

**CORRUGATED STEEL PIPE
2 2/3" x 1/2" CORRUGATIONS**

PIPE DIAMETER INCHES	AREA SQ. FT.	MAXIMUM HEIGHT OF COVER IN FEET					MINIMUM SHEET THICKNESS FOR ENTRANCE PIPES WITH LESS THAN 1 FT COVER INCHES (GAUGE)
		SHEET THICKNESS IN INCHES (GAUGE)					
		0.064 (16)	0.079 (14)	0.109 (12)	0.138 (10)	0.168 (8)	
12	0.79	233	291				0.064 (16)
15	1.23	186	233				0.064 (16)
18	1.77	155	194	272			0.064 (16)
21	2.40	132	166	233			0.064 (16)
24	3.14	116	145	203			0.064 (16)
27	3.98	102	128	180			0.064 (16)
30	4.91	92	115	162			0.064 (16)
33	5.94	83	105	147	190		0.064 (16)
36	7.1	76	96	135	174		0.064 (16)
42	9.6	65	81	115	149	182	0.064 (16)
48	12.6	56	71	100	130	159	0.064 (16)
54	16.0		63	89	115	141	0.079 (14)
60	19.6			79	103	126	0.109 (12)
66	23.8				93	114	0.138 (10)
72	28.3				85	105	0.138 (10)
78	33.2					96	0.168 (8)
84	38.5					89	0.168 (8)

NOTES:

- COVER HEIGHTS INDICATED IN TABLES ARE FOR FINISHED CONSTRUCTION, USING AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS AND ASSUMING 25% METAL LOSS AT END OF DESIGN LIFE.
- TO PROTECT PIPE DURING CONSTRUCTION, MINIMUM HEIGHT OF COVER TO BE IN ACCORDANCE WITH TABLE A PRIOR TO ALLOWING CONSTRUCTION TRAFFIC TO CROSS INSTALLATION. THE COVER SHALL EXTEND THE FULL LENGTH OF THE PIPE. THE APPROACH FILL RAMP IS TO EXTEND A MINIMUM OF 15 DIAMETERS ON EACH SIDE OF THE PIPE OR THE INTERSECTION WITH A CUT.
- STANDARD MINIMUM FINISHED HEIGHT OF COVER FOR ALL PIPES, EXCEPT UNDER ENTRANCES, SHALL BE 2.0' OR 1/2 DIAMETER, WHICHEVER IS GREATER. IN CASES IN WHICH THESE COVER HEIGHTS CANNOT BE ACHIEVED, AN ABSOLUTE MINIMUM FINISHED COVER HEIGHT OF 1.0' OR 1/8 DIAMETER, WHICHEVER IS GREATER, WILL BE ALLOWED ONLY IF ALL POSSIBLE MEANS TO OBTAIN THE STANDARD VALUE HAVE BEEN EXHAUSTED. THE MINIMUM FINISHED HEIGHT OF COVER FOR PIPES UNDER ENTRANCES IS 9" FOR PIPE DIAMETERS LESS THAN OR EQUAL TO 24" AND 12" OR 1/8 DIAMETER, WHICHEVER IS GREATER, FOR PIPE DIAMETERS GREATER THAN 24". WHERE A POLYMER COATED PIPE WILL BE USED AND THE SURFACE OVER THE TOP OF THE PIPE WILL BE ASPHALT, CLASS I BACKFILL MATERIAL IS TO BE PLACED UP TO A MINIMUM OF 6" ABOVE THE TOP OF THE PIPE.
- SEE STANDARD PB-1 FOR PIPE BEDDING AND BACKFILL REQUIREMENTS.

TABLE A

PIPE DIAMETER	MINIMUM COVER HEIGHT DURING CONSTRUCTION (SEE NOTE 2)
12" TO 33"	18"
36" AND ABOVE	1/2 DIAMETER

CONCRETE- LINED CORRUGATED STEEL PIPE

MAXIMUM HEIGHT OF COVER TO BE IN ACCORDANCE WITH THE TABLES BUT SHALL NOT EXCEED 30".

**CORRUGATED STEEL PIPE
3" x 1" CORRUGATIONS**

PIPE DIAMETER INCHES	AREA SQ. FT.	MAXIMUM HEIGHT OF COVER IN FEET				
		SHEET THICKNESS IN INCHES (GAUGE)				
		0.064 (16)	0.079 (14)	0.109 (12)	0.138 (10)	0.168 (8)
36	7.1	88	110	155	200	246
42	9.6	75	94	133	171	210
48	12.6	65	82	116	149	183
54	16.0	57	72	102	132	163
60	19.6	51	65	92	119	146
66	23.8	46	58	83	108	132
72	28.3	42	53	76	98	121
78	33.2	38	49	69	90	111
84	38.5	35	45	64	83	103
90	44.2	32	41	59	77	96
96	50.3		38	55	72	89
102	56.7		36	52	68	84
108	63.6			49	64	80
114	70.9			45	60	74
120	78.5			43	56	70
132	95.0				51	63
144	113.0					57

**CORRUGATED STEEL PIPE
5" x 1" CORRUGATIONS**

PIPE DIAMETER INCHES	AREA SQ. FT.	MAXIMUM HEIGHT OF COVER IN FEET				
		SHEET THICKNESS IN INCHES (GAUGE)				
		0.064 (16)	0.079 (14)	0.109 (12)	0.138 (10)	0.168 (8)
36	7.1	78	98	138	178	218
42	9.6	66	84	118	152	187
48	12.6	58	73	103	133	163
54	16.0	51	64	91	118	144
60	19.6	45	57	81	105	130
66	23.8	41	52	74	95	117
72	28.3	37	47	67	87	107
78	33.2	34	43	61	80	99
84	38.5	31	39	57	74	91
90	44.2	28	36	53	69	85
96	50.3		34	49	64	79
102	56.7		31	46	60	74
108	63.6			43	56	69
114	70.9			40	53	65
120	78.5			38	50	62
132	95.0				44	55
144	113.0					50

A COPY OF THE ORIGINAL SEALED AND SIGNED DRAWING IS ON FILE IN THE CENTRAL OFFICE.

**CORRUGATED STEEL PIPE
HEIGHT OF COVER TABLES FOR HL-93 LIVE LOAD**

VIRGINIA DEPARTMENT OF TRANSPORTATION

SPECIFICATION REFERENCE

302
232



ROAD AND BRIDGE STANDARDS

SHEET 3 OF 18

REVISION DATE

107.07

11/15