Muhlenberg College Tree Plan

2014

1) Purpose:

The purpose of the Muhlenberg College Tree Care Plan is to identify the policies, procedures, and practices that are to be used in establishing, protecting, maintaining, and removing trees on the Muhlenberg College Campus. The overall goal of the plan is to ensure a safe, attractive , and sustainable campus. The specific objectives of the plan are:

- Make sure proper species are used; only high quality nursery stock is selected, and industry wide planting procedure are followed
- Help promote diversity in plant species
- Protect and promote high value trees during construction and renovation projects
- Promote tree health and safety by utilizing Best Management Practices as established by the ISA
- Ensure that trees are replaced in a timely manner when there is a mortality due to weather, pest, injury , or construction displacement
- Encourage faculty, staff, students, and the surrounding community to respect and value the campus trees

2) Responsible Department:

The Muhlenberg Grounds Manager under the direction of the Plant Operations Director and Assistant Director is responsible for carrying out the specifics of this plan. The College President and Treasurer oversee and regulate the budget regarding tree removal and replacement.

3) Muhlenberg College Tree Advisory Committee:

The Muhlenberg College Tree Committee serves as an advisory committee to the Plant Operations Director and Grounds Manager. The goals are to maintain, manage, improve, renew, and protect the trees on the Muhlenberg Campus. It is also to share information with the Campus Community. The Committee shall meet at a minimum two times per year to review recommendations provided by the selected arborist.

The Committee is dedicated to providing the Muhlenberg College community tree management , planning, and stewardship. It is also responsible for:

- Helping create approved and experimental tree lists
- Giving recommendations for re-planting
- Advising on tree – related issues
- Reviewing the Colleges tree management policy

The Committee is Made up of the Following:

- President of the College
- (2) Faculty Representative from the Biology /Sustainability Department
- Campus Landscape Architect
- Campus Project Manager
- Campus Grounds Manager

4) Tree Care Policies

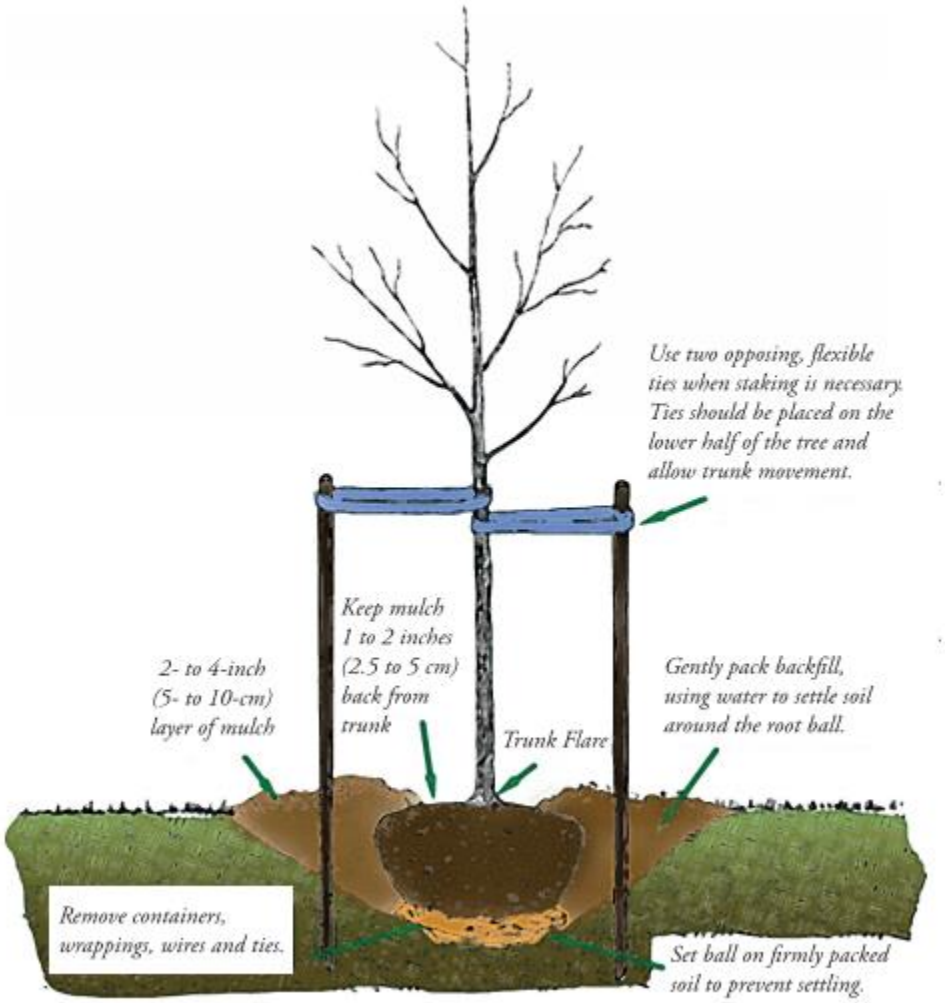
A)Tree Selection

Plant species used on Muhlenberg College Campus will come from a list based on the Campus Master plan , recommendation from Campus Landscape Architect, and lists created to ensure diversity and sustainability. This list will contain both native and exotic species that have been reviewed to ensure adaptability to the physical conditions of the site. Where appropriate, the best plant will be selected for a given site, and that plant may not be “native” to the area.

