

Campus Tree Care Practices

New Tree Selection

New trees planted on campus will be coordinated by the campus arborist. Tree species will be selected based on the characteristics of the planting site and the objectives for installing the tree. Nursery stock will be examined for the existence of circling/girdling roots, pests/pathogens, vigor and structure. Any nursery stock with circling/girdling roots, pests/pathogens, reduced tree vigor or poor structure will be rejected. No multi-stemmed nursery stock will be planted unless authorized by the campus arborist. The sites for tree planting and the spacing between new trees will be coordinated by the campus arborist.

Planting Trees

When planting a tree, the hole will be dug no deeper than the depth of the tree's root ball and 2-3 times the diameter of root ball. The trunk flare will be 1-2 inches above the existing grade of the soil. The sides of the hole will be sloped with unglazed sides and the soil underneath the root ball will be undisturbed or lightly compacted to prevent settling.

Once the tree is removed from its container the roots will be inspected. Any kinked or circling roots will either be straightened inside the planting hole or severed. The tree will be placed upright in the bottom of the hole and the trunk flare will be checked to ensure that it is 1-2 inches above the existing soil grade. Any staking materials and wrapping should be removed from the root ball and trunk of the tree and discarded.

The hole will be filled in with the original soil that was removed while digging. Any debris or rocks found in the planting hole will be discarded and any large clumps of clay or compacted soil will be broken up. No fill dirt will be placed on top the root ball. The soil surrounding the tree

Species Selection

Trees that are native to Texas and more specifically the piney woods region will be the primary focus when selecting trees to plant on campus.

The recommended and prohibited species list can be seen in Appendix B. This list not absolute. Other species will be used based on availability, site characteristics and special circumstances.

Tree Protection

All trees that will be impacted by construction, trenching or maintenance activities will be subject to the guidelines for tree protection. Before any construction, trenching or maintenance activities are conducted on campus the campus arborist will review the planned activities and determine if there will be any impact to campus tree crowns or critical root zones (CRZ). The campus arborist must be notified of any dig permits that are located inside the CRZ of a campus tree.

The CRZ of a tree will be defined as a circle radiating from the trunk of the tree that has a radius of 1 foot for every inch of tree diameter at 4.5 feet from the ground (DBH). For example, an elm tree with a DBH of 15 inches will have a CRZ that extends 15 feet from the trunk of the tree in all directions. The minimum CRZ for any tree is a circle with a 6 foot radius. The campus arborist is responsible for establishing the CRZ for each tree.

Impacts include any disturbance of the roots or soil within the CRZ, vehicle or foot traffic over the CRZ, materials being stored or discarded within the CRZ, any increase or decrease in the grade of the soil within the CRZ or the damage of any limbs or live foliage.

After the arborist has reviewed the proposed activities a decision will be made to protect a tree during the activity or have the tree removed. The cost of removing trees due to construction, trenching or maintenance activities will be done at the cost of the project. Trees that are of an undesirable species, designated as hazard trees, have poor vigor or are unable to provide future benefits to the site will not be candidates for protection. Desirable species with good health, vigor, structure and future benefit to the site will be candidates for protection. When a tree has been chosen for protection the following minimum guidelines must followed:

1. At least 50% of the tree's total CRZ must be preserved undisturbed at its natural grade.
2. No cuts, fill or material storage is permitted within a circle radiating $\frac{1}{2}$ of the radius of the CRZ from the trunk of the tree.
3. The $\frac{1}{2}$ CRZ circle must be surrounded by a minimum 4 foot chain link fence and the fence cannot be moved or altered by anyone without consent from the campus arborist.
4. Any available space inside the CRZ must be covered with 4 inches of coarse mulch.
5. The trunk and limbs of the tree must be protected from equipment and veBre e and the /LBody <</MC

Goals and Targets

Tree Inventory

In order to better understand the dynamics and current status of the SHSU campus urban forest a campus tree inventory will be completed. The inventory will build upon past campus inventories that are either outdated or unusable due to the loss of data. The inventory will collect data on tree species diversity, tree characteristics and health. Each campus tree will be allocated a number and location with a GPS unit. Location and tree data will be used to create a GIS map that will be used to manage the campus urban forest. The inventory will be updated whenever trees are added to or removed from campus. The inventory will be completed in blocks with each block covering a specific area of campus. Inventorying the main campus and satellite campuses will be a multi-year project.

