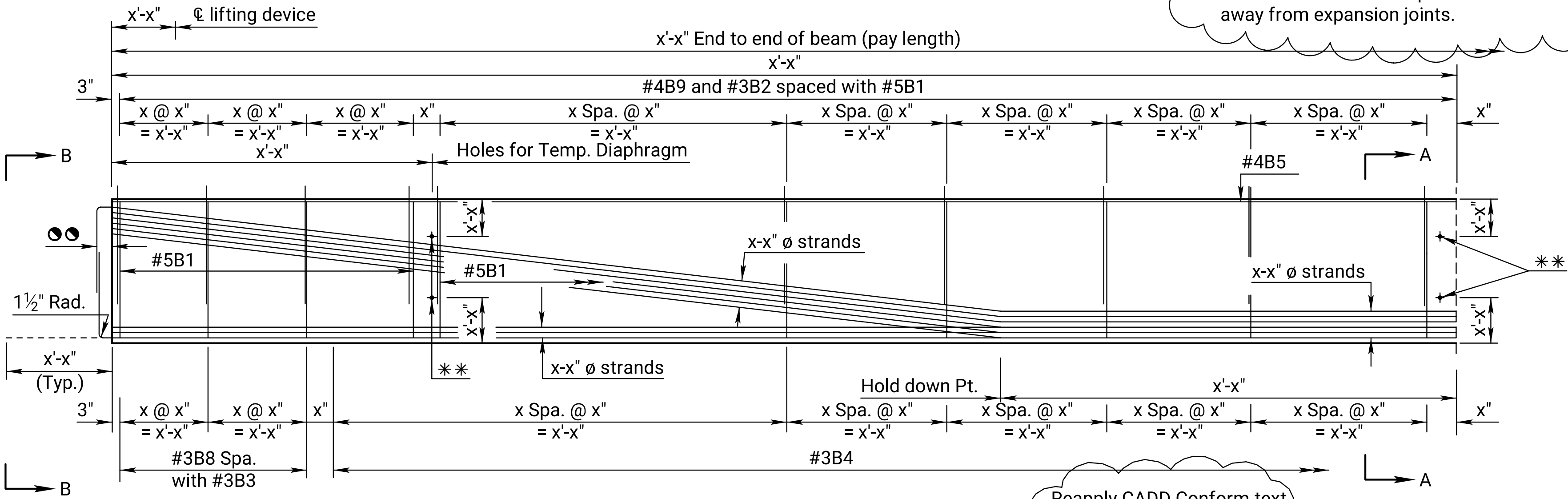


X's to be filled in by the designer

Designer Notes: Add this symbol to the bill of reinforcement for stirrups within two beam depths away from expansion joints.

