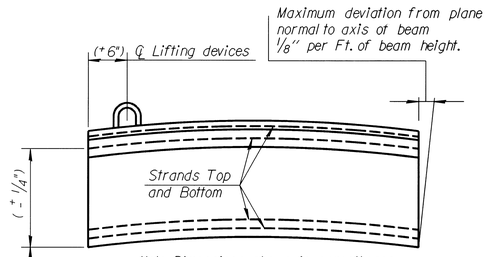
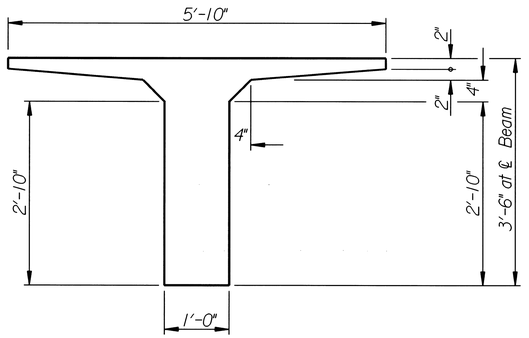
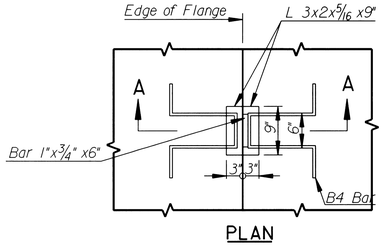


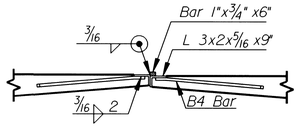
ELEVATION



TYPICAL T-BEAM SECTION

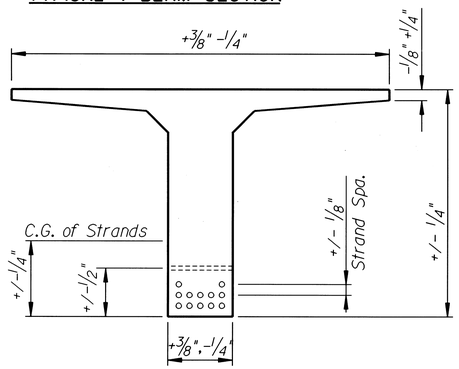


PLAN

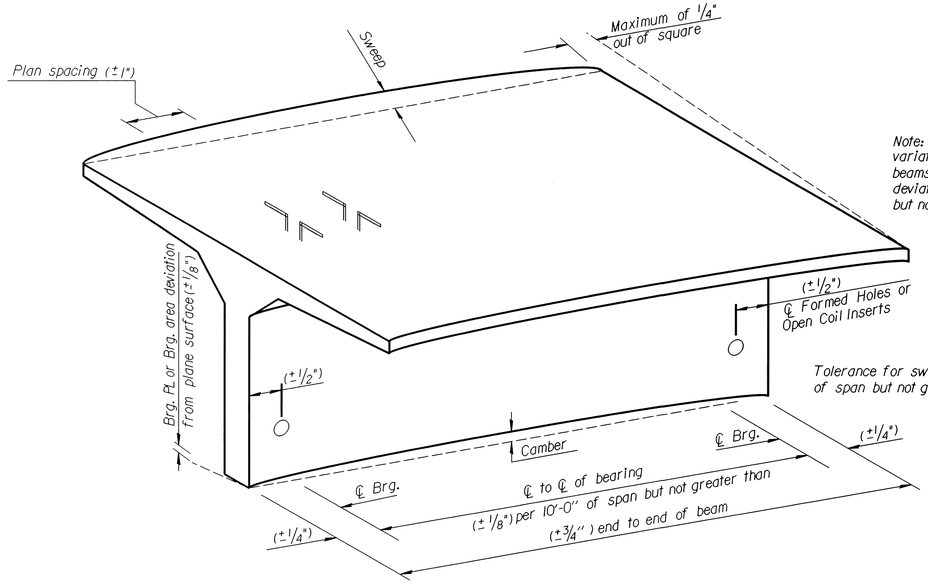


SECTION A-A

FLANGE TO FLANGE CONNECTION



PRESTRESS BEAM FABRICATION TOLERANCES



PRESTRESSED BEAM FABRICATION TOLERANCES

Note: Tolerance for camber is 1" maximum variation in camber between adjacent beams; and 1/8" per ten feet of span deviation from the specified camber but not greater than 1/2" deviation.

Tolerance for sweep is 1/8" per ten feet of span but not greater than 1".

GENERAL NOTES

The manufacture of precast prestressed concrete beams shall conform to the Kansas Department of Transportation Specifications.

The ultimate compressive strength of concrete as determined by cylinder tests at the age of 28 days shall be a minimum of 5000 PSI unless otherwise noted. Concrete shall be air entrained. The mix design shall be approved by the KDOT Materials Section.

