

EXHIBIT A

Chapter 405: Zoning Regulations

Article XXX: Trees and Landscaping Regulations

405.4030: Purpose and Objectives

The purpose of this article is to ensure the preservation of existing healthy trees and landscaping and to provide appropriate new landscaping and trees on development sites. Landscape plantings and trees are an important community asset as they provide environmental benefits, enhance community character, and add to property values. The objectives set forth in this article include the following:

1. Preserve and enhance the longevity of landscape plantings and trees in areas throughout the city;
2. Reduce soil erosion and stormwater runoff and protect water quality;
3. Enhance the appearance and preserve the character of surrounding properties;
4. Visually integrate developments into the existing landscape;
5. Improve the quality of plant and tree selection through the implementation of landscape standards and specifications;
6. Maintain adequate tree canopy coverage citywide and promote a multi-aged urban forest;
7. Provide standards for the protection, preservation and replacement of trees;
8. Promote tree species diversity and the planting of Missouri native trees and plant material; and,
9. Enhance, protect and promote the natural environment of the City of Clayton to ensure public health, the safety and welfare and the comfort and enjoyment of its citizens.

405.4040: Applicability

1. All sections of this article shall apply to any project located on private property which is subject to Article VIII: Site Plan Review, Article IX: Special Development District, or Article X: Planned Unit Development.
2. The following sections of this article shall apply to projects located on private property which request a Demolition Permit for the purposes of preparing a lot for a development project subject to Article VIII: Site Plan Review, Article IX: Special Development District, or Article X: Planned Unit Development. The Planning Director may modify the applicability provisions if an applicant can demonstrate that existing trees on site will not be impacted.
 - a. Section 405.4050: Definitions
 - b. Section 405.4060: Plan Review and Inspections
 - c. Section 405:4080: Tree Protection Plan Requirements
 - d. Section 405.4100: Tree Removal
 - e. Section 405:4120: Tree Protection Measures
3. The following sections shall apply to pre-development tree removal on private property for the purposes of preparing a lot for a development project subject to Article VIII: Site Plan Review, Article IX: Special Development District, or Article X: Planned Unit Development.
 - a. Section 405.4050: Definitions
 - b. Section 405.4110: Tree Removal

405.4050: Definitions

For purposes of applying this article, the following words, terms and phrases shall have the meanings ascribed to them in this section, except where the context clearly indicates a different meaning:

Arborist, Certified: An individual trained in the art and science of planting, caring for and maintaining individual trees and certified by the International Society of Arboriculture (ISA).

Caliper: The diameter of a tree trunk measured at 6 inches above the ground for trees up to 4 inch caliper or 12 inches above the ground for trees 4 inch caliper to 12 inch caliper. Typically used to describe the size of nursery stock or recently planted trees. For trees with multiple stems, the caliper of each stem shall be measured and the average of all measurements shall constitute the caliper of the tree. (See definition of “Diameter at Breast Height (DBH)” for measurement of larger trees over 12 inch caliper).

Condition, Existing Trees:

Good Condition – The tree shape and form is average to excellent. The tree has a good main trunk. The branches may be crowded with minor branch dieback. There are few or minor pests, good leaf color and size, no obvious root or structural problems.

Fair Condition – The tree needs pruning of live or dead branches due to habit, decline or lack of maintenance. The tree may have pest problems or minor trunk damage, poor branch angle and multi-trunks. There are no obvious structural or hazardous conditions.

Poor Condition - The tree has many dead branches, splitting trunk and hazardous branches with more than half of the crown dead. The tree may be leaning, have structural problems and extensive damage from insects or disease.

Dead/Dying Condition – The tree has extensive branch dieback or trunk decay, storm damaged branches, heavy pest problems, or already dead and needing to be removed.

Contributing Tree: Any tree measuring 3 caliper inches to 19 inches DBH that is in fair to good condition and is not an invasive species as defined by the Missouri Department of Conservation. (See definition of “Condition”).

