LETTING DATE
Dec 15 2026

Bridge Deck Overlay
BRF-030-5(322)--38-85

STORY COUNTY

Index of Sheets

No.	Description
Sheets	Bridge Plan
A.1	Title Sheet
A.2	Location Map Sheet
V.1	Estimated Quantities - Design 0128
V.2 - V.8	Design 0128
Road Sheets	Road Plan
B.1 - J.5	Road Plans
C.1 - C.2	Estimated Quantities - Road
C.5	Standard Plans - Road

IOWA DOT

PLANS OF PROPOSED IMPROVEMENT ON THE

PRIMARY ROAD SYSTEM
STORY COUNTY
Bridge Deck Overlay

US 30 (WB) over
W Branch Indian Creek
0.5 mi E of Co Rd S14

Refer to the Plan Sheets for list of applicable specifications.

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

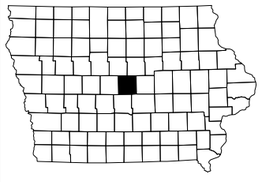
IOWA ONE CALL
1-800-292-8989
www.iowaonecall.com
811 Know what's below. Call before you dig.

Revisions

TOTAL	39
PROJECT IDENTIFICATION NUMBER	23-85-030-010
PROJECT NUMBER	BRF-030-5(322)--38-85
R.O.W. PROJECT NUMBER	
PROJECT DIRECTORY NUMBER	8503001023

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

Design QR Feedback Link



Standard Road Plans

Standard Road Plans are listed on Sheet No. C.5

Design Data Urban US 30

2024 AADT	12,300	V.P.D.
2054 AADT	12,800	V.P.D.
20-- DHV	--	V.P.H.
TRUCKS	10	%
Total Design ESALs	5,347,500	

Iowa DOT Bridges and Structures
Consultant Coordinator Contact:
Bryant Thelen

Index of Seals

Sheet No.	Name	Type
A.1	Chad W. Meyer	Structural Design
A.1	Jonah Heer	Roadway Design

Roadway Design

LICENSED PROFESSIONAL ENGINEER — Jonah Heer 28040 — IOWA

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

Signature Jonah Heer — 09-18-2026 Date

Printed or Typed Name: Jonah Heer

My license renewal date is December 31, 2026

Pages or sheets covered by this seal: B.1 - B.2, C.1 - C.20, D.1 - D.2, J.1 - J.5

Structural Design

LICENSED PROFESSIONAL ENGINEER — Chad W. Meyer 17394 — IOWA

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

Signature Chad W. Meyer — 09-18-2026 Date

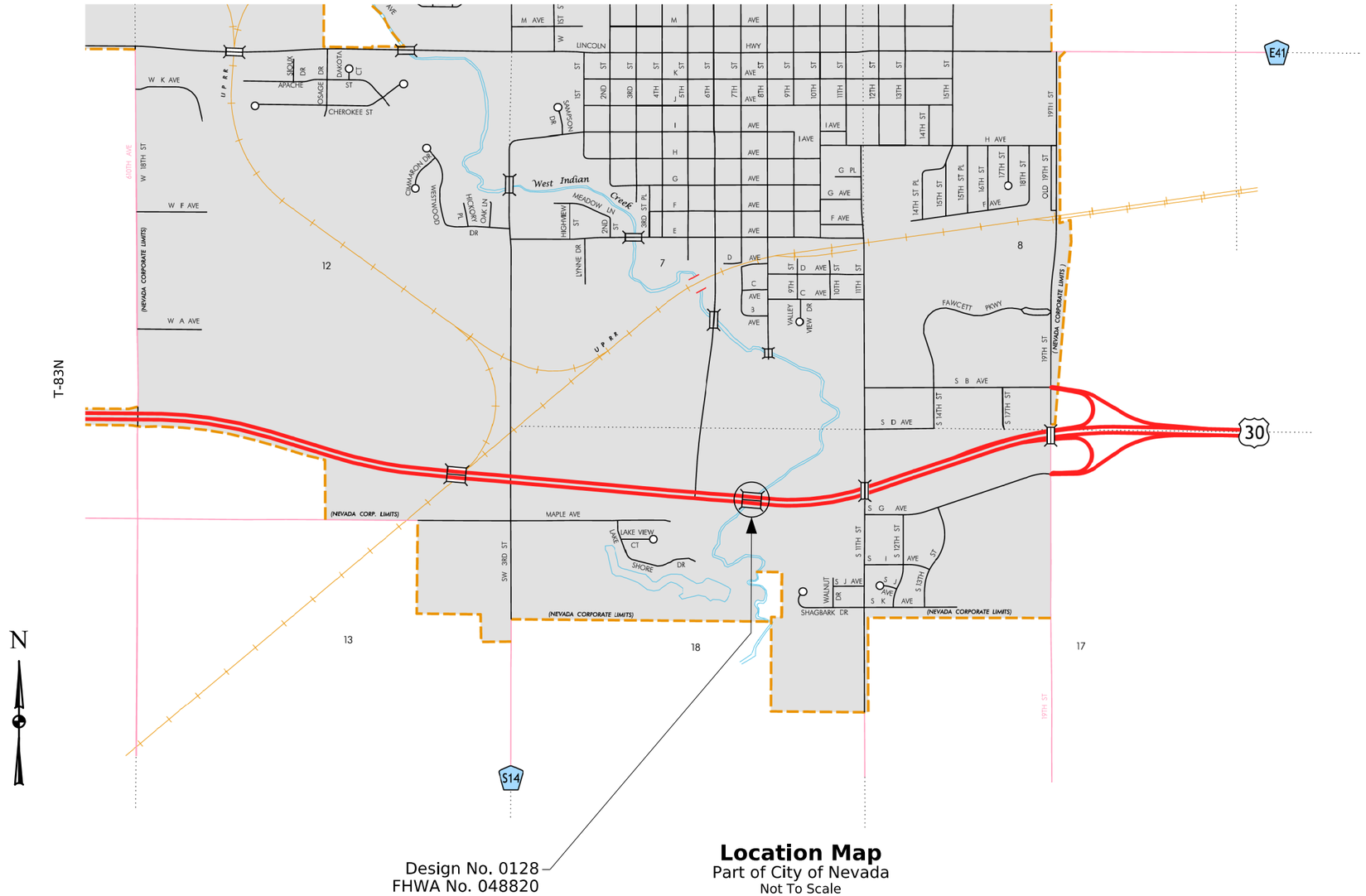
Printed or Typed Name: Chad W. Meyer

My license renewal date is December 31, 2026

Pages or sheets covered by this seal: A.1 - A.2, V.1 - V.8

R-23W R-22W

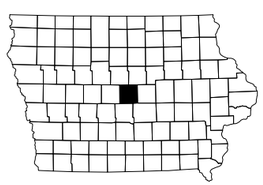
T-83N



N

Design No. 0128
FHWA No. 048820

Location Map
Part of City of Nevada
Not To Scale



LEGEND

INTERSTATE ROUTE	35
FREEWAY OR EXPRESSWAY ROUTE	30
U.S. NUMBERED ROUTE	6
BUSINESS ROUTE	61
STATE NUMBERED ROUTE	44
UNSIGNED ROUTE	461
COUNTY NUMBERED ROUTE	R38
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	9, T-81N, R-30W

FILE NO. 32552	ENGLISH	DESIGN TEAM McClure	STORY COUNTY	PROJECT NUMBER BRF-030-5(322)--38-85	SHEET NUMBER A.2	

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Estimated Bridge Repair Quantities and Reference Notes

Item No.	Item Code	Item	Unit	Quantities Estimated	Estimate Reference Notes
1	2413-0698074	DECK REPAIR, CLASS A	SY	130	---
2	2426-6772016	CONCRETE REPAIR	SF	58.0	Includes repairs to both abutments and the East pier cap as specified in these plans.
3	2506-4984000	FLOWABLE MORTAR	CY	10.0	Includes flowable mortar under East abutment at locations of undermining repair. See Design Sheets 3 and 8 for details.
4	2508-0970000	CONTAINMENT	LS	1	Includes all costs associated with sandblasting exposed surfaces of the existing beam bearing assemblies and girders at the East abutment as noted on Design Sheet 6.
5	2508-0991000	PAINTING OF STRUCTURAL STEEL	LS	1	Includes all costs associated with painting exposed surfaces of the existing beam bearing assemblies and girders at the East abutment as noted on Design Sheet 6.
6	2510-6745640	REMOVAL OF EXIST. P.C. OVERLAY	SY	652	Method of measurement and basis of payment are defined on Design Sheet 2.
7	2526-8285040	CONSTRUCTION SURVEY, LOCATION SURVEY	LS	1	---
8	2533-4980005	MOBILIZATION	LS	1	---
9	2599-9999005	BEARING ASSEMBLY ANCHORAGE RETROFIT	EA	2	Includes all material, equipment, and labor to retrofit the damaged bearing assembly anchorages at the East abutment in accordance with these plans. Method of measurement and basis of payment are for each bearing assembly repaired. Refer to Design Sheet 6 for additional information.
10	2599-9999010	BERM EROSION REPAIR	LS	1	Includes all material, equipment, and labor to repair berm erosion in accordance with these plans. Method of measurement and basis of payment are lump sum. Refer to Design Sheet 8 for additional information.
		ALTERNATE AA OPTION 1			
11	2413-0698066	DECK OVERLAY (CLASS O PCC)	SY	652	Includes all costs of furnishing and placing concrete sealer at barriers and abutments seats.
		ALTERNATE AA OPTION 2			
12	2403-1000010	TRIAL BATCH AND TEST PLACEMENT (FIBER REINFORCED CONCRETE)	LS	1	Refer to Developmental Specification for Fiber Reinforcement for Structural Concrete.
13	2413-0698067	DECK OVERLAY (CLASS HPC-O PCC)	SY	652	Includes all costs of furnishing and placing concrete sealer at barriers and abutments seats.
14	2413-1000005	FIBER REINFORCEMENT FOR CONCRETE REPAIR/OVERLAY	SY	652	Refer to Developmental Specification for Fiber Reinforcement for Structural Concrete.

Roadway Quantities shown elsewhere in these plans.

Design For Repairs To 45 Degree LA

190'-0" x 30'-0" Continuous I-Beam Bridge

58'-0" End Spans 74'-0" Interior Span

Estimate Quantities

STA. 2087+94.50 (US 30 WB) Turn-in Date: Oct 2026

Story County

IOWA DEPARTMENT OF TRANSPORTATION

Design No. 0128 Design Sheet No. 1 of 8 FHWA No. 048820

Specifications:

Design:

AASHTO series of 2002.

Construction:

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

Developmental Specifications for "Fiber Reinforcement for Structural Concrete"

Design Stresses:

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

Reinforcing steel in accordance with Section 8, Grade 60.
Concrete in accordance with Section 8, f'c = 4.0 ksi.
Structural steel in accordance with Section 10. ASTM A709 Grade 36.

General Notes:

This design is for repairs to the existing 190'-0" x 30'-0" continuous I-beam bridge on US 30 WB over West Branch Indian Creek.
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 based on design plans (Original Design No. 1761, Design 186, Design 605 and Design 319).
Repair shall consist of:

1. See Design Sheet 3 for list of repairs.

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

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

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

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

Utility Companies and Municipalities 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.

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 bridge Contractor is to provide a method of removal that will prevent damage to cast-in-place concrete not designated for removal.

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

Faint lines on plans indicate existing portions of the bridge.

This design designates certain existing reinforcing bars to be reused in the new construction. Care shall be taken when exposing reinforcing so the bond to existing concrete is not broken at the concrete break lines. Existing reinforcing bars to be saved shall be cleaned and straightened.

Areas of curb indicated in the plans or designated by the Engineer are to be repaired using concrete repair notes and details included in these plans.

Present deck thickness is about 9 inches including existing overlay. The Contractor shall exercise care in removing the concrete in order to prevent unnecessary unbonding of reinforcing steel.

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

The bridge deck is covered with a 1¾ inch thick portland cement concrete overlay. The Contractor shall note the redefining of the classification line (boundary between repair and overlay) for this project due to the existing 1¾ inch overlay. The classification line will be defined as 2 inches below the top of existing overlay. This will necessitate the removal of the existing bridge deck overlay before placing the proposed new bridge deck overlay.

The bridge deck may have been epoxy-injected. The Contractor shall remove all exposed epoxy. Removal of epoxy is incidental to "Removal of Existing P.C.C. Overlay" and "Deck Repair, Class A" as appropriate.

