

INTRODUCTION

The City of Greensboro has a diverse and abundant cover of trees and vegetation. This vegetation creates aesthetic, environmental, economic and social benefits in our community which contribute to the growth and economic prosperity of the City. However, the growth and development attracted to the City of Greensboro often requires the removal of trees and other plant material, thereby depleting a most valuable resource. The Landscaping and Tree Conservation Ordinance is designed to protect, preserve and restore this valuable asset. In 1992 the City adopted the Landscape Ordinance and, in October of 2000, the City Council adopted the Tree Conservation amendments added into the existing Landscape Ordinance text.

The purpose of this document is to facilitate the use of the Landscape and Tree Conservation Ordinance by providing illustrations of key text requirements. The illustrations and the explanations are intended to help the user understand the ordinance and to suggest possible design alternatives.

The original Landscape Ordinance was adopted on July 1, 1992. The Tree Preservation requirements were added and adopted on October 17, 2000 and the Tree Preservation and Landscape Ordinance was further amended and adopted on August 19, 2003, June 18, 2008 and July 1, 2010 when the Landscaping and Tree Preservation requirements were modified and separated. Tree Preservation became Tree Conservation and was moved into the Natural Resource section of the newly adopted Land Development Ordinance. The Landscaping Ordinance was further amended and adopted on March 16, 2021, to include requirements for species diversity and native species inclusion in required buffer yards.

THE VALUE OF TREES TO A COMMUNITY

The following are some facts on just how important trees are in a community setting.

"The net cooling effect of a young, healthy tree is equivalent to ten room-size air conditioners operating 20 hours a day." -U.S. Department of Agriculture

"Trees can boost the market value of your home by an average of 6 or 7 percent." - Dr. Lowell Ponte

"Landscaping, especially with trees, can increase property values as much as 20 percent." -Management Information Services/ICMA

"One acre of forest absorbs six tons of carbon dioxide and puts out four tons of oxygen. This is enough to meet the annual needs of 18 people." -U.S. Department of Agriculture

"There are about 60 to 200 million spaces along our city streets where trees could be planted. This translates to the potential to absorb 33 million more tons of CO2 every year, and saving \$4 billion in energy costs." -National Wildlife Federation

"Trees properly placed around buildings can reduce air conditioning needs by 30 percent and can save 20 - 50 percent in energy used for heating." -USDA Forest Service

"Trees can be a stimulus to economic development, attracting new business and tourism. Commercial retail areas are more attractive to shoppers, apartments rent more quickly, tenants stay longer, and space in a wooded setting is more valuable to sell or rent." -The National Arbor Day Foundation

"Shade from trees could save up to \$175 per year (per structure) in air conditioning costs." -Dr. Lowell Ponte

"Healthy, mature trees add an average of 10 percent to a property's value." -USDA Forest Service

"The planting of trees means improved water quality, resulting in less runoff and erosion. This allows more recharging of the ground water supply. Wooded areas help prevent the transport of sediment and chemicals into streams." -USDA Forest Service

CONTACT INFORMATION

VISIT OUR WEBSITES:

Planning Department: <https://www.greensboro-nc.gov/departments/planning>

Urban Forestry: <https://www.greensboro-nc.gov/departments/planning/learn-more-about/trees-and-urban-forestry>

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FREQUENTLY ASKED QUESTIONS

Q. I DON'T NEED TO GET A GRADING PERMIT. DO I STILL NEED TO GET A TREE DISTURBANCE PERMIT?

Yes, if you are cutting trees on the property and the property is not exempt (see exemptions), you will need to get a tree disturbance permit. Single family residential is exempt and does not need a tree disturbance permit.

Q. I need to get a grading permit. Do I need to get a Tree Disturbance Permit too?

If you have an approved site plan, no. If you do not have an approved site plan, yes.

Q: WHAT IS A TREE DISTURBANCE PERMIT?

A tree disturbance permit is an official authorization that must be issued by the City prior to any tree-disturbing activities. Tree-disturbing activities include the cutting and/or damage to the critical root zone of live trees with a diameter at breast height of 4 inches or greater on sites not accompanied by a development plan, except as expressly exempted pursuant to Sec. 30-12-1.3.

Also note that a tree disturbance permit is not the same thing as a grading permit and a grading permit may also be required. Contact the Erosion Control Division of the Engineering and Inspections Department at 373-2158.

Q: WHAT IS A PLANTING YARD?

A planting yard is a strip of land (of various widths) provided along the perimeter of a site for the installation of plant material in a combination of canopy trees, and/or understory trees, and shrubs. To determine required width and the planting rate for trees and shrubs see Sec. 30-10-2.

Q: WHAT IS A "LAND USE CLASSIFICATION" OR "LUC"?

A Land Use Classification (LUC) is a numeric value between #1 and #5 that has been established for each type of land use permitted within the City of Greensboro. The number can be found in the last column in the permitted use table; the higher the number the more intense the use. For example, single family dwellings are a LUC #1, multifamily dwellings are a LUC #2, office and light retail uses are LUC #3, motor vehicle dependent retail/service light industrial uses are LUC #4, and heavy industrial uses are a LUC #5. The above list is only a general guide: to determine the exact LUC for each individual use you must use the number listed in the Land Use Code Chart on page 13 of this manual.

Q: THERE ARE EXISTING OVERHEAD UTILITY LINES ALONG THE FRONT PROPERTY LINE WHERE I AM INSTALLING A STREET PLANTING YARD. DO I STILL NEED TO PLANT TREES IN THE STREET YARD?

The City is aware of the potential conflicts between canopy trees and overhead utility lines and offers two options to eliminate these conflicts. First, it may be possible to shift the plant material away from the overhead utility lines and onto the site so they won't grow into the utility lines. The second option is a provision in the Development Ordinance that permits the Technical Review Committee to allow the installation of smaller understory trees when they determine that there is a major conflict with overhead utility lines. See page 55 for trees that can be planted under power lines.

Q: I HAVE PLANS TO ENLARGE MY BUSINESS IN THE FUTURE BY CONSTRUCTING A 2,000 SQUARE FOOT ADDITION TO THE BUILDING AND AN ADDITIONAL 2,000 SQUARE FOOT PARKING LOT. AM I GOING TO BE REQUIRED TO PROVIDE ANY PLANTING YARDS?

Yes, the Development Ordinance requires the installation of planting yards for all expansions to buildings and parking areas that exceed 3,000 square feet. However, the planting yards are only required for the expansion of the building and the parking. It is important to note that as of June 30, 1992, expansions are cumulative. If, for the first time, you were to expand your business only 2,000 square feet, you would be exempt. If you were, at a later date, to expand another 2,000 square feet, you would not be exempt, because the cumulative expansion is over 3,000 square feet. NOTE: If the property is zoned Central Business (CB), planting yards are not required.

Q: WHAT IS A CRITICAL ROOT ZONE?

The critical root zone includes all the area within a radius equal to one foot for every one inch diameter of the tree trunk (as measured at breast height). The radius is measured outward from the root flare at ground level. NOTE: This is not the same as the drip line.

Q: I AM IN THE PROCESS OF PREPARING A SITE PLAN TO CONSTRUCT AN OFFICE BUILDING ON A SMALL LOT (70 FEET WIDE) THAT WAS CREATED MORE THAN 20 YEARS AGO. THERE ARE EXISTING SINGLE FAMILY DWELLINGS ON THE ABUTTING PROPERTY TO THE LEFT AND THE RIGHT OF THE LOT. USING THE PLANTING YARD CHART, I WOULD BE REQUIRED TO INSTALL 25 FOOT WIDE TYPE "B" PLANTING YARDS ON BOTH SIDES OF MY PROPERTY. WOULD THE LANDSCAPE REGULATIONS REALLY ONLY LEAVE ME A 20 FOOT WIDE STRIP IN THE MIDDLE OF THE LOT TO BUILD ON?

No. On lots that were created prior to July 1, 1992, and contain less than 55,000 square feet of land, no development is required to place the required landscaping on greater than 15% of the site. In cases like this, contact the Urban Forester as early in the plan preparation process as possible. Discuss the options available to provide the most

effective buffers for the abutting uses while using at least the required amount of land for vegetation.

Q: IN THE PROCESS OF PREPARING A SITE PLAN FOR A PROJECT THAT IS REQUIRED TO INSTALL PLANTING YARDS; IS A LANDSCAPE PLAN, WHICH DEPICTS THE LOCATION, NAME AND SIZE OF EVERY PLANT TO BE INSTALLED IN THE PLANTING YARDS, REQUIRED BEFORE THE SITE PLAN IS APPROVED FOR A BUILDING PERMIT?

No. The Development Ordinance allows the submission of a “conceptual landscape plan” for review and approval with the site plan. The formal landscape plan or “planting plan” must be submitted to the Planning Department for review and approval within 90 days after the issuance of a building permit or prior to the inspection for a Certificate of Occupancy, whichever occurs first.

Q: DO I NEED TO DO A TREE SURVEY?

If the site is heavily wooded and large areas are to be protected, individual trees do not need to be surveyed (see page 36).

If the site is a park-like setting with individual trees located throughout the site, survey all trees 4 inches or greater in diameter at breast height, located in areas where they will be saved (see page 36).

Article 10 Landscaping

30-10-1 General

30-10-1.1 Scope and Purpose

The regulations of this article establish minimum requirements for landscaping. The regulations are intended to:

- (A) advance the general purposes of this ordinance;
- (B) promote the conservation of existing trees and vegetation;
- (C) ensure visual screening of unsightly areas;
- (D) establish appropriate buffers and visual screening features to reduce the negative impacts of glare, noise, trash, odors, lack of privacy, and visual appearance that can occur when higher intensity land uses locate near lower intensity land uses;
- (E) safeguard and enhance property values and protect public and private investment;
- (F) protect and improve environmental functions and conditions by providing ecosystem services such as shade, air purification, oxygen regeneration, filtering of storm water runoff, and abatement of noise, glare and heat;
- (G) assure that the appearance of Greensboro positively contributes to the growth and economic prosperity of the city; and
- (H) provide realistic and effective regulations that are viewed as an asset to the community.

30-10-1.2 Applicability

Except as otherwise expressly exempted pursuant to Sec. 30-10-1.3, all of the following are subject to the landscaping requirements of this article:

- (A) **New Buildings or Uses**
Principal buildings or open uses of land constructed, reconstructed, or established after June 30, 1992.
- (B) **Changes in Use**
Changes in use that result in an increase of 2 or more in the Land Use Classification number, in which case the landscaping requirements of this article apply to the entire zone lot.

- (C) Expansions
The requirements of this article apply only to the expansion of buildings, parking areas, or open uses of land.

30-10-1.3 Exemptions

The following uses and activities are exempt from the requirements of this article. This exemption does not constitute an exemption from the Water Supply Watershed District requirements of Sec. 30-12-3, the Watershed Critical Area requirements of Sec. 30-12-4, the General Watershed Area requirements of Sec. 30-12-5 or the Soil Erosion and Sedimentation Control requirements of Sec. 30-12-6.

- (A) lots occupied or to be occupied by single-family detached dwellings or two-family dwellings;
- (B) property lines abutting utility easements in excess of 60 feet in width and all railroad rights-of-way; and
- (C) property lines abutting dedicated street right-of-way that has remained unopened for a period of at least 15 years.

30-10-1.4 Other Landscaping Standards

More specific landscaping standards are established for some zoning districts, such as the CB, CN, TN, MU-M, MU-H and some overlay districts. See Sec. 30-10-3. For the TN district see 30-4-7.5.

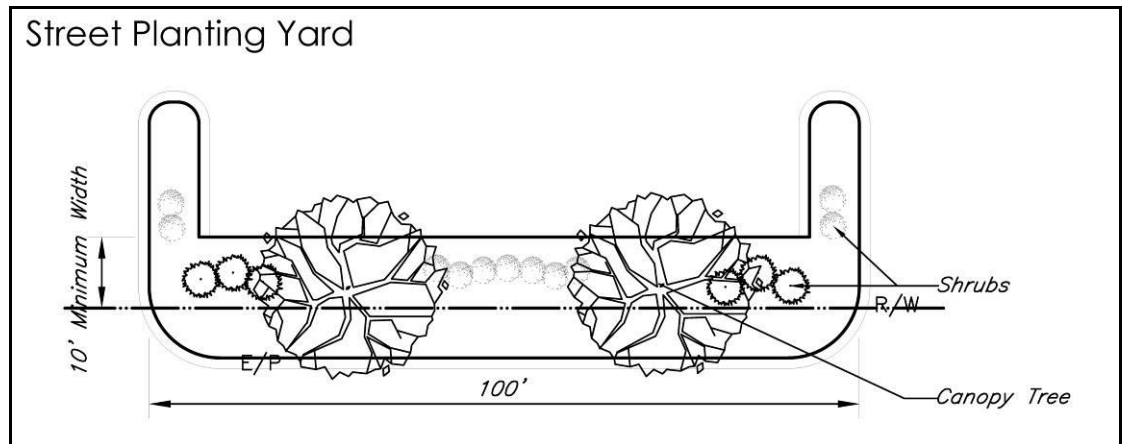
30-10-2 Multi-family and Nonresidential Landscaping Requirements

30-10-2.1 Applicability

- (A) Multi-family, nonresidential and mixed-use development is subject to standards of this section, which generally requires street planting yards abutting public rights-of-way (See 30-10-2.2), buffer planting yards between different land use classifications (See 30-10-2.3) and parking lot landscaping (See 30-10-2.6).
- (B) The standards of this section do not apply to multi-family, nonresidential or mixed-use development in MU-M, MU-H, TN, CN or CB districts. Development in those districts is subject to the urban landscaping requirements of Sec. 30-10.3.
- (C) For the CB zoning district, see the Downtown Greensboro Design Overlay Manual for applicable guidelines.

30-10-2.2 Street Planting Yards

- (A) Street planting yards must be installed abutting public street rights-of-way.
- (B) The required street planting yard must have a minimum width of 10 feet (measured from the outside edge of the right-of-way or the back of the sidewalk, whichever is further from the street centerline), and include at least 2 canopy trees and 17 shrubs per 100 linear feet of required street planting yard, not including allowed driveways.



30-10-2.3 Buffer Planting Yards

Buffer planting yards are required along the perimeter of a lot or development site (except portions parallel to a public street). They are intended to mitigate potential adverse impacts that may result when higher intensity land uses are located adjacent to lower intensity land uses.

- (A) Type of Buffer Planting Yard Required
 - 1) To determine the type of buffer planting yard required, first identify the class of the proposed (new, changed, or expanded) use then identify the class of each existing use on adjacent sites (See 30-10-2.3(A)4)). The intersection of the row associated with the proposed use and the column associated with the adjacent use shows the type of planting yard required. Staff will determine the location of planting to provide for the maximum visual buffer effect.

Table 10-1: Type of Planting Yards Required

		EXISTING ADJACENT USES					
PROPOSED USE	Land Use Class	1	2	3	4	5	Vacant
	1	—	—	—	—	—	—
	2	C	*	C	B	B	*
	3	B	B	*	C	B	*
	4	A	A	C	*	C	*
	5	A	A	B	C	*	*

**See Section 30-10-2.6 (B) for Vehicular Use Area buffer requirements*

- 2) A land use is considered to “exist” on an adjacent property when a building permit is issued.
- a) If a zone lot contains uses with different land use classifications, the higher numbered land use classification applies unless the TRC grants a Type 2 Modification in accordance with Sec. 30-4-11.
 - b) Land uses are assigned to classes in accordance with the following table (Table 10-2).

Table 10-2 Land Use Classes

Use Category	Land Use Class (LUC)
AGRICULTURAL USES	
Forestry and Crops	3
RESIDENTIAL USES	
Household Living (except as noted below)	1
-Duplexes and Twin Homes	2
-Townhouses, Multi-family Dwellings, and Multi-family (Elderly)	2
-Manufactured Home Parks	2
Group Living (all)	2
PUBLIC AND CIVIC USES	
Animal Shelters (all)	3
Cemeteries (all)	3
Cultural and Community (all)	3
Day Care (except as noted below)	3
-Day Care Home	2
Educational Facilities (all)	3
Government Facilities (except as noted below)	3
-Correctional Institutions	4
Medical Facilities (all)	3
Passenger Terminals (all)	4
Religious Assembly (all)	3
Social Service Facilities (all)	3
Utilities (except as noted below)	4
-Wireless Telecommunication Facility	3
RECREATION USES	
Common Elements Recreation and Service Facilities (all)	3
Indoor Recreation (all)	3
Outdoor Recreation (all)	4
Parks and Open Areas (all)	3
OFFICE, RETAIL, AND COMMERCIAL USES	
Office (all)	3
Overnight Accommodations (except as noted below)	1
-Hotels, Motels, Extended Stay Lodging	3
Parking, commercial (all)	3
Eating and Drinking Establishments (all)	3
Personal and Professional Services (all)	3
Retail sales and service (except as noted below)	3
-Truck Stop	4
Self Storage Facilities (all)	3
Vehicle Sales and Service (all)	3
INDUSTRIAL AND MANUFACTURING USES	
Light Industrial (all)	4
Heavy Industrial (all)	5
Research and Development (all)	3

Table 10-2 Land Use Classes

Use Category	Land Use Class (LUC)
Resource Extraction (as a Principal Use) (all)	4
Wholesale Trade (all)	4
Warehousing, Storage, and Freight Handling (all)	4
Waste Related Services (all)	4

3. Plant Genus, Species, Native Mix:
 a. To curtail the spread of disease or insect infestation in a plant species, new plantings shall comply with the following standards:

Plant Species and Genus Mix: Canopy Trees (1)		
Total Number of Trees Required on the Site	Minimum Number of Genus Required	Maximum Percent of Each Species Allowed
Less than 20	2	60%
20 to 40	3	40%
More than 40	4	20%
(1) At least 40% of the required canopy trees shall be native species.		

Plant Species and Genus Mix: Understory Trees (1)		
Total Number of Trees Required on the Site	Minimum Number of Genus Required	Maximum Percent of Each Species Allowed
Less than 20	2	60%
20 to 40	3	40%
More than 40	4	20%
(1) At least 40% of the required understory trees shall be native species.		

Plant Species and Genus Mix: Shrubs (1)		
Total Number of Shrubs Required on the Site	Minimum Number of Genus Required	Maximum Percent of Each Species Allowed
Less than 20	2	60%
20 to 40	3	40%
More than 40	4	20%

(1) At least 40% of the required shrubs shall be native species.

b. Nothing in this subsection shall be construed so as to prevent the utilization of a larger number of different Genera than specified above.

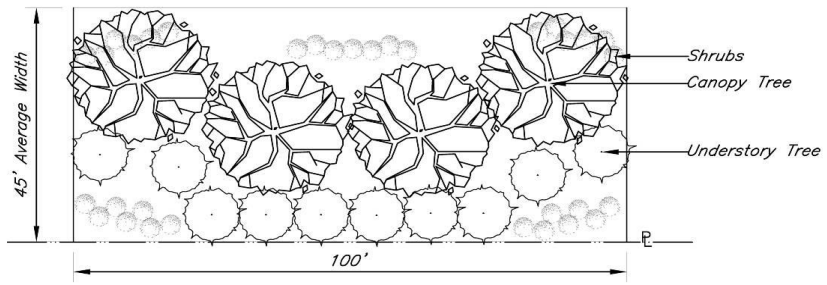
- (B) Buffer Planting, Yard Landscaping and Design
 Required buffer planting yards must be landscaped and designed in accordance with the following requirements:

Table 10-3: Planting Yard Dimensions and Landscaping

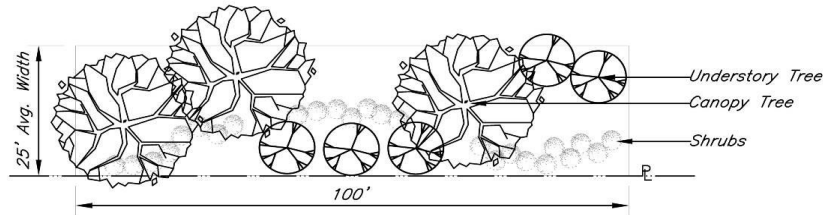
Planting Yard Type	Average Width (feet)	Minimum Width (feet)	Maximum Width (feet)	Canopy Trees (per 100 linear feet)	Understory Trees (per 100 linear feet)	Shrubs (per 100 linear feet)
A [1]	45	35	70	4[2]	10[3]	33[4]
B	25	20	45	3	5	25
C	15	10	35	2	3	17

- [1] Type A planting yards require at least one row of evergreen shrubs or understory trees.
 [2] 25 feet on center
 [3] 10 feet on center
 [4] 3 feet on center

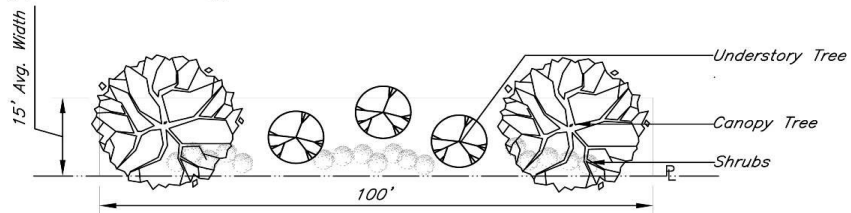
Type A Planting Yard

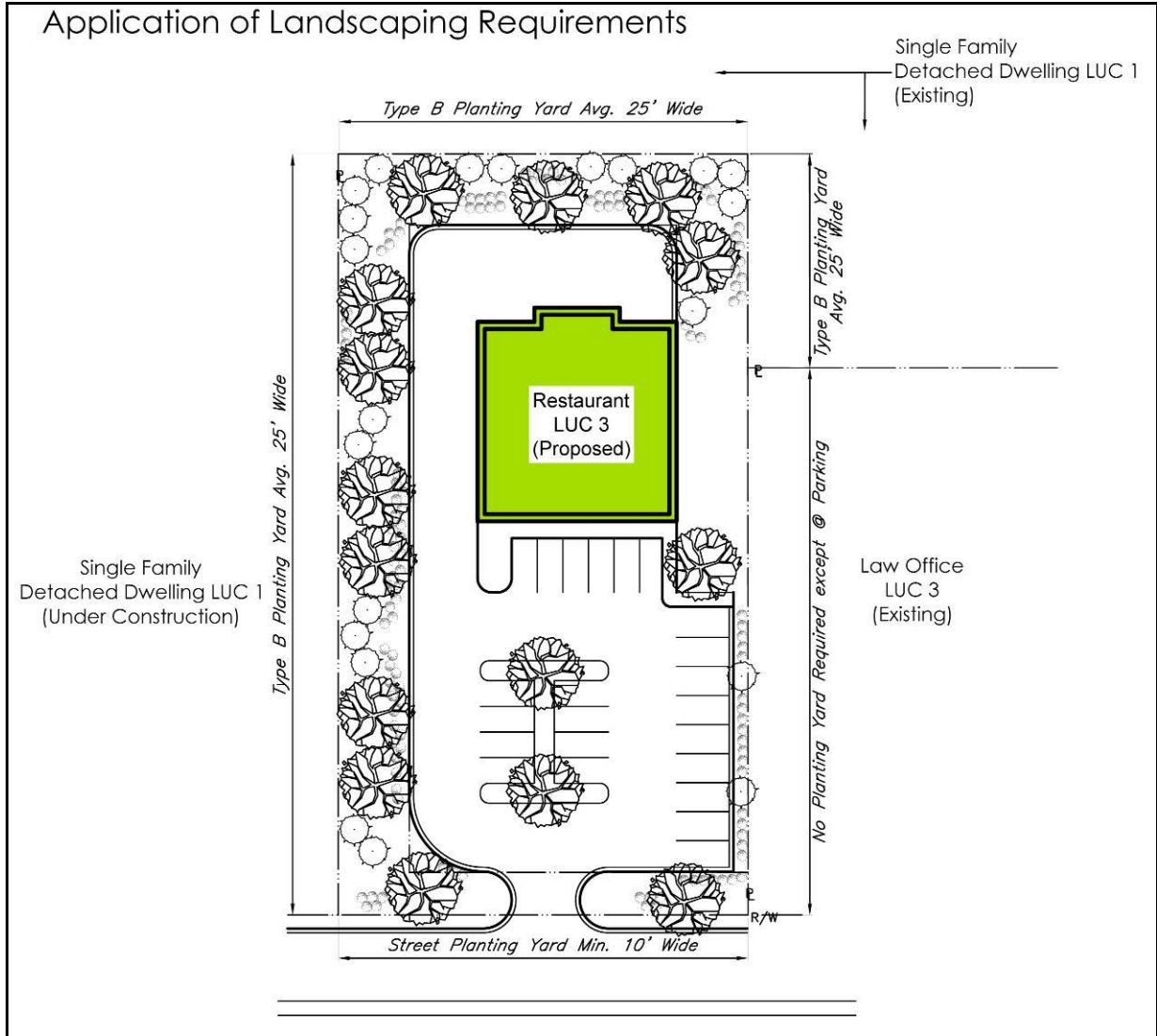


Type B Planting Yard



Type C Planting Yard





30-10-2.4 Planting Yards on Slopes

(A) Slopes of 17% to 33%
 For slopes between 17% and 33%, the Planning Director is authorized to determine the location of planting to provide the maximum visual buffer effect.