Construction Damage: Injury to a tree caused as a result of construction activities including but not limited to root damage caused by trenching, pulling of roots, changes in soil grade (relocation, removal or filling of soil), paving over roots or compaction of soil, and damage to tree trunks or branches. (See definition of “Impacted Tree”).

Critical Root Zone (CRZ): A given distance from the trunk of a tree that includes the soil area below ground that contains the tree’s root structure and the space above ground within the tree’s canopy drip line or beyond. The CRZ is protected for the viability and stability of a tree to be retained on site in a healthy condition. (See definition of “Structural Root Zone (SRZ)”). The Critical Root Zone radius equals 1.25 feet for every 1 inch of tree diameter except in circumstances where the observed CRZ is significantly larger or smaller, in which case on-site conditions will take precedence.

Diameter at Breast Height (DBH): The diameter of a tree trunk at 4.5 feet above ground for trees over 12 caliper inches. For species of trees whose normal growth pattern is characterized by multiple stems the diameter at breast height of each stem shall be measured and the average of all measurements shall constitute the diameter of the tree.

Impacted Tree: A tree and its critical root zone (CRZ) that is in or adjacent to the development footprint and/or construction activities and whose growing conditions are or will be directly or indirectly changed as a result. (See definition of “Critical Root Zone (CRZ)” and “Tree Protection Zone (TPZ)”).

Landmark Tree: Any tree exceeding 19 inches DBH that is in fair to good condition and is not an invasive species as defined by the Missouri Department of Conservation. (See definition of “Condition”).

Landscape Architect: An individual trained in design and construction of sites and landscapes and licensed as a Professional Landscape Architect by the Missouri Division of Professional Registration.

Landscape Plan: The graphic depiction and written specifications indicating the planned arrangement of natural and constructed elements on the land (plantings, ground and water forms, circulation, walkways, irrigation, landscape lighting, etc.). All plants and trees are labeled on the landscape plan and keyed to complete tree and plant lists. Required elements of the Tree Protection Plan (TPP) can be included on the Landscape Plan or submitted as a separate plan. (See definition of “Tree Protection Plan.”)

Maintenance: Any measure considered vital in accordance with standard horticultural practices to promote the general health of plant material.

Native Tree: Any tree species identified by Grow Native as a Missouri native plant.

Plant List: Tabulation of all proposed plants by group (trees, shrubs, perennials, groundcovers and bulbs) and listed by common name, genus and species, installed size, spacing, and root stock type (bare root, pot or balled and burlapped).

Public Right-of-Way: The area, the air space above the area, the area below and the area adjacent to any public street, highway, lane, path, alley, sidewalk, boulevard, drive, bridge, tunnel, parkway, waterway, public easement or sidewalk in which the City, County or State now or hereafter holds any property interest.

Street Trees: Any tree located within a public right-of-way along a street.

Structural Root Zone (SRZ): The circular zone radiating from the trunk of a tree that is required for the tree’s stability in the ground. This zone contains the woody root growth and soil cohesion that is necessary to hold the tree upright but not the critical root zone (CRZ) required for the tree’s long-term health and viability. (See definition of “Critical Root Zone (CRZ)” and “Tree Protection Zone (TPZ)”).

The Structural Root Zone will be determined by the tree’s caliper or DBH. For reference and site planning purposes, the SRZ radius by tree size is indicated below:

Caliper or DBH (inches)	SRZ Radius (feet)
1	1
2-3	2
4-5	3
6-7	4
8-9	5
10-11	6
12-14	7
15-18	8
19-22	9
24-36	10
37-45	11
50-55	12
60-65	13
70+	14

Tree: A woody deciduous or evergreen plant typically growing as a single stem or multi-stem in an upright or weeping form that will attain a mature height of at least 15 feet and at least 3 caliper inches.

Tree Canopy: The layer of leaves, branches and stems of a tree that cover the ground when viewed from above.

