



*A Guide for Home Builders
& Home Owners*

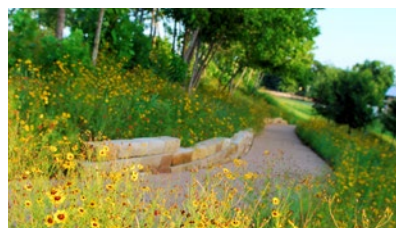
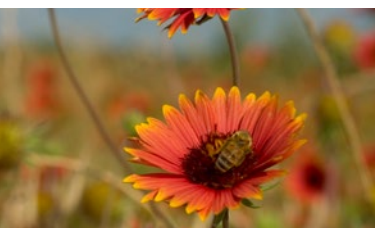
Sensible Landscaping

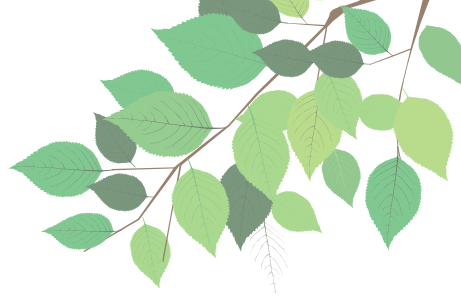
for Central Texas



Table of Contents

Introduction	3
Landscape Design	
• General Concepts	5
• Plant Selection	5
Plant Selection and Planting Guidelines	
• Plant Placement	7
• Purchasing Native & Adaptive Plants	7
• Preparing the Bed	8
• Mulch	8
• Installing Plant Material	9
Appropriate Use of Turf Grass	
• Determining the turf area based on the lot size	11
• Turf for shade and sunlight	11
• Central Texas Friendly Turf	12
Soil, Compost & Mulch	
• Soil	15
• Compost and Mulch	16
• Benefits of Mulching and Composting	16
Irrigation	
• Irrigation Regulations	18
• Irrigation Design for Your Site	19
• Hydrozoning	20
Maintenance	22
• Concurrence / Inspection	26
Checklists	
• Home Builder's Checklist	27
• Home Owners Checklist	27





Introduction

As Home Builders we play an important role in the story of water conservation. We have the opportunity to affect positive changes in landscape behaviors that will help conserve our water resources for their intended purpose. Understanding that water is meant to protect our health is key to initiating this change. Dumping billions of gallons of treated water on landscapes makes no sense when we consider its expense and impact on the environment, not to mention that many times the application is wasteful. So how do we become part of the solution; how do we balance the water needs of our growing communities with the landscaping our customers have come to expect? We can answer these questions by taking a look at the natural landscapes around us.

Native landscape palettes are beautiful. When done correctly they can be maintained with less effort, using less water. By offering your customers more landscape options suited for central Texas and sharing your knowledge with them, you will be on

the forefront of fostering positive attitudes about landscaping with native plants, promoting water conservation and causing the paradigm shift so needed in the home building industry.

This document contains a manual, several checklists and a host of resource materials. The manual contains information that will help you make the right decisions for installing landscapes. You will find a summary of regulations, tips for success and information to pass on to homeowners. The checklists provide step-by-step guidance to help you stay on track. The maintenance checklist will help homeowners better understand their irrigation system, watering, sunlight requirements, and information to make their landscape a success. There are also landscaping design templates, irrigation regulations and recommendations.



Let's Get Started

Landscape Design ►





Landscape Design

General Concepts

As with any project, knowing the site is the first step to developing a successful landscape. Sun orientation, potential drainage issues, existing trees, and existing grades are all key concepts that can help develop a sustainable landscape. Reflected light, heat, and glare from ground sources can easily enter a building through glass windows and doors. Sources of this ground radiation are driveways, walkways, concrete patios and plazas. To separate sources of ground radiation from buildings, use dense plantings of low shrubs adjacent to the structure. Drought tolerant ground covers and turf may also be used. Remember to select and place your plants based on their size at mature growth.