(B) Steep Slope Planting Yards (Slopes of More than 33%)

- 1) Tree-Covered Slopes
 If a planting yard has a slope of more than 33% but less than 50% and the required tree coverage for a planting yard exists on the slope, then the slope area will be deemed to satisfy planting yard requirements if no healthy trees or vegetation are removed and no grading or other clearing occurs.

2) Slopes with Minimum or No Tree Cover

If a planting yard has a slope of more than 33% but less than 50% but lacks the required tree coverage for a planting yard, then additional trees and vegetation must be provided to satisfy minimum planting yard requirements. No healthy trees or vegetation may be removed and no grading or other clearing may occur.

(C) Reforestation of Slopes of Greater than 33%

Areas having slopes of more than 33% must be reforested to provide tree cover over the entire area. All plans for reforestation must include a minimum of one tree per 400 square feet of surface area and may be made up of a mixture of deciduous hardwood and evergreen trees. The trees must be a minimum 2-inch caliper (water-wise species) or 3-inch caliper (non-water-wise species) at the time of planting. All plans for reforestation are subject to approval by the Planning Director.

30-10-2.5 Street Planting Yard and Buffer Planting Yard Flexibility

The following standards apply to street planting yards and buffer planting yards.

- (A) Canopy trees may be substituted for shrubs at the rate of one canopy tree for 8 shrubs and understory trees may be substituted for shrubs at the rate of one understory tree for 5 shrubs if approved by the Planning Director.
- (B) Understory trees shall be substituted for canopy trees at the rate of 2 understory trees for every canopy tree when planted within 20 feet of an overhead utility line as measured from the utility pole. (See Landscaping and Tree Conservation Manual)
- (C) On lots of record that existed prior to July 1, 1992 that are less than 55,000 square feet in area, no development is required to landscape more than 15% of the site.
- (D) Canopy trees from required planting yards may be relocated to the street right-of-way if all of the following conditions are met and if approved by the Planning Director:
 - 1) The proposed landscape plan complies with all provisions of Sec. 30-10-2;
 - 2) The entire street cross-section is being constructed as part of the development or the street is existing with the abutting lots devoid of street trees;
 - 3) Sidewalks are existing or are being installed as part of the development;
 - 4) There are no overhead utilities parallel to the right-of-way line;

- 5) The right-of-way width and street width complies with applicable city standards; and
- 6) GDOT or NCDOT has determined that there is no proposed street widening or turn-lane construction along the lot frontage, or other transportation infrastructure or operations issues, that would conflict with the plantings.

30-10-2.6 Parking Lot Landscaping

Requiring landscaping within parking areas is intended to shade and improve the attractiveness of large areas of pavement. Per Section 30-8-10.4(c) of the LDO; vehicle towing and storage does not need to meet parking lot tree requirements.

(A) Required Landscaping

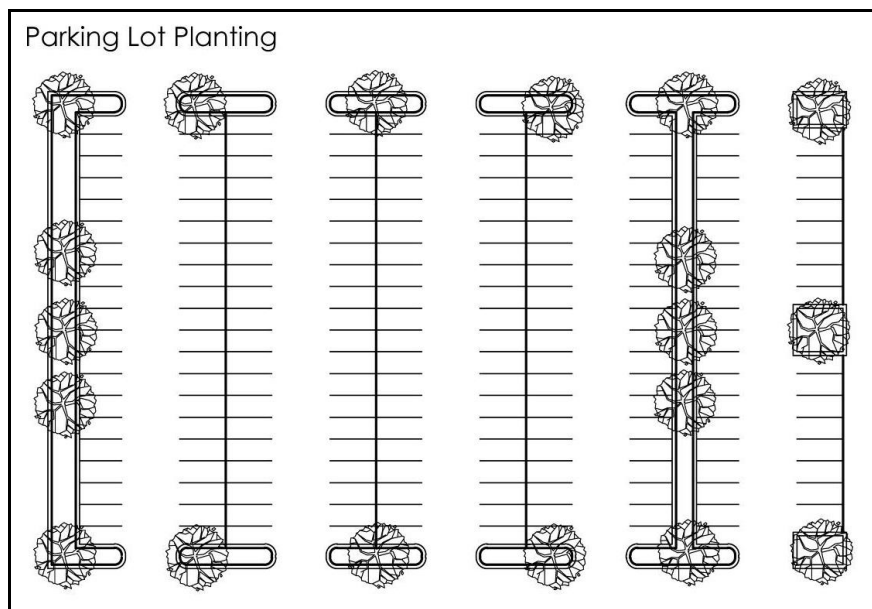
- 1) Parking lot planting yards must include at least one canopy tree for every 12 parking spaces.
- 2) Required canopy tree areas must be located within the parking lot. They may be located in landscape islands, landscape divider medians between rows of parking, or in driveway medians.
- 3) Islands or other planting areas for canopy trees must have a minimum area of 200 square feet with a minimum dimension of 7 feet, measured in any direction. Islands or planting areas of less than 200 square feet may not be counted toward satisfying parking lot landscaping requirements.
- 4) The landowner may provide required landscape islands or planting areas using one or more of the planting area sizes below. Each parking space must be entirely within the designated distance of a parking lot planting area as specified below:

Table 10-4: Location of Parking Lot Planting Areas

Size of Parking Lot Planting Area (sq. ft.)	Number of Trees In Planting Area	Max. Distance from Parking Space (feet)
200-499	1	100 ^[1]
500-899	3	130

1] Canopy trees installed as part of a required planting yard that abuts the parking lot may be used for up to 50% of the required distance.

- 5) Grouping canopy trees within the same landscape island or planting area is strongly encouraged, even if this would decrease the number of islands within the parking lot.
- (B) When a parking lot or other vehicular use area abuts a vacant site or a site with the same land use classification as the subject site, a planting yard with a minimum width of 5 feet must be provided between the parking lot/vehicular use area and the abutting (interior) property line. This required planting area must be landscaped with at least 2 understory trees and 18 evergreen shrubs per 100 linear feet.
- (C) Trees used to satisfy the planting requirements for parking lot areas may not be counted toward the planting requirements for other required plantings on the site.



30-10-2.7 Tree Conservation and Parking Lot Plantings

For new, expanded, or rebuilt parking lots where trees are being preserved adjacent to the parking lot in order to meet the parking lot planting requirements, trees preserved in a TCA and within 8 feet of the parking lot may be used to satisfy up to 50% of the required number of parking lot trees. Tree conservation areas that are “notched into” corners or edges of a parking lot are deemed to be within the parking lot, not adjacent to it. Trees in the TCA counted toward planting yard requirements may not count for required parking lot trees. Extra trees in such locations do count. It is the landowner’s option to save trees within the parking lot. In order to do so, the critical root zone must be preserved. Credits for preserving parking lot trees are determined by the critical root zone preserved for the tree being saved (See Article 12). One tree for every 400 square feet of critical root zone preserved may be used to satisfy up to 50% of the required number of parking lot trees.

30-10-3 Urban Landscaping Requirements

30-10-3.1 Applicability

Multi-family, nonresidential and mixed-use development in RM-40, MU-M, MU-H, TN, C-N districts and any parcel adjacent and accessible to an existing or planned greenway as described in Table 7-14 of 30-7-5.1 are subject to the urban landscaping requirements of this section. The landscaping requirements of the -DDO, Downtown Design Overlay, apply within the Downtown Design Overlay district.

30-10-3.2 Pedestrian Landscaping

Pedestrian landscaping is required along all street frontages. Pedestrian landscaping requirements can be met by one or a combination of the following 4 options:

- (A) providing a street planting yard measured from the edge of the right-of-way or back of sidewalk (whichever is farther from the centerline) that includes 2 canopy trees per 100 linear feet or 6 understory trees per 100 linear feet when located within 15 feet of overhead utilities;
- (B) providing a minimum 10-foot wide sidewalk with canopy trees planted in tree wells (with grates) at 30-foot intervals;
- (C) providing a minimum 10-foot wide sidewalk that is at least 50% covered with weather-protection materials (such as canopies and awnings); or
- (D) providing a plaza between the building and the right-of-way a minimum of 10 feet in width along 50% of the building wall that consists of pavers or hard-scape material different from the sidewalk and permanently fixed planters with vegetation.

30-10-3.3 Vehicular Use Area Screening

- (A) The perimeter of all vehicular use areas must be screened from any abutting residentially zoned property. Such screening must consist of one or a combination of the following 2 options:
 - 1) A 4-foot-high masonry wall; or
 - 2) A planting yard with a minimum width of 5 feet, a 100% sight-obscuring fence with a height of at least 6 feet and at least one evergreen understory tree per 30 linear feet of planting yard (planted on the outside of the fence).
- (B) The perimeter of all vehicular use areas containing 10 or more parking spaces, or 400 square feet or more paved area, must be screened from all abutting rights-of-way. Such screening must consist of one or a combination of the following 2 options:

- 1) A minimum 5-foot wide planting yard and enough evergreen shrubs to form a continuous visual screen at least 2.5 feet in height and a maximum of 3.5 feet in height; or
- 2) A minimum 5-foot wide planting yard with a combination of vegetation and open decorative fencing at least 2.5 feet in height and a maximum of 3.5 feet in height.

30-10-3.4 Surface Parking Lot Landscaping

Requiring landscaping within parking areas is intended to shade and improve the attractiveness of large areas of pavement.

(A) Required Landscaping

Parking lot planting yards are required in parking lots containing 10 or more spaces. Parking lot planting yards must include at least one canopy tree for every 10 parking spaces.

- 1) Required canopy tree areas must be located within the parking lot. They may be located in landscape islands, landscape divider medians between rows of parking, in driveway medians, or at the end of parking bays.
- 2) The landowner may provide required landscape islands or planting areas using one or more of the planter sizes below. Each parking space must be entirely within the designated distance of parking lot planting areas, as specified below:

Table 10-5: Location of Parking Lot Planting Areas

Size of Parking Lot Planting Area (sq. ft.)	Number of Trees In Planting Area	Max. Distance from Parking Space (feet)
200-499	1	100
500-899	3	130
Over 899	5	150

- 3) Grouping canopy trees within the same landscape island or planting area is strongly encouraged, even if this would decrease the number of islands within the parking lot. The Planning Director is authorized to grant a Type 1 Modification to the standards of Table 10-5 in accordance with Sec. 30-4-11.
- 4) Trees used to satisfy the planting requirements for parking lot areas may not be counted toward the planting requirements for other required plantings on the site.

30-10-3 .5 Landscaping in a UMU, AO, or NS District

The standards of this section shall apply to landscaping located within a UMU, AO, or NS district:

- A. Provide landscaping in accordance with the requirements of Section 30-10-2; or
- B. Provide landscaping in accordance with the Urban Landscaping Requirements of Section 30-10-3 and a minimum 15% of the site as open space in accordance with Section 30-12-8.2(C)1), General, and 30-12-8.2(C)3), All Other (Non-PUD) Development.

30-10-4 Material, Design, Installation and Maintenance

30-10-4.1 Plant Materials

(A) General

- 1) Plant species used in required planting yards must be native species or species of a locally adapted nature. Other species may be approved by the Planning Director. Refer to the Tree Preservation and Landscaping Manual, which includes drought-tolerant species and species to be planted within 20 feet of overhead utilities.
- 2) The size of the required plant species is dependent on whether it is drought-tolerant. Incentives are provided to encourage the use of drought-tolerant plants in required landscape areas.

(B) Canopy Tree Size

- 1) Canopy trees must have a minimum height at maturity of 40 feet and a minimum crown width of 30 feet.
- 2) Drought-tolerant canopy trees must have a minimum caliper size of 2 inches.
- 3) Other canopy trees must have a minimum caliper size of 3 inches.

(C) Understory Tree Size

- 1) Understory trees must have a minimum height at maturity of 25 to 40 feet except that trees to be placed below overhead utility lines may not exceed a mature height of 20 feet.
- 2) Drought-tolerant understory trees must have a minimum caliper size of 1 inch.
- 3) Other understory trees must have a minimum caliper size of 2 inches.

(D) Shrub Size and Type

- 1) Shrubs located parallel to the edge of parking lots, access drives, loading and unloading areas and outside storage must be evergreen with a minimum height or spread of 18 inches at the time of planting and reach a minimum height of 36 inches and a minimum spread of 30 inches upon maturity.
- 2) All other required shrubs may be evergreen or deciduous and must be at least 3 gallon in size (per ANSI standards) at the time of planting.

30-10-4.2 Drought-Tolerant Planting Techniques

The following standards must be met for all required planting yards.

- (A) Soil preparation for the entire planting yard must include the addition of organic amendments tilled to a depth of 8 to 12 inches (see attached chart).
- (B) All plantings must be mulched (including interior parking lot islands less than 500 square feet) to a depth of 3 to 4 inches. The mulch must be permanently maintained free of trash and weeds.
- (C) Earthen basins must be constructed around the installed plants.

30-10-4.3 Grouping

Shrubs may be grouped or clustered in the required planting yards, except for perimeter landscaping adjacent to parking lots, outside storage, access drives and loading and unloading areas. The remainder of the materials must be distributed throughout the planting yard.

30-10-4.4 Berm Size

Any berm must be at least 3 feet in height and have a minimum crown width of 3 feet. Side slopes may not have a slope greater than 33%.

30-10-4.5 Wall Planters

Wall planters must be constructed of masonry, stone, or pressure-treated lumber stamped for ground contact. Wall planters must be at least 30 inches in height and have an effective planting width of 7 feet (measured in any direction) if trees are to be planted. Otherwise, the planter must have an effective planting width of 4 feet (measured in any direction). Shrubs planted in wall planters must be at least 6 inches in height when planted.

30-10-4.6 Tree Wells

Tree wells in sidewalks must provide a continuous trench with a depth of at least 3 feet to allow for better root growth and healthier trees. The trench (outside of the tree well) may be filled with structural soil mix and covered with concrete pavers. The

underground portion of the tree well must be at least 8 feet in length and width. ADA approved grates must be used on all tree wells.

30-10-4.7 Encroachments in Required Planting Yards

Parking, merchandise display, and vehicle loading areas are prohibited in street planting yards. The following are permitted in required street planting yards and buffer planting yards, provided the landscaping requirements are met and there is no interference with any sight area.

- (A) Landscaping features, including but not limited to, ornamental pools, planting boxes, sculpture, arbors, trellises, and birdbaths.
- (B) Pet shelters, at-grade patios, play equipment, outdoor furniture, ornamental entry columns and gates, flagpoles, lampposts, address posts, HVAC equipment, mailboxes, outdoor fireplaces, public utility wires and poles, pumps, wells, fences, retaining walls that can accommodate required landscaping, or similar structures.
- (C) Cornices, steps, canopies, overhanging eaves and gutters, window sills, bay windows or similar architectural features, chimneys and fireplaces, fire escapes, fire balconies, and fire towers may project not more than 2.5 feet into any required planting yard, but in no case closer than 3 feet to any property line.
- (D) Handicap ramps except for porches and landings.
- (E) Up to 15% of the required landscape area may be occupied by walkways and steps that are not connected to any above-grade structure.
- (F) Storm water facility with an approved alternative compliance plan.
- (G) Freestanding signs that comply with Sec. 30-14-7.3(B)4)

30-10-4.8 Setback Less than Planting Yard Width

If the required building setback is less than the required planting yard width, the minimum required building setback governs, reducing the required planting yard width only alongside the building. The planting rate of the required planting yard still applies.

30-10-4.9 Planting in Shaded Areas

Where a building is located less than 10 feet from a property line, and the planting yard would be heavily shaded by buildings on both sides of the property line, the required trees and shrubs may be planted outside the shaded area to improve survivability.

30-10-4.10 Obstructions

Landscaping may not obstruct the view of motorists using any street, driveway, or parking aisle, subject to the standards of Chapter 16, Obstructions to Cross-Visibility.

30-10-4.11 Planting in Easements

- (A) A minimum width of 5 feet, or at least half the minimum required planting yard width whichever is greater, must be provided outside of any required easements. The majority of plantings and all structures must be located outside of utility easements.
- (B) When trees and shrubs are planted in a utility easement, the property owner is responsible for replacement of any required vegetation if maintenance or other utility requirements require their temporary removal.
- (C) Required trees and shrubs may be placed in water-quality conservation easements.
- (D) Required trees and shrubs may be planted in electric utility easements below overhead lines and in drainage maintenance and utility easements by approval of the Technical Review Committee. Trees to be placed below overhead utility lines may not exceed a mature height of 20 feet. (See Landscaping and Tree Conservation Manual).
- (E) Trees and shrubs may be planted in underground utility easements provided the root structure of the proposed tree is not anticipated to extend more than 3 feet below the ground. Shrubs may be planted, provided they are only within the outer 3 feet of the easement.

30-10-4.12 Maintenance of Planting Yards

- (A) **Plant Protection**
Whenever planting yards are adjacent to parking lots or drives, they must be protected from damage by vehicles, lubricants, or fuels.
- (B) **Responsibility**
The landowner is responsible for maintaining all required plant materials and planting areas in good health and appearance. Any dead, unhealthy, or missing plants (whether preserved or installed) must be replaced with new plant material equal in quantity and quality to the plant material required to be preserved or installed. Replacement plant material must be replanted within 180 days. The obligation for continuous maintenance is binding on any subsequent owners of the property or any other parties having a controlling interest in the property.
- (C) **Irrigation**
Drip irrigation including drip misters are recommended for use in required planting yards during the establishment period. After establishment, supplemental watering can be reduced and used on an as-needed basis. Traditional spray irrigation is prohibited except in turf areas.

(D) Pruning

All required trees must be allowed to reach their mature size and must be maintained at their mature size. Trimming and pruning must be conducted in strict compliance with the American National Standards Institute. Topping is not an acceptable pruning practice. Topping is the reduction of a tree's size using heading cuts that shorten limbs or branches back to a predetermined crown limit. The Planning Director may require the removal and replacement of any trees that have been topped or excessively trimmed.

30-10-4.13 Credit for Preservation of Existing Trees

Any existing tree or group of trees that stands within or near a required planting area and meets or exceeds the standards of this section (Sec. 30-10-4) may be used to satisfy applicable tree planting requirements, subject to the requirements of this subsection.

- (A) To receive credit, trees being preserved must have a minimum DBH of 4 inches and be protected from direct and indirect root damage and trunk and crown disturbance.
- (B) Any trees (for which credit has been received) that die, must be replaced in accordance with minimum tree planting requirements.
- (C) Trees located in a designated TCA will be credited towards the planting area requirements at the rate shown in the following table:

Table 10-6: Credit for Preservation of Existing Trees

DBH of Existing Tree (inches)	Number of Trees Credited
Under 4	0
4-7.9	1
8-22.9	2
23-29.9	3
30+	4

- (D) Regardless of the number or size of preserved trees in required street planting yards, there must be at least one canopy tree for every 50 linear feet of street planting yard.
- (E) The area of TCA located within a required planting area (except street planting yards) will be credited on a one-to-one basis.

30-10-5 Alternate Methods of Compliance

Alternate methods of compliance with the landscaping regulations of this chapter may be approved in accordance with the Type 1 Modification procedures of Sec. 30-4-11 (below).

Other Landscaping Standards

30-8-10.2 Public and Civic Use Standards

(F) Minor Utilities

1. Utility facilities in residential areas or adjoining residential uses must maintain residential setbacks or the district setback, whichever is greater, be fenced (unless totally enclosed with a structure), and either be screened from view or designed to have a residential appearance. When a fence is used, at least 2 understory trees and 18 evergreen shrubs must be provided per 100 linear feet along the exterior of the fence.

(K) Wireless Telecommunication Facilities (WTFs)

5. Buffers and Screening

- a. A landscaped buffer is required around the base of the WTF equipment compound. Existing trees and shrubs on the site should be preserved and may be used in lieu of required landscaping where approved by the Planning and Community Development Director. Grading must be minimized and limited only to the area necessary for the new WTF.
- b. If the proposed WTF is the principal use of the property then landscaping is required in accordance with Article 10. Additionally a Type C landscape buffer (See Sec. 30-10-2.3) must be provided around the WTF equipment compound for freestanding unconcealed WTFs.
- c. A 6-foot tall, opaque fence is required around the WTF compound in conformance with Sec. 30-9-4. In the industrial districts, this fence may be chain link with slats inserted.
- d. When located within or adjacent to property that is residentially zoned or used for residential purposes, a 6-foot high brick wall must be provided around the compound if the façade of the principal building is brick. If the façade of the principal building is not brick or if there is no principal building, shadowbox fencing 6-foot high may be substituted.

