

SUBCHAPTER 23. DEFINITIONS

35.23.2 – Definitions and Terms

Building Pad: The actual foundation area of the primary building and a 10-foot clear area around the foundation necessary for construction and grade transitions.

Calculated DBH: The DBH of the Tree to be removed multiplied by the appropriate Tree classification ratio as described Subsections H.3 or G.2 of this subchapter.

Conservation Easement: A voluntary and permanent deed restriction which limits the development and/or subdivision of property for the purposes of protecting tree conservation in the land. The easement is a recorded restriction, applies to and binds all subsequent owners, and may be held by either a non-profit entity or organization that manages open space, such as a land trust or other qualified entity, pursuant to Section 170(h) of the Internal Revenue Code, as amended, or a governmental entity. The conservation easement shall contain the prescribed minimum preservation amount, included a stand of trees and understory, and shall be the greater of 10% of the property or 5,000 square feet.

Critical Root Zone (CRZ): Is the area of soil extending from the tree trunk where roots required for future tree health and survival are located. This area can also be defined as a circle with a minimum radius of 1' for every 1" in trunk diameter at 4.5" above ground.

Dead or Unhealthy Tree: Shall mean any tree certified by a certified arborist, certified forester, or a registered landscape architect to be dead or significantly diseased, injured, or hazardous and in danger of falling or dying.

Developed Floodplain. Area within the FEMA 1% Annual Chance Floodplain (a.k.a. 100-year floodplain) for which the natural stream has been redesigned and no longer exhibits characteristics of a natural channel and/or its floodplain has been significantly modified, graded, filled, or otherwise disturbed.

Development Impact Area: Shall mean and include any man-made change to improved or unimproved real estate, including but not limited to, accessory buildings or other structures, paving, drainage or utilities. Development activities include: subdivision of land; construction or alteration of structures, roads, parking, fences, pools, signs, temporary uses, utilities, and other facilities; installation of septic systems; grading; excavation, mining or drilling operations; deposit of refuse, debris, or fill materials; and clearing of natural vegetative cover (with the exception of agricultural activities as defined and as permitted). Environmental Sensitive Areas (ESA), Conservation Easements, and Preserved Habitat are excluded from the Development Impact Area.

Diameter at Breast Height (DBH): The tree trunk diameter measured in inches at a height of 4.5 feet above ground level. For multi-trunk trees, combine the diameter of the largest stem or trunk with one-half (0.5) of the diameter of each additional stem or trunk, all measured at four and one-half 4.5 feet above ground level.

Dripline: The outermost circumference of a tree canopy.

Heritage Trees: All healthy trees, including Mesquite and Honey Locust, with a dbh greater than 18 inches and all Post Oaks and Blackjack Oaks regardless of dbh.

Landmark Trees: A healthy tree that is designated on the Texas Big Tree Registry regardless if the tree is protected or a non-protected tree; or a tree designated as a Historic Tree where an event of historic significance occurred that had local, regional, or national importance; or at the home of a citizen who is famous on a local, regional, or national basis; or that has taken on a legendary stature in the community, is mention in literature or documents of historic value, or is considered unusual due to size, age, or other landmark status. Historic Trees shall be designated following the Historic Landmark Designation procedure.

Large Secondary Trees. All healthy Bois d’Arc, Hackberry, or Cottonwood trees with an eighteen (18) inch or greater dbh.

Mitigation DBH: The total number of diameter inches of trees removed that must be mitigated by either replanting or alternative means as described in subsection I of this subchapter. This total is determined by subtracting credits granted for preserved trees from the Preliminary Mitigation DBH.

Non-Protected Tree: The following are considered Non-Protected Trees:

- a. Dead or Unhealthy Trees;
- b. Tree that poses an imminent threat to persons or property;
- c. Mesquite unless part of a Preserved Habitat or Conservation Easement; or
- d. Honey Locust, unless part of a Preserved Habitat or Conservation Easement.

Nuisance. Physical or environmental conditions resulting in regular and/or continuous problems affecting the health, safety, and quality of life of citizens.

Preliminary Mitigation DBH: The total determined by calculating 50% of the total Calculated DBH of trees to be removed before applying any credits for preserved trees to determine the Mitigation DBH.

Preserved Habitat: Areas considered outside the development impact area or ESA where vegetation is retained to preserve natural ecological conditions and protect wildlife. 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% of the property or 5,000 square feet.

Protected Trees: Landmark, Heritage, Quality, Large Secondary, or Secondary Trees.

Quality Trees: All healthy trees that measures between six inches and up to 18 inches at dbh.

Replacement Inches: The total combined inches at DBH of all Protected Trees that are proposed to be removed and that are located within the Development Impact Area.

Riparian Buffer. Areas within one hundred (100) feet, measured from both sides of the stream centerline, with drainage areas greater than one (1) square mile, and fifty (50) feet from both sides of any streams centerline that drain areas of one (1) square mile or less. This also applies to the outer edges of surface water bodies.

Secondary Trees: A healthy Bois D' Arc, Hackberry, or Cottonwood with a dbh greater than six inches and less than 18 inches.

77 **Significant Stand:** Three or more Protected Trees whose canopies are generally clustered together
78 creating a contiguous dripline.

79 **Stream.** Linear geographic feature that conveys flowing waters. Headwater streams are the uppermost,
80 low-order streams of a watershed and comprise the majority of streams in the United States, both in
81 terms of number and length. Streams can be perennial, intermittent or ephemeral.

82 **Surface Water Body.** Term to include streams, ponds, lakes, and freshwater wetlands.

83 **Tree Protection Zone (TPZ):** is an area where construction activities are prohibited or restricted to
84 prevent injury to preserved trees, especially during pre-construction and construction, and includes the
85 Critical Root Zone and/or beyond.

86 **Undeveloped Floodplain.** Areas within the FEMA 1% Annual Chance Floodplain (a.k.a. 100-year
87 floodplain), that are undeveloped and in their natural state.

88 **Upland Habitat.** Contiguous areas ten acres or larger of Cross Timbers habitat.

89 **Valley Storage.** Water storage capacity of a stream expressed as a volume that is measured below the
90 base flood elevation.

91 **Water Related Habitat.** Areas designated as wetlands, and trees and understory vegetation containing
92 fifty (50) percent or more of predominately native bottomland hardwood. Bottomland hardwoods occur
93 on the first terrace of floodplains and flats along channels. Periodic inundation prevents establishment
94 of upland species and maintains the functioning of this type of vegetation.

95 **Wetland.** Area that is inundated or saturated by surface or ground water at a frequency and duration
96 sufficient to support, and that under normal circumstances do support, a prevalence of vegetation
97 typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes,
98 bogs, and similar areas. Includes adjacent and isolated wetlands.

SUBCHAPTER 17 – CONSERVATION AND LANDSCAPING REQUIREMENTS

35.17.1 – Environmentally Sensitive Areas (ESAs)

A. Purpose.

This Section is intended to achieve the following goals:

1. Manage and protect environmentally sensitive areas within the City.
2. Protect the natural and ecological resources that are essential elements of the City's health and community character and which provide irreplaceable plant and wildlife habitat;
3. Establish a development framework for the City that respects private property rights, while encouraging them to be used responsibly for the benefit of the entire community;
4. Preserve and enhance the City's distinctive community character and quality of life by ensuring that its natural and built environments are consistent with the community vision and values embodied in The Denton Plan.
5. Establish regulations that conform to the requirements of the state and federal government regarding air quality, water quality and environmental protection.
6. This Subchapter is adopted pursuant to authority vested under the City's charter, and Texas Local Government Code, Chapters 211, 212, and 551.

B. Applicability.

1. The standards of this Subchapter shall apply to all land and all development within the corporate limits of the City, except as otherwise specifically provided for in this Subchapter.
2. The floodplain standards of this Subchapter shall apply to all land and all development within the extraterritorial jurisdiction (ETJ) of the City.
3. The type of regulation applicable to the land depends upon the classification in which the land is placed, as provided in the Denton Development Code. If those regulations conflict with other regulations of this Subchapter, the more stringent of the two regulations shall apply.
4. Exemptions:
 - a. Property that does not contain any Environmentally Sensitive Areas as depicted on the City's Environmentally Sensitive Areas Map.
 - b. Grading, filling, cutting or other earth-moving activity on any lot involving less than twenty-five (25) cubic yards for residential projects or fifty (50) cubic yards for non-residential projects.
 - c. Existing platted lots with single-family and duplex dwellings.
 - d. The applicant can demonstrate through an Environmentally Sensitive Area field assessment application the subject property contains no Environmentally Sensitive Areas or their location is not as depicted on the ESA map.

