

**Urban Forest Advisory Committee
Draft Recommendations for Revisions to Article X**

Introduction

History

Fifteen years ago, a selected group of citizens served on a committee, charged by the Mayor, to draft a Landscape and Tree Preservation Ordinance. After months of work, the committee submitted a document that would set minimum standards for landscaping commercial properties and would encourage the protection of trees, or what is now referred to as the urban forest. After years of implementation, and general support and acceptance by the community, it is widely agreed that **Article X, Landscape and Tree Preservation Regulations**, contains flaws inherent with regulating a dynamically changing city. It is generally recognized that the existing ordinance is contributing to difficulties in development, and redeveloping the city as a whole. Simultaneously, many citizens express concerns that the ordinance is not the tool intended to protect existing trees.

Current Conditions

With an endless number of diverse factors, the citizens of Dallas and their elected officials have chosen to pursue a green approach...a sustainable approach to city life. To make that conversion, a number of initiatives are underway. This recommendation by the Urban Forest Advisory Committee to revise Article X is one of those initiatives. **At this point, these recommendations are in draft form and are fully open for discussion independently from any other documents.**

While currently the recommendations of this committee can stand alone, the committee is awaiting recommendations from the Green Building Task Force and the Green Subdivision Task Force, in hopes of dovetailing our recommendations into a comprehensive system that will assist in attaining the desired result.

Congruently and/or independently with the recommendations of the Green Building Task Force, this team is giving serious consideration to addressing alternative method "Landscaping and Tree Preservation" which may be optional in site specific cases. Such an alternative method would begin with a conference with the City Arborist before any formal development activities begin and would be designed to determine a best practices plan for the landscape and tree preservation on the property. Such a method would identify opportunities for sustainable development or redevelopment and would provide opportunities outside the scope of the current Article X. Changes in Article X are intended to be incentive-based and would improve the permitting process, reduce tree mitigation, modify the tree survey process, etc. The option would change Article X from what can be a deterrent to development to a pro-development ordinance while yet maintaining a sustainability goal.

Likewise, Article X should provide a tool for neighborhoods to develop an instrument of landscaping and tree preservation that goes beyond the current standards when citizens contend the character of their immediate community is being threatened by redevelopment on single family residency lots.

For purposes of discussion and understanding, this team asks that all suggestions and recommendations for changes be welcomed to the table. It is also encouraged that ideas for change range from the conceptual to the specific.

Respectfully submitted,
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Dallas Urban Forest Advisory Committee

Revisions, Deletions, and Additions to:

Article X. Landscape and Tree Preservation Regulations.

Division 51A-10.100. In General.

Sec. 51A-10.100 Definitions.

As review and recommended changes to Article X. are made, all words included in this section (Definitions) of the ordinance should be reviewed for appropriateness and clarity.

Afforestation means the conversion of bare or cultivated land into forest or woodland.

Artificial Lot means an area within the building site that is delineated by the building official or the director of park and recreation for the sole purpose of satisfying the requirements of this article (see Section 51A-10.123).

Biodiversity means the variability among living organisms on the earth, including the variability within and among species and within and between ecosystems.

Board of Adjustment means (definition needed)

Building Official means (definition needed)

Caliper means:

For a single-stem tree, the diameter of the trunk measured 12 inches above the ground for a tree having a diameter up to and including eight inches, and measured at four and one-half feet above the ground for a tree having a diameter of more than eight inches;

For multi-stem trees, the diameter of the trunk measured at the narrowest point below branching when branching occurs higher than 12 inches above the ground. When branching occurs at or lower than 12 inches above the ground, caliper means the diameter of the largest stem plus the average diameter of the remaining stems, measured at four and one-half feet above the ground.

Canopy Cover means (definition needed)

Canopy Tree means a species of tree that normally bears crown foliage no lower than six feet above ground level upon maturity.

Certified Arborist means a person credentialed by the International Society of Arboriculture, who has archived a level of knowledge in the art and science of tree care through at least three years of experience and has passed a comprehensive examination.

City Arborist (definition needed)

City Forester (definition needed)

Clearing means any activity that removes or seriously injures one or more trees or the vegetative ground cover of one or more trees, such as root mat removal or topsoil removal.

Cold Tolerance Chart means a document produced by the US department of Agriculture showing zones of minimum temperatures in a geographic area.

Contiguous Habitat means connected areas of similar biological diversity.

Critical Root Zone means the circular area of ground surrounding a tree extending a distance of one foot per caliper inch of the tree, measured from the tree trunk or stem.

Drought Tolerant Tree means a tree that once established in period no longer than three calendar years, can live without supplemental watering during periods of two months or less.

Duplex Use means (specifically define this term as it relates to demolition, construction, tree removal permits, tree protection, occupancy, certificate of occupancy, and triggering Article X, etc.).

Enhanced Pavement means any permeable or non permeable decorative pavement material intended for pedestrian or vehicular use. Examples of enhanced pavement include brick or stone pavers, grass paver, exposed aggregate concrete, and stamped and stained concrete.

Escarpment Zone means (define as it relates to Article X).

Evergreen Tree or Shrub means a tree or shrub of a species that normally retains its leaves throughout the year.

Flood Plain means any land area susceptible to inundation by the hundred-year frequency flood.

Geographically Similar Areas means (define as it relates to the Escarpment Zone Ordinance).

Grading means any digging, scooping, removing, depositing or stockpiling, of earth material.

