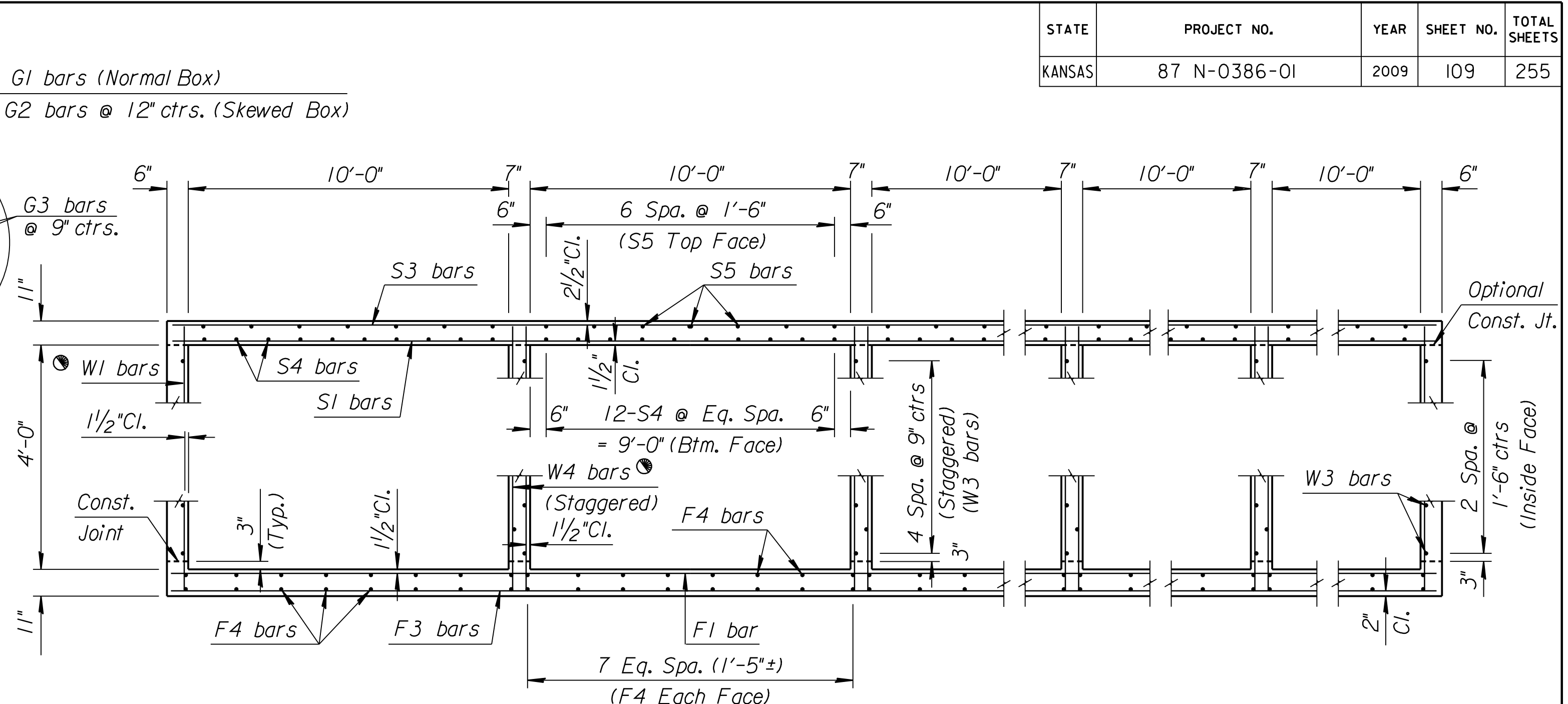