30-8-10.4 Office, Retail, and Commercial Uses

(I) Drive-through Facilities

2. Setbacks and Landscaping

- a. Service areas and stacking lanes on lots abutting residential zoning districts must be set back at least 50 feet and landscaped in accordance with the “B” buffer planting yard standards of Sec. 30-10-2.3.
- b. Service areas and stacking lanes on lots abutting office and mixed-use zoning districts must be set back at least 30 feet and landscaped in accordance with the “B” buffer planting yard standards of Sec. 30-10-2.3.
- c. If the service areas and stacking lanes are within 50 feet of and visible from the roadway, they must be set back at least 20 feet from the right-of-way and landscaped in accordance with the “C” buffer planting yard standards of Sec. 30-10-2.3.

(L) Residential-Office Conversion

2. Standards

- c. (i) All vehicular parking must be located on site and may not be located between the structure and the street. Parking areas must be completely screened from adjacent properties by an evergreen hedge (or a combination of plantings and structural elements) that is at least 4' in height.

Review and Approval Procedures for Landscaping

Modifications

Recognizing that it is sometimes possible to provide equal or better performance in furtherance of the purposes of this ordinance through use of means other than those specified in this ordinance, the City Council finds it to be reasonably necessary and expedient that provisions be made for limited flexibility in administration of certain standards in this ordinance.

Description

There are 5 classes of Modifications: Type 1, Type 2, Type 3, Type 4 and Type 5. These modifications are specified technical exceptions that may be approved without going through the Variance process. Approval is limited to the specified exceptions and adjustments expressly authorized by this ordinance only when the general criteria of Sec. 30-4-11.3 have been met. The different types of modifications correspond to the increasing sensitivity or impact differential of the proposed change, or the authority responsible for approving the modification. The level of review—ranging from Type 1 to Type 5—is generally intended to be commensurate with the degree of deviation and/or the anticipated impacts of the requested modification. Only Type 1 and Type 2 modifications apply to Landscaping.

Type 1 Modifications

Final decision-making authority on a Type 1 Modification rests with the department director with general responsibility for administering and interpreting the subject regulation or standard. Type 1 Modifications involve modifications to regulations and standards that are very minor (de minimis) in nature. Regulations and standards are eligible for modification through the Type 1 procedure only when expressly authorized by this ordinance.

Type 2 Modifications

The Technical Review Committee is authorized to approve most Type 2 Modifications, which involve modifications to regulations and standards that are similar to Type 1 Modifications but which benefit from inter-agency review. Regulations and standards are eligible for modification through the Type 2 procedure only when expressly authorized by this ordinance.

Decision-making Criteria for Type 1 and Type 2 Modifications

The proposed modification must be made with regard to the purpose of the standard or regulation being modified, this ordinance, and the Comprehensive Plan. Type 1 and Type 2 Modifications may be approved if the authorized decision-making body determines that at least one of the following criteria is met:

- 1) that the proposed modification will result in equal or better performance than the standard being modified;
- 2) that the size, topography, or existing development of the property or of adjoining areas prevents compliance with a standard; or
- 3) that a federal, state, or local law or regulation prevents compliance with the standard.

Type 1 Modifications to Tree Conservation and Landscaping Requirements

Alternate tree conservation plans, plant materials, planting methods or reforestation may be authorized when unreasonable or impractical situations would result from application of landscaping or tree conservation requirements. Such situations may result from streams, natural rock formations, topography, or other physical conditions; or from lot configuration, utility easements, unified development design, or unusual site conditions.

The Planning Director may approve an alternate plan that proposes different plant materials or methods provided that quality, effectiveness, durability, and performance are equivalent to that required by this section. The performance of alternate landscaping plans or tree conservation plans must be reviewed by the Planning Director to determine if the alternate plan meets the intent and purpose of this section. This determination must take into account the use of adjacent property, number of plantings, species, arrangement and coverage, location of plantings on the lot, and the level of screening, height, spread, and canopy of the plantings at maturity.

Type 2 Modifications to Tree Conservation and Landscaping Requirements

Decisions of the Planning Director regarding alternate methods of compliance for landscaping, tree conservation and reforestation may be appealed to the Technical Review Committee as requests for modifications, per 30-4-11.3(C)(3) of the Land Development Ordinance.

Submittal Requirements for Modifications

Modification requests must be submitted to the Planning Department. Requests must be submitted at the appropriate time, and the burden is on the applicant to demonstrate that the criteria in Sec. 30-4-11-3 have been met.

Review and Decision Making Bodies

Department Directors

Final decision-making authority on Type 1 Modifications rests with the department director with general responsibility for administering and interpreting the subject regulation or standard. Standards and regulations eligible for modification through the Type 1 Modification procedure are expressly identified in the text of this ordinance. In addition, the Planning Director is authorized to approve, as a Type 1 Modification, an adjustment to zoning district setback requirements by up to one foot, when a building permit has been issued and there was an unintentional error of the Engineering and Inspections Director in verifying the location of a structure on the property, provided the purpose and intent of the ordinance is not impaired.

Technical Review Committee

The Technical Review Committee has final decision-making authority on all Type 2 Modifications, except that the Planning and Zoning Commission has final decision-making authority for Type 2 Modifications of the tree conservation requirements of Article 12. Standards and regulations eligible for modification through the Type 2 Modification procedure are expressly identified in the text of this ordinance.

Appeals of Modification Final Action

Appeals of Type 1 Modification final actions by the Planning Director may be made to the Technical Review Committee and subsequently to the Planning and Zoning Commission and the City Council.

Appeals of Type 2 Modification final actions by the Technical Review Committee may be made to the Planning and Zoning Commission and actions of the Planning and Zoning Commission may be appealed to City Council.

Duration of Approval

An approved modification is part of an approved plan and has the same duration as the plan approval.

Landscape Plan

A landscape plan must be prepared in accordance with the design review application (published by the Planning Department) and approved before installation of plant material. Landscape plans submitted after TRC approval of a development plan are subject to applicable fees for separate review.

Certification of Plant Material Installation

Certificate of Occupancy

All required plant material must be installed and approved prior to the issuance of a Certificate of Occupancy by the Engineering and Inspections Director.

Temporary Certificate of Occupancy

The Engineering and Inspections Director may issue a Temporary Certificate of Occupancy for a period of up to 90 days if, at the time of a request for a Certificate of Occupancy, the required planting areas are not complete and it can be determined that: plant materials are temporarily unavailable but will be available within 90 days, completion of the planting areas would jeopardize the health of the plant materials, or weather conditions are not conducive to planting.

In order to receive a Temporary Certificate of Occupancy, the landowner must submit a copy of a signed contract for installation of the required planting areas and must post a surety equal to the amount of the contract.

The Engineering and Inspections Director may not issue a final Certificate of Occupancy until the planting areas have been completed and approved.

Enforcement (Landscaping)

Enforcement Procedure

When any city employee charged with enforcement of the provisions of this ordinance finds a violation of this ordinance, he must notify the owner or occupant of the land, building, structure, sign, or use of the violation. The owner and occupant must remedy the violation immediately.

Notice of Violation

If the owner or occupant of the land, building, structure, sign, or use in violation fails to take prompt corrective action, any city employee charged with enforcement of the provisions of this ordinance must give the owner or occupant written notice (by certified or registered mail to the violator's last known address, by personal service, or by posting notice conspicuously on the property) of the following:

- 1) that the land, building, structure, sign, or use is in violation of this ordinance;
- 2) the nature of the violation, and citation of the section of this ordinance violated;
- 3) the measures necessary to remedy the violation and the time period in which the violation must be corrected, if applicable; and

4) that penalties or remedies may be assessed.

Appeal

Any owner or occupant who has received a Notice of Violation may appeal in writing the decision of any city employee charged with enforcement of the provisions of this ordinance to the Board of Adjustment (unless this ordinance expressly states that another board is responsible for hearing the appeal) within 15 days following the date of the Notice of Violation. The Board of Adjustment, or other designated board, must hear an appeal within a reasonable time, and it may affirm, modify, or revoke the Notice of Violation. In the absence of an appeal, the decision of any city employee charged with enforcement of the provisions of this ordinance shall be final.

Notice of Decision

The decision of the Board of Adjustment may be delivered to the aggrieved party either by personal service, registered mail or certified mail return receipt requested. Otherwise, notice is presumed to be given at the day and time of the hearing.

Failure to Comply with Notice

If the owner or occupant of a property fails to comply with a Notice of Violation from which no appeal has been taken, or a final decision by the Board of Adjustment following an upheld appeal, the owner or occupant is subject to such remedies and penalties as may be provided for by State law or by Sec.30-5-4.3.

Additional Enforcement Procedures

Departments may publish and amend from time to time enforcement procedure manuals that provide more detailed guidance on enforcement matters.

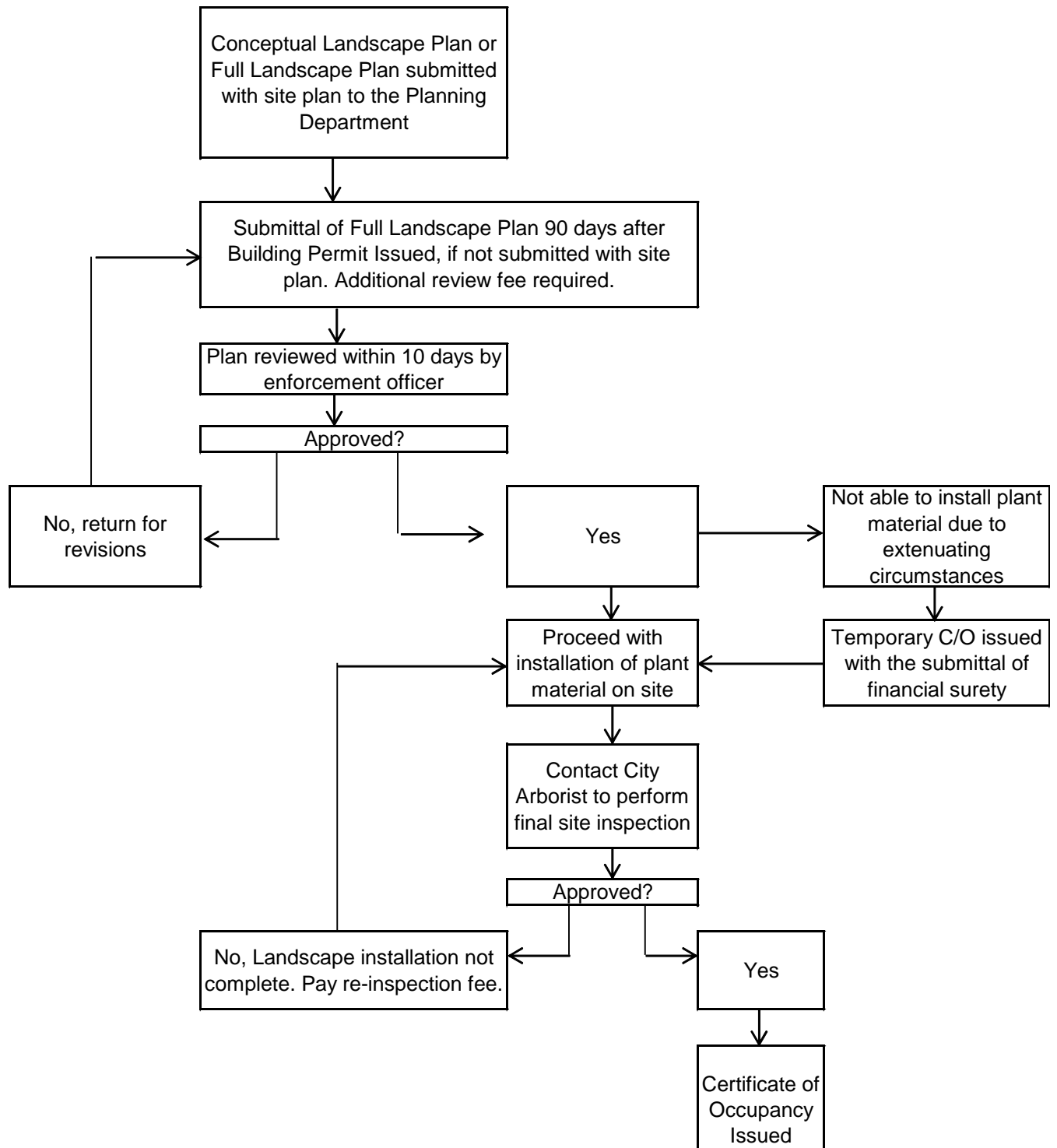
Fees for Landscaping Review and Inspection

The applicant may provide either a Detailed Landscape Plan or a Conceptual Landscape Plan for the Technical Review Committee review. If a Conceptual Plan is submitted, a Detailed Landscape Plan must be submitted within 90 days of receiving a building permit. An additional fee for separate review of the plan must be submitted along with the plan.

Landscaping must be installed and inspected before a Certificate of Occupancy can be released. The fee for the inspection must be paid along with other Technical Review Committee fees when the plan is submitted.

If deficiencies in the landscape installation require return site visits by the inspector, an additional inspection fee must be paid at the time that the re-inspection is requested.

LANDSCAPE PLAN REVIEW PROCESS



CONCEPTUAL LANDSCAPE PLAN CHECKLIST

- Depict the boundary and width dimensions of all required planting yards.
- Indicate the minimum planting rate for all required planting yards.
- Indicate the minimum required size for canopy trees, understory trees and shrubs at the time of installation.
- Depict the required sight distance triangles on both sides of the driveway and the sight distance triangles on both directions at the public street intersection.
- Provide landscape islands per Section 30-10-2.6 and Table 10.4 in the parking area for the installation of canopy trees and place a symbol to depict the tree's location
- Indicate the number of parking spaces in each run.
- Indicate the type of material to be used to pave the required parking spaces and drive isles.
- Locate and describe barriers to protect any vegetation from damage both during and after construction, if any.
- Identify tree conservation areas and the location of the tree protection fence, if any.
- Provide the following notes on the plan;

REQUIRED SOIL PREPARATION AND WATER WISE PLANTING TECHNIQUES

- 1) Soil preparation for the entire landscape yard includes the addition of 2"-3" of organic amendments tilled to a depth of eight (8) to twelve (12) inches (see COG Standard Detail). Minimum organic content of the soil must be 25%.
- 2) All Plantings in the landscape yards shall be mulched including interior parking lot islands under five hundred (500) square feet to a depth of three (3) to four (4) inches and maintained weed free thereafter.
- 3) Earthen basins are constructed around the installed plants.
- 4) Plants, as permitted by this Ordinance, are grouped together where possible.
- 5) For establishment and survival, plants shall be watered in the first year of planting.
- 6) Irrigation: It is suggested that drip irrigation, which includes drip masters, be used for required landscaping planting beds during the required establishment period. After establishment, supplemental watering can be reduced and used on an as needed basis. Traditional spray irrigation is prohibited except for turf areas.

Plan Notes Continued

CONCEPTUAL PLAN

This is a conceptual landscape plan.

The applicant must submit a detailed landscape plan (which depicts the plant types and locations) within 90 days from the issuance of the building permit for review by the Planning Department. The landscape plan must be approved by the Planning Department prior to receiving an inspection for the Certificate of Occupancy.

CREDITS FOR SAVING EXISTING TREES

The applicant will contact the Urban Forester at 373-2150 after the completion of the site grading to arrange for an on-site meeting/inspection to determine the credit for the existing vegetation towards the number of plants in the perimeter buffer yards.

PLANTING IN EASEMENTS

1. A minimum width of 5 feet, or at least half the minimum required planting yard width whichever is greater, must be provided outside of any required easements. The majority of plantings and all structures must be located outside of utility easements.
2. When trees and shrubs are planted in a utility easement, the property owner is responsible for replacement of any required vegetation if maintenance or other utility requirements require their temporary removal.
3. Required trees and shrubs may be placed in water-quality conservation easements.
4. Required trees and shrubs may be planted in electric utility easements below overhead lines and in drainage maintenance and utility easements by approval of the Technical Review Committee. Trees to be placed below overhead utility lines may not exceed a mature height of 20 feet (See Landscaping and Tree Conservation Manual). Trees and shrubs may be planted in underground utility easements provided the root structure of the proposed tree is not anticipated to extend more than 3 feet below the ground. Shrubs may be planted, provided they are only within the outer 3 feet of the easement.

CONFLICTS WITH LIGHTING AND UTILITIES

Do not install lighting and other utilities in the parking lot islands or required planting yards. Light poles should not be within 20 ft. of required canopy trees and 15 ft. of required understory trees.

DETAILED LANDSCAPE PLAN CHECKLIST

- Depict plant locations.
- Provide plant list.
- Depict the boundary and width dimensions of all required planting yards.
- Indicate the minimum planting rate for all required planting yards. Provide for each required planting yard a table that shows the linear footage of the planting yard, the number of trees and shrubs required, the number of trees and shrubs provided and any substitution rate of plant material that is applicable.
- Indicate the minimum required size for canopy trees, understory trees and shrubs at the time of installation.
- Depict the required sight distance triangles on both sides of the driveway and the sight distance triangles on both directions at the public street intersection.
- Provide landscape islands in the parking area for the installation of canopy trees.
- Indicate the number of parking spaces in each run.
- Indicate the type of material to be used to pave the required parking spaces and drive isles.
- Locate and describe barriers to protect any vegetation from damage both during and after construction, if any.
- Identify tree conservation areas and the location of the tree protection fence, if any.
- Provide the following notes on the plan;

REQUIRED SOIL PREPARATION AND WATER WISE PLANTING TECHNIQUES

- 1) Soil preparation for the entire landscape yard includes the addition of 2"- 3" of organic amendments tilled to a depth of eight (8) to twelve (12) inches. Organic content of soil should be a minimum of 25%.
- 2) All Plantings in the landscape yards shall be mulched including interior parking lot islands under five hundred (500) square feet to a depth of three (3) to four (4) inches and maintained weed free thereafter.
- 3) Earthen basins are constructed around the installed plants.
- 4) Plants, as permitted by this Ordinance, are grouped together where possible.
- 5) For establishment and survival, plants shall be watered in the first year of planting.
- 6) Irrigation: It is suggested that drip irrigation, which includes drip masters, be used for required landscaping planting beds during the required establishment period. After establishment, supplemental watering can be reduced and used on an as needed basis. Traditional spray irrigation is prohibited except for turf areas.

CREDITS FOR SAVING EXISTING TREES

The applicant will contact the Urban Forester at 373-2150 after the completion of the site grading to arrange for an on-site meeting/inspection to determine the credit for the existing vegetation towards the number of plants in the perimeter buffer yards.

PLANTING IN EASEMENTS

1. A minimum width of 5 feet, or at least half the minimum required planting yard width whichever is greater, must be provided outside of any required easements. The majority of plantings and all structures must be located outside of utility easements.
2. When trees and shrubs are planted in a utility easement, the property owner is responsible for replacement of any required vegetation if maintenance or other utility requirements require their temporary removal.
3. Required trees and shrubs may be placed in water-quality conservation easements.
4. Required trees and shrubs may be planted in electric utility easements below overhead lines and in drainage maintenance and utility easements by approval of the Technical Review Committee. Trees to be placed below overhead utility lines may not exceed a mature height of 20 feet (See Landscaping and Tree Conservation Manual). Trees and shrubs may be planted in underground utility easements provided the root structure of the proposed tree is not anticipated to extend more than 3 feet below the ground. Shrubs may be planted, provided they are only within the outer 3 feet of the easement.

CONFLICTS WITH LIGHTING AND UTILITIES

Co-ordinate lighting plan and landscape plan. Do not install lighting and other utilities in the parking lot islands or required planting yards. Light poles should not be within 20 ft. of required canopy trees and 15 ft. of required understory trees.

Article 12. Natural Resources

30-12-1 Tree Conservation

30-12-1.1 Purpose

The tree conservation regulations of this section are intended to help preserve the city's remaining tree canopy. By doing so, the regulations help:

- (A) maintain and enhance the visual character of the city and contribute to economic growth and prosperity;
- (B) control surface water runoff;
- (C) improve air quality;
- (D) moderate temperatures;
- (E) provide wildlife habitat; and
- (F) conserve water.

30-12-1.2 Applicability

The tree conservation requirements of this section apply to all of the following unless expressly exempted pursuant to Sec. 30-12-1.3. In addition, a tree disturbance permit or an approved plan, per Sec. 30-4-26.3, is required in association with all of the following:

- (A) principal buildings or open uses of land developed, constructed, reconstructed, or established after October 17, 2000;
- (B) changes in use that result in an increase of 2 or more in the Land Use Classification number, in which case the tree conservation requirements of this section apply to the entire zone lot;
- (C) All expansions of buildings, parking areas, or open uses of land, except the first 3,000 square feet of expansion to buildings, parking areas, or open uses of land existing on October 17, 2000 (Note: the tree conservation requirements of this section are applicable only to the expansion).

30-12-1.3 Exemptions

All of the following land disturbing activities are exempt from the tree conservation requirements of this section and the tree disturbance permit requirements of Sec. 30-4-26.3:

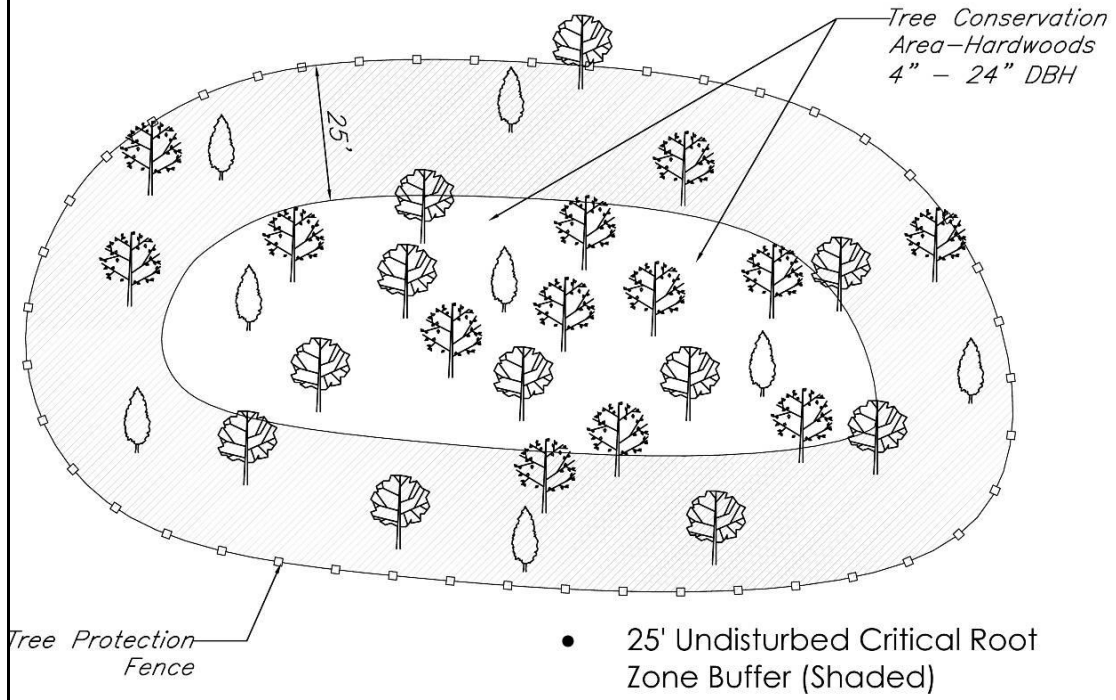
- (A) Single-family detached, two-family attached or duplex dwellings on their own lots.

