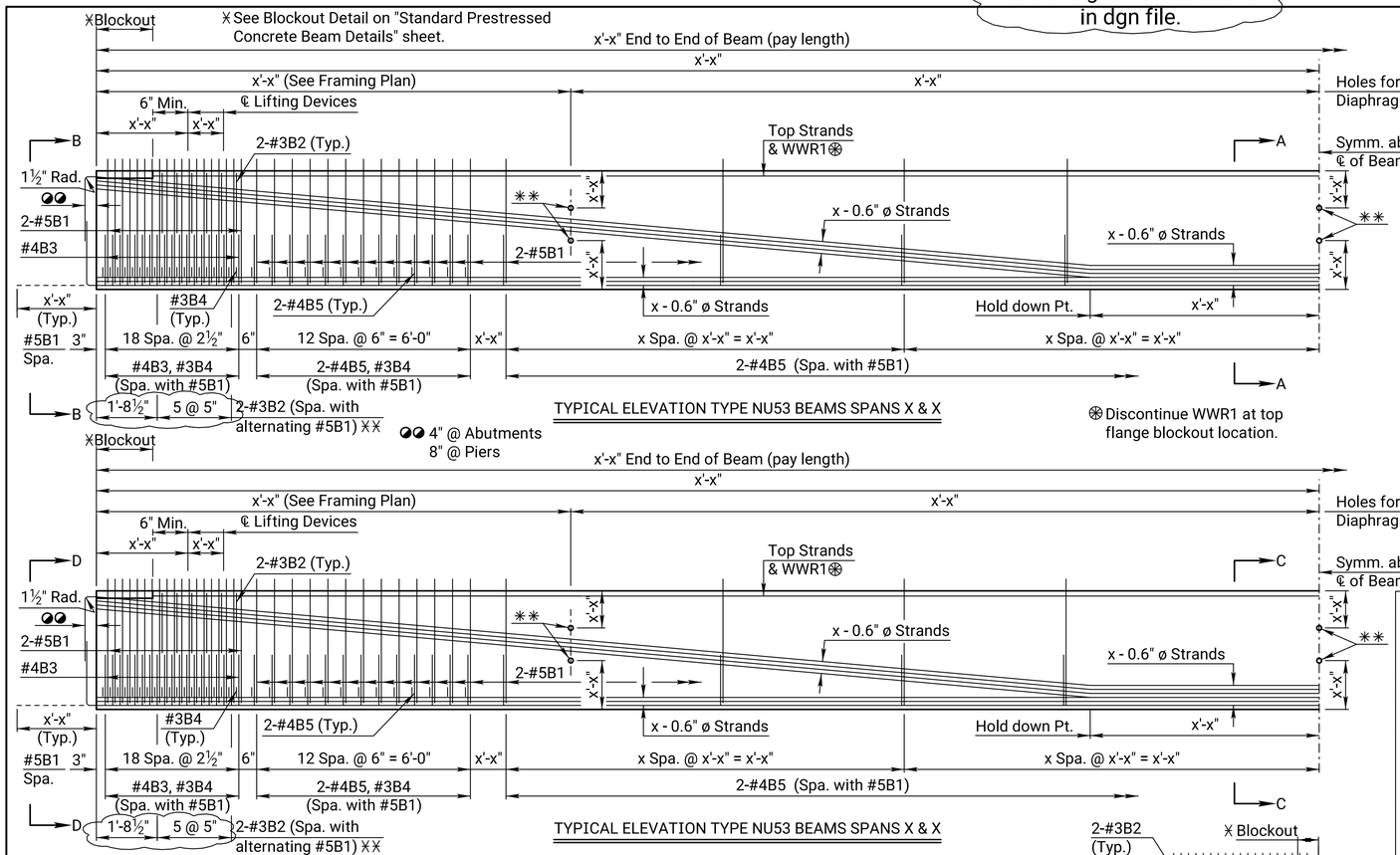
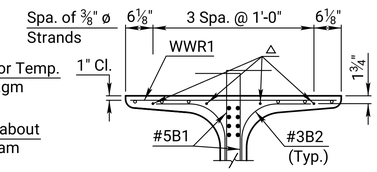
See Designer Notes above in dgn file.

