

ARTICLE XI LANDSCAPING

Section 11.0 Purpose.

The purpose of this Section is to promote the health, safety and welfare of existing and future residents by establishing minimum standards for the installation and continued maintenance of landscaping and buffering without inhibiting creative landscape design. This Section requires specific water conservation measures including the preservation of native vegetation for landscaping purposes where applicable to minimize water use, conserve energy, limit nutrient loading to surface waters, and provide mature vegetation for aesthetics, shade and wildlife habitat. The specific objectives of these regulations are to: preserve and protect existing vegetation; promote water conservation and encourage greater use of native cold-tolerant and drought-tolerant landscape material; reduce heat and glare; provide temperature control; to improve the appearance of developed areas; enhance the value and appearance of local properties by more effectively buffering land uses; reduce air and noise pollution; improve the aesthetic appearance of all development by requiring sustainable landscaping and buffering that harmonizes and enhances the natural and built environment; and to reduce or minimize potential nuisances between land uses.

Section 11.1 Applicability.

The landscaping requirements of this Article shall apply to all non-residential uses, including all requested changes in use (except for those uses interior to a common shopping center or similar multi-user building or structure, provided that no additional parking is required), regardless of site plan status; mobile home parks and subdivisions; subdivisions approved through the site plan or planned development process; recreational vehicle parks, and multiple-family residential uses. Detached single-family (including individual mobile homes not located in a mobile home park), two-family, and three-family residences, not a part of a larger site planned community or development must only comply only with Sections 11.8 and 11.10.

Section 11.2 General Requirements.

A. Unlawful Activity.

It shall be unlawful for any person to establish, remove or alter landscape contrary to the provisions of this Article. The lack of maintenance of landscape installed pursuant to an approved landscape plan shall also be a violation subject to penalties provide by law.

B. Landscape Plan Required

A landscape plan showing proposed landscape design shall be submitted for review and approval by the City Manager, or designee, with all applications for a final development permit. Landscape plans shall include and indicate the following:

1. Location, type and size of all existing trees to be preserved or removed pursuant to Article XIII, Environmental Standards-Upland Protection;
2. Location of all structures, including but not limited to, freestanding signs, parking areas, drives, vehicular use areas and other improvements to remain or proposed for installation on the property;
3. Location of utilities, easements and adjacent rights-of-way;

4. Location and description of existing native plant communities to remain undisturbed, as applicable;
5. Location, type, size, and quantity of all proposed landscape materials;
6. Plant list including botanical and common name and quantity of all proposed landscape materials;
7. General notes including mulching requirements, fertilization and installation details, and such other information as needed;
8. All property lines and dimensions of the property; and
9. Tabulations which clearly show relevant statistical information necessary to evaluate compliance with provisions of this Article. This shall include, but not be limited to, required buffers, vehicular use landscaping/screening, non-vehicular landscaping, and such other information as needed.

C. Irrigation Plan Required.

In conjunction with a landscape plan, an irrigation plan shall be required. Such plan shall indicate use of a low-volume irrigation system designed specifically for the proposed landscape installation, delineate planting zones if applicable, and clearly illustrate compliance with section 11.8 of this Article. An irrigation plan must be provided at time of building permit.

D. Certificate of Occupancy.

No final certificate of occupancy shall be given or issued to the owner or his agent until all conditions of this Article have been met and the appropriate City official has given an approval. However, temporary power may be issued in those instances where all improvements on a site, except landscaping have been completed, where power is required for the irrigation system, and where the developer of the project certifies in writing that the required landscaping for the project will be installed as depicted on the plan and provides a timetable for installation of the landscaping. Failure to fulfill the proposed timetable shall be grounds for immediate and summary revocation of the temporary power allowance.

Section 11.3 Landscape Materials Requirements Standards.