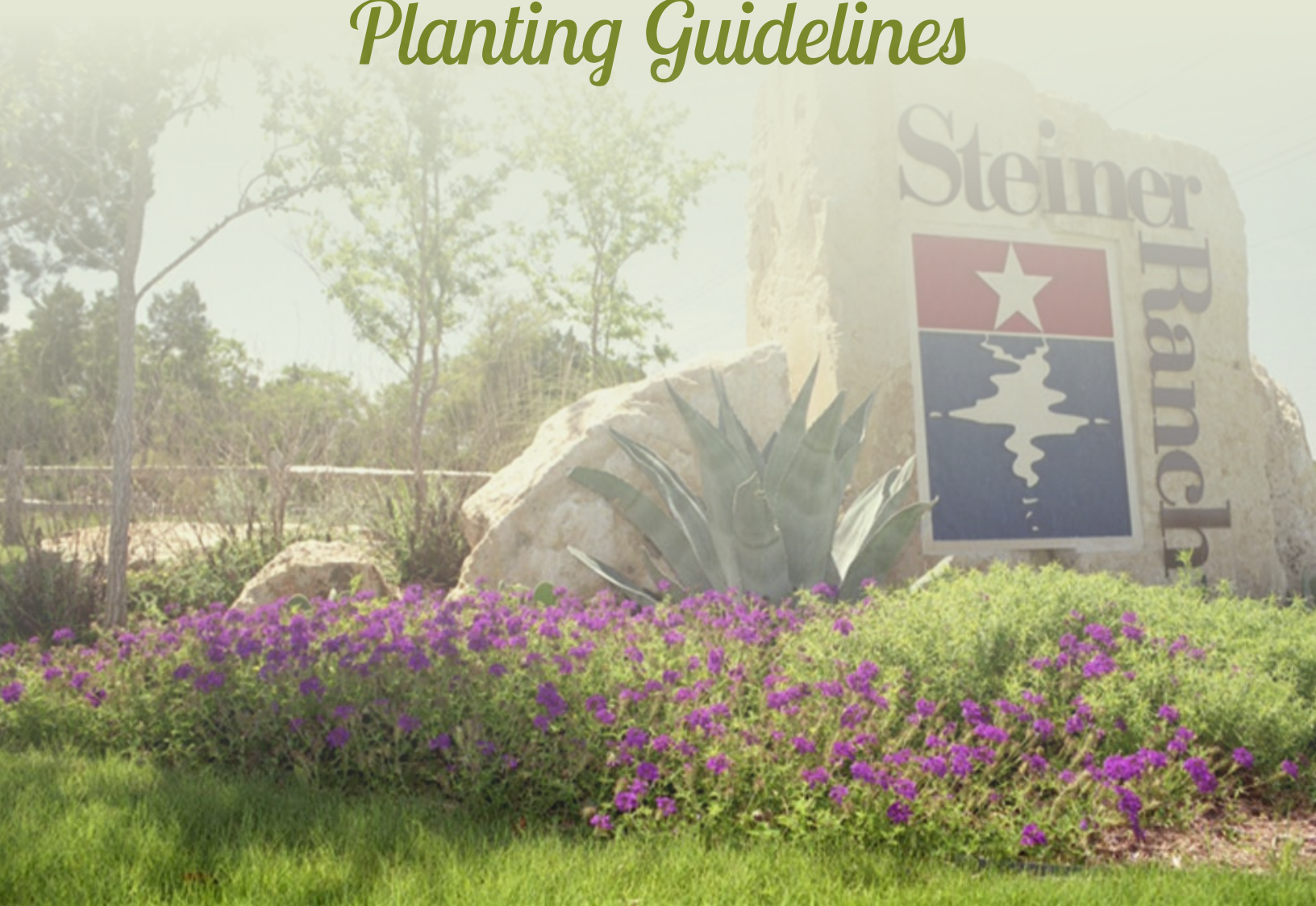
Whenever possible, direct storm runoff from hard surfaces such as, pavers, concrete, asphalt, decking, roofs, or other hard materials to landscape areas. Landscape areas include planting beds, gardens, turf grass, and native grasses. Draining the storm runoff to an area that has aggregate mulch large enough

to not wash away, is also beneficial. Consider using permeable pavement in lieu of traditional hard surfaces to promote the storm water infiltrating into the soil in individual yards.

Plant Selection

Native plants are those species that exist in a region without human introduction. Central Texas has well over 200 native plants. They create a distinctive sense of place by preserving the natural character of our region. Native plants are well suited to our soil, climate conditions, and our native insect pollinators. Generally, native plants require less soil modifications and fertilizers. Once established, they can thrive with less frequent watering, reduce maintenance costs, irrigation, fertilizers, and pesticides. If we are hoping to conserve water during the hot summer months or just desire plants that are more resistant to insects and diseases, native plants are the best choice. Using them helps solve a host of problems experienced by many homeowners.