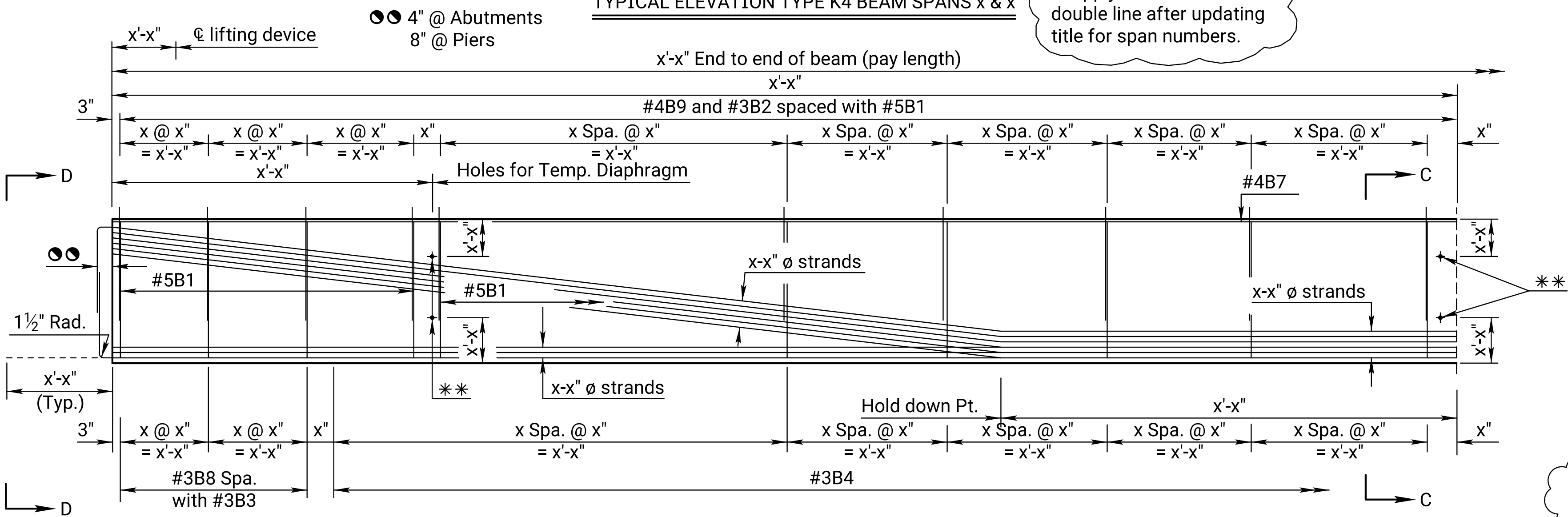
**TEMPORARY DIAPHRAGM SPAN REQUIREMENT	
SPAN	REQUIRED
≤ 80 ft.	1st & 3rd Quarter Points
80 - 120 ft.	All Quarter Points
≥ 120 ft.	Special Design

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	0	0	0	0



TYPICAL ELEVATION TYPE K4 BEAM SPANS x & x

Reapply CADD Conform text double line after updating title for span numbers.



TYPICAL ELEVATION TYPE K4 BEAM SPANS x & x

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 Reinforcement (WWR) is used in-lieu of reinforcing steel bars shown on this sheet, the spacing of wires for the WWR shall be equal or less than the vertical bars shown in the typical beam section above. The equivalent As for the WWR 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".

