

CAMPUS TREE CARE PLAN

Purpose:

Trees continue to be deeply valued across the University of Oklahoma as they provide shade and beauty, filter air and water, sequester carbon from the atmosphere and provide a habitat for biodiversity.

The purpose of our tree care plan is to identify policies and operating procedures that advance our initiative to ensure the tree population fits into the overall landscape plan in a healthy and balanced way, which will serve the present community and communities to come.

Responsible Authority:

A Campus Tree Advisory Committee made of several University of Oklahoma stakeholders will meet regularly to discuss tree care and well-being on campus, while OU Facilities Management will be responsible for maintaining and enforcing the university's Campus Tree Care Plan.

Campus Tree Advisory Committee:

Campus Tree Advisory Committee members serve one-year terms. The calendar year 2022 members are listed below:

- Student: Vanessa Rios Perez, School of Geosciences
- Faculty Representative: Rebecca Sherry, Ph.D., School of Environmental Studies
- Facilities Management:
 - Matthew Rom, Ph.D., Associate Vice President for Facilities Management
 - Brandon Cox, Director – Landscape Services
 - Sarah Ballew, Director – Energy Management and Sustainability
 - Chester Warner – Gardening
 - Tammie Mitchell – Gardening
 - Alex Dickson – Turf Management
 - Bailey Smith – Trees
- Community: Patrick Lane, Lane's Tree Service

Committee Role

The Campus Tree Advisory Committee is responsible for cultivating awareness within the University of Oklahoma campus community about the benefits of trees, encouraging

student and community involvement concerning sustainable landscaping practices, and organizing and participating in the annual Arbor Day Celebration for the university. Additionally, the committee meets regularly to discuss planning and implementation regarding trees and the tree care plan.

Campus Tree Care Policies

Planting

OU Facilities Management will plant trees that have shown success around campus, are proven to withstand the diverse weather, are native to Oklahoma and/or contribute to the health of pollinator species. All trees which the university purchases are sourced from nurseries within a 100-mile radius of campus. The closer the proximity of the nursery to campus, the higher the survival rate will be for new trees.

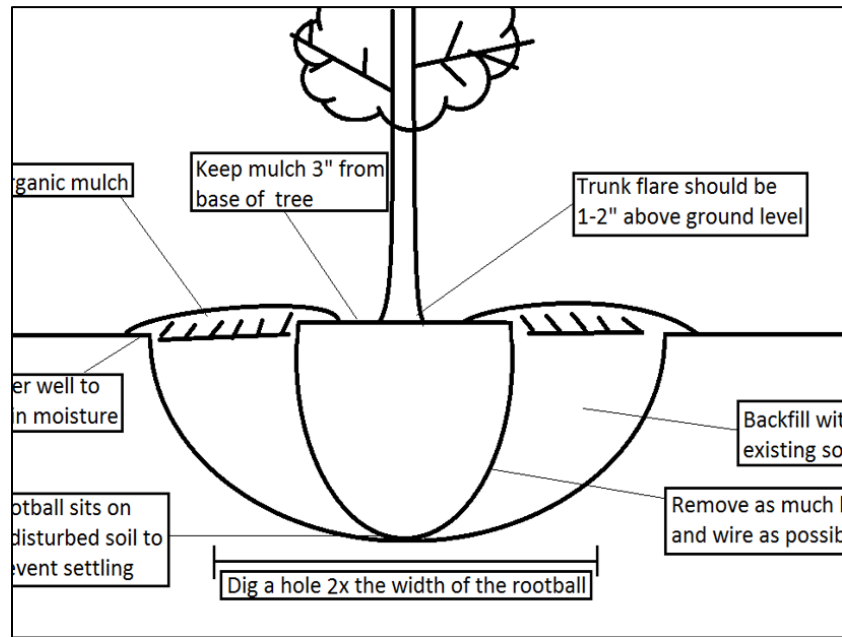
In order to plant trees properly, it is best to avoid areas containing sandstone; instead, trees will be planted in nutrient-rich soil that drains well and does not contain clay or rocks. The soil type provides a wide range of possibilities for establishing trees; however, planting trees that can genetically thrive in poor soil is always preferable because they ultimately tend to have greater endurance.

