

Morehead State University Tree Care Plan 2014

Purpose

The purpose of the Morehead State University tree care plan is to identify and develop policies and procedures to be used in planning, establishing, maintaining and preserving the landscape on the campus of Morehead State University. Morehead State's campus is nestled on the edge of the Daniel Boone National Forest in Morehead, Kentucky and includes a substantial collection of mature trees, over 500 acres of farmland, a 30-acre lake and 645 acres of forest land. Because of its close proximity to protected forest land, a top priority of the tree care plan involves the sustainability of a diverse number of species planted and maintained on campus, while ensuring the health of the surrounding area by identifying and eliminating invasive species. The tree care plan will also have the purpose of creating educational guidelines and to assist the grounds maintenance department in practices such as planting techniques, pruning, maintenance, pest management and tree removal. This plan will complement the MSU Campus Master Plan for future development and will be modified as the campus of Morehead State University grows.

Responsible Department

The Morehead State University Tree Care Plan will be implemented and executed by the Office of Facilities Management (under the direction of the Assistant Vice President of Facilities Management) which includes the Grounds Department.

Campus Tree Advisory Committee

The committee is comprised of faculty, staff, students and community members with an interest in planning, development, and education pertaining to tree care and the campus landscape of Morehead State University. Members will serve as an active participant in Tree Campus meetings and events for a term of 1 year, renewable. Members for 2014 include:

Hans Chapman	Assistant Professor, Applied Engineering & Technology Department
Carolyn Franzini	Morehead City Council Member and Member of Sustainable Morehead
Jeremiah Gallegos	Director of Campus Services
April Haight	Director of the Center of Environmental Education
Amy Lentz	Horticulture Supervisor, Department of Agricultural Sciences
Richard Linio	Assistant Vice President of Facilities Management
Holly Niehoff	Environmental Health & Safety: Sustainability & Safety Specialist
Lacy Reed	Student Representative, Secretary of the MSU Horticulture Club
Jamee Rogers	Student Representative, President of the MSU Horticulture Club

Campus Tree Care Policies

Planting Guidelines

Species Selection

Morehead State University is located in Horticultural Zone 6 and all trees should be hardy to this zone. All newly planted trees must be approved by Morehead State University. New trees and shrubs should be determined to be widely adaptable to growing conditions in Morehead, KY. Final selection of campus trees should be based upon the physical characteristics of the site or location (sun/shade, soils, utilities, etc.), native environment (wetland, lowland, or upland), function, ease of maintenance, longevity, ornamental characteristics and consistency with the planting concepts as outlined in the 2014 Morehead State University Campus Master Plan.

The following shade, flowering/ornamental, and evergreen trees are recommended for future planting, according to the 2014 Morehead State University Campus Master Plan:

Shade Trees

Willow Oak
Pin Oak
Imperial or Skyline
Honeylocust
Black Gum
'Bloodgood' or 'Liberty'
London Planetree
Ginko (male cultivars)
Chestnut Oak
Southern Red Oak
Scarlet Oak
White Oak
Laurel Oak
Shumard Oak
Shingle Oak
Tulip Poplar
'October Glory' Red
Maple
'Legacy' or 'Green
Mountain' Sugar Maple
Bald Cypress
Southern Magnolia
American Holly
American Beech

Small Flowering and Ornamental Trees

Kousa Dogwood
Japanese or Zumi
Flowering Crab Apple
Saucer Magnolia
'Autumn Brilliance'
Serviceberry
Sweetbay Magnolia
Flowering Dogwood
Eastern Redbud
American Hornbeam
Heritage River Birch
Yellowwood
Star Magnolia

Evergreen Trees

White Pine
American Holly
Southern Magnolia
Foster Holly
Carolina Hemlock

The first trees to be considered for use should be native to the state of Kentucky. In the interest of educational needs and species diversity, trees and shrubs that are not native may be used, however, those listed as invasive by The Kentucky Exotic Pest Plant Council, the Kentucky affiliate of the Southeast Exotic Pest Plant Council (see Table 2) should be avoided if at all possible.

