LETTING DATE
Dec. 15, 2026

Bridge Deck Overlay
BRF-075-2(121)--38-75

PLYMOUTH COUNTY

Index of Sheets

No.	Description
Sheets	Bridge Plan
A.1	Title Sheet
A.2	Location Map Sheet
V.1	Estimated Quantities - Design 127
V.2 - V.12	Design 127
Road Sheets	Road Plan
A.3-J.13	Road Plans
C.1-C.2	Estimated Quantities - Road
C.4	Standard Plans - Road

IOWA DOT

PLANS OF PROPOSED IMPROVEMENT ON THE

PRIMARY ROAD SYSTEM
PLYMOUTH COUNTY
Bridge Deck Overlay

ON U.S. 75 OVER
WEST FORK FLOYD RIVER, 2.4 MI. S. OF CO. RD. C38

Refer to the Plan Sheets for list of applicable specifications.

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

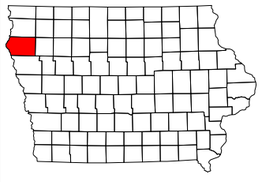
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www.iowaonecall.com
811 Know what's below. Call before you dig.

Revisions

	TOTAL
	46
PROJECT IDENTIFICATION NUMBER	
22-75-075-020	
PROJECT NUMBER	
BRF-075-2(121)--38-75	
R.O.W. PROJECT NUMBER	
PROJECT DIRECTORY NUMBER	
7507502022	

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 C.3

Design Data Rural

2024 AADT	18,000	V.P.D.
TRUCKS	15	%

lowa DOT Bridges and Structures
Consultant Coordinator Contact:
Christian Yi

Index of Seals

Sheet No.	Name	Type
A.1	Kevin L. Arp *	Structural Design
A.3	Dung Ta **	Roadway Design

* Kirkham Michael
** lowa DOT

Structural Design

LICENSED PROFESSIONAL ENGINEER
Kevin L. Arp
13292
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.

Kevin L. Arp
Digitally signed by Kevin L. Arp
DN: C=US, E=karp@kirkham.com, O=Kirkham Michael, OU=KM Des Moines, CN=Kevin L. Arp
Date: 2026.09.28 14:57:49-05'00'

Signature Date

Kevin L. Arp, P.E.
Printed or Typed Name

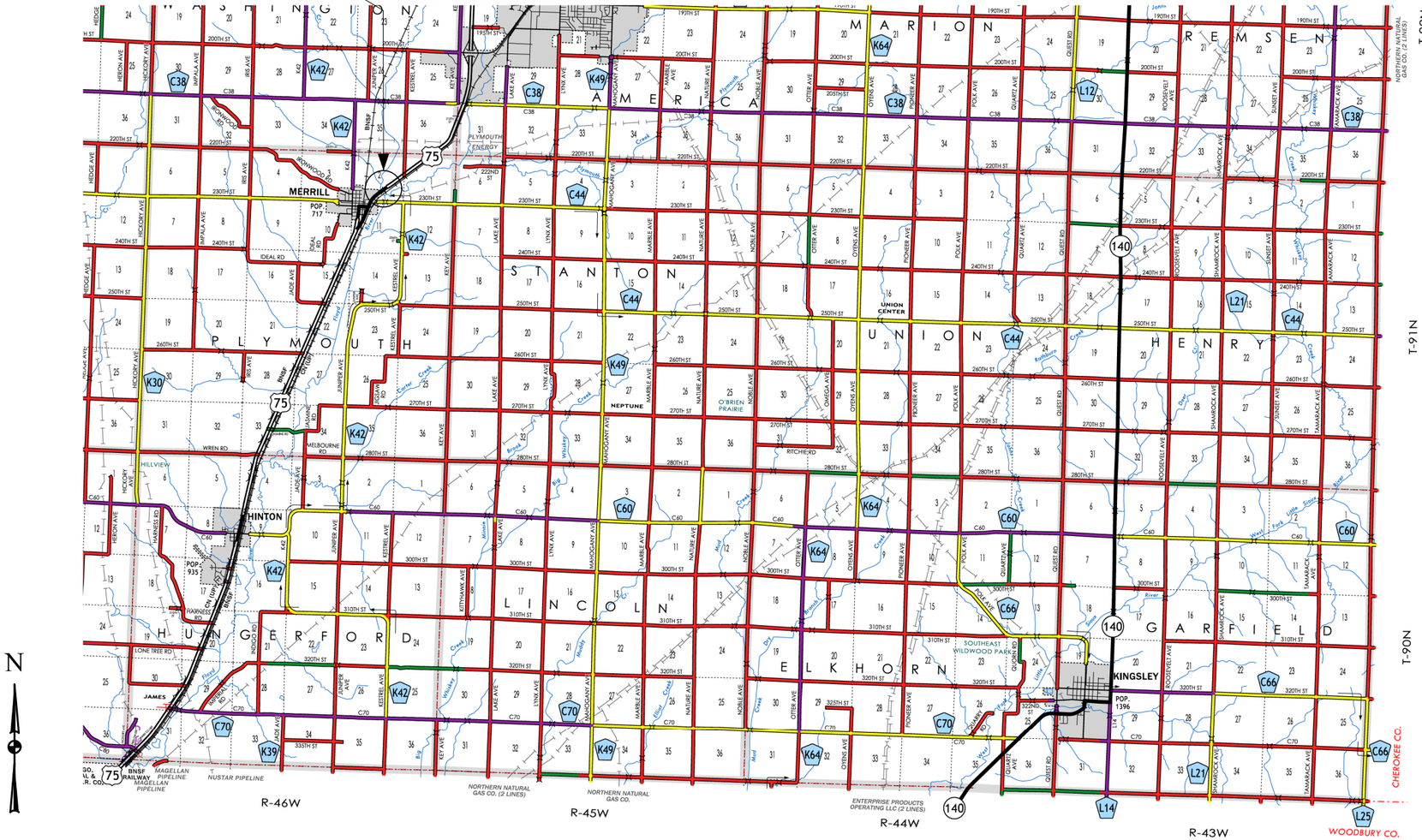
My license renewal date is December 31, 2026

Pages or sheets covered by this seal: A.1, A.3, V.1 thru V.12

FILE NO. 32380	ENGLISH	DESIGN TEAM Kirkham Michael	PLYMOUTH COUNTY	PROJECT NUMBER BRF-075-2(121)--38-75	SHEET NUMBER A.1

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Design No. 127
FHWA No. 039600

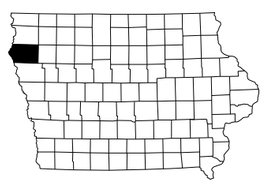


LEGEND

- INTERSTATE HIGHWAY
- PRIMARY HIGHWAY-DIVIDED
- PRIMARY HIGHWAY
- PORTLAND CEMENT CONCRETE ROAD
- ASPHALT ROAD
- BITUMINOUS ROAD
- GRAVEL ROAD
- EARTHEN ROAD
- INTERSTATE HIGHWAY
- UNITED STATES HIGHWAY
- STATE HIGHWAY
- COUNTY HIGHWAY
- RAILROAD
- PIPELINE
- AIRPORT
- HYDROLOGY
- BRIDGE
- STATE BOUNDARY
- COUNTY BOUNDARY
- CORPORATE BOUNDARY
- TOWNSHIP LINE
- SECTION LINE
- ROAD NAMES (ABBEY ROAD)
- UNINCORPORATED PLACE (ELWOOD)
- STATE PARKS
- STATE INSTITUTIONS
- FEDERAL LAND

Plymouth County Location Map

Not To Scale



FILE NO. 32380	ENGLISH	DESIGN TEAM Kirkham Michael	PLYMOUTH COUNTY	PROJECT NUMBER BRF-075-2(121)--38-75	SHEET NUMBER A.2

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Estimated Bridge Repair Quantities and Reference Notes - Design #127

Item No.	Item Code	Item	Unit	Quantities Estimated Design No. 127	Estimate Reference Notes
1	2401-6750001	REMOVALS, AS PER PLAN	LS	1	Includes all work for removal and off-site disposal of items as described in the General Notes and as shown on the Situation Plan Sheet. Removal of scheduled items shall be in accordance with Section 2401, of the Standard Specifications. Any damage to material not to be removed shall be the responsibility of the Contractor and repaired at no extra cost to the State.
2	2403-0100000	STRUCTURAL CONCRETE (MISCELLANEOUS)	CY	8.7	Includes backwall and wings, slab and curbs, rails and endposts, and curb overhangs. Includes furnishing and installing 1 inch diameter plastic conduit.
3	2404-7775005	REINFORCING STEEL, EPOXY-COATED	LB	640	Includes mechanical splicers in the abutment backwall and abutment diaphragm.
4	2413-0698074	DECK REPAIR, CLASS A	SY	279	----
5	2413-1200000	STEEL EXTRUSION JOINT w/ NEOPRENE	LF	54	Includes all necessary hardware and accessories including the anchorage system, temporary erection material and the 3/8" curb plates with their anchorage system. Excludes installation of neoprene gland. If sawcutting and reconstruction of approach pavement is necessary, it shall be subsidiary to this bid item.
6	2413-1200100	NEOPRENE GLAND INSTALLATION AND TESTING	LF	54	Includes installation of neoprene gland and water testing of abutment joints.
7	2426-6772016	CONCRETE REPAIR	SF	75	Concrete repairs under abutment bearings may be epoxy injected per the written recommendations from the epoxy injection manufacturer.
8	2499-2300026	DRAIN EXTENSIONS	EA	12	Includes all costs for materials, equipment and labor required to install the drain extensions. Including partial removal and preparation of the existing drain tubes, fabrication and installation of the new drain extensions as shown on these plans.
9	2508-0804000	BRIDGE CLEANING FOR PAINTING	LS	1	----
10	2508-0805000	BLAST CLEANING OF STRUCTURAL STEEL	LS	1	----
11	2508-0970000	CONTAINMENT	LS	1	----
12	2508-0991000	PAINTING OF STRUCTURAL STEEL	LS	1	Includes cost of cleaning and painting abutment bearings and beam ends at the abutments and full length of exterior side of outside girders.
13	2510-6745640	REMOVAL OF EXISTING P.C. OVERLAY	SY	1393	----
14	2533-4980005	MOBILIZATION	LS	1	----
		ALTERNATE AA OPTION 1			
15	2413-0698066	DECK OVERLAY (CLASS O PCC)	SY	1393	Includes cleaning existing abutment backwalls, seats, footings, curbs, and rails, and furnishing and placing concrete sealer. See details on Situation Plan.
		ALTERNATE AA OPTION 2			
16	2403-1000010	TRIAL BATCH AND TEST PLACEMENT (FIBER REINFORCED CONCRETE)	LS	1	----
17	2413-0698067	DECK OVERLAY (CLASS HPC-O PCC)	SY	1393	Includes cleaning existing abutment backwalls, seats, footings, curbs, and rails, and furnishing and placing concrete sealer. See details on Situation Plan.
18	2413-1000005	FIBER REINFORCEMENT FOR CONCRETE REPAIR/OVERLAY	SY	1393	----

Roadway Quantities shown elsewhere in these plans.

Design For Repair To 0° Skew

240'-0" x 52'-0" Continuous I-Beam Bridge

73'-3" End Spans 93'-6" Interior Span

Estimated Project Quantities

STA. 655+20 (US 75) Turn-in Date: October 2026

Plymouth County

IOWA DEPARTMENT OF TRANSPORTATION

Design No. 127 Design Sheet No. 1 of 12 FHWA No. 039600

General Notes:

This design is for repairs to the existing 240'-0" x 52'-0" Continuous I-Beam Bridge on U.S. 75 over West Fork Floyd River. Electronic copies of original design plans are available to the Contractor as part of the E-files supplied with the contract documents. Dimensions shown on these plans are based on design plans (original design no. 255, overlay design no. 482, retrofit barrier rail design no. 396, and backwall repair design no. 1104). See Situation Plan for list of repair items

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

Faint lines on plans indicate the existing structure.

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

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

These bridge plans label all reinforcing steel with english notation (5a1 is $\frac{5}{8}$ inch diameter bar). English reinforcing steel received in the field may display the following "Bar Designation". The "Bar Designation" is the stamped impression on the reinforcing bars, and is equivalent to the bar diameter in millimeters.

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

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

Areas of curb indicated on the "Situation Plan" or designated by the engineer are to be repaired using Concrete Repair Notes and details included in these plans.