*Plant Selection & ►
Planting Guidelines*





Plant Selection & Planting Guidelines

Growing native plants is an easy way to add color, texture and form to our landscape. Adaptive plants are not native and not invasive, but are able to thrive in the local climate and soil conditions.

www.austintexas.gov/department/grow-green

Use the link above for help finding some of the adaptive plants for central Texas. Using the plant list provided in the City of Austin Grow Green resource is a good starting place to determine native plants suitable for your landscape design. This list is not a collection of every plant that is suitable for Central Texas. Please contact a local professional in the landscape industry for more information.

Plant Placement

It may seem obvious, but plants need light - some more than others. Those needs change as plants mature. Some plants that were in full sun begin to receive less as the landscape around it matures. Shade tolerant plants are just that, meaning they cannot grow without any light. Existing trees may need to be pruned (professionally) to allow some light in without destroying the shape (and shade) of the tree. Full Sun can be a deceiving label on nursery plants. While some may be able to take full sun, 6 hours of Texas summer sun is enough. More sun than that, may require more water for some plants.

Below is a handy list that will help you decipher the labels:

LABEL	DEFINITION
Full Sun	6 Hours Direct Sunlight
Part Sun	3 to 6 hours of indirect sun (early morning or late afternoon) no less than 3, but closer to 6 is better
Part Shade	- 3-6 hours of indirect sun (early morning or late afternoon) – closer to 3 is better
Dappled Sun	Limited direct exposure to the sun
Full Shade	Less than 3 hours of direct sun, additional sun should be dappled

Only shade tolerant plants should be placed in shady areas, and plants requiring full sun should be placed in areas that receive at least 6 hours of sun per day. Make sure to understand the light conditions of the lot and light requirements of the plants prior to installing them.

Consider the mature height and width of plants before planting them. Allow plants to grow to full maturity without interfering with pavements, utilities, buildings, structures.

Purchasing native and adaptive plants

Make sure you get your plants from reputable dealers. Ask if the plants have been nursery propagated. Buying nursery propagated plants ensures that your plants have been obtained by legal practices.

Invasive or Noxious Plants are introduced species that can thrive in areas beyond their natural range of dispersal. These plants are characteristically adaptable, aggressive, and have a high reproductive capacity. Their vigor combined with a lack of natural enemies often leads to monocultures and is a threat to biodiversity. It is illegal to install invasive or noxious plants in many communities and municipalities.

Plant Selection & Planting Guidelines

Preparing the Bed

- ▶ Remove visible weed and grasses by hand or using minimal chemical treatment
- ▶ Beds should be tilled to a depth of 6" if existing soils have the proper nutrients or tilled to a depth of 2 - 3 inches and amended with imported soils to a depth of 6"
- ▶ Beds should be bordered with a landscape edge (i.e. trenched edges, rock or steel) to prevent transport of the mulch
- ▶ Beds should be amended with at least 1 inch of compost tilled into the top 2" layer

Mulch

Native Hardwood Mulch is typically the byproduct of local or regional land clearing activities, making it very economical.

There are numerous types of mulches: hardwood mulch (that's shredded bark or nugget bark), pine bark

nugget, pine needles, cypress mulch, or aggregate. Hardwood Bark decomposes more quickly than the nugget mulch; however recent research shows that shredded mulch prevents weeds better than nugget mulch. Bark makes an attractive mulch and is especially recommended for mulching around trees and shrubs. Pine bark nugget mulch, while attractive is prone to wash away during heavy winds or rain.

Cypress mulch is often touted as being "no-float," meaning that it won't wash away in heavy rains. However, current research shows that cypress mulch will transport during periods of heavy rain such as the ones we have in central Texas. Cypress mulch is not resistant to termite infestation as once believed and it is not a good conveyor of water or moisture to the soil. The mulch has such a high capacity for holding water that it may prevent available water from seeping below the mulch. Once cypress mulch becomes dry, it tends to repel water rather than absorb it. This prevents water from reaching the ground below the mulch and the roots of plants. The use of cypress mulch is not recommended.

