



SOUTHWESTERN UNIVERSITY

Campus Tree Care Plan

1. Purpose

The purpose of the Southwestern University campus tree-care plan is to identify the policies, procedures, and practices that are used to establish, protect, maintain, and remove trees on the Southwestern University campus. The overall goal of the plan is to ensure and maintain a safe, healthy, attractive, and sustainable urban forest on campus. The specific objectives of this plan include:

- Ensuring appropriate species selection that promotes tree diversity and acknowledges proper tree care needs;
- Promoting tree health and safety by utilizing the best management and care practices when maintaining campus trees;
- Ensuring that trees are reasonably replaced when there is mortality due to weather, pest infestations, injury, or construction displacement;
- Protecting high-value trees during construction or renovation projects;
- Establishing future goals and targets for the campus urban forest program;
- Encouraging campus community members to respect and value the campus urban forest.

2. Responsible Department

Southwestern University's Facilities Management department will be responsible for adhering to the Tree Care Plan. A certified arborist will serve as a contact for questions regarding proper tree selection and care.

3. Campus Tree Advisory Committee

Because it already comprised members representing a diverse audience of stakeholders, a Campus Tree Advisory Committee was included as a subset of the existing Southwestern University Sustainability Committee. This committee is made up of undergraduate students, facility management representatives, and faculty. The Tree Advisory Committee will also include a certified arborist from the community. The Tree Campus committee will meet annually to review the Campus Tree Care Plan. By reviewing the plan, the Committee can guide future planning, analyze current events that affect trees on campus, and educate the community about the importance of campus trees.

4. Campus Tree Care Policies

Plant Selection

The Tree Advisory Committee, in consultation with the Manager of Facilities Services, is responsible for selecting new tree species to plant. Tree species will be selected based on the characteristics of the planting site and the objectives for installing the tree (size at maturity, expected life span, maintenance requirements, etc.). The sites for tree planting and the spacing between new trees will be determined by the committee in coordination with Grounds and the Manager of Facilities Services. Unless otherwise directed by a certified arborist, new trees will be chosen from the list of recommended species.

List of Recommended Species

This list of recommended species aims to fit criteria consisting of sustainable, aesthetically pleasing, and non-invasive species suitable for the climate of Central Texas:

- Live Oak
- Texas Live Oak
- Texas Red Oak
- Pecan
- Sycamore
- Chinese (Lacebark) Elm
- Holly
- Big Tooth Maple
- Texas Ash
- Texas Redbud
- Mountain Laurel
- Persimmon
- Crepe Myrtle
- Black Walnut
- Cedar Elm
- Monterrey Oak
- Chinquapin Oak
- Anacua
- Mexican (Montezuma) Cypress
- Magnolia

Site/Tree Planting Location

The site in which a tree is to be planted will be carefully considered to ensure the best future for the tree, as well as its benefit to the campus community and campus ecosystem. When preparing a site for planting the following aspects will be considered:

- Height and canopy spread- Knowledge about the tree species will determine whether the tree will come in contact with anything when it is fully grown and the effects that it could have on other trees or buildings in the area.
- Form- The shape of the tree dictates how much space it needs to grow, the area of leaves it will drop, and how much shade it will provide.
- Habitat - Plant materials will be chosen based on site conditions. Research and consideration of soil, sun, and moisture requirements will ensure the tree is the right choice for the proposed planting site, as well as its biological relationship to the surrounding ecosystem.

There may also be considerations of aesthetics, social benefits, and health benefits to the campus community, as determined by the Tree Advisory Committee.

Pruning

Pruning will be conducted with a specific reason or goal in mind. Most pruning will be corrective or preventive. For example, removal of diseased or storm-damaged branches, reduction of tree height, shaping for design and training purposes, cleaning of the tree canopy, and raising the crown. Campus trees will be assessed every year, with these criteria in mind. An agreed-upon percent of the annual tree program budget will be designated for this annual pruning maintenance. The following are conditions that may necessitate pruning:

- Trees with safety hazards
- Training new trees
- Special requests via work orders
- Clearance pruning for buildings, sidewalks, light poles, power lines, roads, and signs

No more than 25% of the crown of the tree will be pruned at one time. Exceptions to this include repair of storm damage, reduction in height to avoid crowding utility lines, or raising the crown to meet municipal bylaws. Pruning will not be conducted without a clear objective; however, most major pruning other than general safety pruning will consist of the following:

