



# Water Use Home Survey Kit



*Saving Water for  
Stockton's Future*



**866.STOKWTR**

**(866.786.5987)**

**[www.stocktongov.com/MUD](http://www.stocktongov.com/MUD)**

Thank you for your interest in becoming more water efficient! Your efforts to save water will benefit you, our community and our water resources and supplies.

This Home Survey Kit will help you determine how to save up to 25% of the water used inside and outside your home or business.

Follow the steps in this survey kit to determine if you have leaks, if you are irrigating your landscape appropriately and whether your home is already water efficient or would benefit from our FREE water-efficient devices.

Once you complete and return this survey, a FREE water saving kit will be delivered to your home/business. (Please check the box of interest on Water Survey Results Form). The kit includes:

- Low-flow showerhead(s)
- Toilet flapper(s)
- Low-flow faucet aerators
- Positive shut-off garden hose nozzle

For more information on the Water Conservation Program, including rebates and/or incentives, call our hotline: 866.STOKWTR (866.786.5987) or visit: [www.stocktongov.com/MUD](http://www.stocktongov.com/MUD)



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Survey design and content credit to: City of Santa Rosa

# STEP 1: READ YOUR WATER METER

If you live in a multi-family complex, skip this step and proceed to STEP 2.

**1. Turn off all water-using appliances.**

**2. Locate your water meter.** The meter box is usually found at the curb in front of your home. Carefully remove the meter box lid using a tool such as a screwdriver. Some meters have wires attached to the lid for the antenna. Remove the meter lid slowly and gently to avoid breaking the wires.

**3. Read the water meter** and record all seven or eight digits including zeros in Table 1.1. Reading a water meter is similar to reading an automobile odometer. The numbers on the face of the meter are called the *readout* (see Figures 1.1 and 1.2). When water passes through a

Figure 1.1 Touch Read or Radio Read Meter Face with 8 digits



Low-Flow Indicator

Figure 1.2 Traditional Meter Face with 7 digits



Low-Flow Indicator

Table 1.1 Meter

Current Meter Read							

Table 1.2 Leak Entry

Leak?	Yes	No

Traditional Meter (Figure 1.1), all of the numbers revolve except the last digit on the right which is a fixed zero. The large sweep hand registers for this last digit revolving one time for every ten gallons measured. TouchRead and RadioRead Meters (Figure 1.2) do not have a sweep hand and therefore all the digits on the readout move.

**4. Check your meter for leaks.** If the water meter's low-flow indicator is moving when all your water-using fixtures and appliances are turned off, you have a leak. Record your results in Table 1.2. In STEPS 2 through 6, you will find instructions to help find leaks.

## STEP 2: INDOOR WATER USE

### Measure Faucet and Showerhead Flow Rates:

To complete the table below, use an appropriate catchment device such as a small bucket or milk jug. Run each fixture at full flow for 5 seconds. Use a measuring cup to determine the volume (how many cups). Use conversion chart to the right to convert to gallons per minute. Enter results in Table 2.1.

CUPS	GPM
1	0.8
1.5	1.1
2	1.5
2.5	1.9
3	2.3
3.5	2.6
4	3.0
5	3.8
6	4.5

### Common Indoor Leaks:

1. Toilets
2. Hot Water Heaters
3. Dishwashers
4. Ice Maker Hose
5. Faucets

Table 2.1 The Fixture Flow Rate Table

Fixtures	Flow Rate (gpm)*				# of Non-Efficient	# of Efficient
Bathroom Faucet(s)						
Showerhead(s)						
Kitchen Faucet(s)						
Other Faucet(s)						

\* Gallons per minute

\*\* Non-efficient is a flow rate higher than 2.2 gpm for bathroom and kitchen faucets and higher than 2.5 gpm for showerheads.

## STEP 3: CHECK FOR TOILET LEAKS

Toilets are the most common source of indoor leaks. Even if your meter's low-flow indicator is not moving, you may still have a leak. Here's how to see if your toilet is leaking.

- 1. Place a few drops of food coloring in each toilet tank** (Figure 2.1). Wait 15 minutes. Do not flush the toilet during this time. If colored water appears in the toilet bowl, you have a leak from the tank into the bowl.
- 2. Check the flapper** (Figure 2.2)(A). It may be worn and need replacing. If the flapper isn't worn, check to see if it fits into the flush valve (B) snugly. The valve may need cleaning. Then, if the flapper still won't seat properly, straighten the guidewire (C) and make sure it's not catching on anything.
- 3. Check overflow tube** (D). If the water level is less than 1/4 inch below the top of the overflow tube, this could lead to a leak. It is recommended to have the water level lowered to prevent water from spilling into the overflow tube.
- 4. Adjust the float arm** (E) down to shut off the valve before water spills into the overflow tube or replace the float valve (F).
- 5. Listen to your toilet** If your toilet won't shut off, whistles or whines after adjusting the float valve, you may need a new ballcock.



