



Water Service Pipe Sizing

For infill residential projects

A. Project Information

Building number, street name		Unit number	Lot/con.
Municipality	Postal code	M-Plan/ R-Plan Number	

B. Specify Infill Residential Project Type

- New Custom Home
- Addition increasing gross floor area by more than 25%
- Addition / Alteration where new construction replaces more than 50% of existing building by demolition

C. Building Drains / Sewers

Water		Sewage	
<input type="checkbox"/> Existing	<input type="checkbox"/> Municipal	<input type="checkbox"/> Existing	<input type="checkbox"/> Municipal
<input type="checkbox"/> New	<input type="checkbox"/> Private	<input type="checkbox"/> New	<input type="checkbox"/> Private Sewer
	<input type="checkbox"/> Private (Well)		<input type="checkbox"/> Private (septic)

D. Water Service Pipe Sizing - Hydraulic Load (Fixture Unit) Calculation

Fixture or Device	Minimum size Supply pipe (inches)	Fixture Units ¹	Quantity		Total Hydraulic Load (Fixture Units)	
					=	
Bathroom Group ² with 6 LPF flush tank	N/A	3.6	x		=	
Bathtub with or without a shower head	1/2	1.4	x		=	
Bidet	3/8	2	x		=	
Clothes Washer, 3.5 kg	1/2	1.4	x		=	
Dishwasher (domestic)	3/8	1.4	x		=	
Shower head, 9.5 L/min or less per head	1/2	1.4	x		=	
Shower, spray, multi-head, fixture unit per head	**	1.4	x		=	
Sink, bathroom (lavatories)	3/8	0.7	x		=	
Sink, bar	3/8	1	x		=	
Sink, kitchen, domestic, 8.3 L/min or less	3/8	1.4	x		=	
Sink, laundry, 1 or 2 compartments	3/8	1.4	x		=	
Water closet, 6 LPF or less with flush tank	3/8	2.2	x		=	
Other (Specify):			x		=	
Total Fixture Units					=	

Note [1]: Fixture Units from Table 7.6.3.2.A of Division B of the OBC

Note [2]: Bathroom group means a group of plumbing fixtures installed in the same room, consisting of one (1) water closet, one (1) lavatory (basin) and either one (1) bathtub, with or without a shower, or one (1) one-handed shower. Additional fixtures within the bathroom to be counted separately.

** Refer to manufacturer's recommendations

E. Design of Water Service Pipe	
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), following Table A-7.6.3.1. Where the total fixture unit values exceed those given in the Table, the system must be designed according to a detailed engineering design method.	
Total Hydraulic Load (Fixture Units):	Incoming Water Pressure ³ (kPa):
Total Length of Water Service Pipe ⁴ (m):	Water Service Pipe Size (mm):
<p><i>Note [3] Submit written confirmation of incoming water pressure obtained from the Environmental Services Department, System Engineering Section (ESSEDEV@MARKHAM.CA).</i></p> <p><i>Note [4] Total length of water service pipe to be measured from water meter to most remote fixture.</i></p>	
F. Declaration of Designer	
<input type="checkbox"/> Designer - BCIN # _____ Submit <u>Schedule 1: Designer Information</u> form	
<input type="checkbox"/> Professional Engineer <input type="checkbox"/> Architect	
First Name	Last Name
I,	
do hereby declare that the information contained in this Water Service Pipe Sizing Form is true to the best of my knowledge and reflects the plumbing fixtures indicated on the drawings submitted with the building permit application.	
_____	_____
Date	Signature of Designer

This is a form prescribed by the Chief Building Official pursuant to the City of Markham Building By-law. Personal information contained in this form is collected under the authority of Subsection 8(1.1) of the *Building Code Act, 1992*, and will be used in the administration and enforcement of the *Building Code Act, 1992*

Explanatory Notes

Every water distribution system shall be designed to provide peak demand flow when the flow pressures at the supply openings conform to the plumbing supply fitting manufacturer’s specifications. Every water service pipe shall be sized according to the peak demand flow but shall not be less than ¾ inch (19 mm) in size.

This checklist is based on the water pipe sizing requirements described in Part 7 of the Ontario Building Code and is not a substitute for complying with the requirements of the Ontario Building Code. While care has been taken to ensure accuracy of this checklist, designers must refer to the actual wording and requirements of the Ontario Building Code.