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 included in the unit price bid item "Deck Overlay (Class O PCC)" or "Deck Overlay (Class HPC-O PCC)".

Present deck thickness is about $9\frac{1}{2}$ inches, including existing overlay. The Contractor shall exercise care in removing 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. No plan quantity for "Deck Repair, Class B" is anticipated based on bridge inspection documents. If Class B repairs are determined during overlay removal, follow Repair and Overlay Definition detail on Design Sheet 4. The actual quantity is determined by the Engineer after the P.C. Overlay has been removed. Actual spalled and hollow areas as determined by the Engineer shall be repaired.

The bridge deck is covered with a $1\frac{3}{4}$ 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 $1\frac{3}{4}$ 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 $\frac{1}{4}$ inch above the classification line. All costs, including furnishing equipment and labor, associated with removal of the next $\frac{1}{4}$ 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.

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

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

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.

The lump sum bid for "Removals, as Per Plan" shall include all costs associated with removing the top of existing backwall, end of slab, and portions of the barrier rail and curbs. Removal of scheduled items shall be in accordance with Section 2401 of the Standard Specifications. Any damage to any steel or concrete not to be removed shall be the responsibility of the Contractor and repaired at no extra cost to the State.

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

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

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

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.

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 and total chromium are shown on the table below. 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.

Location	Lead (PPM)	Chromium (PPM)
Beam	1075	775
Abutment Bearing	<93	240
Beam	3900	990
Bearing	<50	525
Railing	668	109
Stringer	2975	3100

Specifications:

Design:

AASHTO series of 2002.

Construction:

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

Design Stresses:

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

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

Structural steel in accordance with Section 10, ASTM A709 Grade 36, Grade 50, and Grade 50W (AASHTO M270 Grade 36, Grade 50, and Grade 50W).

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
255	Original Design
482	Overlay
396	Retrofit Barrier Rail
1104	Backwall Repair
127	Overlay

Working Drawing and Calculation Submittals

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

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

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

No.	Working Drawing Description	Working Drawing File Name Convention For Submittal	Certified by Iowa P.E. (Yes/No)
1	Expansion Device	121_Plymouth_Design127_Expansion Device.pdf	No
No.	**Calculation Description**	**Calculation File Name Convention For Submittal**	**Certified by Iowa P.E. (Yes/No)**
2	Temporary Support (Shoring)	121_Plymouth_Design127_Temporary Supports.pdf	Yes

Design For Repair To 0° Skew

240'-0" x 52'-0" Continuous I-Beam Bridge

73'-3" End Spans — 93'-6" Interior Span

General Notes

STA. 655+20 (US 75) — Turn-in Date: October 2026

Plymouth County

IOWA DEPARTMENT OF TRANSPORTATION

Design No. 127 — Design Sheet No. 2 of 12 — FHWA No. 039600

℄ S. Abut. Brg.
Sta. 654+00

℄ Pier 1
Sta. 654+73.25

℄ Pier 2
Sta. 655+66.75

℄ N. Abut. Brg.
Sta. 656+40

243'-4" Face to Face Paving Notches

1'-8"

240'-0" ℄ to ℄ Abutments

1'-8"

73'-3"
℄ S. Abut. Brg. to ℄ Pier 1

93'-6"
℄ Pier 1 to ℄ Pier 2

73'-3"
℄ Pier 2 to ℄ N. Abut. Brg.

654+00

655+00

656+00

3'-0" Curb

26'-0" Stage 2

52'-0" Roadway

26'-0" Stage 1

3'-0" Curb

℄ U.S. 75

N

36'-0"

2 Space @ 32'-0" = 64'-0"

40'-0"

2 Space @ 32'-0" = 64'-0"

36'-0"

Typ. Area to Receive Application of Concrete Sealer On Existing Rail Area Only

1'-0

Detail of Concrete Sealer Area

Repairs shall consist of:

1. Remove existing overlay, scarify deck, complete Class A repairs, and overlay bridge with PCC.
2. Remove and replace existing strip seal joint at the north abutment. Replace deck, barrier rails, and portions of backwall as needed to accommodate joint replacement.
3. Replace joint material at south abutment.
4. Clean and paint beam ends and full length of exterior side of outside girders.
5. Remove and replace all drain extensions.
6. Perform concrete repairs to curbs and SW and SE bearings.

Location

U.S. 75 over West Fork Floyd River
2.4 Mi. S. of Co. Rd. C38
T-91N R-46W
Section 2
Plymouth Township
Plymouth County
FHWA No. 39600
Bridge Maint. No. 7512.6S075
Asset ID No. 039600
Latitude 42.72427733°
Longitude -96.24177322°

Design For Repair To 0° Skew

240'-0" x 52'-0" Continuous I-Beam Bridge

73'-3" End Spans — 93'-6" Interior Span

Situation Plan

STA. 655+20 (US 75)

Turn-in Date: October 2026

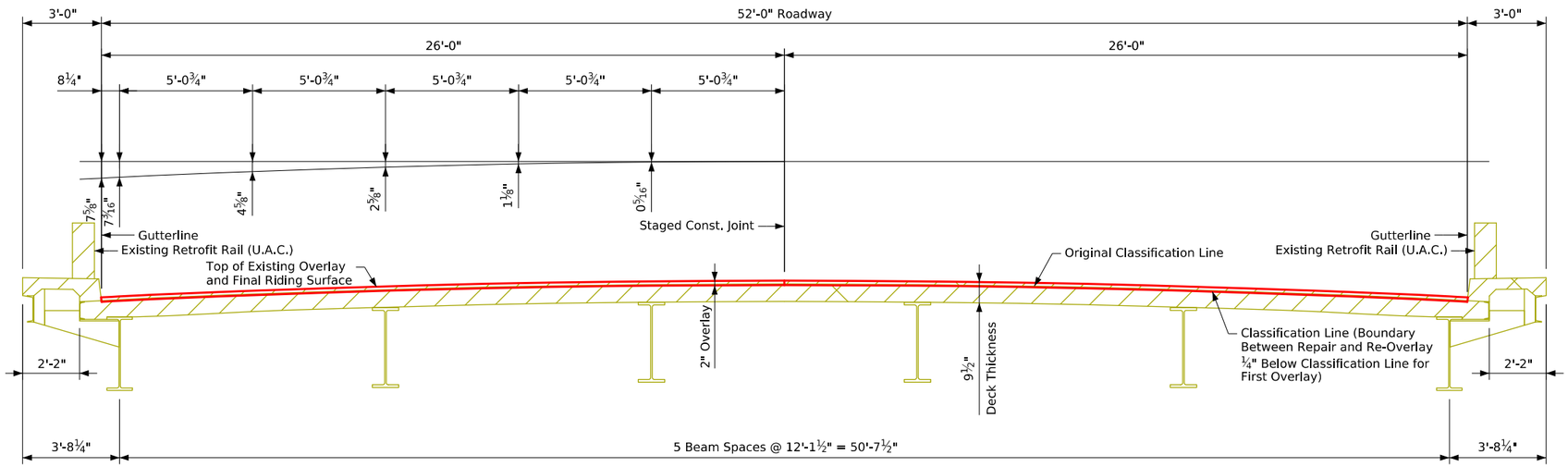
Plymouth County

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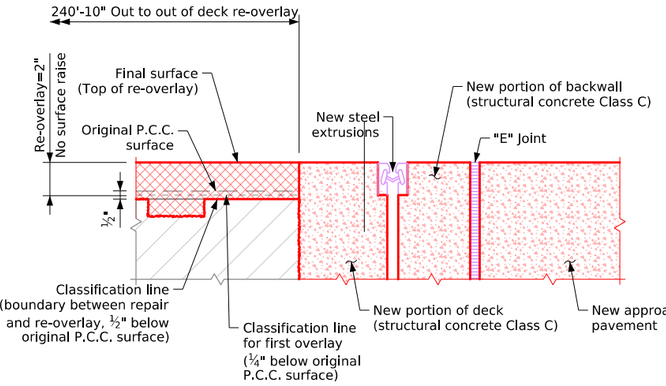
Design No. 127 | Design Sheet No. 3 of 12 | FHWA No. 039600

FILE NO. 32380	ENGLISH	DESIGN TEAM Kirkham Michael	Plymouth COUNTY	PROJECT NUMBER BRF-075-2(121)--38-75	SHEET NUMBER V.3

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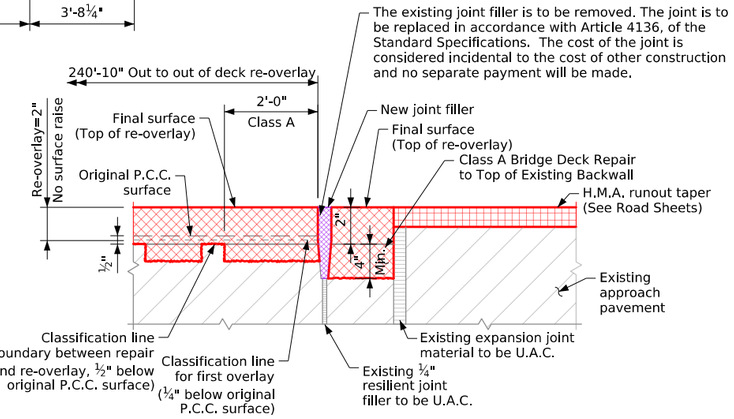


Typical Section



Part Longitudinal Section Along Roadway

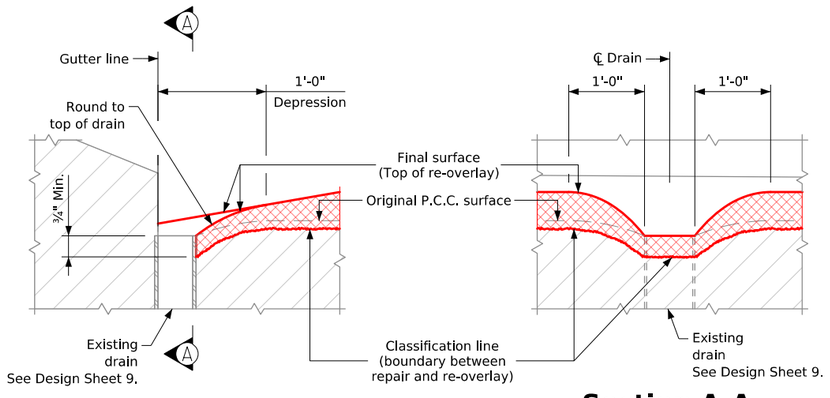
North Abutment



The existing joint filler is to be removed. The joint is to be replaced in accordance with Article 4136, of the Standard Specifications. The cost of the joint is considered incidental to the cost of other construction and no separate payment will be made.

Part Longitudinal Section Along Roadway

South Abutment

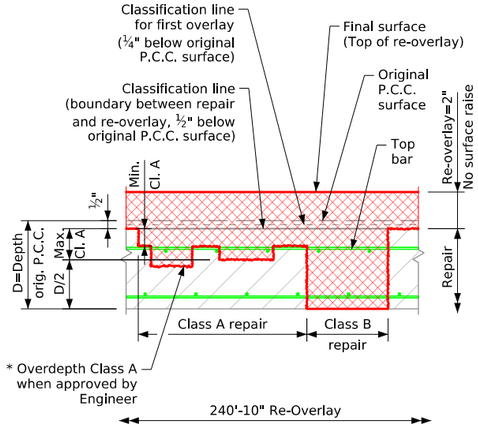


Section A-A

Deck Repair Detail at Drain

(Required at 12 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

Note: The 2'-0" Class A repair area shown on the approach pavement at the joint shall be removed to a minimum depth 1" below the existing top mat of reinforcing. The existing approach pavement 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 the P.C.C. runout taper.