A. Quality.

Plant materials used in conformance with the provisions of this Article shall conform to the Standards for Florida No. 1 or better, as given in the most current edition of "Grades and Standards for Nursery Plants" Part I and Part II, State of Florida, Department of Agriculture, Tallahassee, or equal thereto. Grass sod shall be clean and free of weeds and noxious pests or diseases. Grass seeds shall be delivered to the job site in bags with Florida Department of Agriculture tags attached, indicating the seed grower's compliance with the department's quality control program. Plant materials which are known to be intolerant of paving environments, or whose physical characteristics may be injurious to the public, shall not be specified for use.

B. Drought Tolerance Requirements.

A minimum of fifty (50) percent of total cumulative landscape plant material used to meet the provisions of this Article shall be "moderately" or "very" drought tolerant, as classified and listed in the most recent edition of the "South Florida Water Management Districts Xeriscape Plant Guide" or a comparable publication. Existing native plant species preserved on-site may be considered as credit toward the drought tolerance percentage requirement.

C. Trees.

1. Canopy trees.

- a. Canopy trees shall be species having an average mature spread of crown of greater than fifteen (15) feet (under local climatic conditions) and having a trunk(s) with over five (5) feet of clear wood. "Clear wood" refers to that portion of the trunk between the ground and the lowest lateral limbs.
- b. Installed canopy trees shall be considered "mature" seven (7) years after installation.
- c. Understory trees shall be a species having an average mature spread of crown ranging from eight (8) to fifteen (15) feet.
- d. Clusters of palms can be used as a canopy tree provided that a minimum of three (3) palms are clustered to equal one (1) canopy tree. However, the three (3) to one (1) clustering requirement may be reduced or eliminated by the City Manager or his designee for palms with large canopies such as Canary Island date palms.

2. Trees having an average mature spread of crown less than fifteen (15) feet may be substituted by grouping the same so as to create the equivalent of a fifteen-foot crown spread.

3. Palm clusters shall be considered trees. Palms, if used, shall consist of no more than fifty (50) percent of the total new tree requirement when said palms are existing on the site or are relocated on the same site.

4. Tree sizes:

- a. Required canopy trees shall be a minimum of twelve (12) feet in height and have a caliper of two and one-half (2 1/2) inches at four and one-half (4 1/2) feet above the ground when installed. Height shall be determined by the average end of all branches not the tallest branch or two.
- b. Where a building not greater than twenty-five (25) feet in height is proposed to be located within fifty (50) feet of a perimeter property line, canopy trees within required buffers located between the building and a site perimeter shall be a minimum of twelve (12) feet in height and have a caliper of two and one-half (2 1/2) inches at four and one-half (4 1/2) feet above the ground when installed and a minimum six-foot spread, except that at least one-third (1/3) of the required buffer canopy trees shall be a minimum of sixteen (16) feet in height and three-inch diameter at four and one-half (4 1/2) feet above the ground and a minimum eight-

foot spread at time of planting. Where a building not greater than twenty-five (25) feet in height is proposed more than fifty (50) feet from a perimeter, the canopy tree height requirements of 4.a. above, shall apply to canopy trees within the buffer.

- c. Where a building over twenty-five (25) feet in height is proposed to be located within fifty (50) feet of a perimeter property line, all canopy trees within required buffers located between the building and a site perimeter shall be a minimum of sixteen (16) feet in height and a three-inch diameter at four and one-half (4 1/2) feet above the ground and a minimum eight-foot spread at planting. Where a building over twenty-five (25) feet in height is proposed more than fifty (50) feet from a perimeter, the canopy tree height requirements of 4.a. above, shall apply to canopy trees within the buffer.
 - d. Required understory trees shall be a minimum of five (5) feet overall in height and one (1) inch diameter at 0.5 feet above grade, at the time of planting. Multi-trunk trees shall have a one-inch caliper for all trunks at six (6) inches above grade.
5. The number of different species of trees, other than palms, shall be as follows:

TABLE 11A - REQUIRED TREES	
Required Number of Trees	Minimum Number of Species
2--10	2
11--20	3
21--30	4
31--40	5
41--Over	6

- 6. At least fifty (50) percent of all new required trees shall be of a native species.
- 7. Trees of a species whose roots are known to cause damage to public works or easements shall not be planted closer than twelve (12) feet to such public works, unless the tree root system is contained by use of an approved root barrier system.
- 8. The planting or installation of the following plant species is prohibited in the City of Fellsmere. Where such species already exist, their removal shall be a condition of any final development order.
 - Melaleuca leucadendra (Punk Tree)
 - Schinus terebinthefolius (Brazilian Pepper)
 - Casuarina spp. (Australian Pine)

The planting or installation of the following species, or any species designated as Category I on the Exotic Plant Pest Council's most recent list of "Florida's Most Invasive Species", shall not be used to meet the requirements of this Section. Where such species already exist, their removal shall be a condition of any final development order.

Table 11B - Prohibited Species	
cupianopsis anacardiodes (Carrotwood)	dalbergia sissoo (Rosewood)
acacia auriculiformis (Earleaf Acacia)	albizzia lebbeck (Woman's Tongue)
araucaria heterophylla (Norfolk Island Pine)	bishofia javanica (Bishofia)
brassaia actinophylla (Schefflera)	enterolobium cycocarpum (Ear Tree)
eucalyptus spp. (Eucalyptus)	sapium sebifrum (Chinese Tallow Tree)
grevilla robusta (Silk Oak)	melia azedarach (Chinaberry)
syzygium cumini (Java Plum)	syaygium jambos (Rose Apple)
cinnamomum camphora (Champhor Tree)	eugenia uniflora (Surinam Cherry)
ligustrum sinense (Chinse Privet)	psidium sup. (Guava)
scaevola sericea, s. taccada,	peltophorum pterocarpum (Yellow Poinciana)
s. frutescens (Scaevola)	

D. Shrubs and Hedges.

Shrubs shall be a minimum of eighteen (18) inches in height when measured immediately after planting. Hedges, where required, shall be planted and maintained so as to form a continuous, solid screen within a maximum of two (2) years after time of planting. Low growing shrubs such as indian hawthorne and ilex vomitoria shillings that are not used as a hedge may be a minimum height of twelve (12) inches in height.

E. Vines.

Vines shall be a minimum of eighteen (18) inches in height directly after planting and may be used in conjunction with fences, screens or walls to meet physical barrier requirements as specified.

F. Ground Covers.

Ground covers (not including sod grass) shall be planted in such a manner as to present a finished appearance and reasonably complete coverage within one year after planting.

G. Grass.

Grass areas may be sodded, plugged, sprigged or seeded, except that solid sod shall be used in swales or other areas subject to erosion. Seed, where used, shall be of a variety that will produce coverage within ninety (90) days from sowing; where other than solid sod, grass seed or grass sprigging is used, nurse grass seed shall be sown for immediate effect and protection until coverage is otherwise achieved. When necessary, a reseeding program shall be implemented to produce complete coverage within one year.

Section 11.4 Perimeter Buffer Requirements.

A. Screening and buffer yard requirements.

A perimeter buffer is a continuous landscaped strip of land located along the perimeter of a lot or parcel that serves as a buffer between incompatible uses and zoning districts, as an attractive boundary of the parcel or use, or as both a buffer and attractive boundary.

Existing native vegetation and upland native plant communities as described in Article XIII, Environmental Standards-Upland Protection, may be utilized to meet buffer requirements.

B. Required screening of abutting residential and nonresidential uses.

In order to maintain stability of residential areas, nonresidential development within or abutting residential districts and multiple-family development abutting single-family residential districts shall provide a wall, fence, landscaped earth berm, planted vegetation, or utilize existing vegetation, or any combination thereof so as to comply with the requirements of Article XI.