- Crown Thinning - Assess how a tree will be pruned from the top down. Favor branches with strong, U-shaped angles of attachment. Remove branches with weak, V-shaped angles of attachment and/or included bark. Ideally, lateral branches should be evenly spaced on the main stem of young trees. Remove any branches that rub or cross another branch.
- Crown Raising - Assess how the tree will be pruned from the bottom up. When possible, maintain live branches on at least $\frac{2}{3}$ or 66% of a tree's total height. Removal of too many lower branches will hinder the development of a strong trunk. Remove basal sprouts and vigorous epicormic sprouts.
- Crown Reducing - Use crown reduction pruning only when necessary. Make the pruning cut at a lateral branch. "If it is necessary to remove more than 50% of the foliage from a branch, the entire branch should be removed."¹

Mulching

Tree mulching will be done every two years for trees on the maintained campus. Select larger trees and tree groupings are mulched with recycled wood chips created by pruning waste. Mulch piles will be created when tree debris is processed in the wood chipper. These piles will be monitored for extended periods to ensure that pests that may exist in the wood cannot be brought back to campus during mulching.

Irrigation

Drip irrigation will be utilized when necessary, as it delivers water efficiently and dependably on the critical root zone to maintain soil moisture during the establishment period of young trees. While it is normally not necessary to irrigate established trees, it may be advisable to do some watering of certain species to ensure the survival of particularly valuable trees during drought periods.

Fertilization

If a tree shows signs of nutrient deficiency, it is most likely because of an improper match of a tree to the site. All efforts will be made to ensure that the proper tree is planted in the proper site; however, circumstances may occur that justify the use of fertilizer as needed. Fertilization will be taken into account on a tree by tree basis. Organic-based fertilizers should be the first option. A fertilizer that includes any kind of herbicide will never be used around a tree as these fertilizers can damage trees.

Pest Management

The campus landscape will be monitored and inspected throughout the year for pest and disease occurrences as well as any harm from environmental stresses (e.g., drought effects, leaf and bark scorch, nutrient deficiencies, etc.). In cases where insect or disease occurrence is identified as a problem, monitoring and pest thresholds will be used to assess the extent of the problem and to determine if and when tree remediation measures are needed. Southwestern University has developed its own Integrated Pest Management plan to achieve these goals.

Storm Response

The Facilities Management staff, under the supervision of a certified arborist, will be responsible for the cleanup and restoration of trees damaged by storms. These efforts will be focused on major roads and walkways throughout campus to make them safe for students and university

¹ [Texas State Tree Care Plan](#)

personnel. Once these major traffic areas have been cleared, the hazards in the less frequently occupied areas of campus will be addressed. Each tree damaged in a storm will be evaluated to determine if the tree should be removed or if it can be restored to a safe, healthy state that can provide future benefits to the campus. Outside contractors will be used in situations where specialized skills and equipment are required.

Tree Removal

The removal of campus trees will be based on safety, tree health, competition with more desirable trees, and conflicts with construction or maintenance. The decision to remove a tree will be based on an evaluation made by the Manager of Facilities Services in coordination with Grounds. If the tree is being removed for safety reasons, a tree risk assessment will be completed. Tree removals that involve specialized skills or equipment will be conducted by an outside contractor.

Acceptable requests for tree removals include:

- Dead trees;
- Diseased or insect-infested trees that are not treatable;
- Nuisance trees based on condition, size, fruit or seed drop, and root conflicts;
- Trees affected adversely by construction or maintenance improvements made near the tree that may interfere with the tree's roots and overall growth;
- Safety hazards that cannot be corrected through normal scheduled maintenance;
- Interference with the growth and development of a more desirable tree.

5. Protection and Preservation

Tree protection zones shall be established and maintained for all trees to be preserved in the event of construction in an area. To the extent possible, all site and construction work shall be planned and conducted in a manner that will minimize damage to trees, especially to the critical root zone or trunk. Trees that are likely to be impacted by potential construction should be identified with a site survey map. The priority of trees on campus will be considered for preservation purposes. Low priority trees at Southwestern University include the Bradford Pear trees but may include other trees deemed as such by the Tree Advisory Committee. High priority trees at Southwestern University are the Heritage Trees (defined as a tree that measures larger than 2 feet in diameter at a height of 4.5 feet from existing ground level). These Heritage Tree species include Texas Ash, American Elm, Cedar Elm, Texas Madrone, Bigtooth Maple, Pecan, Arizona Walnut, Eastern Black Walnut, and all Oak Trees

6. Goals and Targets

Arbor Day Observance

Southwestern University will host an Arbor Day event each year to continue its certification with the Tree Campus Higher Education program. The campus community will be invited to help with the planting of new trees. A proper tree planting demonstration and explanation will be included at this event, as well as an explanation of what the Tree Campus Higher Education designation requires and means to the institution. A tree planting event will occur on National Arbor Day on the last Friday of April and/or Texas Arbor Day on the first Friday of November.