The following trees are listed as native to the State of Kentucky (University of Kentucky, Department of Horticulture Website- <http://www.uky.edu/hort/Native-Trees-of-Kentucky>):

Table 1 - Native Trees of Kentucky

Allegheny Serviceberry - <i>Amelanchier laevis</i>	Northern Red Oak - <i>Quercus rubra</i>
American Beech - <i>Fagus grandifolia</i>	Ohio Buckeye - <i>Aesculus glabra</i>
American Holly - <i>Ilex opaca</i>	Pagoda Dogwood - <i>Cornus alternifolia</i>
American Hophornbeam - <i>Ostrya virginiana</i>	Pawpaw - <i>Asimina triloba</i>
American Hornbeam - <i>Carpinus caroliniana</i>	Pecan - <i>Carya illinoensis</i>
American Linden - <i>Tilia americana</i>	Persimmon - <i>Diospyros virginiana</i>
Bald Cypress - <i>Taxodium distichum</i>	Pignut Hickory - <i>Carya glabra</i>
Bigleaf Magnolia - <i>Magnolia macrophylla</i>	Pin Oak - <i>Quercus palustris</i>
Black Cherry - <i>Prunus serotina</i>	Red Buckeye - <i>Aesculus pavia</i>
Black Locust - <i>Robinia pseudoacacia</i>	Red Maple - <i>Acer rubrum</i>
Black Oak - <i>Quercus velutina</i>	River Birch - <i>Betula nigra</i>
Black walnut - <i>Juglans nigra</i>	Sassafras - <i>Sassafras albidum</i>
Black Gum - <i>Nyssa sylvatica</i>	Scarlet Oak - <i>Quercus coccinea</i>
Blue Ash - <i>Fraxinus quadrangulata</i>	Shagbark Hickory - <i>Carya ovata</i>
Bur Oak - <i>Quercus macrocarpa</i>	Shadblow Serviceberry - <i>Amelanchier canadensis</i>
Chestnut Oak - <i>Quercus prinus</i>	Shellbark Hickory - <i>Carya laciniosa</i>
Chinkapin Oak - <i>Quercus muehlenbergii</i>	Shingle Oak - <i>Quercus imbricaria</i>
Cockspur Hawthorn - <i>Crataegus crus-galli</i>	Sourwood - <i>Oxydendrum arboreum</i>
Common Witchhazel - <i>Hamamelis virginiana</i>	Sugar Hackberry - <i>Celtis laevigata</i>
Cucumbertree Magnolia - <i>Magnolia acuminata</i>	Sugar Maple - <i>Acer saccharum</i>
Downy Serviceberry - <i>Amelanchier arborea</i>	Sweet Birch - <i>Betula lenta</i>
Eastern Hemlock - <i>Tsuga canadensis</i>	Sweetgum - <i>QLiquidambar styraciflua</i>
Eastern Redbud - <i>Cercis canadensis</i>	Sycamore - <i>Platanus occidentalis</i>
Eastern White Pine - <i>Pinus strobus</i>	Tulip Poplar - <i>Liriodendron tulipifera</i>
Flowering Dogwood - <i>Cornus florida</i>	Umbrella magnolia - <i>Magnolia tripetala</i>
Fringetree - <i>Chionanthus virginicus</i>	Virginia Pine - <i>Pinus virginiana</i>
Green Hawthorn - <i>Crataegus viridis</i>	White Ash - <i>Fraxinus americana</i>
Green Ash - <i>Fraxinus pennsylvanica</i>	White Oak - <i>Quercus alba</i>
Honeylocust - <i>Gleditsia triacanthos</i>	Willow Oak - <i>Quercus phellos</i>
Kentucky Coffeetree - <i>Gymnocladus dioicus</i>	Yellow Buckeye - <i>Aesculus flava</i>
Mountain Silverbell - <i>Halesia tetraptera</i>	Yellowwood - <i>Cladrastis kentukea</i>
Mountain Stewartia - <i>Stewartia ovata</i>	
Northern Catalpa - <i>Catalpa speciosa</i>	

The following tree (and shrub) species are listed as invasive in the state of Kentucky for 2013 by the Kentucky Exotic Pest Plant Council (http://www.se-eppc.org/ky/KYEPPC_2013list.pdf). These are labeled as “severe threat” and are defined as invasive species which can easily spread into native plant communities and displace native vegetation, which are or could become widespread in the state. Those listed as severe threat are prohibited from future planting at Morehead State University unless using a proven non-invasive cultivar. Existing trees on campus which appear on the list should be slated for removal.