All costs associated with the removal of the existing overlay shall be included in the bid item "Removal of Existing P.C.C. Overlay". Removal of existing overlay shall be computed in square yards from the measurement of areas removed. The Contractor will be paid the contract price per square yard for furnishing all equipment and labor necessary to remove the concrete to within ¼ inch above the classification line. All costs, including furnishing equipment and labor, associated with removal of the next ¼ inch of concrete (to the classification line) shall be included in the bid item "Deck Overlay".

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

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.

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

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

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

The bridge Contractor shall dress up the slopes around the wings which are disturbed during construction. This work shall be considered incidental and no extra payment will be made.

It will be necessary to support the earth and/or granular material behind the abutment during reconstruction of the abutment backwalls by some method approved by the Engineer. All costs for supporting the earth and/or granular material shall be included in the price bid for "Structural Concrete (Miscellaneous)".

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

Beam bearings at the abutments (sole plates and masonry plates) are to be cleaned and painted. Cleaning by vacuum blasting or by a non-blasting method is required. Surface to be painted shall be prepared in accordance with Steel Structures Painting Council (SSPC) SP3. Surfaces of the abutment bearings are to be given one coat of both a rust inhibitor type primer and final coat as approved by the Engineer. The color of the dry paint should approximate the color of concrete. This work shall be measured and paid for at the contract unit price per lump sum for the bid item, "Painting of Structural Steel".

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

A scrape sample was taken from an area of the bridge to get an indication of the existence of and level of total lead and total chromium. Analysis of the total lead on this sample was 7,400 part per million (PPM). Analysis of the total chromium on this sample was 907 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.

Working Drawing and Calculation Submittals

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

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

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

No.	Working Drawing Description	Working Drawing File Name Convention For Submittal	Certified by Iowa P.E. (Yes/No)
1	Bearing Assembly Anchorage Retrofit	(322)_Story_Design0128_BearingAssemblyRetrofit.pdf	No
X			
X			
X			
X			
No.	Calculation Description	Calculation File Name Convention For Submittal	Certified by Iowa P.E. (Yes/No)
X			
X			
X			
X			

Traffic Control Plan

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

Design History at this Site

(Includes this Design)

Des. No.	Type of Work
1761	Original Design
186	Overlay and Retrofit Rail
605	Retrofit Rail End Sections
319	Backwall Replacement
128	Deck Overlay (This Design)

Design For Repairs To 45 Degree LA

190'-0" x 30'-0" Continuous I-Beam Bridge

58'-0" End Spans — 74'-0" Interior Span

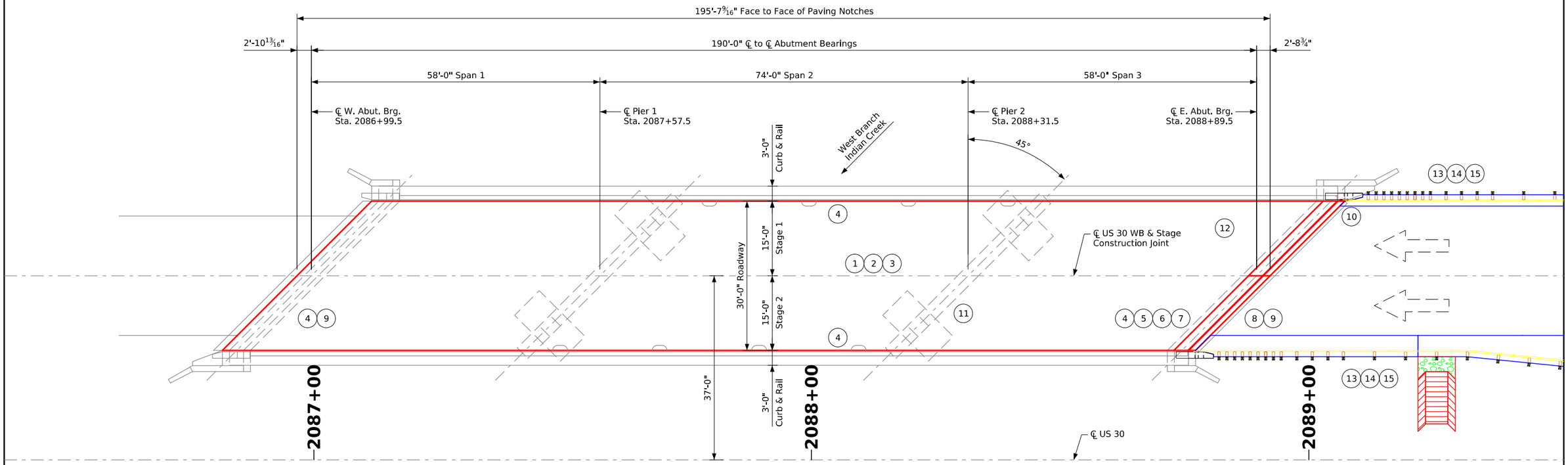
General Notes

STA. 2087+94.50 (US 30 WB) — Turn-in Date: Oct 2026

Story County

IOWA DEPARTMENT OF TRANSPORTATION

Design No. 0128 — Design Sheet No. 2 of 8 — FHWA No. 048820



Situation Plan

Estimated repair.
Actual areas as designated by
the Engineer shall be repaired.

Repair shall consist of:

1. Remove existing PC overlay.
2. Class A bridge deck repair.
3. Bridge deck overlay.
4. Clean and seal barriers, abutment backwalls, and abutment bearing seats.
5. Clean and paint East abutment bearing assemblies. See Design Sheet 6.
6. Clean and paint Girders at East abutment. See Design Sheet 6.
7. Remove and replace East abutment bearing anchor bars. See Design Sheet 6.
8. Remove and replace East abutment joint. See Design Sheets 4 and 5.
9. Abutment footing concrete repair. See Design Sheet 6.
10. Top of deck and backwall concrete repair at East abutment. See Design Sheets 4 and 5.
11. East Pier (Pier 2) concrete repair. See Design Sheet 5.
12. Repair erosion at East abutment. See Design Sheet 8.
13. Remove and replace guardrail. See Roadway Sheets.
14. Construct shoulder strengthening to accommodate staged construction. See Roadway Sheets.
15. Construct rock flumes at East end of bridge. See Roadway Sheets.

N

Location

US 30 (WB) over
West Branch Indian Creek
In City of Nevada
T-83N R-22W
Section 18
Nevada Township
Story County
FHWA No. 048820
Bridge Maint. No. 8557.6L030
Latitude 42.005527°
Longitude -93.449855°

Design For Repairs To 45 Degree LA

190'-0" x 30'-0" Continuous I-Beam Bridge

58'-0" End Spans — 74'-0" Interior Span

Situation Plan

STA. 2087+94.50 (US 30 WB) — Turn-in Date: Oct 2026

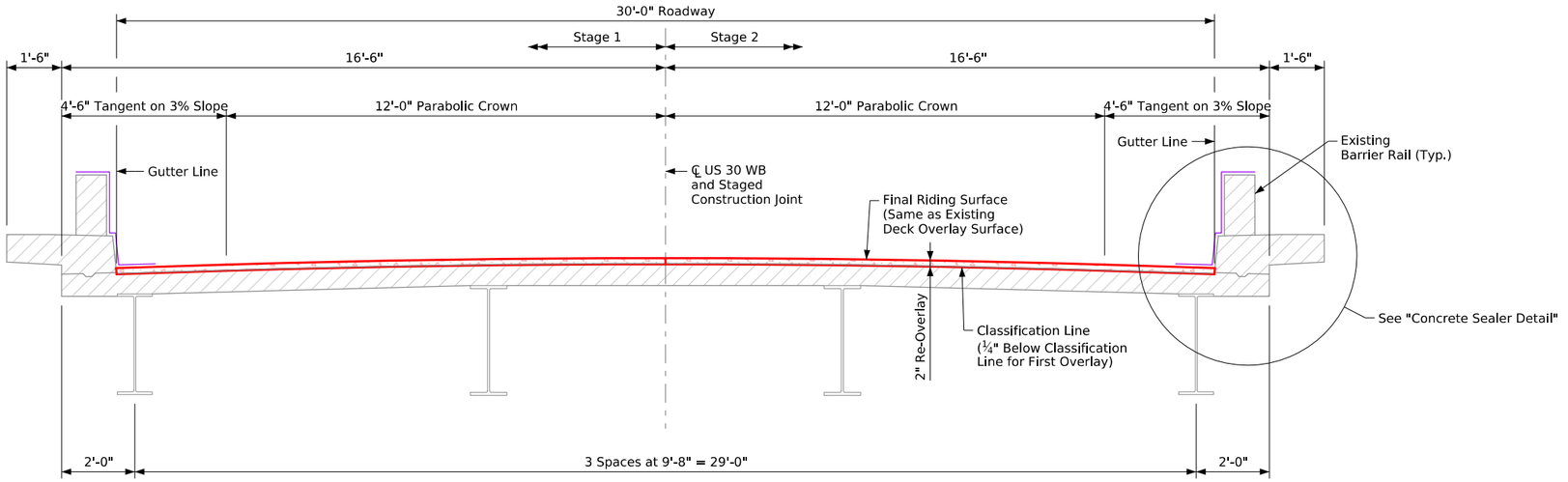
Story County

IOWA DEPARTMENT OF TRANSPORTATION

Design No. 0128 — Design Sheet No. 3 of 8 — FHWA No. 048820

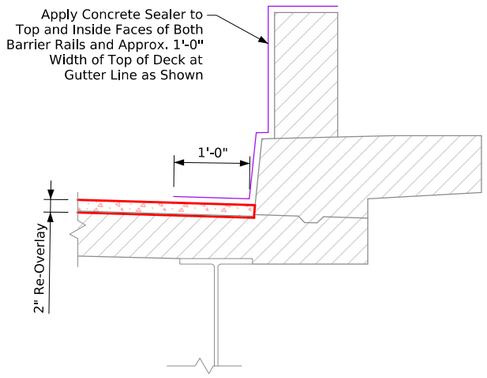
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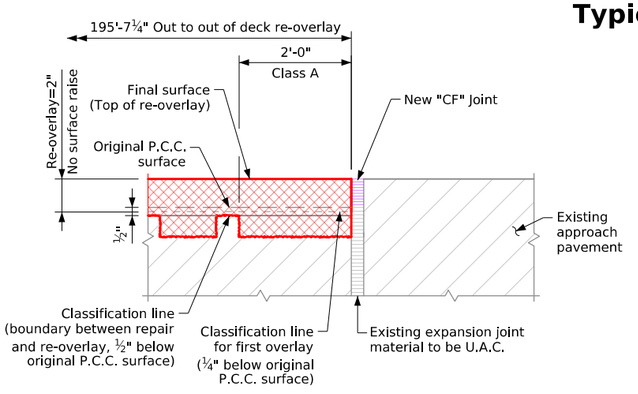


Typical Cross Section

(Looking East)

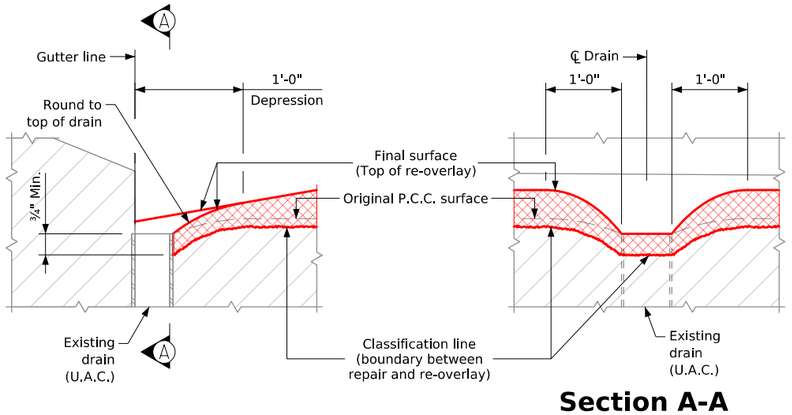


Concrete Sealer Detail



Part Longitudinal Section Along Roadway

West Abutment

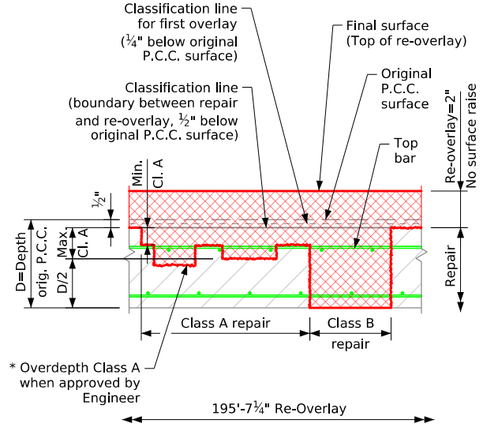


Section A-A

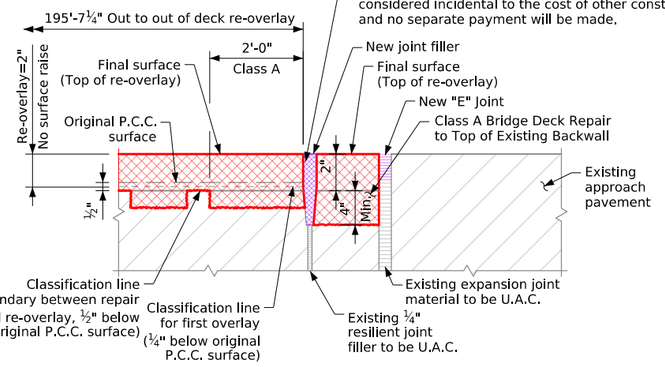
Deck Repair Detail at Drain

(Required at ?? Locations)

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



Repair and Re-Overlay Definition



Part Longitudinal Section Along Roadway

East Abutment

Note: The 2'-0" Class A repair area shown at the joint at the end of the bridge deck 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. The 2'-0" Class A repair area shall be placed monolithically with overlay.

