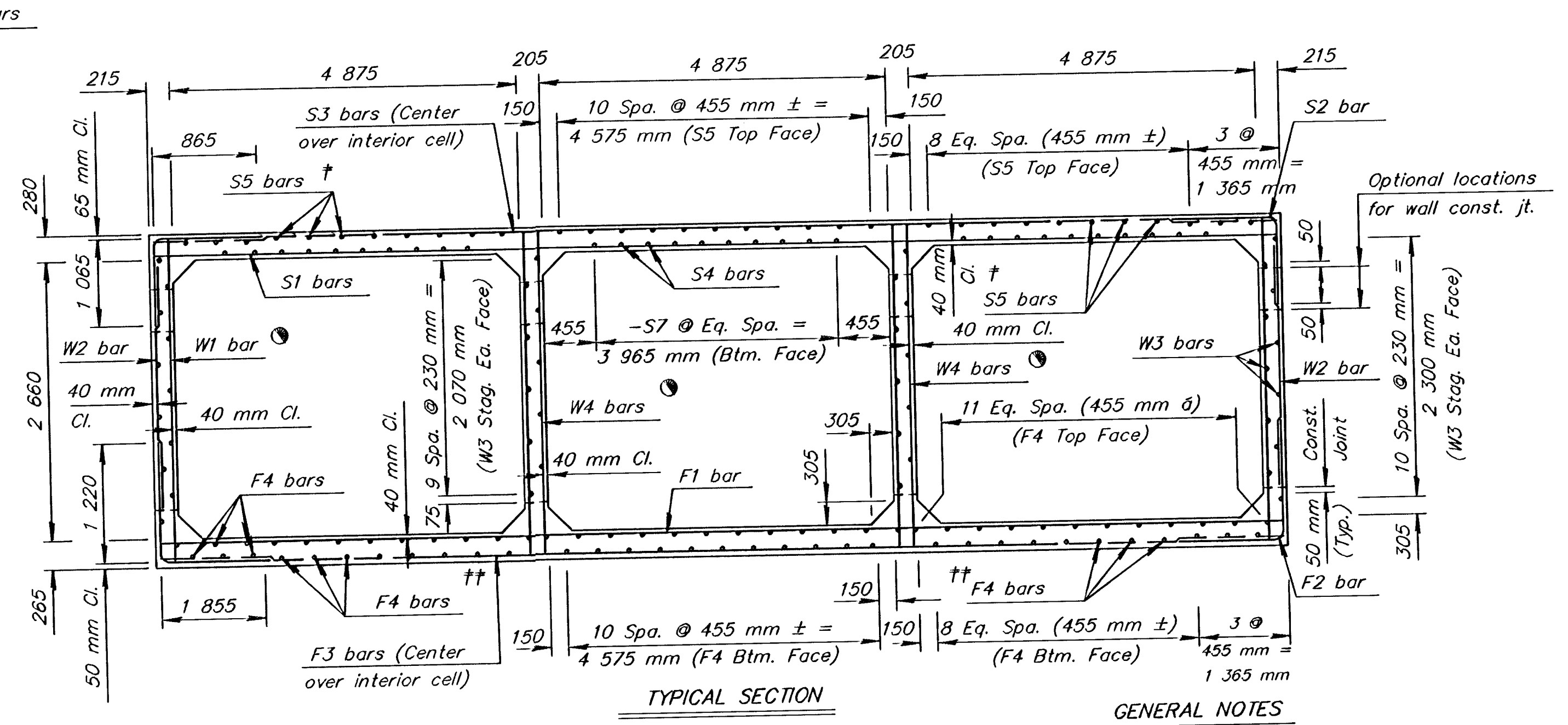
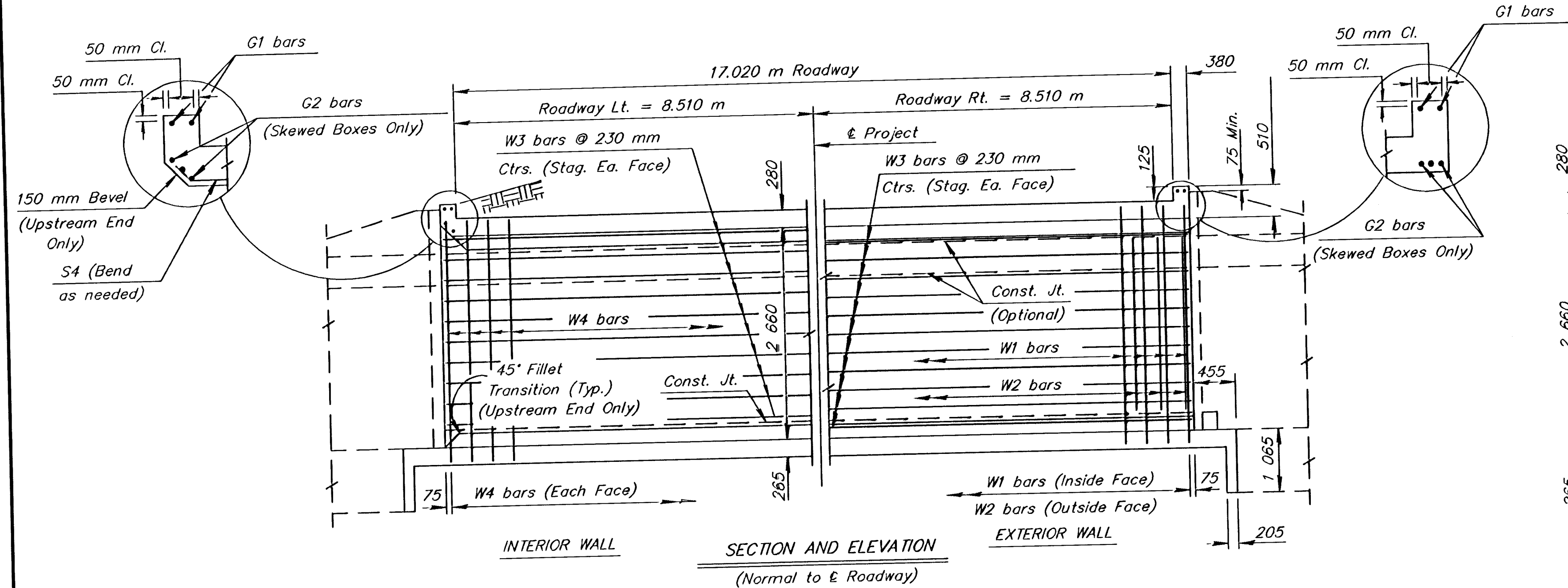




