

ATTACHMENT A

GREEN COUNTY FISCAL COURT

SPECIFICATIONS

BID NO: 2026-05

BRIDGE REPLACEMENT

**DOC WARD ROAD
044C00027N**

04/2026

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Title

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2. Project Location
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1. Project Description and Contractor Qualifications:

A. Project Description:

All interested, and qualified contractors shall submit a lump sum bid to provide all material, equipment, and manpower necessary to remove the existing concrete deck, Steel I-beams, and substructure and properly dispose. Install five (5) Precast Concrete Box Beams (CB17) on new abutments.

**Bridge width shall be twenty (20) feet wide
Bridge/beam length shall be a Single Span at thirty-eight(38) feet (out to out) on a 15-degree Skew.**

Remove existing structure. Regrade slope to tie down from the new abutments to the creek.

Pre-cast, pre-stressed concrete box beams shall comply with Kentucky Department of Highways Standard Drawing BDP-010-04 (CB17 Box Beam Details).

Bridge shall have all required connections, drains, and other appurtenances as required or referenced by the Standard Drawings.

The contractor shall install a Type II guardrail system, must be installed in compliance with KYTC standardized drawings.

Construction of Bridge roadway approaches are included in the project. The pavement approaches may need to be extended slightly from the design to allow for a smooth transition from the end of the bridge. The intent is to not create a drag point for vehicles coming off the bridge on each end.

B. Contractor Qualifications:

All bidders shall be certified for bridge construction with the Kentucky Department of Transportation. Each bidder shall provide proof of certification with their bid.

2. Project Location:

- A. The contractor shall be totally responsible for setting centerline control of bridge.
- B. The Contractor shall be totally responsible to set initial grade control and all temporary grade elevations necessary for construction.

- C. The contractor shall coordinate/notify the Green County Road Department Personnel and Charles Allen with the LTADD prior to any construction work or material ordered.

3. Project Plans:

- A. Plans to be used for construction consist of standard drawings, plans and a profile sheet that are included in Attachment C.

4. Project Specifications

- A. All work shall be in accordance with the Kentucky Department of Highways, Standard Specifications for Road and Bridge Construction (Most recent version). All references to AASHTO Specifications are to the 17th Edition of the AASHTO Standard Specifications for Highway Bridges with current interims.
- B. Reference Attachment C for standard drawings, plans and profile sheet.
- C. Construct bottom of footing below the anticipated scour elevation. (This typically entails embedding the footing 2'-0" into rock and pouring concrete directly against the cut rock faces as recommended by geotechnical engineer.) Solid rock shall be confirmed by drilling or excavating through anticipated rock bottom a depth of six (6) feet ensuring solid rock. All excavation work and additional concrete backfill is considered incidental to the lump sum project cost.
- D. The contractor is responsible for backfilling the abutments back to original grade.
- E. The contractor will install Edge Keys at all tie-ins with original pavement. The contractor can reference the Edge Key detail in the drawings.
- F. Reinforcing steel and concrete shall be per the detailed drawings. Reinforcing steel shall be $f_y=60,000$ psi and concrete shall be KYTC Class "A" ($f'_c=3500$). The reinforcing steel in the deck shall be epoxy coated and deck concrete shall be 4000 psi with air entrainment.
- G. All bidders shall review the site prior and be thoroughly familiar with the site prior to bidding.
- H. Performance bonds: The successful bidder shall provide a Performance Bond prior to contract award equal to 100 percent of bid amount.

5. Old Bridge Deck Demolition/Traffic Control:

- A. The existing concrete deck, steel I-beams and substructure shall be demolished and properly disposed by the contractor in accordance with all local and state requirements.
- B. The road will be closed to all thru traffic, there will be no construction of a temporary diversion.
- C. Provide adequate signage and barriers in accordance with the Manual of Uniform Traffic Control Devices (MUTCD) to warn traffic of the bridge closure. Contractor to include in bid pricing for one message board at each end of the bridge. The board shall announce "Road closure with no thru traffic".

-Provide a week's notice to the Green County Judge Executive prior to the scheduled road closure so that notice can be given to emergency services, school officials, local radio and newspaper.

SPECIAL NOTES:

- A. The Contractor shall be responsible for locating all underground utilities and protection thereof. Any damages to utilities shall be the responsibility of the Contractor to repair at no cost to the Green County Fiscal Court.**
- B. The contractor shall be responsible to make concrete cylinders and provide the compressive strength results for the footings, abutments and deck to determine compliance with the specifications. A 7, 14 or 28-day result shall be provided. The Contractor shall obtain sufficient cylinders to provide this data.**
- C. Concrete compressive strength, air and slump testing shall be performed by an independent, third-party testing laboratory certified for ASTM-compliant procedures. Test cylinders shall be sampled, cured, and tested in accordance with the applicable ASTM standards, and results shall be submitted directly to Cade Bowen with LTADD. (cade@ltadd.org)**
- D. Abutment Crown Requirement: Contractor shall provide a uniform 2% crown to the abutments. Crown geometry shall be coordinated with the superstructure framing such that the minimum required slab depth of 5 inches is maintained over all beams at all locations, with no reduction due to crowning or construction tolerances.**

- E. The contractor shall not place or have equipment within the creek bed. All work with equipment shall be conducted from the banks. Any debris that may fall within the creek shall be removed and loaded directly into trucks for proper disposal.**

- F. Contractor shall perform all work in accordance with Kentucky Division of Water Construction In and Along a Stream, Water Quality and Army Corps of Engineers Permits. See Attachment B.**

ATTACHMENT B

GREEN COUNTY FISCAL COURT

PERMIT

BID NO: 2026-005

BRIDGE REPLACEMENT

LILETOWN RD

044C00012N

ATTACHMENT C

GREEN COUNTY FISCAL COURT

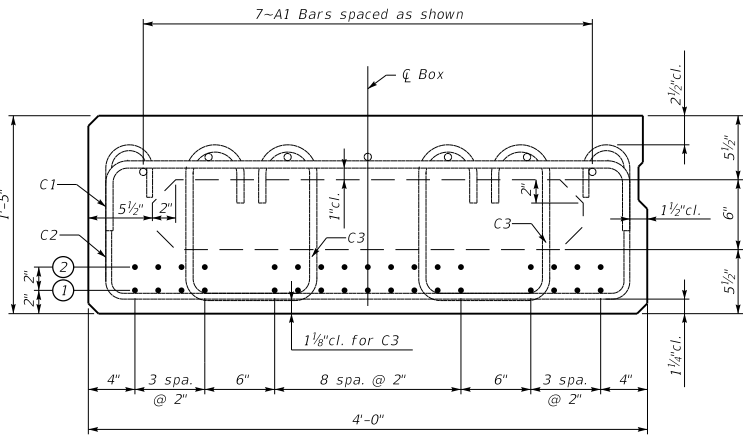
CONSTRUCTION PLANS

BID NO: 2026-005

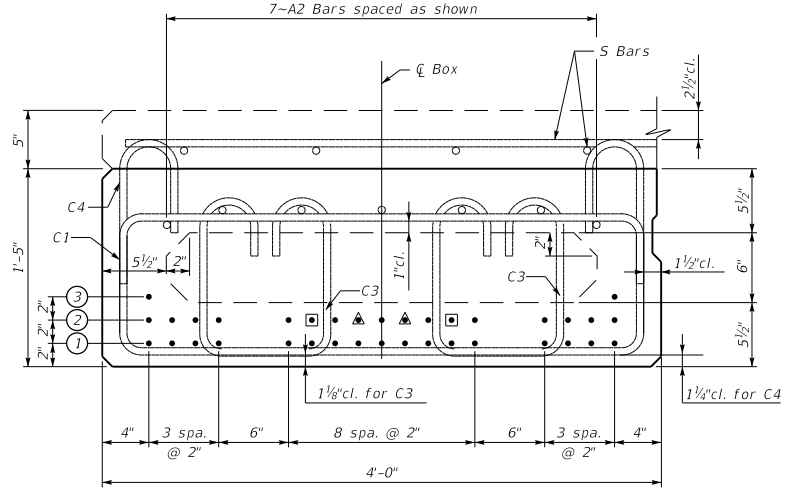
BRIDGE REPLACEMENT

LILETOWN RD

044C00012N

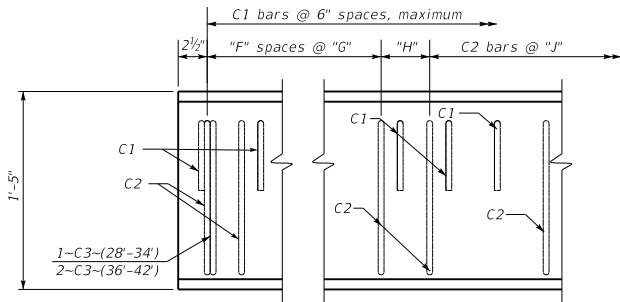


B17 BEAM

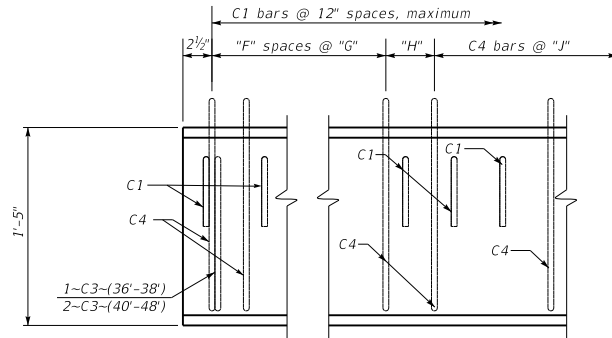


CB17 BEAM

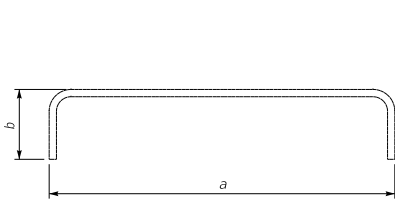
□ Debond these strands 4' each end of beam
 △ Debond these strands 6' each end of beam CB17-48 Beam Only