Design For Repair To 0° Skew

240'-0" x 52'-0" Continuous I-Beam Bridge

73'-3" End Spans — 93'-6" Interior Span

Deck Repair Detail

STA. 655+20 (US 75) — Turn-in Date: October 2026

Plymouth County

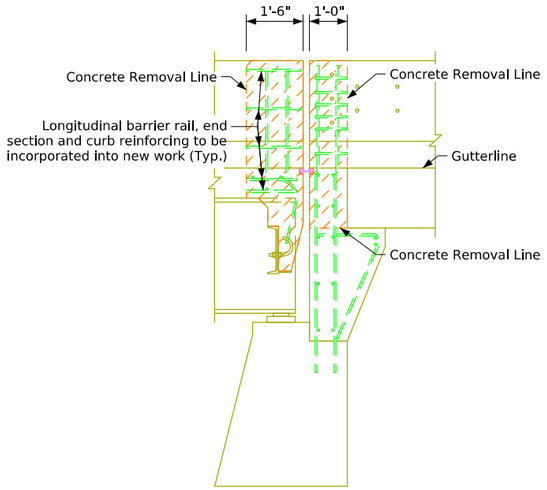
IOWA DEPARTMENT OF TRANSPORTATION

Design No. 127 — Design Sheet No. 4 of 12 — FHWA No. 039600

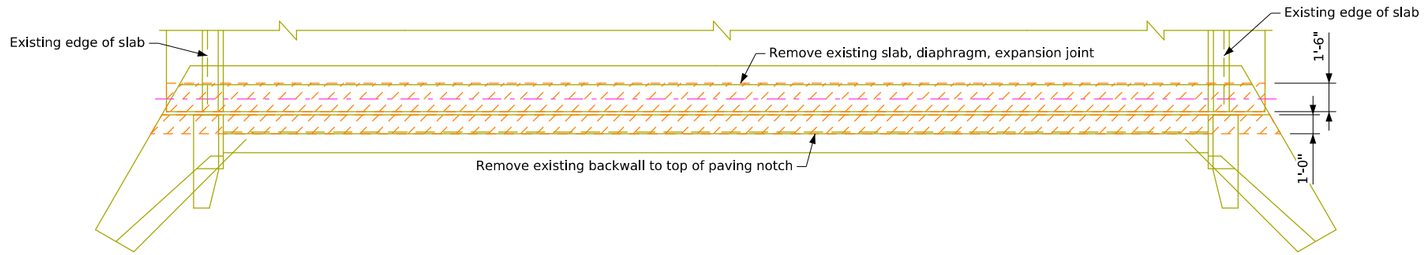
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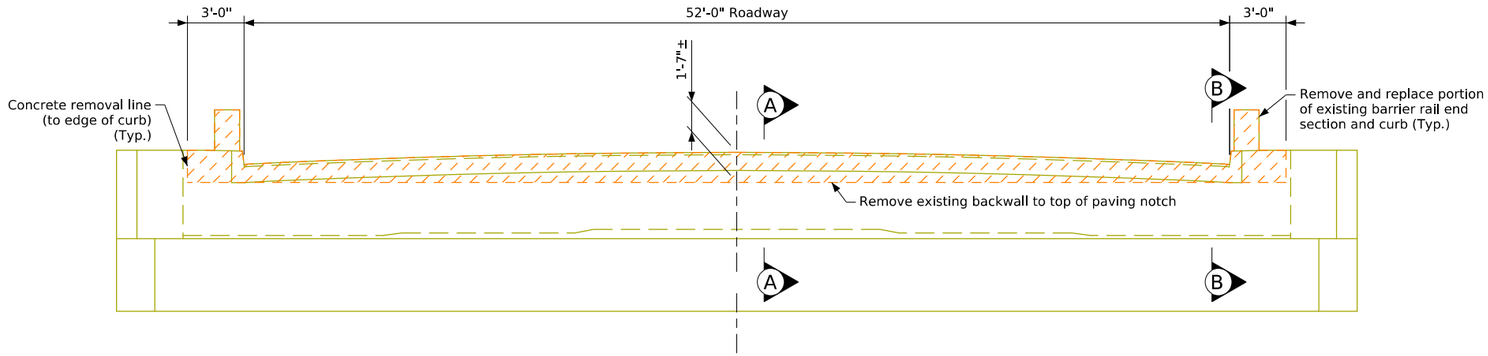
Revised 11-2015 - Modified "Design History" Table to State "(Includes this Design)".
Revised 03-2017 - Modified Construction: Standard Specifications Bridge Construction, Series to 2015, (Was 2012).
RepairRetrofitBridges.dgn - 1038R - This Sheet Issued 10-2012,
RepairRetrofitBridges.dgn - 1038R - This Sheet Re-Issued 07-2023.



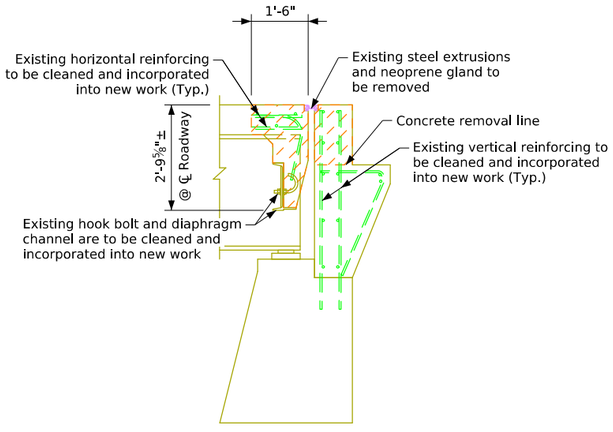
Section B-B



North Abutment Plan View



North Abutment Rear Elevation



Section A-A

Design For Repair To 0° Skew

240'-0" x 52'-0" Continuous I-Beam Bridge

73'-3" End Spans — 93'-6" Interior Span

North Abutment Removal Details

STA. 655+20 (US 75)

Turn-in Date: October 2026

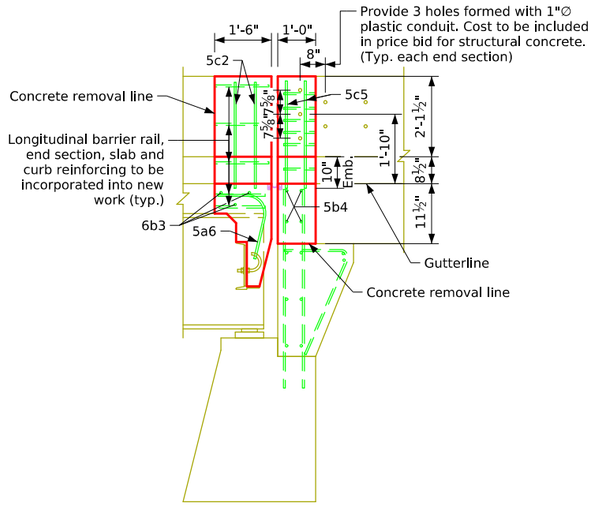
Plymouth County

IOWA DEPARTMENT OF TRANSPORTATION

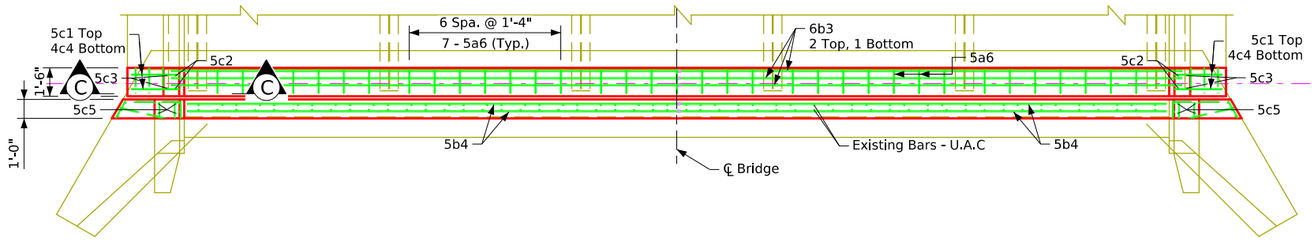
Design No. 127 — Design Sheet No. 5 of 12 — FHWA No. 039600

FILE NO. 32380	ENGLISH	DESIGN TEAM Kirkham Michael	Plymouth COUNTY	PROJECT NUMBER BRF-075-2(121)--38-75	SHEET NUMBER V.5	

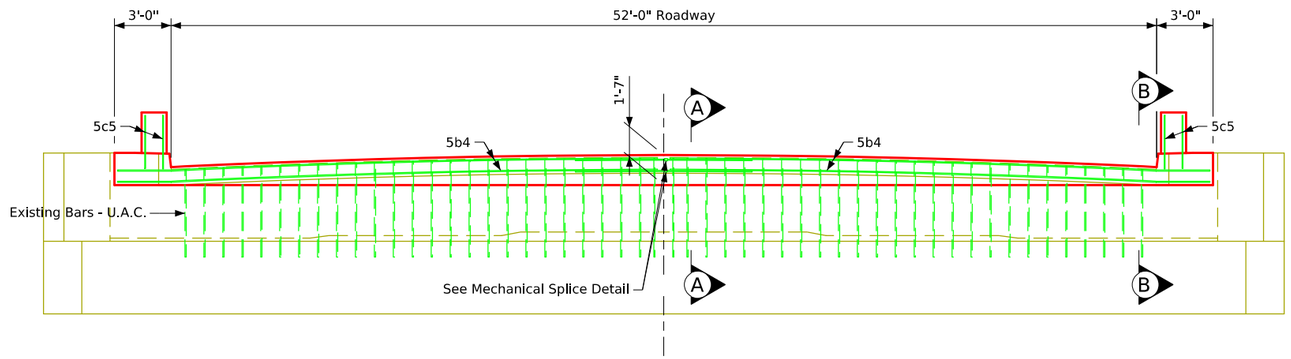
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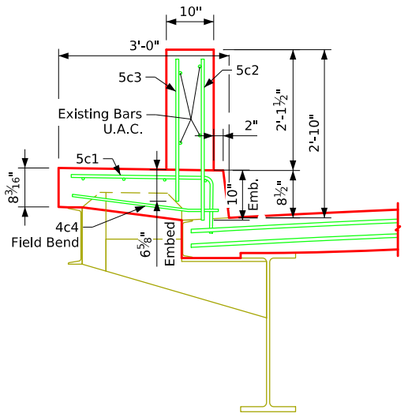
Section B-B



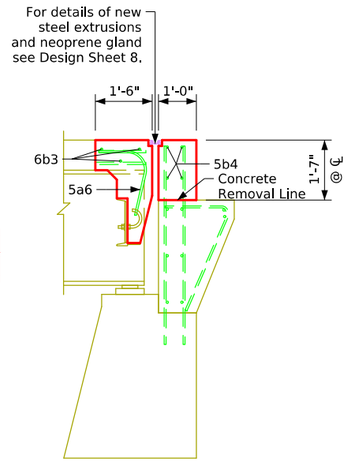
North Abutment Plan View



North Abutment Rear Elevation



Section C-C

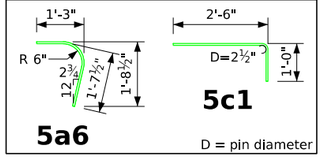


Section A-A

Epoxy Reinforcing Steel - North Abutment

Bar	Location	Shape	No.	Length	Weight
5a6	End Diaphragm		35	2'-8"	97
6b3	Transverse, Slab		6	26'-4"	237
5b4	Horizontal, Backwall		8	28'-6"	238
5c1	Horizontal, Curb		4	3'-6"	15
5c2	Vertical, Barrier Rail		4	2'-10"	12
5c3	Vertical, Barrier Rail		4	2'-6"	10
4c4	Horizontal, Curb		4	2'-7"	7
5c5	Vertical, End Section		8	2'-10"	24
				Total (lbs.)	640

Bent Bar Details



Concrete Placement Quantity

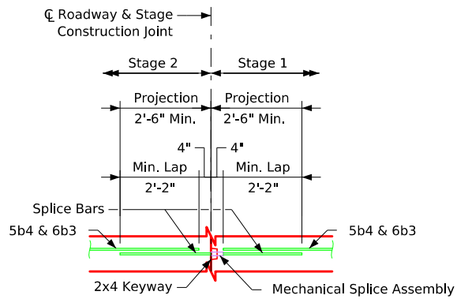
Location	Total
North Backwall	3.1
North Diaphragm and Slab End	4.9
North Barrier Rail (2 @ 0.1)	0.2
End Section (2 @ 0.1)	0.2
North Curb Overhang (2 @ 0.13)	0.3
Total (lbs.)	8.7

Mechanical Splice Assemblies:

The 5b4 & 6b3 bars in the abutment backwall and deck slab shall be spliced at the locations shown using mechanical splice assemblies. Mechanical splice assemblies consist of mechanical splicers and reinforcing splice bars as required to facilitate the use of the mechanical splicer. The mechanical splice assembly used shall meet the requirements of Materials I.M. 451 Appendix E. Reinforcing splice bars shall match the diameter of the bar being spliced.

All mechanical splice assemblies to be used in splicing 5b4 & 6b3 bars in the abutment backwall and deck slab shall be epoxy coated.

