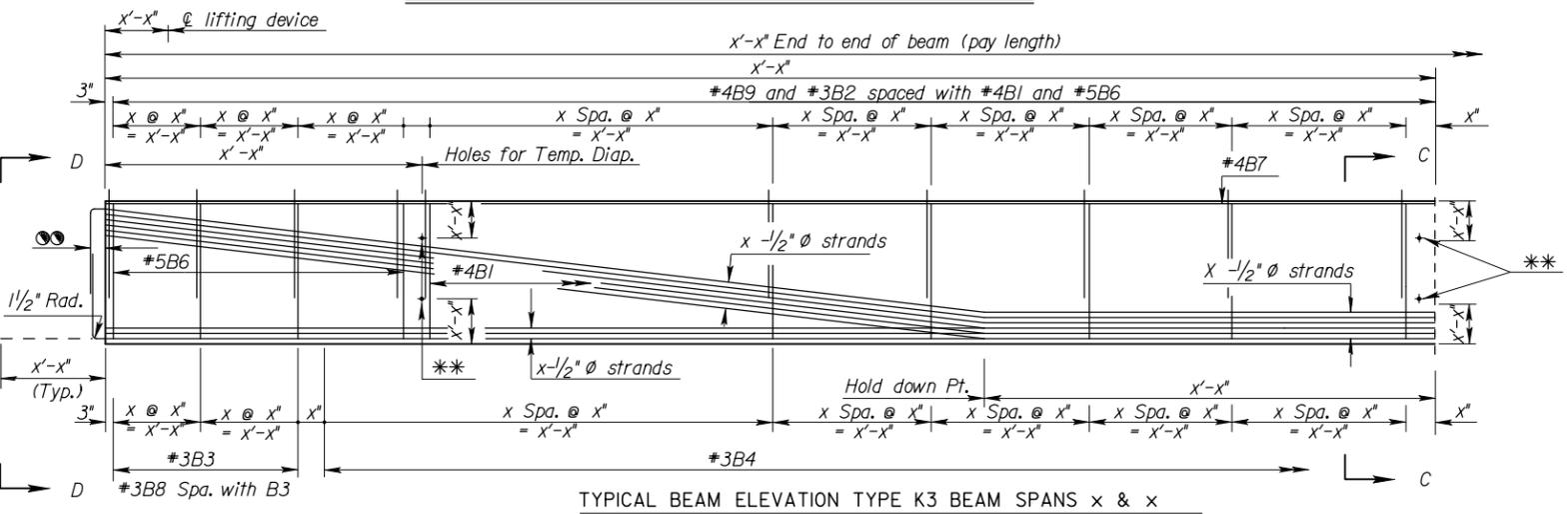
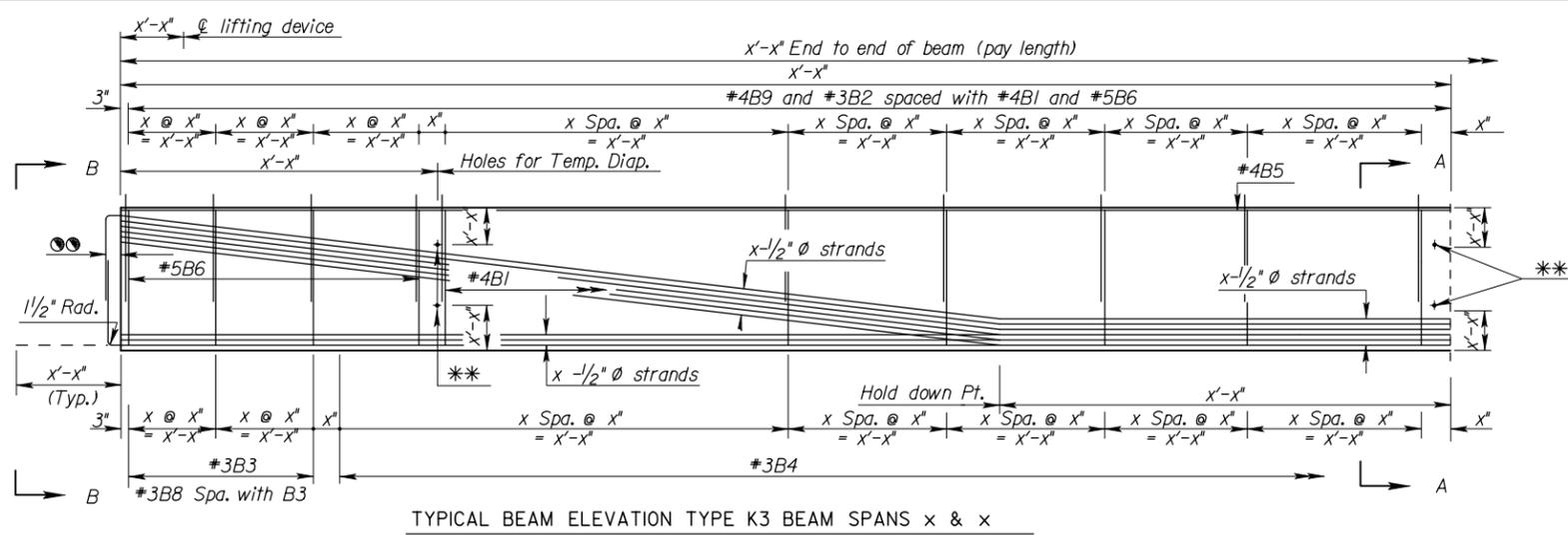
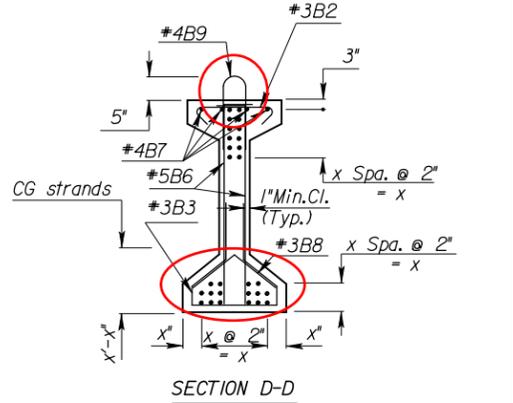
