

University of Rochester
Campus Tree Care Management Plan
2016 - Updated 2019



Golden Rain Tree (*Koelreuteria paniculata*)

Wilson Quadrangle, River Campus

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Horticultural History

The University of Rochester River Campus, located along the Genesee River in upstate New York, has a long, rich tradition of incorporating trees to enhance the beauty of this unique setting. Founded in 1850, throughout our University's history trees have been planted, maintained, and preserved. As further support of these efforts, in 1999, the president's planning group approved portions of the campus to be established as the University of Rochester Arboretum. Also known as the 'URboretum'.

The tradition is an extension of the arboricultural legacy of the Rochester area. Sections of the city and the University's Mt. Hope Campus still harbor remnants of the Ellwanger and Barry Nursery. The nursery trade that flourished in the late 1800s and early 1900s in Rochester was once the largest of its type in the country and has left a lasting impression on the city and throughout our campus.

The River Campus occupies the original setting of the Oak Hill Country Club. The University purchased the Oak Hill grounds in 1923 and initially raised 10 million dollars for the establishment of the college on this site. Ground was broken for Lattimore Hall in 1927, the first University to be constructed, located in the northwest corner of the Eastman Quadrangle. The integrity of the landscape was insured when Frederick Law Olmstead, Jr. was retained as designer and consultant to the architects. The Olmstead international fame stems from his father's design of such well-known areas as Central Park, the Arnold Arboretum, and Yosemite National park. The University endorsed the River Campus in 1930 as the primary site of their men's college.

Frederick Law Olmstead, Sr. was responsible for the design of a "River Walk" of oak trees along the Genesee River. This portions of the campus was sold to the City of Rochester, with contributions from Bausch & Lomb, to establish more parkland along the river corridor. Included along this three-quarter-mile stretch are 197 oak trees with more than 15 different species identified between Elmwood Avenue and Intercampus Drive.

Although they are not located on the River Campus, the University of Rochester also harbors two former champion trees – a weeping willow and a ponderosa pine. These giants, along with the canopy of cover from trees on the rest of the campus, add tremendously to the aesthetic appeal of the grounds while complementing and softening the existing architecture. The visual impact that trees have on the University grounds with their fall colors, winter texture, and spring flowers is invaluable.

1. Communication Strategy

- i. RFP's will include 2019's Updated Tree Care Management Plan
- ii. Horticulture and Grounds Department representative will be at new student orientation to promote our department
- iii. Campus Tree Management Plan will be included in @rochester email to all employees and students.

2. PURPOSE

The University of Rochester campus tree care/management plan is a multi-faceted approach in support of long-term health, protection, vitality and beauty of the campus' urban forest. It includes the following objectives:

- Promote tree health and safety by utilizing and following Integrated Pest Management (IPM) principles and International Society of Arboriculture's (ISA) best management practices through internal and external professional arborists.
- Make certain that all related University Design Standards/Policies are followed, through the efforts of our internal staff and partnering with the Campus Planning and Project Management department, to ensure the following:
 - Proper selection of species and high-quality nursery stock.
 - Protection of existing trees during construction periods.
 - Contractors are held accountable in maintaining the health of newly installed trees.
 - Removal of any campus trees are handled with considerations to repurposing applicable specimens and/or replacing with healthy, native species.
- Encourage campus and local community members to respect and value the campus urban forest by working with student ecology groups, carrying out campus tree tours, and promoting the University Arboretum.
- Protect and maintain the health of high-value campus trees through regular plant health assessments.

3. RESPONSIBLE DEPARTMENT

The University of Rochester Horticulture & Grounds Department located within the University Facilities & Services Department under the direction of the Associate Vice President for Facilities.

