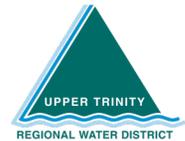




# WATER EFFICIENT LAWN AND GARDEN CARE FOR NORTH TEXAS

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According to the EPA, 30-70 percent of all potable water in the US is used outdoors. In the summer months in North Texas, this number can reach as high as 70%. This water is treated to drinking water standards through complex treatment processes, pumped through miles of pipelines, and is then applied to landscapes. Sadly, half of water applied outdoors is wasted due to poorly designed and poorly maintained irrigation systems and irrigating at the wrong time of day.

## *Did you know?*

Turfgrass is the largest irrigated crop in the United States by land area, and we don't even eat it.

## THE “RIGHT” PLANT FOR THE “RIGHT” PLACE

In Texas, regionally native and adapted plants are the ideal choice for an aesthetically pleasing lawn, landscape or vegetable garden. These plants offer a limitless variation of color, texture, or even flavor from which to choose. You can use them in highly manicured modern designs and more naturalistic landscapes alike! Choosing a palette that incorporates Texas-tough plants is one of the easiest avenues to a healthy vibrant landscape. Making sure you plant properly and put your plants in the right spot will also help by reducing maintenance needs AND long-term landscape costs. Before purchasing, read a plant's tag carefully. Then, make sure to plant it in the landscape according to the tag's recommendations of hardiness zone and requirements for light, sizing and spacing to accommodate the plant's expected adult size.



For a full list of the Top 100 Plants for North Texas and access to an extensive plant database, visit [WaterUniversity.tamu.edu](http://WaterUniversity.tamu.edu)

## PROPER PLANTING.

Whether you're planting a native or adapted tree, shrub, or herbaceous perennial, it is key to make the transition from the nursery to your landscape as easy as possible by employing best planting practices to ensure a long, healthy life for your plant.

Planting width should be 2 to 3 times as wide as root mass. Planting depth should be no deeper than root mass.

Don't break the root ball! Unwrap circling or girdling roots.



## IMPROVING YOUR SOIL

Healthy soils are the foundation of a landscape that is resilient to drought and flooding, which are common in North Texas. Soil amendments can boost fertility, balance out extreme pH levels, and improve the soil's natural ability to absorb water, cycle nutrients, reduce runoff and absorb excess nutrients and other pollutants. Two of the most common and helpful amendments for improving North Texas soils are **compost** and **expanded shale**.

## MULCHING

Applying mulch around your planted areas is crucial for a successful landscape bed. Several natural materials work well as mulch. Hardwood, cedar, cypress, and pine straw mulches are all great options.

We recommend maintaining between 2" and 4" of mulch for most applications. Oftentimes this means topdressing with ½" to 1" every 1 to 2 years.

**Pro Tip:** *Be sure to taper off, applying less mulch near plant bases to avoid fungal problems and other pest issues.*

### ***The benefits of mulching:***

- Reducing weeds
- Reducing erosion and muddy sidewalks or driveways
- Increased soil nutrition as mulch breaks down
- Increased water absorbing capacity when you water AND when it rains
- Reduced soil temperatures during the summer
- Decreases water lost by evaporation in the root zone

## FERTILIZING

A varying array of organic and inorganic fertilizer options can make choosing seem daunting when deciding on the right nutrients for your soil. The ones you pick will depend on the soil conditions on your property and what you intend to grow in that space. Whether you decide to plant a lawn, flowers, vegetables, or trees, a **soil sample test** is the most accurate approach to figuring out the composition of your soil, the amendments you need, and which are already present in your landscape.

Testing your soil every 1 to 3 years will help you avoid using excess fertilizer while saving money and controlling pollution from excess fertilizer in stormwater runoff. Always apply fertilizers per label instructions. Contrary to popular belief, over-application can result in weak, unhealthy plant material.



For more info on improving your soil visit <https://wateruniversity.tamu.edu/soil>

## WATERING YOUR PLANTS (THE RIGHT WAY)

The most limiting factor to beautiful, healthy plants is applying the right amount of water, at the right times, without applying too much, which can encourage pests and disease. Many North Texans use in-ground, automatic irrigation systems. These sprinklers are designed to maintain soil moisture, ultimately protecting the overall health of a landscape. Switching off these systems in times of sufficient or excessive rainfall is the best way to avoid many disease issues, but this can also help to reduce your water bill. Simply turn the controller to OFF when you don't need water, then back ON when you do. It's that easy, and all your zones and settings will still be the same the next time you need to water!