Table 2 – Exotic Invasive Plants of Kentucky, Severe Threat
 *listed as Kentucky’s Least Wanted Plant (2000-2014)

Tree of Heaven	<i>Ailanthus altissima</i>
Porcelain Berry	<i>Ampelopsis brevipedunculata</i> *
Oriental Bittersweet	<i>Celastrus orbiculatus</i> *
Leatherleaf Clematis	<i>Clematis terniflora</i> *
Crown Vetch	<i>Coronilla varia (Securigera varia)</i> *
Autumn Olive	<i>Elaeagnus umbellata</i> *
Burning Bush (except Rudy Haag cultivar)	<i>Euonymus alatus</i> *
Wintercreeper	<i>Euonymus fortunei</i> *
Privet	<i>Ligustrum sinense</i> and <i>L. vulgare</i> *
Japanese Honeysuckle	<i>Lonicera japonica</i>
Bush Honeysuckles	<i>Lonicera maackii</i> , <i>L. fragrantissima</i> *
Moneywort	<i>Lysimachia nummularia</i>
Purple	<i>Loostrife Lythrum salicaria</i> *
Japanese Stiltgrass	<i>Microstegium vimineum</i>
Chinese Silver Grass	<i>Miscanthus sinensis</i> *
Princess Tree	<i>Paulownia tomentosa</i> *
Common Reed	<i>Phragmites australis</i>
Japanese Knotweed	<i>Polygonum cuspidatum</i> *
Callery Pear	<i>Pyrus calleryana</i> *
Kudzu	<i>Pueraria lobata</i>
European Buckthorn	<i>Rhamnus cathartica</i>
Multiflora Rose	<i>Rosa multiflora</i>

Selection for Tree Quality

When selecting specific tree specimens to be planted, the following guidelines should be used:

- Trees should be purchased from a reputable nursery or farm.
- An effort should be made to label or tag all new trees with the correct species and cultivar name. Tree tags should be loosely attached to the tree until GPS coordinates and identification information are recorded.

- Trees should be free of insects and disease.
- Tree structure and branching should be fitting for the type of tree used. For example, trees that should have a dominant central leader should be selected and those with co-dominant leaders should be rejected. Poor branching and bark wounds should be avoided in selected trees. Trees requiring major corrective pruning should be avoided.
- Either balled and burlapped or container-grown trees should be used and trees should be of the largest size that is economically feasible. Bareroot trees may be used if necessary, however, require additional care in planting to ensure successful transplantation.
- Balled and burlapped trees should have good root structure and a root flare that is clearly visible at the top of the root ball. Trees showing the presence of girdling roots should be avoided.
- Container-grown trees should have good root structure and be free of circling and girdling roots. Those that are root-bound in the growing container should be avoided.
- Suggested minimum size for new shade trees is 2" – 2 ½" caliper and, depending on the type of tree, 10 – 12 feet high (in accordance with the Morehead State University 2014 Campus Master Plan)
- Suggested minimum size for new small flowering or ornamental tree plantings is 1 ¼" caliper and depending on the type of tree, 5 – 6 feet high (in accordance with the Morehead State University 2014 Campus Master Plan)
- Suggested minimum installation size for new evergreen tree plantings is 5 – 6 feet high (in accordance with the Morehead State University 2014 Campus Master Plan)

Site Preparation, Tree Planting, Mulching and Staking

- Trees and large shrubs should be planted during the Fall season (September through December) before the ground freezes. If planting cannot be done in the fall, the Spring season (February through April) is also allowed, however, trees should be monitored for water availability during hot summer months and or watering equipment should be used (i.e. tree watering bags).
- Verification with local utility companies (or Call 811) must occur prior to digging to locate any underground utility lines in the area. An effort should be made to avoid any other underground obstructions.
- Site should be away from overhead utility lines or tree selection should be made accordingly as to not interfere with lines.
- A soil test should be sent to the Cooperative Extension Service for evaluation for all newly planted sites.
- To plant a tree, dig a hole equal to the depth and 2-3 times as wide as the root ball of the tree to be planted. The sides of the hole should be angled.
- Always handle trees by the root ball and avoid lifting it from the trunk or branches as this can cause damage to the tree and cause the root ball to separate from the trunk, especially for grafted trees.