Ground Cover means natural mulch, or plants of species that normally reach a height of less than three feet upon maturity, installed in such a manner so as to form a continuous cover over the ground.

Heat Tolerance Chart means a document produced by the American Horticulture Society showing zones of maximum temperatures in a geographic area.

Heritage Tree means a protected tree that exceeds 32 inches in caliper.

Historic Tree means a protected tree that is a living witness to a historical event.

Hundred-Year Frequency Flood means the flood having a one percent chance of being equaled or exceeded in any given year. This flood is based upon the drainage area being fully developed to current zoning limitations.

Incentive means (definition needed)

Integrated Storm Water Management (ISWM) means (definition needed to relate ISWM to purpose of Article X.)

Invasive Plant Species means a plant whose introduction does, or is likely to cause environmental harm.

Landscape Architect means a person licensed to use the title of "landscape architect" in the State of Texas in accordance with state law.

Landscape Area means an area at least 80 percent of which is covered by natural grass, ground cover, or other natural plant material (excluding screening).

Landscape Buffer Strip means a landscape area that serves a buffer function.

Large Shrub means a shrub that normally reaches a height of six feet or more upon maturity.

Large Tree means a tree of a species that normally reaches a height of 30 feet or more upon maturity

Lot means:
a "lot" as defined in Section 51A-2.102; and
an "artificial lot" as defined in this section.

Lot with Residential Adjacency means any of the following:

- A building site containing a multifamily use that is adjacent to or directly across a street 64 feet or less in width or an alley from private property in a single family, duplex, townhouse, or CH district.

- A building site containing a nonresidential use that is adjacent to or directly across a 64 feet or less in width, or an alley, from private property in an agricultural, single family, duplex, townhouse, CH, multifamily, or manufactured housing district.
- An artificial lot containing a multifamily use of the lot is less than 200 feet from private property in a single family, duplex, townhouse, or CH zoning district.
- An artificial lot containing a nonresidential use of the lot is less than 200 feet from private property in an agricultural, single family, duplex, townhouse, CH, multifamily, or manufactured housing zoning district.

Native Plant Species means those plants which are part of the natural ecosystems of North Central Texas.

Nonpermeable Pavement means coverage with any pavement that is not “permeable pavement” as defined in this section.

Palm Tree means any plant part of the family *Palmae*, characterized by chiefly tropical evergreen trees or shrubs having large compound leaves in featherlike or fanlike fronds, large clusters of small flowers, and fleshy or dry fruit, and including the palmettos.

Permeable Pavement means a paving material that permits water penetration to a soil depth of 18 inches or more. Permeable pavement may consist of nonporous surface materials poured or laid in sections not exceeding one square foot in area and collectively comprising less than two-thirds of the total surface area.

Private Property means any property not dedicated to public use, except that “private property” does not include the following:

- A private street or alley.
- Property on which a utility and public service use listed in Section 51A-4.212 is being conducted as a main use.
- A railroad right-of-way.
- A cemetery or mausoleum.

Protected Tree means:

(A) a tree that has a caliper of eight inches or more and is not one of the following trees:

- *Acer saccharinum* (Silver Maple)
- *Ailanthus altissima* (Tree of Heaven)
- *Albizzia julibrissen* (Mimosa or Silktree)
- *Celtis occidentalis/laevigata* (Hackberry or Sugarberry)
- *Fraxinus velutina* (Arizona Ash)
- *Juniperus virginiana* (Eastern Red Cedar, unless protected under subparagraph (B))
- *Maclura pomifera*, female only (Bois d’ Arc)
- *Melia azedarach* (Chinaberry)
- *Prosopis glandulosa* (Mesquite, unless protected under subparagraph (B))
- *Salix nigra* (Black Willow)
- *Sabium sebiferum* (Chinese Tallow)
- *Ulmus pumila* (Siberian Elm)

(B) an Eastern Red Cedar (*Juniperus virginiana*) or Mesquite (*Prosopis glandulosa*) tree that has a caliper of eight inches or more and the trunk is located

(i) in, or within 120 feet of the boundary of a floodplain (as defined in Article V); a wetland area (as defined in federal environmental regulation), or an escarpment zone (as defined in Article V); or

(ii) within 50 feet of a natural channel setback line (as defined in Article V).

(C) an Eastern Red Cedar (*Juniperus virginiana*) or Mesquite (*Prosopis glandulosa*) tree that has a caliper of at least 12 inches; or

(D) a tree that was plated as a replacement tree.

Remove or Seriously Injure means an intentional or negligent action that will more likely than not cause a tree to decline and die within five years of the act. Actions that constitute removing or seriously injuring a tree include, but are not limited to: cutting down a tree; excessively pruning or topping a tree; compacting the soil above the root system of a tree; changing the natural grade above the root system of a tree; damaging the root system or the trunk of a tree (such as by

operating machinery near, or by clearing or grading the area around the trunk of a tree); failing to repair an injury to a tree from fire or other causes, which results in or permits tree infections or pest infestations into or on the tree; applying herbicidal or other lethal chemicals; and placing nonpermeable pavement over the root system of a tree.

Responsible Party means the property owner and any other person or entity responsible for removing of seriously injuring a protected tree.

Replacement Tree means a tree that is planted in accordance with Section 51A-10.134.

Screening means screening that complies with Section 51A-4.602, except as those regulations may be expressly modified in this article.