The cost of all splice assemblies is to be included in the price bid for "Reinforcing Steel Epoxy Coated" and no separate payment will be made. The weight of mechanical splice assemblies is not included in the quantity shown for "Reinforcing Steel Epoxy Coated". A total of 7 epoxy coated splice assemblies will be required.



Mechanical Splice Detail

Design For Repair To 0° Skew

240'-0" x 52'-0" Continuous I-Beam Bridge

73'-3" End Spans — 93'-6" Interior Span

North Abutment Repair Details

STA. 655+20 (US 75) — Turn-in Date: October 2026

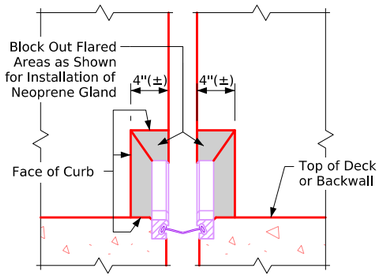
Plymouth County

IOWA DEPARTMENT OF TRANSPORTATION

Design No. 127 — Design Sheet No. 6 of 12 — FHWA No. 039600

FILE NO. 32380	ENGLISH	DESIGN TEAM Kirkham Michael	Plymouth COUNTY	PROJECT NUMBER BRF-075-2(121)--38-75	SHEET NUMBER V.6

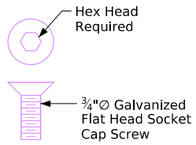
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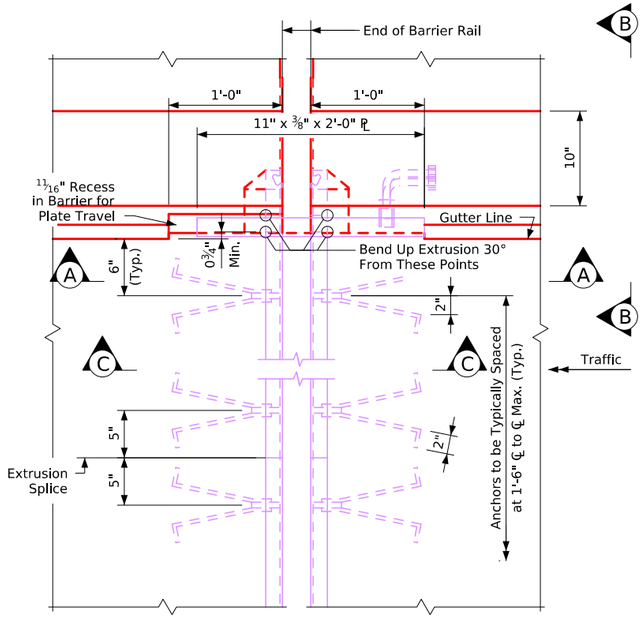
Blockout Detail

(Drawn for 0° Skew for Illustrative Purposes)

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



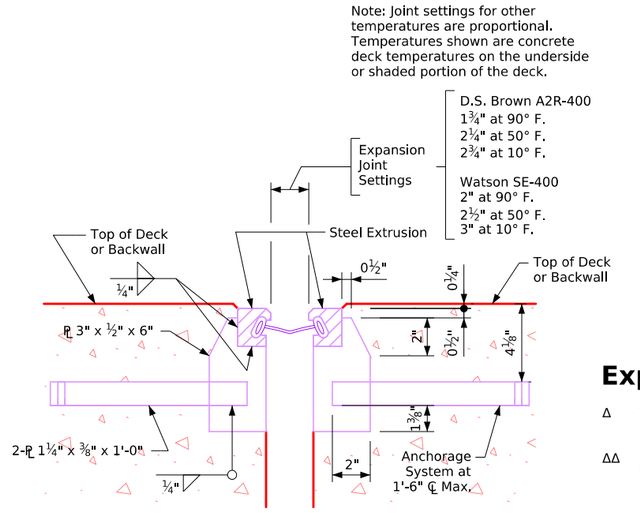
Cap Screw Detail



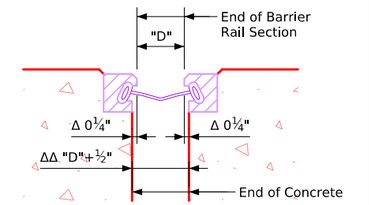
Part Plan View of Expansion Device

Barrier Plate Note:

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



Section C-C



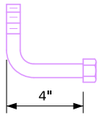
Expansion Opening Detail

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

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

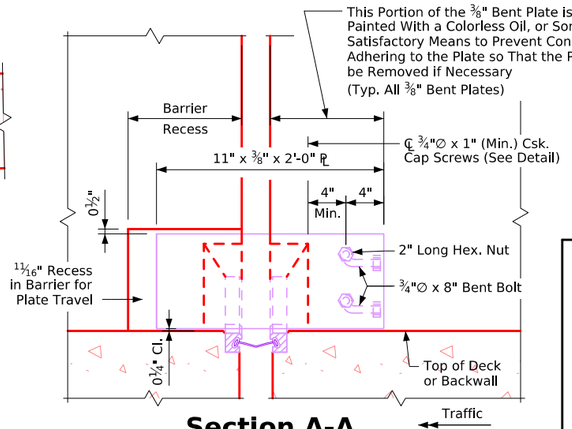
Table of Approved Expansion Devices

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



Bent Bolt Detail

Section B-B



Section A-A

(Drawn for 0° Skew for Illustrative Purposes)

Note:
See Design Sheet No. 8 for expansion device notes containing the steel extrusion notes, neoprene gland notes, and watertight integrity testing and repair notes.

Design For Repair To 0° Skew

240'-0" x 52'-0" Continuous I-Beam Bridge

73'-3" End Spans — 93'-6" Interior Span

Expansion Device Details

STA. 655+20 (US 75) — Turn-in Date: October 2026

Plymouth County

IOWA DEPARTMENT OF TRANSPORTATION

Design No. 127 — Design Sheet No. 7 of 12 — FHWA No. 039600

Revised 08-13: Added a Corresponding Maximum Deck Temperature Column to Expansion Device Table. Added a Splice Detail to the Plan Part Views.
Issued 03-02.
DeckRailBridges.dgn - 1026s-1 -This Sheet Re-Issued 05-2024. Sheet Format Update.

Steel Extrusion Notes:

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

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

The expansion device is to be parallel to grade.

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

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

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

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

Neoprene Gland Notes:

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

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

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

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

Watertight Integrity Testing And Repair Notes:

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

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

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

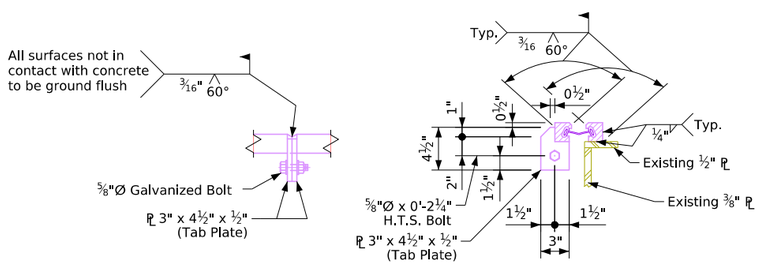
If the expansion device leaks at an upturned end or along its length, the Contractor shall locate the leak(s) and take repair measures to stop the leakage. The repair measures shall be as recommended by the Manufacturer and approved by the Engineer prior to beginning corrective work.

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

Field Construction Notes:

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

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



End View Section Thru Extrusion

Field Splice Detail

Design For Repair To 0° Skew

240'-0" x 52'-0" Continuous I-Beam Bridge

73'-3" End Spans 93'-6" Interior Span

Expansion Device Notes

STA. 655+20 (US 75) Turn-in Date: October 2026

Plymouth County

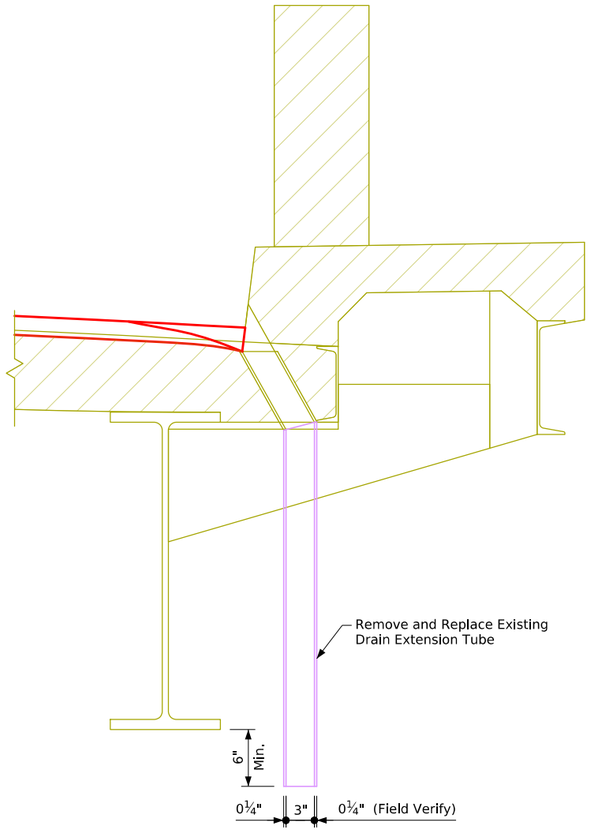
IOWA DEPARTMENT OF TRANSPORTATION

Design No. 127 Design Sheet No. 8 of 12 FHWA No. 039600

FILE NO. 32380	ENGLISH	DESIGN TEAM Kirkham Michael	Expansion Device Details - Steel Extrusion Notes (2 of 2)	Standard Sheet 1026s2	Plymouth COUNTY	PROJECT NUMBER BRF-075-2(121)--38-75	SHEET NUMBER V.8	

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Revised 08-13: Steel Extrusion Note was Added to Show a Weld Detail on the Shop Drawings for Splices.
An Additional Neoprene Gland Note About The Corresponding Maximum Deck Temperature was Added.
Issued 11-08.
DeckRailBridges.dgn - 1026s-2 -This Sheet Re-Issued 05-2024. Sheet Format Update.



Part Elevation of Deck Drain Extension

Deck Drain Extension Notes:

All dimensions to fabricate structural steel shall be verified in the field by the contractor prior to fabrication of the steel.

Bottom of existing drains which are damaged or corroded shall be removed. Length of removal to be adjusted as necessary with approval of the engineer.

Drain extension section shall match existing drain tube. Drain extension may be HSS or built up from ¼" welded plate. HSS shall meet the requirements of ASTM A500, Grade B. ¼" plate shall meet the requirements of ASTM A709, Grade 36.

Drain extensions shall be galvanized after fabrication in accordance with ASTM A123. Areas of galvanizing damaged by cutting of field welding shall be painted with 2 coats of zinc rich paint.

Weight of each drain extension is approximately 65 lbs.

Measurement for drain extensions will be by count for each drain extension. 12 deck drain extensions required, see situation plan for locations. Payment for drain extensions will be the contract unit price for the total number of drain extensions installed. Payment shall be full compensation for removals and all materials and labor required to install the drain extensions.

Includes all costs of installing welded drain extensions as detailed in these plans. Measurement will be each and basis of payment will include partial removal and preparation of existing drains, fabrication and installation of new drain extensions, and all labor and incidental materials.

