

Sizing of Water Service Pipe for Residential Buildings Containing One or Two Dwelling Units

Size and capacity of potable water system pipe shall be designed in accordance with 7.6.3.1 of Division B, of the Ontario Building Code (OBC). Where both hot and cold water is supplied to fixtures in residential buildings containing more than one unit, the water system may be sized in accordance with the tables in Part 1 and Part 2 of this form, provided, the minimum water pressure at the entry to the building is 200 kPa, the total maximum length of the water system is 90 m, and the hydraulic loads for maximum separate demands on water distribution system piping are not less than 100% of the total hydraulic load of the fixture units given in Tables 7.6.3.2.A, 7.6.3.2.B, 7.6.3.2.C and 7.6.3.2.D, of Division B, of the OBC for private use.

Address:	Date:
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PART 1 – Total Building (All Dwelling Units) Hydraulic Load - Fixture Unit Calculation

Fixture or Device	Fixture Units	Quantity	Total Hydraulic Load (Fixture Units x Quantity)
Bathroom Group with 6 LPF or less flush tank*	3.6		
Rough-in Bathroom Group with 6 LPF or less flush tank*	3.6		
Clothes washer	1.4		
Dishwasher (domestic)	1.4		
Hose bibb (1/2")	2.5		
Lavatory	0.7		
Shower head	1.4		
Shower, spray, multi-head, fixture unit per head	1.4		
Sink, bar	1		
Sink, kitchen	1.4		
Sink, laundry	1.4		
Water Closet (6 LPF or less with flush tank)	2.2		
Other			
Total Fixture Units			

(Fixture Units from Table 7.6.3.2.A, of Division B of the OBC)

*Bathroom group consists of 1 water closet, 1 basin (lavatory), and 1 bathtub or 1 shower

PART 2 – Sizing of Water Service Pipe

Size of Water Pipe	Water Velocity (m/s)	
	2.4 (copper piping, cold water)	3.0 (PEX)
	Hydraulic Load (Fixture Units)	
1 / 2"	Up to 7	8
3 / 4"	7.1 to 16	8.1 to 21
1"	16.1 to 31	21.1 to 43
1 ¼"	31.1 to 57	43.1 to 83

(Above information obtained from Table 7.6.3.4., of Division B of the OBC)

PART 3 – Design of Water Service Pipe

Total Hydraulic Load (fixture units):

Water Service Pipe size

Existing (inches) &
*Proposed (inches)

Water Meter Size

3/4" Water Service Pipe = 5/8" (16mm) Water Meter
1" Water Service Pipe = 3/4" (21mm) Water Meter
1 ¼" Water Service Pipe = 1" (25mm) Water Meter

*If the pipe size must be increased it needs to be upgraded to the property line (curb stop).
Contact the [Water Services Department](#) for any additional connections to Municipal Services.

Designer Information

Name	BCIN	Signature
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