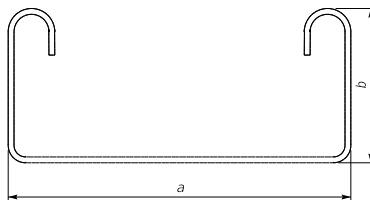
B17 ELEVATION OF 0° SKEW
 (Refer to BDP-003,c.e. for skewed details)



CB17 ELEVATION OF 0° SKEW
 (Refer to BDP-003,c.e. for skewed details)



C1(e) Bar



C2(e)-C4(e) Bars

TABLE OF STRAND DATA

Beam Type	Beam Length (feet)	Number of Strands Required			Conc. Strength	
		Row ①	Row ②	Row ③	F'CI (psi)	F'C (psi)
B17	28	12				
	30	13				
	32	14				
	34	15				
	36	16				
	38	17	1			
CB17	40	17	3			
	42	17	5			
	36	14				
	38	15				
	40	16				
	42	17	1			
CB17	44	17	2			
	46	17	9		6000	7000
	48	17	17	2	7000	8000

TABLE OF DIMENSION DATA

Beam Type	Beam Length (feet)	"F"	"G"	"H"	"J"				
B17	28	4	9"	8 1/2"	11"				
	30	4	9"	9 1/2"	11"				
	32	4	9"	10 1/2"	11"				
	34	5	8"	7 1/2"	11"				
	36	6	8"	6"	11"				
	38	7	7"	6 1/2"	10"				
CB17	40	7	7"	8 1/2"	10"				
	42	7	7"	5 1/2"	10"				
	36	6	8"	11 1/2"	14"				
	38	6	8"	9 1/2"	14"				
	40	6	8"	7 1/2"	14"				
	42	7	7"	8 1/2"	12"				
CB17	44	8	7"	7 1/2"	12"				
	46	8	7"	7 1/2"	12"				
	48	10	6"	9 1/2"	12"				

TABLE OF BAR QUANTITIES **DESIGN DATA**

Beam Type	Beam Length (feet)	C1	C2	C3	C4	DC (kips)	DW (kips)	LL (kips)	LL+I (kips)	Δd (in.)	Δc (in.)
B17	28	57	33	2		9.4	0.8	35.1	44.9		
	30	61	35	2		10.1	0.9	36.4	46.4		
	32	65	37	2		10.7	0.9	37.7	48.1		
	34	69	41	2		11.4	1.0	38.9	49.6		
	36	73	44	4		12.1	1.0	40.0	50.9		
	38	77	51	4		12.7	1.1	41.1	52.2		
CB17	40	81	53	4		13.4	1.1	42.1	53.4		
	42	85	56	4		14.1	1.2	43.0	54.5		
	36	37		2	37	16.6	1.0	40.0	50.9	0.2	0.6
	38	39		2	39	17.5	1.1	41.1	52.2	0.2	0.7
	40	41		4	41	18.4	1.1	42.1	53.4	0.2	0.8
	42	43		4	49	19.3	1.2	43.0	54.5	0.3	0.9
CB17	44	45		4	52	20.2	1.3	43.9	55.5	0.3	1.0
	46	47		4	54	21.1	1.3	44.7	56.5	0.3	1.3
	48	49		4	56	22.0	1.4	45.5	57.4	0.4	1.8

Straight Reinforcement

Mark	Size	Length
A1(E)	#5	Beam Length Minus 3"
A2(E)	#4	Beam Length Minus 3"
D(E)	#8	2'-0"

Bent Reinforcement

Mark	Size	a	b
C1(e)	#5	3'-9"	6"
C2(e)	#4	3'-9"	1'-1 1/4"
C3(e)	#5	11 3/8"	1'-1 3/8"
C4(e)	#4	3'-9"	1'-6 1/4"

KENTUCKY
DEPARTMENT OF HIGHWAYS

BOX BEAM
B17 & CB17
DETAILS

STANDARD DRAWING NO. BDP-007-05

SUBMITTED: *Ben Adams* 02-26-20
 DIRECTOR DIVISION OF STRUCTURAL DESIGN DATE
 APPROVED: *Ben Adams* 02-26-20
 STATE ENGINEER DATE

PRECAST PRESTRESSED BOX BEAMS

General Notes

SPECIFICATIONS: All references to the standard Specifications are to the current edition of the Kentucky Department of Highways Standard Specifications for Road and Bridge Construction, with current supplemental specifications. All references to the AASHTO Specifications are to the current edition of the AASHTO LRFD Bridge Design Specifications, with interims.

DESIGN LOADS: Beam sections are designed for 1.25*HL93 (KYHL93) Live Load.

DESIGN LOAD DISTRIBUTION: Contrary to AASHTO LRFD Bridge Design Specifications, the design moment and shear distribution for all beams is 0.5 lanes.

FUTURE WEARING SURFACE: These beams are designed for a 15 PSF future wearing surface load.

SUBSTRUCTURE DESIGN LOADS: Unfactored design reaction forces per beam end.

DC (kips): Beam, Slab (if applicable), and Type II railing dead loads.

DW (kips): Future wearing surface.

LL (kips): Beam Live Load reaction per lane x Design load distribution.

LL+I (kips): LL with Dynamic load allowance.

DESIGN DEFLECTIONS:

Δ_d (in.): Sum of the downwards deflections caused by the design 5" deck, railing, and future wearing surface. (Positive Downwards)

Δ_c (in.): Upwards midspan camber of the beam caused by prestressing minus the downward deflection of the beam due to self weight. (Positive Upwards)

MATERIAL DESIGN SPECIFICATIONS:

for Steel Reinforcement

for Prestressed Girder Concrete (Typ. U.N.O.)

for Class "AA" Concrete
for Prestressing Steel

FY = 60000 PSI

F'C = 7000 PSI

F'CI = 5500 PSI

F'C = 4000 PSI

F'S = 270000 PSI

DESIGN LENGTH: Beam lengths shown in the Standards represent total beam length. Use the next greater designed section for non-Standard lengths.

CONSTRUCTION METHOD: Transferring bond stress to the concrete will not be allowed, nor releasing of end anchors until the concrete has attained a minimum compressive strength of F'CI as shown by standard cylinders made and cured identically with the girders; attain F'C at or prior to 28 days. Apply an initial prestress force of 33817 lbs. per low relaxation strand. Beams with honeycomb of such extent as to affect the strength of resistance to deterioration will not be accepted. The allowance of .0005L (length) is made for shortening of beams due to shrinkage and elastic change. Furnish shop plans showing a detensioning plan by numbering, in sequence, the strand pattern.

PRESTRESSING STRANDS: Ensure prestressing strands to be 1/8" oversize (0.167 sq. in.) uncoated seven-wire stress relieved, low-relaxation strands conforming to AASHTO M 203, Grade 270. If an alternate strand arrangement or strand type is preferred by the Contractor, the designer that developed the original plans will provide the design and also revise the original plans to reflect the changes. These design and plan modifications will be done at the Contractor's expense.

CORROSION INHIBITOR: Provide a corrosion inhibitor for B-type (non-composite) beams from the list of approved materials.

BEVELED EDGES: Bevel all exposed edges 3/4".

BEAM SEALER: For composite box beams (CB Beams), seal the full length of the exterior face of all exterior beams with the extent from the top of the beam to 1'-0" underneath the beam. For non-composite box beams (B beams), seal all faces of all beams, except take care to ensure the grout pockets are not sealed. Use an approved silane sealer as specified by the Division of Structural Design.

REINFORCEMENT: Dimensions shown from the face of concrete to reinforcement are clear distances. Spacing of reinforcement is from center to center of reinforcement. All steel reinforcement is to be epoxy coated in accordance with Section 811.10 of the Specifications. Consider bars marked "C" to be a stirrup for purposes of bend diameters. Non-epoxy reinforcement may be used for fabrication purposes, only, provided that the steel is not used in the top 5 1/2" of the beam and the location of the steel is indicated on the shop drawings.

FABRICATION: Beams shall not be fabricated more than 120 days before the deck is to be poured.

GROUT: Provide non-shrink grout for anchor dowels, shear keys, and tensioning rod block-outs conforming with Section 601.03.03 of the Specifications. When side by side superstructure is utilized, grouting will be completed after lateral tension rods have been fully tightened and before leveling devices have been removed. Include the cost of furnishing and placing grout in the price of beam.

RAILING SYSTEM TYPE II: Furnish this material per these specifications.

ITEM	DESCRIPTION	MATERIAL SPECIFICATION	COATING SPECIFICATION
Post	W6x25	ASTM A36 or A572	A123
Channel	C7x9.8	ASTM A36 or A572	A123
Plate	1/2" x 7"	ASTM A36 or A572	A123
Tubing	8x4x0.1875	ASTM A500 or A501	A123
Bolts	5/8"	ASTM A307	A153
Nuts	for 5/8"	ASTM A563, Grade A or better	A153
Washers	for 5/8"	ASTM A563, Grade A or better	A153
Stud	1 1/4"	ASTM A108 (1045 C.D. Bar)	B633, Type II, Class 25
Ferrule	2 1/2" x 5"	ASTM A108 (11L17 Steel)	B633, Type II, Class 25
Wire	3/8"	ASTM A510 (1018 Steel)	B633, Type II, Class 25
Nut	for 1 1/4" Bolt	ASTM A108 (12L14 Steel)	B633, Type II, Class 25
Nut	for 1 1/4" Stud	ASTM A325M	B633, Type II, Class 25
Washers	for 1 1/4" Stud	ASTM A325M	B633, Type II, Class 25

Use the current edition of the references listed below with these standards.

