**Northern Arizona University Campus Tree Care Plan**

1. **Purpose**
The purpose of the Campus Tree Care Plan (Plan) is to have an established guide that outlines our policies and procedures for tree planting and maintenance.
2. **Responsible department**
The guidelines in this plan will be enforced and carried out by the Grounds staff in Facility Services.
3. **Campus Tree Advisory Committee**

A committee is made up of at least one student, faculty, facility management, and community member and will convene when necessary to discuss updates to the Plan and other Tree Campus USA requirements. See Appendix A for list of committee members.

1. **Campus tree care policies for planting, landscaping, maintenance and removal**All grounds activities will follow guidelines as outlined by NAU’s landscape technical standards. See [Technical Standards](http://nau.edu/Facility-Services/DP_Contract/) -> [Division 32 – Exterior Improvements](http://nau.edu/uploadedFiles/Administrative/Finance_and_Administration/Facility_Services/Documents/Tech_Standards/Current_FY15/Division%2032%20100114.pdf)

Some specific policies are outlined below.

All plantings shall be species that have a proven history of good performance in Flagstaff. Preference shall be given to designs that incorporate a xeriscape approach and utilize drip irrigation where appropriate.

New plantings must occur prior to October 1 in a calendar year.

All plantings used shall be of species proven hardy for this region and for their placement.

New, novel, or "different" plants shall be restricted to a bare minimum until they are evaluated for adaptation to the site. All plants shall be healthy, true to name and full size of specifications (no recent shifts to larger container).

The minimum caliper size for new trees shall be 2 inches.

Trees planted in lawns shall be provided with 24 inches of bare, sod free soil beyond and around the full circle of the tree. This area shall also be depressed (dish shaped) to help deep watering of the tree.

Deciduous trees shall be planted no closer than 8 feet from any walk or drive and evergreen trees planted no closer than 2 feet greater than the anticipated mature radius of branching.

Trees planted in rows shall be uniform in size and shape.

Trees and shrubs shall not be planted until all construction work in an area has been completed, final grades established, the planting areas properly graded and prepared as specified.

Subsoil shall be loosened to a depth of 4". Earth on sides of pocket will be loosened to break the glaze caused by digging.

Any burlapped root ball shall be removed in its entirely.

Backfill will be flush with ground level.

Plant pocket areas will be covered with 3" to 4" of mulch.

Plantings will be pruned, wrapped, and braced as needed.

**Planting list**

The following trees and shrubs have been identified and labeled as focus plant material to be utilized in campus planting:

Acer platanoides (Norway Maple)

Malus (Flowering Crabapple)

Pinus nigra (Austrian Black Pine)

Picea pungens (Colorado Blue Spruce)

Robina pseudoacacia (Black Locust)

The following trees and shrubs may be utilized on campus with the approval of the Grounds Manager:

Abies concolor (White Fir)

Abies lasiocarpa var arizonica (Corkbark Fir)

Acer ginnala (Amur Maple)

Acer saccharum (Sugar Maple)

Acer negundo (Boxelder)

Acer saccharinum (Silver Maple)

Betula pendula (European White Birch)

Fraxinus americana (American Ash)

Catalpa spp (Catalpa)

Fraxinus pennsylvanica (Green Ash)

Gleditsia triacanthos (Honeylocust)

Juniperus scopulorum (Rocky Mountain Juniper)

Picea abies (Norway Spruce)

Picea engelmannii (Englemann Spruce)

Pinus aristata (Bristlecone Pine)

Pinus edulis (Pinyon Pine)

Pinus flexilis (Limber Pine)

Pinus ponderosa (Ponderosa Pine)

Pinus sylvestris (Scotch Pine)

Platanus spp (Sycamore)

Populus tremuloides (Quaking Aspen)

Prunus spp (Flowering Plum)

Prunus spp (Flowering Cherry)

Pseudotsuga menziesii (Douglas Fir)

Pyrus calleryana (Bradford Flowering Pear)

Quercus gambelli (Gambel Oak)

Quercus rubra (Northern Red Oak)

Salix matsudana (Globe Willow)

Sequoidendron giganteum (Giant Sequoia)

Tilia spp (Linden)

**Removal and thinning**Live trees are generally removed only when required to protect the public safety, are detracting from the quality of the landscape, or for construction. Thinning will occur in forested areas with greater tree density than is acceptable for forest heath and to help with fire-wise practices.

**Transplanting**

Trees in a development area or other construction sites shall be transplanted by staff on the advice of the Grounds Manager and/or Campus Arborist. Whenever possible all trees planned for construction removal shall be transplanted in another location on campus.

**Pruning**

Broken or damaged branches will be pruned for safety. Staff members will systematically prune trees for preventative maintenance and the health of the trees. Preventative maintenance pruning is conducted on an as-needed basis. All campus trees are periodically surveyed for this type of maintenance.

