General Notes:

Design Specifications:
2020 AASHTO LRFD Bridge Design Specifications (9th Ed.)
2023 AASHTO Guide Specifications for LFRD Seismis Bridge Design (3rd Ed.)
Seismic Design Category = B (Seismic Details plus Abutment Seismic Design)
Design earthquake response spectral acceleration coeffecient at 1.0 second period, SD1 = 0.154g
Acceleration Coeffecient (effective peak ground acceleration coeffecient), As = 0.180g

Design Loading:
Vehicular = HL-93
Future Wearing Surface = 35 lb/sf
Earth = 120 lb/cf
Equivalent Fluid Pressure = 45 lb/cf (Min.)
Superstructure: Simply-Supported, Non-Composite for dead load, Continuous Composite for live load.

Design Unit Stresses:

Class B Concrete (Substructure, except Drilled Shafts and Rock Sockets)	f'c = 3,000 psi
Class B-2 Concrete (Drilled Shafts & Rock Sockets)	f'c = 4,000 psi
Class B-2 Concrete (Superstructure, except Barrier)	f'c = 4,000 psi
Class B-1 Concrete (Barrier)	f'c = 4,000 psi
Reinforcing Steel (Stainless Steel - ASTM A955 Duplex Alloy Grade 75)	fy = 75,000 psi
Structural Steel (ASTM A709 Grade 50)	fy = 50,000 psi
Structural Steel HP Pile (ASTM A709 Grade 50)	fy = 50,000 psi

Neoprene Pads:
Neoprene bearing pads shall be 60 durometer and shall be in accordance with Sec 716.

Fabricated Steel Connections:
Field connections shall be made with 3/4-inch diameter ASTM F3125 Grade A325 Type 1 bolts and 13/16-inch diameter holes, except as noted.

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.

Minimum clearance between galvanized steel (piles and structural steel, including shear connectors) and stainless reinforcing steel including bar supports shall be 1 1/2". Nylon, PVC, or polyethylene spacers shall be used to maintain clearance. Nylon cable ties shall be used to bind the spacers to the reinforcement.

High Strength bolts, nuts and washers will be sampled for quality assurance as specified in Sec 106.

MBS refers to mechanical bar splices. Mechanical bar splices shall be in accordance with Sec 706 or 710 except that no measurement will be made for mechanical bar splices and they will be completely covered by the contract unit price for other items. Mechanical bar splice systems shall be capable of developing 125 percent of the specified yield strength of the stainless steel reinforcement being spliced and shall be installed in accordance with the manufacturer's recommendations.

Traffic Handling:
Vertical clearance for Route 67 traffic during construction shall be 15'-0" minimum over a 16'-0" wide horizontal opening of the roadway in each direction.

Traffic to be maintained on structures during construction. See roadway plans for traffic control and Sheet No. 3 for staged construction details.

Estimated Quantities for Slab on Steel

Item		Total
Class B-2 Concrete	cu. yard	365
Reinforcing Steel (Stainless Steel)	pound	99,560

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 forms, conventional forms, all concrete, stainless steel reinforcing and sheet metal at intermediate bents 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 as shown on the plans and 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 forms or stay-in-place corrugated steel forms. Precast prestressed panels will not be permitted.

Corrugated steel forms, supports, closure elements and accessories shall be in accordance with grade requirement and coating designation G165 of ASTM A653. Complete shop drawings of the permanent steel deck forms shall be required in accordance with Sec 1080.

Corrugations of stay-in-place forms shall be filled with an expanded polystyrene material. The polystyrene materials shall be placed in the forms with an adhesive in accordance with the manufacturer's recommendations.

Form sheets shall not rest directly on the top of beam flanges. Sheets shall be securely fastened to form supports with a minimum bearing length of one inch on each end. Form supports shall be placed in direct contact with the flange. Welding on or drilling holes in the beam flanges will not be permitted. All steel fabrication and construction shall be in accordance with Sec 1080 and 712. Certified field welders will not be required for welding of the form supports.

The design of stay-in-place corrugated steel forms is per manufacturer which shall be in accordance with Sec 703 for false work and forms. Maximum actual weight of corrugated steel forms allowed shall be 4 psf assumed for beam loading.

Estimated Quantities

Item		Substr.	Superstr.	Total
Class 1 Excavation	cu. yard	110		110
Temporary Shoring	lump sum			1
* Removal of Bridges (A0650)	lump sum			1
Partial Removal of Raised Median Curb	sq. foot			1912
Bridge Approach Slab (Major)	sq. yard		230	230
Drilled Shafts (4 ft. 0 in. Dia.)	linear foot	90.0		90.0
Rock Sockets (3 ft. 6 in. Dia.)	linear foot	93.0		93.0
Video Camera Inspection	each	9		9
Foundation Inspection Holes	linear foot	183.0		183.0
Sonic Logging Testing	each	9		9
Galvanized Structural Steel Piles (12 in.)	linear foot	455		455
Pile Point Reinforcement	each	14		14
Class B Concrete (Substructure)	cu. yard	204.5		204.5
Slab on Steel	sq. yard		1303	1303
Type D Barrier	linear foot		475	475
Reinforcing Steel (Stainless Steel) (Bridges)	pound	42,430		42,430
Fabricated Sign Support Brackets	lump sum		1	1
Fabricated Structural Low Alloy Steel (I-Beam) A709, Grade 50	pound		160,460	160,460
Galvanizing Structural Steel	lump sum		1	1
Vertical Drain at End Bents	each			2
Laminated Neoprene Bearing Pad	each		36	36
Laminated Neoprene Bearing Pad (Tapered)	each		12	12

2 497

2 497

* Includes removal of existing cathodic protection system.

All concrete between the upper and lower construction joints in the end bents is included in the Estimated Quantities for Slab on Steel.