Gravel, rock and stone aggregate provide fair weed control. There are certain types of low water use plants that prefer aggregates and inorganic mulch over organic mulch. The use of aggregate mulch vs. organic mulch should be determined on a case-by-case basis. The use of aggregates should not overpower or dominate the landscape so that we continue to look like Central Texas and not El Paso or Phoenix (a "desert scape" is not native to Central Texas).





Installing Plant Material

Installing plant materials is not as simple as digging a hole and plopping in the plant. There are a few steps to follow to make sure your planting efforts are successful:

- 1.** Select an appropriate tree/plant for the intended space. Consider the size of the tree or plant at its mature growth.
- 2.** Dig a hole 2-3 times the width of the root ball. Leave a small mound of dirt in the center of the hole where the root ball will rest. During watering this little mound will prevent the root ball from sitting in water and allow the roots to take moisture from deeper areas of the hole. The hole should be no deeper than the distance from the bottom of the root ball to just below the trunk flare, typically where the trunk emerges from the potting soil. Make sure there are no large rocks below the hole you are digging. It is better to excavate the soils deeper than the recommended depth and backfill the hole to the correct depth. Roughen the sides and bottom of the hole with your shovel to ensure the root tips can penetrate the soil.
- 3.** Planting the tree: Remove the tree gently from its container; irreparable damage can occur. It is better to roll and gently squeeze the container until the soil and roots turn loose and the tree with its roots ball and soils still intact can be removed from the container. Make sure the roots are pointing down or outward. If they are circling, gently unwind them. If

the roots cannot be unwound, it is better to cut the roots prior to setting the tree. Failure to correct the circling root pattern will cause the roots to choke one another as they continue to grow in size. Overtime, the tree will deteriorate and die. Set the tree in the hole. Ensure that it is oriented correctly and standing upright and backfill the hole with soil. Be sure that the trunk flare is visible after the hole is filled.

- 4.** Build a water basin. Along the outer edges of your hole build a small berm with soil. This berm will hold water around the base of the tree, giving it time to percolate to the root ball rather than runoff from your new plantings.

- 5.** Mulch 3 to 4 inches around the trunk of the tree. Most trees cannot tolerate mulch deeper than 4 inches, which is sufficient to retain moisture and prevent weed invasion. Make sure that mulch is not touching the tree trunk. Mulch should extend at least 3 feet from the trunk, and be renewed as often as necessary to maintain a layer 2 inches thick. A circle of mulch will make it easier to mow around young trees without damaging the bark. A mulch-free area, 6 inches wide at the base of the tree, reduces moist bark conditions and prevents decay or damage from bug infestation.

- 6.** Water the basin and let the water percolate through the newly disturbed soil. When the water is no longer visible, fill the basin again. Repeat the process until the upper surface is wet. Water regularly for the first year or until the tree is visibly established.

Appropriate Use ► *of Turf Grass*

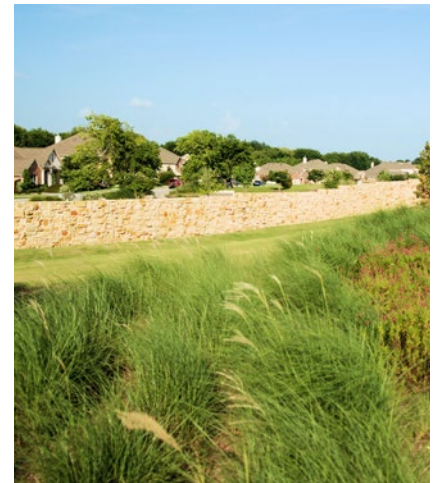




Appropriate Use of Turf Grass

Determining the turf area based on the lot size

No turf grass is perfect for all sites in Central Texas, but if you choose to use turf, keep the area small and select warm season turf grasses (See below: Central Texas Friendly turf); they will perform better during our hot dry summers. Warm season turf grasses will turn brown, wilt, and go semi-dormant during periods of extended drought and throughout the winter months but will come back. Consider using turf areas based on their practical function for the residence and use other native ground covers to stabilize other areas. Try not to go out of your way to disturb native turf which could be left untouched and used as a low maintenance visual amenity.



Determine the amount of turf grass area allowed based on the following:

- 50% of all landscape areas can be turf grass up to a maximum of 7,000 square feet.
- Landscape areas include; gardens, plant beds, native undeveloped areas, areas covered with permeable aggregates, turf grass, native grass / wildflower areas.
- Turf grasses should be limited to low water use turfs (Ex: Improved Bermuda & Zoysia grass)
- St. Augustine grasses should not be planted.
- Longer leafed native grasses and wildflowers that are low water use are not considered turf grass when determining how much turf grass is allowed.

