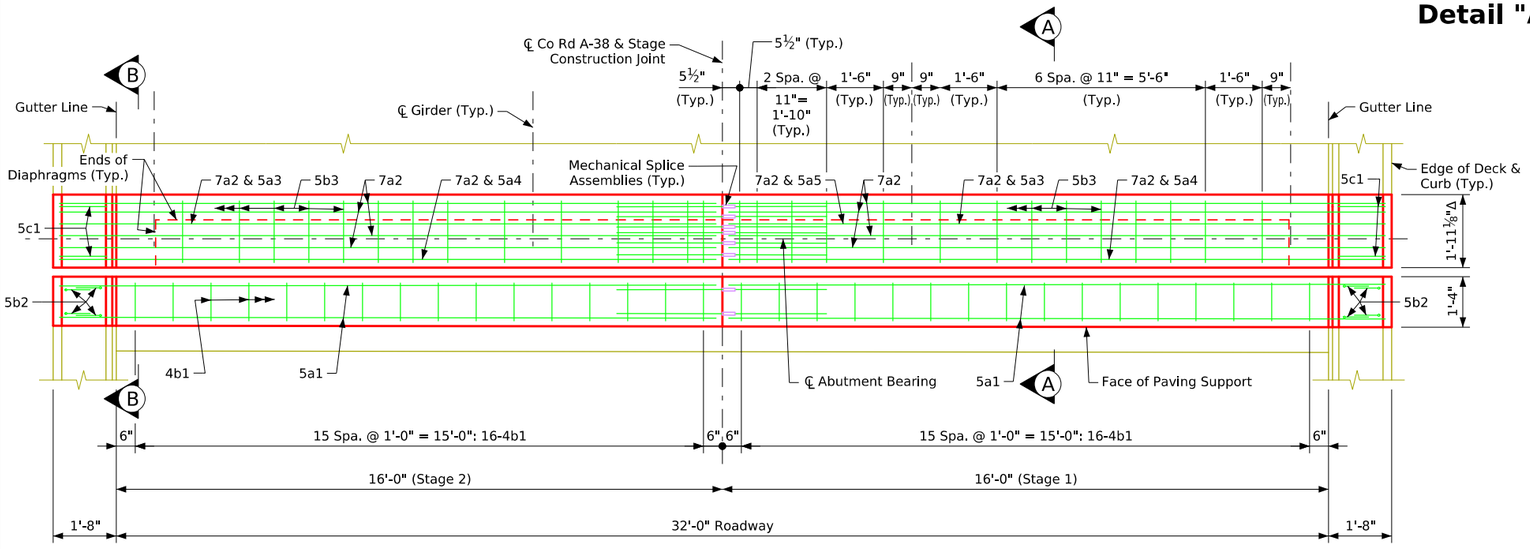
(West Abutment Shown, East Abutment Similar)
(Existing Reinforcing Not Shown for Clarity)
(Barrier Rail Reinforcing Not Shown for Clarity)



Detail "A"



Section A-A



Part Plan

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

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

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

Note:
See Design Sheet 8 for Section B-B.

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

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Design For Repair To 0° Skew

287'-0 x 32'-0 Continuous Welded Girder Bridge

50'-0" End Spans — 2 - 93'-6" Interior Spans

Abutment Repair Details

STA. 370+14.29 (I-35) — Turn-in Date: October, 2026

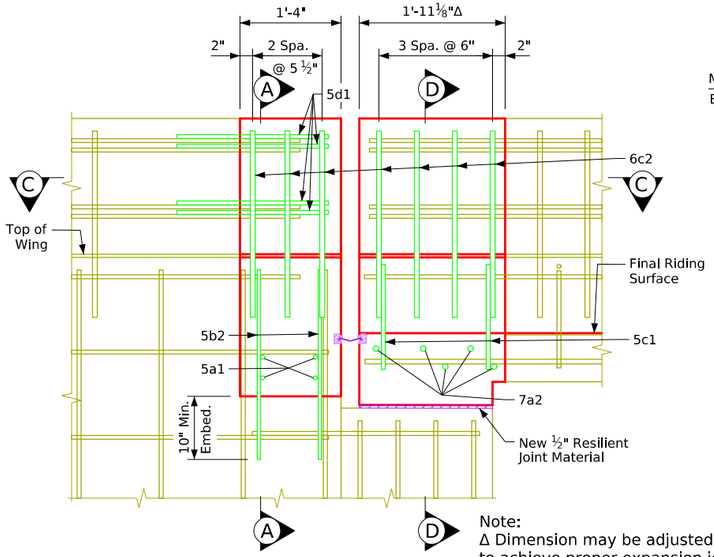
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Design No. 127 — Design Sheet No. 7 of 10 — FHWA No. 356217

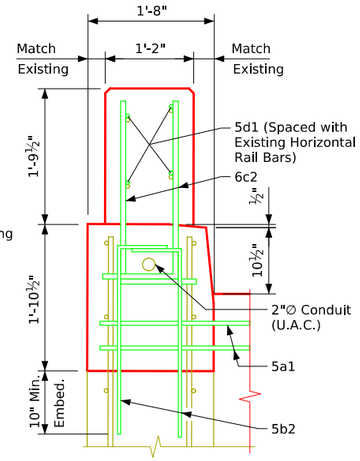
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Section B-B

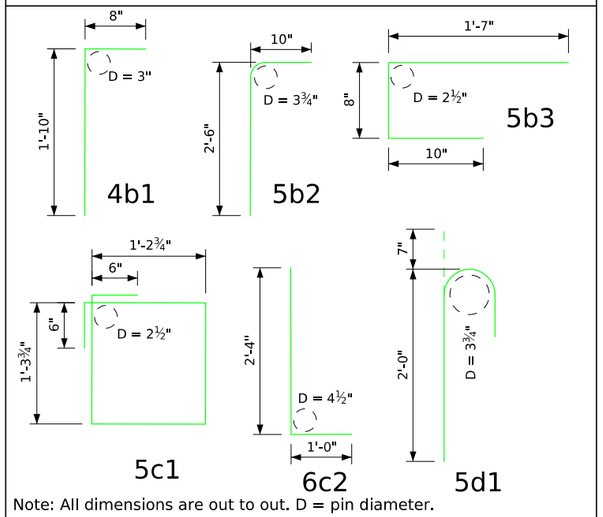
(NW Shown, Others Similar)



Section A-A

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

Bent Bar Details



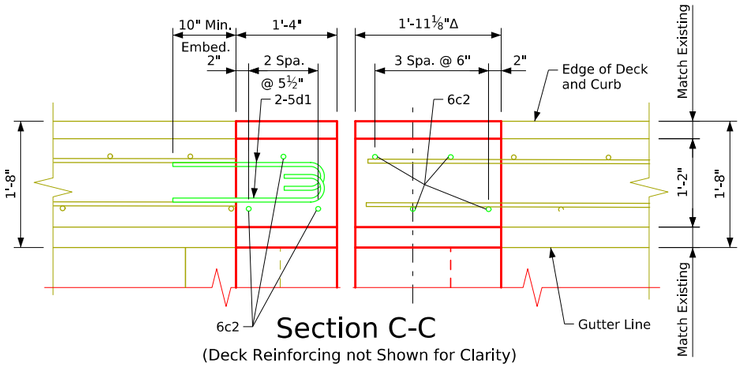
Note: All dimensions are out to out. D = pin diameter.

Epoxy Coated Reinforcing Steel-One Abutment

Bar	Location	Shape	No.	Length	Weight
5a1	Backwall, Horizontal		8	17'-4"	145
7a2	Deck Horizontal		12	17'-4"	425
5a3	Diaphragm, Horizontal		2	9'-6"	20
5a4	Diaphragm, Horizontal		2	14'-8"	31
5a5	Diaphragm, Horizontal		2	4'-8"	10
4b1	Backwall, Vertical, Dowel		32	2'-6"	53
5b2	Wing, Vertical, Dowel		8	3'-4"	28
5b3	Diaphragm, Vertical, Hoop		28	3'-1"	90
5c1	Curb, Vertical, Hoop		4	6'-1"	25
6c2	Curb & Rail, Vertical		14	3'-4"	70
5d1	Rail, Longitudinal, Dowel		8	2'-7"	22
	Reinforcing Steel - Epoxy Coated - Total (lbs.)				919

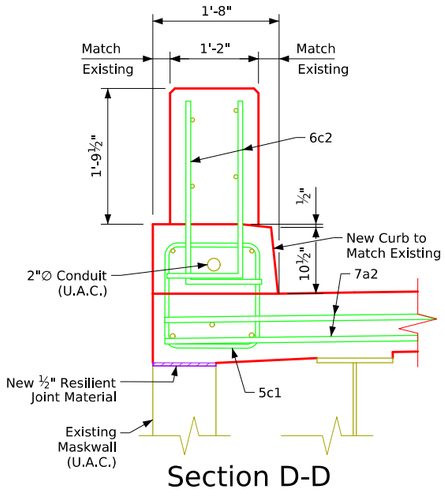
Concrete Placement Quantities

Location	Total
West Abutment - Stage 1	
Deck, Diaphragm & Curb	1.4
Backwall & Wing	1.0
Barrier Rail	0.3
West Abutment - Stage 2	
Deck, Diaphragm & Curb	1.4
Backwall & Wing	1.0
Barrier Rail	0.3
East Abutment - Stage 1	
Deck, Diaphragm & Curb	1.4
Backwall & Wing	1.0
Barrier Rail	0.3
East Abutment - Stage 2	
Deck, Diaphragm & Curb	1.4
Backwall & Wing	1.0
Barrier Rail	0.3
Total Structural Concrete Misc. (CY)	10.8

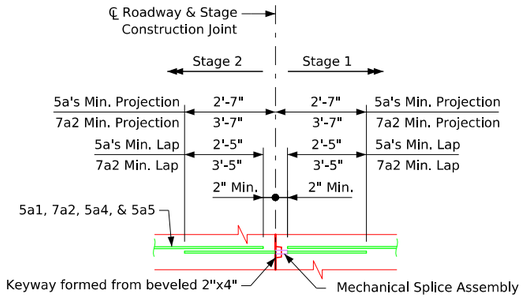


Section C-C

(Deck Reinforcing not Shown for Clarity)



Section D-D



Mechanical Splice Detail

Mechanical Splice Assemblies:

The 5a1, 7a2, 5a4, & 5a5 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, 7a2, 5a4, & 5a5 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 24 epoxy coated splice assemblies will be required.

Dowel Setting Note:

The 4b1 bars in the backwall, 5b2 bars in the wings, and the 5d1 bars in the rail 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, wings, and rail.