All reinforcement in the end bents is included in the Estimated Quantities for Slab on Steel.

All reinforcement in the intermediate bent concrete diaphragms except reinforcement embedded in the beam cap is included in the Estimated Quantities for Slab on Steel.

All concrete above the intermediate beam cap is included in the Estimated Quantities for Slab on Steel.

Structural steel shall be galvanized in accordance with ASTM A123 and Sec 1081.

Sheet Metal in intermediate concrete diaphragms shall be considered incidental to the cost of Slab on Steel.

Cost of L4x4 ASTM A709 Grade 36 HP pile anchors and 3/4-inch diameter ASTM F3125 Grade A325 Type 1 bolts, complete in place, will be considered completely covered by the contract unit price for Galvanized Structural Steel Piles (12 in.).

Foundation Data

Type	Design Data		Bent 1	Bent 2	Bent 3	Bent 4	Bent 5
Load Bearing Pile	Pile Type and Size		HP 12x53	--	--	--	HP 12x53
	Number	ea	7	--	--	--	7
	Approximate Length Per Each	ft	21	--	--	--	44
	Pile Point Reinforcement	ea	All	--	--	--	All
	Min. Galvanized Penetration (Elev.)	ft	21	--	--	--	44
	Pile Driving Verification Method		DF	--	--	--	DF
	Resistance Factor		0.4	--	--	--	0.4
	Minimum Nominal Axial Compressive Resistance	kip	362	--	--	--	364
Rock Socket	Number	ea	--	3	3	3	--
	Layer 1 Foundation Material		--	Weak Rock	Weak Rock	Weak Rock	--
	Layer 1 Elevation Range	ft	--	586.0-550.0	581.0-550.0	576.5-550.0	--
	Layer 1 Minimum Nominal Axial Compressive Resistance (Side Resistance)	ksf	--	18.0	18.0	18.0	--
	Minimum Nominal Axial Compressive Resistance (Tip Resistance)	ksf	--	122.4	129.3	123.1	--

DF = FHWA-Modified Gates Dynamic Formula
Load Bearing Pile:
Minimum Nominal Axial Compressive Resistance = Maximum Factored Loads / Resistance Factor
Rock Socket (Drilled Shafts):
Minimum Nominal Axial Compressive Resistance (Side Resistance + Tip Resistance) = Maximum Factored Loads / Resistance Factors
All piles shall be galvanized down to the minimum galvanized penetration (elevation).

Pile point reinforcement need not be galvanized. Shop drawings will not be required for pile point reinforcement.

HP piles are anticipated to be driven to refusal on rock. Review all borings for depth of rock and restrict driving as appropriate to comply with hard rock driving criteria in accordance with Sec 702. When pile refusal on rock occurs, as approved by the engineer, the minimum nominal axial compressive resistance is verified and no additional pile driving verification method is required.

The contractor shall make every effort to achieve the minimum galvanized penetration (elevation) shown on the plans for all piles. Deviation in penetration less than 5 feet of the minimum will be considered acceptable provided the contractor makes the necessary corrections to ensure the minimum penetration is achieved on subsequent piles.

STATE OF MISSOURI
TRENTON B. CRAWFORD
NUMBER PE-2012018053
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 3/12/2025
ROUTE D | STATE MO
DISTRICT BR | SHEET NO. 2
COUNTY ST. LOUIS
JOB NO. J6S3626
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9477

DESCRIPTION	DATE

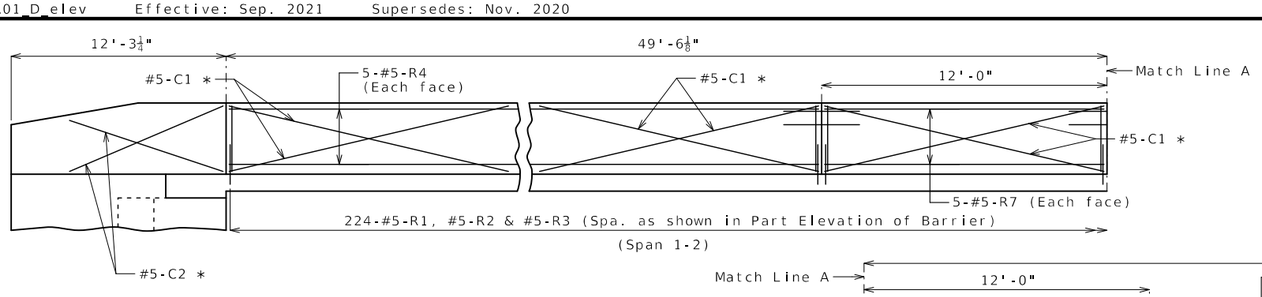
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

