
7.7.4 Tree Preservation.

- A. **Purpose and Intent.** The Comprehensive Plan identifies the importance of environmental management, while allowing reasonable and responsible development of land within the city. Towards this end, the purpose of these regulations is to promote the preservation and expansion of tree canopy, facilitate site design and construction that contributes to the long term viability of existing trees, and to establish a process to manage the removal of tree canopy. Further, this section is intended to accomplish the following public purposes:
1. Protect trees and promote the ecological, environmental, and aesthetic values of the city;
 2. Maintain and enhance a positive image of the city through the preservation, mitigation, and planting of trees;
 3. Prevent the untimely and indiscriminate removal or destruction of trees and clear-cutting of land;
 4. Provide for a permitting and enforcement procedure;
 5. Preserve the public health, safety, and general welfare of citizens;
 6. Encourage the protection of healthy trees and provide for the replacement and/or replanting of trees that are necessarily removed during construction, development, or redevelopment;
 7. Provide for the preservation and protection of larger native and/or established trees, which provide a valuable amenity to the urban environment and which, once destroyed, can only be replaced after generations, if at all;
 8. Enhance and preserve established tree stands adjacent to Environmentally Sensitive Areas in order to further protect wildlife habitats and reduce impacts from new developments;
 9. Provide for shade, windbreaks, and the cooling of air; thereby, reducing the requirements for air conditioning and heating and the utilization of nonrenewable energy sources; and
 10. Provide for open space and more efficient drainage of land; thereby, reducing the effects of soil erosion and the need for additional drainage facilities.
- B. **Applicability and Exemptions.**
1. Unless exempted in paragraph 2. below, the requirements of this subsection shall apply to:
 - a. Undeveloped land;
 - b. All nonresidential and multifamily property to be redevelopment including additions or alterations, but not including interior alterations or exterior alterations that do not change the footprint of the building, and that do not require the removal of trees; and
 - c. Existing single-family and duplex dwelling properties applying for a demolition permit for the principal structure, provided that the minimum dbh for protected trees shall be 10 inches or greater.
 2. The following activities shall be exempt from this subsection:
 - a. Agricultural operations under Tex. Agric. Code Sec. 251.002(1);
 - b. Property on which a single-family or duplex dwelling unit(s) exists, provided that trees designated for preservation on an approved Tree Survey or Preservation Plan and/or an associated Plat shall be preserved unless otherwise exempt under TLGC 212.905 or its successor;

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- c. Any tree determined to be diseased beyond recovery, dying, dead, creating a public nuisance or damaging a foundation by a qualified professional;
 - d. Any tree determined to be causing a danger, or to constitute a hazardous condition, as a result of a natural event such as tornado, storm, flood or other act of God, that endangers the public health, welfare or safety and requires immediate removal;
 - e. Any tree listed on the Texas Department of Agriculture Noxious and Invasive Plant List;
 - f. Clearing of understory necessary to perform soil borings, boundary surveying of real property, to conduct tree surveys or inventories, or to install tree protection fencing, provided that clearing for surveying shall not exceed a width of four feet for general survey (e.g., of easement boundary) and eight feet for survey of property boundary lines, and provided that any protected tree having a dbh of 10 inches dbh or greater may not be removed under this exemption. For the installation of tree protection fencing the clearing shall not exceed a width of four feet, measured radially from the trunk, and must not encroach into the dripline or critical root zone of any tree to be protected; or
 - g. Site plan, preliminary, or final plat applications, or a building permit application deemed complete as of the effective date of this subchapter.

C. Tree Removal Permit.

1. New Development/Construction.

- a. In the event it becomes necessary to remove a tree for development or construction, a tree removal permit is required. No protected tree may be removed for development or construction until the final plat has been approved and the Building Official has properly issued a tree removal permit for that purpose. In instances where a final plat is not required, proposed removal of protected trees shall be reviewed with any required site plan for development.
- b. All areas within the public rights-of-way, utility easements or drainage easements, as shown on an approved plat, and areas designated as cut/fill on the related drainage plan approved by the City Engineer, shall be subject to the requirements of this section.

2. Municipal/Public Property. Property owned by the City of Denton, State of Texas, a political subdivision of the State of Texas, or any public school, public school district, or nonprofit charter school shall be subject to requirements of Subsection 7.4.3.

