

Table Showing S2 Bar Lengths			
Int. Bent No. 2		Int. Bent No. 3	
Span 1	Span 2	Span 2	Span 3
21'-0"	27'-0"	27'-0"	21'-0"

Required Lap Length For Bar Splices **	
Bar Size	Splice Length
4	2'-7"
5	3'-3"
6	3'-10"
7	4'-11"

** Unless otherwise shown.

General Notes:

Design Specifications:

2002 AASHTO LFD (17th Ed.) Standard Specifications
Seismic Performance Category A

Design Loading:

H15-44 (1961) (Existing)
HS20-44 (New Construction)
35 lb/sf Future Wearing Surface
Earth - 120 lb/cf, Equivalent Fluid Pressure 45 lb/cf
Fatigue Stress - Case III

Design Unit Stresses:

Class B-1 Concrete (Barrier) $f'_c = 4,000$ psi
Class B-2 Concrete (End Bents & Superstructure, except Barrier) $f'_c = 4,000$ psi
Reinforcing Steel (Grade 60) $f_y = 60,000$ psi

Joint Filler:

All joint filler shall be in accordance with Sec 1057 for preformed sponge rubber expansion and partition joint filler, except as noted.

Reinforcing Steel:

Minimum clearance to reinforcing steel shall be 1 1/2", unless otherwise shown.

Miscellaneous:

Bars bonded in existing concrete not removed shall be cleanly stripped and embedded into new concrete where possible. If length is available, existing bars shall extend into new concrete at least 40 diameters for plain bars and 30 diameters for deformed bars, unless otherwise noted.

Roadway surfacing adjacent to bridge ends shall match new bridge slab surface. (Roadway item)

Outline of existing work is indicated by light dashed lines. Heavy lines indicate new work.

Contractor shall verify all dimensions in field before ordering new material.

The area exposed by the removal of concrete and not covered with new concrete shall be coated with an approved qualified special mortar in accordance with Sec 704.

Rubblized concrete from the existing bridge deck that qualifies as clean fill may be placed on spill slopes at end bents above ordinary high water line (Roadway item).

For adjusted beam deflection due to the weight of the new deck and barriers, see Bridge Electronic Deliverables.

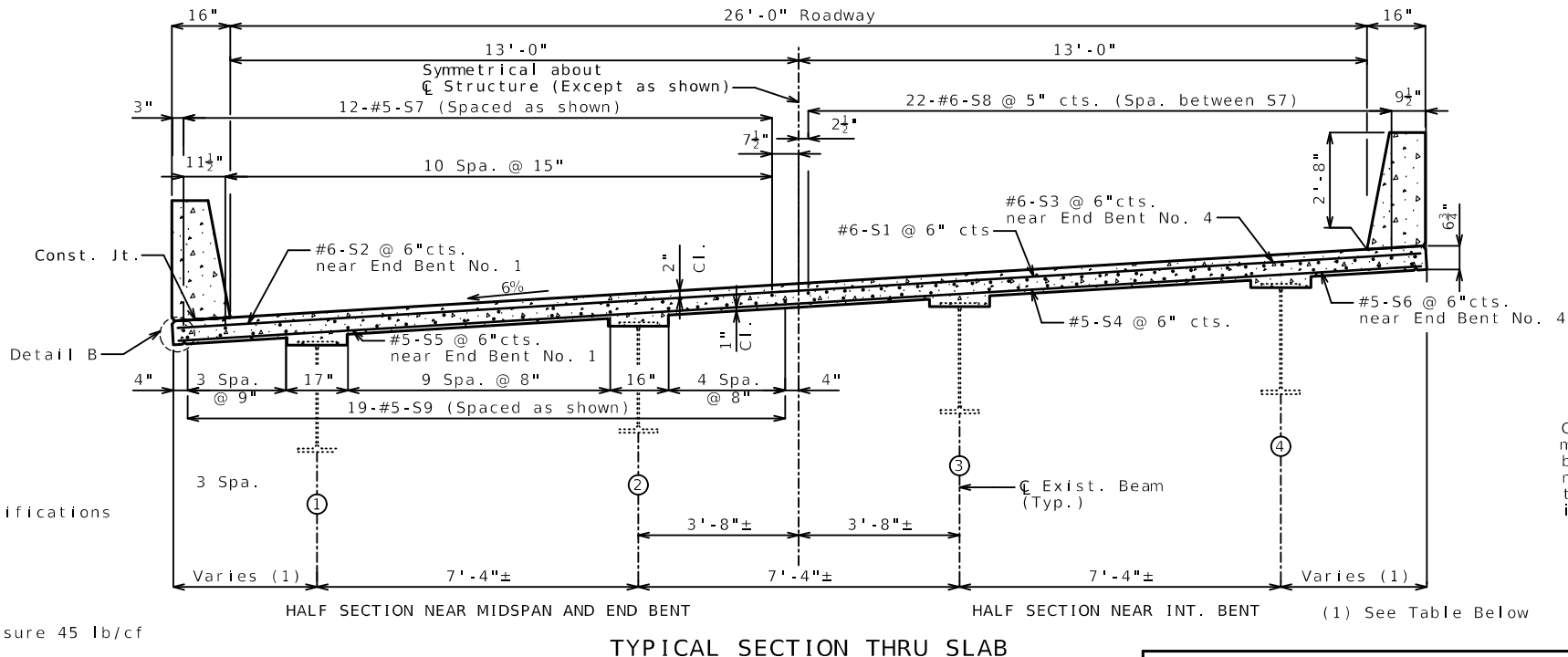
Structural Steel Protective Coating (Top Flange):