STANDARD DRAWINGS

BBP-003	Elastomeric Bearing Pads
BHS-007	Railing System Type II
BJE-001	Armored Edge & Neoprene Joints
RBR-001	Steel Beam Guardrail
RBR-005	Guardrail Components

SPECIAL NOTES

For Corrosion Inhibitors


KENTUCKY
DEPARTMENT OF HIGHWAYS

BOX BEAM
GENERAL NOTES
AND REFERENCES

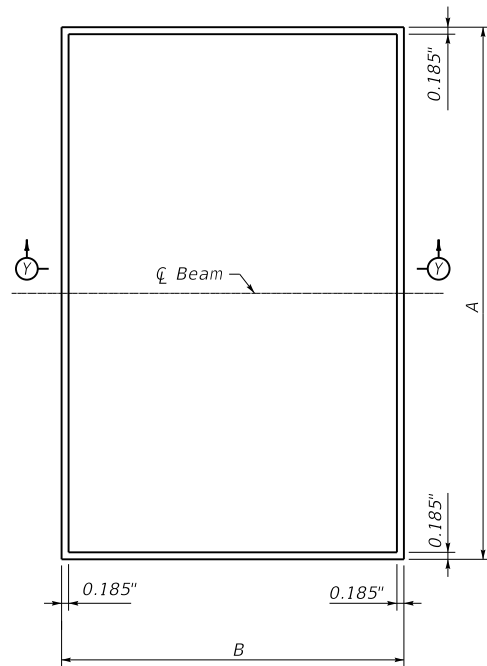
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SUBMITTED  02-26-20

DIRECTOR DIVISION OF STRUCTURAL DESIGN DATE

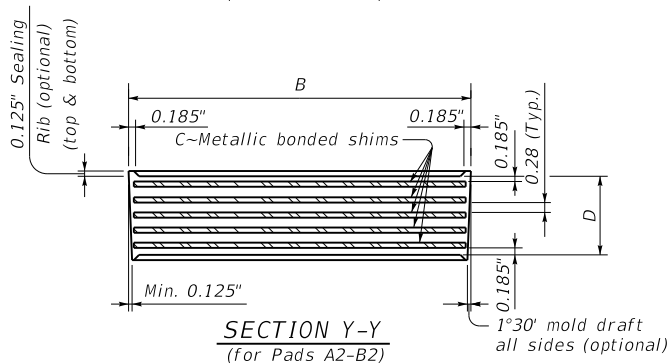
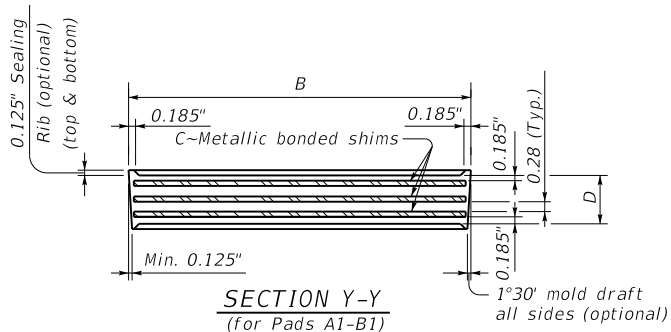
APPROVED  02-26-20

STATE PROFESSIONAL ENGINEER DATE



DIMENSIONS FOR BOX-BEAM PADS						
PAD	A	B	C	D	*MAXIMUM REACTION	MAXIMUM MOVEMENT (One Direction)
A1	1'-10"	7"	3~0.12" x 21.630" x 6.630"	1.290"	173k	0.500"
A2	1'-10"	7"	5~0.12" x 21.630" x 6.630"	2.090"	173k	0.750"
B1	11"	7"	3~0.12" x 10.630" x 6.630"	1.290"	69k	0.500"
B2	11"	7"	5~0.12" x 10.630" x 6.630"	2.090"	69k	0.750"

* These reactions are based on service loads, use actual reactions to determine anchorage requirements for pads.



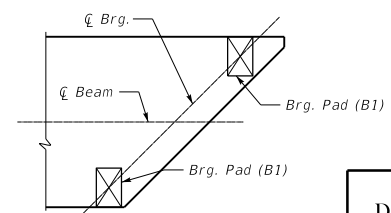
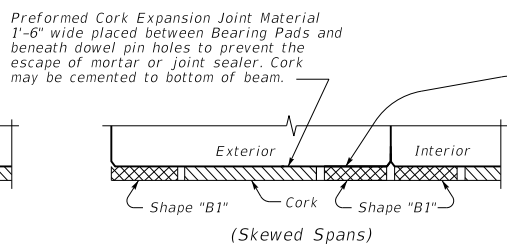
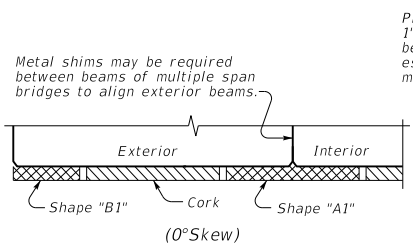
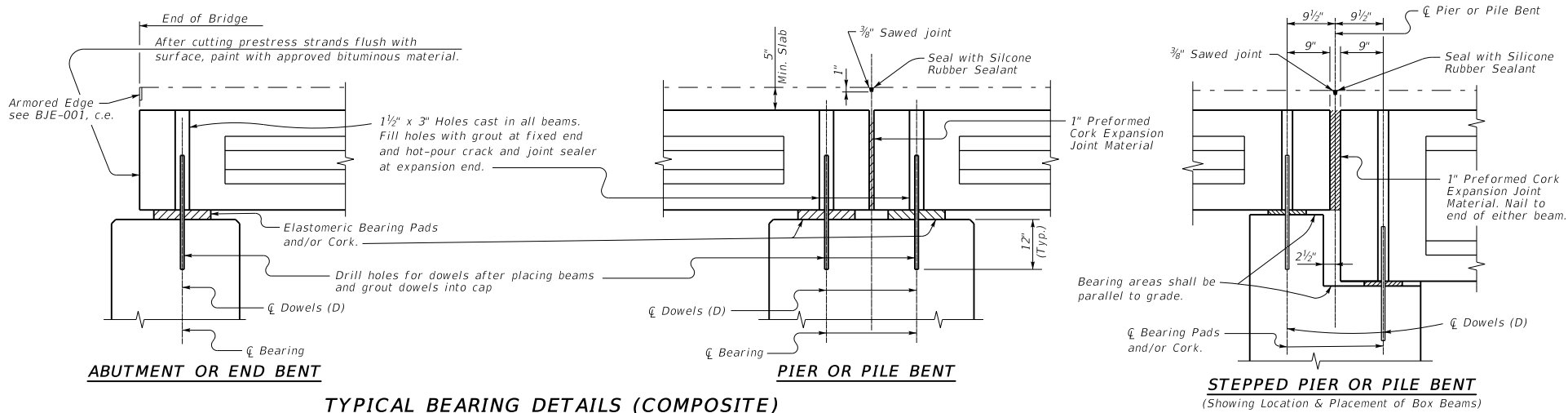
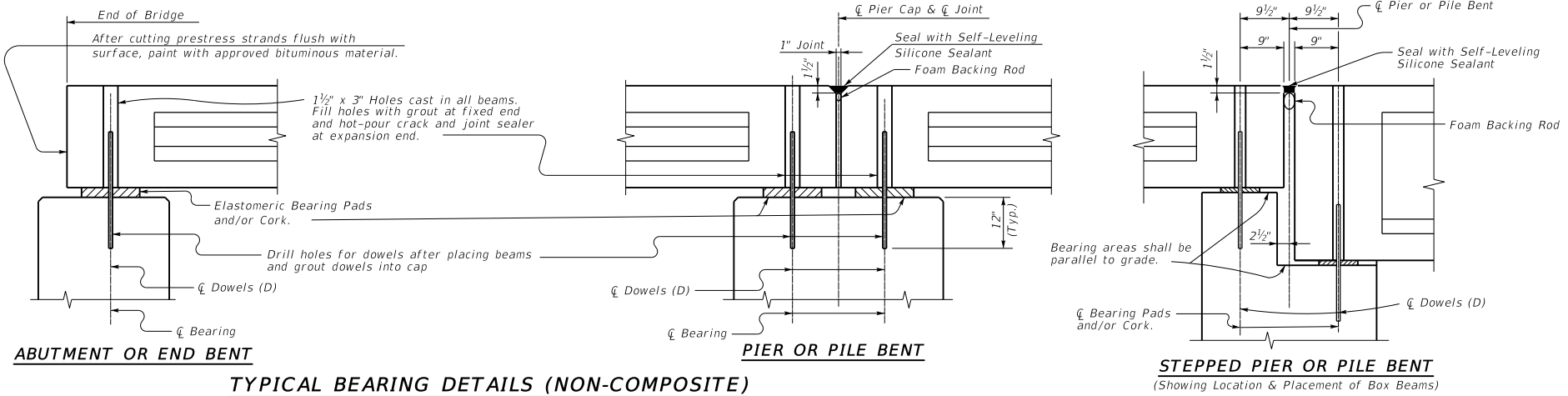
GENERAL NOTES

SPECIFICATIONS: Fabricate the Elastomeric Bearing Pads to the design and dimensions as shown on these drawings and to AASHTO LRFD Bridge Construction Specifications, Section 18.

Ensure bearings are low temperature Grade 3 with durometer hardness of 50 and subjected to the load testing requirements corresponding to Design Method A.

Include the price of bearing pads in the bid for the beams.

KENTUCKY DEPARTMENT OF HIGHWAYS		
ELASTOMERIC BEARING PADS FOR BOX BEAMS		
STANDARD DRAWING NO. <i>BBP-003-02</i>		
SUBMITTED	<i>Bob Adams</i> DIRECTOR DIVISION OF STRUCTURAL DESIGN	<i>02-26-20</i> DATE
APPROVED	<i>[Signature]</i> STATE ENGINEER	<i>02-26-20</i> DATE



PAD PLACEMENT FOR SKEWS
 Pads "B1" are to always be placed perpendicular to ⌀ beam with center of pad over ⌀ bearing.

