Amendments to ULDC Landscaping Requirements for New Developments
Annotated
For BoCC Public Hearing 10/08/2024

The proposed amendments to the ULDC landscaping requirements include reorganization of current language in Article IV Landscaping, and the relocation of landscaping requirements from Article VII Traditional Neighborhood and Transit Oriented Developments and Article IX Stormwater Management to Article IV Landscaping. Related new definitions are proposed in Chapter 410, Article III Definitions.

The proposed amendments are shown below (words ~~stricken~~ are deletions and words underlined are additions) along with annotations that are not part of the Code but that provide information where current code language has been reorganized and relocated. These annotations are shown as *[text in bracketed italics]*.

PART III - UNIFIED LAND DEVELOPMENT CODE
TITLE 40 - LAND DEVELOPMENT REGULATIONS
CHAPTER 407. - GENERAL DEVELOPMENT STANDARDS

ARTICLE IV. LANDSCAPING

Sec. 407.40. Applicability.

(a) The standards established in this Article are the minimum requirements for the design, plant selection, installation, and maintenance of landscape elements and site improvements and shall apply to all new development, except for family homestead subdivisions approved in accordance with Section 407.75. Except as specifically exempted in Chapter 407 Article VII, TNDs or TODs shall comply with the provisions of this Article.

(b) The requirements of this Article shall also apply to the redevelopment, reconfiguration, expansion or change of use of a previously developed site, unless any of the following exemptions apply:

~~(1) The existing developed impervious area to be retained is five thousand (5,000) square feet or less, and the proposed expansion of impervious surface is five hundred (500) square feet or less.~~

~~(2) The existing developed impervious area is to be retained greater than five thousand (5,000) square feet, and the proposed expansion of impervious surface is less than two thousand (2,000) square feet, and also less than ten (10) percent of the existing impervious area on the parcel or lot.~~

(1) Development, redevelopment, reconfiguration, or expansion of paved vehicular use area of less than two thousand (2,000) square feet is exempt from the requirements of Section 407.43.2(d) Paved vehicular use areas.

(2) The following are exempt from the requirements of Section 407.43.2(a) Site tree canopy:

a. Subdivisions with no more than 9 lots in the rural agricultural area as provided in Sec. 407.76.

b. Family homestead subdivisions.

c. Solar facilities as defined in Chapter 410.

d. Personal wireless service facilities.

e. Developments established prior to 2006 that maintain the existing use and either:

1. Redevelop, reconfigure, or expand less than five thousand (5,000) square feet of impervious area.

2. Redevelop or reconfigure a site less than one (1) acre.

(~~3~~4) If at any time during a five-year period, expansions exceed the aggregate of the allowable exemptions listed above, the permit for construction that exceeds the exempted amount shall require full compliance with this Article.

(c) Prior to the installation of any landscaping within public rights-of-way, a right-of-way use permit shall be obtained through the Alachua County Public Works Department.

(d) In the event that a principal use and some or all of the parking area (required or otherwise) serving the principal use are located on separate parcels, as permitted by this ULDC, landscape required by this Article may be apportioned among all parcels in complementary use as depicted on the landscape or planting plan and approved by the DRC. Sec. 407.41. Landscape and planting plan objectives.

Sec. 407.41. Landscape and planting plan objectives.

Landscape and planting plans shall be designed to ~~achieve~~ provide green infrastructure that contributes to a healthy, safe, resilient, livable community through the following objectives:

[The following objectives have been revised and reordered below.]

~~(a) Continuity of on-site and off-site Open Space and greenway systems.~~

~~(b) Preservation of the natural environment to the greatest extent possible.~~

~~(c) Use of native plant material to the extent feasible in conjunction with appropriate soils and moisture regimes.~~

~~(d) Integrate the landscape and stormwater management areas of the proposed development with existing topography, hydrology, and soils.~~

~~(e) Integrate the functional systems, particularly the drainage systems and internal circulation systems, with the landscape or planting plan.~~

~~(f) Promote water conservation through xeriscaping.~~

~~(g) Promote a reduction in stormwater pollution, temperature, and rate of flow from developed areas.~~

~~(h) Promote local food systems through use of edible landscape materials where appropriate.~~

~~(i) Design stormwater management facilities to resemble natural areas in form and function resulting in a facility that is not required to be fenced.~~

~~(j) Limit stormwater management facilities to the maximum extent practicable through the reduction of impervious surfaces.~~

~~(k) Minimize the impact of utility service installations on mature trees.~~

~~(l) Address visual privacy, acoustical privacy, noise attenuation, and the maintenance of important view sheds relative to adjacent developed properties.~~

~~(m) Ensure reduction of noise, heat, glare, water runoff, and other conditions concomitant with the construction of expanses of building or pavement within the parcel.~~

[The following Subsection (n) has been relocated to new Subsection 407.43.2(a) and revised.]

~~(n) Demonstrate that within twenty (20) years thirty (30) percent of the site will be under mature canopy. Rural/Ag subdivisions with unpaved roads and family homestead subdivisions are~~

~~exempt from this provision.~~

~~(e) Deciduous tree canopy should be concentrated along the southern and western exposures of buildings so as to enhance shading and energy conservation.~~

(a) Enhance natural areas and diverse native plant communities.

(b) Conserve and protect water resources through resilient landscaping that requires little to no supplemental irrigation or additional inputs (fertilizer, pesticides, herbicides) once established.

(c) Contribute to urban forest tree canopy that mitigates the urban heat island effect.

(d) Reduce stormwater pollution, temperature, and rate of flow from developed areas, and disconnect impervious surfaces to mimic natural site hydrology through low impact design/green stormwater infrastructure.

(e) Calm traffic and increase the comfort and safety of walking and biking as alternative forms of transportation.

(f) Facilitate continuity of on-site and off-site open space and greenway systems.

(g) Promote local food systems through the use of edible landscaping.

(h) Protect visual and acoustical privacy, and attenuate noise and glare.

Sec. 407.42. ~~Types of plans.~~ Application requirements.

(a) *Types of plans.* All development that requires development plan approval requires submittal and approval of one of the following:

(1) *Landscape plan.* For all uses requiring the installation of ~~more than~~ two thousand (2,000) or more square feet of new planted areas or eight (8) or more trees, a landscape plan shall be submitted and prepared by a state registered landscape architect. ~~Irrigation plans for any permanent irrigation shall be included in all landscape plans in accordance with the requirements of Section 407.46.~~

(2) *Planting plan.* For all uses requiring the installation of less than two thousand (2,000) square feet of new planted areas or eight (8) trees, a planting plan may be submitted by either a landscape designer or a state registered landscape architect. ~~Irrigation plans for any permanent irrigation shall be included in all planting plans in accordance with the requirements of Section 407.46.~~

(b) *Minimum submittal criteria.*

(1) All landscape and planting plans shall be drawn to scale, have a north arrow, and accurately depict all buildings, pavement, on-site facilities, utilities, and lighting systems. The landscape or planting plan or accompanying development plan shall identify the permitted use of adjacent parcels and provide the total square footage of all pavement and permeable area on-site as defined in Section 77.03, Water Quality Code.

(2) Stormwater basins shall be identified as either wet or dry.

(3) A plant schedule shall be provided showing the botanical name, size, spacing and number of all required plant materials.

(4) Landscape notes and details shall be provided consistent with the requirements of Section 407.45 Installation, Subsection 407.44(d)(5) Lethal Bronzing Disease in palms, and Subsection 407.46(a) Establishment irrigation plans.

(5) Tabular calculations shall be provided demonstrating quantity-based requirements including:

a. Buffer materials per Section 407.43.1 Required buffers.

b. Site tree canopy coverage per Subsection 407.43.2(a) Site tree canopy.

c. Paved vehicular area landscape islands with canopy trees per Subsection 407.43.2(d) Paved vehicular use areas.

d. Basin trees and landscaping per Subsection 407.43.2(e) Stormwater management facilities.

e. Species diversity per Subsection 407.44(a) Diversity.

f. Native species composition per Subsection 407.44(b) Native species.

(6) Architectural symbols depicting trees to be installed shall show the estimated canopy crown diameter in 20 years as identified in Table 407.50.1.

(7) Sight triangles shall be provided for each quadrant of each intersection approach controlled by stop signs, unless the intersection is all-way stop-controlled, demonstrating that street trees and landscaping comply with the FDOT Manual of Uniform Minimum Standards for Design, Construction and Maintenance for Streets and Highways (commonly known as the Florida Greenbook).

[The following section is based on previous Landscaping Code Sec. 407.43.4, which has been relocated here and revised. Turfgrass installation is covered in Subsection 407.45(c) Turfgrass. Struck-through language regarding mulch has been relocated and revised in new Subsection 407.45.(d) Mulch.]

Sec. 407.43.~~4 Xeriscape requirements.~~ Landscaping design principles.

(a) *Resilient landscaping.* ~~Xeriscaping~~ Resilient landscaping is a type of quality landscaping that does not require the ongoing application of chemical inputs and permanent supplemental irrigation, conserves water and protects the environment ~~and~~, is adaptable to local conditions, and ~~which are~~ is drought tolerant. ~~Xeriscape~~ Resilient landscaping techniques ~~maximize the conservation of~~ minimize water use with site appropriate plants, an efficient temporary watering system, proper planning and design, soil analysis, ~~practical use of turf, the use of mulches (which may include the use of solid waste compost)~~ the use of soil amendments, the protection of native soils and vegetation, and proper maintenance. The following water efficient principles shall be applied to the landscape or planting plan:

~~(a) All plantings shall be grouped in zones according to water requirements and shall be irrigated in zones separating high water use areas from drought tolerant zones. The zones are as follows:~~

~~(1) *High water use zone:* A zone containing plants which are associated with moist soils and require supplemental water in addition to natural rainfall to survive. This zone includes most turf grasses.~~

~~(2) *Moderate water use zone:* A zone containing plants which survive on natural rainfall with supplemental water during seasonal dry periods.~~

~~(3) *Low water use zone:* A zone containing plants which survive on natural rainfall without supplemental water.~~

[The language in (1) was previously proposed below as (6); the list has been renumbered.]

(1) In order to provide soil protection and reduce the need for establishment irrigation, the preservation of existing vegetation should be prioritized.

(2) ~~Turf grass areas shall be consolidated and~~ Permanently irrigated turf grass shall be limited to ~~those~~ functional areas ~~on the site~~ that ~~receive~~ are designed for pedestrian ~~traffic, provide for~~ or recreational uses~~, provide soil erosion control such as berms, slopes, and swales, where turf grass is used as a design unifier or other similar practical use~~. Preference should be given to drought tolerant turf grass species such as bahiagrass, centipedegrass, mixed species lawns, or alternative groundcovers that can function without irrigation and fertilizer.

(3) ~~Fifty (50) percent of the plants used in all vehicular use area landscape designs shall be drought tolerant and located in groupings according to zones designated by the water requirements.~~ No turf shall be used in paved vehicular use area landscape islands and strips nor in any planting area less than 4 feet wide in any direction.

~~All planting areas shall be mulched with three (3) inches of organic mulch, such as pine bark or shredded hardwood chips. Mulch shall be placed directly on soil or landscaping fabric and be properly edged to retain mulch.~~

(4) Groundcovers are encouraged wherever possible as an alternative to turf due to their lower maintenance requirements.

(5) Plant material shall be selected that is best ~~suited to withstand the growing and soil conditions which are found in the microclimate of each particular location on the site~~ adapted to the particular site and environmental conditions in which they are proposed.

(6) Landscaped areas may be depressed to accommodate stormwater runoff and provide additional rainwater to plants.

[The following subsection is based on previous Landscaping Code Sec. 407.43.6., which has been relocated here and revised.]

~~Sec. 407.43.6.~~ (b) *Firewise* ~~requirements~~*.* Landscape or planting plans within wildfire hazard areas should incorporate firewise landscaping techniques to help reduce the risk of wildfire~~. Such techniques shall include~~, including:

(1) Creating a 30 feet wide defensible space zone around buildings. Such zones shall provide space for fire suppression equipment in the event of an emergency and progressively limit plantings near structures to carefully spaced fire resistant species.

(2) Placing low growing species and groundcovers beneath canopy trees and rooflines to avoid creating a continuous fuel source from ground to tree or roof.

(3) Utilizing driveways, lawn areas, and walkways to provide firebreaks between large areas of dense vegetation.

(4) Selective thinning of fire prone plant species in existing vegetation areas to reduce fuel loads. A list of fire prone species shall be available from the Environmental Protection Department.

[The following subsection is based on previous Landscaping Code Sec. 407.43.3., which has been relocated here and revised.]

~~*Sec. 407.43.3.*~~ (c) *Landscaping in utility service areas.*

(1) Proposed overhead or underground utility service facilities shall be designed to provide ~~clearance~~ utility providers' separations from ~~the mature height of~~ all trees and landscaping ~~proposed on the landscape plan~~.

(2) ~~Existing overhead or underground utility service facilities shall be considered in the design of the landscaping to provide clearance from the mature height of trees and landscaping.~~ Proposed trees and landscaping shall be designed to provide utility providers' separations from existing overhead or underground utility service facilities.

(3) Any vegetation within a public utility easement shall conform to accepted vegetation management standards. In all cases the minimum requirements of this Article shall be met.

Sec. 407.43.1. Required buffers.

(a) *General provisions for required buffers.*

(1) Buffers on residential developments shall be designated as common areas and shall not be included within lots.

(2) Buffers on nonresidential sites may count toward setback requirements.

~~(3) No structures are permitted in buffers except fire hydrants, concrete valve markers, underground utility markers, switches, bus shelters or benches, incidental signs not exceeding two (2) square feet in area, and screening.~~

~~(4) No parking is permitted within a buffer area.~~

~~(5) Buffer areas may include portions of the stormwater management system if the applicant demonstrates that the character and intent of the buffer is not diminished. At a minimum, the buffer shall include all of the required plantings at the normal grade of the site at the property line.~~

~~(6) Pedestrian access through a buffer to adjacent uses may be permitted.~~

~~(7) Utility lines may cross the buffer provided that the amount of buffer compromised is minimized while maintaining the specified number of plantings required in Table 407.01.2.~~

~~(8) Trails within a buffer may be permitted provided the character and intent of the buffer is not diminished.~~

(3) The following are permitted in buffers:

a. Fire hydrants, concrete valve markers, underground utility markers, switches.

b. Bus shelters or benches.

c. Incidental signs not exceeding two (2) square feet in area.

d. Screening.

e. Portions of above-ground stormwater management systems provided the character and intent of the buffer is not diminished. At a minimum, the buffer shall include all the required plantings at the normal grade of the site at the property line.

f. Pedestrian access through a buffer to adjacent uses.

g. Utility line crossings provided that the amount of buffer compromised is minimized and the specified number of plantings required in Table 407.43.2 is provided.

h. Trails provided the character and intent of the buffer is not diminished.

(4) The following are not permitted in buffers:

a. Structures, except those specified above in a. – d.

b. All parking.

(5) Existing non-invasive vegetation may be used to fulfill buffering and screening requirements if it is of sufficient height and opacity or can be augmented to reach a sufficient height and opacity to provide an effective visual and acoustical buffer giving consideration to the existing and proposed uses.

(b) *Required project boundary buffers.*

(1) Project boundary buffers shall be located along the outer perimeter of the parcel to be developed extending inward from the parcel boundaries.

(2) Minimum buffer types required on property boundaries between zoning districts are shown in ~~the~~ Table 407.43.1.

(3) The Board of County Commissioners may require additional project boundary buffers as part of a special use permit, special exception, or planned development zoning.

Table 407.43.1
Project Boundary Buffer Standards

Zoning or Existing Use of Subject Property	Zoning or Existing Use of Adjacent Property						
	A, A-RB	**Single-family Residential**	**Multi-family Residential; ~~Churches~~ Institutional (any district)**	**AP, BP, HM, RP (non-residential)**	**BR, BR-1, BH, BA, BA-1, BW**	**ML**	**MS MP**
A, A-RB	None	AG	AG	None	None	None	None
Single-family Residential	AG	None	L	M	H	H	H
Multi-family Residential; ~~Churches~~ Institutional (any district)	AG	M	None	L	M	H	H
AP, BP, HM, RP (non-residential)	None	H	M	None	None	L	M
BR, BR-1, BH, BA, BA-1, BW	None	H	M	None	None	L	M
ML	None	H	H	L	L	None	L
MS and MP	M	H	H	M	M	L	None
KEY TO BUFFER TYPES: See Below in Table 407.43.2							

(4) Minimum width and planting specifications for required project boundary buffers are shown in the table below:

Table 407.43.2
Project Boundary Buffer Minimum Width and Planting

Buffer Type	Minimum Width	Plant Material ~~Per~~ Required in Each 100 Linear Ft.				
		Canopy Tree	**Understory Tree**	**Evergreen Tree**	**Shrub**	**Screening**
AG - Agriculture	5 feet	0	0	0	10	No
L - Low	15 feet	2	2	0	0	No
M - Medium	25 feet	3	4	0	40	Yes
H - High	40 feet	5	7	3	60	Yes

(5) ~~The DRC~~ An approving body may reduce the required buffer width by up to fifty (50) percent where it can be shown by the applicant that the reduction is warranted by unique site features or characteristics. This may include, but is not limited to, situations where the buffer area would be located adjacent to a water body or Open Space area or if a permanent buffer exists on the adjacent property.

(6) ~~The DRC~~ An approving body may approve the placement of a buffer at an adequate distance from the parcel boundary when it can be shown to provide an effective visual and acoustical buffer giving consideration to the existing and proposed uses or that a conflict exists with an existing utility easement or to accommodate unique site features or characteristics provided the character and intent of the buffer is not diminished.

