

Standard Road Plans

Standard Road Plans are listed on C.6

Design Data Urban

2024 AADT 9,200 V.P.D.

Trucks 11 %

Total Design ESALs ---



PLANS OF PROPOSED IMPROVEMENT ON THE
PRIMARY ROAD SYSTEM
BUCHANAN COUNTY
Bridge Deck Overlay

IA 150 Over Wapsipinicon River in Independence

Refer to the Plan Sheets for list of applicable specifications.

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



Iowa DOT Bridges and Structures
Consultant Coordinator Contact:
Linda Narigon

Index Of Seals

Sheet No.	Name	Type
A.1	Stan Stallsmith	Structural Design
A.3	Jacob Verry	Roadway Design

Structural Design



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

Signature Stanley T. Stallsmith Date 08/31/2026
Stanley T. Stallsmith

Printed or Typed Name

My license renewal date is December 31, 2026

Pages or sheets covered by this seal: Sheets A.1, A.2, V.1 - V.20

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.20	Design No. 127
Road Sheets	Road Plan
A.3 - U.2	Road Plans
C.1 - C.2	Estimated Roadway Quantities
C.4	Standard Plans - Road

Revisions

TOTAL

66

PROJECT IDENTIFICATION NUMBER

22-10-150-010

CONTRACT ID NUMBER

10-1503-079

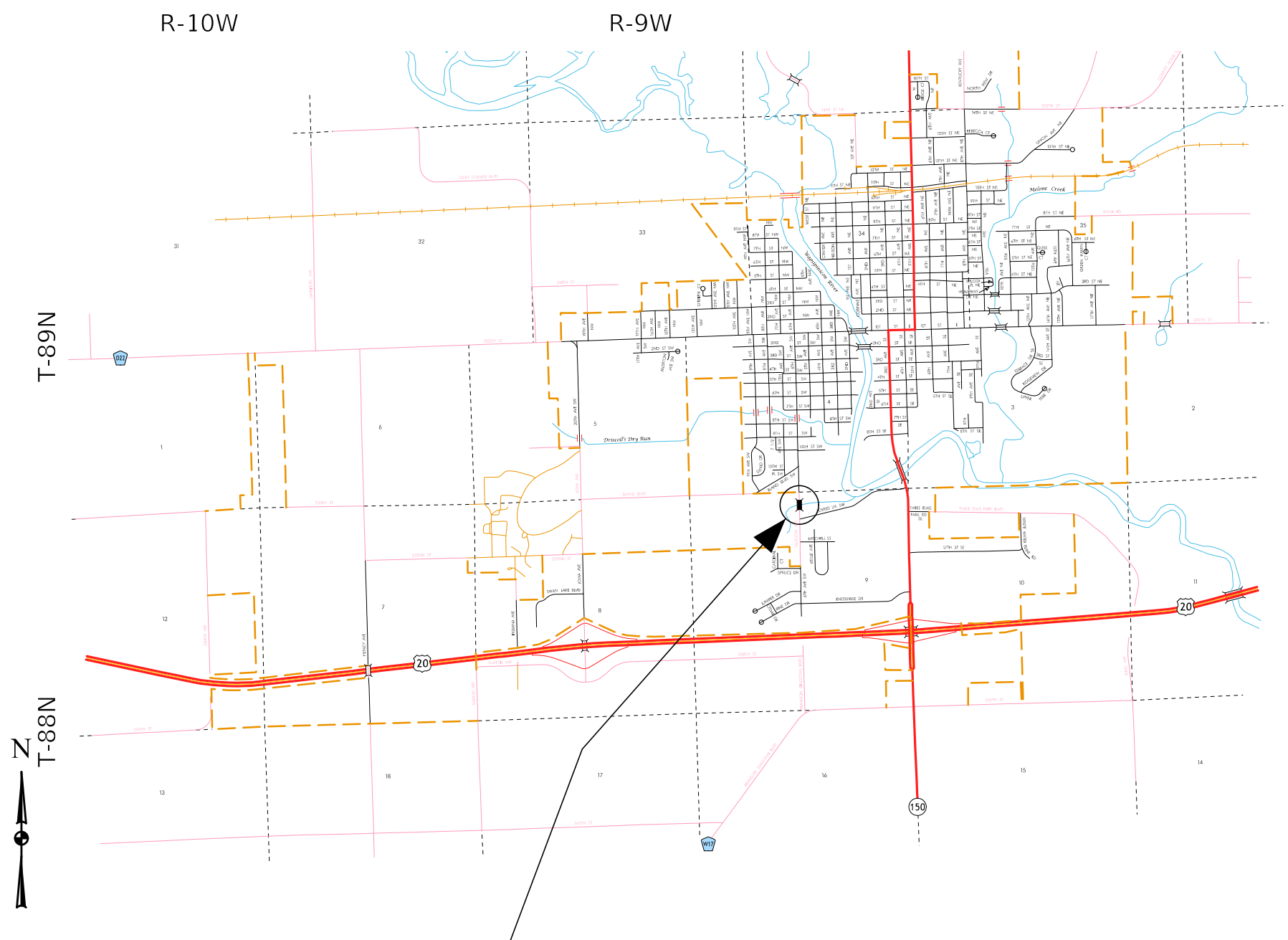
PROJECT NUMBER

BRF-150-3(079)--38-10

R.O.W. PROJECT NUMBER

PROJECT DIRECTORY NUMBER

1015001022



LEGEND

- INTERSTATE ROUTE
- FREEWAY OR EXPRESSWAY ROUTE
- U.S. NUMBERED ROUTE
- BUSINESS ROUTE
- STATE NUMBERED ROUTE
- UNNUMBERED ROUTE
- COUNTY NUMBERED ROUTE
- SECONDARY ROAD OR ADJOINING CITY STREET
- CITY STREET
- PARK, INSTITUTION, OR FEDERAL ROAD
- RAILROAD
- CORPORATION LINE
- SECTION LINE
- CUL-DE-SAC
- SECTION, TOWNSHIP & RANGE NUMBERS

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SCALE IN KILOMETERS
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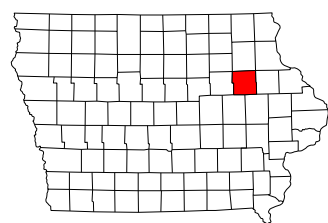
**HIGHWAY AND STREET MAP
OF
INDEPENDENCE
IOWA**

PREPARED BY
IOWA DEPARTMENT OF TRANSPORTATION
PLANNING, PROGRAMMING, AND MODAL DIVISION
OFFICE OF SYSTEMS PLANNING
PHONE (515) 281-6644
IN COOPERATION WITH
UNITED STATES DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

10-3665

Design No. 127
FHWA No. 15950

Part of City of Independence Location Map
Not To Scale



Estimated Bridge Repair Quantities - Design #127

Item No.	Item Code	Item	Unit	Estimated Quantities	Estimate Reference Notes
1	2401-6750001	Removals, As Per Plan	L.S.	1.00	Includes the cost of all work for removal and off-site disposal of the expansion devices, portions of the bridge deck and barrier rails near Pier No. 1 and Pier No. 3., and portions of the bridge deck near each abutment. 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 shall be repaired at no extra cost to the State.
2	2403-0100000	Structural Concrete (Misc.)	C.Y.	29.2	Includes the cost of labor, material and equipment required for installation of 1½" diameter x 1'-6" galvanized dowels with expansion tubes at 1'-0" on centers at each expansion joint. The number of dowel assemblies required is a total of 156 (40 at each expansion joint near Pier Nos. 1 and 3 and 38 at each expansion joint at the end of the bridge).
3	2404-7775005	Reinforcing Steel, Epoxy Coated	Lbs.	1,569	Includes all mechanical splice assemblies required.
4	2413-0698074	Deck Repair, Class A	S.Y.	70.0	--
5	2413-1100000	Preformed Elastic Neoprene Joint	L.F.	86.0	Includes the cost of all labor, material, and equipment required for installation of the compression seals as detailed on Design Sheet No. 12. Contractor to be paid the contract unit priced for the lineal feet of new compression seal installed. Length for payment shall be the plan quantity.
6	2426-6772016	Concrete Repair	S.F.	336	--
7	2533-4980005	Mobilization	L.S.	1.0	--
8	2599-9999009	Steel Sidewalk Expansion Joint Cover Plate	L.F.	16.0	Includes the cost of all labor, material, and equipment required for installation of the steel sidewalk expansion joint cover plate as detailed on Design Sheet No. 13. Contractor to be paid the contract unit priced for the lineal feet of steel sidewalk expansion joint cover plate installed. Length for payment shall be the plan quantity.
9	2599-9999010	Steel Pedestrian Fence Repainting	L.S.	1.0	Includes the cost of all labor, material, and equipment required to clean and spot paint the steel handrail on the separation barrier rail and the steel pedestrian railing on the sidewalk. Refer to Design Sheet Nos. 18-19 for additional notes and details.
Alternate AA - Option 1					
10	2413-0698066	Deck Overlay (Class O PCC)	S.Y.	1,353.8	Includes cleaning existing concrete rails and furnishing and placing concrete sealer.
Alternate AA - Option 2					
11	2403-1000010	Trial Batch and Test Placement (Fiber Reinforced Concrete)	L.S.	1	Refer to Developmental Specifications for "Fiber Reinforcement for Structural Concrete" for additional information.
12	2413-0698067	Deck Overlay (Class HPC-O PCC)	S.Y.	1,353.8	Includes cleaning existing concrete rails and furnishing and placing concrete sealer.
13	2413-1000005	Fiber Reinforcement for Concrete Repair/Overlay	S.Y.	1,353.8	Refer to Developmental Specifications for "Fiber Reinforcement for Structural Concrete" for additional information.

Roadway quantities are included elsewhere in these plans.



Design For Repair To 0° Skew

341'-0"x32' Concrete Arch Bridge

With 8' Sidewalk

83'-6" End Spans87'-0" Interior Spans

Estimated Quantities

STA. 87+54.50 (IA 150)Turn-In Date: Sept 2026

Buchanan County

IOWA DEPARTMENT OF TRANSPORTATION

Design No. 127Design Sheet No. 1 of 20FHWA No. 15950

General Notes:

This design is for repairs to the existing 341'x32' four span earth filled concrete arch bridge on IA 150 over the Wapsipinicon River in Independence, Iowa. Electronic copies of original design plans will be made available to the Contractor as part of the E-Files supplied with the contract documents. Dimensions shown on these plans are taken from existing plans. (Design No. 5198).

See Design Sheet No. 3 for a list of repair Items.

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

Faint lines on plans indicate existing portions of the bridge.

Removals shall be in accordance with Section 2401 of the Standard Specifications.

The City and 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 construction starting date.

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

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.

Present deck thickness is about 12 inches. The Contractor shall exercise care in removing concrete in order to prevent unnecessary unbonding of the reinforcing steel.

Construction shall be done in stages with at least one lane traffic in each direction maintained at all times in accordance with the "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.

The top and interior faces of the existing concrete railing are to be cleaned and sealed in accordance with Article 2403.03, P, of the Standard Specifications. All costs associated with cleaning and sealing of the concrete rails shall be include in the unit price bid item "Deck Overlay".

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.

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

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

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

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



The lump sum bid for "Removals, as Per Plan" shall include all costs associated with the removal and disposal of the expansion devices, portions of the bridge deck and barrier rails near Pier Nos. 1 and 3, and portions of the bridge deck at each end of the bridge. Removal of scheduled items shall be in accordance with Section 2401 of the Standard Specifications. Any damage to any steel or concrete not to be removed shall be the responsibility of the Contractor and repaired at no extra cost to the State.

No preliminary deck survey is shown, the plan quantity for “Class A Deck Repair” is estimated as 5% of the deck area for estimating purposes. The actual quantity is determined by the Engineer at the time of repair. Actual spalled and hollow areas as determined by the Engineer shall be repaired.

A scrape sample was taken from an area of this bridge to get an indication of the existence of, and level of, total lead and total chromium. Analysis of total lead on this sample was 230 parts per million (ppm). Analysis of total chromium on this sample was <6.5 ppm. These analyses show the existence of these two toxic constituents. Levels indicated by these tests could create conditions above regulatory limits for health and safety requirements. No other constituents were analyzed. The bidder should not rely on the Iowa DOT's testing and analysis for any purpose other than as an indication of the existence of these two toxic constituents.

Mechanical Splice Assembly Notes:

Bars in the deck adjacent to the new expansion joints near Pier Nos. 1 and 3 shall be spliced at the locations shown using mechanical splice assemblies.

The mechanical splice assemblies used shall meet the requirements of Materials IM 451 and Standard Specification 4151.07. Reinforcing splice bars shall have a minimum diameter equal to the diameter of the corresponding lapped bar.

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

The cost of furnishing and installing all mechanical splice assemblies is to be included in the price bid for "Reinforcing Steel, Epoxy Coated". The weight of the mechanical splice assemblies is not included in the quantity shown for "Reinforcing Steel, Epoxy Coated".

The number of epoxy coated splice assemblies required are as follows:

Both expansion Joints - 24 Splice Assemblies (5a1 & 6a1 bars)

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 is accordance with AASHTO LRFD section 6. ASTM A709 Grade 36(AASHTO M270 Grade 36).

Traffic Control Plan
The roadway will remain 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
126	Original Design
5198	Deck Replacement
127	Deck Overlay

Working Drawing 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	Sidewalk Expansion Joint Cover Plates	(079) BuchananCo_Design127_CoverPlates.pdf	No
2	Paint Coat Colors	(079) BuchananCo_Design127_Paint.pdf	No
3	Light Pole	(079) BuchananCo_Design127_LightPole.pdf	No

Design For Repair To 0° Skew

341'-0"x32' Concrete Arch Bridge

With 8' Sidewalk

83'-6" End Spans87'-0" Interior Spans

General Notes

STA. 87+54.50 (IA 150)Turn-In Date: Sept 2026

Buchanan County

IOWA DEPARTMENT OF TRANSPORTATION

Design No. 127Design Sheet No. 2 of 20FHWA No. 15950

FILE NO. 32421

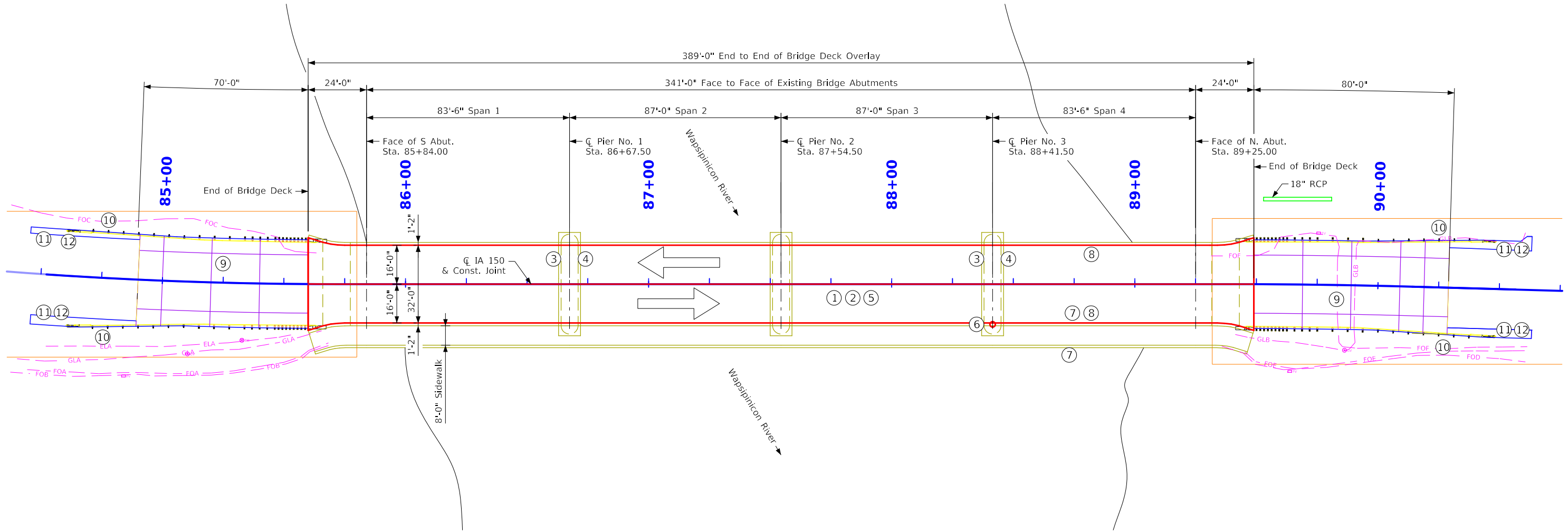
ENGLISH

DESIGN TEAM HR Green, Inc.

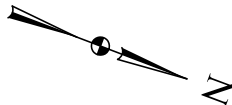
Buchanan COUNTY

PROJECT NUMBER BRF-150-3(079)--38-10

SHEET NUMBER V.2



Situation Plan



Repair Shall Consist of:

- ① Bridge Deck Repairs, Class A

② Bridge Deck Overlay.

③ Remove portions of the bridge deck and barrier rails near Piers 1 & 3.

④ Remove and replace the existing expansion joints near Piers 1 & 3.

⑤ Perform concrete repairs to barriers, arches, spandrel walls, and piers.

⑥ Remove and replace damaged light pole.
- ⑦ Perform spot painting on steel portion of separation rail and pedestrian handrail.

⑧ Apply concrete sealer to barrier rails.

⑨ Remove and replace approach pavement at both ends of bridge.

⑩ Remove and replace guardrail at both ends of bridge.

⑪ Add paved shoulder next to guardrail.

⑫ Add shoulder strengthening.

Utilities Legend:

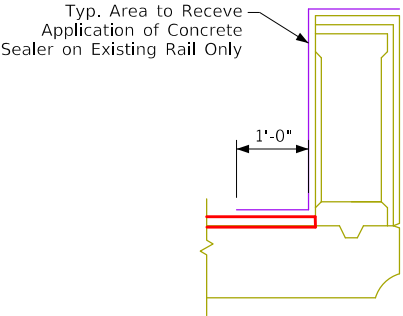
ELA - Independence Light and Power
GLA - MidAmerican Energy Company
FOA - Century Link
FOB - Century Link
FOC - Iowa Communications Network
FOD - Century Link
FOE - Century Link
GLB - MidAmerican Energy Company
FOF - Iowa Communications Network

Utility Location Note:

Existing utility locations shown are approximate and based on available record information, field observations, and utility owner markings. Contractor shall verify all existing utilities prior to construction.

Location:

IA 150 over Wapsipinicon River
T-88 N R-09 W
Section 4
Sumner Twp.
Buchanan County
City of Independence
Bridge Maint. No. 1040.2S150
FHWA No. 15950
Latitude 42.458951°
Longitude -91.890677°



Detail of Concrete Sealer Area

Design For Repair To 0° Skew
341'-0"x32' Concrete Arch Bridge
With 8' Sidewalk

83'-6" End Spans 87'-0" Interior Span

Situation Plan

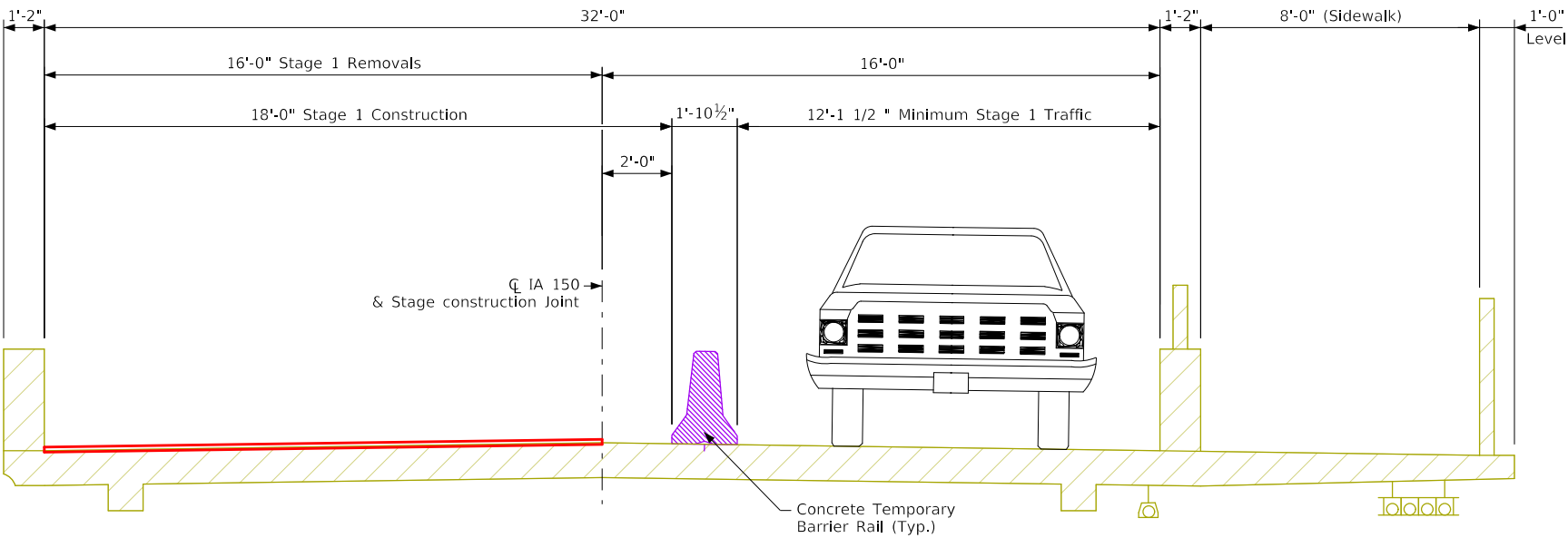
STA. 87+54.50 (IA 150) Turn-In Date: Sept 2026

Buchanan County

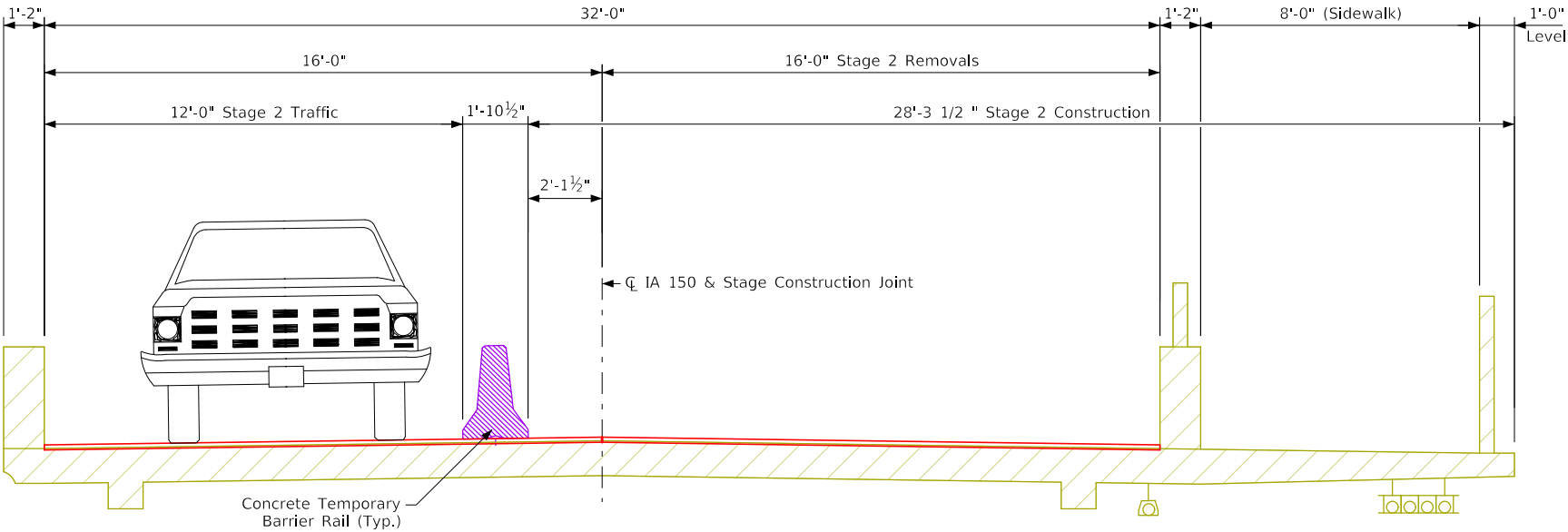
IOWA DEPARTMENT OF TRANSPORTATION

Design No. 127 Design Sheet No. 3 of 20 FHWA No. 15950



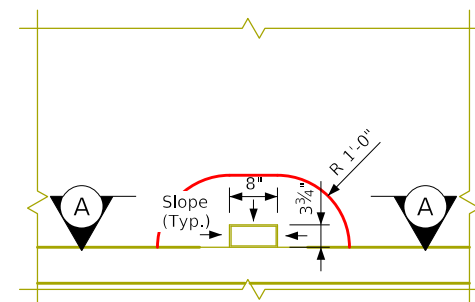
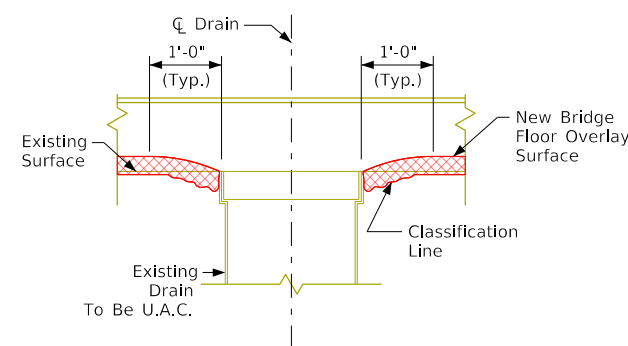
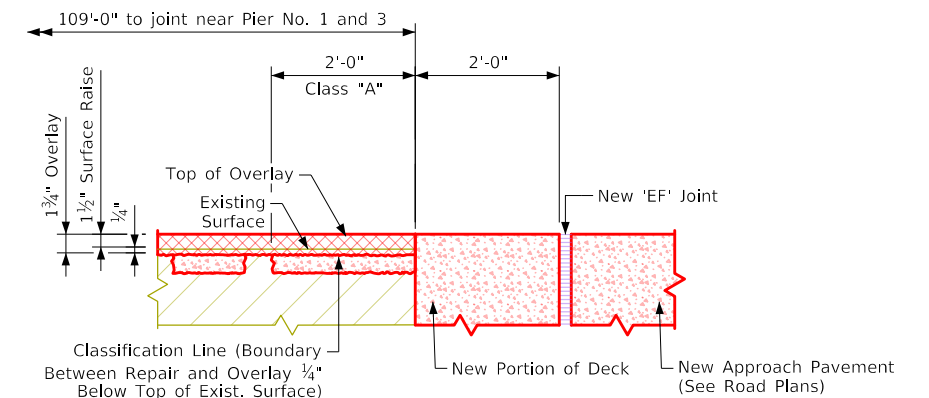
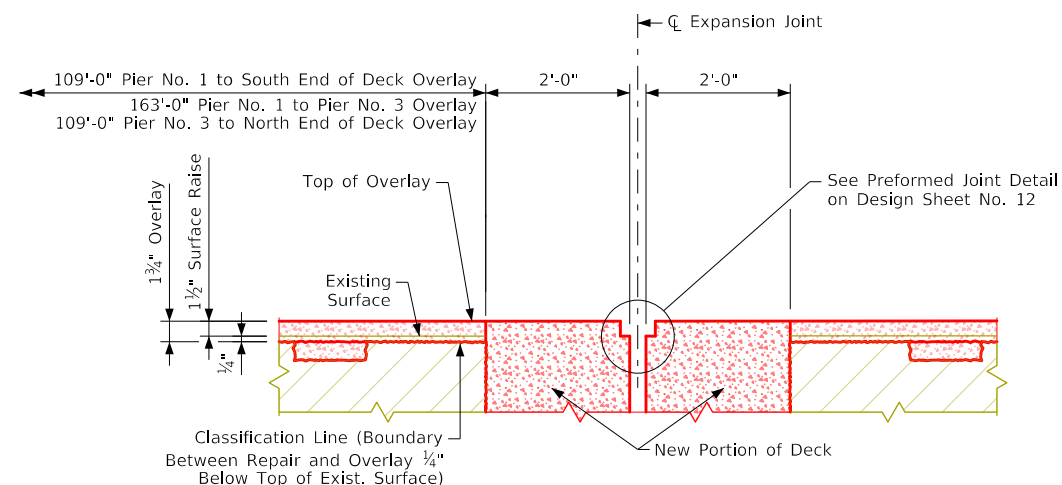
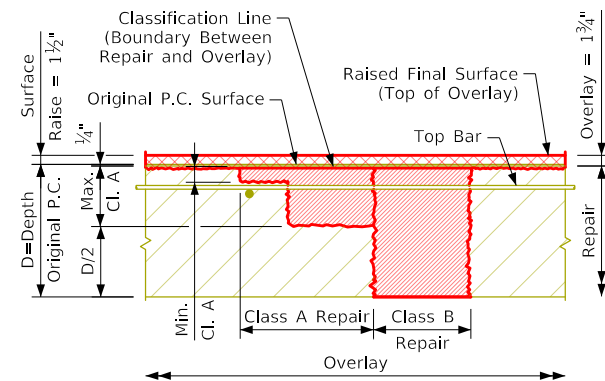
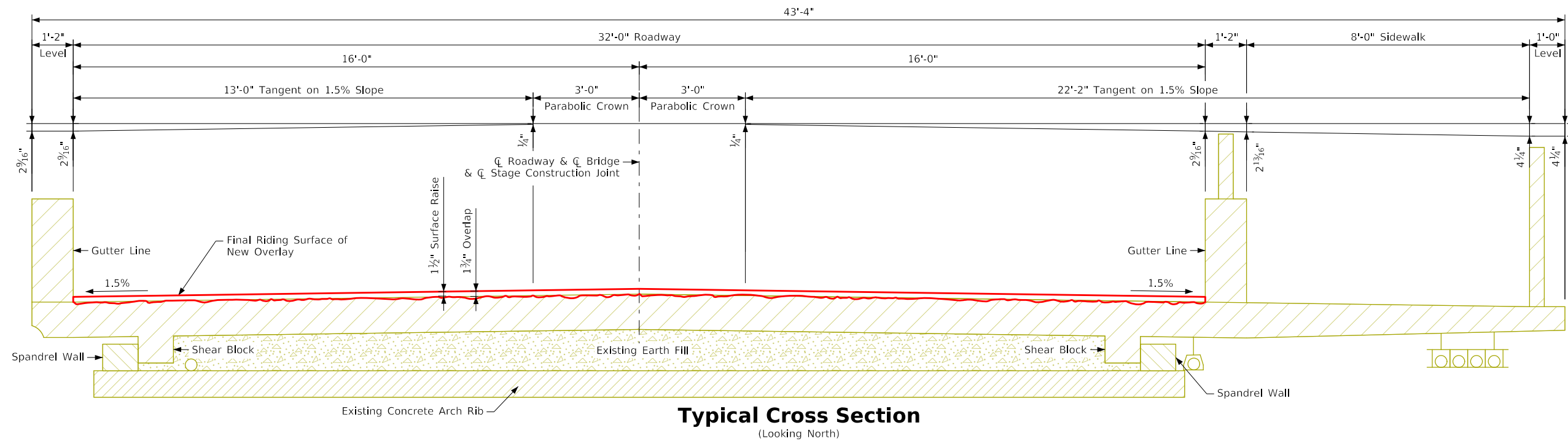


Stage 1
(Looking North)



Stage 2
(Looking North)

Design For Repair To 0° Skew
341'-0"x32' Concrete Arch Bridge
With 8' Sidewalk
83'-6" End Spans 87'-0" Interior Spans
Staging Details
STA. 87+54.50 (IA 150) Turn-in Date: Sept 2026
Buchanan County
IOWA DEPARTMENT OF TRANSPORTATION
Design No. 127 Design Sheet No. 4 of 20 FHWA No. 15950



Note:

The 2'-0" Class "A" Repair Area Shown at the Joint Shall be Removed to a Minimum Depth 1" Below the Existing Top Mat of Reinforcing. The Existing Bridge Deck Reinforcing Bars Shall be Carefully Exposed and Incorporated Into the New Construction Work.

