

**AN ORDINANCE OF THE CITY OF RICHMOND HILL, GEORGIA
FOR THE PURPOSE OF ENACTING PROVISIONS REQUIRING
THE PROTECTION OF TREES WITHIN THE CITY, REQUIRING
THE PLANTING AND MAINTENANCE OF TREES AS
A REQUIREMENT OF THE DEVELOPMENT OF CERTAIN
PROPERTIES WITHIN THE CITY, REGULATING THE PRUNING
AND TRIMMING OF TREES WITHIN THE CITY, ESTABLISHING A
TREE BOARD FOR THE CITY OF RICHMOND HILL, PROVIDING
FOR PROCEDURES, ADOPTING CERTAIN STANDARDS, AND
FOR OTHER PURPOSES**

CHAPTER 1, PREAMBLE

Section 1: Short Title.

This ordinance shall be known and cited as the City of Richmond Hill Tree Ordinance.

Section 2: Purpose and Intent.

The City of Richmond Hill deems it necessary and desirable in the interest of public health, safety and welfare to enact a Tree Protection Ordinance to be included and codified in the Richmond Hill Code of Ordinances, with appropriate appendices to be likewise included in the City of Richmond Hill Engineering Design Standards. The plan calls for the conservation, planting and replacement of trees and to prevent the indiscriminate removal of trees in the City without denying the reasonable use and enjoyment of real property. The importance of trees is recognized for their shade, cooling, noise and wind reduction, soil erosion prevention, oxygen production, dust filtration, carbon dioxide absorption, aesthetic and economic enhancement of all real property, and their contribution to the general well being and quality of life of the citizens of Richmond Hill. Consistent with the expressed purpose of this article, all persons shall make reasonable efforts to preserve and retain certain existing, self-supporting trees as defined herein. It is also the intent of this article that all applicable sites within the City

maintain or obtain a 40% minimum tree canopy coverage.

CHAPTER 2, GENERAL PROVISIONS

Section 1: Matters Regulated.

This Ordinance governs and regulates the following activities within the City of Richmond Hill:

1. All new construction on lands within the City which on the effective date of this Ordinance are not improved with a compliant structure, as set forth below.
(Developmental Regulations)
2. All activities, including, but not limited to, trimming, pruning, planting and removal, involving trees located on any public property within the City, including, but not limited to, lands owned by the City for any purpose, in fee simple or any lesser interest, or in which the City holds any easement or other interest. Also included are all lands leased by or otherwise controlled by the City of Richmond Hill. (Trimming & Pruning Regulations)
3. The maintenance of trees on any common area or similar area built on or after the effective date hereof. (Common Area Maintenance Regulations)

Section 2: Applicability.

1. The Developmental Regulations and Common Area Maintenance Regulations provisions of this Ordinance shall apply in all areas of the City except:
 - a. Those lands within the City limits which, on the effective date hereof, are improved by the building of a building or other structure, or have received final approval for subdivision, in compliance with the Zoning Ordinances

of the City as they exist on said date.

- b. Those lands within the City limits which, on the effective date hereof, have a pending or completed application for approval for subdivision or the building of improvements on such lands in compliance with the Zoning Ordinances of the City as they exist on said date, provided that said proposed improvements are built and completed within the time allowed under such pending or completed applications.
 - c. Those lands which may in the future be annexed into the City, and on the effective date of such annexation, are improved by the building of a building or other structure, or have received final approval for subdivision, in compliance with the Zoning Ordinances of the jurisdiction from which they are annexed as they exist on the date of annexation.
 - d. Those lands which may in the future be annexed into the City, and on the effective date of such annexation, have a pending or completed application for approval for subdivision or the building of improvements on such lands in compliance with the Zoning Ordinances of the jurisdiction from which they are annexed as they exist on the date of annexation, provided that said proposed improvements are built and completed within the time allowed under such pending or completed applications.
2. The Trimming & Pruning Regulations provisions of this Ordinance shall apply to:
- a. All City property located within the City, whether acquired by purchase, trade, swap, annexation, dedication or condemnation, and whether held in

fee simple or lesser interest, including easements, held by the City of Richmond Hill. Also included are all lands leased by or otherwise controlled by the City of Richmond Hill.

b. Any such property or easements acquired by the City after the effective date of this Ordinance.

3. The Common Area Maintenance Regulations provisions of this Ordinance shall apply in all areas of the City except:

a. Those lands within the City limits which, on the effective date hereof, are improved by the building of a building or other structure, or have received final approval for subdivision, in compliance with the Zoning Ordinances of the City as they exist on said date.

b. Those lands within the City limits which, on the effective date hereof, have a pending or completed application for approval for subdivision or the building of improvements on such lands in compliance with the Zoning Ordinances of the City as they exist on said date, provided that said proposed improvements are built and completed within the time allowed under such pending or completed applications.

c. Those lands which may in the future be annexed into the City, and on the effective date of such annexation, are improved by the building of a building or other structure, or have received final approval for subdivision, in compliance with the Zoning Ordinances of the jurisdiction from which they are annexed as they exist on the date of annexation.

- d. Those lands which may in the future be annexed into the City, and on the effective date of such annexation, have a pending or completed application for approval for subdivision or the building of improvements on such lands in compliance with the Zoning Ordinances of the jurisdiction from which they are annexed as they exist on the date of annexation, provided that said proposed improvements are built and completed within the time allowed under such pending or completed applications.

Section 3: Definitions.

The following terms, as used in this Ordinance, and its included standards, shall have the following meanings:

- a. 2000 ANSI A300 - Pruning standards set forth in the Standard Practices for Trees, Shrubs, and Other Woody Plant Maintenance. American National Standards Institute: (ANSI A-300) is the industry consensus standards for tree care, planting, and removal, which are incorporated herein by reference and found in Arboricultural Specifications Manual.
- b. Arboricultural Specifications Manual - the manual containing regulations and standards for the planting, maintenance, and removal of trees located for new developments sites.
- c. Arborist - Means an arborist certified by The International Society of Arboriculture.
- d. Basal Area - The cross-sectional area of a tree trunk at diameter breast height (DBH) expressed herein in terms of "units" per acre.

- e. Basic Best Management Practices for Trees – A practical guide to tree management within the city limits of Richmond Hill, dated June 2007.
- f. Buffer - Land area used to visibly separate one use from another through screening and distance.
- g. Caliper; Single Stem - The thickness of trees measured in inches. A caliper measurement for trees shall be measured 12 inches above the soil line or across the stump if the tree has been severed at less than 12 inches above the soil line.
- h. Canopy - The foliar cover in a forest stand consisting of overhead branches and leaves.
- i. Clerk - Means the City Clerk of the City of Richmond Hill, Georgia.
- j. City Arborist - Means an arborist selected by the City as a consultant on decisions/issues concerning trees within the City of Richmond Hill.
- k. City Manager - Means the City Manager of the City Richmond Hill, Georgia.
- l. Civil Engineer - Means an engineer licensed under Chapter 15 of Title 43 of The Official Code of Georgia trained in the design and construction of public works.
- m. Critical Establishment Period - The first two (2) years after a tree is planted.
- n. Dead Tree - A tree that does not contain any live tissue, i.e., green leaves or live limbs.
- o. Deciduous Tree - Any tree which naturally loses its leaves in the fall.
- p. Diameter-At-Breast-Height (DBH) - The tree trunk diameter measured in inches at a height 4.5 feet above the ground. If a tree forks into multiple trunks below 4.5 feet, the trunk is measured at its most narrow point beneath the forks.

Measurements shall be made by use of a circumference to diameter conversion tape.

- q. Diameter, Tree - The diameter of a tree measured as follows: 1) for existing preserved trees, at a point 4.5' above the ground; 2) for new replaced trees, at a point 6 inches above the ground. For multi-trunk trees Diameter Breast-Height (DBH) above.
- r. Director of Planning & Zoning - Means the Director of the Planning & Zoning Department of the City of Richmond Hill, Georgia.
- s. Dripline - The vertical line extending from the outermost edge of the tree canopy to the ground.
- t. Green Space - Any area retained as permanently vegetated land.
- u. Hardwood Tree - Any tree botanically classified as an angiosperm.
- v. Landscape Architect - Means a person licensed pursuant to Chapter 23 of Title 43 of The Official Code of Georgia.
- w. Large Maturing Tree - Large maturing tree species shall be a minimum of eight feet in height and have a caliper of at least two inches immediately after planting. These species shall have an average mature crown spread of at least *40 feet* when grown in the City of Richmond Hill, Georgia. See Appendix E.
- x. Natural Area - An area of natural vegetation that is generally undisturbed, unmaintained, and is self-perpetuating. It includes not only trees, but also native shrubs, ground covers, wildflowers, vines, and grasses.
- y. Over-story Trees - Those trees that compose the top layer or canopy of vegetation

and will generally reach a mature height of greater than forty (40) feet.