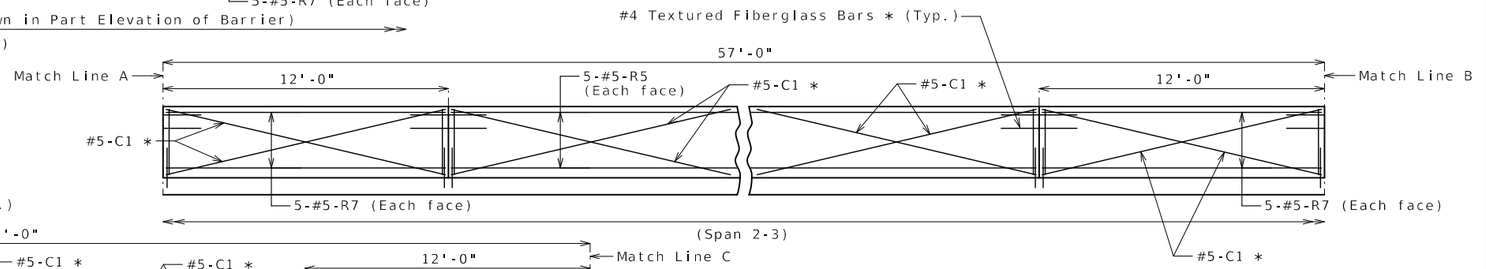
Detailed Oct. 2024
Checked Oct. 2024

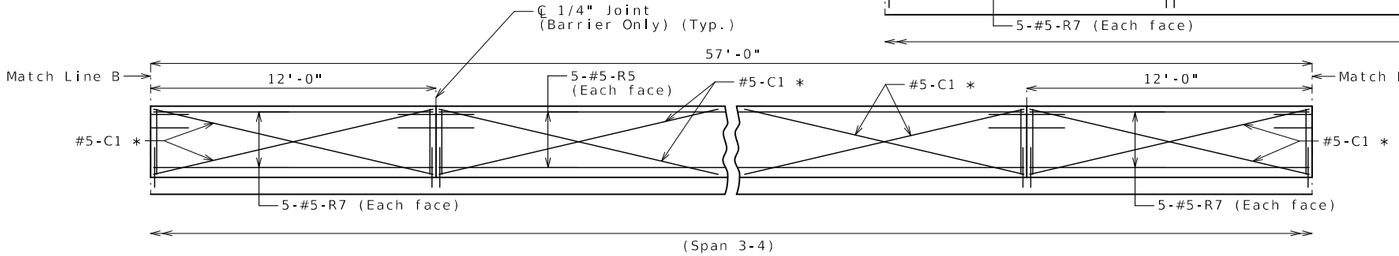
Note: This drawing is not to scale. Follow dimensions.

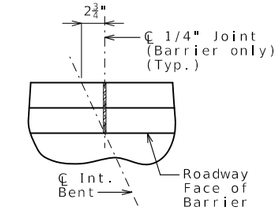
GENERAL NOTES AND QUANTITIES

2 REVISED 03-11-2025

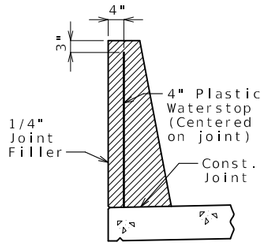








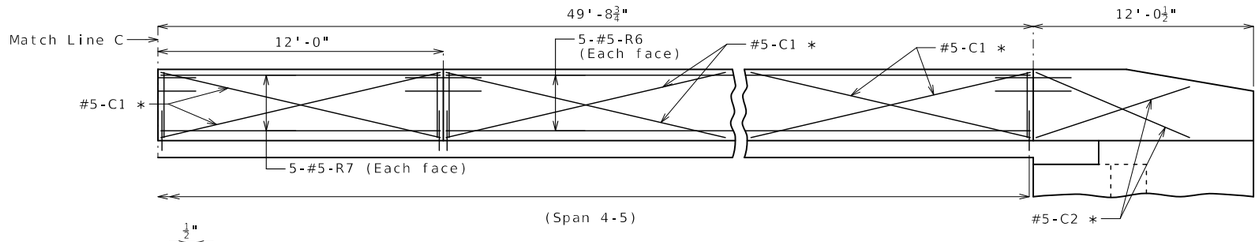
PART PLAN SHOWING JOINT LOCATION



WATERSTOP DETAIL

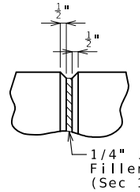
Plastic waterstop shall be placed in all formed joints, except structures with superelevation, use on lower joints only.

Cost of plastic waterstop, complete in place, will be considered completely covered by the contract unit price for Type D Barrier.

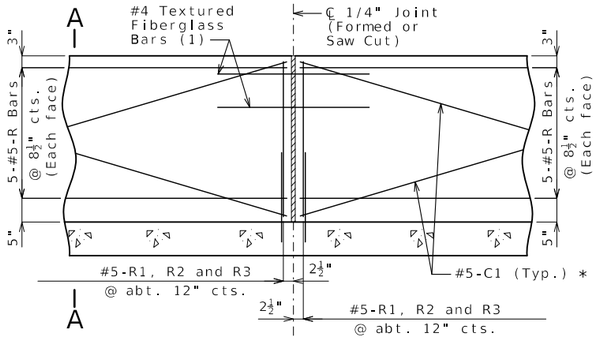


ELEVATION OF BARRIER

Longitudinal dimensions are horizontal.

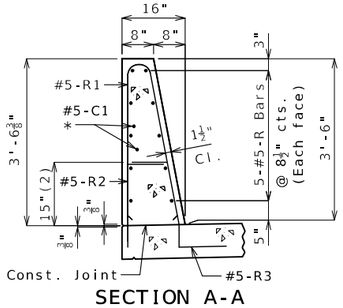


PART ELEVATION AT FORMED JOINT



PART ELEVATION OF BARRIER

(1) Four feet long, centered on joint, slip-formed option only

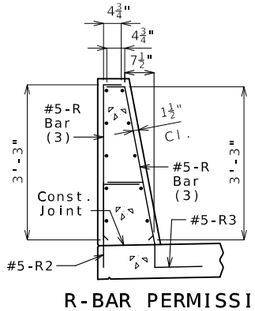


SECTION A-A

Use a minimum lap of 3'-1" for #5 horizontal barrier bars.

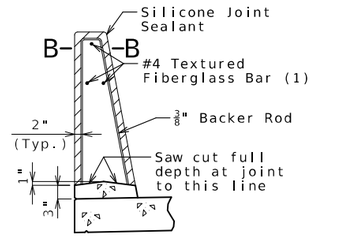
The cross-sectional area above the slab is 3.52 square feet.