(c) *Project boundary buffer—Landscaping and screening.*

(1) Appropriate tree species for planting in buffers are listed in Table 407.50.1.

~~(2) Plant materials and installation shall meet the requirements of Sections 407.44 and 407.45.~~

~~(3)~~(2) The required planting shall generally be in an irregular line, spaced or grouped to provide a natural appearance, and occupy the entire width of the buffer so as to provide an effective visual buffer when plants and trees achieve mature growth.

~~(4)~~(3) The plant materials specified in Table 407.43.2 are ~~the minimum materials required per~~ separate and distinct components required in each one hundred (100) linear feet of buffer~~;~~. ~~t~~The total quantity of materials required shall be determined ~~by dividing the actual length of the buffer~~ based on the total length of the buffer.

~~(5)~~(4) Canopy trees shall be planted no closer than three (3) feet from any property line.

~~(6)~~(5) Where screening is required or proposed in conjunction with a project boundary buffer as indicated in Table 407.43.1, the location of the wall, fence, or berm within the buffer strip shall be subject to the determination of the development review body and it shall consist of one or a combination of the following:

a. A minimum six-foot tall masonry wall such as brick, stone, granite, concrete block or concrete panels;

b. A minimum six-foot tall opaque fence, such as vinyl or wood (no chain link);

c. Existing dense vegetation (Subsection 407.43(a)(5)); or

d. A berm three (3) feet in height, located entirely within the buffer and planted with materials that at maturity shall reach a combined minimum height of six (6) feet, shall have a stabilized slope of one to three (1:3) rise/run, and shall be completely covered with shrubs, sod, ~~or other landscape quality living~~ or ground covers.

~~(7)~~(6) Where a wall or fence is used to satisfy the screening requirements of Table 407.43.1, the following requirements apply:

a. Pedestrian connections through walls or fences that can provide access to adjacent neighborhoods or other uses ~~are encouraged~~ may be required based on greenways, trails, public parks, or open space on adjoining parcels.

b. Wildlife connections through walls or fences that can provide ecopassage may be required based on the presence of open space or natural areas on adjoining parcels.

c. Walls and fences more than one hundred (100) feet long and fronting a public right-of-way shall have varying wall alignments, use appropriate scale/massing for planted materials, and include decorative features and sound absorbing or scattering materials.

d. Walls and fences fronting a public right-of-way shall provide any required shrub material on the side of the right-of-way. Where a buffer does not front a public right-of-way and a fence or wall is provided, the number of shrubs required in the buffer may be reduced by 50%.

(d) *Required roadway buffers.* The following types of roadway buffers shall be required (road classifications are provided in the transportation mobility element of the Comprehensive Plan). ~~Any vegetation planted near driveway and road intersections shall be selected so that the requirements of Article III, Subsection 407.38(d) for a clear sight triangle can be met.~~ Publicly accessible multi-use trails, bike paths and/or sidewalks and walkways may be provided within a roadway buffer provided the character and intent of the buffer is not diminished.

[Preceding language regarding sight triangles has been relocated, revised, and consolidated in new Subsection 407.42. Application requirements.]

(1) *Interstate I-75 buffers.*

a. All development within urban residential Future Land Use designations shall provide a high density buffer, as described in Table 407.43.2, along the entire project boundary adjacent to the I-75 right-of-way. This buffer shall not be reduced in width.

b. All other development shall provide a medium density buffer, as described in Table 407.43.2, along the entire project boundary adjacent to the I-75 right-of-way. This buffer shall not be reduced in width.

(2) *Arterial or collector street buffers.* All developments located along either an arterial or a collector street shall be required to provide one of the following buffers along the entire street frontage. Arterial and collector street buffers shall average ten (10) feet in width provided that no portion of the street buffer shall be less than five (5) feet in width. <u>The plant materials specified below are separate and distinct components required in each one hundred (100) linear feet of buffer.</u>

a. Three (3) canopy trees per one hundred (100) linear feet of property frontage, located within a ten-foot wide landscape buffer; or

b. Two (2) canopy trees and two (2) understory trees per one hundred (100) linear feet of property frontage, located within a ten-foot wide landscape buffer; or

c. Under utility lines only, four (4) understory trees per one hundred (100) linear feet of property frontage, located within a ten-foot wide landscape buffer.

~~(3) *Local street buffers.* Local street buffers shall only be required for nonresidential, mixed-use, or multi-family developments located across a local street from a single-family residential district. In such a case, at the time of development or expansion, the nonresidential, mixed-use or multiple-family development shall provide the required project boundary buffer along the street frontage.~~

(3) *Measurements.*

a. Driveway widths (measured at the inside edge of the buffer) shall ~~not be counted in the calculation of~~ <u>be subtracted from the linear feet of street frontage length for the purpose of calculating</u> the plant material required.

b. All buffers shall be measured from the future right-of-way line determined during development plan review, unless additional public utility easement is required between the right-of-way line and the buffer to provide utility clearance.

c. If a street is platted but has not been constructed, it shall be buffered and treated as a street, even where no pavement currently exists.

~~d. Vehicular access easements shall not be treated as a street, but shall be buffered as a project boundary buffer outside the easement area. The buffer may be provided on either side of the easement.~~

Sec. 407.43.~~1.~~2. ~~Required tree plantings and landscaping.~~ Landscaping requirements.

[The following Subsection (a) includes language from previous Landscaping Code Sec. 407.41. Landscape and planting plan objectives (n), which has been relocated here and revised. Subsection (a) Pedestrian walkways has been relocated to Subsection (c) below.]

(a) Site tree canopy.

(1) ~~Demonstrate that within twenty (20) years~~ Development plans shall be designed such that thirty (30) percent of the overall site will be under mature tree canopy within twenty (20) years.

a. This requirement shall be fulfilled using any existing tree canopy retained in accordance with Chapter 406, Article II, Trees and Native Vegetation, and new tree canopy proposed in accordance with this Article. For calculating proposed new tree canopy, the estimated 20-year tree canopy diameters in Table 407.50.1 shall be used.

b. A residential development may count up to four hundred (400) square feet of new tree canopy coverage per platted lot consistent with Chapter 406, Subsection 406.12(a)(5), where it can be demonstrated that:

1. A homeowner's association will require the planting and maintenance of trees on lots.

2. The development plan includes a list of trees that may be planted to satisfy the requirement.

[The following language in (2) has been relocated here from Sec. 407.41(o) and revised.]

(2) Deciduous tree canopy ~~should~~ shall be concentrated along the southern and western exposures of buildings ~~so as~~ to enhance shading and energy conservation where possible.

[The following Subsection (b) has been revised and reordered.]

(b) ~~*Street trees*~~ *Streetscapes.*

(1) Street trees shall be provided along both sides of streets and roads and in medians, consistent with Table 407.141.1 Street Design Specifications.

~~(6)~~(2) Street trees shall be ~~planted~~ provided between the street and the sidewalk whenever space permits to protect pedestrians and calm traffic.

~~Street trees shall be provided within a minimum planting strip of eight (8) feet in width, except as allowed below. Larger planting strips may be required for certain tree species, as shown in Table 407.50.1. Trees shall be planted in the center thirty (30) percent of the planting strip.~~

~~a. Alternative planting systems may be used to reduce the minimum planting strip width. Alternative planting systems include, but are not limited to, engineered soils, tree grates, and root barriers.~~

~~b. Street trees planted in commercial or mixed-use districts may be planted in tree wells or sidewalk cutouts. Each tree must be provided with a minimum planting area of twenty-four (24) square feet from compacted material to a depth of eighteen (18) inches. Those street trees eligible for use in tree wells or sidewalk cutouts are identified in Table 407.50.1.~~

~~c. Street trees in commercial or mixed-use districts may be planted in islands or bulb-outs where on-street parking and mid-block pedestrian crossings are present. Planting islands or bulb-outs shall have a minimum pervious area of ninety (90) square feet and be free of compacted soil to a depth of eighteen (18) inches. Those street trees eligible for use in islands or bulb-outs are identified in Table 407.50.1.~~

~~d. In constrained conditions on local roads within subdivisions, trees may be planted no closer than three (3) feet from face of curb.~~

(3) Street trees shall be provided within planting strips or sidewalk tree wells per the following:

a. Tree species appropriate for use as street trees are indicated in Table 407.50.1 Appropriate Tree Species.

~~(4)~~b. Street trees shall be spaced so that the distance between two (2) adjacent trunks is no less than one-half (½) the sum of their 20-year canopy diameters and no more than the sum of their 20-year canopy diameters as listed in Table 407.50.1.

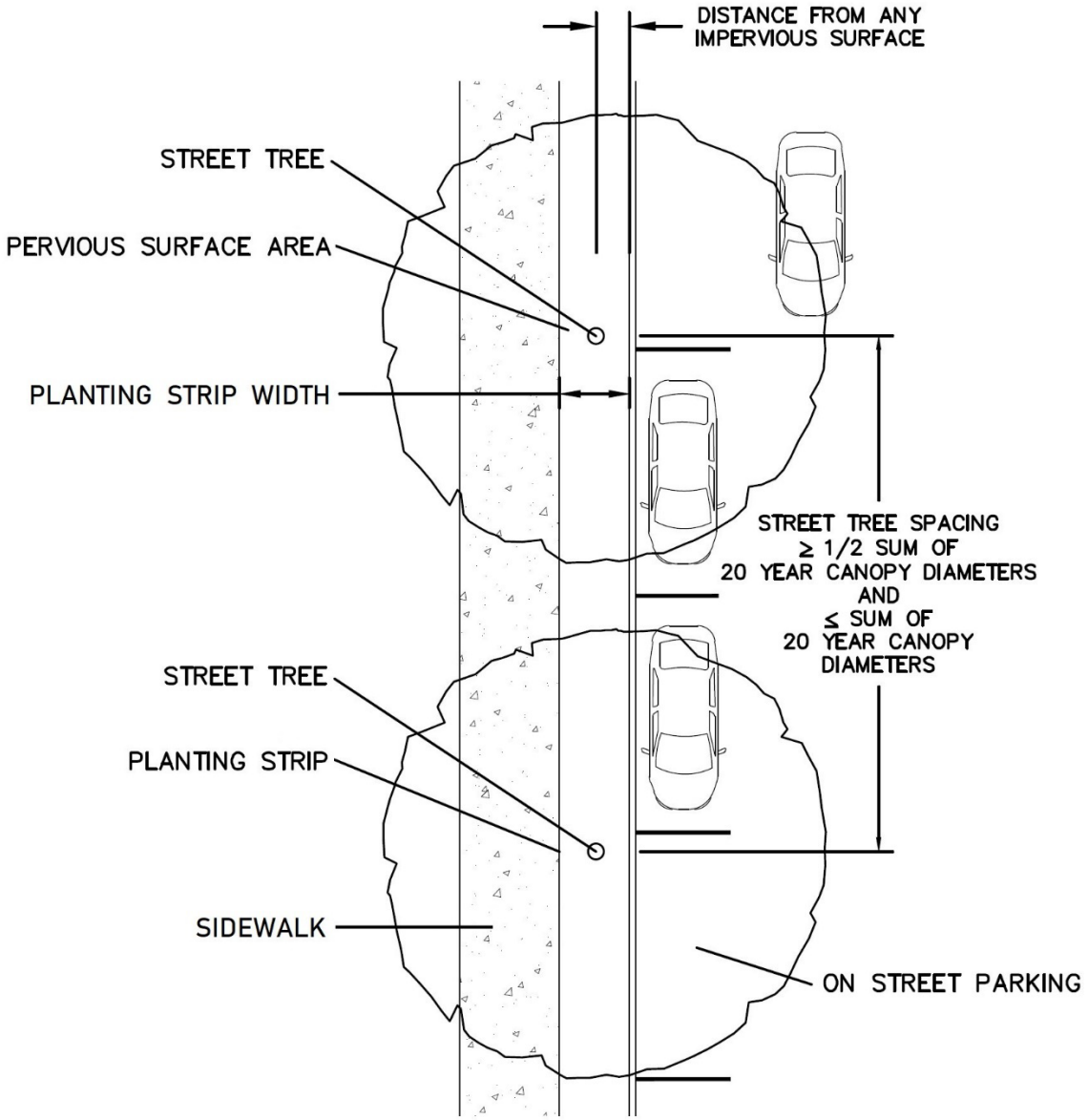
b. Where planting strips are used, on-street parking spaces may be located between street trees provided the above spacing is maintained. Such parking spaces may be parallel or angled.

c. Requirements for tree root zone volume and depth, pervious surface planting area and dimensions, and distance from impervious surfaces are specified in Table 407.45.1., including for constrained areas where alternative planting systems are required to prevent damage to surrounding infrastructure.

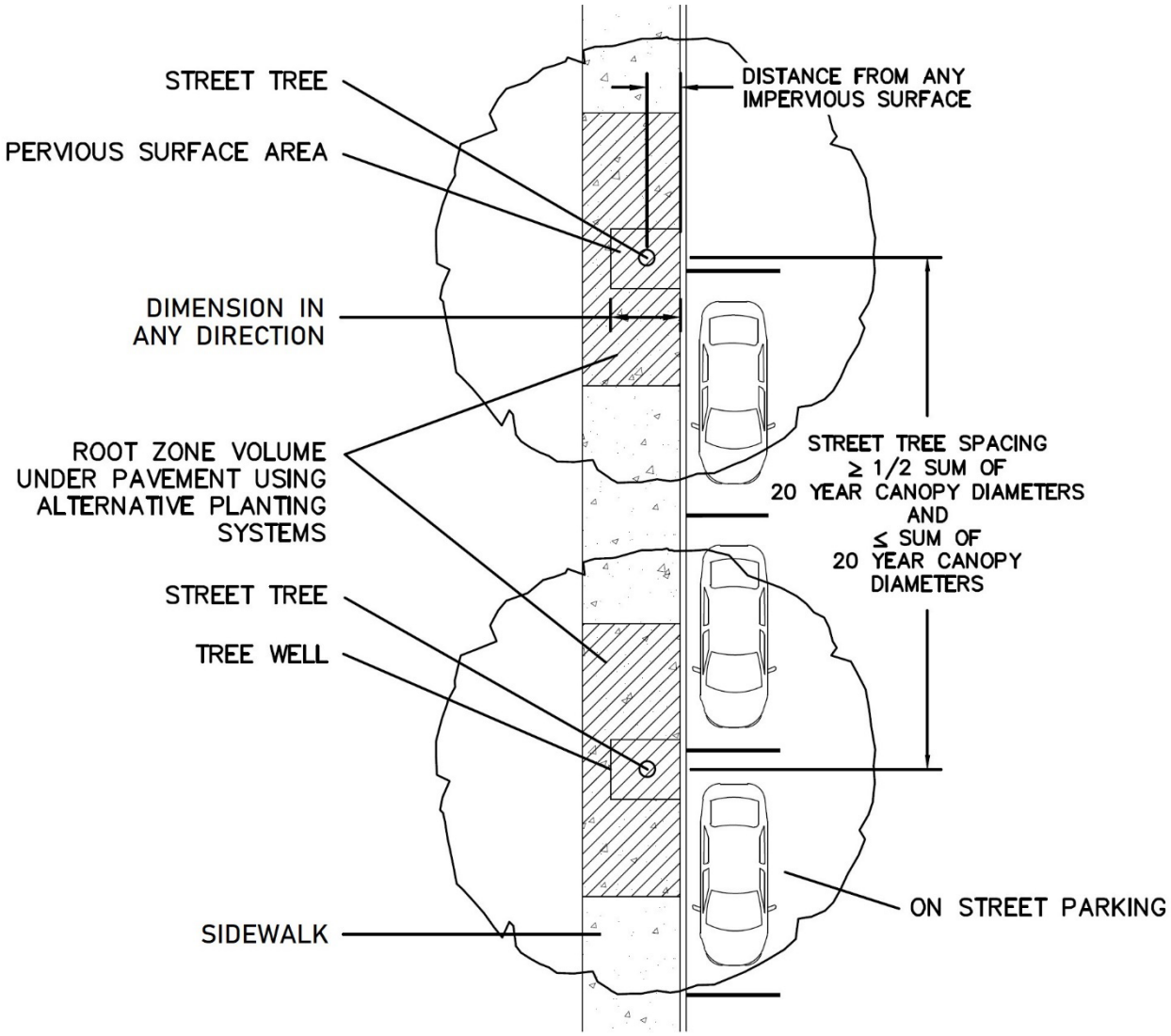
~~(3)~~(4) Planting strips, medians, roundabouts, islands, bulb-outs, or other planting areas may be ~~depressed to accommodate stormwater runoff. Where curb is required, curb cuts may be used to permit the flow of water into the depressed planting area. Stormwater overflow must be accommodated~~ required to accommodate stormwater runoff to meet the performance standards of Chapter 77, Article I, Water Quality Code.