- z. Planning and Zoning Director – Means the planning and zoning director for the City of Richmond Hill.
- aa. Planting Season - The time period or season during which newly planted trees will have the best opportunity for survival. The planting season begins on November 1st and ends on March 31st.
- bb. Private Tree - A tree that is located on lands for which the City of Richmond Hill does not have responsibility for tree management.
- cc. Proper Pruning - Means pruning or trimming as defined by the 2000 ANSI A300 standards, or the most current version thereof.
- dd. Pruning - The cutting or removing any part of the branching structure of a tree in either the crown, trunk or root areas.
- ee. Public Tree - Any tree located on property belonging to the City of Richmond Hill.
- ff. Removal - The physical removal of a tree.
- gg. Replacement Tree - A new tree planted on a site to meet minimum site density factor requirements (regardless of whether trees existed prior to any development).
- hh. Retention Tree - Any tree that is designated on a Tree Survey or Tree Management Plan to be retained on a site.
- ii. Root Protection Zone - The minimum area beneath a tree which must be left undisturbed in order to preserve a sufficient root mass to give a tree a reasonable

chance of survival. Except where otherwise specified, the root protection zone shall be the circular area above and below ground with a radius equivalent to the greater of 6 feet or 1.0 feet for every inch in trunk diameter at 4.5 feet above the ground.

- jj. Site Plan - A plan provided that reflects existing and proposed conditions on a site that is intended for construction. This may include but is not limited to topography, structures and/or additions, grading, drainage, erosion control measures, trees to be saved or planted to comply with the requirements of this Ordinance, best management practices, parking requirements, streets and other type improvements.
- kk. Small Maturing Tree - Small maturing tree species shall have an average mature crown spread of at least 15 feet when grown in the City of Richmond Hill, Georgia. See Understory tree.
- ll. Softwood Tree - Any tree botanically classified as a gymnosperm.
- mm. Terminal Role - Means fulfilling the function of the terminus or top of a tree
- nn. Tree - Any self-supporting, woody perennial plant which normally attains a single trunk diameter of five (5) inches or more and which normally attains a mature height of a minimum of fifteen (15) feet.
- oo. Tree Fund - The City of Richmond Hill Tree Protection Escrow Fund, Established to receive funds paid in lieu of required canopy, or for compensation for damage or removal of city owned trees.
- pp. Topping - The severe cutting back of branches to a stub, bud, or a lateral branch

not large enough to assume the terminal role.

- qq. Tree Board - A body established by the Richmond Hill City Council pursuant to this Ordinance to oversee the provisions and enforcement of this Ordinance.
- rr. Tree Management Plan - A to-scale map or site plan prepared by a professional engineer, surveyor or arborist in accordance with this ordinance, showing among other items, a detailed plan designed to protect and preserve trees before, during and for a period of two (2) years after construction.
- ss. Tree Removal - The cutting or removing of 50 percent or more of either the crown, trunk or root system of a tree, or causing the death of a tree through damaging, poisoning or other direct or indirect action.
- tt. Tree Planting Specifications - Are attached as Appendix C and are to be followed when replanting.
- uu. Tree Species Selection List - The recommended species of trees for planting within the City of Richmond Hill maintained and updated periodically by the Tree Board. Said list will also include species that are determined by the Tree Board to be discouraged for reasons to be determined by the Tree Board including but not limited to trees that are detrimental to the native environment or in conflict with this ordinance. However, trees indigcnous to Coastal Georgia may be planted.
- vv. Understory Tree - Those trees that grow beneath the overstory, and will generally reach a mature height of less than forty (40) feet.
- xx. Wetland - Means land that falls under the jurisdiction of one or more of the following agencies: The Georgia Department of Natural Resources or the United

States Army Corp of Engineers (US COE).

Section 4: Tree Board.

- A.
1. A Tree Board is hereby established to be composed of five (5) members to be appointed by the Richmond Hill City Council, and who shall also be members of the Richmond Hill Planning & Zoning Commission. The appointments of all members of the Tree Board shall run concurrently with their Planning Commission terms. In addition to the regular members of the Tree Board, the Richmond Hill City Council may, but is not required to, appoint ex-officio members to the Board for consulting purposes. Such ex-officio members shall not have any voting rights.
 2. From the members so appointed to the Tree Board, the Mayor shall designate and appoint a chairman and a vice chairman who shall oversee and preside at the meetings of the Tree Board.
 3. The Tree Board will conduct all of its meetings in accordance with the organizational rules and by-laws of the Richmond Hill Planning Commission.
- B. Duties of the Tree Board:
1. To at least annually prepare and submit to City Council recommendations regarding updates to this Ordinance and its Appendices, as well as other recommendations that guide the care, preservation, pruning, planting, replanting, removal, or disposition of trees on public lands; such plan shall consider existing and future utility locations and environmental factors in

relation to existing and future tree species on public lands or on private lands, as provided in this ordinance or other ordinances; such plan shall be recommended to the City Council and upon their acceptance and approval shall be implemented as the "Tree Master Plan".

2. To hold public hearings on variances regarding the provisions of this Ordinance, making recommendations upon the same to City Council, who shall be the final decider of all variances and appeals arising hereunder.
3. To make general and needful recommendations regarding this Ordinance or any matter pertaining to this Ordinance to the City Council.
4. To act on other matters designated by this Ordinance or by the City Council.

Section 5: Appointment of City Arborist.

- a. The City Council, with the advice and consent of the Mayor, shall appoint a City Arborist, who shall be a certified arborist. The City Arborist shall serve at the pleasure of the City Council. The City Council shall provide for the compensation of the City Arborist and all other conditions of his or her employment. The City Arborist shall serve as either a full-time position, a part-time position, or as a consultant, as determined by City Council, and shall be compensated as determined by City Council.
- b. The City Arborist shall fulfill all duties of that office under this Ordinance and any and all other duties assigned to him or her by the City Council or the City Manager.

CHAPTER 3, DEVELOPMENTAL REGULATIONS

Section 1: Required Submissions.

- a. From and after the effective date hereof, every application for any developmental permit on any covered lands, except land disturbing permits, shall include all of the following items, which shall be submitted at the Preliminary Plat Phase of any residential development or the Site Plan Phase of any other development:
 1. A coverage plan.
 2. A protection plan.
 3. A planting plan.
- b. From and after the effective date hereof, every application for any final plat approval on any covered lands shall include the following:
 1. A planting bond, if the required improvements are not to be completed or cannot be completed prior to final plat approval of any residential development or the final approval phase of any other development.
 2. A maintenance plan, including a maintenance bond, which shall be submitted at the Final Plat Approval Phase of any residential development or the Final Approval Phase of any other development.

Section 2: Requirements of Submissions.

1. The coverage plan:
 - a. A basic condition of the City of Richmond Hill Tree Management Plan is that all applicable sites maintain a minimum tree canopy of 40%. Trees

may be tiered and grouped with understory trees planted under the over-story shade canopy of a new or existing tree. Total canopy coverage shall be computed from sum of the understory and overstory trees planted and existing.

- b. The Tree Management Plan will be reviewed concurrently with the preliminary plat or site plan, as the case may be. The Developer is responsible for developing and submitting the Tree Management Plan and the plan shall be based on the gross area to be developed. Once the Developer sells individual lots, the builder/owner is responsible for implementing the plan for the lots purchased. Once a certificate of occupancy has been issued, this ordinance ceases to be in force for that lot or property.
- c. The *canopy* requirement must be met whether or not a site had trees prior to development or disturbance of the applicable site. The *canopy* may be achieved by preserving existing trees, by planting new trees according to the minimum standards in this Ordinance or by a combination of the two. Minimum tree *canopy* shall be calculated and established pursuant to the formula and analysis set forth in Appendix A to this Ordinance, and the engineering design standards of the City. Any existing tree of not less than six (6) inches DBH left in good growing condition on the property is eligible to be counted toward the minimum required *canopy* and must be protected as provided in the City engineering standards to qualify to be

counted. The developer shall be subject to the minimum tree *canopy* requirement set forth in this section. 50 percentage of the canopy coverage in wetlands may be utilized to satisfy the canopy coverage requirements, provided that such wetlands are under the same ownership, and included within the same project or development. If *canopy* coverage in wetlands meets the 40% gross canopy coverage required by the Tree Plan, Developer/Builder shall, nonetheless, be required, under any circumstances, to plant a minimum of 1 tree per residential lot with two inch (2") DBH. The developer shall base the *canopy* calculation on the gross site area, and with each such calculation, shall furnish a statement of ownership covering all of the lands on which trees are located that were included in the minimum canopy.