In accordance with Sec. 216.50 and 1081, the top, and additionally the sides, and bottom of the top flange shall be coated with not less than 3.0 mils of Gray Epoxy Mastic-Primer (non-aluminum) applied over an SSPC-SP3 surface preparation. Payment for coating steel will be considered completely covered by the contract sq. foot price for Removal of Existing Bridge Deck.

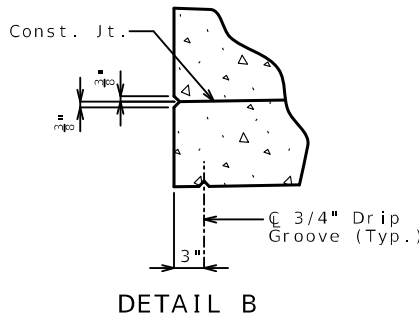
Traffic Handling:

Structure to be closed during construction. Traffic to be maintained on other routes during construction. See roadway plans for traffic control.

U.I.P. & REDECK EXISTING (70'- 90'- 70') CONTINUOUS COMPOSITE WIDE FLANGE BEAM SPANS (SKEW: 7°59'31" L.A. TO PERPENDICULAR LINE FROM TANGENT TO C ROADWAY AT STA. 322+16.20)



SEC/SUR 31 TWP 65 N RGE 30 W



Contractor may shift or swap bars as needed to tie R3 bar in barrier (4" min. bar spacing)

Contractor may shift bar as needed to tie R2 bar in barrier

OPTIONAL SHIFTING TOP BARS AT BARRIER

Estimated Quantities		
Item		Total
Removal of Existing Bridge Deck	sq. foot	6,173
Bridge Approach Slab (Minor)	sq. yard	118
Flowable Backfill	cu. yard	3
Slab on Steel	sq. yard	740
Type H Barrier	linear foot	493
Substructure Repair (Formed)	sq. foot	12
Substructure Repair (Unformed)	sq. foot	14
Slab Drain	each	20
Non-Destructive Testing	linear foot	58
Vertical Drain at End Bents	each	2
* Open Cell Foam Joint Seal	linear foot	53

Cost of any required excavation for bridge will be considered completely covered by the contract unit price for other items.

*Concrete Bridge Approach Slab only. See Special Provisions.

Estimated Quantities for Slab on Steel

Item	Total
Class B-2 Concrete	cu. yard 118
Reinforcing Steel (Epoxy Coated)	pound 59,180

The table of Estimated Quantities for Slab on Steel represents the quantities used by the State in preparing the cost estimate for concrete slabs. The area of the concrete slab will be measured to the nearest square yard longitudinally from end of slab to end of slab and transversely from out to out of bridge slab (or with the horizontal dimensions as shown on the plan of slab). Payment for stay-in-place corrugated steel forms, conventional forms, all concrete and epoxy coated reinforcing steel will be considered completely covered by the contract unit price for the slab. Variations may be encountered in the estimated quantities but the variations cannot be used for an adjustment in the contract unit price.