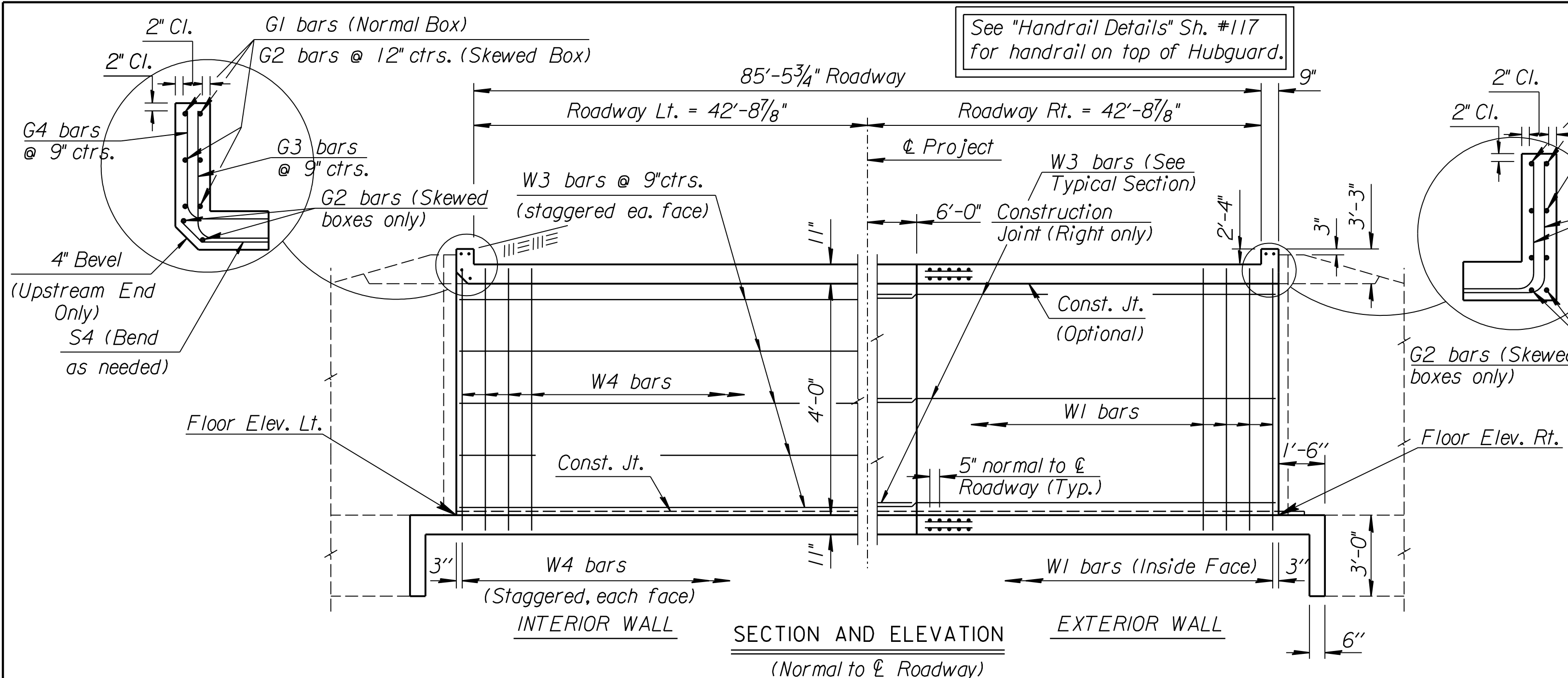


STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	87 N-0386-01	2009	109	255



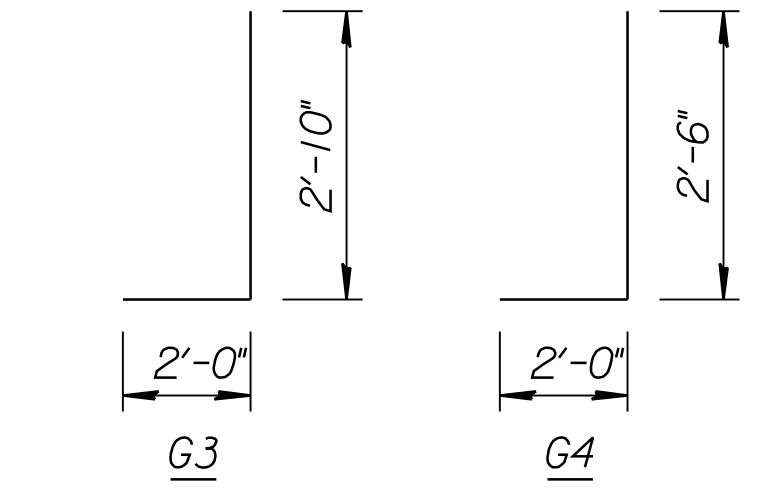
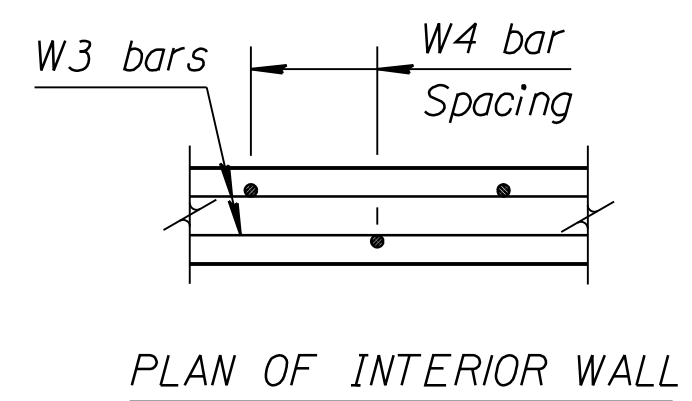
GENERAL NOTES

LOADING: HS20-44 AASHTO Specifications, 1983 Edition.
UNIT STRESSES: Grade 4.0 Concrete; f'c = 4,000 p.s.i.
 Reinforcing Steel; fy = 60,000 p.s.i.
FILL HEIGHT: Unless otherwise noted, the Design Fill Height is measured from the riding surface at the culvert and shall include the surfacing.
CONCRETE: Grade 4.0 Concrete shall be used throughout. Bevel all exposed edges with a 3/4 inch triangular mounding. Where Grade 4.0 Concrete (AE) is specified, it shall be placed in the top slab above the Construction Joint.
REINFORCING: All reinforcing shall conform to ASTM A615, Grade 60. All dimensions relative to reinforcing steel shall be to centerline of bar unless otherwise noted.
EXCAVATION: Excavation for culverts less than bridge length shall not be paid for directly but shall be subsidiary to Grade 4.0 Concrete. Excavation for RCB Bridges shall be paid for as Class III Excavation.
SEAL COURSE: A Seal Course may be required by the Engineer. The Seal Course shall be unreinforced Concrete (Commercial Grade) to a minimum depth of 3 inches or as determined by the Engineer. Concrete for the seal course shall be paid for at the unit price set for Concrete for Seal Course.
FOUNDATION STABILIZATION: The Foundation Stabilization quantity has been calculated to the limits shown on the "RCB Auxiliary Details" sheet. The depth may be increased by the Engineer. The Contractor may under-run Foundation Stabilization under the barrel if founded on firm material and with the Engineer's approval. Use Foundation Stabilization on all wingwalls unless founded on rock or granular material.
QUANTITIES: The quantities shown in the Culvert Summary include apron and/or soil saver quantities when their construction is required by the plans. Payment for additional quantities that result from including seal course and/or floating apron, as a change in original plans, shall be made at the Unit Price bid for the various items involved.
GRANULAR BACKFILL (WINGWALLS): Special backfill procedures may be required at the direction of the Engineer. See Auxiliary Details Sheet.
STRIKE LINE: Wingwalls and that portion of the RCB outside the Strike Line shall be constructed level. Footing for wingwalls shall be constructed with the culvert floor. See wingwall detail sheet.