- d. Trees planted to achieve *canopy* requirements are to be selected species from the City of Richmond Hill Tree Species Selection List - APPENDIX E (which list values of canopy coverage in square feet for various groups of trees and minimum areas for planting), on file with the City. Any species indigenous to the City of Richmond Hill, and not on the prohibited species list, as shown in Appendix B, can be selected for planting even though it may not be included in Appendix E. In addition, planting shall be at the ratio of not less than one (1) overstory tree for every three (3) understory trees. *Canopy* credit may be met by planting all overstory trees, but not by planting only understory trees. No more than forty (40)

percent of any one genus may be included in any planting plan. All trees will be maintained properly by the builder or developer to ensure their survivability until a certificate of occupancy is issued. In the case of a common area, the builder or developer will retain responsibility for maintenance as provided in Chapter 6 of this Ordinance. All residential lots shall have at least one tree planted or existing.

- e. In order to promote diversity, no more than fifteen (15%) percent of the replacement trees shall be of the same species.

2. The protection plan:

- a. The Tree Protection Plan shall be a detailed plan designed by a certified arborist, landscape architect or civil engineer to protect and preserve trees before, during and for a period of three (3) years after planting or protection on any unsold lot or of any required project improvements. Any trees designated for retention by the Tree Protection Plan located on any unsold lot or required project improvement that die or are damaged within the first three (3) years after planting or protection shall be replaced in accordance with this Ordinance. The developer is only responsible for maintenance of trees located on property not yet sold. All trees shall be maintained for a minimum of three (3) consecutive years after planting or replacement or until such time as a Certificate of Occupancy is issued, whichever shall first occur. Trees retained and planted in common areas shall be maintained by the developer until the sooner of the end of the

three (3) year maintenance period, or the developer passes title and surrenders control of the common areas as provided in Chapter 6 of this Ordinance. A certificate of occupancy for residential property will not be issued if the lot upon which the structure sits does not meet the requirements of at least one tree (2"dbh) tree per lot.

- b. Tree protection barriers shall be erected around all existing trees and/or groupings to be preserved to meet standards set by the International Society of Arboriculture, Georgia Forestry Commission, and the City's requirements for protection of street trees or other trees required by City Tree Plan. (See Appendix D)

3. The planting plan:

- a. The planting plan shall consist of a schedule setting forth the time or times when all required protective devices will be installed on all preserved trees and the date or dates of planting of all trees to be planted on the site.
- b. The planting plan shall also contain a good faith estimate of the cost of all such protective devices and plantings.

4. The bond (if required):

- a. When the Tree Board shall determine it in the best interest of the City, as well as the project involved, to allow a developer to receive subdivision approval, as well as final plat approval, prior to fully complying with the Developmental Regulations of this Ordinance, or when the Board shall find that for reasons beyond the control of a developer, the developer has

been providentially delayed or prevented from timely compliance with the Developmental Regulations of this Ordinance, the Board may recommend, and Council may approve, such permits and approvals provided that the developer post a bond or cash deposit for such improvements in an amount recommended by the Tree Board, after receiving the advice of the City Arborist and approved by Council, and further provided that, regardless of any bond, all such plantings, protective devices and other required improvements must be fully completed within one (1) year of the issuance of final plat approval of any residential subdivision or the final approval phase of any other development.

- b. In determining whether or not the Tree Board shall recommend allowing such required improvements to be bonded and a developer to receive approvals prior to the completion of the same, and in determining whether or not City Council shall allow such, both the Tree Board and City Council shall be guided by the following criteria:
1. The amount and nature of the required improvements.
 2. The cost of the required improvements.
 3. The nature and complexity of the work involved.
 4. The reason or reasons that the improvements have not or cannot be completed prior to the developer's receipt of approvals.
 5. Any unusual weather conditions.
 6. Any unusual conditions on the land.

7. Any difficulties in obtaining labor or supplies.
 8. Any other providential reason for such delay.
- c. In setting such amount, both the Tree Board and City Council shall be guided by the following criteria:
1. The estimated cost of the improvements.
 2. The size of the subdivision.
 3. The schedule within which the improvements are to be completed.
 4. The availability of prospective contractors for the construction of the improvements.
 5. The cost involved to put the construction or completion of the improvements to bid.
 6. The cost involved for supervising the construction or completion of the improvements.
 7. The degree to which the improvements are actually completed.
- d. The bond or cash deposit shall be in such form and upon such forms as the Tree Board may require and shall be in an amount as set by Council with sureties and conditions attached satisfactory to City Council, providing for and securing the City for such a period of time as specified by City Council and expressed in the bond or cash deposit, in such an amount of money as set by City Council to ensure the satisfactory completion of the required improvements.
- e. Upon such bond or cash deposit being approved and filed, the City shall

have the power to enforce the same by all appropriate legal and equitable remedies.

- f. Upon the completion of all plantings and improvements secured by a planting bond, the developer or other responsible person shall make application to City Council for an inspection of the required improvements. Such application shall be upon forms specified by the Planning Commission, who shall cause an inspection of the plantings and improvements to be made, and if the same are found not to be up to the specifications as required by this ordinance and the City Engineering Standards, the developer or other responsible person shall be notified in writing of such deficiencies. After correction of any deficiencies, the developer or other responsible shall again offer the plantings and improvements for inspection. If there are no deficiencies found, the City shall notify the developer or other responsible person and shall release the entirety of the planting bond.
- g. All plantings, protective devices and other required improvements shall be fully installed and completed within one (1) year of final plat approval in the case of a residential development or the final approval phase of any other development.

5. The Maintenance Plan:

The Maintenance Plan shall consist of a written narrative describing how, when and by whom the Tree Protection Plan will be carried out and a bond to insure compliance with said

Tree Protection Plan.

- a. The Tree Board shall, with the advice of the City Arborist, determine the amount of the bond, which shall in no event be less than ten (10%) percent of the amount of the estimated cost of the improvements.
- b. Said bond may be properly posted by either a cash deposit or the posting of a bond with sureties and conditions attached satisfactory to the Tree Board and providing for and securing to the City for a period of three (3) years after final inspection of the improvements required under this Ordinance in such an amount of money as set by the Tree Board to ensure the satisfactory maintenance and upkeep of all such improvements for said three (3) year period.
- c. In determining the amount of such bond or cash deposit, the Tree Board shall be guided by the following criteria:
 1. The estimated cost of the improvements.
 2. The size of the subdivision.
 3. The availability of prospective contractors for the construction of the improvements.
 4. The cost involved to put the construction or completion of the improvements to bid.
 5. The cost involved for supervising the construction or completion of the improvements.
 6. The current condition of the improvements.

- d. Upon such bond or cash deposit being approved and filed, the City shall have the power to enforce the same by all appropriate legal and equitable remedies.
- e. One (1) year after acceptance of the Tree Maintenance Plan and final inspection of the required improvements under this Ordinance, the developer or other responsible person may make application to the City Council for a second inspection of the required improvements. Such application shall be upon forms specified by the Planning Commission, who shall cause a second inspection of the improvements to be made, and if the same are found not to be maintained up to specifications as required by this Ordinance and the City Engineering Standards, the developer or other responsible person shall be notified in writing of such deficiencies. After correction of any deficiencies, the developer or other responsible person shall again offer the improvements for inspection. If there are no deficiencies found, the City shall notify the developer or other responsible person and shall release twenty (20%) percent of developer's, or other responsible person's, bond or cash deposit.
- f. Two (2) years after the acceptance of the Tree Maintenance Plan and final inspection of the required improvements under this Ordinance, the developer or other responsible person may request in writing an additional inspection of the improvements, and if the improvements are found not to be maintained up to specifications as required by this Ordinance and the

City Engineering Standards, the developer or other responsible person shall be notified in writing of such deficiencies. After correction of any deficiencies, the developer or other responsible person shall notify the City of such corrections and offer the improvements for inspection. If there are no deficiencies found, the City shall notify the developer or other responsible person and shall release an additional twenty (20%) percent of the developer's, or other responsible person's, bond or cash deposit.