- (B) Multi-family developments containing 8 or fewer dwelling units on a single zone lot.
- (C) Properties within or surrounded by the CBD, Central Business District.
- (D) Tree removal involving the disturbance of 3,000 square feet or less of critical root zone that is not inconsistent with any plan previously approved by the city or county. The Planning Director is authorized to require reasonable documentation that such removal is not associated with a forthcoming development proposal and will not be inconsistent with any plan previously approved by the city or county. Willful violations of the requirement to provide such documentation may result in the assessment of tree disturbance penalties in accordance with Sec. 30-5-5.5.
- (E) Property covered by an active forestry management plan written by a North Carolina Registered Forester, provided documentation has been furnished to the Planning Director.

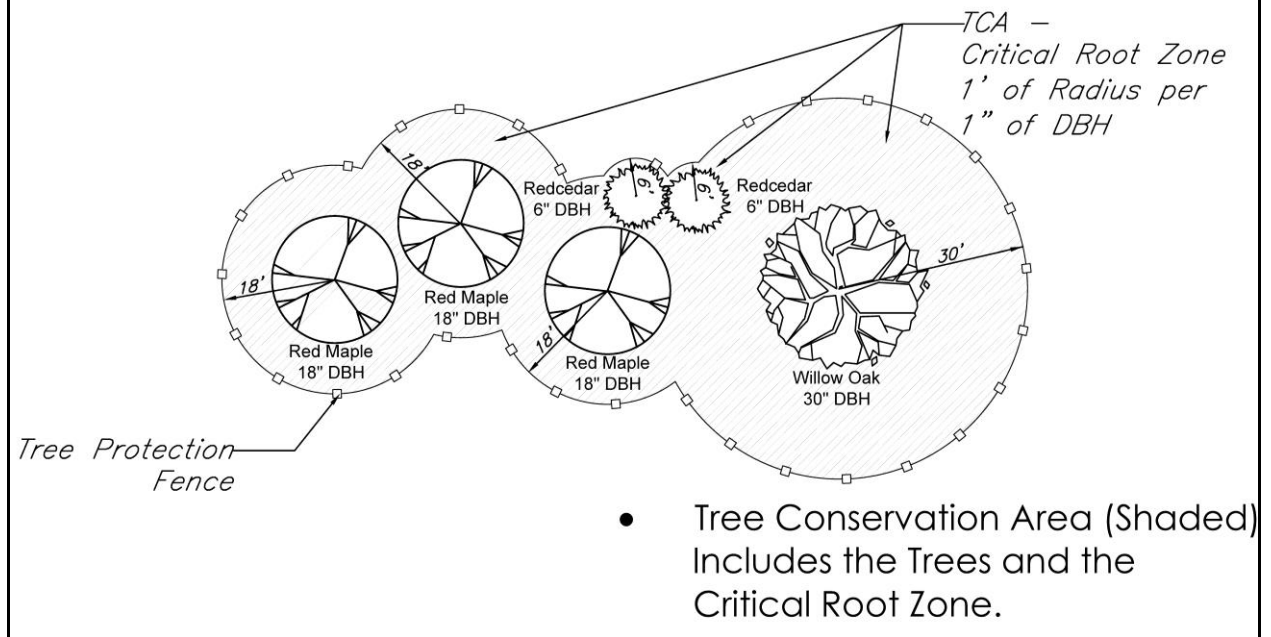
30-12-1.4 Conservation of Existing Trees

- (A) General
Any existing tree or group of trees that meet or exceed the standards of this subsection may be used to satisfy the tree conservation requirements of this section. The conservation of stands of trees is strongly encouraged. The conservation of individual trees is only recommended when saving a specimen tree.
- (B) Standards
To receive tree conservation credit, trees must be protected from direct and indirect root, trunk and crown damage or disturbance. The following standards apply:
 - 1) The tree conservation area includes land within the critical root zone. In cases where a tree inventory has not been submitted, the critical root zone area of the tree conservation area is unknown. In this case, the critical root zone area of the tree conservation area may be protected by an undisturbed buffer at least 25 feet in width or as otherwise approved by the Planning Director. The 25-foot undisturbed buffer shall be measured from the trunk of the outermost trees.

Tree Conservation Area (25' Buffer)



Tree Conservation (Area by Survey)



(B) Standards (cont.)

- 2) Construction site activities such as parking, material storage, dirt stockpiling, concrete washout and other similar activities are prohibited within the tree conservation area.
- 3) Changes to the grade of soil that compromise the tree conservation area by increasing or decreasing soil moisture content must be avoided.
- 4) A reasonable effort must be made to have utility line trenches and similar uses avoid the tree conservation area. Due to certain site conditions, where disturbance within the tree conservation area is unavoidable, underground tunneling or directional boring of utilities is preferred. Trenching, with the approval of the Planning Director, may be used only as the last alternative and root pruning equipment specifically designed for that purpose must be used.
- 5) Protective fencing must be installed around the tree conservation area before any tree disturbing activities. Such fences must be at least 4 feet in height and must consist of orange polyethylene safety fencing. Where the tree protection fence and the soil erosion control fence run congruent, the soil erosion control fence may be substituted for the tree protection fence. Fencing must remain in place until construction is complete, other landscaping has been installed, and the Planning Director has approved its removal.
- 6) The tree conservation area must be designated as such with "Tree Conservation Area" signs posted visibly on the outside of the fenced-in area. Signs may not be posted on trees.

(C) Evaluation of Specimen Trees and Stands of Trees

Existing specimen trees and stands of trees must meet all of the following conditions to be considered for the tree conservation area:

- 1) A life expectancy of greater than 10 years;
- 2) A relatively sound and solid trunk with no extensive decay; and
- 3) No major insect or pathological problems.

(D) Dead or Unhealthy Trees

- 1) No tree conservation credit will be allowed for any dead tree, any tree in poor health, or any tree subjected to grade alterations.
- 2) Maintenance of the tree conservation area is the responsibility of the property owner and/or the owners' association. All dead, dying, or substantially damaged trees shall be replaced at the rate specified in Sec. 30-5-5.5, Table 5-2.
- 3) The Planning Director may require trees left standing outside of the tree conservation area to be removed if improperly protected or determined to be hazardous.

30-12-1.5 Tree Conservation Area Determination

(A) Extent of TCA

Minimum tree conservation area requirements are determined according to parcel size, as set forth in the following table:

Table 12 1: Tree Conservation Area Requirements

Area of Parcel (acres)	Required TCA for New Development	Required TCA for Expansions
0 – 1.260	1% of lot size	1% of disturbed area
1.261 – 5	5% of lot size	5% of disturbed area
Greater than 5	10% of lot size	10% of disturbed area

Commentary: When development is proposed on a site that does not contain the minimum tree conservation area, the minimum requirement is to preserve all existing trees. The 50% reforestation option still applies. On a 10 acre site with only 0.50 acres of existing trees, for example, the owner is responsible only for preserving the half-acre of trees that do exist, not for planting another half-acre of trees. Furthermore, the owner could elect to preserve all of the trees or preserve half and reforest the other half.

(B) Trees to be Saved

If trees of 4 inches or greater DBH exist within or partially within tree conservation areas, such trees must be saved to the extent possible. The area will be designated TCA and may not be disturbed, except as expressly allowed under this section.

- (C) **Smaller Trees**
Trees less than 4 inches DBH within the TCA may be preserved at the landowner's option.
- (D) **Other Provisions**
The requirements of this section may be modified to permit the establishment of the TCA pursuant to Sec. 30-12-1.6.
- (E) **TCA Selection**
In selecting which existing stands of trees are to be designated as TCA, the landowner must give due consideration to building, parking lot, driveway, street and utility locations as they relate to the practicality of tree conservation and must use the following tree conservation priority list:
 - 1) **First Priority for Conservation**
Existing stands of hardwoods growing in or adjacent to stream protection buffers as highest priority
 - 2) **Second Priority for Conservation**
Existing stands of hardwoods growing on upland sites
 - 3) **Third Priority for Conservation**
Existing specimen trees (as determined by the Planning Director).
 - 4) **Fourth Priority for Conservation**
Existing stands of hardwoods and pine mix.
 - 5) **Fifth Priority for Conservation**
Existing stands of pine trees.
- (F) **Activities Allowed in TCA**
The following are permitted in the required TCA with prior approval of the Planning Director, provided there is no disturbance to the critical root zone of the preserved trees.
 - 1) **Landscaping features including planting boxes, sculpture, arbors, trellises, birdbaths and wood fences, provided they are installed by hand (no motorized vehicles).**
 - 2) **Outdoor furniture, ornamental entry columns and gates, flagpoles, lampposts, address posts, mailboxes, or similar structures.**

- 3) Cornices, steps, canopies, overhanging eaves and gutters, window sills, bay windows or similar architectural features, fire escapes, fire balconies, and fire towers which project not more than 2.5 feet into any required TCA.
 - 4) Wheelchair ramps except for porches, walkways, sidewalks, and landings.
 - 5) Steps not connected to any above-grade structure.
 - 6) Trails and greenways, provided they are constructed to minimize disturbance and impacts on the TCA critical root zone area.
 - 7) Disturbance within the critical root zone will be allowed only on one side of the trees to be saved. Disturbance to the critical root zone may not exceed 25% of the tree's total critical root zone area.
- (G) Tree Removal Inside the Critical Root Zone (TCA)
Trees less than 4 inches DBH not being preserved, undergrowth and plant material in poor condition may be removed from the TCA. No roots may be removed from the TCA. Stumps may be removed only by grinding. All requests for tree removal within the TCA must have prior approval by the Planning Director pursuant to the provisions of this section. However, in an emergency situation due to storm damage; to alleviate an imminent hazard to the health, safety and welfare of the citizens; or to repair property damage, prior approval for tree removal in previously approved designated areas is not required.
- (H) Certification
All allowed vegetation removal must be done or supervised by an experienced urban forester, landscape architect or certified arborist, who will certify that the tree and root removal or pruning was done in accordance with standard arboricultural practices.

30-12-1.6 Tree Conservation Flexibility Standards

- (A) Undisturbed Stream Buffers
Properties that are required to maintain an undisturbed stream buffer may use some or all the stream buffer area to satisfy the required TCA if that undisturbed stream buffer contains trees that are a minimum of 4 inches in diameter at breast height.
- (B) Land Dedications
Land that is dedicated to the City as open space or drainage way that is contiguous to the property being developed may be credited towards meeting a site's tree conservation requirements if the dedicated land contains trees that are a minimum of 4 inches in diameter at breast height. Land contained within dedicated utility easements may not be credited toward TCA requirements.

- (C) Reforestation Credits
In situations where TCA requirements cannot be met based on site conditions and when approved by the Planning Director, reforestation efforts on the property can be used to satisfy up to 50% of the required TCA. See Table 5-2.
- (D) Alternate Methods of Compliance
See Sec. 30-4-11.3(C) and Sec. 30-4-11.5(B)1).
- (E) Reduction of Required Parking
See. Sec. 30-11-13.7(F).

30-12-1.7 Penalties - See Sec. 30-5-5.5.

30-12-1.8 - See Review and Approval Procedures for Tree Conservation

30-12-1.9 Utility Vegetation Management

(A) Purpose and Intent

- 1) The purpose of Sections 30-12-1.9 through 30-12-1.15 of this Ordinance is to establish guidelines for the routine trimming, pruning, cutting and removal by utility companies of trees and vegetation (sometimes referred to herein as “vegetation maintenance” or “vegetation management”) on public streets or rights-of-way, City-owned or controlled property and private property within the City limits and to encourage the promotion of an urban tree canopy on property within the City limits by ensuring the following:
 - a) That the Public safety is protected from any and all trees, limbs and shrubbery which threaten life and property.
 - b) That the integrity, structural or otherwise, of individual trees within the City’s tree canopy is preserved and retained.
 - c) That the detrimental impact to individual trees within the City’s tree canopy is kept to a minimum by virtue of vegetation maintenance activities in accordance with the most reasonable, environmentally safe, and approved International Society of Arborist (ISA) arboricultural practices under the circumstances.
 - d) That communication with respect to vegetation management is enhanced between utility companies, on one hand, and the City, communities and owners or residents of any occupied public or private property (“Occupied Property”), on the other hand.
 - e) That maintained or landscaped, occupied public or private property (referred to hereinafter as “Occupied Maintained Property”) receive certain protections with respect to the removal of trees from those properties.

f) That the provision of safe and reliable overhead utility service is promoted.

g) That overhead utilities are protected while decreasing the potential for service interruptions.

(B) Duties of Urban Forester

For the purposes of carrying out the provisions of Sections 30-12-1.9 through 30-12-1.15 of this Ordinance, the Urban Forester shall be the responsible party to oversee and coordinate utility vegetation management activities on all trees and vegetation growing within the City limits and the planting, removal, care, maintenance, and protection thereof. The Urban Forester shall advise on all City-initiated construction projects in an effort to plan for and manage the City's vegetative resources.

(C) Exceptions

Although it is anticipated that the bulk of utility vegetation maintenance that will occur within the City will be of a routine nature that is governed by the provisions of Sections 30-12-1.9 through 30-12-1.15 of this Ordinance, there are certain limited types of vegetation maintenance, as set forth below, that are excepted from coverage under Sections 30-12-1.9 through 30-12-1.15 of this Ordinance:

- 1) Although Sections 30-12-1.9 through 30-12-1.15 of this Ordinance apply to overhead electrical distribution lines, said sections do not apply to nor prohibit vegetation management activities pertaining to:
 - a) electrical transmission lines, or
 - b) underground electrical distribution lines.

The term "transmission lines" as it is used herein means electric utility lines in the Duke Energy Carolinas' service territory energized at voltages greater than 44,000 volts and typically carried on steel poles or towers; however, some lower voltage transmission lines may be on wood pole structures.

- 2) Sections 30-12-1.9 through 30-12-1.15 of this Ordinance do not apply to nor prohibit vegetation management activities pertaining to non-routine vegetation management which includes, without limitation, customer requested work (such as construction projects where new service lines are requested or projects where lines need to be relocated or extended), maintenance of overhead facilities (such as changing out transformers, other pole-mounted equipment or damaged or rotten poles), North Carolina Department of Transportation related work, addressing public safety incidents, or restoring the utility service following emergencies or any other unanticipated interruption or outage.
- 3) Sections 30-12-1.9 through 30-12-1.15 of this Ordinance shall not apply to nor prohibit the vegetation maintenance of any tree or shrub on public or private

property within the City limits, if such vegetation maintenance is done in order to repair or replace the same as a result of damage or deterioration as a result of accident, casualty, or natural elements such as wind, rain, ice, electrical storm, or the like.

(D) Legality of Chapter or Parts Thereof

Should any section, clause or provision of Sections 30-12-1.9 through 30-12-1.15 of this Ordinance be declared by the courts to be invalid, the same shall not affect the validity of any other provision of Sections 30-12-1.9 through 30-12-1.15 of this Ordinance.

(E) Violations; Stop Work Orders

If a utility does not comply with Sections 30-12-1.9 through 30-12-1.15 of this Ordinance, then the Urban Forester is authorized to issue a stop work order to the utility.

(Amended by Ord. 13-73 on 6/18/13)

30-12-1.10 Annual Vegetation Management Plan

(A) Each utility company shall submit an annual vegetative management plan to the Urban Forester of the City on or before January 1st of each year prior to the start of any overhead utility vegetation maintenance activities within the City limits or upon any City-owned or controlled property, which vegetative management plan shall:

- 1) depict the general areas involved in the maintenance plan, and
- 2) set forth the maintenance schedule for vegetation line maintenance within the City's limits.

If the vegetative management plan is timely submitted and the vegetative management plan sets forth the information required in this sub-section, then the vegetative management plan shall be accepted within 10 business days following the submission of it to the City.

(B) If a utility company desires to amend its vegetative management plan at any time during the year, the utility company shall submit an amended annual vegetative management plan to the Urban Forester of the City, which amended vegetative management plan shall:

- 1) Depict the general areas involved in the maintenance plan, and

- 2) Set forth the maintenance schedule for vegetation line maintenance within the City's limits.

If the amended vegetative management plan sets forth the information required in this sub-section, then the amended vegetative management plan shall be accepted within 10 business days following the submission of it to the City.

(C) Operational Plan

- 1) If a utility desires to perform vegetation maintenance within the City limits or upon any City-owned or controlled property, then the utility company shall obtain the acceptance of an operational plan before commencing any such desired vegetation maintenance. After the submission of an annual vegetative management plan, each utility company shall submit an operational plan to the Urban Forester of the City depicting in specific detail the circuits, locations, and timing involved in the line maintenance 60 days prior to commencement of work, unless a shorter period of time is mutually agreed upon by the City and the utility company. In connection with the submission of the operational plan to the Urban Forester of the City, it is required that there be a meeting between the utility company and the Urban Forester of the City for the purpose of reviewing the operational plan before it is accepted. If the operational plan is timely submitted, the aforementioned meeting occurs, and the operational plan sets forth specific detail required in this sub-section, then the operational plan shall be accepted within 10 business days following the submission of it to the City.
- 2) If a utility company desires to amend its operational plan at any time during the year, the utility company shall submit an amended operational plan to the Urban Forester of the City depicting in specific detail the circuits, locations, and timing involved in the line maintenance 60 days prior to commencement of work, unless a shorter period of time is mutually agreed upon by the City and the utility company. In connection with the submission of the amended operational plan to the Urban Forester of the City, it is required that there be a meeting between the utility company and the Urban Forester of the City for the purpose of reviewing the amended operational plan before it is accepted. If the amended operational plan is timely submitted, the aforementioned meeting occurs, and the amended operational plan sets forth specific detail required in this sub-section, then the amended operational plan shall be accepted within 10 business days following the submission of it to the City.

(Amended by Ord. 13-73 on 6/18/13)

30-12-1.11 Vegetation Management Communication

(A) Communication Between City and Utilities

Each utility company shall communicate with the City regarding vegetation maintenance as required herein in connection with the annual vegetative maintenance plan, the operational plan, and the vegetation maintenance annual review.

(B) Communication Between Communities and Utilities

1) Community Notification

The utility company shall notify the Greensboro Neighborhood Congress or comparable organization as identified by City staff, at least 45 days prior to the date vegetation maintenance is to commence. Said notice shall also include information on how to request a community information session if desired. The Neighborhood Congress of the City or comparable organization shall notify an applicable community, neighborhood association or homeowner's association, if any, to the extent one reasonably can be identified, which potentially might be impacted by the vegetation maintenance activity.

2) Community Information Session

The utility company shall make reasonable efforts to hold and attend any requested community information session in a reasonable location that shall be made available through the assistance of the City. The community information session shall occur at least 30 days prior to the date vegetation maintenance activities are to commence unless the timing of the request reasonably requires a shorter time period. A community information session may consist of information stations staffed by subject matter experts, and citizens may address comments or questions to those representatives of the utility company who are attending the community information session.

(C) Communication Between Utilities and Owners or Residents of Occupied Property

1) Notification To Owners Or Residents Of Occupied Property

Prior to the performance of vegetation maintenance by a utility on Occupied Property, the utility shall make reasonable efforts to provide prior notification of such activities to the owner or resident of Occupied Property. In addition to the posting of information on the City of Greensboro's official website if the City elects to post information, such prior notification may include, but is not limited to, either of the following methods:

- a) door hangers; and

b) automated outbound telephone calling.

Such prior notification shall be attempted at least 7 calendar days prior to the date that the vegetation maintenance is scheduled to commence, unless circumstances reasonably require a shorter time period.

2) Meeting With Owners Or Residents Of Occupied Property

If an owner or resident of Occupied Property requests a meeting with a utility regarding vegetation maintenance that is to occur on said property, then the utility shall make reasonable efforts to meet with the owner or resident of said property to discuss which trees will be impacted and which methods will be utilized by the utility in connection with the vegetation maintenance.

3) Provision of Authority

If an owner or resident of Occupied Property so requests, a utility subject to the jurisdiction of the North Carolina Utilities Commission shall provide a copy of written authority to perform vegetation maintenance on the property. Acceptable written authority may include, but not be limited to, pertinent service regulations on file with the North Carolina Utilities Commission.

(Amended by Ord. 13-73 on 6/18/13)

30-12-1.12 Vegetation Management Standards, Requirements and Prohibited Practices

(A) Methods of Pruning, Trimming and Cutting; Prohibited Practices

- 1) To the extent the utility files a vegetative management plan with the North Carolina Utilities Commission, then the vegetative management plan, including the Old Design Urban Circuits, which was filed with the North Carolina Utilities Commission on April 30, 2013 as a supplement to its vegetative management plan, and any revisions to the vegetation management plan required by the North Carolina Utilities Commission shall constitute the standards to be adhered to by the utility when performing vegetation management activities within the City limits. The most recent utility vegetation management plan, including the Old Design Urban Circuits which was filed with the North Carolina Utilities Commission on April 30, 2013 as a supplement to its vegetative management plan filed with the North Carolina Utilities Commission, may be found by accessing the links below:

Utility's Vegetation Management Plan:

<http://ncuc.commerce.state.nc.us/cgibin/webview/senddoc.pgm?dispfmt=&itype=Q&aut horization=&parm2=CAAAA16221B&parm3=000138905>

Old Design Urban Circuits:

<http://ncuc.commerce.state.nc.us/cgibin/webview/senddoc.pgm?dispfmt=&itype=Q&autohorization=&parm2=LAAAAA12131B&parm3=000138905>

The utility shall provide the City of Greensboro's City Attorney with notice of any proposed revision to its vegetative management plan, including the Old Design Urban Circuits, which was filed with the NCUC on April 30, 2013 as a supplement to its vegetative management plan, that would impact its distribution system at the same time that it files such proposed revision with the North Carolina Utilities Commission.