Design For Repairs To 45 Degree LA

190'-0" x 30'-0" Continuous I-Beam Bridge

58'-0" End Spans — 74'-0" Interior Span

Deck Repair Details

STA. 2087+94.50 (US 30 WB) — Turn-in Date: Oct 2026

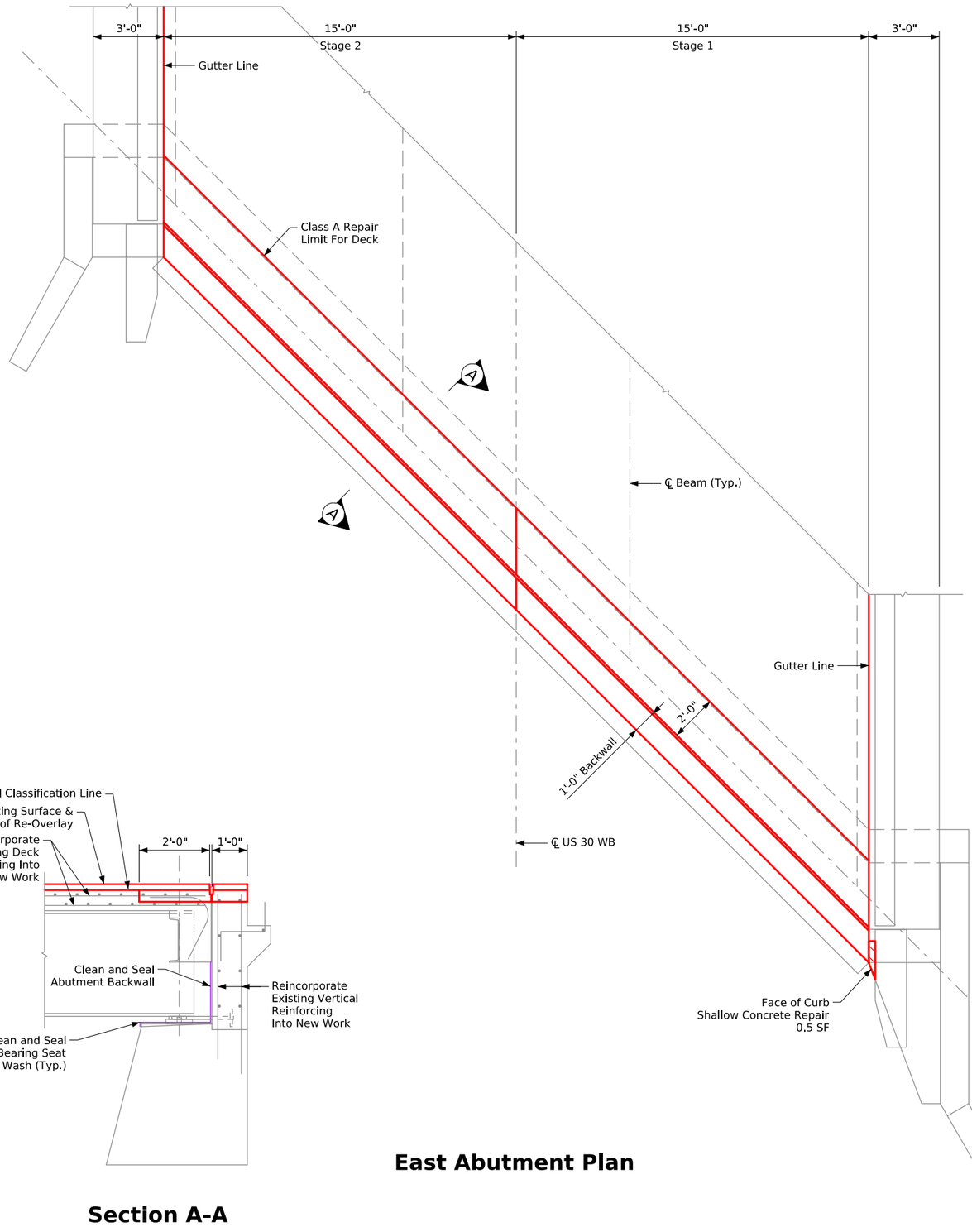
Story County

IOWA DEPARTMENT OF TRANSPORTATION

Design No. 0128 — Design Sheet No. 4 of 8 — FHWA No. 048820

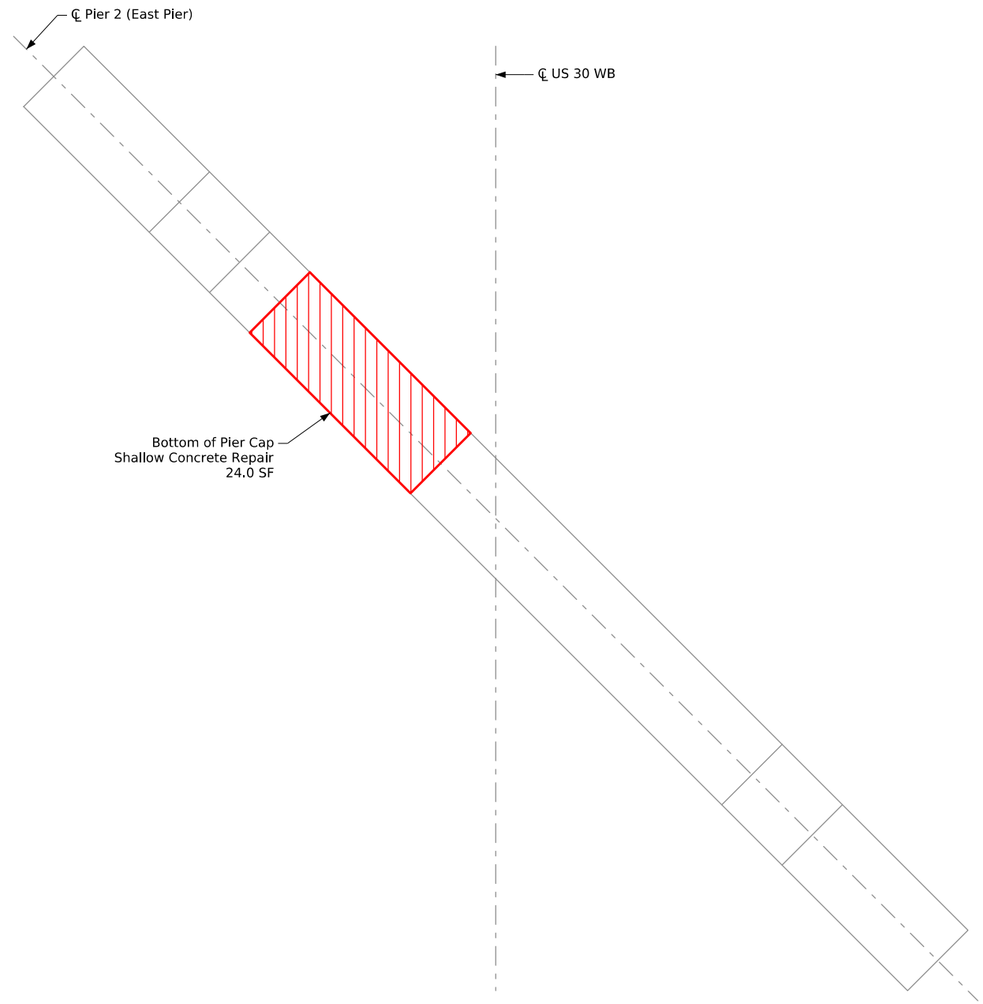
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East Abutment Plan

Section A-A



East Pier Bottom Cap Plan

N

Design For Repairs To 45 Degree LA

190'-0" x 30'-0" Continuous I-Beam Bridge

58'-0" End Spans — 74'-0" Interior Span

Abutment/Pier Concrete Repair Details

STA. 2087+94.50 (US 30 WB)

Turn-in Date: Oct 2026

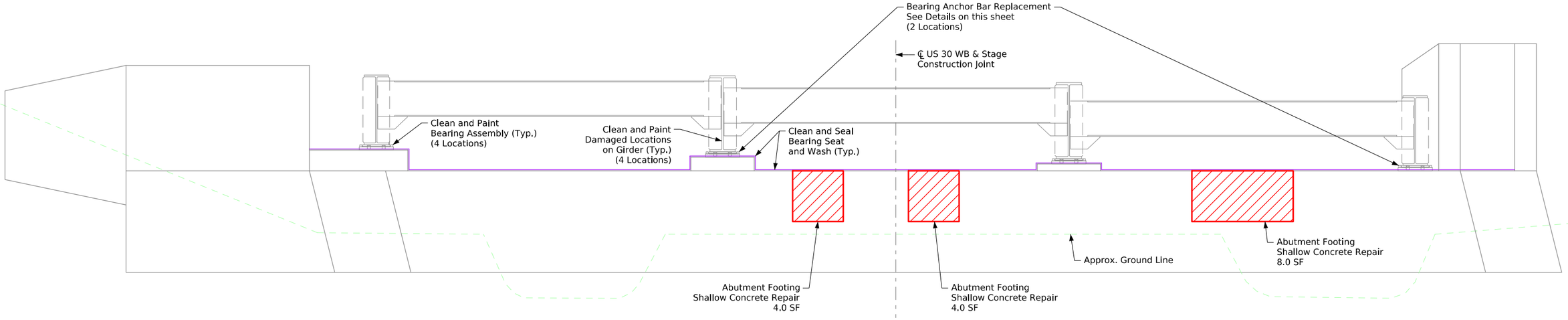
Story County

IOWA DEPARTMENT OF TRANSPORTATION

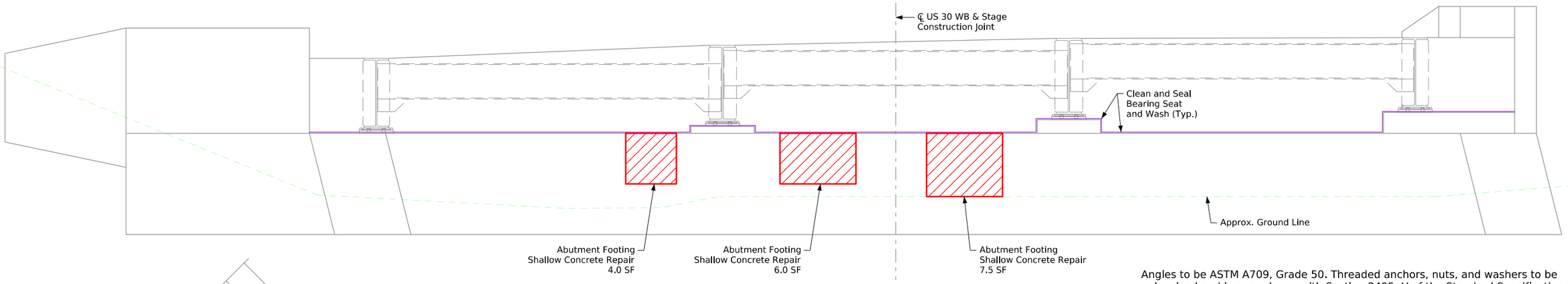
Design No. 0128 — Design Sheet No. 5 of 8 — FHWA No. 048820