Plant material for the campus is to be pre-selected from the nursery for good quality. Only trees 2”- 2.5” caliper and larger are to be planted.

As the Campus of Muhlenberg College is used as a teaching lab , increasing the diversity of the species is important. However, the species selection is still dictated by site conditions.

Installation:



The planting hole shall be excavated to a depth no deeper than the depth of the plant root ball-this shall be measured from the bottom of the root ball to the trunk flare. The width of the hole shall be 2- 3 times the diameter of the root ball.

Plants must be set with the root flare 1”-2” above the final grade. Once the plant is placed , all visible ropes, burlap, etc. must be removed. Backfilling of the hole shall be with existing soil. If the existing soil has been determined to be of poor quality, then soil amendments shall be used.

The backfill soil shall be tamped to remove air pockets, but not too much to remove all air in the soil.

Complete the backfill and make sure the root flare is completely exposed. Add 2”-4” of double shredded, hardwood mulch. ***Do not cover root flare with mulch.***

Water the root ball and planting area deeply.

Pruning shall be warranted only for damaged or broken limbs.

Staking of newly planted trees is not required if the root ball is stable. If conditions exist that are creating too much movement in the tree, then staking may be necessary. Make sure to inspect these trees every 3 months and remove after one year.

B)Campus Arboriculture Practices:

1)Pruning Schedule:

The maintenance pruning schedule shall be dictated by the tree species, age, function, and placement.

Trees less than 7 years old shall receive structural pruning on a biennial basis

Trees 7-20 years old shall receive structural pruning every 3- 5 years

Trees 20 plus years and older shall receive maintenance pruning every 5-7 years to clean dead , diseased, and defective branches from the crown.

Trees adjacent to signs, roadways, walkways, and street lights are to be inspected semi-annually for safety and clearance issues, and pruned as needed.

2)Pruning Practices

To encourage the development of a strong, healthy tree, the following guidelines shall be followed when pruning. All pruning and pruning cuts shall be in accordance with ANSI A300 Standards.

Pruning shall not be completed without a clear objective or outcome.

Prune first for safety, then for plant health, and finally for aesthetics.

When removing branches, the pruning cut shall not damage the branch bark and the branch collar.

Heading cuts shall not be used except in the case of storm damage response and restoration procedures.

Thinning shall be performed to remove dead, diseased, dying, and defective branches. This is done to reduce potential hazards, promote health, and improve appearance.

Favor branches with strong, u-shaped angles of attachment. Remove branches (if possible) with V- shaped angles of attachment or included bark.

The goal is have evenly spaced, lateral limbs on the main stem of the tree.

Remove any branches that cross or rub another branch.

Make sure that lateral branches are no more than ½ to ¾ of the diameter of the main stem to discourage co-dominant stems.

Do not remove more than one-third of the living crown of the tree at one time.

Use reduction pruning only when absolutely necessary. Make the pruning cut at a lateral branch that is one third diameter of the main trunk.

If it is necessary to remove more than one third of the foliage from the branch, remove the entire branch.

Topping, heading, or “hat-racking” or any other inappropriate crown/branch reduction shall not be permitted except in emergency situations.

C)Cultural Practices

If the tree is to be mulched, then it should be to maintain a depth of 3”-4” of mulch. Areas should be inspected annually to determine if mulch is needed to maintain this depth.

Tree rings should be of a reasonable size to protect the root zone of the tree.

Mulch should at no time be placed against the trunk or cover the root flare.

Fertilization and treatments will be done on an as needed basis. Some high value trees and “at-risk” trees will be treated more intensely to protect and extend the life of the tree.

5)Protection and Preservation

Development activities shall be planned to the extent possible in order to protect and preserve trees on Muhlenberg College Campus. Any tree on Muhlenberg College Campus that must be removed as a result of construction, storm damage or other injury must be replaced in same or new location as determined by Campus Landscape Architect or Grounds Manager. During the design phase, all trees that will be impacted shall be clearly noted.

Tree protection zones shall be established and maintained for all trees that are to be preserved during construction and development. This shall consist of but not be limited too:

- Creating a simple barrier for each tree or grouping to protect the trunk and root systems. Wood or plastic fencing is suitable.
- Install the barrier fence at a distance equal to or greater than 1.25 ‘ for every inch DBH. No protection zone radius shall be less than 6 ‘ diameter. No vehicle shall be parked or construction material stored within a tree protection zone.
- Fencing must be installed prior to work commencing on that site. Fencing shall be maintained for the duration of the project.
- All construction work shall be planned and conducted in a manner that minimizes damage to protected trees.
- Contractor may be required to pay tree replacement and/or soil compaction remediation costs if there is any incursion in a tree protection zone.