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



TYPICAL ELEVATION TYPE NU53 BEAMS SPANS X & X

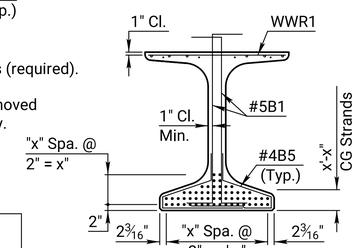
TYPICAL ELEVATION TYPE NU53 BEAMS SPANS X & X



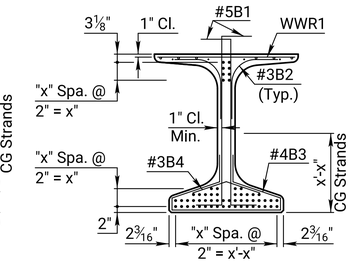
†† TOP FLANGE DETAIL

△ ⅜" Dia. reinforcement support strands (required). Tension to 2.0 kips/strand and place symmetrical about ℄ beam. May be moved laterally in pairs to maintain symmetry.

†† Check flange for Overhang Bracket loads where applicable.

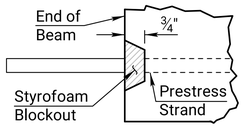


SECTION A-A



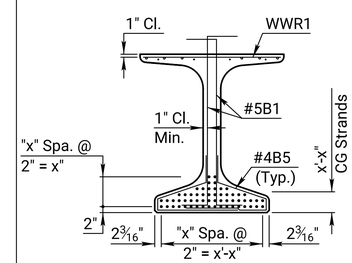
SECTION B-B

✳✳✳ PROCEDURE FOR SEALING PRESTRESS BEAM ENDS

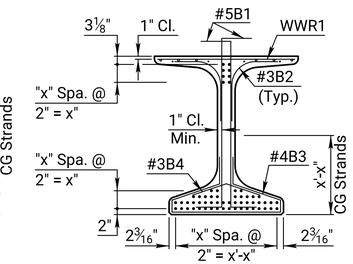


1. Cut strands 9" from the end of the beam.
2. Remove Styrofoam blockout.
3. Cut strands 1/2" deep in blockout with angle grinder.
4. Clean affected area.
5. Fill blockout area with approved epoxy grout.
6. After the grout has cured, according to the manufacturer's recommendation, grind entire face of 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.



SECTION C-C



SECTION D-D

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

† 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

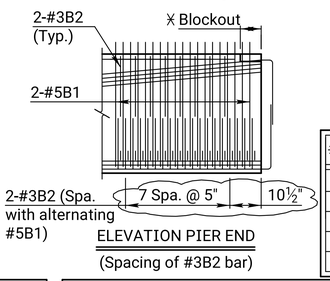
† If Welded Wire Reinforcement (WWR) is used in-lieu of reinforcing steel bars shown on this sheet, the spacing of wires for the WWR shall be equal to or less than the vertical bars shown in the typical beam section above. The equivalent As for the WWR shall be equal to or greater than typical beam section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

✳✳ Spacing of #3B2 bar @ Abutment End.

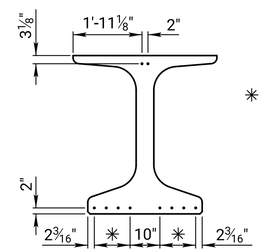
NOTE: Extend x strands x'-x" beyond the end of the beam. Strands not shown shall be cut flush with the end of the beam. See "Strand Extension Details."