1. **Protection and preservation policies**

**General protection**

NAU has a variety of historic trees and dedicated trees[[1]](#footnote-1) that shall be maintained and preserved to the best of Grounds’ ability.

**Construction**

On the construction site survey map, identify all trees whose root systems are likely to be impacted by construction equipment, cut and fill activities, utility corridors, proposed walks and roads, and potential construction staging areas, and whose branches may be damaged by construction equipment.

The watering, fertilizing and treating of all existing trees, lawns, shrubs and other plant materials located within the contract limit line or construction fence of a construction project, will be the responsibility of the project Contractor for the duration of the maintenance period. Specifications and notes on the landscape drawings shall require the Contractor to maintain and accept responsibility for all plant material for a minimum of 90 days or through to final acceptance of the work, whichever is longer.

Repair trees, shrubs, and lawns damaged by construction in a manner acceptable to the Landscape Architect and/or the Facility Services Grounds Manager. Repairs will be made promptly after damage occurs to prevent progressive deterioration of damaged trees, shrubs, and lawns.

1. **Goals and Targets**

**2015 Goals**

1. Complete Sustainable Landscaping Signage Proposal
2. Successfully transplant 80% of all trees displaced from construction
3. NAU Grounds department partner with AZ Community Tree Council to Host AZ Tree Climbing Championship – May 30th, 2015.
4. Apply for Tree Campus USA designation and complete required two events. Including an [Arbor Day Tree Walk](http://nau.edu/uploadedFiles/Offices_and_Committees/Green_NAU/_Media/Tree%20walk%20copy.pdf) on North Campus on Arbor Day, April 24th, 2015.

**Long Term Goals**

Finish GIS mapping all of the trees on campus

Locate and communicate all historic and memorial trees

Apply for AZ Tree Grant Program

1. **Tree Damage Assessment**

Remove and replace dead and damaged trees, lawns, and shrubs, which are determined by the Grounds Manager to be beyond restoration.

Grounds will work to transplant all trees moved by construction to the best of their ability. For any trees requiring replacement due to neglect by the Contractor that have a caliper greater than 4", a penalty of $1,000.00 per tree will be assessed.

1. **Prohibited Practices**

No [Federal Noxious Weeds](http://plants.usda.gov/java/noxious) or [Arizona State Listed Noxious Weeds](https://plants.usda.gov/java/noxious?rptType=State&statefips=04) will be planted on campus.

1. **Definitions of Terminology**

Caliper size: A caliper is a device used to measure the distance between two opposite sides of an object.

Deciduous: A tree or shrub) shedding its leaves annually.

Drip irrigation: An irrigation method that saves water and fertilizer by allowing water to drip slowly to the roots of plants, either onto the soil surface or directly onto the root zone, through a network of valves, pipes, tubing, and emitters.

Evergreen: A plant that has leaves throughout the year, always green.

Xeriscape: Landscaping and gardening that reduces or eliminates the need for supplemental water from irrigation.

1. **Communications Strategy**

The Campus Tree Care Plan will be posted on the Green NAU website and Facility Services Website. Events held will be advertised through university and community channels including Green NAU Blog, Facebook posts, calendared on the Green NAU and university calendar and through print media such as posters and table tents.

**Appendix A**

**List of Tree Campus USA Committee Members**

**2015**

**Staff**

* Phillip Patterson, NAU Greenhouse Manager, Philip.Patterson@nau.edu
* Ellen Vaughan, Manager, NAU Office of Sustainability, Ellen.Vaughan@nau.edu
* Rachelle Berry, NAU Sustainability Aid, Rachelle.Berry@nau.edu

**Faculty**

* Tom Kolb, Professor of Forest Ecophysiology, Graduate Coordinator for the School of Forestry, Tom.Kolb@nau.edu

**Student**

* Ronnie Kyllo, Forestry Student, rak248@nau.edu

**Facility Employee**

* Ralph Padilla, Manager, Facility Services, Grounds Department, Ralph.Padilla@nau.edu
* Susan Dietrich, Supervisor, Facility Services, Grounds Department, Susan.Dietrich@nau.edu
* Wayne Klutinis, Arborist, Facility Services, Grounds Department, Wayne.Klutinis@nau.edu

**Community Member**

* Alix Rogstad, Program Manager, Urban & Community Forestry - Forest Health, Arizona State Forestry, AlixRogstad@azsf.gov
* Chris Erickson, Arizona State Forestry, Forestry Program Specialist ChrisErickson@azsf.gov
* LeeAnn Beery, Arizona State Forestry, Staff Forester - Flagstaff LeeAnnBeery@azsf.gov
1. For example the George Washington Elm Historic Tree on north campus which is an American Elm tree that has witnessed 100 years of Arizona’s history. And the 1992 ornamental crabapple tree in the Tuffy Rice Memorial Garden dedicated to a beloved Facility Service bus driver planted on the Facility Service north lawn. [↑](#footnote-ref-1)