

# Using the Toro Water Saver® Design Service



## **UPGRADE** an Existing System

Did you know that an outdated or poorly designed irrigation system can result in water waste, unhealthy plant growth, dry or patchy lawn and a host of other common landscape problems? In many cases, upgrading the layout and components in your irrigation system can be the solution. In addition, a more up to date irrigation system means a more efficient system—saving you money.

Water conservation has increasingly become an important focus for the irrigation industry. If your system was installed 5 years ago or more you may be missing out on important water saving irrigation products that will result in more efficient water delivery and savings.

The Toro Water Saver® Design Service can upgrade your existing irrigation system to a water efficient system using the best Toro Water Saver® products available.

### **How the Water Saver® Design Upgrade Service Works:**

Follow the simple directions on the following page to complete the **UPGRADE an Existing System Questionnaire** and create a property sketch on the graph provided. Once completed, email, mail or fax the questionnaire and the property sketch to Toro, and a customized water savings design will be prepared for you.

Each design includes information on proper equipment placement throughout your yard, correct sprinkler selection, number of zones needed, ideal timer location and a complete shopping list for all the parts and accessories you will need. Designs are broken down by zone for ease of planning.

### **This \$39.95 Water Saver® Design Upgrade Package Includes:**

- 22" x 34" professional irrigation design
- Electronic files sent via email in PDF format
- Complete shopping list to upgrade your system
- Detailed installation instructions
- A custom watering schedule that tells you when to water and for how long to achieve the most efficient results.

Design time will vary depending upon the complexity of the project. A Toro Water Saver® Advisor may request a brief telephone consultation to discuss your specific needs.

# How to Complete the Toro Water Saver® Design Questionnaire

## 1 Draw Your Property to Scale

Use the Property Sketch Sheet (page 7). Each small square on the graph paper should represent one square foot of actual property or use a scale such as 1" = 10', 1" = 20', etc. Using a tape measure, measure your property and draw it to scale on the graph paper (see sample drawing on page 8).

1. Outline your house, garage, and other structures.
2. Show walkways, drives, slabs, patios and other surfaces.
3. Identify trees or major obstacles.
4. Measure and record the perimeter of your property.
5. Identify slopes.
6. Show ground cover, grass, flower beds and landscaping.
7. Identify the location of the water meter (or pump) and main line.

Additional grid paper is available at [www.ToroDesign.com](http://www.ToroDesign.com).

## 2 Determine Your Soil Type

You can easily determine your soil type—sand, loam or clay—using a clean empty jar with a lid, clean tap water, a tablespoon of detergent and a sample of the soil from your yard.

1. Fill the jar about 1/3 full with the soil to be tested.
2. Add water and detergent and cap the jar.
3. Shake the jar vigorously and set aside for several hours.
4. Evaluate the results and record on the questionnaire.

**Sand Soil:** Water is clear and soil has settled to the bottom of the jar.

**Loam Soil:** Water is still murky with bits of suspended matter.

**Clay Soil:** Water is murky and there is a ring of sediment around the jar.

## 3 Determining the Service Line Size

Contact your local water company or wrap a piece of string around the pipe once and then measure the string. Use the chart below to determine the supply line size/diameter. Record the line size on the questionnaire.

Length of String	2¾"	3¼"	3½"	4"	4¾"	5"
Copper Service Line	¾"		1"		1¼"	
Galvanized or PVC		¾"		1"		1¼"

## 4 Determine Your Water Pressure and Flow

Water pressure and flow can be determined using a Flow & Pressure Gauge or by performing a bucket test and using a standard pressure gauge.

### Using a Toro Flow and Pressure Gauge

The Toro Flow and Pressure Gauge is designed to measure water pressure up to 160 PSI and water flow up to 13 GPM. The gauge is not intended for use on lines larger than one inch.

Measure static pressure:

1. Ensure all water inside the home is turned off.
2. Attach the flow gauge to the outdoor faucet closest to where the main line enters the house.
3. Ensure that the gauge is completely closed.
4. Open the outside faucet slowly.
5. When the outdoor faucet is fully open, read the static pressure and record it on the questionnaire.

Measure dynamic pressure and gallons-per-minute (GPM):

1. Open the flow gauge slowly. (*The static reading will drop and the GPM will rise as the gauge is opened.*)
2. Continue to open the gauge until pressure drops to 50 PSI.
3. Record the GPM at 50 PSI on the questionnaire.
4. Continue to close the gauge to 45 and 40 PSI and record the GPM readings.