- g. Three (3) years after the acceptance of the Tree Maintenance Plan and final inspection of the required improvements under this Ordinance, the developer or other responsible person may request in writing an additional inspection of the improvements, and if the improvements are found not to be maintained up to specifications as required by this Ordinance and the City Engineering Standards, the developer or other responsible person shall be notified in writing of such deficiencies. After correction of any deficiencies, the developer or other responsible person shall notify the City of such corrections and offer the improvements for inspection. If there are no deficiencies found, the City shall notify the developer or other responsible person and shall release the balance of the developer's, or other responsible person's, bond or cash deposit.
- h. In the event that a developer or builder shall transfer title to the common areas of any project or lands subject to this Ordinance to the owner or a property owner's or similar association under the provisions of Chapter 6

of this Ordinance prior to the expiration of the three (3) year maintenance period, the developer or builder shall not be relieved of his/her/its responsibilities under any maintenance bond, nor entitled to the release of any portion of any maintenance bond as a result of such transfer, unless the receiving owner or association shall post a new maintenance bond in the amount of the unreleased balance of said original maintenance bond. Alternatively, any developer or other responsible person transferring title to the common areas of any project or lands subject to the this Ordinance to an owner or property owner's or similar association under the provisions of Chapter 6 of this Ordinance may assign, in writing, the unreleased portion of the subject maintenance bond to the owner, property owner's or similar association, accepting such common areas by means of a writing, filed with the Tree Board.

Section 3: Deviations from Plans

At any time after the approval of any coverage plan, protection plan, planting plan, maintenance plan or associated bond, a developer, builder or owner shall have the right, without any prior approval, to remove any tree or trees, either protected or planted, from any affected lot or site to permit building or improving on said lot or site, as well as a change of use of any lot or site, so long as said developer, builder or owner shall, within six (6) months of such removal, plant on the same lot or site a replacement tree, meeting the specifications of subpart "d" of Section 2 of this Chapter, for each removed tree. Should such replanting on the same lot or site be impossible or impracticable, such developer, builder or owner shall be entitled to apply for a

variance under Chapter 7 of this Ordinance.

Section 4: Final Plat Requirements

From and after the effective date hereof, every final plat of every covered development or covered lands shall include, either as a drawing or included schedule, a listing or depiction of protected trees and planted trees, as required by this Ordinance, for each lot or tract depicted thereon.

CHAPTER 4, TRIMMING & PRUNING REGULATIONS

Section 1: Prohibited Actions

From and after the effective date hereof no person, firm, corporation or other entity shall trim, prune, cut, excavate near, dig or trench near, or otherwise disturb any tree on any property owned or controlled by the City of Richmond Hill and subject to this Ordinance without strictly complying with the following regulations:

1. Tree Pruning
 - a. Trees on public property may be pruned for utility line clearance only by tree pruners who have attended a certified utility line training course within a 12-month period of pruning activity. At each pruning site, names of pruning crew with date of certification shall be available for city's review. The City Planning Director, or designee, shall be notified in advance the general locality of any pruning activities taking place. All pruning of public trees shall be done in accordance with the American National Standard for Tree Care Operations (ANSI A300-2001) and the most current standards as developed by the National Arborist Association.

1. Requirements Pertaining to Utility Companies
 - A. Prior to conducting any non-emergency tree pruning, all utility companies shall notify Planning and Zoning Department Director in writing, no less than 3 days prior to the start of any work.
 - B. Utilities and Telecommunications Companies shall use directional pruning unless the City otherwise consents in writing.
 - C. The city shall supervise the cutting as necessary and may regulate or halt the cutting when it is deemed to be detrimental to any protected tree or when the cutting exceeds what is needed for continued utility service.
2. Required Electric Power Line Clearances.
 - A. When pruning is required to maintain the necessary clearance between any existing tree and an electric power line, the pruning shall be conducted in accordance with ANSI Standard A300. Branches or leaders to be cut back shall either be pruned to the next lateral having a diameter at least 1/3 of that being cut, or else be pruned just outside the branch-collar at the base of the branch.
 - B. Except as provided in subsection (c) below, the following maximum clearances shall be periodically established

between electrical conductors at various voltages and adjoining vegetation:

1. Telephone, TV cable, and other insulated communication lines require no minimum clearance;
 2. Secondary electric lines which carry voltage between 21-750 volts, insulated, shall require a clearance of 2' for areas of existing construction, and a clearance of 4' for areas of new construction;
 3. Distribution and transmission lines which carry voltage between 750-35,000 volts, uninsulated, shall require a clearance of 15';
 4. Distribution and transmission lines which carry voltage in excess of 35,000 volts, uninsulated, shall require a clearance of 15'.
- b. To lengthen the time between clearance pruning cycles for electric transmission and distribution lines, and to facilitate proper pruning to laterals as described in ANSI Standard A300, as referenced in subsection (a), above, clearances around transmission and distribution lines as set out in subsections (b) (3) and (b) (4), above, may be increased to 15' and 20', respectively, at the discretion of City Engineering Department, for the following species only:

1. American Elm (*Ulmus americana*)
 2. Hackberry & Sugarberry (*Celtis occidentalis* and *Celtis laevigata*)
 3. Silver Maple & Red Maple (*Acer saccharinum* and *Acer rubrum*)
 4. Laurel Oak, Live Oak, Water Oak, and Willow Oak (*Quercus* species)
 5. Pecan (*Carya illinoensis*)
 6. River Birch (*Betula nigra*)
 7. Loblolly pine (*Pinus taeda*)
 8. Sweetgum (*Liquidambar styraciflua*)
- c. Removal and replacement of street trees near electric power facilities.
- When in the judgment of utility company and the Planning and Zoning Director, a tree interferes with the safe and reliable operation of the electric power system along a street right-of-way, and cannot be pruned in accordance with ANSI Standard A300 so as to provide the required clearance as listed in subsection (b) and (c), above, the utility company may offer to remove the tree and replant an acceptable specie tree for the location or in a location mutually acceptable to the city, the utility company, and the property owner. Such trees may be planted on public land, or private property, within the limitations and intent of this section.

CHAPTER 5, EXEMPTIONS

1. The following activities shall be entirely exempt from the specified provisions of this Ordinance:

- a. The building of a single-family residential structure on a single lot that is not part of a larger development shall be exempt from the Developmental Regulations of this Ordinance.
 - b. All lands dedicated exclusively to silviculture shall be totally exempt from this Ordinance for so long as such lands remain totally devoted to silviculture.
2. The following activities shall be exempt from the Trimming & Pruning Regulations of this Ordinance:
- a. The removal of dead, diseased, or damaged trees, as approved by the City Arborist.
 - b. The removal of trees necessary for the construction, operation and maintenance of drainage facilities and sanitary and storm sewers as approved by the City.
 - c. The removal of trees for construction of public streets and improvements as approved by the City.
 - d. The removal of trees in time of emergency, including, but not limited to: tornadoes, windstorms, floods, freezes, or other natural disasters, or which pose potential danger to life or property.
 - e. Utilities in connection with overhead service, distribution, transmission lines, underground service, and distribution lines are exempt from the requirements of this section with the following exceptions:
 1. Pruning or trimming a tree inconsistent with ANSI 300A-2001, as amended, is prohibited.

2. Removal of trees twelve (12) inches dbh and larger within corridors and/or easements shall require notification, prior to removal, by telephone to the Planning and Zoning Director, or designee, and notification to the property owner and/or occupant at least three (3) business days prior to removal.
- f. Utility lines, which are tunneled beneath tree roots in order to protect feeder roots, are permitted. Elsewhere trenching is allowed no closer to a tree's trunk than three-fourths of the dripline radius. However, protective measures shall be taken as specified in the Best Practices Manual, and City Engineering Standards, which protective measures for feeder roots are incorporated herein by reference.
- g. Construction (including clearing of the lot) of a detached, semi-detached or attached single-family residential structure.
- h. Any land recognized by the city upon which bona fide agricultural operations or commercial nursery or tree farm uses are being conducted.
- i. The trimming and pruning regulations of this ordinance shall not apply to the trimming, pruning, maintenance or removal of trees by the landowner, or others acting in his/her behalf from any easement on his/her property that is not occupied by a street, an alley or any type overhead utility installation.

CHAPTER 6, COMMON AREA MAINTENANCE REGULATIONS

Section 1: Common Areas Regulated

- a. From and after the effective date hereof, all trees required by this Ordinance to be planted, preserved or protected in all common areas or other public facilities in every development subject to the provisions of this Ordinance shall be maintained by the developer, property owners association, owners association, owner or similar entity holding title thereto for a period of three (3) years after the date of certification of completion by the Tree Board.
- b. Such responsibility for said maintenance shall commence on the date that the improvements required by this Ordinance are certified as completed by the Tree Board and continue, as provided above, for a period of three (3) years.
- c. The initial responsibility of such maintenance shall be upon the developer, and shall remain upon the developer until the sooner of the time that the developer shall pass legal title of the same to the owner or a property owner's association, owners association, or similar association, or the end of the maintenance period, whichever shall first occur. Provided, however, that if the developer retains any control, including voting control, in or over such association, the developer's responsibility for maintenance under this Chapter shall continue until the sooner of the time that the developer fully surrenders such control to the association, or the end of the maintenance period, whichever shall first occur.
- d. Should the developer both pass the legal title to the common areas and surrender control of any property owner's or similar association prior to the end of the

maintenance period, as provided in subsection (c) above, the owner or property owner's or similar association, as the case may be, shall thereafter assume the full responsibility for the maintenance of the improvements required by this Ordinance on the common areas for the entire balance of the maintenance period.