Any time your plants do need a little extra water, your sprinkler system should precisely deliver the water to the plant's root zone where it can be effectively used. Accurately calculating your plants' water needs and taking into consideration soil type, as well as various slopes in the terrain (which might influence water flow) will help determine the best practices to avoid wasting water.

**Pro Tip:** *Adjust sprinkler heads to avoid misting or over-spraying sidewalks, driveways, and streets.*

Turf areas usually require water more frequently than beds with native and adapted perennial plants or shrubs. During summer drought periods, areas with mature trees might require extra, deeper watering than the rest of your landscape. By planning for your system to water these areas separately, or hydro-zoning, you will avoid over-watering and under-watering your plant material. **Limit watering to *NO MORE* than twice per week - any more than that is not needed, even during the heat of summer.**

### **Pro Tip:**

WaterMyYard.org takes the guesswork out of knowing when to water (and when to wait.) Sign up for free weekly emails (or texts) that give the best advice based on local weather station data. Its super easy to enter your info and start getting tips on when and how long to water!

To sign up visit <https://watermyyard.org>



Visit [WaterMyYard.org](https://watermyyard.org) for weekly advice on when and how long to water.

## **MORE IRRIGATION TIPS FOR A HEALTHY LAWN AND LANDSCAPE**

If your sprinkler system is not working properly, no matter how much you water, the landscape suffers, and water is wasted. Follow the guidelines below to ensure a properly irrigated landscape.

### ***Check your irrigation system monthly for problems***

Mark problem areas with an irrigation flag to easily locate them when it's time to make repairs. Pipe and valve leaks are indicated by greener and faster growing grass.

### ***Common Problems:***

- Breaks
- Clogged heads
- Non-functioning sprinkler heads
- Misting due to too much pressure
- Misaligned heads that spray water onto hard surfaces
- Runoff into the street



***Mow at higher setting***

During the summer, raise the height setting on your mower by one or two notches. Taller grass will create shade, which will reduce evaporation of water from the soil. This will protect the roots from excessive heat in addition to encouraging a deeper, healthier root system.

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***Water when needed, not just because it's your day to water***

A soil moisture probe is an inexpensive tool that can be used to gauge soil moisture at a depth of 6"-8". A long screwdriver can also be helpful. Like a toothpick into a cake, if the screwdriver easily penetrates the soil and has damp soil on it, irrigation is not required. If it is unable to penetrate the dry clay soil, supplemental watering could be necessary.

***Water without creating runoff***

For best results, use the cycle and soak method of irrigation to keep all the water applied on the lawn, and not runoff into the street. (See the Cycle and Soak section below)

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***Water after 6:00 p.m. and before 10:00 a.m.***

This will help minimize water loss due to evaporation during the active growing season, usually March-October. Watering in winter is not necessary unless unusually dry conditions exist.

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***Only water more frequently  
while establishing new plants***

Depending on the specific needs of each plant species. After plants are established, adjust irrigation methods accordingly, tapering off to less frequent watering to help develop a deeper, healthier root system.

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***Change your sprinkler  
heads' spray nozzles***

Water efficiently by installing multi-stream nozzles, which apply water in heavier droplets over a longer timeframe, so less water is lost due to wind, evaporation or runoff.



***Replace old irrigation  
controllers***

Select a newer model that has water-conserving settings like 'Cycle and Soak' and seasonal adjustment, and consider a model with a smart controller, which uses evapotranspiration or moisture sensors to determine runtimes. Look for the EPA Water-Sense™ label. There are also many wireless controllers that can connect to your smartphone.

### ***Install a rain and freeze sensor***

This sensor prevents your automatic system from applying water during rain and freeze conditions. This helps deter water waste and prevents hazards.



### ***Convert spray zones to drip irrigation***

Drip irrigation is 90% efficient compared to spray irrigation, which is about 65% efficient if properly designed, installed and maintained. Sub-surface drip tubing is available for lawns. Drip irrigation tubing is available for you to install yourself or hire a licensed irrigator. In some cases, drip irrigation is exempt from watering restrictions.

***Pro Tip: Some cities have rebate programs available for residents to offset a portion of the costs for repairing or upgrading sprinkler system components. Check with your local city or utility for more information.***

## **CONDUCTING AN IRRIGATION CHECKUP: FIND IT, FLAG IT, FIX IT**

Check your irrigation system at least twice a season for problems. Most of the time, checking each sprinkler head for proper function and distribution will identify problems before the plants in your landscape start suffering.