Single Family Use means (specifically define as it relates to demolition, construction, tree removal permits, tree protection, occupancy, certificate of occupancy, and triggering Article X, etc.)

Small Tree means a tree of a species that normally reaches a height of less than 30 feet upon maturity.

Soil means a medium that plants will grow in.

Structural Soils means (needs definition)

Tree Survey means a report that meets all of the requirements for a tree survey in Section 51A-10.132.

Understory means a grouping of natural low-level woody, herbaceous plant species, or plants that normally reach a height of less than three feet upon maturity.

Visibility Triangle means the term “visibility triangle” as defined in Section 51A-4.602.

Water Course means a natural or constructed channel for the flow of water.

Section 51 A-10.102 Purpose.

Studies of effective Landscape and Tree Preservation Ordinances have:

1. Clearly state goals
2. Designated responsibility with commensurate authority
3. Basic performance standards
4. Flexibility
5. Specific enforcement methods
6. Are part of a comprehensive management strategy
7. Are developed with community support

The “Purpose” statement has basically remained the same since 1994. Science-based research has and is producing a better understanding of the importance of like ordinances on the health, safety, and welfare of the public. This section should be carefully reviewed to include the relevant points not included in the original document. Specific emphasis should be place on tree preservation, ecosystem services (green infrastructure), air quality, water quality and quantity, temperature moderation and energy conservation, economic development and sustainability, and ecosystem preservation.

The purpose statement should also include a goal which includes an attainable percentage of canopy cover.

The purpose statement should include recognition by the city council that the citizenry supports the general purpose of the ordinance, and it is consistent with the goals of the city and the like initiatives the council has supported by ordinance or resolution such as the Escarpment Ordinance, Flood Plain Ordinance, Urban Forest Management Plan forwardDallas, etc.

Section 51 A-10.103 Acceptable Plant Materials.

- (a) No artificial plant materials may be used to satisfy the requirements of this article.
- (b) In satisfying the requirements of this article, the use of high-quality, hardy, and drought-tolerant plant materials is recommended and encouraged.

Revise part (b) to include the term “non-invasive”.

Include a statement that gives the City Arborist the authority to deny the use of specific plants as part of a landscape plan because the plant(s) is not suitable, based on winter hardiness and heat tolerant maps. These maps should be noted as a table so they may be revised without opening the ordinance for full review.

Revise part (b) by substituting “hardy” to “winter hardy”.

Add part (c) stating that palm trees may not be used to satisfy the requirements of this article.

Section 51 A-10.104 Soil Planting Area Requirements.

- (a) Planting areas in general must have the following soil depths and dimensions:
 - (1) For each large shrub or small tree installation, a minimum of 24 inches of soil depth and 16 square feet of surface area (total of 32 cubic feet).
 - (2) For each large tree installation, a minimum of 36 inches of soil depth and 25 square feet of surface area (total of 75 cubic feet).
- (b) Planting areas located above underground buildings or structures must have the following soil depths and dimensions:
 - (1) For each large shrub or small tree installation, a minimum of 30 inches of soil depth and 25 square feet of surface area (total of 62.5 cubic feet).
 - (2) For each large tree installation, a minimum of 40 inches of soil depth and 36 square feet of surface area (total of 120 cubic feet).
- (c) The building official may waive the minimum planting area requirements if a landscape architect certifies that the proposed alternative soil depths and dimensions are sufficient to support the healthy and vigorous growth of the plant material affected.

New studies on soil depth and cubic footage are just now being released to the public. Specifications should be provided by the office of the City Arborist as a table, and be referenced in the ordinance. By referencing a table, revised information may be determined by policy and without requiring a formal change of the ordinance by city council.

The goal of this section is to provide the volume of soil necessary by tree species to achieve the desired canopy coverage. The City Arborist should have the authority to adjust all planting area requirements to provide soil volumes sufficient to support the health and vigorous growth of the plant materials affected.

Recent research indicates that with many urban landscapes the square footage of soil trumps the volume of soil. When soil depths exceed certain limits, the oxygen content does not support root growth. Therefore, to achieve successful canopy growth, exposed square footage and volume are essential factors.

As written, item “c” has no remedy if the ordinance “goes” with the property”. A better approach might be to state: “The Arborist may waive the minimum planting area requirements if a proposed alternative soil depth and dimension is sufficient to sustain a healthy and vigorous plant.”

The issue of structural soils should be addressed in this section.

Section 51 A-10.105 Protection of Planting Areas.

Required areas for plant materials must be protected from vehicular traffic through the use of concrete curbs, wheel stops, or other permanent barriers

Revise to: **Required areas for plant materials must be protected from vehicular traffic through the use of concrete curb, wheel stops, or other permanent barriers** *subject to the review and approval of the City Arborist.*

Section 51 A-10.106 Irrigation Requirements.

All plant materials used as screening under this article must be irrigated by an automatic irrigation system installed to comply with industry standards. Other plant materials used to comply with this article must be located within 100 feet of a verifiable water supply. Proposed watering methods (irrigation or otherwise) must be:

- (a) indicated on the landscape plan, if any; and
- (b) adequate to maintain the plant materials in a healthy, growing condition at all times.

This section should clearly address the concerns noted by the Oak Cliff Chamber of Commerce regarding required irrigation systems.

This section should also include a statement that encourages the use of native and/or low water demand plant materials, and irrigation systems that conserve water. It should require all automatic irrigation systems include both a rain meter and freeze thermometer.

