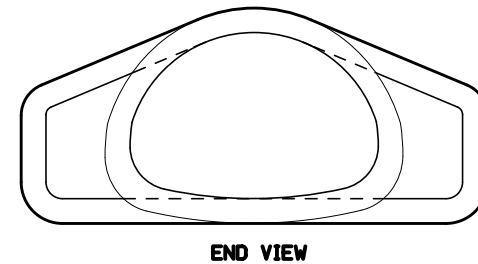
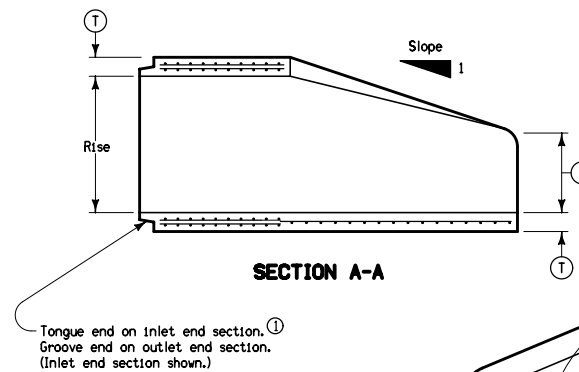
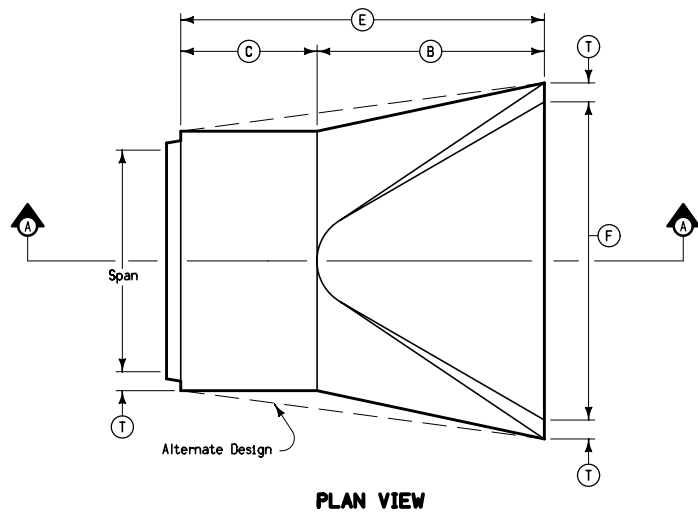


Apron Reinforcement shall comply with RF-41.

Dimension "E" shown is minimum and shall be considered the design length. Any difference between the actual length of concrete apron installed and the length indicated hereon shall be appropriately adjusted for the length of concrete culvert pipe furnished.

① Dimensions for tongue and groove connections shall be as indicated on RF-41.



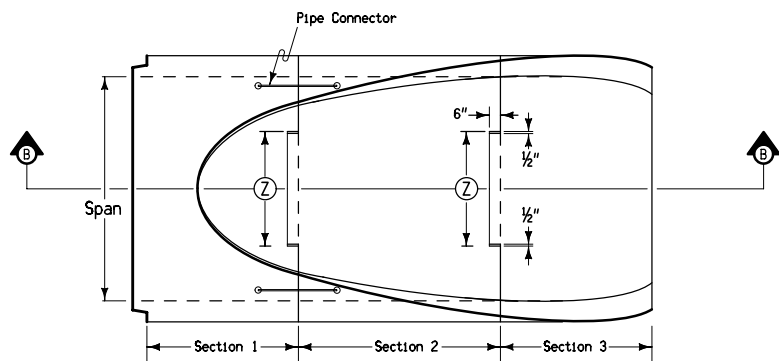
NOMINAL DIMENSIONS SPAN X RISE Inches	EQUIVALENT DIA. Inches	WEIGHT PER SECTION Lbs.	SPAN Inches	RISE Inches	SLOPE	APPROXIMATE DIMENSIONS Inches					
						(T)	(A)	(B)	(C)	(E)	(F)
22 X 14	18	1100	22	13½	3:1	2½	7	27	45	72	36
29 X 18	24	1760	28½	18	3:1	3½	8½	39	33	72	48
37 X 23	30	3300	36¼	22½	3:1	4	9½	50	46	96	60
44 X 27	36	4350	43¾	26⅞	3:1	4½	11⅞	60	36	96	72
52 X 32	42	5250	51⅞	31⅝	3:1	4½	15⅞	60	36	96	78
59 X 36	48	6400	58½	36	3:1	5	21	60	36	96	84
65 X 40	54	7850	65	40	3:1	5½	25½	60	36	96	90
73 X 45	60	9500	73	45	3:1	6	31	60	36	96	96
88 X 54	72	13550	88	54	2:1	7	31	60	39	99	120
102 X 62	84	17950	102	62	2:1	8	28½	83	19	102	144

