

Mitigation/Compensation for Tree Preservation

City of Atlanta, GA

Any tree of six inches or greater DBH, or for new subdivisions, new lots of record, vacant lots, and vacant land tracts, any tree except pines of six inches or greater DBH or any pine of 12 inches or more DBH, that is removed or destroyed in violation of this article shall be recompensed by the violator.

(1) Recompense or partial recompense in the form of in-kind replacements on site shall be in a ratio of two trees replaced for each tree illegally removed or destroyed. On site replacement trees shall be in addition to the minimum required tree coverage established in subsection 158-103(f) and in addition to any pre-approved tree replacement plan. In-kind replacements shall be minimum two and one-half caliper inch trees of species with potential for comparable or greater size and comparable or better quality at maturity as the trees illegally removed or destroyed, as determined by the city arborist. In-kind replacement trees must be maintained for a minimum of one year and shall not subsequently be removed or destroyed without a permit from the city arborist.

(2) Recompense or partial recompense in the form of cash payment to the tree trust fund shall be calculated on the following bases:

- a. Recompense (IR) for trees of known number removed (Nrem) and known total diameter removed (TDBHrem) shall be calculated according to the formula:
$$IR = \$200.00(Nrem) + \$60.00(TDBHrem)$$
- b. Recompense for trees of known number removed but unknown total diameter shall be calculated according to the formula:
$$IR = \$1,500.00Nrem$$
- c. Recompense for trees illegally removed or destroyed for which neither total diameter nor number can be determined shall be made under the assumption that the site was fully stocked prior to clearing. Recompense shall be calculated by the formula:
$$IR = \$30,000.00/acre$$
- d. Recompense for specimen and historic trees shall be one and one-half times the calculated dollar cost IR.
- e. Recompense for trees removed or destroyed with the intent or the effect of by passing or subverting other sections of this article, in particular the public notice provisions of subsection 158-101(e) and the tree replacement calculations of subsections 158-103(a) and (b), shall be assessed a double dollar cost IR.

Minimal impact on trees; replacement trees. Each applicant for a permit to remove or destroy trees shall, to the maximum extent feasible, minimize the impact on the trees on the site. The applicant shall plant replacement trees on site that equal the total number of trees being removed or destroyed. Where construction of improvements or existing dense tree cover precludes the planting of the total number of replacement trees required on the site, the city arborist may approve a plan which results in the planting of the number of trees on the site which can reasonably be expected to be accommodated in a manner which will allow mature growth of the replacement trees. The remainder of the total number of trees may be planted in a local park, on public lands, or along right-of-ways, subject to approval of the City of Atlanta Parks Department, provided such plantings are within the same NPU district or within one mile of the NPU boundary.

Recompense. The difference between the number of trees removed or destroyed (Nrem) and the number of trees replaced (Nrep) on a site times the established recompense value shall be calculated as partial recompense to the tree trust fund. In addition, the difference between the total diameter at breast height of the trees removed or destroyed (TDBHrem) and the total caliper inches of the trees replaced on site (TCIrep), as indicated on the approved tree replacement plan, shall be calculated as partial recompense to the tree trust fund. Total recompense(R) shall be calculated according to the formula
 $R = \$100.00 (Nrem - Nrep) + \$30.00 (TDBHrem - TCIrep), C \geq 0$.

Limits and adjustments.

- (1) For recompense purposes of this section, all trees except pines with a minimum DBH of six inches shall be included in the formula. Pines with a minimum DBH of 12 inches shall be included in the formula.
- (2) For new subdivisions, new lots of record, and vacant lots, a maximum shall be set on recompense at a pro rated per acre basis by zoning classification as tabulated below, provided that no less than the specified minimum of existing trees, by total DBH inches, are retained on a site. Credit based on the established recompense value formula will be given for trees planted. This credit may be subtracted from maximum recompense per acre, provided trees are spaced at no more than one tree per 400 square feet.

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.

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.

Collier County, FL

Created Preserves shall be allowed for parcels that cannot reasonably accommodate both the required on-site preserve area and the proposed activity.