(2) To top of bar

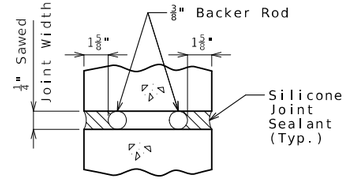


R-BAR PERMISSIBLE ALTERNATE SHAPE

(3) The R1 bar may be separated into two bars as shown, at the contractor's option, only when slip forming is not used. (All dimensions are out to out.)



SECTION THRU SAW CUT JOINT



SECTION B-B

General Notes:

* Slip-formed option only.

Conventional forming or slip forming may be used. Saw cut joints may be used with conventional forming.

Top of barrier shall be built parallel to grade and barrier joints (except at end bents) normal to grade.

All exposed edges of barrier shall have either a 1/2-inch radius or a 3/8-inch bevel, unless otherwise noted.

Payment for all concrete and reinforcement, complete in place, will be considered completely covered by the contract unit price for Type D Barrier per linear foot.

Concrete in barrier shall be Class B-1.

Measurement of barrier is to the nearest linear foot for each structure, measured along the outside top of slab from end of wing to end of wing.

Concrete traffic barrier delineators shall be placed on top of the barrier as shown on Missouri Standard Plan 617.10 and in accordance with Sec 617. Delineators on bridges with two-lane, two-way traffic shall have retroreflective sheeting on both sides. Concrete traffic barrier delineators will be considered completely covered by the contract unit price for Type D Barrier.

Joint sealant and backer rods shall be in accordance with Sec 717 for silicone joint sealant for saw cut and formed joints.

For slip-formed option, both sides of barrier shall have a vertically broomed finish and the top shall have a transversely broomed finish.

Plastic waterstop shall be used with saw cut joints.

TYPE D BARRIER (RIGHT)

Detailed Oct. 2024
Checked Oct. 2024

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

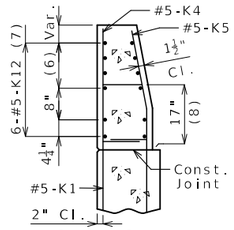
2 REVISED 03-11-2025

STATE OF MISSOURI
TRENTON B. CRAWFORD
NUMBER PE-2012018053
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

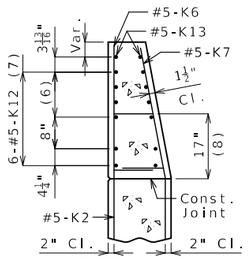
DATE PREPARED 3/12/2025
ROUTE D | STATE MO
DISTRICT BR | SHEET NO. 25
COUNTY ST LOUIS
JOB NO. J6S3626
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9477

DESCRIPTION | DATE

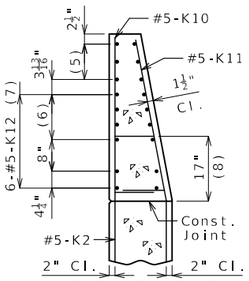
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)