*** PROCEDURE FOR SEALING PRESTRESS BEAM ENDS

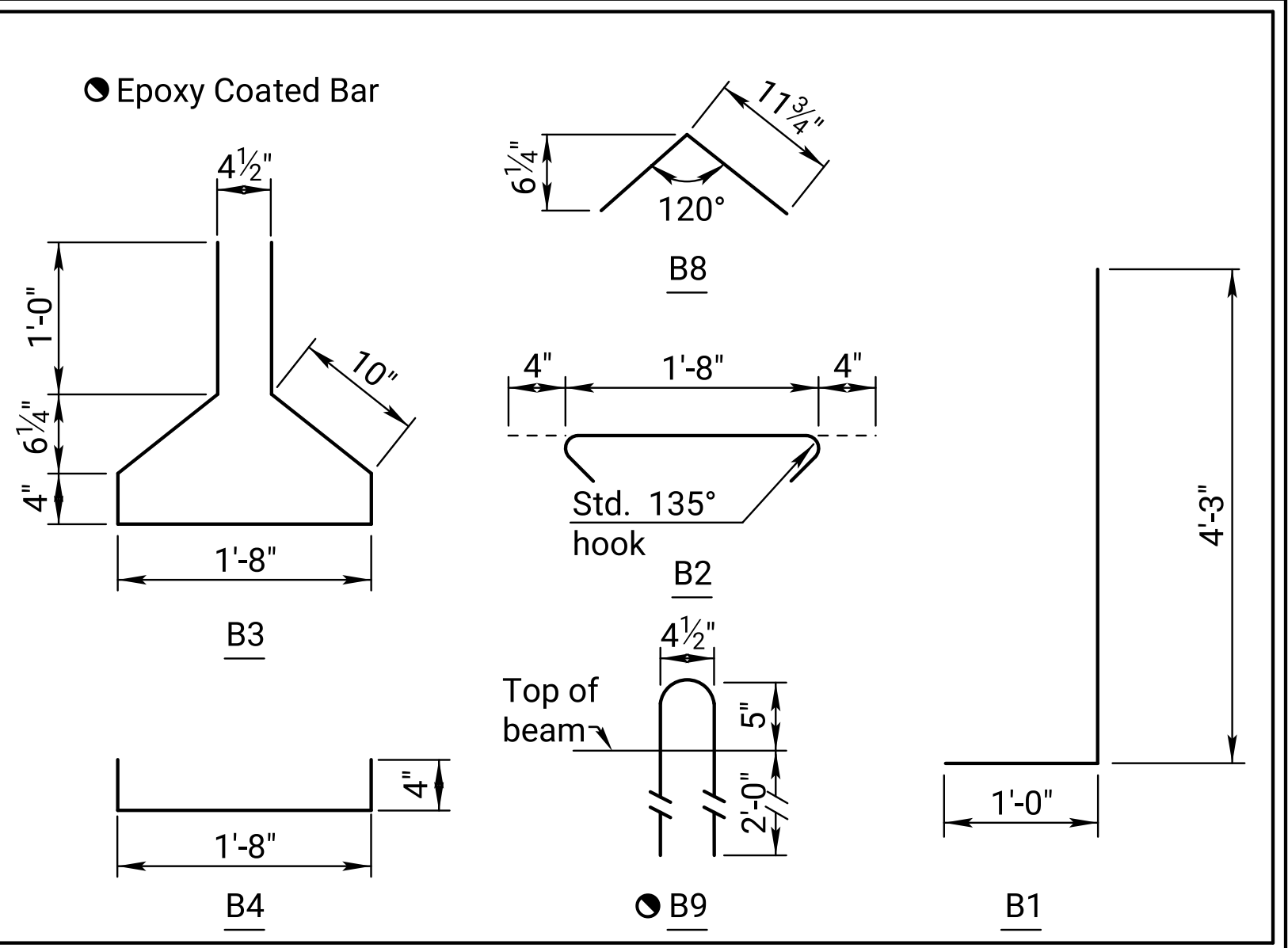
1. Cut strands 9" from the end of the beam.
2. Remove Styrofoam blockout.
3. Cut strands 1/2" deep in blockout with angle grinder.
4. Clean affected area.
5. Fill blockout area with approved epoxy grout.
6. After the grout has cured, according to the manufacturer's recommendation, grind entire face of beam to provide a smooth surface.
7. After waiting 28 days, clean the entire surface of beam end and apply an approved (epoxy-epoxy) Substructure Waterproofing Membrane.

