

Canopy/Tree/Forest Preservation Requirements Based on Land Use

City of Athens, GA

Land Use Zone	Total Tree Canopy Cover, Conserved and Planted	Conserved Tree Canopy Cover Component of Total (lots greater than or equal to 12,500 sq ft.)
AR	0%	0%
IN	40%	10%
RS-40 Site	60%	40%
Each Lot	50%	30%
RS-25 Site	60%	40%
Each Lot	50%	30%
RS-15 Site	60%	30%
Each Lot	50%	20%
RS-8 Site	45%	15%
Each Lot	35%	0%
RS-5 Site	40%	15%
Each Lot	35%	0%
RM-1	55%	35%
RM-2	50%	25%
RM-3	45%	15%
G	40%	20%
P	50%	35%
C-G	40%	10%
C-D	0%	0%
C-O	50%	25%
C-N	45%	15%
C-R	60%	30%
E-O	40%	15%
E-I	40%	5%
I	20%	0%

City of Atlanta
Standards for tree replacement and afforestation.

Table 158-103

Zoning	Minimum Trees Retained (Total DBH Inches)	Maximum Recompense Per Acre
R-1	45%	\$10,000.00
R-2	40%	\$10,000.00
R-2A	40%	\$7,500.00
R-3, R-3A	35%	\$7,500.00
R-4, R-4A, R-G, R-LC	30%	\$5,000.00
RG-4, RG-5	10%/20%*	\$10,000.00
R-4B	10%/20%*	\$5,000.00
R-5	10%/30%*	\$5,000.00
O & I, C (1-5), I (1&2)	10%	\$10,000.00
PD, PD-H, PD-MU, PD-OC, PD-BP, SPI Districts, Landmark Districts, and other special zoning categories**	Treat according to underlying zoning categories	Treat according to underlying zoning categories

(g) *Minimum tree cover.* In any request for a permit for construction in which no trees are proposed to be removed, or in cases where trees are being removed but the total tree cover on the lot is less than the minimum tree cover per zoning district, the city arborist shall require an afforestation standard such that the minimum tree cover per zoning district is satisfied, provided that all such trees so planted can reasonably be expected to be accommodated in a manner which will allow mature growth of the new trees.

Tree replacements per zoning district and the minimum required tree coverage (TDBH + TCI) on a site, regardless of any loss of trees, are as follows:

R-5, R-4-A and R-4-B districts: 35 inches per acre

- R-3, R-3-A and R-4 districts: 40 inches per acre
- R-2 and R-2-A districts: 100 inches per acre
- R-1 districts: 150 inches per acre
- RG, PD and all other districts: 90 inches per acre

Replacement trees shall be a minimum of two and one-half inches in caliper. Regardless of caliper or diameter at breast height, replacement trees shall not subsequently be removed or destroyed without a permit from the city arborist.

(h) *Planting priority.* The location of tree plantings required by this section normally shall be prioritized as follows:

- (1) Heat islands. Streets and other external heat islands shall be shaded by new or existing trees at a spacing not to exceed 35 feet on center on average, with a minimum of two trees per lot when feasible. Street trees shall be planted as close to the street as is practicable. Internal heat islands shall be shaded at a minimum rate of one tree per 750 square feet of heat island area.
- (2) Soil stabilization. Replacement trees shall next be planted on steep slopes and other erodible areas and on the banks of wetlands and waterways.
- (3) Following satisfaction of priorities (1) and (2), the applicant shall have discretion to satisfy additional tree planting requirements either by planting on the subject site, on another location approved by the city arborist, or by contributing the appropriate amount to the tree trust fund.

Beaufort County, SC

The protection level for each resource is the decimal value or percentage of the resource that is to remain permanent open space. For example, a protection level of 0.70 means that 70 percent of the land in that resource must be fully protected. The level of protection may vary by zoning district.

TABLE 106-1782. RESOURCE PROTECTION LEVELS

Natural Resource	R, RC, RQ Districts	S, CS Districts	All Other Districts	Other Standards (See Section)
Nontidal wetlands	1.00	0.80	0.60	106-1843
Beach-dune	1.00	1.00	1.00	106-1844
Headwaters buffer (RQD only)	1.00	1.00	1.00	pending
River buffer	1.00	1.00	1.00	106-1845

Maritime forest	0.70	0.65	0.60	106-1845
Mixed upland forest, mature	0.55	0.45	0.20	106-1845
Pine forest, mature	0.40	0.30	0.20	106-1845
Mixed upland forest, young	0.25	0.20	0.10	106-1845
Endangered species areas	1.00	1.00	1.00	106-1847
Specimen trees	See subsection 106-1846(b) and article VI			--
Historic sites	See article X			--

City of Chapel Hill, NC

Preservation of significant tree stands.