Turf for Shade or Sunlight



Consider the design elements of the landscape, the sun exposure and the water needs of your turf when deciding which to use. Don't be afraid to mix different types of turf within the same landscape. Delineate full sun areas from more shaded areas and use the appropriate turf in each. As the landscape evolves to maturity, turf edges will adjust and blend to meet their sun and water requirements.

Central Texas Friendly Turf



Zoysia grass (*Zoysia japonica*)

Zoysia grass spread by rhizomes and stolons producing a dense turf. There are several different species within the zoysia grass genus, each having its own look. Zoysia japonica species are typically coarse-textured while matrella species are typically finer textured. Zoysia grasses require less mowing and fertilizing and are often considered lower maintenance for those reasons. It is best established from sod due to slow germination and growth and seed formation is difficult. Zoysia grass can be somewhat invasive so maintaining its boundaries is important. Zoysia that has escaped into planting beds can be difficult to remove.

- Sod: 'Palisades', 'Jamur', 'El Toro', or 'Crowne'
- Seed: 'Zenith' and 'Compadre'
- Low – medium water use / Full sun or partial shade / Tolerates some foot traffic



Buffalo grass (*Buchloe dactyloides*)

Buffalo grass does not have a dense canopy so it is more susceptible to weed invasions than other turf grasses. Fewer weeds will invade with a more natural look by mowing 2 to 4 times per year on the highest mowing height adjustment. It does best in areas with 25 inches or less of annual rainfall. Overseeding turf or mixing the seed with other shortgrass species is one way to produce a denser turf.

- Sod: '609', 'Density', 'Prairie', 'Prestige'
- Seeds: Common, 'Texoka', 'Bison', 'Bowie', 'Comanche', 'Topgun'
- Very low water use / Full sun / Tolerates little foot traffic



Bermuda grass hybrids (Cynodon spp.)



Bermuda grass habitats are widely used species for golf course and athletic turf in the southern United States. It is becoming popular for home lawns. Common Bermuda grass can be invasive so it is best to use a variety that does not produce viable seeds. This invasiveness (horizontal growth) is also what allows Bermuda grass to recover from wear and tear faster than other types of turf grass. The Bermuda hybrids have a finer leaf texture than common types and create a denser turf that performs better under more frequent use, mowing, watering and fertilization. Hybrid varieties of Bermuda grass interspecific crosses of *Cynodon dactylon* and *Cynodon tranvaalensis*) are most often planted as sod and produce seed heads that are sterile. As a result, most hybrids do not pose an invasive threat.

- Various types of Improved Common Bermuda are available in seed (hydromulch) and/or sod
- Low-medium water use / Full sun / Tolerates high foot traffic

Shortgrass Prairie Seed Mixes



Several commercial native seed mixes are available that combine Buffalograss, Curly Mesquite, *Hilaria belangeri* and Blue Grama Grass, *Bouteloua gracilis*; short wildflowers can also be added to create a short-grass meadow. There are also mixes that tolerate partial shade.

- Seeds: Native grass and Wildflowers mixes
- Low water use / Full sun to Partial shade / Tolerates light foot traffic

Soil ►





Soil

Just as the right foundation is key to longevity and integrity of built structures, soil is the basis for a successful landscape. A deep rich soil is ideal for turf and ornamental landscape beds. A deep friable soil helps the landscape establish deep roots so that in times of infrequent watering, the deepest roots stay cool and moist. This allows the plant to continue to thrive or at worst a quicker recovery after the next watering.

Soils from the construction site should be analyzed for nutrient, organic percentages and sand/silt/clay content. This is important as it gives the contractor the first clue about how to manage the site. The soil test will determine any soil amendments necessary to support the landscape and preserve the remaining landscape investment.

In areas to be planted, both bedding areas and lawns, there should be no less than 6 inches of quality soil. If available, existing soil should be amended and used as topsoil. The 6" of topsoil creates a better growth medium, retaining moisture longer and requiring less water for plants.

Topsoil should be a blend of soil and compost that is fertile and friable (soil that has a crumbly texture and is typically the foundation of success with most plants).