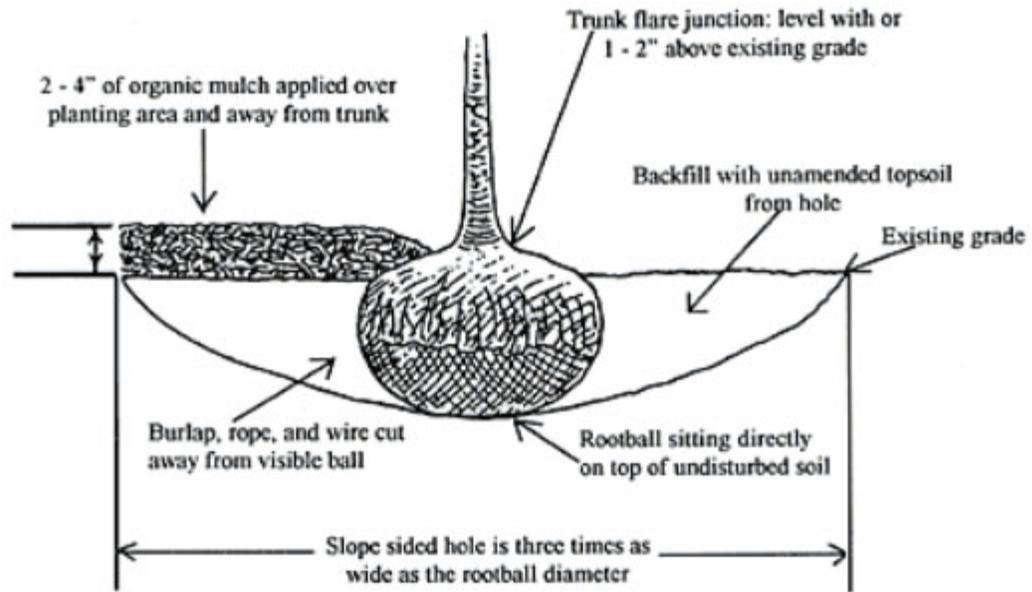


Diagram illustrating proper planting procedure for a tree or shrub.

Picture Credit: http://extension.umass.edu/landscape/sites/landscape/files/images/plnt_mt_1.jpg

- Place the tree into the hole and ensure that the root collar is at or a little above ground level. If possible, avoid disturbing the soil under the newly placed tree unless it is too low and more soil is needed to bring the root collar up to ground level.
- Once tree has been properly placed into the planting hole, use wire cutters to remove all of the wire basket, nails, rope, and twine from the root ball. Burlap should be pulled away from the root ball and any loose material should be cut off, with the exception of the burlap underneath the root ball which can stay in place. If planting container trees, the entire container, excess growing media, and any other non-organic materials should be removed. Roots should be spread out into the hole, avoiding any circling patterns or girdling of the main stem or trunk of the tree.
- After tree is properly placed, the hole can be filled with the original soil and firmly packed to remove any air pockets.
- Water all newly planted trees thoroughly.
- Mulch should be applied on top of the planting hole at a depth of 2-4 inches, taking extra care to keep the mulch at least 4 inches away from the base of the tree trunk.
- Newly planted trees should be inspected every week to evaluate watering needs.
- Staking should be used only when necessary (areas of high wind, etc.) and should be removed promptly if no longer needed for support. Staking can hinder the tree from anchoring itself naturally into the ground. If using stakes, the attachment ropes should be loose enough to allow the tree to sway slightly and should be able to stretch where they attach to the tree. Avoid staking a tree so tight that it cannot move.

Maintenance Guidelines

Mulching, Fertilization, Pest Management

- Mulching of trees should be completed at least every two years for large trees and annually for younger trees. Mulch should be applied at a depth of no more than 6 inches. Mulch rings should be used as opposed to heaping mulch around and against the trunk of the tree. This will also help with avoidance of hitting the trunk of the tree during mowing and use of a string trimmer.
- Trees that have been planted in the past 3 years may need supplemental irrigation, such as tree watering bags, to aid in the establishment of the tree.
- Newly planted trees do not require fertilization during the first year unless indicated as necessary according to a soil test.
- Routine or annual fertilization of established trees is generally not necessary due to secondary fertilization caused by routine applications of fertilizer in the fall to surrounding turf and ornamental plantings.
- Established trees should be fertilized if indicated as necessary according to a soil test or if the tree is visibly stressed.
- Trees should be monitored regularly for threats of pests and disease. The use of any pesticides should be avoided unless it is deemed necessary to prevent or to treat an existing problem.
- Any use of pesticides should be completed during times of reduced campus population and should be conducted by a certified pesticide applicator or under the supervision of a certified individual.
- All use of personal protective equipment and method of application should be in accordance with the label requirements of any pesticide product.