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Design For Repair To 0° Skew

287'-0 x 32'-0 Continuous Welded Girder Bridge

50'-0" End Spans — 2 - 93'-6" Interior Spans

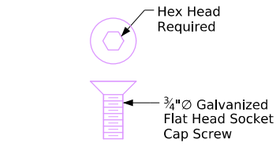
Abutment Repair Details

STA. 370+14.29 (I-35) — Turn-in Date: October, 2026

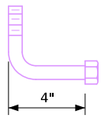
Worth County

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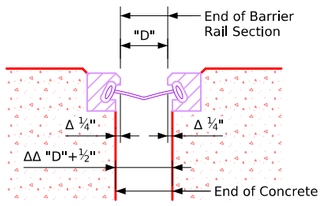
Design No. 127 — Design Sheet No. 8 of 10 — FHWA No. 356217



Cap Screw Detail



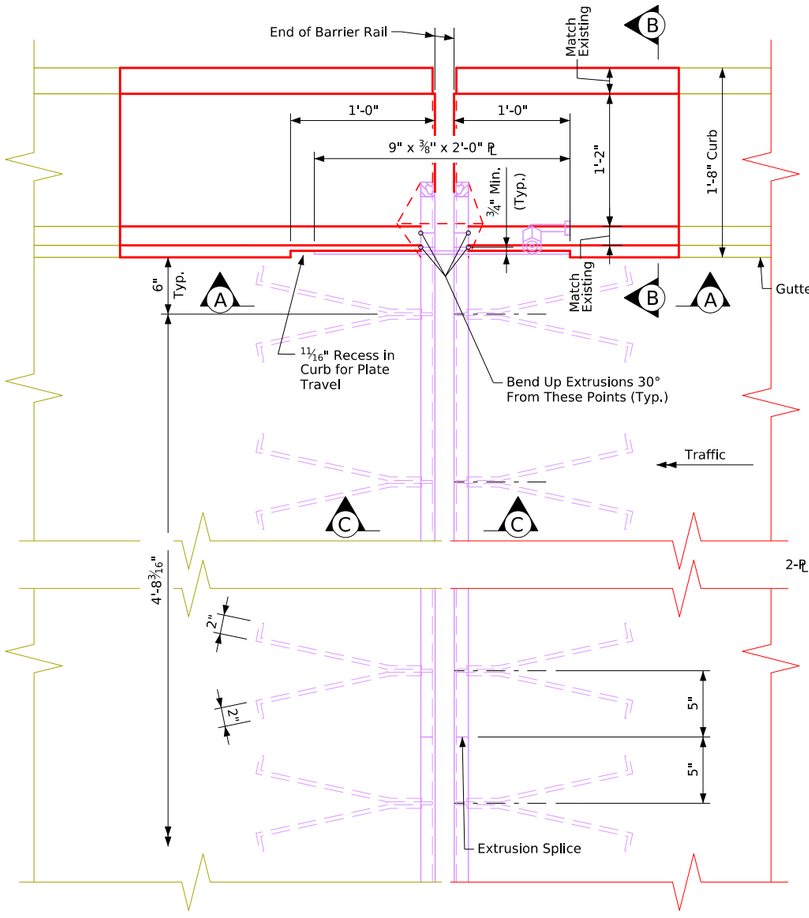
Bent Bolt Detail



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 on manufacturer furnishing the joint.



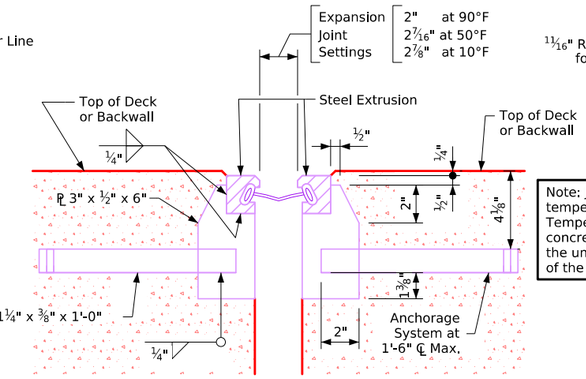
Part Plan View of Expansion Device

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.

Table of Approved Expansion Devices

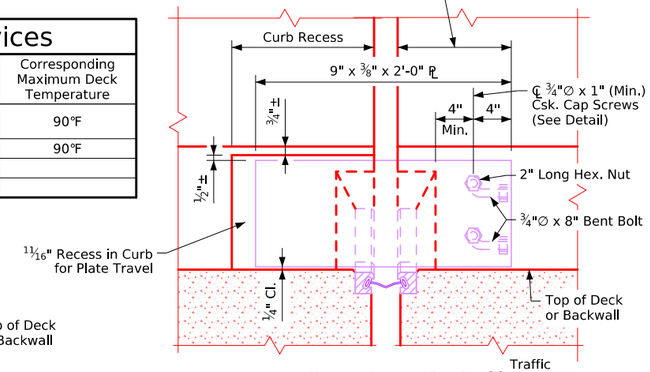
Manufacturer	Type of Steel Extrusion	Neoprene Gland	Minimum Opening for Gland Installation	Corresponding Maximum Deck Temperature
Watson–Bowman & Acme Corp.	A	SE-400	1½"	90°F
D.S. Brown Co.	SSA2	A2R-400	2"	90°F
Approved Equal				



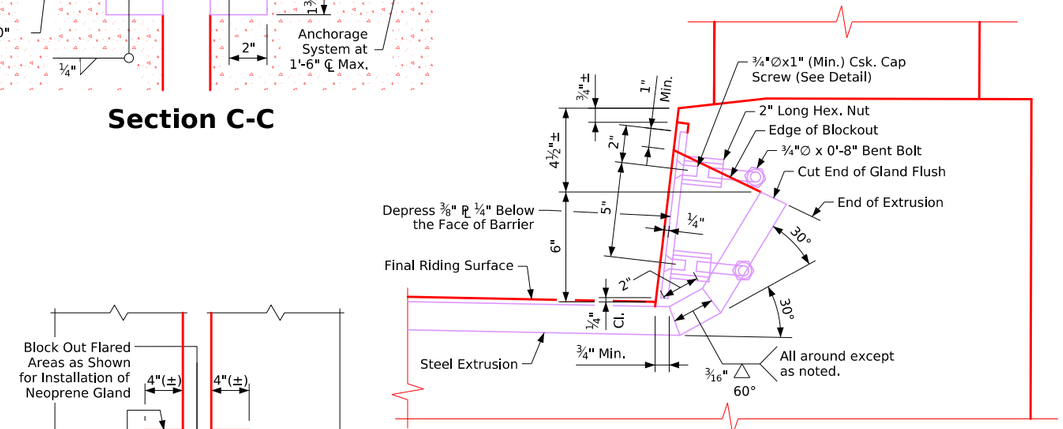
Section C-C

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

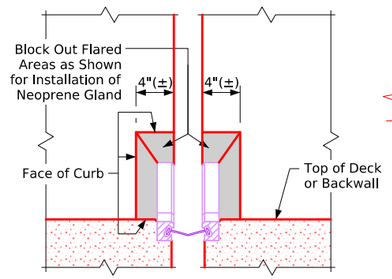
This portion of the ⅜" bent plate is to be painted with a colorless oil, or some other satisfactory means to prevent concrete from adhering to the plate so that the plate can be removed if necessary. (Typ. all ⅜" bent plates.)



Section A-A



Section B-B



Blockout Detail

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

Note:
See Design Sheet No. 10 for additional expansion device notes containing the Steel Extrusion Notes, Neoprene Gland Notes, and Watertight Integrity Testing and Repair Notes.

Note: It is intended that the 11/16" 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.

Design For Repair To 0° Skew

287'-0 x 32'-0 Continuous Welded Girder Bridge

50'-0" End Spans — 2 - 93'-6" Interior Spans

Expansion Device Details

STA. 370+14.29 (I-35) — Turn-in Date: October, 2026

Worth County

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Design No. 127 — Design Sheet No. 9 of 10 — FHWA No. 356217

FILE NO. 32365	ENGLISH	DESIGN TEAM JK\JS\LG	Worth COUNTY	PROJECT NUMBER IMX-035-8(056)209--02-98	SHEET NUMBER V.9

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

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

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

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

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.

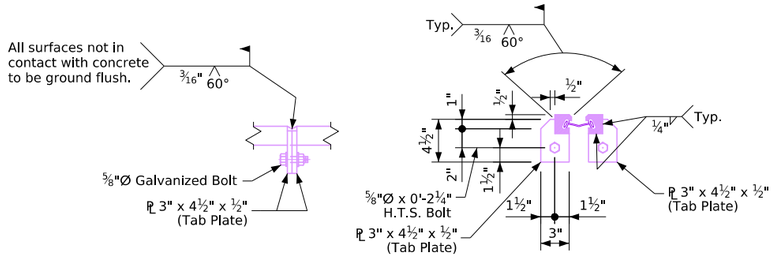
If the expansion device leaks at an upturned end or along its length, the Contractor shall locate the leak(s) and take repair measures to stop the leakage. The repair measures shall be as recommended by the Manufacturer and approved by the Engineer prior to beginning corrective work.

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 Materials I.M. 410.