Tree Protection Plan (TPP): Drawings that graphically illustrate the existing trees on the project site, adjacent to the site and in the right-of-way. The TPP will include graphic depictions of the Tree Protection Zones (TPZ)/tree protection fence, Critical Root Zone (CRZ) and Structural Root Zones (SRZ), and specific measures to protect trees during construction or other site disruptions. Required elements of the TPP can be included on the Landscape Plan or submitted as a separate plan. (See definition of “Landscape Plan.”)

Tree Protection Zone (TPZ): The zone around the tree that will be maintained as natural and original conditions over the course of the development. This zone must be no less than a 5-foot radius from the trunk per caliper inch or DBH. The TPZ is to be illustrated on the landscape plan or the Tree Protection Plan (TPP).

405.4060: Plan Review and Inspections

The City may engage professional expertise to assist in the review of landscape/tree preservation plans and the property owner shall be responsible for any costs incurred to engage professional consultation. The following inspections shall be performed by the City’s contracted Landscape Architect:

1. After submission of the landscape/tree preservation plan, to ensure the landscape plan provides sufficient information and detail to clearly demonstrate that all applicable requirements and standards of this article are or will be fully satisfied.

2. Prior to site work, demolition or the commencement of construction to ensure tree protection measures meet the requirements and standards of this article.
3. Ongoing inspections during or after construction as deemed necessary by the City to ensure compliance with this article.

405.4070: Landscape Plan Requirements

1. Projects subject to the requirements of this article shall submit a landscape plan for review concurrent with the submittal of other required applications and plans. The drawings shall conform to the specifications of this Article and any other requirements or conditions imposed by the City or the City's contracted landscape architect.
2. The landscape plan is subject to approval by the Plan Commission or Board of Aldermen, as appropriate depending on which body is authorized to render a final decision for the type of development approval for which the landscape plan is submitted.
3. Amendments or modifications to approved landscape plans are subject to the applicable requirements of Article VIII: Site Plan Review, Article IX: Special Development District, or Article X: Planned Unit Development, as appropriate depending on the type of development.
4. The following items shall be provided on the landscape plan. Additional information may be requested by the City or the City's contracted landscape architect.
 - a. Project title listing project name, owner name and name of firm or individual preparing the plan.
 - b. North arrow, graphic and written scale.
 - c. Scaled base plan using current information from the site development plan depicting existing and proposed grades, location of all improvements, existing and proposed utilities and sewers.
 - d. Graphic legend depicting existing vegetation and proposed conditions.
 - e. Graphic depiction and listing of all proposed trees, shrubs and plants for the project area.
 - f. A Tree Protection Plan (TPP) pursuant to Section 405.4080: Tree Protection Plan Requirements. Required elements of the TPP can be included on the landscape plan or submitted as a separate plan.
 - g. A completed digital tree chart shall be submitted with the landscape plan based on a digital spreadsheet provided by the City which automatically calculates the required and proposed tree canopy lot coverage or caliper replacement based on inputs provided by the project's landscape architect or arborist. The tree chart shall list the size, species and condition of all existing and proposed trees. Each tree schedule from the digital tree chart shall also be shown on the landscape plan.
 - h. Certification (signed and sealed) by a Missouri licensed landscape architect or ISA certified arborist.

405.4080: Tree Protection Plan Requirements

1. Projects subject to the requirements of this article shall submit a tree protection plan (TPP) for review concurrent with the submittal of other required applications and plans. The drawings shall conform to the specifications of this Article and any other requirements or conditions imposed by the City or the City's contracted landscape architect.