C. Applicability of buffers.

Any one of the following types of buffers may be required by the planning and zoning commission or city council during the site plan review process, for the purpose of minimizing the impact of potentially objectionable areas such as parking lots, major thoroughfares, unsightly rear entrances, utility or maintenance structures, solid waste disposal facilities, loading facilities and swimming pools and active recreational areas. Screening may also be required where land uses of different intensities are located in close proximity to each other.

D. Description of screening types.

Five (5) basic types of buffers are hereby established: Type "A", Opaque buffer; Type "B", Semi-Opaque Buffer; Type "C" Intermittent Buffer Type "D" Local Road Right-of-Way Buffer and Type "E" Collector and Arterial Opaque Buffer. All plant materials utilized to meet the requirements of this section must comply with the Landscape Materials Requirements provided in Section 11.3.

1. Type "A" Opaque Buffer.

An opaque Buffer is intended to completely exclude all visual contact between uses. The type "A" Buffer shall be completely opaque from the ground up to a height of at least six feet, with large trees utilized as intermittent visual obstructions from the opaque portion to a mature height of at least twenty (20) feet. The opaque Buffer may be composed of a wall, fence, landscaped earth berm, planted vegetation, or existing vegetation, or any combination thereof which maintains a completely opaque screen of at least six (6) feet in height. Compliance of planted vegetation Buffers or natural vegetation will be judged on the basis of the average height and density of foliage of the subject species at the time of planting, or field observation of existing vegetation. The six-foot opaque portion of the Buffer must be opaque in all seasons of the year.

2. Type "B" Semi-opaque Buffer.

The semi-opaque Buffer is intended to partially block visual contact between uses. The type "B" Buffer shall be completely opaque from the ground to a height of at least three feet, with large trees utilized as intermittent visual obstructions from the opaque portion to a mature height of at least twenty (20) feet. The semi-opaque Buffer may be composed of a wall, fence, landscaped earth berm, planted vegetation or any combination thereof which maintains a completely opaque Buffer of at least three (3') feet. Compliance of planted vegetative Buffers or natural vegetation will be judged on the basis of average mature height and density of foliage of the subject species, or field observation of existing vegetation.

3. Type "C" Intermittent Buffer.

The intermittent Buffer is intended to create the impression of a separation of spaces without necessarily eliminating visual contact between the spaces. The type "C" Buffer shall utilize large trees having a mature height of at least twenty (20) feet. The intermittent Buffer may be composed of fences, berms, and either existing or planted vegetation. Compliance of planted vegetation Buffer or natural vegetation will be judged on the basis of the average mature height and density of foliage of the subject species, or field observations of existing vegetation.

4. Type "D" Local Road Right-of-Way Buffer.

The "D" intermittent right-of-way Buffer is intended to create the impression of a separation of spaces without necessarily eliminating visual contact between the non-residential uses and the adjacent right-of-way. The type "D" Buffer shall utilize large trees having a mature height of at least twenty (20) feet. Fifty percent (50%) of the canopy trees required by Section E.2. shall be a minimum of fourteen to sixteen feet in height and have a caliper of three to four inches at four and one-half (4 1/2) feet above the ground. The intermittent buffer may be composed of fences, berms, and either existing or planted vegetation. Compliance of planted vegetation buffers or natural vegetation will be judged on the basis of the average mature height and density of foliage of the subject species, or field observations of existing vegetation.