~~(5) Within the Urban Cluster street trees where appropriate shall be planted no further than fourteen (14) feet from the back of curb. Where curbs are not proposed along roadways, street trees must be located on the back side of the roadside swale unless it is planted outside the clear zone or space required in this ULDC.~~

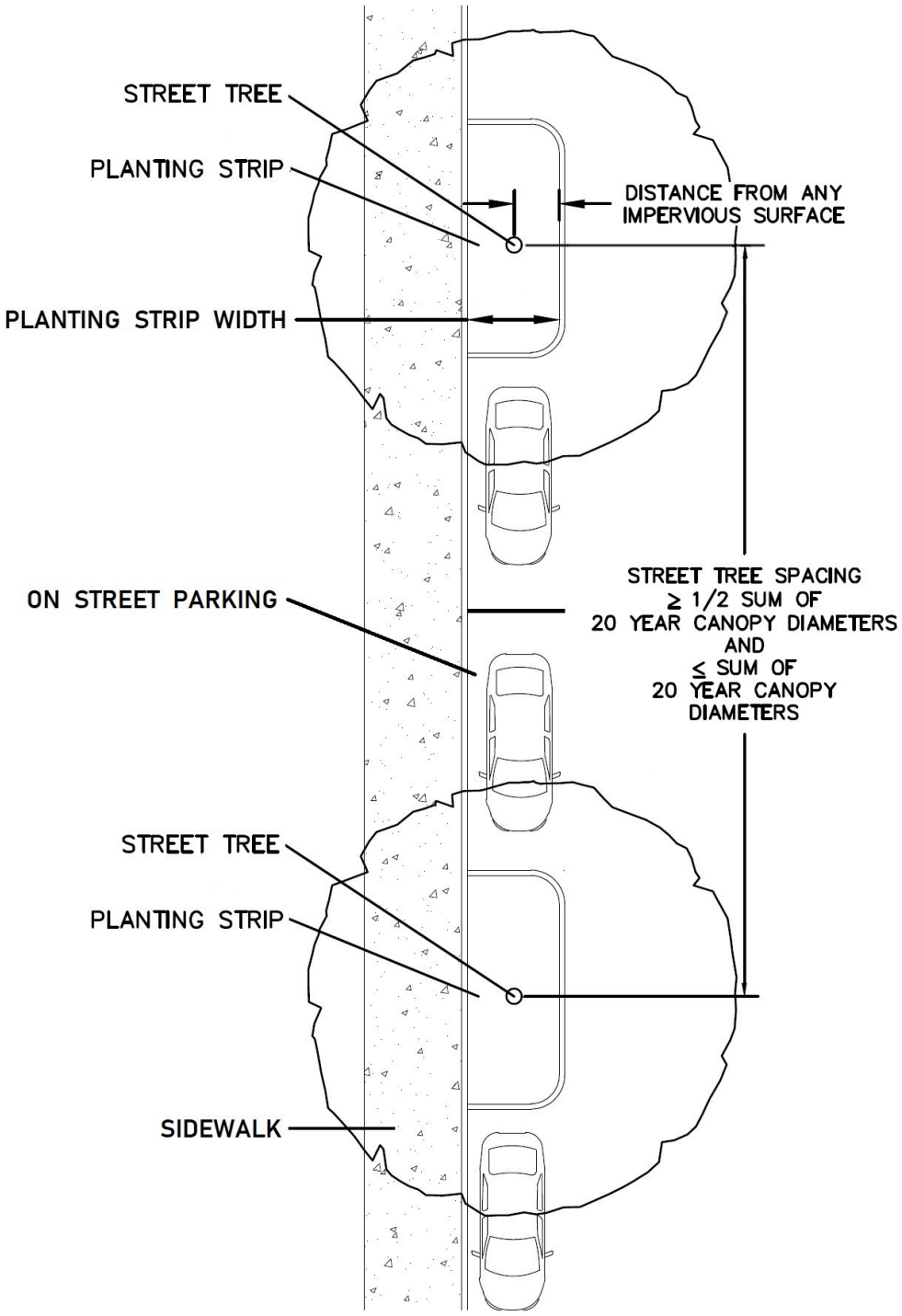
~~(7) Street trees other than those shown in Table 407.50.1 may be allowed subject to appropriate planting requirements.~~



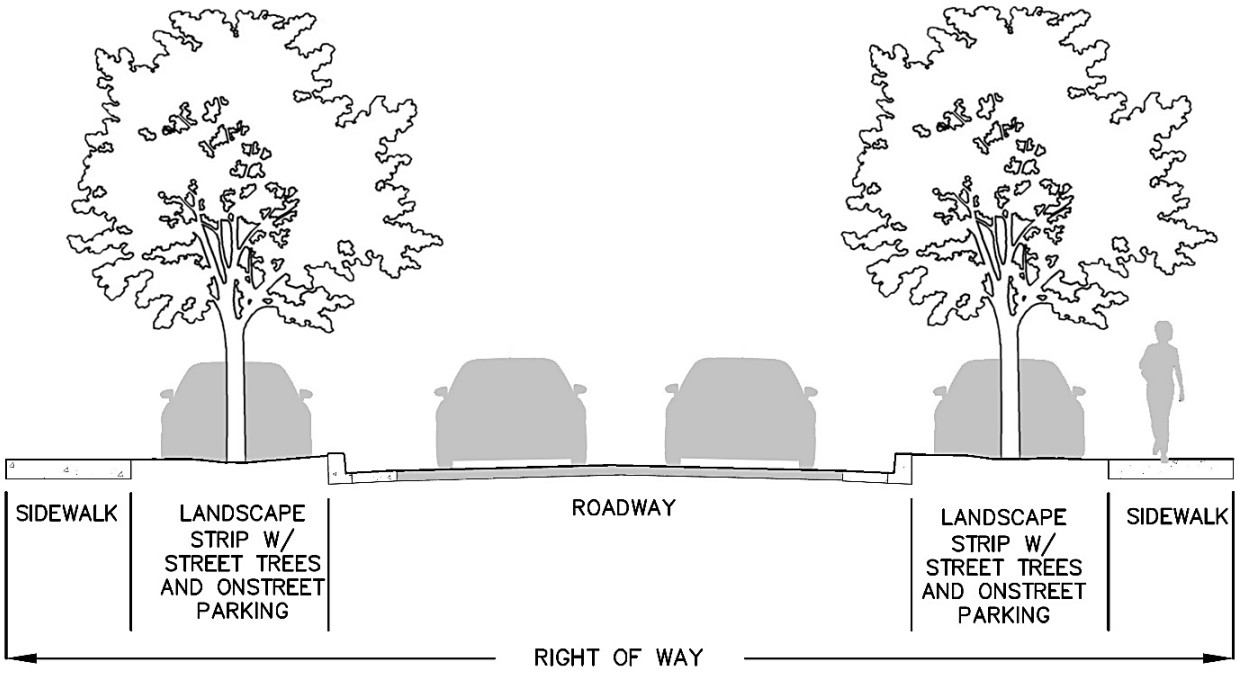
Street Trees in Planting Strip



Street Trees in Tree Wells



Street Trees in Planting Strips with On-street Parking Spaces



On-street Parking Spaces Between Street Trees in Planting Strips

[The following Subsection (c) has been relocated from previous Subsection (a) above and revised.]

(c) *Pedestrian ~~walkways~~ circulation and paved activity areas.*

(1) Areas dedicated to pedestrian circulation that are not coincident with a street or in a right-of-way shall have:

a. ~~c~~Canopy trees ~~spaced no more than an average of forty (40) feet on center~~ on alternating sides of the walkway. Where adequate space is available on only one side of the walkway, the trees shall all be provided on that side.

b. Landscape screening from above ground utilities.

(2) Paved areas dedicated to pedestrian activity, including but not limited to plazas and squares, shall have canopy trees around the entire perimeter, except where they abut buildings. Additional canopy trees interior to the paved area may be required for paved areas over 2,000 square feet.

(3) The above walkway and perimeter trees shall be spaced so that the distance between two (2) adjacent trunks is one-half (½) the sum of their 20-year canopy diameters and shall be located to maximize the shading of the pedestrian areas. Canopy tree species and 20-year canopy diameters are identified in Table 407.50.1.

[The following Subsection (d) has been renumbered and revised.]

(d) *~~Landscaping in paved ground surface areas~~ Paved vehicular use areas.*

(1) ~~Appropriate t~~Tree species appropriate for ~~planting in landscape islands within a~~ meeting the requirements of paved vehicular use areas are ~~identified~~ indicated in ~~Section~~ Table 407.50.1. Appropriate Tree Species.

(2) Screening shall be provided where a paved ~~ground surface~~ vehicular use area lies within ~~fifty (50)~~ twenty-five (25) feet of, and is visible from, any street right-of-way. The screening shall consist of sufficient shrubs to provide a visual screen of seventy-five (75) percent opacity. The

shrubs shall achieve a minimum height of three (3) feet within three (3) years. Shrubs shall be planted in a strip no less than five (5) feet in width and may be planted within any required street buffer.

~~For all paved ground surface areas, it shall be demonstrated that at least fifty (50) percent of the paved ground surface area will be under mature canopy within twenty (20) years. To minimize the heat island effect, the canopy trees shall be oriented to maximize shading of the paved ground surface area from the south and west.~~

(3) Landscape islands with canopy trees shall be located at an average of every ten parking spaces. At no time shall a row of parking have landscape islands greater than 120 feet apart or closer than 30 feet apart. Additionally, terminal landscape islands with trees shall always be required at the end of a row of parking spaces. ~~The minimum width of a terminal landscape island in any one direction shall be the same as the minimum planting areas established in Table 407.45.1.~~

~~(4) No more than fifteen (15) contiguous parking spaces in a row may be allowed without a landscape island.~~

(4) Paved vehicular use areas with two or more rows of interior parking shall provide landscape strips between the rows allowing for two-foot vehicle overhangs on each side.

a. Landscape strip widths shall be according to the Standard Planting Strip Widths in Table 407.45.1 Tree Installation Criteria. Widths shall not be reduced below the Standard widths except in TNDs and TODs where off-street parking is provided interior to blocks. Reduced width strips shall not allow vehicle overhangs.

b. As an alternative, every other row of head-to-head parking may provide a landscape strip of double the Standard Planting Strip Widths. These wider landscape strips shall not be reduced below the Standard widths and may contain sidewalks.

c. Canopy trees within these landscape strips shall be spaced so that the distance between two (2) adjacent trunks is one-half (½) the sum of their 20-year canopy diameters.

(5) Paved vehicular use area perimeters that do not contain parking spaces, truck loading areas, or abut buildings shall provide canopy trees around the entire perimeter, excluding the width of driveways. Trees shall be spaced so that the distance between two (2) adjacent trunks is one-half (½) the sum of their 20-year canopy diameters as listed in Table 407.50.1.

(6) Canopy trees shall be located to maximize the shading of the pavement. Flexibility shall be provided for tree locations and spacing where solar facilities are proposed on covered parking spaces; however, in all cases the required number of trees shall be provided.

(7) Requirements for tree root zone volume and depth, pervious surface planting areas and dimensions, and distance from impervious surfaces are specified in Table 407.45.1, including for constrained areas where alternative planting systems such as root barriers and structural soils are required to prevent damage to surrounding infrastructure.

(8) Required landscape islands and strips shall contain landscaping materials only and shall not contain utilities, utility lines, or other infrastructure equipment such as fire hydrants, parking lot lights, transformers, air conditioning units, or water meters~~.~~, however:

a. Required landscape islands and strips exceeding the criteria of Table 407.45.1 may include utilities, utility lines, or other infrastructure equipment provided it does not occupy or encroach on the minimum required criteria. No reduction of such islands and strips below the Standard Pervious Surface Minimum Criteria shall be allowed.

b. Additional i~~I~~slands may be added ~~(in addition to the required landscape islands)~~ for placement of utilities, utility lines, or other infrastructure equipment~~, which do not require any landscape materials to be placed within them~~. ~~When feasible,~~

c. In both cases, shrubs shall be provided to screen the equipment when feasible.

(9) Vehicular use area landscape islands or strips shall be landscaped with alternative groundcovers, excluding turf grass.

(10) As part of a comprehensive Low Impact Design (LID) approach, developments with more than 40 parking spaces shall pre-treat at least 25% of the parking area stormwater runoff before discharge to the master stormwater system using LID techniques/Green Stormwater Infrastructure technologies including but not limited to:

a. Landscape islands and ~~other~~ landscape strips ~~may be depressed~~ designed to accommodate stormwater management and minimize nutrient, sediment, and runoff. Curbs separating landscaped areas from parking areas may have curb cuts or be perforated to allow stormwater runoff to pass through them. Stormwater overflow must be accommodated.

b. Parking spaces of pervious materials such as pavers or pervious pavement.

c. Bioswales, ecovaults, and other technologies listed in the County Stormwater Manual.

(11) When vehicular use areas intersect a public right-of-way, landscaping shall be used to define the intersection~~, provided that all landscaping shall conform to the Florida Department of Transportation's Manual of Uniform Minimum Standards for Design, Construction and Maintenance for Streets and Highways~~.

[Preceding language regarding sight triangles has been relocated, revised, and consolidated in new Subsection 407.42. Application requirements.]

(12) The following additional buffering shall be provided where off street loading exists:

a. Off street loading areas shall be screened from any residential district. Screening shall be consistent with the requirements of Subsection 407.43.1(c)(~~7~~6).

b. Screening of off-street loading areas may be waived by the reviewing body if the adjacent use will not be adversely impacted, such as in the event both uses have facing loading bays.

c. In the ML district off-street loading areas shall be screened from any public right-of-way or office use. Screening shall be consistent with the requirements of Subsection 407.43.1(c)(~~7~~6).

[The following subsection is based on previous Landscaping Code Sec. 407.43.2, which has been relocated here and revised, including language moved from Chapter 407, Article IX Stormwater Management.]

(e) ~~*Sec. 407.43.2 Landscape design of s*~~*Stormwater management facilities.*

~~(a) Stormwater management facilities shall be designed to resemble natural areas in form and function, and shall be consistent with Article IX, Stormwater Management, of this Chapter.~~

~~(b) Stormwater management areas shall be landscaped with native species of trees, shrubs, and perennials appropriate to the function as a wet or dry basin.~~

~~(c)~~ ~~The basin~~ Stormwater management facilities and ~~the~~ landscaping ~~area~~ shall be designed to:

(1) Be an integral part of the overall development as a physical or visual amenity that provides either:

~~a. Usable public or civic space; or~~

~~b.~~ a. An aesthetic focal point or feature that resembles a natural area, such as a pond~~,~~ or creek, ~~or other water feature,~~ utilizing curvilinear shapes and a diversity of appropriate plant species~~.~~; or

b. For basin designs that resemble geometric shapes or that include corners, fences, or walls, provide human scale design features that break up large volumes, provide usable space, and stimulate pedestrian activity. Human scale design features include but are not limited to terracing, walkways, overlooks, bridges, plazas, greens, and pocket parks.

(2) Preserve existing tree groupings, consistent with Chapter 406, Article II, Trees and Native Vegetation.

(3) ~~Include~~ Provide native canopy trees ~~are~~ spaced no more than an average of every thirty-five (35) linear feet around the basin perimeter. Spacing of trees may be closer when trees are planted in groups for aesthetic effect.

(4) ~~Maintain~~ Provide native landscape plantings, excluding turf grass, on at least twenty-five (25) percent of the area of the basin, including the shoulders and maintenance area~~, using native landscape plantings, excluding sod~~. Any plantings on bank slopes should consist of fast-growing species with rhizomatous roots for stabilization. ~~Clumping species should be restricted to bank tops.~~

(5) Basins that use chain-link fencing shall provide an additional five-foot wide area outside the fence landscaped with at least three (3) shade trees, two (2) understory trees, eight (8) large shrubs, and thirteen (13) small shrubs for every one hundred (100) feet or part thereof of fencing.

~~(5) Be integrated with the landscape or planting plan for the site.~~

(6) ~~Identify areas for~~ Provide access for ~~normal and routine~~ basin maintenance. ~~Landscape plantings shall not reduce the width of the required maintenance access.~~

~~Sec. 407.43.5. Crime prevention through environmental design standards.~~

~~Physical design of all landscaped areas subject to normal pedestrian access shall promote the concept of crime prevention through environmental design (CPTED) by utilizing landscape planting, pavement designs, and gateway and entrance treatments to achieve the following:~~

~~(a) Natural surveillance, through the placement of physical features and lighting of public spaces and walkways at night, in such a way as to maximize visibility, while maintaining or minimizing impacts to surrounding areas.~~

~~(b) Natural access control, through the physical guidance of people coming and going from a space by the placement of fencing, landscaping, and lighting.~~

~~(c) Territoriality, through the use of physical attributes that express ownership, such as fences, pavement treatments, art, signage, and landscaping.~~

Sec. 407.44. ~~Required p~~Plant materials~~s~~ requirements.

(a) ~~*Required tree species variety*~~ *Diversity.* New ~~tree~~ plantings of any of the following shall not include more than fifty (50) percent of any one (1) genus nor twenty-five (25) percent of any one (1) species~~.~~:

(1) Eight (8) or more trees.

(2) Sixteen (16) or more shrubs.

(3) Thirty-two (32) or more groundcovers.

(b) *Native species.* At least seventy-five (75) percent each of new tree, shrub, and groundcover plantings shall be native species. Cultivars of native species are considered native species.

(1) Up to 10% of these requirements may be met with edible species identified in Table 407.50.1. and Table 407.50.2.

(2) Preference should be given to keystone species as identified in Table 407.50.1. and Table 407.50.2.

~~(b)~~(c) *Plant quality.* Plant materials shall meet the following minimum standards:

(1) All nursery plants, including trees, shrubs and groundcovers shall conform to standards for Florida Grade #1 or better according to the current, most recent edition of "Grades and Standards for Nursery Plants"~~, 2nd edition,~~ published by the Florida Department of Agriculture and Consumer Services, Division of Plant Industry, and available from the Florida Nursery, Growers, and Landscape Association (FNGLA). Nursery invoices or labels shall clearly specify that Grade #1 or better plants were purchased for installation.