Design For Repair To 0° Skew

240'-0" x 52'-0" Continuous I-Beam Bridge

73'-3" End Spans — 93'-6" Interior Span

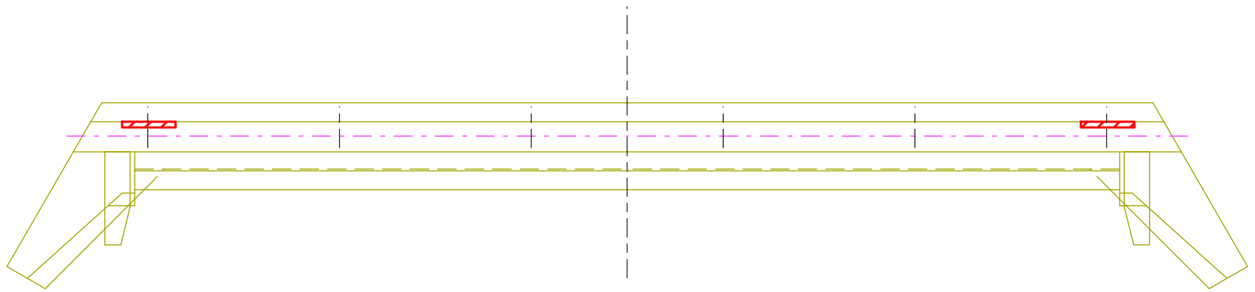
Deck Drain Details

STA. 655+20 (US 75) — Turn-in Date: October 2026

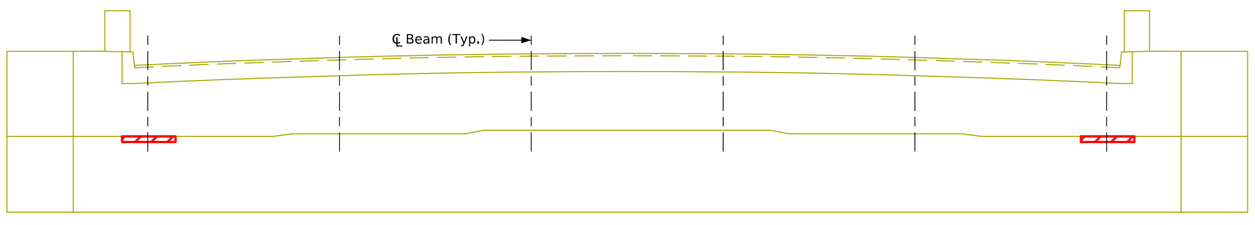
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Design No. 127 — Design Sheet No. 9 of 12 — FHWA No. 039600



South Abutment Repair Plan



South Abutment Repair Rear Elevation

Legend

- Indicates shallow repair
- Indicates regular repair

Design For Repair To 0° Skew

240'-0" x 52'-0" Continuous I-Beam Bridge

73'-3" End Spans — 93'-6" Interior Span

South Abutment Repairs

STA. 655+20 (US 75)

Turn-in Date: October 2026

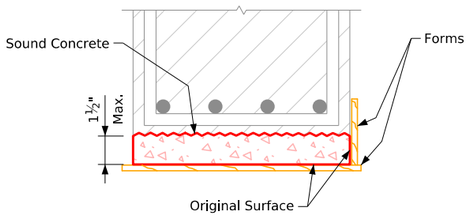
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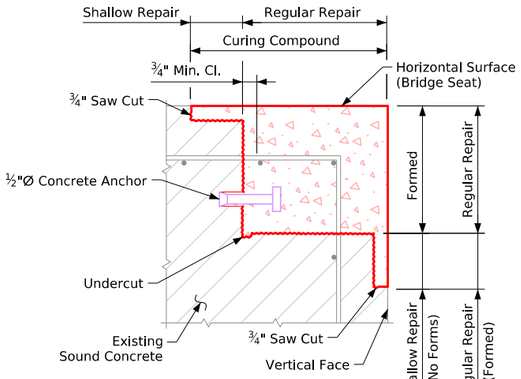
Design No. 127 | Design Sheet No. 10 of 12 | FHWA No. 039600

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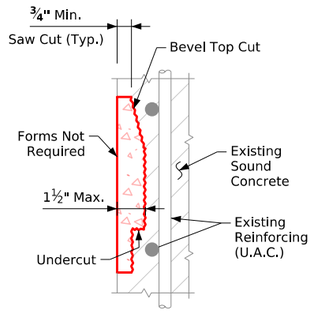
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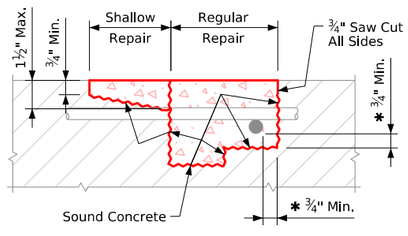
Shallow Repair Bottom Surface



Corner Repair

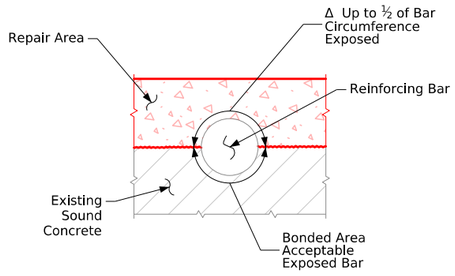


Shallow Repair Vertical Face

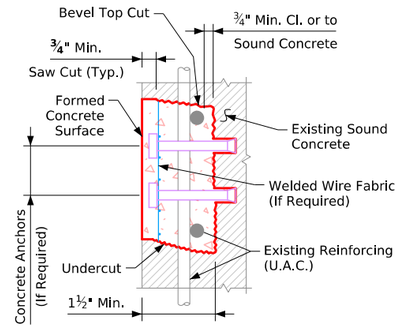


Repair Definition

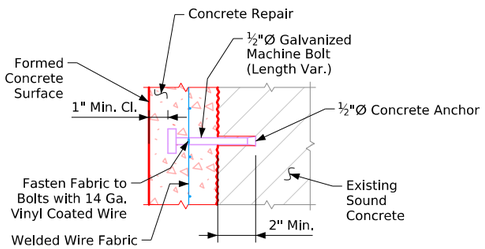
✱ Indicates Clearance for an Un-Bonded Rebar.



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

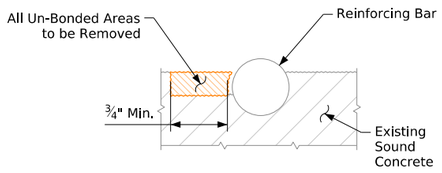


Regular Repair Vertical Face



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.	50
②	Regular Repair	Sq. Ft.	25
		Total (Sq. Ft.)	75

Estimated Concrete Repair Quantities

Description	Units	Amount
Concrete Repair	Sq. Ft.	75

Design For Repair To 0° Skew

240'-0" x 52'-0" Continuous I-Beam Bridge

73'-3" End Spans — 93'-6" Interior Span

Concrete Repairs

STA. 655+20 (US 75) — Turn-in Date: October 2026

Plymouth County

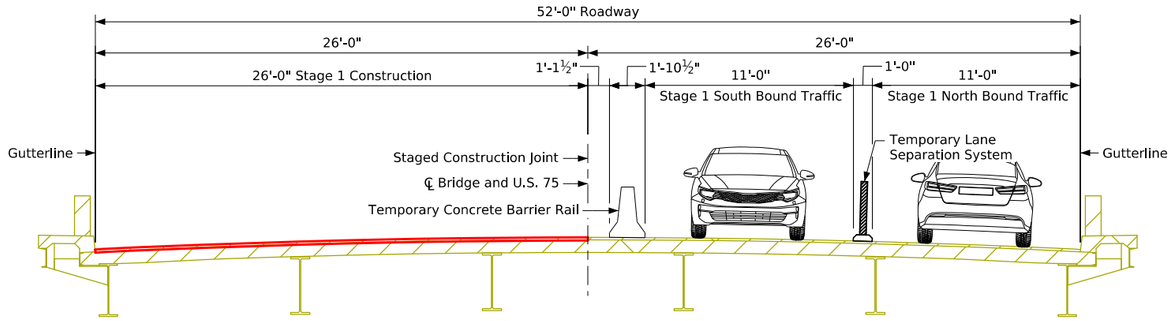
IOWA DEPARTMENT OF TRANSPORTATION

Design No. 127 — Design Sheet No. 11 of 12 — FHWA No. 039600

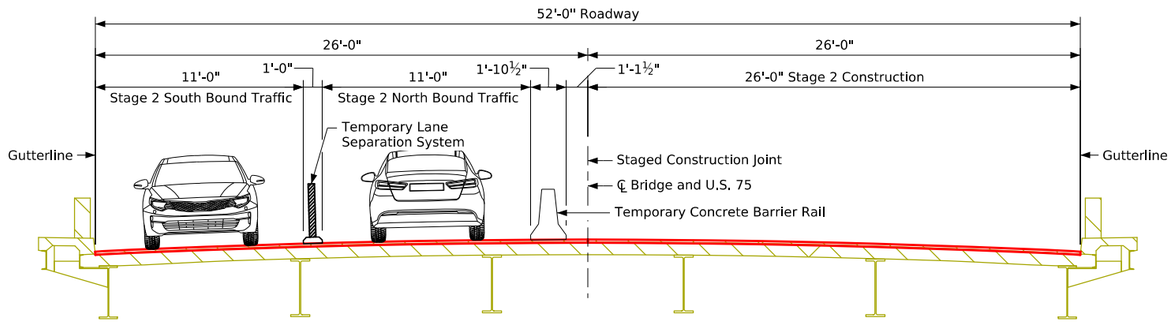
FILE NO. 32380	ENGLISH	DESIGN TEAM Kirkham Michael	Concrete Repairs	Standard Sheet 1045	Plymouth COUNTY	PROJECT NUMBER BRF-075-2(121)--38-75	SHEET NUMBER V.11

12:45:02 PM 9/28/2026 costheimer pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\7507502022\Bridge\(121)_Bridge Deck Overlay\SHT_75075121_KM_0127_39600_Z04.dgn

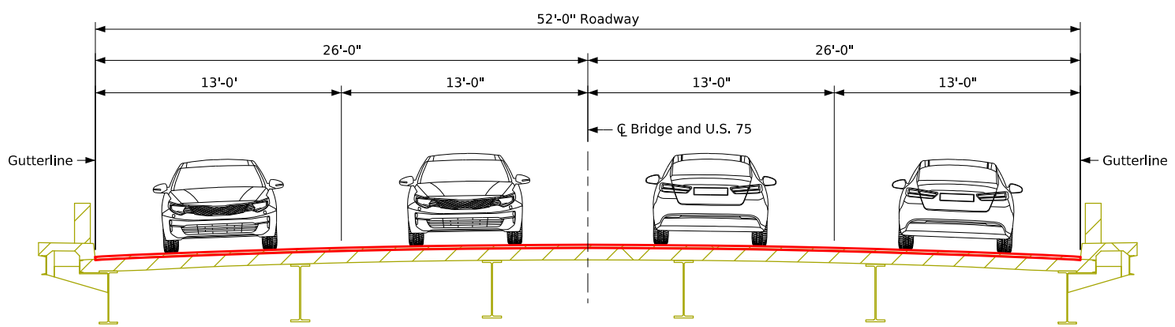
Revised 10-2014 - Deleted All References to Grout. Section 2426 Covers this Requirement and Doesn't Need to be Stated on the Plans.
RepairRetrofitBridges.dgn - 1045 - This Sheet Redrawn 09-27-1990.
RepairRetrofitBridges.dgn - 1045 - This Sheet Re-Issued 07-2023.



Typical Section Stage 1 Construction
(Looking North)



Typical Section Stage 2 Construction
(Looking North)



Final
(Looking North)

Existing Concrete
New Concrete

Design For Repair To 0° Skew

240'-0" x 52'-0" Continuous I-Beam Bridge

73'-3" End Spans — 93'-6" Interior Span

Staging Details

STA. 655+20 (US 75) — Turn-in Date: October 2026

Plymouth County

IOWA DEPARTMENT OF TRANSPORTATION

Design No. 127 — Design Sheet No. 12 of 12 — FHWA No. 039600

FILE NO. 32380	ENGLISH	DESIGN TEAM Kirkham Michael	Plymouth COUNTY	PROJECT NUMBER BRF-075-2(121)--38-75	SHEET NUMBER V.12	

12:45:03 PM 9/28/2026 costheimer pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\7507502022\Bridge\(121)_Bridge Deck Overlay\SHT_75075121_KM_0127_39600_Z04.dgn

A Sheets	**Title Sheets**
A.3	Roadway Title Sheet
B Sheets	**Typical Cross Sections and Details**
B.1 - 2	Typical Cross Sections and Details
C Sheets	**Quantities and General Information**
C.1 - 2	Estimated Project Quantities & Reference Information
C.3	Index of Tabulations
C.4	Standard Road Plans
C.5 - 14	Tabulations
D Sheets	**Mainline Plan and Profile Sheets**
D.1	Plan & Profile Legend & Symbol Information Sheet
D.2	"ML US 75"
J Sheets	**Traffic Control and Staging Sheets**
J.1 - 4	Traffic Control Plan and Notes
J.5	Staging Legend & Symbol Info. Sheet
J.6 - 13	Staging and Traffic Control Sheets

ROADWAY DESIGN

LICENSED PROFESSIONAL ENGINEER
Dung T. Ta
21117
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 08-11-2026 Date