5. Type "E" Collector & Arterial Right-of-Way Opaque Buffer.

The residential right-of-way opaque Buffer is intended to completely exclude all visual contact between residential uses and the adjacent right-of-way. The type "A" screen shall be completely opaque from the ground up to a height of at least six feet, with large trees utilized as intermittent visual obstructions from the opaque portion to a mature height of at least twenty (20) feet. Fifty percent (75%) of the canopy trees required by Section E.2. shall be a minimum of fourteen to sixteen feet in height and have a caliper of three to four inches at four and one-half (4 1/2) feet above the ground. In addition 3 palms shall be provided for each one hundred linear feet. The placement of palms may be based on the average of the right of way frontage. The opaque buffer may be composed of a wall, fence, landscaped earth berm, planted vegetation, or existing vegetation, or any combination thereof which maintains a completely opaque screen of at least six (6) feet in height. Compliance of planted vegetation buffers or natural vegetation will be judged on the basis of the average height and density of foliage of the subject species at the time of planting, or field observation of existing vegetation. The six-foot opaque portion of the screen must be opaque in all seasons of the year.

E. General standards for screening and buffer yards.

In addition to the landscape requirements where the provisions of this article require screening or buffering, the following standards shall apply:

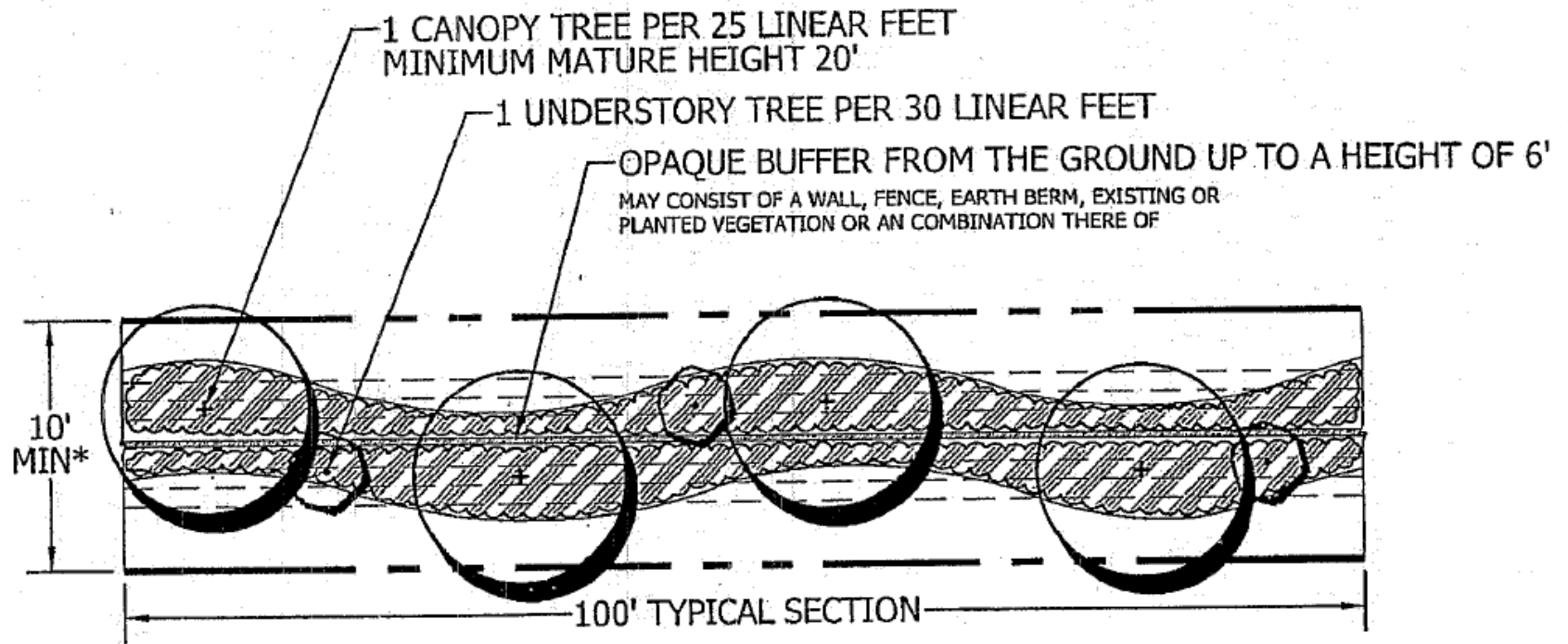
1. Minimum Landscaped buffer strip required. A minimum landscaped buffer strip not less than ten (10) feet in width shall be provided in conjunction with all screening required herein. The buffer strip may be contained within required setbacks. Each buffer strip shall be landscaped with ground cover (preferably native species) in addition to the required screening materials and trees. The

landscape strip shall contain no parking area or stormwater management.