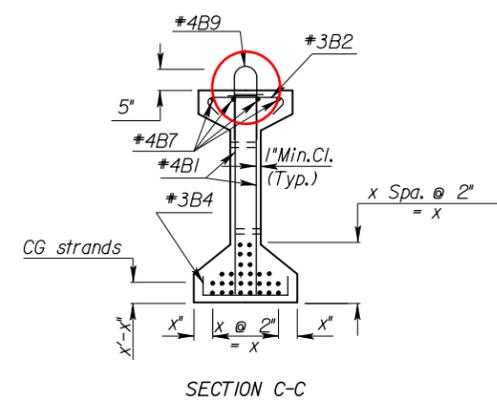
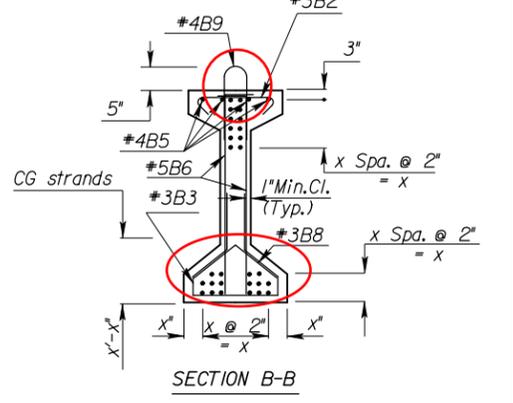
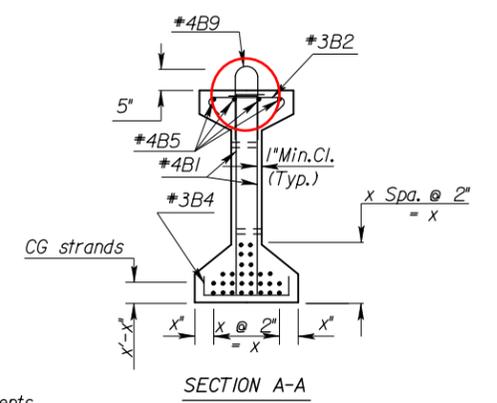