4. CAMPUS TREE ADVISORY COMMITTEE

Created in 1999, the University Arboretum Committee is comprised of University faculty, staff, students, and local community members. The committee meets annually to provide invaluable input in the preservation of the campus' urban forest. The Arboretum Committee consists of the following members:

Student:

Sherin George, member sgeorgeso@facilities.rochester.edu

Maxwell Sheldon, member msheldo6@u.rochester.edu

Faculty:

Brian Thompson, member bthompson@rochester.edu

Prof. Karen Berger, Ph.D., member karen.berger@rochester.edu

Karl Rosnegren Prof. Ph.D., member

Facility:

John McIntyre, Chair john.mcintyre@rochester.edu

Patricia Beaumont, member pbeaumont@facilities.rochester.edu

Jeff Foster, member jfoster@facilities.rochester.edu

Dave Nelson, member david.nelson@rochester.edu

Paul Spaulding, member pspaulding@facilities.rochester.edu

Margaret Colburn, member mcolburn@admin.rochester.edu

Bill Keenan, member wkeenan@facilities.rochester.edu

Community:

Edna Claunch, member eclaunch@rochester.rr.com

Diane Parrinello, member dianedparrinello@frontiernet.net

Marion Wilmot, member wbw@execucorps.com

Jim Atwater, member JPAT2@live.com

Rosemary Janofsky, member info@ellwangerestate.com

Aldora Hines-Wentworth, member aldorahineswentworth@gmail.com

Beverly Gibson, member bgibson@landmarksociety.org

Daniel Schied, member dgs239@cornell.edu

5. Definitions; *Source: ANSI 300*

caliper: In the landscape or nursery trade, this is the diameter of a tree, measured at a point 6 inches (15 cm) above the ground line if the resulting measurement is no more than 4 inches (10 cm). If the resulting measurement is more than 4 inches (10 cm), the measurement is made at a point 12 inches (30 cm) above the ground line, or the "diameter at breast height" (D.B.H.). ANSI A300 (Part 6)-2005 Transplanting, ANSI Z60.1- 2004

critical root zone: The minimum volume of roots necessary for maintenance of tree health and stability. ANSI A300 (Part 5)-2005 Management

development impacts: Site development and building construction related actions that damage trees directly, such as severing roots and branches or indirectly, such as soil compaction. ANSI A300 (Part 5)-2005 Management

pruning: The selective removal of plant parts to meet specific goals and objectives. ANSI A300 (Part 1)-2008 Pruning

clean: Selective pruning to remove one or more of the following non-beneficial parts: dead, diseased, and/or broken branches. ANSI A300 (Part 1)- 2008 Pruning

raise: Pruning to provide vertical clearance. ANSI A300 (Part 1)-2008 Pruning

reduce: Pruning to decrease height and/or spread. ANSI A300 (Part 1)- 2008 Pruning

crown: 1. Upper part of a tree, measured from the lowest branch, including all the branches and foliage. ANSI A300 (Part 1)-2008 Pruning 2. The leaves and branches of a tree measured from the lowest branch on the trunk to the top of the tree. ANSI A300 (Part 6)-2005 Transplanting 3. The portion of a tree comprising the branches. ANSI Z60.1-2004 Nursery Stock

codominant branches/codominant leaders: Branches or stems arising from a common junction, having nearly the same size diameter. ANSI A300 (Part 1)-2008 Pruning

root pruning: 1. The cutting of roots to meet specific goals and objectives. ANSI A300 (Part 6)-2005 Transplanting 2. The systematic pruning of roots of nursery plants growing in the field, in order to stimulate branching of roots and the production of fibrous roots. ANSI Z60.1-2004 Nursery Stock

root zone: The volume of soil containing the roots of a plant. ANSI A300 (Part 5)-2005 Management

6. TREE CARE POLICIES AND ARBORICULTURE PRACTICES

UR Design Standards for the following can be found online at:

- PLANTS (EXTERIOR IMPROVEMENTS) / section 329300 / Issued April, 2012
www.facilities.rochester.edu/ppm/designstandards/pdf/329300_04.04.12.pdf

University of Rochester 2011 Landscape Master Plan can be found online at:

www.facilities.rochester.edu/ppm/UR_Landscape_Master_Plan_2011.pdf

i. PLANT SELECTION

- a. Selection of plant species should be guided by the following:
 1. University of Rochester 2011 Landscape Master Plan