Dung T. Ta
Printed or Typed Name

My license renewal date is December 31, 20 26

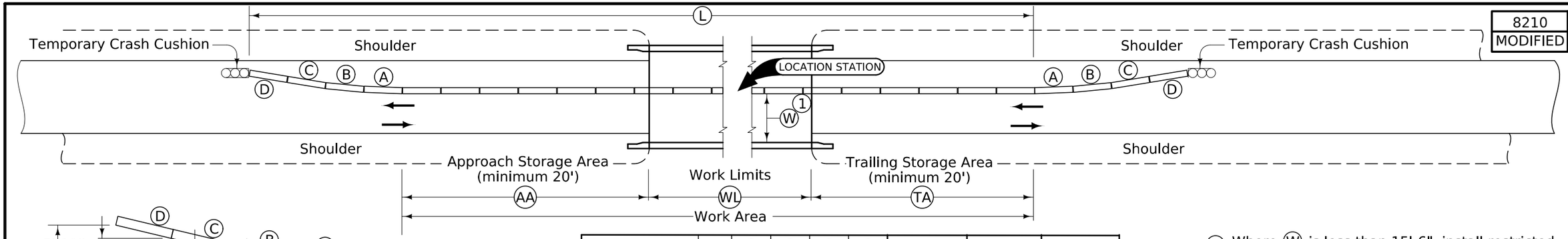
Pages or sheets covered by this seal: A.3; B.1-B.2; C.1-14; D.1-D.2; J.1-J.13

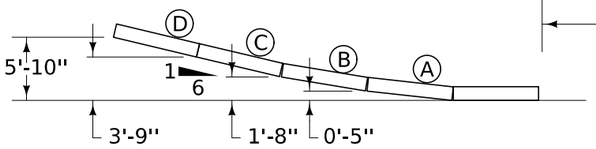
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FILE NO. 32380	ENGLISH	DESIGN TEAM Ta/McClanahan	Plymouth COUNTY	PROJECT NUMBER BRF-075-2(121)--38-75	SHEET NUMBER A.3

1:52:17 PM 9/10/2026 dta pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\7507502022\Design\CADD_Files\Sheet_Files\75075121_A03.dgn

8210
MODIFIED





BARRIER OFFSETS FOR FLARE SECTIONS

Station	Side	AA	WL	TA	L	Anchored	1 W	Remarks
		Ft.	Ft.	Ft.	Ft.	X	Ft-Inches	
655+20.00	LT	21.0	384	20.0	525	Yes	23	Stage 1
655+20.00	RT	21.0	384	20.0	525	Yes	23	Stage 2

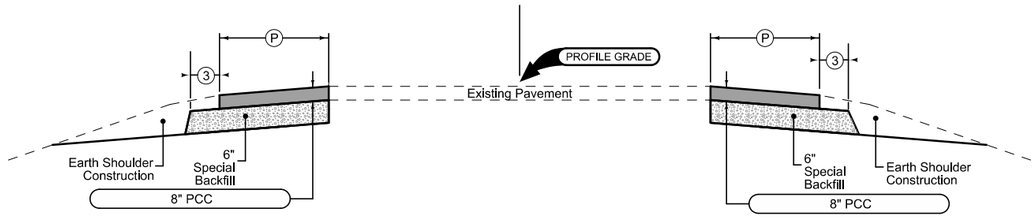
(1) Where (W) is less than 15'-6", install restricted width signing as per Standard Road Plan TC-81.

TEMPORARY CONCRETE BARRIER LAYOUT
for One-Way Traffic

Full Depth PCC Shoulder

PCC Shoulder Jointing:
Longitudinal joint: BT-1 or BT-5
Transverse joints: C at mainline spacing

2_P_Guard_ 04-21-20		
STATION TO STATION		(P) Feet
652+75	653+28.38	16' to 8'

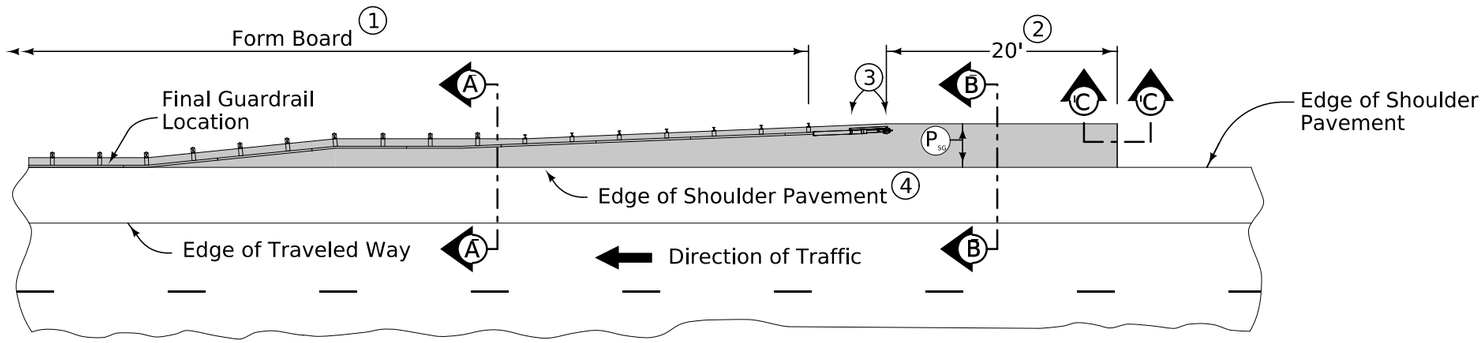


Full Depth PCC Shoulder

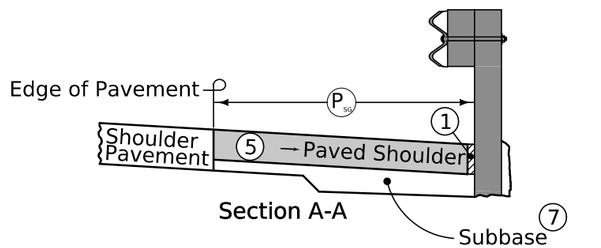
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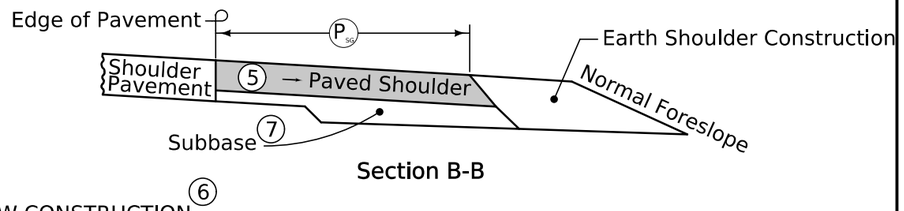
2_P_Guard_ 04-21-20		
STATION TO STATION		(P) Feet
652+75	653+28.38	16' to 8'

DESIGNER INFORMATION

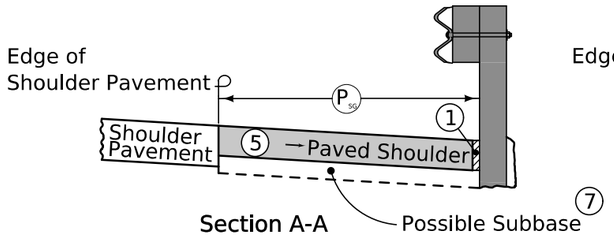


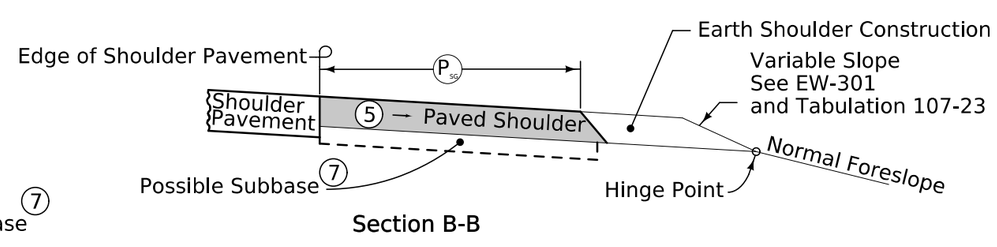
PLAN VIEW





NEW CONSTRUCTION 6





EXISTING SHOULDER

7158
MODIFIED

8" PCC Paved Shoulder at guardrail. with the following jointing layout:

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

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

Refer to Tabulation 112-9 for shoulder quantities.

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

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

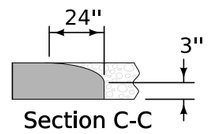
(3) Shoulder may be notched for first 2 posts or post sleeves may be installed through pavement. Do not drive posts through pavement.

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

(5) Match shoulder slope.

(6) The Contractor has the option to pave the paved shoulder at guardrail and the full width paved shoulder as one operation.

(7) Refer to other details in the plan.



Roll down at granular shoulder or earth.

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

ESTIMATED PROJECT QUANTITIES AND REFERENCE NOTES

Item no.	Item Code	Item	Unit	Quantities Estimated Roadway Items	Estimate Reference Notes
1	2102-0425070	SPECIAL BACKFILL	TON	34.6	Refer to D sheets and Tab 112-09 in the C sheets for details.
2	2102-2713090	EXCAVATION, CLASS 13, WASTE	CY	20.2	Refer to Tab 112-09 in the C sheet for details. Dispose of excess material according to Article 1106.07 of the current specifications.
3	2122-5190008	PAVED SHOULDER, P.C. CONCRETE, 8 IN.	SY	146	Refer to sheet B.1 and Tab. 112-9 in the C sheets for details. This quantity is the shoulder at guardrail.
4	2123-7450000	SHOULDER CONSTRUCTION, EARTH	STA	1.06	Refer to Tab. 112-9 in the C sheets for details.
5	2301-0690204	BRIDGE APPROACH, BR-204	SY	848.8	Refer to tab 112-06 for details.
6	2412-0000100	LONGITUDINAL GROOVING IN CONCRETE, BRIDGE DECK AND/OR APPROACHES	SY	1,868.6	Refer to Tab.100-28 in the C sheets for details.
7	2505-6765006	REMOVE AND REINSTALL FORMED STEEL BEAM GUARDRAIL	LF	410	Refer to Tab. 110-07A in the C sheets for Details. The intent of this work is to remove and reinstall only the steel beam guardrail for placement of pavement. Carefully remove and stockpile steel beam guardrail for reinstallation. The Contractor has the option to leave the posts in place, or to remove and reinstall the posts at no additional cost to the Contracting Authority. Replace steel beam rail and posts damaged by the Contractor's operations at no additional cost to the Contracting Authority. Posts, delineators, and object markers are to remain in place. Replace posts, delineators, and object markers damaged by the Contractors operations at no additional cost to the Contracting Authority. Ensure that all posts are firm and plum prior to reinstalling the guardrail. Restore the area disturbed by removal and reinstallation operations to an acceptable condition. Method of Measurement: Measurement will be in linear feet, measured along the front of the rail, of steel beam guardrail (includes W-beam and Thrie-beam guardrail) removed and reinstalled. Basis of Payment: Payment will be at the contract unit price per linear foot of steel beam guardrail removed and reinstalled. Payment includes all labor, equipment, and materials required to remove and reinstall the steel beam guardrail.
8	2510-6745850	REMOVAL OF PAVEMENT	SY	990	Refer to Tabs.110-1 and D sheets for details. Saw cut 237 Lf.
9	2527-9263181	PAVEMENT MARKINGS REMOVED	STA	9.02	Refer to Tab. 108-22 in the C sheets for details.

Item no.	Item Code	Item	Unit	Quantities	Estimate Reference Notes
				Estimated	
				Roadway Items	
10	2527-9263209	PAINTED PAVEMENT MARKINGS, WATERBORNE OR SOLVENT-BASED	STA	62.07	Refer to Tab.108-22 In C sheets for details.
11	2527-9263231	REMOVABLE TAPE MARKINGS, WET RETROREFLECTIVE	STA	33.5	
12	2527-9270112	GROOVES CUT FOR PAVEMENT MARKINGS	STA	14.92	
13	2528-8400048	TEMPORARY BARRIER RAIL, CONCRETE	LF	1,050	Refer to Tab.108-33 in the C sheets for details.
14	2528-8400157	TEMPORARY FLOODLIGHTING LUMINAIRE	EACH	4	The locations of Temporary Floodlighting Luminaire will be determined at the pre-construction meeting. Refer to J sheets for information.
15	2528-8445110	TRAFFIC CONTROL	LS	1	Refer to Tab.105-4 in the C sheets for details.
16	2528-9109020	TEMPORARY LANE SEPARATOR SYSTEM	LF	3,875	Refer to J sheets and Tab 108_35 for details.
17	2551-0000110	TEMP CRASH CUSHION	EACH	2	Refer to Tab. 108-30 In the C sheets for details. sand filled or water filled crash cushions according to the manufacturer's recommendations if they are to remain in place during winter months.