Typical problems with irrigation systems are related to poor water distribution and/or a lack of routine maintenance. Sprinkler heads should be adjusted properly to avoid misting or over-spraying sidewalks, driveways and streets. Use the check-up form (on page 13) and the simple steps below to identify and fix problems yourself and or call a TCEQ licensed irrigator.

**Step 1.** If you have the original irrigation system design, make a copy so you can make notes on it. If you do not have the original design, you may find it useful to sketch the irrigation layout and number of sprinkler heads in each zone. Number the heads on the sketch so you can make notes about each head.

### ***Irrigation Quick Fixes***



*'Watch "Irrigation Quick Fixes" on the AgriLife Dallas YouTube Channel'*

[https://www.youtube.com/watch?v=\\_9WMPyZetGI](https://www.youtube.com/watch?v=_9WMPyZetGI)

**Step 2.** Run each station and observe each sprinkler head to see if the head is running and distributing water properly. Note which sprinkler heads are working correctly and which require attention. Place a marker such as a flag near the problematic heads and note them on your sketch paper.

**Step 3.** Repair all problems yourself or hire a licensed irrigator. Your local irrigation supply house can be a valuable resource in locating the proper parts, or they can suggest a reputable licensed irrigator. Most repairs also require cleaning out a sprinkler head or filter in addition to flushing out the repair area.

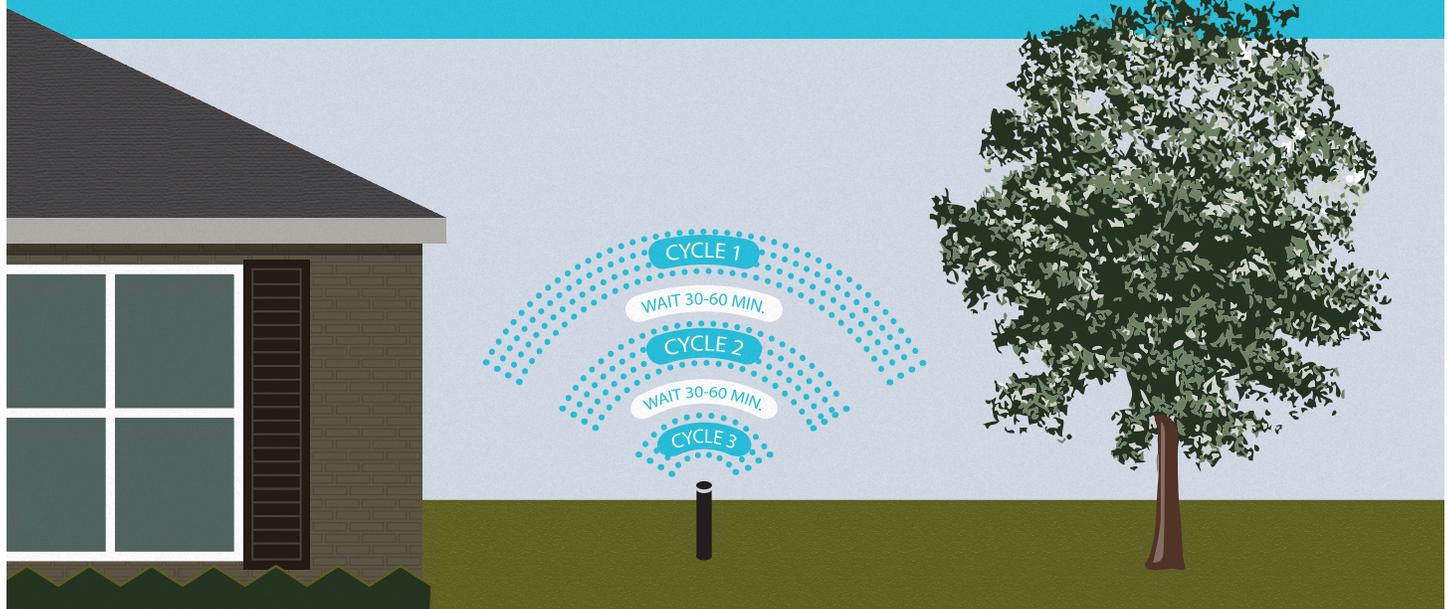
**Pro Tip:** UTRWD has a *landscape irrigation check-up program* in which a licensed irrigator will come to your home and conduct a full sprinkler system check-up. Contact your local city or utility for more information.