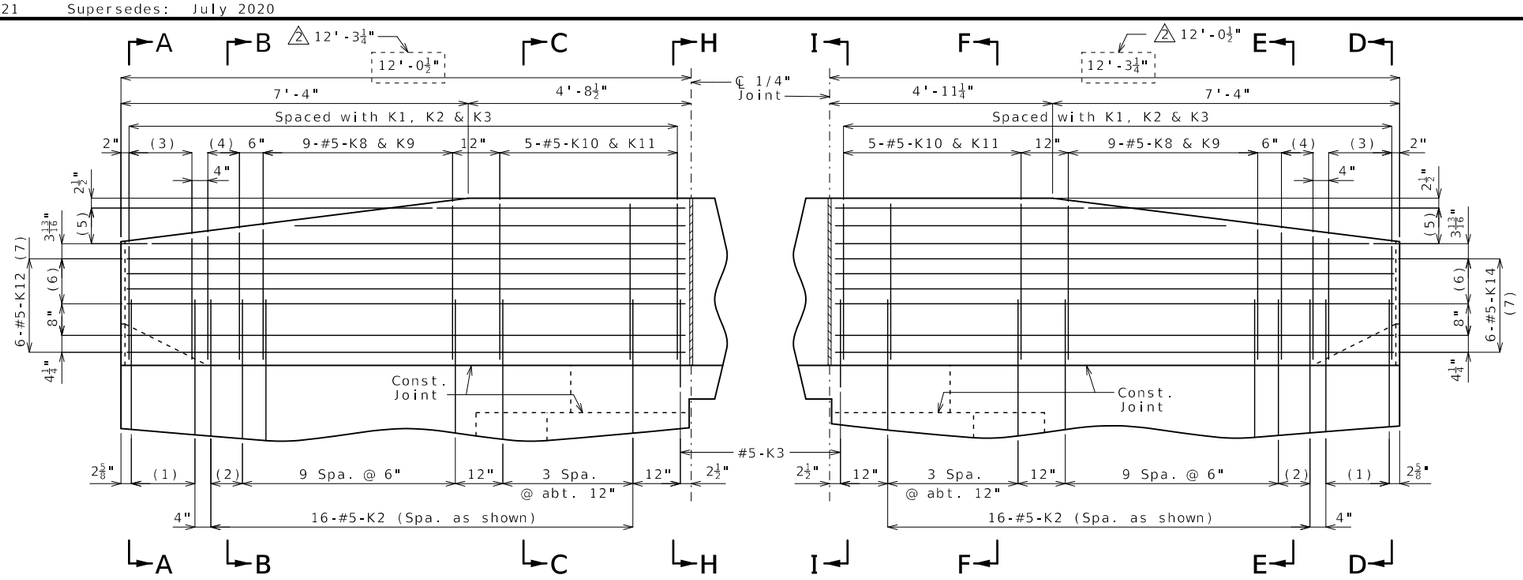
SECTION A-A



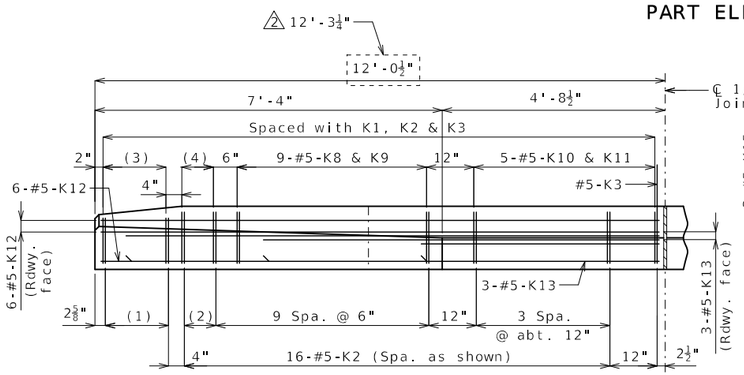
SECTION B-B

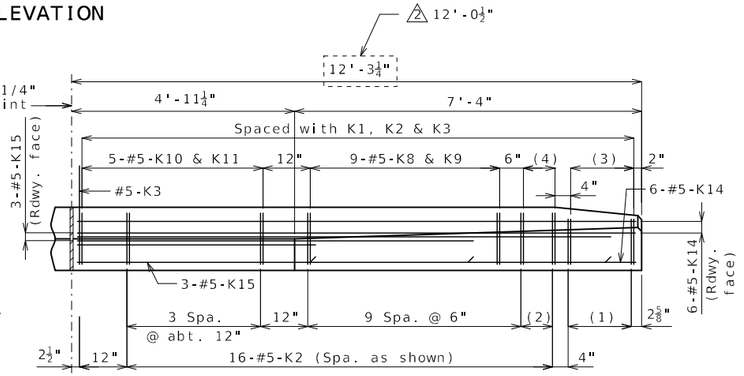


SECTION C-C

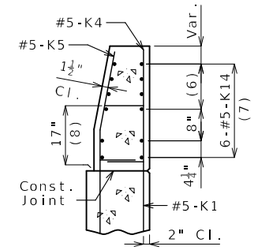


PART ELEVATION

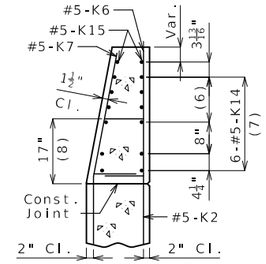




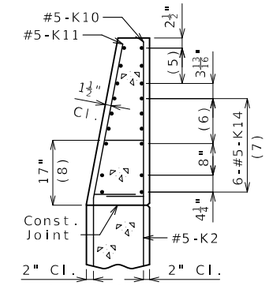
PART PLAN



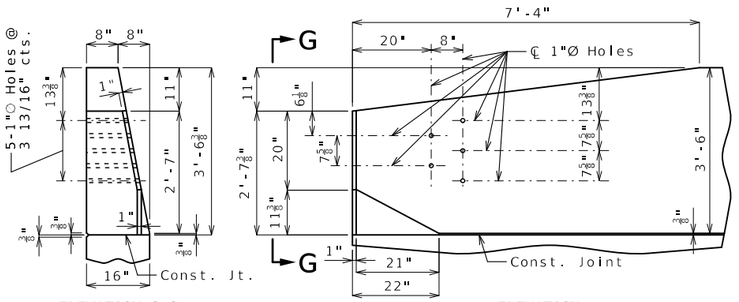
SECTION D-D



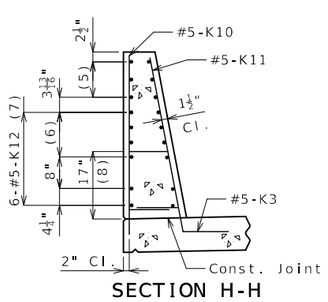
SECTION E-E



SECTION F-F



ELEVATION G-G ELEVATION



SECTION H-H

(1) 5-#5-K1 @ 4" cts.

(2) 2 spaces @ 4"

(3) 5-#5-K4 & K5

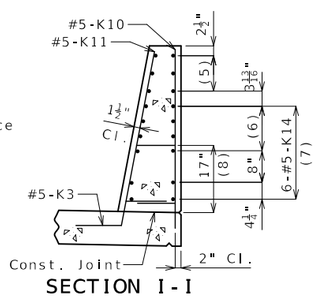
(4) 3-#5-K6 & K7

(5) 3-#5-K13 or K15 @ 4½" cts., each face

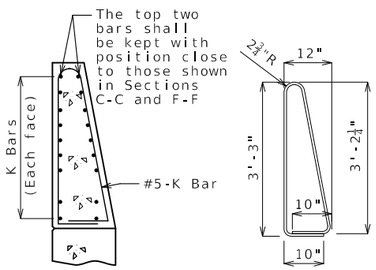
(6) 3 spaces @ 3 13/16"

(7) Spaced as shown, each face

(8) To top of bar



SECTION I-I

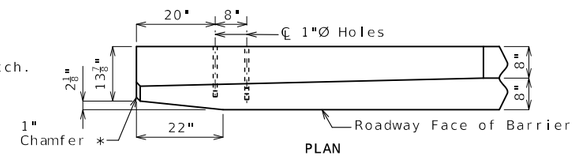


K10-K11 BAR PERMISSIBLE ALTERNATE SHAPE

(Other K bars not shown for clarity)

The K10-K11 bar combination may be furnished as one bar as shown, at the contractor's option.

All dimensions are out to out.



PLAN

DETAILS OF GUARD RAIL ATTACHMENT

* Transition to zero at Type A curb for gutter lines to match.