X's to be filled in by the designer



**\*\* Temp. Dia. Span Requirement**

Span	Required
< 40 Ft.	None
40 - 80 Ft.	1st & 3rd Quarter Points
80 - 120 Ft.	All Quarters Points
> 120 Ft.	Special Design



4" @ Abutments  
8" @ Piers

NOTE: During transportation and construction only, support beams on bearing points a maximum of X Ft. from the beam end. The Fabricator shall show the proposed support locations on the shop drawings.

NOTE: The hold down force at the harp points for X strands at x.xx kips per strand = x.xx kips total.

† If Welded Wire Fabric (WWF) is used in-lieu of reinforcing steel bars shown on this sheet, the spacing of wires for the WWF shall be equal or less than the vertical bars shown in the typical beam section above. The equivalent  $A_s$  for the WWF shall be equal to or greater than typical beam section above.

Note: Extend x strands x'-x" beyond the end of the beam. Strands not shown shall be cut flush with the end of the beam. See "Strand Extension Details".

**Welded Wire Fabric Equivalent Steel  $A_s$  †**

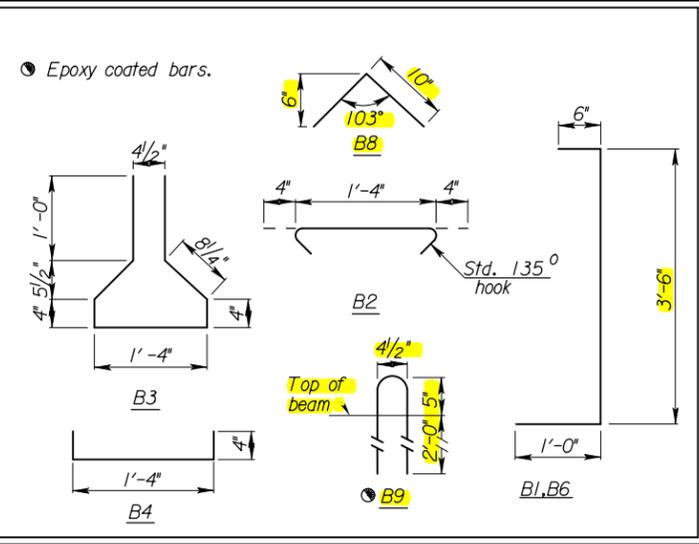
Size	3"	6"	9"	12"	15"	18"
#3	0.440	0.220	0.147	0.110	0.088	0.073
#4	0.800	0.400	0.267	0.200	0.160	0.133
#5	1.234	0.617	0.411	0.308	0.247	0.206
#6	1.761	0.880	0.587	0.440	0.352	0.293

**BILL OF REINFORCING STEEL**

Beam (1 Listed-x Reqd.) (End spans)				Bent bars			
Mark	No.	Size	Length	Mark	No.	Size	Length
B5		#4		B2		#3	2'-0"
				B3		#3	5'-5"
				B4		#3	2'-0"
				B8		#3	1'-9"
				B9		#4	5'-0"
				B1		#4	5'-0"
				B6		#5	5'-0"