Tree Risk Assessment

All trees have the potential to fail and pose different amounts of risk. In order to better understand and manage tree related risk a tree risk assessment survey will be conducted on campus. During the tree inventory a Level 1 tree risk assessment will be conducted. This assessment uses a visual inspection of the tree to identify obvious defects or tree conditions and locate targets. The tree will be given a rating of low, moderate or high risk. Any tree given a moderate or high rating may be subject to further assessments to determine if and how the risks can be mitigated. Due to the aging and neglected state of the current campus tree population this project will be continuous and tree risk assessments will be conducted on an as needed basis.

Tree Damage Assessment

All trees damaged by non-natural forces will be assessed by the campus arborist. The findings of this assessment will be submitted in a report to the Grounds Department and any other involved parties. The report will give a description of the damaged tree, describe the damage and give a recommendation on how the damage can be remediated. This report will then be given to the damaging party along with any requests. Any act of tree vandalism will be reported to the university police department.

Prohibited Practices

- No trees will be planted or removed without approval by the campus arborist.
- No cuts or incisions will be made on any campus trees without the approval of the campus arborist.
- Campus trees will not be harmed for use in art, leisure or advertising activities. This includes implanting foreign objects such as nails, staples or cordage onto or into trees or attached signage to tree trunks.
- Trees will not be used to lock bikes or mopeds.

Communication Strategy

The SHSU campus tree care program will be made available to all university contractors, students, faculty and staff and administrators after it has been approved. The SHSU newspaper, The Houstonian, will be used as an outlet to inform university faculty, staff and students about the creation and details of the Campus Tree Care Plan and the benefits of being a Tree Campus USA. The campus arborist will also provide information about the SHSU Campus Tree Care Plan during events such as Texas Arbor Day, guest speaking appearances in the community and as a guest speaker for university courses. Any questions, comments or issues with the plan will be directed to the campus arborist.

Glossary of Terms

1/2 CRZ - A circle radiating from the tree trunk with a radius that equals 1/2 foot for every inch in tree DBH.

Circular/girdling root - A tree root that encircles all or part of a tree trunk or other roots.

Critical root zones (CRZ) - A circle radiating from the tree trunk with a radius that equals 1 foot for every inch in tree DBH

DBH - The diameter of a tree taken at 4.5 feet from the ground.

Glazed sides - A feature that occurs when the sides of hole become smoothed and compacted creating a barrier that roots and water have difficulty passing through.

Hazard trees - A tree that has been identified as a source of harm.

Included bark - Bark that has become imbedded in the union between stems or branches. This weakens the structure of the union.

Radius - A straight line from the center to the circumference of a circle.