Method of forming the slab shall be in accordance with Sec 703. All hardware for forming the slab to be left in place as a permanent part of the structure shall be coated in accordance with ASTM A123 or ASTM B633 with a thickness Class SC 4 and a finish Type I, II, or III.

Slab shall be cast-in-place with conventional forming or stay-in-place corrugated steel forms. Precast prestressed panels will not be permitted.

For Optional Stay-In-Place Form Details, see Sheet No. 2.

REPAIRS TO BRIDGE: ROUTE M OVER EAST FORK OF GRAND RIVER

ROUTE M FROM ROUTE N TO ROUTE C
ABOUT 1.4 MILES EAST OF ROUTE N
BEGINNING STATION 322+16.20± (MATCH EXISTING)

1 REVISED 11/12/2024

Detailed OCT. 2023
Checked APR. 2024

Note: This drawing is not to scale. Follow dimensions.

Sheet No. 1 of 12

Y:\Kansas\130900S\130991.01_NW_Bundle_NW0009\Eng_Docs\Bridge\A1048\B-A10481-001_JNW0009_FRONT SHEET_R001.dgn (Default) 8:24:13 AM 11/13/2024

Table Showing S3 Bar Lengths			
Int. Bent No. 2		Int. Bent No. 3	
Span 1	Span 2	Span 2	Span 3
10'-0"	15'-0"	15'-0"	10'-0"

Required Lap Length For Bar Splices **	
Bar Size	Splice Length
4	2'-7"
5	3'-3"
6	3'-10"
7	4'-11"

** Unless otherwise shown.

General Notes:

Design Specifications:
2002 AASHTO LFD (17th Ed.) Standard Specifications
Seismic Performance Category A

Design Loading:
H15-44 (1961) (Existing)
HS20-44 (New Construction)
15 lb/sf Future Wearing Surface
Earth - 120 lb/cf, Equivalent Fluid Pressure 45 lb/cf
Fatigue Stress - Case III

Design Unit Stresses:
Class B-1 Concrete (Barrier) f'c = 4,000 psi
Class B-2 Concrete (End Bents & Superstructure, except Barrier) f'c = 4,000 psi
Reinforcing Steel (Grade 60) fy = 60,000 psi

Joint Filler:
All joint filler shall be in accordance with Sec 1057 for preformed sponge rubber expansion and partition joint filler, except as noted.

Reinforcing Steel:
Minimum clearance to reinforcing steel shall be 1 1/2", unless otherwise shown.

Miscellaneous:
Bars bonded in existing concrete not removed shall be cleanly stripped and embedded into new concrete where possible. If length is available, existing bars shall extend into new concrete at least 40 diameters for plain bars and 30 diameters for deformed bars, unless otherwise noted.

Roadway surfacing adjacent to bridge ends shall match new bridge slab surface. (Roadway item)

Outline of existing work is indicated by light dashed lines. Heavy lines indicate new work.