End View Section Thru Extrusion

Field Splice Detail

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Design For Repair To 0° Skew

287'-0 x 32'-0 Continuous Welded Girder Bridge

50'-0" End Spans 2 - 93'-6" Interior Spans

Expansion Device Notes

STA. 370+14.29 (I-35) Turn-in Date: October, 2026

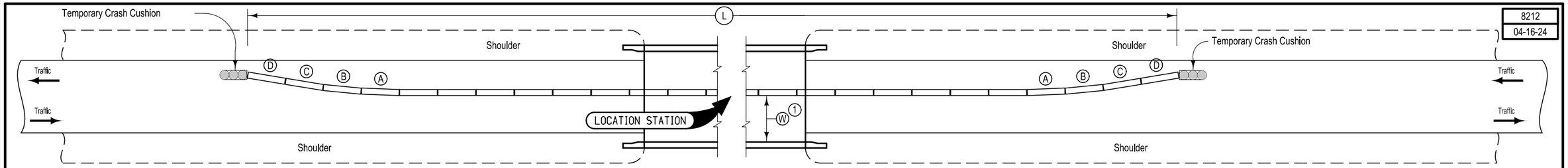
Worth County

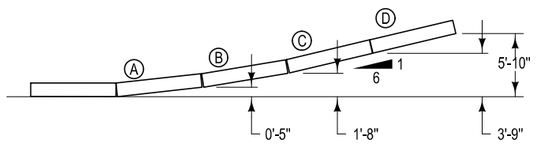
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Design No. 127 Design Sheet No. 10 of 10 FHWA No. 356217

FILE NO. 32365	ENGLISH	DESIGN TEAM JK\JS\LG	Worth COUNTY	PROJECT NUMBER IMX-035-8(056)209--02-98	SHEET NUMBER V.10

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BARRIER OFFSETS FOR FLARE SECTIONS

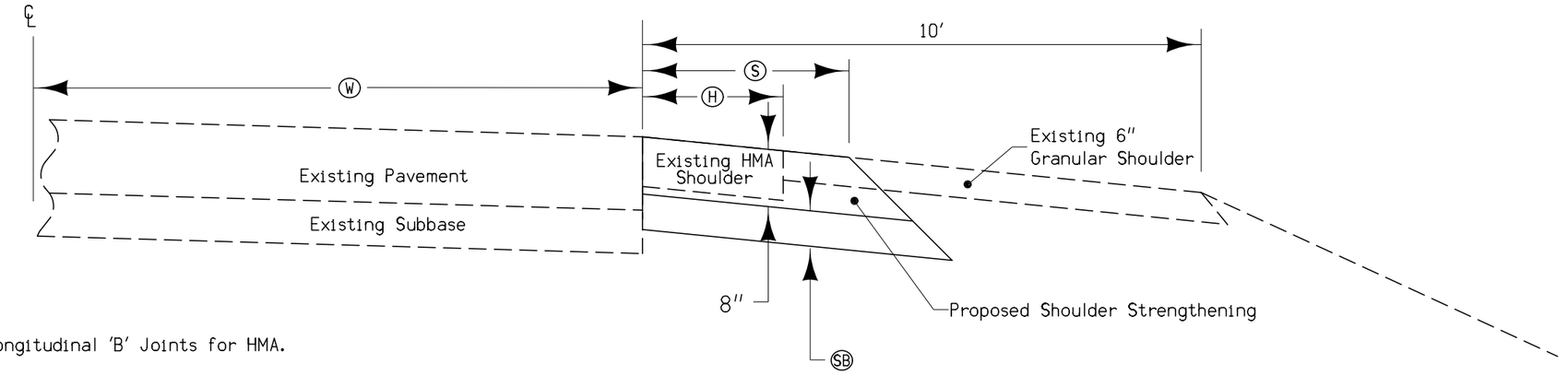
Station	Side	AA	WL	TA	L	Anchored	W (1)	Remarks
		Feet	Feet	Feet	Feet	X	Ft-Inches	
49+94.38	LT	23.88	607.52	21.20	752.60		13-1.5	Stage 1
49+94.38	RT	20.00	607.52	25.08	752.60		13-1.5	Stage 2

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

TEMPORARY CONCRETE BARRIER LAYOUT
for Two-Way Traffic

8212
04-16-24

SS-1



Outside Shoulders

Note:

1). Use longitudinal 'B' Joints for HMA.

2). Use longitudinal 'BT-2' or 'BT-3' Joints for PCC.
Use transverse 'C' Joints for PCC.

SHOULDER STRENGTHENING ALTERNATES

Location		Pavement Alternates		Existing Pavement	Existing HMA Shoulder	Width of Strengthening	Special Backfill Thickness	Special Backfill	Shoulder Strengthening	Class 13 Excavation	Remarks
		HMA	PCC								
Station To Station		(T)	(T)	(W)	(H)	(S)	(SB)				
		Inches	Inches	Feet	Feet	Feet	Inches	Tons	SY	CY	
44+54.41	45+29.67	8	8	11	0	5	6	15.68	41.8	7.3	EB
45+29.67	46+65.62	8	8	12	4	4	6	23.64	60.5	0.0	EB
52+73.16	54+78.92	8	8	12	4	4	6	35.74	91.4	0.0	EB
54+78.92	55+38.23	8	8	11	0	5	6	12.36	32.9	5.8	EB
44+54.41	45+29.67	8	8	11	0	5	6	15.68	41.8	7.3	WB
45+29.67	47+15.61	8	8	12	4	4	6	32.31	82.8	0.0	WB
47+15.61	48+30.71	8	8	12	4	4	7	23.42	51.0	0.0	WB
51+60.44	53+22.78	8	8	12	4	4	7	33.14	72.1	0.0	WB
53+22.78	54+78.92	8	8	12	4	4	6	27.07	69.4	0.0	WB
54+78.92	55+38.23	8	8	11	0	5	6	12.36	32.9	5.8	WB
								231.40	576.6	26.2	Totals

LICENSED PROFESSIONAL ENGINEER
TANNER J. CLEVENGER
25740
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.

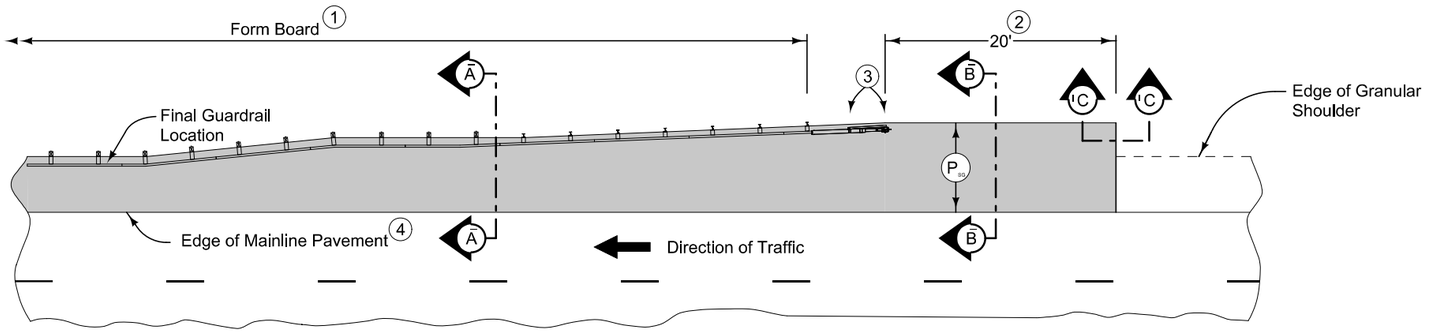
Tanner Clevenger 08/18/2026
Signature Date

Tanner John Clevenger
Printed or Typed Name

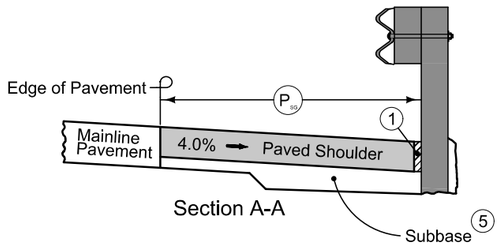
My license renewal date is December 31, 2026

Pages or sheets covered by this seal: B.1-B.2, C.1-C.19, D.1-D.6 J.1-J.6

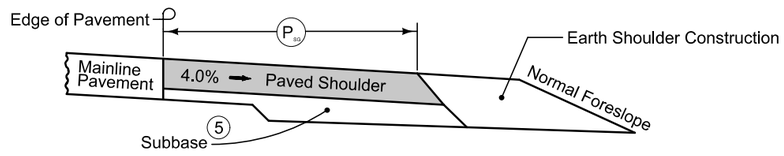
7156
10-21-25



PLAN VIEW

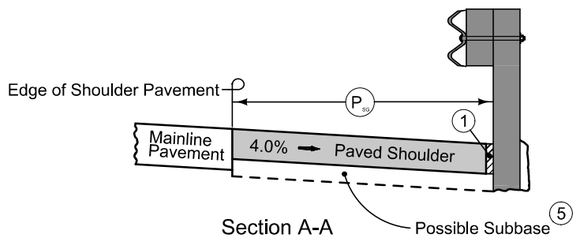


Section A-A

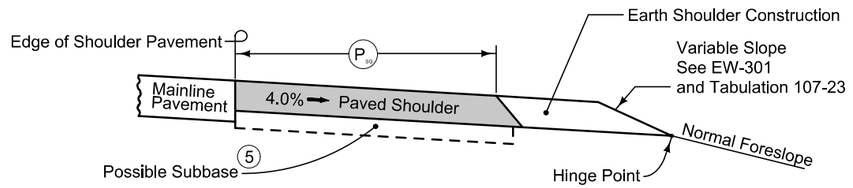


Section B-B

NEW CONSTRUCTION



Section A-A



Section B-B

EXISTING SHOULDER

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

Match mainline pavement joint spacing. When mainline pavement is 8" or greater in thickness, place additional transverse 'C' joints in shoulder at mid-panel of the mainline pavement. Place longitudinal 'C' joint at P/2 from edge of mainline pavement when P is greater than 10' wide. Terminate longitudinal joint at transverse joint less than 10' in length.

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

Refer to Tabulation 112-9 for shoulder quantities.

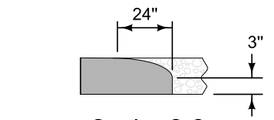
(1) PCC option only: When guardrail posts are installed prior to construction of PCC paved shoulder, fasten form board to the face of guardrail posts for the length shown.

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

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

(4) 'BT' joint (per PV-101) for PCC shoulder.
'B' joint (per PV-101) for HMA shoulder.

(5) Refer to other details in the plan.