2. Tree plantings required as visual intermittent obstructions. All screen types ("A", "B", "C", "D", or "E") shall include one canopy tree for each twenty five (25) lineal feet and one understory tree for each thirty (30) lineal feet or fraction thereof of screen length unless otherwise provided within. Such trees shall satisfy the requirements for intermittent visual obstructions for all types of screens. The above trees are in addition to the trees required for open space and vehicular use areas. All trees required by this provision shall be planted in the buffer strip and comply with the Landscape Materials requirements provided in Section 11.3. Trees shall be planted to maximize screening effect.
3. Grading of berms. Whenever berms are utilized, they shall be constructed with a grade not to exceed one foot vertical to three feet horizontal (1:3 slope) with a four-foot wide flat top for plantings. If berms are used in satisfying the screening and buffering requirements, they shall be landscaped with plant material, preferably native, to achieve the required heights.
4. Quality and maintenance of plant materials. All plant materials utilized to fulfill the requirements of this section shall be cold tolerant and shall meet criteria of this article. Synthetic or artificial material in the form of trees, shrubs, vines, ground cover or artificial turf shall not be used in lieu of plant requirements in this section.
5. Credit towards other required landscaping. Where the landscaping provided under this section meets the requirements of other provisions of this Article, such landscaping may be credited toward fulfilling those requirements, with the exception of any required recreational open space.
- 6). Front yards, visibility triangles. The above standards notwithstanding, no screening shall be required which conflicts with front yard fence or wall height limitations or required visibility triangles.
7. Buffers may require opaque features where specified in the land development regulations. Required opaque features shall consist of a solid masonry wall, fence or earthen berm unless the City Council approves a substitute material (such as a completely opaque living landscape barrier) based upon the use and conditions of the project site and adjacent site. Landscaping is required along both sides of a wall unless otherwise approved by the City Council. The City Council may allow a buffer width reduction when a solid masonry wall or fence is provided.
8. Required opaque features shall be measured from the finished floor elevation of the proposed structure(s) or elevation of the adjacent driveway/right of way. This requirement can be modified by the City Council based upon grade differences and the relationship between the height and mass of the proposed building and its setback from the property line. The maximum required height of an opaque feature shall be eight (8) feet above the site grade where the feature is located.
9. Hedge or shrub material within buffers may be reduced by the City Council when a six-foot wall or fence is provided within the buffer, if the remaining amount of required shrub material and at least fifty (50) percent of required understory tree material are planted between the project site perimeter and the wall or fence. Alternative planting locations may be approved by the City Council.

