Standard Drawing Guidance (do not show on plans):

Turn off level "Bridge-Construction" to hide.

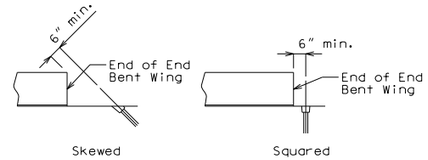
(1) Replace "Skew" with actual skew angle.

(2) Use "smooth finish" if slab is to be overlaid with membrane and asphalt. When slab is to be overlaid with concrete wearing surface, use "surface finish in accordance with Sec 1029.6.16."

(3) Standard beam widths are 6' and 8', and should be used wherever possible. The 8' beam is the fabricator's preferred width. However, beam widths may be reduced up to 6" to get them to fit with 1/2" clearance to wing wall. Use same strands and reinforcing steel and adjust spacing.

(3a) A beam width that is less than the standard beam widths should be shown with adjusted spacing.

(4) Calculate dimension using guidelines shown here (8'-0" Max.):



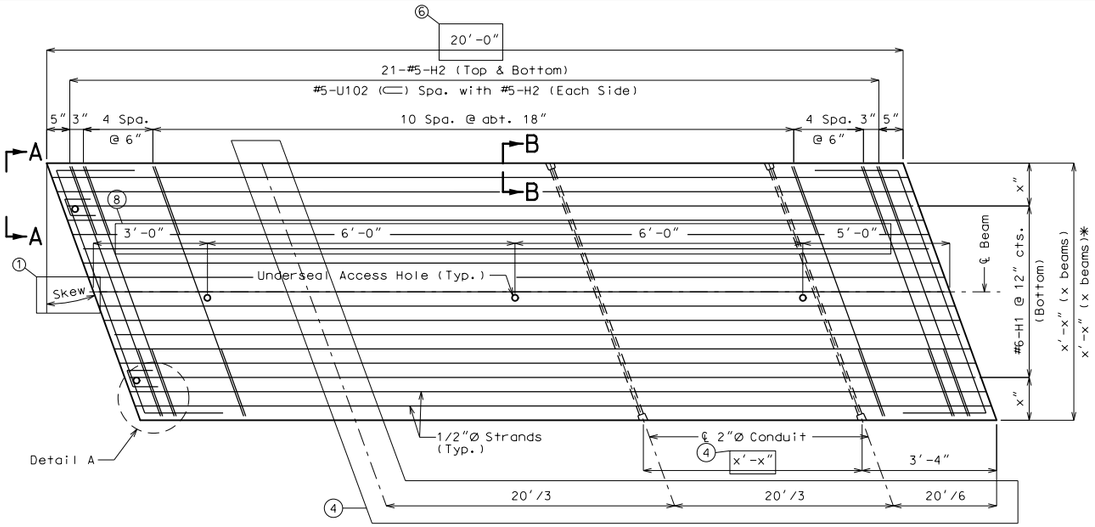
(5) For squared structures, use Shape 10.

(6) The 20'-0" slab dimension can be changed to 25'-0", the title can be changed from (20 FEET) to (25 FEET) and the "Bill of Reinforcing Steel" dimensions shall be changed accordingly.

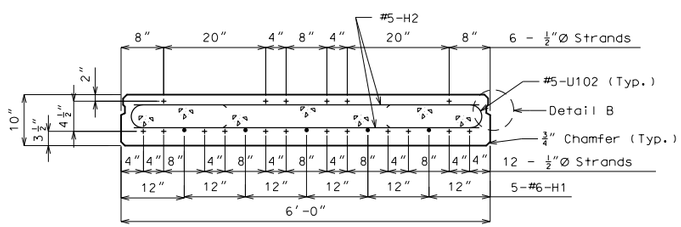
(7) Number of tie rods: Ideally, install 3 tie rods at midpoint and quater points; one will have to go through wing wall; drill hole in wing, install, grout and seal. Realistically, install 2 tie rods as shown. (Only 2 tie rods were used successfully with favorable results in the correlated research.)

(8) For 25 feet prestressed bridge approach slab, use four access holes at spacings of 3'-0" - 6'-0" - 6'-0" - 6'-0" - 4'-0".