(2) All turf shall be certified apparently free of noxious weeds by the Florida Department of Agriculture and Consumer Services, Division of Plant Industry.

[Struck-through language regarding mulch has been relocated and revised in new Subsection 407.45.(d) Mulch.]

~~(3) All mulch shall be organic material, with hardwood or pine bark recommended. Cypress shall not be used as mulch. No plastic or other non-biodegradable weed cloth or surface covers shall be used where mulch is required.~~

~~(c) *Required plant species and sizes.*~~

~~(1)~~(d) *Trees.*

~~a.~~(1) All trees shall be selected from Table 407.50.1 Appropriate Tree Plantings ~~that~~, which specifies the appropriate planting locations for each species including street trees, tree wells, paved vehicular use areas, basin areas, common areas, and buffers. Any variation from this list shall be approved by the County forester/landscaping inspector.

~~b.~~(2) Trees shall meet the minimum size standards shown in Table 407.44.1.

Table 407.44.1
~~Minimum~~ Tree Size Standards

Tree Location	Minimum Size			Maximum Size	
	Height (ft)	Caliper	~~Container~~	Height (ft)	Caliper
Street Tree, Tree ~~Grate/~~Well, Parking Islands	~~10~~ 8	~~2"~~ 1.25"	~~25 gals~~	12	4"
Basin and Other Areas	4	3/4"	~~7 gals~~		

~~c. The DRC may approve the use of desirable native species that are not generally available in the required minimum size provided that the sum of the caliper planted is equal to or greater than the required caliper specified above.~~

(3) A maximum of five (5) percent of new proposed trees may exceed 4 inches caliper size with County Forester/Landscaping Inspector approval.

(4) A maximum of ten (10) percent of new proposed trees may be specimen native species that are not generally available in the required minimum size.

(5) *Lethal Bronzing Disease in palms.* A maximum of ten (10) percent of new proposed trees may be palm species that are confirmed by UF-IFAS to be hosts of Lethal Bronzing Disease (LBD) provided that each of these palms shall be:

a. Verified at Certificate of Occupancy to be inoculated against LBD; and

b. Included in a management plan prepared by a certified arborist or other qualified professional and submitted for review and approval concurrent with submittal of the landscape or planting plan. The management plan shall provide for protection and maintenance of the palms against LBD in perpetuity. The existence of the management plan shall be noted on plans, plats, and covenants and restrictions as appropriate to the type of development. The parcel owner shall maintain the palms in accordance with the management plan.

c. Palm species in Table 407.50.1 Appropriate Trees that have been confirmed by UF-IFAS to be hosts of LBD include Butia odorata (pindo palm), Phoenix spp. (date palms), and Sabal palmetto (cabbage palm).

d. The requirements of this Subsection (5) shall apply only to palms that are proposed to meet the requirements of this Article as part of development plan applications.

~~(2)~~(e) *Shrubs.*

~~a.~~(1) Shrubs shall consist of woody evergreen and/or non-deciduous plants a minimum of two (2) feet in height in a minimum three-gallon container. When planted as a hedge, the maximum spacing for 24-inch high shrubs shall be thirty-six (36) inches on center.

~~b.~~(2) Shrub species that are significantly larger than the required minimum in paragraph a. above may be counted as two (2) or more shrubs, on a case-by-case basis, if approved by the DRC. Spacing for the larger size shrubs shall be determined by the County forester/landscaping inspector.

~~c. Shrubs shall be selected from the list of native species available from the Alachua County Environmental Protection Department and from the Department of Growth Management.~~

~~(3)~~(f) *Ground covers.* All groundcovers shall be selected from Table 407.50.2 Appropriate Groundcover Plantings. Ground covers ~~other than turf grass~~ shall be planted in such a manner as to present a finished appearance and reasonably complete coverage within one (1) year after planting.

[The following language regarding turf grass has been relocated and revised in Subsection 407.45(c).]

~~(4) *Lawn grass.* Grass areas shall be planted with species normally grown as permanent lawns in the vicinity of Alachua County. Turf grass areas may be sodded, plugged, sprigged, or seeded except that solid sod shall be used in swales, slopes, berms, or other areas subject to erosion.~~

~~(5)~~(g) *Synthetic plants.* Synthetic or artificial turf, trees, shrubs, ground covers, or vines shall not be used in lieu of the plant requirements in this Article.

(~~d~~ h) *Prohibited plants.*

(1) Those plants listed in Florida Administrative Code Section 62c-52.011, Prohibited Aquatic Plants, shall be prohibited. This list of prohibited aquatic plants is available online and copies are also available from the Alachua County Environmental Protection Department.

(2) Those plants listed in Florida Administrative Code Section 5B-57.007, "State Noxious Weed List" shall be prohibited. This list of prohibited noxious weeds is available online and copies are also available from the County.

(~~e~~ i) *Credit for existing plants.*

(1) Credit is permitted for existing plant material provided such material meets the minimum standards of this Article.

(2) Credit shall be ~~allocated on a one-for-one basis for shrubs, understory trees, and substituted trees. The size of the material shall not be taken into consideration except where such material is below the minimum standards of this Article.~~ determined based on information documenting the following characteristics as applicable:

a. Species

b. Approximate opacity

c. Approximate height

d. Diameter at breast height (DBH) of trees~~.~~

(j) *Substitutions*. Substitutions of tree or plant material on an approved plan may be made with prior County staff approval based on the site conditions, and insofar as the required or approved amounts of species diversity, tree canopy coverage, basin plantings, tree mitigation, street trees, etc. are met.

Sec. 407.45. Installation.

[The following sentence is based on language previously located below under (b), relocated here and revised as indicated.]

All ~~landscaping and transplanting of~~ landscape materials shall be installed according to sound horticultural principles. All installations shall be performed specific to type, species, soils, environmental conditions, and include establishment through water and maintenance to ensure maximum survivability.

(a) *Trees.*

(1) ~~Landscape areas for installed trees shall conform to the following chart. Landscape areas may be depressed to accommodate stormwater runoff provided stormwater overflow is accommodated.~~ Installation of trees shall conform to Table 407.45.1.

~~Table 407.45.1~~ ~~Tree Installation Standards~~			
~~Tree Type~~	~~Within Parking Areas~~		~~Outside Parking Areas~~
	~~Min. Pervious Area~~	~~Min. Planting Area~~	~~Min. Planting Area~~
~~Canopy trees and other large trees~~	~~200 s.f.~~	~~140 s.f.~~	~~200 s.f.~~
~~Understory trees and other small trees~~	~~120 s.f.~~	~~90 s.f.~~	~~120 s.f.~~

Table 407.45.1 Tree Installation Minimum Criteria						
Root Zone Minimum Criteria	Tree Size (per Table 407.50.1)					
	Live Oak		Large Tree		Small Tree	
Volume for: - Street Trees - Tree Wells - Parking Islands and Strips	900 c.f.		600 c.f.		400 c.f.	
Width in any Direction for: - Street Trees - Tree Wells - Parking Islands and Strips	12 ft.		9 ft.		6. ft	
Depth for: - Trees in All Locations (maximum depth for calculating required volumes)	36”		36”		24”	
Pervious Surface and Distance Minimum Criteria	Standard	with Alternative Planting Systems	Standard	with Alternative Planting Systems	Standard	with Alternative Planting Systems
Pervious Surface Area	300 s.f.	36 s.f.	200 s.f.	32 s.f.	200 s.f.	24 s.f.
Pervious Surface Dimension in any Direction	12 ft.	6 ft.	9 ft.	5 ft.	6 ft.	5 ft.
Tree Distance from any Impervious Surface	5 ft.	3 ft.	4 ft.	2.5 ft.	3 ft.	2.5 ft.
Tree Distance from any Building	Equal to ½ the Estimated 20-Year Tree Canopy Diameter in Table 407.50.1.					

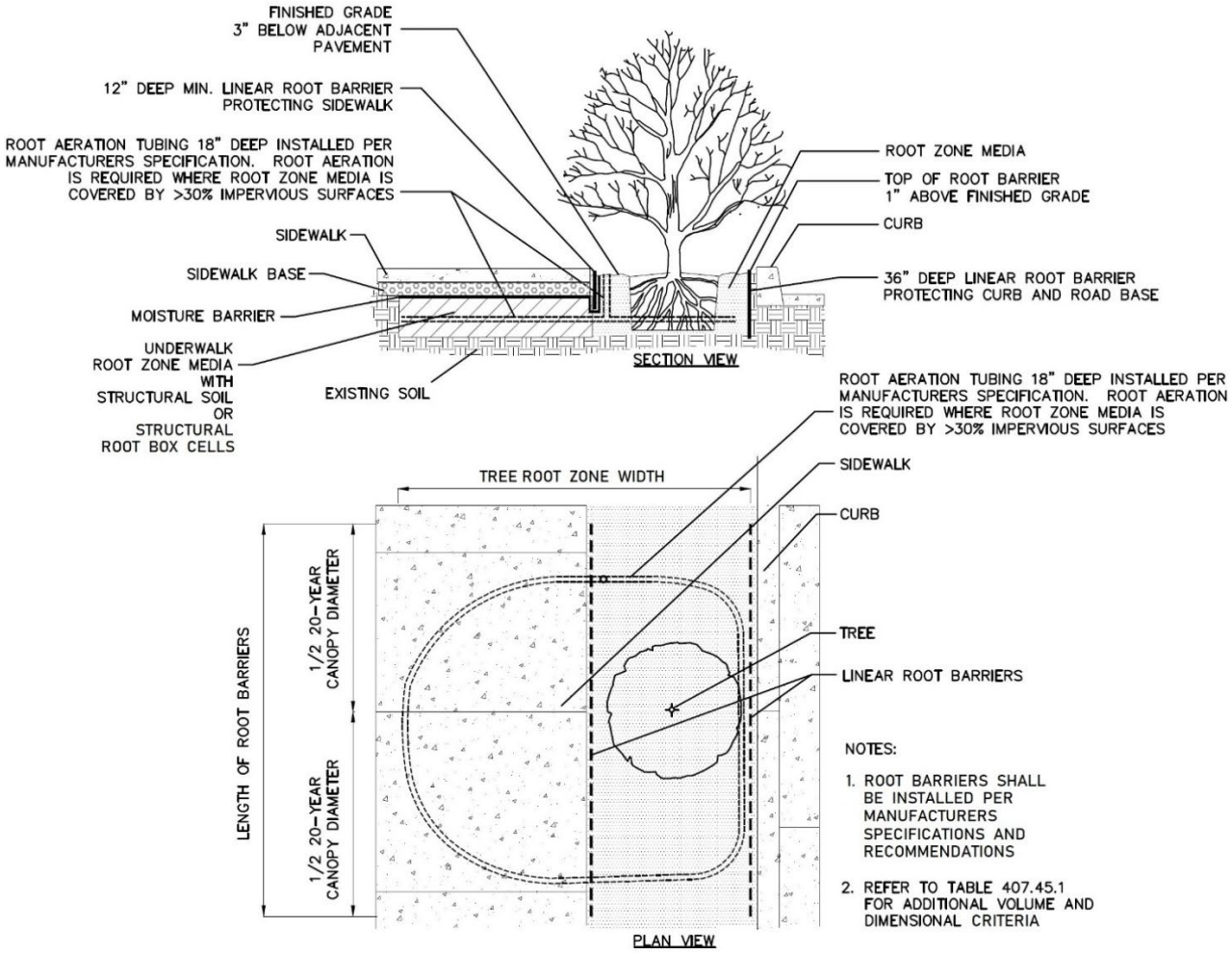
(2) In constrained tree planting areas:

a. Reduction of the Pervious Surface Minimum Criteria Standards in Table 407.45.1 shall be permitted to the amounts shown using alternative planting systems. No further reduction below these amounts shall be permitted.

b. The required root zone volumes and widths shall not be reduced and shall consist of root zone media. However, portions of the root zone volume may be located beneath proposed

adjacent pavement using alternative planting systems as shown in Tree Planting in Constrained Areas plan and section views.

c. Alternative planting systems include but are not limited to pervious pavement, reinforced concrete, root aeration systems, root barriers, root paths, soil trenches, structural root box cells, and structural soil.



Tree Planting in Constrained Areas

[The following language in (b), has been relocated and revised as the first sentence under Sec. 407.45. Installation.]

~~(b) All landscaping and transplanting of landscape materials shall be installed according to sound horticultural principles. All installations shall be performed specific to type, species, soils, environmental conditions, and include establishment through water and maintenance to ensure maximum survivability.~~

~~(1) The required planting area shall be free from compacted material to a minimum depth of eighteen (18) inches.~~

(3) Matted or circling roots shall be removed from all trees prior to planting.

~~(2)~~(3) The planting hole for trees shall be two (2) to three (3) times the ~~width~~ widest dimension of the rootball ~~and~~, sloped outward ~~to encourage new root growth~~, and backfilled with root zone media.

~~(3) Plants shall be removed from their containers prior to installation.~~

~~(4) Planting areas containing trees and shrubs shall be mulched to a minimum depth of three (3) inches with organic mulch to the perimeter of the root-ball but not within a radius of six (6) to eight (8) inches from the trunk.~~ *[moved to 407.45(c) Mulch, below.]*

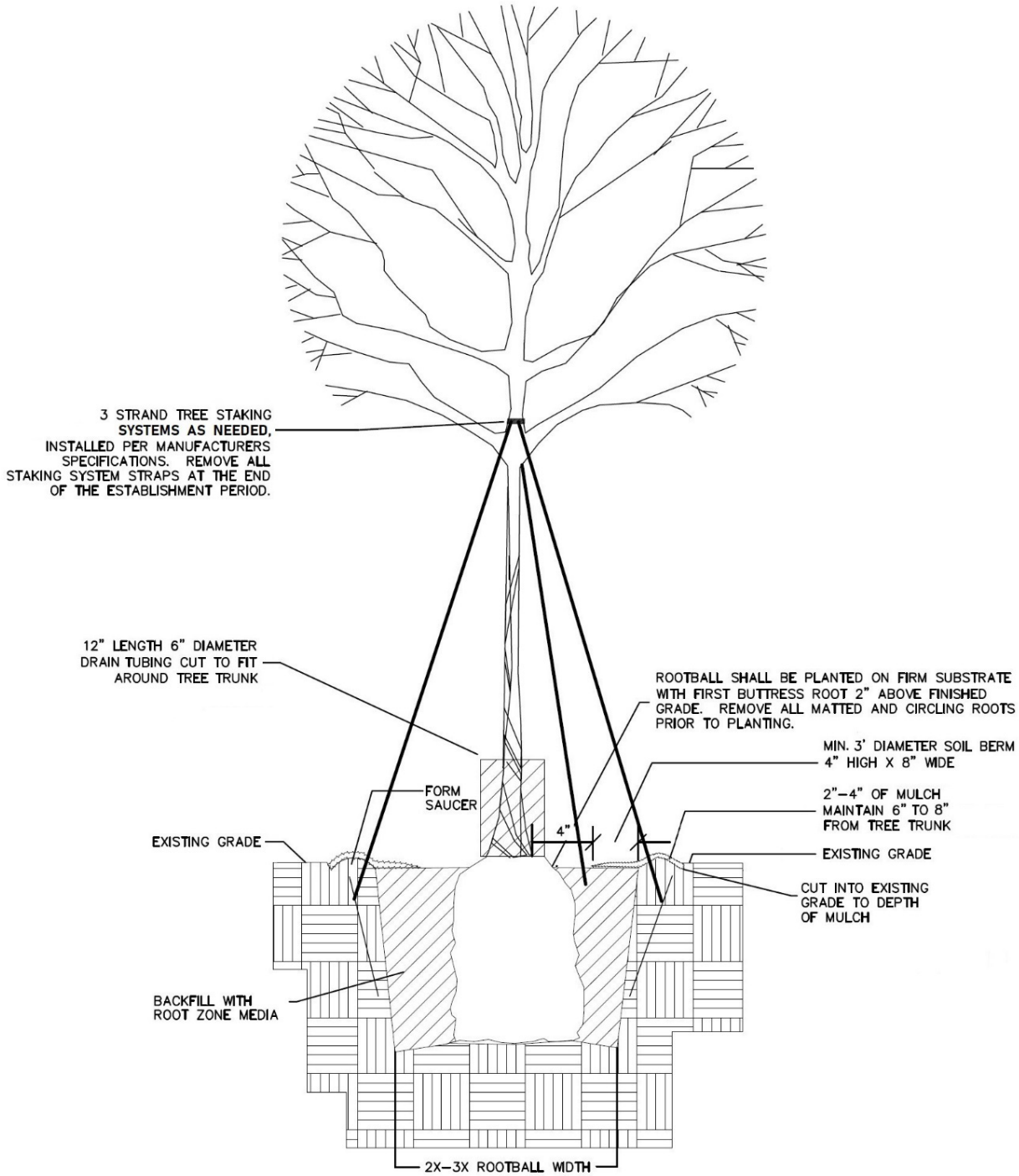
(4) A (3') three foot diameter round-topped soil berm (4") four inches high and (8") eight inches wide shall be constructed around the root ball periphery.

(5) After planting and watering in, the top of the rootball shall be ~~one (1) to~~ two (2) inches above existing grade.

(6) Trees shall be plumb and staked and guyed as needed. Only biodegradable stakes and guys shall be used. ~~Stakes and guys shall be maintained during the guarantee period and removed as soon as the tree is established.~~ All tape, straps, stakes, and guys shall be removed prior to the final landscaping inspection or certification.