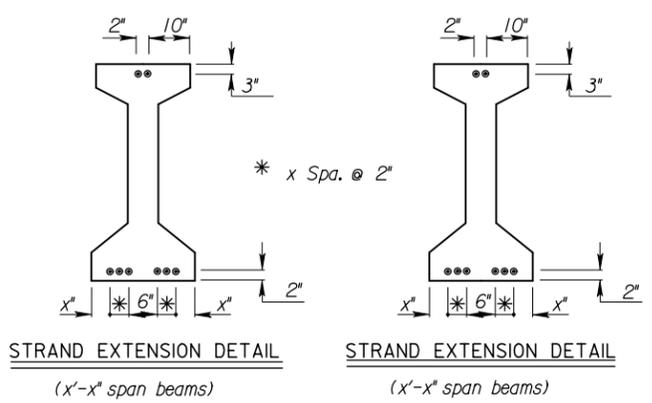
  

Beam (1 Listed-x Reqd.) (Interior spans)				Bent bars			
Mark	No.	Size	Length	Mark	No.	Size	Length
B7		#4		B2		#3	2'-0"
				B3		#3	5'-5"
				B4		#3	2'-0"
				B8		#3	1'-9"
				B9		#4	5'-0"
				B1		#4	5'-0"
				B6		#5	5'-0"



**BILL OF MATERIAL**

Item	Unit	Quantity
Prestressed concrete beams (K3) End spans	Lin.Ft.	
Prestressed concrete beams (K3) Interior spans	Lin.Ft.	
The following quantities are given for information only and shall not be paid for directly but shall be made subsidiary to the bid item "Prestressed Concrete Beams"		
Beam concrete (f'c= xxxx PSI) (per end span beam)	Cu.Yds.	
Beam concrete (f'c= xxxx PSI) (per interior span beam)	Cu.Yds.	
Approx. Wt. per x'-x" beam	Tons	
Approx. Wt. per x'-x" beam	Tons	
1/2" Ø Prestressing strand (270 KSI low relaxation fy= 243 KSI)	Lin.Ft.	
Epoxy reinforcing steel (fy=60,000 PSI)	Lbs.	
Reinforcing steel (fy=60,000 PSI)	Lbs.	
Elastomeric Brg. pads (X" x X" x1'-8")	Each	
1" Ø Formed Hole	Each	
Lifting devices	Each	
Bearing plates (1" x 15" x 1'-8")	Each	



**KANSAS DEPARTMENT OF TRANSPORTATION**

Br. No. \_\_\_\_\_ Sta. \_\_\_\_\_  
Br. No. \_\_\_\_\_ Sta. \_\_\_\_\_

**K3 BEAM DETAILS**

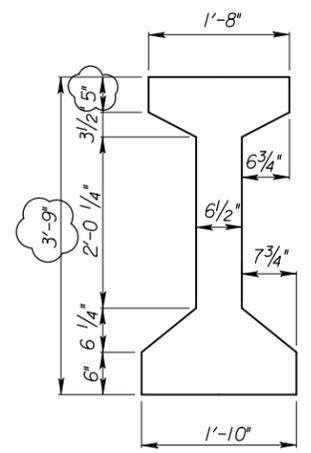
Proj. \_\_\_\_\_ Co. Co. \_\_\_\_\_

SHEET NO.	OF	DATE	9-28-10	APP'D	Terry L. Fleck
DESIGNED		DETAILED		RAA	QUANTITIES
DESIGN CK.		DETAIL CK.		QUAN. CK.	CADD CK.

CADconform Certify This File Sheet No. 0

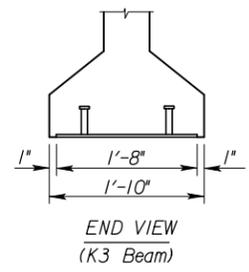
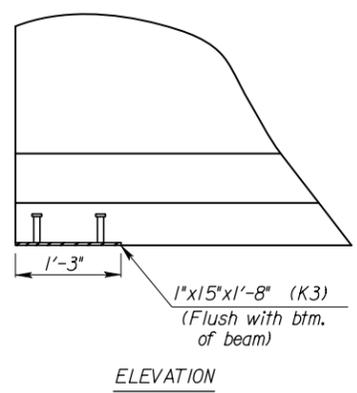
Std. Base File: br302b.dgn  
Plotted By: rlang  
File: br302b.dgn (br302b)  
Plot Date: 17-MAR-2011 08:00

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS				



Area 525 In.<sup>2</sup>  
 I<sub>cg</sub> 127,490 In.<sup>4</sup>  
 Y<sub>Bot</sub> 21.02 In.  
 Vol./Surf. Area 3.56 In.  
 Wt./Ft. 547 Lbs.