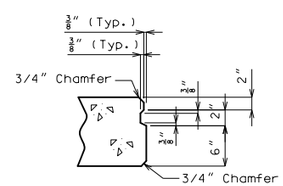
PBAS02_20_precast2 Effective: Aug. 2014 Supercedes:



PLAN OF PRETENSIONED BEAM SHOWING REINFORCEMENT

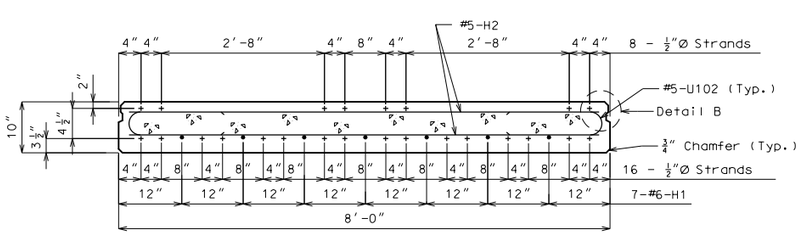


SECTION THRU PRETENSIONED BEAM - 6 FEET (3)(3a)

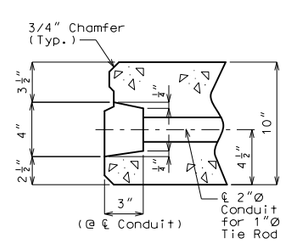


DETAIL B

(Both sides of interior beams and inside of exterior beams)



SECTION THRU PRETENSIONED BEAM - 8 FEET (3)(3a)



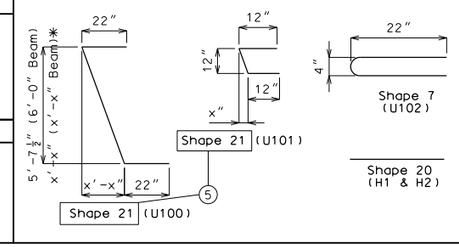
SECTION B-B

Place 2"Ø conduit on top of bottom strands.

Bill of Reinforcing Steel - Each Beam

No.	Size & Mark	Actual Length	Shape
x'-x" Beam			
x	#6-H1	(6) 19'-8"	20
42	#5-H2	x'-x"	20
4	#5-U100	x'-x"	21
4	#4-U101	x'-x"	21
42	#5-U102	x'-x"	7
x'-x" Beam			
x	#6-H1	(6) 19'-8"	20
42	#5-H2	x'-x"	20
4	#5-U100	x'-x"	21
4	#4-U101	x'-x"	21
42	#5-U102	x'-x"	7

Bending Diagram



All dimensions are out to out.

Hooks and bends shall be in accordance with the CRSI Manual of Standard Practice for Detailing Reinforced Concrete Structures, Stirrup and Tie Dimensions.

Actual lengths are measured along centerline of bar to the nearest inch.

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

All reinforcement shall be epoxy coated Grade 60 with fy = 60,000.

General Notes (Pretensioned Beams):

Concrete for pretensioned beams shall be Class A-1 with f'c = 6,000 psi, f'ci = 3,500 psi.

(+) indicates pretensioning strand.

Initial prestressing force = 31 kips/strand.

Pretensioning tendons shall be uncoated seven-wire low-relaxation strands for prestressed concrete in accordance with AASHTO M 203 Grade 270, with nominal diameter of strand = 1/2", nominal area = 0.153 sq. in. and minimum ultimate strength = 46.31 kips (270 ksi). Larger strands may be used with the same spacing and initial tension.

The method and sequence of releasing the strands shall be shown on the shop drawings.

Prestressing strands at ends of beams shall be trimmed to within 1/8" of concrete. Ends of beams shall be given 2 coats of an approved bituminous paint.

Lifting devices may be cast in beams. The device shall be shown on the shop drawings and approved by the engineer.

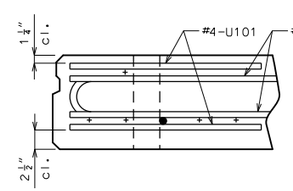
The top surface of all beams shall receive a smooth finish. (2)

All holes in beams shall be cast. Drilling is not allowed.

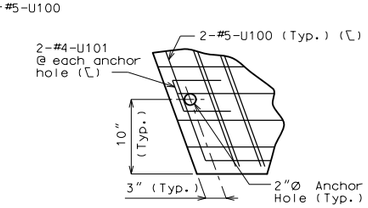
Keyway surface shall be cleaned to remove form oil or other bond breaking material prior to shipment of the prestressed concrete approach slab. Cleaning shall be done by sandblasting the keyway areas between top of the beam and the bottom edge of the key.

Three 2 3/4"Ø (clear opening) underseal access holes shall be cast into each beam near the centerline of beam, clearing pretensioning strands and 2"Ø conduit by at least 1 1/2". Shift reinforcement as needed to clear access holes by 1 1/2" min. Drilling is not allowed.

✳ Contractor may adjust dimensions based on actual field measurements with approval of the engineer.



SECTION A-A



DETAIL A

DETAILS OF PRESTRESSED BRIDGE APPROACH SLAB (6) (20 FEET)

Detailed
Checked

Note: This drawing is not to scale. Follow dimensions. Sheet No. of

"THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT."

DATE PREPARED	
12/15/2014	
ROUTE ✳	STATE MO
DISTRICT BR	SHEET NO. ✳
COUNTY ✳	
JOB NO. ✳	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO. PBAS02	

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.