## CYCLE AND SOAK IRRIGATION METHOD

**CYCLE AND SOAK: WATERING EFFICIENTLY TO REDUCE RUNOFF**

UPPER TRINITY REGIONAL WATER DISTRICT 

Based on AgriLife's Recommended Landscape Practices. Visit [utrwd.com](http://utrwd.com) for more info.



Following the cycle and soak method, landscapes are watered in multiple cycles at each sprinkler station – waiting 30 to 60 minutes between cycles to allow the water to soak into the soil and not runoff.

For example: Instead of running a sprinkler station for 12 minutes at one time, schedule your controller to run the station for 2 cycles for 6 minutes or for 3 cycles for 4 minutes. If the watered area is sloped or runoff occurs, use shorter cycles.

The WATER IQ logo is a licensed service mark of the Texas Water Development Board

Most North Texas soils have a high clay content limiting the amount of water that can be absorbed by the soil in a given amount of time. Because irrigation systems apply water faster than the ground will absorb, it is likely that you need to make a small, one-time adjustment to your sprinkler setting to keep it running its best. This is especially true in compacted or sloped lawn areas. Mulched areas tend to absorb water more efficiently. To avoid water running off the landscape into the street, the solution is to run these stations several short times instead of one long time.

Use 'Cycle and Soak' method:

1. Determine how long to run each zone. (see 'Catch Can Test video')
2. Water these areas in 2 or 3 short cycles, or 4 cycles instead of 1 long one if on a slope.
3. Wait 30 to 60 minutes between cycles.

Most irrigation controllers have a way to set different start times. If you have trouble programming your controller, visit the irrigation controller company's web site or contact their customer service office for cycle and soak instructions. Most newer controllers have a cycle and soak setting. If yours does not, now could be a good time to upgrade your irrigation controller.

## Cycle & Soak Method



'Watch "Cycle and Soak to Save Water on Your Lawn" on the Upper Trinity Regional Water District YouTube Channel'

<https://www.youtube.com/watch?v=yfv5YC0nN6o>

## CONTROLLER BASICS



Understanding your irrigation controller is key to having a healthy and properly watered home landscape. Don't let your irrigation controller intimidate you. It is easy to operate once you know and understand the terms and what each function controls.

### **Valve**

The part of the system that receives signals from the controller telling it to open and close. When the valve is open water can run through the valve and pipes and out through your irrigation heads. Valves are often located in a circular green valve box in the ground.

### **Station**

On the controller itself, the term "station" refers to the valve that is being controlled. In most situations 1 station = 1 valve.

### **Zone**

The area that gets watered is typically referred to as the station on a timer but as zone in your landscape. For instance, a flower bed might be considered one zone, while a section of turfgrass in your back yard another. When programming your controller its recommended to map out your irrigation zones prior to programming your controller. Your controller box should have a listing of each zone for reference.

### **Program**

Most timers have three to four programs available, and they are typically named Program A, Program B, Program C and sometimes D. These programs hold the settings that dictate which days and how long each station is watered. Each Program (A, B, C, D) has its own start time, run time and days. Use the programs to separate the zones that need different watering days or multiple start times. For example: Program A waters all lawn zones 1 day per week. Program B waters native plant material landscape bed zones every other week.

### **Start Time**

The start time feature on a controller allows you to specify a time of day for a program (A, B, C or D) to start. Once it starts, it will begin irrigating the stations that are associated with it. Once it works its way through all the stations that are associated with the program, the controller stops watering. You can schedule multiple starts to reduce runoff. See "cycle and soak".

### **Run Time**

Run time is the time, in minutes, that a valve will remain open. If you set a time for 10 minutes, the valve will stay open and water a zone for 10 minutes. If you have a run time of 10 minutes and two start times, that zone will be watered twice, for a total of 20 minutes.

### **Manual**

The manual button allows you to run an individual zone for a specified amount of time. It can be used to irrigate areas that may need additional water or when conducting a checkup of your system. Some controllers have a manual and an all system manual setting.