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

PAVED SHOULDER AT GUARDRAIL
(GRANULAR SHOULDER ADJACENT TO MAINLINE)

ESTIMATED PROJECT QUANTITIES AND REFERENCE NOTES

Item no.	Item Code	Item	Unit	Quantities	Estimate Reference Notes
				Estimated	
				Roadway Items	
1	2102-0425070	SPECIAL BACKFILL	TON	332.74	Item is for shoulder strengthening and paved shoulder construction. See Detail SS-1 on Sheet B.1, Detail 7156 on Sheet B.2, and Tab. 112-9 in the C Sheets for details. Bid item is increased by 5% for irregularities.
2	2102-2710090	EXCAVATION, CLASS 10, WASTE	CY	103.4	See Tab. 107-23 in the C Sheets. All waste must be removed from the project site
3	2102-2713090	EXCAVATION, CLASS 13, WASTE	CY	67.4	Item is for the removal of existing granular shoulders. Refer to Tab. 112-9 in the C Sheets and Detail SS-1 on Sheet B.1.
4	2121-7425020	GRANULAR SHOULDERS, TYPE B	TON	31.661	See Tab. 112-9 in the C Sheets. Item is for backfilling adjacent to paved shoulders within existing granular shoulders.
5	2122-5500090	PAVED SHOULDER, HOT MIX ASPHALT MIXTURE, 9 IN.	SY	364.4	Item is for paved shoulders adjacent to steel beam guardrail installation. See Detail 7156 on Sheet B.2 and Tab. 112-9 in the C Sheets.
6	2122-7450080	SHOULDER STRENGTHENING, OPTIONAL HOT MIX ASPHALT MIXTURE OR PORTLAND CEMENT CONCRETE, 8 IN.	SY	576.6	See Detail SS-1 on Sheet B.1.
7	2123-7450000	SHOULDER CONSTRUCTION, EARTH	STA	5.56	Includes 5.56 Sta. of 3.7 ft wide shoulders on mainline. Requires a minimum of 4 inches of topsoil. Place according to Article 2105.03,B of the Standard Specifications.
8	2214-5145150	PAVEMENT SCARIFICATION, NOMINAL THICKNESS	SY	358.4	See Tab. 102-16 in the C Sheets.
9	2303-1033500	HOT MIX ASPHALT STANDARD TRAFFIC, SURFACE COURSE, 1/2 IN. MIX, NO SPECIAL FRICTION REQUIREMENT	TON	29.232	See Tab. 100-25 in the C Sheets.
10	2303-1258343	ASPHALT BINDER, PG 58-34S, STANDARD TRAFFIC	TON	1.752	
11	2412-0000100	LONGITUDINAL GROOVING IN CONCRETE, BRIDGE DECK	SY	936.6	See Tab. 100-28 in the C Sheets.
12	2505-4008120	REMOVAL OF STEEL BEAM GUARDRAIL	LF	310.8	See Tab. 110-7A in the C Sheets.
13	2505-4008300	STEEL BEAM GUARDRAIL	LF	150	See Tab. 108-8A in the C Sheets.
14	2505-4008410	STEEL BEAM GUARDRAIL BARRIER TRANSITION SECTION, BA-201	EACH	4	
15	2505-4021010	STEEL BEAM GUARDRAIL END ANCHOR, BOLTED	EACH	4	
16	2505-4021720	STEEL BEAM GUARDRAIL TANGENT END TERMINAL, BA-205	EACH	4	
17	2510-6745850	REMOVAL OF PAVEMENT	SY	674.2	See Tab. 110-1 in the C Sheets.
18	2527-9263181	PAVEMENT MARKINGS REMOVED	STA	21.23	See Tab. 108-22 in the C Sheets.
19	2527-9263209	PAINTED PAVEMENT MARKINGS, WATERBORNE OR SOLVENT-BASED	STA	42.09	
20	2527-9263231	REMOVABLE TAPE MARKINGS, WET RETROREFLECTIVE	STA	2.82	

Item no.	Item Code	Item	Unit	Quantities	Estimate Reference Notes
				Estimated	
				Roadway Items	
21	2528-8400048	TEMPORARY BARRIER RAIL, CONCRETE	LF	1,475	Refer to Detail 8212 on Sheet B.1 and Tab. 108-33 in the C Sheets. All temporary barrier rail shall be nominal 12'-6 long concrete units.
22	2528-8400256	TEMPORARY TRAFFIC SIGNALS	EACH	2	See Tab. 108-28 in the C Sheets.
23	2528-8445110	TRAFFIC CONTROL	LS	1	Refer to Traffic Control Plan on Sheet J.1.
24	2551-0000110	TEMP CRASH CUSHION	EACH	4	See Tab. 108-30 in the C Sheets. Winterize sand filled or water filled crash cushions according to the manufacturer's recommendations if they are to remain in place during winter months.
25	2602-0000312	PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE, 12 IN. DIA.	LF	720	Refer to Tab. 100-19. The tabulation includes estimated locations for placement of "Perimeter and Slope Sediment Control Device, 12 in. dia." to address erosion to be encountered during construction. Verify the specific locations with the Engineer prior to beginning placement. Bid item includes 25% additional quantity for field adjustments and replacements.
26	2602-0000351	REMOVAL OF PERIMETER AND SLOPE OR DITCH CHECK SEDIMENT CONTROL DEVICE	LF	720	Refer to Tab. 100-19 in the C Sheets. This item is for perimeter and slope sediment control device removal for replacement (replacement to be paid for separately), or for areas that have achieved 70% permanent growth. Bid item is estimated at 100% of the Perimeter and Slope Sediment Control Device, 12IN. bid item quantity.

100_01D
8/15/22

PROJECT DESCRIPTION

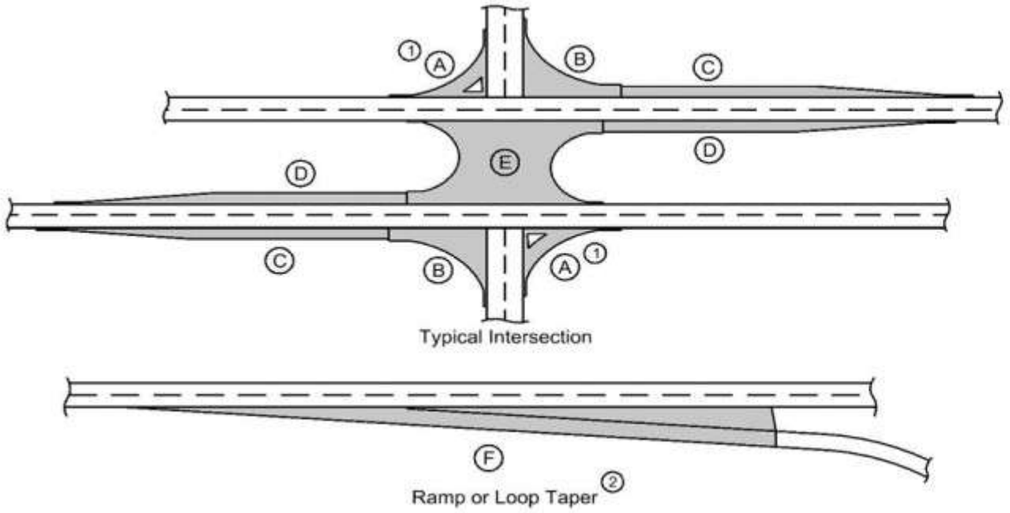
This project is for deck and rail repair on the County Road A38 bridge over I-35. It will involve replacement of the guardrail, and paved shoulder at guardrail, along with an HMA overlay of the bridge approaches.

PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE

Possible Standards: EC-204

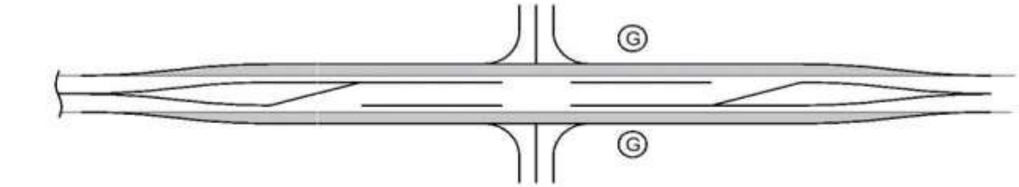
Line No.	Station From	Station To	Side	Sediment Control Device Type	Diameter Size	Length (LF)	Remarks
1.0	46+65.52	48+30.71	Right	Perimeter and Slope	12 inch	170.00	Stage 1
2.0	51+60.44	52+73.36	Right	Perimeter and Slope	12 inch	120.00	Stage 1
3.0	47+15.55	48+30.71	Left	Perimeter and Slope	12 inch	120.00	Stage 2
4.0	51+60.44	53+24.23	Left	Perimeter and Slope	12 inch	170.00	Stage 2
5.0	+.00					140.00	+25% For Maintenance
Total:						**720**	

HMA PAVEMENT

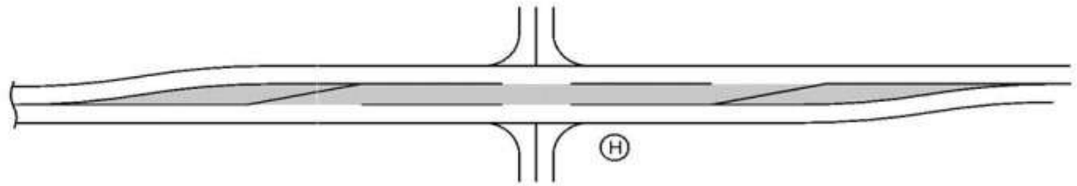


Typical Intersection

Ramp or Loop Taper (2)



Channelized Intersection
Widen Existing Roadway



Channelized Intersection
Reconstructed Roadway

(1) Does not include raised island area or curb. Refer to tabulation 112-4 for quantities.
(2) Refer to PV-410, PV-411, PV-412, and PV-414.
(3) Quantity includes Pavement Header.

Line No.	Road Identification	Direction of Travel	Station From	Station To	Width (FT)	Length (FT)	Area (SY)	Area A(1) (SY)(3)	Area B (SY)(3)	Area C (SY)(3)	Area D (SY)(3)	Area E(2) (SY)(3)	Area F (SY)(3)	Area G (SY)(3)	Area H (SY)(3)	HMA Pavement Surface (TONS)	HMA Pavement Surface (SY)	HMA Pavement Intermediate (TONS)	HMA Pavement Intermediate (SY)	HMA Pavement Base (TONS)	HMA Pavement Base (SY)	Binder Surface (TONS)	Binder Intermediate (TONS)	Binder Base (TONS)	Polymer Grid (SY)	Special Backfill (TONS)	Modified Subbase (CY)	Granular Subbase (SY)	Pavement Scarification (SY)	Hot In-Place Recycling (SY)	Asphalt Rejuvenating Agent 0.175 GAL/SY/IN	Remarks
1.0	A38	EB	47+88.55	48+48.55	12.0	60.00	89.60									7.308	89.60					0.438										Stage 1 West approach overlay
2.0	A38	EB	51+40.21	52+00.21	12.0	60.00	89.60									7.308	89.60					0.438										Stage 1 East approach overlay
3.0	A38	WB	47+88.55	48+48.55	12.0	60.00	89.60									7.308	89.60					0.438										Stage 2 West approach overlay
4.0	A38	WB	51+40.21	52+00.21	12.0	60.00	89.60									7.308	89.60					0.438										Stage 2 East approach overlay
Total:																**29.232**						**1.752**										

LONGITUDINAL GROOVING

Line No.	Location	Total (SY)	Remarks
1.0	49+94.38	468.3	Stage 1
2.0	49+94.38	468.3	Stage 2
Total:		**936.6**	

EXISTING PAVEMENT

Line No.	County	Route	Direction of Travel	Begin Ref. Location Sign	End Ref. Location Sign	Year	Type	Project Number	Surface Type	Surface Depth (IN)	Base Type	Base Depth (IN)	Subbase Type	Subbase Depth (IN)	Removal Type	Removal Depth (IN)	Coarse Aggregate Source	Coarse Aggregate Type	Course Aggregate Durability Class	Reinforcement Type	Remarks
1.0																					No Information

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.

