



Need a sprinkler system? Let us design one for you.



Thank you for letting us help you design your sprinkler system.

We want to do everything we can to make the planning and installation of your Toro sprinkler system an easy, step-by-step project. Follow these steps for the best results.

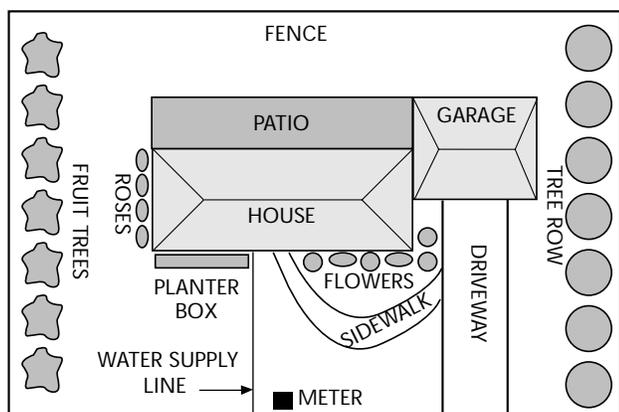
- A. Create an accurate layout of your property and provide all the information requested.
- B. Toro sprinkler system designers will enter your layout and water supply information into a computer and design a system specifically for your property.
- C. Your design and list of products needed will be mailed directly to you as soon as it is complete.
- D. Meet with your local store to review the sprinkler system design for your yard. We will supply the necessary information for your sprinkler system installation.

Step 1

Draw your property from a bird's eye view.

First, draw a property plan on graph paper (supplied on the back side of this brochure). Using a tape measure, outline and measure your property accurately according to scale. From the outside of the house, measure outward to define the outside perimeters.

We trace directly over the drawing you send in so be sure to draw all of your property to scale. Use a scale of 1 inch = 10 feet, 1 inch = 20 feet, etc. or 1/4 inch = 1 foot, 1/8 inch = 1 foot, etc.



NOT TO SCALE

Include:

- Your house, garage, other buildings.
- All sidewalks, patios and driveways.
- Fences and walls.
- All grass areas, flower beds, trees and shrubs.
- Show the water meter and water supply line locations.
- Desired timer and valve locations.
- Any slopes.

NOTE: If you have a current survey that is drawn to scale, you may mail or fax that in. Be sure to include ALL of the information on your survey that we have requested in Step 1.

Step 2

Gather information.

Once you have the property plan completed, it's time to gather some very important information about your property's water supply system.

A. WHAT IS THE DIAMETER OF THE WATER SUPPLY LINE?

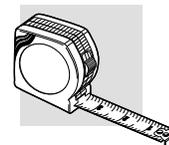
Call your local water company or measure your supply line (the pipe leading from the water meter to your house). Wrap a piece of string around the pipe once, then measure the string. Use this chart to determine the supply line diameter.

_____ inches

Length of String	2 3/4"	3 1/4"	3 1/2"	4"	4 3/8"	5"
Copper Service Line	3/4"	-	1"	-	1 1/4"	-
Galvanized or PVC	-	3/4"	-	1"	-	1 1/4"

B. MEASURE THE DISTANCE FROM YOUR WATER METER TO THE FRONT OF THE HOUSE.

Carefully plot the water lines on the layout sheet.

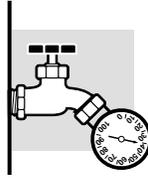


Step 3

Determine Water Capacity and Static Working Pressure (choose either method A or B)

A. USING A TORO FLOW AND PRESSURE GAUGE

The Toro Flow and Pressure Gauge is a dual purpose device designed to measure water pressure to 160 PSI and water flow to 13 GPM. This flow and pressure gauge is not intended for use on lines larger than 1 inch. The gauge will only measure flow through the outside faucet—not in the line.

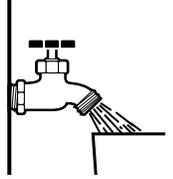


1. Make sure no water is being used inside or outside the home.
2. Attach flow gauge to outside faucet nearest to where the main line enters the house.
3. Make sure the flow gauge is closed by completely turning the handle clockwise.
4. Open the outside faucet slowly to avoid damage to flow gauge.
5. When the outside faucet is fully opened, read the system static pressure and record. **NOTE:** “Static pressure” is when no water is running.
6. Open the flow gauge slowly by turning the handle counter-clockwise. As the flow gauge opens, pressure will drop from the static reading and the gallons per minute (GPM) reading will rise. Continue to open the flow gauge until pressure drops to 50 PSI. Record the gallons per minute reading on the chart below. Continue to close the gauge and record readings at 45 and 40 PSI. **NOTE:** “Dynamic or working pressure” is when water is running.
7. If pressure does not drop to 40 PSI after opening the flow gauge all the way, then take the flow and pressure reading at the full open position.