FILE NO. 32552	ENGLISH	DESIGN TEAM McClure	Story COUNTY	PROJECT NUMBER BRF-030-5(322)--38-85	SHEET NUMBER V.5

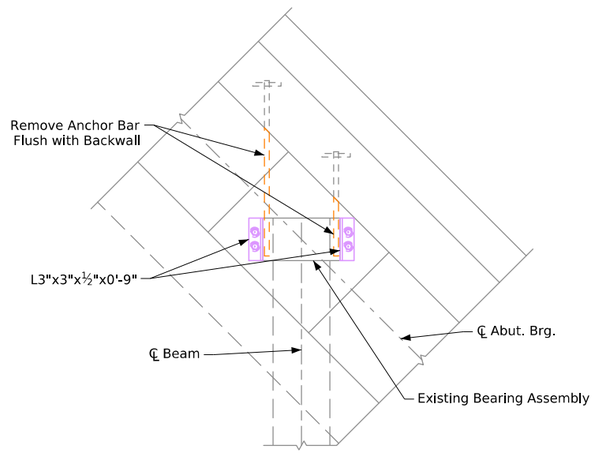
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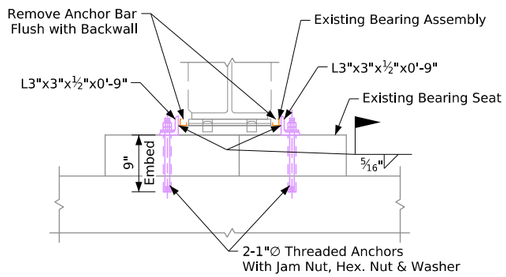
East Abutment Front Elevation
(Looking East)



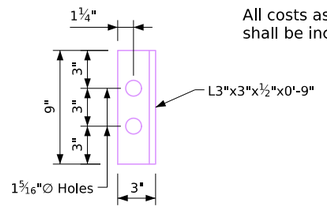
West Abutment Front Elevation
(Looking West)



East Abutment Part Plan



East Abutment Bearing Elevation



Bearing Connection Plate

Angles to be ASTM A709, Grade 50. Threaded anchors, nuts, and washers to be galvanized and in accordance with Section 2405, H of the Standard Specifications, with the exception that the threaded anchors shall be ASTM F1554, Grade 55.

Threaded anchors shall be installed in drilled holes using a polymer grout system in accordance with Article 2301.03, E of the Standard Specifications and Materials I.M. 491.11. Install per the manufacturer's recommendations.

Threaded anchors shall be drilled and polymer grouted into sound concrete. Anchors shall have a minimum pullout strength of 5,000 pounds each based on 4,000 psi concrete.

All costs associated with materials and labor for installation of the girder supports shall be included in the price bid for “Bearing Assembly Anchorage Retrofit”.

Design For Repairs To 45 Degree LA

190'-0" x 30'-0" Continuous I-Beam Bridge

58'-0" End Spans — 74'-0" Interior Span

Abutment Concrete Repair Details

STA. 2087+94.50 (US 30 WB) — Turn-in Date: Oct 2026

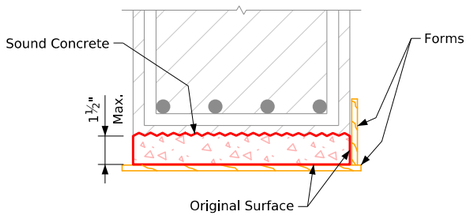
Story County

IOWA DEPARTMENT OF TRANSPORTATION

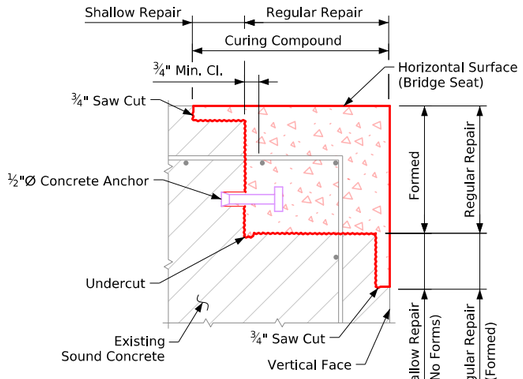
Design No. 0128 — Design Sheet No. 6 of 8 — FHWA No. 048820

FILE NO. 32552	ENGLISH	DESIGN TEAM McClure	Story COUNTY	PROJECT NUMBER BRF-030-5(322)--38-85	SHEET NUMBER V.6	

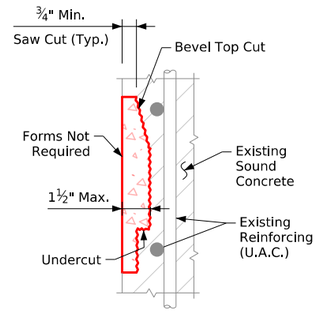
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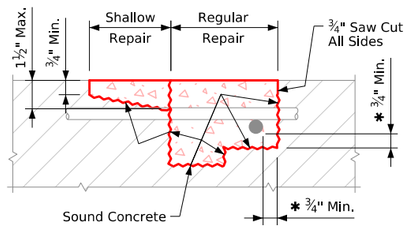
Shallow Repair Bottom Surface



Corner Repair

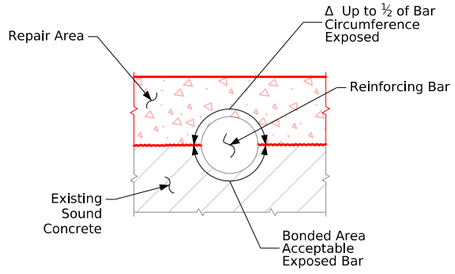


Shallow Repair Vertical Face

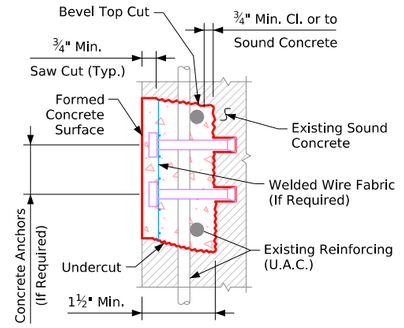


Repair Definition

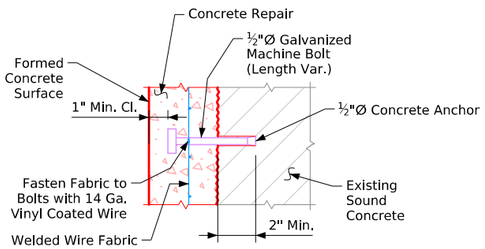
✱ Indicates Clearance for an Un-Bonded Rebar.



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

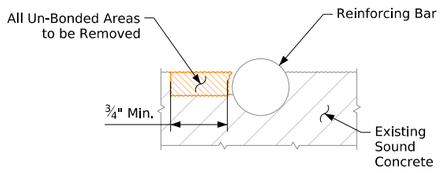


Regular Repair Vertical Face



Anchor Detail

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



Concrete Removal Adjacent to Reinforcing

Repair Notes:

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

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

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

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

Concrete Placement Quantities

Mark	Type	Units	Quantity
①	Shallow Repair	Sq. Ft.	58
②	Regular Repair	Sq. Ft.	0
		Total (Sq. Ft.)	58

Estimated Concrete Repair Quantities

Description	Units	Amount
Concrete Repair	Sq. Ft.	58

Design For Repairs To 45 Degree LA

190'-0" x 30'-0" Continuous I-Beam Bridge

58'-0" End Spans — 74'-0" Interior Span

Concrete Repairs

STA. 2087+94.50 (US 30 WB) — Turn-in Date: Oct 2026

Story County

IOWA DEPARTMENT OF TRANSPORTATION

Design No. 0128 — Design Sheet No. 7 of 8 — FHWA No. 048820

Revised 10-2014; Deleted All References to Grout, Section 2426 Covers this Requirement and Doesn't Need to be Stated on the Plans.
RepairRetrofitBridges.dgn - 1045 - This Sheet Redrawn 09-27-1990. This Sheet Re-Issued 07-2023.



East Abutment Erosion



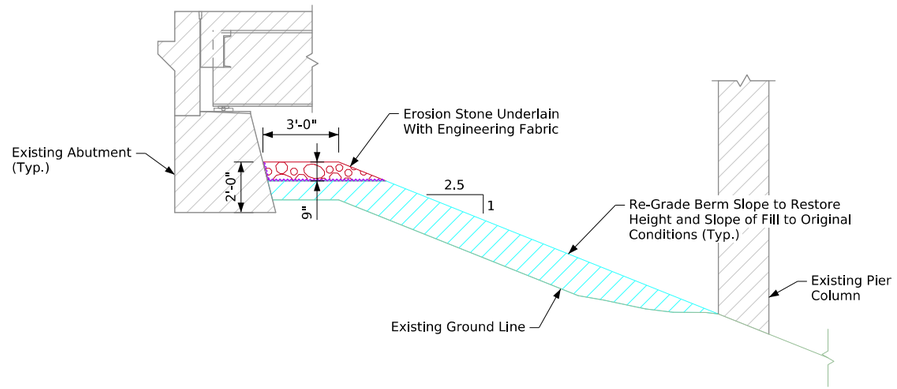
East Abutment Undermining



East Abutment Erosion



East Abutment Undermining



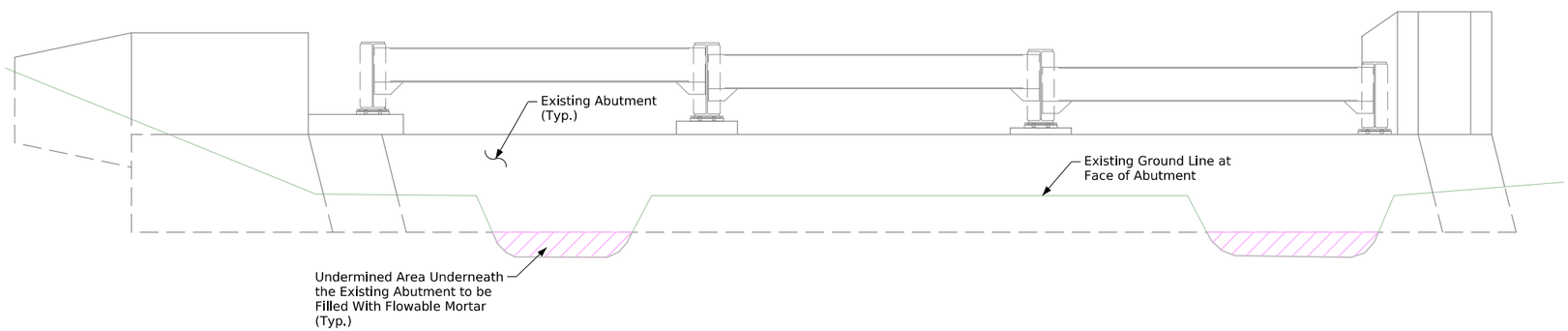
Longitudinal Section of Typical Berm Repair

(East Abutment)

Erosion Repair Quantities

Item	Unit	Quantity
Flowable Mortar	C.Y.	10.0
Berm Erosion Repair	L.S.	1

Note: Actual volume of flowable mortar required to fill voids beneath abutment footings shall be determined at the time of repair.



Undermining Repair Detail

(East Abutment Front Elevation Shown)

Berm Erosion Repair Notes:

The Contractor shall repair berm erosion in front of the abutments. Approximate areas of required repair are shown on the situation plan. Actual areas will be determined in the field by the Engineer. Material shall be placed and compacted to restore the berm to the satisfaction of the Engineer. Excess excavation may be used as fill for berm erosion repairs as approved by the Engineer. All costs for labor and material required to repair the berms as noted and directed by the Engineer shall be included in the lump sum unit price bid for "Berm Erosion Repair". No additional measurement or payment shall be made. It shall be the Contractor's responsibility to provide sites for excess excavated material which is not used for berm erosion repairs. No payment for overhaul will be allowed for material hauled to these sites.