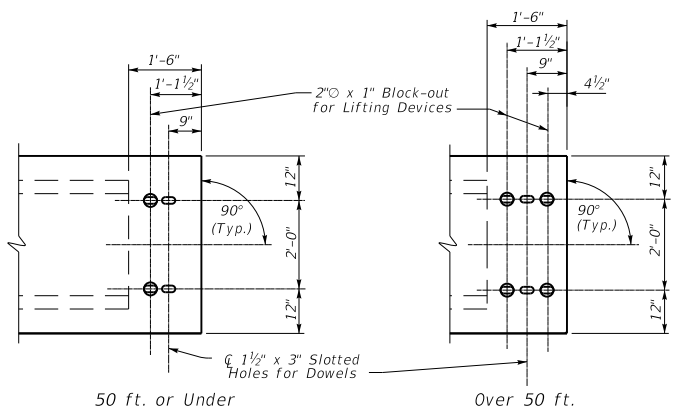
For Elastomeric Bearing Pad Details of Shapes A1 & B1, see Std. Dwg. BBP-003, c.e.

SHOWING PADS FOR BEAM TYPES B27-B42 & CB27-CB42
 Use 1/2" x 1'-6" preformed cork for beam types B12-B21 & CB12-CB21 for bearing.

GENERAL NOTES

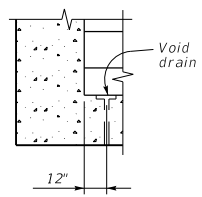
Provide metal shims conforming to ASTM A36 and galvanize in accordance with ASTM A123. As alternates, cork, polymer, or elastomer shims may be used. Include the cost of furnishing and placing these shims in the price per beam.

KENTUCKY DEPARTMENT OF HIGHWAYS	
BOX BEAM BEARING DETAILS	
STANDARD DRAWING NO. BDP-002-03	
SUBMITTED <i>Bert Adams</i>	DATE 02-26-20
APPROVED <i>[Signature]</i>	DATE 02-26-20
STATE HIGHWAY ENGINEER	DATE



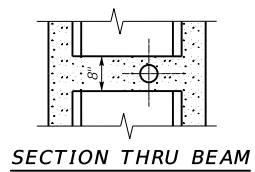
TYPICAL STRAIGHT END

NOTE: Void omitted on 12" beams.



VOID DRAIN DETAIL

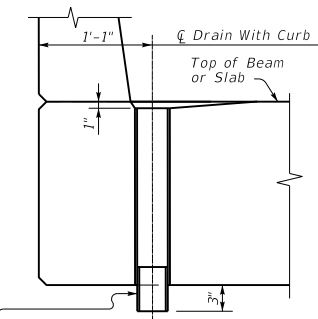
Locate two drains at each end of each void. Provide 1" drains of a type approved by the Division of Materials.



SECTION THRU BEAM

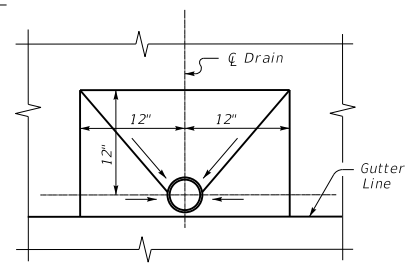
Diaphragms may be omitted if void is cut to allow drain to be encased with a minimum 2" of concrete.

Provide drains on both sides of bridge with normal crown and on low side only for superelevated bridges. Space drains at maximum 12'-6" on centers with a minimum of one placed each gutter line per span. Omit drains when span crosses over a highway or railroad. Include the cost of pipe and fittings in the price of beam.



SECTION THRU DRAIN EXTERIOR BOX BEAM

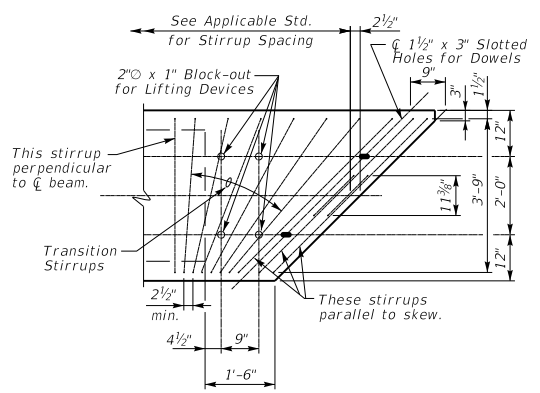
NPS Designation 4 Standard coupling and nipple in accordance with ASTM A53. Nipple to be installed in field.



TOP VIEW OF DRAIN

DRAIN DETAILS

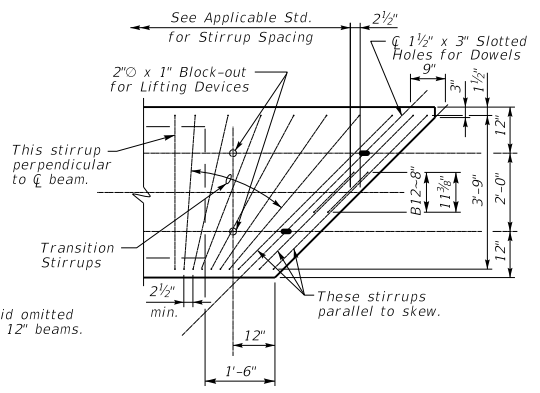
(For Spans With Curbs)



TYPICAL SKEWED END FOR BEAMS OVER 50 FEET

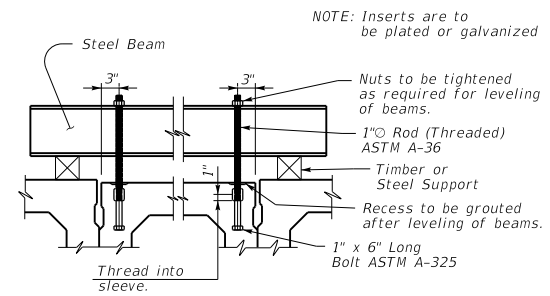
(Right Skew Shown, Left Opposite Hand)

NOTE: Void omitted on 12" beams.



TYPICAL SKEWED END FOR BEAMS 50 FEET OR LESS

(Right Skew Shown, Left Opposite Hand)

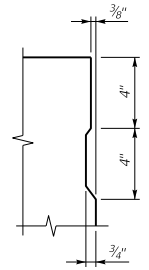


LEVELING DEVICE DETAILS

Locate inserts at the center of beams up to 50 ft. and at diaphragm locations of beams over 50 ft. Include the cost of materials and labor involved in leveling beams in the price for beams. Submit alternate leveling devices to the Division of Bridge Design for approval.

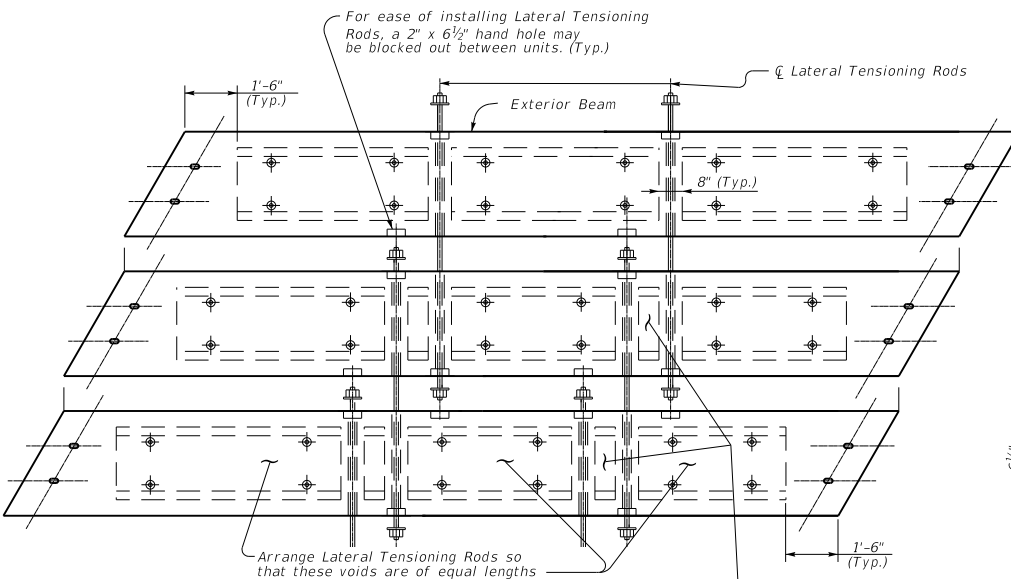
NOTE: Inserts are to be plated or galvanized

NOTE: Omit shear key on exterior face of exterior beam.



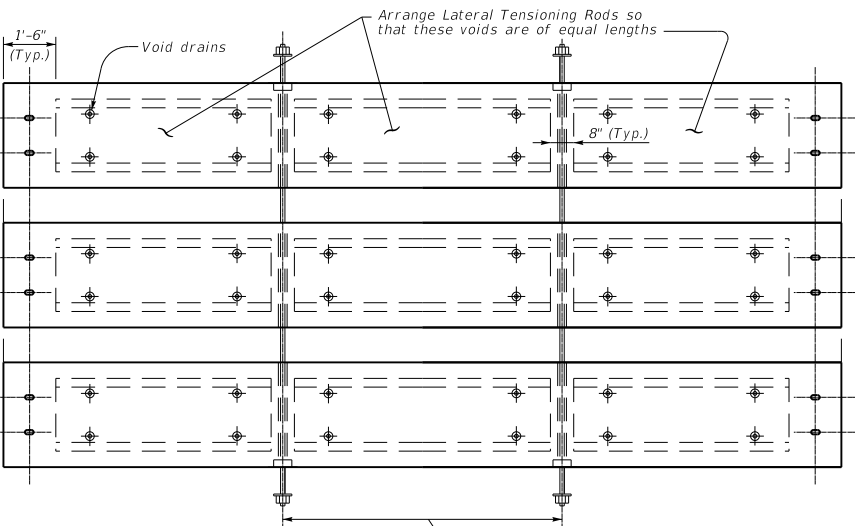
SHEAR KEY DETAIL

KENTUCKY DEPARTMENT OF HIGHWAYS	
BOX BEAM MISCELLANEOUS DETAILS	
STANDARD DRAWING NO. BDP-003-03	
SUBMITTED	02-26-20
DIRECTOR DIVISION OF STRUCTURAL DESIGN	
APPROVED	02-26-20
STATE ENGINEER	



SECTIONAL PLAN SHOWING LATERAL TENSIONING METHOD FOR SKEWED SPANS

Omit these voids when skew is 15° or less (typ.). When void is 2'-0" long or less void may be omitted on any skew.