A) Tree Removal

Live, healthy trees are to be removed only when required to protect the students, faculty, and staff of Muhlenberg College.

Trees may be removed only after consultation with Plant Operations.

Where questions arise, an independent, qualified arborist may be brought in to provide an assessment for consideration.

When working with street trees, The City of Allentown must be notified for issuance of permit if needed.

B) Inventory:

All trees on the Muhlenberg College Campus are to be tagged with a Tree ID Tag and number. This info is kept and maintained in a database located in Plant operations. This inventory is reviewed at a minimum annually. This inventory should be used for planning and management purposes.

C) Prohibited Practices

Muhlenberg College trees may not be used for any purpose to include signs, art work, banners, climbing, and or any activity that in any way would be detrimental to the trees.

6) Goals and Targets -Tree Inventory

All trees on the Muhlenberg College Campus are to be tagged with a Tree ID Tag and number. This info is to be kept and maintained in a database located n Plant operations. This inventory shall be reviewed annually .This inventory will then be used for planning and management purposes.

7) **Tree Damage Assessment**

If a tree is damaged it will be assessed and reviewed by Plant Operations. If it is considered to be hazardous, then it may be presented to the Committee if the Committee is readily available. If the need is urgent, then a decision will be made by Plant Operations. If the tree is deemed hazardous, then it will be scheduled for removal. If the tree can be restored, then pruning or some action may be required.

Removal may be dictated by:

- Lower trunk is cracked or broken
- Large stem has split from tree
- Major roots are severd or broken
- The tree is leaning dangerously towards a target (pedestrian, building, car, etc.)
- The remaining tree structure is susceptible to more damage/breakage
- Large limbs are broken

Restoration May Occur when:

- The canopy is defoliated
- Some major limbs are broken
- Leaning or fallen small trees that can be repositioned
- Small branches broken or dead
- Large portion of the canopy is damaged in a resistant variety

8) Prohibited Practices:

Muhlenberg College trees may not be used for any purpose including signs, art work, banners, climbing, or any activity that would prove detrimental to the trees.

9)**DEFINITIONS** (from georgia tech care plan**)**

- Caliper - *The diameter or thickness of the main stem of a young tree or sapling as measured at six (6") inches above ground level. This measurement is used for nursery-grown trees having a diameter of four inches or less.*
- Canopy trees - *A tree that will grow to a mature height of at least 40 feet with a spread of at least 30 feet.* Clearing - The removal of trees or other vegetation of two inches DBH or greater.
- Critical Root Zone - *The minimum area surrounding a tree that is considered essential to support the viability of the tree and is equal to a radius of one foot per inch of trunk diameter (DBH).*
- Development - *The act, process or state of erecting buildings or structures, or making improvements to a parcel or tract of land.*
- Diameter, breast height (DBH) - *The diameter or width of the main stem of a tree as measured 4.5 feet above the natural grade at its base. Whenever a branch, limb, defect or abnormal swelling of the trunk occurs at this height, the DBH shall be measured at the nearest point above or below 4.5 feet at which a normal diameter occurs.*
- Green space - *Any area retained as permeable unpaved ground and dedicated on the site plan to supporting vegetation.*
- Green space plan - *A map and/or supporting documentation which describes for particular site where vegetation is to be retained or planted in compliance with these regulations. The green space plan shall include a tree establishment plan, or a tree protection plan, and a landscape plan.*
- Impervious surface - *A solid base underlying a container that is nonporous, unable to absorb hazardous material, free or cracks or gaps and is sufficient to contain leaks, spills and accumulated precipitation until collected material is detected and removed.*
- Landscape plan - *A map and supporting documentation which describes for a particular site where vegetation, is to be retained or provided in compliance with the requirements of this policy. The landscape plan shall include any required buffer elements.*
- Native tree - *Any tree species which occurs naturally and is indigenous within the region.*
- Tree establishment plan - *A map and supporting documentation which describes, for a particular site where existing trees are to be planted in compliance with the requirements of these regulations, the types of trees and their corresponding trees for reforestations.*
- Tree protection plan - *A map and supporting documentation which describes for a particular site where existing trees are to be retained in compliance with the requirements of the regulations, the types of trees and their corresponding tree for reforestations.*
- Tree protection zone - *The area surrounding a preserved or planted tree that is essential to the tree's health and survival, and is protected within the guidelines of these regulations.*

10) Communications Strategy:

Currently these guidelines are being distributed through Project Management and Plant Operations personnel for use on Campus. Upon official adoption, the plan will be placed on Muhlenberg College web site, and will be made available in hard copy through requests to Plant Operations. The policies will also be used in the Training and educating of the Grounds staff and plant operations personnel.