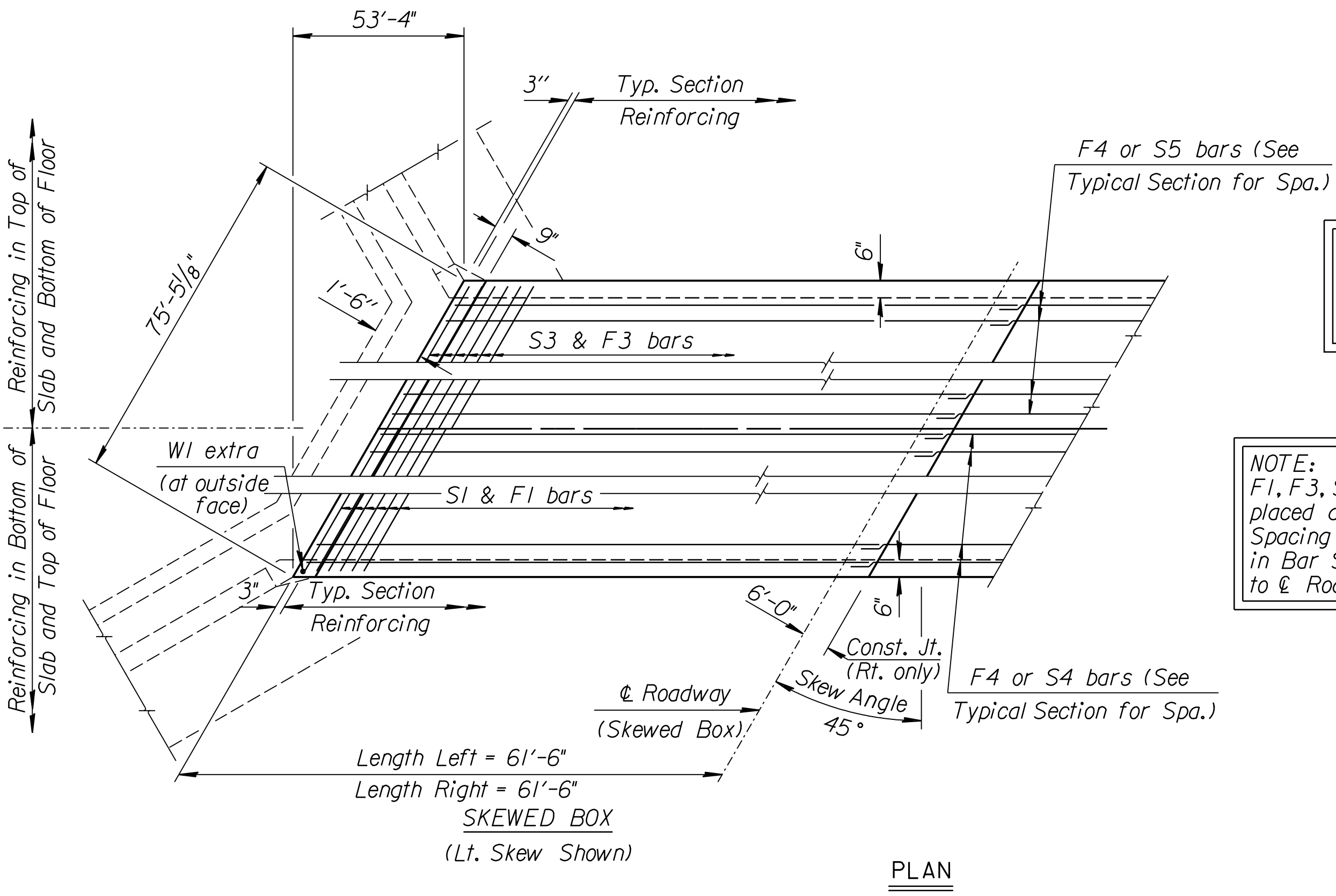
See RCB Auxiliary Details for Optional Splice.

