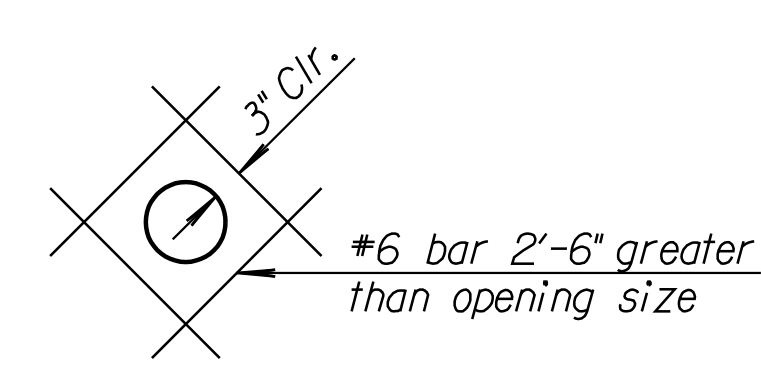
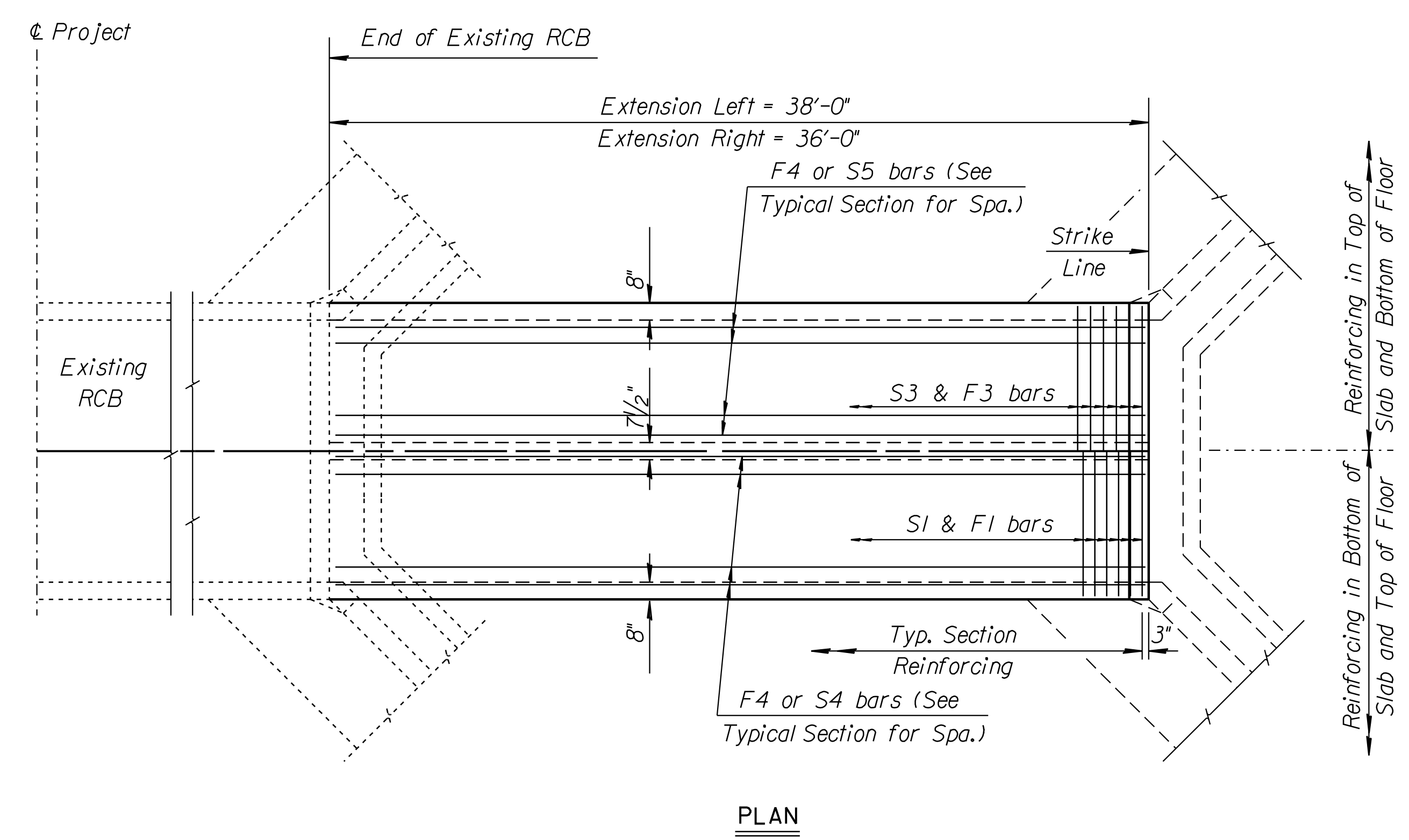