2. Recommendations by internal and external arborists as dictated by site location to include soil conditions, drainage, safety, aesthetics, etc.
 3. Enrichment and tree diversity of the University of Rochester's Arboretum.
 4. New York State DEC List of Prohibited and Regulated Invasive Plants
- b. Standards for Plant Materials:
1. All plant material shall conform to the American Standard for Nursery Stock ANSI Z60.11996 or latest version.
 2. All plant material shall be nursery grown, grown in nurseries located in USDA Hardiness Zone 6a or colder and verified source.
 3. All plant material shall be free of wounds, damaged areas, conks, bleeding, and insect pests or disease.
 4. Plant material shall be true to botanical name.
 5. Trees maturing over 25' in height are to have a single, strong central leader with a symmetrical canopy free of large voids and typical of the species or cultivar and having a live crown ratio of 3:5.
 6. Type 1 & 2 Deciduous trees, minimum 2 ½" – 3" caliper with minimum branching height of 6'.
 7. Type 3 & 4 Deciduous trees, minimum 2" – 2 ½" caliper with minimum branching height of 4 1/2'.
 8. Coniferous trees, minimum 6' – 8' in height.
- ii. Preparation and Planting
- a. Fertilizers and Soil Amendments
 1. New Plantings: No amendments and/or fertilizations.
 2. Established Plantings: Subsurface liquid fertilizer, slow release nitrogen, 30-0-7, salt index of less than 50, 2-4 lbs. actual nitrogen per 1,000 sf.
 - b. Planting
 1. Hole should be 2-3 times as wide as root ball.
 2. Burlap, rope, string, and wire baskets should be removed.
 3. Trunk flare should be approximately 2" above grade.
 4. Backfill hole with existing soil.
 5. Water regularly as dictated by conditions.
 - c. Mulches
 1. Shredded seasoned hardwood, minimum double ground, ginger brown, organic, free of deleterious materials peat, fiber, and mineral; 3" throughout planting bed.
 2. Applied 8" – 12" away from trunk as to avoid trunk rot and promote water retention.
 - d. Staking, Miscellaneous
 1. Hardwood, with 3/8" rubber cord or equivalent to stabilize tree while allowing some movement, installed immediately after planting.
 2. Tree grates and frames, as required by project.
 3. Tree wrap is prohibited in all cases.
- iii. Maintenance



UR Arborists pruning a Scotch Pine near Fauver Stadium.

- a. Pruning
 1. Regular pruning is conducted as dictated by safety, health, and aesthetics.
 2. Only qualified arborists or trained personnel (under an arborist's supervision) shall prune campus trees.
 3. ISA's best management practices as well as American National Standards (ANSI A300 Part 1) shall be followed.
 4. Pruning should be predominately conducted during the winter months.
 5. Schedule is dictated by priority, species, age, and as suggested by plant health assessments. *UR is currently researching tree care software products with the goal of tracking tree inventory and associate maintenance in a digital format.*
- b. Soil De-compaction and Invigoration
 1. Soil invigoration to de-compact soil, increase aeration and allow for introduction of organic matter should be exercised whenever applicable. *Recently, the UR invested in a supersonic air tool in order to carry out this fairly new technique. Detailed instructions of this process/technique can be found in the appendix of this document.*
- c. Irrigation
 1. Regular watering of trees shall commence during drought conditions.
 2. Soil probes should be utilized to monitor and avoid over-watering.
- d. Integrated Pest Management (IPM)
 1. IPM best management practices should be diligently followed.
 2. The goal of the University's IPM program is to manage pests and the environment, balance costs, benefits, public health and environmental quality.
 3. IPM and pest identification will take place and be consistent while staff members are working in specific areas; during plant health assessments/inspections; and/or if specific conditions warrant additional monitoring.
 4. *A copy of the University of Rochester's IPM policy are included in the Appendix of this document as well as an IPM program review conducted by the Cornell University Cooperative Extension.*
- e. Snow Removal and Sensible Salting
 1. During winter months, snow should not be piled or staged near/against trees or on root zones.
 2. Sensible salting practices of hard surfaces shall be exercised in order to limit excess salt from being applied to root zones.
- f. Tree Removals and Replacements
 1. Trees are removed due to health/disease, weather, public safety, or construction displacement.
 2. Upon professional arborist assessments and recommendations, trees may only be removed with final approval from the Associate Vice President for Facilities.
 3. Generally, when applicable, removed trees should be replaced as guided by University design standards and the University of Rochester 2011 Landscape Master Plan.
 4. *A sample of the tree removal process has been included in this document's appendix.*

- g. Response to Catastrophic events and Emergency Hazards
 - 1. Managed by the Horticulture & Grounds department, internal staff will immediately respond and remove any fallen or severely damaged trees caused by extreme weather conditions and/or other catastrophic event.
 - 2. Outside contractors will be called in should specialized equipment, such as a crane, need to be utilized for removals.
 - 3. Tree debris blocking main roadways shall be removed first to allow open access for emergency vehicles followed by removal of debris posing hazards to the University community and disrupting campus operations.
 - 4. After recovery efforts, replacement trees shall follow the guidelines as presented in section 4.3.a.

