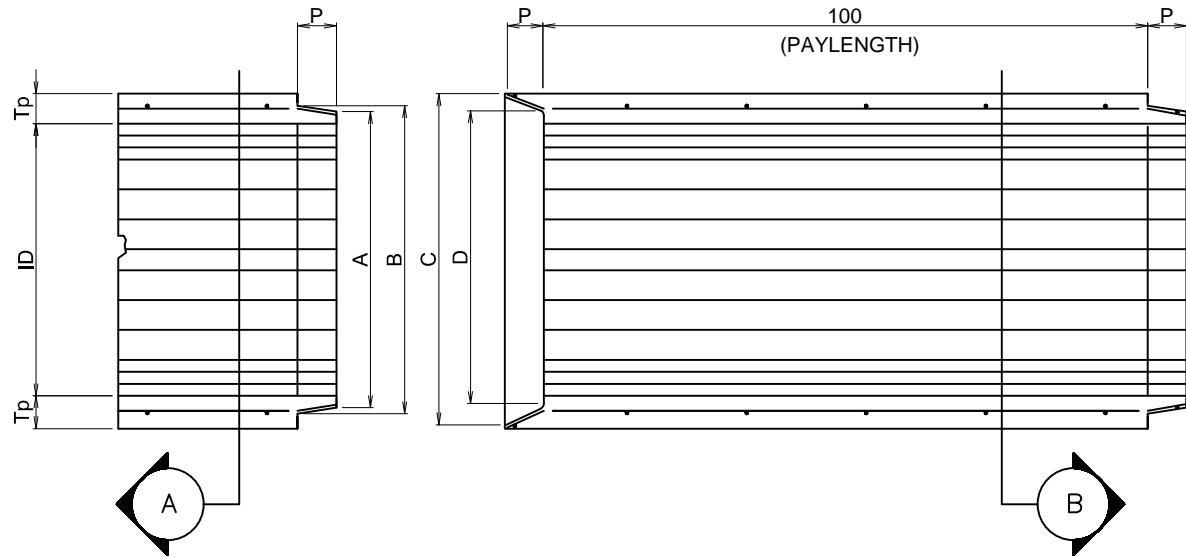
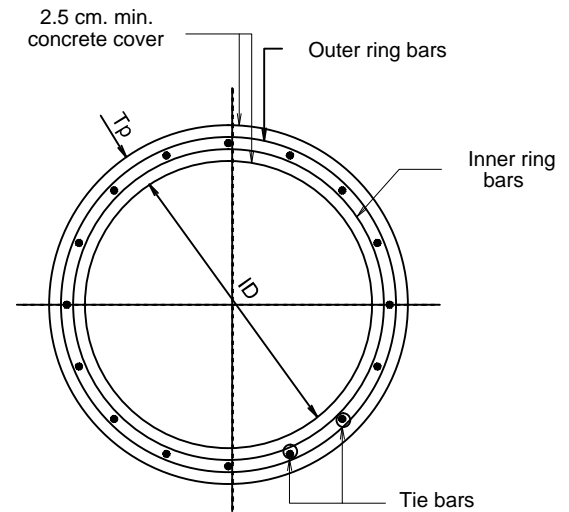