While the existing ordinance requires an automatic irrigation system to irrigate required screening, optional irrigation systems should be adequate to meet the irrigation needs of the landscape during periods of watering restrictions.

As per the City Arborist, in the future, plan review of irrigation systems will be processed through the office of the City Arborist. Once this change is fully realized, additional changes to this section may be needed.

Section 51 A-10.107 Planters Allowed.

Planters may be used to satisfy the requirements of this article provided that the soil requirements in Section 51A-10.104 are met.

This section needs reviewing in regards to adequate volume and square footage of soil and adequate irrigation.

Section 51 A-10.108 General Maintenance.

No revisions noted.

Section 51 A-10.109 (reserved)

Section 51 A-10.110 Special Exception.

- (a) The board may grant a special exception to the requirements of this article upon making a special finding from the evidence presented that:
 - (1) strict compliance with the requirements of this article will unreasonably burden the use of the property;
 - (2) the special exception will not adversely affect neighboring property; and
 - (3) the requirements are not imposed by a site-specific landscape plan approved by the city plan commission or city council.
- (b) In determining whether to grant a special exception under Subsection (a), the board shall consider the following factors:

- (1) The extent to which there is residential adjacency.
- (2) The topography of the site.
- (3) The extent to which landscaping exists for which no credit is given under this article
- (4) The extent to which other existing or proposed amenities will compensate for the reduction of landscaping.

In (a), the word “board” should be changed to “Board of Adjustment”. In (a)(1) the word “strict” should be deleted and the word “unreasonably” should be replaced with a word that is not vague and open to interpretation.

In (b), consideration should be given to granting special exception under Subsection (a), which might or might not have been considered in 1994. However, Subsections (b)(3), and (b)(4) should be deleted.

Division 51A-10.120. Landscaping.

Section 51 A-10.121 Application of Division.

Subsection (e) The city council shall, as a minimum, impose landscaping requirements that are reasonably consistent with the standards and purposes of this division as a part of any ordinance establishing or amending a planned development district, of granting or amending a specific use permit. (Note: This subsection does not apply to ordinances that merely renew a specific use permit when no substantive changes are made other than to extend the time limit of the permit.) All landscaping requirements imposed by the city council must be reflected in a landscape plan that complies in form and content with the requirements of Section 51A-10.123.

In Subsection (e), the terms “reasonably consistent” and “substantive changes” are too vague. The wording needs to be succinct.

Section 51 A-10.122 Artificial Lot Delineation.

No revisions noted.

Section 51 A-10.123 Landscape Plan Submission.

Subsection (c)(3) Approximate centerlines of existing water courses and the location of the flood plain, the escarpment son, and geologically similar areas, as those terms are defined in Article V, if applicable: the approximate location of significant drainage features, and the location and size of existing and proposed streets and alley, utility easements, driveways, and sidewalks on or adjacent to the lot.

In Subsection (c)(3), should list utility easements as a separate item for emphasis purposes and to assist the City Arborist in recognizing areas where mature plant materials will be compatible with utility clearance.

Section 51 A-10.124 Landscape Plan Review.

No revisions noted.

Section 51 A-10.125 Mandatory Landscaping.

- (a) Single family and duplex uses.

- (1) **General.** Except as provided in Section 51A-10.127, a lot containing a single family of duplex use established after May 29, 1994, must comply with this subsection before the final inspection of any building on the lot. The lot must have at least three trees with a caliper equal to or exceeding two inches. At least two of these trees must be located in the front yard. The trees must be species listed in Section 51A-10.134. The trees may be located in the public right-of-way if all private licensing requirements of the city code and charter are met.
- (2) **(B)(iii)** In addition to any site trees, one large canopy street tree must be provided for every 25 feet of street frontage, excluding shared access points, with a minimum of two street trees required. Street trees may be located within the front yard or parkway if all private licensing requirements of the city code and charter are met. In this subparagraph, parkway means the portion of a street right-of-way between the projected street curb and the front lot line or corner side lot line. If the director determines that a large canopy tree would interfere with utility lines, a substitute street tree from a species listed in Section 51A-10.134 may be provided.

The City Arborist should have the stated authority to modify or make exception to any or all mandatory landscaping requirements should site conditions make the specific requirement(s) impractical (i.e. Shared access development, non-traditional shaped lots where two trees in front yard is impractical, conflict with utilities)

The tree species list in Section 51A.10.134 should become a table so it may be adjusted by policy and not require a vote of the council to revise.

In subsection (a)(2)(B)(iii), change the word "director" to "City Arborist".

(b)(4) Street trees. A large tree must be provided for each 50 feet of frontage, with a minimum of two trees being provided. These trees must be located within 30 feet of the projected street curb. The trees may be located in the public right-of-way provided that all private licensing requirements of the city code and charter are met. For purposes of this paragraph, "projected street curb" means the future location of the street curb consistent with the city thoroughfare plan as determined by the director of public works and transportation.

Revise to: **(b)(4) Street trees.** A large tree is required for each 50 feet of frontage, with a minimum of two trees being provided. These trees should be located within 30 feet of the projected street curb. The trees may be located in the public right-of-way provided that all private licensing requirements of the city code and charter are met. For purposes of this paragraph, "projected street curb" means the future location of the street curb consistent with the city thoroughfare plan as determined by the director of public works and transportation. Should these requirements conflict with utility easements both above and below ground, the city arborist has the authority to approve a modified plan that meets the spirit of this section including, but not limited to relocating the trees on the property or allowing for trees with shorter mature canopies to be planted in utility easements. Approval of the Board of Adjustment is not required.