- (1) Criteria for allowing created preserves include:
 - (a) Where site elevations or conditions requires placement of fill thereby harming or reducing the survivability of the native vegetation in its existing locations;
 - (b) Where the existing vegetation required by this policy is located where proposed site improvements are to be located and such improvements cannot be relocated as to protect the existing native vegetation ;

- (c) Where native preservation requirements cannot be accommodated, the landscape plan shall re-create a native plant community in all three strata (ground covers, shrubs and trees), utilizing larger plant materials so as to more quickly re-create the lost mature vegetation. These areas shall be identified as created preserves.
 - (d) When a State or Federal permit requires creation of native habitat on site. The created preserve acreage may fulfill all or part of the native vegetation requirement when preserves are planted with all three strata; using the criteria set forth in Created Preserves. This exception may be granted, regardless of the size of the project.
 - (e) When small isolated areas (of less than 1/2 acre in size) of native vegetation exist on site. In cases where retention of native vegetation results in small isolated areas of 1/2 acre or less, preserves may be planted with all three strata; using the criteria set forth in Created Preserves and shall be created adjacent existing native vegetation areas on site or contiguous to preserves on adjacent properties. This exception may be granted, regardless of the size of the project.
 - (f) When an access point to a project cannot be relocated. To comply with obligatory health and safety mandates such as road alignments required by the State, preserves may be impacted and created elsewhere on site.
- (2) Required Planting Criteria:
- (a) Where created preserves are approved, the landscape plan shall re-create a native plant community in all three strata (ground cover, shrubs and trees), utilizing larger plant materials so as to more quickly re-create the lost mature vegetation. Such re-vegetation shall apply the standards of section 4.06.05 C. of this Code, and include the following minimum sizes: one gallon ground cover; seven (7) gallon shrubs; fourteen (14) foot high trees with a seven foot crown spread and a dbh (diameter at breast height) of three inches. The spacing of the plants shall be as follows: twenty to thirty foot on center for trees with a small canopy (less than 30 ft. mature spread) and forty foot on center for trees with a large canopy (greater than 30 ft. mature spread), five foot on center for shrubs and three foot on center for ground covers. Plant material shall be planted in a manner that mimics a natural plant community and shall not be maintained as landscaping. Minimum sizes for plant material may be reduced for scrub and other xeric habitats where smaller size plant material are better suited for re-establishment of the native plant community.
 - (b) Approved created preserves may be used to recreate:
 - (1) not more than one acre of the required preserves if the property has less than twenty acres of existing native vegetation .
 - (2) not more than two acres of the required preserves if the property has equal to or greater than twenty acres and less than eighty acres of existing native vegetation .
 - (3) not more than 10% of the required preserves if the property has equal to or greater than eighty acres of existing native vegetation .
 - (c) The minimum dimensions shall apply as set forth in 3.05.07H.1.b.

- (d) All perimeter landscaping areas that are requested to be approved to fulfill the native vegetation preserve requirements shall be labeled as preserves and shall comply with all preserve setbacks

Port Orange, FL

Tree replacement.

(a) *In general.* In order to maintain the wooded and natural character of the city and provide for perpetual reforestation of the urban forest, the replacement of trees removed from the site after final acceptance or issuance of a certificate of occupancy shall be required. Such replacement shall apply to all development excluding single-family dwellings, two-family dwellings, and structures of up to four dwelling units in planned unit developments.

(b) *Replacement schedule for trees which are not historic trees.* Replacement trees shall be provided in accordance with the following schedule.

Tree Diameter at Breast Height	Required Replacement Trees
2--8"	1
9--16"	2
17--24"	3
25--32"	4
33--40"	5
41" +	6

(c) *Replacement species and size.* Historic and specimen trees to be removed shall be replaced with the most similar species listed in section 15(b) of this article. The minimum specifications for replacement of specimen trees shall be in accordance with the same section. The minimum specifications for historic tree replacement shall be in accordance with section 16.5 of this chapter.

(d) *Replacement location.* Replacement trees should be planted in the same location as the original tree, wherever possible. Replacement trees planted in areas other than the original location shall be accessible to irrigation or hand watering to ensure survival.