Clay soils, also known as "Red-death" is not an acceptable growing medium and development

regulations typically preclude its use. The longevity and performance of plants planted in red death soil is greatly diminished. Soil should be free of stones over 1 inch in diameter, lumps, refuse, plants or their roots, sticks, noxious weeds, salts, soil sterilants or other material that is detrimental to plant growth.

Topsoil delivered to the site should be obtained from a well-drained site that is free of flooding and should not be accepted if in a muddy condition.

Topsoil that is added to the site should be tilled into the existing surface in a two to three-inch layer. This will enable water to drain adequately through the different types of soil. Do not till within the drip line of existing trees that have been preserved on site.

All areas planted with trees, perennials and shrubs should be finished with a 3" inch deep layer of high quality composted mulch. Large plants (trees and shrubs) should have a 3" layer while smaller perennials and ground covers should have a 3" layer of mulch.

Do not allow construction equipment to drive or park beneath the canopy of trees that are to be preserved on site. This compacts the soil around the roots and overtime diminishes the tree's health or causes it to die. Protect preserved trees with barricades or other effective measures and keep the protection in place and in good condition throughout the construction process.



Compost & Mulch



Benefits of Mulching and Applying Compost

Trees growing in a natural forest environment have their roots anchored in a rich, well-aerated soil full of essential nutrients. The soil is blanketed by leaves and organic materials that replenish nutrients and provide an optimal environment for root growth and mineral uptake. Urban landscapes, however, are typically a much harsher environment with poor soils, little organic matter, and large fluctuations in temperature and moisture. Applying mulch and compost can mimic a more natural environment and improve plant health and reduce water needs.

Compost is an organic material that increases soil health by improving aeration and structure and reduces the need for fertilizer and water. Compost is full of living organisms. As these organisms live out their life cycle they contribute gases and excrement to their surrounding environment. This increases the available nutrients that enhance moisture retention and plant growth. Compost will make clay soils more friable and aeration is improved. Sandy soils can also be improved by the addition of compost. Soil scientists report that for every one percent of organic matter content, the soil can hold 16,500 gallons of plant- available water per acre of soil down to a one foot depth.

Mulch acts like a blanket, maintaining soil moisture and insulating plants from the heat and cold.

Mulch controls weeds. Typically 3-4 inches of mulch will prevent germination of seeds and invasion by unwanted plants.

Some mulches can improve soil fertility.

A layer of mulch can inhibit certain plant diseases.

Mulching around trees helps facilitate maintenance and can reduce the likelihood of damage from “weed whackers” or the dreaded “lawn mower blight.”

Mulch can give planting beds a uniform, well-cared-for look.



Irrigation ►



Irrigation



General Regulations of the Texas Commission on Environmental Quality:



- ▶ Refer to TCEQ Chapter 344 for detailed rules related to irrigation system.
- ▶ Must be a licensed irrigator.
- ▶ An As-Built plan, including variances from the original plan, should be on site at all times and left with the owner of the irrigation system upon completion.
- ▶ No spray irrigation may be installed in areas less than four feet wide.
- ▶ Emission devices may not be installed closer than four inches to any hardscape.
- ▶ All stations must be properly hydrozoned. (See page 20)
- ▶ A rain or soil moisture sensor (or other technology) must be installed.
- ▶ The system's components must operate at the correct pressure (i.e., no misting).
- ▶ Irrigated areas must have head to head coverage.
- ▶ No overspray is allowed.
- ▶ Must leave a water schedule with the owner.



**Find Austin's
Current Watering
Schedule at**

[www.austintexas.gov/department/
watering-restrictions](http://www.austintexas.gov/department/watering-restrictions)





