

## Hints on Locating and Correcting Water Leaks in Your Home

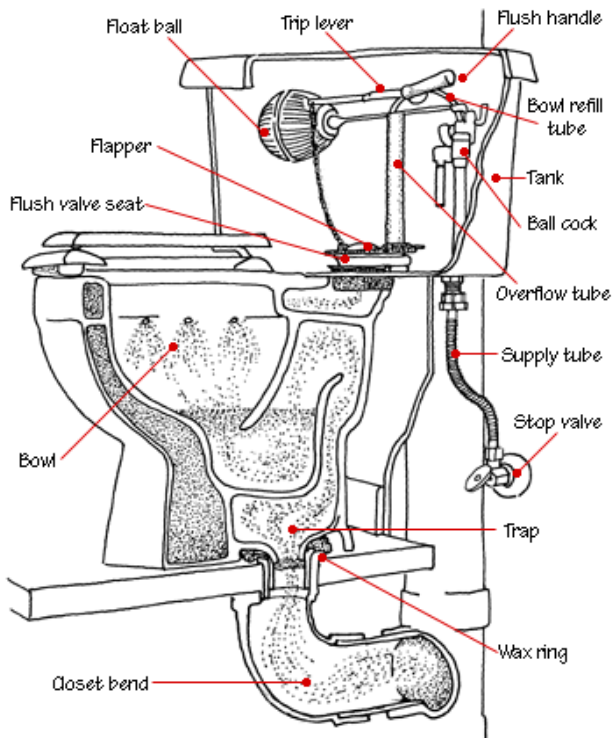
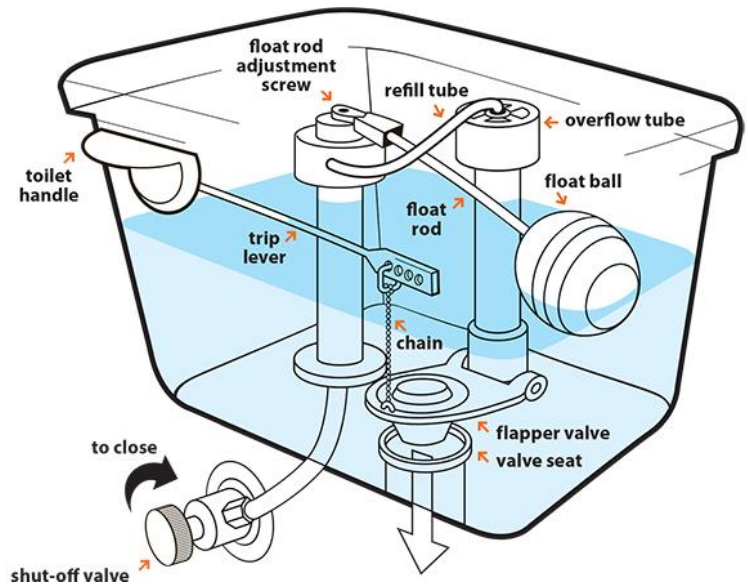
The City of Niagara Falls has the following suggestions to homeowners, these are suggestions only, and a professional should be consulted prior to any home repairs if necessary.

### Toilets:

Many leaks occur in a toilet and may not be recognized if there is no visible sign of a leak. Leaks in toilets can occur at the overflow tube, or at the flapper valve/valve seat on the bottom of the toilet tank

**IMPORTANT: BEFORE** you open or check your toilet for leaks, ensure that your **main water shut off** works, as well as the **shut off below the toilet**.

To check toilets for leakage, take the tank lid off and flush. The water level should come up to about a half inch or so below the overflow tube. If necessary, adjust the float to ensure proper tank water level.



These leaks are more difficult to detect since there is usually no visible sign of water flowing down the drain. If the toilet plunger ball or flap valve does not seal properly, water slowly flows from the toilet tank into the bowl and into the drain.

To detect this, place a small amount of food colouring in the toilet tank – **DO NOT FLUSH** – wait 15-20 minutes to see if the food colouring appears in the toilet bowl.