3. Tree Removal Permit Required.

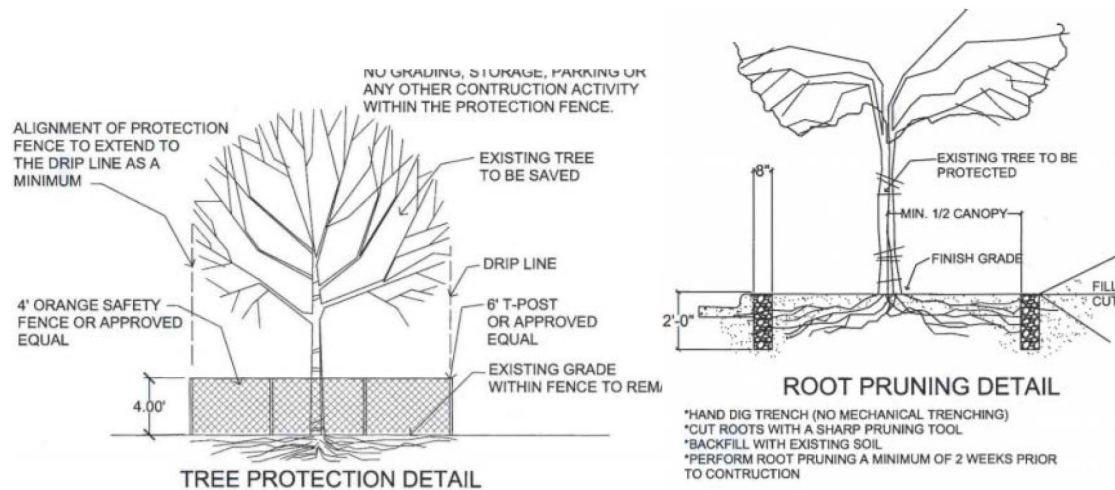
- a. No protected trees may be removed or transported until authorized by a tree removal permit. It shall be an affirmative defense to prosecution that permitting is exempted by Subsection 7.7.4B.

4. Tree Removal Permit Review and Approval Process.

- a. Applicant submits a complete application, along with the applicable fees.
- b. A tree survey and tree preservation plan is required for all new development, in accordance with Subsection 7.7.4D.
- c. A tree removal permit is valid for 180 days, or for the duration of a building permit, clearing and grading permit, or clearing and grubbing permit issued in conjunction with the tree removal permit, whichever is longer.
- d. Protected trees shall not be removed until:
 - i. Proper mitigation or replacement requirements have been determined and approved for the lot or site on an approved tree survey and preservation plan; and

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- ii. A preconstruction meeting has been held with proper city staff authorizing grading and construction activities to begin on the lot or site; and/or
 - iii. A tree removal permit has been issued for the lot or site.
 - 5. **Standards for Relocating Heritage and Quality Trees.** All permitted tree relocations shall be in accordance with the applicable American National Standards for Tree Care Operations ANSI A300.
 - 6. **Permits Issued for Public Need, Danger, or Calamity.** The Director or designee may issue a permit for the removal of a protected tree provided that it:
 - a. Is determined to be in a hazardous or dangerous condition so as to endanger the public health, welfare, or safety;
 - b. Hinders or obstructs the construction, maintenance, repair, or replacement of city streets, water and sewer lines, and drainage and storm sewer;
 - c. Is located in any right-of-way required under the mobility/thoroughfare plan to be dedicated to, and accepted by the city. This does not include trees being removed for proposed driveways, right and left turn lanes, or median openings required or warranted by a development. Trees removed in these instances shall be replaced per paragraph 7.7.7F.5;
 - d. Hinders or obstructs the construction, repair, maintenance, or replacement of public improvement projects including, but not limited to, major collection lines for sanitary sewer, distribution lines for water, collection and management of storm water runoff, and thoroughfares designated for construction in the City's Capital Improvement Project Plan, Water and Sanitary Distribution Line Maps, or Mobility/Thoroughfare Plan;
 - e. Is damaged or killed by a tornado, ice or wind storms, flooding, or other acts of nature; or
 - f. Is otherwise required by statute.
 - D. **Tree Protection Requirements During Construction.** Property owners shall adhere to the following tree protection measures on all construction sites, consistent with Figure 7.7-1: Tree Protection and Root Pruning Details.
 - 1. Prior to grading, brush removal, or construction, the developer shall clearly tag or mark all trees to be preserved.
 - 2. The developer shall erect an orange plastic mesh fence, or other approved fencing material, a minimum of four feet in height around each tree or group of trees to prevent the placement of debris, equipment, or fill within the dripline or critical root zone. The fence shall be installed prior to the release of any permit. If the protection fence is found removed, damaged, or altered at any time during construction prior to final inspection or landscape installation, a stop work order may be issued by the Building Official.
 - 3. During the construction phase of development, the developer shall prohibit cleaning, parking, or storage of equipment or materials under the canopy of any tree or group of trees required to be preserved. The developer shall not allow the disposal of any waste material harmful to tree growth and health, such as, but not limited to, paint, oil, solvents, asphalt, concrete, or mortar in the dripline area.