The significant tree stand delineation shall be used during the design review process to determine the most suitable and practical areas for woodland conservation. To the extent practicable, significant tree stands shall be preserved and incorporated into site design. Areas designated for preservation on approved plans shall be accompanied by protection devices during construction.

City of Charlotte, NC

Percentage of area required. Whenever the existing tree canopy of a single-family development site is at least ten percent of the total property area, a tree save area equal to ten percent of the total property area must be saved during development of the site. If the existing tree canopy of the site is less than ten percent but more than five percent, a tree save area equal to ten percent of the total property area must be achieved by saving the entire existing tree canopy and planting new trees to reach the required percentage area. Single-family development sites with an existing tree canopy of less than five percent of the total property area must have a tree save area equal to five percent of the total property area, which may be achieved by saving the existing tree canopy and planting new trees.

Collier County, FL

Development Type	Coastal High Hazard Area		Non-Coastal High Hazard Area	
	Acres	Percentage	Acres	Percentage
Residential and Mixed Use development	Less than 2.5 acres	10%	Less than 5 acres	10%
	Equal to or greater than 2.5 acres	25%	Equal to or greater than 5 acres and less than 20 acres	15%
			Equal to or greater than 20 acres	25%
Golf Course		35%		35%
Commercial and Industrial development and all other non-specified development types	Less than 5 acres	10%	Less than 5 acres	10%
	Equal to or greater than 5 acres	15%	Equal to or greater than 5 acres	15%
Industrial development (Rural-Industrial District only)	50%, not to exceed 25% of the project site		50%, not to exceed 25% of the project site.	

Preservation Priority

- a. Onsite wetlands having an assessed functionality of 0.65 or greater;
- b. Areas known to be utilized by listed species or that serve as corridors for the movement of wildlife;
- c. Any upland habitat that serves as a buffer to a wetland area,
- d. Listed plant and animal species habitats,
- e. Xeric Scrub,

- f. Dune and Strand, Hardwood Hammocks,
- g. Dry Prairie, Pine Flatwoods, and
- h. All other upland habitats.
- i. Existing native vegetation located contiguous to a natural reservation .

Gwinnett County, GA

16 Tree Density Units per acre required for all multi-family and non-residential land uses exclusive of any zoning buffer. Trees, both existing and new, shall be reasonably distributed throughout the site, with emphasis on tree groupings to achieve aesthetic results following professional landscaping standards. Trees may be retained or planted for credit within a public street right-of-way if granted authorization by the Department of Transportation.

Tree Density Standard Calculation.

The Tree Density Standard shall be calculated by summing total acreage of the project included within the limits of the permit application (but excluding any acreage included within a zoning buffer and other land area allowed to be excluded by this article).

- a. Credit for existing trees proposed to be preserved on the site shall be calculated by multiplying the number of trees (by diameter) times the units assigned in TABLE B, CREDIT FOR EXISTING TREES. Credit shall be given for all trees preserved on a property having a diameter of 3" or more, except trees located in a zoning buffer.
- b. Credit for new trees proposed to be replaced on the site shall be calculated by multiplying the number of trees (by diameter) times the units assigned in TABLE C, CREDIT FOR REPLACEMENT TREES. Credit shall be given for all new trees replaced on a property except for trees less than 1 inch in diameter and new trees planted in a required zoning buffer. Multi-trunked trees shall only be given credit by measuring the single largest trunk and not the cumulative total of the various trunks. Tree-form shrubs shall not be given credit for satisfying the required Tree Density Standard.

Lake County, FL

Requirements Where Site Contains Natural Upland Communities.

- A. FNAI S2 and S3 Ranked Natural Upland Communities. For all Development proposals with FNAI S2 and S3 ranked Natural Upland Communities, the following requirements apply:
 - 1. The vegetation of the natural upland community shall be preserved through Site design to the maximum extent possible. The amount of Land set aside shall be in conformance with the requirements of the PUD, Commercial, and Industrial zoning districts wherein *PUD's shall provide twenty-five (25) percent Open Space and Commercial and Industrial uses shall provide twenty (20) percent Open Space*. The habitat shall primarily be located within the required Open Space set aside for the particular Development type. Where FGFWFC guidelines stipulate habitat requirements greater than that which can be accommodated by the Open Space, the *Additional habitat requirements can be set aside On-Site (with Density bonus)* or can be mitigated through a Developers agreement between the County, FGFWFC, and the Developer in conformance with Section 6.04.07.