(7) ~~Trunk protectors are recommended for all installed trees. Trees in turf areas shall have six-inch (minimum) trunk protectors.~~ All installed trees shall have minimum (12) twelve-inch length x (6) six-inch width trunk protectors to protect the base of the trunk from mower and string trimmer damage. Trunk protectors shall be split lengthwise to ensure they do not become embedded.

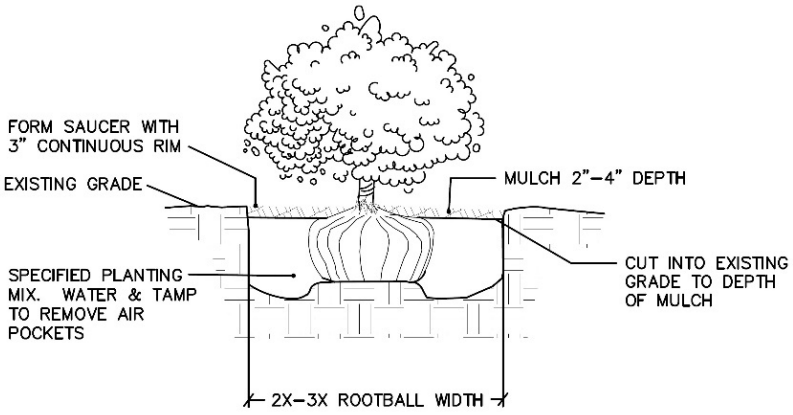
~~(8) All landscaped areas not covered with vegetation shall be covered with organic mulches. No plastic or other non-biodegradable weed cloth or surface covers shall be used.~~
[moved to 407.45(c) Mulch, below.]



Tree Installation

(b) *Shrubs and groundcovers.*

Shrubs and groundcovers shall be grouped in masses by species, with exceptions for large specimen plants.



Shrub Installation

[The following subsection is based on language from previous Landscaping Code Section 407.44(c)(4) Lawn grass, relocated here and revised as indicated.]

(c) ~~*Lawn*~~ *Turf grass.*

(1) ~~Grass areas shall be planted with species normally grown as permanent lawns in the vicinity of Alachua County.~~ Turf grass areas may be sodded, plugged, sprigged, or seeded except that solid sod shall be used in swales, slopes, berms, or other areas subject to erosion.

(2) Any netting contained within sod shall be certified by the manufacturer to be biodegradable within a period of three (3) months from installation in conformance with FDOT Section 981 and shall be cut even with the sod edge and not left exposed.

[The following subsection is based on language from previous Landscaping Code Sections 407.43.4. Xeriscape requirements, 407.44. Required plant materials, and 407.45. Installation, relocated here and revised as indicated.]

(d) *Mulch*.

(1) Planting areas ~~containing trees and shrubs~~ shall be mulched to a minimum depth of ~~three (3) inches~~ two (2) inches and a maximum depth of four (4) inches ~~with organic mulch to the perimeter of the root-ball but not within a radius of six (6) to eight (8) inches from the trunk~~.

(2) Trees shall be mulched to a minimum radius of three (3) feet from the trunk or to the outer extent of the branch spread, whichever is greater. Mulch shall not be placed within a radius of six (6) to eight (8) inches from the trunk.

(3) All landscaped areas not covered with vegetation shall be covered with ~~organic~~ mulch~~es~~.

(4) All mulch shall be organic material, with hardwood ~~or,~~ pine bark, or pine straw recommended. Cypress or rocks shall not be used as mulch. ~~No plastic or other non-biodegradable weed cloth or surface covers shall be used where mulch is required.~~

(5) Mulch shall be placed directly on soil or landscape fabric and be properly edged to retain mulch. No plastic or other non-biodegradable weed cloth or surface covers shall be used in any landscaped areas.

Sec. 407.46. ~~Required~~ Establishment irrigation and soil amendments.

(a) ~~*Landscape*~~ *Establishment irrigation plans.*

(1) ~~All required landscaping shall be provided, at minimum, with a temporary automatic irrigation system sufficient for the establishment and ongoing health of all required landscaping plant material. Where available, reclaimed water shall be used for landscape irrigation. Use of harvested rainwater or stormwater reuse for irrigation is encouraged. Where possible low volume irrigation shall be used.~~

A temporary irrigation system is required for all required landscaping to ensure successful establishment. A Temporary Irrigation Guidance Document is maintained by the Environmental Protection Department. Temporary irrigation systems must be removed once the plants are established or within one year, whichever occurs first.

(2) ~~The irrigation system shall be designed by a landscape architect or a certified irrigation designer and shall be installed according to the manufacturer's specifications and the Standard Plumbing Code, 1994 Edition, promulgated by the Southern Building Code Congress International, Inc. Irrigation plans for any permanent irrigation shall be included in all landscape and planting plans.~~

Irrigation plans for landscaped areas greater than two thousand (2,000) square feet, excluding single family lots, shall be designed by a landscape architect, a Florida Water Star Accredited Professional, or a Florida Irrigation Specialty Contractor.

a. The plans shall clearly identify the permeable area of the project, as defined in Section 77.03, Water Quality Code, and demonstrate compliance with Article VI, Landscape Irrigation and Maintenance Standards of the Alachua County Code.

b. Irrigation systems must be approved by the Alachua County Environmental Protection Department prior to installation, in accordance with Article VI, of Chapter 77, Water Quality Code, which limits permanent irrigation to 50% of the permeable area as defined in Chapter 410, Article III, Defined Terms.

c. The irrigation system shall be installed according to the manufacturer's specifications and in compliance with the above referenced Article VI.

~~(3) Irrigation shall promote water conservation by such methods as micro-irrigation or efficient sprinkler zoning. The irrigation system shall be designed and located to minimize the watering of impervious surfaces. Trees shall have individual low flow or micro-irrigation supplies. Once trees and other plant materials are established the use of the irrigation system shall be discontinued.~~

~~(4) Moisture sensors, weather stations, evapotranspiration (ET) sensors, or rain gauge (automatic rainfall shutoff device) equipment shall be required on automatic irrigation systems to avoid irrigation during periods of sufficient rainfall.~~

(3) All irrigation systems must have a functioning rainfall shutoff device set to active even during establishment.

(4) Where available, reclaimed water shall be used for landscape irrigation. Use of harvested rainwater or stormwater reuse for irrigation is encouraged. Landscape irrigation wells are discouraged. Abandoned irrigation wells shall be properly plugged by a licensed water well contractor within 30 days of removal of the temporary irrigation system.

(5) All irrigation systems shall be designed to promote water conservation by employing methods such as individual low-flow or micro-irrigation supplies for newly planted trees and landscape beds. Trees shall be equipped with individual bubblers and be separate from other zones to

ensure adequate watering is maintained for establishment. Permanent irrigation systems must be equipped with flow-based leak detection technology.

(6) The irrigation system shall be inspected monthly during the establishment period to ensure the landscape is properly watered for establishment. A log of the monthly inspections and actions taken shall be maintained by the entity charged with inspecting the system and submitted to the County upon request. Irrigation schedules shall be adjusted after 60 days to comply with restrictions. Subsequent watering shall be adjusted according to season and as the landscape matures so it can gradually adapt to survive on rainfall once the establishment period ends.

(7) Prior to the installation of any irrigation systems within a public right-of-way, a right-of-way use permit shall be obtained from the Alachua County Public Works Department. Such system installation shall meet the construction and inspection standards of the Public Works Department.

~~(b) *Alternative xeriscape plan.* Temporary or minimal irrigation systems acceptable to xeriscape practices may be used when an alternative xeriscape plan has been approved by the DRC. An alternative xeriscape plan may be approved by the DRC when the applicant can assure the health and survivability of all landscaping plant materials.~~

(b) *Soil Amendments*. Soil augmentation plans are encouraged for all proposed new landscaped areas, including single family lots. The following standards are recommended:

(1) Soil amendments should be incorporated to a depth of at least 6 inches at a rate of four cubic yards of amended soil per 1,000 square feet.

(2) Soil amendments should use compost certified by the U.S. Composting Council.

Sec. 407.47. Maintenance.

(a) The property owner or association shall be responsible for the maintenance of all landscape areas in accordance with the approved landscape or planting plans.

(b) Upon determination by the County, or County-designated qualified specialist, that a required tree or plant is dead or severely damaged or diseased, the tree or plant shall be replaced by the property owner or association with the same or equivalent plant material as approved by the County, in accordance with the standards specified in this Article. Irrigation shall be in accordance with Sec. 407.46. Establishment irrigation and soil amendments.

(c) All landscaped areas required as part of a development plan, including buffers, whether in common or private ownership, shall be the responsibility of that development's property owners' association. Where there is no property owners' association, such landscaped areas shall be the responsibility of the property owner.

(d) *Pruning.*

(1) All trees may be pruned to ~~maintain shape and,~~ promote their ~~shade-giving qualities~~ health and structure~~. They should be pruned to~~, and to remove diseased or dying portions in areas where falling limbs could be a hazard to people or property.

(2) Lower limbs may be removed to provide clearance for pedestrians and vehicles only to avoid potential injury or damage where conflicts exist. ~~In addition, trees located in association with vehicular use areas shall also be pruned~~ Such pruning shall only be allowed after the trees have adapted to the site, for ~~to allow~~ a maximum seven-foot clearance from ground level ~~to avoid potential for damage or injury to both pedestrians and vehicles, after they have adapted to the site~~. ~~Mature trees overgrowing driveways should be pruned~~ Pruning to allow the passage of emergency vehicles may exceed the maximum seven-foot clearance from ground level.

(3) ~~However, the c~~Excessive pruning ~~or~~, pollarding, lion tailing, ~~of trees into round balls of crown or branches, which results in an unnecessary~~ or reduction of shade~~,~~ to ~~grow~~ allow sunlight to reach turfgrasses or sun loving plants shall be prohibited~~, and may require supplemental plantings~~.

(4) All pruning shall be done following the ~~American National Standard for Tree Care Operations "Tree, Shrub and Other Woody Plant Management - Standard Practices."~~ current, most recent edition of International Society of Arboriculture (ISA) Best Management Practices - Pruning.

(5) Tree pruning that is inconsistent with this Subsection may be subject to mitigation at up to double the rate identified in Chapter 406, Article II, Section 406.13.

Sec. 407.48. Alternative compliance.

The provisions of this Article shall be liberally construed to effectively carry out the purpose and the intent of the Alachua County Comprehensive Plan and of this Article in the interest of the health, safety, and welfare of the residents of the County.

(a) An applicant may submit a landscape or planting plan which varies from the strict application of the requirements of this Article in order to accommodate unique site features or characteristics or to utilize innovative design.

(b) An alternative compliance landscape or planting plan may be approved only upon a finding that it fulfills the purpose and intent of the Alachua County Comprehensive Plan and of this Article as well as or more effectively than would adherence to the strict requirements.

(c) In evaluating proposed alternative compliance landscape or planting plans, considerations shall be given to proposals which preserve native vegetation, incorporate low impact development and stormwater reuse, and use resilient and other low water use landscape design principles and where the design ensures the maximum preservation of existing vegetation on the site.

Sec. 407.49. Certificate of compliance.

(a) *Nonresidential Developments.*

(1) No final Certificate of Occupancy shall be issued until the County has granted final approval and acceptance of the installed landscape as well as the protection of existing native vegetation. Final approval shall include as-built landscape plan certification from a registered landscape architect certifying that:

a. the landscaping is installed and functioning as intended, ~~that~~

b. prohibited and discouraged non-native vegetation listed in Table 406.16.2 has been removed, ~~and that~~

c. all of the provisions of this Chapter have been met~~.~~, and

d. the temporary irrigation system has been registered with the County and removed as appropriate, or a permanent system has received proper approval, is maintained free of leaks and in compliance with Article VI, Landscape Irrigation and Maintenance Standards of the Alachua County Code.

(2) The landowner shall submit a ~~c~~Certificate of ~~c~~Compliance, in a form acceptable ~~by the Director,~~ to the County, as a condition of issuance of a ~~c~~Certificate of ~~o~~Occupancy. For blocks within TODs/TND's, a phasing of landscaping installation may be approved ~~by an administrative development plan~~ as an element of the final development plan, or administratively after DRC approval, in order to allow the issuance of a certificate occupancy for each building separately.

(b) *Residential and Mixed Use Developments.*

(1) No Certificate of Completion of the Construction Permit shall be issued until the County has granted final approval and acceptance of the installed landscape as well as the protection of existing native vegetation. Final approval shall include inspection and approval by the County Forester and Landscaping Inspector that:

a. the landscaping is installed and functioning as intended,

b. prohibited and discouraged non-native vegetation listed in Table 406.16.2 has been removed,

c. that all of the provisions of this Chapter have been met, and

d. the temporary irrigation system has been registered with the County and removed as appropriate, or a permanent system has received proper approval, is maintained free of leaks and in compliance with Article VI, Landscape Irrigation and Maintenance Standards of the Alachua County Code.

(2) No Final Acceptance of public infrastructure shall be granted until the County has granted final approval and acceptance of the installed landscape as well as the protection of existing native vegetation. Final approval shall include as-built landscape plan certification from a registered landscape architect certifying that:

a. the landscaping is installed and functioning as intended,

b. the temporary irrigation system has been properly removed if after the one year establishment period,

c. prohibited and discouraged non-native vegetation listed in Table 406.16.2 has been removed, and

d. all of the provisions of this Chapter have been met. The landowner shall submit a certificate of compliance, in a form acceptable to the County, as a condition of issuance of a certificate of occupancy.

~~(b)~~(c) A temporary certificate of occupancy may be issued in those instances where all other site improvements except landscape have been completed, and when weather conditions are not conducive to planting. Such temporary issuance is subject to the developer certifying in writing and posting of an appropriate surety in the amount of one hundred ten (110) percent of the certified estimated cost of completion that the required landscaping, as depicted on the approved plan, will be installed within a time period acceptable to the County.

~~(c)~~(d) Failure to install or maintain landscaping according to the terms of this Article or any approved plan shall constitute a violation of this Article and subject to the remedies and penalties set forth in Chapter 409 of this ULDC.

Sec. 407.50. Appropriate ~~tree~~ plantings.

(a) The list of trees identified in Table 407.50.1 below includes all those appropriate to Alachua County that shall be used to meet the requirements of this Article.

(b) The list of groundcovers identified in Table 407.50.2 below includes all of those appropriate to Alachua County that shall be used to meet the requirements of this Article.

(c) The planting of non-native vegetation listed in F.A.C. 5B-64.011, Prohibited Aquatic Plants, and F.A.C. 5B-57.007, Noxious Weed List, or those species listed in Chapter 406, Article II, Table 406.16.2 Prohibited Non-Native Vegetation List shall be prohibited.

[Revisions to the following Table 407.50.1 include deletion of the existing column labeled "Street Tree Minimum Planting Area (feet)" (deletion not shown; proposed to be addressed in revisions to Table 407.45.1 Tree Installation Minimum Criteria); reordering of the remaining last four columns; and addition of the column labeled "Tree Size (for use with Table 407.45.1)".

Table 407.50.1 Appropriate Tree Plantings						
Native Scientific Name	**Common Name**	**Canopy or Understory**	**Estimated ~~Crown (~~20-year~~)~~ Canopy Diameter (feet)**	**Appropriate Planting Location or Use**	**Tree Size (for use with Table 407.45.1)**	**Estimated Maximum Height (feet)**
Acer negundo	Boxelder maple	C U	30	B O K	Large	50
Acer rubrum	Red maple	C U	25	S P B O K	Large	80
Acer saccharinum	Silver maple	C U	25	B O K	Large	60
Acer saccharum subsp. *floridanum*	Florida maple	C U	25	S P B O K	Large	60
Aesculus pavia	Red buckeye	U	10	B O	Small	40
Aralia spinosa	Devil's-walkingstick	U	10	B O	Small	30
Betula nigra	River birch	C U	25	S B O K	Large	60
Carpinus caroliniana	American hornbeam	U	25	S B O	Large	40
Carya aquatica	Water hickory	C	30	B O K	Large	100
Carya cordiformis	Bitternut hickory	C	30	B O K	Large	100
Carya floridana	Scrub hickory	C	30	B O K	Large	50
Carya glabra	Pignut hickory	C	30	B O K	Large	100
Carya tomentosa	Mockernut hickory	C	30	B O K	Large	100
Castanea dentata cultivars	Chestnut	C	30	B O E K	Large	40
Castanea pumila	Florida chinquapin	C	30	B O K	Large	50
Catalpa bignonioides	Southern catalpa	C U	20	B O	Small	60
Celtis laevigata	Sugarberry	C	~~35~~ 30	B O	Large	100
Cercis canadensis	Redbud	U	25	S T P B O	Large	30
Chamaecyparis thyoides	Atlantic white cedar	C U	20	B O	Small	80
Chionanthus virginicus	White fringe tree	U	~~10~~ 15	S T B O	Small	30
Cornus florida	Flowering dogwood	U	25	S B O K	Large	40
Crataegus michauxii	Michaux's hawthorn	U	15	S B O K	Small	25
Diospyros virginiana	Common Persimmon	C U	25	S T P B O	Large	100
Fagus grandifolia	American beech	C U	~~30~~ 40	B O K	Large	100