- 2) Regardless of whether a utility files a vegetative management plan with the North Carolina Utilities Commission, a utility shall comply with the following in connection with any vegetation maintenance within the City limits:
 - a) Vegetation maintenance shall be done using the "ANSI A300 method" (part 1) BMP manual compiled by the International Society of Arboriculture, and subsequent revisions.
 - b) Topping and rounding over of trees is prohibited.
 - c) Climbing irons, spurs, or spikes are not to be used unless in accordance with the ANSI A300 standard.
 - d) The use of "tree paint", "wound dressing", and the like is not recommended.
 - e) Under normal circumstances, no more than one-fourth of a tree's crown shall be removed per year. If reduction of more than one-fourth or 25 percent of a tree's crown is needed for safety and reliability clearances, or if the tree is otherwise a danger tree, the tree should be evaluated by the utility company for removal. The term danger tree, as it is used in Sections 30-12-1.9 through 30-12-1.15 of this Ordinance, means a tree that has the potential of adversely impacting utility service by falling into a utility line as a result of being cut, blown into, or otherwise falling, by virtue of its physical condition.
 - f) When virulent disease is prevalent, as per written notification of the Urban Forester, the Urban Forester will work with the utility to develop a reasonable plan to properly prune or remove the subject tree. This plan will be designed to prevent the spread of disease as a result of line clearance activities.
 - g) For the removal of a limb the triple cut method shall be used if there is a possibility that the limb may tear out from the trunk if a single cut is made.
 - h) Utility companies shall use natural pruning which requires all cuts to be made at laterals (limb junctions). These lateral limbs shall be no less than one-third the diameter of the limb removed at the point of removal. The term lateral limb, as used herein, means a subordinate limb originating from a main branch or stem.

- i) Limbs shall be pruned back to an appropriate new leader, heading away or around the lines. In no circumstances are stubs or abruptly pruned limbs to be left by the pruning. The term leader, as used herein, means a dominant upright stem which is usually the main trunk of a tree.
 - j) No obvious “hangers” shall be left in the trees after performing line clearance activities. The term hanger limb, as used herein, means a cut limb that is left in a tree after pruning operations are complete.
- (B) Determinations by Utility Companies That a Tree Is To Be Removed; Appeal Process
- 1) Nothing in this subsection shall be construed to preclude, prevent, or impair any property owner, resident, the City or utility from pursuing its legal remedies before the North Carolina Utilities Commission or from requesting the assistance of the Public Staff of the North Carolina Utilities Commission formally or informally at any time pursuant to the procedures set forth by those agencies.
 - 2) If a utility company determines that a tree must be removed in its entirety from Occupied Maintained Property within the City limits, then the utility company shall make reasonable efforts to seek the consent of the owner or resident of the Occupied Maintained Property. Reasonable efforts by a utility company to seek the consent of the owner or resident of the Occupied Maintained Property may include any of the following, without limitation:
 - a) a request for consent to remove a tree set forth on a door hanger;
 - b) a request for consent to remove a tree made in a communication with said owner or resident;
 - c) a request for consent to remove a tree set forth in a message left on the answering machine or voicemail of said owner or resident;
 - d) a request for consent to remove a tree set forth in a letter served by mail to said owner or resident;
 - e) a request for consent to remove a tree made during a meeting with said owner or resident on the affected property; or
 - f) a request for consent to remove a tree served by email to said owner or resident.

If an owner or resident of Occupied Maintained Property expresses verbally or in writing to the utility company that said owner or resident does not consent to the tree removal intended by the utility company, then the utility company shall not remove the subject

tree unless permitted to do so by the Urban Forester or the North Carolina Utilities Commission or through resolution of the matter through the involvement of the Consumer Services Division of the Public Staff of the North Carolina Utilities Commission, as provided for herein below.

(3) If:

- a) an owner or resident of the Occupied Maintained Property expresses in writing or verbally that said owner or resident does not consent to removal of the tree desired to be removed by the utility company, or
- b) said owner or resident fails to express verbally or in writing a position with respect to consent within 5 business days of when the utility company first made its reasonable efforts to seek consent, unless a shorter time is reasonably necessary in light of the immediate danger and/or interference to the overhead utility lines posed by the subject tree; then, in either situation, the utility company may request that the Urban Forester issue a written determination as to whether a tree in dispute on public or private property shall be removed, and the following shall govern the process and determination by the Urban Forester:
 - i) The Urban Forester shall rule that the tree in dispute shall be removed if the Urban Forester determines that the tree is a danger tree as defined above in Section 30-12-1.12(A) 2) e).
 - ii) The utility company shall serve a written request for determination to the Urban Forester (the "Written Request for Determination to the Urban Forester"), which Written Request for Determination to the Urban Forester may be a letter or email addressed to the Urban Forester, and which written request for determination shall include at least the following:
 - a) The address of the property where the tree in dispute is located;
 - b) A reasonable identification of the tree in dispute;
 - c) The approximate date that the utility company communicated to the owner or resident of the Occupied Maintained Property that the tree had been determined to be required to be removed;
 - d) The approximate date that the owner or resident of the Occupied Maintained Property communicated that consent for removal was not being provided, if any such request was provided.
 - iii) Within 5 business days of the request by the utility company, unless a shorter time is reasonably necessary in light of the immediate danger

and/or interference to the overhead utility lines posed by the subject tree, the Urban Forester shall conduct a meeting with the owner or resident of the Occupied Maintained Property and utility company at the property where the tree in dispute is located. The date and time of the meeting shall be determined by and communicated by the Urban Forester by telephone or by written notice served by mail, email or hand-delivery. At the meeting, the utility company may explain why the tree in dispute should be removed and the owner or the resident of the Occupied Maintained Property may explain why the tree should not be removed.

- iv) Regardless of when a meeting is conducted or whether a meeting actually is conducted, the Urban Forester shall make a written determination of whether the tree in dispute shall be removed within 5 business days of service of the initial Written Request for Determination to the Urban Forester (the “5 Day Deadline for the Urban Forester to Make a Determination”).
- v) A written determination by the Urban Forester (the “Written Determination of the Urban Forester”), setting forth the basis for his decision, shall be served by mail, email or hand-delivery to the owner or resident of the Occupied Maintained Property and the utility, and the Written Determination of the Urban Forester shall include at least the following:
 - a) The address of the property where the tree in dispute is located;
 - b) A reasonable description of the tree in dispute;
 - c) The names of the owner or resident of the Occupied Maintained Property and the utility company involved in the tree removal dispute;
 - d) The date of the meeting at the property. If a meeting was not conducted, then the Urban Forester shall briefly explain why a meeting was not conducted.
 - e) A written statement that the tree in dispute shall or shall not be removed.
 - f) If an owner or resident of the Occupied Maintained Property or a utility company desires to appeal the Written Determination of the Urban Forester, then the appealing party may file a formal complaint with the North Carolina Utilities Commission pursuant to G.S. §62-73 or G.S. §62-74. Complaints to the North Carolina Utilities Commission may be addressed to the Chief Clerk, North Carolina Utilities Commission, 4325 Mail Service Center, Raleigh, NC 27699-4325. Prior to filing a formal complaint with the North Carolina Utilities Commission, said party may request informal resolution of the issue through the involvement of the Consumer Services Division of the Public Staff of the North Carolina Utilities Commission. If said owner or resident appealing an adverse

Written Determination of the Urban Forester does not file said formal complaint with the North Carolina Utilities Commission or, in the alternative, request informal resolution of the issue through the involvement of the Public Staff of the North Carolina Utilities Commission within 7 business days of service of the Written Determination of the Urban Forester, the utility may proceed to remove the tree in question.

- g) If a party opts to request informal resolution of the issue through the involvement of the Public Staff of the North Carolina Utilities Commission, such request shall be served on the Consumer Services Division of the Public Staff of the North Carolina Utilities Commission and the adverse party (i.e., the utility company or the property owner) within 7 business days of the service of the Written Determination of the Urban Forester. Service on the Consumer Services Division of the Public Staff of the North Carolina Utilities Commission may be made by using any of the following: the mailing address of Public Staff, Consumer Services Division, 4326 Mail Service Center, Raleigh, North Carolina 27699; the fax number of (919) 733-4744; or the email address of consumer.services@psncuc.nc.gov. The request for informal resolution to the Consumer Services Division of the Public Staff of the North Carolina Utilities Commission shall include at least the following:
- 1) A clear statement that the appealing party is seeking review by and assistance from the Public Staff of the North Carolina Utilities Commission with respect to the Written Determination of the Urban Forester.
 - 2) A copy of the Written Determination of the Urban Forester.
 - 3) Contact information for the party sending the Written Appeal to the Public Staff of the North Carolina Utilities Commission (name, address, telephone number, email if available).
- h) If the involvement of the Consumer Services Division of the Public Staff of the North Carolina Utilities Commission does not result in resolution of the issue in a manner that is satisfactory to the owner, resident, or utility, then said party may file a formal complaint with the North Carolina Utilities Commission pursuant G.S. § 62-73 or G.S. § 62-74 and the North Carolina Utilities Commission's rules and regulations. If said complaint is not filed at the North Carolina Utilities Commission within 7 business days of the conclusion of the Public Staff's involvement, the utility may proceed to remove the tree in question.
- i) If the utility company desires to appeal the failure of the Urban Forester to rule within the 5 Day Deadline for the Urban Forester to Make a Determination, then the utility may file an expedited, formal complaint to the North Carolina Utilities Commission pursuant to G.S. § 62-74.

j) With respect to all written documents served in this Section 30-12-1.12(B):

- 1) In addition to service upon the Urban Forester, the North Carolina Utilities Commission, or the Consumer Services Division of the Public Staff of the North Carolina Utilities Commission, when applicable, service of said written documents shall be contemporaneously made upon the adverse party (i.e., the owner or resident of the Occupied Maintained Property or the utility company).
- 2) Service by mail of a written document shall be complete upon deposit of the paper enclosed in a post-paid, properly addressed wrapper in a post office or official depository under the exclusive care and custody of the United States Postal Service.
- 3) Service by email of a written document shall be complete upon the act of sending the electronic correspondence to a proper address regularly used by the recipient of the electronic correspondence.
- 4) Service by fax shall be complete upon the sending of a written document to the intended recipient by a confirmed fax transmission to a proper fax number regularly used by the recipient of the fax transmission, as further evidenced by a fax receipt confirmation.
- 5) Service by hand-delivery of the written document shall be complete upon handing it to the following when applicable:
 - a) The owner or resident of the Occupied Maintained Property;
 - b) A representative of the utility company who is involved in the subject tree dispute;
 - c) The Urban Forester.

(Amended by Ord. 13-73 on 6/18/13)

30-12-1.13 Supervision and Oversight of Contractors

Any utility company desiring to engage in vegetation maintenance operations on public streets or rights-of-way, City-owned or controlled property, and private property within the City limits shall be responsible for oversight of its contractors in the performance of all work and will ensure that contractors adhere to ordinance provisions and proper vegetation maintenance practices. As part of the Operational Plan, the utility will identify a certified arborist for each project who will be involved in the oversight of the crews and serve as a primary contact to the Urban Forester and owner or resident of Occupied Property.

(Amended by Ord. 13-73 on 6/18/13)

30-12-1.14 Vegetation Management Clean-Up

- (A) All debris from vegetation maintenance shall be cleaned up each day, or within a reasonable amount of time, as described below, unless permission is given by the Urban Forester or owner or resident of the Occupied Property to do otherwise. The clean-up required by this sub-section includes the following:
- 1) Impacted lawn areas shall be cleaned of debris.
 - 2) Impacted streets and sidewalks shall be cleaned of debris.
 - 3) All brush (having a diameter of 6 inches or less), branches and logs shall be dealt with as follows:
 - a) In landscaped and maintained areas, brush shall be chipped and removed from the site. When feasible and agreed to by the owner or resident of the Occupied Maintained Property and the utility company, this brush may be blown into an area either within the right of way or adjacent to the right of way corridor. Larger wood, which belongs to the owner or resident of the Occupied Maintained Property, shall be cut into manageable lengths and stacked neatly at the base of the tree. Provided, however, wood or brush cut down from dead or dying trees shall be stacked neatly at the base of the tree, and there is no requirement that such brush be chipped due to safety concerns.
 - b) In non-maintained areas, trees and limbs shall be cut, left on site, and windrowed along the edge of the right of way. Brush shall be brush hogged when the site and terrain reasonably allows for it. If the terrain does not reasonably allow the use of mechanized equipment, the trees and limbs may be manually hashed down and left to bio-degrade naturally.
- A. If an owner or resident of Occupied Maintained Property requests information on options for grinding any stumps resulting from vegetation maintenance operations, it shall be the responsibility of the utility to provide owner or resident of the Occupied Maintained Property with such information.

(Amended by Ord. 13-73 on 6/18/13)

30-12-1.15 Vegetation Management Annual Review

In January of each calendar year, each utility that conducted vegetation management activities during the prior calendar year shall meet with Urban Forester in order to review the tree pruning, trimming and cutting that had been conducted and to discuss each of the following:

- (A) the challenges and problems experienced by the City of Greensboro;
- (B) the challenges and problems experienced by the utility;
- (C) the successes experienced by the City of Greensboro;
- (D) the successes experienced by the utility; and
- (E) what the City of Greensboro and the utility can try to do differently in an effort to enhance future communication, execution of future tree pruning, trimming and cutting and opportunities to continue to promote the enhancement of the urban tree canopy.

(Amended by Ord. 13-73 on 6/18/13)

Review and Approval Procedures for Tree Conservation

Modifications

Recognizing that it is sometimes possible to provide equal or better performance in furtherance of the purposes of this ordinance through use of means other than those specified in this ordinance, the City Council finds it to be reasonably necessary and expedient that provisions be made for limited flexibility in administration of certain standards in this ordinance.

Description

There are 5 classes of Modifications: Type 1, Type 2, Type 3, Type 4 and Type 5. These modifications are specified technical exceptions that may be approved without going through the Variance process. Approval is limited to the specified exceptions and adjustments expressly authorized by this ordinance only when the general criteria of Sec. 30-4-11.3 have been met. The different types of modifications correspond to the increasing sensitivity or impact differential of the proposed change, or the authority responsible for approving the modification. The level of review—ranging from Type 1 to Type 5—is generally intended to be commensurate with the degree of deviation and/or the anticipated impacts of the requested modification. Only Type 1 and Type 2 modifications apply to Landscaping.

Type 1 Modifications

Final decision-making authority on Type 1 Modifications rests with the department director with general responsibility for administering and interpreting the subject regulation or standard. Type 1 Modifications involve modifications to regulations and standards that are very minor (de minimis) in nature. Regulations and standards are eligible for modification through the Type 1 procedure only when expressly authorized by this ordinance.

Type 2 Modifications

The Technical Review Committee is authorized to approve most Type 2 Modifications, which involve modifications to regulations and standards that are similar to Type 1 Modifications but which benefit from inter-agency review. Regulations and standards are eligible for modification through the Type 2 procedure only when expressly authorized by this ordinance.

Decision-making Criteria for Type 1 and Type 2 Modifications

The proposed modification must be made with regard to the purpose of the standard or regulation being modified, this ordinance, and the Comprehensive Plan. Type 1 and Type 2 Modifications may be approved if the authorized decision-making body determines that at least one of the following criteria are met:

- 1) that the proposed modification will result in equal or better performance than the standard being modified;
- 2) that the size, topography, or existing development of the property or of adjoining areas prevents compliance with a standard; or
- 3) that a federal, state, or local law or regulation prevents compliance with the standard.

Type 1 Modifications to Tree Conservation and Landscaping Requirements

Alternate tree conservation plans, plant materials, planting methods or reforestation may be authorized when unreasonable or impractical situations would result from application of landscaping or tree conservation requirements. Such situations may result from streams, natural rock formations, topography, or other physical conditions; or from lot configuration, utility easements, unified development design, or unusual site conditions.

The Planning Director may approve an alternate plan that proposes different plant materials or methods provided that quality, effectiveness, durability, and performance are equivalent to that required by this section. The performance of alternate landscaping plans or tree conservation plans must be reviewed by the Planning Director to

determine if the alternate plan meets the intent and purpose of this section. This determination must take into account the use of adjacent property, number of plantings, species, arrangement and coverage, location of plantings on the lot, and the level of screening, height, spread, and canopy of the plantings at maturity.

Type 2 Modifications to Tree Conservation and Landscaping Requirements

Decisions of the Planning Director regarding alternate methods of compliance for landscaping, tree conservation and reforestation may be appealed to the Technical Review Committee as requests for modifications. per 30-4-11.3(C)(3) of the Land Development Ordinance.

Submittal Requirements for Modifications

Modification requests must be submitted to the Planning Department. Requests must be submitted at the appropriate time, and the burden is on the applicant to demonstrate that the criteria in Sec. 30-4-11.3 have been met.

Review and Decision Making Bodies

Department Directors

Final decision-making authority on Type 1 Modifications rests with the department director with general responsibility for administering and interpreting the subject regulation or standard. Standards and regulations eligible for modification through the Type 1 Modification procedure are expressly identified in the text of this ordinance. In addition, the Planning Director is authorized to approve, as a Type 1 Modification, an adjustment to zoning district setback requirements by up to one foot, when a building permit has been issued and there was an unintentional error of the Engineering and Inspections Director in verifying the location of a structure on the property, provided the purpose and intent of the ordinance is not impaired.

Technical Review Committee

The Technical Review Committee has final decision-making authority on all Type 2 Modifications. Standards and regulations eligible for modification through the Type 2 Modification procedure are expressly identified in the text of the ordinance.

Appeals of Modification Final Action

Appeals of Type 1 Modification final actions by the Planning Director may be made to the Technical Review Committee and subsequently to the Planning and Zoning Commission and the City Council.

Appeals of Type 2 Modification final actions by the Technical Review Committee may be made to the Planning and Zoning Commission and the City Council.

Duration of Approval

An approved modification is part of an approved plan and has the same duration as the plan approval.

Tree Disturbance Permit

A tree disturbance permit is an official authorization that must be issued by the City prior to any tree-disturbing activities. Tree-disturbing activities include the cutting and/or damage to the critical root zone of live trees with a diameter at breast height of 4 inches or greater on sites not accompanied by a development plan, except as expressly exempted pursuant to Sec. 30-4-26.3(D).

Requirements for a Tree Disturbance Permit

- 1) Identify and protect the required tree conservation area, as specified in Article 12.
- 2) Submit a tree conservation plan as specified in Sec. 30-4-26.3(C).

Tree Conservation Plan Approval

Approval of a tree conservation plan is required for all nonexempt developments and activities. The tree conservation plan must be submitted along with all other required information to the Technical Review Committee. Tree conservation plan information must be included on all grading plans, erosion control plans and tree disturbance permit applications.

Plans

Tree conservation plans must identify the following items:

- 1) boundaries of the required tree conservation area;
- 2) required planting yards;
- 3) protected trees within the tree conservation area, including tree size and type or when protecting large groups or stands of trees the species composition may be

expressed as a forest type and diameters may be expressed as a range from lowest to highest (e.g., mixed hardwoods: DBH 6"–25");

- 4) critical root zone of each proposed protected tree, group of trees or proposed undisturbed critical root zone buffer (See Sec. 30-12-1.4 B)1);
- 5) limits of clearing;
- 6) grading;
- 7) trenching;
- 8) required tree conservation measures including required fencing and signage;
- 9) overhead and underground utilities and easements;
- 10) areas of reforestation, if any; and
- 11) stream buffers, if any.

Plan Notes

The following required notes must be included on all tree conservation plans, erosion control plans, grading plans and tree disturbance permit plans:

- 1) Contact the Planning Director to schedule a pre-construction meeting before any tree disturbance, except as noted in Sec. 30-4-26.3(C)(5), occurs on this site.
- 2) All tree conservation devices must be installed before inspection by the Planning Director and before any tree disturbance activities, except as noted in Sec. 30-4-26.3(C)(5), occur.
- 3) Removal of or damage to trees in the tree conservation area will be subject to all available remedies and penalties under the city's development ordinance.
- 4) No parking, storage, dirt stockpiling, concrete washout or any other activity is permitted in the tree conservation area.

Review

Tree conservation plans must be reviewed by the Planning Director for conformance with applicable provisions of this section (Article 12). The plans will either be determined to be in compliance and approved or determined to not be in compliance and returned for revisions. Reasons for return must be noted on the proposed plans.

Tree Conservation Measures

All tree conservation measures must be installed prior to any tree disturbing activities except those necessary to install the tree conservation and or temporary soil erosion control measures. The developer must contact the Planning Director to conduct an inspection of all tree conservation devices before any non-exempt tree disturbing activities.

Inspections

The Planning Director will conduct follow-up site inspections for enforcement of the tree conservation requirements of this ordinance.

The developer must contact the Planning Director to conduct an intermediate inspection of the tree conservation requirements after the site grading has been completed but before installation of landscaping.

The developer must contact the Planning Director to conduct a final inspection of the tree conservation requirements before being issued a Certificate of Occupancy.

Fees for Tree Conservation Inspections

Fees for pre-disturbance inspection and post-grading inspection of the tree protection measures are required to be paid at the time of plan review by the Technical Review Committee.

If deficiencies in the tree protection measures require a return visit by the inspector, an additional inspection fee must be paid at the time that the re-inspection is requested.

Timing

Tree disturbance permits must be issued in advance of or simultaneous with all other permits and approvals including watershed development plans and grading permits.

Permit Duration and Renewal

Permit Duration

If the work authorized by a tree disturbance permit has not been completed within one year from the date of issuance, the permit is null and void unless renewed.

Renewal

A tree disturbance permit may be renewed for an additional 180 days by written request to the Planning Director justifying the need for permit renewal. No fee is required for renewal of a tree disturbance permit.

Enforcement (Tree Conservation)

Violations Not Involving Tree Removal or Damage

The Planning Director is authorized to issue a Notice of Violation for all violations that have not resulted in the removal or damage to trees or encroachment into the tree conservation area. The Notice of Violation must be administered in accordance with the provisions of Sec. 30-5-3.

Civil Penalties issued pursuant to a Notice of Violation may not exceed \$5,000.00.

Failure to comply with the Notice of Violation may result in further legal actions, remedies and penalties as provided by Article 5 or state law.

Violations Involving Tree Removal or Damage

The Planning Director is authorized to issue a Civil Penalty for all violations that have resulted in the removal or damage to trees or encroachment into the tree conservation area. The Civil Penalty must be administered in accordance with the provisions of Sec. 30-5-5, except that issuance of a Notice of Violation prior to issuing the Civil Penalty shall not be required, and except as noted below.