Figure 7.7-1: Tree Protection and Root Pruning Details



4. No attachments or wires of any kind, other than those intended to identify or protect a protected tree, shall be attached to any tree.
5. No fill or excavation may occur within the dripline of a tree to be preserved unless there is a specific approved plan for use of tree wells or retaining walls. Any plan proposing the use of tree wells or retaining walls within the dripline of a tree to be preserved shall be designed by a licensed landscape architect. Major changes of grade (four inches or greater) will require additional measures to maintain proper oxygen and water exchange with the roots. In addition, the developer should adhere to the following guidelines to protect the trees to be preserved:
 - a. With grade changes, a reinforced retaining wall or tree well of a design approved by the city should be constructed around the tree no closer than half the distance between the trunk and the drip line. The retaining wall should be constructed so as to maintain the existing grades around a tree or group of trees.
 - b. At no time should a wall, pavement, or porous pavement be placed closer than five feet or one foot for every two inches in caliper, whichever is greater, to the trunk of the tree.
 - c. In instances where tree wells or retaining walls are approved, root pruning may be necessary when the critical root zone is to be disturbed. See Figure 7.7-1.
 - d. If a patio, sidewalk, drive, parking lot, or other paved surface must be placed within the drip line of an existing tree, material such as a porous pavement or other approved construction methods that will allow the passage of water and oxygen may be required.

E. Tree Survey and Preservation/Replacement Plan.

1. A tree survey and preservation/replacement plan is required for the development impact areas and shall accompany the initial application for a site plan, preliminary plat, replat, gas well site plan, or a clear and grade permit, regardless of the number of trees present on a property.
2. A tree survey and preservation/replacement plan may be required to accompany a zoning application, specific use permit, or a planned development amendment where tree and landscaping requirements are relevant to the requested zoning or development amendment, as determined by the Director.
3. Each tree survey and preservation/replacement plan shall contain, but not be limited to, the following required elements:

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- a. The locations of all trees to be preserved and removed on the subject site.
 - b. A table containing the following information for all trees:
 - i. Tree number;
 - ii. Common name of each tree;
 - iii. Circumference of each landmark tree;
 - iv. Diameter (dbh) of each tree;
 - v. General health and condition of each tree;
 - vi. Average canopy spread;
 - vii. Classification (quality, heritage, landmark, secondary, or non-protected) and status (preserve or remove) for each tree; and
 - viii. Mitigation worksheet as shown in Table 7.C.
4. The tree survey and preservation/replacement plan shall be prepared by or under the supervision of an ISA certified or ASCA registered arborist, a SAF certified forester, botanist, professional land surveyor that has documented completion of at least eight hours of training in Texas tree identification, or a registered landscape architect.
 5. Residential subdivisions that are to be developed in phases must provide a plan that complies with the preservation requirements at full build-out as approved on the preliminary plat or general development plan.
 6. Any subsequent redevelopment of property shall preserve the minimum percentage dbh inches as indicated by the initial tree survey and preservation/replacement plan.
 7. A notation must be placed on the preliminary plat, final plat, site plan, and building permit identifying the dbh of trees to be preserved and the location of the lots that contain preserved trees. The notation shall limit any future unauthorized land disturbing activity or construction that would impact and/or damage the tree(s) preserved.
 8. A tree survey and preservation/replacement plan shall be approved if the minimum preservation and replacement requirements are met.
 9. If there are no protected trees on a property, then a signed and notarized letter indicating such shall be prepared by or under the supervision of an ISA certified or ASCA registered arborist, a SAF certified forester, botanist, professional land surveyor that has documented completion of at least eight hours of training in Texas tree identification, or a registered landscape architect and submitted with the initial development application.