Design For Repair To 0° Skew
341'-0"x32' Concrete Arch Bridge
With 8' Sidewalk

83'-6" End Spans	87'-0" Interior Spans
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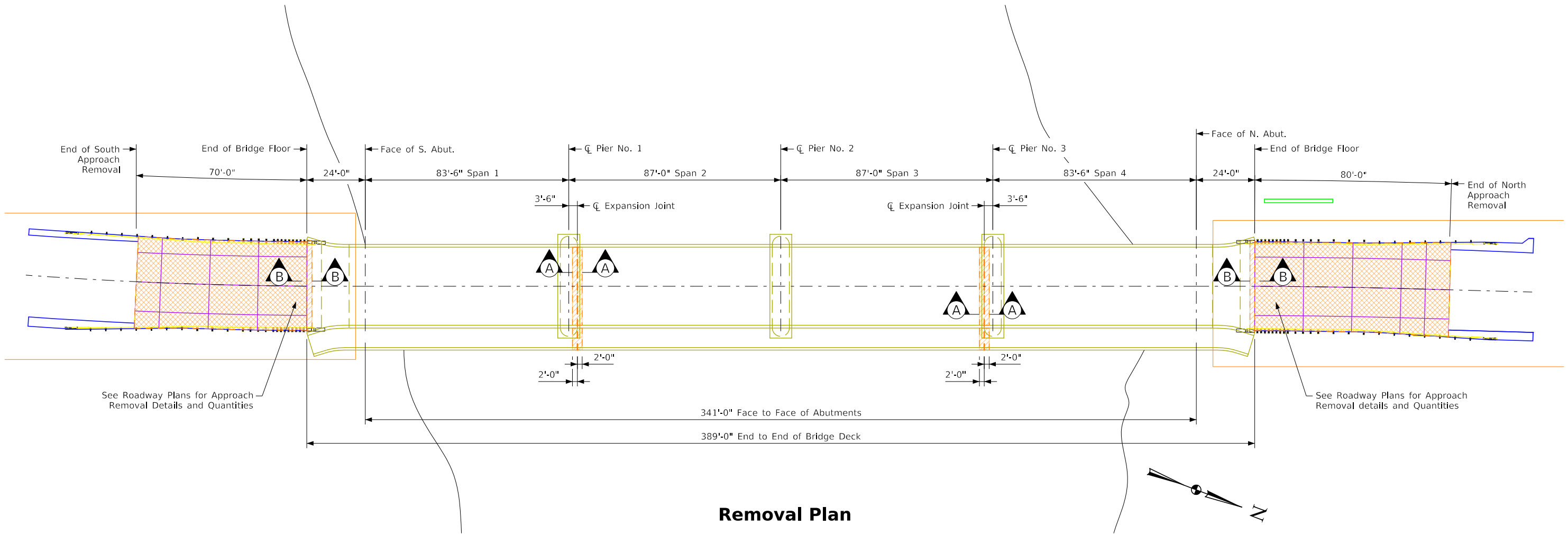
Deck Overlay Details

STA. 87+54.50 (IA 150)	Turn-in Date: Sept 2026
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Buchanan County

IOWA DEPARTMENT OF TRANSPORTATION

Design No. 127 Design Sheet No. 5 of 20 FHWA No. 15950



Removal Plan

Note:
See Design Sheet No. 7 for Section A-A & B-B

* Contractor shall take extra care during removals to not damage existing reinforcement to be re-incorporated into new work. Damage to reinforcement as a result of removal operation shall be replaced at the Contractor's expense.

LEGEND

Removals, As per Plan

Removal of Pavement
(See Roadway Quantities)

Design For Repair To 0° Skew

341'-0"x32' Concrete Arch Bridge
With 8' Sidewalk

83'-6" End Spans87'-0" Interior Spans

Removal Details

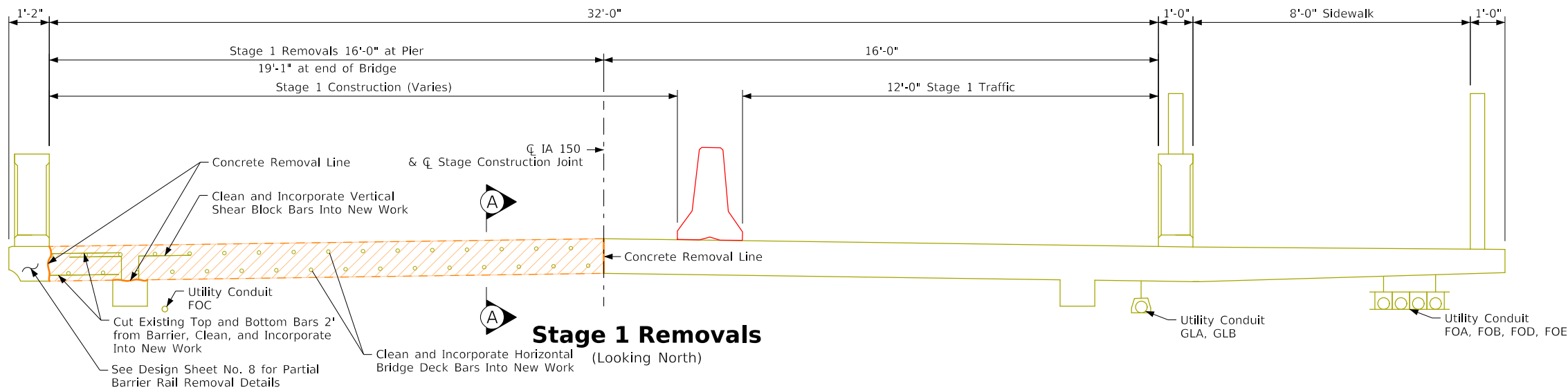
STA. 87+54.50 (IA 150)Turn-In Date: Sept 2026

Buchanan County

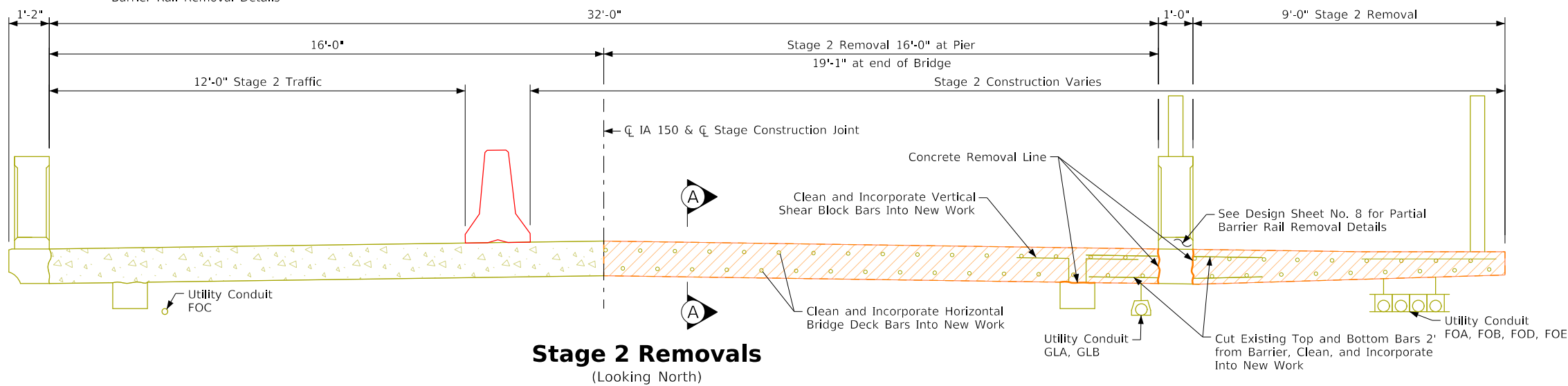
IOWA DEPARTMENT OF TRANSPORTATION

Design No. 127Design Sheet No. 6 of 20FHWA No. 15950

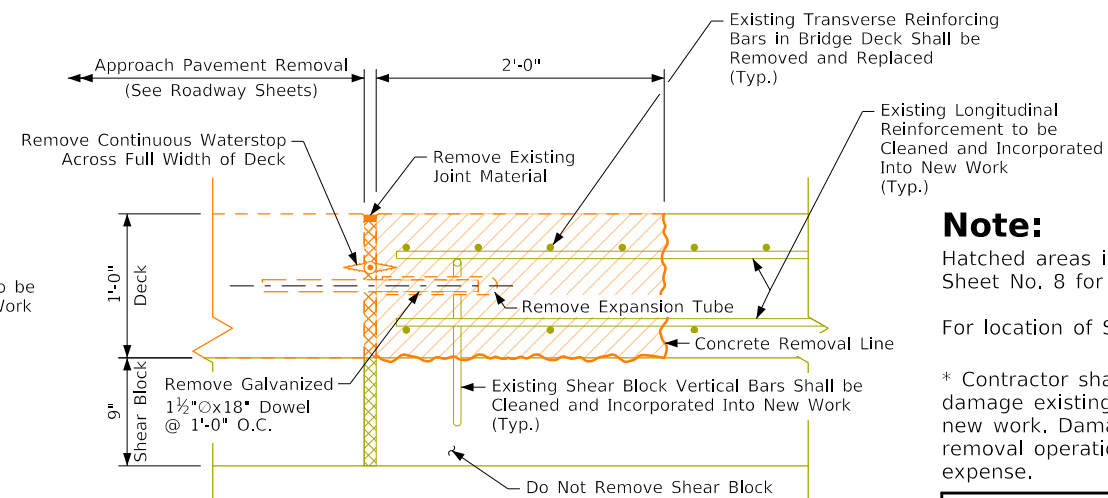
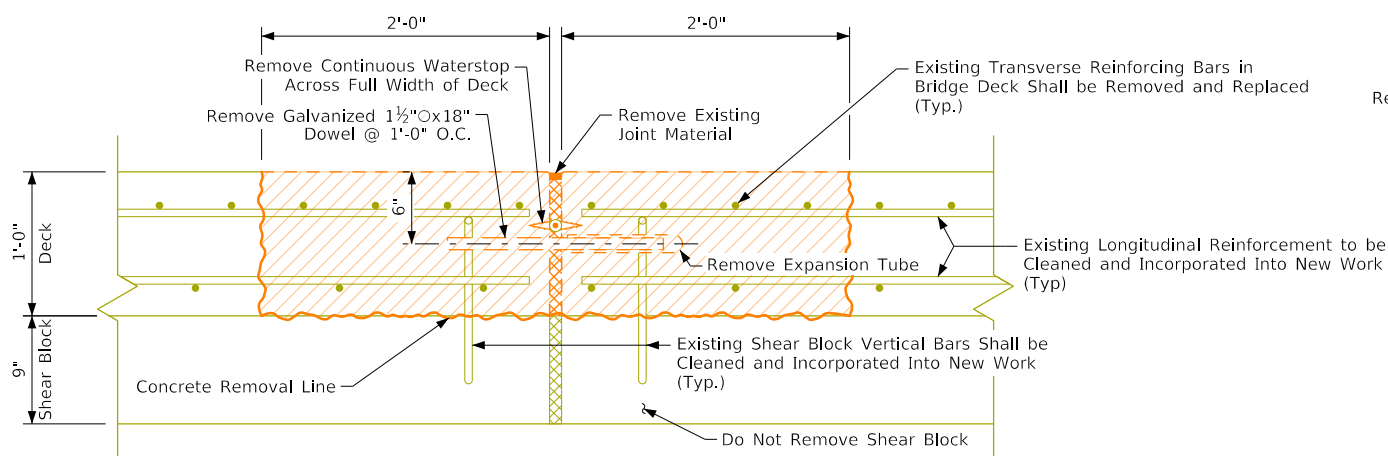




Conduit Under Sidewalk



Conduit Near Expansion Joint



Note:

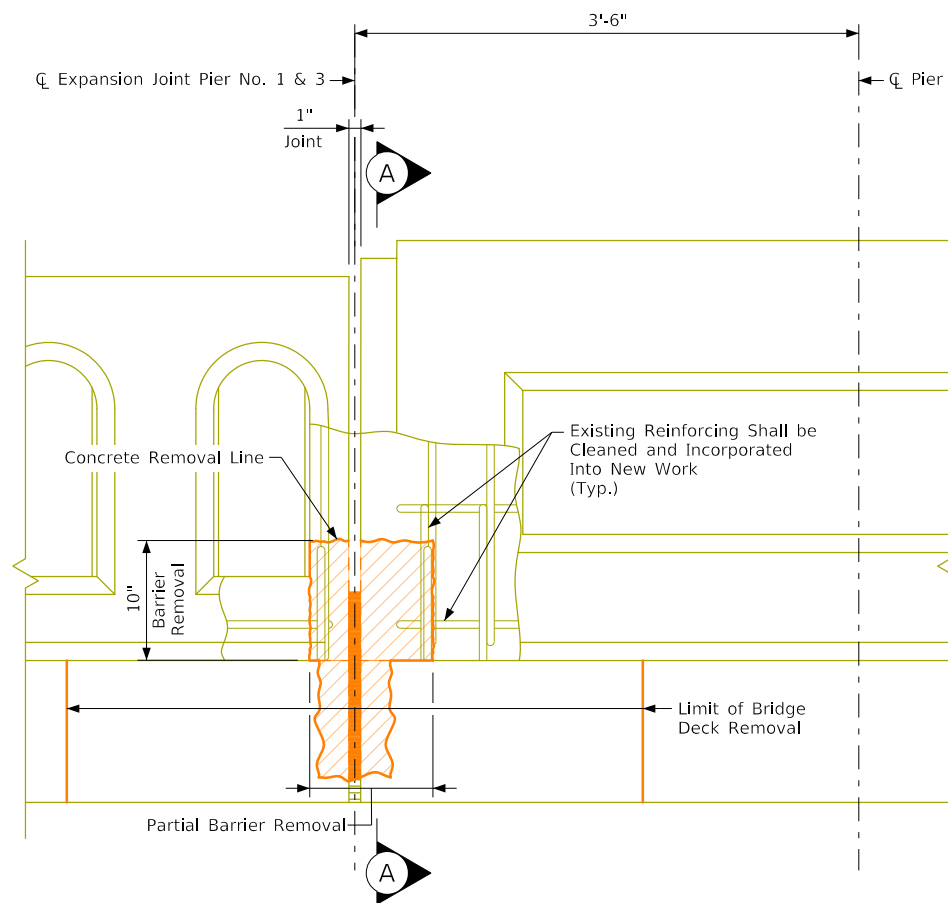
Hatched areas indicate concrete removals. See Design Sheet No. 8 for partial Barrier Rail Removal Details.

For location of Section B-B see Design Sheet No. 6

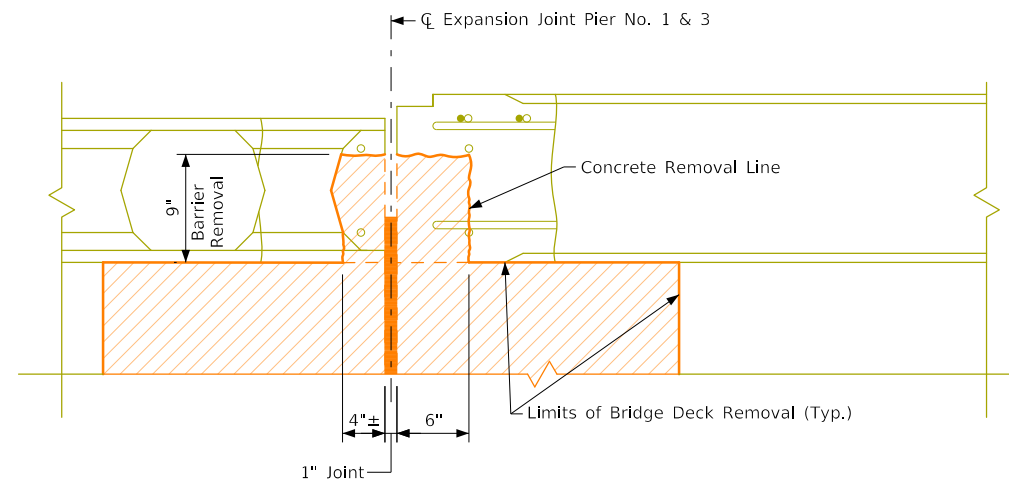
* Contractor shall take extra care during removals to not damage existing reinforcement to be re-incorporated into new work. Damage to reinforcement as a result of removal operation shall be replaced at the Contractor's expense.



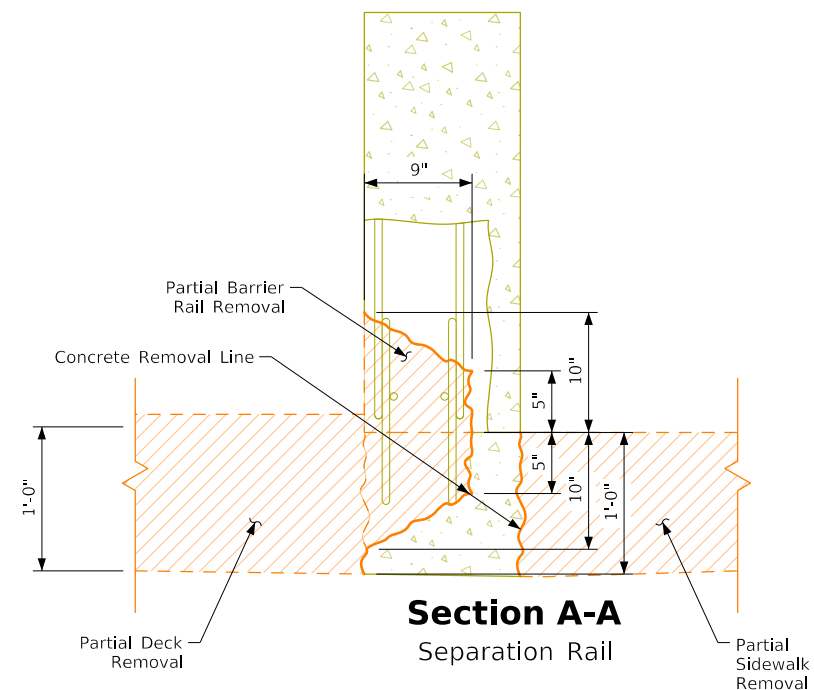
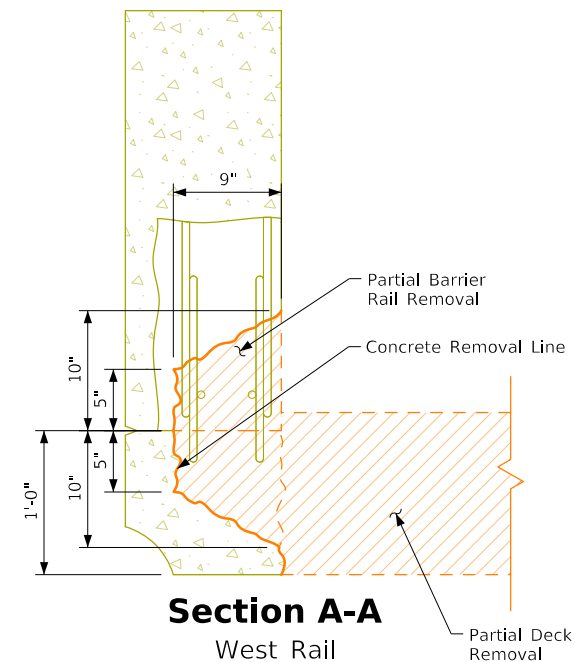
Design For Repair To 0° Skew
341'-0"x32' Concrete Arch Bridge With 8' Sidewalk
83'-6" End Spans 87'-0" Interior Spans
Removal Details - Expansion Joints
STA. 87+54.50 (IA 150) Turn-In Date: Sept 2026
Buchanan County
IOWA DEPARTMENT OF TRANSPORTATION
Design No. 127 Design Sheet No. 7 of 20 FHWA No. 15950



Part Elevation of Barrier Rail Removal
(Typ. at Expansion Joint near Pier No. 1 & 3)



Part Plan View of Barrier Rail Removal
(Typ. at Expansion Joint near Pier No. 1 & 3)



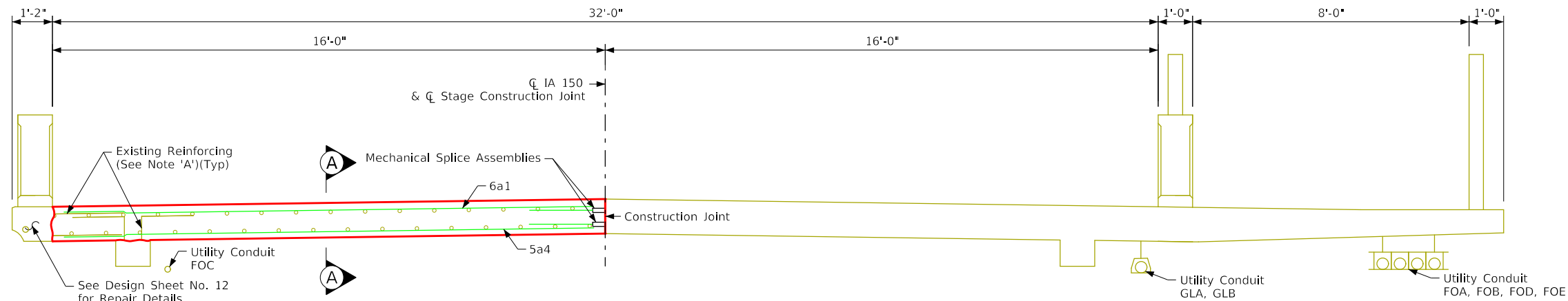
Note:

Hatched areas indicate concrete removals.

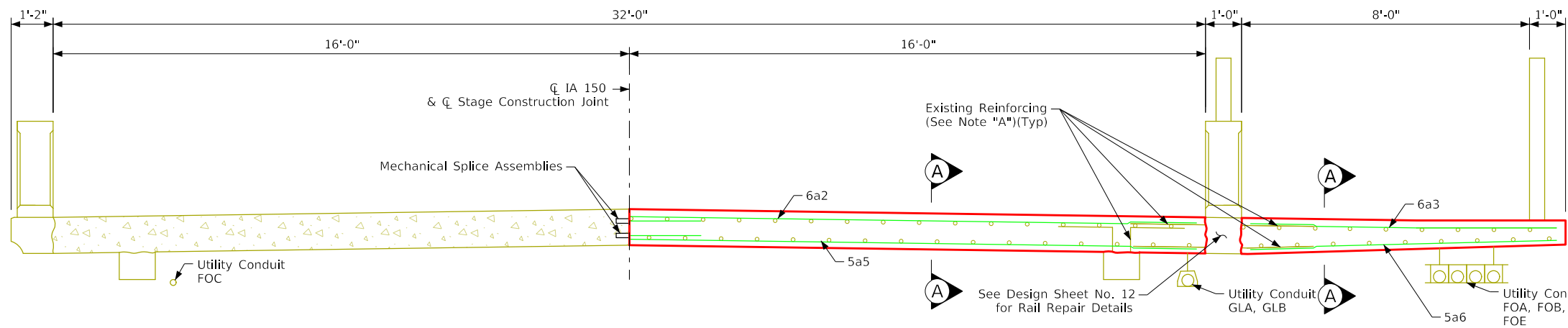
Where the partial barrier removal exposes existing reinforcing, the concrete shall be removed to a minimum of 1" beyond the reinforcing. The existing reinforcing shall be carefully exposed and incorporated into the new construction work.

Design For Repair To 0° Skew	
341'-0"x32' Concrete Arch Bridge	
With 8' Sidewalk	
83'-6" End Spans	87'-0" Interior Spans
Barrier Rail Removal Details	
STA. 87+54.50 (IA 150)	Turn-in Date: Sept 2026
Buchanan County	
IOWA DEPARTMENT OF TRANSPORTATION	
Design No. 127	Design Sheet No. 8 of 20 FHWA No. 15950

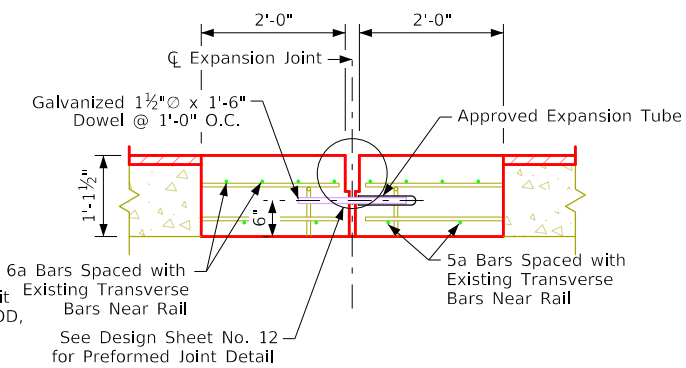




Stage 1 Section at Expansion Joint

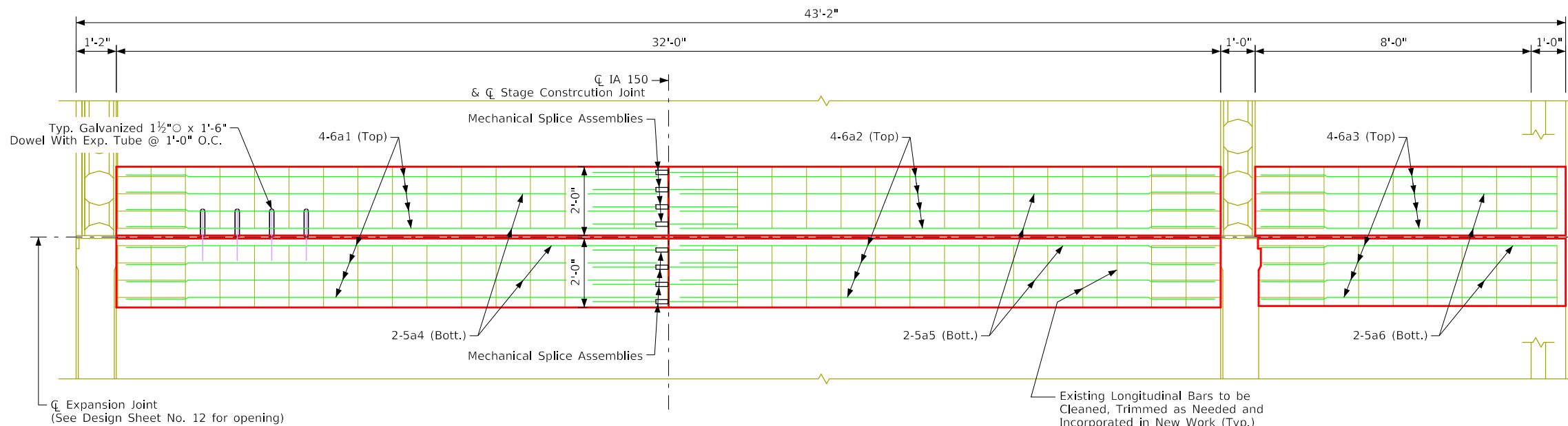


Stage 2 Section at Expansion Joint



Section A-A

The Expansion Tubes shall be in accordance with Article 4191.02, B of the Standard Specification.



Plan View at Expansion Joint

Note 'A':

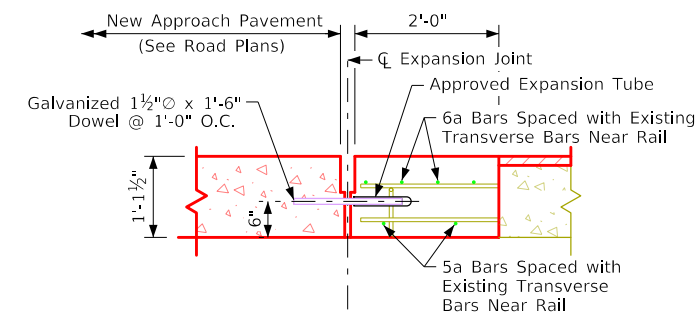
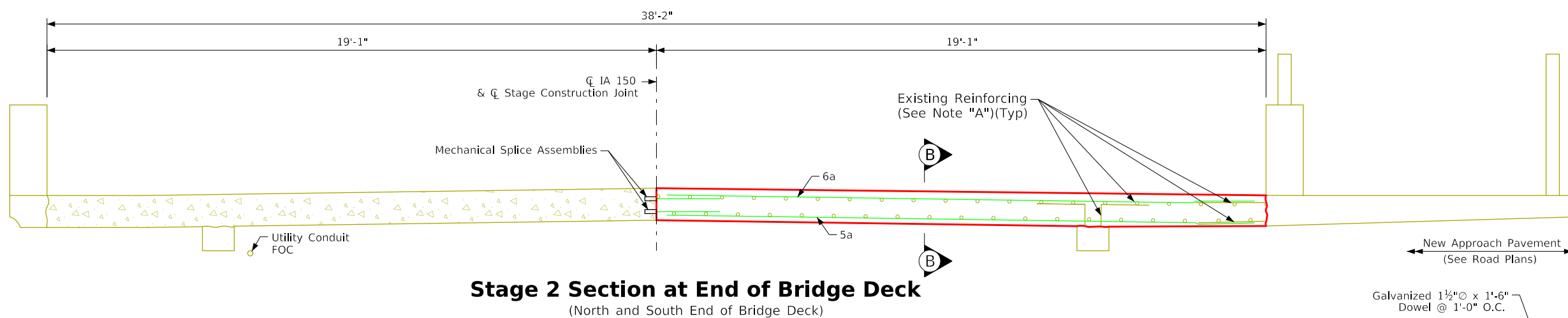
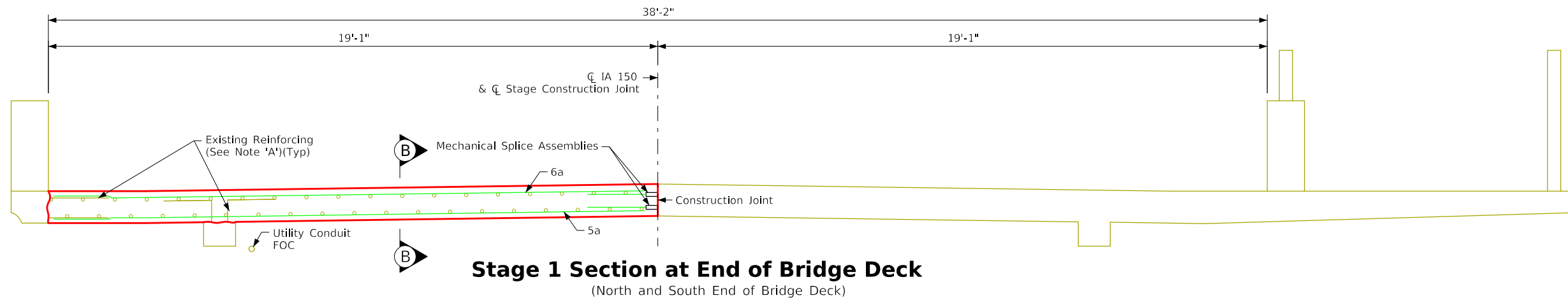
Existing reinforcing bars shall be carefully exposed and incorporated into new work.