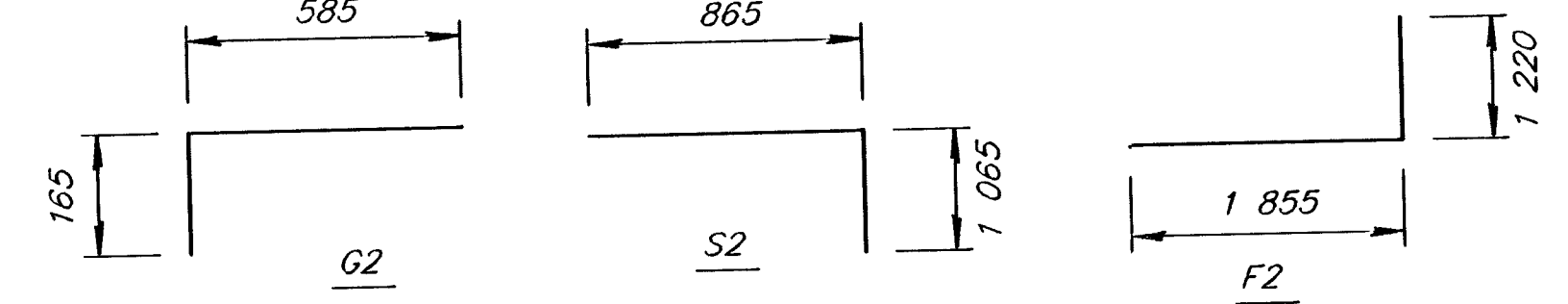
GENERAL NOTES

DESIGN SPECIFICATION: AASHTO Specifications, 1983 Edition
DESIGN LOADING: MS20-44
UNIT STRESSES: Class AAA Concrete $f'_c = 28 \text{ MPa}$
Reinforcing Steel $f_y = 400 \text{ MPa}$
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 Class AAA Concrete. Bevel all exposed edges with a 20 mm triangular molding. Where Class AAA(AE) is specified, place this concrete in the top slab above the Construction Joint.
REINFORCING: Use reinforcing steel conforming to ASTM A615M, Grade 420. 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 Class AAA Concrete. Excavation for RCB bridges shall be paid for as Class III Excavation.
SEAL COURSE: A concrete seal course will be required. The seal course shall be unreinforced Concrete (Commercial Grade) with a minimum depth of 75 mm or as determined by the Engineer. Concrete for the seal course shall be paid for as "Concrete for Seal Course." See Sheet 21.
FOUNDATION STABILIZATION: The Engineer may require Foundation Stabilization. The Engineer shall determine the depth of Foundation Stabilization. Foundation Stabilization shall be paid for at the unit price set for Foundation Stabilization. See the "Auxiliary Details" sheet.
QUANTITIES: The quantities shown in the Culvert Summary include apron and/or soil saver quantities when they are required by the plans. Payment for additional quantities that result from including a seal course and/or a floating apron, as a change in the original plans, shall be made at the unit price bid for the various items involved.
GRANULAR BACKFILL (WINGWALLS): The Engineer may require special backfill procedures. 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.
RCB-RCPC CONNECTION: See sheet 8 for pipe connection details.