F. Alternative Tree Preservation/Replacement Plan.

1. **Description and Intent.** The alternative tree preservation/replacement plan provides the option to further the purpose and intent of these regulations through a flexible process reviewed and approved by the Director for one of the following purposes:
 - a. To allow trees measuring below the minimum dbh to be counted for Protected Trees when:
 - i. The allowance would result in the preservation of a greater number of post oak trees, regardless of dbh; or
 - ii. The preservation of protected tree(s) would cause a substantial burden, but smaller dbh non-secondary trees are located in such a way that the trees can be incorporated into the site design such as the parking lot, buffer, or front yard landscaping.

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- b. To allow secondary trees to count towards the minimum required preservation instead of quality trees.
 - 2. **Criteria for Approval.**
 - a. The proposed alternative tree preservation/replacement plan adequately achieves, or is an improvement on, the intent of the requirements of this subsection; and
 - b. The proposed site design has minimized the loss of protected trees to the greatest extent possible or has maintained existing tree stands.
 - 3. **Replacement Trees.** Required replacement and mitigation contained in paragraphs 7.7.4H and 7.7.4I shall be required for those alternatives in paragraph 7.7.4F.1 above.
- G. **Minimum Preservation Requirements.**
- 1. **Tree Types and Required Preservation.**
 - a. **Landmark Trees.** One hundred percent of all Landmark trees shall be preserved.
 - b. **Heritage and Quality Trees.** A minimum of 30 percent of the total dbh shall be preserved within the development impact area. Removal of trees shall be replaced in accordance with Subsection 7.7.4H or 7.7.4I.
 - i. The 30 percent minimum preservation requirement may be reduced to 20 percent provided:
 - a. The 20 percent preserved dbh is in either a dedicated conservation easement or in a preserved habitat. All protected and non-protected trees, unless dead or diseased, that are greater than six inches dbh may be counted toward meeting the 20 percent requirement.
 - b. Preserved habitats may be dedicated as a conservation easement, and if not dedicated as a conservation easement must otherwise be restricted on a plat. Preserved habitat shall contain the prescribed minimum preservation amount, contain a stand of trees and understory, and shall be the greater of 10 percent of the property or 5,000 square feet.
 - c. All other trees remaining in the development impact area but removed shall be replaced in accordance with subsection 7.7.4H or 7.7.4I., if applicable.
 - ii. Properties without a preserved habitat or conservation easement may reduce the 30 percent minimum to 20 percent provided:
 - a. The 10 percent reduction is mitigated at the following rates: heritage trees at two and three-quarters inches for every inch removed; and quality trees at two and one-quarter inches for every inch removed.
 - b. All other trees remaining in the development impact area but removed shall be replaced in accordance with Subsection 7.7.4H or 7.7.4I., if applicable.
 - c. **Secondary Trees.** There is no minimum preservation of secondary trees required when there are quality and heritage trees located on a property. In instances where there are no quality or heritage trees located on a property, then a minimum of 20 percent of the total dbh for secondary trees on the property must be preserved within the development impact area.
 - d. **Preservation Relief.** City Council may approve relief of the Preservation Requirements in accordance with Tree Preservation Relief Provisions in Subsection 7.7.4J, and where required by State law.