C. Official Map.

1. **Environmentally Sensitive Areas Map.**

The official map that identifies areas designated as Environmentally Sensitive Areas (ESAs).

2. Environmentally Sensitive Areas Map Amendments.

- a. The map may be updated administratively when an ESA field assessment is conducted for a property and approved by the Director of Development Services.
- b. When the FEMA 1% Annual Chance Floodplain maps are revised or amended, the City's Floodplain ESAs boundary maps will be readjusted accordingly.
- c. Substantial amendments of the map shall follow the Zoning Amendment Procedure detailed in Subchapter 3. Substantial amendment is defined as changes impacting the whole city, excepting changes caused by the publication of new flood insurance rate maps (FIRMs) by FEMA.

3. Environmentally Sensitive Areas Field Assessments.

Field assessments are required prior to platting of property when there is reasonable evidence that Environmentally Sensitive Areas, as depicted on the official ESA Map, may not be accurate. ESA field assessments that require map adjustments, which shall be done in accordance with Section C.2, shall supersede the official ESA Map in determining what areas are subject to the requirements of this Subchapter as applied to a proposed development.

a. Information Required.

- i. Information as required on the Environmentally Sensitive Area Assessment application and checklist must be provided. Additional information deemed appropriate and necessary to process the application may be required.

b. Expiration.

- i. An Environmentally Sensitive Areas field assessment shall expire after two (2) years of its approval, or if the natural conditions of the ESA have been significantly altered.

c. Appeals.

- i. Appeals to staff determinations shall follow the Zoning Amendment Procedure detailed in Section 35.3.4.

4. Text Applicability.

The text of this Subchapter, including definitions, describes and regulates the protected ESAs shown on the City's Environmentally Sensitive Areas Map. In the case of any discrepancy the text of Section 35.17.1 shall control.

D. Environmentally Sensitive Areas Criteria Manual.

In addition to meeting the requirements expressly established in this Subchapter, all environmentally sensitive areas shall comply with the Environmentally Sensitive Areas Criteria Manual. Where there is conflict between a provision set forth in this Subchapter and a provision of the Environmentally Sensitive Areas Criteria Manual, the provisions of this Subchapter shall apply.

E. Criteria for Approval.

173 1. **Review Required.**

174 Environmentally Sensitive Area compliance review for residential or non-residential
175 development must be performed as part of a final plat application, site plan application,
176 clearing and grading permit, or any other applicable permission to commence land-clearing
177 activity..

178 2. **Information Required.**

179 Information as required on the applicable checklist must be provided. Additional information
180 deemed appropriate and necessary to process the application may also be required.

181 3. **Criteria for Approval.**

182 The requirements of an Environmentally Sensitive Areas review shall be deemed met when the
183 applicant demonstrates:

- 184 a. The land development activity complies with the requirements of this Subchapter for
185 floodplains, Riparian Buffers, Water Related Habitat, and Upland Habitat and all other
186 federal, state or local laws as part of the final plat or site plan.
- 187 b. The land disturbing activity will not cause damage to Environmentally Sensitive Areas
188 adjacent to the areas to be disturbed.
- 189 c. The land disturbing activity complies with the requirements of Subchapter 18.
- 190 d. Protective fencing has been established at the perimeter of the ESA. Protective fencing
191 shall clearly mark and delineate all ESAs to be protected and preserved for the
192 duration of the land disturbing activities on the property.
- 193 e. A wetland delineation by a trained scientist has been performed if encroachments into
194 U.S. Army Corp of Engineers' jurisdictional wetlands are proposed, and a Section 404
195 Nationwide Permit or a Letter of Permission from the U.S. Army Corps of Engineers has
196 been obtained.
- 197 f. An alternative Environmentally Sensitive Area plan has been approved for the subject
198 development.

199 4. **Expiration.**

200 The Environmentally Sensitive Area review shall expire when the final plat for residential
201 development approval expires, or when the site plan approval for a non-residential
202 development expires.

203 5. **Credit.**

204 Any Environmentally Sensitive Area that is preserved may be used towards meeting:

- 205 a. Parkland dedication in accordance with the Parkland Dedication Ordinance.
206 b. Drainage standards in accordance with Subchapter 19.

207 F. Floodplain Development Standards.

208 Upon field verification, areas designated as FEMA 1% Annual Chance Floodplain would be classified
209 according to the existing conditions as Developed or Undeveloped floodplains.

210 1. **Developed Floodplain.**

- 211 a. Development within the Developed Floodplains shall comply with Subchapter 35.19
212 Drainage Standards.
- 213 b. Section 35.17.1.G applies when Riparian buffers and Water-related habitats are
214 nested, partially or wholly, inside Developed floodplain ESAs.
- 215 c. Gas well drilling and production within developed floodplains shall comply with
216 Subchapter 35.22 (Gas Well Drilling and Production).

217 2. **Undeveloped Floodplain.**

218 The following uses and activities are regulated in the Undeveloped Floodplain.

219 a. Permitted Uses and Activities.

220 The following permitted uses and activities are allowed if compliant with the Subchapter
221 19 Drainage Standards and Chapter 30 of the Code of Ordinances:

- 222 i. The planting of any new trees or vegetation.
- 223 ii. Restoration or enhancement of floodplains, riparian buffers, water related
224 habitats, upland habitats, wetlands and streams as required by federal and state
225 standards.
- 226 iii. The placement of public or private utility facilities such as sewer, storm water,
227 water, electricity, gas, or other utilities as long as the disturbed area is restored to
228 minimized erosion and promote the recovery of the Environmentally Sensitive
229 Areas, and when adequately flood proofed.
- 230 iv. Measures to remove or abate nuisances, the removal of invasive plant species, or
231 any other violation of federal, state or local law, with the approval of the
232 Department of Environmental Services.
- 233 v. Parking lots, subject to the limitations on fill as specified in Section 35.17.1.F.2.c
234 and constructed of pervious materials.
- 235 vi. Parks, open space, recreational uses, trails, walkways and bike paths.
- 236 vii. Storm water quality controls.
- 237 viii. Construction of roadways identified on the Mobility Plan as long as the disturbed
238 areas are restored to minimize erosion and promote the recovery of the
239 Environmentally Sensitive Area subject to the Director of Environmental Services
240 approval.
- 241 ix. Routine repair and maintenance of existing structures, roadways, driveways,
242 utilities, and accessory uses.
- 243 x. Agricultural activity permitted through Nationwide Permit 40 (NWP 40),
244 Agricultural Activities pursuant Section 404 of the Clean Water Act or any other
245 federal permits.
- 246 xi. Any action taken by federal, state, or local officials in an emergency to mitigate an
247 existing or potential hazard.

- xii. The construction of a private driveway, as long as the disturbed areas are restored to minimize erosion and promote the recovery of the Environmentally Sensitive Area subject to the Department of Environmental Services approval.
- xiii. Gas well drilling and production shall comply with Subchapter 35.22 Gas Well Drilling and Production.
- xiv. Fill activities subject to limitations as outlined in Section 35.17.1.F.2.c.
- xv. Culverts and bridges as long as the disturbed areas are restored to minimize erosion and promote the recovery of the Environmentally Sensitive Area subject to the Department of Environmental Services approval. Culverts and bridges are exempt from the limitations in fill set in Section 35.17.1.F.2.c.
- b. Prohibited Uses and Activities.
- The following prohibited uses and activities are not allowed in Undeveloped Floodplains:
- i. Placement, handling, processing areas, and/or storage of hazardous waste. Hazardous waste and solid waste landfills.
- ii. Land disturbing activity not authorized by a U.S. Army Corps of Engineers Section 404 Permit or Letter of Permission.
- iii. Any new structures or additions, including garages and carports, and storage sheds located within the area mapped as Undeveloped Floodplain.
- iv. Tree and understory vegetation removal, except as allowed by Subsection 35.22.9 and 35.19.4.E.2.
- v. Septic tanks, septic tank drain fields, and other forms of on-site wastewater treatment.
- c. Standards for fill in Undeveloped Floodplains.
- The following are standards for fill in the Undeveloped floodplain:
- i. Filling of any floodplain of a stream that drains more than one (1) square mile is prohibited unless the fill on any lot is less than fifty (50) cubic yards or three hundred (300) cubic feet per acre, whichever is greater.
- ii. Up to fifteen (15) percent of the floodplain valley storage may be filled if the stream drains less than one (1) square mile.
- iii. In addition to meeting the requirement for fill set above, all fill activities in the Undeveloped floodplain shall comply with the Environmental Sensitive Area Criteria Manual, Subchapter 19 Drainage Standards, and federal law.