NOTE: If rapid fluctuation occurs on the flow gauge, record the average reading. Additional reading of pressure and flow may be helpful for further design information.

B. USING A 5-GALLON BUCKET AND STANDARD PRESSURE GAUGE

1. Locate the outside faucet that is closest to your water supply line (we’ll call this Faucet 1).
2. Locate another faucet on your house and attach a pressure gauge (we’ll call this Faucet 2). Open Faucet 2 all the way and record the static water pressure below.
3. With Faucet 1 open all the way, check the pressure reading on the gauge at Faucet 2. If it is less than 40 PSI, turn down the water flow from Faucet 1 until the reading reaches 40 PSI. If it is greater than 40 PSI, record the dynamic pressure reading below and go to step 4.
4. Place a five-gallon bucket under Faucet 1 and time how long it takes to fill it. Use the chart below to convert to gallons per minute (GPM). This test tells you what your home’s water capacity is measured in GPM at 40 PSI.
5. Repeat this procedure at 45 PSI and 50 PSI. Record these three results on the chart below.



This is how much water is available with a working pressure of 40 PSI or the higher reading that you recorded. (Minimum operating pressure for most sprinklers is 35 PSI.)

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

NOTE: The pressure found in this step is called working or dynamic pressure. This working pressure will determine how far your sprinklers will spray.

If you use a different size bucket, time how long it takes to fill it. Convert this to gallons per minute using the following formula:

$$60 \div \text{Seconds} \times \text{Gallons}$$

For example: A two-gallon bucket that fills in 15 seconds means the available flow is 8 gallons per minute.

$$60 \div 15 \times 2 = 8 \text{ GPM (gallons per minute)}$$

Record results here:

Static PSI _____

_____ GPM at 40 PSI
 _____ GPM at 45 PSI
 _____ GPM at 50 PSI

For pump systems, include:

Size of supply line _____
 _____ GPM at 40 PSI
 _____ GPM at 45 PSI
 _____ GPM at 50 PSI

It is recommended that your pump produce a minimum of 45 PSI @ 10 GPM for a sprinkler system. If your pump is not adequate, talk with your local retailer or call for advice.



Sprinkler System Questionnaire

IMPORTANT: Please print all information and fill out completely so that we may process your computer design.

Step 4

Complete the questionnaire and mail or fax to Toro along with your property plan.

CHECKLIST:

- Is your plan drawn to the scale specified?
- Have you indicated your water meter location?
- Have you indicated your desired timer and valve locations? (If not sure, leave blank and we will suggest locations.)
- Have you completed all the information on the questionnaire?

All information must be properly supplied before we will be able to design a sprinkler system for you. The Toro design and recommended parts list will be based on the accuracy of information and drawings that you provide.

We'll send you a customized design showing:

- Proper valve, piping and sprinkler placement — for even water coverage throughout your yard to avoid having dry spots.
- Correct sprinkler nozzle selection and placement — to accommodate corners and contours of lawn and planting areas.
- Ideal timer location and amount of zone (station) capability needed.
- A complete shopping list — of all the parts and accessories that you will need.
- A free step-by-step Do-It-Yourself installation guide.

1. Scale of Drawing:
_____ inch = _____ feet

2. Water Meter Size:
- 5/8 inch
 - 3/4 inch
 - 1 inch

3. Water Supply Line Type:
- Copper
 - Galvanized
 - PVC

4. Water Supply Line Size:
- 3/4 inch
 - 1 inch
 - 1-1/4 inches

5. Working pressure and flow readings:

Static water pressure _____ PSI

Gallons per minute: at 40 PSI _____
at 45 PSI _____
at 50 PSI _____

6. Pump Information

It is recommended that your pump 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 a new pump" on your design. We will design your system using the pump output recommended for your property.

Your Name _____

Address _____

City _____ State _____ Zip _____

Daytime Phone Number () _____

Evening Phone Number () _____

Store Name _____

City _____ State _____ Zip _____

IMPORTANT: Be sure to include store information so that we can customize your parts list based on product availability in your area.

REMINDER

Is your property plan complete and to scale?
Double-check all information for accuracy.

Mail property plan and questionnaire to:

Toro Computer Design Center
23181 Verdugo Drive, Suite 101
Laguna Hills, CA 92653-1313

Or fax to:

(949) 465-0510

NOTE: Be sure to fax both your property plan and your completed Sprinkler System questionnaire.

The Toro Professionals want to ensure that you are completely satisfied with our Design Service. Please call us with any questions, concerns or problems.

1-800-367-8676

Visit us on our Web site: www.toro.com

DRAW YOUR PROPERTY

Your Name _____

SCALE: _____ INCH = _____ FEET