SECTION WITH ONE-LINE REINFORCEMENT  
SCALE NTS



LONGITUDINAL SECTION  
SCALE NTS



SECTION WITH TWO REINFORCEMENT  
SCALE NTS

A. PIPES SUBJECTED TO WHEEL LOADS

SIZE OF PIPE (ID)	PIPE THICKNESS (Tp)	TONGUE & GROOVE DIMENSIONS (MM)					TYPE A-1 (FOR 10 TON TRUCK LOADING)					TYPE A-2 (FOR 20 TON TRUCK LOADING)				
							LINE OF CIRCULAR REINFORCEMENT	RING BARS	LONG BARS	STRENGTH TEST REQUIREMENTS, KG/M		LINE OF CIRCULAR REINFORCEMENT	RING BARS	LONG TIE BARS	STRENGTH TEST REQUIREMENTS, KG/M	
										THREE-EDGE-BEARING METHOD					THREE-EDGE-BEARING METHOD	
CM	CM	A	B	C	D	P		SIZE AND SPACING (CM)	NUMBER AND SIZE	LOAD TO PRODUCE A 0.25 MM CRACK	ULTIMATE LOAD		SPACING IN CM	NUMBER AND SIZE	LOAD TO PRODUCE A 0.25 MM CRACK	ULTIMATE LOAD
30	6	343	362	349	368	44	ONE LINE	6 MM Ø @ 11	6-6 MM Ø	2,680	4,020	ONE LINE	6 MM Ø @ 7.5	6-6 MM Ø	3,430	5,220
46	7	508	527	514	533	44	ONE LINE	6 MM Ø @ 10	8-6 MM Ø	3,280	4,920	ONE LINE	10 MM Ø @ 15	6-10 MM Ø	3,870	5,810
61	8	673	692	679	698	44	ONE LINE	6 MM Ø @ 09	8-6 MM Ø	3,580	5,370	ONE LINE	10 MM Ø @ 13	8-10 MM Ø	4,470	6,710
76	9	838	857	844	864	51	ONE LINE	10 MM Ø @ 15	8-10 MM Ø	4,020	6,040	ONE LINE	10 MM Ø @ 11	8-10 MM Ø	5,030	8,570
91	10	1,003	1,022	1,009	1,029	64	2 LINES EACH @	10 MM Ø @ 17	10-10 MM Ø	4,470	6,710	2 LINES EACH @	10 MM Ø @ 13	10-10 MM Ø	6,040	9,840

NOTE:

TYPE "A-1" - PIPES SUBJECTED TO 10-TON TRUCK LOADING WITH MINIMUM EARTH COVER OF 60 CM.  
TYPE "A-2" - PIPES SUBJECTED TO 20-TON TRUCK LOADING WITH MINIMUM EARTH COVER OF 60 CM.

RCP COLLAR DIMENSIONS AND REQUIREMENTS					
DIAMETER (ID CM)	THICKNESS (Tp CM)	CROSS SECTIONAL AREA (SQ. M.)	C (CM)	T (CM)	REINFORCEMENTS
30	6	0.071	10	10	2-6 MM Ø
46	7	0.166	10	10	2-6 MM Ø
61	8	0.292	13	13	2-8 MM Ø
76	9	0.454	13	13	2-8 MM Ø
91	10	0.650	13	15	2-10 MM Ø

REINFORCED CONCRETE PIPE  
SCALE NTS

GENERAL NOTES FOR CONCRETE PIPES:

All dimensions are in centimeters unless otherwise specified.

Concrete for concrete pipes shall be class "A-1" which shall have a cement factor of 350 kg/cu.m of concrete and a minimum compressive strength of 210 kg/sq.cm at 28 days.

Maximum size of aggregate shall be 12.5 mm. Reinforcing bars shall be plain billet steel of intermediate grade (ASTM-615).

Lapping of ends of the ring bar shall not be less than 48 bar diameter. Concrete pipes shall be manufactured in accordance with ASTM specifications ASTM C-361-571.

For pipes with one line of circumferential reinforcement, the nominal protective covering of concrete over the ring bars shall be 35% to 50% of the shell thickness reckoned from the inner surface of the pipe.

For pipes with two lines of circumferential reinforcement, the following should be adhered to:

- Each line of circumferential reinforcement, shall be assembled into a cage which shall contain sufficient number of longitudinal tie bars.
- The distance between the two layers shall not be less than the diameter of the longitudinal tie bars plus 6mm.
- The two layers shall be provided with space and tied together to form a single rigid cage.

The pipes should be properly laid preferably on an even, firm and undisturbed foundation in the event that it cannot be avoided to lay the pipes on fill, the foundation and adjoining embankment shall be thoroughly compacted and stabilized.

In the process of manufacturing the pipes after removal of the forms, the pipes shall be properly marked "A-1", "A-2", "B-1", and "B-2" for proper identification as to the type of pipe.