### **Seasonal Adjust**

The seasonal adjust button allows you to increase or decrease the amount of water being applied by your irrigation system in 10 percent increments. This is a convenient way to increase or decrease your watering time without having to change your station run times. During extremely hot weeks of the year you may want to increase the seasonal adjust from 100% to 120% if your lawn shows signs of wilt or stress. If your irrigation controller has this feature remember it adjust the watering time for each zone not just one and you will be applying 20% more water to your landscape at 120% seasonal adjustment. During most winters in North Texas regular irrigation is not necessary so consider turning irrigation controllers off for that period (November – March).

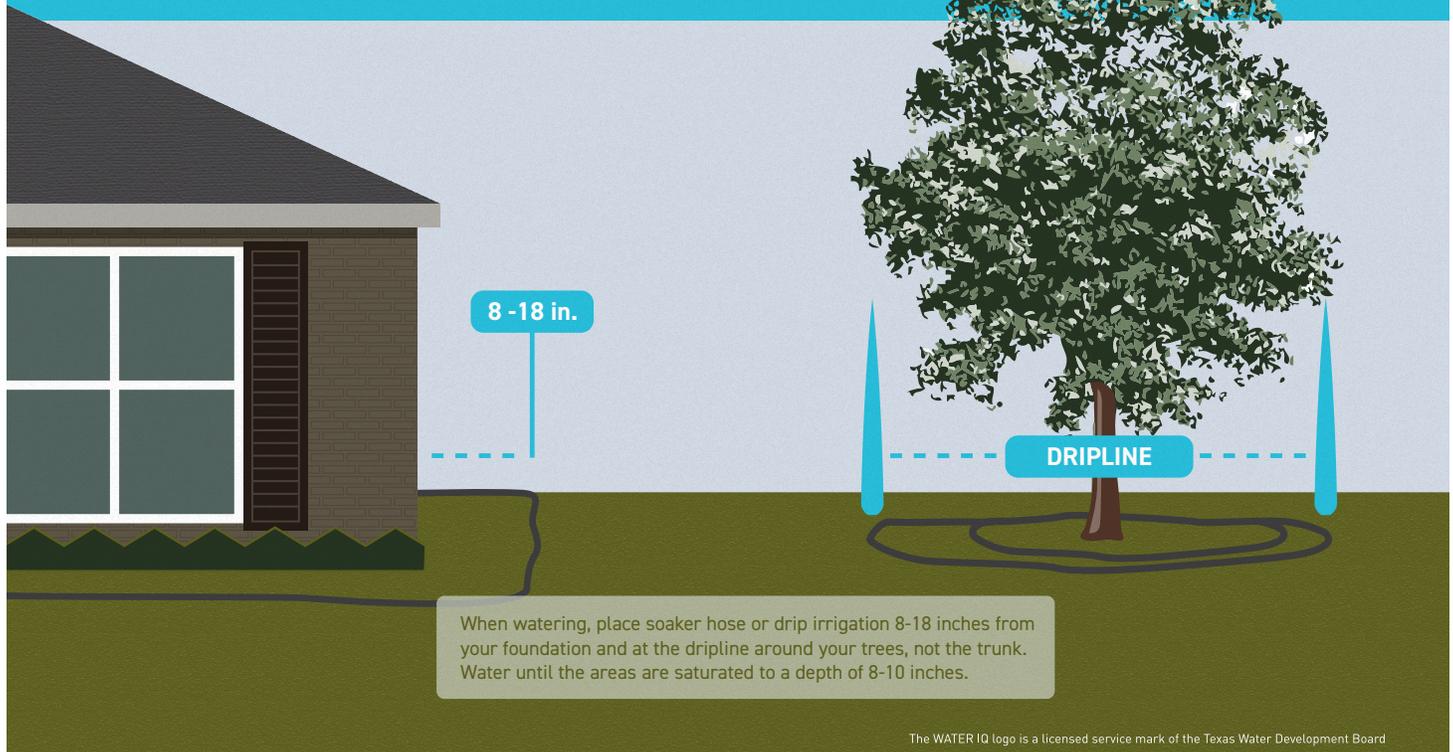
# FOUNDATION WATERING

## HOW TO PROPERLY WATER TREES AND FOUNDATIONS IN NORTH TEXAS

UPPER TRINITY  
REGIONAL WATER DISTRICT



Based on AgriLife's Recommended Landscape Practices. Visit [www.utrwd.com](http://www.utrwd.com) for more info.