Possible Contract Item:

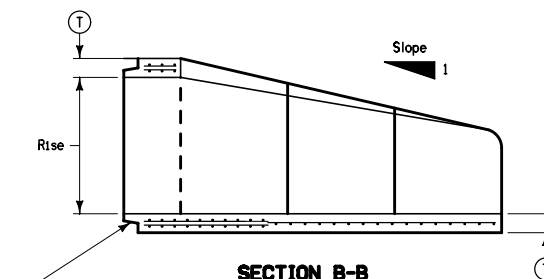
Concrete Arch Apron

Possible Tabulations: 104-3, 104-4

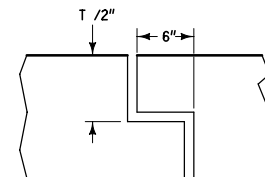
 Iowa Department of Transportation STANDARD ROAD PLAN REVISIONS: No significant changes; reissued for file maintenance. <i>Deanna Mifflin</i> APPROVED BY DESIGN METHODS ENGINEER	REVISION 4 10-20-09	
	RF-42 SHEET 1 of 2	
	CONCRETE ARCH APRONS	



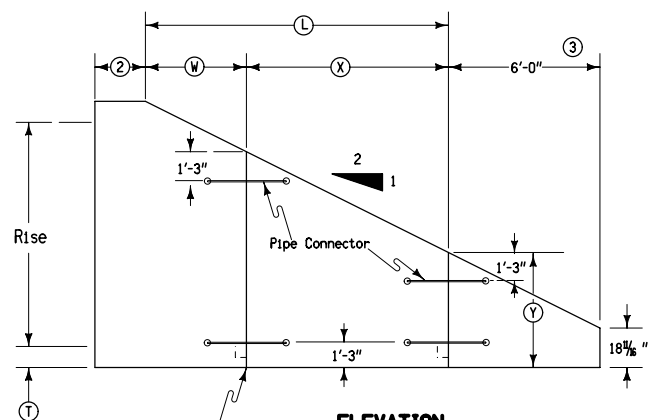
PLAN



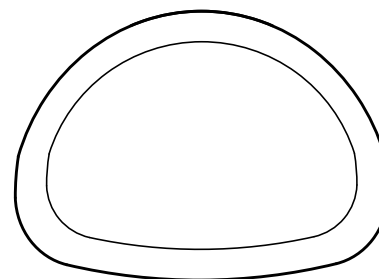
Tongue end on inlet end section. ①
Groove end on outlet end section.
(Inlet end section shown.)



DETAIL A



ELEVATION



END VIEW

- ① Dimensions for tongue and groove connections shall be as indicated on RF-41.
- ② 2'-0" for groove end and 2'-7" for tongue end.
- ③ 132" size is a three-piece end section.

NOMINAL DIMENSIONS SPAN X RISE Inches	EQUIVALENT DIA. Inches	WEIGHT PER SECTION Lbs. (Approx.)			SPAN Inches	RISE Inches	APPROXIMATE DIMENSIONS Inches					
		Section 1	Section 2	Section 3			①	②	③	④	⑤	⑥
115 X 72	90	19100	3950		115 1/2	72	8 1/2	102 1/4	72	30 1/4	37 7/8	48
122 X 78	96	22000	6050		122 3/8	78	9	112 1/2	72	40 1/2	39	54
138 X 88	108	23000	15800		138 1/2	88	10	129 1/2	48	81 1/2	42 3/8	66
154 X 97	120	27000	24600		154	96 7/8	11	144	48	96	46 7/8	78
169 X 107	132 ③	27950	25260	13640	168 3/4	106 1/2	10	144	48	96	54 5/8	90

 Iowa Department of Transportation STANDARD ROAD PLAN REVISIONS: No significant changes, reissued for file maintenance. <i>Deanna Mifflin</i> APPROVED BY DESIGN METHODS ENGINEER	REVISION
	4 10-20-09
	RF-42
	SHEET 2 of 2
CONCRETE ARCH APRONS	