Just left of the Construction Joint, lap F4, S4, S5 & W3 bars to the projected bars from right of the Const. Jt. with the minimum splice length corresponding to the bar size.

NOTE:
 F1, F3, S1 & S3 bars are placed along the skew.
 Spacing of these bars given in Bar Schedule is NORMAL to Roadway.



BENDING DIAGRAM
 All Dimensions are out to out of bars.



△ Epoxy Coated Bars
 ** See Bending Diagram

Minimum Splice Lengths	
#4	1'-4"
#5	1'-8"
#6	2'-0"
#8	2'-8"

SUMMARY OF QUANTITIES (LEFT OF CONST. JT.)	
Concrete (Grade 4.0)	213.4 C.Y.
Concrete (Grade 4.0)(AE)	135.3 C.Y.
Reinforcing Steel (Gr. 60)	37,350 Lbs.
Reinforcing Steel (Gr. 60)(Epoxy Coated)	36,490 Lbs.
Class III Excavation	235 C.Y.
Foundation Stabilization	100 C.Y.
Bridge Handrail (Metal)(3'-6")	118 L.F.

CULVERT SUMMARY																
Floor Elev. Lt.	Floor Elev. Rt.	Crown Gr. Elev.	Design Fill Ht.	Skew Rt.	Left Wings	Right Wings	Scour Apron	Soil Saver	Concrete (Left of Const. Jt.)				Reinf. Steel (Gr. 60) (Left of Const. Jt.)			
									Barrel (Cu.Yds.)	Wings & Parapets (Cu.Yds.)	Soil Saver (Cu.Yds.)	Total (Cu.Yds.)	Barrel (Lbs.)	Wings (Lbs.)	Total (Lbs.)	
1326.20	1326.20	1333.76	0	45	FLARED	FLARED	YES-RT.	YES-LT.	292.75	27.93	27.99	348.67	70,841	3,001	73,842	

BAR SCHEDULE (LEFT OF CONST. JT.)																																	
F1				F3				F4				△ S1				△ S3				△ S4				△ S5									
Size	Spa.	No.	Length	Size	Spa.	No.	Length	Size	Spa.	No.	Length	Size	Spa.	No.	Length	Size	Spa.	No.	Length	Size	Spa.	No.	Length	Size	Spa.	No.	Length						
6	5"	236	38'-6"	N/A	N/A	N/A	N/A	6	5"	236	38'-6"	4	160	35'-6"	6	5"	236	38'-6"	N/A	N/A	N/A	N/A	6	5"	236	38'-6"	5	120	35'-8"	4	70	35'-6"	
W1				W3				W4				△ G2				△ G3 **				△ G4 **													
Size	Spa.	No.	Length	Size	Spa.	No.	Length	Size	Spa.	No.	Length	Size	Spa.	No.	Length	Size	Spa.	No.	Length	Size	Spa.	No.	Length	Size	Spa.	No.	Length						
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4	9"	188	5'-5"	N/A	N/A	N/A	N/A	4	52	35'-6"	4	9"	372	5'-5"	8	16	38'-10"	6	9"	101	4'-10"	6	9"	101	4'-6"

NO.	DATE	REVISIONS	BY	APP'D
KANSAS DEPARTMENT OF TRANSPORTATION BR. NO. 4304008700SBT09 S+g. 122+85 QUINTUPLE 10 ft x 4 ft RCB (45° SKEW RT.) LEFT OF CONSTRUCTION JOINT BR-310.4-P Sedgwick Co.				
FHWA APPROVAL		6-5-91 APP'D		KENNETH F. HURST
DESIGNED	BS DETAILED	BS QUANTITIES	BS TRACED	
DESIGN CK.	AH DETAIL CK.	AH QUAN CK.	SBI TRACE CK.	

Plotted By: -
 File: \$\$\$\$\$\$DGN\$SPEC\$
 Plot Date: 11/24/2009