Existing #5 and #6 transverse deck bars under barrier rails shall be cut off 2'-0" from barrier.

Existing #5 bent bars extending out of shear blocks and existing #5 longitudinal deck bars shall be cleaned and incorporated into new work.



Design For Repair To 0° Skew	
341'-0"x32' Concrete Arch Bridge	
With 8' Sidewalk	
83'-6" End Spans	87'-0" Interior Spans
Repair Details 1	
STA. 87+54.50 (IA 150)	Turn-In Date: Sept 2026
Buchanan County	
IOWA DEPARTMENT OF TRANSPORTATION	
Design No. 127	Design Sheet No. 9 of 20 FHW No. 15950



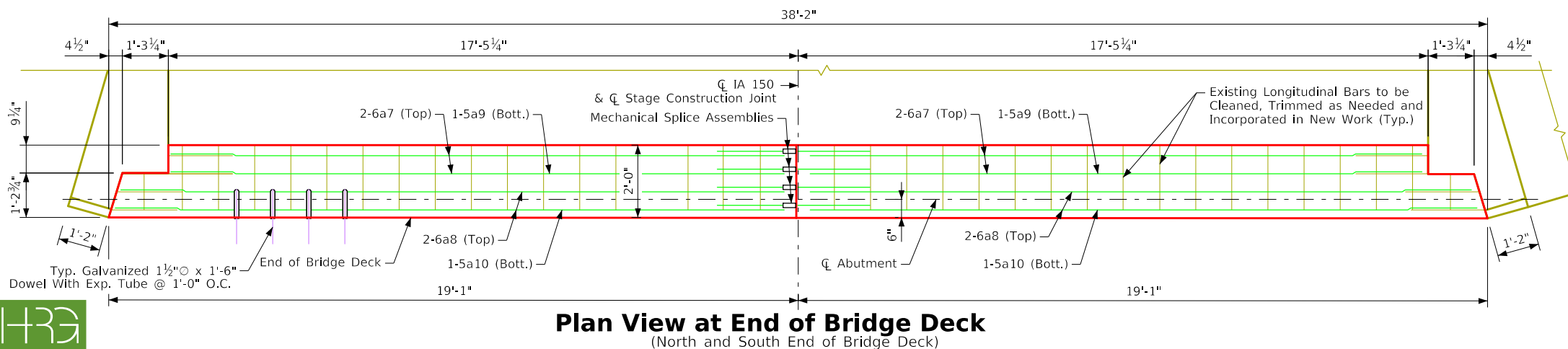
The Expansion Tubes shall be in accordance with Article 4191.02. B of the Standard Specifications.

Note 'A':

Existing reinforcing bars shall be carefully exposed and incorporated into new work.

Existing #5 and #6 transverse deck bars under barrier rails shall be cut off 2'-0" from barrier.

Existing #5 bent bars extending out of shear blocks and existing #5 longitudinal deck bars shall be cleaned and incorporated into new work.



Design For Repair To 0° Skew
341'-0"x32' Concrete Arch Bridge
With 8' Sidewalk

83'-6" End Spans 87'-0" Interior Span

Repair Details 2

STA. 87+54.50 (IA 150) Turn-In Date: Sept 2026

Buchanan County

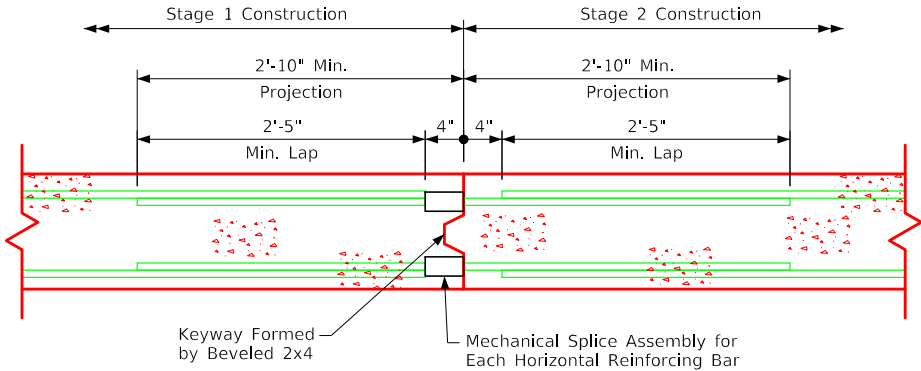
IOWA DEPARTMENT OF TRANSPORTATION

Design No. 127 Design Sheet No. 10 of 20 FHWA No. 15950



Reinforcing Bar List - Expansion Joints

Bar	Location	Shape	No.	Length	Weight
6a1	Slab, Transverse, Top, Stage 1, Pier		16	15'-6"	372
6a2	Slab, Transverse, Top, Stage 2, Pier		16	15'-6"	372
6a3	Sidewalk, Transverse, Top, Stage 2, Pier		16	8'-8"	208
6a7	Slab, Transverse, Top, End, Stage 1&2		4	17'-0"	102
6a8	Slab, Transverse, Top, End, Stage 1&2		4	18'-6"	111
5a4	Slab, Transverse, Bott., Stage 1, Pier		8	15'-6"	129
5a5	Slab, Transverse, Bott., Stage 2, Pier		8	15'-6"	129
5a6	Sidewalk, Transverse, Bott., Stage 2, Pier		8	8'-8"	72
5a9	Slab, Transverse, Bott., End, Stage 1&2		2	17'-0"	35
5a10	Slab, Transverse, Bott., End, Stage 1&2		2	18'-6"	39
Reinforcing Steel - Epoxy Coated, Total (Lbs.)					1,569



Mechanical Splice Detail

Refer to Design Sheet No. 2 for mechanical Splice Assembly Notes

Concrete Placement Quantities

Location	Quantity
Expansion Joint near Pier 1	6.4
Expansion Joint near Pier 3	6.4
Expansion Joint at S End of Bridge Deck	8.2
Expansion Joint at N End of Bridge Deck	8.2
Total (Cu. Yds.)	29.2

Design For Repair To 0° Skew

341'-0"x32' Concrete Arch Bridge

With 8' Sidewalk

83'-6" End Spans87'-0" Interior Spans

Repair Details 3

STA. 87+54.50 (IA 150)Turn-in Date: Sept 2026

Buchanan County

IOWA DEPARTMENT OF TRANSPORTATION

Design No. 127Design Sheet No. 11 of 20FHWA No. 15950



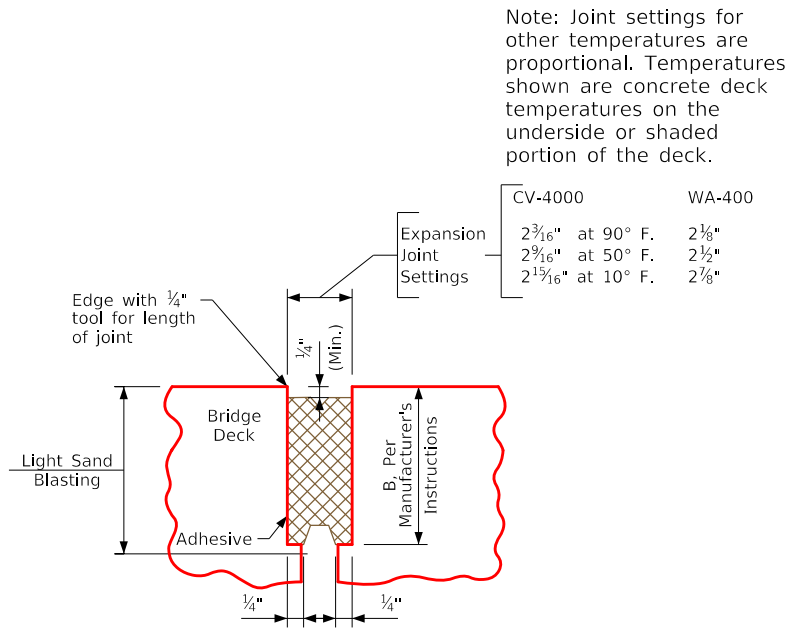
Preformed Neoprene Seal Note:

Preformed neoprene elastic seal compression joints are to be installed near Pier Nos. 1 &3.

The preformed elastic neoprene joint shall be installed in accordance with Article 2412.03, H of the Standard Specifications and in accordance with the manufacturer's written recommendations.

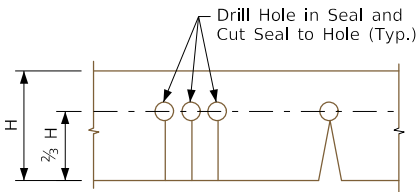
The preformed elastic neoprene joint shall be in accordance with Article 4136.02, C of the Standard Specifications.

The preformed elastic neoprene joint is to be bid on lineal foot basis measured from end to end of the neoprene joint. The number of lineal feet of preformed elastic neoprene joint installed will be paid for at the contract price per lineal foot based on the plan quantities. The contract unit price for "Preformed Elastic Neoprene Joint" shall be full compensation for furnishing and installing the preformed elastic joint in accordance with the details shown on the plans.

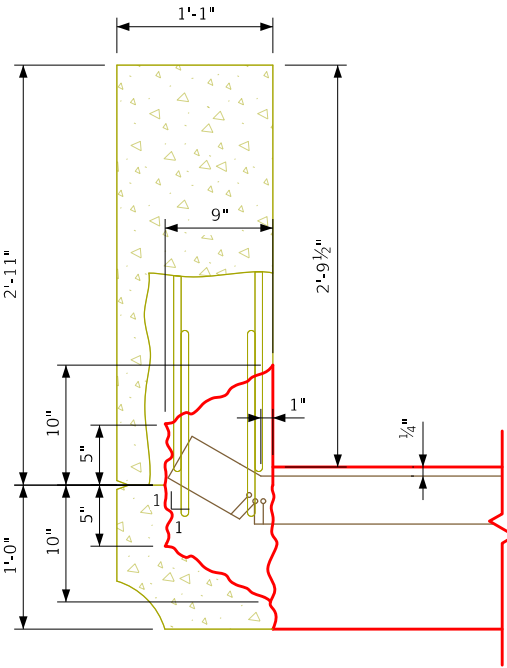


Preformed Joint Detail

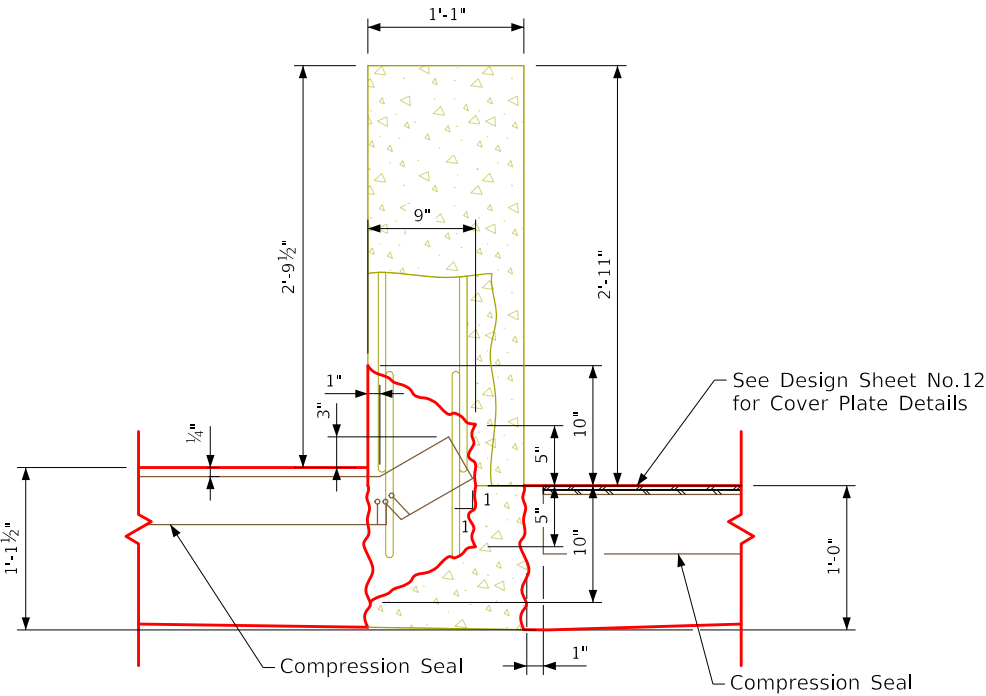
Table of Approved Expansion Devices			
Manufacturer	Compression Seal	Minimum Opening for Gland Installation	Corresponding Maximum Deck Temperature
Watson-Bowman & ACME Corp.	WA-400	2 1/2"	50° F.
D.S. Brown Co.	CV-4000	2 1 1/16"	100° F.
Approved Equal			



Preformed Neoprene Compressive Seal Bend Detail



Section Thru West Rail



Section Thru Separation Rail

Design For Repair To 0° Skew

341'-0"x32' Concrete Arch Bridge

With 8' Sidewalk

83'-6" End Spans87'-0" Interior Spans

Expansion Joint Details

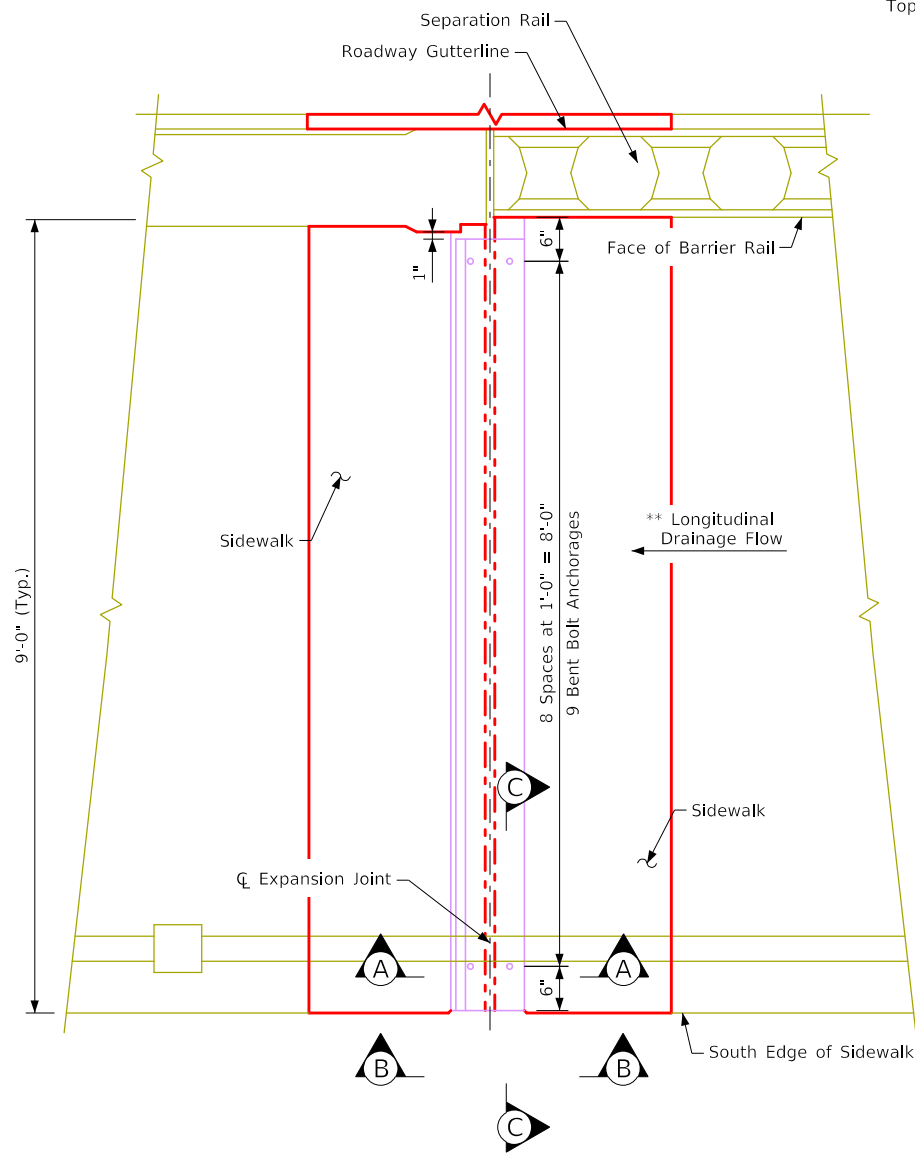
STA. 87+54.50 (IA 150)Turn-In Date: Sept 2026

Buchanan County

IOWA DEPARTMENT OF TRANSPORTATION

Design No. 127Design Sheet No. 12 of 20FHWA No. 15950



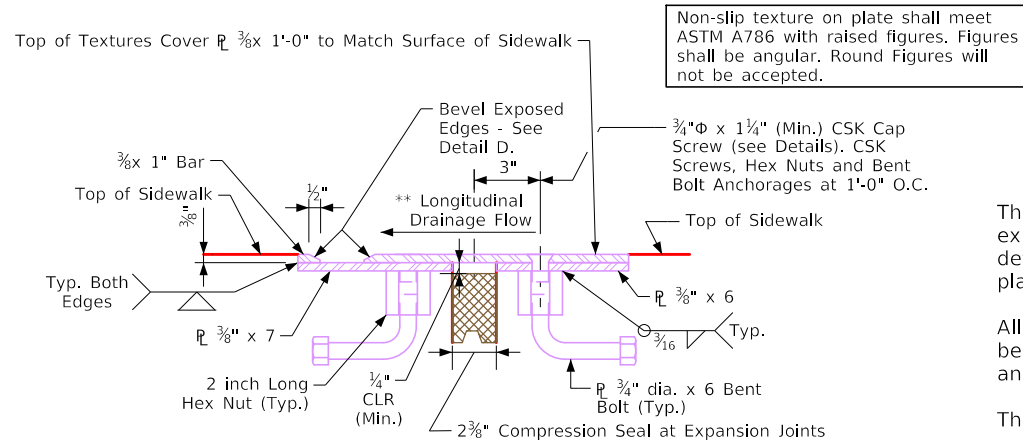


Part Plan at Sidewalk Expansion Joint

Top of sidewalk shown
(Plate at joint near Pier 1 shown; plate near Pier 3 similar)

Cover Plate Note:

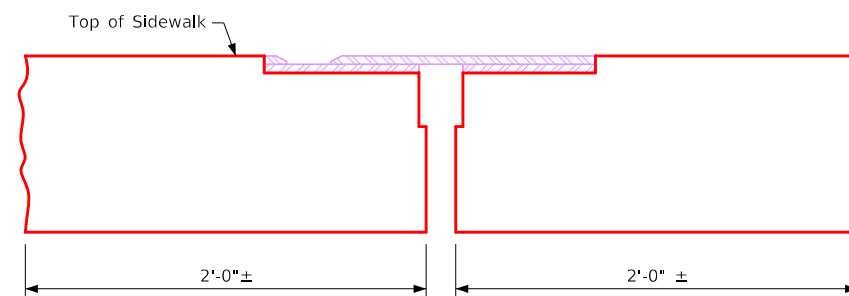
The material used for the cover plate assembly is to be ASTM A36 Steel. The bolts shall meet the requirements of ASTM A307. The plates, bolts, nuts and cap screws are to be galvanized in accordance with Article 4100.07 of the Standard Specifications.



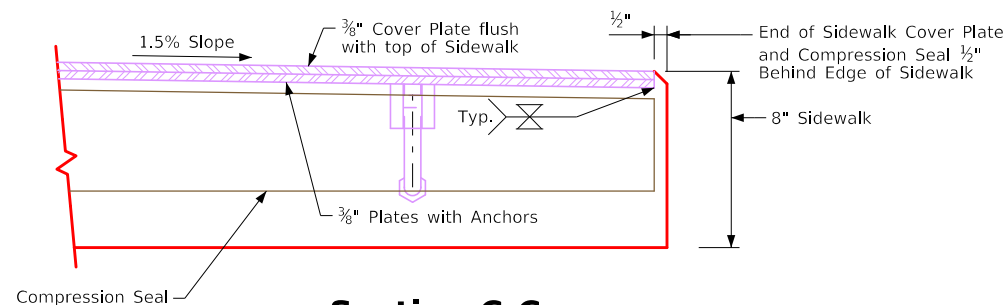
Section A-A

Contractor shall take appropriate care to anchor plates in concrete to achieve flush surface between cover plate and sidewalk surface.

** Pier 1 top cover plate is on North side of joint.
Pier 3 top cover plate is on South side of joint.



Section B-B



Section C-C

Steel Sidewalk Expansion Joint Cover Plate Notes:

The contractor shall submit for approval shop drawings of the sidewalk expansion joint cover plate assembly showing layout, anchorage details, material to be used, and provisions for the holding device during placement of concrete.

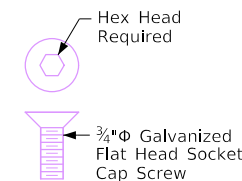
All components of the sidewalk expansion joint cover plate assembly shall be galvanized after welding. All sidewalk cover plates including their anchorage shall be galvanized.

The cover plate assembly is to be parallel to grade.

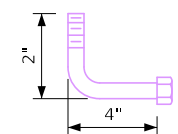
Cap screws shall be countersunk 1/16" below top of the plate. the minimum grade of structural steel for the cover plate assembly shall be ASTM A36.

Shop or field splices of the cover plate assembly will not be permitted.

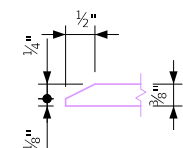
The number of feet of "Steel Sidewalk Expansion Joint Cover Plate" installed shall be paid for at the contract price per foot based on plan quantities. The contract price bid for "Steel Sidewalk Expansion Joint Cover Plate" shall be full compensation for furnishing and installing steel cover plate assemblies. This work will consist of furnishing all required materials, (including the 3/8" plates and their anchorage systems), and the installation and adjustment of the cover plate assemblies 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 are to be included in this work, including the anchorage system and any temporary erection material.



Cap Screw Detail



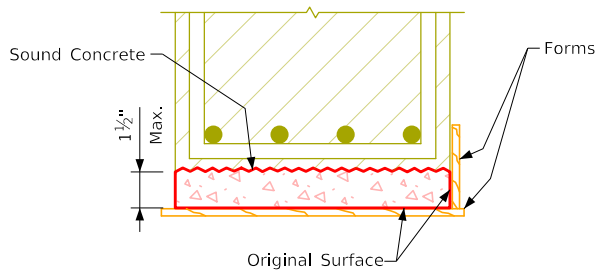
Bent Bolt Detail



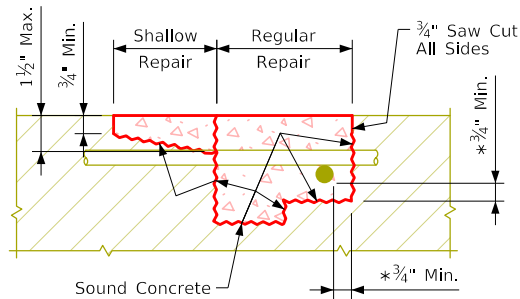
Detail D

Design For Repair To 0° Skew
341'-0"x32' Concrete Arch Bridge
With 8' Sidewalk
83'-6" End Spans 87'-0" Interior Spans
Sidewalk Cover Plate Details
STA. 87+54.50 (IA 150) Turn-In Date: Sept 2026
Buchanan County
IOWA DEPARTMENT OF TRANSPORTATION
Design No. 127 Design Sheet No. 13 of 20 FHWA No. 15950



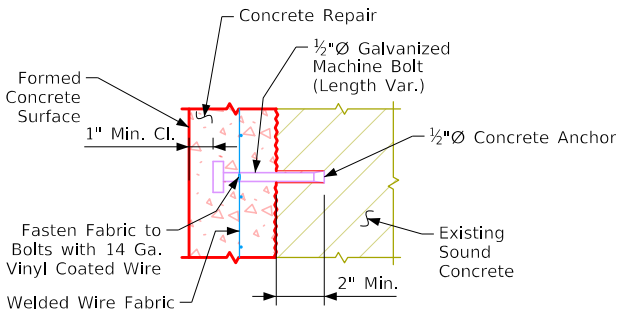


Shallow Repair Bottom Surface



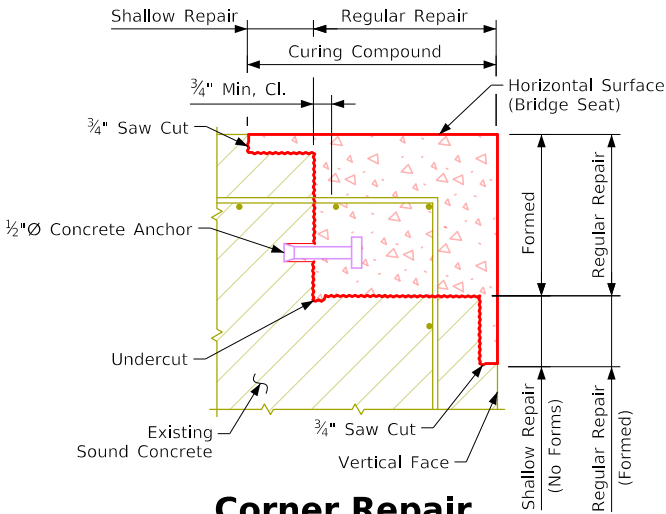
Repair Definition

* Indicates Clearance for an Un-Bonded Rebar.

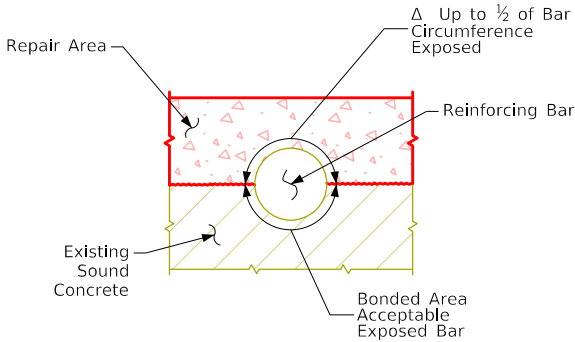


Anchor Detail

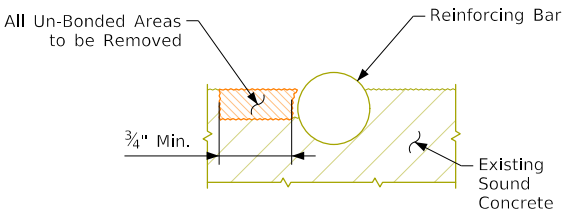
For Spacing and Use of Concrete Anchors and WWF See the Repair Notes.



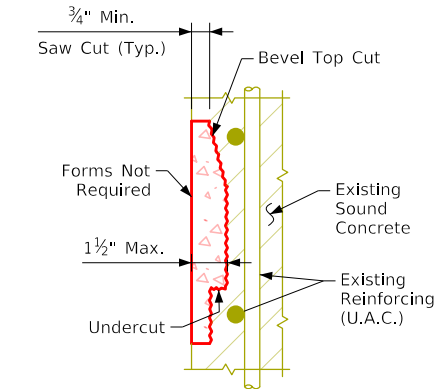
Corner Repair



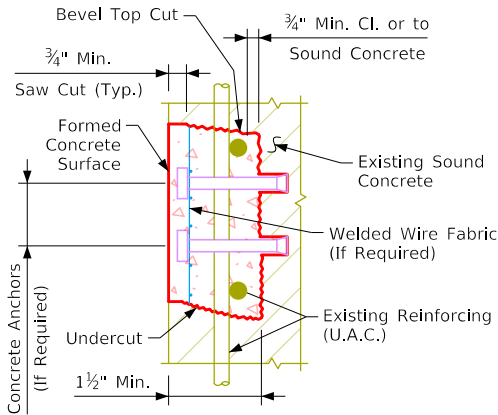
Δ If more than 1/2 of the rebar is exposed it shall be treated as an un-bonded rebar.



Concrete Removal Adjacent to Reinforcing



Shallow Repair Vertical Face



Regular Repair Vertical Face

Repair Notes:

- The spalled and hollow areas of this bridge as noted and shown in these plans shall be repaired as follows:
- All the costs of equipment and materials required to repair the spalled and hollow areas of this bridge shall be included in the price bid for "Concrete Repair".
 - The price bid for "Concrete Repair" shall include the cost of all concrete anchors and welded wire fabric required by the plans.
 - The Engineer shall determine and outline by visual and audible inspection the actual areas of the concrete repairs. The Contractor shall be paid for the actual amount of repairs made on a square foot basis based on the price bid per square foot.
 - All existing reinforcing bars that are exposed by the concrete removal shall be cleaned and carefully incorporated into the new work, except badly deteriorated existing reinforcing which shall be replaced as directed by the Engineer.
 - The concrete anchors required shall have a minimum pull out of 5,000 lbs based on 4,000 psi concrete. An anchor meeting the requirements of Iowa D.O.T. Materials I.M. 453.09 and the pull out load above is required. The anchors shall be galvanized and shall be installed according to recommendations of the Manufacturer. The cost of furnishing and installing the concrete anchors shall be included in the price bid for "Concrete Repair".
 - The welded wire fabric shall be ASTM A185 and galvanized as per ASTM A-641. The WWF wires shall be spaced 3x3 or 4x4 and the wires shall have a nominal area of 0.014 to 0.029 square inch inclusive, example "WWF 3x3 - W1.4xW2.9".
- Where reinforcement has been exposed and clearance around the periphery of the existing bar is provided, no supplemental reinforcing is required, except where existing reinforcement density and pattern are such that individual open spaces between bars are of 1.5 square feet or larger. For this condition 1/2"Ø concrete anchors and welded wire fabric shall be installed at the rate of one concrete anchor with WWF per each 1.5 square feet of area within each open space.
- Repairing the structural concrete shall be in accordance with Section 2426 of the Standard Specifications.