G. Riparian Buffer and Water Related Habitat Development Standards.

The following uses and activities are regulated in the Riparian Buffers and Water Related Habitats and are in addition to the regulations for development in this Subchapter.

1. Permitted Uses and Activities.

- 285 a. Placement of private residential yard amenities, including but not limited to: gardens,
286 yards, trails, and clearings, that would result in disturbing up to ten (10) percent of the
287 area, but in no instance shall the protective buffer width be decreased below twenty-
288 five (25) feet measured each direction from the centerline of the existing channel or
289 the outer edge of surface water bodies. No disturbance is permitted in delineated
290 wetlands.
- 291 b. Riparian buffers nested, partially or wholly, inside Developed floodplains may be
292 disturbed up to ten (10) percent of the area but in no instance shall the protective
293 buffer width be decreased below twenty-five (25) feet measured each direction from
294 the centerline of the existing channel or the outer edge of surface water bodies. No
295 disturbance is permitted in delineated wetlands.
- 296 c. Repair, replacement or improvement of public utility facilities where the disturbed
297 portion of the Environmentally Sensitive Area is restored, and vegetation listed as
298 invasive is removed and replaced with vegetation from the City Native Plant List.
- 299 d. Additions, alterations, rehabilitation, or replacement of existing structures that do not
300 increase the existing structural footprint in the Riparian Buffer or Water Related
301 Habitat. Any disturbed areas must be restored using native vegetative cover.
- 302 e. Stream, wetland, riparian and upland enhancement or restoration projects.
- 303 f. Agricultural activity, including buildings and structures, permitted through Nationwide
304 Permit 40 (NWP 40), Agricultural Activities pursuant Section 404 of the Clean Water
305 Act or any other federal permit.
- 306 g. Routine repair and maintenance of existing structures, roadways, driveways, utility
307 facilities, accessory uses and other development.
- 308 h. Construction of roadways identified on the city Mobility Plan as long as the disturbed
309 areas are restored to minimize erosion and promote the recovery of the
310 Environmentally Sensitive Area and subject to the Director of Environmental Services
311 approval.
- 312 i. Measures to remove or abate nuisances, or any other violation of state statute,
313 administrative rule, or City Code of Ordinances.
- 314 j. Any action taken by the City in an emergency to mitigate an existing or potential
315 hazard.
- 316 k. Gas well drilling and production within riparian buffers and water related habitats shall
317 comply with Subchapter 35.22 Gas Well Drilling and Production.

318 **2. Prohibited Uses and Activities.**

319 The following uses and activities are not allowed in Riparian Buffers and Water Related
320 Habitats:

- 321 a. Land disturbing activity not authorized by a US Army Corps of Engineers Section 404
322 Permit Letter of Permission.
- 323 b. Tree and understory vegetation removal, except as allowed by Subsection 35.19.4.E.2.
- 324 c. Placement, handling, processing, or storage of hazardous waste.

- 325 d. Any structures, including storage sheds, garages and carports.
- 326 e. Septic tanks, septic tank drain fields, and other forms of onsite wastewater treatment.

327 H. - Upland Habitat Development Standards.

328 The following uses and activities are regulated in the Upland Habitat and are in addition to the
329 restrictions for development within this Subchapter.

330 1. **Permitted Uses and Activities.**

- 331 a. Residential development shall be designed to retain a contiguous fifty (50) percent
332 tree canopy, which shall remain predominantly in its natural state. Preservation of
333 upland habitat contiguous to forested areas on adjacent properties or parcels is
334 strongly encouraged. Trees removed shall be considered part of the Development
335 Impact Area of a site and will be subject to tree preservation and landscape
336 requirements.
- 337 b. Non-residential development shall be designed to retain thirty (30) percent tree
338 canopy which shall remain predominantly in its natural state. Preservation of upland
339 habitat contiguous to forested areas on adjacent properties or parcels is strongly
340 encouraged. Trees removed shall be considered part of the Development Impact Area
341 of a site and will be subject to tree preservation and landscape requirements.
- 342 c. Selective pruning conducted by or under the supervision of an International Society of
343 Arboriculture (ISA) certified arborist is allowed to remove up to one-quarter of the
344 canopy for the purposes of tree health.
- 345 d. Enhancement or restoration projects as approved by the Department of
346 Environmental Services. Funds expended on an approved enhancement or restoration
347 project may be credited against required replacement in Section 32.17.2.H.

348 2. **Prohibited Uses and Activities.**

- 349 a. Septic tanks, septic tank drain fields, and other forms of on-site wastewater treatment are
350 prohibited in areas set aside for required preservation.

351 I. Subdivision Clustering Design Standards.

352 Clustering of development shall be utilized to minimize impact to the natural environment. Clustering
353 shall be designed to maintain a contiguous forested area.

354 J. Alternative Environmentally Sensitive Area Plans.

355 1. **Approval Process.**

356 The Alternative Environmentally Sensitive Area Plan provides the option to address the
357 regulations through a flexible discretionary process utilizing the Zoning Amendment Procedure
358 outlined in Subchapter 35.3.4.

359 2. **Development Impact Area**

If an Alternative Environmentally Sensitive Area Plan is approved, any areas of the ESA in which encroachment is permitted are considered part of the Development Impact Area of a site and are subject to tree preservation and landscape requirements.

Areas of ESA that are to be left undisturbed will be excluded from the Development Impact Area. Additionally, areas restored or provided as mitigation as part of an approved Alternative ESA plan will be excluded from the Development Impact Area.

3. Criteria for Approval.

City Council may approve the alternative plan with conditions necessary to mitigate the impacts of the proposed development upon considering the factors and goals noted in this section.

- a. Mitigation goals are obtained by creating, expanding, and/or improving environmentally sensitive areas.
- b. Mitigation goals are obtained by preserving environmentally sensitive areas above the minimum requirements, exchanges between different types of ESAs, installing pollution prevention controls, and/or implementing best management practices or any other approaches that result in the improvement of the environment being impacted.
- c. Areas offered as mitigation are linked to existing or planned open space or conserved areas to provide an overall open space system.
- d. Development is arranged for maximizing access and utilization of the environmentally sensitive areas by citizens.
- e. Areas offered as mitigation are placed either in a lot or lots that incorporate a permanent conservation easement, preserved habitat, restrictive covenants, or such other legal mechanism to allow for the long term conservation of said areas. Such legal mechanism shall limit any future land disturbing activity or construction within the environmentally sensitive areas and shall run with the land and be binding upon all successors and assigns of the current owner.
- f. The Alternative Environmentally Sensitive Area Plan shall demonstrate that the property owner's alternative proposal results in a high quality development meeting the intent of the standards in the Denton Development Code.

4. Information Required.

Information as required on the alternative environmentally sensitive areas plan checklist must be provided. Additional information deemed appropriate and necessary to process the application may also be required.

35.17.2 – Tree Preservation

A. PURPOSE AND INTENT.

1. Purpose. The Denton 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 Subchapter is intended to accomplish the following public purposes:

- a. Protect trees and promote the ecological, environmental, and aesthetic values of the City;
- b. Maintain and enhance a positive image of the City through the preservation, mitigation, and planting of trees;
- c. Prevent the untimely and indiscriminate removal or destruction of trees and clear-cutting of land;
- d. Provide for a permitting and enforcement procedure;
- e. Preserve the public health, safety, and general welfare of citizens;
- f. Encourage the protection of healthy trees and provide for the replacement of trees that are necessarily removed during construction, development, or redevelopment;
- g. Provide for the preservation and protection of larger native and established trees, which provide a valuable amenity to the urban environment and which, once destroyed, can only be replaced after generations, if at all;
- h. Enhance and preserve established tree stands adjacent to Environmental Sensitive Areas in order to further protect wildlife habitats and reduce impacts from new developments;
- i. Provide for shade, windbreaks and the cooling of air; thereby, reducing dependence upon air conditioning and its drain upon nonrenewable energy sources;
- j. 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. EXCEPTIONS

The requirements of 35.17.2 shall not apply to the following circumstances:

1. Agricultural operations under Tex. Agric. Code Sec. 251.002(1), as amended, and that have continued agricultural operations for a period of one year or more prior to development and have not been actively marketed for a nonagricultural use within two years prior to development;
2. Single-family and Duplex lots with trees under ten inches at DBH.