B. Natural Upland Communities other than S2 and S3. For those Development proposals characterized as containing Natural Upland Communities as defined in these regulations, but not defined as S2 and S3, the following requirements shall apply in order to maintain species diversity of Viable Populations of non Designated Species:

1. A minimum of ten (10) percent of each natural upland community occurring on the Site shall be preserved as Open Space or an alternative plan to be considered on a case-by-case basis.
2. Additional natural upland community areas preserved beyond the ten (10) percent minimum shall be encouraged through the following incentive: Acreage preserved in excess of the ten (10) percent requirement may be used to fulfill any applicable minimum Open Space requirements at a ratio of one (1) unit natural upland community to 1.5 unit required Open Space (1:1.5). In no event may credits be used to decrease any required Wetlands and associated Buffers required under Section 6.01.
3. Where the requirements of B1. cannot be met, the Applicant shall mitigate in accordance with Subsection 6.04.07.

City of Ormond Beach, FL

1. Minimum Specimen Trees Protection

- a. Except where the Landscape Architect has determined a specimen tree as not suited for preservation, the minimum number of existing specimen trees to be protected on any development site shall be as follows:

<u>NUMBER OF SPECIMEN TREES</u>	<u>MINIMUM SPECIMEN TREE PROTECTION REQUIREMENT</u>
Less than 3 per acre or a portion thereof	80 percent
3.0 to 5.0 per acre	75 percent
5.1 to 8.0 per acre	65 percent
More than 8.0 per acre	4 per acre

- (1) No tree removal shall be permitted if it will result in the non-conformity of the site to the minimum specimen tree protection requirement except as provided in paragraph (2) below.
- (2) If the Landscape Architect and/or the Site Plan Review Committee determines that there is no practical alternative to the removal of the specimen tree, then mitigation shall be provided to compensate for the loss by replacement and planting of a tree or trees equivalent to ten percent (10%) of the cross-sectional area of the specimen tree removed.

2. Minimum Tree Ratios

- a. All single-family or duplex lots, except those in the REA (Rural Estate/Agricultural) zoning district, shall have one (1) existing or planted tree for each one thousand five hundred (1,500) square feet of lot or fraction thereof prior to the issuance of a certificate of occupancy. All single-family

lots in the REA (Rural Estate/Agricultural) zoning district shall have one (1) existing or planted tree for each two thousand five hundred (2,500) square feet of lot or fraction thereof prior to the issuance of a certificate of occupancy. At least one (1) required tree shall be located in the front yard and at least one (1) required tree shall be located in the rear yard.

- b. All other zoning districts, except for single-family and duplex lots, there shall be one (1) existing or planted tree for each one thousand five hundred (1,500) square feet of the site or fraction thereof, or one (1) tree shall be provided for every four hundred (400) square feet of landscaped area. The ratio requirement that amounts to the greatest number of trees shall apply. Additional trees or payment in lieu of additional trees may be required to meet the specimen tree replacement criteria.
 - c. No tree removal shall be permitted if it reduces the number of trees on the site below the minimum ratio requirements. If the Landscape Architect determines that there is no practical alternative to the proposed removal, mitigation shall be provided on-site by the replanting of a tree to meet the minimum ratio requirements.
3. Heavily Wooded Sites. The following shall apply to all development except single-family homes and duplexes:
- a. A minimum of fifteen percent (15%) of the total gross area of the site shall be designated for the protection of trees. The area designated for the preservation of protected and specimen trees may be used to satisfy this requirement.
 - b. The tree protection area may be comprised of one (1) or more sub-areas within the development and may include any landscape buffer, wetland protection area, or other required landscaped area. Such designated areas shall contain sufficient surrounding pervious surface and other protective devices to adequately protect the trees contained within the clusters.
 - c. If practical, a minimum of fifty percent (50%) of the trees designated as “protected” by §3-02, Chapter 3, Article I, shall consist of existing trees within designated tree protection areas.

City of Port Orange, FL

Fifteen percent of the square footage of any development shall be designated for the protection of existing trees. The area required to protect specimen trees may be included to satisfy this requirement. This required area may be constituted as one or more subareas within the development. This area may include required landscape buffer or other landscape areas. Such designated areas shall contain sufficient land area to comply with minimum tree protection standards to adequately protect the trees contained within the areas. A minimum of 50 percent of the required minimum number of trees, as provided in section 15(a) of this article, shall consist of existing trees within said area. This requirement may be waived or modified if the development contains an insufficient amount of existing trees to meet this requirement or if the modification of this requirement is warranted by specific on-site conditions.