If it does, then the toilet has a silent leak. If you have already checked the toilet tank overflow pipe, the leak is being caused by an improperly sealed flapper valve/valve seat.

These leaks can usually be fixed with parts from your local hardware store, or you may want to have a professional plumber make the repair.

## Faucets:

Leaks may occur at sink and bath faucets as well as outside faucets (sill stops). In most cases these leaks are caused by worn washers, "O" rings and/or packing. Even a slow drip from a faucet can have a big impact on your water consumption. A two-drop per minute drip from a single faucet can translate into more than 3,000 (3 cubic meters) per bi-monthly billing cycle.

**Note: Contact a plumber before doing any testing or repairs if you are not comfortable with these types of faucets. The following is for information only.**

### How to repair your washer-type faucet

#### Step-by-Step

First shut off the water supply to the faucet you are repairing. The faucet shut-off is located under the sink. Remove the cap on the faucet handle. Remove exposed screw by turning counter-clockwise (brass screws are soft, so be careful not to strip the slots), then pull handle off. Use an adjustable wrench or end wrench to remove nut (put a cloth between the wrench and nut to prevent scratching). Loosen stem with pliers, then remove by hand.

Replace the rubber washer which pushes against the brass seat inside the faucet to stop the flow of water. If you are replacing faucet washers often (every few months), you may need to replace the valve seat. The brass seat can be removed with a valve seat tool.

#### Tools you'll need

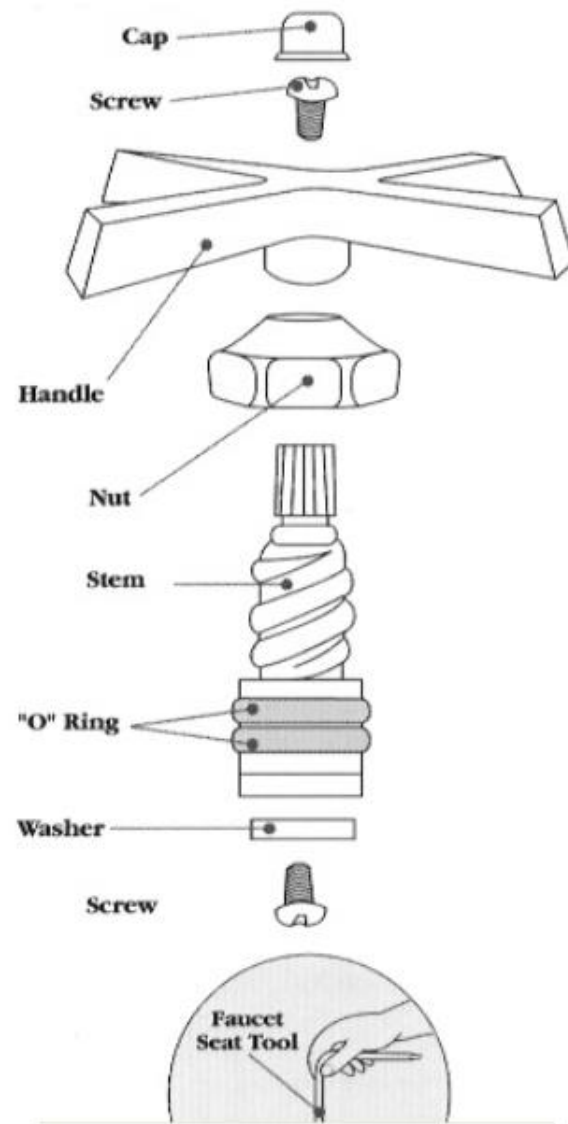
Screwdriver	Pliers
Adjustable wrench	Faucet seat tool

For a more complete faucet repair guide, see your local plumbing store or home improvement center.