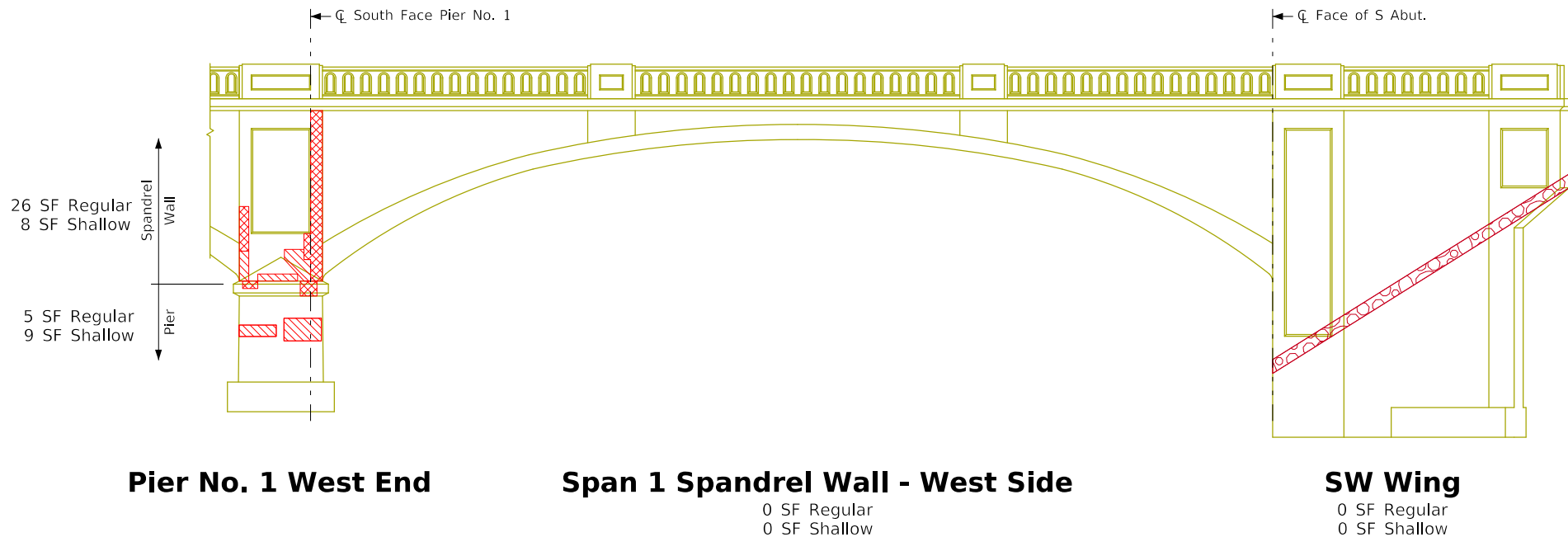
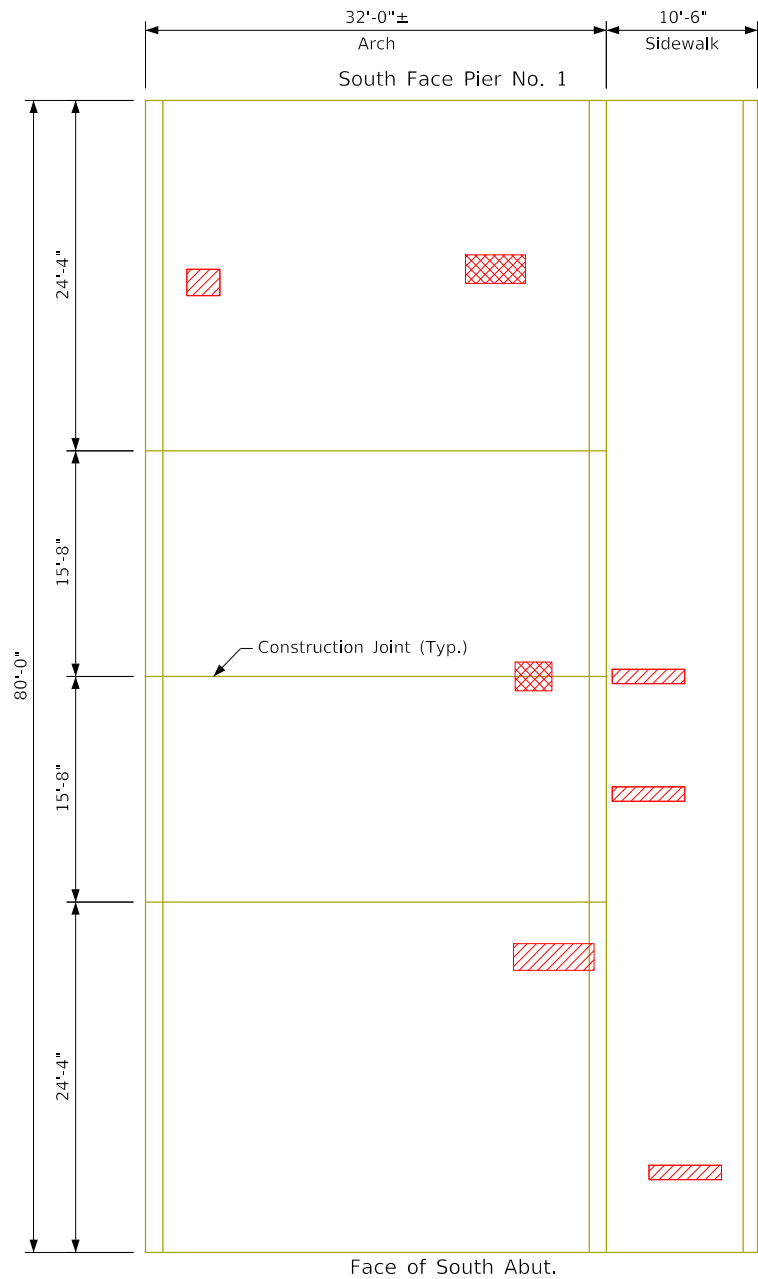
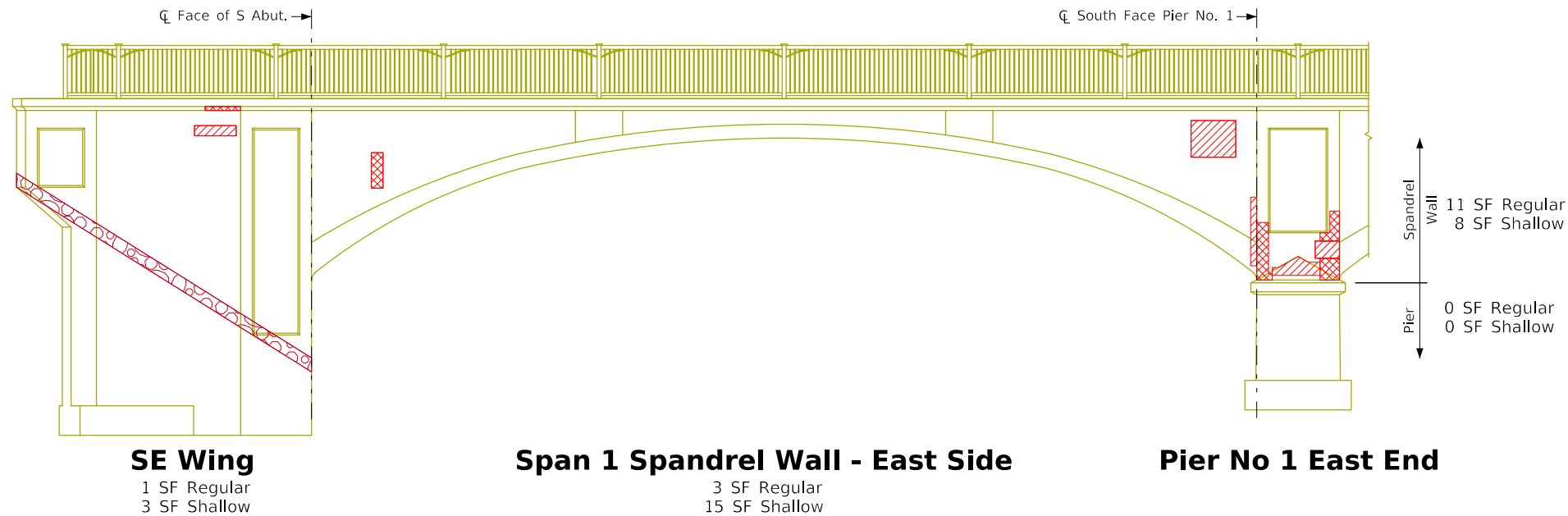
Concrete Placement Quantities

Mark	Type	Units	Quantity
	Shallow Repair	Sq. Ft.	155
	Regular Repair	Sq. Ft.	181
		Total (Sq. Ft.)	336

Estimated Concrete Repair Quantities

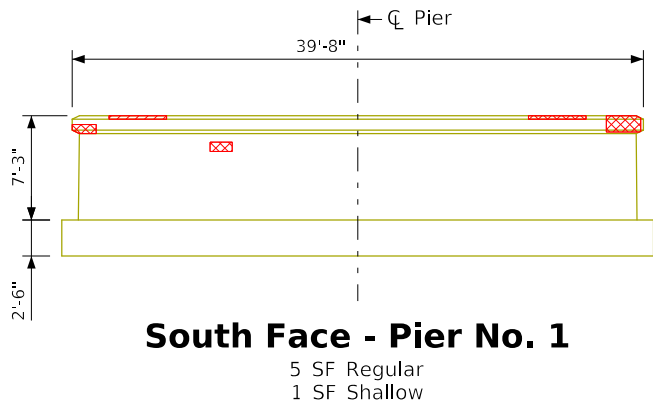
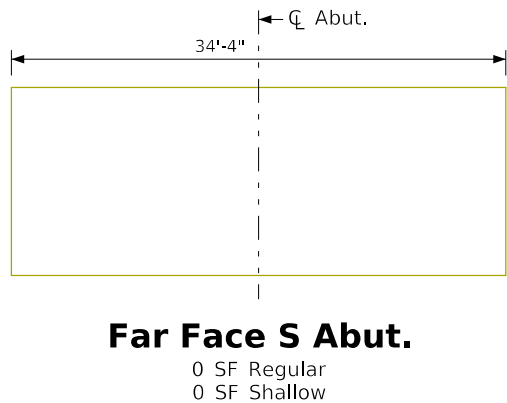
Description	Units	Amount
Concrete Repair	Sq. Ft.	336

Design For Repair To 0° Skew
341'-0"x32' Concrete Arch Bridge
With 8' Sidewalk
83'-6" End Spans 87'-0" Interior Spans
Typical Concrete Repair Details
STA. 87+54.50 (IA 150) Turn-In Date: Sept 2026
Buchanan County
IOWA DEPARTMENT OF TRANSPORTATION
Design No. 127 Design Sheet No. 14 of 20 FHWA No. 15950



Concrete Repair Quantities		
Type	Units	Quantity
Shallow Repair	Sq. Ft.	73
Regular Repair	Sq. Ft.	64
Subtotal Span No. 1	Sq. Ft.	137

Bottom of Span No. 1
13 SF Regular
29 SF Shallow



LEGEND

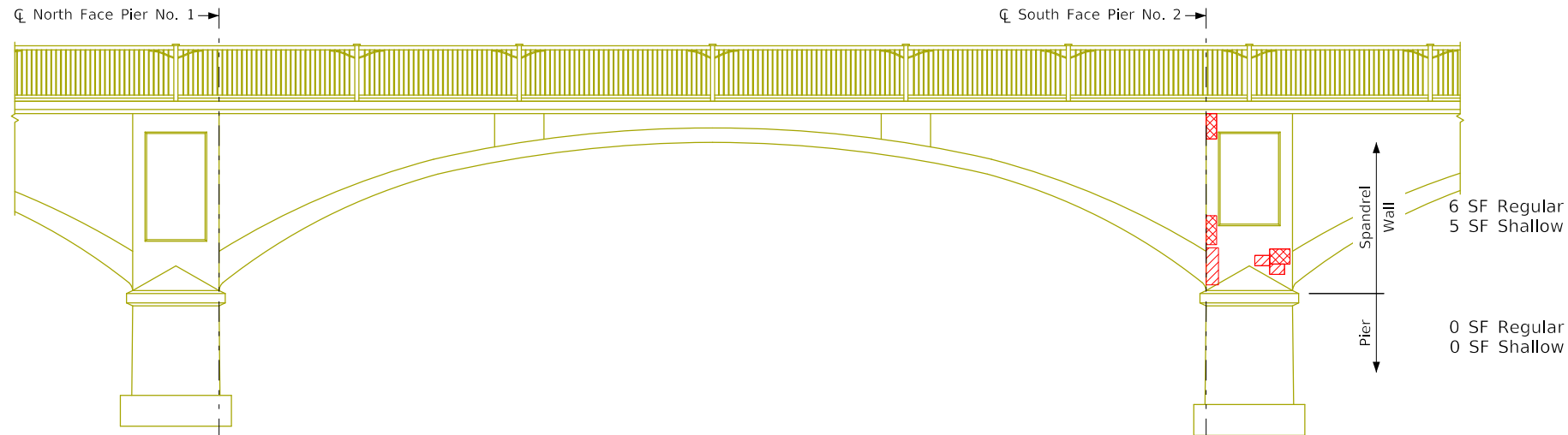
 Indicates shallow repair

 Indicates regular repair

Note:
All repair locations and quantities are approximate. Actual repair areas are to be determined at the time of construction.

Design For Repair To 0° Skew
341'-0"x32' Concrete Arch Bridge
With 8' Sidewalk
83'-6" End Spans 87'-0" Interior Spans
Concrete Repairs - Span #1
STA. 87+54.50 (IA 150) Turn-in Date: Sept 2026
Buchanan County
IOWA DEPARTMENT OF TRANSPORTATION
Design No. 127 Design Sheet No. 15 of 20 FHWA No. 15950

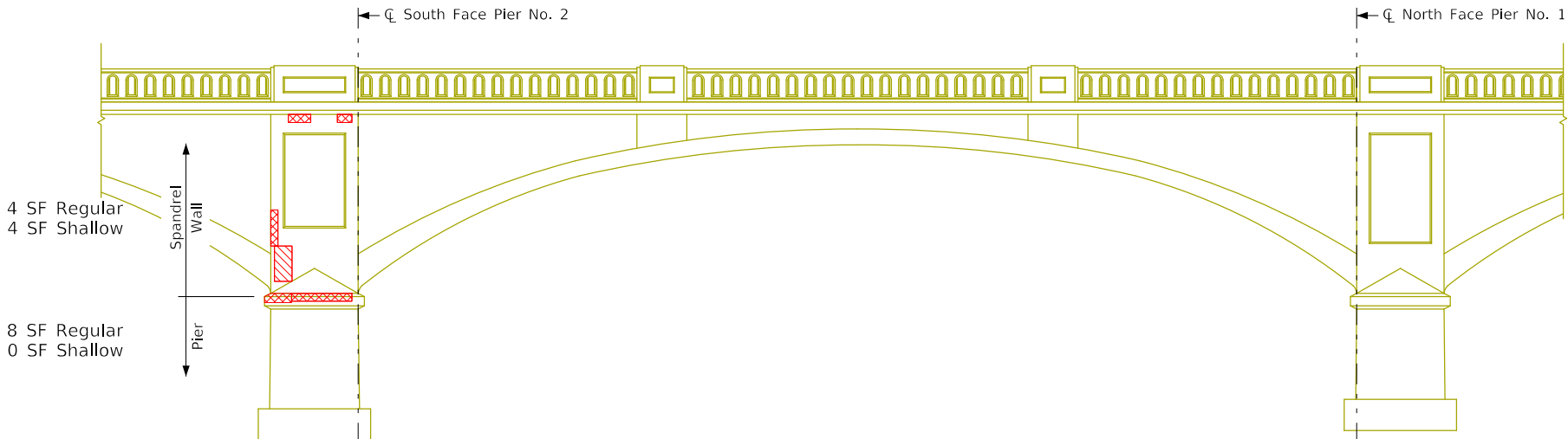




Pier No 1 East End
See Design Sheet No. 15

Span 2 Spandrel Wall - East Side
0 SF Regular
0 SF Shallow

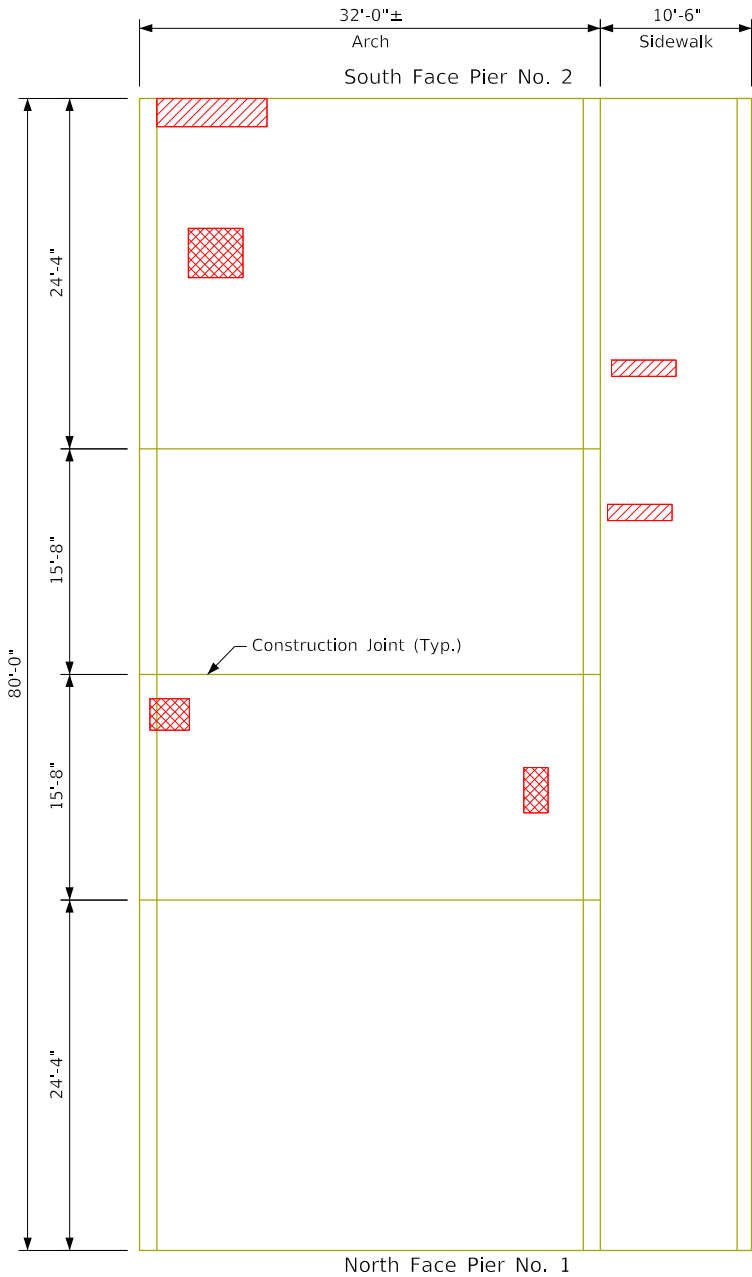
Pier No 2 East End



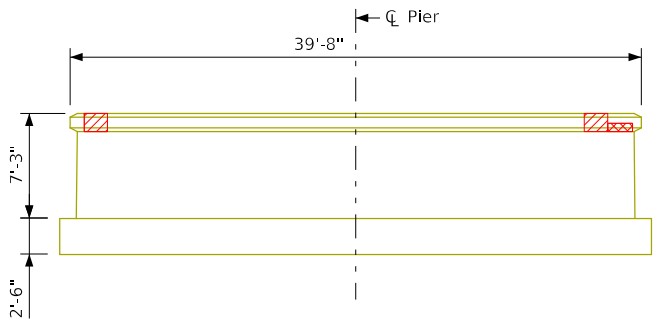
Pier No 2 West End

Span 2 Spandrel Wall - West Side
0 SF Regular
0 SF Shallow

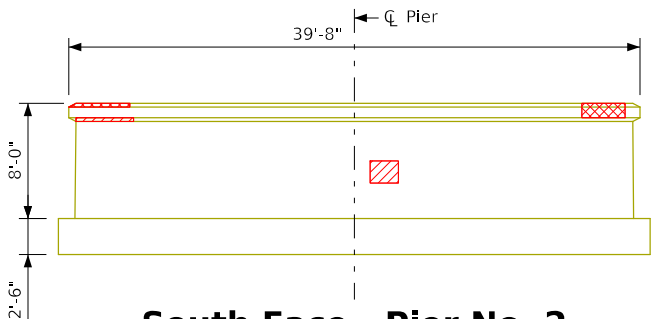
Pier No 1 West End
See Design Sheet No. 15



Bottom of Span No. 2
20 SF Regular
20 SF Shallow



North Face - Pier No. 1
1 SF Regular
4 SF Shallow



South Face - Pier No. 2
4 SF Regular
4 SF Shallow

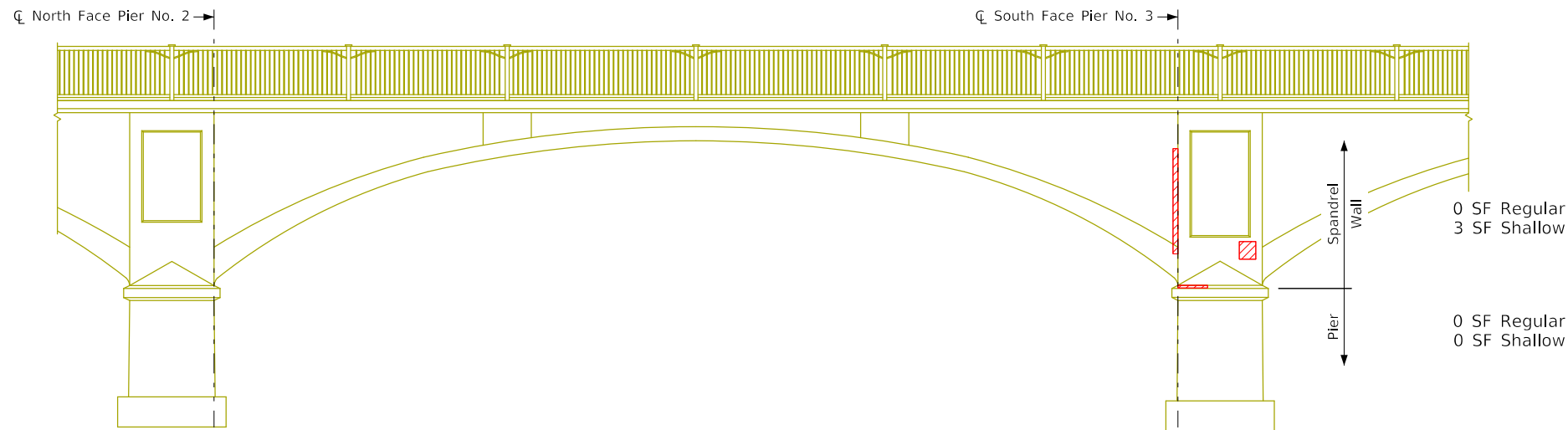
Concrete Repair Quantities		
Type	Units	Quantity
Shallow Repair	Sq. Ft.	37
Regular Repair	Sq. Ft.	43
Subtotal Span No. 2	Sq. Ft.	80

LEGEND	
	Indicates shallow repair
	Indicates regular repair

Note:
All repair locations and quantities are approximate. Actual repair areas are to be determined at the time of construction.

Design For Repair To 0° Skew
341'-0"x32' Concrete Arch Bridge
With 8' Sidewalk
83'-6" End Spans 87'-0" Interior Spans
Concrete Repairs - Span #2
STA. 87+54.50 (IA 150) Turn-in Date: Sept 2026
Buchanan County
IOWA DEPARTMENT OF TRANSPORTATION
Design No. 127 Design Sheet No. 16 of 20 FHWA No. 15950

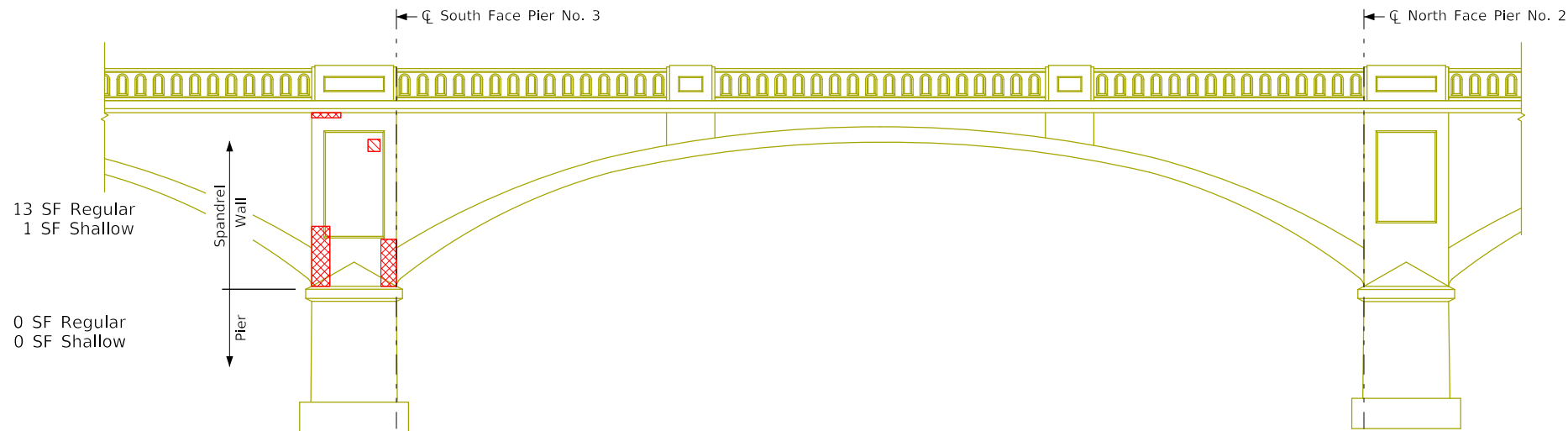




Pier No 2 East End
See Design Sheet No. 16

Span 3 Spandrel Wall - East Side
0 SF Regular
4 SF Shallow

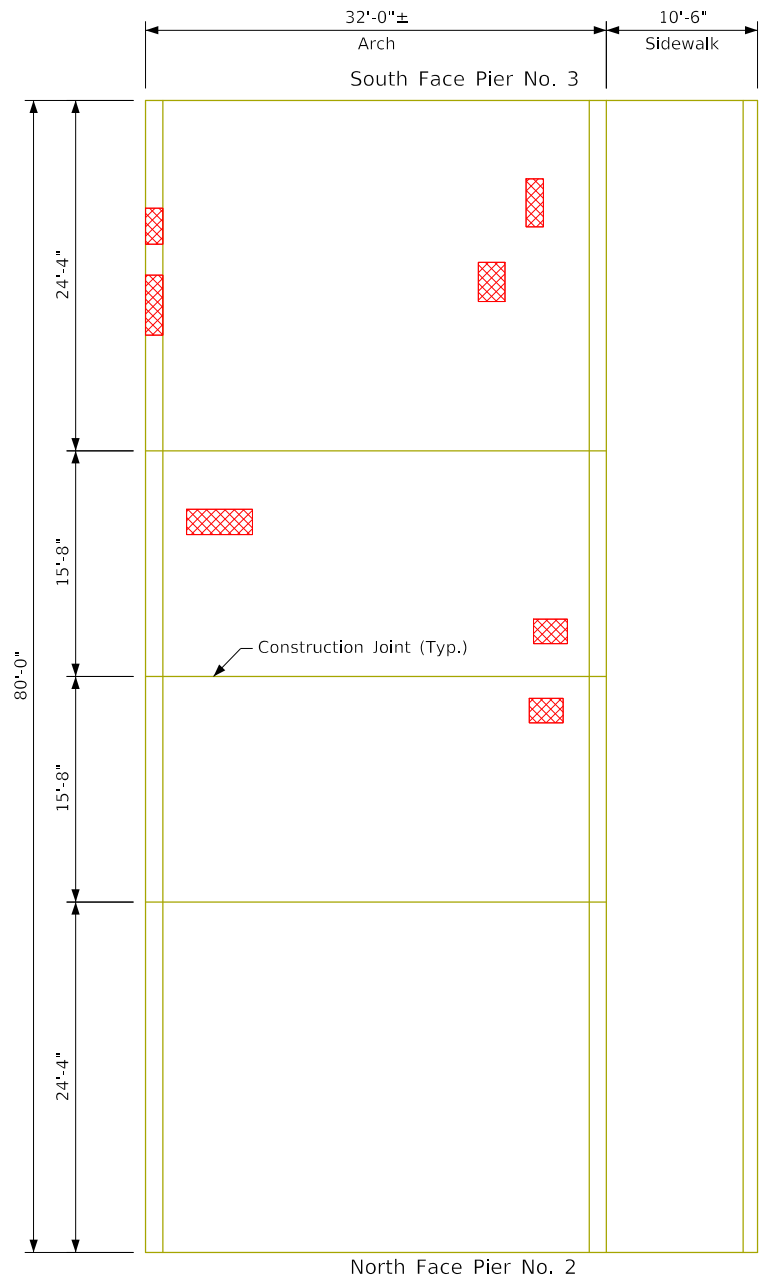
Pier No 3 East End



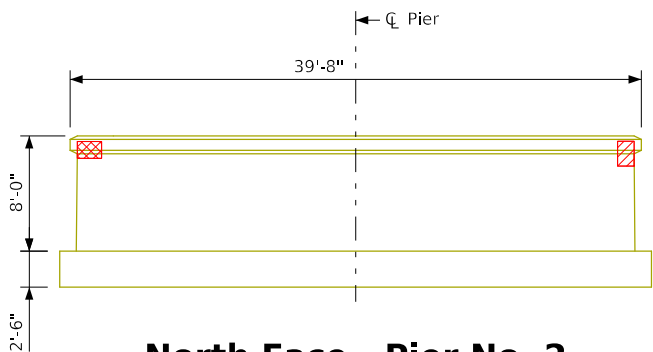
Pier No 3 West End

Span 3 Spandrel Wall - West Side
0 SF Regular
0 SF Shallow

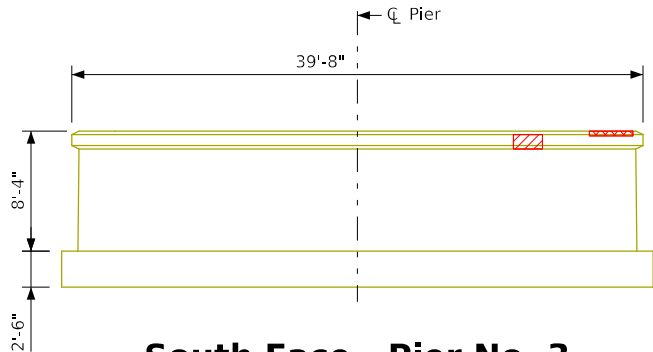
Pier No 2 West End
See Design Sheet No. 16



Bottom of Span No. 3
33 SF Regular
0 SF Shallow



North Face - Pier No. 2
2 SF Regular
2 SF Shallow



South Face - Pier No. 3
2 SF Regular
2 SF Shallow

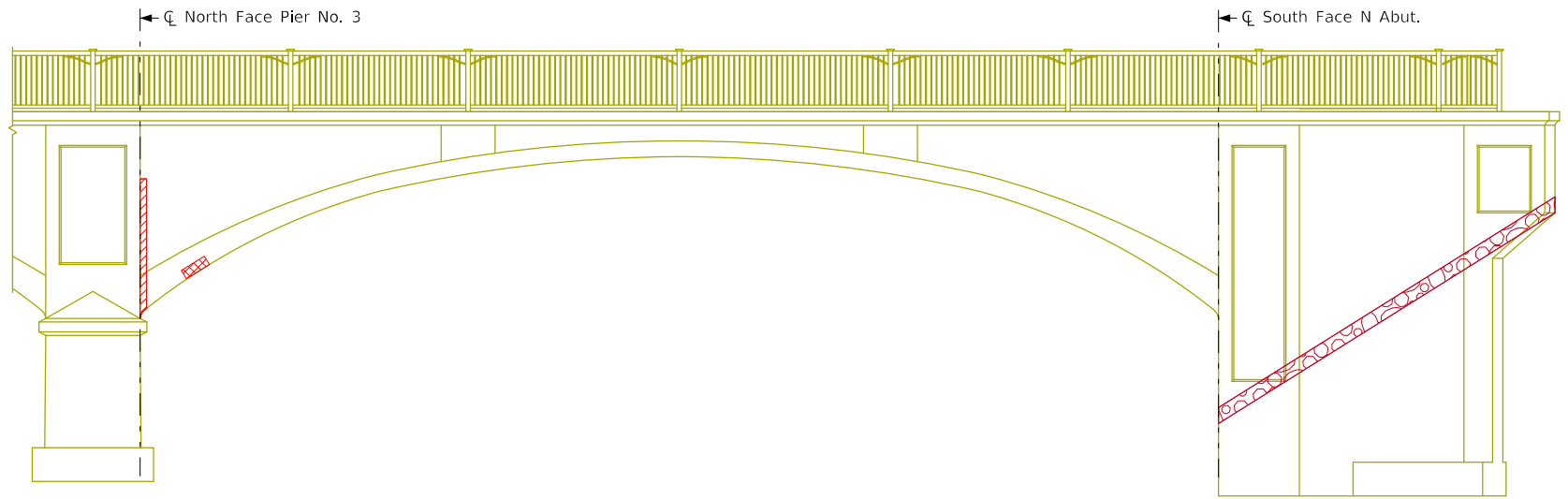
Concrete Repair Quantities		
Type	Units	Quantity
Shallow Repair	Sq. Ft.	12
Regular Repair	Sq. Ft.	50
Subtotal Span No. 3	Sq. Ft.	62

LEGEND	
	Indicates shallow repair
	Indicates regular repair

Note:
All repair locations and quantities are approximate. Actual repair areas are to be determined at the time of construction.

