grow green

earth-wise guide to

Irrigation

do you need an irrigation system?

Although an automatic sprinkler system may seem easier than dragging water hoses around the yard, you should spend some time evaluating your needs and learning about your options.

Consider the following:

Hand watering offers:

- An efficient and cost-effective use of water
- An opportunity to observe any problems in the landscape early on
- For added convenience soaker hoses and sprinklers can be placed on a timer

A well designed and properly managed system can be very convenient but:

- May be expensive to install and maintain
- Typically increases monthly water usage if not properly programmed

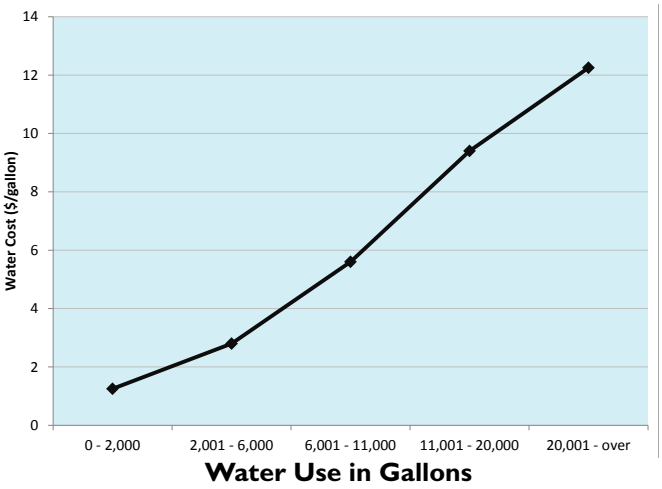
for water conserving tips, and rebates visit www.waterwiseaustin.org

Irrigation Evaluation

Austin Water offers free irrigation evaluations for qualifying residential customers. During the evaluation a licensed irrigator will provide an overview of how your system is performing and make recommendations for scheduling changes and equipment upgrades. The evaluation covers:

- Controller settings check
- System components inspection for problems
- Leak identification
- Recommended flow rates and usage for each zone
- Suggestions for improvement

To schedule an audit, call Austin Water at 512-974-2199 or schedule online at: http://austintexas.gov/department/irrigation-system-evaluations-and-rebates



Did you know....?

The more water you use, the more you pay per gallon?

Suggested Run Times

Plant Types	Spray Heads	Rotor Heads	Multi-Spray	Drip
Turf Grass*	8-12 minutes	18-25 minutes	30-35 minutes	30 minutes
Planter Beds	6-10 minutes	10-15 minutes	15-20 minutes	20-30 minutes

*** Generally requires 1" of rain weekly during summer months**

These suggested run times are general guides, and may need to be adjusted for individual landscape conditions.

Device	Best Used For	Pros	Cons
 Drip Irrigation	Planter beds	• High application efficiency (no overspray) • Required in commercial landscapes for areas with less than 6' between impervious surfaces, i.e., between sidewalk and curb • No runoff	• Emitters should be covered with mulch so it is difficult to detect problems • Emitters tend to clog • Only effective when emitters are close to plants root zone
 Bubblers, Flood or Stream	Flat bedding areas and tree wells	• Can be used under shrubs and dense foliage • Good for establishment period of trees (2-3 yrs.) • No overspray	• Do not distribute water very far which requires heads to be spaced near each other • Have the potential to distribute large amounts of water, often causing runoff • Not effective at reaching root zone once trees are established
 Spray Heads	Small irregular turf areas	• Distribute water at a fast rate • Relatively easy to repair • Best for irregularly-shaped areas	• Lowest distribution uniformity • Often need more maintenance • Narrow range of operating pressure
 Rotor Heads	Large turf areas	• Can operate at higher pressure • Low application rate minimizes runoff • Good uniformity of coverage	• Not suited for smaller turf areas • Easily obstructed as plants grow taller
 Multi-stream / Multi-trajectory Rotors	Moderate to large turf areas	• Best uniformity of coverage • Low application rate reduces runoff • Can compensate for high system pressure	• Not suited for small beds

How to Operate Your System

When you have an irrigation system it is important to know how to operate it correctly and make changes when needed. Here are some tips to ensure you're getting the most out of your water use:

- Most water waste is due to extra start times and excessive run times.
- Know your landscape. All plants have different water needs, which should be considered when programming the controller

Watering Efficiently

- The Texas Commission on Environmental Quality requires all new systems to have a rain shutoff device. If your system does not have one, they are easy and inexpensive to install and the water savings will easily compensate for the initial costs. Rain sensors may be purchased at any irrigation supply store or through a licensed irrigation company
- Properly diagnose your problem – more water is not necessarily the answer. If you have an area of turf or plants that look unhealthy, there's a good chance you may have pests or a disease. Refer to the Grow Green Diagnostics or Lawn Problem fact sheet (www.growgreen.org) before increasing the watering schedule
- Supplement your water needs with rain barrels or a customized rain harvesting system
- Perform a system evaluation periodically

Self Audit Guide

It is important to check that your irrigation system is performing efficiently.