The dry conditions that sometimes plague North Texas can also affect your building foundation. Extended dry periods can cause shifting and cracking. When clay soil becomes extremely dry, it constricts and the foundation sinks. Unfortunately, when the foundation sinks, it sometimes sinks in different directions causing cracks. When clay soil receives moisture again, it expands and lifts the foundation, sometimes closing the cracks. Shifting in the foundation is most noticeable inside when doors are difficult to open and close or when you see cracks in walls, particularly the corners. Damage occurs when foundation cracks cause pipes to break, chimneys to shift and brick veneer to crack or separate.

Protect your foundation before this happens by watering the soil around it. Since dry soil shrinks away from foundations, walk around your house and look for where the soil is against the foundation. You might have to pull back plants or mulch to make this observation. If you do not see a gap between the soil and foundation, your soil moisture is good. If you see a gap between the foundation and the soil, then water the ground around your foundation. Do not water directly in the crack.

There are several suggestions for keeping the clay from drying and shrinking away from your foundation:

- Plant, water and grow plants around the foundation
- Create a dedicated irrigation zone around the house
- Water the foundation by attaching a soaker hose to an outdoor faucet

### **Plant, Water and Grow Plants Around the Foundation**

Plants growing around the foundation of your house will protect the foundation by holding the soil and moderating soil temperature. Plant roots hold soil and keep it from eroding away. Plants also provide shade to the soil, preventing moisture from evaporating. Maintaining a 2"-4" layer of mulch in your landscape bedding also holds moisture, but do not cover your foundation with mulch as this can encourage pests like termites.

### **Create a Dedicated Irrigation Zone Around the House**

If you have an irrigation system, create a dedicated irrigation zone for your foundation. Install a drip irrigation zone about 8 to 18 inches from the foundation.

### **Foundation Watering with Soaker Hose**

Place the soaker hose around the perimeter of the house 8 to 18 inches away from the foundation. Before attaching the soaker hose to the faucet, make sure you have a backflow preventer on the faucet. The first time you run the soaker hose, take off the end cap and run water through the hose to clean out any debris. Soaker hoses run best with low pressure. You do not need to turn the faucet on full. Most soaker hoses will have a pressure restrictor (looks like a plastic disc) at the faucet end to reduce the pressure in the hose. If there is no restrictor, turn on the faucet so water slowly comes out of the soaker hose. Run the soaker hose until the ground is saturated and continue watering daily until the gap between the foundation and soil closes, continue watering as needed to maintain adequate soil moisture.

## HELPFUL ONLINE RESOURCES

Upper Trinity Regional Water District - [www.utrwd.com](http://www.utrwd.com)



<https://www.facebook.com/utrwd/>



<https://twitter.com/UTRWD>



<https://www.instagram.com/uppertrinitywater1989/>



<https://www.youtube.com/channel/UCkrsOPAsPbVLRV0QcPE5vZA>

Water My Yard Watering Recommendation Service - <https://watermyyard.org/>

Check out *Homeowner's Guide to Sprinkler System* and other publications related to irrigation and landscape management at Texas A&M AgriLife Water University - <https://wateruniversity.tamu.edu>

## IRRIGATION CHECKLIST

Common problems in your irrigation system can waste hundreds or even thousands of gallons of water per week if not identified and fixed. It's important to routinely perform a checkup of your irrigation system to make sure it is operating properly and that you do not have any costly leaks. The form below as well as the checklist of common problems (on page 4) can guide you to identifying leaking pipes, broken or misaligned sprinkler heads or inefficient sprinkler schedules. If you don't feel comfortable making the repairs yourself, call a licensed irrigator in your area. A licensed irrigator can ensure your system is operating at maximum efficiency. If it's time to upgrade your system be sure to install WaterSense labeled irrigation components.

# Homeowner Irrigation Check-up

## Watering Days

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday

## Maintenance Issues

Zone	Zone Type (S,R,MP,D,B)	Run Time (min)	Leaking Pipe	Broken Head	Broken Nozzle	Nonvertical Head	Clogged Filter	Overspray (spraying hardscape)	Misting (high pressure)	Runoff (long run time)
Zone 1										
Zone 2										
Zone 3										
Zone 4										
Zone 5										
Zone 6										
Zone 7										
Zone 8										
Zone 9										
Zone 10										
Zone 11										
Zone 12										

S - Spray    R - Rotor    MP - Multistream    D - Drip    B - Bubbler

## Maintenance Notes

Zone 1
Zone 2
Zone 3
Zone 4
Zone 5
Zone 6
Zone 7
Zone 8
Zone 9
Zone 10
Zone 11
Zone 12



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