INDEX OF TABULATIONS

Tabulation	Tabulation Title	Sheet No.
111_25	INDEX OF TABULATIONS	C.3
105_04	STANDARD ROAD PLANS	C.4
100_28	LONGITUDINAL GROOVING	C.5
108_22	PAVEMENT MARKING LINE TYPES	C.6- C.7
108_27	TEMPORARY FLOODLIGHTING LUMINAIRES	C.8
108_30	CRASH CUSHIONS	C.9
108_33	TEMPORARY BARRIER RAIL	C.10
108_35	TEMPORARY LANE SEPARATOR SYSTEM	C.11
110_01	REMOVAL OF PAVEMENT	C.12
110_07A	REMOVAL OF STEEL BEAM GUARDRAIL	C.13
112_06	BRIDGE APPROACH SECTION	C.14
112_09	SHOULDERS	C.15

STANDARDS

The following Standards apply to construction work on this project.

Number	Date	Title
BA-401	04-20-21	Temporary Barrier Rail (Precast Concrete)
BA-500	04-20-21	Temporary Crash Cushions Sand Barrel
BR-204	10-20-26	Double Reinforced 12in Approach with Variable Depth Paving Notch
BR-211	04-21-26	Bridge Approach (Abutting PCC or Composite Pavement)
PM-110	10-15-24	Line Types
PM-111	04-21-20	Symbols and Legends
PM-115	10-20-26	Grooving for Line Types
PM-116	04-16-24	Grooving for Symbols and Legends
PV-101	10-20-26	Joints
SI-882	10-18-16	Special Signs for Restricted Width Traffic Control Zones
TC-1	10-15-19	Work Not Affecting Traffic (Two-Lane or Multi-Lane)
TC-81	04-18-23	Restricted Width Signing (Less Than 15.5 Feet)
TC-402	04-18-23	Work Within 15 ft of Traveled Way
TC-418	04-18-23	Lane Closure on Divided Highway
TC-419	04-18-23	Lane Closure on Undivided Highway

LONGITUDINAL GROOVING

Location	Total (SY)	Remarks
655+20.00	1301.2	Bridge Deck
655+20.00	283.7	South Approach
655+20.00	283.7	North Approach
Total:	**1868.6**	

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)	BLW4 (STA)	BLW4 Factored (STA)	BLW6 (STA)	BLW6 Factored (STA)	DCY4 (STA)	DCY4 Factored (STA)	DCY6 (STA)	DCY6 Factored (STA)	ELW4 (STA)	ELW4 Factored (STA)	ELW6 (STA)	ELW6 Factored (STA)	Remarks
0.5																							
Marking Type :																							
1.0	**US 75**	**648+75.00**	**663+68.97**	**X-Over**	Removal of Paint	X		X	No														Stage
2.0	US 75	648+75.00	663+68.97	NB	Removal of Paint		X		No		14.94	2.54											Stage
3.0	US 75	648+75.00	663+68.97	SB	Removal of Paint		X		No		14.94	2.54											Stage
19.0	US 75	654+00.00	661+00.00	SB	Removal of Paint			X	No												7.00	7.00	Stage
21.0	US 75	664+50.00	668+00.00	SB	Removal of Paint			X	No												3.50	3.50	Stage
23.0	US 75	648+75.00	663+68.97	NB	Removal of Paint		X		No				14.94	3.73									Stage
25.0	US 75	654+00.00	661+00.00	NB	Removal of Paint			X	No												7.00	7.00	Stage
27.0	US 75	664+50.00	668+00.00	NB	Removal of Paint			X	No												3.50	3.50	Stage
												5.08		3.73									
Marking Type Removal of Paint:																							
17.0	**US 75**	**668+00.00**	**675+00.00**	**SB**	Removal of Removable Tape			X	No										14.00	9.38			Stage *Note
18.0	US 75	652+00.00	654+00.00	SB	Removal of Removable Tape			X	No										4.00	2.68			Stage *Note
20.0	US 75	661+00.00	664+50.00	SB	Removal of Removable Tape			X	No										7.00	4.69			Stage *Note
24.0	US 75	652+00.00	654+00.00	NB	Removal of Removable Tape			X	No										4.00	2.68			Stage *Note
26.0	US 75	661+00.00	664+50.00	NB	Removal of Removable Tape			X	No										7.00	4.69			Stage *Note
28.0	US 75	668+00.00	675+00.00	NB	Removal of Removable Tape			X	No										14.00	9.38			Stage *Note
																				33.5			
Marking Type Removal of Removable Tape:																							
4.0	**US 75**	**648+75.00**	**663+68.97**	**X-Over**	Waterborne/Solvent Paint	X		X	No								14.94	29.88					Stage
5.0	US 75	648+75.00	663+68.97	NB	Waterborne/Solvent Paint		X		Yes	3.73			14.94	3.73									Stage
6.0	US 75	648+75.00	663+68.97	SB	Waterborne/Solvent Paint		X		Yes	3.73			14.94	3.73									Stage
8.0	US 75	654+00.00	661+00.00	SB	Waterborne/Solvent Paint			X	No												7.00	7.00	Stage
10.0	US 75	664+50.00	668+00.00	SB	Waterborne/Solvent Paint			X	No												3.50	3.50	Stage
12.0	US 75	648+75.00	663+68.97	NB	Waterborne/Solvent Paint		X		Yes	3.73			14.94	3.73									Stage
14.0	US 75	654+00.00	661+00.00	NB	Waterborne/Solvent Paint			X	No												7.00	7.00	Stage
16.0	US 75	664+50.00	668+00.00	NB	Waterborne/Solvent Paint			X	No												3.50	3.50	Stage
										11.19				11.19				29.88					
Marking Type Waterborne/Solvent Paint:																							
7.0	**US 75**	**652+00.00**	**654+00.00**	**SB**	Wet Retroreflective Removable Tape			X	No										4.00	2.68			Stage *Note
9.0	US 75	661+00.00	664+50.00	SB	Wet Retroreflective Removable Tape			X	No										7.00	4.69			Stage *Note
11.0	US 75	668+00.00	675+00.00	SB	Wet Retroreflective Removable Tape			X	No										14.00	9.38			Stage *Note
13.0	US 75	652+00.00	654+00.00	NB	Wet Retroreflective Removable Tape			X	No										4.00	2.68			Stage *Note
15.0	US 75	661+00.00	664+50.00	NB	Wet Retroreflective Removable Tape			X	No										7.00	4.69			Stage *Note
29.0	US 75	668+00.00	675+00.00	NB	Wet Retroreflective Removable Tape			X	No										14.00	9.38			Stage *Note
																				33.5			

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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)	BLW4 (STA)	BLW4 Factored (STA)	BLW6 (STA)	BLW6 Factored (STA)	DCY4 (STA)	DCY4 Factored (STA)	DCY6 (STA)	DCY6 Factored (STA)	ELW4 (STA)	ELW4 Factored (STA)	ELW6 (STA)	ELW6 Factored (STA)	Remarks
Marking Type Wet Retroreflective Removable Tape:																							
Total:										**11.19**		**5.08**		**14.92**				**29.88**		**67**			

Waterborne Solvent Paint Total 62.07
Wet Retroreflective Removable Tape Total 33.5
Removal of Removable Tape Total 33.5
Removal of Paint Total 9.02
* Length was doubled because tape should be 8" (two 4" strips side by side}

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
EB	655+20.00	Left	2.0	Temporary	1								TBR and temporary lane separator	
WB	655+20.00	Left	2.0	Temporary	1								TBR and temporary lane separator	
Total:					**2**									

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.

No.	Station From	Station To	Length (FT)	Barrier Rail Type	Anchored*	Modular Glare Screen System	Remarks
	652+57.00	657+82.00	525.0	Concrete BA-401	Yes	No	Stage 1
	652+57.00	657+82.00	525.0	Concrete BA-401	Yes	No	Stage 2
Total			1050				

TEMPORARY LANE SEPARATOR SYSTEM

See TC-61

Station From	Station To	Length (LF)	Remarks
647+00.00	662+00.00	1500.0	Stage 1
637+50.00	661+25.00	2375.0	Stage 2
Total		3875	

Total: 3875

REMOVAL OF PAVEMENT

Refer to Tabulation 102-5.

* Not a bid item.

Line No.	Station From	Station To	Side	Pavement Type	Area (SY)	Saw Cut* (LF)	Remarks
1.0	652+75.00	653+28.38	NB	PCC/HMA	73.0	70.0	South of South Approach Existing Shoulder 9"
2.0	653+28.38	653+98.38	Both	PCC	422.0	40.0	South Approach Exist Pavement 10.5" /Shoulder 9"
3.0	652+75.00	653+28.38	SB	PCC/HMA	73.0	70.0	South of South Approach Existing Shoulder 9"
4.0	656+41.72	657+11.72	Both	PCC	422.0	57.0	North Approach Exist Pavement 10.5"/ Shoulder 9"
Total:					**990**	**237**	

110_07A
8/15/22

REMOVAL OF STEEL BEAM GUARDRAIL

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

No.	Direction of Traffic (1)	Station From	Station To	Side	Removal of Guardrail (2) (LF)
	NB	652+70.22	653+98.38	Right	127.5
	SB	653+98.38	652+70.22	Right	127.5
	NB	656+41.72	657+20.40	Right	77.5
	SB	657+20.40	656+41.72	Right	77.5
Total:					**410**

BRIDGE APPROACH SECTION

Refer to the BR Series.

* Not a bid item
** Verify layout of bridge approach does not conflict with guardrail posts.

Bridge Station	End	Skew Ahead Left (Degrees)	Skew Ahead Right (Degrees)	(T) Thickness (IN)	Pay Length (FT)	Right Edge Offset (FT) **	Left Edge Offset (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)	Modified * Subbase (TON)	Polymer * Grid (SY)	Special * Backfill (TON)	Remarks
655+20.00	S			12.0	70.0			183.3	120.0	121.1	BR-204	Fixed	BR-211	64.0	653+38.38	Right	1.8	393.900	452.5		South Approach
655+20.00	N			12.0	70.0			183.3	120.0	121.1	BR-204	Fixed	BR-211	64.0	657+01.72	Right	1.8	393.900	452.5		North Approach
Total:								**366.6**	**240**	**242.2**											

Non-reinforced	366.6
Single reinforced	240.0
Double Reinforced	242.2
Total	848.8

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 Start Width (FT)	P_SG End Width (FT)	P SG Width (2) (FT)	G Width (FT)	L Length (FT)	Class 13 Excavation (CY)(3)(4)	Paved Shoulder (3) (SY)	Shoulder at Grdrail (5)(7)	Reinforced Paved Shoulder(3) (SY)	Backfill Cross Section Area PCC	Special Backfill PCC Alt. (3) (TON)	Special Backfill PCC Alt. (TON/STA)	Const. Cross Section Area PCC	Shoulder Const. Alt (3) (STA)	Shoulder Const. Alt PCC (6) (CY)	Remarks
US 75	NB	652+75.00	653+28.38	Right		16.3	8.3	12.3		53.38	10.1		73.0		4.63	17.300	32.410	5.95	0.53	11.76	South Approach Northbound Guardrail Paving
US 75	SB	652+75.00	653+28.38	Right		16.3	8.3	12.3		53.38	10.1		73.0		4.63	17.300	32.410	5.95	0.53	11.76	South Approach Southbound Guardrail Paving
Total:								**24.6**			**20.2**		**146**		**9.26**	**34.6**	**64.82**	**11.9**	**1.06**	**23.52**	

SURVEY SYMBOLS

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

UTILITY LEGEND

The following utilities have been identified by One Call (811):

(CTLIA01) CENTURYLINK
Contact Name : SADIE HULL
Contact Phone: 9185470147
Contact Email: sadie.hull@lumen.com

(M13E) MIDAMER-ELEC
Contact Name : John Roest
Contact Phone: 7125486198
Contact Email: jhroest@midamerican.com

(M13G) MIDAMER-GAS
Contact Name : Heather Murphy
Contact Phone: 7125486157
Contact Email: HRMURPHY@MIDAMERICAN.COM

(MC1) VERIZON
Contact Name : John Bachelder
Contact Phone: 9727297000
Contact Email: asg.investigationsteam@asginc.us

(MRR) MERRILL, CITY OF
Contact Name : William Merchant
Contact Phone: 7129382514
Contact Email: merrillmaint@gmail.com