Figure 1 outlines the process for planting a tree:

- Dig a hole two to three times the width of the root ball. The root ball should sit on undisturbed soil to prevent settling.
- Remove as much burlap and wire as possible.
- Backfill with the existing soil.
- Place a water well to retain moisture.
- The trunk flare should be 1" - 2" above ground level. Lay 2" of organic mulch. Keep mulch 3" away from the tree's base.

Figure 1

Tree Planting Guidelines



Maintenance

Among the Campus Tree Advisory Committee members are tree surgeons, gardeners, and operators whose daily responsibilities include overseeing tree care and maintenance. The OU Facilities Management Landscape Division uses our equipment to maintain campus and always prioritizes safety hazards (broken limbs and low-hanging branches).

The Arborist and crew provide pruning, removal, and thinning of existing trees on campus. The university pruning purposes will be for the development and health of the tree. Some of those purposes are:

- Reduction – Trees may be reduced in height, branch length, or crown size by reducing overall height, branch length, or crown size.
- Raising – Raising shall be performed when necessary to provide vertical clearance for thoroughfares, signs, and streetlamps.
- Thinning – Trees are thinned when necessary to increase light penetration, improve visibility, and reduce wind loads.
- Dead Head Pruning – Pruning shall be performed to remove dead, diseased, dying, and compromised branches. This practice reduces risk, promotes health, and improves overall appearance.

Removal

When removing a tree, the three main factors considered are the tree's age, disease, and damage from inclement weather. If a tree has reached its lifespan and begins to decay, the Campus Tree Advisory Committee will assess and discuss the condition of the tree to determine whether it poses a safety risk to the campus and should be removed. When a tree contracts an easily curable disease, it will be treated and given time to heal. However, if both the disease's severity and the likelihood of transmission to other trees are dangerous and high, the tree will likely be removed.

Landscaping

Maintaining the health of a tree requires proper watering and mulching when planted. It is essential to use both practices when maintaining a tree in a trafficked area.

Mulch can also improve soil fertility and structure. This is crucial, particularly on newly constructed sites, where soils are compacted and lack organic matter.

By mulching the soil surface, roots are provided with an ideal environment for root growth, mimicking the natural environment found in forests. Trees and shrubs in urban landscapes usually grow in much harsher environments with soils modified by humans (e.g., construction, lawns, compaction). Adding a 2" - 4" layer of mulch can recreate an optimal soil environment. Some of the common benefits of mulch are:

- Increases water infiltration and slows evaporation to conserve soil moisture.
- Improves soil fertility and aeration during decomposition.
- Protects roots from extreme summer and winter temperatures by regulating soil temperature.
- Reduces foot and vehicle traffic, which ensures the soil is not compacted and allows the roots to breathe.
- Restricts the growth of weeds and grass that compete with tree roots for nutrients and water.

Newly planted trees require more frequent watering than those which are well established. The OU Facilities Management Landscape Division ensures they are watered during planting and at these intervals:

- 1 to 2 weeks after planting, water daily.
- 3 to 12 weeks after planting, water every 2 to 3 days.
- After 12 weeks, water weekly until the roots are established.

Maintaining the health of a tree requires proper watering and mulching when planted. It is essential to use both methods when planting a tree in a trafficked area.

Catastrophic Events

A catastrophic event is a sudden, natural, or artificial situation that produces change and destruction. Over the years, events such as ice storms and tornadoes have altered the campus canopy and destroyed several trees. After events, the OU Facilities Management Landscape Division surveys campus trees and prioritizes needed work based upon the effects of the event.



Approved Species

See Appendix 1 at end of document.

Prohibited Species

See Appendix 2 at end of document.

Protection and Preservation:

In the absence of a protection and preservation policy, the general public, students, faculty, staff, and contractors can cause serious harm to trees. Actions or practices from a community can negatively impact a tree's life. A few examples include:

- Staking or Guying a Tree Too Much
- Unadvisedly Pruning a Tree / Pruning During the Wrong Season
- Planting Too Many Trees in a Small Area
- Soil Grade Changes and Compaction
- Chemical Seepage

Process for Implementing a Tree Protection Plan

First, a Campus Tree Advisory Committee member(s) will be sent to each capital, student, or community project to assess trees in the project area to develop a tree protection plan. Maintaining involvement during the early stages of projects benefits the campus community by advocating for our urban forest.