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

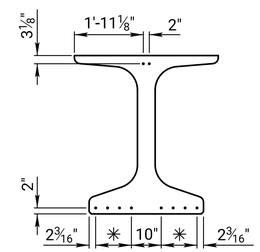
NOTE: The hold down force at the harp points for x strands at xx kips per strand = xx kips total.



ELEVATION PIER END
(Spacing of #3B2 bar)

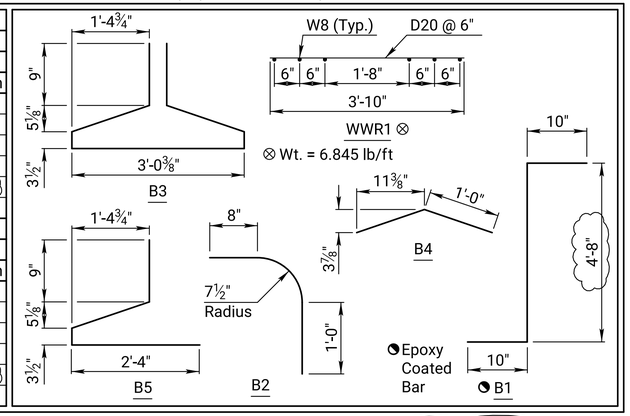


STRAND EXTENSION DETAIL
(x'-x" span beams)



STRAND EXTENSION DETAIL
(x'-x" span beams)

BILL OF REINFORCING STEEL							
x'-x" Beam (1 Listed-x Reqd.) (End spans)							
Straight bars				Bent bars			
Mark	No.	Size	Length	Mark	No.	Size	Length
				B2	XX	#3	2'-8"
				B4	XX	#3	2'-0"
				B3	XX	#4	7'-8"
				B5	XX	#4	4'-8"
				◔ B1	XX	#5	6'-4"
x'-x" Beam (1 Listed-x Reqd.) (Interior spans)							
Straight bars				Bent bars			
Mark	No.	Size	Length	Mark	No.	Size	Length
				B2	XX	#3	2'-8"
				B4	XX	#3	2'-0"
				B3	XX	#4	7'-8"
				B5	XX	#4	4'-8"
				◔ B1	XX	#5	6'-4"



BILL OF MATERIAL		
Item	Unit	Quantity
Prestressed Concrete Beams (NU53) End Spans (x'-x")	Lin.Ft.	
Prestressed Concrete Beams (NU53) Interior Spans (x'-x")	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" 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.	
Welded Wire Reinforcement (fy=70,000 PSI)	Lbs.	
Elastomeric Brg. pads (¾"x8"x3'-0")	Each	
1" Formed Holes	Each	
Lifting devices	Each	
Bearing plates (✡x 1'-4" x 3'-0⅜")	Each	
Substructure Waterproofing Membrane	Sq. Yds.	

✡ Use ¾" ℙ when field welding will occur, otherwise use ½" ℙ.

#5B1 adjust for +1" and +2" sections.

NO.	DATE	REVISIONS	BY	APP'D
04	01-27-22	Temporary Diaphragm table update	M.L.L.	M.A.H.
03	03-14-19	Corrected shear bar	M.L.L.	J.P.J.
02	11-15-18	Add WWR to Bill of Material & Wt/ft	M.L.L.	J.P.J.

KANSAS DEPARTMENT OF TRANSPORTATION

Br. No. Sta.

NU53 BEAM DETAILS

Proj. 0 Co.

DESIGNED	DETAILED	M.L.L.	QUANTITIES	CADD	M.L.L.
DESIGN CK.	DETAIL CK.	S.G.B.	QUAN.CK.	CADD CK.	S.G.B.

KDOT Graphics Certified 07-19-2022 Sh. No. 0

KDOT Graphics Certified

X's to be filled in by the designer

#3B2 spacing based on non-skew, min. dimensions for blockout

Add #4B6 (straight bar) to Bill of Reinforcing Steel when have a skew.

Plotted by : pwmushock 31-AUG-2022 04:30
File : br352.dgn