Table 407.50.1 Appropriate Tree Plantings						
Native Scientific Name	**Common Name**	**Canopy or Understory**	**Estimated ~~Crown (~~20-year~~)~~ Canopy Diameter (feet)**	**Appropriate Planting Location or Use**	**Tree Size (for use with Table 407.45.1)**	**Estimated Maximum Height (feet)**
Fraxinus americana	White ash	C	40	S P B O K	Large	75
Fraxinus caroliniana	Carolina pop ash	C	25	S P B O K	Large	60
Fraxinus pennsylvanica	Green ash	C	30	S B O K	Large	90
Fraxinus profunda	Pumpkin ash	C	30	B O K	Large	100
Gleditsia aquatica	Water locust	C U	25	B O	Large	50
Gleditsia triacanthos	Honey locust	C U	25	B O	Large	70
Gordonia lasianthus	Loblolly bay	C U	20	S B O	Small	90
Ilex cassine	Dahoon Holly	C U	20	B O	Small	50
Ilex opaca	American holly	C U	25	S T P B O	Large	50
Ilex x attenuata 'East Palatka'	East Palatka holly	C U	20	S T ~~P~~ B O	Small	50
Ilex x attenuata 'Savannah'	Savannah holly	C U	20	S T ~~P~~ B O	Small	50
Juglans nigra	Black walnut	C	25	B O K	Large	60
Juniperus virginiana	Southern red cedar	C U	25	S P B O	Large	60
Liquidambar styraciflua	Sweetgum	C	30	B O	Large	100
Liriodendron tulipifera	Tulip tree	C	25	S P B O	Large	100
Magnolia grandiflora	Southern magnolia	C U	~~20~~ 30	S P B O	Large	80
Magnolia grandiflora 'Little Gem'	Little gem magnolia	U	10	~~S~~ B O	Small	30
Magnolia grandiflora 'Alta'	Alta magnolia	U	10	~~S T~~ B O	Small	40
Magnolia macrophylla	Bigleaf magnolia, Ashe magnolia	U	15	B O	Small	20
Magnolia virginiana	Sweetbay magnolia	C U	20	S P B O	Small	80
Malus angustifolia	Crabapple	U	15	B O E K	Small	25
Morus rubra	Red mulberry	U	30	B O E	Large	50
Myrica cerifera	Waxmyrtle	U	10	B O K	Small	30
Nyssa aquatica	Water tupelo	C	25	S B O	Large	100
Nyssa ogeche	Ogeechee tupelo,	C	25	S B O	Large	80
Nyssa sylvatica var. *biflora* or *sylvatica*	Swamp tupelo, Blackgum	C	25	S B O	Large	100
Osmanthus americanus	Wild olive, Devilwood	U	20	S B O	Small	40
Ostrya virginiana	Ironwood, Hop hornbeam	C U	25	S T P B O	Large	40

Table 407.50.1 Appropriate Tree Plantings						
Native Scientific Name	**Common Name**	**Canopy or Understory**	**Estimated ~~Crown~~ (20-year) Canopy Diameter (feet)**	**Appropriate Planting Location or Use**	**Tree Size (for use with Table 407.45.1)**	**Estimated Maximum Height (feet)**
Persea borbonia var. *borbonia or humilis*	Red bay or Silk bay	C U	25	B O	Large	60
Pinus clausa	Sand pine	C	25	B O K	Large	90
Pinus echinata	Shortleaf pine	C	25	B O K	Large	100
~~*Pinus elliottii*~~	~~Slash pine~~	~~C~~	~~25~~	~~S B O~~		~~110~~
Pinus glabra	Spruce pine	C	25	S B O K	Large	90
Pinus palustris	Longleaf pine	C	25	S B O K	Large	90
Pinus serotina	Pond pine	C	25	B O K	Large	100
~~*Pinus taeda*~~	~~Loblolly pine~~	~~C~~	~~25~~	~~B O~~		~~110~~
Planera aquatica	Water elm, Planer tree	C U	30	B O	Large	40
Platanus occidentalis	Sycamore	C	40	S P B O	Large	90
Populus deltoides	Eastern Cottonwood	C	30	B O K	Large	70
Prunus americana	American plum	U	20	S T P B O K	Small	30
Prunus angustifolia/ umbellata	Chickasaw, Flatwoods, Hog plum	U	15	~~S P~~ B O E K	Small	20
Prunus caroliniana	Cherry-laurel	U	20	~~S T P~~ B O K	Small	40
Prunus serotina var. serotina	Black cherry	C	30	S P B O K	Large	80
Ptelea trifoliata	Wafer ash, Hop-tree	U	10	B O	Small	20
Quercus alba	White oak	C	25	S P B O K	Large	90
Quercus chapmanii	Chapman's oak	C	20	S P B O K	Small	40
Quercus falcata	Spanish oak, Southern red oak	C	30	S P B O K	Large	100
Quercus geminata	Sand live oak	C	30	S P B O K	Large	60
Quercus incana	Bluejack oak	C	25	S P B O K	Large	50
Quercus laevis	Turkey oak	C	25	S P B O K	Large	60
~~*Quercus laurifolia (hemisphaerica)*~~	~~Laurel oak~~	~~C~~	~~35~~	~~O,P,B~~		~~90~~
Quercus lyrata	Overcup oak	C	25	S B O K	Large	80
Quercus margarettae	Sand post oak	C	30	S P B O K	Large	70
Quercus marilandica	Blackjack oak	C	25	S B O K	Large	50
Quercus michauxii	Basket oak, Swamp chestnut oak	C	25	S B O K	Large	100
Quercus muehlenbergii	Chinquapin oak	C	20	S B O K	Small	50

Table 407.50.1 Appropriate Tree Plantings						
Native Scientific Name	**Common Name**	**Canopy or Understory**	**Estimated ~~Crown (~~20-year~~)~~ Canopy Diameter (feet)**	**Appropriate Planting Location or Use**	**Tree Size (for use with Table 407.45.1)**	**Estimated Maximum Height (feet)**
Quercus myrtifolia	Myrtle oak	U	15	B O K	Small	30
~~*Quercus nigra*~~	~~Water oak~~	~~C~~	~~35~~	~~O,P,B~~		~~90~~
Quercus pagoda	Cherrybark oak	C	30	S P B O K	Large	80
Quercus phellos	Willow oak	C	20	S P B O K	Small	60
Quercus shumardii	Shumard oak	C	30	S ~~P~~ B O K	Large	100
Quercus sinuata	Bluff oak	C	30	S P B O K	Large	90
Quercus stellata	Oak, post	C	25	S P B O K	Large	80
Quercus virginiana	Oak, live	C	45	S P B O K	Live Oak	80
Rhamnus caroliniana	Buckthorn, Carolina	U	10	B O	Small	20
Sabal palmetto	Palm, cabbage	C U	15	S T ~~O B~~	Small	60
Salix caroliniana	Carolina willow	U	15	B O K	Small	40
Salix floridana	Florida willow	U	15	B O K	Small	20
Salix nigra	Black willow	U	15	B O K	Small	60
Sapindus saponaria	Soapberry	C U	25	S P B O	Large	50
Sassafras albidum	Sassafras	U	15	B O	Small	40
Sideroxylon tenax	Tough bully	U	10	B O	Small	30
Taxodium ascendens	Pond cypress	C	20	S P B O	Small	90
Taxodium distichum	Bald cypress	C	20	S P B O	Small	100
Tilia americana var. caroliniana	Carolina basswood	C	25	B O K	Large	80
Ulmus alata	Winged elm	C	~~40~~ 35	S T P B O K	Large	100
Ulmus americana	Florida elm	C	35	S T P B O K	Large	100
Ulmus crassifolia	Cedar elm	C	30	S T P B O K	Large	100
Ulmus rubra	Slippery elm	C	20	S P B O K	Small	60
Vaccinium arboreum	Sparkleberry, Farkleberry	U	15	S T ~~P~~ B O E K	Small	20
Viburnum obovatum	Walter viburnum	U	15	B O	Small	30
Viburnum rufidulum	Rusty blackhaw	U	15	B O	Small	20
Zanthoxylum clavaherculis	Hercules club	U	25	B O	Large	50

Non-Native Scientific Name	Common Name	Canopy or Understory	Estimated ~~Crown (~~20-year~~)~~ Canopy Diameter (feet)	Appropriate Planting Location or Use	Tree Size (for use with Table 407.45.1)	Estimated Maximum Height (feet)
Butia odorata (formerly *Butia capitata)*	Pindo palm	C U	15	S T ~~O~~ E	Small	20
Callistemon rigidus	Stiff bottlebrush	U	15	S T O	Small	60
~~*Callistemon viminalis*~~	~~Weeping bottlebrush~~	~~U~~	~~15~~	~~S,T,O~~		~~30~~
Carya illinoiensis	Pecan	C	35	S O ~~P~~ E	Large	100
Cedrus deodara	Deodar cedar	C U	20	S P O	Small	40
Chionanthus retusus	Fringe tree, Chinese	U	15	S O	Small	30
Citrus spp.	Citrus	U	10	O E	Small	20
~~*Cryptomeria japonica*~~	~~Japanese cedar~~	~~C U~~	~~15~~	~~S O~~		~~60~~
~~*Cunninghamia lanceolata*~~	~~China fir~~	~~C U~~	~~15~~	~~S O~~		~~60~~
~~*X Cupressocyparis leylandii*~~	~~Leyland cypress~~	~~U~~	~~15~~	~~S,O~~		~~30~~
~~*Cupressus sempervirens*~~	~~Italian cypress~~	~~U~~	~~10~~	~~S,T,O~~		~~70~~
Fortunella margarita cultivars	Kumquat	U	6	O E	Small	10
Ilex rotunda	Round holly	C U	15	S T ~~P~~ O	Small	30
Lagerstroemia indica (large varieties)	Crape myrtle	U	15	S T O	Small	40
Liquidambar formosana	Formosa sweet gum	C	20	S P O	Small	50
~~*Magnolia spp.*~~	~~Oriental magnolia~~	~~U~~	~~15~~	~~S,O~~		~~30~~
Magnolia x soulangiana	Saucer magnolia	U	15	S O	Small	30
~~*Metasequoia glyptostroboides*~~	~~Dawn redwood~~	~~C~~	~~15~~	~~S P O~~		~~70~~
~~*Parkinsonia aculeata*~~	~~Jerusalem-thorn~~	~~U~~	~~10~~	~~O~~		~~15~~
Morus spp.	Mulberry	U	20	O E	Small	35
Phoenix spp.	Date palm	C	25	S T ~~O P~~	Large	60
Pistacia chinensis	Chinese pistachio	C	25	S P O	Large	60
Platycladus orientalis	Oriental arborvitae	U	10	S O	Small	50
Podocarpus macrophylla	Japanese yew	C U	15	S T ~~P~~ O	Small	40
Podocarpus nagi	Nagi podocarpus	C U	20	S T P O	Small	50
Prunus campanulata	Flowering cherry	U	15	S T O	Small	20
~~*Pyrus calleryana*~~	~~Aristocrat pear~~	~~C, U~~	~~15~~	~~S,T,O,P~~		~~40~~
Prunus nucipersica cultivars	Nectarine	U	15	O E	Small	15
Prunus persica cultivars	Peach	U	15	O E	Small	15
Punica granatum cultivars	Pomegranate	U	10	O E	Small	10
Pyrus communis cultivars	Pear	U	15	O E	Small	25

Non-Native Scientific Name	Common Name	Canopy or Understory	Estimated ~~Crown (~~20-year~~)~~ Canopy Diameter (feet)	Appropriate Planting Location or Use	Tree Size (for use with Table 407.45.1)	Estimated Maximum Height (feet)
Quercus acutissima	Sawtooth oak	C	25	S P O	Large	60
Robinia pseudoacacia	Locust, black	C	20	O	Small	40
Salix babylonica	Weeping willow	C U	30	S P O	Large	40
Ulmus parvifolia	Chinese elm, Drake elm	C U	35	S T P O	Large	40
Ulmus pumila	Siberian elm	C U	15	S T O	Small	30
Washingtonia robusta	Washington palm	C	15	S T	Small	80

~~LEGENDS:~~

~~Appropriate Planting Location~~		~~Canopy tree = provides larger amount of shading high above ground~~
~~S~~	~~Street tree~~	~~Understory tree = provides lower amount of shading near the ground~~
~~T~~	~~Tree Grate/Well~~	
~~B~~	~~Basin Area~~	
~~P~~	~~Parking Islands~~	
~~O~~	~~Other Areas including Common Areas and Buffers~~	

~~ADDITIONAL COMMENTS:~~

~~All trees on the Alachua County Tree List except pines and palms are suitable for reforestation.~~

LEGEND:

Canopy or Understory	
C	Canopy tree provides larger amount of shading high above ground
U	Understory tree provides lower amount of shading near the ground
Appropriate Planting Location or Use	
S	Street Tree
T	Tree Well
P	Paved Vehicular Use Area
B	Basin Area
O	Other Areas including Common Areas and Buffers
E	Edible
K	Keystone Species

Table 407.50.2 Appropriate Groundcover Plantings			
Native Scientific Name	**Common Name**	**Estimated Maximum Height (feet)**	**Additional Information**
Ageratina jucunda	Hammock Snakeroot	3	
Chrysopsis mariana	Maryland Goldenaster	2	Keystone
Conradina canescens	False Rosemary	3	Edible
Dyschoriste oblongifolia	Twin Flower	1	
Elephantopus spp.	Elephant's Foot	2-3.5	
Eragrostis elliottii	Elliot's Lovegrass	2	
Eragrostis spectabilis	Purple Lovegrass	2	
*Euploca polyphylla (*formerly *Heliotropium polyphyllum)*	Pineland Heliotrope	1	
Glandularia maritima	Beach Verbena	1	
Helianthus debilis	Beach Sunflower	2.5	Keystone
Hymenocallis spp. and hybrid cultivars	Spider Lily	2	
Ilex vomitoria 'Dwarf'	Dwarf Yaupon holly	5	Edible
Ipomoea pes-caprae	Railroad Vine, beach morning-glory	0.5	
Iris virginica	Southern blue flag iris	2.5	
Lantana depressa	Pineland Lantana	2	
Michelia repens	Partridge berry	0.5	
Mimosa strigillosa	Powderpuff, Sunshine Mimosa	0.5	
Muhlenbergia capillaris	Muhly grass	5	
Penstemon multiflorus	Many-flowered Beardtongue	3	
Phyla nodiflora	Frogfruit, Matchstick Weed	0.5	
Pityopsis graminifolia	Silkgrass	3	Keystone
Psychotria nervosa dwarf cultivars	dwarf wild coffee	3	
Rudbeckia hirta	Black-Eyed Susan	3	Keystone
Schizachyrium scoparium	Little Bluestem Grass	3	
Sedum spp. (11+ species for zone 9)	Stonecrop, Creeping Sedums	0.5 – 3	
Sisyrinchium angustifolium	Blue Eyed Grass	1	
Solidago spp.	Goldenrod	6	
Tradescantia ohiensis	Spiderwort	3	
Tripsacum floridanum	Dwarf Fakahatchee grass	3	
Vaccinium myrsinites	Shiny Blueberry	2	
Viburnum obovatum dwarf cultivars	Dwarf viburnum	3	

Table 407.50.2 Appropriate Groundcover Plantings			
Native Scientific Name	**Common Name**	**Estimated Maximum Height (feet)**	**Additional Information**
Zamia integrifolia (formerly *Zamia floridana)*	Coontie, Florida Arrowroot	4	

Non-Native Scientific Name	**Common Name**	**Estimated Maximum Height (feet)**	**Additional Information**
Agapanthus africanus	Lily Of the Nile	4	
Aloe barbadensis (size considerations)	Aloe	2	Edible
Aloe maculata (size considerations)	Soap Aloe	2	
Arachis glabrata	Perennial Peanut	1.5	
Aspidistra elatior	Cast Iron Plant	2	
Bulbine frutescens	Bulbine	2	
Cephalotaxus harringtonia cultivars	Japanese plum yew	2 – 5	
Cyrtomium falcatum	Holly fern	3	
Dianella tasmanica	Flax Lily	2	
Dryopedryos erythrosora	Autumn fern	2	
Dyckia spp. and cultivars	Dyckia, Miniature Agave	0.5 – 2	
Echevaria spp.	Echeveria	0.5 – 2	
Gaillardia spp. and hybrid cultivars	Blanket Flower	2	
Hippeastrum spp. and hybrid cultivars	Amaryllis	1 – 2	
Iris domestica	Blackberry Lilly	3	
Juniperus conferta	Shore Juniper	2	
Juniperus horizontalis	Horizontal/Creeping Juniper	1.5	
Lomandra longifolia	Matt Rush And Cultivars	4	
Ophiopogon japonicus and cultivars	Mondo Grass	0.5 – 1	Not suitable for planting near natural areas
Podocarpus lawrencei	Mountain plum-pine	5	
Portulaca grandiflora	Purslane, Moss Rose	0.5	Edible
Rosmarinus officinalis x 'Prostratus'	Creeping Rosemary	2	Edible
Salvia rosmarinus (formerly *Rosemarinus officinalis)*	Rosemary	4	Edible

Non-Native Scientific Name	Common Name	Estimated Maximum Height (feet)	Additional Information
Scadoxus multiflorus (formerly *Haemanthus multiflorus)*	Blood Lily	1	
Trachelospermum asiaticum	Asiatic Jasmine, Normal and Variegated Form	1.5	Not suitable for planting near natural areas
Trachelospermum jasminoides	Confederate Jasmine, Star Jasmine, Normal and Variegated Form	depends on supporting structure	Not suitable for planting near natural areas
Tulbaghia violacea	Society Garlic	1 Flower spikes: 2	Edible

ARTICLE VII. TRADITIONAL NEIGHBORHOOD AND TRANSIT ORIENTED DEVELOPMENTS

. . . [Sections of the Traditional Neighborhood and Transit Oriented Developments Regulations that are not proposed for change are omitted from this draft] . . .

Sec. 407.68. Transit supportive area design standards.