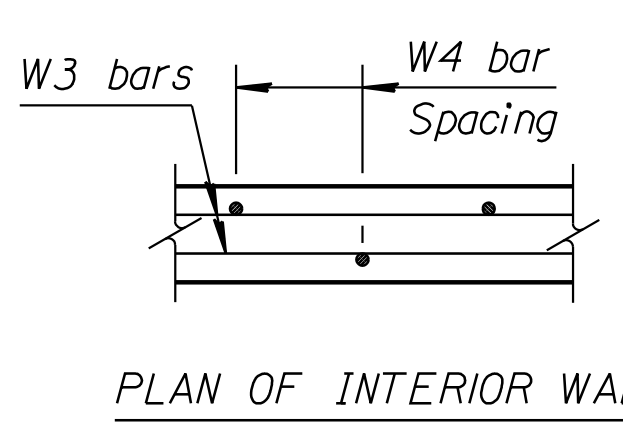
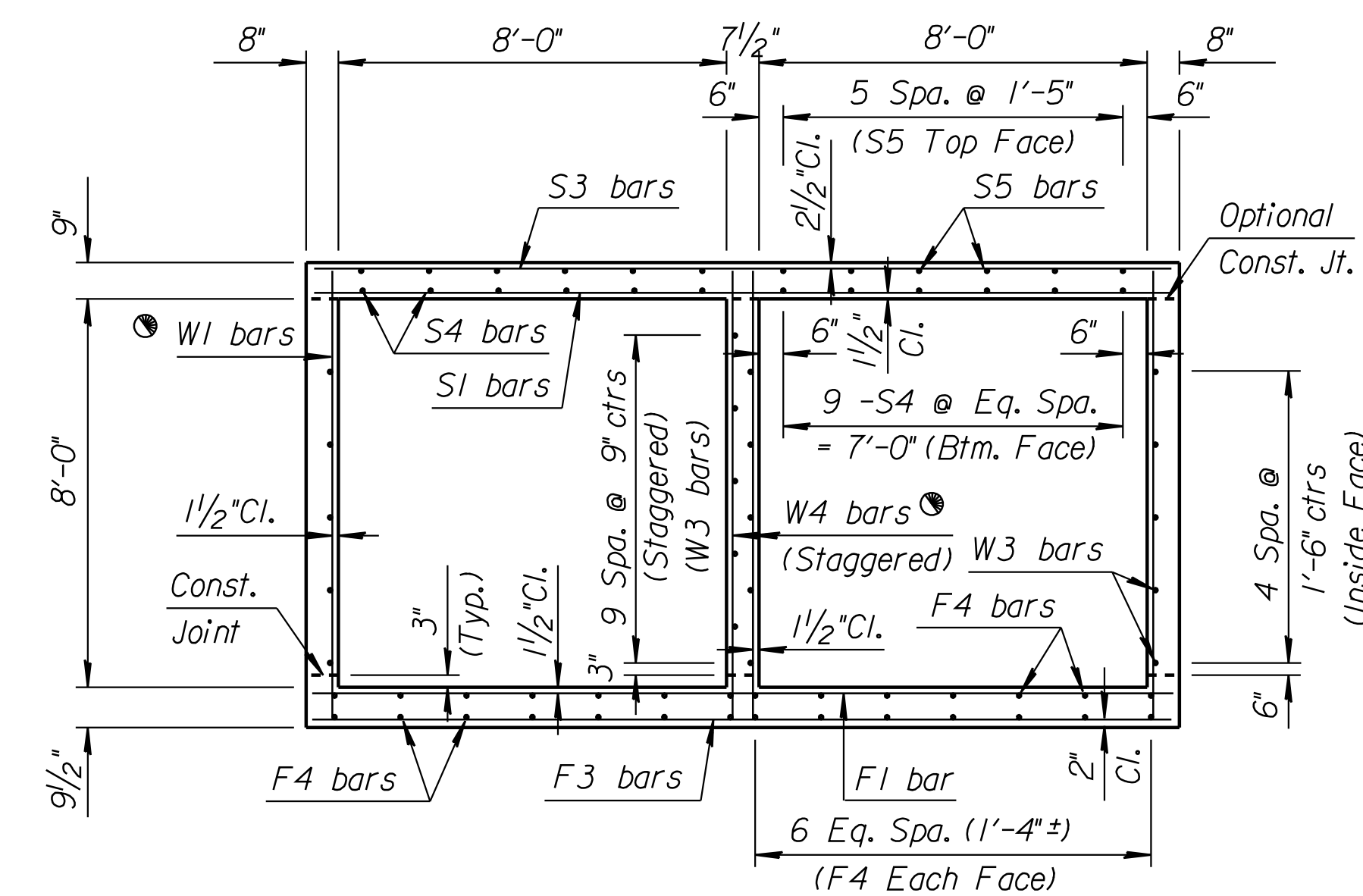
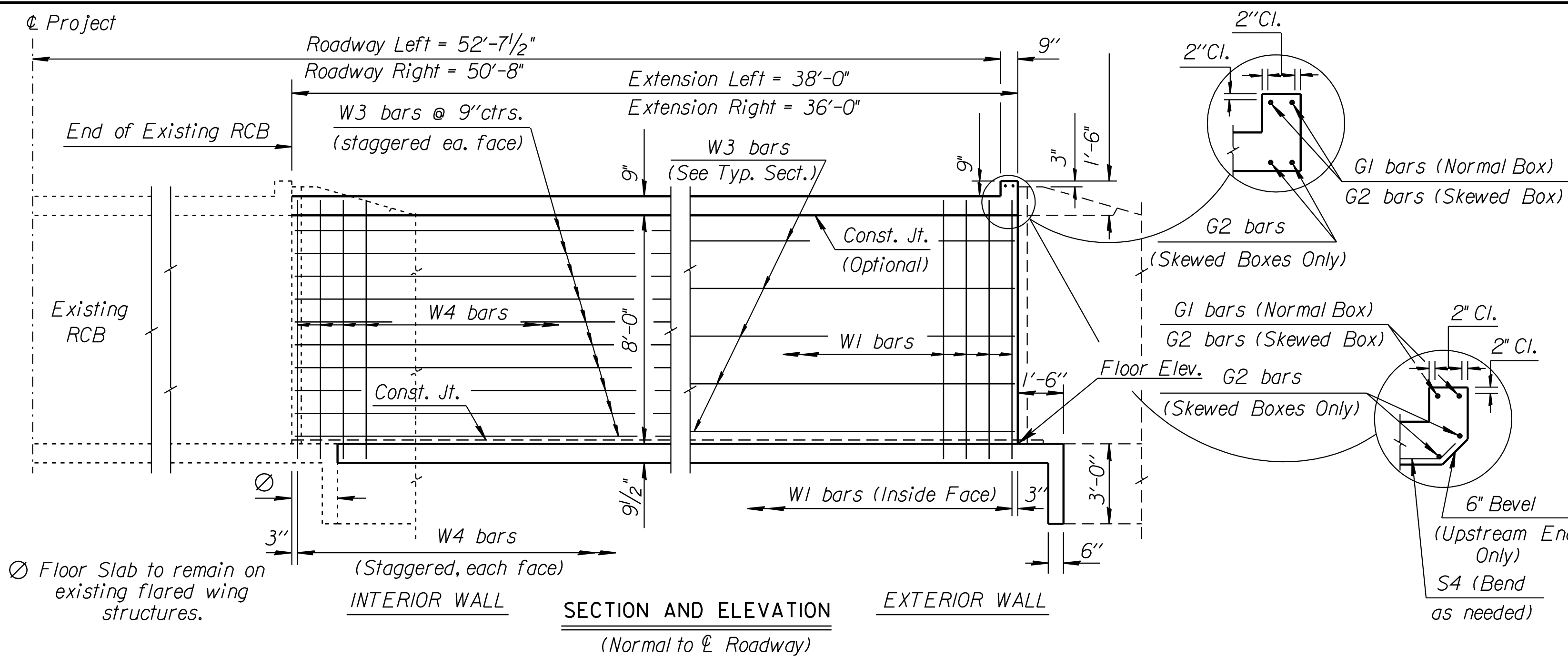


STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	87 N-0514-01	2010	70	148



See RCB Auxillary Details for Optional Splice. See Standard No. RD 080 for additional details.
 Note: Use only cast-in-place construction at this location.

PIPE DETAILS
 Note: See Sheet No. 25 for placement details.

GENERAL NOTES

LOADING: HS20-44 AASHTO Specifications, 1983 Edition.
UNIT STRESSES: Grade 4.0 Concrete; $f'c = 4,000$ p.s.i. Reinforcing Steel; $f_y = 60,000$ 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 moulding. 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 Auxillary Details" sheet. The depth may be increased by the Engineer. The Contractor may underrun 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 Auxillary 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.



Plotted By: rjm
 File: I:\2008\0878\Office Check\0878-070-2-818-RCB_Details.dgn
 Plot Date: 2/17/2010

For design purposes ONLY. Do NOT use for Construction

Floor Elev.	Crown Gr. Elev.	Design Fill Ht.	Skew	Wings	Scour Apron	Soil Saver	Concrete			Reinf. Steel (Gr. 60)		
							Barrel (Cu.Yds.)	Wings (Cu.Yds.)	Total (Cu.Yds.)	Barrel (Lbs.)	Wings (Lbs.)	Total (Lbs.)
Ext.Lt. 1316.40	1328.30	0	0	FLARED	YES	YES	60.83	21.01	81.84	9605	1750	11,355
Ext.Rt. 1316.50				FLARED			57.62	16.41	73.99	9054	1875	10,929

BAR SCHEDULE																																									
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	Size	Spa.	No.	Length	Size	Spa.	No.	Length						
Ext.Lt.	6	6"	77	17'-8"	N/A	N/A	N/A	N/A	5	7 1/2"	61	17'-8"	4	28	36'-8"	6	6"	79	17'-8"	N/A	N/A	N/A	N/A	5	7 1/2"	62	17'-8"	5	18	37'-8"	4	12	37'-8"								
Ext.Rt.	6	6"	73	17'-8"	N/A	N/A	N/A	N/A	5	7 1/2"	57	17'-8"	4	28	34'-8"	6	6"	75	17'-8"	N/A	N/A	N/A	N/A	5	7 1/2"	58	17'-8"	5	18	35'-8"	4	12	35'-8"								

K1						K2						W1						W3						W4						G1						G2					
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	Size	Spa.	No.	Length	Size	Spa.	No.	Length						
Ext.Lt.	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4	9"	104	9'-3"	N/A	N/A	N/A	N/A	4	20	37'-8"	4	9"	52	9'-3"	5	2	17'-8"	N/A	N/A	N/A	N/A	N/A	N/A	N/A								
Ext.Rt.	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4	9"	96	9'-3"	N/A	N/A	N/A	N/A	4	20	35'-8"	4	9"	48	9'-3"	5	2	17'-8"	N/A	N/A	N/A	N/A	N/A	N/A	N/A								

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

SUMMARY OF QUANTITIES	
Concrete (Grade 4.0)	162.3 C.Y.
Concrete (Grade 4.0)(AE)	0.00 C.Y.
Reinforcing Steel (Gr. 60)	22,280 Lbs.
Reinforcing Steel (Gr. 60)(Epoxy Coated)	0 Lbs.
Class III Excavation	93 C.Y.
Foundation Stabilization	50 C.Y.
Concrete for Seal Course (Set)	1 C.Y.
Granular Backfill (Wingwalls) (Set)	1 C.Y.

NO.	DATE	REVISIONS	BY	APP'D
KANSAS DEPARTMENT OF TRANSPORTATION HARRY ST. St. 29+18.80 DOUBLE 8 ft x 8 ft RCB 36.0 ft EXT. RT. 38.0 ft EXT. LT.				
BR 2.8.8 P Sedgwick Co.				
DESIGNED	DATE	QUANTITIES	TRACED	APP'D
DESIGN CK.	DETAIL CK.	QUAN. CK.	TRACE CK.	