***Only for exposed Prestress Beam ends with all strands removed at expansion joints.

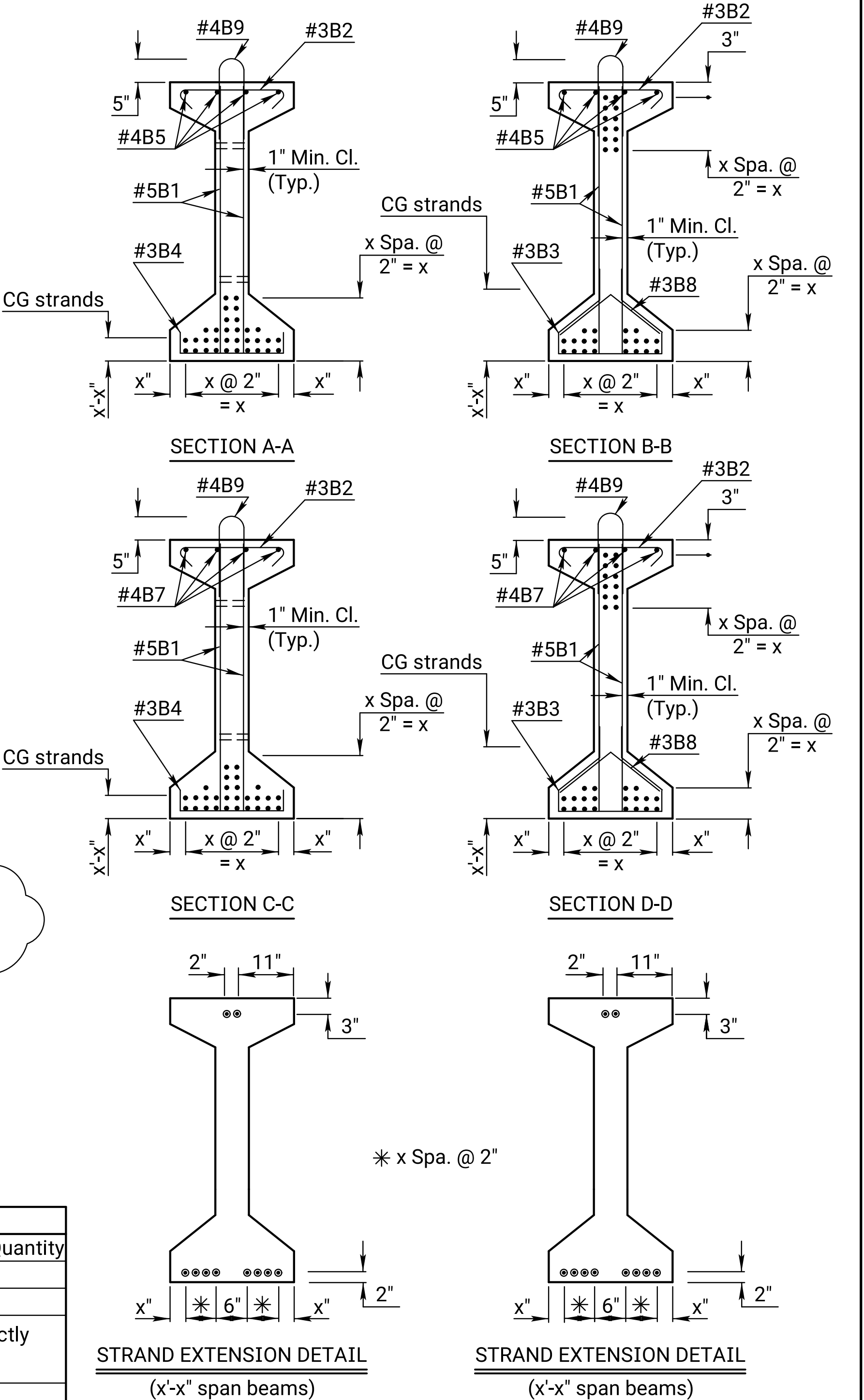
Designer Notes: Add this symbol to the bill of reinforcement in the beams defined as salt spray areas according to Section 5.3 of the Bridge Design Manual.

Welded Wire Reinforcement Equivalent Steel As #						
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)							
Straight bars				Bent bars			
Mark	No.	Size	Length	Mark	No.	Size	Length
B5		#4		B2		#3	2'-4"
				B3		#3	6'-0"
				B4		#3	2'-4"
				B8		#3	1'-11"
				B9		#4	5'-0"
				B1		#5	5'-3"
Beam (1 Listed-x Reqd.) (Interior spans)							
Straight bars				Bent bars			
Mark	No.	Size	Length	Mark	No.	Size	Length
B7		#4		B2		#3	2'-4"
				B3		#3	6'-0"
				B4		#3	2'-4"
				B8		#3	1'-11"
				B9		#4	5'-0"
				B1		#5	5'-3"



BILL OF MATERIAL		
Item	Unit	Quantity
Prestressed concrete beams (K4) End spans	Lin.Ft.	
Prestressed concrete beams (K4) 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	
x-x" ∅ 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" x 1'-10")	Each	
1" ∅ Formed Hole	Each	
Lifting devices	Each	
Bearing plates (x x 15" x 1'-10")	Each	
Substructure Waterproofing Membrane	Sq. Yds.	



06	01-27-22	Temporary Diaphragm table update	M.L.L.	M.A.H.
05	06-04-15	Define Epoxy Reinforcement	J.P.J.	C.E.R.
04	02-21-12	Change Bearing Plate thickness	J.P.J.	T.L.F.
NO.	DATE	REVISIONS	BY	APPD

KANSAS DEPARTMENT OF TRANSPORTATION				
Br. No.		Sta.		
K4 BEAM DETAILS				
Proj. 0		Co.		
DESIGNED	DETAILED	QUANTITIES	CADD	R.A.A.
DESIGN CK.	DETAIL CK.	QUAN.CK.	CADD CK.	