Civil Penalties issued under this provision may not be less than \$500.00 nor exceed \$50,000.00 per violation.

In addition to any civil penalties issued under this provision, the Planning Director is authorized to require reforestation of the damaged trees or the tree conservation area as specified in Table 5-1 or Table 5-2 below, whichever is most applicable.

The penalty for the removal or damage to trees or the encroachment into the tree conservation area shall be assessed as described in Table 5-1 or Table 5-2 below, whichever is most applicable:

Table 5-1

DBH of Tree Removed or Damaged	Civil Penalty	Reforestation Rate One 2" Caliper Minimum (Water Wise Species) or 3" Caliper Minimum (Non-Water Wise Species) per 400 sq. ft.
4 – 11.9 Inches	\$800.00	4 Caliper Inches
12 – 20.9 Inches	\$1,600.00	8 Caliper Inches
21 – 28.9 Inches	\$2,400.00	12 Caliper Inches
29 – 35.9 Inches	\$3,200.00	16 Caliper Inches
36+ Inches	\$4,000.00	20 Caliper Inches

Table 5-2

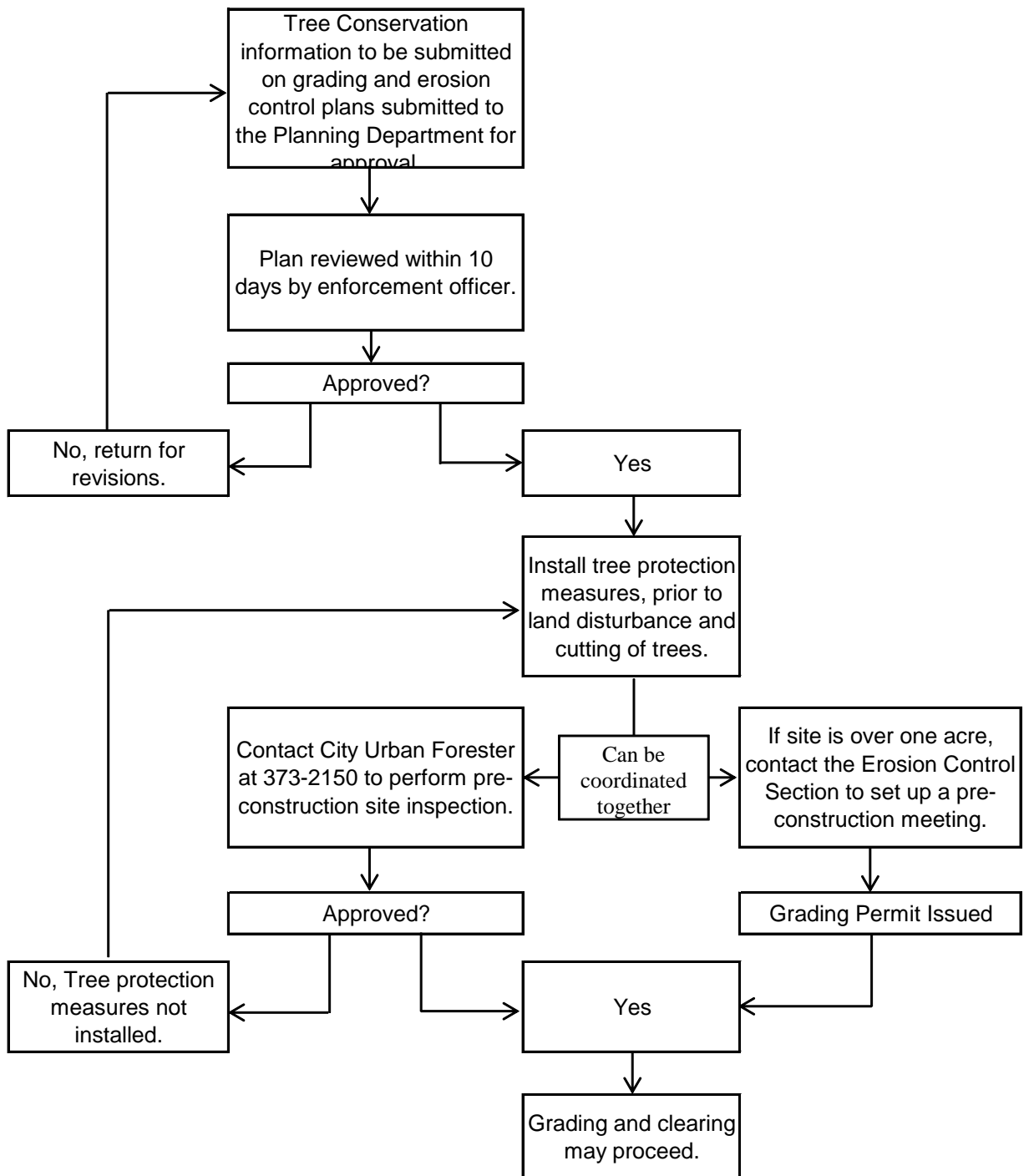
<p>Civil Penalty</p> <p>\$10,000.00 per acre or portion thereof of removal or damage to trees or encroachment into the tree conservation area</p>
<p>Reforestation Rate</p> <p>One 2" caliper minimum (water-wise species) or 3" caliper minimum (non-water wise species) per 400 sq. Ft.</p>

Notes to Table 5-1 and 5-2: all reforestation requirements shall be approved by the Planning Director. The species of trees selected for reforestation shall be appropriate to the site conditions and be selected from the approved plant list located in this manual. All reforestation plans must comply with water-wise planting techniques.

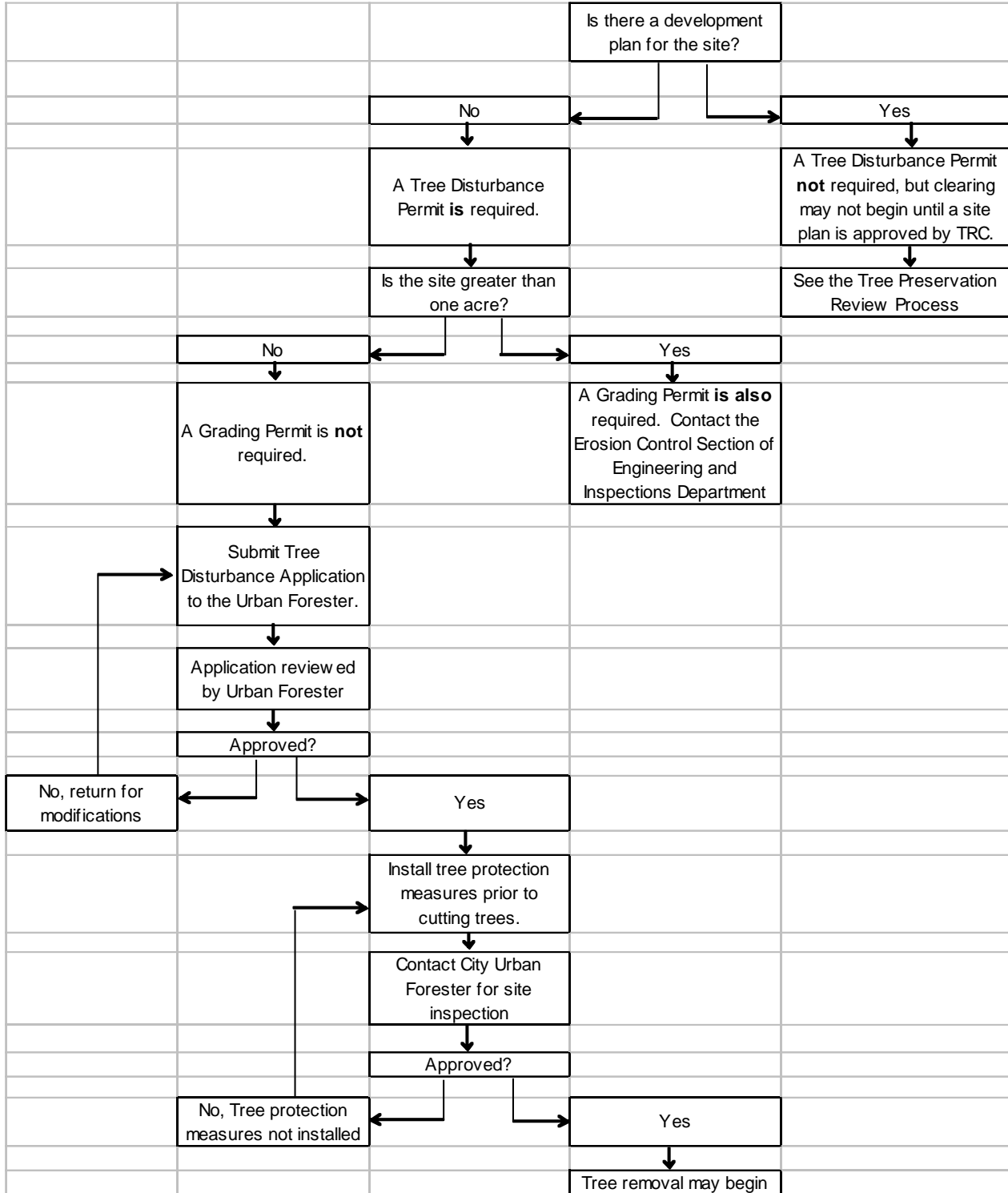
Additional Civil Penalties

- The civil penalty for failure to obtain a tree disturbance permit or TRC approval prior to tree disturbing activities is \$500.00.
- The civil penalty for failure to install and maintain tree conservation devices is \$500.00 per incident.
- The civil penalty for failing to obtain a scheduled inspection is \$500.00 per incident.

TREE CONSERVATION REVIEW PROCESS



TREE DISTURBANCE PERMIT PROCESS



TREE CONSERVATION PLAN CHECKLIST

- All tree conservation comments shall be made on the grading and erosion control plan sheet(s).
- Show the existing tree line, if any.
- Identify and label all tree conservation areas.
- Identify all trees to be saved. Label species and DBH of each tree or when saving large stands of trees; label the forest type and provide a range of diameters (DBH).
- Identify and label the critical root zone area.
- Locate and label the tree protection fence.
- Provide the City of Greensboro standard Detail # 448 – Tree Protection Fence Detail
- Provide a chart of Required TCA vs. Provided TCA.
- Locate and label any reforestation trees or areas.
- Provide the following notes;

Tree Conservation Notes:

1. Contact the Planning Director to schedule a pre-construction meeting before any tree disturbance, except as noted in Sec. 30-4-26.3(C)(5), occurs on this site.
2. All tree conservation devices must be installed before inspection by the Planning Director and before any tree disturbance activities, except as noted in Sec. 30-4-26.3(C)(5), occur.
3. Removal of or damage to trees in the tree conservation area will be subject to all available remedies and penalties under the city's development ordinance.
4. No parking, storage, dirt stockpiling, concrete washout or any other activities is permitted in the tree conservation area.

TREE CONSERVATION ACTION STEPS

Contact the City Urban Forester to set up a pre-construction meeting prior to any tree disturbance (336-373-2150). All tree protection measures shall be installed prior to any tree disturbing activities except those necessary to install the tree protection and or temporary soil erosion control measures. The developer shall contact the Urban Forester to conduct an inspection of all tree protection devices prior to any tree disturbing activities except as noted above.

The City Urban Forester will conduct an intermediate site inspection for enforcement of the tree protection requirements of the Development Ordinance of the City of Greensboro. The developer shall contact the Urban Forester to conduct an intermediate inspection of the Tree Conservation requirements after the site grading has been completed but prior to the installation of the landscaping.

The City Urban Forester will conduct a final site inspection for enforcement of the tree protection requirements of the Development Ordinance of the City of Greensboro. The developer shall contact the Urban Forester to conduct a final inspection of the Tree Conservation requirements prior to being issued a Certificate of Occupancy.

No disturbance is allowed within the Tree Conservation Area except as noted on the approved plan or with prior approval from the Urban Forester. The Tree Conservation Area includes the Critical Root Zone Area. To receive credit, trees must be protected from direct and indirect root, trunk and crown damage.

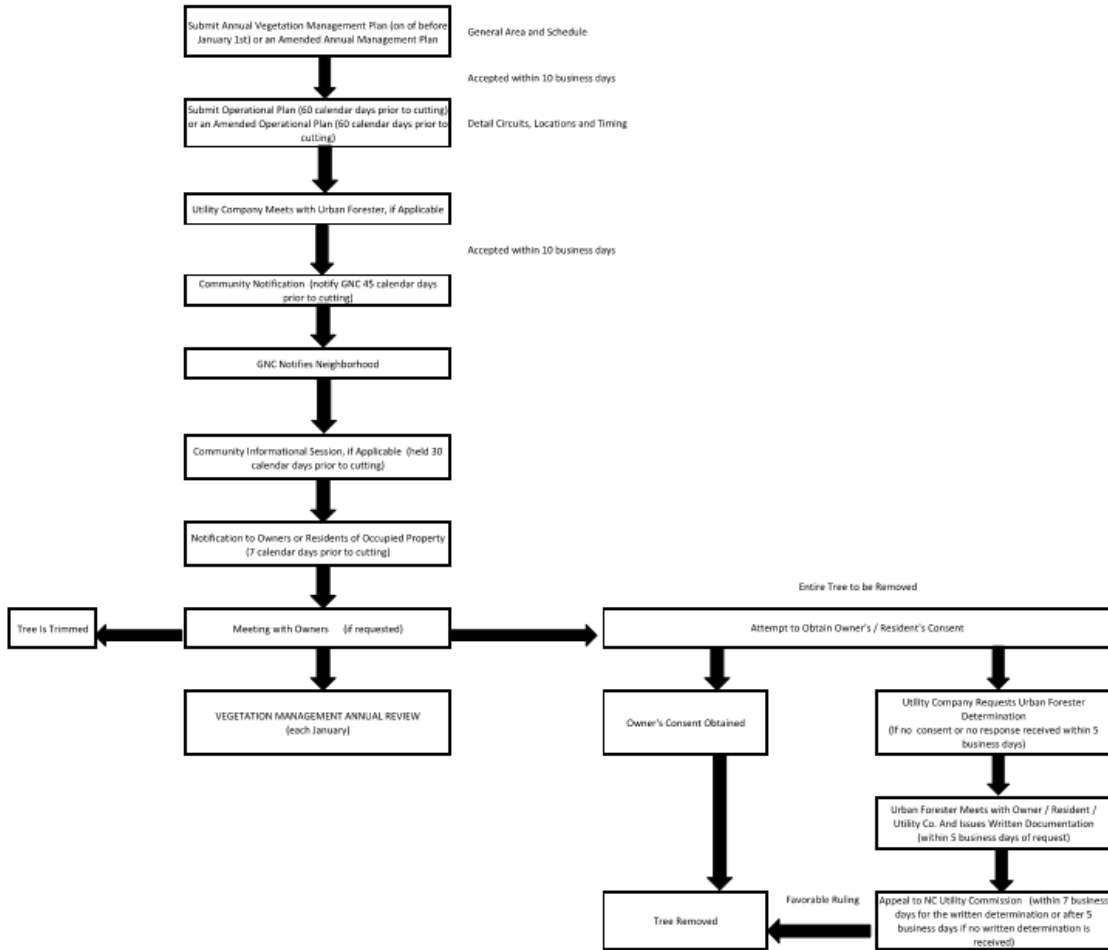
The Tree Conservation Area should be designated as such with "Tree Conservation Area" signs posted visibly on the outside of the fenced-in area. Signs may not be posted on the trees.

Tree protection fencing shall remain in place until construction is complete and other landscaping has been installed, and the City Urban Forester has approved its removal.

No parking, storage, dirt stockpiling, concrete washout or any other activities is permitted in the Tree Conservation Areas.

Removal or damage to trees in the Tree Conservation Area will be subject to the penalties established in 30-5-5.5 of the Land Development Ordinance.

UTILITY VEGETATION MANAGEMENT ORDINANCE
(June 18, 2013)



TREES TO PLANT NEAR OR UNDER DISTRIBUTION POWER LINES

The following plants are some excellent selections for city and rural landscaping under power lines. These small trees do not grow taller than 25 feet. (Please note that this list is for normal distribution power lines. There are different requirements for high transmission power lines.)

COMMON NAME	SCIENTIFIC NAME
American fringe tree	<u><i>Chionanthus virginicus</i></u>
Amur maple	<u><i>Acer ginnala</i></u>
Blackhaw viburnum	<u><i>Viburnum prunifolium</i></u>
Buckeye	<u><i>Aesculus pavia</i></u>
Crabapple	<u><i>Malus spp.</i></u>
Crape myrtle	<u><i>Lagerstroemia indica 'Cherokee'</i></u>
Crape myrtle	<u><i>Lagerstroemia indica 'Dallas Red'</i></u>
Crape myrtle	<u><i>Lagerstroemia indica 'Natchez'</i></u>
Crape myrtle	<u><i>Lagerstroemia indica 'Powhatan'</i></u>
Crape myrtle	<u><i>Lagerstroemia indica 'Tuscarora'</i></u>
Dahoon	<u><i>Ilex cassine</i></u>
Dogwood	<u><i>Cornus florida</i></u>
Doublefile viburnum	<u><i>Viburnum plicatum var. tomentosum</i></u>
Dr. Kassab holly	<u><i>Ilex 'Dr. Kassab'</i></u>
Japanese apricot	<u><i>Prunus mume</i></u>
Japanese dogwood	<u><i>Cornus kousa</i></u>
Japanese flowering cherry	<u><i>Prunus serrulata 'Accolate', 'Okame'</i></u>
Japanese maple	<u><i>Acer palmatum</i></u>
Little Gem magnolia	<u><i>Magnolia grandiflora 'Little Gem'</i></u>
Northern bayberry	<u><i>Myrica pennsylvanica</i></u>
Osmanthus	<u><i>Osmanthus fortunei</i></u>
Redbud	<u><i>Cercis canadensis</i></u>
Saucer magnolia	<u><i>Magnolia soulangiana</i></u>
Serviceberry	<u><i>Amelanchier spp.</i></u>
Smoketree	<u><i>Cotinus coggygria or obovatus</i></u>
Star magnolia	<u><i>Magnolia stellata</i></u>
Trident maple	<u><i>Acer buerferanum</i></u>
Witchhazel	<u><i>Hamamelis x intermedia</i></u>
Yaupon	<u><i>Ilex vomitor</i></u>

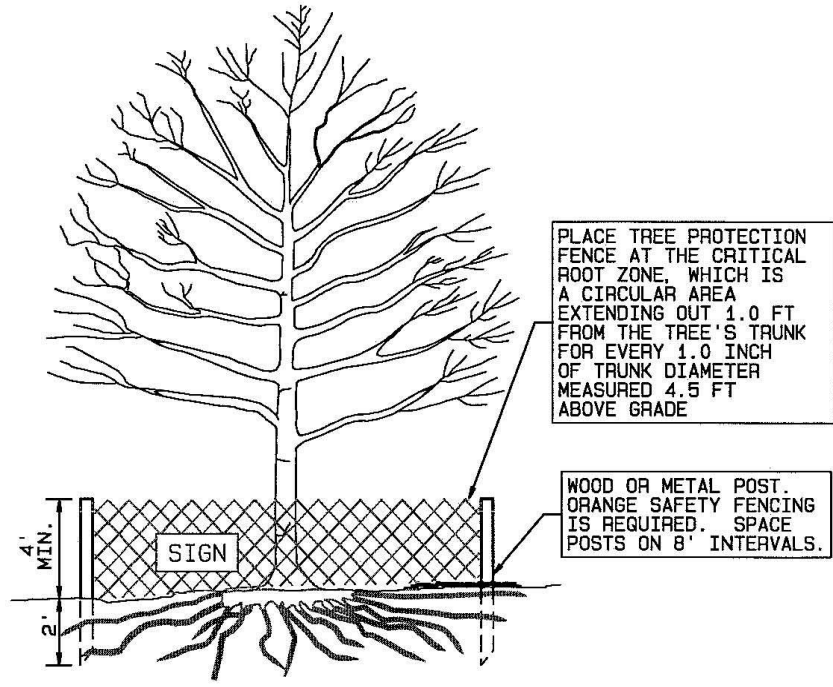
RECOMMENDED STREET TREES

Scientific Name	Ht (Feet)	Exposure	Comments
<i>Acer rubrum</i>	40 to 60	Sun, partial shade	Overused
<i>Acer saccharum</i>	50 to 75	Sun, partial shade	
<i>Acer x freemanii</i>	50 to 65	Sun	
<i>Betula nigra</i>	40 to 70	Sun, partial shade	
<i>Carpinus betulus</i>	40 to 60	Sun, partial shade	
<i>Carpinus betulus 'fastigiata'</i>	40 to 60	Sun, partial shade	
<i>Carpinus caroliniana</i>	20 to 30	Sun, partial shade	
<i>Celtis laevigata</i>	60 to 80	Sun	
<i>Celtis occidentalis</i>	40 to 60	Sun	
<i>Fraxinus americana</i>	60 to 80	Sun	
<i>Fraxinus pennsylvanica</i>	50 to 60	Sun	
<i>Ginkgo biloba (male)</i>	40 to 70	Sun	Slow growing
<i>Gleditsia triacanthos inermis</i>	30 to 70	Sun	
<i>Liquidambar styraciflua</i>	60 to 100	Sun, partial shade	
<i>Liriodendron tulipifera</i>	40 to 100	Sun	
<i>Nyssa sylvatica</i>	40 to 60	Sun, partial shade	
<i>Platanus acerifolia</i>	60 to 80	Sun	
<i>Platanus occidentalis</i>	70 to 100	Sun, partial shade	
<i>Quercus alba</i>	60 to 100	Sun	
<i>Quercus bicolor</i>	50 to 60	Sun, partial shade	
<i>Quercus coccinea</i>	50 to 80	Sun	
<i>Quercus falcata</i>	70 to 90	Sun	
<i>Quercus imbricaria</i>	50 to 60	Sun	
<i>Quercus lyrata</i>	35 to 45	Sun	
<i>Quercus macrocarpa</i>	70 to 80	Sun	
<i>Quercus nigra</i>	50 to 75	Sun, partial shade	
<i>Quercus nuttallii</i>	40 to 60	Sun	
<i>Quercus palustris</i>	60 to 80	Sun	
<i>Quercus phellos</i>	60 to 80	Sun	
<i>Quercus prinus</i>	60 to 70	Sun	
<i>Quercus rubra</i>	60 to 75	Sun	
<i>Quercus shumardii</i>	40 to 60	Sun	
<i>Quercus stellata</i>	40 to 50	Sun	
<i>Quercus virginiana</i>	30 to 50	Sun	
<i>Taxodium distichum</i>	50 to 100	Sun	
<i>Tilia cordata</i>	30 to 50	Sun	
<i>Ulmus americana</i>	75 to 125	Sun, partial shade	Disease resistance unknown
<i>Ulmus parvifolia</i>	40 to 50	Sun	Susceptible to ice damage

Standard Tree Conservation Notes

Tree Conservation Notes:

1. Contact the Planning Director to schedule a pre-construction meeting before any tree disturbance, except as noted in Sec. 30-4-26.3(C)(5), occurs on this site.
2. All tree conservation devices must be installed before inspection by the Planning Director and before any tree disturbance activities, except as noted in Sec. 30-4-26.3(C)(5), occur.
3. Removal of or damage to trees in the tree conservation area will be subject to all available remedies and penalties under the city's development ordinance.
4. No parking, storage, dirt stockpiling, concrete washout or any other activities is permitted in the tree conservation area.