2. The TPP is subject to approval by the Director of Planning and Development Services or his/her designee, Plan Commission or Board of Aldermen, as appropriate depending on which officer or body is authorized to render a final decision for the type of development approval for which the TPP is submitted.
3. Amendments or modifications to an approved TPP are subject to the applicable requirements of Article VIII: Site Plan Review, Article IX: Special Development District, Article X: Planned Unit Development, or Demolition Permits, as appropriate depending on the type of development.
4. The following items shall be provided on the TPP. Additional information may be requested by the City or the City's contracted landscape architect:
 - a. Project title listing project name, owner name and name of firm or individual preparing the plan.
 - b. North arrow, graphic and written scale.
 - c. Scaled base plan using current information from the site development plan depicting existing and proposed grades, location of all improvements, existing and proposed utilities and sewers.
 - d. Graphic depiction of all existing trees to remain and to be removed including location, types and size.
 - e. Graphic depiction of the accurate drip line canopy showing the extent of the Critical Root Zones (CRZ) and Structural Root Zones (SRZ).
 - f. Graphic depiction of the proposed Tree Protection Zones (TPZ) and location of tree protection fencing.
 - g. Tree protection and planting notes and details applicable to the project, pursuant to Section 405.4120: Tree Protection Measures.
 - h. A completed digital tree chart shall be submitted with the TPP based on a digital spreadsheet provided by the City which automatically calculates the required and proposed tree canopy lot coverage or caliper replacement based on inputs provided by the project's landscape architect or arborist. The tree chart shall list the size, species and condition of all existing and proposed trees. Each tree schedule from the digital tree chart shall also be shown on the TPP.
 - i. Certification (signed and sealed) by a Missouri licensed landscape architect or ISA certified arborist.

405.4090: Design Standards

The following standards shall apply to new trees and landscaping:

1. Tree Standards
 - a. Trees preserved or planted to meet the requirements of this article shall be preserved onsite in perpetuity and if lost over time, shall be replaced in conformance with Section 405.4110: Tree Preservation and Replacement during the first planting season after the loss occurs.
 - b. New trees must be selected from Section 405.4140: Approved Tree List. Appropriate substitutions may be approved at the professional discretion of the City's contracted Landscape Architect. All trees shall meet American Standard for Nursery Stock, ANSI Z60/1-2004.

- c. New trees shall be planted in locations appropriate to the species' growth habit and horticultural requirements, and shall be located in such a manner to minimize damage to trees or structures on the project site and on adjacent properties.
- d. No more than 33 percent of the total number of new trees shall be from the same genus, and at least 33 percent of the total number of new trees shall be Missouri native trees.
 - i. The Plan Commission or Board of Aldermen, as appropriate depending on which body is authorized to render a final decision for the type of development approval under consideration, shall have the authority to approve a reduction or waiver of these requirements in instances where an applicant can demonstrate that there are unique circumstances affecting the site and that a good faith effort has been made to meet the requirements.
- e. New trees should not be located within any utility easement. Trees which can reach a mature height over 25 feet should not be planted within 20 feet of overhead utility lines. Any plantings installed in or near utility easements must be so installed and maintained as to not pose a reasonably foreseeable risk of interference with or interruption of utility service.
- f. The removal and/or planting of street trees, including species selection, are at the sole discretion of the Director of Public Works. If approved by the Director, the removal of street trees regardless of their size or condition requires prior approval, replacement and/or payment into the City's Forestry Fund in the amount specified by the City.

2. Landscaping Standards

- a. The landscape design shall address functional requirements and enhance the context of the neighborhood and the architecture of the building or site through the provision of appropriate foundation and perimeter landscaping.
- b. Plants shall comply with recommendations and requirements of ANSI Z60/1-2004 "American Standard for Nursery Stock." All plants shall be healthy and vigorous stock suitable for the climate zone within the City of Clayton, grown in a recognized nursery in accordance with good horticultural practice and free of disease, insects, eggs, larvae and defects such as knots, sunscald, injuries, abrasions, or disfigurement.
- c. The use of appropriate Missouri native plants identified by the Missouri Department of Conservation is strongly encouraged.
- d. HVAC and other mechanical units are to be screened from public view and adjacent properties with evergreen plantings or a fence. The plantings shall be of a type, size and height so that at least 50 percent of screening opacity is reached within one year of planting and 100 percent of screening opacity is reached within two years of planting.