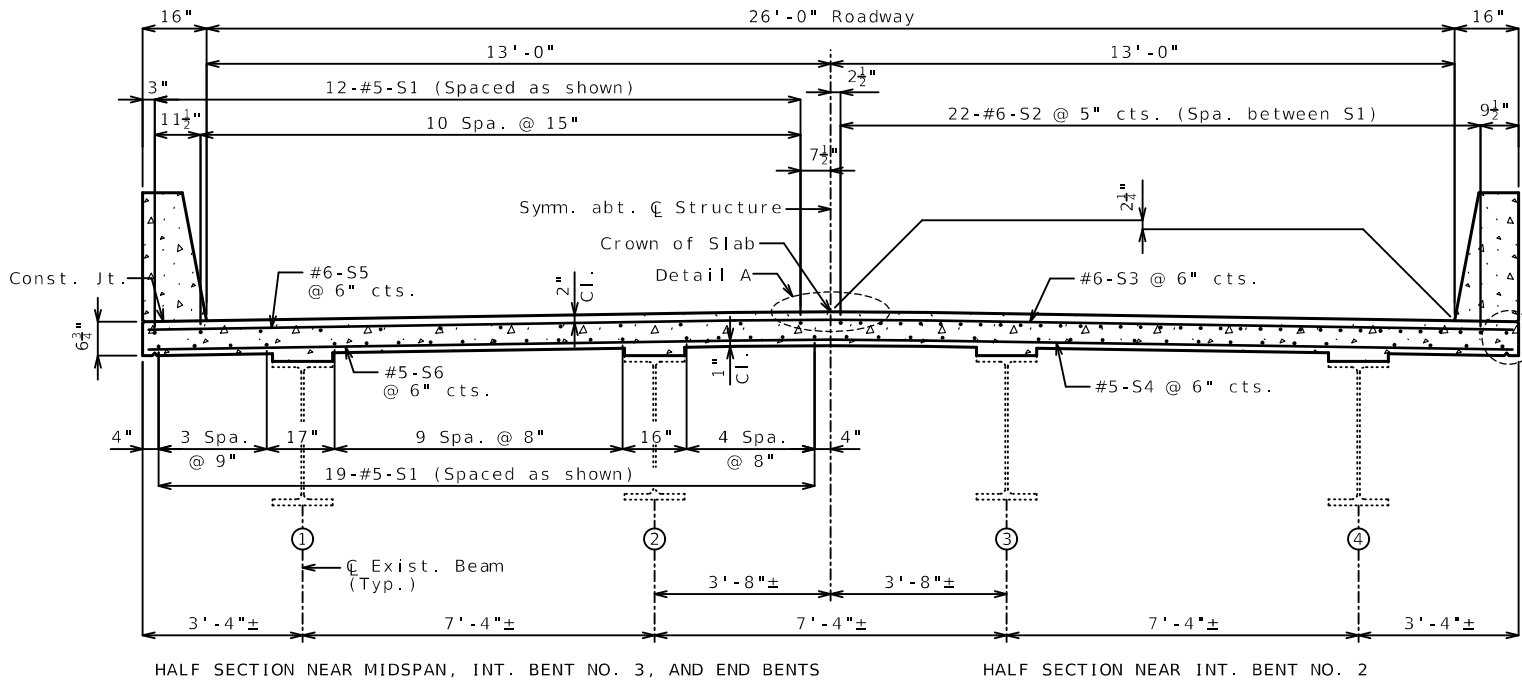
Contractor shall verify all dimensions in field before ordering new material.

The area exposed by the removal of concrete and not covered with new concrete shall be coated with an approved qualified special mortar in accordance with Sec 704.

Rubblized concrete from the existing bridge deck that qualifies as clean fill may be placed on spill slopes at end bents above ordinary high water line (Roadway item).

Traffic Handling:
Structure to be closed during construction. Traffic to be maintained on other routes during construction. See roadway plans for traffic control.

U.I.P., REDECK, AND COMPOSITE EXISTING (29') (45' COMPOSITE) (29') SIMPLE WIDE FLANGE BEAM SPANS (COMPOSITE) (SKEW: 30° R.A.)



TYPICAL SECTION THRU SLAB

Structural Steel Protective Coating (Pile):

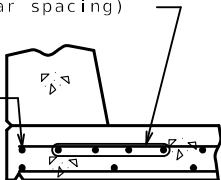
The exposed surfaces of the existing structural steel CIP pile shells, to limits shown on the bridge plans, shall be coated with one 6-mil thickness of aluminum gray epoxy-mastic primer applied over an SSPC-SP3 surface preparation in accordance with Sec 1081. The bituminous coating shall be applied one foot above and one foot below the existing ground line and in accordance with Sec 702. The cost of surface preparation will be considered completely covered by the contract lump sum price for Surface Preparation for Applying Epoxy-Mastic Primer. The cost of the aluminum epoxy-mastic primer and bituminous coating will be considered completely covered by the contract lump sum price for Aluminum Epoxy-Mastic Primer.

Structural Steel Protective Coating (Top Flange):

In accordance with Sec. 216.50 and 1081, the top, and additionally, the sides and bottom, of the Top Flange shall be coated with not less than 3.0 mils of Gray Epoxy Mastic-Primer (non-aluminum) applied over an SSPC-SP3 surface preparation. Payment for coating steel will be considered completely covered by the contract sq. foot price for Removal of Existing Bridge Deck.