Design For Repair To 0° Skew
341'-0"x32' Concrete Arch Bridge
With 8' Sidewalk
83'-6" End Spans 87'-0" Interior Spans
Concrete Repairs - Span #3
STA. 87+54.50 (IA 150) Turn-in Date: Sept 2026
Buchanan County
IOWA DEPARTMENT OF TRANSPORTATION
Design No. 127 Design Sheet No. 17 of 20 FHWA No. 15950

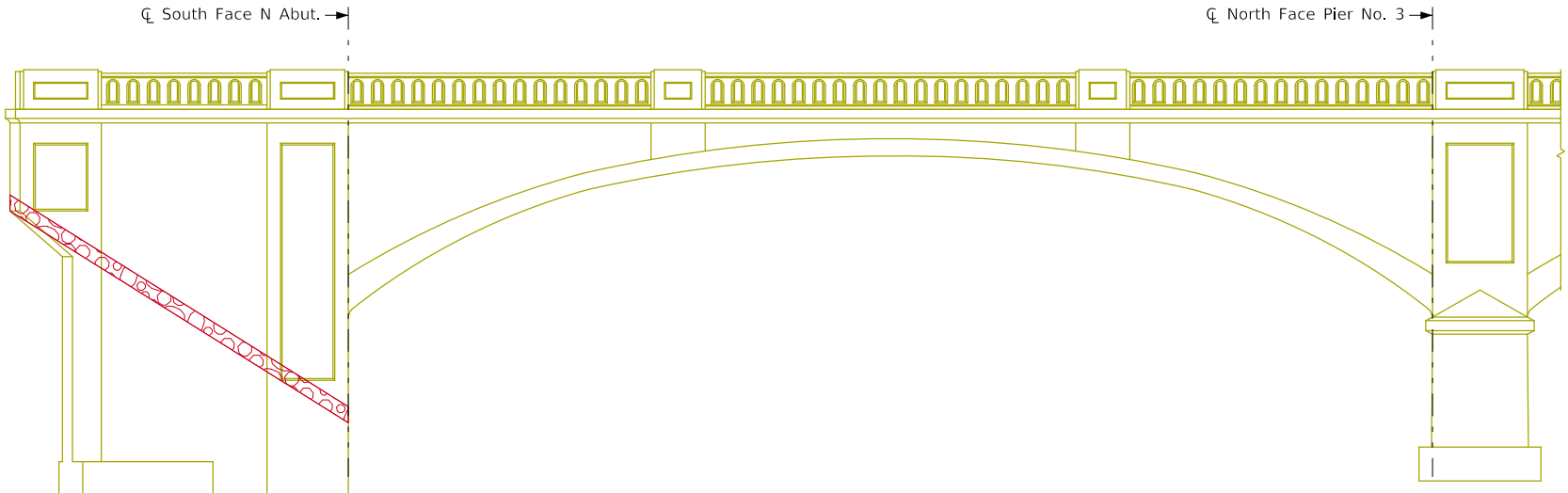




Pier No 3 East End
See Design Sheet No. 17

Span 4 Spandrel Wall - East Side
2 SF Regular
5 SF Shallow

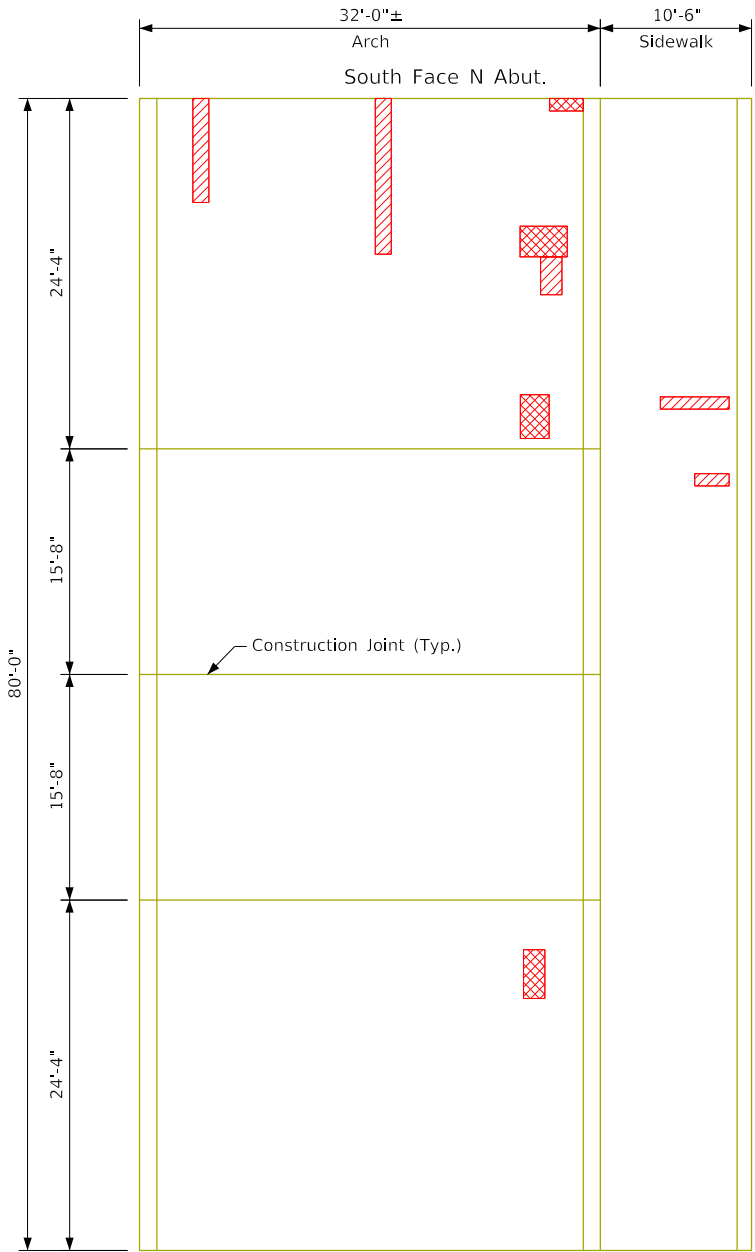
NE Wing
0 SF Regular
0 SF Shallow



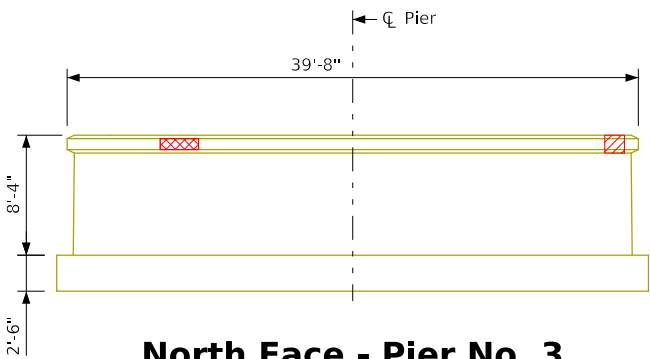
NW Wing
0 SF Regular
0 SF Shallow

Span 4 Spandrel Wall - West Side
0 SF Regular
0 SF Shallow

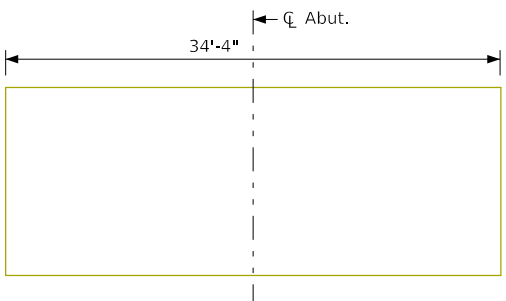
Pier No 3 West End
See Design Sheet No. 17



Bottom of Span No. 4
20 SF Regular
26 SF Shallow



North Face - Pier No. 3
2 SF Regular
2 SF Shallow



Near Face N Abut.
0 SF Regular
0 SF Shallow

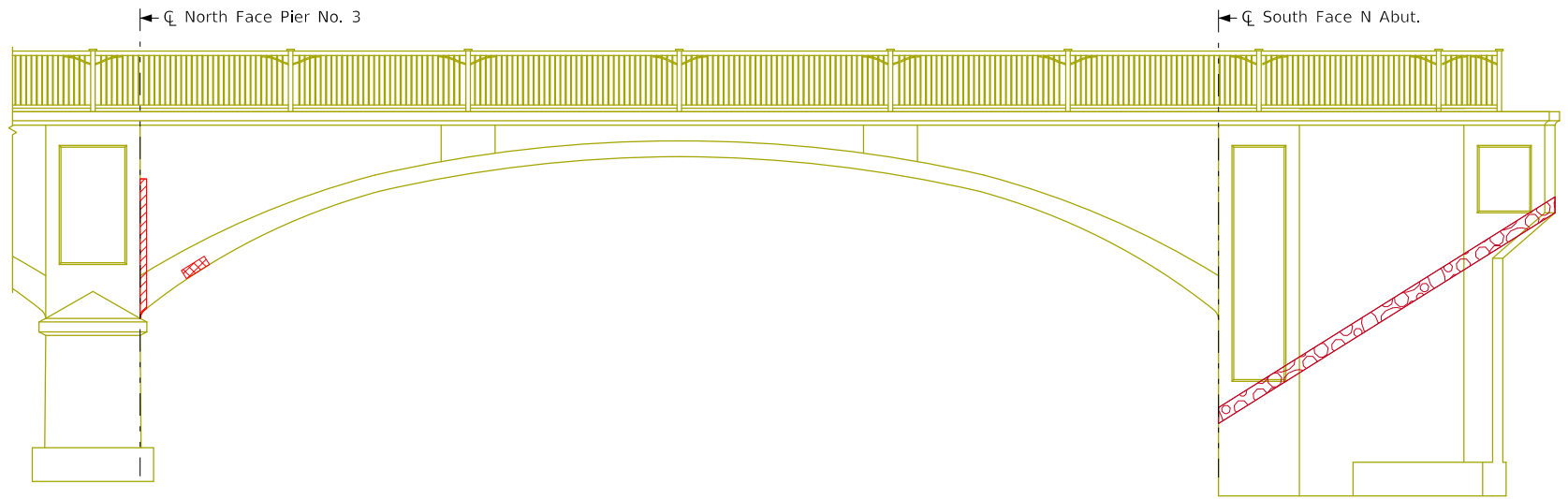
Concrete Repair Quantities		
Type	Units	Quantity
Shallow Repair	Sq. Ft.	33
Regular Repair	Sq. Ft.	24
Subtotal Span No. 4	Sq. Ft.	57

LEGEND	
	Indicates shallow repair
	Indicates regular repair

Note:
All repair locations and quantities are approximate. Actual repair areas are to be determined at the time of construction.

Design For Repair To 0° Skew
341'-0"x32' Concrete Arch Bridge
With 8' Sidewalk
83'-6" End Spans 87'-0" Interior Spans
Concrete Repairs - Span #4
STA. 87+54.50 (IA 150) Turn-in Date: Sept 2026
Buchanan County
IOWA DEPARTMENT OF TRANSPORTATION
Design No. 127 Design Sheet No. 18 of 20 FHWA No. 15950

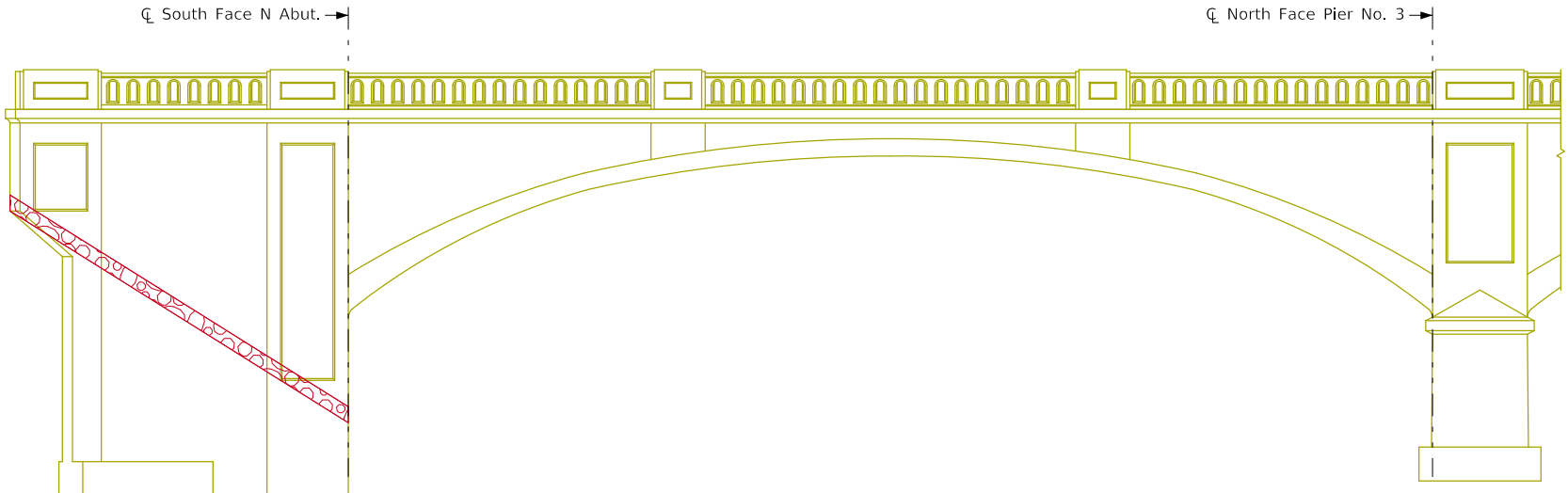




Pier No 3 East End
See Design Sheet No. 16

Span 4 Spandrel Wall - East Side
2 SF Regular
5 SF Shallow

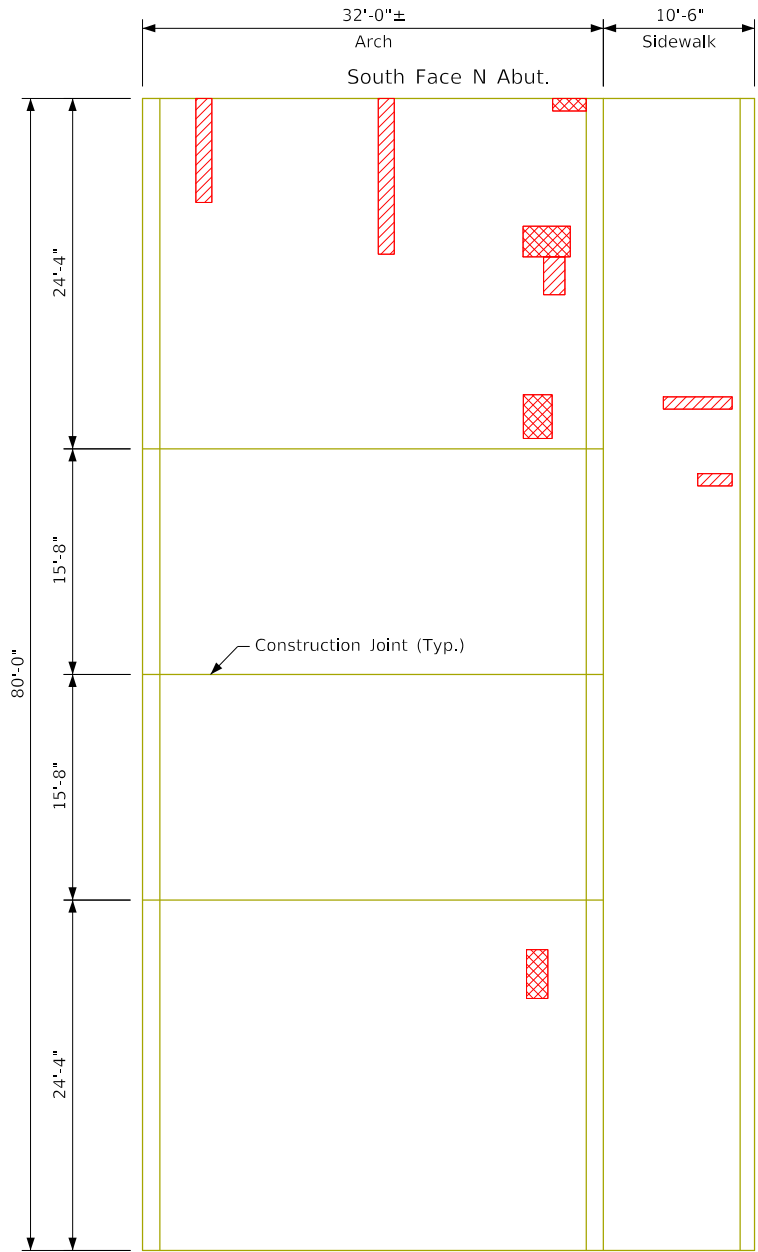
NE Wing
0 SF Regular
0 SF Shallow



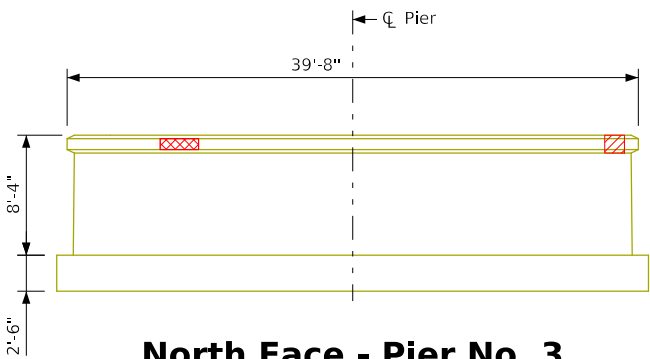
NW Wing
0 SF Regular
0 SF Shallow

Span 4 Spandrel Wall - West Side
0 SF Regular
0 SF Shallow

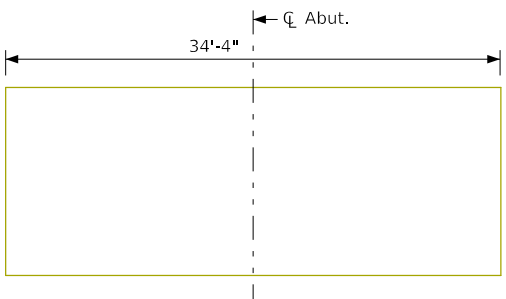
Pier No 3 West End
See Design Sheet No. 16



Bottom of Span No. 4
20 SF Regular
26 SF Shallow



North Face - Pier No. 3
2 SF Regular
2 SF Shallow



Near Face N Abut.
0 SF Regular
0 SF Shallow

Concrete Repair Quantities		
Type	Units	Quantity
Shallow Repair	Sq. Ft.	33
Regular Repair	Sq. Ft.	24
Subtotal Span No. 4		Sq. Ft. 57

LEGEND

Indicates shallow repair

Indicates regular repair

Note:
All repair locations and quantities are approximate. Actual repair areas are to be determined at the time of construction.

Design For Repair To 0° Skew

341'-0"x32' Concrete Arch Bridge
With 8' Sidewalk

83'-6" End Spans87'-0" Interior Spans

Concrete Repairs - Span #4

STA. 87+54.50 (IA 150)Turn-in Date: Sept 2026

Buchanan County

IOWA DEPARTMENT OF TRANSPORTATION

Design No. 127Design Sheet No. 18 of 20FHWA No. 15950



Steel Rail Repainting Notes:

All painted steel surfaces of the pedestrian fence as noted and shown in these plans are to be cleaned, prepared and repainted. Paint color shall be in accordance with SAE AMS-STD-595 color number 30045. Prior to ordering materials, submit proposed colors for all paint coats including primer on 8½” by 11” draw-down cards to the Iowa DOT Bridges and Structures Bureau, Ames, IA for review and approval.

Ensure areas to be repaired and repainted are clean, dry, and free from grease, oil, corrosion products, and other detrimental materials. Do not apply paint to surfaces unless they are free from moisture or frost. Apply paint in the field only when environmental conditions conform to SSPC guidelines and the manufacturer’s recommendations. If the paint manufacturer’s repair procedures conflict with this section, or require additional cleaning, submit recommendations to the engineer for approval.

Protect concrete and unpainted steel components so that application of paint on steel is complete without paint contamination of adjacent surfaces. Any accidental contamination of adjacent surfaces shall be completely removed without damage and at no additional cost to the project.

Cleaning and preparation for spot priming shall be as follows:

- 1. Probe the edges of the areas of damaged coating with a dull putty knife to ensure the remaining coating has satisfactory adhesion. Use the putty knife to remove loose coating.
- 2. Power tool clean visible areas of damage in general accordance with SSPS-SP 15, “commercial grade power tool cleaning”. Do not remove the galvanizing coating from the steel. Remove loose coating immediately prior to spot priming. Apply spot primer within 8 hours of power tool cleaning.
- 3. Feather the edges of the remaining adherent coating, creating a smooth transition between the coated surface and the exposed galvanized or steel substrate.
- 4. When the damage extends to bare steel or bare steel is exposed, clean the surface according to SSPC-SP 10 or SSPC-SP 11 as approved by the Engineer. When the damage does not expose the underlying steel, clean the surface according to SSPC-SP 3 to remove damaged and loose coating, and re-apply the affected coats. If, in the opinion of the Engineer, the damage is too extensive for localized power tool cleaning, clean the surface according to SSPC-SP 7 to remove all loose and damaged material, and reapply the affected coats.
- 5. For all repairs, roughen the coating in damaged areas to ensure good adhesion of the repair material to the underlying coating. Feather the surrounding coating to expose a minimum of 1 inch of each coat and to provide a smooth transition into intact, adherent material, for all coats.
- 6. Collect removed material with tarps or a similar method.
- 7. Apply spot primer by roller where possible or by brush where roller cannot be used. Primer color shall contrast with existing paint color, with full overcoat bonding primer color, and with the full overcoat finish coat color.

The power tool cleaning procedure shall remove corrosion deposits from exposed steel and exposed galvanizing, thereby ensuring good primer adhesion. Do not damage the galvanizing.

Preparation for full overcoat shall be as follows:

- 1. Remove all dirt, debris and chalk from the coating surface by hand sanding.
- 2. Hand wash the sanded steel. Use only clean water and clean rags. Ensure that surfaces are clean and dry immediately prior to the application of the topcoats.
- 3. Apply full overcoat finish coat(s). On areas where roller is used, a minimum of 2 finish coats are required.

Steel Rail Repainting Notes Cont.:

The following products are approved for use:

- Spot primer..... carbomastic 615 hs (4-6 mils dft)
- Full overcoat bonding primer..... carbothane 133 hb (3-5 mils dft)
- Full overcoat finish coat..... carboxane 950 (2-3 mils dft)

Other manufacturers or products proposed for use shall be submitted to the engineer for review and approval prior to ordering materials. Only fluoropolymer or fluoropolymer-urethane finish coat products will be accepted. All products must be compatible and represent a complete 3-coat system certified by the manufacturer for the application described in these plans. The intermediate coat must be a different color than both the primer and top coat.

The finished paint surface shall be uniform in color, sheen, texture and hiding across each continuous surface area when viewed in natural daylight at normal viewing angles and from distances not less than 39 inches from surface. Field paint any exposed primer at faying surfaces using the intermediate coat and top coat. Touch up flaws and other non-compliant areas to the satisfaction of the engineer. Only painters who are trained and certified by the paint manufacturer for the type of work performed are allowed to apply the paint.

Upon completion of painting, remove all protective and masking materials including tape and adhesive residue from fence and adjacent surfaces. Sweep up all debris created by cleaning and painting process, and leave work area broom clean.

All equipment, materials and labor required to perform the cleaning, disposal of existing paint, preparation and repainting of the painted surfaces of the steel pedestrian fence as indicated in these plans shall be included in the bid item, “steel pedestrian fence repainting”.

Basis of payment will be lump sum. No measurement of surface area quantity will be made.



Representative Peeling and Scraped Paint on Steel Handrail



Representative Peeling Paint on Steel Railing



Design For Repair To 0° Skew

341'-0"x32' Concrete Arch Bridge
With 8' Sidewalk

83'-6" End Spans87'-0" Interior Span

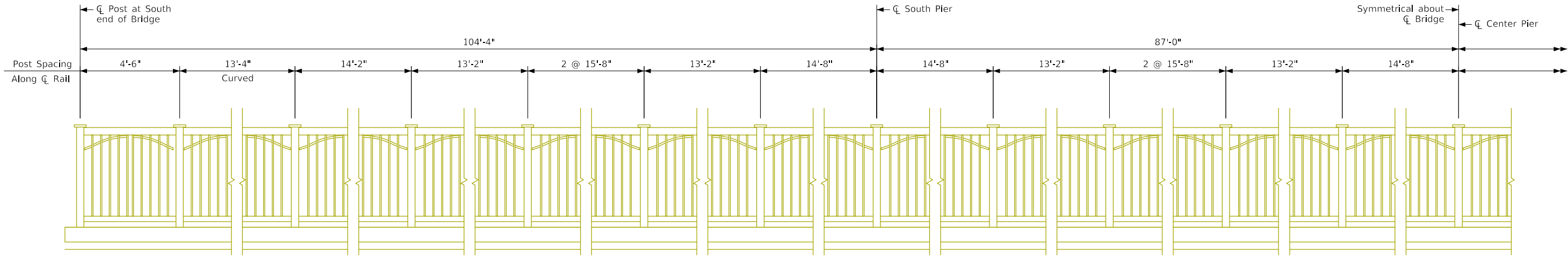
Steel Ped. Fence Repainting Notes

STA. 87+54.50 (IA 150)Turn-In Date: Sept 2026

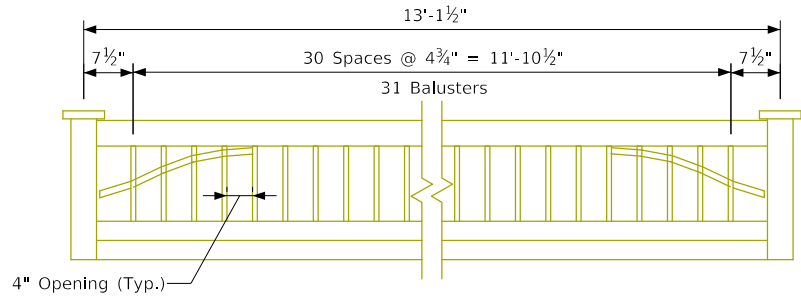
Buchanan County

IOWA DEPARTMENT OF TRANSPORTATION

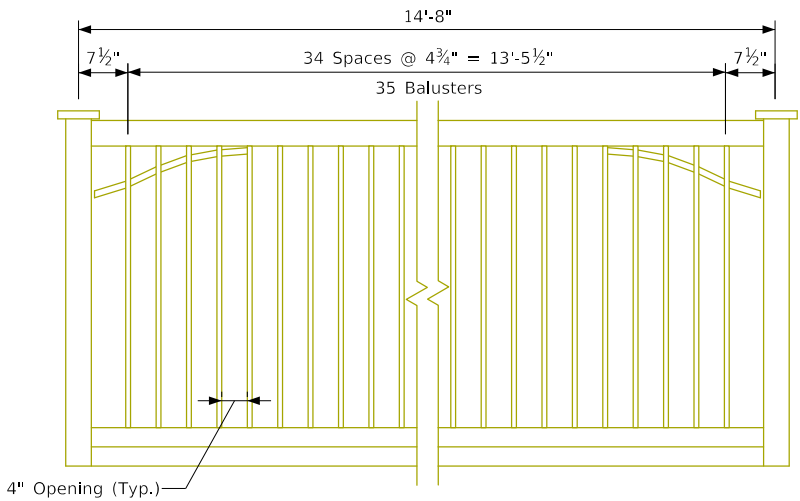
Design No. 127Design Sheet No. 19 of 20FHWA No. 15950



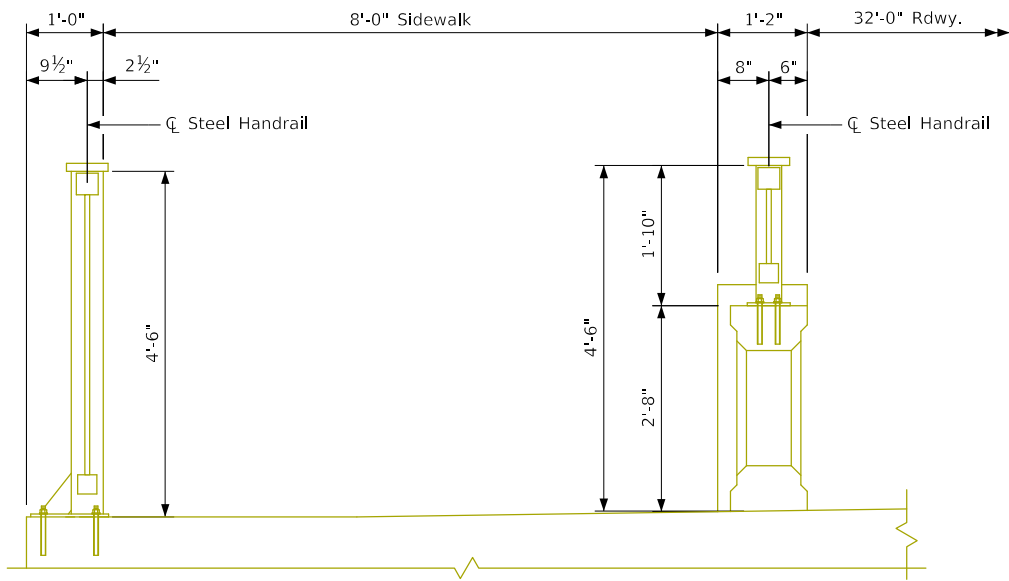
Elevation of Structural Steel Railing
(Looking West)



Steel Handrail Panel (Typical)



Steel Railing Panel (Typical)



Typical Section

Estimated Quantities		
Item	Units	Quantity
Steel Railing Panel Repainting	Lin. Ft.	40
Steel Handrail Panel Repainting	Lin. Ft.	20

Note:
The Steel Handrail and Steel Railing details shown on this sheet are from Buchanan County Design 5198 and are for information only.