General Notes:

Concrete traffic barrier delineators shall be placed on top of the barrier as shown on Missouri Standard Plan 617.10 and in accordance with Sec 617. Delineators on bridges with two-lane, two-way traffic shall have retroreflective sheeting on both sides. Concrete traffic barrier delineators will be considered completely covered by the contract unit price for Type D Barrier.

Reinforcing Steel:
Minimum clearance to reinforcing steel shall be 1 1/2" except as shown for bars embedded into end bent.

TYPE D BARRIER AT END BENTS (RIGHT)

Detailed Oct. 2024
Checked Oct. 2024

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

2 REVISED 03-11-2025

STATE OF MISSOURI
TRENTON B. CRAWFORD
NUMBER PE-2012018053
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 3/12/2025

ROUTE	STATE
D	MO
DISTRICT	SHEET NO.
BR	26

COUNTY ST. LOUIS

JOB NO. J6S3626

CONTRACT ID.

PROJECT NO.

BRIDGE NO. A9477

DESCRIPTION

DATE

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

General Notes:

Design Specifications:
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Design earthquake response spectral acceleration coefficient at 1.0 second period, SD1 = 0.154g
Acceleration Coefficient (effective peak ground acceleration coefficient), As = 0.180g

Design Loading:
Vehicular = HL-93
Future Wearing Surface = 35 lb/sf
Earth = 120 lb/cf
Equivalent fluid Pressure = 45 lb/cf (Min.)
Superstructure: Simply-Supported, Non-Composite for dead load, Continuous Composite for live load.

Design Unit Stresses:

Class B Concrete (Substructure, except Drilled Shafts and Rock Sockets)	f'c = 3,000 psi
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Class B-1 Concrete (Barrier)	f'c = 4,000 psi
Reinforcing Steel (Stainless Steel - ASTM A955 Duplex Alloy Grade 75)	fy = 75,000 psi
Structural Steel (ASTM A709 Grade 50)	fy = 50,000 psi
Structural Steel HP Pile (ASTM A709 Grade 50)	fy = 50,000 psi

Neoprene Pads:
Neoprene bearing pads shall be 60 durometer and shall be in accordance with Sec 716.

Fabricated Steel Connections:
Field connections shall be made with 3/4-inch diameter ASTM F3125 Grade A325 Type 1 bolts and 13/16-inch diameter holes, except as noted.

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

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

Minimum clearance between galvanized steel (piles and structural steel, including shear connectors) and stainless reinforcing steel including bar supports shall be 1 1/2", Nylon, PVC, or Polyethylene spacers shall be used to maintain clearance. Nylon cable ties shall be used to bind the spacers to the reinforcement.

MBS refers to mechanical bar splices. Mechanical Bar splices shall be in accordance with Sec 706 and 710, except that no measurement will be made for mechanical bar splices and they will be completely covered by the contract price for other items.

Mechanical bar splice systems shall be capable of developing 125 percent of the specified yield strength of the stainless steel reinforcement being spliced and shall be in accordance with the manufacturer's recommendations.

High strength bolts, nuts and washers will be sampled for quality assurance as specified in Sec 106.

Traffic Handling:
Vertical clearance for Route 67 traffic during construction shall be 15'-0" minimum over a 16'-0" minimum wide horizontal opening of the roadway in each direction.

Traffic to be maintained on structures during construction. See roadway plans for traffic control and Sheet No. 3 of Bridge No. A9477 plans for staged construction details.

Foundation Data

Type	Design Data		Bent 1	Bent 2	Bent 3	Bent 4	Bent 5
Load Bearing Pile	Pile Type and Size		HP 12x53	--	--	--	HP 12x53
	Number	ea	7	--	--	--	7
	Approximate Length Per Each	ft	20	--	--	--	44
	Pile Point Reinforcement	ea	All	--	--	--	All
	Min. Galvanized Penetration (Elev.)	ft	20	--	--	--	44
	Pile Driving Verification Method		DF	--	--	--	DF
	Resistance Factor		0.4	--	--	--	0.4
	Minimum Nominal Axial Compressive Resistance	kips	358	--	--	--	357
Rock Socket	Number	ea	--	3	3	3	--
	Layer 1 Foundation Material		--	Weak Rock	Weak Rock	Weak Rock	--
	Layer 1 Elevation Range	ft	--	586.0-550.0	581.0-550.0	576.5-550.0	--
	Layer 1 Minimum Nominal Axial Compressive Resistance (Side Resistance)	ksf	--	18.0	18.0	18.0	--
	Minimum Nominal Axial Compressive Resistance (Tip Resistance)	ksf	--	123.0	129.2	122.3	--

DF = FHWA-Modified Gates Dynamic Formula

Load Bearing Pile:

$$\text{Minimum Nominal Axial Compressive Resistance} = \frac{\text{Maximum Factored Loads}}{\text{Resistance Factor}}$$

Rock Socket (Drilled Shafts):

$$\text{Minimum Nominal Axial Compressive Resistance (Side Resistance + Tip Resistance)} = \frac{\text{Maximum Factored Loads}}{\text{Resistance Factors}}$$

All piles shall be galvanized down to the minimum galvanized penetration (elevation).

Pile point reinforcement need not be galvanized. Shop drawings will not be required for pile point reinforcement.

HP piles are anticipated to be driven to refusal on rock. Review all borings for depth of rock and restrict driving as appropriate to comply with hard rock driving criteria in accordance with Sec 702. When pile refusal on rock occurs, as approved by the engineer, the minimum nominal axial resistance is verified and no additional pile driving verification method is required.

The contractor shall make every effort to achieve the minimum galvanized penetration (elevation) shown on the plans for all piles. Deviation in penetration less than 5 feet of the minimum will be considered acceptable provided the contractor makes the necessary corrections to ensure the minimum penetration is achieved on subsequent piles.