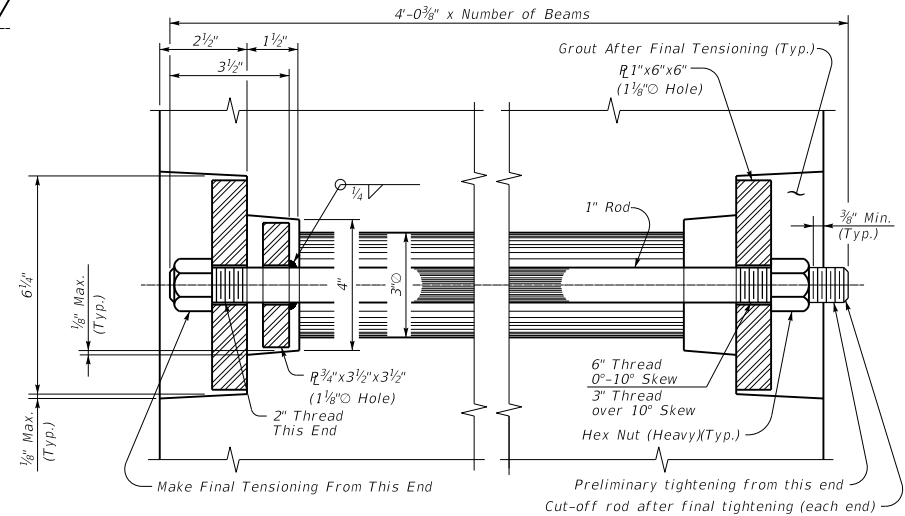
SECTIONAL PLAN SHOWING LATERAL TENSIONING METHOD FOR STRAIGHT SPANS

(The above arrangement is applicable from 0° skews to and including 10° skews)

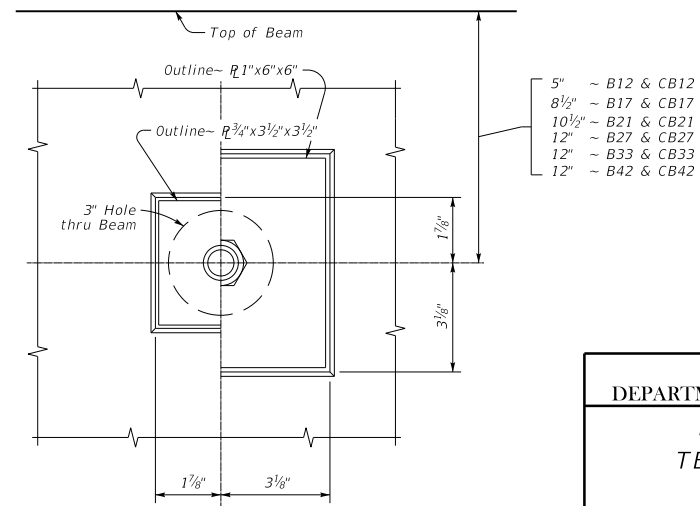
One lateral tensioning rod per beam 50 ft. long or less
Two lateral tensioning rods per beams over 50 ft. long.

GENERAL NOTES

LATERAL TENSIONING RODS: After the deck units are in place, apply a preliminary tension to the lateral tensioning rods. Perform final tensioning that yields 20,000 psi as developed by a torque of 200 ft.-lbs. Provide lateral tensioning rods and plates conforming to ASTM A36 with heavy hex nuts conforming to ASTM A307. All tension rods, plates, and nuts to be galvanized in accordance with ASTM A123 or A153 as applicable.



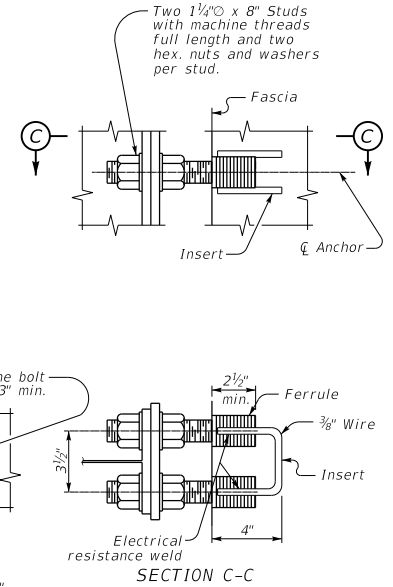
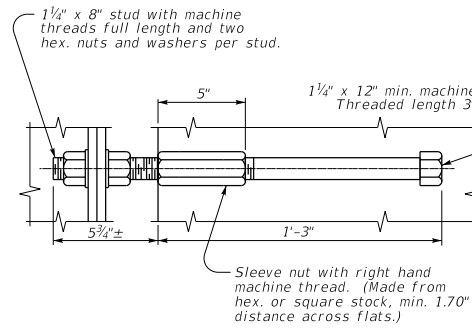
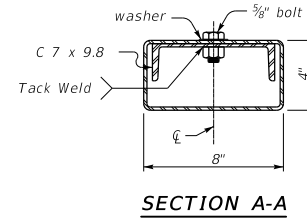
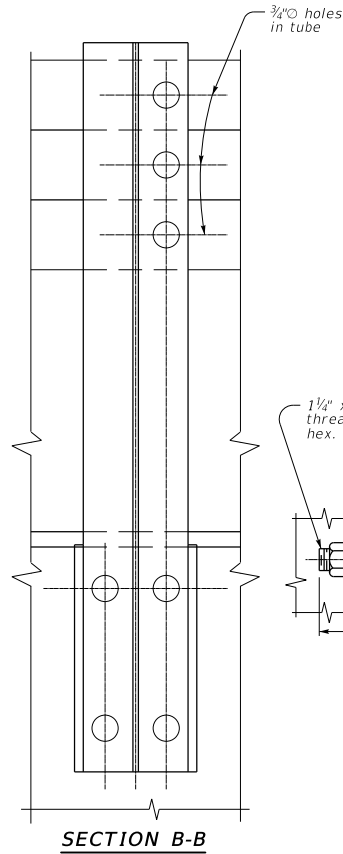
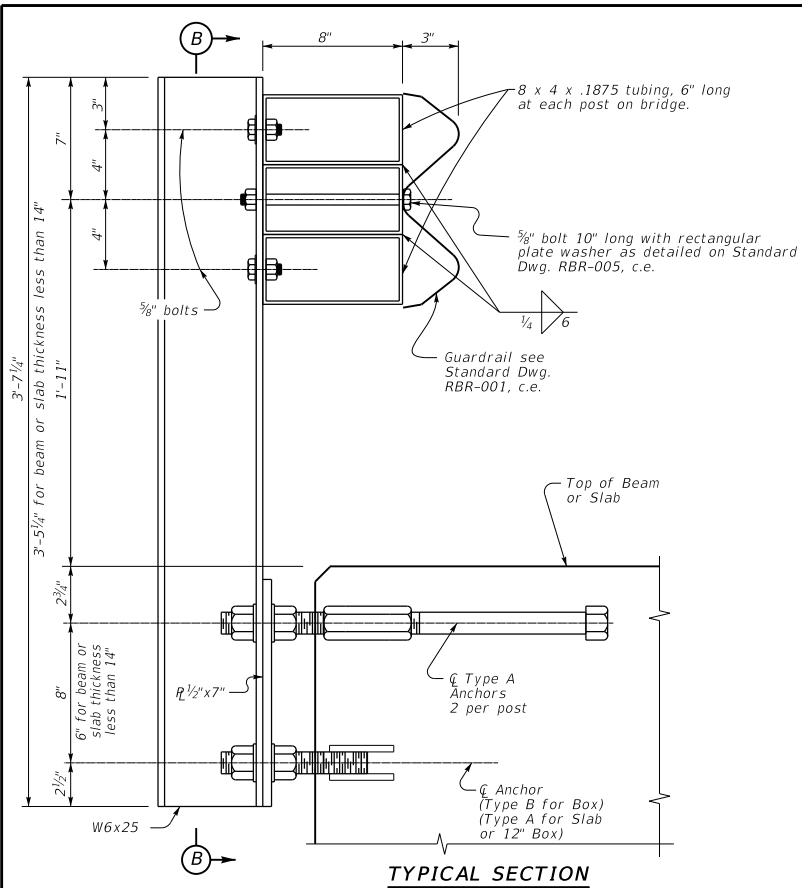
SECTION THRU LATERAL TENSIONING ROD