Figure 2.1  
Food coloring

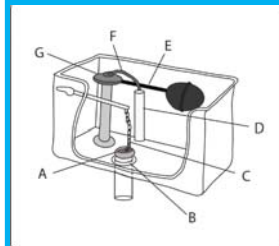


Figure 2.2  
Diagram of Toilet Tank

## STEP 4: TOILET VOLUME AND EFFICIENCY

Determine the Volume and Efficiency of Your Toilet:

**1. Locate the Manufacture Date Stamp.** Most toilets have the manufacture date stamped on the inside of the tank. For the date, check the inside of the tank on the back wall (near the water level) or on the underside of the toilet tank lid. Refer to Table 4.1 to determine the flush volume of your toilet. Enter this information into Table 4.2.

**2. Measure Your Toilet.** If you can't find a date, use this easy calculation to determine your toilet flush volume. Use the inches side of a ruler to:

- a. Measure the inside length of the tank.
- b. Measure the inside width of the tank.
- c. Place the ruler in the tank and measure the water depth when full; flush the toilet, and measure the tank level at its lowest. Subtract the difference between these two levels.
- d. To calculate cubic volume, multiply **a x b x c**.

Divide the tank volume by 231 to convert from cubic inches to gallons.

Table 4.1 Toilet Flush Volume by Toilet Year:

Toilet Date	Gallons per Flush (gpf)
Before 1980	5 gpf*
1980 to 1991	3.5 gpf*
1992 to Present	1.6 gpf or less

Table 4.2 Toilet Flush Volume Date Entry:

Toilet	Gallons per flush	Non-Conserving 3.5 gpf or greater	Conserving 1.6 gpf or less
1			
2			
3			
4			
Total			

\* Average water savings to upgrade your toilet is 5,250 gallons per year. High-efficiency toilets typically payoff in less than two years based on water and sewer savings.

## STEP 5: REVIEW OUTDOOR WATER USES

Water management is key to conserving water in the landscape. By knowing how much water your plants need, you can apply the right amount, have healthier plants and save money. A site that implements all of the following steps may reduce their landscape water use by 50 percent.

### 1. Inspect your sprinklers.

- Water from one sprinkler head should reach the sprinkler head(s) adjacent to it. This overlapping pattern will provide the most even application of water, which is especially important for lawns.
- Straighten leaning sprinkler heads.
- Raise sprinklers that are too low.
- Clean clogged spray nozzles.
- Replace broken, worn or leaking sprinkler heads.
- Trim plant material to prevent interference with the spray pattern.

### 2. Monitor and adjust your irrigation runtimes (minutes).

Monthly, or even weekly, adjustments that match weather conditions provide the greatest potential for water savings.

#### Online Gardening Resource



View local low-water use gardens and get water-saving tips online. You can also create a plant list, group plants according to water needs, and access several garden resources online by visiting:

[www.stockton.watersavingplants.com](http://www.stockton.watersavingplants.com)

## STEP 5: REVIEW OUTDOOR WATER USES cont'd

**3. Irrigate in the early morning, pre-dawn hours,** when less water is lost to wind and evaporation. If you have a manual watering system, choose the least windy period of the morning to water. Evening watering is less desirable because fungus diseases have all night to attack moist foliage.

**4. Avoid water waste and runoff.** When using sprinklers, water for short periods of time instead of one long irrigation event so water is able to soak into the soil (i.e., apply 15 minutes in three 5-minute applications, separated by one hour each). Most irrigation controllers will allow this watering pattern by using "multiple start times."

**5. Group plants according to their water needs.** Irrigating plants with different water needs on the same irrigation valve means some plants can receive the right amount of water while the other plants receive too much or too little water. When planning an irrigation system, group plants with similar water needs on the same valve.

**6. Convert overhead sprinkler systems to drip irrigation.** Drip irrigation slowly applies water right to roots of the plant material, minimizing water lost to runoff, overspray and evaporation.

**7. Check for breaks or leaks in the irrigation system.** Just like a car, an irrigation system needs regular "tune-ups".