Line No.	Station	Type of Notch or Runout	S (IN)	I (IN)	DI (IN)	L (FT)	M (IN)	Pavement Scarification (SY) (1)	Remarks
1.0	47+88.55	Type N1	1.5			60.0		89.6	Stage 1 West approach
2.0	52+00.21	Type N1	1.5			60.0		89.6	Stage 1 East approach
3.0	47+88.55	Type N1	1.5			60.0		89.6	Stage 2 West approach
4.0	52+00.21	Type N1	1.5			60.0		89.6	Stage 2 East approach
Total:								**358.4**	

STANDARDS

The following Standards apply to construction work on this project.

Number	Date	Title
BA-200	04-15-25	Steel Beam Guardrail Components
BA-201	10-18-22	Steel Beam Guardrail Barrier Transition Section (MASH TL-3)
BA-202	04-15-25	Steel Beam Guardrail Bolted End Anchor
BA-205	10-17-23	Steel Beam Guardrail Tangent End Terminal (MASH TL-3)
BA-250	10-21-25	Steel Beam Guardrail Installation at Concrete Barrier or Bridge End Post (MASH TL-3)
BA-401	04-20-21	Temporary Barrier Rail (Precast Concrete)
EC-204	10-19-21	Perimeter, Slope and Ditch Check Sediment Control Devices
EC-502	04-21-15	Seeding in Rural Areas
EW-301	04-16-24	Guardrail Grading
PM-110	10-15-24	Line Types
PR-202	10-21-14	Notches for Resurfacing (with or without Runout)
PV-101	10-21-25	Joints
SI-173	04-19-16	Object Markers
SI-211	10-18-22	Object Marker and Delineator Placement with Guardrail
SI-882	10-18-16	Special Signs for Restricted Width Traffic Control Zones
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	10-21-25	Lane Closure with Signals and TBR

GRADING FOR GUARDRAIL INSTALLATIONS

Refer to EW-301.

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

Line No.	Direction of Traffic (1)	Station	Side	Foreslope at Guardrail	X1 (FT)	Y1 (FT)	X2 (FT)	Y2 (FT)	X3 (FT)	Y3 (FT)	X4 (FT)	Y4 (FT)	Z (FT)	Excavation Class 10 (CY)	Embankment-in-Place (CY)	Remarks
1.0	EB	48+34.46	Right	3:1	92.6	9.0					148.9	11.2	47.1	30.0		Stage 1
2.0	EB	51+54.30	Right	3:1	42.6	9.0					98.9	11.2	47.1	21.7		Stage 1
3.0	WB	48+34.46	Left	3:1	42.6	9.0					98.9	11.2	47.1	21.7		Stage 2
4.0	WB	51+54.30	Left	3:1	92.6	9.0					148.9	11.2	47.1	30.0		Stage 2
Total:														**103.4**		

STEEL BEAM GUARDRAIL AT CONCRETE BARRIER OR BRIDGE RAIL END SECTION

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

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

Line No.	Direction of Travel (1)	Side	Station	Offset (FT)	Barrier Transition Section	Barrier Transition Section (EA)	End Terminal	End Terminal Count (EA)	VT1 (LF)	VF (LF)	VT2 (LF)	ET (LF)	BA-211 Station	BA-211 (Type)	SI-211 (Type) (2)	Delineator SI-172 Type 1 (EA) (2)	Object Marker Type 2 (EA) (2)	Object Marker Type 3 Lt (EA)(2)	Object Marker Type 3 Rt (EA)(2)	Bolted End Anchor BA-202 (Type)	Bolted End Anchor BA-202 (EA)	Post Adapter BA-210 (EA)	Steel Beam Guardrail BA-200 (LF)	Remarks
1.0	EB	Right	48+34.46		BA-201	1	BA-205	1	103.125			47.70			3				1	B	1		62.5	Stage 1
2.0	EB	Right	51+54.30		BA-201	1	BA-205	1	53.125			47.70						1		B	1		12.5	Stage 1
3.0	WB	Left	48+34.46		BA-201	1	BA-205	1	53.125			47.70						1		B	1		12.5	Stage 2
4.0	WB	Left	51+54.30		BA-201	1	BA-205	1	103.125			47.70			3				1	B	1		62.5	Stage 2
Total:						**4**		**4**													**4**		**150**	

PAVEMENT MARKING LINE TYPES

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

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

Line No.	Road ID	Station From	Station To	Lane	Marking Type	Left	Center	Right	Groove Marking Needed?	Groove Qty. (STA)	CHW8 (STA)	CHW8 Factored (STA)	DCY4 (STA)	DCY4 Factored (STA)	DCY6 (STA)	DCY6 Factored (STA)	ELW4 (STA)	ELW4 Factored (STA)	ELW6 (STA)	ELW6 Factored (STA)	NPY4** (STA)	NPY4** Factored (STA)	NPY6** (STA)	NPY6** Factored (STA)	SLW2 (STA)	SLW2 Factored (STA)	Remarks
1.0	A38	44+54.41	47+73.55	EB	Removal of Paint			X									3.19	2.14									
2.0	A38	52+15.21	55+38.23	EB	Removal of Paint			X									3.23	2.16									
3.0	A38	44+54.41	47+73.55	Both	Removal of Paint		X														3.19	2.68					
4.0	A38	52+15.21	55+38.23	Both	Removal of Paint		X						3.23	4.33													
5.0	A38	44+54.41	55+38.23	WB	Removal of Paint	X											10.84	7.26									
6.0	A38	42+66.41	42+66.41	EB	Waterborne/Solvent Paint			X	No																0.12	0.48	Stage 1
7.0	A38	44+54.41	45+59.41	EB	Wet Retroreflective Removable Tape			X	No		1.06	1.41															Stage 1
8.0	A38	45+59.41	46+44.41	EB	Waterborne/Solvent Paint			X	No										0.85	0.85							Stage 1
9.0	A38	57+20.13	57+20.13	WB	Waterborne/Solvent Paint	X			No																0.12	0.48	Stage 1
10.0	A38	44+54.41	45+59.41	EB	Removal of Removable Tape			X			1.06	1.41															
11.0	A38	45+59.41	46+44.41	EB	Removal of Paint			X											0.85	0.85							
12.0	A38	53+48.23	54+33.23	WB	Waterborne/Solvent Paint		X		No										0.85	0.85							Stage 2
13.0	A38	54+33.23	55+38.23	WB	Wet Retroreflective Removable Tape	X			No		1.06	1.41															Stage 2
14.0	A38	42+66.41	42+66.41	EB	Removal of Paint			X																	0.12	0.48	
15.0	A38	53+48.23	54+33.23	WB	Removal of Paint		X												0.85	0.85							
16.0	A38	54+33.23	55+38.23	WB	Removal of Removable Tape	X					1.06	1.41															
17.0	A38	57+20.13	57+20.13	WB	Removal of Paint	X																			0.12	0.48	
18.0	A38	44+54.41	55+38.23	EB	Waterborne/Solvent Paint			X	No										10.84	10.84							Final
19.0	A38	44+54.41	49+78.55	Both	Waterborne/Solvent Paint		X		No														5.24	6.55			Final
20.0	A38	49+78.55	55+38.23	Both	Waterborne/Solvent Paint		X								5.60	11.20											Final
21.0	A38	44+54.41	55+38.23	WB	Waterborne/Solvent Paint	X													10.84	10.84							Final
22.0																											Remove Total = 21.23 STA
23.0																											Waterborne Total = 42.09 STA
24.0																											Tape Total = 2.82 STA

TEMPORARY TRAFFIC SIGNALS

Line No.	Item No.	Station	Signal Type	Remarks
1.0	X	43+37.41	One Lane Traffic	EB Traffic
2.0	X	43+80.78	One Lane Traffic	I-35 SB Off Ramp Traffic
3.0	X	55+58.46	One Lane Traffic	I-35 NB Off Ramp Traffic
4.0	X	56+49.15	One Lane Traffic	WB Traffic
5.0	2			Total

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.

Line No.	Lane	Station	Side	Obstacle Width (FT)	Crash Cushion Type	Crash Cushion Quantity	V (FT) (2)	W (FT) (2)	X (FT) (2)	Y (FT) (2)	Z (FT) (2)	Excavation Class 10* (CY)	Embankment in Place* (CY)	Obstacle Description	Remarks
1.0	EB	45+92.74	Right	1.9	Temporary	1								TBR	Stage 1
2.0	EB	53+48.51	Right	1.9	Temporary	1								TBR	Stage 1
3.0	WB	46+43.95	Left	1.9	Temporary	1								TBR	Stage 2
4.0	WB	53+99.72	Left	1.9	Temporary	1								TBR	Stage 2
Total:						**4**									

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.

Line No.	No.	Station From	Station To	Length (FT)	Barrier Rail Type	Anchored*	Modular Glare Screen System	Remarks
1.0	1	45+93.26	53+48.17	737.5	Concrete BA-401	No	No	Stage 1
2.0	2	46+44.47	53+99.38	737.5	Concrete BA-401	No	No	Stage 2
Total:				**1475**				

REMOVAL OF PAVEMENT

Refer to Tabulation 102-5.

* Not a bid item.