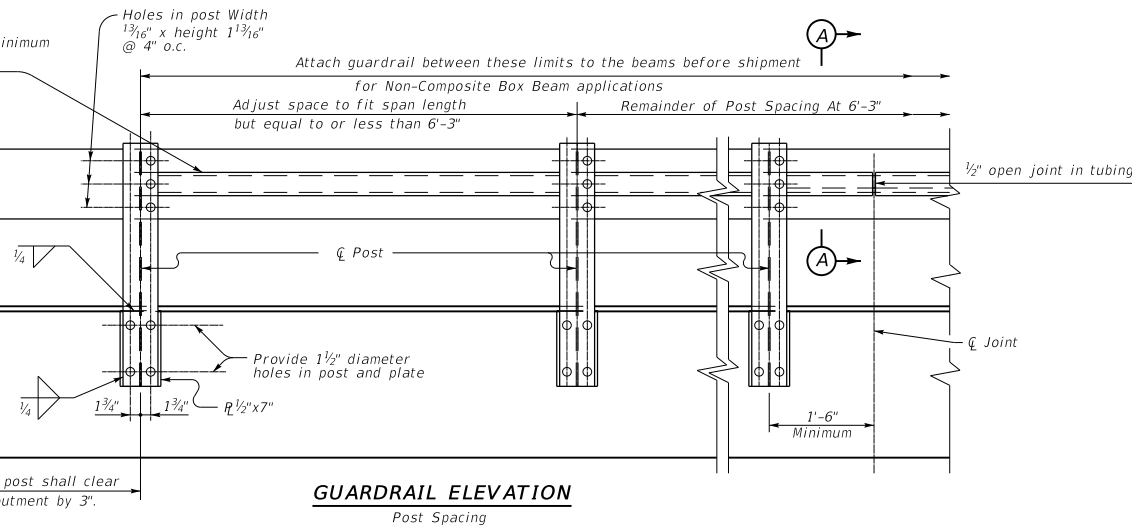
SECTIONAL END PLAN
(Lateral Tension Rod Details)

KENTUCKY
DEPARTMENT OF HIGHWAYS
BOX BEAM
TENSION ROD
DETAILS

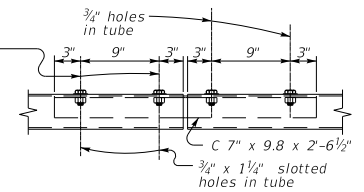
STANDARD DRAWING NO. BDP-004-04
SUBMITTED BY *B. J. Adams* DATE 02-26-20
DIRECTOR DIVISION OF STRUCTURAL DESIGN
APPROVED BY *[Signature]* DATE 02-26-20
STATE ENGINEER



TS 8 x 4 x 0.1875 tubing minimum length center to center with 12'-6" splices.



Allow sliding between the tube and channel when tightening bolts in slotted holes.

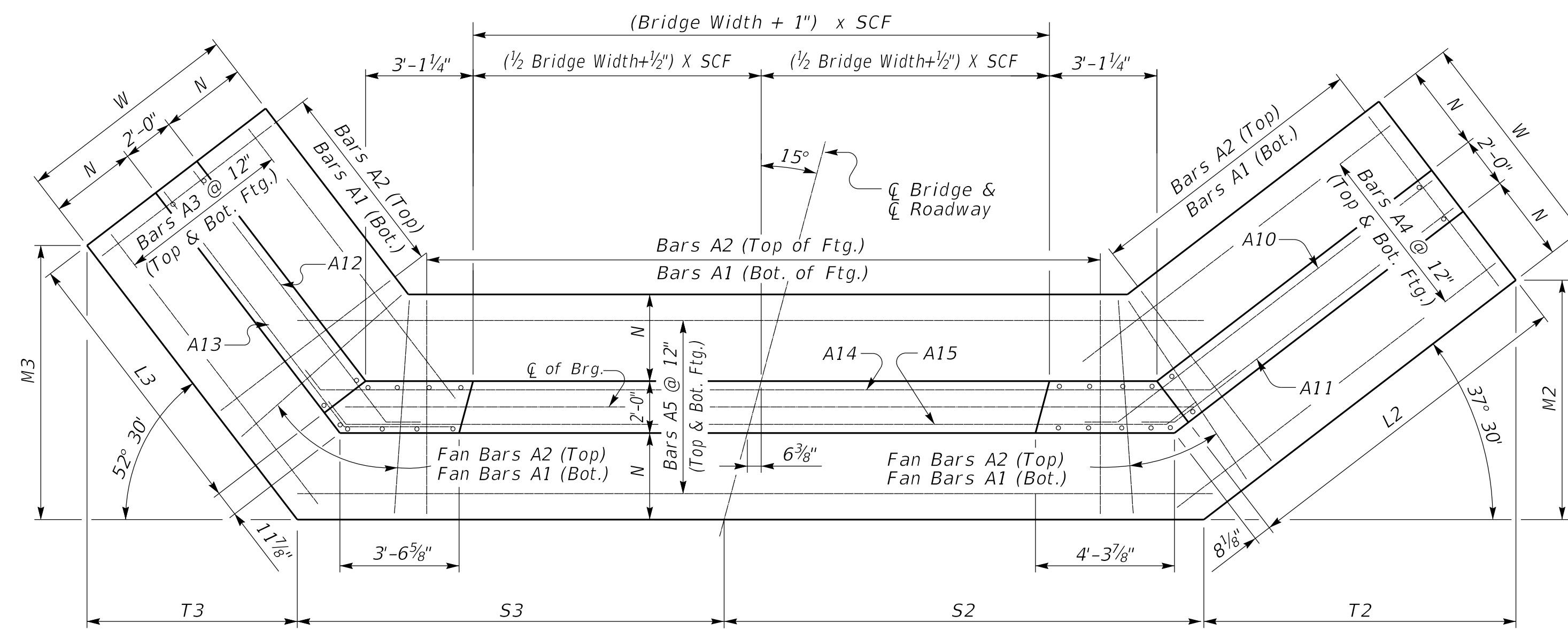


Note: Connect bridge guardrail to Roadway Guardrail, refer to Std. Dwg. BHS-007, C.E.

KENTUCKY DEPARTMENT OF HIGHWAYS	
RAILING SYSTEM TYPE II	
STANDARD DRAWING NO. BDP-005-06	
SUBMITTED	DATE 02-26-20
DIRECTOR DIVISION OF STRUCTURAL DESIGN	
APPROVED	DATE 02-26-20
STATE ENGINEER	

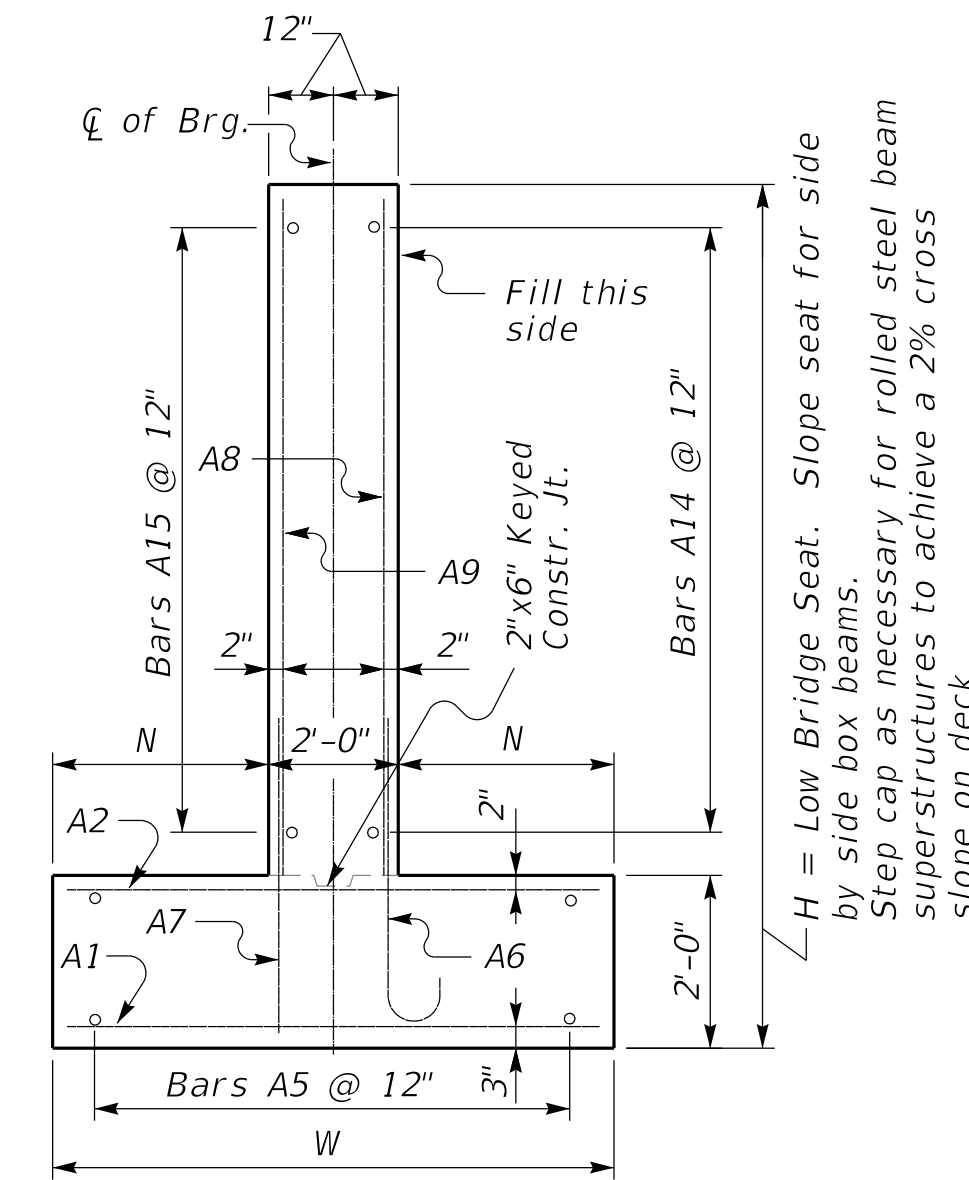
15° SKEW VARIABLE BRIDGE WIDTH 2:1 FILL SLOPES WINGS SKEWED 50% FROM ROADWAY TO BREASTWALL