(a) *Block perimeter.*

(1) The TSA in TND and TOD developments shall be designed with a regular block pattern. Blocks within the TSA shall have a maximum perimeter consistent with this Section. The perimeter of a block shall be measured from the back of curb. Conservation areas, topographic constraints and property boundary lines can form the sides of a block.

Table 407.68.1
Maximum Block Perimeter

Location	Maximum Block Perimeter (ft.)	
	Standard	Extended
Village Center	1,300	2,000
Inside the TSA, outside the VC	1,600	2,300

(2) The extended maximum block perimeter in Table 407.68.1 may be used if the block contains parking interior to the block.

(3) In addition to the extended block, an additional seven hundred (700) feet of block perimeter may be allowed where a continuous ten-foot multi-use path with limited vehicular crossings and with shade trees alternating forty (40) feet on center is provided. This path forms an internal bicycle and pedestrian block that does not exceed the extended perimeter blocks length.

(4) For projects of one hundred (100) acres or more, maximum block perimeter may be extended up to three thousand (3,000) feet if the block contains:

a. A parking structure with at least one (1) level above surface parking; or

b. A single tenant retail use greater than twenty-five thousand (25,000) square feet with parking interior to the block.

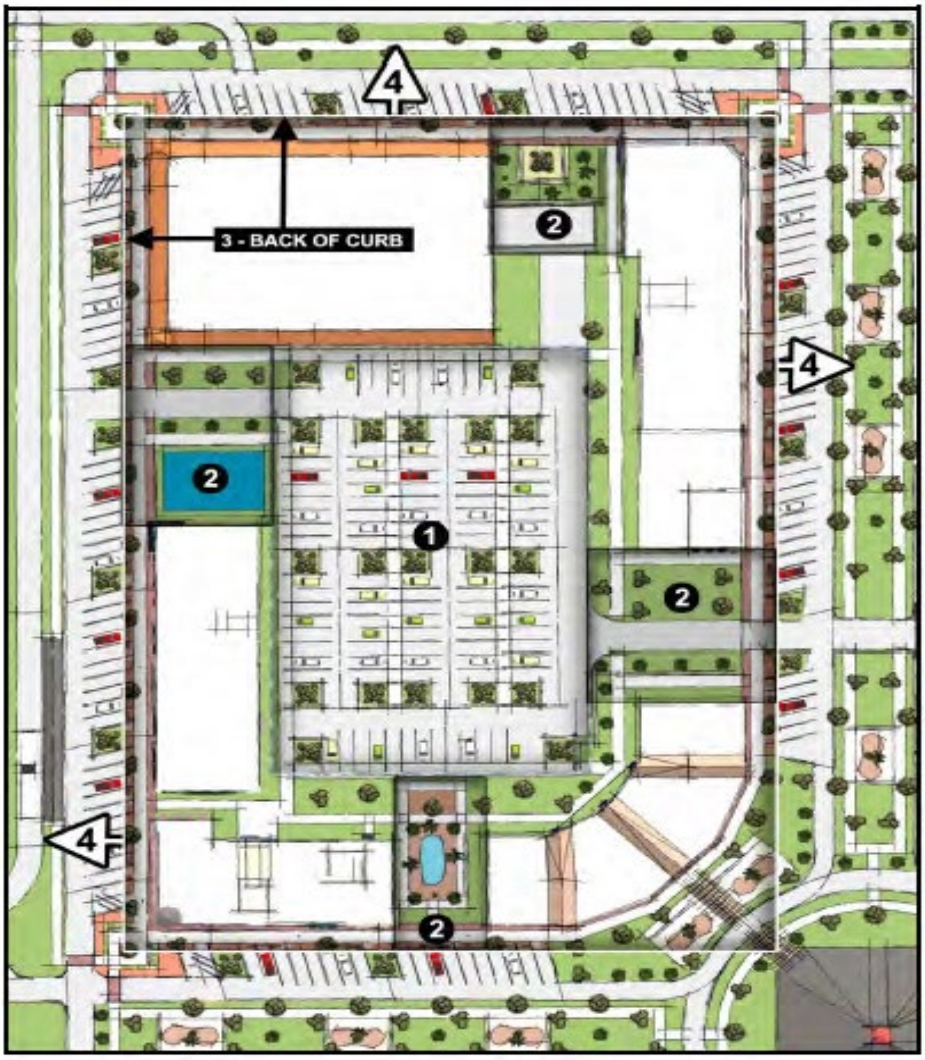
(b) *Building orientation and design.* In addition to the standards in this section, all non-residential, mixed-use and multifamily buildings must meet the requirements in Section 407.105 of Article X Building Design.

(1) *Orientation and location.*

a. The front of buildings shall be oriented toward the more primary adjacent street. Where a building is not adjacent to a street, the front of the building shall be oriented toward a greenspace or civic space.

b. Primary pedestrian entrances to buildings shall be provided and accessible on the front of a building with limited exceptions allowed for residential or lodging uses that have units fronting a parking area located interior to a block. Primary pedestrian entrances shall be designed for access by the public.

c. Shade along the building frontage shall be provided for pedestrians through architectural features such as covered walkways, terraces, balconies, awnings and street trees.



Sample Block Showing: (1) parking interior to the block; (2) limited, pedestrian scaled common areas screening the surface parking; (3) back of curb; and (4) block perimeter measured at the back of curb.

(2) *Garages.* Garages serving single-family or multi-family uses shall provide entries from alleys or side streets with anticipated daily traffic volumes of less than one thousand two hundred (1,200) AADT wherever practicable. Front-entry garages shall be set back a minimum of ten (10) feet behind the primary building line.

(3) *Parking structures.* Parking structures shall be designed to allow for commercial, office, civic or residential uses lining the structure on the ground floor where the parking structure abuts a street. The parking structure shall be designed to integrate seamlessly with surrounding development and shall provide pedestrian oriented design on the ground floor abutting a street.

(4) *Colonnades.* Roof or overhangs supported by colonnades at or within seven (7) feet of a sidewalk shall have a minimum clearance height of nine (9) feet (excluding signage or lighting).

(5) *Existing buildings.* Every effort shall be made to meet the TND requirements by appropriately incorporating existing buildings into the design of the neighborhood.

(6) *Trash collection facilities.* All recycling and trash collection facilities shall be located to the rear of buildings or within buildings or parking facilities. All recycling and trash collection facilities shall be screened as required by Subsection 407.10(b) of this ULDC.

(7) *Utilities.* Above ground utilities, except for life safety, should be located to the rear and side of buildings. All above ground utility access, transfer and conveyance points such as panels, boxes, meters, and valves shall be screened from the street and sidewalks through architectural features and/or landscaping.

(c) *Parking.*

(1) *Off-street surface parking.* Off-street surface parking is not required. Where provided, off-street surface parking shall meet the standards of the parking schedule in Table 407.68.2. These maximums shall not apply to structured parking, park-and ride, and on-street parking.

Table 407.68.2
Maximum Off-Street Surface Parking for in the TSA of TNDs and TODs

Use	Maximum Number of Spaces
Non-residential	3 per 1,000 sq. ft. gross floor area
Multi-family residential and hotel	0.5 per 400 sq. ft. gross floor area

(2) Parking spaces may be pooled and utilized anywhere within the development.

a. Off-street surface parking shall be located to the rear of buildings and interior to the block. A minimum of seventy-five (75) percent of the perimeter block length shall be lined by buildings, excluding access to off-street surface parking. Along any portion of a block not lined by buildings, off-street surface parking shall be located at least twenty-five (25) feet from the back of curb. To screen the parking, between the back of curb and off-street parking, there shall be a sidewalk and a plaza with lighting, seating, architectural features, landscaping, and low impact design techniques ~~and fifty (50) percent of ground surface areas under mature tree canopy at twenty (20) years~~.

b. Up to two (2) driveways may be provided per block face. However, no block shall have more than six (6) driveways.

c. Off-street surface parking areas adjacent to a conservation area, topographical constraint, or property boundary and not lined by buildings shall provide a minimum of an eight-foot wide multi-use path with shade trees alternating forty (40) foot on center. The perimeter block length along a conservation area, topographical constraint, or property boundary may exceed twenty-five (25) percent of the total block perimeter; however the remainder of the block shall be lined by buildings, excluding access to off-street parking.

d. Off-street parking shall clearly delineate routes for pedestrians and bicycles through parking areas to accommodate safe and convenient pedestrian and bicycle circulation between uses and create a park-once environment.

e. A single transitional off-street surface parking area may be allowed per development. The perimeter block length shall not exceed the perimeter block length requirements of this Article. Plans shall be submitted demonstrating how liner buildings will be provided at a future date along with justification why the additional parking is needed and why it cannot be provided elsewhere. Within this block, off-street surface parking shall not be located closer than twenty-five (25) feet to the back of curb and off street surface parking shall be lined by a sidewalk and a plaza with lighting, seating, architectural features, and landscaping ~~and fifty (50) percent mature tree canopy at twenty (20) years~~.

[Tree canopy coverage for above pedestrian plazas is addressed in Article IV Landscaping new Subsection 407.43.2(c) Pedestrian circulation and paved activity areas.]

f. In addition to the single transitional lot, a TOD more than one hundred (100) acres in size is allowed one (1) block with parking interior per every one hundred (100) acres where the block face is lined by buildings on fifty (50) percent or greater of the block so long as there are buildings on three (3) sides of the block face and at least one (1) of the structures on the block is multistory. Off-street surface parking shall be setback at least twenty-five (25) feet from the back of curb. To screen the parking, within the setback there shall be a sidewalk and a plaza with lighting, seating, architectural features, and landscaping ~~and fifty (50) percent mature tree canopy at twenty (20) years~~.

[Tree canopy coverage for above pedestrian plazas is addressed in Article IV Landscaping new Subsection 407.43.2(c) Pedestrian circulation and paved activity areas.]

g. Single occupant retail uses greater than twenty-five thousand (25,000) square feet per floor may have parking in front of buildings provided all surface parking and the side and rear of the building are screened from adjacent streets by liner buildings. The rear of the building for single occupant retail uses between twenty-five thousand (25,000) and fifty thousand (50,000) square feet per floor may front a street as long as a functional entrance is provided and the architecture of the building provides a pedestrian friendly environment in compliance with all design requirements for buildings fronting a street.

h. Off-street surface parking areas shall be landscaped to reduce heat-island effects, stormwater pollution and rate of flow from developed areas, minimize glare, and limit noise impacts from automobile uses in accordance with Section 407.43.2(d) Paved vehicular use areas.

[The following requirements are addressed in Article IV Landscaping new Subsection 407.43.2(d) Paved vehicular use areas.]

~~1. Off-street parking areas shall contain sufficient canopy trees to produce a mature canopy that provides fifty (50) percent shading of paved areas within twenty (20) years. Canopy trees are identified in Table 407.50.1 of this Chapter.~~

~~2. The minimum planting area for trees shall be twenty five (25) square feet. The planting area shall be clear of impervious or semi-pervious materials but may include additional landscaping materials. Additional semi-pervious areas for trees shall vary according to Table 407.68.3.~~

~~3. Planting strips, medians, islands, bulb-outs, or other planting areas may be depressed to accommodate stormwater runoff provided stormwater overflow is accommodated.~~

~~**Table 407.68.3**~~
~~**Canopy Tree Planting Requirements for Off-Street Parking Areas**~~

~~**Planting Area (sq. ft.)**~~	~~**Minimum Additional Semi-pervious Area (sq. ft.)**~~
~~25—50~~	~~400~~
~~51—100~~	~~200~~
~~101—200~~	~~100~~
~~>200~~	~~0~~

~~4. The use of semi-pervious materials, such as pavers or porous pavement, is encouraged throughout parking areas to maximize the amount of usable space and ensure survival of landscaping.~~

(3) Vehicular use areas, other than off-street surface parking, shall be located to the rear of buildings. Limited exceptions may be allowed for loading areas separated from through traffic by a physical barrier.

(d) *Roadway network design.*

(1) In order to provide for pedestrian oriented design along existing corridors, streets that are proposed parallel to existing roadways, without intervening buildings, shall be restricted to a cross section width of forty-eight (48) feet from curb face to curb face. In no such case shall angled parking be provided on both sides of the a new two-way street.

(2) Notwithstanding the requirements in Subsection 407.68(d)(1), developments with a valid preliminary development plan or planned development that identifies street and block locations and was approved prior to November 10, 2020 may provide street and block locations consistent with the approved preliminary development plan or planned development.

(3) Roadways within the transit supportive area shall be considered functionally classified as local roadway and shall be designed consistent with Table 407.68.4 and the standards in this Section. This Section does not include arterial and collector roadways on the Future Highway Function Classification Map which shall be designed consistent with the standards in Article XIII, Access Management and Street Network Standards; this Section may apply if a design exception or variance is approved by the County Engineer in accordance with the Florida Greenbook.

a. All roadways within the transit supportive area shall provide curb-and-gutter on both sides of the roadway. The use of curb-cuts and other low impact design techniques shall be encouraged and allowed.

b. All roadways within the transit supportive area shall provide street trees. Standards for street tree planting shall be consistent with Subsection ~~407.43.1(b)~~ 407.43.2(b) of this Chapter. ~~Street trees may be provided in bulb-outs.~~

c. In the transit supportive area sidewalks shall be provided on both sides of streets. The DRC may approve a cross-section that includes a sidewalk on only one (1) side of a street in limited situations where a single sidewalk would not reduce pedestrian circulation. Streetscape elements within the transit supportive area shall include pedestrian scale lighting, street furniture, waste receptacles, locational maps, planters, and street trees. Required minimum sidewalk widths are:

1. Eight (8) feet for single-family attached/multi-family/nonresidential (excluding commercial);

2. Ten (10) feet for commercial/mixed use; and

3. Single-family detached areas shall provide either six-foot sidewalks on both sides of streets or a single ten-foot multiuse path if the front of the homes are oriented to the path.

d. Innovative traffic calming techniques, except along roadways identified on the Future Highways Functional Classification Map of the Comprehensive Plan, are allowed along roadways and at intersections within the development. Techniques may include raised intersections, woonerfs (streets where pedestrians and cyclists have legal priority using techniques including shared space, traffic calming and low speed limits), shared multi-modal spaces with reduced markings and signage in addition to other innovations that enhance pedestrian and bicycle mobility. For publicly-maintained roadways projected to carry more than seven thousand five hundred (7,500) daily trips, traffic calming techniques shall be limited to horizontal deflections.

e. Priority shall be given to the design of roadway, transit, bicycle, pedestrian facilities, and required landscaping in the allocation of space within the right-of way. Where location of utilities conflicts with the priority considerations, utilities shall be located outside the right-of-way.

Table 407.68.4
Roadway Design Standards for Transit Supportive Area and Village Center

Daily Trips	Number of Lanes	Design Speed (mph)	Travel Lane Type Width (ft)[1]	Access Type[2]	Median (ft)	Bike Lanes (ft)[3]	On-Street Parking (ft)[4]
Under 1,200	2	25	Cartway 18—20	Direct	No	No	7
1,200—2,500	2	25	Marked Lanes 10	Limited	10 (Optional)	4 (Optional)	7
2,500—7,500	2	30	Marked Lanes 10	Limited	12 (Optional)	5	8
7,500—20,000	2	35	Marked Lanes 10	Limited	16-22	5	8
15,000—40,000	4	35	Marked Lanes 10	Limited	16—22	5	8

[1] If transit is projected to run on the roadway outside of dedicated transit lanes, then the lane width shall be eleven (11) feet.

[2] "Direct" means that individual uses may utilize a driveway to the road. "Limited" means that individual uses must utilize a shared separate roadway, driveway or alley.

[3] Bike lanes not adjacent to parallel parking may be reduced to four (4) feet. Bike lanes are optional for roadways between 2,500—7,500 ADT that are less than one-quarter (0.25) mile in length or interrupted with stop control at intersections spaced no more than six hundred sixty (660) feet apart and are located within a TOD.

[4] On-street parking is optional, but must be provided on the majority of streets. Provision of on-street parking shall be adequate to serve the proposed intensity of development in order that the required clearances for public safety vehicles are maintained. Angled parking is allowed on all roadways. Where on-street parallel parking is provided it must be marked at the width indicated in the table or greater. The gutter pan of curbs can be used to meet the minimum on-street parking widths.

[5] Roadways with dedicated transit facilities located within the right-of-way shall be designed on a case-by-case basis and shall provide bicycle and pedestrian facilities and where practical, on-street parking.

(4) Table 407.68.4 does not preclude the development of one-way streets. The design of one-way streets, alleys and streets featuring dedicated transit lanes shall be reviewed on a case-by-case basis. One-way streets shall have a pavement width between twelve (12) and fourteen (14) feet.

(5) Cross access and stub streets shall be provided in order that the general block pattern of the development can be continued on adjacent properties upon development or redevelopment.

(6) *On-street parking.*

a. Defined on-street parking shall be provided on the majority of block faces within the transit supportive area, and is allowed throughout the rest of the development. Bulb-outs and curb extensions shall be provided at a maximum interval of two hundred (200) feet. For block faces less than two hundred (200) feet, a bulb-out shall be provided at both ends of the block face.

b. On through collector and arterial roadways with a projected AADT greater than five thousand (5,000) trips angled on-street parking shall be accessed via a drive aisle separated from through traffic by a landscaped median.

Parallel on-street parking or angled parking accessed by a drive-aisle separated from through traffic by a landscaped median are allowed and encouraged on arterial and collector roadways so long as it can be done in a safe manner that does not negatively impact the operations of the facility.

c. The use of semi-pervious materials, such as pavers or porous pavement, is encouraged within on-street parking areas to reduce stormwater runoff and delineate parking areas.