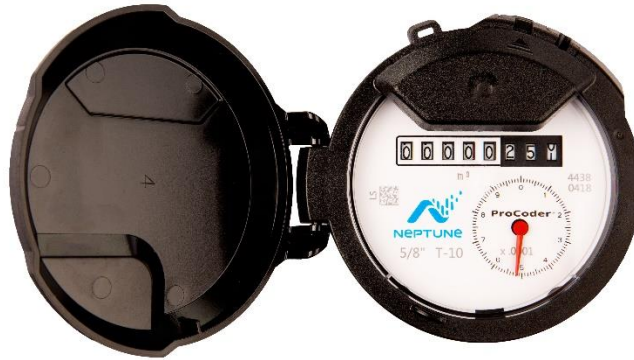
#### Outside Taps (Sill Stops)

Most homes have at least two sill stops. These may also leak and cause water loss or be left on when hoses are attached, relying only on the spray nozzle to stop the water flow. Most hoses are not designed for continuous pressure, and the valve mechanism in the nozzle is not as reliable as the shut off on the sill stops.

Occasionally leaks develop in the hose or a sudden rupture may occur, causing thousands of litres of water loss, before the homeowner is aware of the problem. Leaving sill stops on in freezing weather may also cause pipes or hoses to rupture and cause sever leaks. To prevent these problems, locate the water supply shut off valve within your home for each outside water faucet, and make sure this valve is closed and drained after using the sill stops.



## Water Meters



### **Use your meter to check for leaks!**

After you have checked your taps and toilets, try this last test.

Shut off all taps and appliances that use water in the home. Then, check your meter. If you still see the red needle moving clockwise, then there could be a leak somewhere in your system. One revolution of this needle represents 1 litre of water. Recheck your taps, toilets and appliances, and call a plumber if required.

### **Is your meter at fault?**

**Meters in homes typically under read by 3%.** In other words, they do not capture all of the water consumed in your household.

Residential water meters are “positive displacement” meters, which only read when water is moving through the meter. **Typically, if there is a problem with a meter, it will be found to read under – in favour of the homeowner.**

After checking all of the above possible leaks, if you feel your meter is incorrect (reading over what you feel you use), the City will remove and test the meter, upon written request of the homeowner with payment of a deposit as per the Schedule of Fees.

Should the meter, when tested by an independent tester, be found to register in excess of three percent (3%) in favour of the City – no charge shall be made for the costs of removing, testing, and replacing the meter.

If the meter, when tested, is found to register correctly or register in favour of the owner, it shall be deemed to measure accurately and the cost of removing, testing, and replacing the meter shall be paid at cost. The deposit will be used to off-set this cost, and the balance will be billed to the homeowner. The City will bill at the true value of the time, materials, and current labour rates, as well as the current rate for the testing fee charged by the independent tester.

## Water Loss Costs

Water pressure may vary throughout the City, however, using an average water pressure of 70 PSI (pounds per square inch), the following is an approximation of the amount of cubic meters lost, based on the size of a hole in your water service.

Please note: one cubic meter = 1,000 litres, or approximately 264 US gallons.

### APPROXIMATE WATER LOSS IN CUBIC METERS

Size of Hole	Cubic Meters Lost per Hour	Cubic Meters Lost per Day	Cubic Meters Lost per Month	Cubic Meters Lost per Year
1/32"	.031	.74	22.0	270.0
1/16"	.169	4.0	121.0	1,460.0
1/8"	.676	16.0	486.0	5,840.0
1/4"	2.7	65.0	1,950.0	23,725.0

To calculate the above examples with today's rates (2021), the following is an excerpt from the rates currently charged as per the **Water Use By-Law 2007-161** as amended.

<b>Water Consumption Rates:</b>	<b>Water</b>	<b>Sewer</b>
	\$1.267 per cubic meter	\$1.369 per cubic meter
	<b>Combined: \$2.636 per cubic meter</b>	

For example:

If you had a 1/32" hole, somewhere in your service, and lost 270 cubic meters per year, the dollar cost lost to you would look like this:

Water Consumption	270 cubic meters	x	\$1.267/m <sup>3</sup>	=	\$342.09
Sewer Consumption	270 cubic meters	x	\$1.369/m <sup>3</sup>	=	<u>\$369.63</u>
	<b>Estimated Total Lost Dollars</b>			<b>=</b>	<b><u>\$711.72</u></b>

**Leaks are costly, but an informed consumer saves money and is our best conservationist.**