Line No.	Station From	Station To	Side	Pavement Type	Area (SY)	Saw Cut* (LF)	Remarks
1.0	45+29.67	46+65.61	Right	HMA	60.4	139.9	Shoulder removal for strengthening
2.0	52+73.15	54+78.92	Right	HMA	91.5	209.8	Shoulder removal for strengthening
3.0	45+29.67	48+30.71	Left	HMA	133.8	305.0	Shoulder removal for strengthening
4.0	51+60.44	54+78.92	Left	HMA	141.5	322.5	Shoulder removal for strengthening
5.0	46+65.61	48+30.71	Right	HMA	73.4	169.1	Stage 1 Shoulder Removal
6.0	51+60.44	52+73.15	Right	HMA	50.1	116.7	Stage 1 Shoulder Removal
7.0	47+15.61	48+30.71	Left	HMA	51.2	119.1	Stage 2 SS Removal
8.0	51+60.44	53+23.15	Left	HMA	72.3	166.7	Stage 2 SS Removal
Total:					**674.2**	**1548.8**	

REMOVAL OF STEEL BEAM GUARDRAIL

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

Line No.	No.	Direction of Traffic (1)	Station From	Station To	Side	Removal of Guardrail (2) (LF)
1.0	1	EB	47+59.16	48+36.84	Right	77.7
2.0	2	EB	51+51.92	52+33.60	Right	77.7
3.0	3	WB	47+59.16	48+36.84	Left	77.7
4.0	4	WB	51+51.92	52+33.60	Left	77.7
Total:						**310.8**

111_25
4/30/25

INDEX OF TABULATIONS

Line No.	Tabulation	Tabulation Title	Sheet No.
1.0	100_01D	PROJECT DESCRIPTION	C.3
2.0	100_19	PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE	C.4
3.0	100_25	HMA PAVEMENT	C.5
4.0	100_28	LONGITUDINAL GROOVING	C.6
5.0	102_05	EXISTING PAVEMENT	C.7
6.0	102_16	NOTCHES AND RUNOUTS FOR RESURFACING	C.8
7.0	105_04	STANDARD ROAD PLANS	C.9
8.0	107_23	GRADING FOR GUARDRAIL INSTALLATIONS	C.10
9.0	108_08A	STEEL BEAM GUARDRAIL AT CONCRETE BARRIER OR BRIDGE RAIL END SECTION	C.11
10.0	108_22	PAVEMENT MARKING LINE TYPES	C.12
11.0	108_28	TEMPORARY TRAFFIC SIGNALS	C.13
12.0	108_30	CRASH CUSHIONS	C.14
13.0	108_33	TEMPORARY BARRIER RAIL	C.15
14.0	110_01	REMOVAL OF PAVEMENT	C.16
15.0	110_07A	REMOVAL OF STEEL BEAM GUARDRAIL	C.17
16.0	111_25	INDEX OF TABULATIONS	C.18
17.0	112_09	SHOULDERS	C.19
18.0	108_23A	TRAFFIC CONTROL PLAN	J.1
19.0	108_25	511 TRAVEL RESTRICTIONS	J.2
20.0	108_26A	STAGING NOTES	J.3
21.0	111_01	COORDINATED OPERATIONS	J.4

SHOULDERS

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

Roadway Identification	Direction of Travel (1)	Station From	Station To	Side	P Width (FT)	P SG Width (2) (FT)	G Width (FT)	L Length (FT)	Class 13 Excavation (CY)(3)(4)	HMA (TON)	HMA (TON/STA)	Binder (TONS)	Paved Shoulder (3) (SY)	Shoulder at Grdrail (5)(7)	Reinforced Paved Shoulder(3) (SY)	Special Backfill HMA Alt. (3) (TON)	Special Backfill HMA Alt. (TON/STA)	Special Backfill PCC Alt. (3) (TON)	Special Backfill PCC Alt. (TON/STA)	Polymer Grid (SY)	Subbase (3) (8) (CY)	Granular Shoulder (3) (TON)	Granular Shoulder (TON/STA)	Shoulder Const. Alt (3) (STA)	Shoulder Const. Alt HMA (6) (CY)	Shoulder Const. Alt PCC (6) (CY)	Remarks
A38	EB	46+65.61	46+85.61	Right		7.18	1.3	20.00	2.8	8.236	41.180	0.494		16.0		5.754	28.770					1.140	5.698				Stage 1
A38	EB	46+85.61	47+33.39	Right		6.2	1.3	47.78	5.7	17.182	35.960	1.031		33.2		12.141	25.410					2.723	5.698				Stage 1
A38	EB	47+33.39	48+30.71	Right		5.3	1.3	97.32	10.0	29.987	30.813	1.799		57.3		21.527	22.120					5.545	5.698				Stage 1
A38	EB	51+60.44	52+05.37	Right		5.3		44.93	4.6	13.844	30.813	0.831		26.5		9.939	22.120					2.560	5.698				Stage 1
A38	EB	52+05.37	52+53.15	Right		6.2		47.78	5.7	17.182	35.960	1.031		33.2		12.141	25.410					2.723	5.698				Stage 1
A38	EB	52+53.15	52+73.15	Right		7.18		20.00	2.7	8.236	41.180	0.494		16.0		5.754	28.770					1.140	5.698				Stage 1
A38	WB	47+15.61	47+35.61	Left		7.18		20.00	1.2	8.236	41.180	0.494		16.0		2.225	28.770					1.140	5.698				Stage 2
A38	WB	47+35.61	47+83.39	Left		6.2		47.78	2.0	17.182	35.960	1.031		33.2		3.709	25.410					2.723	5.698				Stage 2
A38	WB	47+83.39	48+30.71	Left		5.3		47.32	1.1	14.580	30.813	0.875		27.9		2.116	22.120					2.696	5.698				Stage 2
A38	WB	51+60.44	52+54.99	Left		5.3		94.55	2.2	29.133	30.813	1.748		55.7		4.229	22.120					5.387	5.698				Stage 2
A38	WB	52+54.99	53+03.15	Left		6.2		48.16	2.0	17.318	35.960	1.039		33.4		3.738	25.410					2.744	5.698				Stage 2
A38	WB	53+03.15	53+23.15	Left		7.18		20.00	1.2	8.236	41.180	0.494		16.0		2.225	28.770					1.140	5.698				Stage 2
Total:									**41.2**	**189.352**		**11.361**		**364.4**		**85.498**						**31.661**					

42+00
43+00
44+00
45+00
46+00
47+00

Construct Shoulder Strengthening
prior to Stage 1 Construction

Construct Shoulder Strengthening
prior to Stage 2 Construction

N

0 FEET 20

Shoulder Strengthening

LEGEND

- Pavement Removal
- Shoulder Removal
- Proposed Shoulder Pavement
- Previously Constructed Pavement
- Proposed Guardrail Blister Grading
- Proposed HMA Overlay

47+00
48+00
49+00
50+00
51+00
52+00
53+00

Construct Shoulder Strengthening
prior to Stage 1 construction

Construct Shoulder Strengthening
prior to Stage 1 construction

Co. Rd. A38

I-35 SB

I-35 NB

N

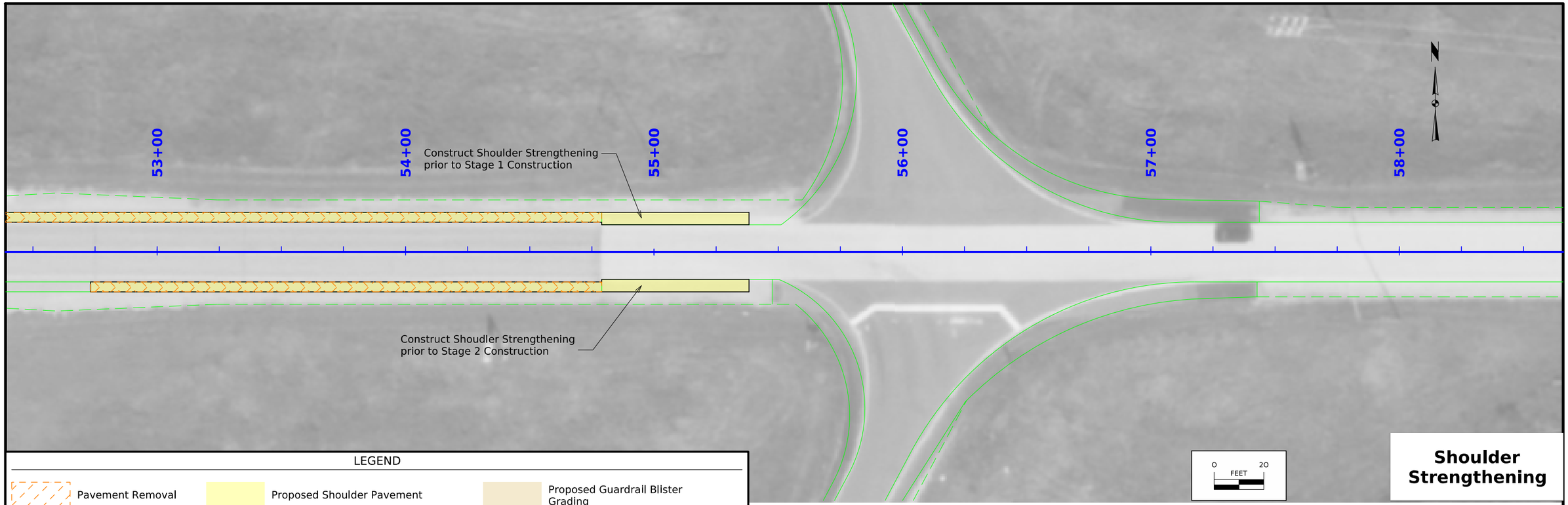
0 FEET 20

Shoulder Strengthening

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11:34:27 AM 6/4/2025 tclevenger pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9803505022\Bridge\(056)_Bridge Deck Overlay\WHKS\Roadway\CADD Files\Sheet Files\SHT_98035056_WHKS_Z02_D01.dgn

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LEGEND

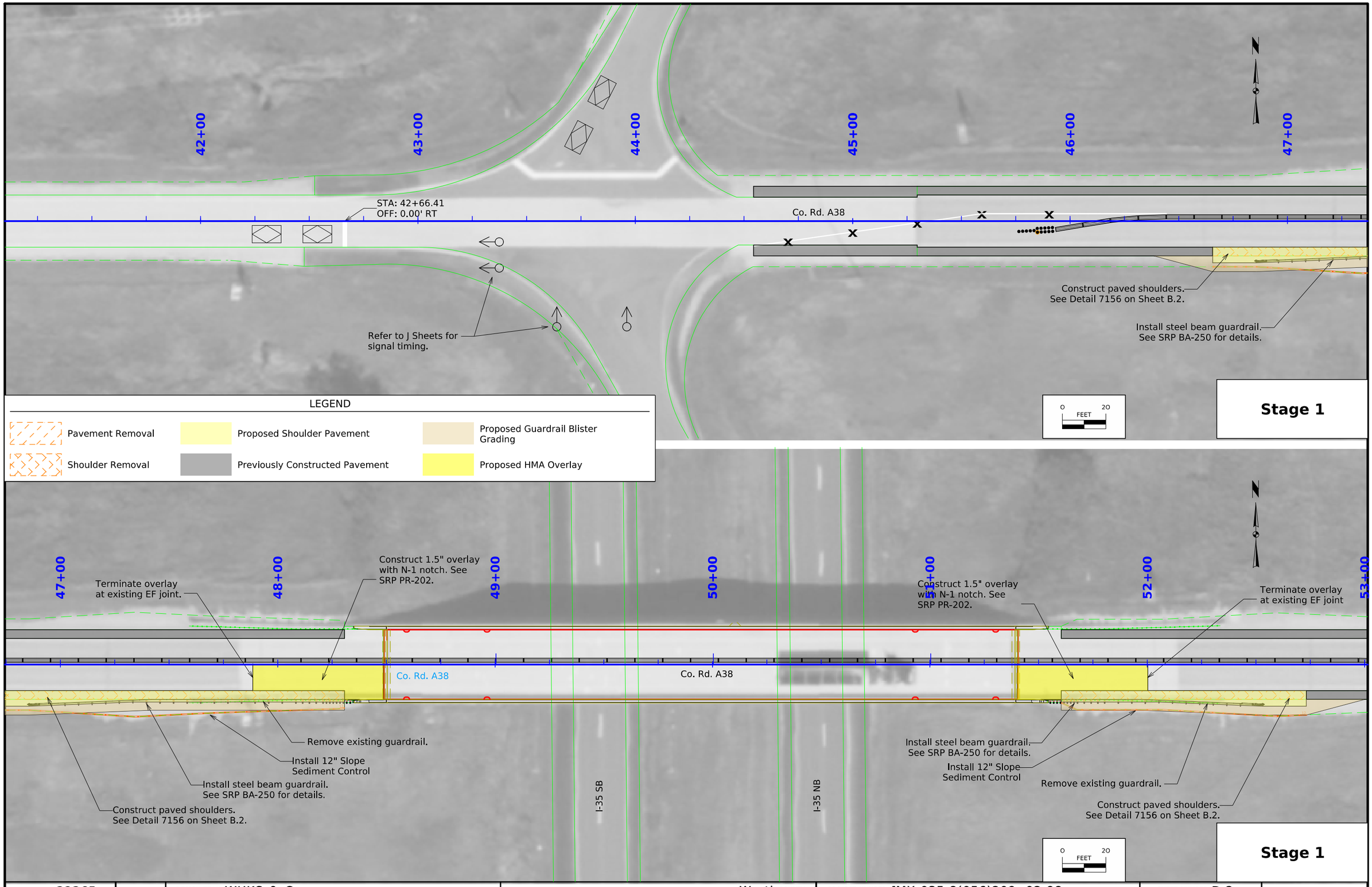
- Pavement Removal
- Shoulder Removal
- Proposed Shoulder Pavement
- Previously Constructed Pavement
- Proposed Guardrail Blister Grading
- Proposed HMA Overlay