(7) *External connectivity.* Street stubs shall be provided to adjacent open land and adjacent developed parcels other than platted subdivisions to provide for future connections. Signs shall be posted, at the expense of the developer, advising residents of the intent and purpose of the stubbed street. Cul-de-sacs shall be permitted only where environmental concerns or existing platted development makes a street connection impracticable. Cul-de-sacs shall not exceed two hundred fifty (250) feet in length and shall be accessed from a street providing internal or external connectivity.

(8) *Utilities.*

a. Underground utilities are to be compressed to minimize right-of-way width, allow adequate space for street trees and provide for the visual definition of the street. Appropriate utilities shall be allowed to be placed in joint trenches.

b. All above ground utility access, transfer and conveyance points such as panels, boxes, meters, and valves shall be screened from the street and sidewalks through architectural features and/or landscaping.

c. Pressurized lines are allowed to be placed under roadways not shown on the Future Highway Functional Classifications Map of the Comprehensive Plan—and on roadways projected to carry less than fifteen thousand (15,000) daily trips.

(e) *Transit network design.*

(1) For developments contiguous with a rapid transit corridor, dedicated transit lane(s) for use by transit vehicles or fixed guide-way rail lines for streetcars or light rail shall be provided within or adjacent to the development consistent with the rapid transit corridor map. Dedicated transit lanes for buses shall be designed as concrete ribbon drives with raised curbs in a median or in right-of-way separated from motor vehicle travel lanes, except on bridges. Dedicated transit lanes shall be designed and constructed in such a manner that they cannot be used for motor vehicle travel, other than transit vehicles. Multi-lane roadways in-lieu of dedicated lanes may be provided within the transit supportive area for developments that can demonstrate future transit headways of ten (10) minutes can be maintained and feature either block lengths that average one thousand two hundred (1,200) perimeter feet or less or include fixed guide-way rail lines. Regional transit system (RTS) shall be a reviewing entity along with the County and FDOT along state roadways.

(2) Developments contiguous with the portion of the express transit corridor along Tower Road shall provide either site related turn out facilities (bus bays) or dedicated lane(s). Regional transit system (RTS) shall be a reviewing entity along with the County and FDOT along state roadways.

(3) For developments contiguous with a rapid transit corridor, a park and ride facility shall be provided within or adjacent to the development in close proximity to the transit station consistent with the rapid transit corridor map. Park and ride facilities shall be designed for

shared evening and weekend use by the development. Park and rides shall be designed in accordance with block, street tree and pedestrian facility requirements of this ULDC and are encouraged to be screened by liner buildings. The size of the park and ride facility shall be based on projected demand as the relative to the size and location of the development. Park and ride facilities shall be coordinated and jointly planned where developments are directly adjacent. Regional transit system (RTS) shall be a reviewing entity along with the County and FDOT along state roadways.

(4) For developments contiguous with a rapid transit corridor, a principal transit station shall be provided adjacent to the corridor within the village center. The transit station shall be of sufficient size and scale to accommodate the projected ridership from the development. Transit stations shall feature solid roofs and protection from the elements along the perimeter of the station through architectural features. The transit station shall be architecturally integrated with the development. The transit station shall provide lighting, seating, waste receptacles, kiosk with maps and route information, a route map, a digital display indicating arrival times and a means to provide air circulation and cooling within the station. The station shall include a facility for purchasing transit passes. The transit station should be integrated with retail uses or provide adequate space for future retail uses.

(5) For developments contiguous with a rapid transit corridor, smaller transit stations which feature solid roofs, some protection from the elements, lighting, seating, route maps and a digital display indicating arrival times are encouraged to be located along the corridor and are required if more than a one-quarter (0.25) mile from the principal transit station. The transit station should be integrated with retail uses or provide adequate space for future retail uses.

(f) *Charging stations.* A minimum provision of one (1) Level 2 Vehicle Charging Station (240v) per every ten (10) multi-family units shall be provided in new TND and TOD development with a multi-family component.

. . . [Sections of the Traditional Neighborhood and Transit Orient Developments regulations that are not proposed for change are omitted from this draft] . . .

Sec. 407.70. Open space and landscaping.

(a) *Open space.* Open space shall be provided consistent with Article V of this Chapter.

(b) *Landscaping.*

(1) All TNDs and TODs shall submit a landscape plan consistent with ~~Section 407.41 and Subsection 407.42(a)~~ Article IV Landscaping of this Chapter~~.~~, with the following exceptions:

(2) *Project boundary buffers.*

a. Where new TND or TOD development abuts existing single-family detached residential development the following shall apply:

1. For proposed development that abuts a portion of an existing development of lots in excess of twenty thousand (20,000) square feet, the minimum size for abutting lots shall be twenty thousand (20,000) square feet with a minimum lot width of one hundred ten (110) feet.

2. For proposed development that abuts a portion of an existing development of lots between ten thousand (10,000) and twenty thousand (20,000) square feet, the minimum size for abutting lots shall be ten thousand (10,000) square feet with a minimum lot width of eighty (80) feet.

3. For proposed development that abuts a portion of existing single-family detached lots of less than ten thousand (10,000) square feet, the TND or TOD shall provide buffer uses and lot sizes consistent with the R-1a zoning district.

4. In lieu of providing the minimum lot size or width for the abutting lots as stated above in i, ii and iii, a minimum of a 50-foot wide medium density landscaped buffer, as provided in Section 407.43 of this Chapter may be utilized.

b. Where new development in a TND or TOD abuts existing industrial development, the new development shall provide a 45-foot high density buffer as defined in Table 407.43.2 of this Chapter.

c. Project boundary buffers shall not be located on individual lots. No structures are permitted in project boundary buffers except fire hydrants, concrete valve markers, underground utility markers, switches, bus shelters or benches, incidental signs not exceeding two (2) square feet in area, and screening. No parking is allowed in project boundary buffers.

d. Project boundary buffers may include portions of the stormwater management system so long as the character and intent of the buffer is not diminished. At a minimum, the buffer shall include all of the required plantings at the normal grade of the site at the property line.

e. Pedestrian access through a buffer to adjacent uses may be permitted. Trails within a buffer may be permitted provided the character and intent of the buffer is not diminished.

f. Utility lines may cross the buffer provided that the amount of buffer compromised is minimized while maintaining the specified number of plantings required in Table 407.43.2 of this Chapter.

g. No internal buffers shall be required within TODs and TNDs. Where the potential for adverse impact exists, landscaping, building separation and lot layout shall be utilized to minimize impacts by adjacent uses.

(3) *Roadway buffers.* The following types of roadway buffers shall be required (road classifications are provided in the transportation mobility element of the Comprehensive Plan). Any vegetation planted near driveway and road intersections shall be selected so that the area defined by the FDOT sight triangle shall remain clear.

a. *Interstate I-75 buffers.* All TNDs and TODs shall provide a 25-foot wide medium density buffer along the entire project boundary adjacent to the I-75 right-of-way consistent with Subsection 407.43(a). Screening shall not be required. Existing natural vegetation and street trees provided within an adjacent roadway or along a multi-use trail may be used to fulfill the landscaping requirement where such existing natural vegetation is of sufficient height or can be augmented to reach a sufficient height and opacity to provide an effective visual buffer.

b. *Arterial street buffers.* All developments located along an arterial street shall be required to provide one of the following buffers along the entire street frontage:

1. Three (3) canopy trees per one hundred (100) linear feet of property frontage, located within a ten-foot wide landscape buffer; or

2. Two (2) canopy trees and two (2) understory trees per one hundred (100) linear feet of property frontage, located within a ten-foot wide landscape buffer; or

3. Under utility lines only, four (4) understory trees per one hundred (100) linear feet of property frontage, located within a ten-foot wide landscape buffer.

4. Arterial street buffers may average ten (10) feet in width provided that no portion of the street buffer shall be less than five (5) feet in width.

5. Where the fronts of buildings are oriented towards an arterial street the buffer requirements are as follows:

(A) A 15-foot buffer from the back of curb along arterials with landscaping as required in Subsections 1., 2., [and] 3. above;

(B) A buffer based on clear recovery areas from the edge of pavement along rural section arterial streets with landscaping as required in Subsections 1., 2., [and] 3. above.

(C) Sidewalks shall be located between the buffer and the front of the building. Existing sidewalks more than six hundred sixty (660) feet in length shall be relocated between the buffer and the front of buildings where the required buffer widths do not presently exist. Sidewalks shall be twelve (12) feet in width along arterials.

(D) Parallel on-street parking or angled parking accessed by a drive-aisle separated from through traffic by a landscaped median is allowed and encouraged so long as it can be done in a safe manner that does not negatively impact the operations of the arterial or collector.

(E) Buildings shall be set-back between twenty-five (25) and forty (40) feet from the back of curb on urban section streets and edge of pavement on rural section streets.

c. *Measurements.*

1. All roadway buffers excluding Subsection 407.70(c)(3)b.v. shall be measured from the future right-of-way line determined during development plan review, unless additional public utility easement is required between the right-of-way line and the buffer to provide utility clearance.

2. If a street is platted but has not been constructed, it shall be buffered and treated as a street, even where no pavement currently exists.

3. Vehicular access easements shall not be treated as a street, but shall be buffered as a project boundary buffer outside the easement area. The buffer may be provided on either side of the easement.

~~(4) *Required tree plantings in pedestrian walkways.* Areas dedicated to pedestrian circulation that are not coincident with a street shall have canopy trees spaced no more than an average of forty (40) feet on-center on alternating sides of the walkways.~~

[Required tree plantings in pedestrian walkways are addressed in Article IV Landscaping new Subsection 407.43.2(c) Pedestrian circulation and paved activity areas.]

~~(5) *Landscape design of stormwater management facilities.* All surface stormwater management facilities located within the village center area of TNDs and TODs shall be designed to meet the criteria of Chapter 407 Article IX, Stormwater Management Facilities. Landscaping shall be provided consistent with Section 407.43.2 of this Chapter.~~

[Landscape design of stormwater management facilities is addressed in Article IV Landscaping new Subsection 407.43.2(e) Stormwater management facilities.]

~~(6) *Utility service.*~~

~~a. Proposed overhead or underground utility service facilities shall be designed to provide clearance from the mature height of trees and landscaping proposed on the landscape plan.~~

~~b. Existing overhead or underground utility service facilities shall be considered in the design of the landscaping to provide clearance from the mature height of trees and landscaping.~~

~~c. Any vegetation within a public utility easement shall conform to accepted vegetation management standards. In all cases the minimum requirements of this Article shall be met.~~

[The above requirements are addressed in Article IV Landscaping new Subsection 407.43 Landscaping in utility service areas.]

~~(7) *Required plant materials, installation, irrigation, and maintenance*. All TODs and TNDs shall meet the requirements of Section 407.44 through Section 407.47 of this Chapter.~~

[The above required plant materials, installation, irrigation, and maintenance are addressed per Subsection 407.70(b)(1) that all TNDs and TODs shall submit a landscape plan consistent with Article IV Landscaping, and per Article IV Landscaping Subsection 407.40(a) that unless specifically exempted, all TNDs and TODs shall comply with the landscaping code.]

. . . [Sections of the Traditional Neighborhood and Transit Oriented Developments Regulations that are not proposed for change are omitted from this draft] . . .

ARTICLE IX. STORMWATER MANAGEMENT

. . . [Sections of the Stormwater Management Code that are not proposed for change are omitted from this draft] . . .

Sec. 407.92. Relationship to project design.

(a) *General.* Stormwater areas shall be designed in the context of the site design for the entire subdivision or other development. Careful consideration shall be given to the layout of basins and stormwater management areas to optimize treatment, aesthetics, and groupings of trees. Basins and stormwater management systems shall be designed to blend into public greenspaces and shall resemble natural areas to the greatest extent possible.

(b) *General design criteria.*

~~(1) An area equivalent to at least twenty-five (25) percent of the area of the entire basin, including the shoulders and maintenance area, shall be landscaped using native vegetation, excluding sod. In addition, a minimum of one (1) shade tree shall be planted for every thirty-five (35) linear feet, or part thereof, of basin perimeter. Spacing of trees may be closer when trees are planted in groups for aesthetic effect. Certified apparently weed free sod shall be used.~~

~~(2) Retention/detention basins shall be of irregular shape and shall have no parallel sides, unless approved by the County Engineer, in which case additional landscaping and barriers may be required.~~

[The above requirements are addressed in Article IV Landscaping new Subsection 407.43.2(e) Stormwater management facilities, and Subsection 407.44(c)(2).]

(3) When possible, the inflow and outflow locations of basins must be located on opposite ends of the basin to provide for optimal treatment. Flow paths and mixing within basins shall be maximized. For wet-detention systems, the length to width ratio shall be 2:1, which may be accomplished through the use of a diversion structure.

(4) Erosive velocities shall be reduced through the use of adequate controls.

(5) Drainage easements provided for swales that convey stormwater runoff between two (2) privately owned lots shall be designed and be of sufficient width to adequately convey runoff to the stormwater master basin. Stormwater conveyance swales must be located entirely within these easements.

(c) *Fenced basins.*

(1) The following basin design conditions will require fencing:

a. Basins with a depth greater than four (4) feet, as measured from the basin bottom to the control elevation, with slopes steeper than 6H:1V.

b. Basins without a controlled outfall, if the design high-water elevation for the design storm is greater than four (4) feet and the side slopes are steeper than 6H:1V, except where the side slopes are shallower than 6H:1V to a depth that is at least four-foot lower than the design high-water elevation.

c. Wet detention basins with a normal pool depth six (6) feet or greater, except where the side slopes are shallower than 6H:1V to a depth that is at least four-foot lower than the permanent-pool elevation.

d. All fences must be a minimum height of four (4) feet and have a 14-foot-wide gate that allows easy access for maintenance equipment.

(2) Basins that require a fence ~~and are to be dedicated to the County for maintenance~~ will require a minimum 12-foot maintenance path ~~and vegetative strip~~ between the fence and the basin. ~~The landscaped area should be no less than nine (9) feet wide at its most narrow point.~~ Maintenance strips shall have a maximum slope of 8H:1V.

(3) Fencing will be aesthetically pleasing and meet all safety requirements as put forth by the Florida Department of Transportation's Design Standards for Design, Construction, Maintenance and Utility Operations on the State Highway System. ~~If chain-link fencing is used, an additional five-foot-wide area outside the fence shall be landscaped with at least three (3) shade trees, two (2) understory trees, eight (8) large shrubs, and thirteen (13) small shrubs for every one hundred (100) feet or part thereof of fencing.~~

[The above requirement has been relocated to Article IV Landscaping new Subsection 407.43.2(e)(5).]

(4) The following basin design conditions do not require fencing:

a. Basins with a depth less than or equal to four (4) feet, as measured from the basin bottom to the control elevation.

b. Basins designed to be "dry" with side slopes no steeper than 6H:1V, regardless of basin depth.

c. Wet detention basins with a maximum pool depth less than six (6) feet and side slopes no steeper than 6H:1V to a depth of four (4) feet below the control elevation. From this elevation to the basin bottom a maximum side slope of 2H:1V is permissible.

. . . [Sections of the Stormwater Management Code that are not proposed for change are omitted from this draft] . . .

ARTICLE III. DEFINED TERMS

. . . [Portions of Article III Defined Terms that are not proposed for change are omitted from this draft] . . .

Keystone plant species: A native plant species that is critical to the food web and necessary for many wildlife species to complete their life cycle.

Paved ~~ground surface~~ vehicular use area: Any paved ground surface area (excepting public rights-of-way) used for the purpose of driving, parking, storing or displaying of vehicles, boats, trailers and mobile homes, including new and used car lots and other open-lot uses. Parking structures, covered drive-in parking areas to the drip line of the covering or garages shall not be considered as paved ~~ground surface~~ vehicular use areas.

Root paths: Narrow trenches under pavement filled with root zone media, which are used to guide roots out of confined planting areas.

Root zone: The area of soil that is provided for the growth of tree roots. The root zone shall consist of root zone media except under structural paved surfaces, where a variety of techniques are suitable, including but not limited to structural soil, structural root box cells, root paths, and soil trenches.

Root zone media: The appropriate soil structure and texture to accommodate healthy root growth for required landscaping. The minimum components of rootzone media are uncompacted soil (bulk density less than 1.50 g/cc in loam, 1.70 g/cc sand, or 1.40 g/cc clay soil) devoid of seeds of invasive exotic species and of pH 5.5 to 6.5, composted leaf mold or peat moss, and well-graded, medium angular sand (0.50 to 0.25 mm). The natural topsoil of the site qualifies if the above qualities exist.

Root zone volume: A measurement of the cubic feet amount of root zone soil provided for the growth of tree roots. The soil volumes shall be accessible to the tree roots to be considered part of the root zone volume.

Soil bulk density: A measure of soil compaction expressed as the mass of soil per unit of volume.

Soil compaction: Compression of the soil resulting in a reduction of the total pore space, especially the macropores (air-filled spaces between soil particles) and micropores (which fill with water).

Soil trenches: Trenches under reinforced structural slabs filled with root zone media compacted to a maximum 80 percent proctor, which are used to guide roots out of confined planting areas.

Structural root box cells: Fiberglass-reinforced polypropylene structures including frames and decks designed to support pavement loads and hold root zone media for the purpose of supporting tree growth.

Structural soil: A designed medium that can meet or exceed pavement design and installation requirements while remaining root penetrable and supportive of tree growth.

. . . [Portions of Article III Defined Terms that are not proposed for change are omitted from this draft] . . .