Design For Repairs To 45 Degree LA

190'-0" x 30'-0" Continuous
I-Beam Bridge

58'-0" End Spans 74'-0" Interior Span

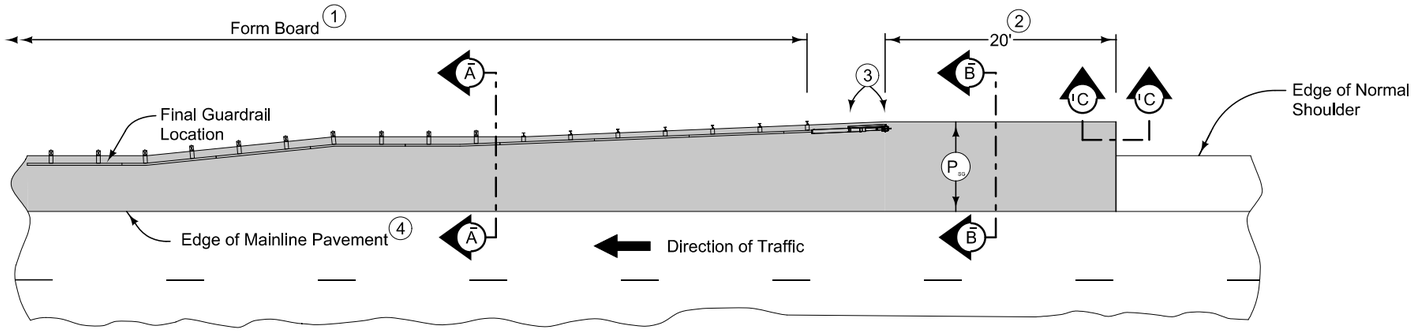
Berm Erosion Repair

STA. 2087+94.50 (US 30 WB) Turn-in Date: Oct 2026

Story County

IOWA DEPARTMENT OF TRANSPORTATION

Design No. 0128 Design Sheet No. 8 of 8 FHWA No. 048820



PLAN VIEW

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

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

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

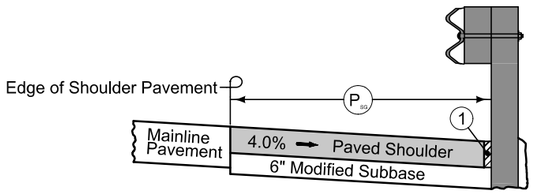
Refer to Tabulation 112-9 for shoulder quantities.

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

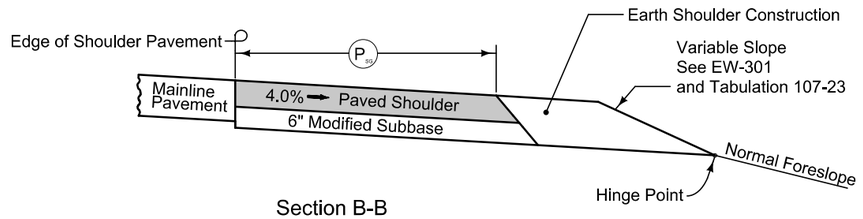
(2) Continue paved shoulder 20 feet beyond the center of the first post.

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

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

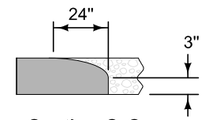


Section A-A



Section B-B

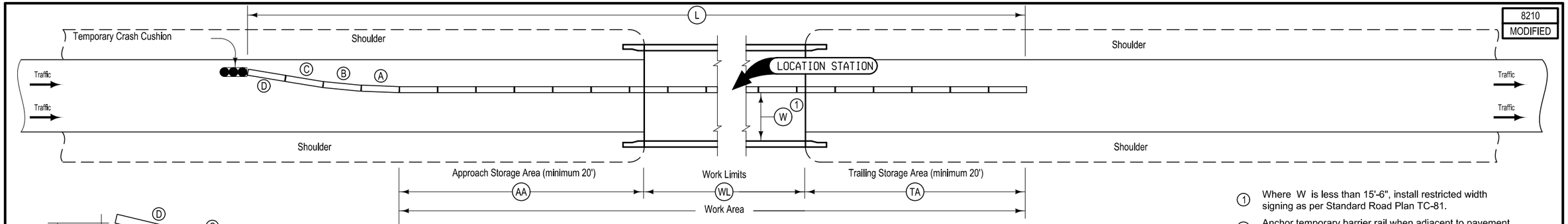
EXISTING SHOULDER

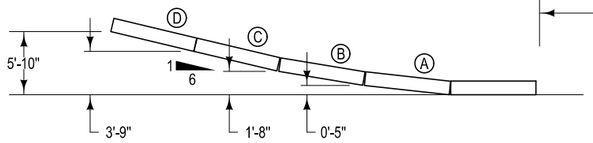


Section C-C
Roll down at granular shoulder or earth.

PAVED SHOULDER AT GUARDRAIL

8210
MODIFIED





BARRIER OFFSETS FOR FLARE SECTIONS

Station	Side	AA	WL	TA	L	Anchored	W (1)	Remarks
		Feet	Feet	Feet	Feet	X	Ft-Inches	
2087+94.50	Left	20'	210'-8"	20'	337'-6"		12'-0"	Stage 1 (Outside Lane)
2087+94.50	Right	20'	210'-8"	20'	337'-6"		12'-0"	Stage 2 (Inside Lane)

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

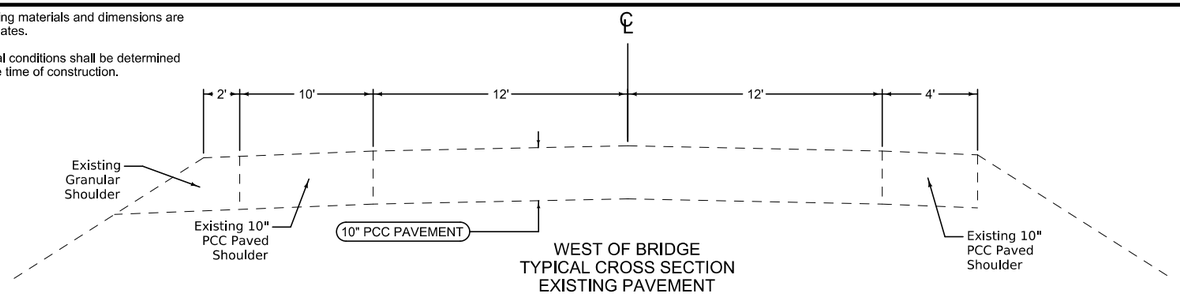
(2) Anchor temporary barrier rail when adjacent to pavement drop-off locations as per Standard Road Plan BA-401. When anchorage is required, construct a minimum of one unit (12'-6") of barrier beyond the critical drop-off areas on both the approach roadway and adjacent bridge deck.

TEMPORARY CONCRETE BARRIER LAYOUT for One-Way Traffic

Existing materials and dimensions are estimates.

Actual conditions shall be determined at the time of construction.

2E_
Modified

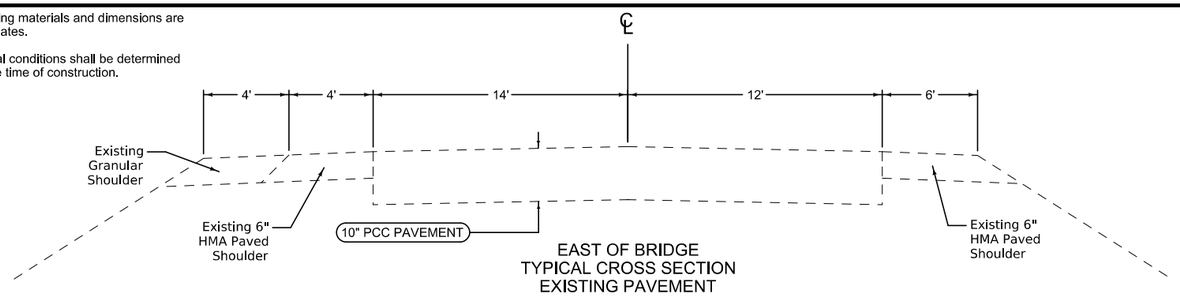


WEST OF BRIDGE
TYPICAL CROSS SECTION
EXISTING PAVEMENT
(LOOKING EAST)
(FOR INFORMATION ONLY)

Existing materials and dimensions are estimates.

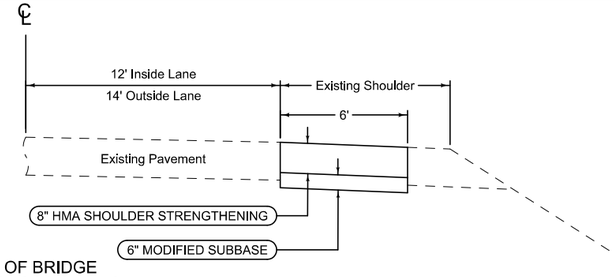
Actual conditions shall be determined at the time of construction.

2E_
Modified



EAST OF BRIDGE
TYPICAL CROSS SECTION
EXISTING PAVEMENT
(LOOKING EAST)
(FOR INFORMATION ONLY)

SS-1



HMA Jointing:
Longitudinal joint: B

EAST OF BRIDGE
TYPICAL CROSS SECTION
SHOULDER STRENGTHENING

FILE NO. 32552	ENGLISH	DESIGN TEAM McClure	STORY COUNTY	PROJECT NUMBER BRF-030-5(322)--38-85	SHEET NUMBER B.2

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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	160	Item is for additional material required to widen and grade the existing guardrail blisters to the proposed design. Refer to Tab. 107-23 in the C-Sheets and to Standard Road Plan EW-301 for details. Quantity does not include any shrink factor. The Contractor shall provide the material for embankment construction. Excavated Class 13 material has not been counted for Embankment-In-Place estimate.
2	2102-2713090	EXCAVATION, CLASS 13, WASTE	CY	70.2	Item is for the excavation beyond existing edge of shoulder required to construct PCC paved shoulder panels, paved shoulder at guardrail, and shoulder strengthening. Paved shoulder excavation assumes a depth of excavation equal to the total proposed pavement and subbase depth. Refer to Tab. 112-9 in the C-Sheets and Modified Detail 7156 in the B-Sheets for details. Item includes removal of waste material from the project site. Excavated Class 13 material suitable for embankment construction per Standard Specification 2102 may be used for Embankment-In-Place.
3	2115-0100000	MODIFIED SUBBASE	CY	151.81	Item is for the construction of PCC paved shoulder panels, paved shoulder at guardrail, and shoulder strengthening. Refer to Modified Detail 7156 and Typical SS-1 in the B-Sheets and Tab. 112-9 in the C-Sheets for details. Quantity assumes HMA paved shoulder at guardrail option is used and is placed between the bottom of the excavation limits and the bottom of the HMA shoulder pavement.
4	2122-5190501	PAVED SHOULDER, PORTLAND CEMENT CONCRETE (PAVED SHOULDER PANEL FOR BRIDGE END DRAIN)	SY	31.4	Item is for the construction of 10 in. PCC paved shoulder panels extending from the paving notch to the DR-402 rock flumes on the north and south sides of the east bridge approach. Refer to Tab. 112-9 in the C-Sheets and to Standard Road Plan DR-402 for locations and details. Includes 82.25 linear feet of integral curb.
5	2122-5500090	PAVED SHOULDER, HOT MIX ASPHALT MIXTURE, 9 IN.	SY	454.9	Refer to Tab. 112-9 in the C-Sheets and Modified Detail 7156 in the B-Sheets for locations and details.
6	2122-7450080	SHOULDER STRENGTHENING, OPTIONAL HOT MIX ASPHALT MIXTURE OR PORTLAND CEMENT CONCRETE, 8 IN.	SY	307.2	Pavement shall be HMA. Refer to Tab. 112-9 in the C-Sheets and Typical SS-1 in the B-Sheets for locations and details.
7	2123-7450000	SHOULDER CONSTRUCTION, EARTH	STA	5.49	Refer to Tab. 112-9 in the C-Sheets and Modified Detail 7156 in the B-Sheets for locations and details. An estimated 87.09 CY of material is needed for the HMA alternative and an estimated 79.29 CY of material is needed for the PCC alternative. An estimated 20.81 CY of material is needed for the PCC paved shoulder panels. Excavated Class 13 material that meets the requirements for Earth Shoulder Construction per Standard Specification 2123 may be used.
8	2412-0000100	LONGITUDINAL GROOVING IN CONCRETE, BRIDGE DECK AND/OR APPROACHES	SY	652	Item is for longitudinal grooving of the bridge deck. Refer to Tab. 100-28 in the C-Sheets for locations and details.
9	2503-0500402	BRIDGE END DRAIN, DR-402	EACH	2	Refer to Tab. 104-8A in the C-Sheets for locations and details.
10	2505-4008120	REMOVAL OF STEEL BEAM GUARDRAIL	LF	476	Refer to Tab. 110-7A in the C-Sheets for locations and details. All guardrail materials removed will become the property of the Contractor and shall be removed from the project site.
11	2505-4008300	STEEL BEAM GUARDRAIL	LF	325	Refer to Tab. 108-8A in the C-Sheets for locations and details.
12	2505-4008410	STEEL BEAM GUARDRAIL BARRIER TRANSITION SECTION, BA-201	EACH	2	
13	2505-4021010	STEEL BEAM GUARDRAIL END ANCHOR, BOLTED	EACH	2	
14	2505-4021720	STEEL BEAM GUARDRAIL TANGENT END TERMINAL, BA-205	EACH	2	
15	2510-6745850	REMOVAL OF PAVEMENT	SY	654.7	Item includes removal of existing pavement for paved shoulder panels, shoulder strengthening, and paved shoulder at guardrail construction. Refer to Tabs. 110-1 and 102-5 in the C-Sheets for locations and details. Removed pavement shall become the property of the Contractor and shall be removed from the project site. Includes an estimated 1046.9 linear feet of sawcut at locations of removal.