Irrigation Design for Your Site

If there is/are:	Then:	Reason:
Zoysia, and Buffalo grass	Use six inch heads.	The extra height (over a four inch head) will prevent future blocked spray patterns by grass leaves.
Small irregular turf areas	Use variable nozzles.	Variable nozzles will allow for site specific adjustments to be made.
Moderate to large turf areas	Use multi stream multi trajectory nozzles (MSMT) or rotors	MSMT and rotors have higher distribution uniformity than spray nozzles.
High traffic areas (e.g., play areas)	Limit number of heads by using emitters with longer throws (e.g., MSMT or rotors)	Limiting the number of heads and installing them on the periphery of traffic areas will prevent traffic related breaks.
Beds	Install drip or if installing above the ground emitters, install them with plant growth and future plantings in mind.	Properly installed drip emits water directly to the soil and plant with little loss. Paying attention to plant growth and future plantings will prevent blocked distribution patterns.
Installation of drip	Install a visual pressure indicator. Install drop emitters at 2" depth (below soil) in plant beds and at 4" depth (below soil) in turf grass. Don't install drip where annuals will be planted.	A visual pressure indicator lets the user easily identify if there is a lateral line leak. Installing drip where regular plantings will take place increases the chances for lateral line leaks.
Slopes on Site	Use heads/ emitters with low precipitation rates. Also, use heads with check valves where applicable.	Heads/ emitters with low precipitation rates apply water slower, giving the soil more time to absorb it before runoff occurs. Heads with check valves prevent water from draining to low areas (and onto hardscape) after the station has run.
Existing Trees on Site	Limit trenching beneath tree canopies.	Trenching beneath tree canopies can cut roots and cause stress on the trees.

Irrigation Design for Your Site



Hydrozoning is the practice of clustering together plants with similar water requirements in an effort to conserve water. Grouping plants into hydrozones is an approach to irrigation and planting design where plants with similar water needs are grouped together. Through the practice of hydrozoning, it's possible to customize irrigation schedules for each area's needs, improving efficiency, and avoiding over-watering and under watering certain plants and grasses.

Drip irrigation should be used in all landscape plant bed areas, except where annuals are planted. Drip irrigation is required by the state to be used in narrow landscape areas, especially those areas that are adjacent to hardscape surfaces. Check with the authority within your specific jurisdiction to determine the size of landscaping requiring use of drip irrigation.



Spray irrigation includes the use of a variety of above ground emission devices and is typically used in turf areas. Variable spray nozzles are very susceptible to wind and should be placed away from the hardscape surfaces. Multi-stream rotors have a slower precipitation rate and provide larger water droplets that are not as susceptible to the wind. Use matched precipitation spray and rotor heads and do not exceed the manufacturer-recommended pressure range. Many municipalities and water districts regulate the distance that a spray nozzle can be placed adjacent to any hardened surface. Check with the authority within your specific jurisdiction to determine the distance requirements for these spray emission devices.

Run time determinations are important in applying the correct amount of water to your yard during





Irrigation Design for Your Site

each season of the year. Determining the run time is based on soil type, slope, the type of irrigation heads on your automatic system and the environmental conditions of your yard. This is important because much of the soil in central Texas is comprised of clay and while clay retains water, that characteristic makes it more reluctant to accept water; the result is runoff and water waste. Use the cycle and soak method, a method that uses brief irrigation intervals to wet the soils. A run-time calculator is available at WaterWiseAustin.org to help you determine the best run times for the property.

Run time scheduling is important to prevent water waste. Most municipalities and water districts have watering restrictions. Run times should be scheduled to correspond with the mandated irrigation schedule of the local jurisdiction. The irrigation contractor is required to provide an as-built of the irrigations

system. The plan should include a general watering schedule/budget.

Rain or soil moisture sensors are required on all automatic irrigation systems. Sensors are required to be connected to an irrigation controller in order to stop the irrigation cycle during and after a rainfall event. Rain sensors must be installed in a location where rainfall is unobstructed, such as a rooftop or fence line. We recommend that rain sensors are adjusted at the 1/4" setting.

Irrigation controllers should have features that include: multiple start times, rain sensor capability, a water budget feature, and a non-volatile memory in case of power outage.

Scheduling recommendations should be posted inside the controller box or in a readily accessible place near the controller for easy reference.



Maintenance ►





Maintenance



A good maintenance program keeps the landscape healthy and looking its best. A landscape free from stress requires less water, fertilizer, and pest control. Maintenance personnel must develop keen familiarity with the landscape to identify potential problems and take curative action. Turf requires the most intensive maintenance of any plant in the landscape. To reduce turf maintenance, use this step by step approach.

- ▶ **Mow high.** Set mower at 2 inch height for Bermuda. Mowing 2 inch or higher provides shading for the turf roots, resulting in less need for water.