C. TREE REMOVAL PERMIT

1. New Development/Construction. In the event it becomes necessary to remove a Tree for development or construction, a Tree Removal Permit shall be required. No protected tree may be removed for development or construction until the final plat has been approved and the Building Official or designee 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 the site plan for a development.
 - a. All areas within the public rights-of-way, utility easements or drainage easements, as shown on an approved Final Plat or Minor 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 Subchapter.

- 443 2. Municipal/Public Property. Property owned by the City of Denton, State of Texas, a political
444 subdivision of the State of Texas, or any public school, public school district, or nonprofit
445 charter school shall be subject to requirements of Section 35.17.2.
- 446 3. Tree Removal Permit Required
- 447 a. No Protected Trees may be removed or transported until authorized by a Tree Removal
448 Permit. It shall be an affirmative defense to prosecution that permitting is exempted by
449 35.17.2.C.3.b or 35.17.2.C.4..
- 450 b. Exemptions: A tree removal permit is not required for individual single-family and
451 duplex uses unless the tree to be removed was previously designated for preservation
452 on an approved Tree Preservation Plan and Final Plat, or the tree is greater than 10
453 inches at dbh.
- 454
- 455 4. Tree Removal Permit Review and Approval Process.
- 456
- 457 a. Applicant submits a complete application, along with the applicable fees.
- 458 b. If required as stated herein, a Tree Survey and Tree Preservation Plan, must be
459 prepared or certified by an ISA Certified Arborist, as a required component of the
460 application for either a plat or a site plan.
- 461 c. A Tree Survey and Tree Preservation Plan is required for all new development, in
462 accordance with subsection 35.17.F. For existing development, if ten (10) or more
463 Trees are to be removed, a Tree Survey and Tree Preservation Plan of the property
464 shall be provided in accordance with 35.17.F.
- 465 d. A Tree Removal Permit is valid for one hundred eighty (180) days, or for the duration
466 of a Building Permit, Clearing and Grading Permit, or Clearing and Grubbing Permit
467 issued in conjunction with the Tree Removal Permit, whichever is longer.
- 468 e. Prior to the Tree Removal Permit being issued and as part of a Tree Preservation Plan,
469 the applicant must install a Tree Removal Sign and post it in a highly visible location
470 along each adjoining right-of-way of the lot or parcel designated in the Tree Removal
471 Permit application. The sign shall be in the form approved by the director, and as
472 described in the Site Design Criteria Manual.
- 473 i. Each sign shall be three feet by four feet
- 474 ii. Each sign shall be constructed from metal or corrugated plastic material.
- 475 iii. Each sign shall be mounted on stakes or poles.
- 476 iv. Each signs shall be clearly legible from the street.
- 477 v. There shall be one sign for each street frontage.
- 478 vi. The signs shall have a white background, with red letters and borders. The
479 signs shall state the following:
- 480 CITY OF DENTON, TX
- 481 A TREE REMOVAL REQUEST
- 482 IS BEING MADE ON THIS PROPERTY
- 483 FOR INFORMATION CALL 940-349-8541.
- 484 f. Protected trees approved for removal under a Tree Survey and Tree Preservation Plan
485 in accordance with this section shall not be removed until:
- 486 i. Proper mitigation or replacement requirements have been determined and
487 approved for the lot or site; and
- 488 ii. A preconstruction meeting has been held with proper city staff authorizing
489 grading and construction activities to begin on the lot or site; and/or
- 490 iii. A tree removal has been issued for the lot or site.

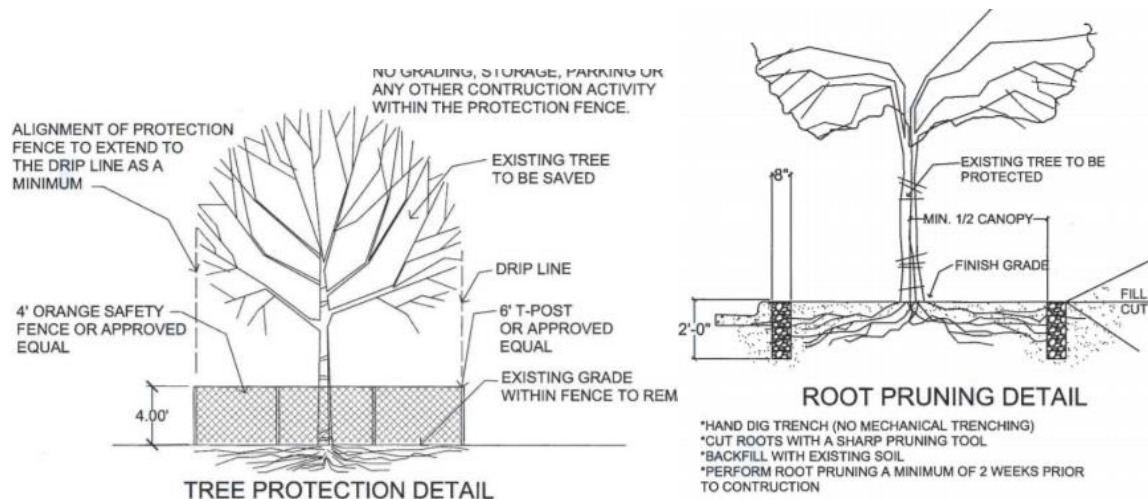
- 491
- 492 5. Standard for Relocating Heritage and Quality Trees.
- 493 All permitted tree relocations shall comply with applicable Texas Association of Nurserymen
- 494 Grades and Standards.
- 495 6. Permits Issued for Public Need, Danger, or Calamity
- 496 a. The Director or designee may issue a permit for
- 497
- 498 the removal of a Protected Tree, provided that it:
- 499 i. is determined to be in a hazardous or dangerous condition so as to endanger the
- 500 public health, welfare, or safety;
- 501 ii. hinders or obstructs the construction, maintenance, repair, and/or replacement
- 502 of City streets, water and sewer lines, and drainage and storm sewer;
- 503 iii. is located in any right-of-way required for the Mobility plan dedicated to and
- 504 accepted by the City. This does not include trees being removed for proposed
- 505 driveways, right and left turn lanes, and/or median openings required or
- 506 warranted by a development. Trees removed in these instances shall be replaced
- 507 per Section G;
- 508 iv. hinders or obstructs the construction, repair, maintenance, and/or replacement
- 509 of public improvement projects including, but not limited to, major collection
- 510 lines for sanitary sewer, distribution lines for water, collection and management
- 511 of storm water runoff and thoroughfares pursuant to the City's Capital
- 512 Improvement Project, Water and Sanitary Distribution Line Maps and/or
- 513 Thoroughfare Plan;
- 514 v. is damaged or killed by a tornado, ice or wind storms, flooding, or other acts of
- 515 nature; or
- 516 vi. is otherwise required by statute.
- 517

518 **D. TREE PROTECTION REQUIREMENTS DURING CONSTRUCTION**

519 Property owners shall adhere to the following tree protection measures on all construction sites.

520 See also Figure 17-1.

- 521 1. Prior to grading, brush removal, or construction, the developer shall clearly tag or mark all
- 522 trees to be preserved.
- 523 2. The developer shall erect an orange plastic mesh fence, or other approved fencing material, a
- 524 minimum of 4 feet in height around each tree or group of trees to prevent the placement of
- 525 debris, equipment, or fill within the root protection zone. The fence shall be installed prior to
- 526 the release of any permit. If the protection fence is found removed, down, or altered at any
- 527 time during construction prior to final inspection or landscape installation, a stop work order
- 528 may be issued by the Building Official.
- 529 3. During the construction phase of development, the developer shall prohibit cleaning, parking,
- 530 or storage of equipment or materials under the canopy of any tree or group of trees being
- 531 preserved. The developer shall not allow the disposal of any waste material such as, but not
- 532 limited to, paint, oil, solvents, asphalt, concrete, mortar, etc. in the canopy area.



4. No attachments or wires of any kind, other than those of a protective nature shall be attached to any tree.
5. No fill or excavation may occur within the drip line of a tree to be preserved unless there is a specific approved plan for use of tree wells or retaining walls. Major changes of grade (6 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:
 1. 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.
 2. ii. At no time should a wall, pavement, or porous pavement be placed closer than 5 feet or one foot for every 2 inches in caliper, whichever is greater, to the trunk of the tree.
 3. iii. Root pruning may be necessary when the critical root zone is to be disturbed. See Figure 17-2.
 4. iv. 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. ENFORCEMENT.