- NOTES:**
1. SEE PLANS FOR LOCATION OF ALL TREE PROTECTION FENCES.
 2. ALL TREE PROTECTION DEVICES MUST BE INSTALLED PRIOR TO LAND DISTURBANCE, INCLUDING THE CUTTING OF ANY TREES, AND MUST BE INSPECTED BY THE URBAN FORESTER OR HIS DESIGNEE.
 3. NO GRADING, TRENCHING, FILLING OR STORING OF MATERIALS IS TO OCCUR IN THE TREE PROTECTION AREA.
 4. TREE PROTECTION FENCE MAY NOT BE REMOVED WITHOUT THE APPROVAL OF THE URBAN FORESTER OR HIS DESIGNEE.
 5. THE TREE CONSERVATION AREA SHOULD BE DESIGNATED WITH "TREE CONSERVATION AREA" SIGNS POSTED VISIBLY ON THE OUTSIDE OF THE FENCED-IN AREA. SIGNS MAY NOT BE POSTED ON THE TREES. SEE EXAMPLE BELOW.

**TREE
CONSERVATION
AREA**

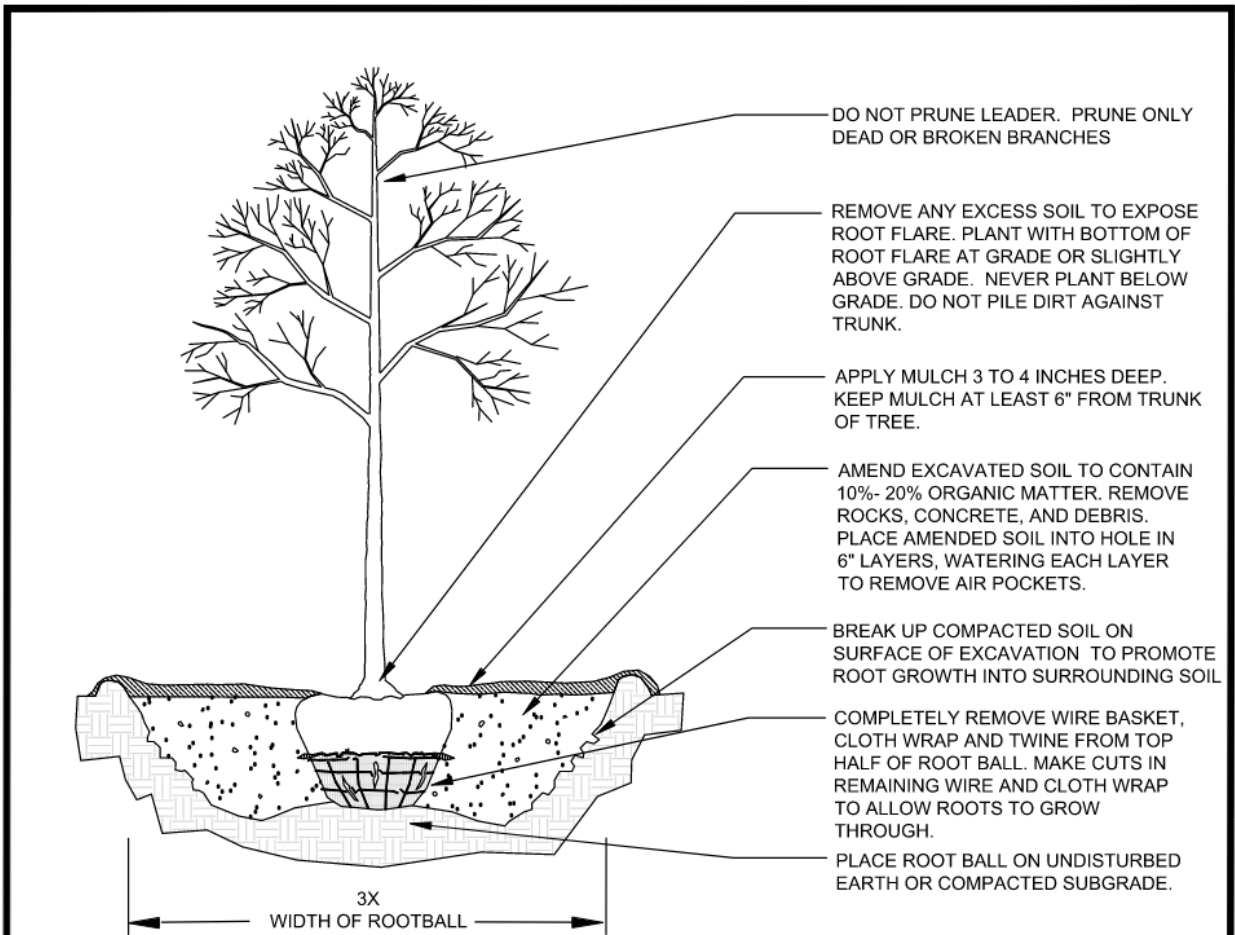
**ZONA DE
CONSERVACION
DE ARBOL**

EXAMPLE SIGN

16" X 12" SIGN
 1" BLOCK LETTERS
 BLACK LETTERS ON WHITE BACKGROUND
 1/4" BLACK BORDER
 ALL WEATHER MEDIA
 100' SUGGESTED SPACING BETWEEN SIGNS

CITY OF GREENSBORO

STANDARD TREE PROTECTION DETAIL	STD. NO.	REV.
	448	03-08 06-08 03-10







NOTES:

1. ALL TREES ARE TO BE NURSERY GROWN AND LOCALLY ADAPTED, BALL AND BURLAP (B&B) PREFERRED.
2. ONCE THE PLANT IS IN THE HOLE, REMOVE ALL TREATED OR PLASTIC-COATED BURLAP, STRAPPING, OR TWINE, AND CUT TOP HALF OF WIRE CAGE FROM ROOT BALL. MAKE CUTS TO REMAINING WIRE AND BURLAP TO PROVIDE SPACE FOR ROOTS GROW THROUGH.
3. FOR CONTAINER-GROWN TREES, CAREFULLY REMOVE THE PLANT FROM THE CONTAINER AND CUT ANY MATTED OR CIRCLING ROOTS.
4. TREE WRAP IS OPTIONAL AND MUST BE REMOVED AFTER THE FIRST GROWING SEASON.
5. WATER TREE AFTER PLANTING. FOR MULCH, USE PINE NEEDLES OR SEASONED WOOD MULCH, NO MORE THAN 3 TO 4 INCHES THICK.
6. STAKING IS NOT REQUIRED. IF STAKING TREES, USE FLEXIBLE $\frac{3}{4}$ " WOVEN TIE AND ALLOW SLACK FOR TREE TO MOVE IN WIND. REMOVE ALL STAKES AND TIES AFTER FIRST YEAR OF GROWTH.

CITY OF GREENSBORO

STANDARD TREE PLANTING DETAIL

Example Planting Rate Chart

PLANT LIST				
<u>Quantity</u>	<u>Symbol</u>	<u>Description</u>	<u>Size</u>	<u>Height</u>
18		Existing Trees	NA	NA
9		Shumard Oak	2"	8'
5		Crape Myrtle	2"	4'
80		Nellie Stevens	3 gallon	18"



City of Greensboro
North Carolina

TREE DISTURBANCE PERMIT APPLICATION

Tree Disturbance Permit is an official authorization which shall be issued by the City simultaneous to the issuance of a grading permit and prior to any tree disturbing activities. Tree disturbing activities include cutting and/or damage to the Critical Root Zone of live trees four (4) inches DBH or greater on sites not accompanied by a development plan, except as stated in 30-12-1.3 (Exemptions).

Date:

Applicant Information

Name:

Business Name:

Address:

Telephone:

E-Mail:

Property Owner Information

Name:

Business Name:

Address:

Telephone:

E-Mail:

Property Information

Address or Location:

Size (Ac.):

Area of Disturbance (Ac.):

(Property Information Cont.)

Zoning:

Current Land Use:

Watershed:

Watershed Critical Area:

General Watershed Area:

Stream Buffer Requirements:

SCOD Overlay District Requirements:

NCO Overlay District Requirements:

PED Overlay District requirements:

Tree Conservation and/or Landscape Plan (To be completed by the Urban Forester/Enforcement Officer)

I, the undersigned, verify that the above information is accurate to the best of my knowledge. I also understand that the Land Disturbance Permit is an official authorization by the City, valid for one year, to perform the work listed above. I also understand that failure to disclose additional land disturbing activities will render this Permit null and void and that civil penalties may be assessed as provided in Section 30-5-5.5 of the City of Greensboro Development Ordinance. Further, I have read and fully understand the requirements and obligations of the approved plan, listed above, and agree to comply with all terms and provisions contained therein.

Signature of Applicant Owner

Date

Signature of Property Owner

Date

I have reviewed this application and found it to be complete and in compliance with the provisions of Section 30-4-26.3 of the City of Greensboro Development Ordinance and therefore, by my signature below do hereby authorize the work described in the approved plan listed above.

Signature of the Urban Forester/Enforcement Officer

Date

Approved Plants List

Use of any plant not on the Approved Plants List must be approved by the City Arborist

Canopy Trees

Scientific Name	Common Name	Drought Tolerant	E/D*	Native*	Ht (Feet)	Exposure
<i>Abies firma</i>	Japanese fir	No	E	No	40 to 70	Sun
<i>Acer pseudo-platanus</i>	Sycamore maple	Yes	D	No	40 to 60	Sun
<i>Acer rubrum</i>	Red maple	Yes	D	SE	40 to 60	Sun, pt shade
<i>Acer saccharum</i>	Sugar maple - includes subsp <i>floridanum</i>	No	D	SE	50 to 75	Sun, pt shade
<i>Acer x freemanii</i>	Freeman maple cvs: Armstrong, etc.	Yes	D	US	50 to 65	Sun
<i>Aesculus flava</i>	Yellow buckeye	No	D	US	50 to 70	Sun, pt shade
<i>Betula nigra</i>	River birch	No	D	SE	40 to 70	Sun, pt shade
<i>Carpinus betulus</i>	European hornbeam	Yes	D	No	40 to 60	Sun, pt shade
<i>Carya illinoensis</i>	Pecan	Yes	D	SE	70 to 100	Sun, pt shade
<i>Cedrus atlantica 'Glauca'</i>	Blue atlas cedar	Yes	E	No	60 to 100	Sun, pt shade
<i>Cedrus deodara</i>	Deodar cedar	Yes	E	No	40 to 70	Sun, pt shade
<i>Celtis laevigata</i>	Sugarberry	Yes	D	E	60-70	Sun
<i>Celtis occidentalis</i>	Hackberry	Yes	D	SE	40 to 60	Sun
<i>Chamaecyparis obtusa</i>	Hinoki falsecypress	No	E	No	50 to 75	Sun, pt shade
<i>Chamaecyparis pisifera</i>	Japanese falsecypress	No	E	No	50 to 70	Sun
<i>Cryptomeria japonica 'Yoshino'</i>	Yoshino' Japanese Cedar	Yes	E	No	50 to 60	Sun, pt shade
<i>Cupressus arizonica</i>	Arizona cypress	Yes	E	US	30 to 40	Sun
<i>Fagus grandifolia</i>	American beech	No	D	SE	50 to 80	Sun, pt shade
<i>Ginkgo biloba (male)</i>	Ginkgo	Yes	D	No	40 to 70	Sun
<i>Gleditsia triacanthos inermis</i>	Thornless honeylocust	Yes	D	SE	30 to 70	Sun
<i>Gymnocladus dioica</i>	Kentucky coffeetree	Yes	D	SE	60 to 75	Sun
<i>Ilex opaca</i>	American holly	Yes	E	SE	30 to 60	Sun, pt shade
<i>Juniperus virginiana</i>	Eastern redcedar	Yes	E	SE	30 to 40	Sun
<i>Liquidambar styraciflua</i>	Sweetgum	Yes	D	SE	60 to 100	Sun, pt shade
<i>Liriodendron tulipifera</i>	Tuliptree, Yellow poplar	No	D	SE	40 to 100	Sun
<i>Magnolia grandiflora</i>	Southern magnolia	Yes	E	SE	40 to 80	Sun, pt shade
<i>Metasequoia glyptostroboides</i>	Dawn redwood	Yes	D	US	50 to 90	Sun
<i>Nyssa sylvatica</i>	Black gum	No	D	SE	40 to 60	Sun, pt shade
<i>Pinus strobus</i>	White Pine	Yes	E	SE	Varies	Sun

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Hybrids native by parent plants

*E/D: E= evergreen D = deciduous

Canopy Trees *continued*

Scientific Name	Common Name	Drought Tolerant	E/D*	Native*	Ht (Feet)	Exposure
<i>Pinus sylvestris</i>	Scotch pine	Yes	E	No	30 to 70	Sun
<i>Pinus taeda</i>	Loblolly pine	Yes	E	SE	30 to 40	Sun, pt shade
<i>Platanus acerifolia</i>	London plane tree	Yes	D	No	60 to 80	Sun
<i>Platanus occidentalis</i>	Sycamore	No	D	SE	70 to 100	Sun, pt shade
<i>Quercus acutissima</i>	Sawtooth oak	Yes	D	No	30 to 45	Sun, pt shade
<i>Quercus alba</i>	White oak	Yes	D	SE	60 to 100	Sun
<i>Quercus bicolor</i>	Swamp white oak	Yes	D	SE	50 to 60	Sun, pt shade
<i>Quercus coccinea</i>	Scarlet oak	Yes	D	SE	50 to 80	Sun
<i>Quercus falcata</i>	Southern red oak	Yes	D	SE	70 to 90	Sun
<i>Quercus hemisphaerica</i>	Darlington oak	Yes	D	SE	40 to 60	Sun, pt shade
<i>Quercus imbricaria</i>	Shingle oak	Yes	D	SE	50 to 60	Sun
<i>Quercus lyrata</i>	Overcup oak	Yes	D	SE	35 to 45	Sun
<i>Quercus macrocarpa</i>	Bur oak	Yes	D	SE	70 to 80	Sun
<i>Quercus nigra</i>	Water oak	Yes	D	SE	50 to 75	Sun, pt shade
<i>Quercus nuttallii</i>	Nuttall oak	Yes	D	SE	40 to 60	Sun
<i>Quercus palustris</i>	Pin oak	Yes	D	SE	60 to 80	Sun
<i>Quercus phellos</i>	Willow oak	Yes	D	SE	60 to 80	Sun
<i>Quercus prinus</i>	Chestnut oak	Yes	D	SE	60 to 70	Sun
<i>Quercus rubra</i>	Red oak	Yes	D	SE	60 to 75	Sun
<i>Quercus shumardii</i>	Shumard oak	Yes	D	SE	40 to 60	Sun
<i>Quercus stellata</i>	Post oak	Yes	D	SE	40 to 50	Sun
<i>Quercus virginiana</i>	Live oak	Yes	E	SE	30 to 50	Sun
<i>Taxodium ascendens</i>	Pond cypress	Yes	D	SE	70 to 80	Sun
<i>Taxodium distichum</i>	Baldcypress	Yes	D	SE	50 to 100	Sun
<i>Thuja occidentalis</i>	American arborvitae	No	E	SE	40 to 60	Sun
<i>Thuja plicata</i>	Giant arborvitae	No	E	US	50 to 80	Sun, pt shade
<i>Thuja x 'Green Giant'</i>	Green Giant arborvitae	Yes	E	Hy-No	40 to 60	Sun
<i>Tilia americana</i>	American linden or Basswood	Yes	D	SE	60 to 100	Sun
<i>Tilia cordata</i>	Littleleaf linden	Yes	D	No	30 to 50	Sun
<i>Tilia tomentosa</i>	Silver linden	Yes	D	No	40 to 70	Sun
<i>Ulmus americana</i>	American Elm cvs.: Liberty Elm, Valley Forge, Patriot, Celebrity, etc.	Yes	D	SE	75 to 125	Sun, pt shade
<i>Ulmus parvifolia</i>	Lacebark elm	Yes	D	No	40 to 50	Sun

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Understory Trees

<i>Acer barbatum</i> (<i>A. saccharum</i> ssp. <i>floridanum</i>)	Southern sugar maple	Yes	D	SE	20 to 25	Sun
<i>Acer buergeranum</i>	Trident maple	Yes	D	No	25 to 35	Sun
<i>Acer griseum</i>	Paperbark maple	No	D	No	20 to 30	Sun, pt shade
<i>Acer japonicum</i>	Fullmoon maple	No	D	No	20 to 30	Sun, pt shade
<i>Acer palmatum</i>	Japanese maple	Yes	D	No	15 to 25	Sun, pt shade
<i>Acer truncatum</i>	Purple blow maple cvs: Main Street, Pacific Sunset, etc.	Yes	D	No	20 to 25	Sun
<i>Aesculus pavia</i>	Red buckeye	Yes	D	SE	10 to 20	Sun, pt shade
<i>Aesculus sylvatica</i>	Painted buckeye	No	D	SE	5 to 15	Sun, pt shade
<i>Alnus serrulata</i>	Tag alder	No	D	SE	15 to 20	Sun, pt shade
<i>Amelanchier arborea</i>	Downy serviceberry	Yes	D	SE	10 to 25	Sun, pt shade
<i>Amelanchier canadensis</i>	Serviceberry	Yes	D	SE	15 to 20	Sun, pt shade
<i>Amelanchier x grandiflora</i>	Serviceberry cvs: Autumn Brilliance, Princess Diana, etc.	Yes	D	Hybrid SE	20 to 25	Sun, pt shade
<i>Carpinus caroliniana</i>	American hornbeam, Ironwood	Yes	D	SE	20 to 30	Sun, pt shade
<i>Cercis canadensis</i>	Eastern redbud	Yes	D	SE	20 to 30	Sun, pt shade
<i>Cercis canadensis ssp. retusus</i>	Oklahoma redbud	Yes	D	SE	20 to 30	Sun, pt shade
<i>Cercis canadensis ssp. texensis</i>	Texas redbud	Yes	D	SE	15 to 20	Sun, pt shade
<i>Cercis chinensis</i>	Chinese redbud	Yes	D	No	8 to 12	Sun
<i>Chionanthus retusus</i>	Chinese fringe tree	Yes	D	No	15 to 25	Sun, pt shade
<i>Chionanthus virginicus</i>	Fringe tree	No	D	SE	12 to 20	Sun, pt shade
<i>Cladrastis kentuckea</i>	Yellowwood	Yes	D	SE	30 to 45	Sun
<i>Cornus alternifolia</i>	Pagoda dogwood	No	D	SE	25 to 30	Partial shade
<i>Cornus florida</i>	Flowering dogwood	No	D	SE	15 to 20	Partial shade
<i>Cornus kousa</i>	Kousa dogwood	Yes	D	No	20 to 30	Sun, pt shade
<i>Cornus mas</i>	Cornelian cherry dogwood	Yes	D	No	20 to 25	Sun, pt shade
<i>Cornus Stellar hybrids</i>	Stellar dogwood	No	D	No	15 to 30	Sun, pt shade
<i>Corylus avellana 'Contorta'</i>	Lauders walking stick	No	D	No	12 to 20	Sun
<i>Cotinus coggygria</i>	Smoketree	Yes	D	No	10 to 15	Sun
<i>Cotinus hybrids</i>	Smoketree cvs: Grace	Yes	D	No	10 to 15	Sun
<i>Cotinus obovatus</i>	American smoke tree	Yes	D	SE	10 to 15	Sun
<i>Crataegus phaenopyrum</i>	Washington hawthorne cvs: Washington Lustre, etc.	Yes	D	SE	25 to 30	Sun
<i>Crataegus viridis</i>	Green hawthorne cvs: Winter King, etc.	Yes	D	SE	15 to 20	Sun, pt shade
<i>Cryptomeria japonica</i>	cvs: Sekkan-Sugi, etc.	No	E	No	15 to 30	Sun, pt shade

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Understory Trees *continued*

Scientific Name	Common Name	Drought Tolerant	E/D*	Native*	Ht (Feet)	Exposure
<i>Cupressus sempervirens</i>	Italian cypress	Yes	E	No	20 to 30	Sun
<i>Halesia carolina</i> , <i>H. tetraptera</i>	Carolina silverbell	No	D	SE	20 to 40	Sun, pt shade
<i>Halesia diptera</i>	Two-winged silverbell	No	D	SE	15 to 30	Sun, pt shade
<i>Ilex cassine</i>	Dahoon Holly	No	E	SE	15-20	Sun, pt shade
<i>Ilex decidua</i>	Possumhaw	Yes	D	SE	20 to 30	Sun, pt shade
<i>Ilex vomitoria</i>	Yaupon holly	Yes	E	SE	20 to 25	Sun, pt shade
<i>Ilex x 'Nellie R. Stevens'</i>	Nellie R. Stevens holly	Yes	E	Hyb-No	20 to 40	Sun, pt shade
<i>Ilex x 'Carolina Sentinel'</i>	Carolina Sentinel holly	Yes	E	Hyb-No	20 to 25	Sun, pt shade
<i>Ilex x attenuata</i>	Ilex cvs: Savannah, Foster, Sunny Foster, East Palatka, etc.	Yes	E	Hybrid - US	20 to 30	Sun, pt shade
<i>Juniperous scopulorum</i>	Rocky Mountain juniper cvs: Blue Haven, Wichita Blue, etc.	Yes	E	US	15 to 40	Sun
<i>Lagerstroemia fauriei</i>	Japanese crape myrtle	Yes	D	No	20 to 30	Sun
<i>Lagerstromia indica</i>	Crape myrtle	Yes	D	No	15 to 30	Sun
<i>Lagerstromia indica x fauriei</i>	Crape myrtle cvs: Muskogee, Natchez, Tuscarora, etc.	Yes	D	No	15 to 30	Sun
<i>Magnolia grandiflora dwarf cvs</i>	Little Gem', 'Teddy Bear', etc.	Yes	E	SE	15 to 20	Sun
<i>Magnolia hybrids</i>	Magnolia cvs: Ann, Betty, Judy, Mary Nell, Galaxy, etc	No	D	No	10 to 30	Sun
<i>Magnolia sieboldii</i>	Oyama magnolia	No	D	No	10 to 20	Partial shade
<i>Magnolia stellata</i>	Star magnolia cvs, etc.	No	D	No	10 to 20	Sun
<i>Magnolia virginiana</i>	Sweetbay magnolia	Yes	E	SE	10 to 60	Sun, pt shade
<i>Magnolia x soulangeana</i>	Saucer magnolia	No	D	No	15 to 25	Sun, pt shade
<i>Malus spp.</i>	Crabapple	Yes	D	Hyb-No	15 to 25	Sun
<i>Ostrya virginiana</i>	American hophornbeam	Yes	D	SE	25 to 40	Sun, pt shade
<i>Oxydendrum arboreum</i>	Sourwood	Yes	D	SE	20 to 30	Sun, pt shade
<i>Parrotia persica</i>	Persian ironwood	Yes	D	No	20 to 40	Sun, pt shade
<i>Picea glauca (dwarf cultivars)</i>	Spruce cvs: Conica, etc	Yes	E	US	10 to 20	Sun, pt shade
<i>Pistacia chinensis</i>	Chinese pistache	Yes	D	No	25 to 40	Sun
<i>Prunus campanulata</i>	Taiwan cherry	No	D	No	20 to 30	Sun, pt shade
<i>Prunus caroliniana</i>	Carolina laurelcherry	No	E	SE	20 to 40	Sun, pt shade
<i>Prunus cerasifera</i>	Purple leaf plum	No	D	No	15 to 25	Sun
<i>Prunus mume</i>	Japanese apricot	No	D	No	10 to 20	Sun, pt shade
<i>Prunus persica (Corinthian hyb.)</i>	Corinthian peach cvs	No	D	No	20 to 25	Sun
<i>Prunus sargentii</i>	Sargent cherry	No	D	No	20 to 40	Sun