The Steel Handrail was found to have occasional peeling paint with deterioration and some rusting at a post near the center of Span # 1. It is estimated that approximately 20 LF of the Steel Handrail will require repainting.

The Steel Railing was found to have occasional peeling paint. It is estimated that approximately 40 LF of the Steel Railing will require repainting.

Design For Repair To 0° Skew

341'-0"x32' Concrete Arch Bridge
With 8' Sidewalk

83'-6" End Spans87'-0" Interior Span

Steel Ped. Fence Repainting Details

STA. 87+54.50 (IA 150)Turn-In Date: Sept 2026

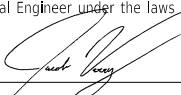
Buchanan County

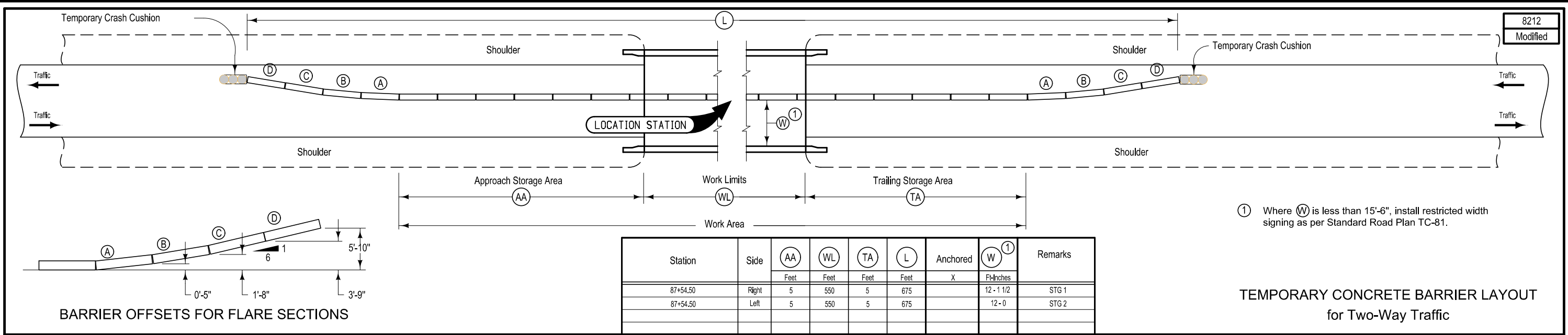
IOWA DEPARTMENT OF TRANSPORTATION

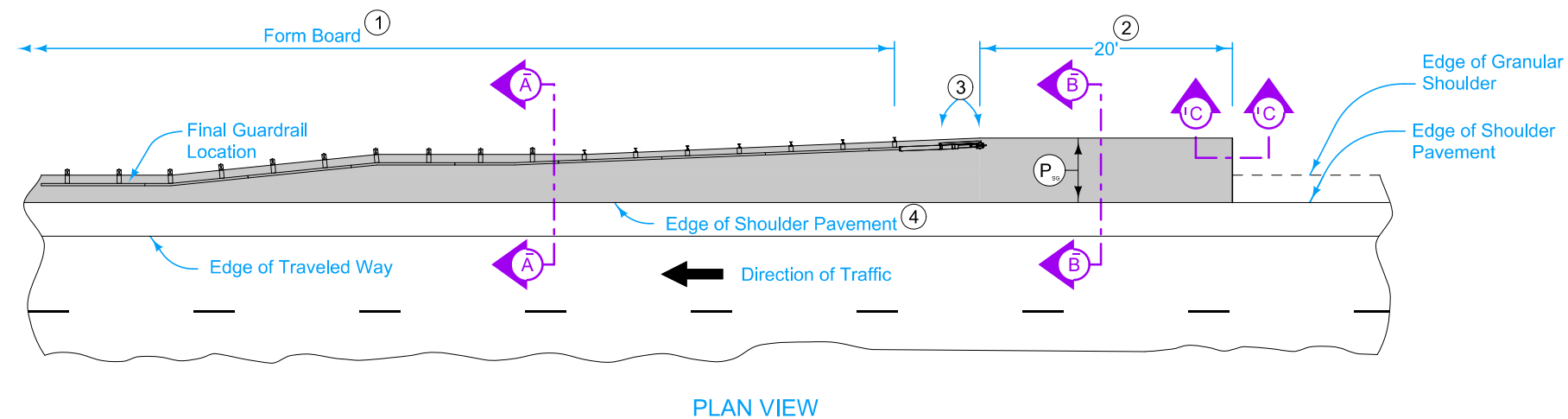
Design No. 127Design Sheet No. 20 of 20FHWA No. 15950



INDEX OF SHEETS	
No.	DESCRIPTION
A Sheets	Title Sheets
A.3	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 - 4	Estimated Project Quantities
C.5 - 20	Tabulations
C.21	General Notes
D Sheets	Mainline Plan and Profile Sheets
D.1	Plan & Profile Legend & Symbol Information Sheet
D.2	IA-150
J Sheets	Traffic Control and Staging Sheets
J.1 - 3	Traffic Control Plan & Staging Notes
J.4 - 6	Staging and Traffic Control Tabulations
J.7	Traffic Control & Staging Legend & Symbol Info. Sheet
J.8	Staging and Traffic Control Sheets Stage 1
J.9	Staging and Traffic Control Sheets Stage 2
J.10	Business Access Detour
J.11 - 14	River Paddling Route Temporary Signage
P Sheets	Lighting Layout Sheets
P.1 - 2	Lighting Details
U Sheets	500 Series, Mod.Stds. And Detail Sheets
U.1 - 2	Bridge Approach Details

ROADWAY DESIGN	
	I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.
	Signature  Printed or Typed Name Jacob M. Verry, P.E.
	Date 8-25-2026
	My license renewal date is December 31, 2027
	Pages or sheets covered by this seal: A.3, B.1-2, C.1-21, D.1-2, J.1-14, P.1-2, U.1-2





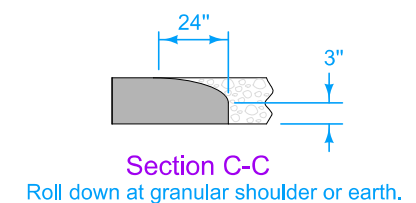
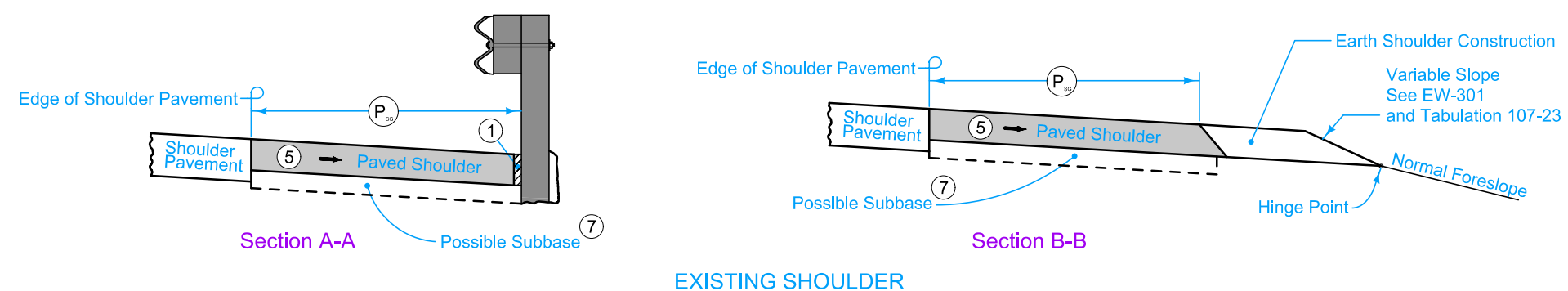
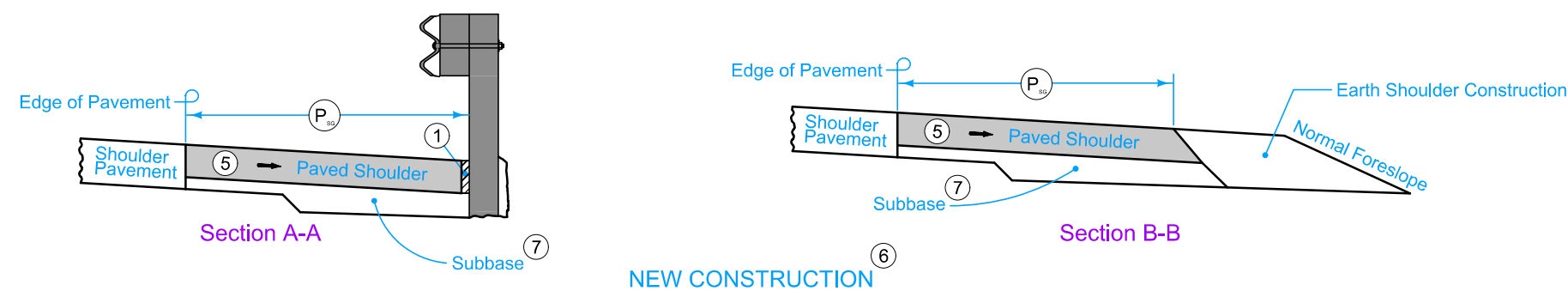
9" HMA Paved Shoulder at guardrail. 8" PCC may be substituted with the following jointing layout:

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

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

Refer to Tabulation 112-9 for shoulder quantities.

- ① PCC option only: When guardrail posts are installed prior to construction of PCC paved shoulder, fasten form board to the face of guardrail posts for the length shown.
- ② Continue paved shoulder 20 feet beyond the center of the first post.
- ③ Shoulder may be notched for first 2 posts or post sleeves may be installed through pavement. Do not drive posts through pavement.
- ④ 'BT' (per PV-101) joint for PCC shoulder. 'B' (per PV-101) joint for HMA shoulder.
- ⑤ Match shoulder slope.
- ⑥ The Contractor has the option to pave the paved shoulder at guardrail and the partial width paved shoulder as one operation.
- ⑦ Special Backfill - 6" for HMA/ 7" for PCC



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

ESTIMATED PROJECT QUANTITIES AND REFERENCE NOTES

Roadway Items : Roadway Items

Item no.	Item Code	Item	Unit	Quantities	Estimate Reference Notes
				Estimated	
				Roadway Items	
1	2102-2625000	EMBANKMENT-IN-PLACE	CY	135	Item is for guardrail grading. Refer to Tab. 107-23. Provide borrow material according to Section 2102 of the Standard Specification. Material shall be provided by The Contractor. Cleanout of 18" RCP at Sta. 89+65, 35' LT. is included in this item.
2	2123-7450000	SHOULDER CONSTRUCTION, EARTH	STA	1.58	Item is for shaping earth material for paved shoulder construction. See Detail 7157 on B.2 and Tab. 112-9 for locations and details. Requires a minimum of 4 inches of topsoil. Place according to Article 2105.03,B of the Standard Specifications.
3	2301-0685550	BRIDGE APPROACH PAVEMENT, AS PER PLAN	SY	614	Refer to Tab. 112-6 and U Sheets for locations and details.
4	2401-6745765	REMOVAL OF LIGHT POLES	EACH	1	A. Refer to Sheet P.2 Lighting Note 1. for locations and details. B. This item includes the protection and removal of the roadway light pole assembly items. Decorative luminaires and mounting arms. Pole is to be disposed of by Contractor. C. Method of Measurement: By count of each light pole lighting structure removed. D. Basis of Payment: The contractor will be paid the contract unit price for each light pole structure removed. Payment is full compensation for furnishing all materials, equipment, and labor required to protect and remove each light pole assembly and dispose of of the pole. Lighting items to be protected and reinstalled on new concrete pole.
5	2412-0000100	LONGITUDINAL GROOVING IN CONCRETE, BRIDGE DECK AND/OR APPROACHES	SY	1,774.5	Refer to Tab. 100-28 for locations and details.
6	2505-4008120	REMOVAL OF STEEL BEAM GUARDRAIL	LF	240	Refer to Tab. 110-7A for locations and details. Removal of delineators and object markers is incidental to this item. Refer to D.2 and Tab. 108-8A for locations and details.
7	2505-4008300	STEEL BEAM GUARDRAIL	LF	50	
8	2505-4008410	STEEL BEAM GUARDRAIL BARRIER TRANSITION SECTION, BA-201	EACH	4	
9	2505-4021010	STEEL BEAM GUARDRAIL END ANCHOR, BOLTED	EACH	4	
10	2505-4021720	STEEL BEAM GUARDRAIL TANGENT END TERMINAL, BA-205	EACH	4	Refer to D.2, Tab. 102-5, and Tab. 110-1 for locations and details.
11	2510-6745850	REMOVAL OF PAVEMENT	SY	533.5	
12	2520-3350015	FIELD OFFICE	EACH	1	A. All conduit shall be 2.0" and wire shall be #6 XHHW B. Refer to the P Sheets for locations and details. C. Provide and install Electrical Circuits per Iowa DOT Standard Specifications and Standard Road Plan LI-141. D. Method of Measurement and Basis of Payment per Standard Specifications.
13	2523-0000200	ELECTRICAL CIRCUITS	LF	100	
14	2527-9263181	PAVEMENT MARKINGS REMOVED	STA	49.8	
15	2527-9263209	PAINTED PAVEMENT MARKINGS, WATERBORNE OR SOLVENT-BASED	STA	62.7	
16	2528-2518000	SAFETY CLOSURE	EACH	6	Refer to Tab. 108-13A and J Sheets for locations and details.
17	2528-8400048	TEMPORARY BARRIER RAIL, CONCRETE	LF	1,350	Refer to Tab. 108-33 and J Sheets for locations and details. All temporary barrier rail shall be nominal 12'-6 long concrete units.
18	2528-8400256	TEMPORARY TRAFFIC SIGNALS	EACH	1	Refer to Tab. 108-28 in the C sheets and sheet U.1 for locations and details.

Item no.	Item Code	Item	Unit	Quantities	Estimate Reference Notes
				Estimated	
				Roadway Items	
19	2528-8445110	TRAFFIC CONTROL	LS	1	Refer to Tab. 108-23A for the Traffic Control Plan.
20	2551-0000120	TEMP CRASH CUSHION, REDIRECTIVE (R)	EACH	4	Refer to Tab. 108-30 for locations and details.
21	2599-9999005	('EACH' ITEM) NEW CONCRETE HEXAGON 15'.0 SPUN POLE WITH DECORATIVE BASE TO MATCH EXISTING	EACH	1	A. Refer to the P Sheets for Removal Plan Notes and the locations of new light pole B. This item includes complete installation of the new concrete light pole. C. Method of Measurement: By count each light pole assembly installed. D. Basis of Payment: The contractor will be paid the contract unit price for each lighting pole assembly installed. Payment includes furnishing all materials, equipment and labor to remove the existing lighting pole, and associated circuit removal. Incidental to and included with the removal of the lighting pole is waste disposal.
22	2602-0000312	PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE, 12 IN. DIA.	LF	900	Refer to Tab. 100-19. The tabulation includes estimated locations for placement of "Perimeter and Slope Sediment Control Device, 12 in. dia." to address erosion to be encountered during construction. Verify the specific locations with the Engineer prior to beginning placement. Bid item includes 25% additional quantity for field adjustments and replacements.
23	2602-0000351	REMOVAL OF PERIMETER AND SLOPE OR DITCH CHECK SEDIMENT CONTROL DEVICE	LF	900	Refer to Tab. 100-19. The tabulation includes estimated locations for placement of "Perimeter and Slope Sediment Control Device, 12 in. dia." to address erosion to be encountered during construction. Verify the specific locations with the Engineer prior to beginning placement. Bid item includes 25% additional quantity for field adjustments and replacements.
24	2602-0000530	GRATE INTAKE SEDIMENT FILTER BAG, EC-604	EACH	3	Refer to Tab. 100-37 and D.2 locations and details.
25	2602-0000540	MAINTENANCE OF GRATE INTAKE SEDIMENT FILTER BAG	EACH	3	
26	2602-0000550	REMOVAL OF GRATE INTAKE SEDIMENT FILTER BAG	EACH	3	

ESTIMATED PROJECT QUANTITIES AND REFERENCE NOTES

Roadway - HMA Shoulder Alt : HMA Shoulder Alt

Item no.	Item Code	Item	Unit	Quantities	Estimate Reference Notes
				Estimated	
				Roadway - HMA Shoulder Alt	
1	2102-0425071	SPECIAL BACKFILL	CY	24.6	Item is for paved shoulder construction. See Detail 7157 on B.2 and Tab. 112-9 for locations and details. Bid item is increased by 5% for irregularities.
2	2122-5500090	PAVED SHOULDER, HOT MIX ASPHALT MIXTURE, 9 IN.	SY	46.6	See Modified Detail 7157 on B.2, Sheet D.2, and Tab. 112-9 for locations and details.

ESTIMATED PROJECT QUANTITIES AND REFERENCE NOTES

Roadway - PCC Shoulder Alt : PCC Shoulder Alt

Item no.	Item Code	Item	Unit	Quantities	Estimate Reference Notes
				Estimated	
				Roadway - PCC Shoulder Alt	
1	2102-0425071	SPECIAL BACKFILL	CY	27.9	Item is for paved shoulder construction. See Detail 7157 on B.2 and Tab. 112-9 for locations and details. Bid item is increased by 5% for irregularities.
2	2122-5190008	PAVED SHOULDER, P.C. CONCRETE, 8 IN.	SY	46.6	See Modified Detail 7157 on B.2, Sheet D.2, and Tab. 112-9 for locations and details.

111_25 4/21/26			
INDEX OF TABULATIONS			
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2.0	100_19	PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE	C.5
3.0	100_28	LONGITUDINAL GROOVING	C.6
4.0	100_37	GRATE INTAKE SEDIMENT FILTER BAG	C.7
5.0	102_05	EXISTING PAVEMENT	C.8
6.0	107_23	GRADING FOR GUARDRAIL INSTALLATIONS	C.9
7.0	108_08A	STEEL BEAM GUARDRAIL AT CONCRETE BARRIER OR BRIDGE RAIL END SECTION	C.10
9.0	108_22	PAVEMENT MARKING LINE TYPES	C.11
13.0	108_28	TEMPORARY TRAFFIC SIGNALS	C.12
14.0	108_30	CRASH CUSHIONS	C.13
15.0	108_33	TEMPORARY BARRIER RAIL	C.14
17.0	110_01	REMOVAL OF PAVEMENT	C.15
18.0	110_07A	REMOVAL OF STEEL BEAM GUARDRAIL	C.16
19.0	112_06	BRIDGE APPROACH SECTION	C.17
20.0	112_09	SHOULDERS	C.18
21.0	232_03B	EROSION CONTROL (URBAN SEEDING)	C.19
22.0	262_05	UTILITIES (POINT 25 PROJECT)	C.19
23.0	281_01	SECTION 404 PERMIT AND CONDITIONS	C.19
24.0	232_03C	EROSION CONTROL (NATIVE GRASS SEEDING)	C.19
25.0	108_23A	TRAFFIC CONTROL PLAN	J.1
26.0	108_26A	STAGING NOTES	J.2
27.0	108_13A	SAFETY CLOSURES	J.3
28.0	108_25	511 TRAVEL RESTRICTIONS	J.4
29.0	111_01	COORDINATED OPERATIONS	J.5
30.0	113_02	PEDESTRIAN PATH CLOSURES	J.6

105_04 4/21/26 STANDARDS The following Standards apply to construction work on this project.		
Number	Date	Title
BA-200	10/20/2026	Steel Beam Guardrail Components
BA-201	10/18/2022	Steel Beam Guardrail Barrier Transition Section (MASH TL-3)
BA-202	4/15/2025	Steel Beam Guardrail Bolted End Anchor
BA-205	10/17/2023	Steel Beam Guardrail Tangent End Terminal (MASH TL-3)
BA-250	10/20/2026	Steel Beam Guardrail Installation at Concrete Barrier or Bridge End Post (MASH TL-3)
BA-401	4/20/2021	Temporary Barrier Rail (Precast Concrete)
BA-500	4/20/2021	Temporary Crash Cushions Sand Barrel
EC-204	10/19/2021	Perimeter, Slope and Ditch Check Sediment Control Devices
EC-502	4/21/2015	Seeding in Rural Areas
EC-604	10/17/2023	Grate Intake Sediment Filter Bag
EW-301	4/16/2024	Guardrail Grading
PM-110	10/15/2024	Line Types
PM-111	4/21/2020	Symbols and Legends
PR-101	10/21/2025	Full Depth Patch with 'EF' Joint in PCC
PR-102	10/21/2025	Full Depth PCC Patch without Dowels
PV-101	10/20/2026	Joints
SI-173	4/19/2016	Object Markers
SI-182	4/19/2016	Permanent Road Closure - Urban
SI-211	10/18/2022	Object Marker and Delineator Placement with Guardrail
TC-1	10-15-19	Work Not Affecting Traffic (Two-Lane or Multi-Lane)
TC-81	4/18/2023	Restricted Width Signing (Less Than 15.5 Feet)
TC-202	4/18/2023	Work Within 15 ft of Traveled Way
TC-217	10/20/2026	Lane Closure with Signals and TBR
TC-233	10/17/2017	Pavement Marking Operations Two-Lane
TC-402	4/18/2023	Work Within 15 ft of Traveled Way

100_19 10/15/24 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	84+33.96	85+80.00	Left	Perimeter and Slope	12 inch	150.00	
2.0	84+38.50	85+80.00	Right	Perimeter and Slope	12 inch	150.00	
3.0	85+80.00	85+80.00		Perimeter and Slope	12 inch	60.00	
4.0	89+31.85	89+31.85		Perimeter and Slope	12 inch	60.00	
5.0	89+31.85	90+75.05	Left	Perimeter and Slope	12 inch	150.00	
6.0	89+31.85	90+76.74	Right	Perimeter and Slope	12 inch	150.00	
Total:						720	

LONGITUDINAL GROOVING				100_28 8/15/22
Line No.	Location	Total (SY)	Remarks	
1.0	85+60.50	199.1	South Approach	
2.0	87+54.50	1350.8	Bridge	
3.0	89+49.50	224.6	North Approach	
Total:		1774.5		

EXISTING PAVEMENT																					102_05 9/29/23
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	Buchanan	IA 150	Both	040 05	04092	1929	3	DEFAULT-1312	PCC	7.0											
2.0	Buchanan	IA 150	Both	040 05	04092	1977	3	DEFAULT-1313	BAC	6.0											
3.0	Buchanan	IA 150	Both	040 05	04092	1996	3	NHSN-150-3(46)--2R-10	AAC	1.5	AAC	1.5			MIL	3.0	Brooks	CR.ST			

107_23

8/15/22

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	NB	85+60.00	Right		42.6	5.0					98.3	8.3	51.2		15.0	
2.0	SB	85+60.00	Left		42.6	5.0					99.4	6.2	43.8		25.0	
3.0	NB	89+49.00	Right		42.6	5.0					98.9	7.3	47.9		15.0	
4.0	SB	89+49.00	Left		42.6	5.0					98.3	8.3	51.2		80.0	
Total:															135	

108_08A
4/25/25

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	NB	Right	85+60.60	17.6	BA-201		BA-205	1	53.125			47.70			1				1	C	1		12.5		
2.0	SB	Left	85+60.00	17.0	BA-201		BA-205	1	53.125			47.70			1			1		C	1		12.5		
3.0	NB	Right	89+49.00	18.0	BA-201		BA-205	1	53.125			47.70			1			1		C	1		12.5		
4.0	SB	Left	89+49.00	18.0	BA-201		BA-205	1	53.125			47.70			1			1		C	1		12.5		
Total:								4							4			2	2			4			50

108_22
10/21/25

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)	ELW4 Factored (STA)	ELW6 Factored (STA)	NPY4** Factored (STA)	NPY6** Factored (STA)	SLW2 Factored (STA)	Remarks
1.0	IA 150	81+62.00	93+63.00	Both	Removal of Paint			X	No		16.08					
2.0	IA 150	81+62.00	93+63.00	NB	Removal of Paint	X			No				10.08			
3.0	IA 150	81+62.00	81+62.00	NB	Waterborne/Solvent Paint		X		No						0.48	Stage 1
4.0	IA 150	81+62.00	84+05.00	NB	Waterborne/Solvent Paint			X	No			2.43				Stage 1
5.0	IA 150	91+25.00	93+63.00	NB	Waterborne/Solvent Paint			X	No			2.38				Stage 1
6.0	IA 150	81+62.00	84+90.00	SB	Waterborne/Solvent Paint			X	No			3.28				Stage 1
7.0	IA 150	90+40.00	93+65.00	SB	Waterborne/Solvent Paint			X	No			3.25				Stage 1
8.0	IA 150	93+64.00	93+64.00	SB	Waterborne/Solvent Paint		X		No						0.48	Stage 1
9.0	IA 150	81+62.00	84+05.00	NB	Removal of Paint			X	No			2.43				
10.0	IA 150	91+25.00	93+63.00	NB	Removal of Paint			X	No			2.38				
11.0	IA 150	81+62.00	84+90.00	SB	Removal of Paint			X	No			3.28				
12.0	IA 150	90+40.00	93+65.00	SB	Removal of Paint			X	No			3.25				
13.0	IA 150	81+63.00	84+90.00	NB	Waterborne/Solvent Paint			X	No			3.27				Stage 2
14.0	IA 150	90+40.00	93+65.00	NB	Waterborne/Solvent Paint			X	No			3.25				Stage 2
15.0	IA 150	81+62.00	84+05.00	SB	Waterborne/Solvent Paint			X	No			2.43				Stage 2
16.0	IA 150	91+25.00	93+63.00	SB	Waterborne/Solvent Paint			X	No			2.38				Stage 2
17.0	IA 150	81+62.00	81+62.00	NB	Removal of Paint		X		No						0.48	
18.0	IA 150	81+63.00	84+90.00	NB	Removal of Paint			X	No			3.27				
19.0	IA 150	90+40.00	93+65.00	NB	Removal of Paint			X	No			3.25				
20.0	IA 150	81+62.00	84+05.00	SB	Removal of Paint			X	No			2.43				
21.0	IA 150	91+25.00	93+63.00	SB	Removal of Paint			X	No			2.38				
22.0	IA 150	93+64.00	93+64.00	SB	Removal of Paint		X		No						0.48	
23.0	IA 150	81+62.00	93+63.00	Both	Waterborne/Solvent Paint			X	No			24.02				Final
24.0	IA 150	81+62.00	93+63.00	NB	Waterborne/Solvent Paint	X			No					15.01		Final

TEMPORARY TRAFFIC SIGNALS				
Line No.	Item No.	Station	Signal Type	Remarks
1.0	1	82+50.00	One Lane Traffic	
2.0	2	92+75.00	One Lane Traffic	

CRASH CUSHIONS

108_30
4/16/24

- * 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	NB	84+26.47		2.5	Temporary Redirective	1									Stage 1
2.0	SB	91+03.50		2.5	Temporary Redirective	1									Stage 1
3.0	NB	84+26.64		2.5	Temporary Redirective	1									Stage 2
4.0	SB	91+03.53		2.5	Temporary Redirective	1									Stage 2

Total: 4

108_33

8/15/22

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		84+26.47	91+03.48	675.0	Concrete BA-401	No	No	Stage 1
2.0		84+26.64	91+03.51	675.0	Concrete BA-401	No	No	Stage 2
Total:				1350				

REMOVAL OF PAVEMENT Refer to Tabulation 102-5.							110_01 4/5/24
* Not a bid item.							
Line No.	Station From	Station To	Side	Pavement Type	Area (SY)	Saw Cut* (LF)	Remarks
1.0	84+90.00	85+60.00	Left	PCC	123.9	102.0	Stage 1
2.0	89+49.00	90+29.00	Left	PCC	142.6	102.0	Stage 1
3.0	84+90.00	85+60.00	Right	PCC	125.0	32.0	Stage 2
4.0	89+49.00	90+29.00	Right	PCC	142.0	32.0	Stage 2
Total:					533.5	268	

REMOVAL OF STEEL BEAM GUARDRAIL (1) Lane(s) to which the installation is adjacent. (2) Includes length of End Terminals and End Anchors.						110_07A 8/15/22
Line No.	No.	Direction of Traffic (1)	Station From	Station To	Side	Removal of Guardrail (2) (LF)
1.0		NB	85+05.00	85+65.00	Right	60.0
2.0		SB	85+05.00	85+65.00	Left	60.0
3.0		NB	89+43.00	90+06.00	Right	63.0
4.0		SB	89+49.00	90+06.00	Left	57.0
Total:						240

BRIDGE APPROACH SECTION Refer to the BR Series. * Not a bid item																					112_06 2/22/24
Line No.	Bridge Station	End	Skew Ahead Left (Degrees)	Skew Ahead Right (Degrees)	(T) Thickness (IN)	Pay Length (FT)	Non-Reinf. Area (SY)	Single-Reinf. Area (SY)	Double-Reinf. Area (SY)	SRP Approach	SRP Abutment Type	SRP Abutting Pavement	Perforated * 4" Subdrain (LF)	Subdrain * Outlet (STA)	Subdrain * Outlet Side	Porous * Backfill (CY)	Class 'A' * Crushed Stone Backfill (CY)	Modified * Subbase (TON)	Polymer * Grid (SY)	Special * Backfill (TON)	Remarks
1.0	87+54.50	S			12.0	70.0	123.1	81.1	81.1		Movable							65.800	317.0		
2.0	87+54.50	N			12.0	80.0	166.5	81.1	81.1		Movable							75.700	365.0		
Total:							289.6	162.2	162.2									141.5	682		

112.09
4/21/26

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 Grd rail (5)(7)	Reinforced Paved Shoulder(3) (SY)	Special Backfill HMA Alt. (3) (TON)	Special Backfill HMA Alt. (TON/STA)	Special Backfill PCC Alt. (3) (TON)	Special Backfill PCC Alt. (TON/STA)	Pavement Scarification (SY)	Polymer Grid (SY)	Subbase (3) (8) (CY)	Granular Shoulder (3) (TON)	Granular Shoulder (TON/STA)	Shoulder Const. Alt (3) (STA)	Shoulder Const. Alt HMA (6) (CY)	Shoulder Const. Alt PCC (6) (CY)	Remarks
IA 150	NB	84+46.92	84+66.73	Right		3.8		19.81		4.606	23.250	0.276	8.4	8.4		3.328	16.800	3.883	19.600						0.20	3.74	3.74	[1]
IA 150	NB	84+66.73	84+90.00	Right		3.1		23.27		4.538	19.500	0.272	5.9	5.9		3.421	14.700	3.909	16.800						0.23	4.40	4.40	[1]
IA 150	NB	90+29.00	90+43.69	Right		3.2		14.69		2.975	20.250	0.178	4.0	4.0		2.159	14.700	2.468	16.800						0.15	2.77	2.77	[1]
IA 150	NB	90+43.68	90+63.68	Right		3.5		20.00		4.350	21.750	0.261	5.2	5.2		3.220	16.100	3.640	18.200						0.20	3.78	3.78	[1]
IA 150	SB	84+44.00	84+64.79	Left		2.5		20.79		3.430	16.500	0.206	5.7	5.7		2.620	12.600	2.911	14.000						0.21	3.93	3.93	[1]
IA 150	SB	84+64.79	84+90.00	Left		2.35		25.21		3.781	15.000	0.227	6.6	6.6		3.000	11.900	3.353	13.300						0.25	4.76	4.76	[1]
IA 150	SB	90+29.00	90+42.78	Left		3.3		13.78		2.894	21.000	0.174	3.8	3.8		2.122	15.400	2.412	17.500						0.14	2.60	2.60	[1]
IA 150	SB	90+42.78	90+58.22	Left		3.7		15.44		3.590	23.250	0.215	4.3	4.3		2.594	16.800	2.918	18.900						0.15	2.92	2.92	[1]
IA 150	SB	90+58.22	90+62.82	Left		4.9		4.60		1.380	30.000	0.083	2.7	2.7		0.966	21.000	1.095	23.800						0.05	0.87	0.87	[1]
Total:										31.544		1.892	46.6			23.43		26.589						1.58				

[1] 9" HMA / 8" PCC

232_038 9/28/22	
EROSION CONTROL (URBAN 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 as follows: Place seed and fertilize according to the requirements of Article 2601.03,C,4 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 incidental to mobilization and will not be paid for separately.	