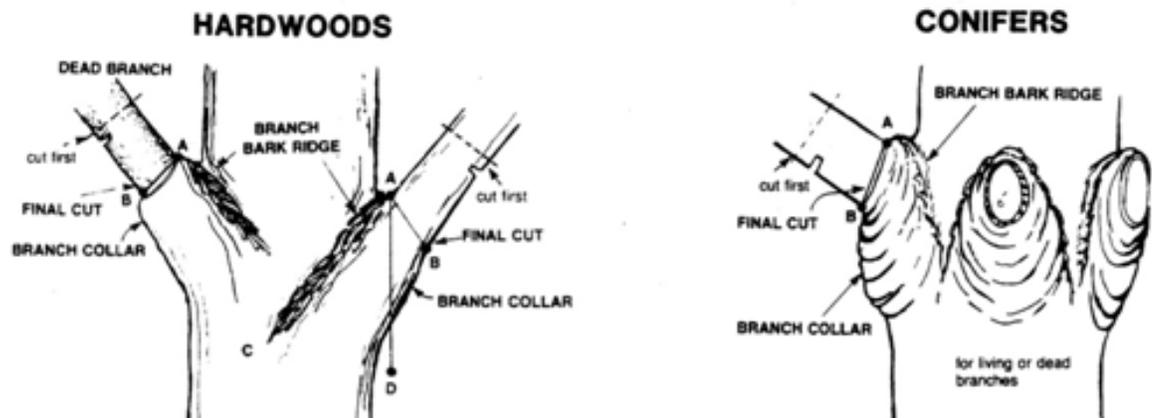
Pruning Schedule

- Pruning of trees should be conducted according to the age, health, function, and structure of the tree; timing should match with the type of tree being pruned or problem being addressed. Special attention should be paid to trees in close proximity to walkways and roads for safety concerns.
- For those trees that flower after June 1st, pruning should be done in the winter or early spring before the tree puts on new growth. This also includes most shade trees.
- Pruning should be conducted after flowering for any ornamental trees that flower before June 1st. Early flowering trees include Dogwood, Redbud, Crabapple, Flowering Cherry, Hawthorn, Ornamental Pear, and Magnolia.
- Young trees (up to 7 years in age) should be pruned annually or as needed to create and maintain structural integrity.
- Trees of mid-age (7 to 20 years of age) should be evaluated and pruned every three to five years.

- Older trees should be pruned only as needed and to address specific problems such as structural integrity, disease removal, dead or dying branches or to maintain clearance from buildings and other structures.

Pruning Practices

- Prior to pruning a tree, a clear objective should be in place. Safety is the first concern of pruning, followed by health and aesthetics.
- Proper personal protective equipment should be used when pruning any tree. The use of ropes and other equipment should be used for larger trees to reduce the risk of injury from falling debris.
- Crown thinning is the recommended method of pruning and is conducted by selectively removing branches in order to increase light penetration and air movement into the crown of the tree.
- Under special circumstances, pruning of lower branches (raising) may be done to provide vertical clearance for sidewalks, streets, entrances, etc. When pruning for clearance, removing too many lower branches can lessen the structural integrity of the tree. Try to maintain live branches on at least 2/3 of the height of the tree.
- Reduction cuts (those to reduce the overall height of the tree) shall not be performed unless absolutely necessary.
- Tree topping shall not be performed under any circumstance.
- When removing a branch, care should be taken so that the pruning cut does not damage the branch bark ridge or branch collar and remaining stem tissue or the trunk is not damaged.



Picture Credit: <http://www.kellytree.com/sites/default/files/hardwoods-conifers.png>

- Always make pruning cuts just above a node on the desired branch to be cut.
- Pruning of smaller branches (less than 8 inches in diameter) is recommended to thin a tree, rather than making larger cuts which can cause excess stress to the tree.
- Branches to be removed include those with a weak, V-shaped branch angle, those that cross or rub against another branch or the trunk of the tree, diseased branches, or those

needing to be removed to enhance the future structure of the tree. Basal sprouts and epicormic (water) sprouts should always be removed.