1. The Building Official or designee shall have the authority to place a Stop Work Order on any activity involving the removal of Protected Tree(s), Protected Tree Stand, Historic Tree(s) Quality Tree(s) or Quality Tree Stand(s) or that may otherwise endanger trees contrary to the provisions of this Subsection and applicable Criteria Manuals. The Building Official may deny all Permits and Certificates of Occupancy for any site which is not in compliance with this Subsection and applicable Criteria Manuals.
2. A person is criminally responsible for a violation of this subsection if the person removes, assists in the removal or causes the removal of a tree without complying with the requirements of this subsection or owns part or all of the land where the violation occurs.
3. Each tree removed in violation of this Subsection shall constitute a distinct and separate offense.
4. Each tree preserved or planted under this Subsection that is removed, destroyed or dies within three (3) years of approval shall constitute a distinct and separate offense.

- 567 5. It shall be an affirmative defense that trees are injured or destroyed by natural causes, natural
568 disasters, including but not limited to tornadoes, straight-line winds, ice storms, fire, floods, hail,
569 or lightning strikes, or through the independent unauthorized actions of third parties.
570 6. The enforcement and penalty provisions of Subsection 35.1.10.4 shall apply to this Subsection.
571

572 **F. TREE SURVEY AND PRESERVATION PLAN**

- 573 1. Tree surveys are required to accompany the initial application for a site plan, preliminary plat,
574 replat, gas well site plan, or a clear and grade permit regardless of the number of trees
575 present on a property. A tree survey may be required to accompany a zoning application,
576 Specific Use Permit, or planned development amendment where tree and landscaping
577 requirements are relevant to the requested zoning or development amendment, as
578 determined by the Director. Each tree survey shall contain, but not be limited to, the
579 following required elements:

- 580 a. The locations of all trees (Landmark, Heritage, Quality, Large Secondary and
581 Secondary) on the subject site.
582 b. A table containing the following information for each tree:
583 (1) Tree number;
584 (2) Common and scientific name of each tree;
585 (3) DBH of each tree;
586 (4) General health and condition of each tree;
587 (5) Average canopy spread;
588 (6) Classification of each tree;
589 (7) Whether each identified tree will remain or be removed; and
590 (8) Location coordinates (northings and eastings, State Plane - NAD 1983) for
591 each tree.

- 592 2. Each Landmark tree shall be affixed with a permanent tag bearing the corresponding number
593 on the tree survey. This tag shall be placed on the trunk of the tree, between five and six feet
594 in height on the south face of the tree's trunk.
595 3. Trees designated for preservation shall be flagged in a distinguishing manner approved by the
596 City for such purposes. In addition, those trees designated for removal shall be flagged in a
597 different distinguishing manner as approved by the City.
598 4. The tree survey must be signed, and stamped or sealed, by an ISA certified arborist, an ASCA
599 registered arborist, a SAF certified forester, or a registered landscape architect.

4. Phased Residential Subdivisions. Residential subdivisions that are to be developed in phases must provide a plan that complies with the preservation requirements at full buildout as approved on the preliminary plat or general development plan.
5. Any subsequent redevelopment of property must preserve the minimum percentage of square footage of the predevelopment tree canopy as indicated by the initial Tree Survey and Preservation Plan.
6. A notation must be placed on the Preliminary Plat, Final Plat, Site Plan, and Building Permit identifying the square footage of the predevelopment tree canopy and the square footage of tree canopy to be preserved and the location of the lots that contain Preserved Tree Canopy. The notation shall limit any future unauthorized land disturbing activity or construction that would impact and/or damage the tree(s) preserved.

G. ALTERNATE TREE PRESERVATION PLAN

1. An applicant may propose an Alternative Tree Preservation Plan which meets or exceeds the goals and objectives of this Subchapter but does not meet the standards of this Subchapter. The Alternative Tree Preservation Plan provides the option to address the criteria through a flexible discretionary process reviewed by the Planning and Zoning Commission utilizing the Planning and Zoning Commission Procedure process outlined in Subchapter 3.
2. Criteria for Approval. The goals and objectives which must be met, and by which the proposal will be judged are:
 - a. The proposed Alternative Tree Preservation Plan adequately achieves, or is an improvement on, the intent of the requirements of this Subsection.
 - b. Assure quality development that fits in with the character of Denton.

H. PRESERVATION REQUIREMENTS

2. Landmark Trees – 100% of all Landmark trees within the development impact area must be preserved. Heritage, Quality, and Large Secondary Trees - A minimum of 30% of the total dbh must be preserved within the Development Impact Area. Removed trees shall be replaced in accordance with subsection I and subsection J if applicable.
 - a. The 30% minimum preservation requirement may be reduced to 20%, if the 20% preserved dbh is in 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 (6") dbh may be counted toward meeting the 20% requirement. All other trees remaining in the Development Impact Area but removed shall be replaced in accordance with subsection I and J, if applicable.
3. Infill Development. A minimum of 20% of the total dbh for Heritage, Quality, and Large Secondary Trees must be preserved within the Development Impact Area. Removed trees shall be replaced in accordance with subsection I and subsection J if applicable.
4. Preservation Relief – City Council may approve relief of the Preservation Requirements in accordance with Section 35.3.11 Tree Preservation Relief Provisions.

I. TREE REPLACEMENT

1. In the event that it is necessary to remove a Protected Tree(s) as allowed in this chapter, the applicant shall be required to replace the Tree(s) being removed with healthy Trees or pay a mitigation fee as explained hereafter. Any replacement Tree shall be a minimum of two inch (2") caliper. In the event a Protected Tree requires mitigation, the total mitigation shall be calculated from the DBH of the Protected Tree.

2. In order to ensure biodiversity and protect against tree disease, if ten (10) or more trees are planted no one genus of tree may exceed twenty percent (20%) of the total new trees on the site.
3. 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.
4. This inventory shall be separated into inches of DBH removed per protected tree classification as calculated using the following replacement rate:
 - a. Post Oaks & Blackjack Oaks with a dbh of 4 inches or greater – Three (3) inches for every inch removed;
 - b. Heritage Tree – Three (3) inches for every inch removed;
 - c. Large Secondary – Two (2) inches for every inch removed;
 - d. Quality Tree – One and one-half (1.5) inches for every inch removed; and
 - e. Secondary Tree– Two (2) inches for every tree removed.
5. The total of the required inventories represents the **Replacement Inches** that shall be replaced through new tree plantings or preservation of existing trees.
 - a. New Trees required to satisfy the landscaping provisions of this chapter shall be counted towards satisfying this requirement.
6. Once each Tree on the site is inventoried, tree mitigation shall be calculated as follows and as shown in Table I.1:
 - a. The **Calculated DBH** of each Tree shall be the DBH of the Tree multiplied by the appropriate classification ratio as described section I.4 above. The **Total Calculated DBH** shall be the sum of all these Trees.
7. A credit of fifty percent (50%) shall automatically be given to the **Total Calculated DBH**. The **Preliminary Mitigation DBH** is 50% of the **Total Calculated DBH**.
8. Tree Preservation Credit
Preserved Credits shall be the sum of:
 - a. A four (4)inch credit against mitigation for each one inch of **Preliminary Mitigation DBH** shall be authorized for the preservation of any Landmark Tree or any trees preserved within a Conservation Easement or Preserved Habitat;
 - b. A three (3) inch credit against mitigation for each one inch of **Preliminary Mitigation DBH** shall be authorized for the preservation of any tree Post Oak or Blackjack Oak Tree; and
 - c. A two (2) inch credit against mitigation for each one inch of **Preliminary Mitigation DBH** shall be authorized for the preservation of any other Heritage Tree.
 - d. A one-half (.5) inch credit against mitigation for each one inch **Preliminary Mitigation DBH** shall be authorized for the preservation of any other Quality Tree.