Arboretum Designation

Within the next 5 years, Southwestern University has the goal of becoming an accredited arboretum through the ArbNet Accreditation Program.

Tree Care Team

Facilities Management has the goal to designate a Tree Care Team within the Grounds department to exclusively trim, prune, and maintain the campus trees. The Tree Care Team will receive professional development training, such as arborist certifications.

Tree Inventory

In 2017, Southwestern students completed a campus tree inventory to provide data on tree species diversity, tree characteristics, and health; allow the university to more efficiently maintain, monitor, and renew the campus trees; and serve as an educational tool for researchers and students wishing to be involved in future arboricultural practices. The inventory is publicly accessible via the Southwestern website. When a tree is planted or removed from campus, the campus tree inventory will be updated accordingly. The planting date and life expectancy of each new tree will be recorded in the tree inventory, as will information on the health and care of the tree. Future recommendations would be to implement the inventory into the grounds maintenance system to facilitate easy monitoring of individual tree status and health.

7. Tree Damage Assessment

All damaged trees on campus will be assessed by a certified arborist. An evaluation of the damaged tree will determine whether the tree should be pruned, removed, or treated.

8. Prohibited Practices

Tree care must be carefully approved and executed by Southwestern University's Facilities Management staff. Unapproved tree planting, removal, or pruning is prohibited.

Planting of the following plant species is prohibited as determined by the City of Georgetown:

- Bamboo
- Chinaberry
- Chinese Parasol Tree
- Chinese Pistache
- Chinese Tallow
- Jujube
- Japanese Ligustrum
- Wax Leaf Ligustrum
- Mimosa
- Paper Mulberry
- White Mulberry
- Paulownia
- Non-Native Pines
- Chinese Photinia
- Common Privet
- Pyracantha
- Russian Olive
- Salt Cedar Tamarisk
- Tree of Heaven
- Lilac Tree Vitex, Chaste Tree

9. Definitions

Arboriculture - the science and art of caring for trees, shrubs, and other woody plants in landscape settings

Canopy - an above-ground portion of the tree formed by the crown

Construction Site - the piece of land where a building, etc., is to be located

Certified Arborist - certified arborist credential identifies professional arborists who have a minimum of three years of full-time experience working in the professional tree care industry and who have passed an extensive examination covering all facets of arboriculture from the International Society of Arboriculture

Critical Root Zone - the minimum area surrounding a tree that is considered essential to support the viability of the tree and is equal to a radius of one foot per inch of trunk diameter (DBH)

Crown - branches, leaves, and reproductive structures extending from the trunk or main stems of a woody plant

Development - the act, process, or state of erecting buildings or structures, or making improvements to a parcel or tract of land

GIS - geographic information systems

Herbicides - chemical substances used to control unwanted plants

Native Tree - any tree species which occurs naturally and is indigenous within the region

Tree Protection Zone - the area surrounding a preserved or planted tree that is essential to the tree's health and survival, and is protected within the guidelines of these regulations

Tree Remediation - the action of reversing or stopping damage caused by the presence or growth of a tree

Tree Risk – the likelihood and consequences of a failure of tree or tree parts

Tree Risk Assessment – a systematic process used to identify, analyze and evaluate tree risk

Trunk - the main structural member of a tree that supports the branches and is supported by and directly attached to the roots

10. Communications Strategy

Once approved, the Southwestern University Campus Tree Care Plan will be posted on the campus website by the Campus Tree Advisory Committee for the community to view along with the tree inventory map. Postmaster, the Megaphone, and website links will be used as an outlet to inform faculty, staff, and students about upcoming Tree Campus events, such as tree planting for Arbor Day. The Campus Tree Advisory Committee will review the SU Campus Tree Care Plan annually. Any questions, comments, or issues with the plan will be directed to the Manager of Facilities Services.