- Never remove more than 25% of the tree crown during the given year. Additional pruning can be conducted in subsequent years.
- Heading cuts or those made at an internode should be avoided.
- If pruning a tree with visible damage from disease or insects, pruners should be continuously cleaned and sanitized, especially before using tools on another tree, to avoid cross contamination.

Tree Removal

General Removal

- Living trees will not be removed unless there is imminent danger to the public, interference with campus structures, designation as an invasive species, detracting from the landscape, poor health, or as necessary for construction.
- The Tree Care Committee should be consulted when removing any living tree that is not covered by the above situations
- All dead trees should be removed promptly from the campus landscape.
- When removing trees, persons involved should be knowledgeable of chainsaw safety and proper personal protective equipment must be used.

Managing for Catastrophic Events

- During severe weather conditions, such as intense electric storms, high wind events and ice storms, the partial and total failure of damaged and destroyed trees is unavoidable. During such events, Facilities Management employees will remove fallen trees and debris, and may in some instances need the outside assistance of a private tree firm.
- Campus streets and roadways are the first to be cleared, followed by access to critical buildings, such as the power plant and administrative buildings, followed by student residences, libraries, classroom buildings, etc.

Protection and Preservation Policies and Procedures

Preservation, rather than relocation/removal, should be the first priority, especially for large specimen trees that have high location value or historical significance. Without such a policy, many beautiful campus trees would be at risk of being lost during construction and development. If preservation of a particular tree is not possible, then relocation should be the second option. If this is not feasible due to tree size, location, condition or other factors, then tree removal becomes the last and least desirable option. The preservation of existing trees in any campus environment is of the utmost importance. Many of the trees on campus are significant either due to their size or species, or because they have some historic identity. Large canopy trees may take 100 years or

more to reach their full size. When a large tree is removed, the impact is immediate and a part of the campus history is lost. The removal of small- to mid-sized trees is not as dramatic; however, the impact on the future campus landscape is significant. When small- and mid-sized trees are removed today, we are eliminating the majestic large trees of the future. We enjoy the presence of large trees on campus today because of the preservation efforts of those who came before us.

When it is determined that existing trees are to be preserved, it becomes critical that they are protected during construction. Construction damage to existing trees is not always apparent, and deleterious effects of construction impacts may take years to emerge. The most common construction damage is root injury due to soil compaction.

Tree Protection

- Significant trees designated to remain and be protected during construction will be clearly identified on the site plans.
- The protective zone around each tree will also be clearly identified. The protective zone extends out to the tree's drip line, and is better defined as the Critical Root Zone (CRZ). The CRZ is determined by measuring a radius from the tree's trunk that is equal to one foot for each inch of tree diameter. (Example: A tree with an 18" trunk diameter would have a CRZ of 18 feet from the trunk of the tree. The CRZ would be an 18-foot circle with the tree's trunk at the center of the circle.) The minimum standard of protection is a zone that will extend to the tree canopy drip line. If this minimum standard is not met, the tree should not be considered protected.
- Every effort shall be made to reduce encroachment within tree drip lines, impacts on woodlot water tables, as well as compaction of soil, soil contamination, and mechanical injury to roots, trunks or branches, thereby degrading root function and inhibiting the development of new roots.
- Designers shall assure proposed grades will not bury, suffocate, or expose tree roots within drip lines of trees to remain or to be protected. Grades shall allow for the natural flow of water and avoid ponding near the base of the tree. Every effort shall be made to keep trees on slopes greater than 8% to maintain soil stabilization and minimize removal of trees or soil nearby.
- Designers shall avoid design impacts on trees, including but not limited to, excavation, shoring for buildings, depths of construction for walks and other pavement types, boom swings for large equipment, and grading within prominent tree drip lines within construction fencing and in areas of impact nearby related to the project. Design alternatives to avoid root damage shall be considered including bridging, air spading, etc.
- Directional boring should be used as a priority over open trenching within tree protective zones. Minimum depth for boring within protective zones shall be 2' to avoid root structures and 3' for open pits outside of drip lines. Designers shall budget and design accordingly. Trenching within drip lines shall be cut by hand, air spade, or utilizing other hydraulic or pneumatic air excavation technology. Areas disturbed within protective

zones shall be backfilled immediately and soaked the same day.