Item no.	Item Code	Item	Unit	Quantities	Estimate Reference Notes
				Estimated	
				Roadway Items	
16	2527-9263137	PAINTED SYMBOLS AND LEGENDS, WATERBORNE OR SOLVENT-BASED	EACH	8	Refer to Tab. 108-29 in the C-Sheets and Standard Road Plan TC-421 for locations and details.
17	2527-9263181	PAVEMENT MARKINGS REMOVED	STA	71.91	Refer to Tab. 108-22 in the C-Sheets and Standard Road Plan TC-421 for locations and details.
18	2527-9263190	SYMBOLS AND LEGENDS REMOVED	EACH	8	Refer to Tab. 108-29 in the C-Sheets and Standard Road Plan TC-421 for locations and details.
19	2527-9263209	PAINTED PAVEMENT MARKINGS, WATERBORNE OR SOLVENT-BASED	STA	71.91	Refer to Tab. 108-22 in the C-Sheets and Standard Road Plan TC-421 for locations and details.
20	2527-9263231	REMOVABLE TAPE MARKINGS, WET RETROREFLECTIVE	STA	163.28	Refer to Tab. 108-22 in the C-Sheets and Standard Road Plan TC-421 for locations and details. Removal of Removable Tape Markings, Wet Retroreflective is incidental to this item. Quantity of incidental removal is estimated at 163.28 STA.
21	2528-8400048	TEMPORARY BARRIER RAIL, CONCRETE	LF	675	Refer to Tab. 108-33 in the C-Sheets and Modified Detail 8210 in the B-Sheets for locations and details.
22	2528-8445110	TRAFFIC CONTROL	LS	1	Refer to the J-Sheets for details.
23	2548-0000100	MILLED SHOULDER RUMBLE STRIPS, HMA SURFACE	STA	6.55	Refer to Tab. 112-10 in the C-Sheets and to Standard Road Plan PV-12 for locations and details.
24	2548-0000110	ASPHALT EMULSION FOR FOG SEAL (SHOULDER RUMBLE STRIPS)	GAL	7.1	
25	2551-0000110	TEMP CRASH CUSHION	EACH	2	Item is included for providing, installing, maintaining, and removing temporary crash cushions used to protect temporary barrier rail during staged construction. Refer to Tab. 108-30 in the C-Sheets and Modified Detail 8210 in the B-Sheets for locations and details.
26	2602-0000320	PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE, 20 IN. DIA.	LF	550	Item is included for placing and maintaining temporary perimeter and slope sediment control devices to address possible erosion during construction. Verify locations with the Engineer prior to beginning placement. Refer to Tab. 100-19 in the C-Sheets for locations and details.
27	2602-0000351	REMOVAL OF PERIMETER AND SLOPE OR DITCH CHECK SEDIMENT CONTROL DEVICE	LF	550	Item is for the removal of temporary perimeter and slope sediment control devices installed during construction as approved by the Engineer. Refer to Tab. 100-19 in the C-Sheets for locations and details.

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100_28	LONGITUDINAL GROOVING	C.7
102_05	EXISTING PAVEMENT	C.8
104_08A	SCOUR PROTECTION OR ROCK FLUME FOR BRIDGE END DRAIN	C.9
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108_29	PAVEMENT MARKING SYMBOLS AND LEGENDS	C.13
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108_26A	STAGING NOTES	J.2
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111_01	COORDINATED OPERATIONS	J.4

100_01D
8/15/22

PROJECT DESCRIPTION

This project includes a bridge deck overlay and repair of the existing US 30 WB bridge over West Branch Indian Creek and replacing the steel beam guardrail and paved shoulders at the east bridge approach.

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	10/20/2026	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	04-20-21	Temporary Crash Cushions Sand Barrel
DR-402	4/16/2024	Rock Flume for Bridge End Drain
EC-204	10/19/2021	Perimeter, Slope and Ditch Check Sediment Control Devices
EW-301	10/20/2026	Guardrail Grading
PM-110	10/15/2024	Line Types
PV-12	10/20/2026	Milled Shoulder Rumble Strips
PV-101	10/20/2026	Joints
SI-173	4/19/2016	Object Markers
SI-211	10/18/2022	Object Marker and Delineator Placement with Guardrail
SI-881	10/20/2026	Special Signs for Workzones
SI-882	10-18-16	Special Signs for Restricted Width Traffic Control Zones
TC-1	10/15/2019	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-418	4/18/2023	Lane Closure on Divided Highway
TC-421	10/21/2025	Lane Closure with TBR
TC-432	10/17/2017	Shoulder Rumble Strip Operations
TC-433	10/17/2017	Pavement Marking Operations

PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE

Possible Standards: EC-204

Station From	Station To	Side	Sediment Control Device Type	Diameter Size	Length (LF)	Remarks
2089+10.83	2091+81.48	Right	Perimeter and Slope	20 inch	280.00	Erosion protection for grading at guardrail
2088+80.83	2091+49.86	Left	Perimeter and Slope	20 inch	270.00	Erosion protection for grading at guardrail
Total:					**550**	

Bid Quantity: 550.0 LF
Removal: 550.0 LF

LONGITUDINAL GROOVING

Location	Total (SY)	Remarks
2087+94.50	652.0	US 30 WB Bridge

EXISTING PAVEMENT

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
Story	US 30	WB	156.80	157.60	2020		NHSX-030-5(266)--3H-85	PCC	10.0			GSB	12.0			Ames Mine	C. LST.			
Story	US 30	WB	157.60	157.79	1964		F-FG-1065(18)	PCC	10.0			GSB	4.0			Ferguson	C. LST.	3		
Story	US 30	WB	157.79	159.06	1995		NHS-030-5(71)--19-85	PCC	10.0			GSB	4.0			Ames Mine	C. LST.	I		

Legend:
GSB = Granular Subbase
PCC = Portland Cement Concrete
C. LST. = Crushed Limestone

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SCOUR PROTECTION OR ROCK FLUME FOR BRIDGE END DRAIN

Refer to Standard Road Plan DR-401 and DR-402

Bridge Station	Bridge Corner	Distance DI-1 or DI-2 (FT)	Bridge End Drain Type	Special Ditch Control, Wood Excelsior Mat EC-101 (SQ)	Turf Reinforced Mat (TRM) Type 2 EC-104 (SQ)	Transition Mat EC-105 (SF)	Macadam Stone Base (TONS)	Engineering Fabric (SY)	Erosion Stone (TON)	Remarks
2087+94.50	NE	46.9	DR-402				1.700	25.0	15.000	US 30 WB Bridge
2087+94.50	SE	46.9	DR-402				1.700	25.0	15.000	US 30 WB Bridge

Incidental quantities of erosion stone, macadam stone, and engineering fabric are based on 20' long flumes. Actual quantity shall be as needed to comply with Standard Road Plan DR-402.

GRADING FOR GUARDRAIL INSTALLATIONS

Refer to EW-301.

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

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
WB	2089+08.83	Right	3:1	52.9	6.0	137.9	14.5	194.1	14.5	250.2	16.2	80.7		125.0	US 30 WB - Grading at Northeast Corner Guardrail
WB	2088+78.83	Left	3:1	52.9	8.0	102.6	13.0	194.4	13.0	250.8	15.7	78.8		35.0	US 30 WB - Grading at Southeast Corner Guardrail
Total:														**160**	

X Values shown in the table are straight distances, measured from steel beam guardrail location stations.
Y Values shown in the table are measured from proposed edge of paved shoulder at guardrail.
Embankment-In-Place quantities for northeast corner guardrail grading are based on an estimated guardrail blister height of 10 feet. Embankment-In-Place quantities for southeast corner guardrail grading are based on an estimated guardrail blister height of 3 feet. Actual quantities shall be as needed to comply with Standard Road Plan EW-301.

STEEL BEAM GUARDRAIL AT CONCRETE BARRIER OR BRIDGE RAIL END SECTION

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

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

Direction of Travel (1)	Side	Station	Offset (FT)	Barrier Transition Section	Barrier Transition Section (EA)	End Terminal	End Terminal Count (EA)	VT1 (LF)	VF (LF)	VT2 (LF)	ET (LF)	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
WB	Outside	2089+08.83		BA-201	1	BA-205	1	53.125	87.50	62.50	47.70			2		9		1	B	1		162.5	Northeast Corner Guardrail
WB	Inside	2088+78.83		BA-201	1	BA-205	01	53.125	50.00	100.00	47.70			2		9	1		B	1		162.5	Southeast Corner Guardrail
Total:					**2**		**2**													**2**		**325**	

PAVEMENT MARKING LINE TYPES

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

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

Road ID	Station From	Station To	Lane	Marking Type	Left	Center	Right	Groove Marking Needed?	Groove Qty. (STA)	BLW6 (STA)	BLW6 Factored (STA)	ELW4 (STA)	ELW4 Factored (STA)	ELW6 (STA)	ELW6 Factored (STA)	ELY4 (STA)	ELY4 Factored (STA)	ELY6 (STA)	ELY6 Factored (STA)	Remarks
STAGE 1																				
US 30 WB	2084+76.61	2113+72.22	Right	Removal of Paint			X							28.96	28.96					Existing Pavement Marking Removals
US 30 WB	2084+76.61	2113+72.22	Center	Removal of Paint		X				28.96	7.24									Existing Pavement Marking Removals
US 30 WB	2084+76.61	2113+72.22	Left	Removal of Paint	X													28.96	28.96	Existing Pavement Marking Removals
US 30 WB	2084+76.61	2113+72.22	Left	Wet Retroreflective Removable Tape	X							28.96	38.81							Stage 1 Temporary Edge Lines
US 30 WB	2084+76.61	2113+72.22	Left	Wet Retroreflective Removable Tape	X											28.96	38.81			Stage 1 Temporary Edge Lines
STAGE 2																				
US 30 WB	2084+76.61	2113+72.22	Left	Removal of Removable Tape	X							28.96	38.81							Removal of Stage 1 Temporary Edge Lines
US 30 WB	2084+76.61	2113+72.22	Left	Removal of Removable Tape	X											28.96	38.81			Removal of Stage 1 Temporary Edge Lines
US 30 WB	2083+11.61	2084+76.61	Right	Removal of Paint			X							1.65	1.65					Existing Pavement Marking Removals
US 30 WB	2083+11.61	2084+76.61	Center	Removal of Paint		X				1.65	0.41									Existing Pavement Marking Removals
US 30 WB	2083+11.61	2084+76.61	Left	Removal of Paint	X													1.65	1.65	Existing Pavement Marking Removals
US 30 WB	2113+72.22	2115+07.22	Right	Removal of Paint			X							1.35	1.35					Existing Pavement Marking Removals
US 30 WB	2113+72.22	2115+07.22	Center	Removal of Paint		X				1.35	0.34									Existing Pavement Marking Removals
US 30 WB	2113+72.22	2115+07.22	Left	Removal of Paint	X													1.35	1.35	Existing Pavement Marking Removals
US 30 WB	2083+11.61	2115+07.22	Right	Wet Retroreflective Removable Tape			X					31.96	42.83							Stage 2 Temporary Edge Lines
US 30 WB	2083+11.61	2115+07.22	Right	Wet Retroreflective Removable Tape			X					31.96	42.83							Stage 2 Temporary Edge Lines
STAGE 3																				
US 30 WB	2083+11.61	2115+07.22	Right	Removal of Removable Tape			X					31.96	42.83							Removal of Stage 2 Temporary Edge Lines
US 30 WB	2083+11.61	2115+07.22	Right	Removal of Removable Tape			X					31.96	42.83							Removal of Stage 2 Temporary Edge Lines
US 30 WB	2083+11.61	2115+07.22	Right	Waterborne/Solvent Paint			X							31.96	31.96					Final Edge Line
US 30 WB	2083+11.61	2115+07.22	Center	Waterborne/Solvent Paint		X				31.96	7.99									Final Centerline
US 30 WB	2083+11.61	2115+07.22	Left	Waterborne/Solvent Paint	X													31.96	31.96	Final Edge Line