See RCB Auxiliary Details for Optional Splice.

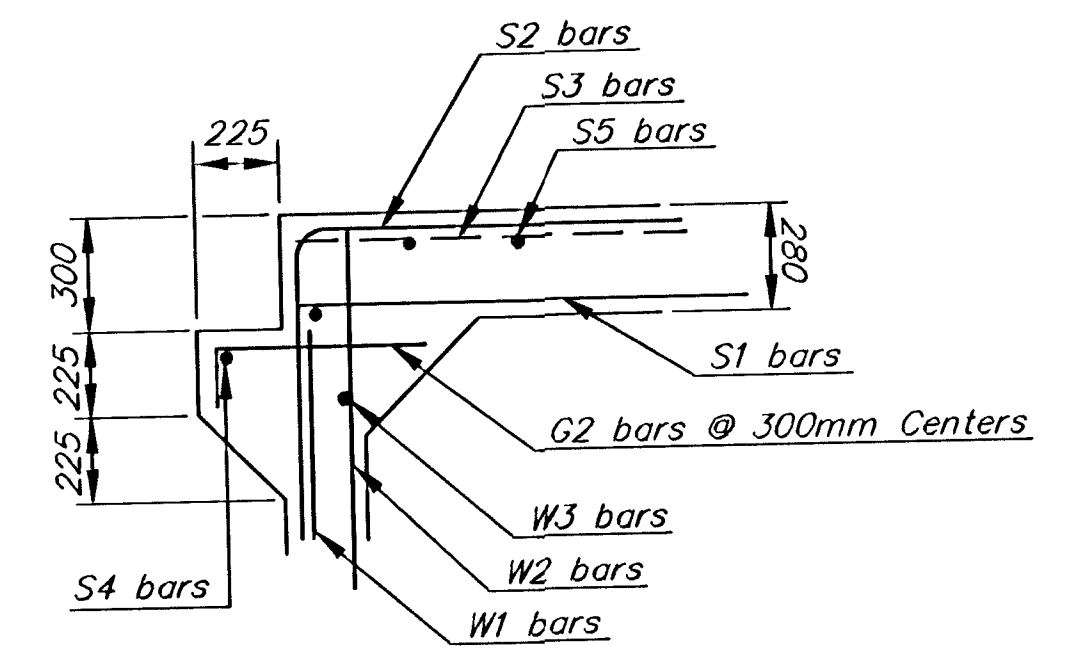
- Place when S3 bar extends to exterior walls.
- Place when F3 bar extends to exterior walls.

