

discovered. This alternative is often easier and cheaper than locating the leak and making repairs. If you don't have a service line valve at the house, it would be a good idea to install one.

Leaking Sprinkler Heads

Sprinklers and other irrigation fixtures should be checked monthly. Turn on your system and walk around to check for misdirected or poorly functioning sprinkler heads. Repairs should not be delayed, as a leak will decrease the system's performance. Be sure to keep grass clipped around the heads so that it doesn't interfere with the spray pattern.

Leaking Valves

Irrigation valve leaks can be detected by listening to each individual valve in the same manner as the valve on the service line. If a leak is found, the water should be turned off and the valve cleaned, repaired or replaced. After you take the valve apart, look at the diaphragms inside. Wash off any specks of rust or other debris, because a small piece of debris can cause the valve to leak. More often than not, a cleaning will solve your problem. Diaphragms that have become hard or cracked should be replaced.

Hose Spigots

What appears to be a harmless dripping hose spigot can waste a lot of water and raise your water bills over the billing cycle. Just under the handle is a packing nut that may be tightened with a wrench, in a clockwise direction, to stop a dripping spigot. This is usually enough to stop a leak, but a persistent drip may indicate that the spigot needs to be replaced.

Drip Irrigation Systems

Drip irrigation will save a great deal of water, but only if used properly. Information provided with drip kits may suggest watering schedules that are excessive. There are a number of simple practices that will really pay off, so if you have a drip system, or are contemplating installing one, be sure to read the handout on *Drip Irrigation*.

Drip Emitter Problems

Drip emitters should also be checked monthly in the same manner as sprinkler heads. They are often made of hard plastic, and are subject to breaking off when they are stepped on. If an emitter becomes clogged, it should be cleaned out or replaced. There are many kinds of emitters currently on the market, so do some window shopping before you buy. Emitters that can be disassembled for cleaning and adjusted for flow are particularly desirable, and should last much longer.

Additional Information

More information is available on solving your water use problems. If you need to speak with someone or need assistance in finding a water leak, call the Public Works Department at (805) 473-5440.



CITY OF ARROYO GRANDE WATER CONSERVATION PROGRAM

READING YOUR WATER METER

Overview

Your water meter is an important tool for understanding and monitoring your water use. After you read this information, you will be able to use the meter to determine if you have a water leak, measure the amount of water leaking, and monitor your overall water use. The information in this handout applies to a residence with its own meter.

There are some things you should know before you read your meter. Most residential meters are the odometer type. An odometer is one large dial, and it reads in a straight line, much as a car odometer reads. It also has a sweep hand. For most meters, each complete revolution of the hand indicates one cubic foot (7.48 gallons) of water has passed through the meter. Your meter is read about every 60 days, and the result is recorded in billing units. One billing unit is 100 cubic feet, or 748 gallons.

How to Read Your Meter

To read your meter, look at the straight row of numbers on the dial. For odometers, the last 2 numbers are ignored, as they represent a fraction of one billing unit. On electronic meters, the last 4 numbers are ignored.

Detecting Leaks

If you have a leak, it usually can be detected at the water meter. You must first make sure that no one will be using even the smallest amount of water while you are checking for leaks. Newer meters have a small triangle, disk or arrow on the face of the dial, which are either a black, white or red color. This is a very sensitive "leak detector." Even a small leak will be indicated by a rotating triangle. If after a few seconds, you see no clear movement, you probably don't have a leak, unless it's an intermittent toilet leak.

For meters that have no leak detector, you can use the sweep hand to check for leaks. Make a note of where the sweep hand is pointing, and then come back in about 20 minutes. Do not use any water during this test period. If the hand has moved, you have a leak. You can determine how much water is leaking by following the directions under the heading, "Measuring the Water Use of a Fixture."

Projecting Your Water Use

Look on your last bill under the heading "Meter Readings." Listed under the word "Present" is your last read. Subtract that read from the current number

that you read off of your meter. The difference is how many units of water you have used since your last water bill. Now look on the bill where it says "Service Period." The second date under that heading is the date your meter was last read. The number of days from that date to the present is the number of days that you have been using water since the last read.