(b)(5) Parking lot trees.

(A) No required parking space may be located more than 120 feet from the trunk of a large canopy tree. Each tree required by this subparagraph must have a caliper of at least two inches and may not be plant closer than two and one-half feet to the paved portion of the parking lot.

The requirement of having no parking lot space located more than 120 feet from the trunk of a large canopy tree is grossly inadequate. This part of the ordinance should be considered from the perspective of what is to be the goals accomplished by the requirement of parking lot trees. One goal is projected canopy coverage within a proposed time frame, and/or the design of parking lot layout to shade as many vehicles and as much pavement as determined reasonable. The current ordinance makes it possible to plant or retain trees with no canopy coverage over paved surfaces. A holistic approach to parking lot design will provide the greatest benefit to the community. Until that time, revising this subsection to provide no parking space located more than 60 feet from the trunk of a large canopy tree will significantly increase canopy coverage over paved surfaces and shade for vehicles and require a tree-to-tree spacing of 120 feet.

Section 51 A-10.126 Design Standards.

Include the use of structural soils for increasing canopy coverage and the critical root zone.

While enhanced pedestrian walkways can be an aesthetic positive, no credit should be given.

Section 51 A-10.127 When Landscaping Must be Completed.

No revisions noted.

Section 51 A-10.128 Enforcement by Building Official.

No revisions noted.

Division 51A-10.130 Tree Preservation, Removal, and Replacement.

Section 51 A-10.131 Application of Division.

This division applies to all property in the city except for:

- (a) lots smaller than two acres in size that contain single family or duplex uses, and
- (b) lots in a planned development district with landscaping and tree preservation regulations that vary appreciably from those in the article X, as determined by the building official.

Revise Subsection (a) to include all residential lots with unoccupied homes, homes scheduled for demolition, and other scenarios designed to usurp the spirit of the ordinance.

Section 51 A-10.132 Tree Removal Applications.

- (d) **Decision of the building official.** The building official shall deny a tree removal application if the removal or serious injury is not in the public interest. This decision must be based on the following factors:
 - (1) The feasibility of relocating a proposed improvement that would require the removal or serious injury of the tree.
 - (2) The cost of preserving the tree.
 - (3) Whether the lot or tract would comply with this article after the removal or serious injury.
 - (4) Whether the removal or serious injury is contrary to the public health, safety, or welfare.
 - (5) The impact of the removal or serious injury on the urban and natural environment.
 - (6) Whether an economically viable use of the property will exist if the application is denied.
 - (7) Whether the tree is worthy of preservation.
 - (8) Whether the tree is diseased or has a short remaining life expectancy.
 - (9) The effect of the removal or serious injury on erosion, soil moisture retention, flow of surface waters, and drainage systems.
 - (10) The need for buffering of residential areas from the noise, glare, and visual effects of nonresidential uses.
 - (11) Whether a landscape plan has been approved by the board of adjustment, city plan commission, or city council.
 - (12) Whether the tree interferes with a utility service.
 - (13) Whether the tree is near existing or proposed structures.
 - (14) Whether the proposed mitigation for tree removal or serious injury is sufficient.

The “**Decision of the building official**” is unclear since it does not describe how the factors are to be used in determining removal. Define “**public interest**”.

Items 1 through 14 are too general and vague, and have no weighted value. Point: Is one item enough to deny a permit, or does it take five, seven, etc.?

This subparagraph appears to give the city arborist full authority to approve or deny a removal permit, but then “muddies the water” on his/her justification in doing so with 14 factors. As written, this subparagraph assists in the usurping of the city arborist and can make his/her decision indefinable if challenged.

Section 51 A-10.133 Reserved.

Section 51 A-10.134 Replacement of Removed of Seriously Injured Trees.

(2) Species. A replacement tree must be one of the following trees, and no one species of tree may constitute more than 30 percent of the replacement trees planted on a lot or tract.

Revise subsection (2) “...and no one species of tree may constitute more than 30 percent of the replacement trees planted on a lot or tract without approval by the city arborist.”

Remove the “Approved Replacement Tree List” from the ordinance and convert the list into a table it may be revised by policy and not require approval from the city council.

Add the following trees (listed in red) to the table of Approved Replacement Trees:

Approved Replacement Trees

<u>Botanical Name</u>	<u>Common Name</u>
<i>Acacia wrightii</i>	Catclaw Acacia
<i>Acer barbatum var. Caddo</i>	Caddo Maple
<i>Acer buergerianum</i>	Trident Maple
<i>Acer grandidentatum</i>	Bigtooth Maple
<i>Acer truncatum</i>	Shantung Maple
<i>Aesculus glabra var. arguta</i>	Texas Buckeye
<i>Aesculus pavia var. pavia</i>	Red Buckeye
<i>Carya illinoensis</i>	Pecan
<i>Cercis canadensis</i>	Eastern Redbud
<i>Cercis canadensis var. texensis</i>	Texas Redbud
<i>Chilopsis linearis</i>	Desert Willow
<i>Crataegus reverchonii</i>	Reverchon Hawthorne
<i>Crataegus virdis</i>	Green Hawthorne
<i>Crataegus texana</i>	Texas Hawthorne
<i>Cupressus arizonica</i>	Arizona Cypress
<i>Diospyros texana</i>	Texas Persimmon
<i>Diospyros virginiana (male only)</i>	American Persimmon