ABUTMENT SKEW CORRECTION FACTOR (SCF) = 1.035

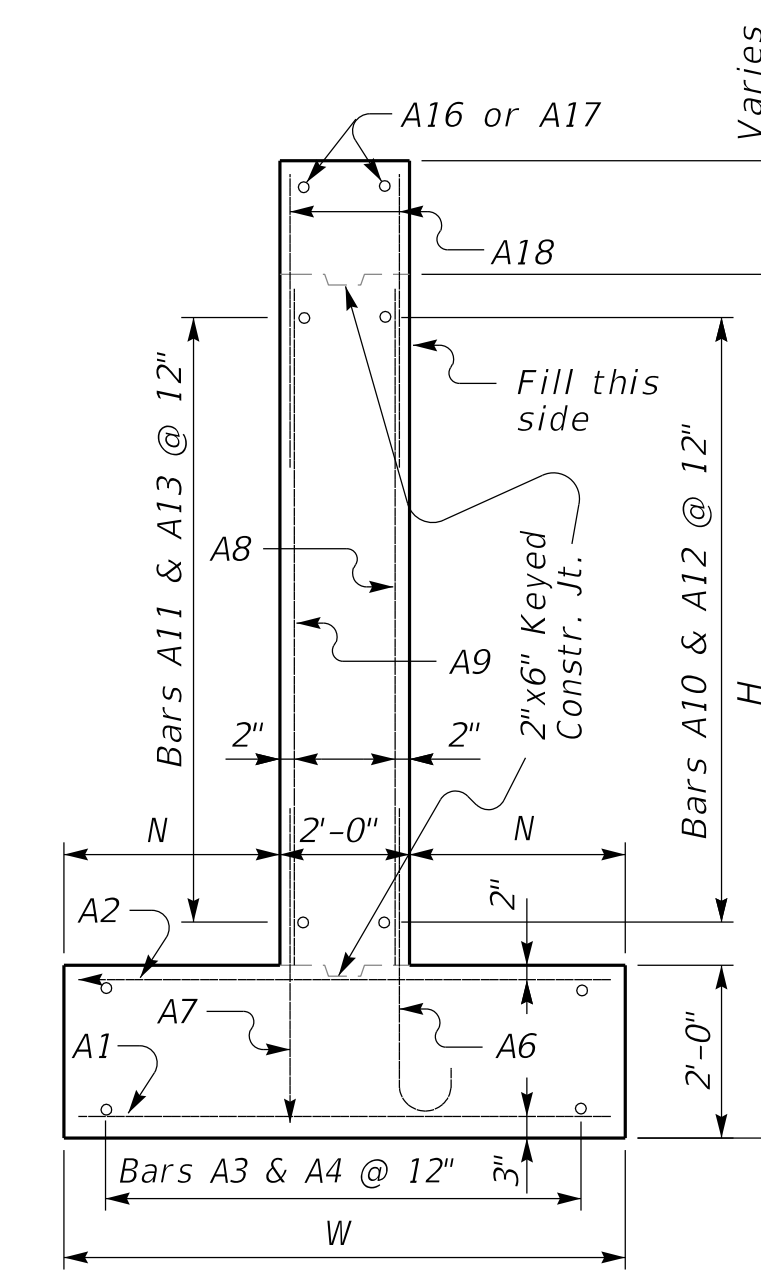


(Left Skew as shown; right skew opp. hand)

PLAN

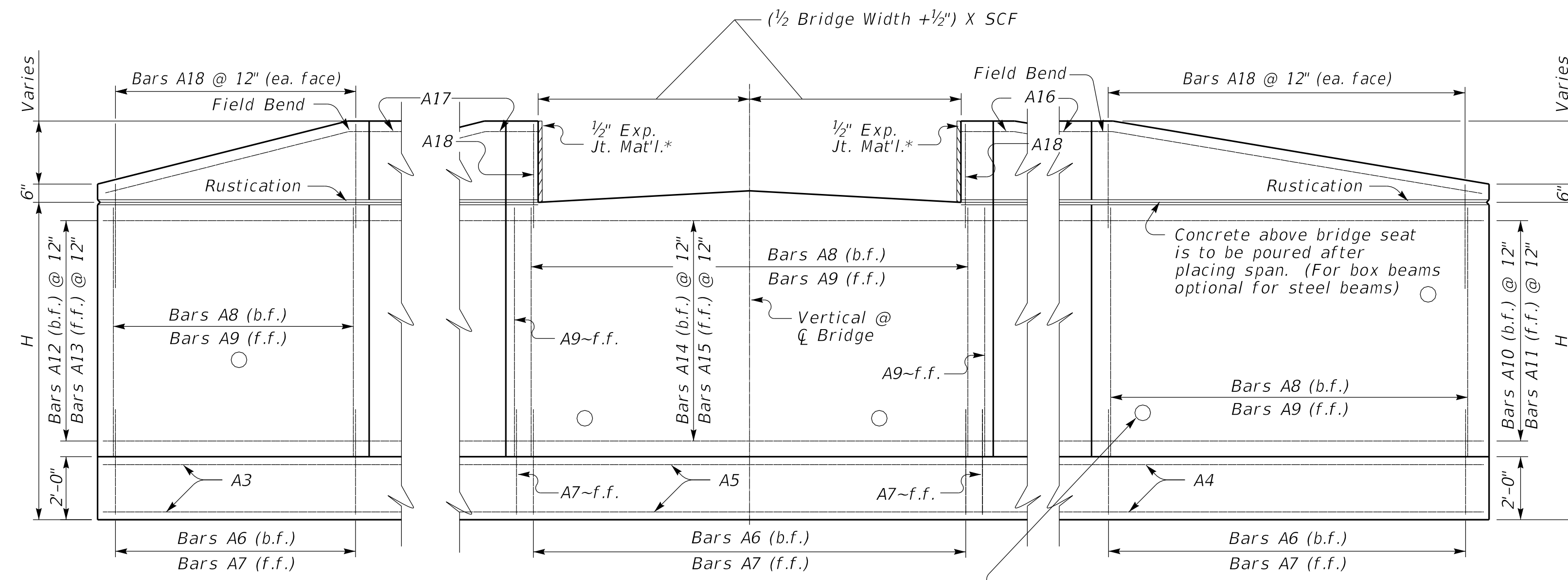


WALL SECTION



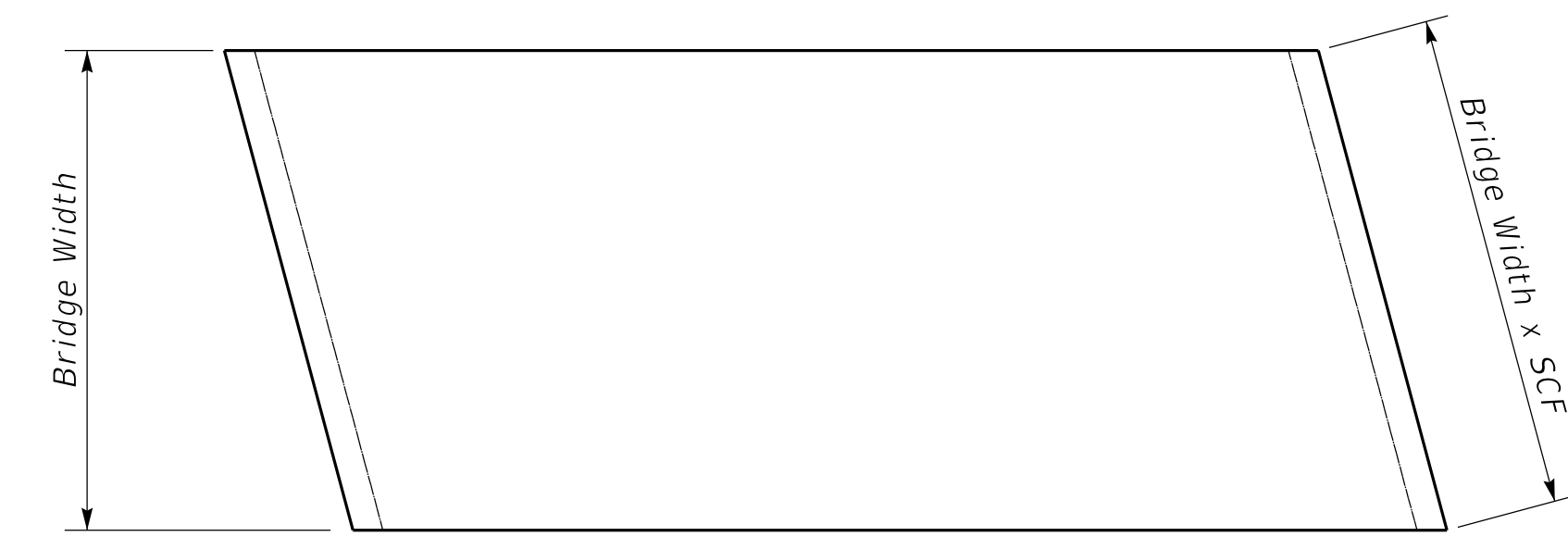
WING SECTION

Note: Trim A16 & A17 bars if necessary

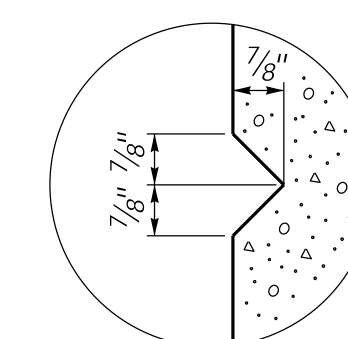


ELEVATION

Depth of int. beam, bearing pad, haunch, and slab when req.