405.4100: Tree Removal

- 1. The removal of any hazardous, dead or diseased trees on private property, as determined by a letter from a qualified arborist, and as necessary to remedy an immediate threat to person or property is not subject to the requirements of this article.
- 2. Trees removed within one year preceding the submittal of a development application to the City must be documented by a dated conditions report prepared by a certified arborist or forester, dated conditions photographs and a copy of the work order with date of service. Any tree

removed within one year prior to the submittal of a development application that is not documented and approved by the City will be considered in good condition by default.

3. With the exception of any property for which a landscape/tree preservation plan has been approved in accordance with this article and a building permit has been issued, it shall be prohibited for any person to remove 19 or more caliper inches of Contributing Trees or any Landmark Tree located outside a lot's buildable area (as defined in Article III: Definitions) for the purposes of preparing a lot for a development project subject to Article VIII: Site Plan Review, Article IX: Special Development District, or Article X: Planned Unit Development.

405.4110: Tree Preservation and Replacement

1. Residential developments located in residential zoning districts shall provide for the preservation and/or planting of trees on the lot to the extent that the minimum tree canopy lot coverage complies with the values in the following table.

Zoning District	Minimum Tree Canopy Lot Coverage¹
R-1	62 %
R-2	46 %
R-3	31 %
R-4	26 %
R-5	20 %
R-6	24 %
R-7	5 %
Planned Unit Development (PUD)	Refer to base zoning district prior to rezoning to PUD.
¹ <i>2013 St. Louis County Urban Tree Canopy Assessment, Forest Releaf</i>	

- a. The tree canopy lot coverage shall be the sum total of the tree canopy area for each individual tree to be preserved or proposed, calculated in accordance with this article and shown as a percentage of the total lot area.
- b. The tree canopy area for preserved trees located on site shall be the sum total of the surface area of the Critical Root Zone (CRZ) for each Contributing or Landmark Tree. The CRZ radius equals 1.25 feet for every 1 inch of tree diameter except in circumstances where the observed CRZ is significantly larger or smaller, in which case the on-site conditions will take precedence.
- c. To encourage the preservation of existing trees, Landmark Trees preserved on site shall be calculated at 125 percent of their calculated tree canopy area.
- d. Lots that do not meet the minimum tree canopy lot coverage requirements through the preservation of existing trees shall plant new trees on site selected from Section 405.4140: Approved Tree List, and in accordance with the following requirements:
 - a. The tree canopy cover for new trees shall be the sum total of the tree canopy cover potential for each individual tree, as listed in the following table and Section 405.4140: Approved Tree List.

Tree Group	Tree canopy cover potential
Deciduous-Large	750 square feet

Deciduous-Medium	500 square feet
Deciduous-Columnar/Small/Ornamental	250 square feet
Evergreen-Large	500 square feet
Evergreen-Medium	250 square feet

- b. At least one new large or medium deciduous tree shall be planted on site.
 - i. The Plan Commission shall have the authority to waive this requirement in instances where an applicant can demonstrate that there are unique circumstances on-site which would make compliance with this requirement impractical such as smaller than average lot size, the presence of utility easements, or the presence of existing large or medium deciduous trees.
2. Non-residential developments located in residential zoning districts are subject to the following requirements:
- a. Contributing and Landmark Trees that are proposed to be removed or that were removed within one year preceding the submittal of an application to the City shall be replaced on site with new trees selected from Section 405.4140: Approved Tree List so that the combined caliper inches of new trees is at least equal to the number of inches being removed.
3. Modifications
- a. The Plan Commission shall have the authority to approve a reduction of up to 20 percent of the minimum required tree canopy square footage and the total caliper-inch replacement requirements in instances where an applicant can demonstrate that the following criteria have been met:
 - i. There are mitigating circumstances affecting the site which do not generally apply to sites developed for the same use and in the same district.
 - ii. A good faith effort has been made to retain and/or replant as many trees as feasibly possible.
 - iii. Additional understory plantings and groundcover is provided to mitigate the tree deficiency.
 - b. The City shall be compensated for any tree canopy lot coverage or caliper-inch replacement deficiency through payment to the City's Forestry Fund based on the following rates, to be made prior to the removal of trees on site and the issuance of a building permit:
 - i. Residential Developments: \$0.60 per square foot of canopy cover deficiency.
 - ii. Non-Residential Developments: \$250 per inch deficiency.