Minimum Splice Lengths	
12M	405
15M	510
20M	610
22M	760
25M	990



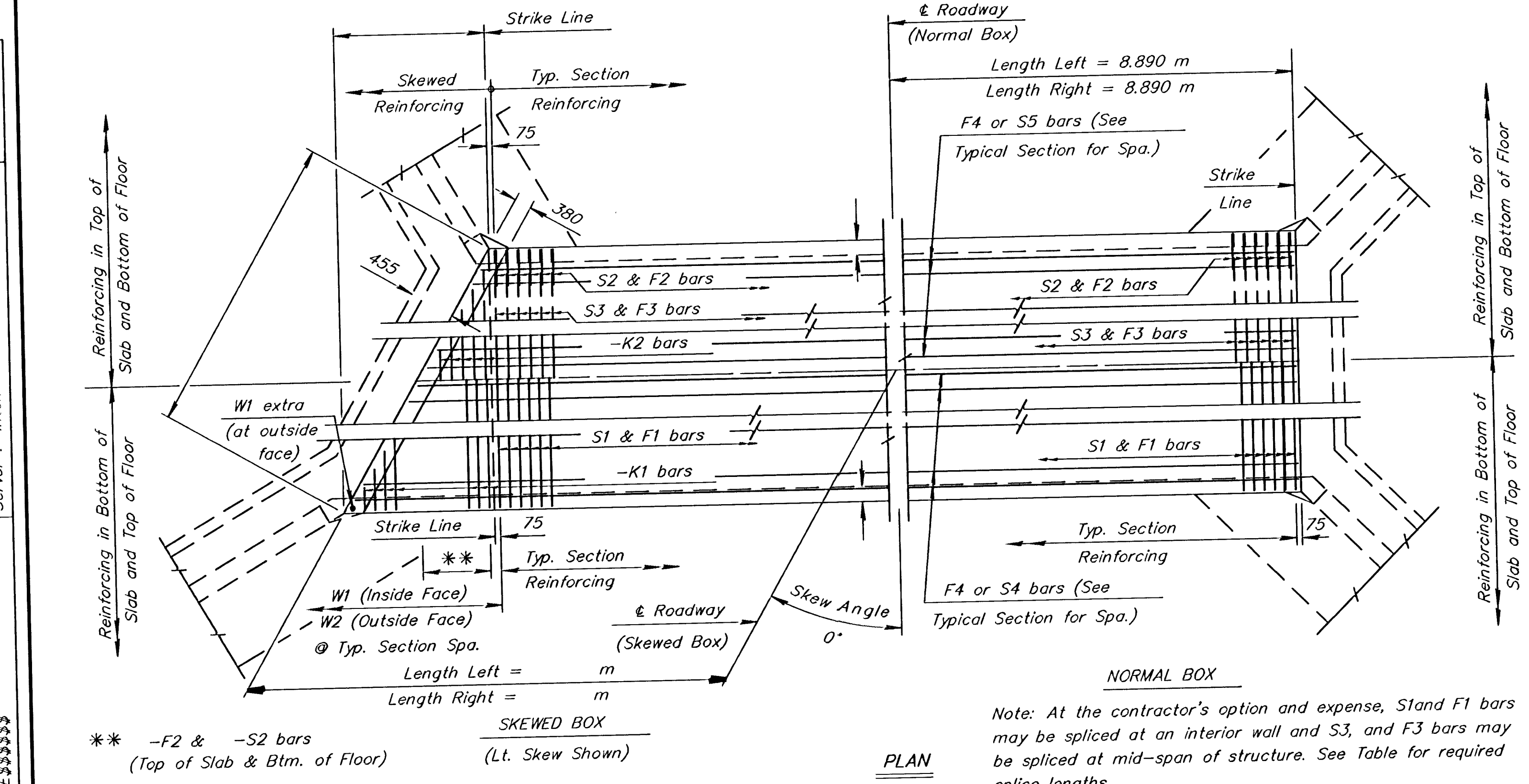
BENDING DIAGRAM

All Dimensions are out to out of bars.



PAVEMENT REST DETAIL

Note: At the contractor's option and expense, Stand F1 bars may be spliced at an interior wall and S3, and F3 bars may be spliced at mid-span of structure. See Table for required splice lengths.



CULVERT SUMMARY

Flow Line Elev. Lt. (m)	Flow Line Elev. Rt. (m)	Crown Grade Elevation (m)	Design Fill Ht. (m)	Skew	Left Wings	Right Wings	Scour Apron	Soil Saver	Granular Backfill	Concrete (AE)			Reinf. Steel (Gr. 420)			Reinf. Steel (Gr. 420)(Epoxy)		
										Barrel (m ³)	Wings (m ³)	Total (m ³)	Barrel (kg)	Wings (kg)	Total (kg)	Barrel (kg)	Wings (kg)	Total (kg)
408.200	408.300	411.436	0.000	0°	45°	45°	No	No	no	223.6	29.1	252.7	13 758.3	1 532.0	15 290.3	14 073.9	-	14 073.9

BAR SCHEDULE

BAR SCHEDULE																																		
F1				F2 *				F3				F4			S1				S2 *				S3				S4			S5				
Size	Spa.	No.	Length	Size	Spa.	No.	Length	Size	Spa.	No.	Length	Size	No.	Length	Size	Spa.	No.	Length	Size	Spa.	No.	Length	Size	No.	Length	Size	No.	Length						
15	150	116	15 340	22	190	184	3 075	25	190	92	9 600	12	189	8 860	22	150	116	15 340	22	190	184	1 930	25	190	92	15 340	15	44	17 300	12	66	8 860		
K1				K2				W1				W2				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	No.	Length	Size	No.	Length	Size	Spa.	No.	Length	
			*				*	12	305	116	3 115	15	190	184	1 920	12	84	8 860	15	150	464	3 115	22	4	15 350	12	104	750						

SUMMARY OF QUANTITIES

Concrete For Seal Course		59.4	m ³
Class AAA Concrete (AE)		252.7	m ³
Class III Excavation		862.0	m ³
Reinforcing Steel (Gr. 420)		15 290	kg
Reinforcing Steel (Epoxy Coated)(Gr. 420)		14 074	kg
Foundation Stabilization (Set)		1	m ³
Granular Backfill (Wingwalls) (Set)		1	m ³

NO.	DATE	REVISIONS	BY	APPD
KANSAS DEPARTMENT OF TRANSPORTATION				
TRIPLE 4.9 m x 2.7 m RFB				
(0° SKEW.)				
STATION 0+346				
BR3-18-08-F-S-				
FHWA APPROVAL		6-5-91	APPD	KENNETH F. HURST
DESIGNED	DCD	DETAILED	QUANTITIES	TRACED
DESIGN CK.	RAM	DETAIL CK.	QUAN. CK.	TRACE CK.