*If the pressure does not drop to 40 PSI or is above 50 PSI after opening the flow gauge all the way, then take the flow and pressure reading at the full open position. If rapid fluctuation occurs on the flow gauge, record the average reading.*

### Using a Bucket and Standard Pressure Gauge

1. Locate the outdoor faucet closest to the water supply line (Call this Faucet 1).
2. Select a different outdoor faucet on the house and attach a pressure gauge (This will be Faucet 2).
3. With Faucet 1 closed, open Faucet 2 all the way and record the static water pressure on the questionnaire.
4. With Faucet 1 open all the way, check the pressure reading on the gauge at Faucet 2. (*If less than 40 PSI, turn down the water flow from Faucet 1 until the reading reaches 40 PSI.*)
5. Place a 5 gallon bucket under Faucet 1 and time how long it takes to fill it. Use the chart below to convert to GPM to determine the water capacity at 40 PSI.
6. Repeat this procedure at 45 PSI and 50 PSI and record the results on the questionnaire.
7. If pressure is greater than 50 PSI record that reading.

TIME TO FILL BUCKET	GALLONS PER MINUTE
15 seconds	20 GPM
20 seconds	15 GPM
25 seconds	12 GPM
30 seconds	10 GPM
40 seconds	7.5 GPM



# Toro Water Saver® Design Questionnaire: **UPGRADE** an Existing System

To upgrade your existing irrigation system, complete the following and email, mail or fax to Toro along with a sketch of your property.

Please **PRINT CLEARLY** and fill out the form completely. All information must be properly supplied before we will be able to design your system. Your design and the recommended parts list will be based on the accuracy of the information we receive.

NAME \_\_\_\_\_

ADDRESS \_\_\_\_\_

CITY \_\_\_\_\_

STATE \_\_\_\_\_ ZIP \_\_\_\_\_

DAYTIME PHONE NUMBER \_\_\_\_\_

EVENING PHONE NUMBER \_\_\_\_\_

EMAIL ADDRESS \_\_\_\_\_

*For e-mail notification when your design is complete*

RETAIL STORE WHERE YOU WILL BE PURCHASING PRODUCT: \_\_\_\_\_

*We will attempt to ensure that most recommended parts and products can be purchased from your retailer of choice.*

\$39.95 PAYMENT METHOD:  VISA  MasterCard

*We are unable to accept checks, money orders, debit cards, Discover or American Express*

CARD NO. \_\_\_\_\_

EXP. DATE: MO \_\_\_\_\_ YR \_\_\_\_\_

**PLEASE NOTE:** Homeowner is required to tap into water source and comply with local codes and permits. Before digging or trenching, check with your local utility companies to identify any buried cables, pipe or gas lines.

**DISCLAIMER:** The Toro Sprinkler Design and parts are recommended to customer based solely on the information, dimensions and drawings provided to Toro by the customer. Toro has not inspected customer's property landscape, sun exposure or soil conditions. Toro has no control over whether recommended Toro parts or sprinkler system design are properly purchased, installed, used or maintained. Toro shall have no liability, and disclaims any and all liability, arising from or with respect to the design, purchase and/or installation of the sprinkler systems. For specific warranty on Toro products, go to [www.Toro.com](http://www.Toro.com).

## MAIL PROPERTY SKETCH AND QUESTIONNAIRE TO:

**Toro Water Saver® Design Center  
5825 Jasmine Street, Riverside, CA 92504**

**FAX TO: (800) 504-4978**

**EMAIL TO: [DesignService@Toro.com](mailto:DesignService@Toro.com)**

If you have any questions feel free to call (800) 891-0742 or visit our web site at [www.ToroDesign.com](http://www.ToroDesign.com).