- e. Every developer responsible for any maintenance under this Chapter shall, on or before December 31st of each calendar year, file with the Tree Board, a statement, executed by the developer, under penalty of perjury, for each development, setting out the ownership status of the common areas of such development, and for those developments where a property owner's association, or similar association, is to hold title to the common areas, a statement declaring that the developer has or has not surrendered control, including voting control, of such association.

CHAPTER 7, VARIANCES

Any person affected by this Ordinance may petition the Tree Board for a variance from the strict application of any provision or provisions of this Ordinance. Such application shall proceed as follows:

- a. The application shall be made upon a form provided by and approved by the Tree Board.
- b. The Tree Board shall hold a public hearing on such application after due notice to the applicant.
- c. At such hearing, the applicant may be represented by an attorney and shall be given the opportunity to cross-examine any adverse witnesses and present witnesses and other evidence on the applicant's behalf.

- d. The Tree Board, upon considering all evidence and input at the public hearing, shall make a decision on whether or not to recommend approval of such variance to City Council based upon the following criteria:
1. That there are unique physical circumstances or conditions beyond that of surrounding properties or exceptional topographical or other physical conditions peculiar to the particular property.
 2. Failure to grant a variance would result in practical difficulties and exceptional hardship.
 3. That granting a variance would not adversely impact the overall purpose and intent of this ordinance.
- e. Upon receipt of the recommendation of the Tree Board, City Council shall be the final decider of all variance applications, and shall apply the same criteria.
- f. Although City Council shall have full and complete power to grant any variance from the provisions of this Ordinance under the procedure and criteria set forth above, if such variance involves the payment of money in lieu of the planting of trees in any common area, or the planting of replacement trees at another location, then the variance shall be granted only under the following conditions:
1. The required number of trees planted offsite in lieu of onsite site planting shall be three times the number of trees required to meet the onsite planting canopy of 40 percent. The required planting location must be approved by the Richmond Hill City Council.
 2. If a cash payment is to be made in lieu of the required tree improvements,

the amount shall be set by Council with the advice of the City Arborist after considering the criteria contained in this Ordinance for the setting of bond amounts.

CHAPTER 8, ADMINISTRATIVE & OTHER MATTERS

Section 1: Violations & Penalties.

a. Property in violation of this Ordinance shall be subject to a citation or stop work order and/or fines and penalties not to exceed \$100 day, with the amount being determined by the Richmond Hill Municipal Court Judge, until such time as the remedial actions have been satisfied as follows:

1. Where trees have been removed in violation of this Ordinance, the City shall stipulate the planting of replacement trees on site or off site, at the city's discretion, of which no more than fifteen (15%) of any one species shall be permitted for replacement trees. Species must be indigenous or native and comply with the acceptable City Planting list, and all other City standards, and shall not be on the prohibited species list.

Section 2: Administration & Enforcement.

The Richmond Hill Tree Board shall administer this Chapter, except where specific authority is given to another city office as set forth in this Chapter.

Section 3: Fees

A fee of \$150 will be charged for city staff to review the tree management plan when submitted with the master plan or preliminary plat for residential developments or site plan for other development. This fee is in addition to all other fees normally associated with development.

Section 4: City Tree Fund.

- a. There is hereby created a City of Richmond Hill Tree Fund for the purpose of receiving money paid to the city in lieu of required tree plantings in common areas not slated for private individual ownership.
- b. The fund will be used by the city to plant trees on public rights-of-way, easements, or other public property as deemed suitable by the Richmond Hill Tree Board.

Section 5: Severability.

Should any part or provision of this ordinance be declared by a court of the competent jurisdiction to be invalid, the same shall not affect the validity of the ordinance as a whole or any part thereof other than the part held to be invalid.

Section 6: Indemnification.

Nothing in this Ordinance shall be deemed to impose any liability upon the City of Richmond Hill, or upon any of its officers or employees, or to relieve the owner or occupant of any private property from the duty to keep in safe and healthy condition the trees upon their property or upon a public right-of-way over their property.

Section 7: Effective Date.

This Ordinance shall become effective on and after _____.

AN ORDINANCE OF THE CITY OF RICHMOND HILL, GEORGIA
FOR THE PURPOSE OF ENACTING PROVISIONS REQUIRING
THE PROTECTION OF TREES WITHIN THE CITY, REQUIRING
THE PLANTING AND MAINTENANCE OF TREES AS
A REQUIREMENT OF THE DEVELOPMENT OF CERTAIN
PROPERTIES WITHIN THE CITY, REGULATING THE PRUNING
AND TRIMMING OF TREES WITHIN THE CITY, ESTABLISHING A
TREE BOARD FOR THE CITY OF RICHMOND HILL, PROVIDING
FOR PROCEDURES, ADOPTING CERTAIN STANDARDS, AND
FOR OTHER PURPOSES

The proposed Tree Ordinance for the City of Richmond Hill shall become effective on its passage.

APPROVED AND ADOPTED this 6th day of July, 2010.

E. Harold Fowler
Mayor

[Signature]
Council Member

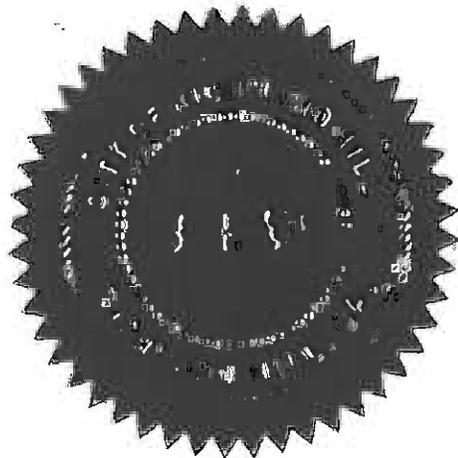
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Council Member

[Signature]
Council Member

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Council Member

ATTEST:

Yvonne H. Lee
City Clerk



APPENDIX A:

CANOPY ANALYSIS

A basic condition of the City of Richmond Hill Tree Protection Plan is that all applicable sites have a potential minimum canopy of 40% by area. The canopy requirement must be met whether or not a site had trees prior to development. The canopy may be achieved by counting existing trees to be preserved or actual canopy of preserved trees or groupings, planting new trees, or some combination of the two. For canopy analysis, the following formula shall apply.

$$CR = SA \times .4$$

Where:

CR = canopy area requirement

SA = site area

100

PROCEDURE FOR CALCULATING THE REQUIRED TREE REPLACEMENT:

Step 1: Area of total site from boundary survey

Step 2: Multiply area (in square feet) by .4

Step 3: Subtract preserved tree area from Step 2

Step 4: Select enough overstory and understory trees to equal area remaining after Step 3.

(Note: not more than 3 understory trees for each overstory tree. Not more than 15% of one species and not more than 40% of one genus.)

NOTE: All replacement trees must be two (2) inch caliper or greater. Replacement trees must have minimum area for growth as shown in APPENDIX E.

Square footage value placed on a 2" caliper tree for calculating replacement trees:

a) Over-story trees value;

1) Large growth trees = 1500 sq. ft./tree planted

2) Medium growth trees = 550 sq. ft./tree planted

b) Under-story trees value;

1) Small growth trees = 250 sq. ft./tree planted

Example 1: Following site to be developed:

Step 1: 10 acre site = 435,600 sq. ft.

Step 2: 40% canopy cover figure

435,600 X .4 = 174,240 sq. ft. to meet 40% canopy cover

Step 3: Preserved trees left on site = 108,900 sq. ft. (2.5 acres)

174,240 minus 108,900 = 65,340 sq. ft. of replacement trees

Step 4: Replacement trees required to meet 40% Canopy Cover (CC)

65,340 sq. ft. of area to be planted in trees

a. Over-story trees = 1500 sq. ft./tree planted

T 40 over-story (large canopy trees) x 1500 sq. ft. = 60,000 sq. ft.

T 10 over-story (medium canopy trees) x 550 sq. ft. = 4,950 sq. ft.

