# Campus Tree Care Plan

## 1. Purpose

The purpose of the University of Northern Iowa campus tree-care plan is to identify policies, procedures, and practices that are used to establish, protect, maintain, and remove trees on the 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 in 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;
- Establishiing 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

The responsbility of the Campus Tree Care Plan rests with the University of Northern Iowa's Facilities Management Department under direction of the Assistant Director of Campus Services, the Grounds Services Supervisor, and University Arborist. Facilities Management staff will be responsible for the care of campus trees and enforcing the Tree Care Plan.

## 3. Campus Tree Advisory Committee

The Campus Tree Advisory Committee is comprised of members representing the diverse audience of those with a stake in campus trees. The Campus Tree Advisory Committee will meet twice per year (during Fall and Spring semesters) and chaired by the Assistant Director of Campus Services. The committee will advise on yearly plans, events, and specfic projects. A strong emphasis shall be focused educating the community about the importance of campus trees.

The Campus Tree Advisory Committee is currently composed of:

| Committee Members | Group Represented |
|---|---|
| Butler, Jonathan | Assistant Director, Facilities Management (Permanent) |
| Murty, Clinton | Supervisor, Grounds Services Facilities Management (Permanent) |
| Gregg Vanderholt | Arborist, Facilities Management (Permanent) |
| Drew Sallee | Groundskeeper II, Facilities Management (Yearly Appointment) |
| Morris, Brett | City of Cedar Falls (Permanent) |
| Stephanie Witte | UNI Biology Department (Yearly Appointment) |
| Joshua Walsh | Vice President- Northern Iowa Student Government (Yearly Appointment) |

Yearly appointed committee members after serving one year may resign after a replacement is installed. Yearly appointments can renew at their own discretion.

## 4. Campus Tree Care Polices

*All tree care practices shall conform to ANSI Z133 standards and ANSI A300 Standards.*

### Plant Selection

Plant species used on UNI campus may be both native and non-native species that have been screened for their adaptability to the region, climate, soil type, location, and

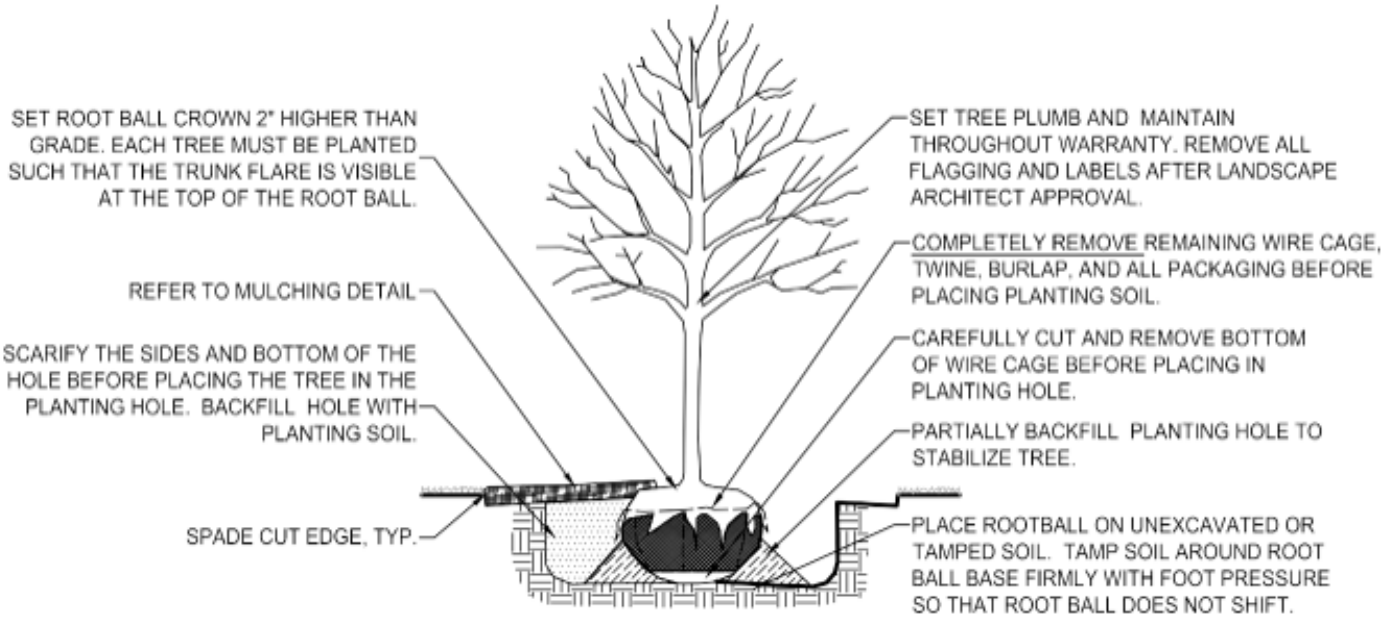
planting needs. Tree species will be selected based on chracteristics of the planting site and the objectives for installing the tree (size at maturity, expected life span, maintenance requirements, etc.)

