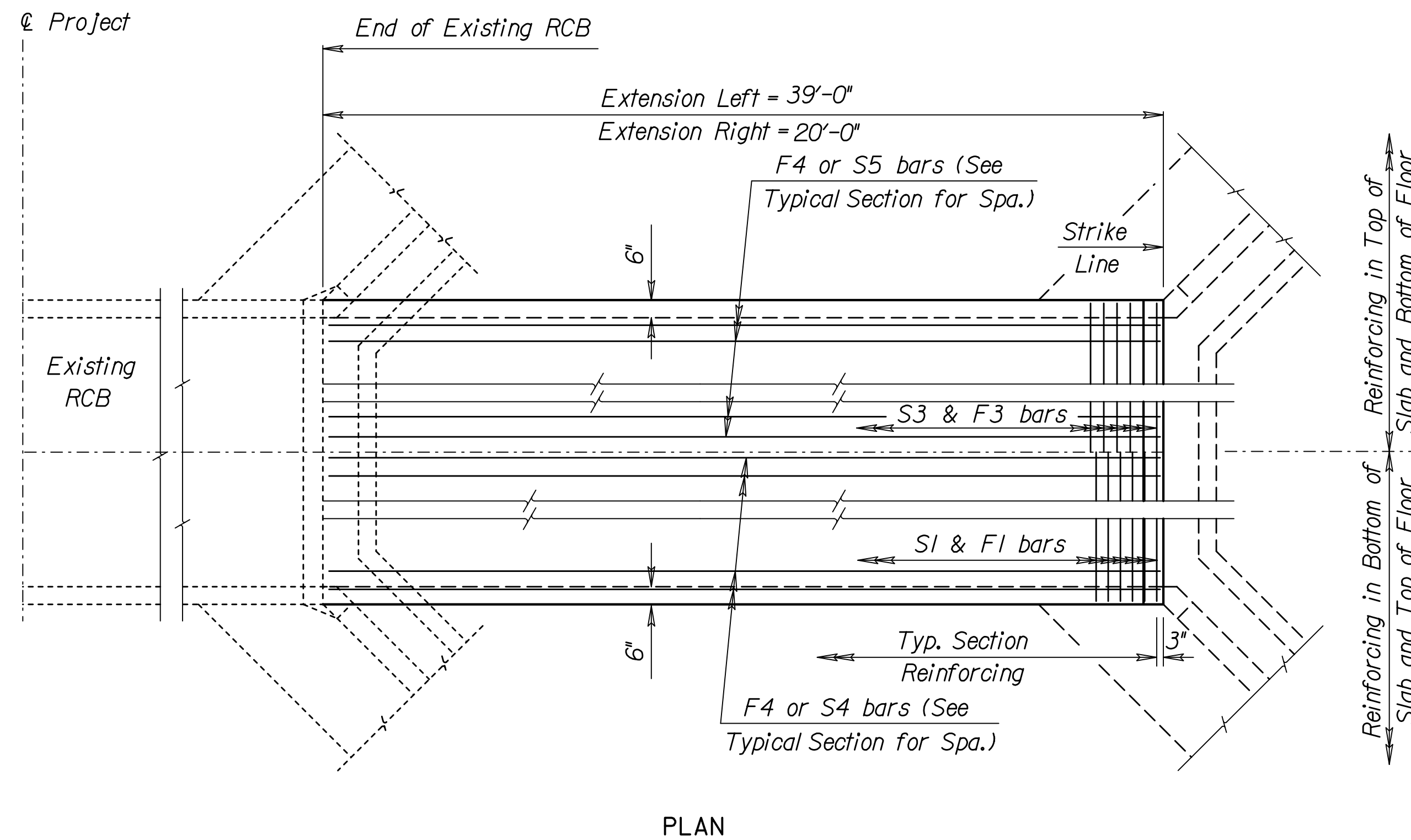