<i>Fraxinus americana</i>	White Ash
<i>Fraxinus texensis</i>	Texas Ash
<i>Ginkgo biloba</i>	Ginkgo
<i>Gleditsia triacanthos</i> var. <i>inermis</i>	Thornless Honey Locust
<i>Gymnocladus dioicus</i>	Kentucky Coffeetree
<i>Ilex decidua</i>	Possumhaw or Deciduous Holly
<i>Ilex vomitoria</i>	Yaupon Holly
<i>Juglans microcarpa</i>	Texas Black Walnut
<i>Juniperus ashei</i>	Ashe Juniper
<i>Juniperus virginiana</i>	Eastern Red Cedar
<i>Lagerstroemia indica</i>	Crepe Myrtle
<i>Leucaena retusa</i>	Goldenball Leadtree
<i>Liquidambar styraciflua</i>	Sweetgum
<i>Magnolia grandiflora</i>	Southern Magnolia
<i>Magnolia soulangiana</i>	Saucer Magnolia
<i>Pinus eldarica</i>	Eldarica, Mondell, or Afghan Pine
<i>Pinus nigra</i>	Austrian or Black Pine
<i>Pinus thunbergii</i>	Japanese Black Pine
<i>Pistacia chinensis</i>	Chinese Pistachio
<i>Pistacia texana</i>	Texas Pistache
<i>Prosopis glandulosa</i>	Mesquite
<i>Prunus caroliniana</i>	Carolina Cherry Laurel
<i>Prunus mexicana</i>	Mexican Plum
<i>Prunus munsoniana</i>	Wildgoose Plum
<i>Quercus buckleyi</i>	Texas Red Oak
<i>Quercus sinuata</i> var. <i>sinuata</i>	Durand Oak
<i>Quercus fusiformis</i>	Escarpment Live Oak
<i>Quercus laceyi</i>	Lacey Oak
<i>Quercus macrocarpa</i>	Bur Oak
<i>Quercus marilandica</i> ,	Blackjack Oak
<i>Quercus muehlenbergii</i>	Chinkapin Oak

<i>Quercus pungens</i> var. <i>vaseyana</i>	Vasey Oak
<i>Quercus shumardii</i>	Shumard Red Oak
<i>Quercus sinuata</i> var. <i>breviloba</i>	Bigelow Oak or White Shin Oak
<i>Quercus stellata</i>	Post Oak
<i>Quercus virginiana</i>	Live Oak
<i>Rhamnus caroliniana</i>	Carolina Buckthorn
<i>Rhus glabra</i>	Smooth Sumac
<i>Rhus lanceolata</i>	Prairie Flame-leaf Sumac
<i>Sapindus drummondii</i>	Western Soapberry
<i>Sideroxylon lanuginosum</i>	Chittamwood or Gum Bumelia
<i>Sophora affinis</i>	Eve's Necklace
<i>Sophora secundiflora</i>	Texas Mountain Laurel
<i>Taxodium ascendens</i>	Pond Cypress
<i>Taxodium distichum</i>	Bald Cypress
<i>Ulmus americana</i>	American Elm
<i>Ungnadia speciosa</i>	Mexican Buckeye
<i>Viburnum rufidulum</i>	Rusty Blackhaw Viburnum
<i>Zanthoxylum clava-herculis</i>	Prickly Ash or Hercules' Club

(5)(D) A replacement tree that dies within two years of the date it was planted must be replaced by another replacement tree that complies with this section.

Replace "two years" with "five years"

Add a subsection that states a tree planted for mitigation purposes is a protected tree even though it may be less than 8" in caliper.

Section 51 A-10.135 Alternate Methods of Compliance with Tree Replacement Requirements.

- (a) If the building official determines that, due to inhospitable soil conditions or inadequate space, it would be impracticable or imprudent for the responsible party to plant a replacement tree on the lot where the protected tree was removed or seriously injured (the "tree removal property"), the responsible party shall comply with one or more of the following requirements:
 - (1) Donate the replacement tree to the city's park and recreation department. If the director of the park and recreation department does not accept the tree the responsible party must comply with one or more of the other alternative methods of compliance listed below.
 - (2) Plant the replacement tree on other property in the city that is within one mile of the tree removal property, as long as the responsible party obtains the written approval of the building official for:

- (A) a site plan indicating the location of the tree to be removed or seriously injured, the address of the property where the replacement tree will be planted, and a site plan indicating the location of the replacement tree; and
 - (B) a written agreement between the owner of the property where the replacement tree will be planted and the responsible party, to assume mutual responsibility for the replacement tree under this article.
- (3) Make a payment into a special city account to be known as the Reforestation Fund, in accordance with Subsection (c).
- (4) Grant a conservation easement to the city in accordance with Subsection (d) and the following paragraphs:
- (A) The conservation easement area must contain protected trees with a combined caliper equal to or exceeding the caliper for which replacement tree credit is being requested.
 - (B) If the conservation easement area is 25 percent or less than the area of the tree removal property, the responsible party will get credit for trees in the conservation easement area, on an inch for inch basis up to a maximum of 50 percent of the total caliper of replacement trees required.
 - (C) If the conservation easement area is more that 25 percent and less than 50 percent of the area of the tree removal property, the responsible party will get credit for trees in the conservation easement area, on an inch for inch basis, up to a maximum of 65 percent of the total caliper of replacement trees required.
 - (D) If the conservation easement area is 50 percent or more of the area of the tree removal property, the responsible party will get credit for trees in the conservation easement area, on an inch for inch basis up to a maximum of 80 percent of the total caliper of replacement trees required.