PLAN OF SUPERSTRUCTURE SLAB



RUSTICATION GROOVE

*Expansion Joint Material:
AASHTO M153
Type-1 Sponge Rubber

REVISION DATE: 08/11/2025
REVISION NUMBER: 0

SUBMITTED: *Mark Capps* 08-11-2025
DIVISION DIRECTOR
APPROVED: *John Ballinger* 08-11-2025
STATE HIGHWAY ENGINEER

BRIDGE STANDARDS

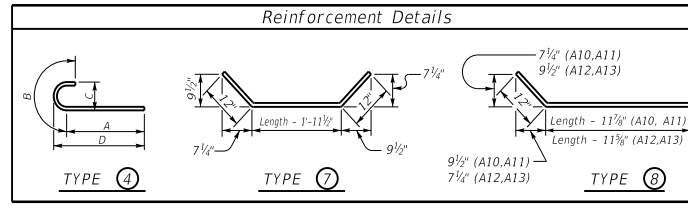
15° SKEW VARIABLE BRIDGE WIDTH 2:1 FILL SLOPES WINGS SKEWED 50% FROM ROADWAY TO BREASTWALL

Bill of Reinforcement

MARK	A1		A2		A3		A4		A5		A6				A7		A8		A9		A10	A11	A12	A13	A14		A15		A16	A17	A18				
TYPE	Str.		Str.		Str.		Str.		Str.		4				Str.		Str.		Str.		8	8	8	8	7		7		Str.	Str.	Str.				
SIZE					#5		#5		#5										#5		#5	#5	#5	#5	#5		#5		#5	#5	#5				
H	No.	Length ft. in.	No.	Length ft. in.	No.	Length ft. in.	No.	Length ft. in.	No.	Length ft. in.	No.	Length ft. in.	No.	Length ft. in.	No.	Length ft. in.	No.	Length ft. in.	No.	Length ft. in.	No.	Length ft. in.	No.	Length ft. in.	No.	Length ft. in.	No.	Length ft. in.	No.	Length ft. in.	No.	Length ft. in.			
15-16	61+Nb=	10 11 8	12 61+Nb=	7 11 8	12 24 21	5 24 26	7 24 12	5 +Lb=							49+Nb=	9 9 11	12 8 1/2	1 10 0	1 1/2 8	6 52+Nb=	5 4 11 12	49+Nb=	6 12 10 12	52+Nb=	12 10 12 14 27	4 14 25	6 14 20 10	14 19 9	14 12 9	+Lb=	14 9 8	+Lb=	2 28 11	2 22 6	105 5 9
13-14	55+Nb=	9 10 8	12 55+Nb=	7 10 8	12 22 19	2 22 23	5 22 12	0 +Lb=							44+Nb=	8 8 3	12 6 11	1 3 0	8 7 3	47+Nb=	5 4 11 12	44+Nb=	6 10 10 12	47+Nb=	10 10 12 12 24	4 12 22	6 12 18 10	12 17 9	12 12 9	+Lb=	12 9 8	+Lb=	2 25 11	2 20 6	95 5 9
11-12	49+Nb=	8 9 8	12 49+Nb=	6 9 8	12 20 16	11 20 20	3 20 11	7 +Lb=							39+Nb=	7 7 1	12 5 10 1/2	1 2 0	7 6 2	42+Nb=	5 4 11 12	39+Nb=	5 8 10 12	42+Nb=	8 10 12 10 21	4 10 19	6 10 16 10	10 15 9	10 12 9	+Lb=	10 9 8	+Lb=	2 22 11	2 18 6	85 5 9
9-10	43+Nb=	7 8 8	12 43+Nb=	5 8 8	12 18 13	8 18 17	1 18 11	2 +Lb=							33+Nb=	6 6 1	12 5 1 1 0	0 6 5	4	36+Nb=	5 4 11 12	33+Nb=	5 6 10 12	36+Nb=	6 10 12 8 18	4 8 16	6 8 13 10	8 12 9	8 12 10	+Lb=	8 9 8	+Lb=	2 19 11	2 15 6	73 5 9
7-8	35+Nb=	6 7 2	12 35+Nb=	5 7 2	12 16 11	2 16 12	6 16 10	2 +Lb=							27+Nb=	5 5 7	12 4 8 1/2	0 10 0	5 4 11	30+Nb=	5 4 11 12	27+Nb=	5 4 10 12	30+Nb=	4 10 12 6 14	4 6 12	6 6 11 10	6 10 9	6 12 10	+Lb=	6 9 8	+Lb=	2 15 11	2 13 6	61 5 9
5-6	30+Nb=	5 6 2	12 30+Nb=	5 6 2	12 14 8	11 14 10	4 14 9	9 +Lb=							23+Nb=	5 5 7	12 4 8 1/2	0 10 0	5 4 11	26+Nb=	5 4 11 12	23+Nb=	5 2 10 12	26+Nb=	2 10 12 4 12	4 4 10	6 4 9 10	4 8 9	4 12 10	+Lb=	4 9 8	+Lb=	2 13 11	2 11 6	53 5 9

Table of Dimensions

H	W		N		M2		M3		T2		T3		L2		L3		S2		S3	
	Length ft. in.	Length ft. in.	Length ft. in.	Length ft. in.	Length ft. in.	Length ft. in.	Length ft. in.	Length ft. in.	Length ft. in.	Length ft. in.	Length ft. in.	Length ft. in.	Length ft. in.	Length ft. in.	Length ft. in.	Length ft. in.	Length ft. in.	Length ft. in.	Length ft. in.	Length ft. in.
15-16	12	0 5	0 16	3/4	17 1/4	20 1 1/8	13 3/4	24	18	7 4/8	+0.5Lb=		4	8 3/4	+0.5Lb=					
13-14	11	0 4	6 14 1/2	15 2 1/8	18 4 1/8	17 8 1/4	21	16	7 1 1/8	+0.5Lb=		4	7 3/8	+0.5Lb=						
11-12	10	0 4	0 12 2 3/8	13 5 1/2	15 10 3/4	10 3 3/8	18	14	6 9 1/8	+0.5Lb=		4	6	+0.5Lb=						
9-10	9	0 3	6 10 3/4	10 10 1/2	13 4 3/8	8 4 1/8	15	11	6 5 1/8	+0.5Lb=		4	4 3/4	+0.5Lb=						
7-8	7	6 2	9 7 8 1/8	9 0	10 1 1/8	6 10 1/8	11	9	6 3/8	+0.5Lb=		4	2 3/8	+0.5Lb=						
5-6	6	6 2	3 6 4 1/4	7 2 3/8	8 3 3/8	5 6 1/2	9	7	5 8 1/4	+0.5Lb=		4	1 1/4	+0.5Lb=						



*Concrete quantities computed using 21" beam depth on 3/4" pad & Variable Bridge Width

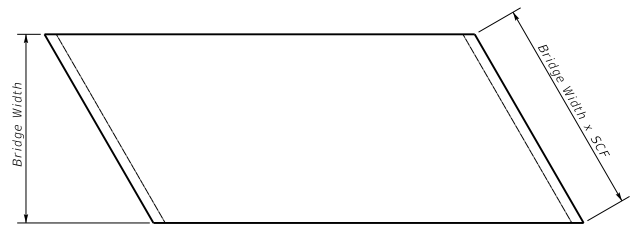
H	Quantities	
	Concrete* CY.	Reinforcement LBS.
5	19.94(0.71xLb) =	1864+(52.8xLb) =
6	21.68(0.78xLb) =	1864+(52.8xLb) =
7	29.34(0.93xLb) =	2687+(68.7xLb) =
8	31.41+(1.01xLb) =	2687+(68.7xLb) =
9	44.31+(1.19xLb) =	4139+(91xLb) =
10	46.83+(1.27xLb) =	4139+(91xLb) =
11	60.91+(1.41xLb) =	6133+(120.4xLb) =
12	63.87+(1.49xLb) =	6133+(120.4xLb) =
13	78.45+(1.64xLb) =	8909+(161xLb) =
14	81.78+(1.71xLb) =	8909+(161xLb) =
15	98.21+(1.86xLb) =	11949+(198.6xLb) =
16	101.91+(1.93xLb) =	11949+(198.6xLb) =

ABUTMENT SKEW CORRECTION FACTOR (SCF) = 1.035
 NUMBER OF BARS TO ADD (Nb) = Bridge Width (feet) x SCF (round up to nearest whole number)
 LENGTH OF ABUTMENT TO ADD (Lb) = Bridge Width (feet) x SCF (convert decimal to architectural)

GENERAL NOTES

- SPECIFICATIONS:** Construct abutments according to the current edition of the Kentucky Department of Highways Standard Specifications for Road and Bridge Construction. Abutments are designed for side by side box beams as detailed in Standard Drawings BDP-001 through BDP-012, current edition. Dimensions may be adjusted to allow for any out to out bridge width. Abutments are also adequate for Std. Dwg. slabs or steel beam superstructures.
- FOUNDATION PRESSURE:** Construct abutment footings on solid rock bearing material that can support a pressure of 8000 psf service or 10,800 psf strength factored as recommended by a geotechnical engineer.
- WING LENGTHS:** Calculated assuming 21" superstructure depth and stream bank elevation at top of footing.
- FOOTING ELEVATION:** Construct bottom of footing below the anticipated scour elevation. (This typically entails embedding the footings 1'-0" to 2'-0" into rock and pouring concrete directly against cut rock faces, as recommended by geotechnical engineer.)
- NOTE:** Distances to bars shown are clear dimensions unless otherwise noted.

MATERIAL SPECIFICATIONS:
 Concrete, Class "A" = 3500 psi
 Steel Reinforcement = Grade 60



PLAN OF SUPERSTRUCTURE SLAB

**KENTUCKY
DEPARTMENT OF HIGHWAYS**

**15° SKEW VARIABLE
WIDTH ABUTMENT
50% SKEWED WINGS**

STANDARD DRAWING NO. BSA-008

SUBMITTED: *[Signature]* 02-26-20
DIRECTOR DIVISION OF STRUCTURAL DESIGN DATE

APPROVED: *[Signature]* 02-26-20
STATE REGISTERED ENGINEER DATE