- Designers shall guide alternate pedestrian/traffic routes during construction logistics planning to occur outside of tree protective zones when routes through the landscape are warranted. When this is unavoidable, 4"-6" mulch paths or rings should be installed, leaving the trunk clear of mulch, to reduce soil compaction and allow for air and water infiltration.
- Contractor shall not allow activity, including parking, driving of vehicles, pedestrian routing, staging, lay down, material storage, bury pits or concrete washouts within the tree protective zones.

Tree Relocation and Removal

- The relocation of existing trees from the site will mean transplanting by either tree spade or by the ball and burlap method. When possible, such transplanting will be ideally done during the dormant season.
- Tree removal involves cutting the tree down and disposing of the debris. The decision to remove a significant tree can only be made by the VP for Facilities Management in consultation with the tree committee members. This includes removals requested during any phase of a project, including the initial design phase and during construction operations.
- In order to maintain the campus forest, significant trees to be removed will be replaced in kind by the project or agency responsible for the removal of the tree.

Goals and Targets

Campus-Wide Tree Inventory

A tree inventory of existing trees on the Morehead State University Campus has been implemented in the initial stages with preliminary data collection. An updated inventory of all trees on campus will be completed in 2015. This inventory will be a valuable tool for planning the future development of the campus landscape and will be used as an educational tool for students. Future data will include mapping GPS coordinates of existing trees, identification of tree species and cultivar (if possible), diameter at breast height (DBH), and remarks concerning the physical condition of each tree.

Tree Damage Assessment

A tree damage assessment will be performed by a member of the grounds crew or the Grounds Supervisor as damage is noticed or after any weather event has occurred that would likely cause damage to trees on campus. Trees that are of historical importance and those of high value will be assessed for damage by a Certified Arborist to determine the type of action to take in repairing or removing the tree.

Enforcement, Penalties & Appeals

- All enforcement, penalties & appeals shall be handled through the Morehead State University Police Department and the Department of Student Life in accordance with standard protocols and procedures outlined in their regulations and policies.

Prohibited Practices

- Any intentional damage to trees located on the Morehead State University campus is prohibited.
- Locking bicycles to trees on campus is strictly prohibited. Bike racks are placed throughout campus for the sole purpose of locking bikes.
- No objects shall be attached to any tree on campus without prior approval by the Offices of Facilities Management.
- Tree topping of any tree on campus is prohibited.
- Heading cuts (those made at an internode) is prohibited and should be avoided, except under special circumstances.
- Any tree(s) to be planted on campus, as well as removal of any tree(s), must have prior approval by the MSU Offices of Facilities Management.

Definitions of Terminology Related to Campus Trees

Arborist – an individual trained in the art and science of planting, caring for, and maintaining individual trees. Arborists are knowledgeable about the needs of trees and are trained and equipped to provide proper care.

Branch Bark Ridge - The raised strip of bark at the top of a branch union, where the growth and expansion of the trunk or parent stem and adjoining branch push the bark into a ridge

Branch Collar - the attached structure in woody plants that connects a branch to its parent branch or to the trunk.

Certified Arborist - Certified Arborists are individuals who have achieved a level of knowledge in the art and science of tree care through experience and by passing a comprehensive examination developed by some of the nation's leading experts on tree care. Certified Arborists must also continue their education to maintain their certification and adhere to a Code of Ethics.

Critical Root Zone – the measurement of the radius of a tree trunk calculated to equal to one foot for each inch of tree diameter.

Diameter, Breast Height (DBH) – the standard position at which the measurement of the tree’s diameter is taken. Usually 4.5 feet above the ground.

Native Tree – any tree species which occurs naturally and is indigenous to the region.

Root Ball – the intact soil and root mass that remains with a planted tree. Usually covered with burlap, wire and twine for storage and transportation prior to planting.

Root Flare – the swollen base of a tree trunk that buttresses out where the tree meets the ground.

Tree Topping - the reduction in size of a tree by using heading cuts when pruning that shorten large limbs, resulting in excess suckering of shoots and reduction in the overall health and structure of the tree. Not an acceptable method of tree pruning.

Communication Strategy

- The Campus Tree Plan is communicated through the Offices of Facilities Management to all contractors whose work will impact any treed areas on campus.
- The campus tree care plan will be available on the MSU Earthwise Eagles sustainability website.
- Communication and links to the plan will be announced through campus media news and radio and local news when MSU is first designated a tree campus.
- A Tree Campus sign will be posted on campus.
- Information will be provided annually during campus Arbor Day activities.
- The tree campus plan will be utilized by various academic departments for student engagement.