(e) *Tree bank for specimen and historic trees.* The city finance director shall establish a separate fund for the tree bank for the deposit of mitigation payments as required in chapter 9, article II. The deposits shall be utilized for urban reforestation and median beautification within the city.

City of Ormond Beach, FL

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.

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.

Tree Replacement Requirements

1. *Intent.* It is the intent of this Section to ensure that:

- a. Protected trees within existing single-family and duplex only (other than specimen trees) may be removed in accordance with the standards established in §3-03.A and B, Chapter 3, Article I, provided they are replaced on a 1:1 basis. Replacement trees for non-specimens shall have a minimum caliper of at least two and one-half inches (2½”) measured six inches (6”) above the soil line at time of planting and shall meet the material specifications stated in §3-05.C, Chapter 3, Article I (*Plant Materials*). Replacement trees having a caliper greater than two and one-half inches (2½”) will be awarded additional credit for the excess over two and one-half inches (2½”) replacement. The Landscape Architect may also award additional credit for trees deemed to have a unique horticultural significance. The mitigation of specimen trees for existing single-family and duplex is outlined below.
- b. Protected, specimen and historic trees shall be replaced and the Mitigation For will determine the replacement requirements. However, existing protected trees and palms four-inch (4”) caliper or greater for new construction single-family or duplex homes only and six-inch (6”) caliper and greater for all other

future zoning districts will be credited toward meeting the mitigation requirements.

- c. Replacement for protected trees shall have a minimum caliper of at least two and one-half inches (2½”) measured six inches (6”) above the soil line at the time of planting and shall meet material specifications stated in §3-05.D., Chapter 3, Article I. Fifty percent (50%) of the replacement trees shall be native.
- d. Any specimen tree removed, other than those determined by the Landscape Architect as not suited for preservation, shall be replaced and the replacement will be determined by the Mitigation Form. Specimen trees shall be replaced having a minimum caliper of four and one-half inches (4½”) in diameter measured twelve inches (12”) above the soil line when planted, provided the total cross-sectional area of replacement trees is not less than ten percent (10%) of the total area of specimen trees in sound condition that are being removed. Existing saved specimen trees will be credited toward meeting these requirements. The maximum number of specimen trees to be removed shall be limited as stated in §3-03.D, Chapter 3, Article I, and replacement trees shall meet the materials specifications stated in §3-05.C, Chapter 3, Article I.
- e. Mitigation for specimen trees normally requires multiples of four and one-half inch (4½”) caliper trees as the minimum size to serve as replacements. If the applicant wishes to plant trees larger than four and one-half inch caliper, but not less than 2 and one-half inch (2½”) caliper, as long as the total cross-sectional area remains the same, and the number of trees required remains constant. (This does not apply in parking lot islands, where the required minimum size is three and one-half inch [3½”) caliper.)
- f. On-site tree replacement requirements may be reduced by the Landscape Architect if, in his opinion, adequate tree cover can be provided with less than the required number of replacement trees or if on-site conditions make conformance impractical. This determination shall be subject to the review and approval of the SPRC and must be based on a complete tree survey and tree preservation plan. Where tree replacement requirements are reduced or waived, the applicant shall install the balance of the required replacement trees on sites (public properties, including rights-of-way) in the City to be selected by the Landscape Architect. Where, in the opinion of the Landscape Architect, there are no suitable sites for such plantings, the applicant shall pay an amount equal to ten percent (10%) of the cross-sectional area of the tree removed, multiplied by the current nationally accepted value per square inch of tree diameter at breast height (\$33 for example of calculation, not a set standard price), the cost of providing such trees, as determined by the Landscape Architect, into a City tree replacement fund.

Protected Trees: (4.93 square inches = cross sectional area of a 2½” caliper tree) 4.93 x \$33.00 (accepted national value/sq. in. = \$163.00/tree (rounded to the nearest dollar)

Specimen Trees: (10%) of cross-sectional area x \$27.00) Example for a 20-inch oak tree: $20'' \times 3.1416 = 62.83$ $(62.83) \times (62.83) \times (.08) = 315.8$ sq. in. of cross-sectional area $315.8 \times 10\% = 31.58$ $31.58 \times \$27.00 = \853.00 (rounded to the nearest dollar)