Second, the boundaries of the protection zone will be established to limit potential damage to the tree(s) roots, limbs, or trunk before installing a temporary construction fence around the drip line (Figure 2).

Third, if necessary, the Campus Tree Advisory Committee will recommend that the existing protection zone be modified to ensure the prolonged health of the trees.

Regarding trenching, it is a priority to trench around the tree and evaluate how far trenching can occur away from it (Figure 3). If roots are contacted while trenching for any reason, our arborists are on hand to make repair pruning cuts that ensures the tree heals properly.

Figure 2

Tree Protection Zone



Figure 3

Trenching Dripline



Tree Damage Assessment - Enforcement, Penalties, and Appeals:

Removing trees damaged severely by inclement weather is common, particularly those with broken limbs or hanging branches. During and after severe storms, many trees may not need pruning or removal, but some can require minimal up to a significant amount of treatment. The OU Facilities Management Landscape Division surveys campus trees after inclement weather to prioritize any work needed.

Sometimes, tree branches and trunks cannot heal after being damaged by nailed signs, bicycle locking, carvings, or broken limbs. A product, object, or action that causes any of these types of damages is prohibited.

Student organizations that wish to hang banners must contact student affairs, and then the Landscaping Division will contact the student group. Following this, a Campus Tree Advisory Committee member will assess the specific tree requested for use and decide if the action can occur without risk to the tree.

Violations of any sort are automatically reported to the Student Conduct Office within the University of Oklahoma Division of Student Affairs. Tree damage caused by malicious acts, construction projects, or campus events will not be tolerated. The cost of repairing and/or replacing campus trees will fall on the persons or groups responsible for the damage. Further, the responsible party may face additional fines and lose access to campus facilities or contracts. Facilities Management and Landscape Services will review and assess the damages.

Prohibited Practices:

Prohibited practices include:

- Painting trees
- Unauthorized tree removal
- Grills, smokers, or heat from any cooking method under or near tree canopies
- Cutting down branches to put up tents for tailgating or other purposes
- Construction inside the tree protection zone
- Picking any blossom off trees

Goal:

The long-term goal of the University of Oklahoma's tree care program is to ensure the tree population fits into the overall landscape plan in a healthy and balanced way. Trees will be planted and pruned to ensure their well-being and the surrounding landscape.

To achieve that goal, we must:

- Work with student organizations to annually conduct a tree canopy inventory of 20 percent of the maintained acreage on campus.
- Improve the overall health of the university's tree canopy through smart planting and proper maintenance.
- Use academic resources to educate the campus community.

Communication Strategy:

The Campus Tree Advisory Committee plans to spread awareness of the Tree Care Plan to the student body by having the plan posted on the university website, having copies readily available in the student life office and at our annual Arbor Day Celebration, by word of mouth through faculty and staff, and other marketing avenues such as social media.

In addition, the Tree Care Plan and standards will be posted in the FM Quarterly newsletter, department social media, and the Facilities Management website located at <https://www.ou.edu/facilities>.

Tree care standards will become part of all future construction documents coordinated by Facilities Management and long-range facilities planning. The Campus Tree Advisory Committee will meet with project managers and onsite engineers to enforce the standards.

Terminology:

Arboriculture: The science and art of caring for trees, shrubs and other woody plants in landscape settings.

Arborist: A person possessing the technical competence through experience and related training to provide for or supervise the management of trees or other woody plants in a landscape setting.

Compaction: The compression of soil causing a reduction of pore space and an increase in soil density. Tree roots cannot grow in compacted soil.

Critical root zone: A portion of the root system that is the minimum necessary to maintain the vitality or stability of the tree. Encroachment or damage to the critical root zone will put the tree at risk of failure.

Diameter at breast height (DBH): The standard for measuring trees. DBH refers to the tree diameter measured at 4.5 feet above the ground.