If, for example, you have used 2 units in the 10 days since your last read, you can use that information to estimate how much water you may use by the end of the current billing period. Here is how you do it: Since there are about 60 days in each billing period, divide 60 by the number of days since the last read (10). Take that answer (6) and multiply it by the number of units you used since the last read (2). The answer will be your estimated use.

60 days per billing period / 10 days since last read = 6 day increment
6 day increment x 2 units = 12 units per billing period

Based on your current rate of use, 12 units is an estimate of the water use that will show up on your next water bill. You can use the information on the back of your bill to translate that number into a dollar amount.

Measuring Water Use of a Fixture

To perform this measurement you will need a calculator, a stopwatch or wristwatch, a pencil and a piece of paper. First make sure that no one will be using water during your test, then turn the water fixture on that you wish to measure. For instance, if you want to measure how much water your back lawn uses, turn on those sprinklers and then go to your meter. You will be measuring your water consumption for one minute.

For a single family residential dwelling, each revolution of the sweep hand means you have consumed 7.48 gallons. The dial is divided into 100 points, and also into units of ten. If you measure water use for one minute, the meter will register how much water you use per minute. Simply count the number of points consumed during the minute and treat it as a decimal value of 7.48 gallons. For instance, if the meter turns 95 points, multiply 7.48 gallons by 0.95, and you get an answer of 7.106 gallons per minute. Simply multiply that answer by the number of minutes you water each time, and your answer will be how many gallons you use each time you water the lawn. In this case, if you water 20 minutes, the problem is solved by the following:

Calculating Water Use

Using the example above:

7.106 gpm x 20 minutes = 142.12 gallons consumed each time you water that lawn.

You can convert this number into billing units by multiplying it by the number of times you will water during the 60 day billing period, then dividing the answer by 748.

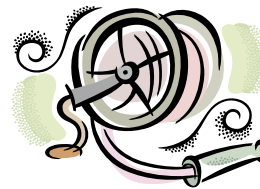
For example, if you will be watering 24 times, your water use in billing units will be as follows:

$$142.12 \times 24 = 3410.88 \text{ gallons per billing period}$$
$$3410.88 / 748 = 4.56 \text{ billing units}$$

You can attribute 4.56 units on your next water bill to that area of lawn.

The City's current water charges (as of 7/1/12) are based on the following tiered rate system for single-family residences (bi-month):

1-12 billing units are charged at \$2.72
13-32 billing units are charged at \$3.02
33-64 units are charged at \$3.41
Over 64 units are charged at \$4.14



OUTDOOR WATER LEAKS

An important tool for making repairs is the customer valve on the meter. If you have one, it is located on the customer side of the meter, and it can be used to turn off the water to your home while you make repairs.

Outdoor water leaks are very common and easy to find, but they tend to go undetected. After you read this pamphlet, you will be able to locate the most common leaks. You will also receive important tips to help you repair them.

Service Line Leaks

Your service line runs from the meter to your house. Determining if there is a leak can be done by isolating the line from the rest of the system. Many homes have a shut-off valve at the front of the house. Look for a pipe rising from the soil and entering the house. There should be a valve on the line, and possibly a hose bib as well. If this is the service line, then water pressure to the rest of the house will be shut off when you close the valve. The meter can then be checked for leaks, and if the meter is turning, you probably have a service line leak.

Caution should be used here – there could be a defective valve that is allowing a small amount of water to leak through the valve. To determine this, close the valve, then listen to the valve and the line before and after the valve. A service line leak may be audible as well, but a valve leak will be louder on the valve, and quieter as you move away from the valve. To listen, touch one end of a metal tool (e.g. screwdriver) where you wish to listen, and place the other end against your ear.

By the time an older line begins to leak, it probably has developed other problems. You should consider replacing the entire service line if a leak is