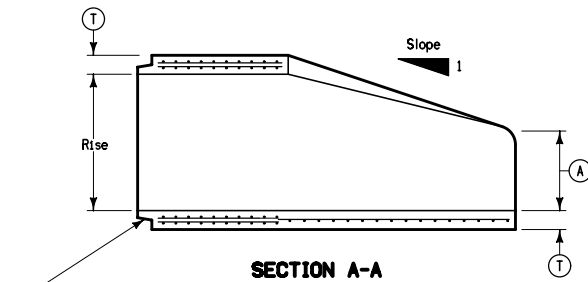
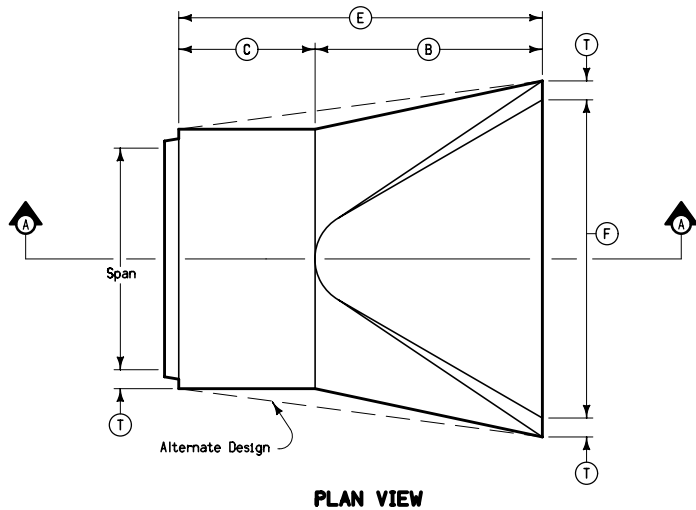


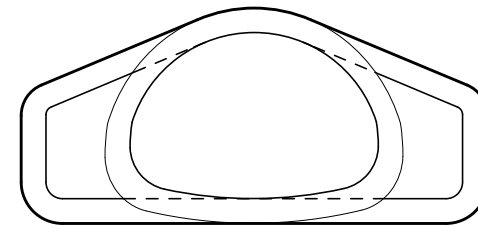
Apron Reinforcement shall comply with RF-41.

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.



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



END VIEW

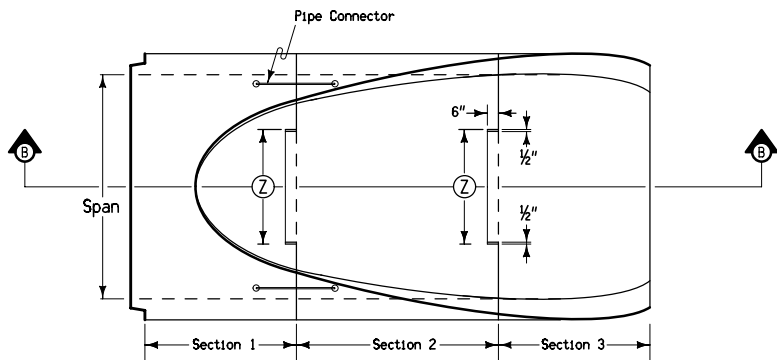
NOMINAL DIMENSIONS SPAN X RISE Inches	EQUIVALENT DIA. Inches	WEIGHT PER SECTION Lbs.	SPAN Inches	RISE Inches	SLOPE	APPROXIMATE DIMENSIONS Inches					
						T	A	B	C	E	F
22 X 14	18	1100	22	13½	3:1	2½	7	27	45	72	36
29 X 18	24	1760	28½	18	3:1	3½	8½	39	33	72	48
37 X 23	30	3300	36¼	22½	3:1	4	9½	50	46	96	60
44 X 27	36	4350	43¾	26¾	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:

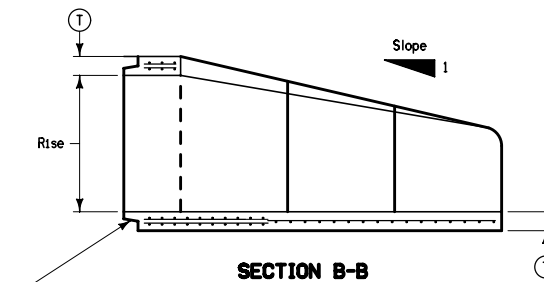
Concrete Arch Apron

Possible Tabulations: 104-3, 104-4

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

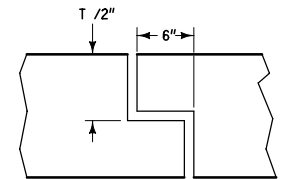


PLAN

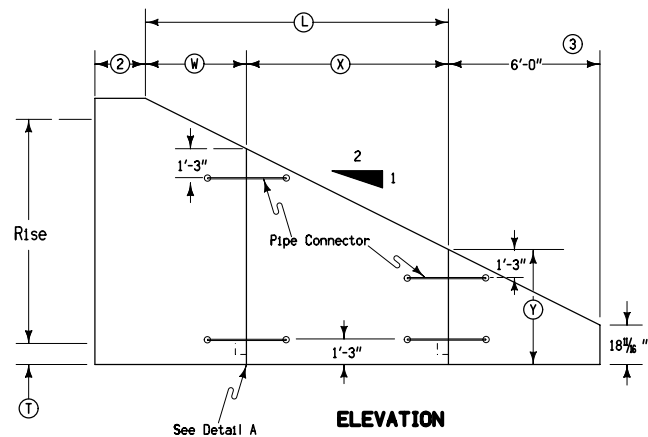


SECTION B-B

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

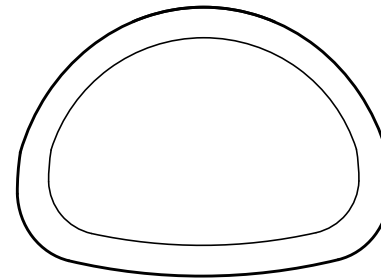


DETAIL A



ELEVATION

See Detail A



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			T	L	W	X	Y	Z
115 X 72	90	19100	3950		115½	72	8½	102¼	72	30¼	37⅞	48
122 X 78	96	22000	6050		122¾	78	9	112½	72	40½	39	54
138 X 88	108	23000	15800		138½	88	10	129½	48	81½	42¾	66
154 X 97	120	27000	24600		154	96⅞	11	144	48	96	46⅞	78
169 X 107	132 ③	27950	25260	13640	168¾	106½	10	144	48	96	54⅞	90

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