Shoulder Strengthening

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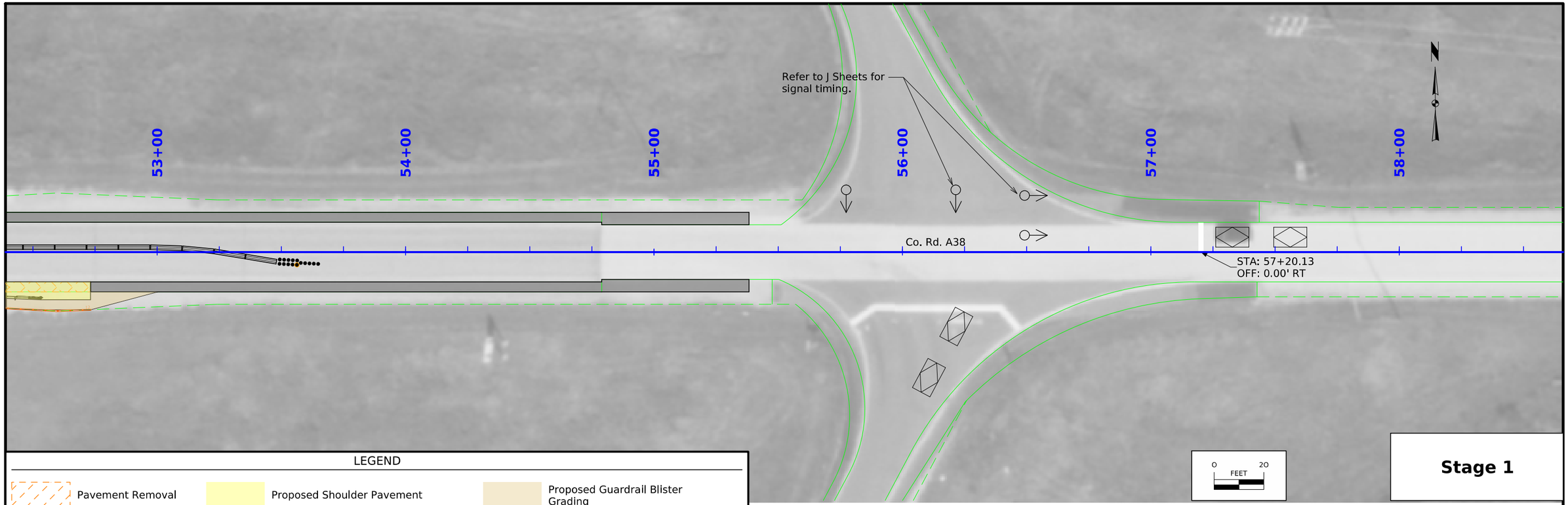
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LEGEND

- Pavement Removal
- Shoulder Removal
- Proposed Shoulder Pavement
- Previously Constructed Pavement
- Proposed Guardrail Blister Grading
- Proposed HMA Overlay

Stage 1

FILE NO. 32365	ENGLISH	DESIGN TEAM WHKS & Co.	Worth COUNTY	PROJECT NUMBER IMX-035-8(056)209--02-98	SHEET NUMBER D.4	

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42+00
43+00
44+00
45+00
46+00
47+00
STA: 42+66.41
OFF: 0.00' RT
Refer to J Sheets
for signal timing
N
0 20
FEET
Stage 2

LEGEND

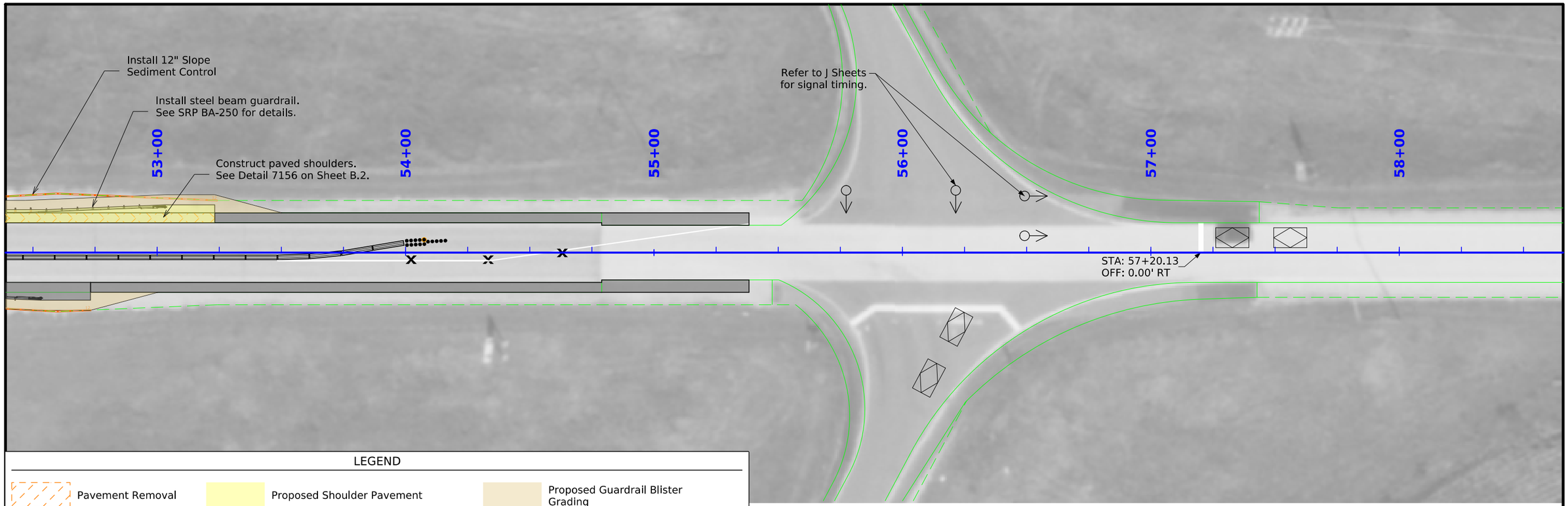
- Pavement Removal
- Shoulder Removal
- Proposed Shoulder Pavement
- Previously Constructed Pavement
- Proposed Guardrail Blister Grading
- Proposed HMA Overlay

47+00
48+00
49+00
50+00
51+00
52+00
53+00
Construct paved shoulders.
See Detail 7156 on Sheet B.2.
Install 12" Slope
Sediment Control
Install steel beam guardrail.
See SRP BA-250 for details.
Remove existing guardrail.
Co. Rd. A38
Terminate overlay
at existing EF joint.
Construct 1.5" overlay
with N-1 notch. See
SRP PR-202.
I-35 SB
I-35 NB
N
0 20
FEET
Stage 2

FILE NO. 32365	ENGLISH	DESIGN TEAM WHKS & Co.	Worth COUNTY	PROJECT NUMBER IMX-035-8(056)209--02-98	SHEET NUMBER D.5

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LEGEND

Pavement Removal	Proposed Shoulder Pavement	Proposed Guardrail Blister Grading
Shoulder Removal	Previously Constructed Pavement	Proposed HMA Overlay

FILE NO. 32365	ENGLISH	DESIGN TEAM WHKS & Co.	Worth COUNTY	PROJECT NUMBER IMX-035-8(056)209--02-98	SHEET NUMBER D.6	

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108_23A
8/15/22

TRAFFIC CONTROL PLAN

One lane of traffic shall be maintained at all times on Co. Road A38 utilizing Standard Road Plans listed in Tab. 105-4 in the C Sheets. See staging notes for additional details.

511 TRAVEL RESTRICTIONS

Line No.	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
1.0	Co. Road A38	Both	Worth	Co. Road A38 over I-35	Interstate	Traffic Control Device	356217	Horizontal	32'-0"	13'-1.5"	12'-1"	32'-0"	Stage 1
2.0	Co. Road A38	Both	Worth	Co. Road A38 over I-35	Interstate	Traffic Control Device	356217	Horizontal	32'-0"	13'-1.5"	12'-1"	32'-0"	Stage 2
3.0	Co. Road A38	Both	Worth	Co. Road A38 over I-35	Interstate	Temporary Signal	356217	Vertical		15'-0"			Stage 1
4.0	Co. Road A38	Both	Worth	Co. Road A38 over I-35	Interstate	Temporary Signal	356217	Vertical		15'-0"			Stage 2

108_26A
8/15/22

STAGING NOTES

SHOULDER STRENGTHENING:

Traffic Control:

Shift Eastbound or Westbound traffic to one lane using TC-213.

Construction:

Remove shoulder material as necessary and replace with shoulder strengthening. Refer to Detail SS-1 on Sheet B.1 and Sheets D.1-D.2 for details. Westbound shoulder strengthening must be completed before Stage 1. Eastbound shoulder strengthening must be complete before Stage 2.

STAGE 1:

Traffic Control:

Shift Eastbound traffic to the Westbound lane using TC-217.