(PR7) PREMIER COMMUNICATIONS
Contact Name : Jake Van Roekel
Contact Phone: 7127223451
Contact Email: jakevr@mypremieronline.com

(ZAY) ZAYO GROUP LLC
Contact Name : JOHN FERRARESI
Contact Phone: 3122160450
Contact Email: john.ferraresi@zayo.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.**		**Transparency**
Pink, Dark	(13)	Temporary Pavement Shading	50%
Yellow	(4)	Proposed Pavement Shading	50%
Orange	(6)	Proposed Granular Shading	50%
Orange	(70)	Proposed Shoulder Granular Shading	50%
Yellow	(68)	Proposed Shoulder Paved Full Depth Shading	50%
Yellow	(132)	Proposed Shoulder Paved Partial Depth Shading	50%
Brown, Light	(236)	Grading Shading	50%
Orange, Light	(134)	Proposed Granular Entrance Shading	50%
Yellow	(220)	Proposed Paved Entrance Shading	50%
Tan	(8)	Proposed Sidewalk Shading	50%
Blue, Light	(230)	Proposed Sidewalk Landing Shading	50%
Pink	(11)	Proposed Sidewalk Ramp Shading	50%
Red	(3)	Proposed Structure Shading	50%
Red	(3)	Delineates Restricted Areas	0%

PROFILE VIEW COLOR LEGEND OF PLAN AND PROFILE SHEETS

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

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

RIGHT-OF-WAY LEGEND

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

PLAN AND PROFILE LEGEND AND SYMBOL INFORMATION SHEET

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

FILE NO. 32380	ENGLISH	DESIGN TEAM Ta/McClanahan	Plymouth COUNTY	PROJECT NUMBER BRF-075-2(121)--38-75	SHEET NUMBER D.1

3:38:53 PM 8/28/2026 smcclan pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\7507502022\Design\CADD_Files\Sheet_Files\75075121_D01.dgn

649+00
650+00
651+00
652+00
653+00
654+00
655+00
656+00
657+00
658+00
659+00
660+00
661+00
662+00
663+00
664+00

STA 656+41.72 (ML US 75)
BEGIN APPROACH

STA 652+75.00 (ML US 75)
BEGIN SHOULDER AT GUARDRAIL

US 75

STA 652+75.00 (ML US 75)
BEGIN SHOULDER AT GUARDRAIL

STA 653+28.38 (ML US 75)
BEGIN APPROACH &
END SHOULDER AT GUARDRAIL

STA 653+98.38 (ML US 75)
END APPROACH

STA 657+11.72 (ML US 75)
END APPROACH

0 50
FEET

ML US-75

FILE NO. 32380	ENGLISH	DESIGN TEAM Ta/McClanahan	Plymouth COUNTY	PROJECT NUMBER BRF-075-2(121)--38-75	SHEET NUMBER D.2	

3:38:48 PM 8/28/2026 smcclan pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\7507502022\Design\CADD_Files\Sheet_Files\75075121_D02.dgn

108_23A

8/15/22

TRAFFIC CONTROL PLAN

Traffic on US 75 shall be maintained at all times.

Traffic control on this project shall be in accordance with the Standard Road Plans in Tabulation 105-4 and Tabulation 108-26A.
Refer to J sheets for details

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	Projected As Built Measurement	Remarks
US-75	NB	Plymouth	2.4 miles south of Jct. SR C38	Bridge Over River	Traffic Control Device	39600	Horizontal	52 Roadway	10'		Traffic Control
US-75	SB	Plymouth	2.4 miles south of Jct. SR C38	Bridge over River	Traffic Control Device	39600	Horizontal	52 Roadway	10'		Traffic Control

108_26A
8/15/22

STAGING NOTES

Maintain traffic on US 75 utilizing the Standard Road Plans listed in Tab 105-4 in the C.3 sheets and the staging typical.

Refer to Bridge Sheet V.12 for traffic control.

Construction:

Guardrail removal and installation, Shoulder and bridge approach pavement construction and bridge deck overlay on NB lane of US-59.

STAGE 1:

Traffic Control: Maintain traffic on US-75 utilizing the Standard Road Plans listed in Tab. 105-4 and the staging's typical shown on J sheets. Traffic will be on NB lane of US-75.

Stage 2:

Traffic Control: Traffic will be on SB lane of US-75.

Construction: Work will be on NB lane of US-75.

Pavement Marking will be done during lane closure by staging.

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

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
Orange	(6)	Proposed Granular Surface Shading
Gray, Med	(80)	Previously Constructed Granular Surface Shading
Blue, Light	(230)	Proposed Pavement Shading
Pink, Dark	(13)	Temporary Pavement Shading
Brown, Light	(236)	Proposed Grading Limits Shading
Cyan	(7)	Proposed MSE or CIP Wall Shading
Red	(3)	Proposed Bridge Shading and Sign Trusses
Black w/Gray, Light Fill	(0,48)	Previously Constructed Structure

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

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

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

TRAFFIC CONTROL AND STAGING LEGEND AND SYMBOL INFORMATION SHEET

(COVERS SHEET SERIES J)

631+00
632+00
633+00
634+00
635+00
636+00
637+00
638+00
639+00
640+00
641+00
642+00
643+00
644+00
645+00

PI 639+28.89
PI 644+32.91

75

PC 638+13.00
PCC 640+44.60

700'
700'
700'
630'

ROAD WORK AHEAD

W20-1
48" x 48"

LEFT LANE CLOSED AHEAD

W20-5
48" x 48"

W4-2
48" x 48"

Δ = 05°26'25.45" (RT)
T = 115.89'
L = 231.60'
R = 2439.08'
E = 2.75'
e = ___
L = ___
x = ___

Δ = 23°31'33.35" (RT)
T = 388.31'
L = 765.67'
R = 1864.74'
E = 40.00'
e = ___
L = ___
x = ___

0 50
FEET

TRAFFIC CONTROL
US 75 Stage 1

FILE NO. 32380	ENGLISH	DESIGN TEAM Ta/McClanahan	Plymouth COUNTY	PROJECT NUMBER BRF-075-2(121)--38-75	SHEET NUMBER J.6

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645+00
646+00
647+00
648+00
649+00
650+00
651+00
652+00
653+00
654+00
655+00
656+00
657+00
658+00
659+00
660+00

200'
9 Devices

Location of Temporary Flood Lighting
will be discussed Pre-Construction Meeting.

11' Lane
11' Lane

PT 648+10.27

315'
315'
630'

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

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

Δ = 23°31'33.35" (RT)
T = 388.31'
L = 765.67'
R = 1864.74'
E = 40.00'
e = ___
L = ___
x = ___

TRAFFIC CONTROL
US 75 Stage 1

0 50
FEET

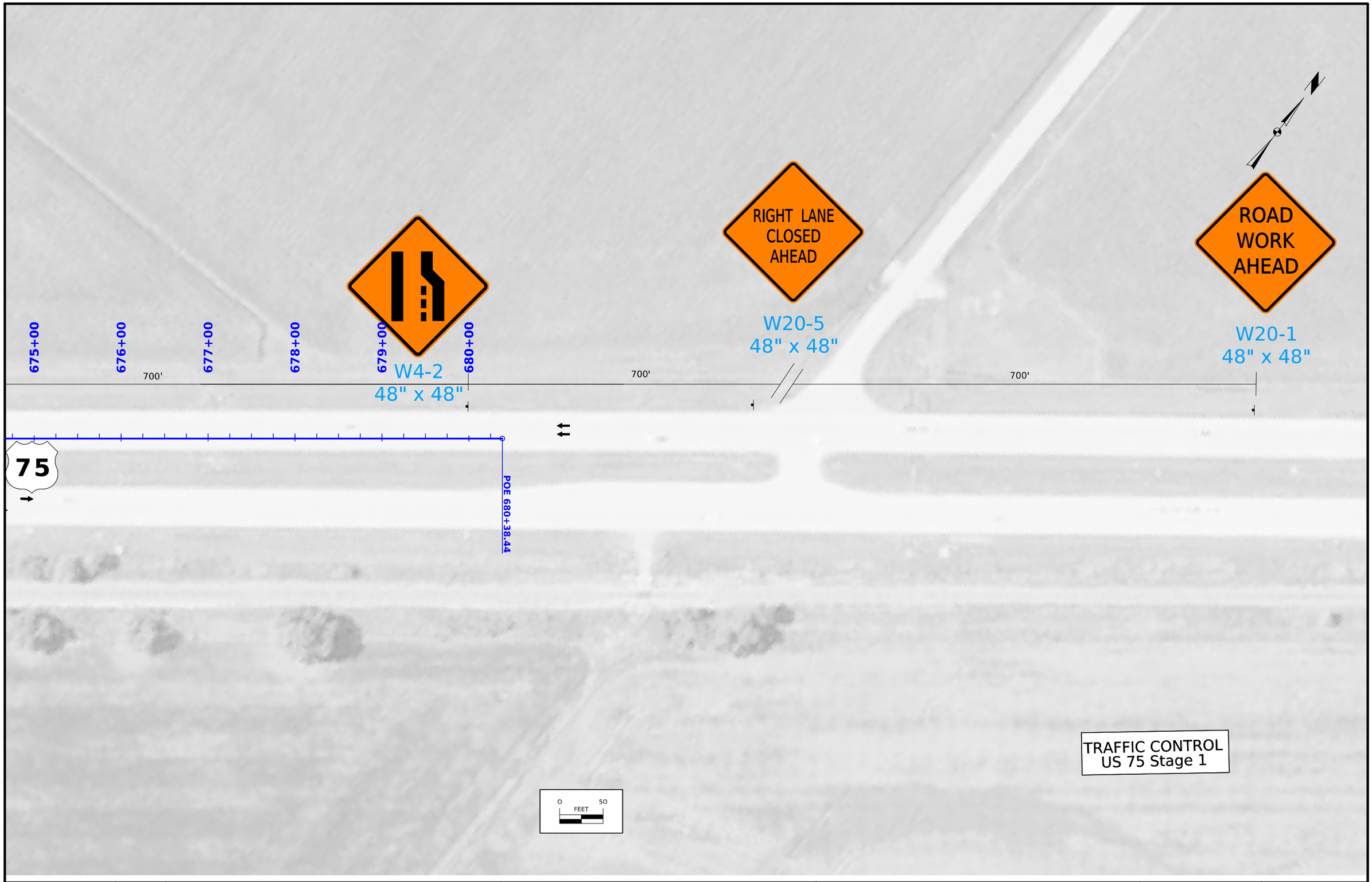
FILE NO. 32380	ENGLISH	DESIGN TEAM Ta/McClanahan	Plymouth COUNTY	PROJECT NUMBER BRF-075-2(121)--38-75	SHEET NUMBER J.7

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FILE NO. 32380	ENGLISH	DESIGN TEAM Ta/McClanahan	Plymouth COUNTY	PROJECT NUMBER BRF-075-2(121)--38-75	SHEET NUMBER J.8	

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FILE NO. 32380	ENGLISH	DESIGN TEAM Ta/McClanahan	Plymouth COUNTY	PROJECT NUMBER BRF-075-2(121)--38-75	SHEET NUMBER J.9	

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75

100'

630'

Location of Temporary Flood Light
will be discussed at Pre- Construction Meeting

Refer to TC-423 for Signing

W4-2
48" x 48"

NARROW
BRIDGE

35
M.P.H.

W13-1
24" x 24"

TRAFFIC CONTROL
US 75 Stage 2

FILE NO. 32380	ENGLISH	DESIGN TEAM Ta/McClanahan	Plymouth COUNTY	PROJECT NUMBER BRF-075-2(121)--38-75	SHEET NUMBER J.10

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FILE NO. 32380	ENGLISH	DESIGN TEAM Ta/McClanahan	Plymouth COUNTY	PROJECT NUMBER BRF-075-2(121)--38-75	SHEET NUMBER J.11	

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W13-1
24" x 24"

315'

630'

REFER TO TC-423 FOR SIGNING

75

TRAFFIC CONTROL
US 75 Stage 2

FILE NO. 32380	ENGLISH	DESIGN TEAM Ta/McClanahan	Plymouth COUNTY	PROJECT NUMBER BRF-075-2(121)--38-75	SHEET NUMBER J.12	

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ING

5

TRAFFIC CONTROL
US 75 Stage 2

FILE NO. 32380	ENGLISH	DESIGN TEAM Ta/McClanahan	Plymouth COUNTY	PROJECT NUMBER BRF-075-2(121)--38-75	SHEET NUMBER J.13	

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