

TABLE I  
HEAVY DUTY REINFORCED CONCRETE CULVERT PIPE

Diameter of Pipe (Inches)	Minimum Shell Thickness (Inches)	Minimum Reinforcement* - Sq. In. Per Lin. Ft. of Pipe Barrel					Strength Test Requirements (3 Edge Bearing)	
		Concrete Strength 6000 PSI		Concrete Strength 5000 PSI			0.01 Inch Crack Load Lbs./Lin.Ft.	Ultimate Load Lbs./L
		Circular Reinforcement In Circular Pipe**		Circular Reinforcement In Circular Pipe plus Auxiliary Support ***				
		Inner Cage	Outer Cage	Inner Cage	Outer Cage	Auxiliary Supports		
12	2	0.11					3000	3
15	2-1/4	0.18					3750	4
18	2-1/2	0.26					4500	5
21	2-3/4	0.34					5250	6
24	3	0.48					6000	7
27	3-1/4	0.38	0.28				6750	8
30	3-1/2	0.41	0.31				7500	9
33	3-3/4	0.46	0.35				8250	10
36	4	0.50	0.38				9000	11
42	4-1/2	0.60	0.45				10500	13
48	5	0.73	0.55				12000	15
54	5-1/2	0.86	0.62	0.64	0.48	#3 at 6"; 5 lines at 6"	13500	18
60	6	0.95	0.68	0.70	0.53	#2 at 6"; 7 lines at 6"	15000	20
66	6-1/2			0.79	0.59	#2 at 6"; 7 lines at 6"	16500	22
72	7			0.87	0.66	#1 at 6"; 7 lines at 6"	18000	24
78	7-1/2			0.92	0.69	#0 at 6"; 7 lines at 6" or #3 at 4"; 7 lines at 6"	19500	26
84	8			0.99	0.74	#3 at 4"; 9 lines at 6"	21000	28
90	8			1.13	0.85	#2 at 4"; 9 lines at 6"	22500	30
96	8-1/2			1.20	0.90	#2 at 4"; 9 lines at 6"	24000	32
102	8-1/2			1.34	1.00	#1 at 4"; 11 lines at 6"	25000	34
108	9			1.51	1.13	#1 at 4"; 11 lines at 6"	27000	36

\* The distance from centerline of the reinforcement to the nearest surface of the concrete has been assumed in the design tables as 1-1/4 inches for pipe with a shell thickness of 2-1/2 inches or more.

\*\* Elliptical reinforcement in circular pipe and circular reinforcement in elliptical pipe will not be permitted. All pipe shall be circular with circular reinforcement.

\*\*\* Note: #2 at 6"; 7 lines at 6" means 7 lines of #2 Gauge steel wire supports at the top and bottom of the pipe, each line spaced 6" apart circumferentially. There will be an equal number of these lines of auxiliary supports on either side of the midpoint of both the top and bottom of the pipe. The pipe shall be clearly marked to show these midpoints. (See sketch of Auxiliary Support System for 60" Diameter Pipe.)