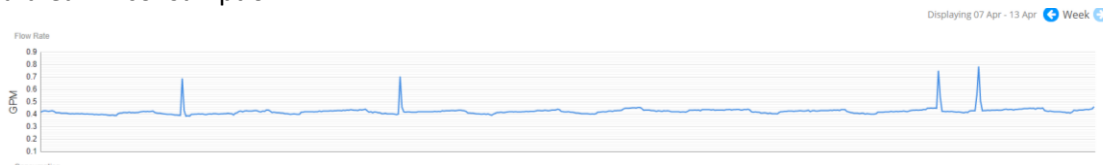## Leak

A leak is determined when water is moving through the meter for 24 continuous hours without a break in consumption.



## Threshold Leak

This flag will appear when there is a leak occurring at a home that is more than a quarter gallon per minute (.25 GPM+)

## Intermittent Leak

This flag indicates there was high usage for a long period of time throughout the day, typically indicative of a toilet leak. The long spikes of high usage could be when someone flushed the toilet, the toilet started running until someone noticed a few hours later, jiggling the handle and stoppping the toilet flow.  This flag will only show on the VN meters.



Check out our video for more information on intermittent leaks https://youtu.be/zOpfmV_VcuY

## High Usage

A High Usage flag will appear when a home uses 1000 gallons or more within a 24-hour period. The consumption threshold can be changed under the Settings tab.

## Backflow

When the meter detects water moving backwards through the meter, the backflow icon flags:
• Backflow is usually caused by a drop in main line water pressure.
   • High demand: many people using water at the same time
   • There is not enough water in the main to keep high enough pressure to prevent a little water from slipping back from home into the main.

• Can be caused by a meter being installed backwards. The read will look like 9999945 (many 9's), and the 24-hour consumption will be negative. The numbers can still be used to determine bill amounts, but any backward meter should be fixed.
   • Backflow in a few non-backwards meters is usually not a problem.
   • Check for no negative consumption numbers in the pink chart on the individual meter page.

• *However: if many meters suddenly start to backflow, it may indicate a leak in the main line*
   • A main line leak allows water to continuously leave the main line, so the pressure never stays high enough to prevent backflow.

**Zero Usage Flag**

A Zero read will appear when no water has passed through the meter for 15 days or more. This can be caused by either a vacant home, a tenant on vacation, or if the meter is jammed (on an occupied home). If the meter is jammed or clogged, the meter would need to be removed from the home, flushed out with water, and reinstalled to start showing consumption again.
Check out our video on how to clean out a meter https://youtu.be/5QZj0GZ6TcY

**Percent Use Flag**

This flag means that the water was moving through the meter for 55% of the day or more. Another way to view that is there are 24 hours in the day, and if water is moving through the meter for 13 out of 24 hours, then this flag will appear. (For a VN meter there are 288 data points in one day, so if the meter measures water 158 out of 288 times, this flag will show)

**Negative Read**

This typically only happens if a meter is installed backwards. The meter would need to be removed from the line, flipped around, and reinstalled. The good news with negative reads is that it's still measuring consumption; for example, a 24-hour read of -45 gallons really means the tenant used 45 gallons that day.

**No Read (Missing Read)**

A meter is considered a "Missing Read" when it has not been able to send its information to the system for 15+ days. In the Account Lookup screen, under the Read Date column the date should be today's date. Some things that can cause missing reads are:
Radio Meters: meters installed under homes with metal skirting, if a home has a lot of debris built up outside the skirting, or if the meter malfunctions (i.e., battery dies, screen goes blank etc)
Cellular Meters: Antennas did not connect all the way to the meter (or the antenna is missing), meters installed in pits that are filled with water, or if the meter malfunctions (i.e., battery dies, screen goes blank etc)
We have antennas you can swap out the meter tops with that will help the signal strength of the meter

**Low Temperature**

If the ambient temperature of the meters drops below a certain threshold, the low temperature flag will appear. You can change your temp threshold in the settings page in WaterScope.

**Signal Strength RSSI**

This function defines when the utility will be notified of endpoints with Low signal strength; it is designed to notify the utility when signal strength is deemed a potential problem, but not to create a nuisance with an overload of alerts. An endpoint will be flagged and included in the notification report if the RSSI is less than 15dB

**Unauthorized Use**

Meters will show this flag is the meter is predetermined to not have use on it. This is useful for vacant units that you are not expecting to see usage on.

**Emergency Transmit** 
This flag will trigger if the meter recognizes a leak that is 0.25GPM for 75 minutes

**Time Restriction Violation**
You can predetermine specific weekdays for end users to allow irrigation. If the meter detects irrigation during a non-watering day, then the system will trigger a Time Restriction Violation flag.