Estimated Quantities

	Item		Substr.	Superstr.	Total
	Class 1 Excavation	cu. yard	110		110
*	Removal of Bridges (A0650)	lump sum			1
	Bridge Approach Slab (Major)	sq. yard		230	230
	Drilled Shafts (4 ft. 0 in. Dia.)	linear foot	90.0		90.0
	Rock Sockets (3 ft. 6 in. Dia.)	linear foot	93.0		93.0
	Video Camera Inspection	each	9		9
	Foundation Inspection Holes	linear foot	183.0		183.0
	Sonic Logging Testing	each	9		9
	Galvanized Structural Steel Piles (12 in.)	linear foot	448		448
	Pile Point Reinforcement	each	14		14
	Class B Concrete (Substructure)	cu. yard	203.7		203.7
	Slab on Steel	sq. yard		1,303	1,303
	Type D Barrier	linear foot		475	475
	Reinforcing Steel (Stainless Steel)	pound	42,810		42,810
	Conduit System on Structure	lump sum		1	1
	Fabricated Sign Support Brackets	lump sum		1	1
	Fabricated Structural Low Alloy Steel (I-Beam) (A709, Grade 50)	pound		160,460	160,460
	Galvanizing Structural Steel	lump sum		1	1
	Vertical Drain at End Bents	each		2	2
	Laminated Neoprene Bearing Pad	each		48	48

* Includes removal of existing cathodic protection system

△2 497

All concrete between the upper and lower construction joints in the end bents is included in the Estimated Quantities for Slab on Steel.

All reinforcement in the end bents is included in the Estimated Quantities for Slab on Steel.

All reinforcement in the intermediate bent concrete diaphragms except reinforcement embedded in the beam cap is included in the Estimated Quantities for Slab on Steel.

All concrete above the intermediate beam cap is included in the Estimated Quantities for Slab on Steel.

Structural steel shall be galvanized in accordance with ASTM A123 and Sec 1081.

Sheet metal in intermediate concrete diaphragms shall be considered incidental to the cost of Slab on Steel.

Cost of L4x4 ASTM A709 Grade 36 HP pile anchors and 3/4-inch diameter ASTM F3125 Grade A325 Type 1 bolts, complete in place, will be considered completely covered by the contract unit price for Galvanized Structural Steel Piles (12 in.).

Estimated Quantities for Slab on Steel Beam

Item		Total
Class B-2 Concrete	cu. yard	365
Reinforcing Steel (Stainless Steel)	pound	99,510

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, stainless steel reinforcing and sheet metal at intermediate bents 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 as shown on the plans and 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 forms or stay-in-place corrugated steel forms. Precast prestressed panels will not be permitted.

Corrugated steel forms, supports, closure elements and accessories shall be in accordance with grade requirement and coating designation G165 of ASTM A653. Complete shop drawings of the permanent steel deck forms shall be required in accordance with Sec 1080.

Corrugations of stay-in-place forms shall be filled with an expanded polystyrene material. The polystyrene materials shall be placed in the forms with an adhesive in accordance with the manufacturer's recommendations.

Form sheets shall not rest directly on the top of beam flanges. Sheets shall be securely fastened to form supports with a minimum bearing length of one inch on each end. Form supports shall be placed in direct contact with the flange. Welding on or drilling holes in the beam flanges will not be permitted. All steel fabrication and construction shall be in accordance with Sec 1080 and 712. Certified field welders will not be required for welding of the form supports.

The design of stay-in-place corrugated steel forms is per manufacturer which shall be in accordance with Sec 703 for false work and forms. Maximum actual weight of corrugated steel forms allowed shall be 4 psf assumed for beam loading.

△2 REVISED 03-11-2025

GENERAL NOTES AND QUANTITIES

Detailed Oct. 2024
Checked Nov. 2024

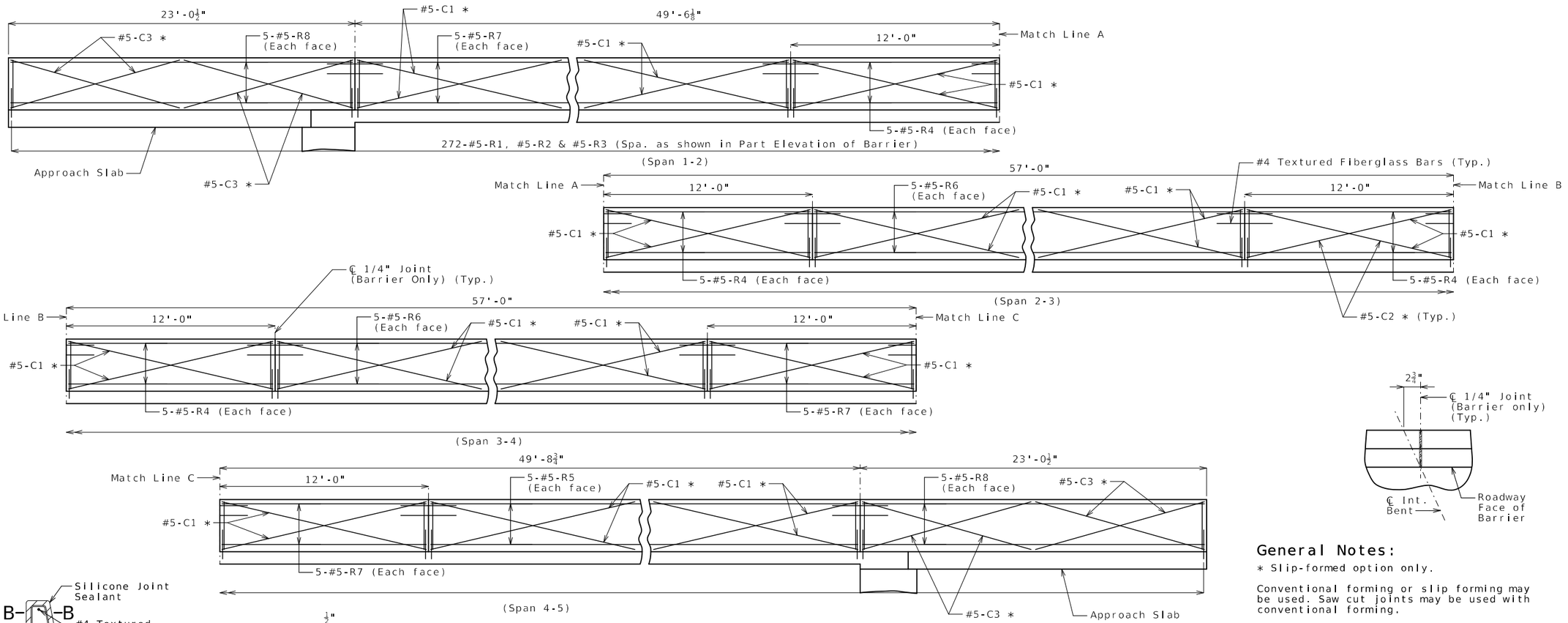
Note: This drawing is not to scale. Follow dimensions.

