

LEAK DETECTION GUIDE



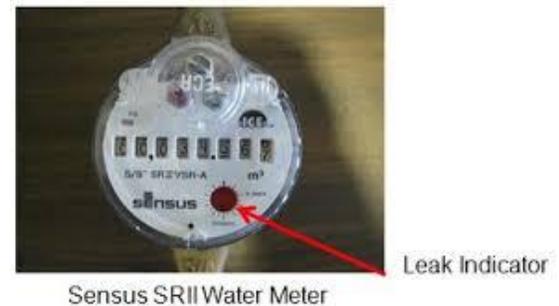
Your Guide to Home Water Conservation

CITY OF BELLEVUE UTILITIES

WATER & SEWER DEPARTMENTS

WHERE TO START

If you receive a high water bill, or think there may be a leak in or around your home, a good place to start is at your water meter. Typically, the water meter here in the City of Bellevue is located in your basement or crawl space, but in some homes, they are located in a meter pit in the front yard, close to the sidewalk. Make sure to have a pencil or pen and some paper handy. The meter face will look similar to, or exactly like the diagrams below.



A HIGH BILL USUALLY MEANS A LEAK

Do you know that approximately 50% of all households have some kind of plumbing leak? Most of the leaks are due to worn out washers, flappers or faulty tank valves, which can result in hundreds or thousands of gallons of water wasted needlessly. Not only is this a waste of natural resources, but it also registers through your water meter, which will affect your water bill.

This guide was created to illustrate common household plumbing problems and will not only save time, but will help to avoid costly repairs.

FOLLOW THESE STEPS TO DETERMINE IF THE WATER METER HAS BEEN MISREAD

- 1) To determine if the meter has been misread, simply copy down the numbers (from left to right) on the meter's cubic feet register. This looks similar to a car odometer.
- 2) Compare the numbers on the register to the numbers indicated as "current reading" on your latest utility bill. The reading should be equal to or higher than the current utility bill reading.
- 3) If the reading on the meter is lower than the reading indicated on your bill, the meter may have been misread. Please call our Utility Billing Office at (419) 483-7497 for a re-read and a correction of your bill.
- 4) If the meter reading is substantially higher than the reading on your utility bill, there may be a water leak in your home.

Most meter faces have a flow indicator (small in size red or black in color, circular or triangular in shape), color or a round circle with a plus sign. If there is no water being used at the time of inspection, and the flow indicator is moving or spinning, this is a good indication that there may be a leak somewhere in or around your home.

Not all leaks are big and clearly noticeable. If the meter does not have a flow indicator or the flow indicator is not moving, continue with these steps to further evaluate the situation.

PINPOINTING THE POSSIBLE LEAK

- 1) Copy down the numbers (from left to right) on the meter's cubic feet register. Do not use any water for a period of two (2) hours. Take another reading from your meters cubic feet register after the two (2) hours testing period, and compare it to the first reading. If the reading is higher, there may be a water leak.
- 2) To help pinpoint the location of the leak as inside or outside the dwelling, close the house valve (generally located on an outside wall where the waterline enters the dwelling or near the water heater).
- 3) Repeat step No. 1 above. If the meter continues to move, the leak may be outside the home in the service line that leads from the meter to the home, or in any water-using device that may be hooked to the system outside the home.
- 4) If the meter does not move after your second test, the leak may be inside the home. This guide contains helpful hints that may assist with leak detection inside and outside the home.

CHECKING THE TOILET

The most common toilet leaks can be the most costly because they represent the greatest water usage in the home. A leaky toilet can waste over 200 gallons of water per day! Left unfixed, it can waste over 73,000 gallons of water a year. Most toilet flush tanks work in the same way. The tank contains two valves: a flush valve and a refill valve. One type of refill valve is commonly called a ballcock/flush ball valve. (Diagram A). The other type of flush tank is the modern plastic valves. Here are some easy ways to check for and fix a toilet.