T Total sq. ft. 64,950 sq. ft.

b. Under-story trees = 250 sq. ft./tree planted

T 2 under-story (small canopy trees) x 250 sq. ft. = 500 sq. ft.

c. Total square footage of trees planted: 65,450 sq. ft.

THE 65,340 SQ. FT. OF PLANTED TREES HAS MET 40% CANOPY COVER REQUIREMENT

APPENDIX B:

Prohibited Species List

Name	Problem
Box Elder	Aggressive shallow roots; weak wood
Bradford Pear	Genetic flaw; splits apart, susceptible to breakage
Catalpa	Weak wood
Chinese Tallowtree	Aggressive shallow roots; susceptible to breakage; weedy tree
Female Ginko	Foul smelling fruit
Green Ash	Aggressive shallow roots; anthracnose
Hackberry	Large diameter surface roots; susceptible to breakage
Mimosa	Prone to disease; weedy tree; susceptible to breakage
Pecan	Large diameter surface roots, disease prone; susceptible to breakage
Princess tree	Aggressive shallow roots; weedy tree, messy, weak wood
Russian olive	Poor form, disease
Silver Maple	Aggressive shallow roots; weak wood
Sweetgum	Aggressive surface roots; fruit a litter nuisance
Tree-of-heaven	Aggressive shallow roots; weedy tree; seeds; weak wood
Water Oak	Large diameter surface roots; susceptible to breakage.

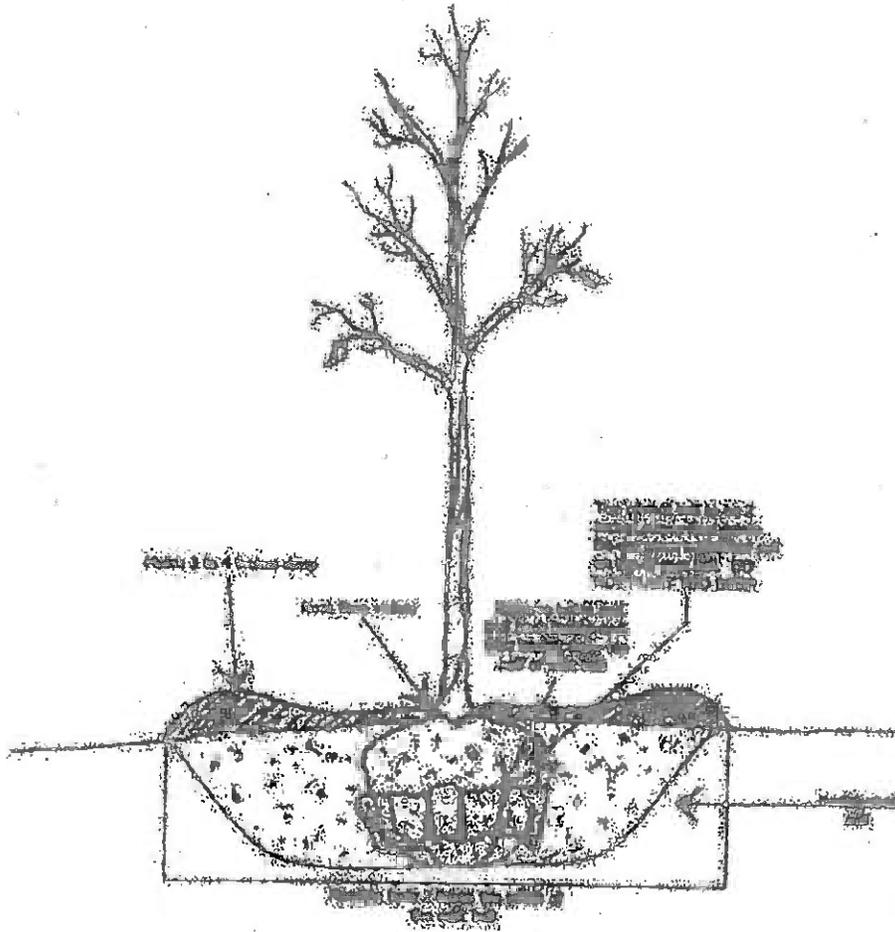
APPENDIX C:

Planting Specifications

Trees shall conform to the American Standard for nursery stock for proper relations of height, caliper and root ball diameter.

- (1) The diameter of the planting hole shall be a minimum of three (3) times the diameter of the root ball.
- (2) The planting hole sidewalls shall be scored or roughened to eliminate the smooth, slick surface caused by the shovel or auger.
- (3) If containerized material is to be planted, any circling roots shall be cut by slicing the root ball vertically from top to bottom in two to three well spaced lines around the root ball with a sharp knife.
- (4) The root ball shall rest on undisturbed soil in the planting hole with the top of the root ball on level with the natural ground level or slightly raised (not to exceed a height of two (2) inches above the natural ground level).
- (5) Any tree planted with the top of the root ball below natural ground level shall not be counted towards the required Canopy Replacement for the property.
- (6) The soil used to backfill around the root ball shall be un-compacted, native soil free of rocks, trash, or any construction debris.
- (7) Stakes and guy wires should only be installed when absolutely necessary. Supporting devices shall not interfere with vehicular or pedestrian movement and shall be removed after twelve (12) months.
- (8) Mulch in the form of pine straw, pine bark, or wood chips shall be evenly distributed over the planting hole to a settled depth of two (2) inches.
- (9) Permanent built-in or temporary watering systems shall be installed to ensure the plants will survive the critical establishment period.
- (10) Out-of-season planting is discouraged. Property Owners/Developers may submit a "Request for Delay Affidavit" to allow for plant installation to occur at a time which better coincides with the normal planting season (November 1st to March 31st).
- (11). All trees are to be nursery grown and locally adapted, ball and burlap (B&B) preferred. Minimum tree size is 2" caliper
- (12) Remove all treated or plastic-coated burlap, strapping, wire or twine from root ball.
- (13) For container grown trees, carefully remove the plant from the container and cut any matted or circling roots.
- (14) Water tree after planting. For mulch, use pine needles or seasoned mulch and use no more than 3 to 4 inches deep.
- (15) Tree wrap is optional.
- (16) Staking is optional. Rubber hose and rope or wire for staking is not recommended. 3/4" nylon strap or tree trace strap is preferred. Staking should be removed after one growing season.

APPENDIX C continued:
Planting Details



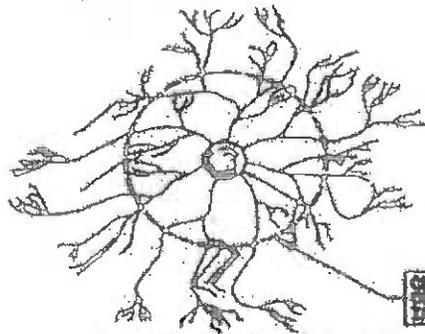
Notes:

1. All trees are to be nursery grown and locally adapted, ball and burlap (B&B) preferred. Minimum tree size is 2" caliper
2. Remove all treated or plastic-coated burlap, strapping, wire or twine from root ball.
3. For container grown trees, carefully remove the plant from the container and cut any matted or circling roots.
4. Water tree after planting. For mulch, use pine needles or seasoned mulch and use no more than 3 to 4 inches deep.
5. Tree wrap is optional.
6. Staking is optional. Rubber hose and rope or wire for staking is not recommended. 3/4" nylon strap or tree trace strap is preferred. Staking should be removed after one growing season.

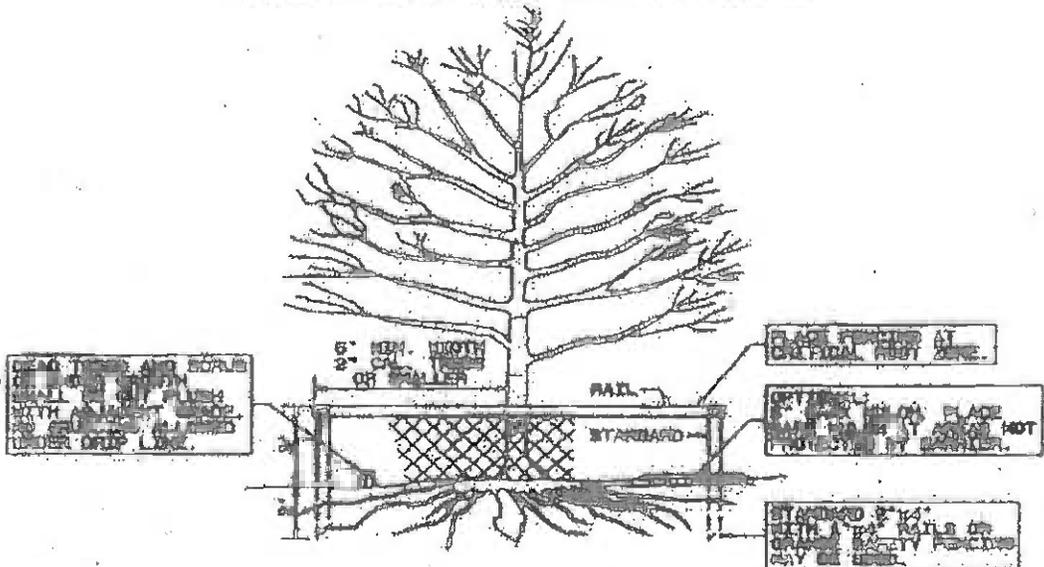
APPENDIX D:
Tree Protection Details

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.
3. No grading is to occur in the tree conservation areas or tree critical root zones.
4. Remove all barriers upon completion of project.