Table I.1. Sample Tree Mitigation Worksheet

	DBH	
Total	127	
Total DBH Protected	105	
Required Preservation (30%)	32	

Dead Tree DBH	0		
Non-Protected DBH	12		
Protected Trees Removed			
Type	DBH Removed	Calculated DBH	
Heritage	22	66	
Post Oak/Blackjack Oak	24	72	
Quality	0	0	
Large Secondary	9	38	
Secondary	3	6	
Total	55	182	
Preliminary Mitigation DBH		91	
	Trees Preserved		
Type		DBH Preserved	Preserved Credit
Post Oak		0	0
Heritage		20	40
Quality		20	10
Large Secondary		0	0
Total		40	50
Mitigation DBH		41	

9. If any Preserved and/or Replacement Tree(s) dies within two (2) years of initial planting or issuance of a Certificate of Occupancy and is brought to the attention of the City, the current property owner shall be subject to the same replacement per these requirements.
10. 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 I.

J. ALTERNATIVES TO TREE REPLACEMENT REQUIREMENTS

In order to satisfy the Mitigation DBH, the property owner may utilize 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. Tree Donation. The property owner may donate the replacement Tree(s) to the City's Parks Department, with the approval of the Director.
2. Off-site Tree Replacement. In order to plant the replacement Trees on another property in the City, the responsible property must obtain the written approval of the following:
 - a. The property owner where the replacement Trees will be planted and the responsible party, to transfer responsibility for the replacement Tree under this article to the receiving party.
 - b. A site plan indicating the address of the property where the replacement Tree will be planted, and a site plan indicating the location of the replacement Tree.
 - c. The agreement may be structured to allow a non-profit association dedicated to Tree advocacy or conservation of land to plant, manage, and monitor replacement Tree.
3. Conservation Easement. The property owner may request to grant a conservation easement by plat to the City that includes protected Trees with a combined diameter equal to or exceeding the diameter for which mitigation is being requested.
 - a. Detailed baseline document prepared by a Certified Arborist, degreed urban forester, or Landscape Architect describing the properties 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 does not satisfy the mitigation requirement, and mitigation must be achieved in a different manner.
4. Payment in Lieu of Replacement
 - a. For protected trees payment in lieu will be made in the amount prescribed separately and periodically by ordinance, and such payment deposited into the Tree Fund. This amount is calculated by the actual cost incurred by the City for the purchase, planting, and irrigation for one year. -
 - 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 Permit,.
 - c. Notwithstanding any other provision in this subsection 35.17.2.I.4, no tree mitigation fee may be collected or enforced in contravention of State law.¹

K. TREE FUND

1. The City shall administer the Tree Fund. Funds shall be used to purchase, plant, and maintain trees; to preserve wooded property remaining in a naturalistic state in perpetuity; to perform and maintain a City-wide tree inventory; and to educate citizens and property owners on the preservation, care, maintenance, benefits and value of trees within the City of Denton. The Tree Fund may also be used to 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 the Denton Development Code and the Denton Code of Ordinances.
3. Voluntary contributions for tree planting shall be placed in the Tree Fund.

¹ STATE LAW REFERENCE – Tex. Loc. Gov't Code sec. 212.905, as modified or amended, which limits the authority of a municipality to charge a tree mitigation fee under certain specified circumstances.

35.17.3 - Landscape and Tree Canopy Requirements

- A. **Purpose.** The City recognizes landscaping, tree preservation, buffering, and screening as important elements to:

1. Blend the built and natural environment and preserve the natural landscape;
2. Mitigate or minimize potential nuisances such as noise, light, glare, dirt, litter, signs, parking, or storage areas and to provide a transition between uses;
3. Conserve water resources by using sustainable design and maintenance techniques and low-water plant species;
4. Promote environmental benefits such as improved stormwater retention, water quality, air quality, retaining soil moisture, recharging groundwater, and preventing erosion;
5. Improve the appearance of development and establish an attractive streetscape; and
6. Increase the urban tree canopy.

- B. **Intent.** The intent of these regulations is to achieve and maintain an average minimum of thirty percent (30%) tree canopy coverage citywide from preserved trees and newly planted trees and to promote a multi-aged urban forest. Specifically, to achieve the City's goal of a city-wide average tree canopy cover of at least thirty percent (30%), the following goals are established for specific areas of the City based upon the unique ecoregions present in different areas of the City:

1. For areas east of the Interstate 35 / Interstate 35-W corridor where the Cross Timbers ecoregion is more prevalent, the minimum canopy goal shall be 40% coverage.
2. For areas west of the Interstate 35 / Interstate 35-W corridor where the Grand Prairie ecoregion is more prevalent, the minimum canopy goal shall be 20% coverage.

These regulations are intended to promote the functional distribution of that canopy throughout various land uses as development occurs through a combination of planting and retention goals and requirements for tree canopy cover.

- C. **Applicability.** The following requirements shall apply to the Development Impact Area of all developments, including single- and two- family lots within residential developments:

1. **Minimum Landscape Area and Tree Canopy.**

- a. Landscape area is the portion of a Development Impact Area which is not defined as "lot coverage". The percentage of Landscape Area required shall be based on the property's zoning designation as indicated in the table below.
- b. Tree canopy is measured by computing the area that the mature canopy will encompass, based on the Tree List contained in the Site Design Criteria Manual. The mature canopies may be estimated for existing trees on site. Any tree not on the Tree List may be estimated by use of standard landscaping references.
- c. The required percentage of Tree Canopy required shall be based on the zoning of the property as described in Table 17.3.A below. The required tree canopy area shall apply to either:
 - i. The entire Development Impact Area, or
 - ii. The entire lot being developed, minus the footprint area of any proposed buildings.

788 The selected method for calculating the required tree canopy must be explicitly
789 stated on the Landscape Plan.

790 d. The following may count towards meeting the landscape and tree canopy
791 requirements:

- 792 i. All landscaped areas planted and maintained within the Development
793 Impact Area;
- 794 ii. Tree canopy in the adjacent public right-of-way; and
- 795 iii. All required mitigation trees may count towards landscaping if planted
796 trees are a minimum of 2 inch DBH; and
- 797 iv. Plazas and pedestrian circulation areas if constructed with pervious
798 material and not located within the public right-of-way.
- 799 v. Low Impact Design (LID) options if installed and maintained pursuant to
800 the North Central Texas Council of Governments Integrated Storm
801 Water Management (iSWM) strategies, including:
- 802 (a) Bioswales: Bioswales are vegetated swales planted with wet
803 tolerant species of plants or ornamental grasses. They
804 transport, store, and allow infiltration of water, and can be
805 designed as a landscape feature. Bioswales are not grassed, but
806 are planted with a variety of plant species that can withstand
807 occasional water inundation for short periods of time.
- 808 (b) Grassed Swales: Grassed swales are designed conveyance
809 devices used to transport water over the surface of the ground
810 to a point of disposal that may be a catch basin, ditch, or water
811 body that will filter, infiltrate, evaporate, and clean the water of
812 total suspended solids and other pollutants. Swales are often
813 appropriate along property lines, public streets, and around
814 buildings.
- 815 (c) Bioretention Facilities (a.k.a. Rain Gardens): Bioretention
816 facilities are small shallow depressions planted with a variety of
817 native or ornamental plants that can treat small amounts of
818 runoff to improve water quality. Bioretention facilities are
819 generally small collections of flood-tolerant plants planted on a
820 low site area that naturally collects rainfall.
- 821 (d) Sand Filters: Sand filters are depressions, trenches, barriers, or
822 sand lens, constructed of porous mineral matter that improve
823 ground water recharge, to filter, clean and trap waterborne
824 pollutants.
- 825 (i)
- 826

Table 17.3.A Minimum Landscape Area and Tree Canopy		
Districts	Percent Landscape area	Percent Tree Canopy Cover
Rural		

Table 17.3.A Minimum Landscape Area and Tree Canopy			
Districts		Percent Landscape area	Percent Tree Canopy Cover
RD-5	Rural Residential	75%	25%
RC	Rural Commercial	65%	
Neighborhood Residential			
NR-1	Neighborhood Residential 1	70%	50%
NR-2	Neighborhood Residential 2	50%	
NR-3	Neighborhood Residential 3	50%	
NR-4	Neighborhood Residential 4	40%	
NR-6	Neighborhood Residential 6	25%	40%
NRMU-12	Neighborhood Residential Mixed Use 12	20%	40%
NRMU	Neighborhood Residential Mixed Use		
Downtown University Core			
DR-1	Downtown Residential	20%	40%
DR-2	Downtown Residential		
DC-N	Downtown Commercial Neighborhood	15%	20%
DC-G	Downtown Commercial General		
Community Mixed Use Centers			
CM-G	Community Mixed Use General	20%	30%
CM-E	Community Mixed Use employment		
Regional Mixed Use Centers			

Table 17.3.A Minimum Landscape Area and Tree Canopy			
Districts		Percent Landscape area	Percent Tree Canopy Cover
RCR-1	Regional Center Residential 1	25%	30%
RCR-2	Regional Center Residential 2		
RCC-N	Regional Center Commercial Neighborhood		
RCC-D	Regional Center Commercial Downtown		
Employment Centers			
EC-C	Employment Centers Commercial	20%	30%
EC-I	Employment Centers Industrial	15%	20%
Industrial Centers			
IC-E	Industrial Centers Employment	15%	20%
IC-G	Industrial Centers General	15%	15%

e. All plantings shall be from the approved Landscape Plant List in the Site Design Criteria Manual.

f. In order to ensure biodiversity and protect against tree disease, if ten (10) or more trees are planted, no one genus of tree may exceed twenty percent (20%) of the total new trees on the site.

g. At least 50% of the trees planted must be native, as indicated on the approved Landscape Plant List.