232_030 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 gerardii) 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 debarbed 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_05 9/28/22
UTILITIES (POINT 25 PROJECT)
This is a POINT 25 project and is subject to the provisions of IAC 761-115.25.

281_01 9/28/22
SECTION 404 PERMIT AND CONDITIONS
Construct this project according to the requirements of U.S. Army Corps of Engineers Nationwide, Permit No. 3. A copy of this permit is available from the Iowa DOT website (http://www.envpermits.iowadot.gov/). The U.S. Army Corps of Engineers reserves the right to visit the site without prior notice.

LINE STYLE LEGEND OF EROSION CONTROL SHEETS	
LINESTYLE	Design Element
	Silt Fence
	Perimeter and Slope Sediment Control Device (9")
	Perimeter and Slope Sediment Control Device (12")
	Perimeter and Slope Sediment Control Device (20")
	Open-Throat Curb Intake Sediment Filter
	Concentrated Flow
	Rock Check and Rock Check Dam
	Sheet Flow

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

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

UTILITY LEGEND	
(???) Lumen Centurylink - LightCore - Level 3 Fiber Transmission Contact Name : Ben Pacocha Contact Phone: (224)-242-4823 Contact Email: ben.pacocha@lumen.com	
(???) Mediacom Communications Corporation Telephone Contact Name : Carl Norton Contact Phone: (319)-594-6201 Contact Email: cnorton@mediacomcc.com	
(???) MidAmerican Energy Company Electric Distribution Contact Name : Matt Novy Contact Phone: (515)-901-8274 Contact Email: matthew.novy@midamerican.com	
(???) T.I.P. Rural Electric Cooperative Contact Name : Cole Calkins Contact Phone: (800)-934-7976 Contact Email: ccalkins@tiprec.com	
(???) MidAmerican Energy Company Gas Distribution Contact Name : Matt Novy Contact Phone: (515)-901-8274 Contact Email: matthew.novy@midamerican.com	
(???) ICN Contact Name : Jason Dale Contact Phone: (515) 239-1995 Contact Email: jason.dale@iowadot.us	
(???) MidAmerican Energy Company Electric Distribution Contact Name : Nick Benhart Contact Phone: Contact Email: NCBenhart@midamerican.com	
(???) Lumen Centurylink Telephone, Fiber, Cable Contact Name : Steve Parker Contact Phone: (507)-358-1978 Contact Email: Telephone Steven.Parker4@lumen.com	
(ILP) INDEPENDENCE LIGHT AND POWER Contact Name : Joel Reed Contact Phone: (319)-332-0100 Contact Email: jreed@ilpt.com	

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.		
Lavender	(9)		Temporary Pavement Shading
Yellow	(4)		Proposed Pavement Shading
Orange	(6)		Proposed Granular Shading
Orange	(70)		Proposed Shoulder Granular Shading
Yellow	(68)		Proposed Shoulder Paved Full Depth Shading
Yellow	(132)		Proposed Shoulder Paved Partial Depth Shading
Gray, Dark	(112)		Proposed Grade and Pave Shading "In conjunction with a paving project"
Brown, Light	(236)		Grading Shading
Orange, Light	(134)		Proposed Granular Entrance Shading
Yellow	(220)		Proposed Paved Entrance Shading
Tan	(8)		Proposed Sidewalk Shading
Blue, Light	(230)		Proposed Sidewalk Landing Shading
Pink	(11)		Proposed Sidewalk Ramp Shading
Green, Light	(225)		Existing Pavement Shading
Red	(3)		Proposed Structure Shading
Red	(3)		Delineates Restricted Areas

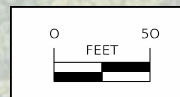
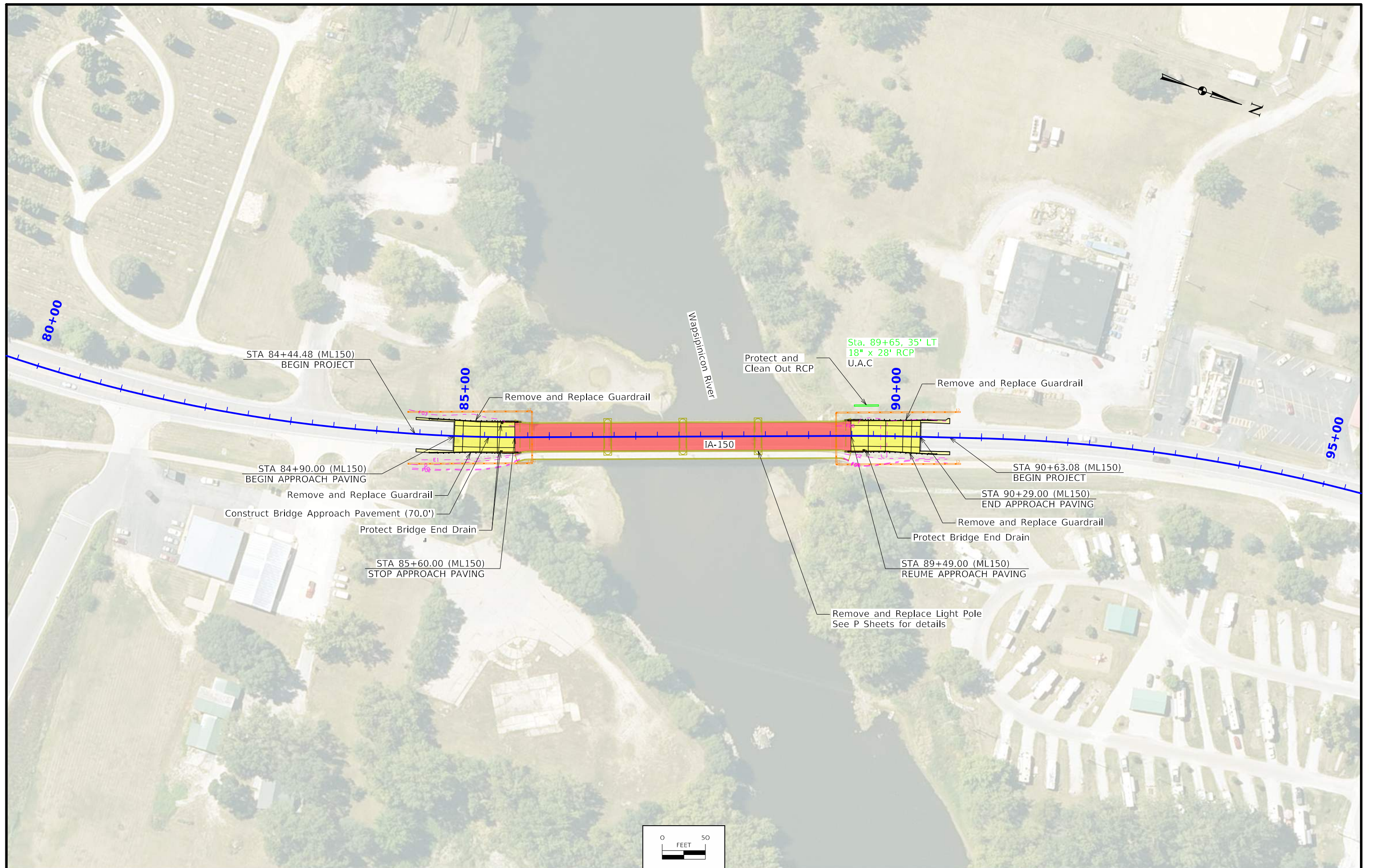
PROFILE VIEW COLOR LEGEND OF PLAN AND PROFILE SHEETS			
LINEWORK	Design	Color	No.
Green	(10)		Existing Ground Line Profile
Blue	(1)		Proposed Profile and Annotation
Magenta	(5)		Existing Utilities
Blue, Light	(230)		Proposed Ditch Grades, Left
Black	(0)		Proposed Ditch Grades, Median
Rust	(14)		Proposed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

RIGHT-OF-WAY LEGEND	
	Proposed Right-of-Way
	Existing Right of Way
	Existing and Proposed Right-of-Way
	Easement and Existing Right-of-Way
	Easement (Temporary)
	Easement
	Access Control
	Property Line

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

PLAN AND PROFILE
LEGEND AND SYMBOL
INFORMATION SHEET

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



TRAFFIC CONTROL PLAN

Maintain through traffic on IA 150 at all times utilizing the Standard Road Plans in Tab. 105-4 and the layouts shown in the plans. Additional details can be found in Part 6 of the MUTCD, the Standard Specifications, and the Staging Notes, Tab. 108-26A.

Permanent signing that conveys a message contrary to the message of the temporary traffic control, or is not applicable to the working conditions, shall be covered by the Contractor, as directed by the Engineer and stated in the Standard Specifications.

Refer to the J Sheets for information regarding business entrance access.

Paddling Route Coordination and Signage Notes:

- a. The contractor supplies, installs, maintains, and removes all paddle route signs.
- b. The contractor is to contact the Iowa DNR website contact person so he or she can add/remove waterway(s) closures to their GIS map before start or end of project, respectively. The current contact is John Wenck with email being John.Wenck@dnr.iowa.gov.
- c. The contractor is to contact the Iowa DNR no later than 72 hours in advance of the beginning or ending of construction activities.
- d. The location of plan sheets containing aerial/street and waterway map showing required waterway(s) signage locations as well as fabrication and installation information.
- e. In the case where the Iowa DNR indicates a conservation officer(s) contact in the plans is needed, the contact information will be provided in this tabulation.
- f. Maintenance of paddle route signage is the same as the roadway traffic control following Articles 2528.01C, 2528.02, and 2528.03A of the Standard Specifications.
- g. Where a river may have temporary obstructions or anticipated falling debris from bridge work or other similar cases, extra consideration should be taken to properly shield waterway users from entering the work area and have any notes that would ensure the contractor provides appropriate protection.

STAGING NOTES

Stage 1
Traffic:
Close southbound lane in accordance with modified Standard Road Plans TC-217.
Maintain two-way traffic in the northbound lane using temporary traffic signals and temporary barrier rail.
Maintain access to Vern's True Value Business, utilizing the detour route, refer to J.6 for more details.
Perform necessary actions for the paddling route detour, see J.11-14 for more details.

Construction:
Perform bridge repairs and cleaning on the closed portion of the bridge.
Remove and replace bridge approach pavement on closed portion of the bridge.
Remove and replace guardrail.
Pave shoulder for guardrail.

Stage 2
Traffic:
Close northbound lane in accordance with modified Standard Road Plans TC-217.
Maintain two-way traffic in the southbound lane using temporary traffic signals and temporary barrier rail.
Maintain access to Vern's True Value Business, utilizing the detour route, refer to J.6 for more details.
Perform necessary actions for the paddling route detour, see J.11-14 for more details.

Construction:
Perform bridge repairs and cleaning on the closed portion of the bridge.
Remove and replace bridge approach pavement on closed portion of the bridge.
Remove and replace guardrail.
Pave shoulder for guardrail.
Remove and replace light pole.

Final
Traffic:
Traffic Control to utilize the Standard Road Plans listed in Tab.105-4.
Remove temporary signals and open both lanes to traffic.
Re-open main entrances to Vern's True Value and remove detour signing.
Complete pavement marking operations in accordance with Standard Road Plan TC-233.

Construction:
Complete final pavement markings as noted in Tab. 108-22.

108_13A 3/27/25 SAFETY CLOSURES Refer to Section 2528 of the Standard Specifications			
Station	Road Closure Qty.	Hazard Closure Qty.	Remarks
83+20.50	1		Lovers Lane Blvd.
83+22.00	1		Business Access
83+80.00	1		Business Access
90+81.00	1		Business Access
92+24.00	1		Business Access
93+13.00	1		Business Access
Total: 6			

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	IA 150	Both	Buchanan	Bridge over Wapsipinicon River	Bridge	Traffic Control Device		Horizontal	32'-0"	12'-0"	11'-0"	N/A	
2.0	IA 150	Both	Buchanan	Bridge over Wapsipinicon River	Bridge	Temporary Signal		Vertical		15'-0"	14'-0"	N/A	

111_01
10/14/22

COORDINATED OPERATIONS

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

Project	Type of Work
None Provided	

113_02
8/15/22

PEDESTRIAN PATH CLOSURES

Refer to TC-601.

*Assumes 6 foot wide barricade.
Closures may need to be removed and re-established.

Line No.	Location	Side	Width of Closure (FT)	Type III Barricades* (No.)	Remarks
1.0	8405.00	Right	6.0	3	

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

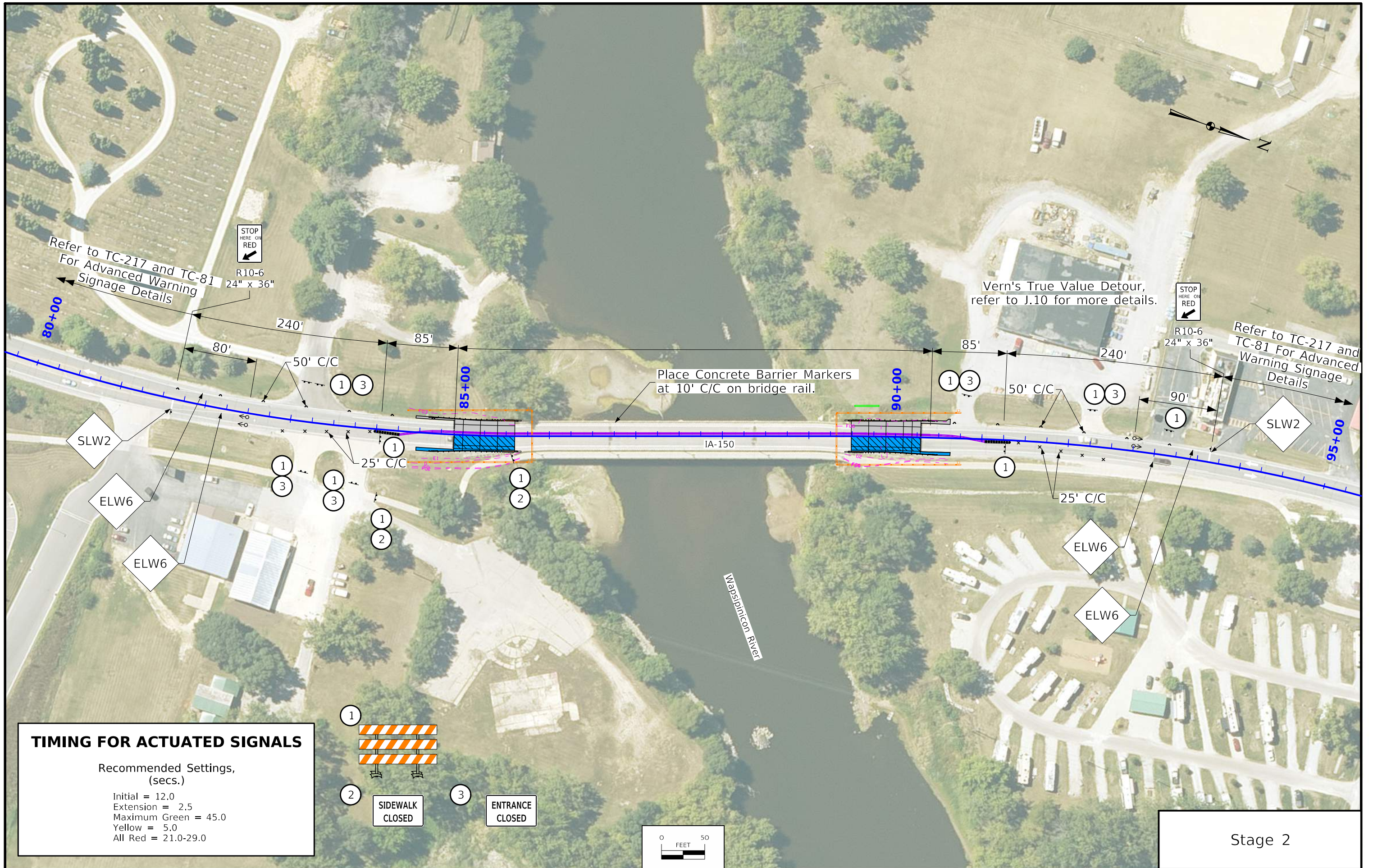
PLAN VIEW COLOR LEGEND OF TRAFFIC CONTROL AND STAGING SHEETS			
LINEWORK	Design Color No.		
Green	(2)	Existing Topographic Features and Labels	
Magenta	(5)	Pavement Marking Call Outs	
Blue	(1)	Proposed Alignment, Stationing, Tic Marks, and Alignment Annotation	
Yellow	(4)	Pavement Markings, Yellow	
Off 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	(80)	Proposed Granular Surface Shading	
Gray, Med	(80)	Previously Constructed Granular Surface Shading	
Blue, Light	(230)	Proposed Pavement Shading	
Lavender	(9)	Temporary Pavement Shading	
Brown, Light	(236)	Proposed Grading Limits Shading	
Pink, Dark	(13)	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
↵	Single White Delineator		Type A Warning Light
—	Temporary Barrier Rail		Direction of Traffic
	Pavement Removal		Safety Closure
	Sand Barrel Layout		Lane Identification

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

TRAFFIC CONTROL
AND
STAGING
LEGEND AND SYMBOL
INFORMATION SHEET

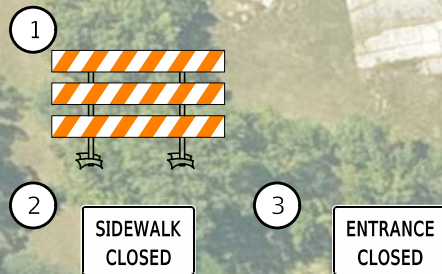
(COVERS SHEET SERIES J)



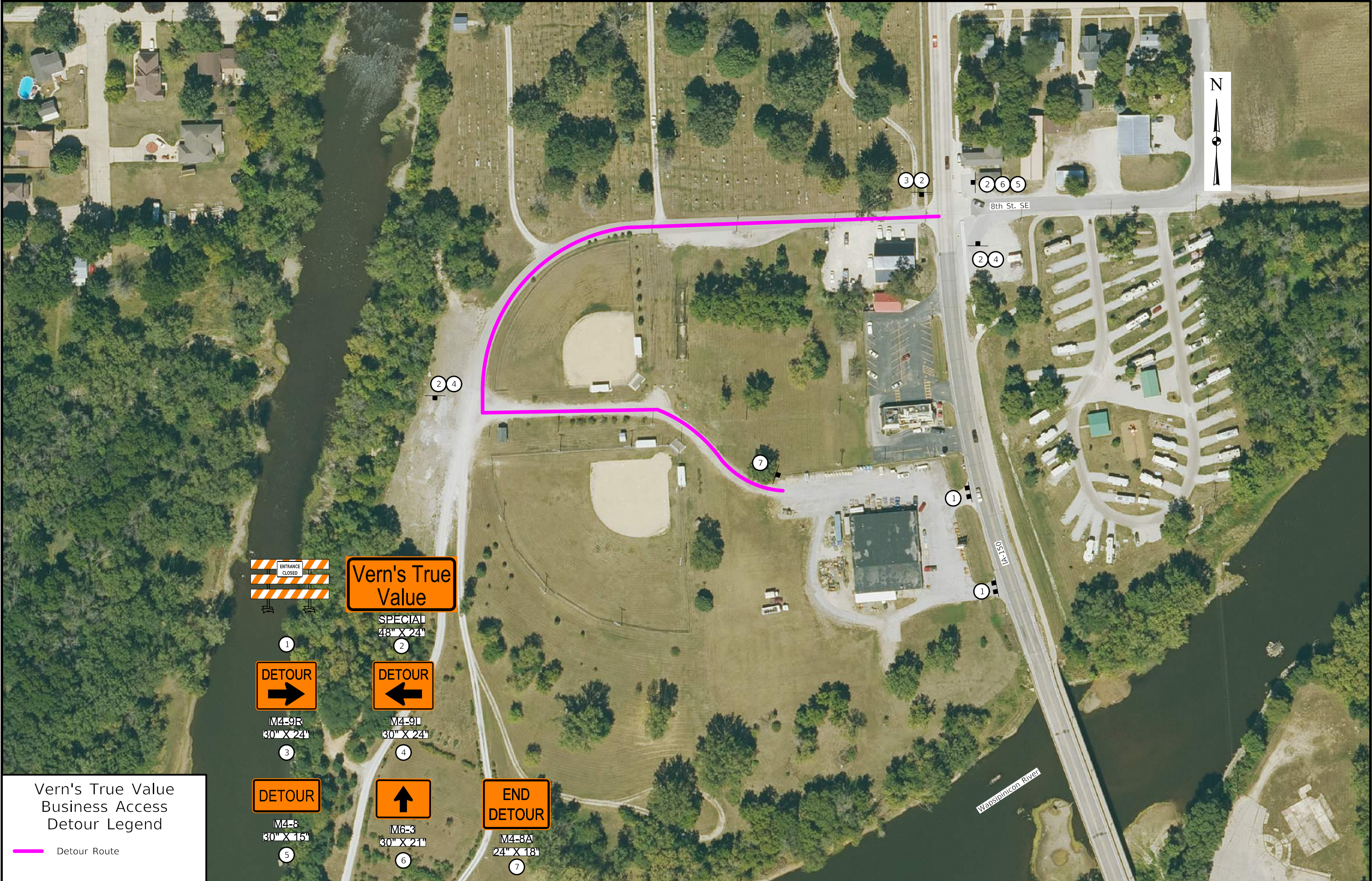
TIMING FOR ACTUATED SIGNALS

Recommended Settings,
(secs.)

Initial = 12.0
Extension = 2.5
Maximum Green = 45.0
Yellow = 5.0
All Red = 21.0-29.0



Stage 2



WAPSIPINICON RIVER PADDLING ROUTE SIGN SUMMARY
(REFER TO SHEET J.12 FOR SIGN LOCATION KEY MAP)

Notes:

Refer to the Iowa DNR Water Trail Development Manual for paddling route temporary signs color coding and style (<https://www.iowadnr.gov/Things-to-Do/Canoeing-Kayaking/Water-Trail-Development>).

Refer to Sheets J.13-14 for additional special signing details.

The Engineer will notify John Wenck via email at John.Wenck@dnr.iowa.gov when temporary channel obstruction is placed and removed so that hazard symbol can be added to the DNR's interactive river mapping system and removed once the project is complete.

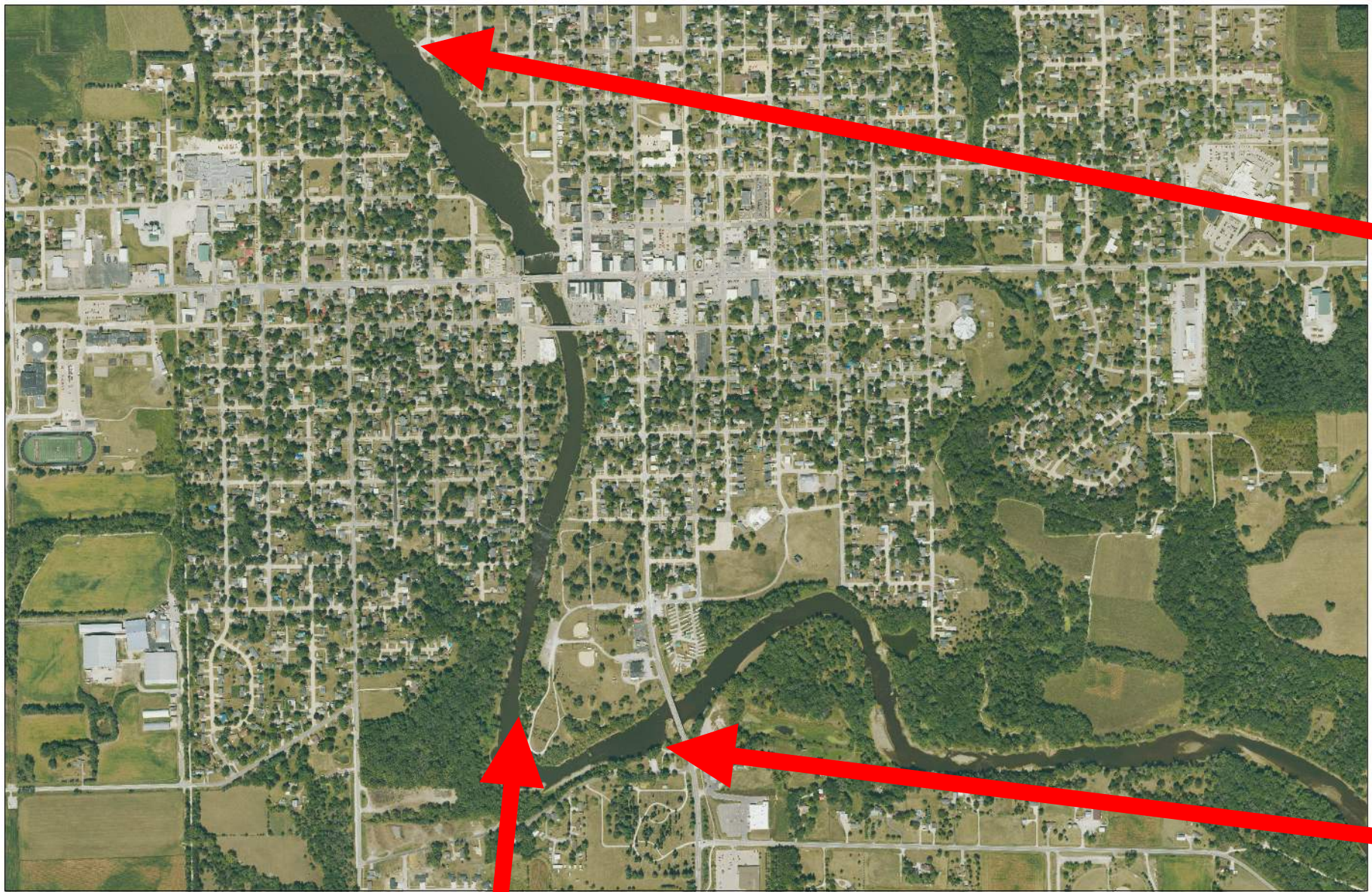
The Contractor is to notify Conservation Officers Dustin Eighmy (Dustin.Eighmy@dnr.iowa.gov) and Craig Lonnerman (Craig.Lonneman@dnr.iowa.gov) and boat ramp owner and Buchanan County Conservation Director Ben Bonar (bbonar@co.buchanan.ia.us) via email, for coordination and advice of temporary paddling route sign placement and installation. Signs are to be installed by the Contractor a minimum of two weeks prior to the start of bridge construction.

Install signs on land and over water per guidance in the Iowa DNR Water Trail Development Manual Chapter 6.

The Contractor shall provide all temporary signs, posts, and hardware necessary for installation and maintenance of the temporary paddling route signage. Upon completion of the project, the Contractor shall remove all paddling route signage, posts, and hardware. All removed materials will become the property of the Contractor. All materials and operations necessary for providing, installing, maintaining, and removing paddling route temporary signage is considered incidental to 'TRAFFIC CONTROL' and will not be measured or paid for separately.