To do so, you will need:

- An audit template (download available at www.waterwiseaustin.org)
- Calculator
- Stopwatch
- Marker flags to mark problem areas (purchase at hardware stores)
- It is best to use the test program feature on the controller. If your controller doesn't have a test program, you can run your sprinklers for 2 minutes on one of the unused programs. **Do not add a start time or set a watering day.** (If you are unclear how to do this, please refer to your controller manual).

Steps for Checking System

1. Log the current controller settings (refer to controller manual for assistance)

- Scheduled days to water
- Start times (it is possible to have multiple)
- Station run times
- Repeat for each program (A,B,C and D) if needed although most landscapes require only the A program

Repairs to irrigation systems made must be made by the homeowner or an irrigator licensed by the Texas Commission on Environmental Quality

Groundcover is a good option to avoid runoff on slopes

Too much pressure can cause misting

2. Read the Meter

- Each number around the meter face reflects one gallon

- Using a stopwatch, count the number of gallons flowing through in 30 seconds, multiply by 2 to get the number of gallons per minute
- Multiply the gallons per minute by station run time to find total usage for the station

3. Evaluate the station for the following problems:

- Heads that spray onto the sidewalk, driveway, or street
- Heads that are not operating, are buried or have reduced water flow
- Heads that may be broken at their base or gushing out the top
- Heads that are tilted backward or to the side
- Heads that cause a cloud of mist
- Areas that are receiving very little water

Broken spray head

Manual sprinklers should also be placed correctly to avoid overspray

4. Landscape features

- Note what kind of plant material is being watered by this station -- turfgrass and exotic plants generally require more water than native and adapted plants
- Ideally plants should be grouped with other plants with the same water needs -- if an existing station consists of varied plant material, water according to the plants with the highest water need
- Plants in full sun usually require more water than those in shade
- Note soil structure – clay soils often require shorter run times to prevent runoff

5. Determine appropriate run times (this is the tricky part)

- As a general rule it is best to water deeply once per and no more than twice a week – *but only if you can comply with the current watering restrictions stage*
- Based on the plant material and sun and soil conditions, start with lower run times and wait to see if the plants seem stressed before the next watering. If so, add a few minutes to the run time
- Use the chart on page 1 to determine a good starting point

CONSERVATION STAGE
WATER RESTRICTIONS

Water Once or Twice per Week

RESIDENTIAL	COMMERCIAL and PUBLIC SCHOOLS
Hose-End Sprinklers Automatic Irrigation BEFORE 10 AM or AFTER 7 PM	Hose-End Sprinklers Automatic Irrigation BEFORE 10 AM or AFTER 7 PM
Even Address Sunday and/or Thursday	Even/Odd Addresses Tuesday and/or Friday
Odd Address Wednesday and/or Saturday	

STAGE 1
WATER RESTRICTIONS

Water Once or Twice per Week

RESIDENTIAL		COMMERCIAL and PUBLIC SCHOOLS	
Hose-End Sprinklers BEFORE 10 AM or AFTER 7 PM	Automatic Irrigation BEFORE 5 AM or AFTER 7 PM	Hose-End Sprinklers BEFORE 10 AM or AFTER 7 PM	Automatic Irrigation BEFORE 5 AM or AFTER 7 PM
Even Address Sunday and/or Thursday		Even/Odd Addresses Tuesday and/or Friday	
Odd Address Wednesday and/or Saturday			

STAGE 2
WATER RESTRICTIONS

One Day Per Week Watering

RESIDENTIAL		COMMERCIAL		PUBLIC SCHOOLS	
Hose-End Sprinklers BEFORE 10 AM or AFTER 7 PM	Automatic Irrigation BEFORE 5 AM or AFTER 7 PM	Hose-End Sprinklers BEFORE 10 AM or AFTER 7 PM	Automatic Irrigation BEFORE 5 AM or AFTER 7 PM	Hose-End Sprinklers BEFORE 10 AM or AFTER 7 PM	Automatic Irrigation BEFORE 5 AM or AFTER 7 PM
Even Address Sunday	Even Address Thursday	Even Address Tuesday		Monday	
Odd Address Saturday	Odd Address Wednesday	Odd Address Friday			

STAGE 3
WATER RESTRICTIONS

One Day Per Week Watering

RESIDENTIAL		COMMERCIAL		PUBLIC SCHOOLS	
Hose-End Sprinklers 7 AM - 10 AM or 7 PM - 10 PM	Automatic Irrigation 12 AM - 6 AM	Hose-End Sprinklers 7 AM - 10 AM or 7 PM - 10 PM	Automatic Irrigation 12 AM - 6 AM	Hose-End Sprinklers 7 AM - 10 AM or 7 PM - 10 PM	Automatic Irrigation 12 AM - 6 AM
Even Address Sunday	Even Address Thursday	Even Address Tuesday		Monday	
Odd Address Saturday	Odd Address Wednesday	Odd Address Friday			

for current drought response stage restrictions and variance applications, visit www.waterwiseaustin.org

www.growgreen.org

REPORT VIOLATIONS TO 3-1-1

City of Austin WATERSHED PROTECTION 512-974-2550

TEXAS A&M AGRILIFE EXTENSION 512-854-9600

Austin WATER 512-974-2199

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