405.4120: Tree Protection Measures

Any construction, demolition, site work or similar activity which may injure existing trees shall require the installation of tree protection measures as set forth in this section or as determined by the City's contracted landscape architect. The following tree protection measures are to be followed and must be noted on the landscape/tree preservation plan:

- 1. All tree protection measures shall be installed prior to the commencement of demolition, excavation, construction or site work.

2. A pre-construction meeting shall be held on-site to review the installed protection measures with operators, construction supervisors, contractor's representatives, and the city representative (if required by the City).
3. Development impact shall not enter the Structural Root Zone (SRZ) of trees to be preserved. If this is not avoidable, the tree may have to be removed and tree replacement requirements will be applied.
4. Tree protection fencing shall be installed along the edge of the Tree Protection Zone (TPZ) of each preserved and impacted tree within the disturbed areas. Trees that share a TPZ can be fenced together in a cluster. Tree protection fencing shall be installed along hardscape edges that will remain intact. No more than 25 percent of the TPZ can be impacted.
5. The contractor on the site shall stake clearing limits in order to facilitate location for trenching and fencing installation for tree protection.
6. The sequence of tree preservation measures, if required, shall be as follows: tree protection fencing installation to establish the TPZ; root pruning trenching; tree pruning and chemical treatment; and aeration systems.
7. Tree protection fencing shall be maintained and repaired by the contractor for the duration of construction and approved by the City. No alteration shall occur without prior approval by the City.
8. Access to the TPZ by construction equipment, materials, or individuals that may cause harm to protected trees will not be allowed. Only limited access, if necessary, shall be permitted with the prior approval of the City.
9. All designated aeration zones shall be protected with temporary fencing until final grading.
10. Removal of trees, shrubs, or undergrowth from protected areas shall only be performed when necessary and must be done with hand tools only.
11. Utility locations should be planned for areas outside of the Tree Protection Zone (TPZ). Utilities that must cross through the TPZ of trees due to site constraints and utility design requirements must be approved by the City and will be directional bored. No open trenches are allowed. Tree protection fencing must be maintained on both sides of the boring alignment.
12. Attachment of any construction signs, fencing, etc. to any tree to be saved is strictly prohibited. Construction fence footings or support locations are required to be shown on the plan. Position post locations to span the TPZ. Upon completion of construction, all temporary barriers, fencing, and debris shall be removed from the site by the contractor.

405.4130: Certificate of Occupancy

No certificate of occupancy or final approval shall be issued until the planting of trees and landscaping as shown on the approved landscape plan is complete and the final inspection has been approved and accepted by the City.

1. Should the Director of Planning and Development Services or his/her designee determine that the season is inappropriate for planting, a maximum 6-month temporary certificate of occupancy may be issued upon written request by the property owner, noting the reasons for the delay in planting and payment of a performance bond named for the benefit of the City of Clayton, in an amount equal to 100 percent of the value of the new trees, landscape material and installation.

2. The bond or portion thereof will only be released if upon inspection by the City, the trees and/or landscaping as shown on the approved landscape plan have been installed and are observed to be in a healthy growing condition.
3. If after the 6-month extension period all trees and landscaping are not installed or the applicant has not notified the City that installation is complete, the entire performance bond or portion thereof shall be forfeited and the performance bond shall be deposited into the City's Forestry Fund.

405.4140: Approved Tree List

The following list includes approved trees to be used in conformance with the requirements of this article. Appropriate substitutions may be approved at the professional discretion of the City's contracted Landscape Architect. All trees will meet American Standard for Nursery Stock, ANSI Z60/1-2004.