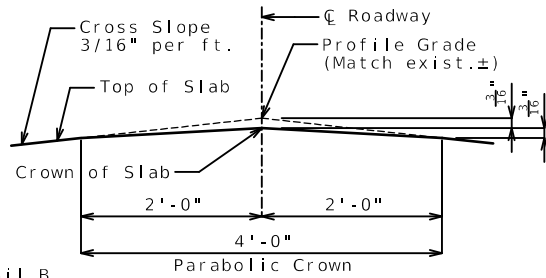
Contractor may shift or swap bars as needed to tie R3 bar in barrier (4" min. bar spacing)

Contractor may shift bar as needed to tie R2 bar in barrier

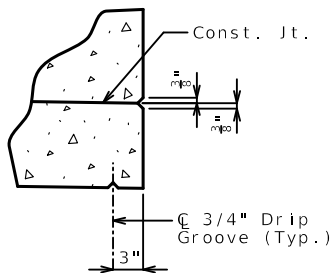


OPTIONAL SHIFTING TOP BARS AT BARRIER

SEC/SUR 31 TWP 64N RGE 32W



DETAIL A



DETAIL B

Estimated Quantities

Item	Total
Removal of Miscellaneous ACM (Non-Friable)	9 sq. foot
Removal of Existing Bridge Deck	3,039 sq. foot
Bridge Approach Slab (Minor)	118 sq. yard
Slab on Steel	337 sq. yard
Type H Barrier	212 linear foot
Substructure Repair (Formed)	12 sq. foot
Substructure Repair (Unformed)	2 sq. foot
Shear Connectors	744 each
Slab Drain	22 each
Surface Preparation for Applying Epoxy - Mastic Primer	1 lump sum
Aluminum Epoxy-Mastic Primer	1 lump sum
Vertical Drain at End Bents	2 each
Open Cell Foam Joint Seal	52 linear foot

Cost of any required excavation for bridge will be considered completely covered by the contract unit price for other items.

* Concrete Bridge Approach Slab only. See Special Provision.

Estimated Quantities for Slab on Steel

Item	Total
Class B-2 Concrete	90 cu. yard
Reinforcing Steel (Epoxy Coated)	26,380 pound

The table of Estimated Quantities for Slab on Steel represents the quantities used by the State in preparing the cost estimate for concrete slabs. The area of the concrete slab will be measured to the nearest square yard longitudinally from end of slab to end of slab and transversely from out to out of bridge slab (or with the horizontal dimensions as shown on the plan of slab). Payment for stay-in-place corrugated steel forms, conventional forms, all concrete and epoxy coated reinforcing steel will be considered completely covered by the contract unit price for the slab. Variations may be encountered in the estimated quantities but the variations cannot be used for an adjustment in the contract unit price.

Method of forming the slab shall be in accordance with Sec 703. All hardware for forming the slab to be left in place as a permanent part of the structure shall be coated in accordance with ASTM A123 or ASTM B633 with a thickness Class SC 4 and a finish Type I, II, or III.

Slab shall be cast-in-place with conventional forming or stay-in-place corrugated steel forms. Precast prestressed panels will not be permitted.

For Optional Stay-In-Place Form Details, see Sheet No. 2.

Bridge deck surface may be finished with a vibratory screed.

REPAIRS TO BRIDGE: ROUTE B OVER ZOUNDS CREEK

ROUTE B FROM ROUTE O TO ROUTE AF
ABOUT 0.6 MILE S OF ROUTE O
BEGINNING STATION 242+32.30± (MATCH EXISTING)

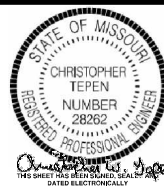
Designed MAR. 2024
Detailed APR. 2024
Checked JUL. 2024

Note: This drawing is not to scale. Follow dimensions.

Sheet No. 1 of 12

ADDED 11-04-2024

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DATE 11/04/2024
DATE PREPARED 11/4/2024
ROUTE B STATE MO
DISTRICT BR SHEET NO. 1
COUNTY GENTRY
JOB NO. JNW0009
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A18741

DESCRIPTION	DATE
11-04-24 ADDED MISCELLANEOUS ACM PAY ITEM	

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

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One Main Plaza, 4435 Main St., Suite 1150,
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CERTIFICATE OF AUTHORITY NUMBER F00970024

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