**1. Scale of Drawing:** \_\_\_\_\_ Inch = \_\_\_\_\_ Feet

**2. Water Meter Size:**  5/8"  3/4"  1"

**3. Water Supply Line:**  Copper  Galvanized  
 PVC  PEX (Poly)

**4. Water Supply Line Size:**  3/4"  1"  1 1/4"

### 5. Water pressure and flow readings:

Static water pressure \_\_\_\_\_ PSI

Gallons-per-minute: at 40 PSI: \_\_\_\_\_

at 45 PSI: \_\_\_\_\_

at 50 PSI: \_\_\_\_\_

If PSI is greater than 50: at \_\_\_\_\_ PSI: \_\_\_\_\_

### 6. Pump Information

If you use a pump, it is recommended that it produce a minimum of 45 PSI @ 10 GPM for a sprinkler system. If your pump is not adequate, call for advice or write "will purchase new pump" on your layout. We will design your system using the pump output recommended for your property.

**7. Soil information:**  Sandy  Loam  Clay

**8. Irrigation water:**  Clean  Containing Sediment

**9. Does the ground freeze?**  Yes  No

### 10. Please indicate the type of sprinkler currently installed:

Spray head  Gear Rotor  Impact Rotor

### 11. Please indicate the brand and model of sprinkler currently installed (i.e. Toro 570):

### 12. Please indicate the type of valve currently installed:

Anti-siphon  In-line

**13. Valve size:**  3/4"  1"

### 14. Please indicate the brand(s) and model(s) for valves currently installed (i.e. Lawn Genie Model L7010):

**15. Main Line Size:**  3/4"  1"  1 1/4"

### 16. Lateral Line Pipe:

PVC Schedule 40  PVC Class 200  Poly

**17. Lateral Line Size:**  3/4"  1"

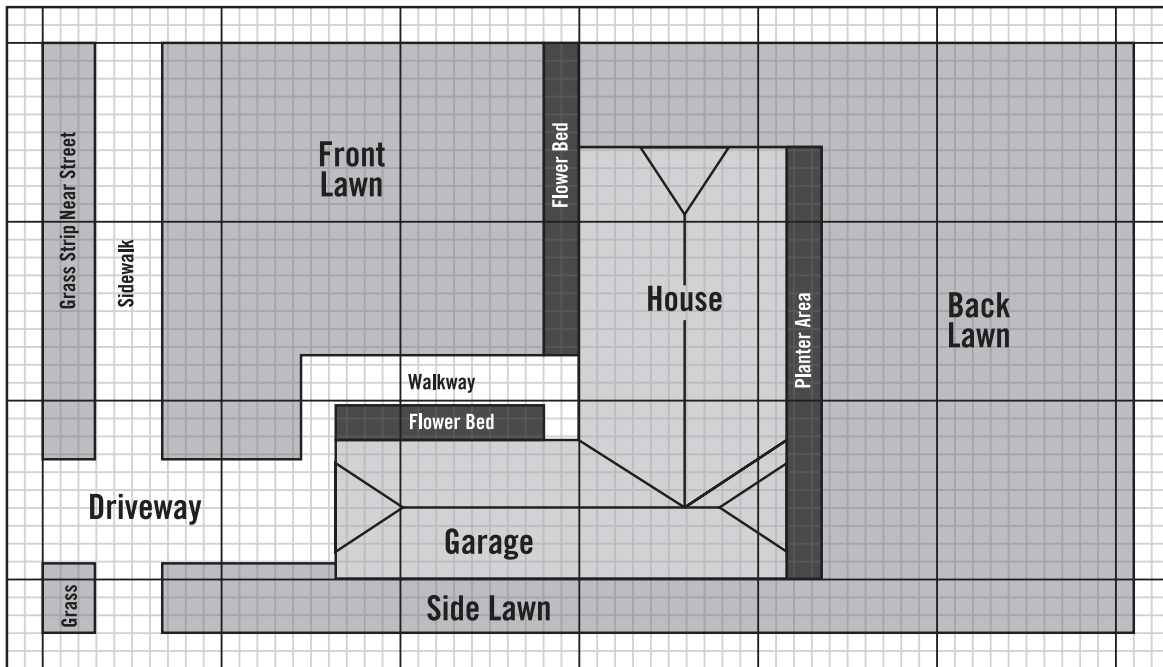
### Please double check to ensure that:

- Your property is drawn to scale
- All slopes are identified and show direction
- Water meter/pump location is indicated
- Timer and valve location is indicated
- Sprinkler location(s) are indicated
- Indicate which sprinklers are connected to each valve
- Indicate overly dry or wet areas
- All information on the questionnaire is complete
- Any sleeves/conduits and size of pipe inside is identified

**TORO®**



# New System Sample Drawing



# Existing System Sample Drawing