CHECKING FOR LEAKS

To check for both the flush valve and the refill valve for leaking, simply put a couple drops of dark food coloring or a dye tablet in the tank. Do this when the tank is fully refilled after a flush. Do not use the toilet. Then check the bowl after 20 minutes. If the colored water is in the bowl, there is a leak. Depending on the problem, one of the following actions may stop the leak:



ADJUSTMENT OPTIONS FOR THE BALLCOCK/FLUSH VALVES

- 1) Bend the end of the float arm to adjust the tank water level to below the top of the overflow pipe.
- 2) Replace the float ball which may have filled with water.
- 3) Replace a faulty or corroded float ball or shut off valve.
- 4) Tighten a loose trip handle by turning the nut counter-clockwise (looking from inside the tank).
- 5) Straighten the control arm so it is free to move up and down without touching surrounding parts.
- 6) Replace a sticking rod guide or ball rod.
- 7) Clean a corroded brass valve seat with steel wool or No. 500 wet-or-dry abrasive paper.
- 8) Raise the guide arm if it does not allow the flush ball to raise enough for a complete flush. Be careful not to adjust too high, which will prevent the ball from completely closing.

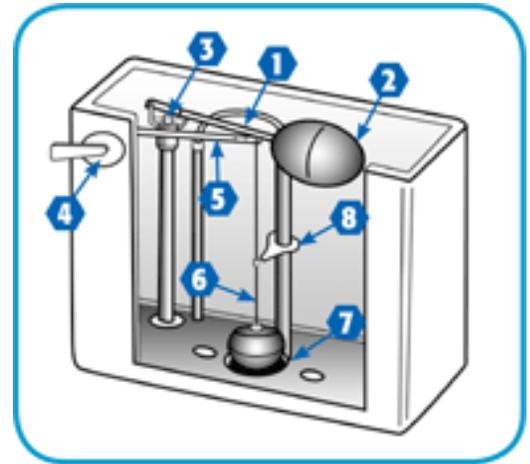


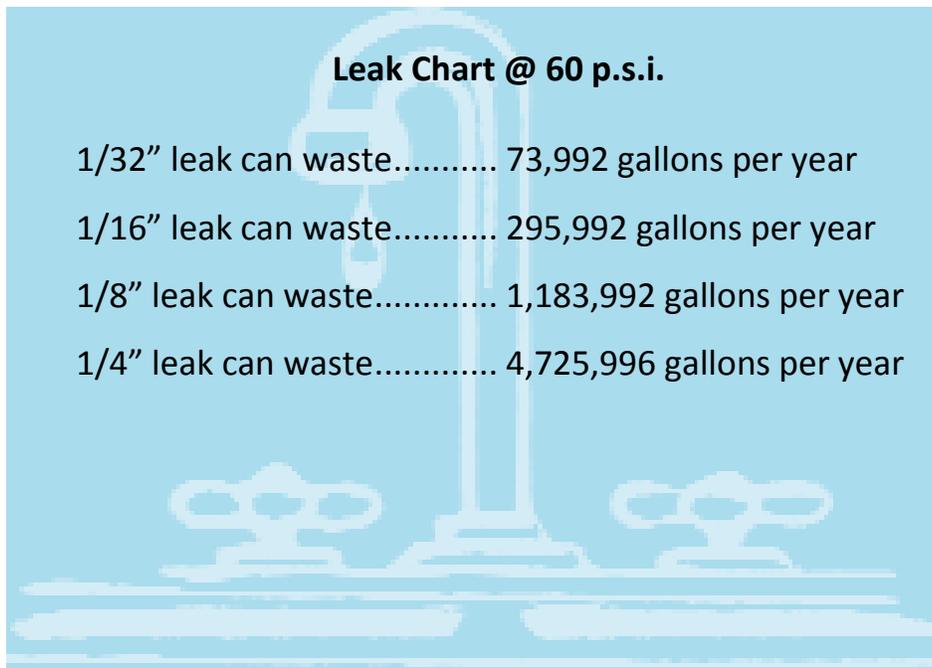
DIAGRAM A

FAUCET LEAKS

Another common source of leaks is the faucet. Whether in the kitchen, bathtub or shower, a leaky faucet can waste more than 20 gallons of water per day. Leaking faucets are usually caused by worn washers or “O” rings. Water lost because of a delay in leaky faucet repair can be more costly than buying replacement parts. The chart below shows how much water a “slow drip” can waste, assuming there is standard 60 psi (pounds per square inch) pressure in your pipe.

Leak Chart @ 60 p.s.i.

1/32” leak can waste.....	73,992 gallons per year
1/16” leak can waste.....	295,992 gallons per year
1/8” leak can waste.....	1,183,992 gallons per year
