

# RECOMMENDED RESTRAINED LENGTHS OF PIPE

PIPE: \_\_\_\_\_ PVC, AWWA C900, DR 18

DEPTH OF BURY: \_\_\_\_\_ ONE METRE

MAXIMUM PRESSURE: \_\_\_\_\_ 1035kPa (150 psi, includes surge allowance)

SAFETY FACTOR: \_\_\_\_\_ 2:1

$L$  = LENGTH OF RESTRAINED PIPE (in metres)

NOMINAL PIPE SIZE (mm)	SILT/SAND					WET CLAY					HARD PAN				
	ELBOWS				VALVE TEE END	ELBOWS				VALVE TEE END	ELBOWS				VALVE TEE END
	11'	22'	45'	90'		11'	22'	45'	90'		11'	22'	45'	90'	
100	0.3	0.3	1.8	4.3	12.8	0.3	0.9	1.8	4.6	12.5	0.3	0.6	1.5	3.4	10.4
150	0.6	1.2	2.4	5.8	17.7	0.6	1.2	2.7	6.4	18.9	0.6	0.9	1.8	4.6	14.6
200	0.6	1.5	3.0	7.6	23.5	0.9	1.8	3.7	8.5	24.7	0.6	1.2	2.4	6.1	19.2
250	0.9	1.8	3.7	9.1	28.0	0.9	2.1	4.3	10.4	29.6	0.9	1.5	3.1	7.0	22.9
300	0.9	2.1	4.3	10.7	32.9	1.2	2.4	4.9	12.2	34.7	0.9	1.5	3.7	8.2	26.8

$L$  = RESTRAINED LENGTH FOR BRANCH OUTLET OF DROP IN TEES (in metres)

SOIL (SILT/SAND)	S = LENGTH OF PIPE ON EACH SIDE OF TEE (in metres)			
NOMINAL TEE SIZE	S = 6.1	S = 3.0	S=1.5	S=0.3
100x100	FIRST JOINT	FIRST JOINT	0.3	6.4
150x150	FIRST JOINT	FIRST JOINT	3.4	9.8
200x200	FIRST JOINT	FIRST JOINT	7.0	13.4
250x250	FIRST JOINT	1.5	9.8	16.2
300x300	FIRST JOINT	4.6	12.8	19.5

1. THIS STANDARD TO BE USED IN CONJUNCTION WITH STANDARD DRAWING 1.9
2. WHEN DEPTH OF SOIL COVER IS LESS THAN 0.6M VALUES FOR "L" MUST BE INCREASED BY 30%.
3. WHEN DEPTH OF SOIL COVER IS LESS THAN HALF PIPE O.D. VALUES FOR "L" MUST BE INCREASED BY 100%.
4. WHEN PIPE IS PARTIALLY OR FULLY EXPOSED, ALL JOINTS MUST BE RESTRAINED.
5. WHEN IN DOUBT AS TO SOIL TYPE, DEPTH OR CONFIGURATION USE NEXT LONGEST VALUE OF L.



Making a difference...together

THRUST RESTRAINT  
LENGTH

revision date: Sept. 2024 scale: N.T.S.

standard drawing no.:

1.10