H. **Tree Replacement.**

1. In the event that it is necessary to remove a protected tree(s) as allowed in this section, the applicant shall be required to replace the tree(s) being removed with healthy trees or pay a mitigation fee as explained hereafter.
 - a. If it is determined that tree replacement is required, the tree preservation/replacement plan must be approved prior to approval of a final plat or replat and a note shall be placed on that plat referencing the approved tree replacement plan.
 - b. If platting is not required, the tree replacement plan shall be included as part of a site plan approval or tree removal permit.
2. In accordance with TLGC, § 212.905, as amended, replacement trees must:
 - a. Be planted on property in which they were removed; or
 - b. Be planted at a location mutually agreed upon by the city and the property owner; and
 - c. Measure at least two inches dbh when planted.
3. In order to ensure biodiversity and protect against tree diseases, if 20 or more replacement trees are planted, no one species of tree may exceed 30 percent of the total new trees on the site.
4. To determine the replacement inches required by this section, the applicant shall inventory and combine the total inches of dbh of all protected trees that are to be removed and that are located within the development impact area.
5. This inventory shall be separated into inches of dbh removed per protected tree classification as calculated using the following replacement rates:
 - a. Heritage Tree - Two and one-half inches for every inch removed;
 - b. Quality Tree - Two inches for every inch removed; and
 - c. Secondary Tree - Four inches for every tree removed.
6. The total of the required inventories represents the replacement inches that shall be replaced through new tree plantings or preservation of existing trees. New trees required to satisfy the landscaping provisions of this section shall be counted towards satisfying this requirement.
7. Once each tree on the site is inventoried, tree mitigation shall be calculated as follows and as shown in Table 7.C: Sample Tree Mitigation Worksheet. The calculated dbh of each tree shall be the dbh of the tree multiplied by the appropriate classification ratio as described in paragraph 4 above. The total calculated dbh shall be the sum of all these trees.
8. In accordance with TLGC, § 212.905, as amended, a credit of 50 percent shall automatically be given to the total calculated dbh for all residential development, and 40 percent for nonresidential development. The preliminary mitigation dbh is 50 percent of the total calculated dbh for all residential, or 40 percent for nonresidential. Mixed-use developments shall be credited at the residential rate of 50 percent.
9. After calculating the preliminary mitigation dbh and subtracting the preserved credits, any remaining dbh is defined as the mitigation dbh. The mitigation dbh is required to be satisfied either by the planting of new trees on-site with an equivalent total dbh or by using one of the alternative methods described in Subsection 7.7.4J.
10. If any preserved and/or replacement tree(s) dies within three years of initial planting or issuance of certificate of occupancy, the current property owner shall be subject to the same replacement requirements per these requirements, unless otherwise exempt or deemed a non-protected tree.

- I. **Tree Preservation Credit.** Additional credit shall be given for all protected trees that are preserved. Preserved credits shall be the sum of:
1. A four-inch credit against mitigation for each one-inch of preliminary mitigation dbh shall be applied to the preservation of any landmark tree, or any trees preserved within a conservation easement or preserved habitat;
 2. A three-inch credit against mitigation for each one-inch preliminary mitigation dbh shall be applied to the preservation of any other heritage tree; and
 3. A two-inch credit against mitigation for each one-inch of Preliminary Mitigation dbh shall be applied to the preservation of any other quality tree.
 4. An additional preserved credit may be credited against preliminary mitigation dbh for preserved secondary trees, provided:
 - a. The minimum preservation of 30 percent is achieved for heritage and quality trees;
 - b. A one-half inch credit against mitigation for each one-inch preliminary mitigation dbh shall be applied to the preservation of secondary trees; and
 - c. Credit for preserved secondary trees may not exceed 50 percent of the preserved dbh of quality trees.

Table 7.C: Sample Tree Mitigation Worksheet			
dbh (Diameter at Breast Height)			
	Diameter at Breast Height (inches)		
Total dbh	120		
Non-protected dbh	20		
Total Protected dbh	100		
Required Preservation (30 percent)	30		
Dead Tree dbh	0		
Protected Trees Removed			
TYPE	dbh Removed (inches)	Replacement Ratio	Calculated dbh (inches)
Heritage	40	2.5:1	100
Quality	30	2:1	60
Subtotal	70		160
	Trees Removed	Replacement Ratio	Calculated dbh
Secondary	4	4": 1 tree	16
TOTAL			176
Preliminary Mitigation dbh		50 percent reduction	88
Trees Preserved			
TYPE	dbh Preserved (inches)	Credit Ratio	Preserved Credit (inches)
Heritage	20	3:1	60
Quality	10	2:1	20

Secondary	5	0.5:1	2.5
TOTAL	30		82.5
MITIGATION dbh			5.5

J. **Tree Preservation Relief Provisions.**

1. **Purpose.** The purpose of this provision allows a determination of whether the application of this DDC, as applied to a tree removal application and related development applications, would if not modified or other relief granted, may unreasonably burden the development of the property.
2. **Review Procedure.**
 - a. A property owner or his authorized agent may file an application for relief under this subsection following a final decision to deny or conditionally grant an application for a tree removal permit.
 - b. The Director has the authority to establish requirements for applications for tree preservation relief in the Application Criteria Manual. No application shall be accepted for filing until it is complete and the fee established by the City Council has been paid.
 - c. Upon approval of an application for relief in whole or in part by the City Council, the Director shall process the tree removal permit and related development applications pursuant to the relief granted on the application for relief approved by the City Council.
 - d. A denial of an application for relief by the City Council is a final determination.
3. **Criteria for Approval.** In deciding whether to grant relief to the applicant, the City Council shall consider whether there is any evidence from which it can reasonably conclude that the application of all or a part of the provisions of this DDC that apply to tree preservation may deprive the applicant of all economically viable use of the property, based on the following factors:
 - a. Whether there is a unique physical circumstance on the property.
 - b. Whether the proposed design has minimized the loss of trees to the extent possible.
 - c. Whether preservation and/or mitigation unduly burdens the development of the property.