Fertilization: The process of adding nutrients to a tree or plant; usually done by incorporating the nutrients into the soil, but sometimes by foliar application or injection directly into living tissues.

Landscape: Areas of land that are distinguished by differences in landforms, vegetation, land use, and aesthetic characteristics.

Mulch: Any material such as wood chips, straw, sawdust, leaves, and stone that is spread on the surface of the soil to protect the soil and plant roots from the effects of raindrops, soil crusting, freezing, and evaporation.

Pruning: Selective removal of woody plant parts of any size, using saws, pruners, clippers, or other pruning tools.

Root System: The portion of the tree containing the root organs, including buttress roots, transport roots, and fine absorbing roots; all underground parts of the tree.

Root Zone: The area and volume of soil around the tree where roots are typically found. It may extend to three or more times the branch spread of the tree or several times the tree's height.

Root Ball: The mass formed by the roots of a plant and the soil surrounding them.

Soil: A dynamic natural body composed of mineral and organic materials and living forms in which plants grow.

Species: The main category of taxonomic classification into which living organisms are subdivided, comprising a group of similar individuals having several correlated characteristics.

Stress: Unfavorable deviation from normal. The action on a body of any system of balanced forces whereby strain or deformation results. In arboriculture, the adverse alteration of tree health by abiotic or biotic factors.

Thinning: Pruning technique in which branches are removed at their point of origin.

Tree Protection Zone: A designated area around trees where maximum protection and preservation efforts are implemented to minimize soil compaction, etc.

Trunk Flare (Root Flare): Where the first main roots attach to the trunk.

Appendix A

Accepted Species

| Common Name | Scientific Name |
|----------------------|--|
| Japanese Maple | Acer palmatum |
| Shantung Maple | Acer truncatum |
| Hackberry | Celtis occidentalis |
| Redbud | Cercis canadensis var. texensis 'Oklahoma' |
| Desert-willow | Chilopsis linearis |
| Dog Wood | Cornus Florida |
| Leyland Cypress | Cupressocyparis X leylandii |
| Ash | Fraxinus Americana |
| Winterberry Euonymus | Euonymus bungeanus |
| Ginkgo | Ginkgo biloba |
| Kentucky Coffee Tree | Gymnocladus dioica |
| Deciduous Magnolia | Magnolia |
| Southern Magnolia | Magnolia grandiflora |
| Crabapple | Malus 'Prairifire' |
| Black Gum | Nyssa sylvatica |
| Persian Parrotia | Parrotia persica |
| Chinese Pistache | Pistacia chinensis |
| Escarpment Live Oak | Quercus fusiformis |
| Bur Oak | Quercus macrocarpa |
| Chinkapin Oak | Quercus muehlenbergii |
| Shumard Oak | Quercus shumardii |
| Bald Cypress | Taxodium distichum |
| American Elm | Ulmus americana |
| Cedar Elm | Ulmus crassifolia |
| Lacebark Elm | Ulmus parvifolia |
| Japanese Zelkova | Zelkova serrata |

Appendix B

Prohibited Species

| Common Name | Scientific Name |
|------------------------------|-------------------------------|
| Silver Maple | <i>Acer saccharinum</i> |
| Tree-of-Heaven | <i>Ailanthus altissima</i> |
| Silktree, Mimosa | <i>Albizia julibrissin</i> |
| Russian Olive | <i>Elaeagnus angustifolia</i> |
| White Ash | <i>Fraxinus Americana</i> |
| Green Ash | <i>Fraxinus Pennsylvanica</i> |
| Eastern Red Cedar | <i>Juniperus virginiana</i> |
| White Mulberry | <i>Morus alba</i> |
| Princess Tree | <i>Paulownia tomentosa</i> |
| White Poplar / Silver Poplar | <i>Populus alba</i> |
| Eastern Cottonwood | <i>Populus deltoides</i> |
| Bradford Pear | <i>Pyrus calleryana</i> |
| Elderberry (Black Elder) | <i>Sambucus nigra</i> |
| Siberian Elm | <i>Ulmus pumila</i> |

Revision History:

December 2010: Initial program implemented.

December 2022: Program revised.