The replacement trees that cannot be planted on the tree removal property, and for which credit cannot be given through a conservation easement under this paragraph, must be replaced by other methods set forth in this subsection, such that the replacement trees equal in total caliper the total caliper of the trees removed or seriously injured.

Subsection (4) should be revised to make conservation easements a more desirable method of mitigating tree removal. The responsible party should have the option of granting the conservation easement to the city or retain ownership of the property with a legal instrument protecting the property's value as permanent green space.

Incentives for permanently setting aside property which contains elements of the urban forest containing mature trees should exceed sub section (4), listed above. This tool should be flexible and offer benefits based on area and/or caliper inches. For example, a conservation easement that retains 100 caliper inches of protected trees might generate a credit of 300 replacement inches.

- (b) **Use of other property for tree replacement.** A responsible party who obtains permission to plant the replacement tree on other tree replacement property in the city shall ensure that the planting and maintenance of the tree on the tree replacement property complies with the requirements of this article. The building official shall maintain a list of publicly or privately owned properties for which replacement trees are sought by groups such as home owner's associations or school districts.
- (c) **Reforestation fund**
 - (1) The director of development services shall administer the reforestation fund to purchase trees to plant on public property or to acquire conservation easements or wooded property.
 - (2) The amount of the payment required is calculated by using the formula for appraising the value of a tree, as derived from the most recent edition of the *Guide for Establishing Values of Trees and Other Plants* published by the Council of Tree and Landscape Appraisers, unless another publication is designated by the building official. If more than one tree is being removed or seriously injured or not planted, the values of the trees are added when calculating the payment requires.
 - (3) All property purchased through this fund must be in the city of Dallas and may not extend further than five miles from the Dallas city limit.

Subsection (c) should be revised. The administer of the reforestation fund should be moved to the city forester with oversight by the director of the park and recreation department until such time a department of urban forestry is established. Spending of fund should remain restricted to the purchase of trees or the purchase of desirable property. However, interest earned from the fund should be placed in a separate account. The interest fund should also be administered by the city forester with the intent of supporting urban forestry programs.

Subsection (c)(3) should be revised to read “..and may not extend beyond the Dallas city limit.”

(d) Conservation easement

(1) The city manager is authorized to accept and approve on behalf of the city a conservation easement to conserve trees and other natural features upon:

(A) approval as to form by the city attorney; and

(B) a determination by the building official that the easement area is suitable for conservation purposes, based on:

(i) the likelihood that the proposed conservation easement area would preserve vegetation on a parcel otherwise attractive for development;

(ii) the overall health and condition of the trees on the conservation easement property;

(iii) the suitability of the area as a wildlife habitat; and

(iv) other unique features worthy of preservation, e.g. water channels, rock formations, topography, or rare herbaceous or woody plant species.

Revise mitigation percentages to be more generous (for Conservation Easements) than what is currently stated, knowing that the land has been set aside, and wooded property is a permanent part of the community. The community will receive full benefits and the city will not incur costs.

Subsection **(b) Use of other property for tree replacement.** should be used more often and some incentive should be developed to make this happen. This gets trees in the ground.

The purpose of the reforestation fund shall remain the same: to purchase trees to plant on public property, to acquire conservation easements or wooded property. However, these funds should be spent within a specific time so the community will know it is benefitting from the fund. Multiple options must be explored.

Subsection (3) should read: **All property purchased through this fund must be in the city of Dallas or property outside the city of Dallas and owned by the city of Dallas.**

Subsection (5) should read: **conservation easements areas must be in the city of Dallas or property outside the city of Dallas and owned by the city of Dallas.**

This Section, “Alternative methods of Compliance with Tree replacement Requirements”, should contain an **(e) subsection, or a fifth method of mitigation compliance based on what at this time is called “The Responsible Land Use Matrix”.**

A primary goal of the committee is to encourage responsible and sustainable land use by offering incentives and tree mitigation credits. In this light and in working with members of the development and construction industry, a model matrix has been developed as a potential tool to be considered for adoption as part of Article X, or as part of a city standard associated with Article X. Offering incentives and tree mitigation credits for sustainable development is consistent with the stated purpose of Article X (Section 51A-10.102).

The concept of the responsible land use matrix is based on the ability of a property owner to present a conceptual plan to a city express review team before the details of a plan are developed. The property owner can abide by the existing city codes or consider potential credits for responsible land use which offers more site specific flexibility. By meeting with the review team, a property owner would have an idea of the tree mitigation offset credits to be earned. Points would be accumulated based on the number responsible land use elements contained in the conceptual plan.

Step one for the review team is to determine the percentage of canopy cover and the quality of the existing forest stand(s) and the quality of individual trees within the stand(s). General canopy cover percentages can be determined from satellite images and the quality of trees can be determined by observation of qualified individuals. What constitutes a quality forest stand or stands is a function of its age, health, condition, diversity of species (especially unique species) and its progression toward reaching climax condition, according to the building official. Special consideration should also be provided for the preservation of historic, heritage, or champion trees. If a property contains tree canopy cover over seventy-five percent, most of which is deemed to be quality forest, the review team could encourage the preservation of the property and provide potential options.