Notes:
Removal of removable tape marking is incidental to Removable Tape Markings, Wet Retroreflective.
Wet retroreflective removable tape markings are to be 8" wide, consisting of two side-by-side 4" tapes.
Totals (Factored)
Painted Pavement Markings, Waterborne or Solvent-Based: 71.91 STA
Pavement Markings Removed: 71.91 STA
Removable Tape Markings, Wet Retroreflective: 163.28 STA
Incidental Removal of Removable Tape: 163.28 STA

PAVEMENT MARKING SYMBOLS AND LEGENDS

Refer to PM-111

Roadway Identification	Station	Side	Pavement Symbol	Quantity (EA)	Groove Marking Needed?	Remarks
STAGE 1						
US 30 WB	2117+72.22	Right	RLRW	1		Stage 1 (TC-421)
US 30 WB	2118+72.22	Right	RLRW	1		Stage 1 (TC-421)
US 30 WB	2127+72.22	Right	RLRW	1		Stage 1 (TC-421)
US 30 WB	2128+72.22	Right	RLRW	1		Stage 1 (TC-421)
STAGE 2						
US 30 WB	2117+72.22	Right	RLRW	1		Stage 1 Removal
US 30 WB	2118+72.22	Right	RLRW	1		Stage 1 Removal
US 30 WB	2127+72.22	Right	RLRW	1		Stage 1 Removal
US 30 WB	2128+72.22	Right	RLRW	1		Stage 1 Removal
US 30 WB	2119+07.22	Left	LLRW	1		Stage 2 (TC-421)
US 30 WB	2120+07.22	Left	LLRW	1		Stage 2 (TC-421)
US 30 WB	2129+07.22	Left	LLRW	1		Stage 2 (TC-421)
US 30 WB	2130+07.22	Left	LLRW	1		Stage 2 (TC-421)
STAGE 3						
US 30 WB	2119+07.22	Left	LLRW	1		Stage 2 Removal
US 30 WB	2120+07.22	Left	LLRW	1		Stage 2 Removal
US 30 WB	2129+07.22	Left	LLRW	1		Stage 2 Removal
US 30 WB	2130+07.22	Left	LLRW	1		Stage 2 Removal

Totals

Painted Symbols and Legends, Waterborne or Solvent-Based: 8 EACH

Symbols and Legends Removed: 8 EACH

CRASH CUSHIONS

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

Lane	Station	Side	Obstacle Width (FT)	Crash Cushion Type	Crash Cushion Quantity	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
WB	2090+12.22	Left	1.9	Temporary	1								Temporary Barrier Rail	US 30 WB - Stage 1
WB	2089+97.31	Right	1.9	Temporary	1								Temporary Barrier Rail	US 30 WB - Stage 2
Total:					**2**									

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.

No.	Station From	Station To	Length (FT)	Barrier Rail Type	Anchored*	Modular Glare Screen System	Remarks
1	2086+76.61	2090+12.22	337.5	Concrete BA-401	No	No	US 30 WB - Stage 1
2	2086+61.61	2089+97.31	337.5	Concrete BA-401	No	No	US 30 WB - Stage 2
Total:			**675**				

REMOVAL OF PAVEMENT

Refer to Tabulation 102-5.

* Not a bid item.

Station From	Station To	Side	Pavement Type	Area (SY)	Saw Cut* (LF)	Remarks
2089+17.23	2092+12.23	Left	HMA	196.7	305.7	Stage 1A - Removal of shoulder for strengthening
2089+06.23	2091+81.48	Right	HMA & PCC	204.6	282.5	Stage 1B - Removal of pavement
2091+81.48	2093+47.23	Right	HMA	80.6	175.2	Stage 2A - Removal of shoulder for strengthening
2088+77.23	2091+49.86	Left	HMA & PCC	172.8	283.5	Stage 2B - Removal of pavement
Total:				**654.7**	**1046.9**	

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REMOVAL OF STEEL BEAM GUARDRAIL

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

No.	Direction of Traffic (1)	Station From	Station To	Side	Removal of Guardrail (2) (LF)
1	WB	2089+07.00	2091+54.00	Right	247.0
2	WB	2088+77.00	2091+06.00	Left	229.0
Total:					**476**

SHOULDERS

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

Roadway Identification	Direction of Travel (1)	Station From	Station To	Side	P Width (FT)	P SG Width (2) (FT)	G Width (FT)	L Length (FT)	Class 13 Excavation (CY)(3)(4)	HMA (TON)	HMA (TON/STA)	Binder (TONS)	Paved Shoulder (3) (SY)	Shoulder at Grdrail (5)(7)	Reinforced Paved Shoulder(3) (SY)	Special Backfill HMA Alt. (3) (TON)	Special Backfill HMA Alt. (TON/STA)	Special Backfill PCC Alt. (3) (TON)	Special Backfill PCC Alt. (TON/STA)	Pavement Scarification (SY)	Subbase (3) (8) (CY)	Granular Shoulder (3) (TON)	Granular Shoulder (TON/STA)	Shoulder Const. Alt (3) (STA)	Shoulder Const. Alt HMA (6) (CY)	Shoulder Const. Alt PCC (6) (CY)	Remarks
US 30	WB	2089+06.23	2089+51.96	Right	2.3			45.73	1.1				11.0								3.36			0.46		10.52	(C)
US 30	WB	2089+51.95	2091+81.48	Right		Varies		229.53	21.4					228.5							46.51			2.30	43.70	39.79	(B)
US 30	WB	2091+81.48	2093+47.23	Right	6			165.75	12.6				110.5								18.07						(A)
US 30	WB	2088+77.23	2089+21.96	Left	4.3			44.73	2.4				20.4								4.92			0.45		10.29	(C)
US 30	WB	2089+21.96	2091+49.86	Left		Varies		227.90	32.7					226.4							46.17			2.28	43.39	39.50	(B)
US 30	WB	2089+17.23	2092+12.23	Left	6			295.00					196.7								32.78						(A)
Total:									**70.2**												**151.81**			**5.49**	**87.09**	**100.1**	

(A) Shoulder Strengthening with 6" Modified Subbase
(B) 9" HMA or 8" PCC Paved Shoulder at Guardrail with 6" Modified Subbase
(C) 10" PCC Paved Shoulder Panel with 6" Modified Subbase and Integral Curb to DR-402 End Drain

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Totals:
Shoulder Strengthening, Optional Hot Mix Asphalt Mixture or Portland Cement Concrete, 8 In.: 307.2 SY
Paved Shoulder, Hot Mix Asphalt Mixture, 9 In.: 454.9 SY
Paved Shoulder, Portland Cement Concrete (Paved Shoulder Panel for Bridge End Drain): 31.4 SY

RUMBLE STRIPS

* Calculated at 18" width for Shoulder.
** For use with penetrating Engineered Fog Seal. Calculated at 2" wider than rumble strips.

Road Identification	Station From	Station To	Surface Type	Rumble Strip Lane	Rumble Strip Type	Fog Seal Type	L (IN)	PCC Length (STA)	HMA Length (STA)	Fog Seal* Shoulder (GAL)	Fog Seal (SY)**	Effective Shoulder Width PCC (FT)	Effective Shoulder Width HMA (FT)	Effective Shoulder Width Granular\Earth (FT)	Remarks
US 30 WB	2089+67.23	2093+47.23	HMA	Right Shoulder	Milled Shoulder Rumble Strips	Asphalt Emulsion	12"		3.80	4.1	63.3				(A)
US 30 WB	2089+37.23	2092+12.23	HMA	Left Shoulder	Milled Shoulder Rumble Strips	Asphalt Emulsion	12"		2.75	3.0	45.8				(A)
Total:									**6.55**	**7.1**					

(A) Shoulder width varies.

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EROSION CONTROL (RURAL SEEDING)

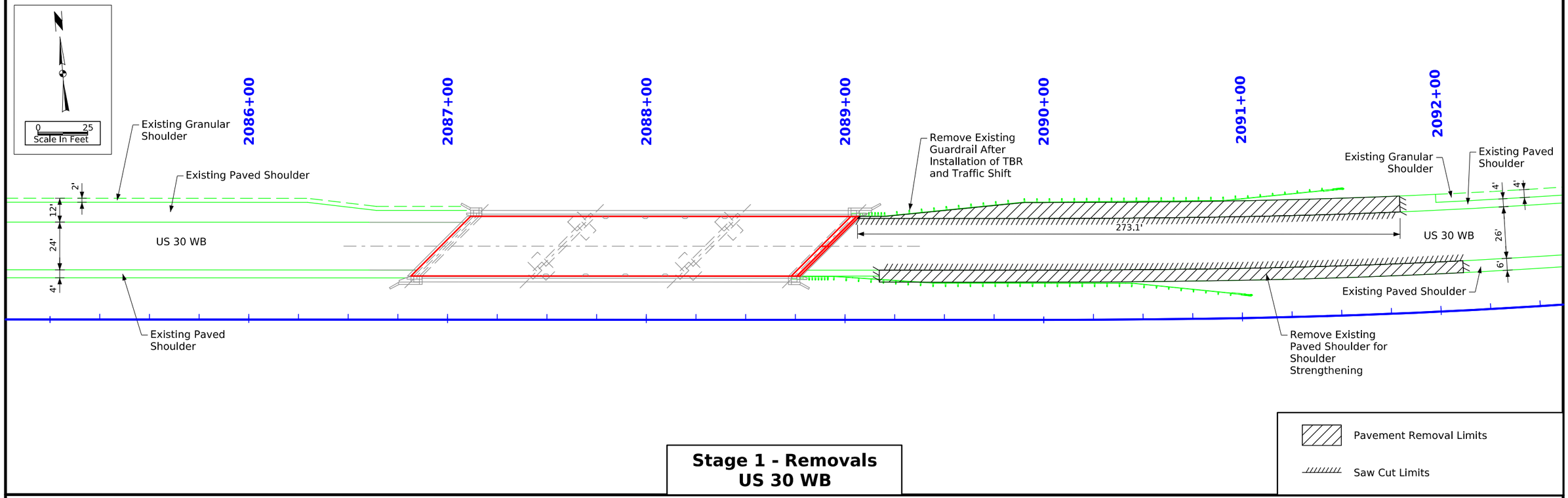
Area to be seeded is estimated to be less than 1 acre. If the contractor determines the area exceeds 2 acres, notify the Engineer. Approved quantity in excess of 2 acres will be paid for as extra work according to Article 1109.03,B of the Standard Specifications.