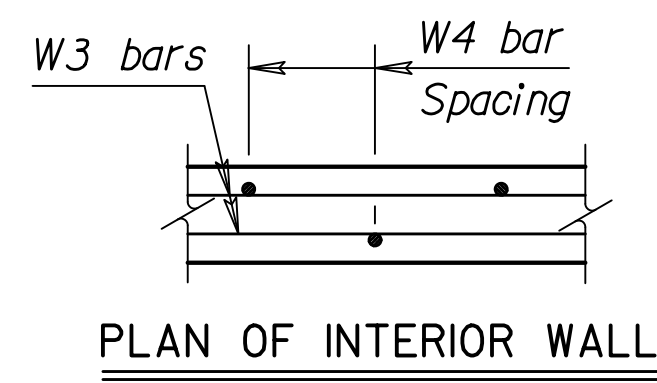
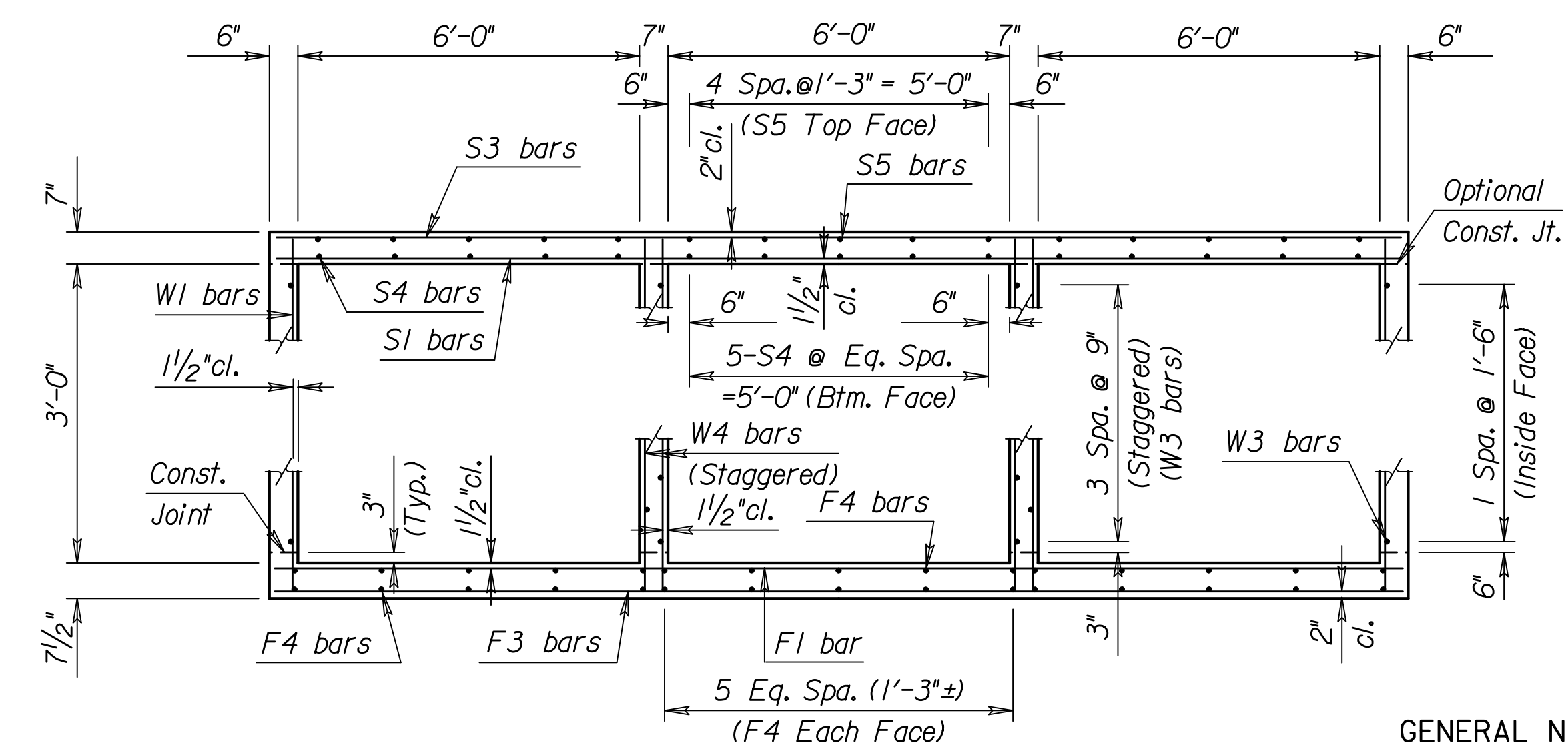