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 shortening due to elastic shortening, creep and shrinkage.

The beam shall reasonably conform to the lines and dimensions shown on the design plans and be within the tolerances specified in the lastest 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 as modified by the KDOT Specifications.

All exposed edges of beams except top and ends shall be beveled with a 3/4 inch triangular moulding or rounded to a 3/4 inch radius. The angle of intersection between web and flange shall be rounded.

Tops of beams are to be struck off to slope as shown on details and given a wire brush or stiff broom finish, applied in the direction transverse to the length of the beam. At approximately the time of initial set the top of beam shall be brushed transversely with a coarse wire brush to remove all laitance.

Unless otherwise shown on the design plans, the prestressing steel shall be 1/2" nominal diameter Grade 270 "Uncoated Seven Wire Stress-Relieved Low Relaxation Strands for Prestressed Concrete" ASTM Designation A416. Minimum ultimate strength of strands shall be 41,300 pounds.

Unless otherwise shown on the design plans, ultimate compressive cylinder strength of concrete shall be 4,000 PSI mimimum before detensioning of prestressing strands.

An initial tensile force of 1,000 to 3,000 pounds shall be applied to each strand to take up any slack in the cables. Unless otherwise noted in the plans, a tensile force of 31,000 pounds shall be applied to each strand. Strands which are to be deflected shall be stressed to a magnitude such that after deflection they are tensioned to 31,000 pounds.

Trapped air holes and surface voids on the exterior face of the exterior beams shall be filled and the surface covered with an approved 2 part cement based acrylic polymer water seal that leaves no noticeable discoloration. The sealer shall be mixed and applied according to the manufacturer's recommendations. This work shall be subsidiary to the bid item "Prestressed Concrete Beams".

Detensioning of strands shall be performed in a sequence to minimize lateral eccentricity. Method and sequence of release shall be shown on shop details. Extreme care shall be exercised in lifting, handling, storage and transportation of the beam to prevent damage. They shall be lifted by means of the device shown or by an alternate approved design. The beams shall be maintained in an upright position at all times and shall be supported on bearing points positioned below the designated lifting points or below the designated bearing points.

Beams shall have a minimum age of 28 days before placing of bridge slab. Diaphragms shall be poured as noted on the design plans.

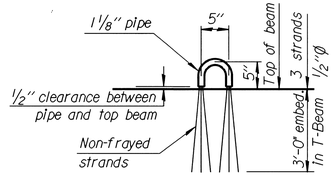
Each beam shall have the following information stenciled by painting on the webs approximately 5 feet from beam end: date of strand release, date of concrete placement and beam mark.

Coil ties and bolts shall have an ultimate strength of 50 percent in excess of the manufacturer's safe load and shall be approved by the Engineer. Coil ties that touch prestressing strands shall be coated with an approved epoxy coating. Details will be shown on the shop details. Coil ties and bolts will not be paid for directly but shall be subsidiary to the bid item " Prestressed Concrete Beams".

Shop drawings shall be submitted in accordance with the Standard Specifications except that nine (9) sets will be required.

Elastomeric Bearing Pads shall conform to KDOT Specifications. Bearing pad and Type B expansion joint material will not be paid for directly but shall be subsidiary to the bid item " Prestressed Concrete Beams".

Beam Webs shall be formed vertical. The Top Flanges shall be sloped 3/16" per foot, to conform to the roadway surface on all beams.



LIFTING DEVICE

NO.	DATE	REVISIONS	BY	APP'D
6	6-21-95	Studs location on bearing plates	LRR	KFH
5	12-7-92	Add bearing plate dimension	LRR	KFH
4	6-2-92	Remove support criteria	LRR	KFH
3	6-22-90	Change bearing plate	LRR	KFH
2	3-10-89	Add air entrainment to concrete	LRR	KFH
1	8-8-88	Water seal on exterior girder	LRR	KFH

KANSAS DEPARTMENT OF TRANSPORTATION

STANDARD PRESTRESSED CONCRETE BEAM DETAILS

~~BR300~~

FHWA APPROVAL		8-07-95	APP'D	KENNETH F. HURST	
DESIGNED	DETAILED	RGF	QUANTITIES	TRACED	
DESIGN CK.	DETAIL CK.	LRR	QUAN.CK.	TRACE CK.	

SHEET NO.	TOTAL SHEETS
16	33

DESIGN	DATE
DETAIL	DATE
QUANTITIES	DATE
PLANS CK.	DATE
RETRACED	DATE

Plotted By : ras
Plot File : n:\996\96340\beamstd
Plot Date : 12-29-98
Std. Base File : /usr2/stand/us/br300.dgn
Server File : /usr2/
Server : witch
View= PLOT1