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Understory Trees *continued*

Scientific Name	Common Name	Drought Tolerant	E/D*	Native*	Ht (Feet)	Exposure
<i>Prunus serrulata</i>	Japanese cherry	No	D	No	15 to 25	Sun, pt shade
<i>Prunus subhirtella</i>	Higon cherry	No	D	No	20 to 40	Sun
<i>Prunus x 'Okame'</i>	Okame cherry	No	D	No	15 to 30	Sun
<i>Prunus x blireiana</i>	Blireiana cherry	No	D	No	15 to 20	Sun
<i>Prunus x 'Snow Goose'</i>	Snow Goose cherry	No	D	No	20	Sun
<i>Prunus x yedoensis</i>	Yoshino cherry cvs	No	D	No	30 to 40	Sun, pt shade
<i>Sassafras albidum</i>	Sassafras	Yes	D	SE	30 to 60	Sun, pt shade
<i>Stewartia pseudocamellia</i>	Japanese stewartia	No	D	No	20 to 40	Sun, pt shade
<i>Styrax japonica</i>	Japanese snowbell	No	D	No	20 to 30	Sun, pt shade
<i>Styrax obassia</i>	Fragrant snowball	No	D	No	20 to 30	Sun, pt shade
<i>Syringa reticulata</i>	Japanese tree lilac	No	D	No	20 to 30	Sun
<i>Thuja occidentalis</i>	Eastern arborvitae - Emerald Green, DeGroot's Spire, Techny, etc.	Yes	E	US	10 to 30	Sun
<i>Ulmus alata</i>	Winged elm	Yes	D	No	30 to 40	Sun
<i>Vitex agnus-castus</i>	Vitex chastetree	Yes	D	No	15 to 20	Sun

Shrubs

Scientific Name	Common Name	Drought Tolerant	E/D*	Native*	Ht (Feet)	Exposure
<i>Abelia chinensis</i>	Chinese abelia	Yes	D	No	5 to 7	Sun, pt shade
<i>Abelia hybrids</i>	Abelia cvs: Edward Goucher, Little Richard, Rose Creek, Sunrise, etc.	Yes	D	No	Varies	Sun, pt shade
<i>Abelia x grandiflora</i>	Glossy abelia	Yes	D	No	3 to 6	Sun, pt shade
<i>Aesculus parviflora</i>	Bottlebrush buckeye	Yes	D	SE	8 to 12	Sun, pt shade
<i>Aronia arbutifolia</i>	Red Chokeberry	Yes	D	E	6-10'	Sun, pt shade
<i>Aronia melanocarpa</i>	Black Chokeberry	Yes	D	E	3-6'	Sun, pt shade
<i>Aucuba japonica</i>	Aucuba	Yes	E	No	6 to 10	Partial shade
<i>Berberis julianae</i>	Wintergreen barberry	Yes	E	No	6 to 8	Sun, pt shade
<i>Berberis koreana</i>	Korean barberry	Yes	D	No	4 to 6	Sun, pt shade
<i>Berberis verruculosa</i>	Warty barberry	Yes	E	No	3 to 4	Sun, pt shade
<i>Berberis x gladwynensis 'William Penn'</i>	William Penn barberry	Yes	E	Hyb-No	3 to 4	Sun, pt shade
<i>Buxus harlandii</i>	Harland boxwood	Yes	E	No	4 to 6	Sun

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Shrubs *continued*

Scientific Name	Common Name	Drought Tolerant	E/D*	Native*	Ht (Feet)	Exposure
<i>Buxus hybrids</i>	Boxwood cvs: Green Mountain, Green Velvet, Wintergreen	Yes	E	No	2 to 4	Partial shade
<i>Buxus sempervirens</i>	Common boxwood	Yes	E	No	15 to 20	Partial shade
<i>Buxus sempervirens 'Suffruticosa'</i>	English boxwood 'Suffruticosa'	Yes	E	No	2 to 4	Partial shade
<i>Buxus sinics (B. microphylla)</i>	Little leaf boxwood	Yes	E	No	3 to 4	Partial shade
<i>Callicarpa americana</i>	American beautyberry	Yes	D	SE	3 to 8	Sun, pt shade
<i>Calycanthus floridus</i>	Carolina Allspice	Yes	D	SE	6-12'	Sun, pt shade
<i>Camellia sasanqua</i>	Sasanqua camellia	Yes	E	No	6 to 10	Sun, pt shade
<i>Camellia sinensis</i>	Tea camellia	Yes	E	No	4 to 6	Partial shade
<i>Caryopteris x clandonensis</i>	Blue mist shrub, Blue caryopteris	Yes	D	No	2 to 3	Sun
<i>Ceanothus americanus</i>	New Jersey tea	Yes	D	SE	3 to 4	Sun, pt shade
<i>Cedrus deodara (dwarf cultivars)</i>	Cedar cvs: Snow Sprite, Compacta, etc.	Yes	E	No	Varies	Sun
<i>Cephalanthus occidentalis</i>	Buttonbush	No	D	US	10-Jun	Sun, pt shade
<i>Cephalotaxus harringtonia</i>	Japanese plum yew	Yes	E	No	5 to 10	Partial shade
<i>Clethra acuminata</i>	Sweet Pepperbush	No	D	E	5-7'	Sun, pt shade
<i>Clethra alnifolia</i>	Summersweet cvs: Hummingbird, Sixteen Candles, Ruby Spice, etc.	Yes	D	SE	6 to 8	Sun, pt shade
<i>Cleyera japonica</i>	Japanese Cleyera	Yes	E	No		Partial shade
<i>Cornus amomum</i>	Silky Dogwood	No	D	E	8-10	Sun, pt shade
<i>Corylus americana</i>	American Hazelnut	Yes	D	E	8-12'	Sun, pt shade
<i>Cotoneaster apiculatus</i>	Cranberry cotoneaster	Yes	D	No	3	Sun, pt shade
<i>Cotoneaster dammeri</i>	Bearberry cotoneaster	Yes	E	No	1 to 2	Sun
<i>Cotoneaster microphyllus</i>	Little-leaf cotoneaster	Yes	E	No	2 to 3	Sun, pt shade
<i>Cotoneaster salicifolius</i>	Willowleaf cotoneaster	Yes	E	No	10 to 15	Sun, pt shade
<i>Cytisus scoparius</i>	Scotch broom	Yes	D	No	5 to 6	Sun, pt shade
<i>Deutzia gracilis</i>	Slender deutzia cvs: Nikko, etc.	Yes	D	No	3 to 4	Sun, pt shade
<i>Deutzia hybrids</i>	Deutzia cvs: Pink Minor, Strawberry Fields, Magician, etc.	Yes	D	No	2 to 4	Sun, pt shade
<i>Distylium hybrids</i>	Distylium cvs: 'Coppertone', 'Vintage Jade', 'Linebacker', etc.	Yes	E	No	2 to 8	Sun, pt shade
<i>Euonymus americana</i>	Strawberry bush	Yes	D	SE	4 to 6	Partial shade
<i>Forsythia x hybrids</i>	Forsythia cvs: Beatrix Farrand, Lynwood Gold, Golden Times, Spring Glory, etc.	Yes	D	No	Varies	Sun, pt shade

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Shrubs *continued*

Scientific Name	Common Name	Drought Tolerant	E/D*	Native*	Ht (Feet)	Exposure
<i>Forsythia x intermedia</i>	Border forsythia	Yes	D	No	8 to 10	Sun, pt shade
<i>Fothergilla gardenii</i>	Dwarf fothergilla	Yes	D	SE	2 to 3	Sun, pt shade
<i>Fothergilla major</i>	Large fothergilla	Yes	D	SE	6 to 12	Partial shade
<i>Gardenia jasminoides</i>	Gardenia cvs	Yes	E	No	4 to 6	Sun, pt shade
<i>Hamamelis vernalis</i>	Vernal witchhazel	Yes	D	SE	6 to 10	Sun, pt shade
<i>Hamamelis virginiana</i>	Witchhazel	Yes	E	SE	15 to 20	Partial shade
<i>Hydrangea sp.</i>	Paniculata, macrophylla,	Yes	D	No	2 to 8	Partial shade
<i>Hydrangea arborescens</i>	Smooth Hydrangea, 'Annabelle'	Yes	D	SE	3 to 5	Partial shade
<i>Hydrangea quercifolia</i>	Oakleaf hydrangea & cvs	Yes	D	SE	4 to 6	Sun, pt shade
<i>Hypericum frondosum</i>	St. John's Wort	Yes	D	SE	3 to 4	Sun, pt shade
<i>Hypericum prolificum</i>	Shrubby St. John's Wort	Yes	D	SE	2 to 4	Sun, pt shade
<i>Ilex cornuta cvs.</i>	Holly cvs: Carissa, Burford, Rotunda, Needlepoint, etc.	Yes	E	No	2 to 25	Sun, pt shade
<i>Ilex crenata cvs.</i>	Holly cvs: Hetz, Helleri, Steeds, Soft touch, etc.	Yes	E	No	4 to 10	Sun, pt shade
<i>Ilex decidua</i>	Possomhaw holly	Yes	D	SE	7 to 15	Sun, pt shade
<i>Ilex glabra</i>	Inkberry holly cvs: Shamrock, Nigra, etc.	Yes	E	SE	6 to 8	Sun, pt shade
<i>Ilex latifolia</i>	Lusterleaf holly	Yes	E	No	20 to 25	Sun, pt shade
<i>Ilex verticillata</i>	Winterberry	No	D	E	6 to 8	Sun, pt shade
<i>Ilex vomitoria</i>	Yaupon holly	Yes	E	SE	15 to 20	Sun, pt shade
<i>Ilex vomitoria cvs.</i>	Holly cvs: Nana, Schillings, Katherine, etc.	Yes	E	SE	2 to 5	Sun, pt shade
<i>Ilex x meserveae</i>	cvs: China Boy, China Girl, Blue Boy, Blue Girl, etc	Yes	E	Hyb-No	6 to 8	Sun, pt shade
<i>Ilex x 'Nellie R. Stevens'</i>	Nellie Stevens holly	Yes	E	Hyb-No	15 to 25	Sun, pt shade
<i>Ilex x 'Emily Bruner'</i>	Emily Bruner holly	Yes	E	Hyb-No	15 to 20	Sun, pt shade
<i>Ilex x 'Mary Nell'</i>	Mary Nell holly	Yes	E	Hyb-No	10 to 20	Sun, pt shade
<i>Ilex x koehneana</i>	Koehne holly cvs	Yes	E	Hyb-No	5 to 15	Sun, pt shade
<i>Illicium floridanum</i>	Florida Anise-tree	No	E	SE	6 to 8	Partial shade
<i>Illicium parviflorum</i>	Star Anise	Yes	E	SE	10'-15'	Partial shade
<i>Itea virginica</i>	Virginia sweetspire	Yes	D	SE	3 to 5	Sun, pt shade
<i>Jasminum nudiflorum</i>	Winter jasmine	Yes	D	No	3 to 4	Sun, pt shade
<i>Juniperus chinensis</i>	Chinese juniper cvs: Wintergreen, Spartan, Hooks, etc.	Yes	E	No	12 to 50	Sun

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Shrubs *continued*

Scientific Name	Common Name	Drought Tolerant	E/D*	Native*	Ht (Feet)	Exposure
<i>Juniperus chinensis</i> (dwarf cultivars)	Chinese juniper cvs: Procumbens Nana, Berkshire, Sargentii, Hetzi, etc.	Yes	E	No	3 to 12	Sun
<i>Juniperus communis</i>	Common juniper	Yes	E	US	5 to 10	Sun
<i>Juniperus conferta</i> cvs.	Juniper cvs: Blue Lagoon, Blue Pacific, Boulevard, etc.	Yes	E	No	1 to 2	Sun
<i>Juniperus davurica</i> cvs.	Parsons juniper	Yes	E	No	2 to 3	Sun
<i>Juniperus horizontalis</i>	Juniper cvs: Blue Vase, Blue Chip, Wiltonii, etc.	Yes	E	US	1 to 2	Sun
<i>Juniperus hybrids</i>	Juniper cvs: Saybrook Gold, etc.	Yes	E	Hybrid	Varies	Sun
<i>Juniperus procumbens</i>	Japanese garden juniper	Yes	E	No	.5 to 1.5	Sun
<i>Juniperus scopulorum</i> (dwarf cultivars)	Juniper cvs: Blue Creeper, Skyrocket, etc.	Yes	E	US	Varies	Sun
<i>Juniperus squamata</i> cvs.	Juniper cvs: Holger, Blue Elf, Calgary Carpet, Blue Satr, etc.	Yes	E	No	Varies	Sun
<i>Juniperus virginiana</i> cvs.	Juniper cvs: Blue Mountain, Blue Cloud, Grey Owl, etc.	Yes	E	SE	Varies	Sun
<i>Juniperus x media</i>	Juniper cvs: Seagreen, Old Gold, etc.	Yes	E	Hyb-No	Varies	Sun
<i>Kalmia latifolia</i>	Mountain laurel	Yes	E	SE	4 to 8	Sun, pt shade
<i>Lagerstroemia indica</i> and hybrids	Crapemyrtle cvs: New Orleans, Centennial, Chica, Tonto, Acoma, etc.	Yes	D	No	5 to 15	Sun
<i>Lindera benzoin</i>	Spice bush	Yes	D	SE	6 to 12	Sun, pt shade
<i>Loropetalum chinensis</i>	Loropetalum	Yes	E	No	6 to 12	Sun, pt shade
<i>Loropetalum hybrids</i>	Loropetalum cvs: Plum Delight, Ruby, Fire Dance, etc.	Yes	E	No	4 to 10	Sun, pt shade
<i>Mahonia aquifolium</i>	Oregon grape holly	Yes	E	US	3 to 6	Partial shade
<i>Myrica cerifera</i>	Southern waxmyrtle	Yes	E	SE	10 to 15	Sun, pt shade
<i>Nandina domestica</i> dwarf cvs	Nandina cvs: Firepower, Gulf Stream, Harbor Dwarf, etc.	Yes	E	No	6 to 8	Sun, pt shade
<i>Pinus mugo</i>	Mugo pine cvs	Yes	E	No	1.5 to 10	Sun, pt shade
<i>Physocarpus opulifolius</i>	Ninebark	Yes	D	SE	5 to 10	Sun, pt shade
<i>Picea abies</i> (dwarf cultivars)	Spruce cvs: Little Gem, Pendula, etc.	Yes	E	No	Varies	Sun
<i>Picea pungens</i> (dwarf cultivars)	Coloradao Blue Spruce cvs: Globosa, Montgomery, Bakeri, Fat Albert, etc.	Yes	E	US	Varies	Sun
<i>Pinus mugo</i> (dwarf cultivars)	Pine cvs: Pumilio, Mughus	Yes	E	No	Varies	Sun

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*E/D: E = evergreen D = deciduous

Shrubs *continued*

Scientific Name	Common Name	Drought Tolerant	E/D*	Native*	Ht (Feet)	Exposure
<i>Pinus nigra</i> cvs.	Austrian Pine cvs: Arnold Sentinel, Monstrosa, etc.	Yes	E	No	3 to 5	Sun
<i>Pinus rigida</i>	Pine cvs: Sherman Eddy, etc	Yes	E	SE	15 to 20	Sun
<i>Pinus sylvestris</i> (dwarf cultivars)	Pine cvs: Nana, Hillside Creeper, etc.	Yes	E	No	Varies	Sun
<i>Pinus thunbergii</i> (dwarf cultivars)	Pine cvs: Nana, Thunderhead	Yes	E	No	Varies	Sun
<i>Pittosporum tobira</i>	Japanese pittosporum	Yes	E	No	10 to 12	Sun, pt shade
<i>Podocarpus macrophyllus</i> var. <i>maki</i>	Shrubby podocarpus	Yes	E	No	20 to 35	Sun, pt shade
<i>Prunus glandulosa</i>	Flowering almond	Yes	D	No	4 to 5	Sun, pt shade
<i>Prunus laurocerasus</i>	English laurel	Yes	E	No	10 to 18	Sun, pt shade
<i>Prunus x cistena</i>	Purple leaf plum	No	D	No	7 to 14	Sun
<i>Rhaphiolepis hybrids</i>	Hawthorn cvs: Gulfgreen, Cuppertone	Yes	D	No	3 to 6	Sun
<i>Rhaphiolepis x delacourii</i>	Indian hawthorn, Yeddo hawthorn	Yes	E	No	3 to 4	Sun, pt shade
<i>Rhaphidiophyllum hystrix</i>	Needle palm	No	E	SE	6 to 8	Sun, pt shade
<i>Rhododendron austrinum</i>	Florida azalea	Yes	D	SE	8 to 10	Partial shade
<i>Rhododendron calendulaceum</i>	Flame azalea	Yes	D	SE	4 to 8	Partial shade
<i>Rhododendron sp.</i>	Encore Azalea	Yes	E	No	3 to 5	Sun, pt shade
<i>Rhus aromatica</i>	Sumac	Yes	D	SE	2 to 6	Sun, pt shade
<i>Rhus typhina</i>	Staghorn sumac	Yes	D	SE	15 to 25	Sun
<i>Rosmarinus officinalis</i>	Rosemary	Yes	E	No	2 to 4	Sun
<i>Sabal minor</i>	Dwarf palmetto	Yes	E	SE	3 to 5	Sun
<i>Sarcococca confusa</i>	Sweet Box	Yes	E	No	3 to 5	Partial shade
<i>Sarcococca hookeriana</i>	Himalayan sarcococca	Yes	E	No	4 to 6	Partial shade
<i>Sarcococca ruscifolia</i>	Fragrant sarcococca	Yes	E	No	2 to 3	Partial shade
<i>Spiraea cantoniensis</i>	Double Reeves spirea	Yes	D	No	4 to 6	Sun, pt shade
<i>Spiraea nipponica</i> 'Snowmound'	Snowmound spirea	Yes	D	No	3 to 5	Sun, pt shade
<i>Spiraea prunifolia</i>	Bridalwreath spirea	Yes	D	No	4 to 9	Sun, pt shade
<i>Spiraea thunbergii</i>	Thunberg spirea	Yes	D	No	3 to 5	Sun, pt shade
<i>Spiraea x vanhouttei</i>	Vanhoutte spirea	Yes	D	Hyb-No	6 to 8	Sun, pt shade
<i>Vaccinium corymbosum</i>	Highbush Blueberry	No	D	US	6 to 12	Sun
<i>Viburnum acerifolium</i>	Maple-leaf viburnum	Yes	D	SE	4 to 6	Partial shade
<i>Viburnum awabuki</i>	Chindo viburnum	Yes	E	No	10 to 15	Sun, pt shade
<i>Viburnum dentatum</i>	Arrowwood Viburnum	Yes	D	E	6 to 10	Sun, pt shade

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Shrubs *continued*

Scientific Name	Common Name	Drought Tolerant	E/D*	Native*	Ht (Feet)	Exposure
<i>Viburnum obovatum</i>	Walter's Viburnum	Yes	E	SE	10 to 12	Sun, pt shade
<i>Viburnum prunifolium</i>	Blackhaw Viburnum	Yes	D	E	12 to 15	Sun, pt shade
<i>Viburnum tinus</i>	Laurustinus viburnum	Yes	E	No	6 to 12	Sun, pt shade
<i>Viburnum x pragense</i>	Pragense viburnum	Yes	E	Hyb-No	8 to 10	Sun, pt shade
<i>Xanthorhiza simplicissima</i>	Yellowroot	Yes	D	SE	2 to 3	Sun, pt shade
<i>Yucca filamentosa</i>	Adam's needle yucca	Yes	E	SE	2 to 4	Sun

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DO NOT PLANT THESE	The plants below are invasive and noxious non-native plants
<i>Acer platanoides</i>	Norway Maple
<i>Ailanthus altissima</i>	Tree of Heaven
<i>Berberis thunbergii, davidii</i>	Barberry sp.
<i>Buddleia davidii, lindleyana, etc.</i>	Butterfly bush
<i>Callicarpa dichomata, japonica</i>	Asian Beautyberry sp.
<i>Eleagnus pungens, umbellata, angustifolia, etc.</i>	Eleagnus species
<i>Euonymus alatus</i>	Burning bush
<i>Ligustrum japonicum, sinense, lucidum, etc.</i>	Ligustrum or privet species
<i>Lonicera mackii, morrowii, standishii, tatarica, etc.</i>	Bush honeysuckle species
<i>Mahonia bealei</i>	Leatherleaf Mahonia
<i>Nandina domestica</i>	Nandina - except sterile cultivars
<i>Pyracantha coccinea, angustifolia, cvs., etc.</i>	Pyracantha
<i>Pyrus calleryana 'Bradford'</i>	Bradford Pear
<i>Quercus acutissima</i>	Sawtooth Oak
<i>Spirea japonica</i>	Japanese spirea

This is just a partial list of invasive non-native plants. Use of any plant not on the Approved Plant List must be approved by the City Arborist.