2. Landscape Installation and Maintenance.

a. Landscaping installed as part of the requirements of the landscape standards must be free from diseases and insects, and maintained in a healthy, growing condition at all times.

b. The property owner is responsible for regular weeding, mowing of grass, irrigating, fertilizing, pruning, litter removal, and other maintenance as needed for all plantings.

c. The property owner shall remove and replace any landscaping that dies with other approved living plants from the approved plant from the list contained in the Site Design Criteria Manual, no later than thirty (30) days after actual knowledge that the landscaping has died, or the postmarked date of written notification from the City, whichever is sooner. The Director or designee may, in his sole discretion, extend this

time period due to weather or other events outside of the reasonable control of the property owner. The property owner shall immediately remove and replace any planted or preserved tree that dies with an approved tree in the appropriate planting season.

d. Irrigation. To ensure viability, landscape areas shall be irrigated by one or a combination of the following methods:

- i. An automated underground system.
- ii. A drip irrigation system.
- iii. The Director or designee may waive the irrigation system requirement if a landscaping plan is approved that includes drought tolerant plants or a xeriscape system. In such cases, a temporary irrigation system shall be installed and maintained until the plants are established.

3. **Yard Trees.** All single-family and duplex lots shall contain a minimum of 1 large shade tree per dwelling.

4. **Landscape Plan and Point System.** In addition to the above standards, the following requirements shall apply to all developments, except single- and two-family lots within residential developments:

- a. A Landscape Plan is required for all developments that demonstrates compliance with the required minimum Landscape Area requirements, at the time of application for: a specific use permit, an alternative development plan, a site plan, or a building permit, whichever comes first,
- b. All Landscape Plans shall be drawn and sealed by a registered landscape architect.
- c. All landscape plans shall contain, at a minimum, the following elements:
 - i. A delineation of the property boundary, the Development Impact Area, ESAs, Preserved Habitat areas, and any easements;
 - ii. Dimensioned buffer areas, right-of-way screening areas, and parking lot landscaping areas;
 - iii. Location and tabulation of all proposed plantings, including size at the time of planting and expected canopy area of all trees at maturity, as provided for in the Site Design Criteria Manual;
 - iv. Tabulation of how the required landscape and buffer points, as described in the sections below, are provided;
 - v. Tabulation of the required and provided number of street trees, unless provided on a separate Street Tree Plan at the time of platting; and
 - vi. Any additional information required to demonstrate compliance with the requirements of this section.

d. Landscape Area and Tree Canopy shall be designed using a combination of elements from the point system described below.

- i. All developments are required to provide a combination of landscaping elements from **Table 17.3.B**, totaling at least 30 points and meeting the minimum required percentage of Landscaping Area and Tree Canopy.
- ii. At least two elements must be selected from both Sections A and B in the table, except as noted below. The remaining points may be selected from Sections A, B, or C.
 - (a) Right-of-Way Screening shall be provided between the front-most row of parking and the street. Screening area shall begin

894 at the back edge of either the right-of-way or public utility
895 easement. The area dedicated to parking lot screening must
896 contain sufficient area to plant the proposed screening
897 elements in accordance with industry standards. For
898 developments where parking is not located between the
899 building and the street, any drive aisles located in front of the
900 building shall be screened by at least one of the elements in
901 Section A.

- 902 (b) Parking Lot landscaping shall be provided internal to the parking
903 lot. Turf grass does not satisfy requirements for planting
904 materials in parking lot landscaping elements. Planting materials
905 permitted include drought-tolerant plants, ornamental or native
906 grasses, and pervious non-living ground cover installed with a
907 permeable weed-barrier.
- 908 (c) If proposed, living walls and green roofs must be engineered in
909 accordance with building industry standards to ensure building
910 safety and longevity of the plant material. Green roofs must be
911 installed in a manner allowing for inspection consistent with
912 applicable OSHA standards, along with all other site
913 landscaping.
914

COE DRAFT 2/4/2019

Table 17.3.B	
Landscaping Element	Points
Section A. Right-of-Way Screening Elements (Minimum 2 unless no front parking, then 1)	
A landscaped berm with a maximum of one (1) on three (3) side slope on both sides	5
One (1) large canopy tree planted every 40 linear feet	5
Three (3) small accent trees clustered every thirty (30) linear feet when space does not permit large canopy trees	5
A minimum three (3)-foot high continuous hedge of evergreen shrubs	5
A minimum three (3)-foot high continuous wall made of any combination of wrought iron, masonry, or stone. If wrought iron is used, vines shall be grown on the wrought iron to create a more opaque wall.	5
Section B. Parking Lot Landscaping Elements (Minimum 2)	
Internal landscape islands with an area of at least 9-feet by 18-feet containing at least one large canopy tree placed evenly at an average of one (1) for every ten (10) spaces (or portion thereof). For lots of ten (10) spaces or less, at least one internal landscape island is required but does not have to be centrally located within a row of parking spaces	5
End caps with an area of at least 9-feet by 18-feet containing at least one large canopy tree.	5
A landscape median of at least 8-feet wide running the length of a parking row and containing at least one (1) large tree per 30 linear feet.	5
Section C. Other Site Landscaping Elements	
A five (5)-foot wide landscaped area provided for the length of the building frontage between the front of the building and the parking lot. This area may be paved as a walkway if pots or planters are provided along at least 50% of the building frontage.	3
Each planted tree meets or exceeds three (3) caliper inches at the time of planting	2
At least 75% of plants proposed are drought-tolerant	5
Landscape area provided exceeds required minimum by an additional 10% or more	3
No more than 30% of landscaped areas is covered in high-water using species (those that requires more than one and one-half inches of water or more per week to survive) of turf grass.	3
Tree Canopy exceeding minimum requirement by an additional 25% or more	3
Bioswales planted with wet tolerant species of plants and grasses to transport, store, and infiltrate water. If designed as part of a parking lot island or median, points may be counted for both elements.	7
Grassed swales for surface water transport to disposal point	7
Bioretention facilities (a.k.a. rain gardens)	7
Sand filters for ground water recharge	7
Living walls/vertical gardens provided in a designated pedestrian area or as an architectural feature of an external building wall.	5
Rooftop vegetation (green roofs)	5

Butterfly or pollinator gardens that include native milkweed and nectar plans	5	915
		916

5. P

Permits, Enforcement, and Drought

- a. No permits will be issued for any non-residential or multi-family development until a detailed landscape plan is submitted as part of the Site Plan, Specific Use Permit, Alternative Development Plan, or building permit review process.
- b. Prior to the issuance of a Certificate of Occupancy for any building or structure, all screening and landscaping shall be in place, in accordance with the approved landscape plan and applicant shall call to arrange inspection of all landscape installations.
- c. An as-built landscape plan shall be provided to the City upon final inspection.
- d. Landscaping which dies shall be replaced by the owner with plants of similar variety and size, no later than thirty (30) days after: actual knowledge of the death; or the postmark of written notice from the City, whichever is earlier. The Director or designee may, in his sole discretion, extend this time period due to weather or other events outside of the reasonable control of the property owner. Replacement trees of similar mature canopy may be replanted with confirmation and approval from the Director or designee. Replacement trees must be a minimum of 3- inch caliper, measured six inches above the ground.
- e. A planting extension may be granted in the sole discretion of the Director or designee if substantial evidence is presented to indicate abnormal circumstances beyond the control of the owner or his agent. Seasons of drought, extreme heat, or heavy rainfall causing construction delays are examples of abnormal circumstances.