APPENDIX D continued:
Tree Protection Details



PLAN VIEW OF CRITICAL ROOT ZONE



SECTION VIEW

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.
3. No grading is to occur in the tree conservation areas or tree critical root zones.
4. Remove all barriers upon completion of project.

APPENDIX E:

Large Canopy Trees for Over-story: (Count for 1500 sq. ft. of canopy area for planting - minimum 2" caliber)

Large Trees 50' Suitable for areas with more than 400 square feet of total planting area; in a planting strip at least 16' x 25' or 20' x 20'						
<u>Common/Scientific Name</u>	<u>Height & Width</u>	<u>Sun/ Shade</u>	<u>Insect & Disease Resistance</u>	<u>Growth Rate</u>	<u>Deciduous & Evergreen</u>	<u>Remarks</u>
Beech, American <i>Fagus grandifolia</i>	50-75' h 40-80' w	PS/FS	L	S	D	Native. Needs ample room above and below ground. Acid soil. Fruit attracts wildlife, no litter. Zones 4-9
Blackgum <i>Nyssa sylvatica</i>	65-75' h 25-35' w	PS/FS	H	S	D	Native. Soil pH below 6 best, texture tolerant, drought tolerant, wet soil tolerant. Fruit attracts wildlife, some litter. Zones 4-9
Cypress, bald <i>Taxodium distichum</i>	60-80' h 25-35' w	FS/PS	M	F	D	Native. Drought & wet tolerant. 'Knees' form in wet areas. Tolerates compaction. Zones 4-11
Cypress, pond <i>Taxodium ascendens</i>	50-60' h 50-60' w	PS/FS	H	F	D	Native. Soil adaptable below 7.5. Knobby 'knees' form in moist areas. Attracts wildlife. No litter. Zones 5-9
Hickory, pignut <i>Carya glabra</i>	50-60' h 30-40' w	PS/FS	M	M	D	Native. Soil texture adaptable. Drought tolerant. Nuts attract wildlife. Zones 4-9
Hickory, shagbark <i>Carya ovata</i>	60-80' h 25-35' w	PS/FS	H	S	D	Native. Soil texture adaptable. Abundant nuts attract wildlife. Shaggy bark attractive. Zones 4-8
Magnolia, Southern <i>Magnolia grandiflora</i>	60-80' h 30-40' w	PS/FS	M	M	E	Native. Soil adaptable. Bark is thin, protect from mechanical injury. White showy blooms in spring & summer. Good cultivars. Zones 7-9

Maple, Red <i>Acer rubrum</i>	60-75' h 25-35' w	PS/FS	H	F	D	Native. Prefers acidic soil, texture tolerant, wet tolerant. Bark is thin. Fruit attracts wildlife. Many cultivars. Zones 4-9
Oak, laurel/darlington <i>Quercus laurifolia</i>	60-70' h 50' w	PS/FS	H	F	SE	Native. Soil adaptable. Roots will heave sidewalks. Acorns attract wildlife, creates some litter. Zones 6-10
Oak, live <i>Quercus virginiana</i>	60-80' h 60-120' w	PS/FS	H	M	E	Native. Soil adaptable. Roots will eventually heave sidewalks. Good wind resistance. Some litter. Zones 8-10
Oak, shumard <i>Quercus shumardii</i>	60-80' h 40-50' w	FS	M	F	D	Native. Soil texture adaptable, acidic. Urban tolerant. Acorns attract wildlife. Some litter. Zones 5-9
Oak, southern red <i>Quercus falcata</i>	60-80' h 60-70' w	FS	M	M	D	Native. Acidic soil, all textures, urban tolerant. Fruit attracts wildlife, no significant litter. Zones 7-9
Oak, scarlet <i>Quercus coccinea</i>	60-75' h 45-60' w	FS	M	M	D	Native. Acidic soil, all textures. Needs ample root space. Nuts attract wildlife. Some litter. Zones 5-8
Oak, swamp chestnut <i>Quercus michauxii</i>	60-70' h 30-50' w	PS/FS	M	M	D	Native. Acidic soil, all textures, occasional wet. Leaf litter persistent, acorns for wildlife. Zones 6-9
Oak, white <i>Quercus alba</i>	60-100' h 60-80' w	PS/FS	H	M	D	Native. Acidic soil, all textures. Protect roots from disturbances. Nuts attract wildlife. Some litter. Zones 3-9
Oak, willow <i>Quercus phellos</i>	60-75' h 40-60' w	FS	M	F	D	Native. Acidic soil, all textures, occasional wet, drought, urban tolerant. Nuts attract wildlife. Some litter. Zones 5-9

Pine, loblolly <i>Pinus taeda</i>	50-80' h 30' w	FS	M	F	E	Native. Soil texture adaptable, acidic. Thick bark - resistant to fire. Needle drop prolific. Zones 6-9
Pine, longleaf <i>Pinus palustris</i>	60-80' h 30-40' w	FS	M	F	E	Native. Soil texture adaptable. Beautiful bark. Needle and cone drop prolific. Drought tolerant once established. Zones 7-10
Redcedar, eastern <i>Juniperus virginiana</i>	40-50' h 8-25' w	FS	H	F	E	Native. Soil pH and texture tolerant. Blue fruit attracts wildlife. Good wind break, urban tolerant. Zones 3-9
Sweetgum <i>Liquidambar styraciflua</i>	75' h 50' w	PS/FS	H	M	D	Native. Soil pH of 7.5 or less. Surface roots. Fruit attract wildlife, significant litter. Cultivar 'Rotundifolia' fruitless. Zones 5-9
Sycamore, American <i>Platanus occidentalis</i>	75-90' h 60-70' w	FS	L	F	D	Native. Soil pH and texture adaptable. Prefers moist soil. Roots may heave sidewalks. Showy bark. Zones 4-9
Tulip poplar <i>Liriodendron tulipifera</i>	80-120' h 25-40' w	FS	H	F	D	Native. Acidic soil, occasional wet. Avoid drought & salt. Showy greenish-yellow blooms in spring. Some leaf drop in high heat. Zones 4-9
Zelkova, Japanese <i>Zelkova serrata</i>	50-90' h 50-75' w	FS	H	M	D	Japan. Soil adaptable. Drought & urban tolerant once established. Cultivar 'Green Vase' elm-like. Zones 5-8

KEY			
Sun/Shade exposure:	Growth rate:	Pest resistance:	Type:
FS = Full sun	S = Slow (less than 1' per year)	H = High	D = Deciduous
PS = Part sun	M = Medium (1-2' per year)	M = Medium	E = Evergreen
S = Shade	F = Fast (more than 2' per year)	L = Low	SE = Semi Evergreen

Medium Canopy Trees: (Count for 550 sq. ft. of area for planting - minimum 2" caliber)