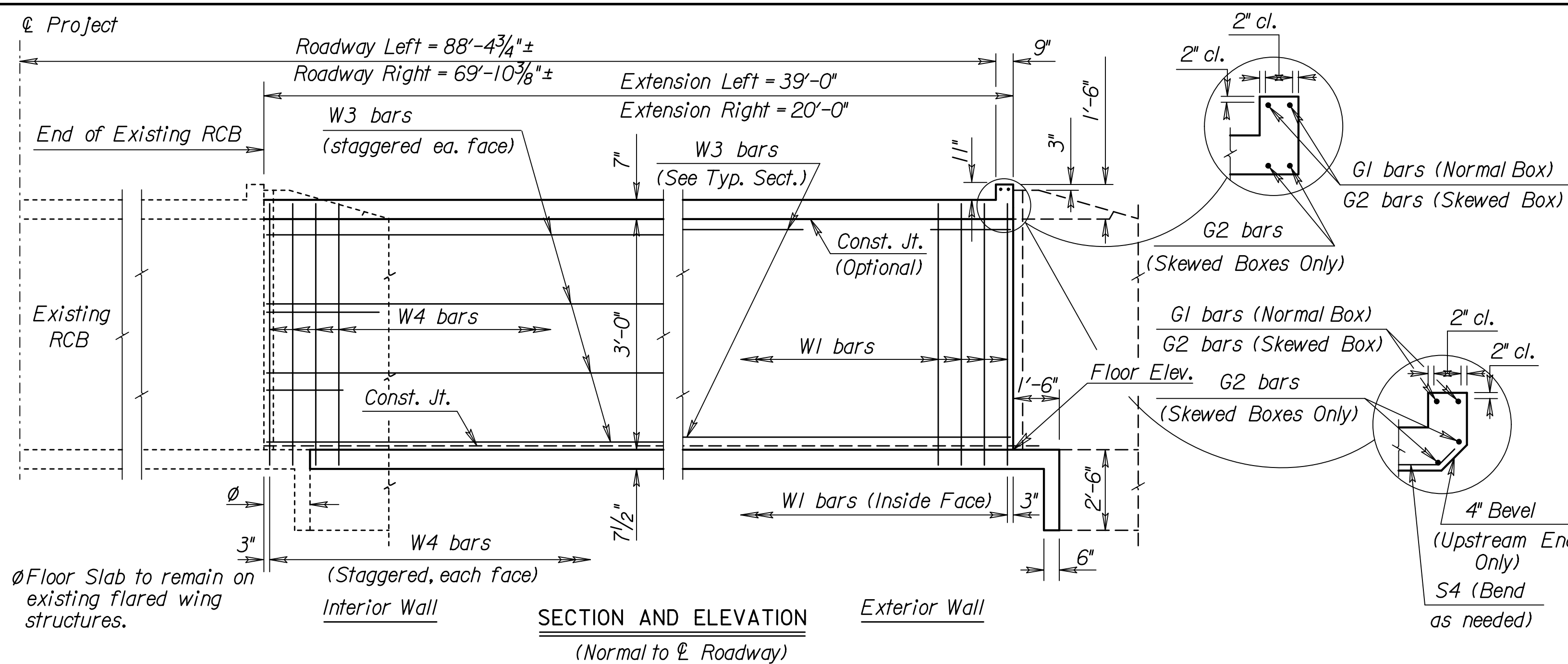


STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	472-85066	2014	92	388

VERSION/ID	12/15/2010
SYSTEM PART	4/25/2012
CADD YBA	7/1/12
DATABASE	280
RCB PROGRAM	5/1/2013
KBOX MODEL ID	
CELL LIBRARY	



GENERAL NOTES

DESIGN SPECIFICATION: AASHTO LRFD Spec., 2007 Ed., 2009 Int.

DESIGN LOADING: HL9.3

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 includes the surfacing.

CONCRETE: Use concrete conforming to Grade 4.0 Concrete. Bevel all exposed edges with a $3/4$ " triangular molding. Where Grade 4.0(AE) is specified, place this concrete in the top slab above the Construction Joint.

REINFORCING: Use reinforcing steel conforming to ASTM A615, Grade 60. All dimensions relative to reinforcing steel are to the centerline of the 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: The Engineer may require a seal course. The seal course shall be unreinforced Concrete (Commercial Grade) with 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 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 they are required by the plans.

GRANULAR BACKFILL (WINGWALLS): See the "Auxiliary Details" sheet.

STRIKE LINE: Construct the wingwalls and that portion of the RCB outside the Strike Line level. Construct the wingwall footings with the culvert floor. See the wingwall detail sheets.

BRIDGE BACKWALL PROTECTION SYSTEM: For structures with two foot of fill or less that have this bid item in the Summary of Quantities. See the "Auxiliary Details" sheet.

See Standard No. RD 080 for additional details.

Note: Use only cast-in-place construction at this location.

CULVERT SUMMARY												LRFR RATING FACTORS		
Floor Elev.	Crown Gr. Elev.	Design Fill Ht.	Skew	Wings	Scour Apron	Soil Saver	Concrete			Reinf. Steel (Gr. 60)			HL-93 Loading	
							Barrel (Cu.Yds.)	Wings (Cu.Yds.)	Total (Cu.Yds.)	Barrel (Lbs.)	Wings (Lbs.)	Total (Lbs.)	Inventory	Operating
Ext.Lt. 1361.72	1373.34	10	0	Flared Custom	Yes	No	44.36	7.47	51.83	6684	688	7372	3.22	4.07
Ext.Rt. 1361.34							22.68	5.83	28.51	3480	782	4262		

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						
Ext.Lt.	4	7"	68	19'-10"	N/A	N/A	N/A	N/A	4	5 1/2"	85	19'-10"	4	36	37'-2"	4	7"	70	19'-10"	N/A	N/A	N/A	N/A	4	5 1/2"	88	19'-10"	4	15	38'-8"	4	15	38'-8"
Ext.Rt.	4	7"	35	19'-10"	N/A	N/A	N/A	N/A	4	5 1/2"	44	19'-10"	4	36	18'-2"	4	7"	38	19'-10"	N/A	N/A	N/A	N/A	4	5 1/2"	47	19'-10"	4	15	19'-8"	4	15	19'-8"

Minimum Splice Lengths	
#4	1'-5"
#5	1'-9"

SUMMARY OF QUANTITIES †	
Concrete (Grade 4.0)	80.3 C.Y.
Concrete (Grade 4.0(AE))	0.0 C.Y.
Bridge Backwall Protection System (Subsidiary)	0.0 S.Y.
Reinforcing Steel (Gr. 60)	11,630 Lbs.
Reinforcing Steel (Gr. 60)(Epoxy Coated)	0 Lbs.
Class III Excavation (Subsidiary)	20 C.Y.
Foundation Stabilization	30 C.Y.
Concrete for Seal Course (Set)	1 C.Y.
Granular Backfill (Wingwalls)	16 C.Y.

NO.	DATE	REVISIONS	BY	APP'D
KANSAS DEPARTMENT OF TRANSPORTATION Serial No.(584) Ramp W-NS Sta. 461+10.09 TRIPLE 6 ft x 3 ft RCB 20.0 ft EXT. RT. 39.0 ft EXT. LT.				
BR 3.6.3 P		Sedgwick Co.		
DESIGNED	DATE	QUANTITIES	CADD	
DESIGN CK.	DETAIL CK.	QUAN. CK.	CADD CK.	

Plotted By: msn
 File: I:\2009\0952\Office Check 03-2012\Bridges\RCB\0952-1-BR-3-6x3x20\Box1.dgn
 Plot Date: 12/30/2013