Tree Group: Deciduous-Large

Characteristics: Trees 50 feet or more in height at maturity with a spread approximately equal to or more than their height and trees over 75 feet in height at maturity with a spread less than their height. Size is measured by DBH.

Minimum size at planting: 3 caliper inch

Tree Canopy Coverage: 750 square feet

<i>Botanical Name</i>	<i>Common Name</i>
Acer platanoides	Norway Maple
Acer rubrum	Red Maple (Missouri native)
Acer saccharum	Sugar Maple (Missouri native)
Aesculus spp	Horsechestnut
Alnus spp	Alder
Carya spp	Hickory
Carya ovata	Shagbark Hickory (Missouri native)
Castanea spp	Chestnut
Celtis spp	Hackberry (Missouri native)
Gleditsia triacanthos var. inermis	Thornless Honey locust
Gymnocladus dioica	Kentucky Coffeetree (Missouri native)
Liriodendron tulipifera	Tulip poplar (Missouri native)
Magnolia acuminata	Cucumbertree Magnolia
Metasequoia glyptostroboides	Dawn Redwood
Platanus x acerfolia	London Planetree
Platanus occidentalis	American Sycamore (Missouri native)
Quercus alba	White Oak (Missouri native)
Quercus bicolor	Swamp White Oak (Missouri native)
Quercus borealis	Red Oak (Missouri native)
Quercus coccinea	Scarlet Oak
Quercus imbricaria	Shingle Oak (Missouri native)
Quercus macrocarpa	Bur Oak (Missouri native)
Quercus muehlenbergii	Chinkapin Oak (Missouri native)
Quercus palustris	Pin Oak (Missouri native)
Quercus phellos	Willow Oak (Missouri native)
Quercus robur	English Oak
Quercus shumardii	Shumard Oak (Missouri native)
Quercus stellata	Post Oak (Missouri native)
Quercus velutina	Black Oak
Taxodium distichum	Bald Cypress (Missouri native)

Ulmus 'Homestead'	Homestead Elm
Ulmus parvifolia	Chinese Elm
Zelkova serrata	Japanese Zelkova

Tree Group: Deciduous-Medium

Characteristics: Trees 25 to 50 feet in height at maturity with a spread equal to or greater than their height and trees over 50 feet in height at maturity with a spread less than their height. Size is measured by caliper or DBH.

Minimum size at planting: 3 caliper inch

Tree Canopy coverage: 500 square feet

<i>Botanical Name</i>	<i>Common Name</i>
Acer campestre	Hedge Maple
Acer griseum	Paperbark maple
Acer truncatum	Shantung Maple
Aesculus x carnea	Red Horsechestnut
Betula nigra	River Birch (Missouri native)
Carpinus betulus	European Hornbeam
Carpinus caroliniana	American Hornbeam (Missouri native)
Cercidiphyllum japonicum	Katsuratree
Cladrastis kentukea (C. lutea)	American Yellowwood (Missouri native)
Fagus spp	Beech
Ginkgo biloba	Ginkgo (male only)
Magnolia macrophylla	Bigleaf Magnolia
Nyssa sylvatica	Black Gum (Missouri native)
Ostrya virginiana	American Hophornbeam
Sophora japonica	Japanese Pagoda Tree
Tilia americana	American Linden (Missouri native)

Tree Group: Deciduous-Small & Columnar

Characteristics: Trees 50 feet or less in height at maturity with a spread less than one-half of their height. Size is measured by caliper or DBH.