35.17.4 - Street Tree Requirements

As specified below, applications for development shall propose and be required to plant street trees in accordance with the following standards, and in accordance with the spacing requirements identified in the Site Design Criteria Manual. The Director may approve alternative plans due to special site conditions, which may, for reasons such as safety or existing trees on the lot, affect the ability to meet these regulations.

- A. **Street Tree Plan.** A street tree plan shall be submitted with a Site Plan for multi-family or non-residential developments, and with a Final Plat for new residential subdivisions. Additionally, street trees should be specifically called out on building permits and landscape plans.
- B. **Street Tree Location.** Street trees shall be located within the street right-of-way or within 10 feet of the street right-of-way.
- C. **Street Tree Number and Spacing.** At least one street tree is required for every 30 feet of street frontage.
 - 1. Street trees need not be regularly spaced at 30-foot intervals; however, street trees shall not be planted further apart than 50-foot intervals, and not closer than 25 feet apart.
 - 2. Street trees shall be planted in accordance with the spacing requirements from utilities, intersections, and driveways described in the Site Design Criteria Manual.
 - 3. In order to ensure biodiversity and protect against tree disease, if ten (10) or more street trees are planted, no one genus of tree may exceed twenty percent (20%) of the total new street trees.
- D. **Tree Planting**
 - 1. Tree planting standards shall be in accordance with the Site Design Criteria Manual.
 - 2. Each tree planted shall meet the most current version of American Standards for Nursery Stock ANSI Z60.1 and shall be a minimum of 3" caliper measured 6" above grade. Any tree that does not meet ANSI Z60.1 may be rejected by the Director.
- E. **Maintenance.**
 - 1. Street trees shall be maintained by the adjoining property owner.
 - 2. It is the adjoining property owner's responsibility to water, prune, fertilize, and treat for insect and disease, as may be deemed necessary. All incurred costs are to be borne by the property owner.
 - 3. It is the adjoining property owner's responsibility to remove any hazardous or dead tree, as may be deemed necessary. All incurred costs are to be borne by the property owner.
 - 4. **Tree Canopy Clearance Height:** All trees shall be maintained by pruning and other necessary care by the adjacent property owner to ensure a minimum clearance of 15 vertical feet from the curb line, 15 vertical feet from an alley, and 8 vertical feet from the sidewalk.
 - 5. The City may prune or remove any tree or planting located in Public Right-of-Way or in a landscape maintenance easement that constitutes a hazard to person or property, or for any other reason.

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6. All pruning shall be in accordance with the most current version of American National Standards for Tree Care Operations ANSI A300.
 7. Tree Replacement: The City may replace an approved street tree or other planting that has died or may have been removed for any reason, or plant additional street trees deemed appropriate and consistent with available resources.
 8. Abuse or Mutilation: It shall be unlawful for any person to damage any street tree, or to attach or place any rope or wire, sign, poster or other device on any street tree. Each occurrence shall constitute a distinct and separate offense.
 - 9.

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35.17.5 - Compatibility Buffer Requirements

Compatibility buffers are required to mitigate or minimize potential nuisances such as noise, light, glare, dirt, litter, signs, parking, or storage areas and to provide a transition between incompatible uses.

A. Minimum Buffer Required

Unless exempted elsewhere in this Code, buffers shall be required according to the developing and adjacent uses specified Table 17.6.A below.

Table 17.6.A: Buffer Points and Minimum Width Requirements

Developing Use	Adjacent Use				
	Agricultural	Single-family detached or duplex	Multifamily and townhome	Commercial and institutional	Industrial
Agricultural	None	None	None	None	None
Single-family detached and duplex	Minimum 10 points; no minimum width	None	Minimum 10 points; no minimum width	Minimum 10 points; no minimum width	Minimum 10 points; no minimum width
Multifamily and townhome	Minimum 10 points; no minimum width	Minimum 20 points; Minimum width 10 feet	None	Minimum 20 points; Minimum width 10 feet	Minimum 20 points; Minimum width 10 feet
Commercial or institutional	None	Minimum 30 points; Minimum width 15 feet	Minimum 30 points; Minimum width 15 feet	None	Minimum 20 points; Minimum width 10 feet
Industrial	None	Minimum 50 points; Minimum width 30 feet	Minimum 50 points; Minimum width 30 feet	Minimum 30 points; Minimum width 30 feet for institutional and 10 feet for commercial	None

B. Buffer Point System

Buffers shall accumulate the designated point total through a combination of elements, as indicated in Table 17.6.B below. For buffers including more than two listed elements, vegetation may also include a combination of shrubs and trees.

Table 17.6.B: Buffer Points	
Buffer Element	Points
Solid wood screening fence, minimum 6 feet in height, single-faced	5
Solid wood screening fence, minimum 6 feet in height, double-faced	10
Solid masonry wall, minimum 6 feet in height	20
Each additional 5 feet in landscaped buffer width beyond required minimum	5
3 ornamental trees for every 50 linear feet of buffer (minimum 3-inch caliper)	5
3 ornamental trees for every 25 linear feet of buffer (minimum 3-inch caliper)	10
5 shrubs for every 20 linear feet of buffer (5-gallon size)	5
5 shrubs for every 20 linear feet of buffer (10-gallon size)	10
1 large tree for every 30 linear feet of buffer (minimum 3-inch caliper)	10

C. Buffer Standards

1. Buffers shall be located on the outer perimeters of lots or parcels, and shall extend to the limits of the developed area of the site. Buffers may not occupy any portion of an existing, dedicated, or reserved right-of-way, or be located on public property.
 - a. In instances where a required drainage or public utility easement is located within a buffer area, the easement area will count toward the buffer area requirement. No trees or shrubs are allowed within the easement. However, if the remaining buffer area outside the easement is 10 feet or greater, buffer elements are required.
 - b. In those instances where a perimeter fence or wall is used in conjunction with a buffer, the perimeter fence or wall shall have a minimum height of six feet, shall be constructed of material permitted by Table 13.8.B, and shall be located on the boundary of the required buffer.
2. Buffers shall be designed based on the following standards.
 - a. The entire buffer area must be landscaped with ground cover other than turf grass, including ornamental grasses, crushed granite, or low-water usage plants.
 - b. Vegetation included in the buffer shall meet the following requirements:
 - i. Plant species shall be selected from the approved Tree List and Native Plants List.
 - ii. At least 50 percent of the plants shall be evergreen.
 - iii. No more than 50 percent of the plants shall be from the same genus.
 - c. The buffer may contain pedestrian or bike trails to promote connectivity to adjoining properties, as long as no required plant material is omitted from the design, and the required buffer width is maintained.

- 1034 3. Designated tree preservation areas occupying a portion of a required buffer satisfy the
1035 planting requirement for the portions they occupy.
1036 4. When healthy, existing native trees and shrubs are located within the required buffer, the
1037 existing trees and shrubs must not be removed or replaced with new plantings. The
1038 Director may determine if additional buffer elements are required to mitigate or minimize
1039 potential nuisances.

1040 **D. Exceptions to Buffer Requirements**

- 1041 1. Buffer requirements may be waived by the Director when the property is an internal site
1042 within a master planned development or within a mixed-use development. Buffers shall
1043 still be required around the perimeter of the development based on the requirements in
1044 this subsection.
1045 2. Buffer requirements shall not apply to the Downtown Residential and Downtown
1046 Commercial districts, except for multi-family or non-residential properties adjoining
1047 single-family detached, duplex, or townhome uses.
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1049 **35.17.6. Relief for Landscape, Tree Canopy, and Buffer Requirements.**

- 1050 A. Alternative Development Plan. The Alternative Development Plan provides the option to
1051 modify the requirements in Sections 35.17.3, 34.17.4, and 35.17.5 utilizing the Planning
1052 and Zoning Commission Procedure outlined in Subchapter 3 and the criteria for approval
1053 in Section 35.13.5.
1054 B. Payment in Lieu of Planting. In instances where easements, encumbrances, physical
1055 constraints, or life safety requirements limit the ability to plant the required trees
1056 needed to meet the minimum tree canopy coverage, an applicant may pay into the Tree
1057 Fund as an alternative. The Director may approve a reduction in minimum tree canopy
1058 area of up to 10% of the required amount. Any reduction in tree canopy area shall be
1059 mitigated by payment into the City's Tree Fund based upon the standard canopy size of
1060 a large canopy tree as specified in the Site Design Criteria manual, assuming each
1061 required tree measures 2 caliper inches. The payment per inch shall be calculated as
1062 provided in Section 35.17.2.J.