SPECIMEN TREE PROTECTION REQUIREMENTS

Number of Specimen Trees	Minimum Specimen Tree Protection Requirements
Less than 3 per acre	80 percent of all specimen trees
3.0 to 5.0 per acre	65 percent of all specimen trees
5.1 to 8.0 per acre	50 percent of all specimen trees
8.1 or more per acre	4 specimen trees per acre

City of St. Augustine, FL

Ratio of required trees. The total combination of retained trees and new trees planted for credit shall result in the development meeting the following ratios:

Shade trees	=	Fifty (50) percent minimum
Understory trees	=	Fifty (50) percent maximum
Palms	=	Twenty-five (25) percent maximum

Existing trees retained or preserved.

Existing trees which are retained and preserved shall receive credit points according to the following schedule:

Three (3) inches or more but less than seven (7) inches d.b.h. . . .	1 credit
Seven (7) inches or more but less than twelve (12) inches d.b.h. . . .	2 credits
Twelve (12) inches or more but less than twenty (20) inches d.b.h. . . .	3 credits
Twenty (20) inches or more d.b.h. . . .	4 credits

Trees relocated and retained on site over six (6) inches dbh. shall receive a fifty (50) percent bonus credit

Southern Red Cedar tree (<i>juniperus silicicola</i>) more than two (2) feet tall or having a trunk diameter at a point three (3) inches above ground level of more than one (1) inch ...	1 credit
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Native vegetation . . .	1 credit
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Volusia County, FL

Fifteen (15) percent of the square footage of any development shall be designated for the protection of trees. The area required to protect specimen trees may be included to satisfy this requirement. This required area may be constituted as one or more subareas within the development. Said area may include any landscape buffer or other landscape buffer or

other landscape areas required by Appendix B, Volusia County Zoning Ordinance, as amended, on a development. Such designated areas shall contain sufficient land area to comply with minimum tree protection standards to adequately protect the trees contained within the areas. A minimum of fifty (50) percent of the required minimum number of trees as provided in Section 1008 of this article shall consist of existing trees within said area. The county forester may provide for a waiver or modification of this requirement if the development contains an insufficient amount of existing trees to meet this requirement or if the county forester determines that modification of this requirement is warranted by specific on-site conditions.

Palm Beach County, FL

All standard permits for parcels equal to or greater than four acres shall be evaluated by ERM for the establishment of a native upland preserve. Parcel owners that have significant areas of native upland vegetation shall be required to designate a native upland preserve equivalent to at least 25 percent of the total native upland vegetation on site or otherwise comply with this Chapter. New public park facilities constructed on parcels 20 acres in size or less shall be exempt from the preserve requirements of this Chapter.

Factors that will determine if a parcel has significant areas of native vegetation include, but are not limited to the quality of the native ecosystem, overall quality of its biological diversity, the presence of listed species, the wildlife habitat, value grouping of native vegetation, and the compactness of the preserve and its proximity to other natural preserve areas and corridors.

State of Maryland

A. There is a forest conservation threshold established for all land use categories, as provided in Subsection B... The forest conservation threshold [is] the percentage of the net tract area at which the reforestation requirement changes from a ratio of 1/4 acre planted for each acre removed above the threshold to a ratio of 2 acres planted for each acre removed below the threshold.

B. After reasonable efforts to minimize cutting or clearing of trees and other woody plants have been exhausted in the development of a subdivision or project plan...the forest conservation plan shall provide for reforestation, purchase of credits from a forest mitigation bank, or payment into the forest conservation fund according to ... the following forest conservation thresholds for the applicable land use category:

Category of Use	Threshold Percentage
<i>(1) Agricultural and resource areas</i>	<i>50 percent;</i>
<i>(2) Medium density residential areas</i>	<i>25 percent;</i>
<i>(3) Institutional development areas</i>	<i>20 percent;</i>
<i>(4) High density residential areas</i>	<i>20 percent;</i>
<i>(5) Mixed use and planned unit development areas</i>	<i>15 percent;</i>
<i>(6) Commercial and industrial use areas</i>	<i>15 percent.</i>

[Annotated Code of Maryland 08.19.03.01 Article VIII. Sec. 8.1]