STATE OF MISSOURI
TRENTON B. CRAWFORD
NUMBER PE-2012018053
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 3/12/2025
ROUTE D | STATE MO
DISTRICT BR | SHEET NO. 2
COUNTY ST LOUIS
JOB NO. J6S3626
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9478

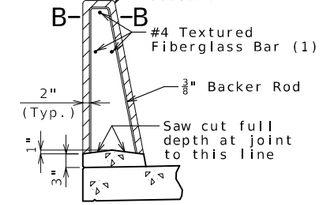
DESCRIPTION | DATE

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

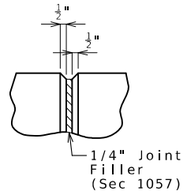


ELEVATION OF BARRIER

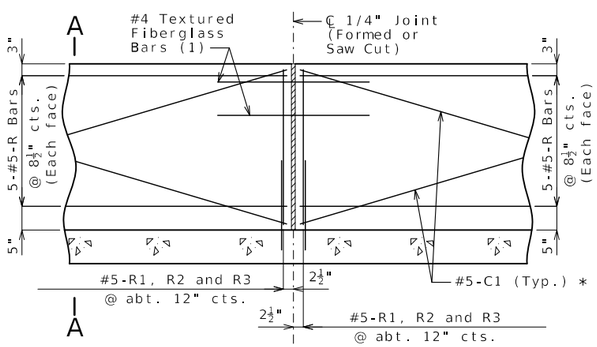
Longitudinal dimensions are horizontal.



SECTION THRU SAW CUT JOINT

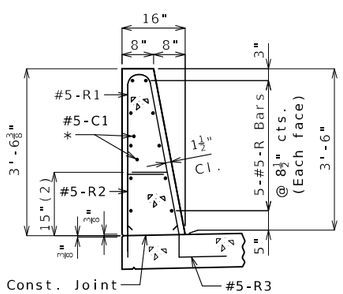


PART ELEVATION AT FORMED JOINT



PART ELEVATION OF BARRIER

(1) Four feet long, centered on joint, slip-formed option only

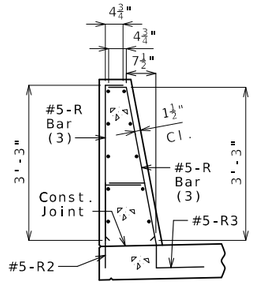


SECTION A-A

Use a minimum lap of 3'-1" for #5 horizontal barrier bars.

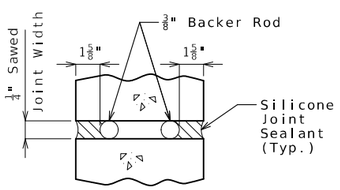
The cross-sectional area above the slab is 3.52 square feet.

(2) To top of bar



R-BAR PERMISSIBLE ALTERNATE SHAPE

(3) The R1 bar may be separated into two bars as shown, at the contractor's option, only when slip forming is not used. (All dimensions are out to out.)



SECTION B-B

General Notes:

* Slip-formed option only.

Conventional forming or slip forming may be used. Saw cut joints may be used with conventional forming.

Top of barrier shall be built parallel to grade and barrier joints (except at end bents) normal to grade.

All exposed edges of barrier shall have either a 1/2-inch radius or a 3/8-inch bevel, unless otherwise noted.

Payment for all concrete and reinforcement, complete in place, will be considered completely covered by the contract unit price for Type D Barrier per linear foot.

Concrete in barrier shall be Class B-1.

Measurement of barrier is to the nearest linear foot for each structure, measured along the outside top of slab from end of wing to end of wing.

Concrete traffic barrier delineators shall be placed on top of the barrier as shown on Missouri Standard Plan 617.10 and in accordance with Sec 617. Delineators on bridges with two-lane, two-way traffic shall have retroreflective sheeting on both sides. Concrete traffic barrier delineators will be considered completely covered by the contract unit price for Type D Barrier.

Joint sealant and backer rods shall be in accordance with Sec 717 for silicone joint sealant for saw cut and formed joints.

For slip-formed option, both sides of barrier shall have a vertically broomed finish and the top shall have a transversely broomed finish.

Plastic waterstop shall be used with saw cut joints.

TYPE D BARRIER (RIGHT)

Detailed Oct. 2024
Checked Oct. 2024

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

2 REVISED 03-11-2025

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PROFESSIONAL ENGINEER
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