Medium Trees 30' - 50' Suitable for spaces with 100 to 200 sq ft of total planting space; in a planting strip at least 4-7 feet wide; or place at least 4' from pavement or wall.						
<u>Common/Scientific Name</u>	<u>Height & Width</u>	<u>Sun/ Shade</u>	<u>Insect & Disease Resistance</u>	<u>Growth Rate</u>	<u>Deciduous Evergreen</u>	<u>Remarks</u>
Birch, river <i>Betula nigra</i> 'Heritage'	40-50' h 40-50' w	PS/FS	M	F	D	Native. Acidic soil. Drought sensitive in confined spaces. Roots need room. Cultivars available. Zones 3B-9
Elm, lacebark <i>Ulmus Parvifolia</i> 'Drake'	40-50' h 35-50' w	FS	H	F	D	Asia. Soil adaptable. Drought tolerant once established. Thin bark. Urban tolerant. Zones 5-9
Goldenraintree <i>Koelreuteria paniculata</i>	30-40' h 30-40' w	FS/PS	M	M	D	China. Soil adaptable. Salt, drought, urban tolerant. Bright yellow flowers in spring. Zones 5-9
Holly, East Palatka <i>Ilex x attenuata</i>	30-45' h 10-15' w	FS	M	M	E	Florida natural hybrid. Urban & drought tolerant once established. Red berries attract wildlife. Zones 7-9
Holly, American <i>Ilex opaca</i>	40-50' h 15-25' w	FS	M	S	E	Native. Salt and drought tolerant once established. Red berries attract birds, no litter. Zones 5-9
Holly, Nellie R. Stevens <i>Ilex x</i>	20-30' h 10-15' w	FS	H	M	E	Hybrid. Soil texture tolerant. Needs male and female plants for berries. Drought tolerant. Showy red berries & deep green leaves. Zones 6-9
Holly, Savannah <i>Ilex x attenuata</i>	30-45' h 6-10' w	FS	M	M	E	Hybrid. Acidic soil, urban tolerant. Red berries attract birds, no litter. Zones 6-9

Loquat <i>Eriobotrya japonica</i>	20-30' h 30-35' w	PS/FS	M	M	E	China. Southern range only. Texture tolerant. Well drained soil, afternoon shade. Orange or yellow fruit attracts wildlife, litter. Zones 8-10
Magnolia, sweetbay <i>Magnolia virginiana</i>	40-50' h 15-25' w	PS	M	M	D	Native. Acidic soil. Tolerates wetlands. Flood & drought tolerant. Showy, white, fragrant flowers. Zones 5-9
Magnolia, Southern <i>Magnolia grandiflora</i>	30-50' h 15-30' w	FS	H	M	E	Native. Soil adaptable. White showy blooms in summer & early fall. Smaller leaves than species. Zones 6-9
Maple, trident <i>Acer buergerianum</i>	30-40' h 25' w	PS/FS	H	M	D	China. Acidic, well drained soil. Urban, salt & wind tolerant. Attractive bark. Zones 5-8
Oak, overcup <i>Quercus lyrata</i>	35-50' h 35-50' w	FS	H	M	D	Native. Soil adaptable, wet & drought tolerant once established. Urban tolerant. Acorns attract wildlife, significant litter. Zones 5-9
Palm, cabbage <i>Sabal palmetto</i>	40-50' h 10-12' w	PS/FS	H	S	E	Native. Soil tolerant, frond and fruit litter messy. Needs irrigation until established as all cut roots die back. Southern region only. Zones 8B-11
Palm, windmill <i>Trachycarpus fortunei</i>	20-40' h 6-10' w	PS/FS	M	S	E	China. Soil texture adaptable. Drought tolerant once established. Protect from wind. Southern range of state only. Zones 8A -10B
Pistachio, Chinese <i>Pistachio chine sis</i>	25-35' h 25-35' w	FS/PS	H	M	D	China. Soil texture, pH, drought, urban tolerant. Fruit causes some litter. Zones 6-9

Redbud, eastern <i>Cercis Canadensis</i> 'Forest Pansy'	20-30' h 15-30' w	PS	M	F	D	Native. Light, rich, moist soil, texture adaptable. Showy purple blooms in spring. Cultivar 'Texas White' good. Short lived. Zones 4-9
Silver bell, Carolina <i>Haleiwa Carolina</i>	20-40' h 15-30' w	PS/FS	H	M	D	Native. Acidic soil. Drought sensitive in full sun, roots need room. Showy white blooms in spring. Zones 5-8
Stewart, tall <i>Stewart monadelpa</i>	25-35' h 15-25' w	PS/FS	H	S	D	Japan. Acidic soils. Thin bark, attractive bark. White, camellia-like blooms in summer. Part shade best in 8B. Zones 6-8
Yellowwood, American <i>Cladastris kentukea</i>	30-50' h 40-50' w	PS/FS	H	M	D	Native. Needs pruning while young. White fragrant blooms. Tolerates urban conditions. Zones 4-8

KEY			
<i>Sun/Shade exposure:</i>	<i>Growth rate:</i>	<i>Pest resistance:</i>	<i>Type:</i>
<i>FS = Full sun</i>	<i>S = Slow (less than 1' per year)</i>	<i>H = High</i>	<i>D = Deciduous</i>
<i>PS = Part sun</i>	<i>M = Medium (1-2' per year)</i>	<i>M = Medium</i>	<i>E = Evergreen</i>
<i>S = Shade</i>	<i>F = Fast (more than 2' per year)</i>	<i>L = Low</i>	<i>SE = Semi Evergreen</i>

Small Canopy Trees - Under-story: (Count for 250 sq. ft. of area for planting - minimum 2" caliber)

Small Trees # 25' Useful under utility lines; areas with # 100 sf of total planing area; a planting strip with a width of at least 4'						
<u>Common/Scientific Name</u>	<u>Height & Width</u>	<u>Sun/ Shade</u>	<u>Insect & Disease Resistance</u>	<u>Growth Rate</u>	<u>Deciduous Evergreen</u>	<u>Remarks</u>
Chastetree <i>Vitex agnus-castus</i>	10-15' h 15-20' w	PS/FS	M	F	D	Europe. Soil & pH adaptable. Showy lavender blooms. Zones 7-8
Cherry, Okame <i>Prunus x incamp 'Okame'</i>	15-25' h 20' w	PS/FS	M	M	D	Hybrid. Soil texture and pH adaptable. Roots need room. Pink showy blooms. Fruit attracts birds. Zones 7-9
Crapemyrtle <i>Lagerstroemia indica</i>	15-30' h 15-25' w	FS	H	M	D	China. Soil adaptable. urban tolerant, drought tolerant once established. Showy summer blooms. Zones 7-9
Dogwood, flowering <i>Cornus florida</i>	20-30' h 20' w	PS	M	M	D	Native. Part shade. Drought sensitive, low salt tolerance, needs good drainage. White showy flowers. Horizontal branching pattern. Zones 5-9
Dogwood, kousa <i>Cornus kousa</i>	15-20' h 15-20' w	PS/FS	M	S	D	Japan. Soil adaptable. Part shade, needs water. Roots need room. Showy white blooms in spring. Fruit attracts birds. Zones 5-8
Fringetree <i>Chionanthus virginicus</i>	12-15' h 10-15' w	PS/FS	M	S	D	Native. Acidic soil. Thin bark easily damaged. Urban tolerant. Showy white blooms in spring. Fruit attracts birds. Zones 4-9

Holly, yaupon <i>Ilex vomitoria</i> 'Pendula'	15-20' h 15-20' w	S/FS	M	M	E	Native. Soil & pH greatly adaptable. Urban tolerant. Thin bark. Red berries attract wildlife. Zones 7-10
Maple, amur <i>Acer ginnala</i>	15-20' h 15-20' w	PS/FS	H	M	D	Japan. Soil adaptable. Drought tolerant once established. Showy white to yellow blooms in spring. Bright red fruit, some litter. Zones 3-8
Magnolia, star <i>Magnolia stellata</i>	15-20' h 10-15' w	PS/FS	M	S	D	Japan. Acidic rich soil, all textures. Not drought tolerant. White or pink showy blooms in spring. Zones 4-8
Magnolia, Southern <i>Magnolia grandiflora</i> 'Little Gem'	20-25' h 10-15' w	PS/FS	M	M	E	Native. Soil adaptable. Bark is thin, protect from mechanical injury. White showy blooms in summer and early fall. Zones 7-9
Palm, pindo <i>Butia capitata</i>	15-25' h 10-15' w	PS/FS	H	S	E	Brazil. Soil adaptable. Drought tolerant. Showy orange or yellow fruit attracts wildlife, significant litter. Southern range only. Zones 8B-11
Redbud, Chinese <i>Cercis chinensis</i>	10-15' h 6-10' w	PS/FS	M	F	D	China. Light, rich, moist soil. Showy purple blooms in spring. Zones 6-9
Redbud, Oklahoma <i>Cercis reniformis</i> 'Oklahoma'	20-30' h 15-30' w	PS/FS	M	F	D	Native. Soil & pH adaptable, salt sensitive, showy thick leaves. Zones 5-9
Snowbell, Japanese <i>Styrax japonicus</i>	20-30' h 15-25' w	PS/FS	H	M	D	Japan. Acidic loamy soil. Afternoon shade, protect from wind. Attractive exfoliating bark. White showy blooms in spring. Zones 6-8

Waxmyrtle <i>Myrica cerifera</i>	15-20' h 20-25' w	PS/FS	M	F	E	Native. Soil & pH adaptable, urban tolerant. Blue berries attract wildlife. Zones 8-11
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