***Stockton Municipal Code 13.28 prohibits landscape irrigation between the hours of 11:00 am and 6:00 pm***



## STEP 6: ISOLATE THE LEAK

*Note: **Only** complete this step if your meter indicated a leak in STEP 1.*

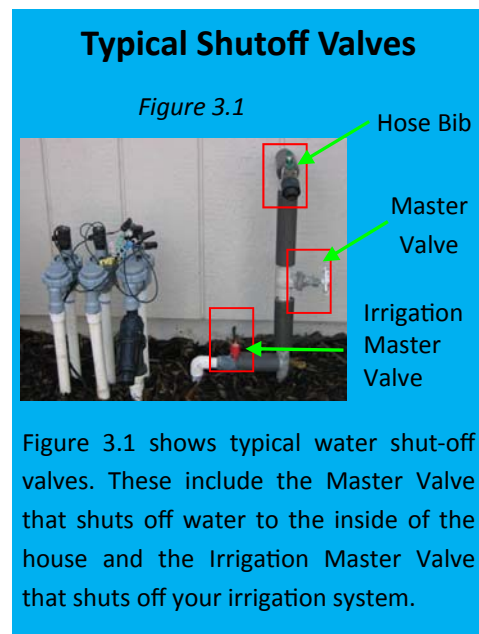
**1. Turn off the master water valve and the irrigation master valve** (Figure 3.1).

The master water valve is usually located outside the front door or on the side of your house, in line with the hose bib. The irrigation master valve can either be in the same area, located on the "T" off the supply line as shown in the picture, or may be located somewhere else on your irrigation system. Check the low-flow indicator again. Is it still moving? If so, you have a leak in the supply line between the meter and the house and you should contact a plumbing professional. If the low-flow indicator stopped moving, the leak is either in the house, or in the irrigation system.

**2. To determine if the leak is in the house,**

open the master water valve, but leave the irrigation master valve closed. Check the low-flow indicator on the meter again. Is it moving? If so, the leak is in the house.

**3. To determine if the leak is in the irrigation system,** close the master water valve and open the irrigation master valve. Check the low-flow indicator on the meter again. Is it moving? If so, the leak is in the irrigation system, and you should contact a landscape professional.



## WATER USE COMPARISON

Water Appliance	Water Efficient	Non-Water Efficient	Potential Savings per Year (gallons)
Toilet— Gallons Per Flush (gpf)	1.28 to 1.6 gpf	3.5 to 7.0 gpf	5,250
Faucet Flow—Gallons Per Minute (gpm)	1.5 to 2.2 gpm	3.0 to 6.0 gpm	1,000
Showerhead Flow (gpm)	2.0 to 2.5 gpm	3.0 to 7.0 gpm	2,000
Clothes Washer— Gallons Per Load (gpl)*	15 to 25 gpl	40 to 60 gpl	5,250

### How much can you save?

Water Appliance	#of Non-Water Efficient Devices		Potential Savings		Yearly Savings
Toilet		X	5,250	=	
Faucet		X	1,000	=	
Showerhead		X	2,000	=	
Clothes Washer		X	5,250	=	
Landscape	(enter square feet)	X	2.5 **	=	

<b>Total</b>	=	
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\* Typical top-loading clothes washers use 40 to 60 gpl, while front-loading machines use 15 to 25 gpl.

\*\* The 2.5 multiplier represents the average gallons per square foot that could be saved annually if landscape water use is reduced by 20% by implementing measures in Step 5. Depending on site specifics, additional savings could be achieved ( up to 50%).

# WATER SURVEY RESULTS FORM

Date	Water Account Number		
Name		Telephone Number	
Name of Apartment/Condominium Complex (if applicable):			
Site Address:		Email:	
<input type="checkbox"/> Check here if you would like to receive information on water-saving programs.			
<input type="checkbox"/> Check here if you would like to receive a FREE water saving kit. (Kit will be delivered to service address within 30 days)			

Leak Detection	Current Meter Read								
Did you meter indicate a leak? (Step 1)	Y/N								
Did you find any leaks indoors? (Step 2-6)	Y/N	If yes, where did you find the leak?							
Did you find any outdoor leaks? (Step 5)	Y/N	If yes, where did you find the leak?							

Indoor Water Use	Qty		Qty
Non-efficient toilets (Step 4)		Efficient Toilets (Step 4)	
Non-efficient faucets (Step 2)		Efficient Faucets (Step 2)	
Non-efficient showerheads (Step 2)		Efficient showerheads (Step 2)	
Do you have a top-loading clothes washer?	Y/N	Do you have an efficient front-loading clothes washer?	

# WATER SURVEY RESULTS FORM cont'd

Outdoor Water Use	Yes	No
Do you: Have an electric irrigation controller/timer?		
Water your landscape by turning on manual irrigation valves?		
Hand water your landscape?		
Have overhead spray heads irrigating your shrub area?		
Have a drip system?		
Have a landscaper who programs your irrigation controller?		

Potential Water Savings	Yearly savings (gallons)
How much can you save?	

*Enter your results from the water use comparison form.*

Completed Water Survey Results may be submitted via mail **or** electronically:

**Mail to:**

City of Stockton  
Municipal Utilities Department  
Water Conservation Program  
11373 N. Lower Sacramento Road  
Lodi, CA 95242

**Scan and email to:**

MUD@StocktonGov.com