TYPICAL BEAM SECTIONS

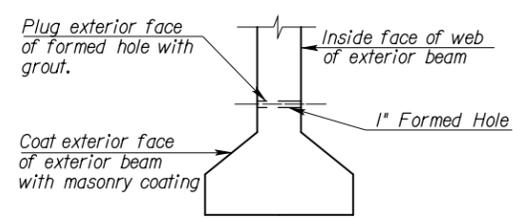


Note: Stud welding will be in accordance with the latest edition of AWS D1.1.  
 Use plate conforming to the requirements of ASTM A709 Grade 36. The stud anchors will be made of material as specified for Shear Connector Studs in the KDOT Specifications.  
 The exposed surface of the bearing plates shall be galvanized.  
 All work and material to install the bearing plates shall be subsidiary to the bid item "Prestressed Concrete Beam".

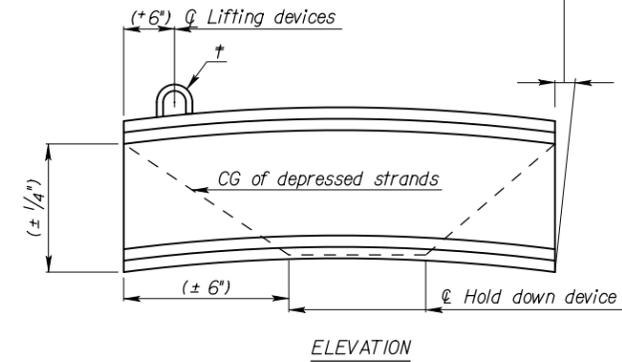
GENERAL NOTES

Fabricate the precast prestressed beams in accordance with the KDOT Specifications. Submit shop drawings in accordance with the KDOT Specifications except nine sets are required.  
 Use air entrained concrete. The KDOT Materials Section shall approve the mix design. Unless otherwise shown on the plans, f'c = psi and f'c at release = psi.  
 Use reinforcing steel conforming to the requirements of ASTM A615, Grade 60. The reinforcing steel shown shall be uncoated unless otherwise indicated.  
 Use 1/2" nominal diameter, uncoated, seven-wire, low relaxation prestressing tendons conforming to the requirements of ASTM A416, Grade 270.  
 Use bolts having an ultimate strength 50% in excess of the manufacturer's safe load. All items (except the tendons) cast-in or inserted in prestressed beams shall be epoxy coated or galvanized. Show Formed Holes on shop drawings. All bolts, nuts and washers shall be subsidiary to the bid item, "Prestressed Concrete Beams".  
 Show on the shop drawings any hardware, holes or other appurtenances that are required to be incorporated into the girder to construct the girder or for any temporary works needed to construct the bridge (e.g. safety railing pockets).  
 After beams are in the final position, remove lifting devices.  
 See "Lifting Device" detail below. Removal of the lifting devices, coating and grouting shall be subsidiary to the bid item: "Prestressed Concrete Beams".  
 Use elastomeric bearing pads conforming to the KDOT Specifications. Bearing pads and Type B expansion joint material shall be subsidiary to the bid item, "Prestressed Concrete Beams".  
 The beam lengths shown on the design plans are net lengths measured horizontally along the beam centerline. The beam manufacturer shall make necessary allowances for grade, and for shortening due to elastic shortening, creep and shrinkage.  
 The beams shall reasonably conform to the lines and dimensions shown on the design plans and be within the tolerances specified in the latest publication of AASHTO, "Tentative Standards for Prestressed Piles, Slab, I-Beams and Box Bridges and an Interim Manual for Inspection of Such Construction", except as modified by this sheet or the KDOT Specifications.  
 Bevel all exposed edges of beams except the tops and ends with a 3/4" triangular molding or round the edges to a 3/4" radius. Round the angle of intersection between the web and the flanges.  
 Apply an initial force of 1,000 to 3,000 pounds to each strand to take up any slack in the cables. Unless otherwise noted on the plans, apply a force of 31,000 pounds to each strand. Stress harped strands to a magnitude such that they are tensioned to 31,000 pounds after they are in position.  
 Strike off level and apply a wire brush or stiff broom finish to the tops of the beams. Apply the finish transverse to the length of the beam.  
 (Note: When using precast panels for deck construction, the outside 5" on each side of the top flange shall be finished smooth with a steel trowel.)  
 At approximately the time of initial set, brush the top of the beam transversely with a coarse wire brush to remove all laitance.  
 Fill trapped air holes and surface voids on the exterior face of the exterior beams with an approved concrete masonry coating. This work shall conform to KDOT Specifications. This work shall be subsidiary to the bid item, "Prestressed Concrete Beams".  
 Detension strands in a sequence which minimizes lateral eccentricity. Show the method and sequence of strand release on the shop drawings. Use extreme care when lifting, handling, storing and transporting beams. Use the lifting system shown or an alternate system approved by the Engineer. Keep the beam in an upright position at all times. Support the beam on bearing points positioned directly below the designated lifting points or designated bearing points.  
 Do not place the bridge slab before the beams are 28 days old. Pour diaphragms as detailed in the bridge plans.  
 Stencil with paint the following information on the webs approximately 5'-0" from one end of the beam: date of concrete placement, date of strand release, and beam mark.