1/4” leak can waste.....	4,725,996 gallons per year

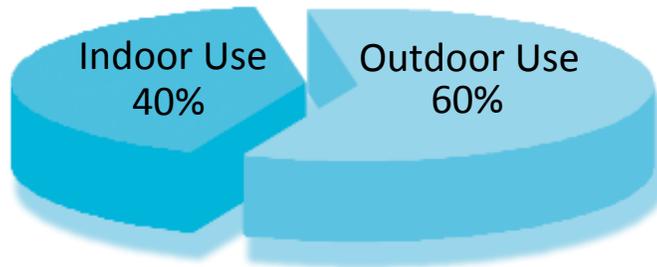


SOME INTERESTING FACTS AND STATISTICS

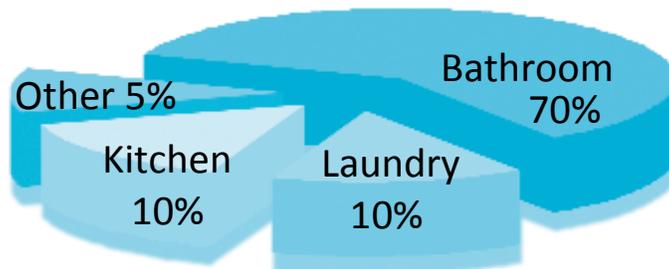
The typical family uses about 70% of their water in the bathroom. This is partly because water is used at a faster “flow rate” in the bathroom than in any other parts of the home. Toilets and showers have a flow rate of 5 to 7 gallons per minute: dishwashers and clothes washers use less than three gallons per minute.

- Toilet..... 5 to 7 gallons per flush (Non low-flow toilet)
- Shower.....5 to7 gallons per minute (Non low-flow shower)
- Bathtub.....36 to 60 gallons per bath
- Dishwasher10 to 25 gallons per cycle
- Washing Machine.....20 to 45 gallons per load
- 1 Cubic Foot of Water equals.....7.48 gallons of water
- 1 Gallon of Water weighs 8.34 pounds

Total Home Water Usage



Indoor Water Usage



Outdoors

Check the outside taps for leaking water, particularly during the peak summer watering season. A hose hidden in the grass, accidentally left dripping, can waste thousands of gallons of water over the course of a summer.

Outdoor Conservation Tips:

- ✓ Water only when your grass shows signs of stress, wilting or discoloration, or when footprints are visible after you walk on it.
- ✓ Add a rain sensor device to your lawn sprinkler system.
- ✓ Water only in the morning or evening when evaporation levels are lowest and only on authorized days and during authorized hours.
- ✓ Use sprinkler heads that distribute big drops of water close to the ground. Smaller drops and mist often evaporate before hitting the ground.
- ✓ Consider Florida-friendly landscaping which is the planting of native, drought-tolerant, climate adapted plants in your yard.
- ✓ Newly planted Florida-friendly landscaping requires 30 days of irrigation to establish its root system. After this time, natural rainfall is the only water needed!

“We do not
inherit this land
from our ancestors;
we borrow it from
our children.”
— *Native American proverb*