SPECIALTY SIGN #	QTY	STYLE OF SIGN	LEGEND W/ 8" CAPITAL LETTERS	LEGEND W/ 6" CAPITAL LETTERS	LOCATION/ORIENTATION
1	2	Warning Construction Hazard at IA-150 Bridge Downstream Traffic Exit Knott's Landing	WARNING	CONSTRUCTION HAZARD AT IA150 BRIDGE	WAPSIPINICON RIVER TRAIL ACCESS #160 AT WATER ACCESS FACING PARKING LOT
				DOWNSTREAM TRAFFIC EXIT AT TRAIL ACCESS #159	
2	1	Warning Construction Hazard at IA-150 Bridge Do Not Launch Here for Downstream Trip	WARNING	BRIDGE CONSTRUCTION DOWNSTREAM AT IA150	WAPSIPINICON RIVER TRAIL ACCESS #159 AT WATER ACCESS FACING TRAIL LOOP
				DO NOT LAUNCH HERE FOR DOWNSTREAM TRIP	
3	1	Warning Construction Hazard at IA-150 Bridge Exit Here →	WARNING	CONSTRUCTION HAZARD AT IA150 BRIDGE	WAPSIPINICON RIVER TRAIL ACCESS #159 AT BOAT RAMP, FACING UPSTREAM AT 45 DEGREE ANGLE TO CENTER OF RIVER
				EXIT HERE →	
4	1	Danger No Thru Traffic	DANGER	NO THRU TRAFFIC	CENTER OF IA150 BRIDGE DECK FACING UPSTREAM

WAPSIPINICON RIVER PADDLING
ROUTE TEMPORARY SIGNAGE



WAPSIPINICON RIVER
TRAIL ACCESS #160



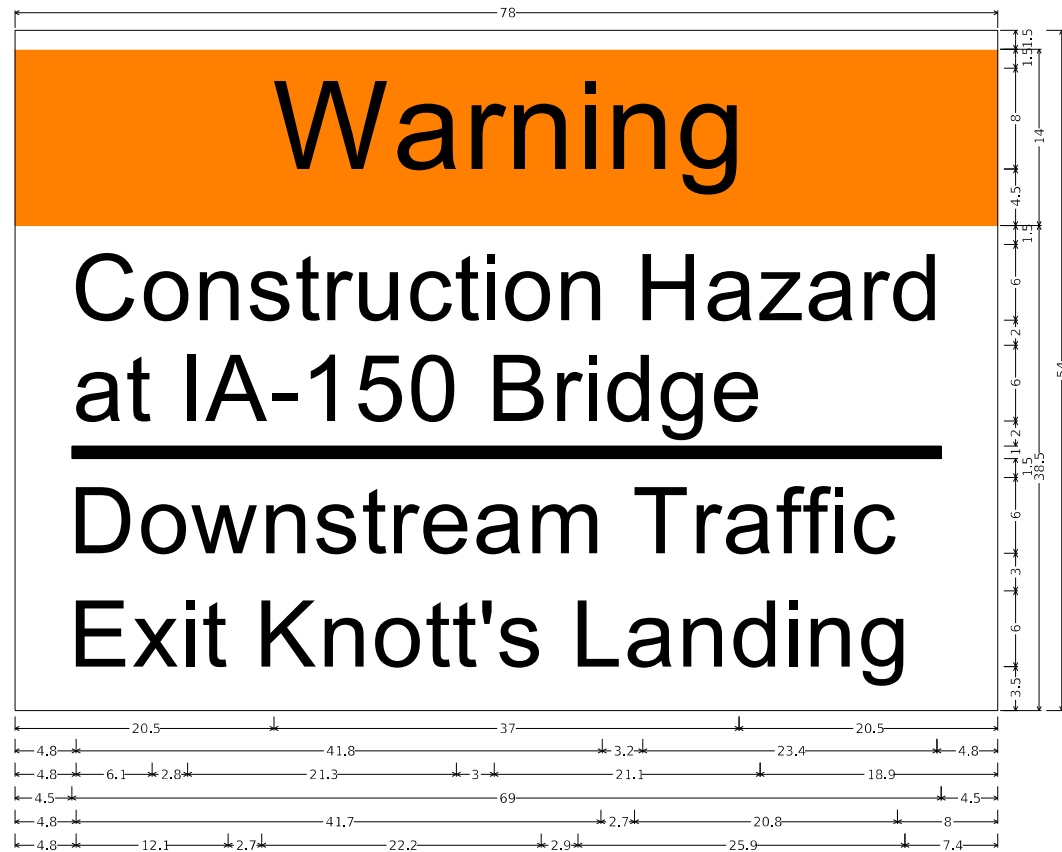
WAPSIPINICON RIVER
KNOTT'S LANDING



WAPSIPINICON RIVER
TRAIL ACCESS #159

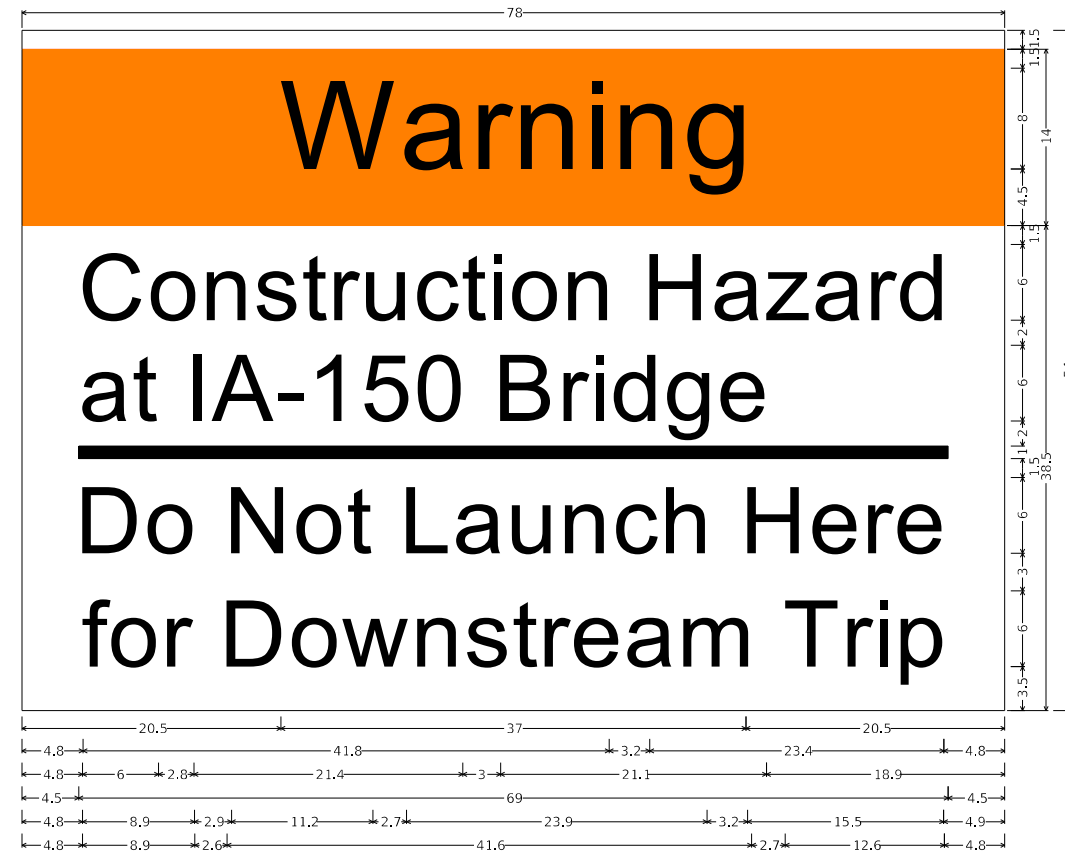
Note:
- Temporary sign placement locations depicted in these key maps are approximate. The Contractor shall coordinate per notes on Sheet J.11 to confirm locations prior to installation at each river access point and bridge over the Wapsipinicon River.

WAPSIPINICON RIVER PADDLING ROUTE SPECIALITY SIGN LOCATIONS KEY MAP



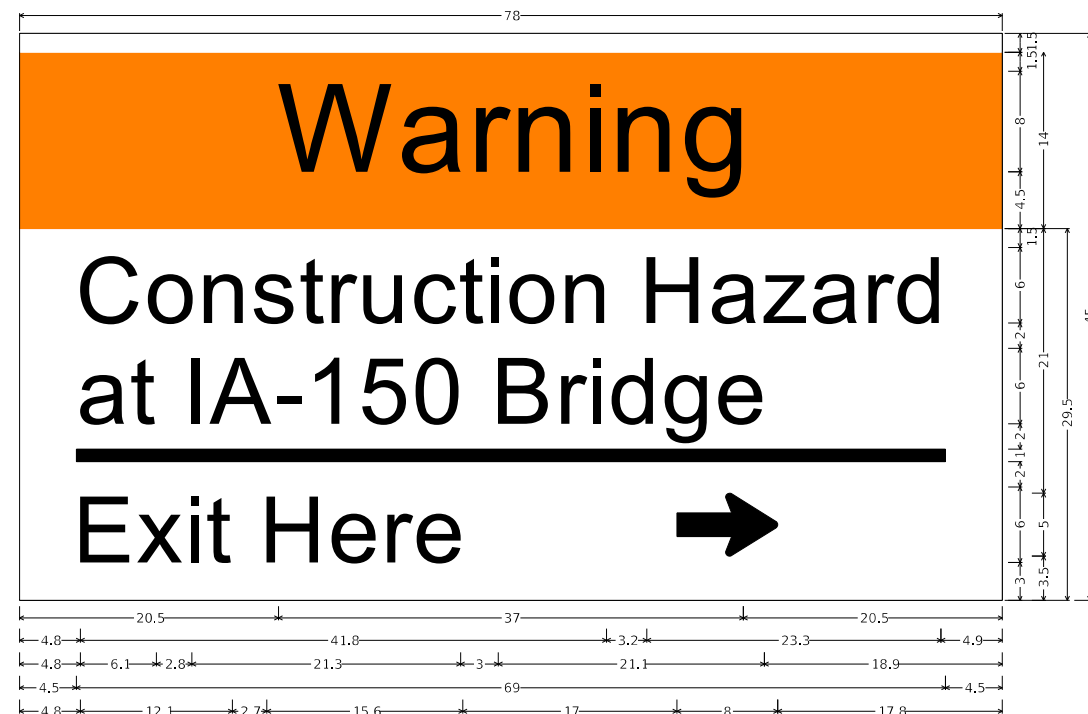
No border, White on White;
Warning Portion:
No border, White on Fluorescent orange;
"Warning" Black, Arial;
White Text Box:
No border, Black on White;
"Construction Hazard", Arial; "at IA-150 Bridge", Arial; "Downstream Traffic", Arial; "Exit Knott's Landing", Arial;

SPECIALTY SIGN #1



No border, White on White;
Warning Portion:
No border, White on Fluorescent orange;
"Warning" Black, Arial;
White Text Box:
No border, Black on White;

SPECIALTY SIGN #2



No border, White on White;
Warning Portion:
No border, White on Fluorescent orange;
"Warning" Black, Arial;
White Text Box:
No border, Black on White;
"Construction Hazard", Arial; "at IA-150 Bridge", Arial; "Exit Here", Arial; Arrow III-55 - 8.0" 0";

SPECIALTY SIGN #3



No border, White on White;
No border, White on Red;
"Danger" Black, Arial, Bold;
No border, White on White;
"No Thru Traffic" Black, Arial;

SPECIALTY SIGN #4

Specification Details*

Description	Catalog Number	"A" Pole Height Above Grade	"D" Tip Dimension	"C" Stepped Section Height	"E" Flare	B' Direct Burial Length & "F" Dia.	Pole Weight Direct Burial	Pole Weight Base Pole
Coachman	12' KCC12	12' 0"	4 1/2"	4' 6"	14"	4' 7" x 8 1/4"	975 lbs	800 lbs
	15' KCC15	15' 0"	4"	4' 6"	14"	4' 7" x 8 1/4"	1050 lbs	865 lbs
Highwayman	18' KCH18	18' 0"	5 1/8"	4' 7"	15 5/16"	5' 0" x 9 1/4"	1100 lbs	920 lbs
	20' KCH20	20' 0"	4 3/4"	4' 7"	15 5/16"	5' 0" x 9 1/4"	1200 lbs	1020 lbs
	22' KCH22	22' 0"	5 3/8"	4' 7"	16"	5' 0" x 10"	1425 lbs	1225 lbs
	25' KCH25	25' 0"	4 3/4"	4' 7"	16"	5' 0" x 10"	1600 lbs	1400 lbs
Roadway	27' KCH27.5	27' 6"	4 1/2"	4' 7"	16"	5' 0" x 10"	1700 lbs	1500 lbs
	31' KCR31.5	31' 4"	5 1/8"	5' 5"	19"	7' 0" x 12"	2550 bs	2200 lbs

* For bollard catalog information please see the bollard section in the King Luminaire catalog or visit our website at www.StressCreteGroup.com

How to Catalog for Classic Concrete Pole

Pole Style

KCC
KCH
KCR

KCR

31.5'

Height
5' - 31'4"

Finish

E - Etched Finish
S - Polished Finish

E

40

Color**
10 - Midnight Lace
11 - Eclipse Black
30 - Salt & Pepper
40 - Pearl Gray
90 - Saluki bronze

Footing Details

DB - Direct Buried
FBP - Flush Baseplate
SBP - Stub Baseplate

DB

140 30/30

Tenon (Post Top Mount)
Specify Tenon Size
For example 140 30/30
= 2 7/8" OD & 3" long

Coating

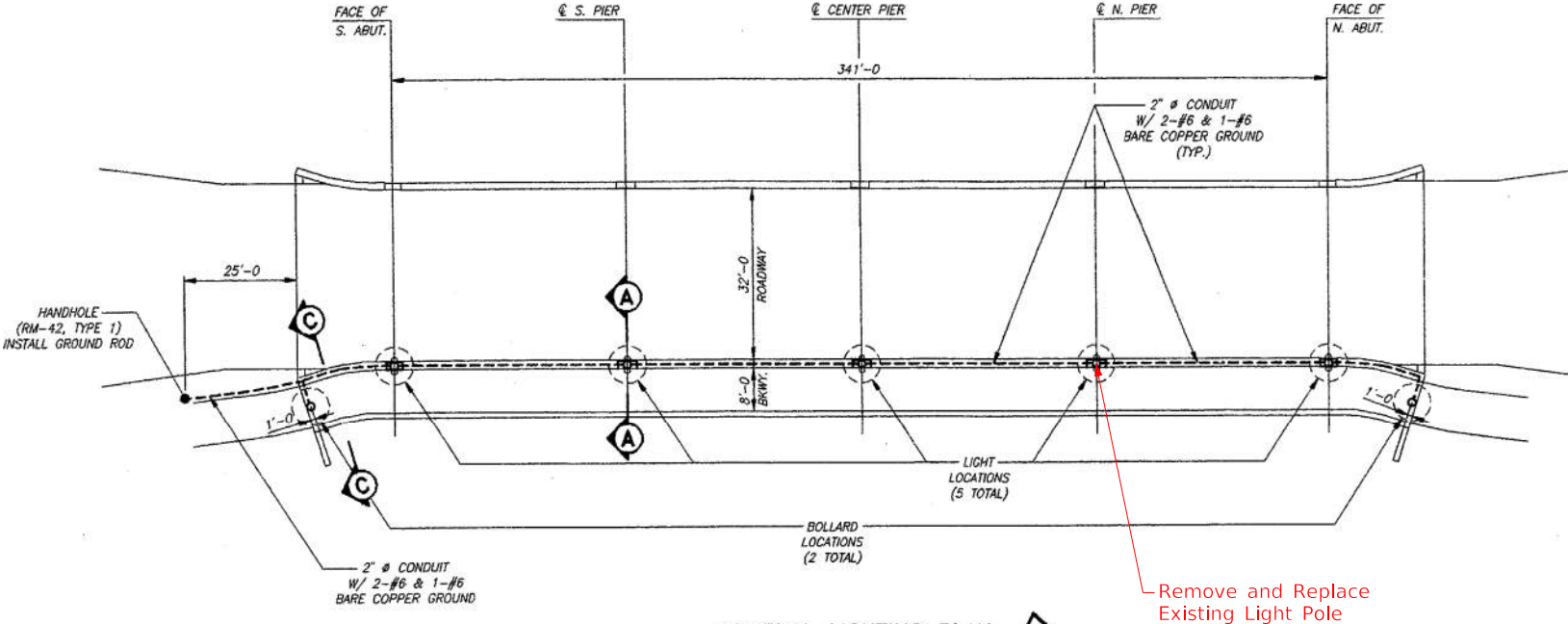
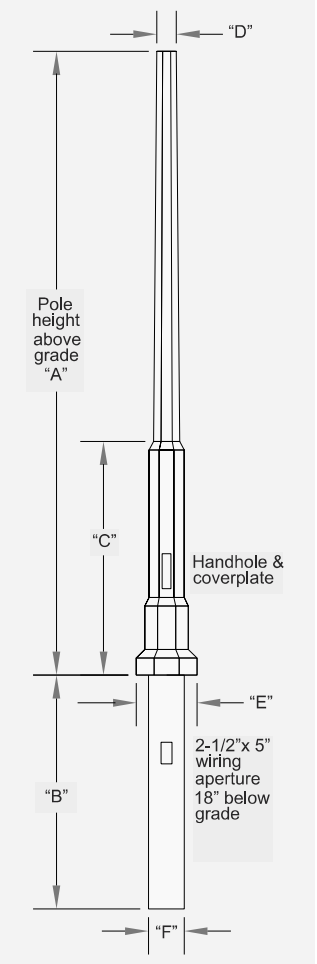
NA - Non Acrylic
A - Acrylic
AG - Anti Graffiti Coating***

GFI

NA

Options*
DR - Duplex Receptacle
GFI - Ground Fault Duplex Receptacle
SR - 1 Outlet
LRN - Ladder Rest
BPC - Base Plate Cover
AB - Anchor Bolts
BA - Banner Arms
FH - Flag Holders

*Consult website for full listings. **See decor colors on page 2 for full selection of colors.
***Anti Graffiti Coating is extra, consult factory for more details.



GENERAL LIGHTING PLAN
(NOT TO SCALE)
NOTE : SEE SHEET 24 FOR SECTION C-C.

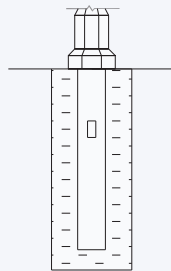
For informational purpose only.
Existing Detail From Design No. 5198 Plans

Footing Details

Direct Buried

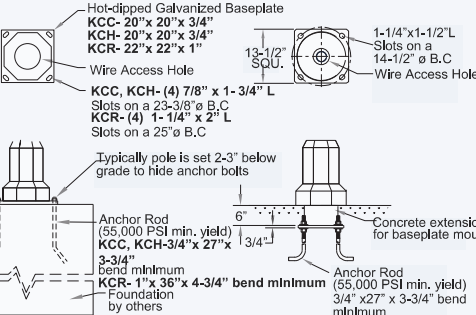
(Simple and Cost Effective)

1. Auger the setting hole.
2. Set pole in hole and plumb straight.
3. Backfill* with required backfill tamping every 4" to 6".

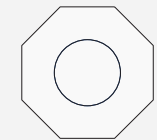
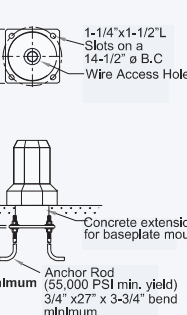


*Generally the excavated material can be used for backfill, in some situations better backfill may be required.

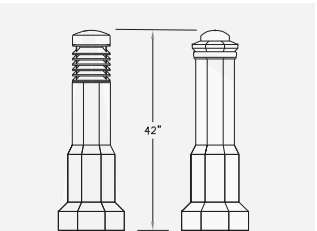
Baseplate
Option 1: FBP



Baseplate
Option 2: SBP

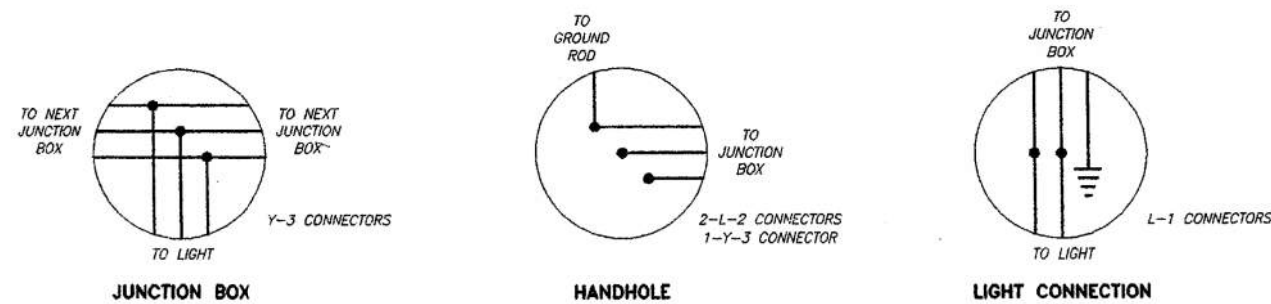


Typical Pole Cross Section

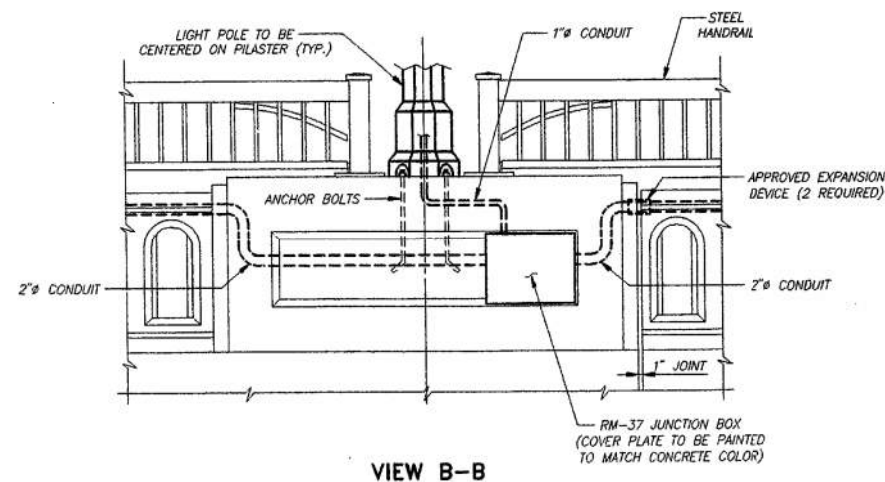


Lighted Bollard Nonlighted Bollard
JACHMAN

www.scgrp.com



WIRING CONNECTIONS



VIEW B-B

For informational purpose only.

LIGHTING NOTES:

1. Remove existing light post top arm (2), luminaries (2), and associated mounting devices. Protect and store on site for future re-installation in same location to new concrete pole.

2. Remove light pole and dispose of.

3. Coordinate with new light pole manufacturer prior to ordering the drill holes locations and height for the 2 arms to be remounted to new pole.

4. Install and power new light pole with previously removed arms and luminaries.

5. Anchor bolt new light pole assembly to existing anchor bolts on barrier wall/concrete panel footing. See P.2 for additional details.

LIGHT POLE:

MANUFACTURER - STRESSCRETE

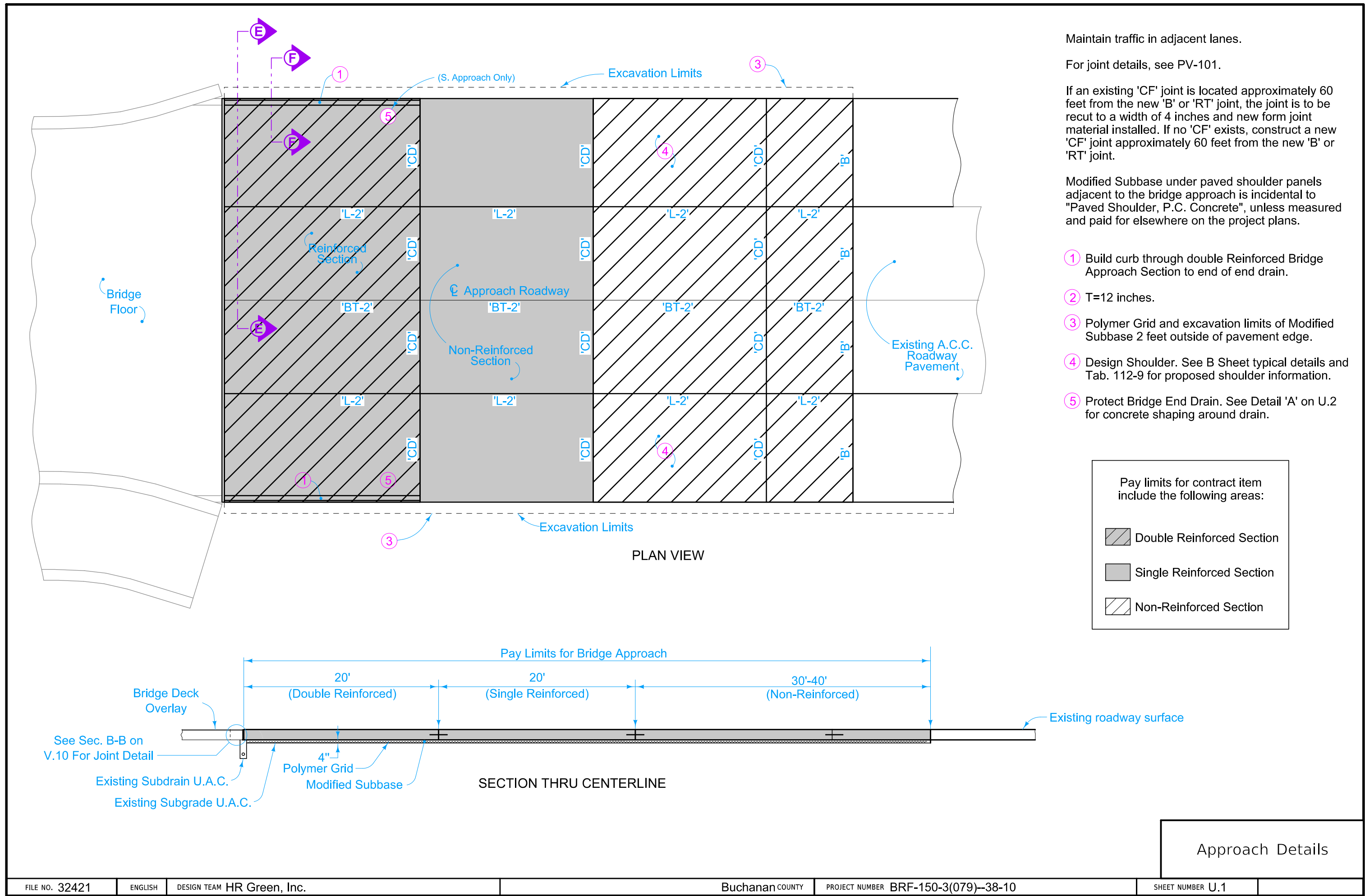
MODEL- COACHMAN 15'- KCC-15'-P-30-FBP-140

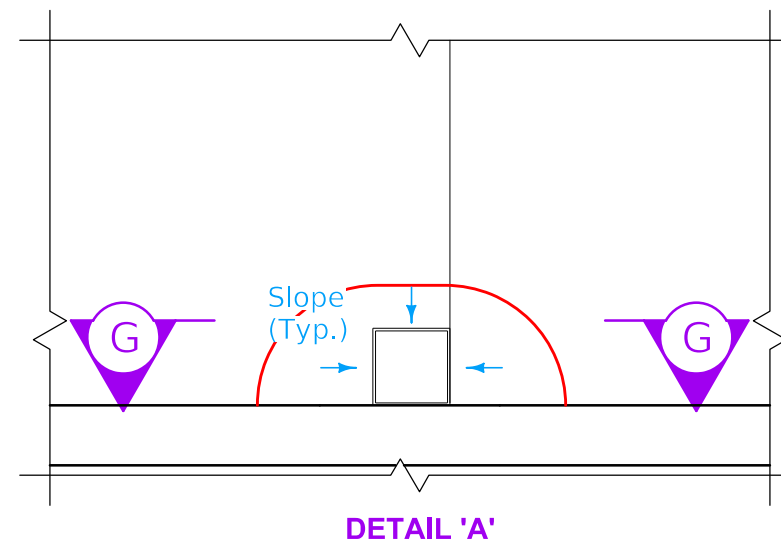
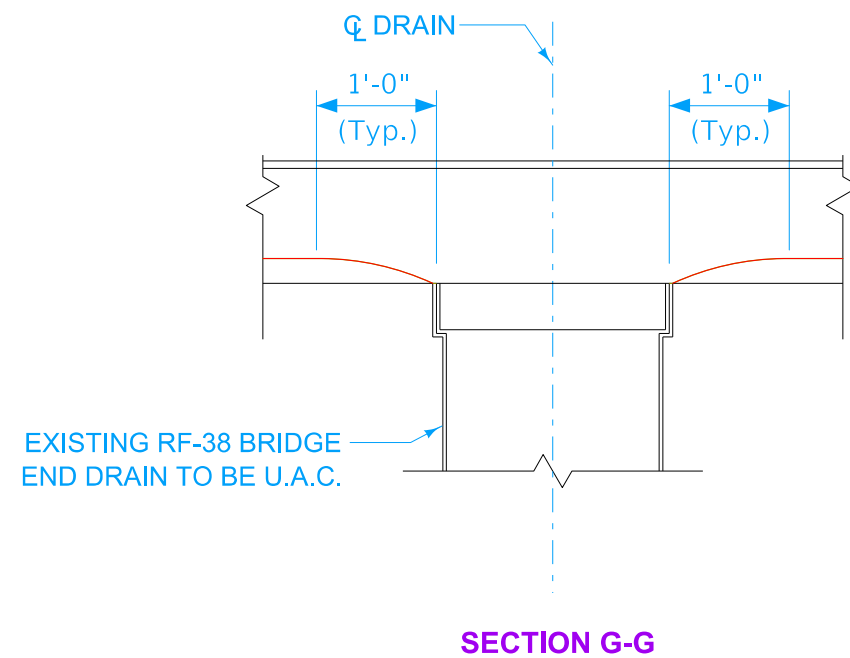
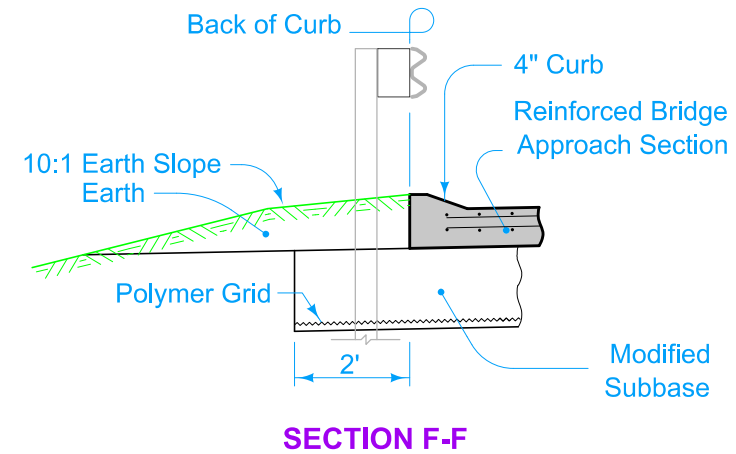
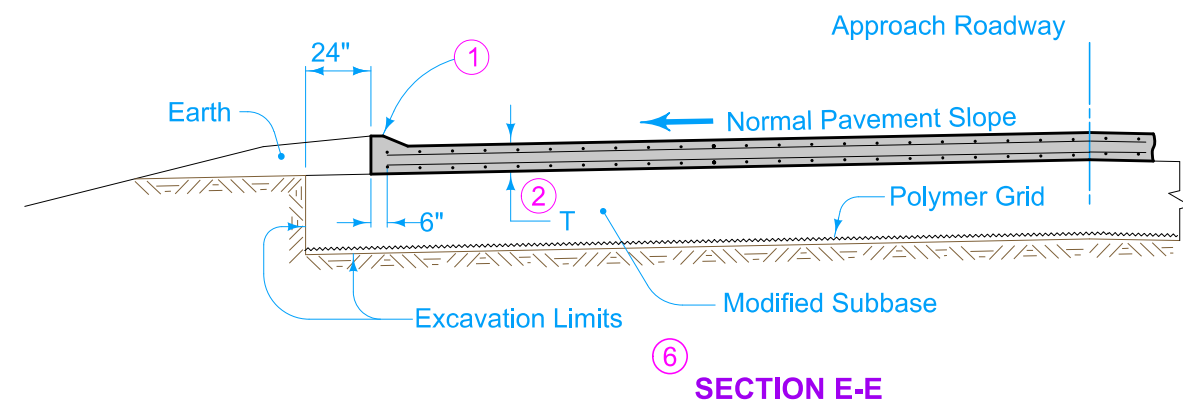
30/30-AB-AG

Photo electrical control cell for lights on bridge will NOT need to be installed. All lights on bridge will be controlled by a photo cell which controls all street lighting to the south of the bridge.

Install lights as recommended by manufacturer.

LIGHTING/BOLLARD DETAILS





Maintain traffic in adjacent lanes.

For joint details, see PV-101.

If an existing 'CF' joint is located approximately 60 feet from the new 'B' or 'RT' joint, the joint is to be recut to a width of 4 inches and new form joint material installed. If no 'CF' exists, construct a new 'CF' joint approximately 60 feet from the new 'B' or 'RT' joint.

Modified Subbase under paved shoulder panels adjacent to the bridge approach is incidental to "Paved Shoulder, P.C. Concrete", unless measured and paid for elsewhere on the project plans.

- ① Build curb through double Reinforced Bridge Approach Section to end of end drain.
- ② T=12 inches.
- ③ Polymer Grid and excavation limits of Modified Subbase 2 feet outside of pavement edge.
- ④ Design Shoulder. See B Sheet typical details and Tab. 112-9 for proposed shoulder information.
- ⑤ Protect Bridge End Drain. See Detail 'A' on U.2 for concrete shaping around drain.

Approach Details