Minimum size at planting: 2.5 caliper inch

Tree Canopy Coverage: 250 square feet

<i>Botanical Name</i>	<i>Common Name</i>
Acer buergerianum	Trident Maple
Acer japonicum	Full Moon Maple
Acer palmatum	Japanese Maple
Acer pensylvanicum	Striped Maple
Asminia triloba	Pawpaw (Missouri native)
Carpinus betulus 'Fastigiata'	Fastigate European Hornbeam
Carpinus betulus 'Columaris'	Columnar European Hornbeam
Carpinus caroliniana	American Hornbeam/Ironwood
Sassafras albidum	Common Sassafras (Missouri native)

Tree Group: Deciduous-Ornamental

Characteristics: Trees that can be maintained at a height of 20 feet or less and have a spread approximately equal to their height. Size is measured by caliper or height. Multi-stem tree size is determined by measuring caliper of the largest stem and adding half the size of each of the other stems together for the total.

Minimum size at planting: 2 caliper inch (single stem), 1.5 caliper inch (multi-stem), 8 feet tall (clump).

Tree Canopy Coverage: 250 square feet

<i>Botanical Name</i>	<i>Common Name</i>
Amelanchier spp	Serviceberry (Missouri native)
Cercis canadensis	Eastern redbud (Missouri native)
Cercis spp	Redbud
Chionanthus virginicus	White Fringetree (Missouri native)
Cornus florida	Flowering dogwood (Missouri native)
Cornus spp	Dogwood
Cotinus obovatus	American Smoketree (Missouri native)
Crataegus crusgalli var. inermis	Thornless Hawthorn (Missouri native)
Crataegus mollis	Downy Hawthorn (Missouri native)
Crataegus phaenopyrum	Washington Hawthorn (Missouri native)
Crataegus spp (species with thorns)	English Hawthorn (only in non-pedestrian areas due to thorns)
Crataegus viridis	Green Hawthorn (Missouri native)
Magnolia stellate	Star magnolia
Magnolia virginiana	Sweet Bay Magnolia
Magnolia x loebneri	Loebner Magnolia
Magnolia x soulangiana	Saucer magnolia
Malus spp	Flowering Crabapples
Prunus spp	Flowering Cherry
Syringa reticulata	Japanese Tree Lilac
Viburnum prunifolium	Blackhaw Viburnum (Missouri Native)

Tree Group: Evergreen - Large

Characteristics: Trees with needled boughs or evergreen/semi-evergreen leaves and foliage, with a mature height of 40 to 80 feet depending upon genus and species. Size is measured by caliper or height.

Minimum size at planting: 8 feet tall

Tree Canopy Coverage: 500 square feet

<i>Botanical Name</i>	<i>Common Name</i>
Abies spp	Fir
Chamaecyparis spp	Falsecypress
Larix spp	Larch
Metasequoia glyptostroboides	Dawn Redwood
Picea spp	Spruce
Pseudotsuga menziesii	Douglas Fir

Tree Group: Evergreen – Medium

Characteristics: Trees with needled boughs or evergreen/semi-evergreen leaves and foliage, with a mature height of 30 to 60 feet depending upon genus and species. Size is measured by caliper or height.

Minimum size at planting: 8 feet tall

Tree Canopy Coverage: 250 square feet

<i>Botanical Name</i>	<i>Common Name</i>
Ilex opaca	American Holly (Missouri native)
Juniperus virginiana	Eastern Red Cedar (Missouri Native)
Juniperus virginiana 'Canaertii'	Canaerti Juniper
Magnolia grandiflora	Southern Magnolia
Thuja occidentalis	American Arborvitae
Thuja orientalis	Oriental Arborvitae
Tsuga Canadensis	Canada hemlock

Tree Group: Evergreen - Small

Characteristics: Trees with needled boughs or evergreen/semi-evergreen leaves and foliage, with a mature height of 15 to 25 feet depending upon genus and species. Size is measured by caliper or height.

Minimum size at planting: 6 feet tall

Tree Canopy Coverage: not contributing – no canopy coverage

<i>Botanical Name</i>	<i>Common Name</i>
Arborvitae spp	Arborvitae
Ilex x attenuate 'Fosters #2'	Foster's Holly
Juniperus chinensis varieties	Upright Juniper
Juniperus scopulorum varieties	Upright Juniper

405.4150-405.4200: Reserved