7. PROTECTION AND PRESERVATION PROCEDURES & DESIGN STANDARDS

i. Tree Protection

- a. UR Design Standards for Plant (Tree) Protection can be found online at:
PLANT PROTECTION / section 015639 / issued: January, 2010
www.facilities.rochester.edu/ppm/designstandards/pdf/015639.pdf
- b. Protection of existing trees and shrubs shall include fencing a minimum of 5' outside the dripline of the crown. Dripline will be determined by University Horticulture and Grounds representative.
- c. Any traffic or construction within this area requires authorization from the Project Manager or Manager of Horticulture & Grounds.
 - 1. Where traffic is approved within the dripline, the area of travel is to be covered with 6" of mulch placed on the grounds and then a layer of ¾" plywood prior to any work.
- d. Unapproved traffic within the area will receive a 'First Offense' email warning, 'Second Offense' Email warning with a stated fine for next offense depending on severity of occurrence. 'Third Offense' will be fined dollar amount of 'Second Offense' warning. Fine will be paid to the *Horticulture and Grounds Endowment Fund 'Campus Beautification Fund' Acct# GF4511XX* through the Gift and Donor Records.

ii. Transplanting/Repurposing and Replacements

- a. Should any tree(s) need to be removed due to construction and new development the following guidelines should be followed:
 - 1. Input from Horticulture & Grounds management should be sought and included in all related matters.
 - 2. New landscapes and selection of trees should be guided by UR Design Standards and the University of Rochester 2011 Landscape Master Plan.
 - 3. Before any demolition commences, the Horticulture & Grounds staff shall assess existing trees and transplant/repurpose when applicable.

iii. Plant Health Assessments (PHA)

- a. Regular plant health assessments are conducted through the efforts of internal and external arborists as well as contracted pathologists.

- 1. High value trees, such as the Red Oaks that line Eastman Quad, are inspected on an annual basis.
 - b. Once assessments/inspections are completed, the Horticulture & Grounds department responds in a timely manner to suggested treatments and actions.
 - 1. Second opinions/inspections are sought when pertinent.
 - c. A copy of a recent PHA conducted in August, 2016 can be found in this document's appendix.
- iv. Tree Damage Assessment
 - a. Trees and landscape within and surrounding work zones and staging areas will be assessed prior to work beginning. Assessment will be done by Manager and/or Supervisor of Horticulture and Grounds Department, University Project Manager and Contractor Project Manager. University Project Manager will take before photos of all landscape surrounding and within work zones and staging areas.
 - b. Any damage to landscape during project will be valued at the discretion of the University. The damage will be valued at a dollar amount to include material, time and labor and additional maintenance including watering. The University has the right to do repairs in house or with an approved contractor. Repair work will be charged to the project. Contractor has the right to appeal the damage if they do not believe they were at fault. University Project Manager will determine the cause.

8. Prohibited Practices

- i. Signage
 - a. Trees are not to be used to hold signage of any kind.
- ii. Locking of Bikes
 - a. All bikes are to be placed in bike racks on campus. It is not acceptable to lock bikes to trees signs or railings.
 - 1. If bike is locked on anything except a bike rack the lock will be cut and bike be confiscated by Public safety. Bike will be held until the owner calls 275-3333

9. GOALS AND TARGETS

- i. Improve and expand the online, digital tree inventory/management system and database. Working with GIS student group to create an interactive map of all trees on campus. <https://urochester.maps.arcgis.com/apps/webappviewer/index.html?id=643bedf828dd4303beca5bf989cc108b>
- ii. Revise, improve and promote the University of Rochester Arboretum's webpage to encourage education and participation while showcasing the campus' urban forest.
- iii. Tree Tours
 - a. Conduct a minimum of five tree tours to consist of members of the community, student organizations, and faculty/staff.
 - b. Update Tree Tour walking map/brochure (once updated inventory is complete).