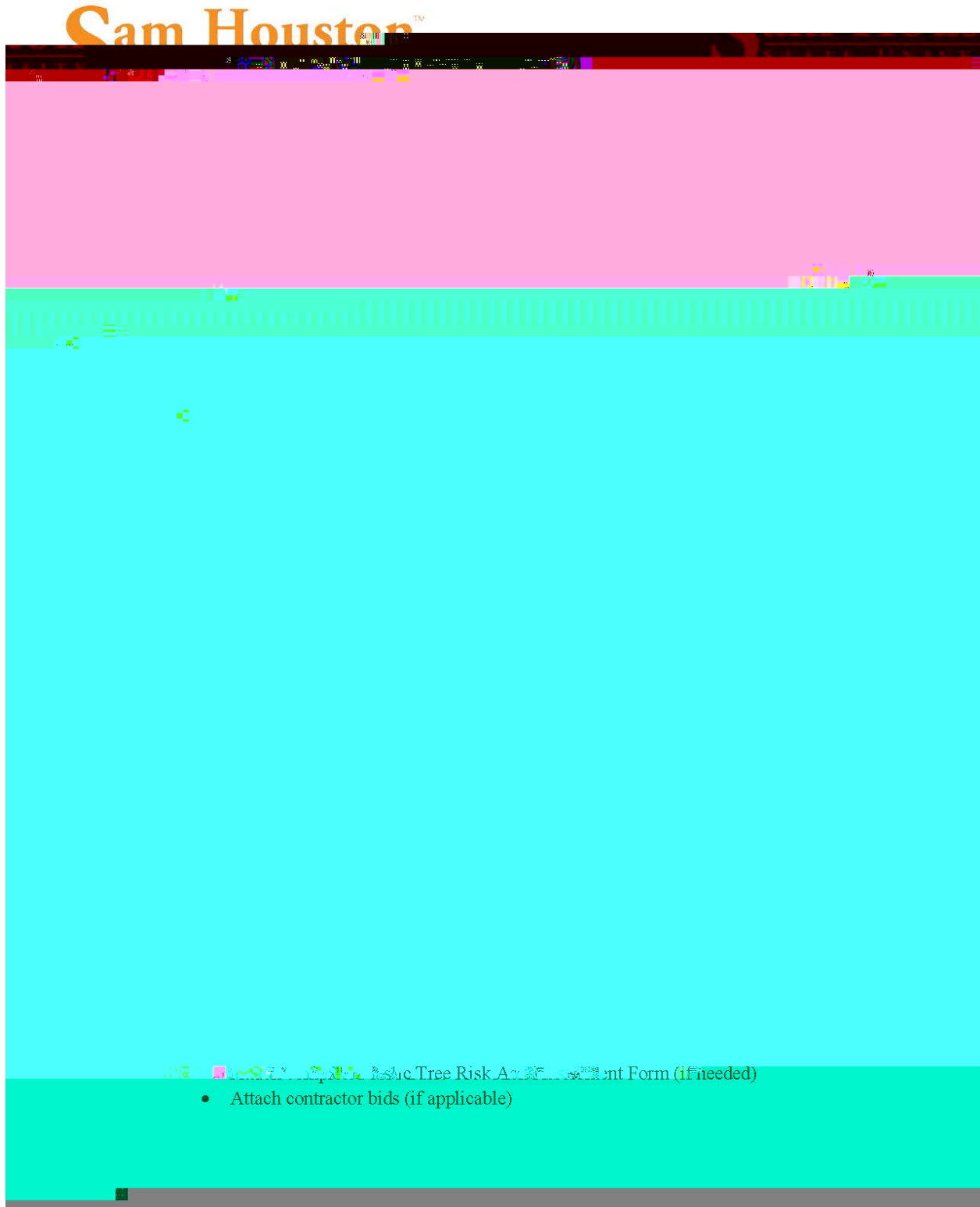
Target - People, property or activities that could be injured, damaged or disrupted by a tree.

Tree risk assessment - The systematic process of identifying, evaluating and analyzing tree risk.

Trunk flare - The area at the base of the trunk that naturally widens above the roots.

Visual inspection - Evaluating the structural integrity of a tree by inspecting external symptoms of stress and defects.

Appendix A



Appendix B

Recommended Species

American elm (*Ulmus americana*)
American holly (*Ilex opaca*)
American sycamore (*Platanus occidentalis*)
bald-cypress (*Taxodium distichum*)
black hickory (*Carya texana*)
black walnut (*Juglans nigra*)
blackgum (*Nyssa sylvatica*)

Prohibited Species

box-elder (*Acer negundo*)
chinaberry tree (*Melia azedarach*)
Chinese tallow tree (*Triadica sebifera*)
mimosa (*Albizia julibrissin*)
silver maple (*Acer saccharinum*)
sugarberry (*Celtis laevigata*)
water oak (*Quercus nigra*)