- ▶ **Mow often.** Never remove more than one-third of the leaf blade in a mowing. This allows you to leave the clippings where they fall to return valuable nitrogen to the soil. It also reduces the stress associated with lower mowing. Less stress equals less need for water and fertilizer.
- ▶ **Mow with sharp blades.** Use the right mower for the job and make sure blades are sharp to make a clean cut. Dull mower blades tear, rather than cut the turf, causing a stress condition.
- ▶ Fertilize in moderation according to soil and plant needs. Use organic fertilizers or slow-release fertilizer sources. Applying fertilizer in the heat of the summer can burn plants.
- ▶ If the yard is sloped, do not apply fertilizer below the crest of the slope. The sloped yard will encourage transport of fertilizer to the toe of the slope and reduce fertilizer laden runoff.
- ▶ For best results aerate your yard twice a year, in the spring and fall. Top dress the lawn and bedding areas with ¼ inch of compost every other year.



Maintenance

- ▶ Irrigation systems should be checked routinely & operated in accordance with the irrigation regulations of your community.
- ▶ Know your plants and understand their water needs. Native plants and many turf grasses perform better with limited irrigation. A good soaking once a week is better than applying small amounts of water daily. This encourages the roots to grow deeper, strengthening the plant and protecting it from harsh weather conditions.
- ▶ Run a test cycle of your irrigation system once every month during irrigation season to ensure that valves and heads are operating correctly. It is always a good idea to look for heads and other components that may have been damaged during mowing. Make corrections; operating a leaking or damaged irrigation system is a violation of law.
- ▶ Check your controller after thunderstorms or electric outages to make sure the system has not reset start and run times to factory settings.



- ▶ Reduce irrigation run times on tree bubblers after year two.
- ▶ Make sure that as plants grow or new plants are planted they do not block the trajectory of the irrigation head.
- ▶ In drip beds check routinely to make sure emitters are not plugged or buried.

Visit the link below to help you determine run times based on soil and other site specific conditions.

www.austintexas.gov/water/conservation/irrigation/calculator.com





Concurrence / Inspection

Hire a 3rd Party

It is recommended that a third party professional be hired by builders / developers to inspect the landscapes of their developments. The third party professional would provide an objective inspection to verify that soils, mulches, plants, trees and irrigation systems have been installed per HBA standards, meeting local requirements, to the standards set by a builder / developer, or meeting drawings / specifications. The third party professional should be a licensed inspector registered in the State of Texas to ensure that inspections are thorough, accurate, and can be held accountable with the professionals licensure. A report should be provided to the Builder / developer with the findings of the inspection. A letter of concurrence should be issued to the developer when the inspection passes.



Checklists ►





Checklists

Builder Checklist

Soil

- ☐ Soil test performed
- ☐ Native Soil being preserved
- ☐ Topsoil brought from off site
- ☐ 6 inches of topsoil
- ☐ 1 inch quality compost
- ☐ All trees barricaded at dripline
- ☐ Construction equipment precluded from landscape area

Irrigation System

- ☐ Rain sensor installed
- ☐ Backflow device installed
- ☐ 6-inch heads installed
- ☐ Drip irrigation is installed the proper depth below the
- ☐ top of soil (and mulch).
- ☐ Heads installed proper distance from hard surfaces
- ☐ Design corrected to account for slope
- ☐ Landscape Hydrozoned
- ☐ No broken or misaligned heads
- ☐ No leaking components, valves
- ☐ Pressure adjusted to prevent misting at every head

- ☐ Irrigation plan and water budget available
- ☐ As-built plan and water schedule left with homeowner

Plants

- ☐ Native
- ☐ Drought friendly

Plants identified

Trees _____

Shrubs _____

Turf _____

Plants properly spaced

- ☐ Trees: mature spacing coordinated
- ☐ Herbaceous: mature spacing coordinated

Mulch

- ☐ Depth 3-4 inches
- ☐ Irrigation heads visible

Homeowner Checklist (Completed by Builder and given during final walk-through)

Irrigation System

Controller Brand _____

- ☐ Controller Instructions
- ☐ Controller backed up by battery __Y__N
- ☐ Number of Zones ____
- ☐ Irrigation Design Plan
- ☐ Zone boundaries and irrigation type
- ☐ Location of Valve boxes
- ☐ Location of water meter
- ☐ Community irrigation regulations
- ☐ Irrigation brochure
- ☐ Watering schedule

Plants identified:

Trees _____

Shrubs _____

Turf _____

- ☐ Plant information and water requirement



Content contributed by the LCRA and City of Austin



TEXAS ENGINEERING
SOLUTIONS, LLC



For more information about the Home Builders Association of Greater Austin
www.hbaaustin.com