K. **Alternatives to Tree Replacement Requirements.** In order to satisfy the mitigation dbh, the property owner may use any combination of alternative methods of compliance listed below. These alternative methods may also be used in combination with or in lieu of tree replacement, so long as the total replacement dbh is satisfied by one or all methods.

1. **Payment in Lieu of Replacement.**
 - a. Payment in lieu may be made in the amount prescribed separately and periodically by ordinance, and, if made, such a payment shall be deposited into the tree fund for the purposes described in this subsection. This amount is calculated by the average cost incurred by the city for the purchase, planting, and irrigation of a two-inch tree for three years.
 - b. The applicant must pay the fees contributed to the tree fund prior to the issuance of a gas well site plan, or the filing of a final plat in the Denton County Clerk's Office. If platting is not required, payment shall be prior to issuance of a tree removal permit.
 - c. Notwithstanding any other provision in this subsection, no tree mitigation fee may be collected or enforced in contravention of state law.
2. **Tree Donation.** The developer may donate the replacement tree(s) to the City's Parks Department for planting within the city, with the approval of the Parks Director.

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3. **Conservation Easement.** The property owner may request to grant a conservation easement by plat to the city that includes protected trees and non-protected trees beyond the minimum preservation amount, and with a combined dbh equal to or exceeding the dbh for which mitigation is being requested.
 - a. In addition to the tree survey and preservation/replacement plan, a detailed baseline document describing the property's physical and biological condition, the general age of any tree stands, locations of easements and construction, and the conservation values protected by the easement, shall be required.
 - b. The city may decline the request for a conservation easement for any reason; however a request so declined will not satisfy the mitigation requirement and mitigation must be achieved in a different manner as described above.

L. Tree Fund.

1. The city shall administer and use the tree fund to:
 - a. Purchase, plant, and maintain trees;
 - b. Conduct maintenance on conservation easements dedicated in accordance with this subsection;
 - c. Preserve wooded property remaining in a naturalistic state in perpetuity;
 - d. Perform and maintain a city-wide tree inventory;
 - e. Educate citizens and developers on the preservation, care, maintenance, benefits and value of trees within the City of Denton; and
 - f. Support programs for the public purpose of increasing the tree canopy within the City of Denton as approved by City Council.
2. Proceeds from the tree fund shall not be used to meet any requirements for preservation, mitigation, landscaping, buffering, streetscaping, or similar requirements in this DDC or the Municipal Code of Ordinances.
3. Voluntary contributions for tree planting shall be placed in the tree fund.

M. Incentives.

1. **Energy Conservation Credit.** Mitigated or preserved large canopy shade trees located on the western or southern exposures of a habitable building may receive additional tree replacement credit. The trees must be located a minimum of 10 feet but a maximum of 30 feet in distance from the building. Required tree replacement may be credited at 1.5 times the existing or newly planted trees;
2. **Heritage Tree Credit.** A replacement credit of 4.0 times the dbh of a heritage tree preserved beyond the minimum preservation requirements may be counted toward meeting the required replacement;
3. **Conservation Easement Credit.** Required replacement trees may be credited 2.0 times if planted within the dedicated Conservation Easement;
4. **Tree Cluster(s).** In order to emphasize the importance of preserving trees in a cluster during development, additional mitigation credit will be given for a cluster(s) of three or more trees whose bases are located less than 10 feet apart and whose drip lines overlap. Credit shall be calculated at 1.15 times the dbh of each tree within the cluster; and
5. **Parking Space Reduction.** Upon application and verification by the Director, an individual shall be entitled to a reduction in the minimum parking to help meet the minimum tree preservation requirements. For the purpose of providing an incentive, the minimum parking requirements in

Subsection 7.9.4, may be reduced by one parking space for every 12 inches dbh of trees that have been protected or mitigated on a site. Up to 15 percent of the required spaces may be reduced; or

6. **Certification in Lieu of Mitigation.** The Director shall assist those who wish to have a site certified under the Denton Wildscape Program in lieu of meeting replacement requirements as long as 20 percent of existing trees on-site are preserved.
7. The enforcement and penalty provisions of Section 1.6 shall apply to this subsection.