Construction:

Remove and replace existing Eastbound steel beam guardrail and paved shoulder at guardrail. Mill and overlay approach from bridge joint to EF joint. Also perform deck and abutment repairs. Refer to Sheets D.3-D.4 for details.

STAGE 2:

Traffic Control:

Shift Westbound traffic to the Eastbound lane using TC-217.

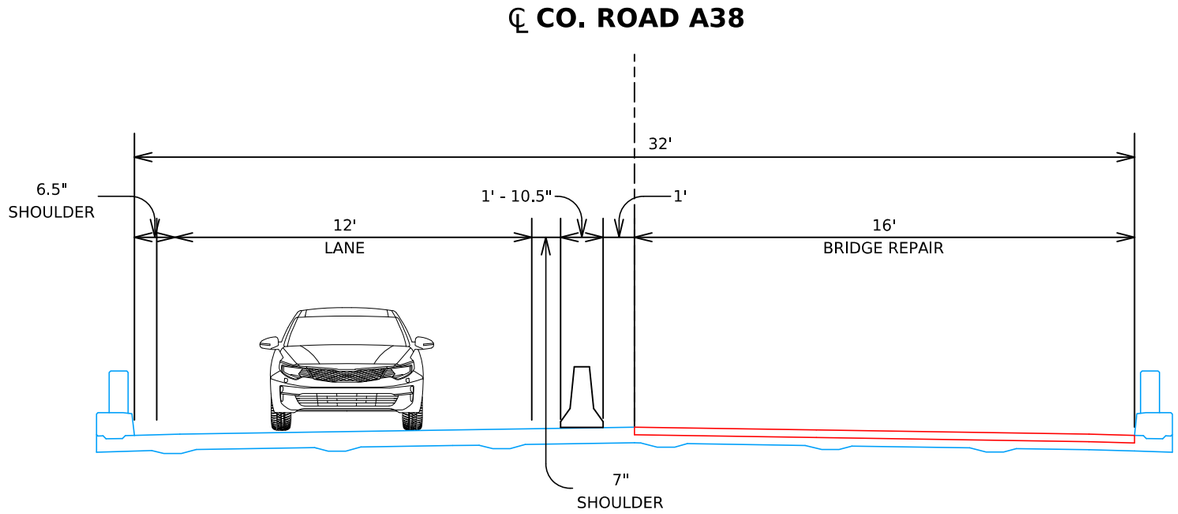
Construction:

Remove and replace existing Westbound steel beam guardrail and paved shoulder at guardrail. Mill and overlay approach from bridge joint to EF joint. Also perform deck and abutment repairs. Refer to Sheets D.5-D.6 for details.

COORDINATED OPERATIONS

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

Project	Type of Work
	None provided.

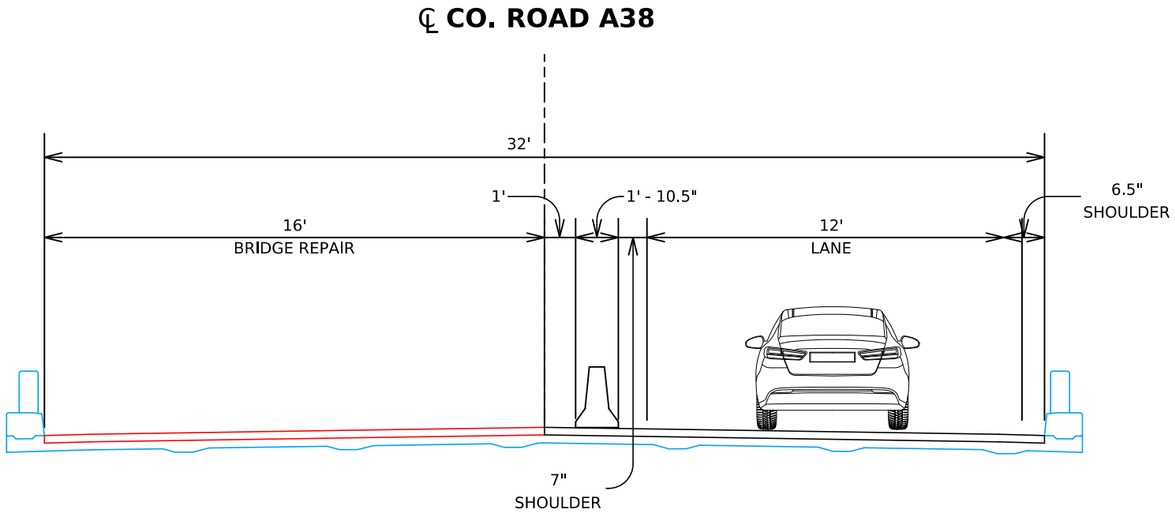


STAGE 1
(LOOKING UP STATION)

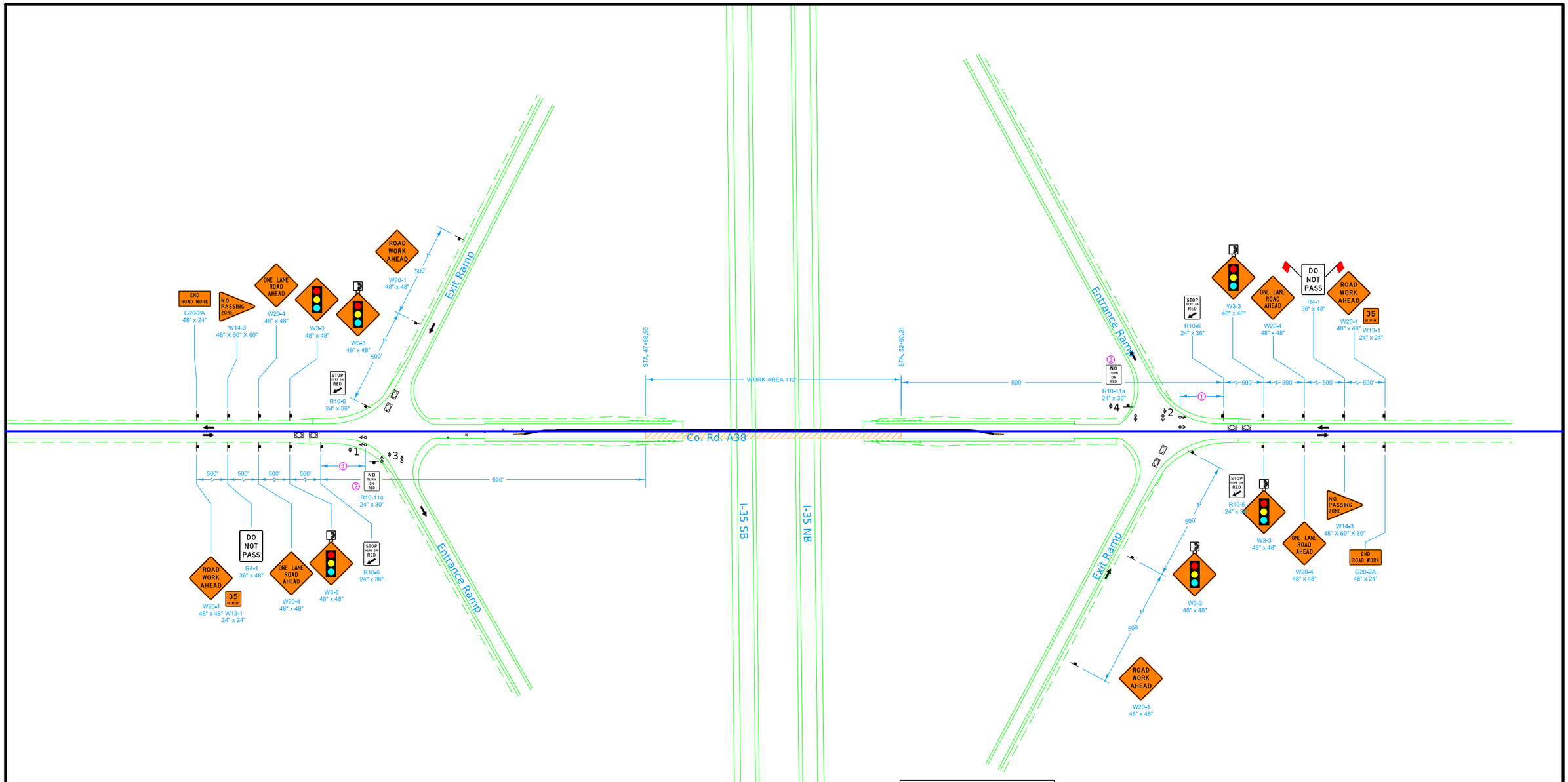
PLAN VIEW PATTERN AND SYMBOL LEGEND OF TRAFFIC CONTROL AND STAGING SHEETS

●	Channelizing Device		Crash Cushion (Temp or Perm)
×	Drum		Traffic Signal
	Arrow Board		Flagger
	Speed Feedback Sign		Temporary Floodlighting
♦	Channelizer Marker		Traffic Sign
△	Concrete Barrier Marker		Type III Barricade
	Temporary Barrier Rail		Type A Warning Light
	Sand Barrel Layout		Direction of Traffic
			Safety Closure
			Portable Dynamic Message Sign

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



STAGE 2
(LOOKING UP STATION)

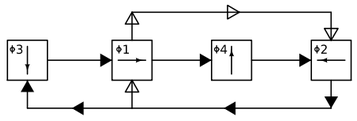


Recommended Timing (sec)

Signal Phasing		1	2	3	4
Initial Green		15	10	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)	1412	1412	0	0
	Secs	28 - 48	28 - 48	1	1

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 pases demanded.

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

Flow Diagram

LEGEND

- Vehicle Detection Area
- Temporary Crash Cushion
- Direction of Traffic
- Traffic Sign
- Drum
- Type 'B' High-Intensity Flashing Warning Light
- Work Area
- Temporary Traffic Signal

Temporary signal locations and signage is the same for all stages. Stage 1 construction shown.

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

(2) Mount "No Turn on Red" signs over lanes near signal head.

MODIFIED
STANDARD ROAD PLAN

REVISION	
7	10-21-25

TC-217
SHEET 1 of 1

MODIFICATIONS: Relocate traffic signals to accommodate diamond interchange.

STAGE 1
LANE CLOSURE WITH SIGNALS AND TBR

FILE NO. 32365	ENGLISH	DESIGN TEAM WHKS & Co.	Worth COUNTY	PROJECT NUMBER IMX-035-8(056)209--02-98	SHEET NUMBER J.6

11:55:13 AM 6/2/2025 tclevenger pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9803505022\Bridge\(056)_Bridge Deck Overlay\WHKS\Roadway\CADD Files\Sheet Files\SHT_98035056_WHKS_Z02_J02.dgn