Step two is to consider the effect of applying the matrix to the conceptual plans. This provides a projected outcome based on the various decisions by a property owner. The committee recommends that a cap be established for total offset mitigation credits. The four areas to be considered are:

1) Sustainable Design and/or Location

- LEED certification, various levels to be taken into account (Gold, Silver, and Bronze)
- ISWM compliant and exceeds the standards
- Sustainable design, solar orientation
- Proximity to significant transit opportunities or significant veloweb/trails
- Higher density mixed use development (such as Mockingbird Station)
- Located in a heat island problem area and the design/final landscape plans significantly reduce the heat island effect.

2) Preserves Significant Trees, Quality Forested Areas, or Natural Features

- Preserves Historic, Heritage, Champion or Significant Trees
- Preserves quality forested areas determined by the following:
 - 1) Species Composition
 - 2) Age of Stand
 - 3) Health of Trees
 - 4) Number of Large Trees
 - 5) Size of Trees
 - 6) Percentage of Canopy Cover on the property
- Conservation easement established for a portion of an area
- Conserves significant natural features that support threatened or endangered species of plants, animals, insects or others recognized by the Texas Parks and Wildlife or other educational facilities or scientific research. All due consideration should be provided for existing wildlife corridors and contiguous nature areas.

3) Education and Implementation, Redesigning & Constructing Around Trees

- **Education:** If all those involved with the development of a property through the project's completion, from the owner of the property to the last person or company on the site when it's complete, are educated on best management practices for designing and working around trees, tree mitigation credits should be provided. Since other communities around the nation have established this type of document, its completion should not require an extensive amount of time. The details of how each party reviews the document and signifies that they understand are yet to be developed. It could require a signature or initial on various areas or a sworn statement that may require a notary seal of authenticity. Since all potential contractors and subcontractors could not be foreseen in the review process, there would be an ongoing need to keep these records on all those involved on a site.
- **Implementation:** If paper work was completed on all those involved and no violations were recorded by the City Arborist, full tree mitigation credit would be provided. If the site was found not to be in compliance (protective fences not in place, vehicles parked under trees, etc.) the Chief Arborist must notify the designated contact person for the site in writing. Failure to comply or repeated offenses may cause the loss of these or other credits at the discretion of the Chief Arborist.

4) Sustainable Landscape Beyond Current Requirements

- Use of drought tolerant landscape plants and trees.
- Landscape design that minimizes the maintenance required, such as minimal turf areas in the design, use of drought tolerant turf, shrubs that do not require shearing or constant pruning.
- Use of trees that research finds to be better for air quality or those that are low VOC emitters and high in their ability to sequester carbon, nitrogen oxide and others.
- Use of a diverse number of species with no one species comprising more than 20% of the total species within the design.
- Use of drip irrigation to water most, if not all, plant material.
- Use of mulch or rock over the root system of shrubs and trees to conserve moisture and irrigation.

The addition of an educational component requires the development of a program geared for this specific purpose. Local community colleges may be willing to establish a curriculum geared toward this purpose. There will also be a need to develop city standards for activities near trees or forests that support the program.

Section 51 A-10.136 Preservation of Protected trees During Construction or Other Disturbance.

The city arborist should have the stated authority to review all Demolition Permits, Grading Permits, and other like permits for the purpose of compliance to Article X.

The city arborist should have the stated authority to require *permanent* construction fencing materials where tree protection is warranted.

Section 51 A-10.137 Violation of this Division.

No revisions noted.

Section 51 A-10.138 Appeals.

No revisions noted.

Section 51 A-10.139 Fines.

No revisions noted.

Section 51 A-10.140 Fines.

No revisions noted.

Additional items for consideration

1. Preservation Incentives

Conservation easements do not necessarily have to be “donated to the city. The responsible party may continue to own the property encumbered as a conservation easement. The ordinance should outline some of the criteria on which a donation can be successful. When these areas become focal points of the community, the advocacy for the property is greater, and the development has a greater chance of long-term stability.

A land dedication to the for the purpose of public park should receive consideration whether or not the land contains trees. Credit could be given for the land. This option would be separate and apart from an easement.

In a redevelopment situation, incentives should be available to create open spaces on dense, mixed use areas.

2. Protected tree.

Exclude Bradford Pear.

3. Mandatory Landscape Requirements

Allow administrative avenue for alternatives or complete relief for trees that are in conflict with utilities.

4. Design Standards

Add design standard that offers credit for native and adapted drought tolerant plants.

5. Replacement of Removed or Seriously Injured Trees

Timing must be further amended to better coincide with development schedules.

6. Address developer transferring mitigation to builders, then to homeowners.
7. Provide incentives for developments that face parkland.
8. Include watershed protection as part of purpose statement and goals.
9. Recognize Historic Trees, Heritage Trees.
10. Consider a tool that gives neighborhoods the option to set more restrictive standards for tree preservation.
11. Flood Plain--Set same standards in Flood Plain ordinance as in Article X. Clarify enforcement authority.
12. Clarify grading permits, tree protection and mitigation as related to Article X.
13. Clarify demolition permits, and tree protection and mitigation as related to Article X.
14. Add section noting when Article X **does** apply to single family homes use and duplex use.
15. Produce a Technical Manual for Building with trees to be issued during plan review.
16. Offer an afforestation program for areas vacant of trees as a mitigation option.
17. Give city arborist the authority to consider incentives for retaining existing topography when the end result provides preservation of existing site trees.

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