TOWN OF HALTON HILLS
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WATER SERVICE PIPE SIZING FOR NEW AND EXISTING RESIDENTAL BUILDINGS

Address:
Permit No.:
Owner's Name:
Proposed Work:

Part 1 – HYDRAULIC LOAD, FIXTURE UNIT CALCULATION (OBC Div. B Table 7.6.3.2.)

Fixture or Fixture Group	Hydraulic Load (Fixture Units per fixture)	Number of Fixtures	Total Hydraulic Load (total fixture units)
Bathroom Group (Note 1)	3.6		
Bathroom group with more than 3 fixtures (Note 2)	See Note 2		
Powder Room – 2 pcs (1 water closet & 1 lavatory)	2.9		
Water Closet	2.2		
Extra shower (to be added if there is a separate stand-up shower)	1.4		
Lavatory (8.3 l/m or less)	0.7		
Lavatory (Greater than 8.3 l/m)	1		
Bidet	2		
Bar sink	1		
Kitchen sink	1.4		
Dishwasher	1.4		
Laundry tub (1 or 2 compartments)	1.4		
Clothes Washer	1.4		
Hose BIBB (Garage or external facets) NPS ½ supply	2.5		
Hose BIBB (Garage or external facets) NPS 3/4 supply	3		
Others (Note 3)	See Note 3		
Grand Total Hydraulic Load: (Note 4)			
Existing Conditions (if applicable)			
Existing hydraulic load (fixture units)			
Existing water service pipe size (NPS):			

Notes:

1. Bathroom group means a group of plumbing fixtures installed in the same room, consisting of one domestic lavatory, one water closet with 6 LPF or less flush tank and either one NPS ½ size bathtub, with or without a shower, or one NPS ½ size one-headed shower.
2. Add additional fixtures to the fixture load for bathroom group.
3. For fixtures not indicated in the Table, refer to OBC Div. B Table 7.6.3.2.A to D.
4. Include proposed fixtures for rough-in plumbing and optional fixtures.

Part 2 – SIZING WATER SERVICE PIPES

Maximum Two (2) Dwelling Units

1. Every water service pipe shall be sized according to the peak demand flow but shall not be less than NPS ¾ in size.
2. Except as permitted in item #3, water service pipe sizes for residential buildings containing one or two dwelling units or row houses with separate water service pipes may be sized using OBC Table 7.6.3.4., provided the minimum water pressure at the entry to the building is 200 kPa and the total maximum length of the water system is 90 m.
3. Where both hot and cold water is supplied to fixtures in a house containing one or two dwelling units,

the water service pipe is permitted to be a minimum of NPS ¾ provided,

a. A minimum NPS ¾ water supply piping located in the basement or lower level is extended to the base of every hot and cold riser that serves a maximum of one bathroom group and to the last water supply branch serving any basement bathroom group, fixture supply or hose bib, and
b. The total hydraulic load is not more than 26 fixture units, using the values given in OBC. DIV. B Table 7.6.3.2.A

OBC Div. B Table 7.6.3.4.
Water Pipe Sizing for Buildings Containing One or Two Dwelling Units or Row Houses with Separate Water Service Pipes

Nominal Pipe Size of Water Pipe, NPS	Water Velocity m/s		
	3.0	2.4	1.5
	Hydraulic Load, fixture units		
½	8	7	4
¾	21	16	9
1	43	31	18
1¼	83	57	30

Based on the velocity of_____m/s and _____total fixtures units, a new Water Service Pipe of____inches is proposed, or

Based on the velocity of_____m/s and_____total fixtures units, the existing _____ inch Water Service Pipe is adequate to serve the new construction and will remain as is. (Applicable for buildings with existing water service. The existing service will be reviewed based on the total fixture units.)

More than Two (2) Dwelling Units

1. For residential buildings containing more than two dwelling units or a building with two dwelling units sharing a water service with a detached ARU, the water service pipe can be sized in accordance with OBC Table A-7.6.3.1. of Appendix A or other good engineering practices, such as that described in the ASHRAE Handbooks and ASPE Data Books. Refer to OBC A-7.6.3.1. (2) for a list of documents that are considered good engineering practices in the field of potable water systems.

Based on the available water pressure of _____PSI, the maximum length of the water system of _____m and _____total fixtures units, a Water Service Pipe of_____inches is proposed or,

Based on the available water pressure of _____PSI, the maximum length of the water system of _____m and _____total fixtures units, the existing _____ inch Water Service Pipe is adequate to serve the new construction and will remain as is. (Applicable for buildings with existing water service. The existing service will be reviewed based on the water pressure, the system length and the total fixture units.)

	Name	Signature	Date
Designer			
Owner			

Note: Water Service Connections
Once the size of the water service has been established, it is the responsibility of the owner or the agent of the owner to make an application to the Region of Halton for the appropriate water service connection.

The Region's policy for infill lots is to upsize the water service pipe on the public size if there is more than one trade size difference between the public and the private water service.

Customers should be aware that is, as a result of the Town's plan review, the water service pipe needs to be upsized from what the designer originally specified, a fee adjustment for the water service connection permit will have to be paid to the Region.

Building Services
Tel: 905-873-2600 Ext. 2925