To be verified by designer if different that base standard

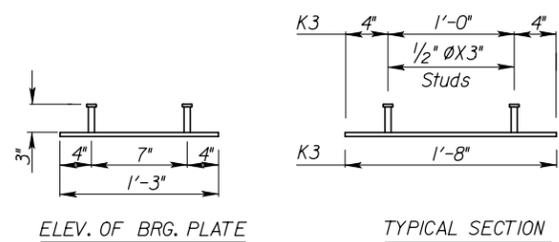


DETAIL OF FORMED HOLE(S)  
 (See Beam Detail sheet for locations)

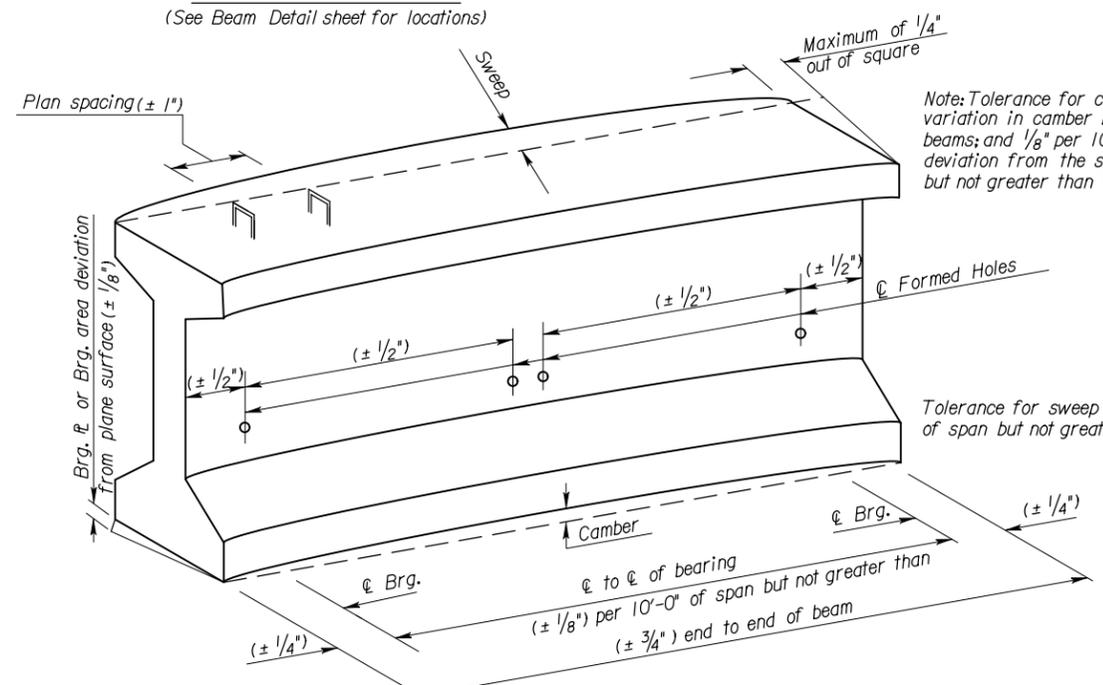


ELEVATION

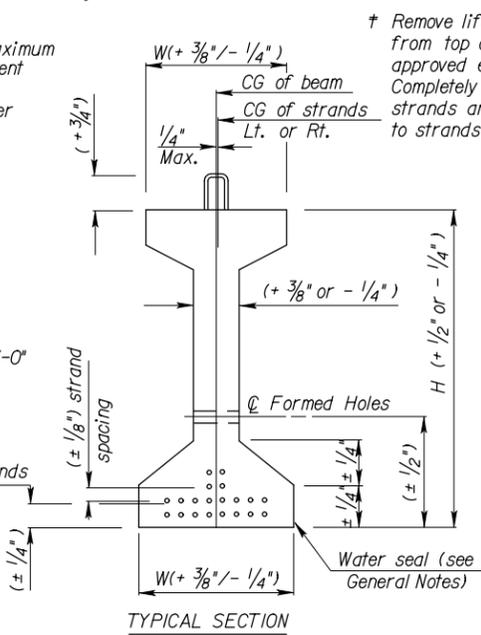
Note: Dimensions shown in parentheses are tolerances only.  
 CG = Center of Gravity



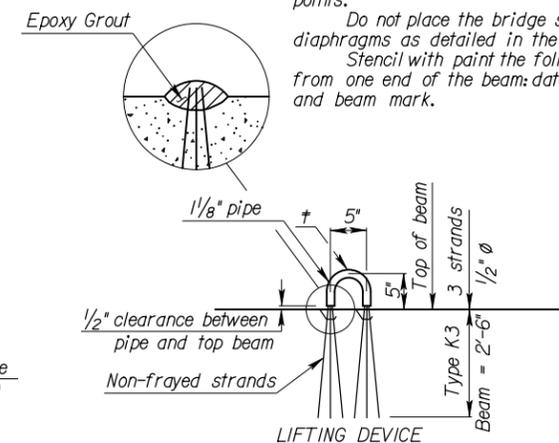
BEARING PLATE DETAILS



PRESTRESSED BEAM FABRICATION TOLERANCES



TYPICAL SECTION



LIFTING DEVICE

Std. Base File: br300b.dgn  
 Plotted By: ring  
 File: br300b.dgn (br300b)  
 Plot Date: 29-NOV-2010 11:01

4	9/22/10	Prepare for WWF option	JPJ	TLF
3	7-22-08	Revision for Formed Holes only	JPJ	KFH
2	2-28-07	Separated Beam Sections	JPJ	KFH
1	1-31-06	General Note Changes & Grouting	JPJ	KFH
NO.	DATE	REVISIONS	BY	APP'D

KANSAS DEPARTMENT OF TRANSPORTATION				
STANDARD PRESTRESSED CONCRETE BEAM DETAILS				
BR300B				C.O.
FHWA APPROVAL	10-11-10 APP'D	Terry L. Fleck		
DESIGNED	DETAILED	RGF QUANTITIES	CADD	
DESIGN CK.	DETAIL CK.	LRRI QUAN. CK.	TRACE CK.	