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

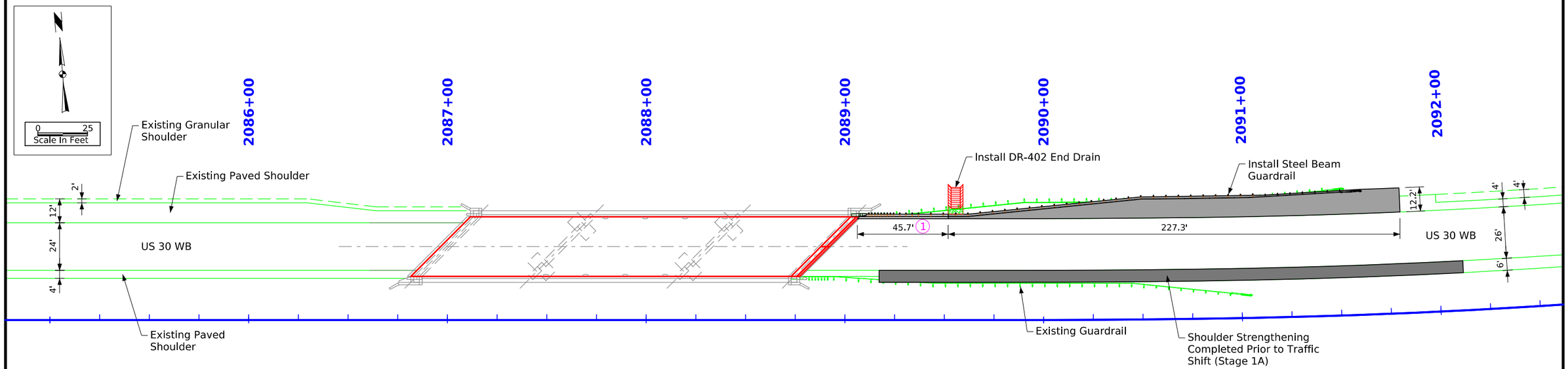
Place seed and fertilize according to the requirements of Article 2601.03,C,3 and Section 4169 of the Standard Specifications.

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

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



Stage 1 - Removals
US 30 WB



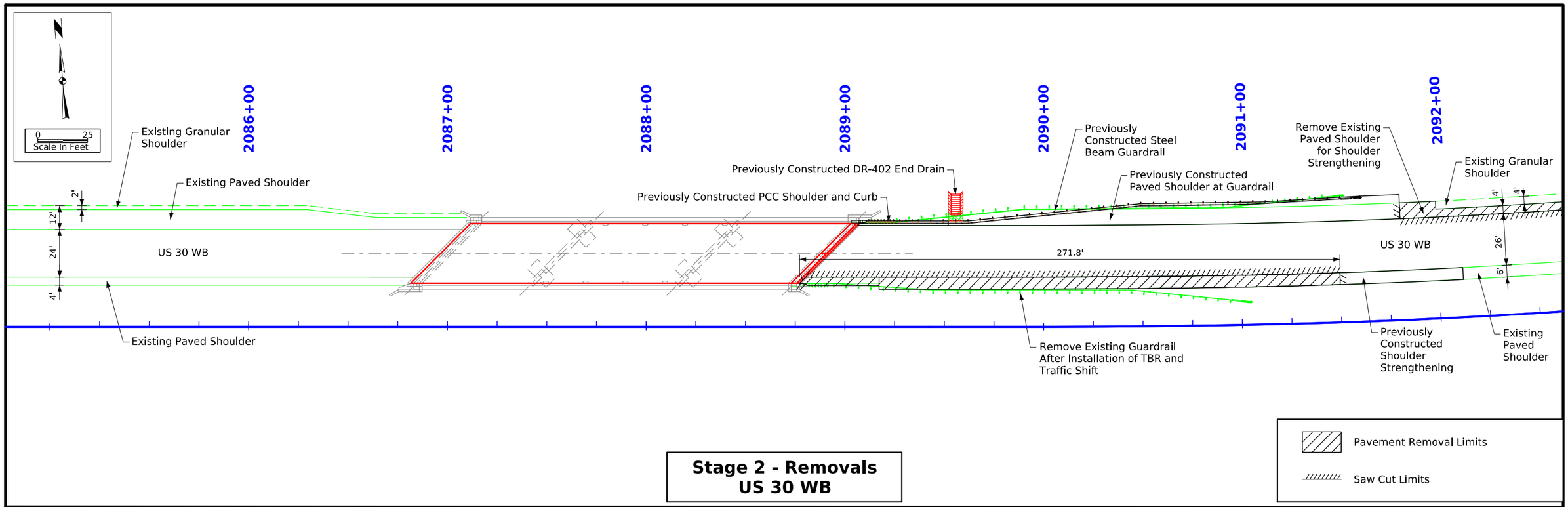
US 30 WB Over West Branch Indian Creek

Stage 1 - Construction
US 30 WB

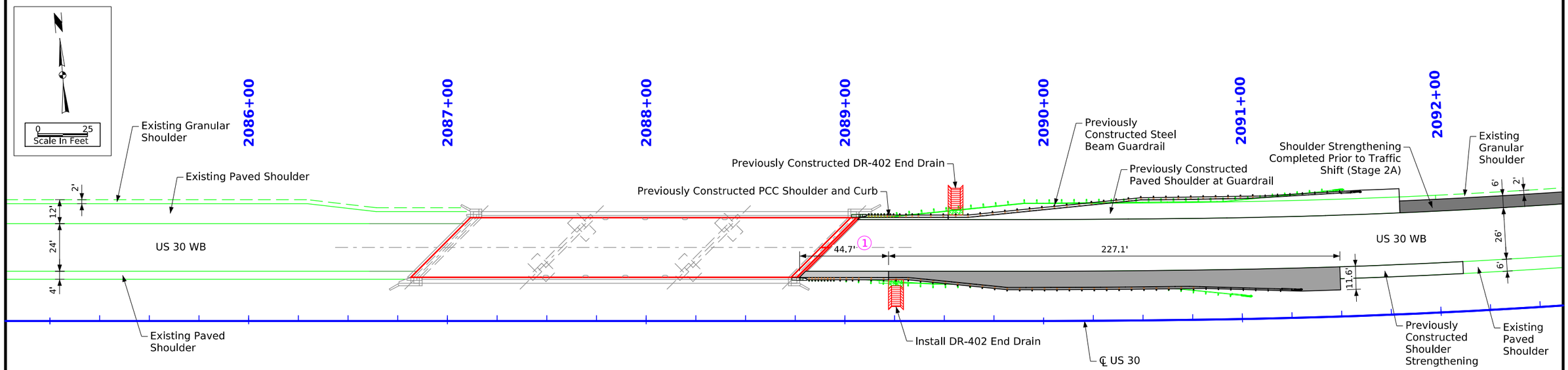
1 Joint between existing bridge approach pavement and proposed PCC paved shoulder panel shall be an 'RT' joint. Refer to Standard Road Plan PV-101 for details.

FILE NO. 32552	ENGLISH	DESIGN TEAM McClure	STORY COUNTY	PROJECT NUMBER BRF-030-5(322)--38-85	SHEET NUMBER D.1

12:56:01 PM 9/17/2026 jheer pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\8503001023\Bridge\(322)_Bridge Deck Overlay\McClure\SHT_85030322_D01.dgn



Stage 2 - Removals
US 30 WB



US 30 WB Over West Branch Indian Creek

Stage 2 - Construction
US 30 WB

1 Joint between existing bridge approach pavement and proposed PCC paved shoulder panel shall be an 'RT' joint. Refer to Standard Road Plan PV-101 for details.

FILE NO. 32552	ENGLISH	DESIGN TEAM McClure	STORY COUNTY	PROJECT NUMBER BRF-030-5(322)--38-85	SHEET NUMBER D.2

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TRAFFIC CONTROL PLAN

1. US 30 will be open to traffic during construction by maintaining one lane of traffic at all times per Standard Road Plans TC-418 and TC-421. Maintain access to all local residences and field entrances at all times.

2. Traffic control shall be in accordance with Standard Road Plans listed in Tabulation 105-4 in the C-Sheets. For additional information, refer to Part 6 of the Manual on Uniform Traffic Control Devices and the current Standard Specifications.

STAGING NOTES

US 30 WESTBOUND

STAGE 1A:

- Construct shoulder strengthening along the inside lane shoulder using Standard Road Plan TC-418. Maintain traffic on the outside lane. See Tabulation 112-9 "Shoulders" in the C-Sheets.

STAGE 1B:

- Maintain inside lane of traffic on the bridge using Standard Road Plan TC-421. Install temporary traffic control for restricted width along bridge in accordance with Standard Road Plan TC-81. Maintain respective signage throughout construction.

- Construct north half of the bridge repairs and deck overlay.

- Construct new guardrail and paved shoulder at the NE bridge corner.

- Construct end drain in the NE quadrant.

STAGE 2A:

- Construct shoulder strengthening along the outside lane shoulder using Standard Road Plan TC-418. Maintain traffic on the inside lane. See Tabulation 112-9 "Shoulders" in the C-Sheets.

STAGE 2B:

- Maintain outside lane of traffic on the bridge using Standard Road Plan TC-421. Maintain restricted width signage from previous stage.

- Construct south half of the bridge repairs and deck overlay.

- Construct new guardrail and paved shoulder at the SE bridge corner.

- Construct DR-402 end drain in the SE quadrant.

STAGE 3:

- Remove TBR, crash cushions, and temporary traffic control.

- Install permanent pavement markings as shown in Tabulation 108-22 in the C-Sheets and using Standard Road Plan TC-433.

- Install milled shoulder rumble strips as shown in Tabulation 112-10 in the C-Sheets and using Standard Road Plan TC-432.

- Open US 30 westbound bridge to normal traffic.

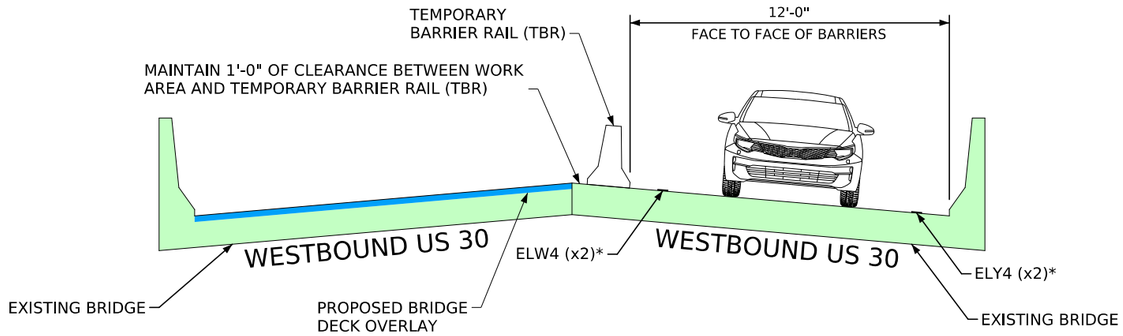
511 TRAVEL RESTRICTIONS

Route	Direction	County	Location Description	Feature Crossed	Object Type	Maint. Bridge No. or Structure ID or FHWA No.	Type of Restriction	Existing Measurement	Construction Measurement	Construction Measurement as Signed	Projected As Built Measurement	Remarks
US 30	WB	Story	0.5 mi E of Co Rd S14	W Branch Indian Creek	Traffic Control Device	8557.6L030	Horizontal	N/A	12'-0"	11'-0"	N/A	Temporary Barrier Rail

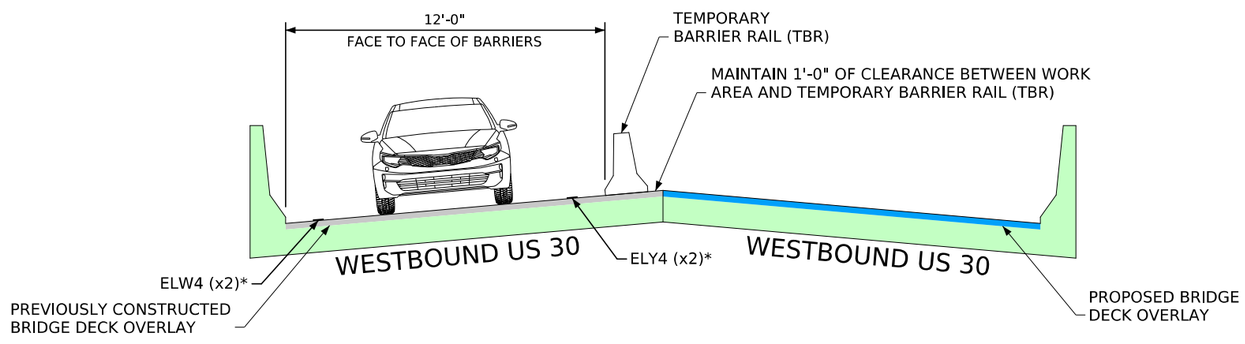
COORDINATED OPERATIONS

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

Project	Type of Work
None Provided.	



STAGE 1



STAGE 2

* Wet retroreflective removable tape markings are to be 8" wide, consisting of two side-by-side 4" tapes.

FILE NO. **32552**	ENGLISH	DESIGN TEAM **McClure**	**STORY** COUNTY	PROJECT NUMBER **BRF-030-5(322)--38-85**	SHEET NUMBER **J.5**

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