A resilient canopy is a priority, increasing the diversity of tree species is extremely important. Diversity thresholds of 5-10% of any one species, 10-20% of any one genus, and 15-30% of any family shall be implemented during planting projects. Small, mostly ornamental tree species shall be limited on new planting projects to no more than 10% of the population installed.

**Planting Procedures**

A planting hole no deeper than the root ball and 2-3 times the diameter with sloping sides shall be dug. The root ball should be set so that the trunk flare of the tree is 1-2” above the existing grade. Once the plant is properly placed, all visible ropes and burlaps should be removed. The upper portions of the wire basket should be removed once the root ball is stabilized in the planting hole. Backfill soil can be amended as recommended by soil analysis. The backfill soil should be tamped firm to remove large air pockets and reduce settling. Complete the backfill by making sure that the trunk flare is completely exposed, spread mulch at 2-4” depth but not touching the trunk, water the root ball and planting area thoroughly. The American Nursery & Landscape Association standards (ANSI Z60.1 American Standard for Nursery Stock) is referenced when planting and transplanting trees on campus.

*Tree Planting Diagram*




**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 encounter 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 condition 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.

**Transplanting**

When necessary, due to construction, trees may be transplanted to a new location. The UNI Grounds Services Supervisor and/ or Assistant Director, Campus Services are responsible for site selection and method of transplanting. Transplanting will be done using a tree spade.

**Staking / Tree Wrap**

All staking shall be done during the planting operation and shall be maintained throughout the first year of the 2-year guarantee period. After the first year, the stakes shall be removed. Stakes shall be the same height. All trees shall be supported by 2 to 3 stakes, they shall be minimum 5 feet long T posts. Stakes shall be placed outside the root ball, driven up to 30 inches into the ground, and shall be fastened to the tree with a suitable length of ¾" wide material (arbor tie). Unless otherwise directed, trees shall be staked as shown on the plans and in accordance with these specifications. Stakes shall be set parallel to curbs. Trees shall stand plumb after staking. At the time the stakes are removed any holes left by the stake shall be filled.

No tree trunks shall be wrapped, unless with corrugated material. Remove all protective wrapping. No material shall be left that may girdle the stem.

**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.

- 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 in some cases raising the crown. 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 2/3 or 66% of a tree's total height.
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- 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.”

**Pest Management**

All campus trees will be monitored for insect and disease problems, and appropriate control methods will be implemented. Integrated Pest Management practices will be used to treat and/ or prevent infestations of harmful insects, fungi, and bacteria.

**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 considered on a tree by tree basis.

**Watering**

Watering must take place throughout the 2-year guarantee period, at least 20 gallons at approximately two-week intervals from May 15th to October 31st. You may need to increase or decrease the frequency of watering based on weather conditions, resulting soil water content, other factors, or at the request of the Grounds Services Supervisor.

Water shall not be applied in a manner which damages plants, stakes, or adjacent areas. Each tree bed shall be watered evenly in a manner which does no erode soil or mulch. Watering shall not cause uprooting or exposure of plant’s roots to the air. Damages resulting from these operations shall be immediately repairer. Gator bags shall be used whenever possible to reduce water waste and assist in protecting the trunks.

**Storm Response**

The facilities management staff, under supervision of Assistant Director, Campus Services and Grounds Services Supervisor, will be responsible for the cleanup and restoration of trees by storms. These efforts will be focused on major roads and walkways throughout campus to make them safe for students and university 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 Grounds Services Supervisor. Tree removals that involve specialized skills or equipment will be conducted by an outside contractor.

Acceptable request for tree removals include:

- Dead trees;
- Diseased, damaged 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
- Interference with the growth and development of a more desirable tree.
- Trees in decline where 40% or more of canopy has died.

## 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. The priority of trees on campus will be considered for preservation purposes. Low priority for preservation would include small trees (less than 5 inches DBH) and larger trees with relatively low landscape value. Examples include but not limited to, trees with poor form, trees of undesirable species, or trees with inadequate space to accommodate current or future growth. Trees less than 5 inches could be a candidate for moving to a different location.

## 6. Goals and Targets

### Arbor Day Observance

University of Northern Iowa will host an Arbor Day even 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.

**Project Learning**

Partner with department centers and / or student organizations and provide annual learning projects centered around trees.

## 7. Tree Terms Glossary

**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 provided 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 the density of the soil. Tree roots cannot grow in compacted soil.

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

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

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

**Mitigation**: Action taken to alleviate potential adverse effects on wetlands and fish habitat undergoing modification. Also, commonly used to mean compensation for damage done.

**Mulch**: Any material such as wood chips, straw, saw dust, leaves, and stone that is spread on the surface of the soil to protect the soil and plant roots from 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 in which roots are normally found. May extend to three or more times the branch spread of the tree, or several times the height of the tree.

**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.

**Urban forestry**: Management of naturally occurring and planted trees in urban areas.