F. Sizes of Buffer Types.

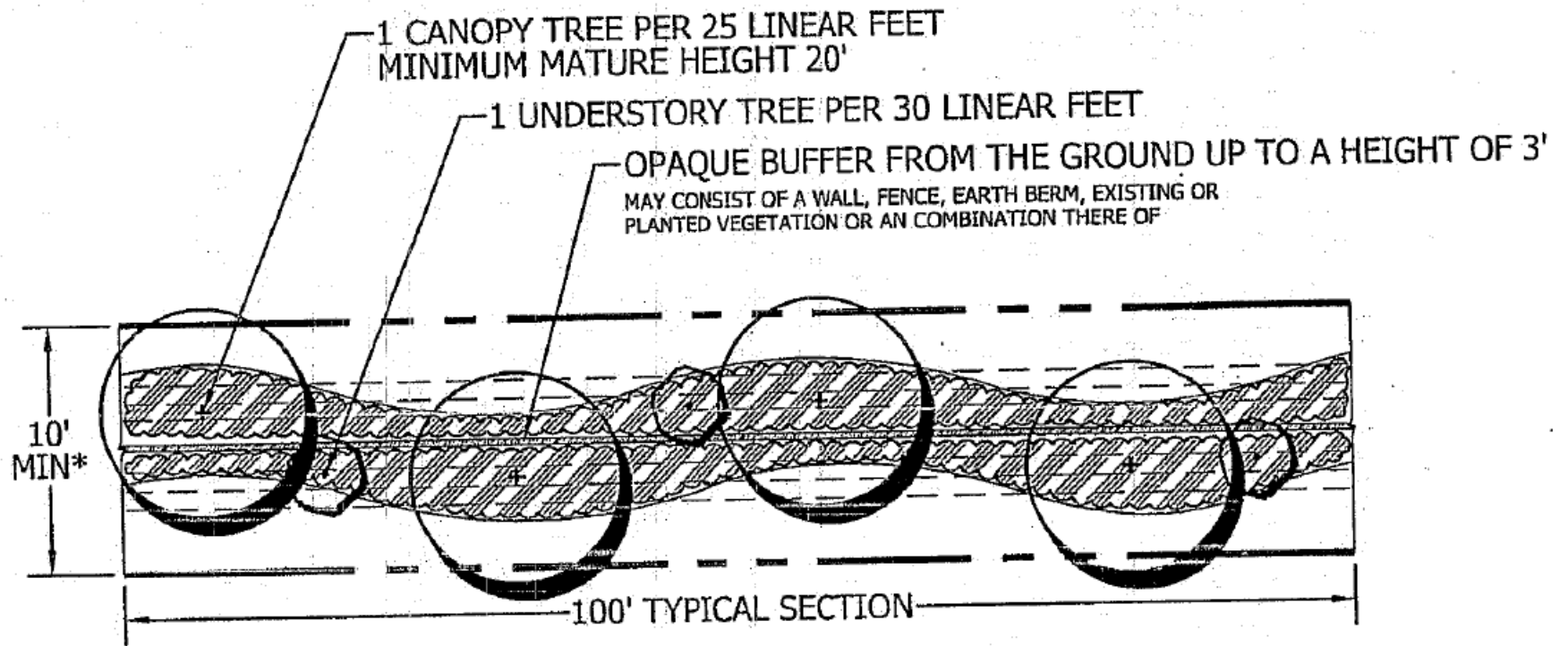
1. The landscape buffer width and degree of vegetation required depends on the nature of the adjoining uses and right-of-way (thoroughfares). The following landscape buffer widths requirements shall apply:
 - a. Where a single family residential use abuts a multi-family residential use, a minimum fifteen (15) foot type B rear and side buffer shall be required;
 - b. Where a professional office abuts a residential use, a minimum fifteen (15) foot type B rear and side buffer shall be required;
 - c. Where a commercial use abuts a residential use, a minimum fifteen (15) foot type A rear and side buffer shall be required;
 - d. Where a industrial use abuts a commercial use, a minimum fifteen (15) foot type B rear and side buffer shall be required;
 - e. Where a industrial use abuts a residential use, minimum twenty-five (25) foot type A rear and side buffer with an opaque feature shall be required.
 - f. Where a residential use abuts or contains an existing or proposed arterial or collector streets, a minimum twenty-five (25) foot type A landscape buffer shall be required.
- g. Where any use abuts a local road right of way (ROW) a 10' type D Buffer shall be required along the entire ROW frontage.
- h. Where any use abuts a collector or arterial road right of way (ROW) a 15' type E Buffer shall be required along the entire ROW frontage.



TYPE 'A' OPAQUE BUFFER

* WIDTH VARIES BASED ON ADJACENT LAND USE

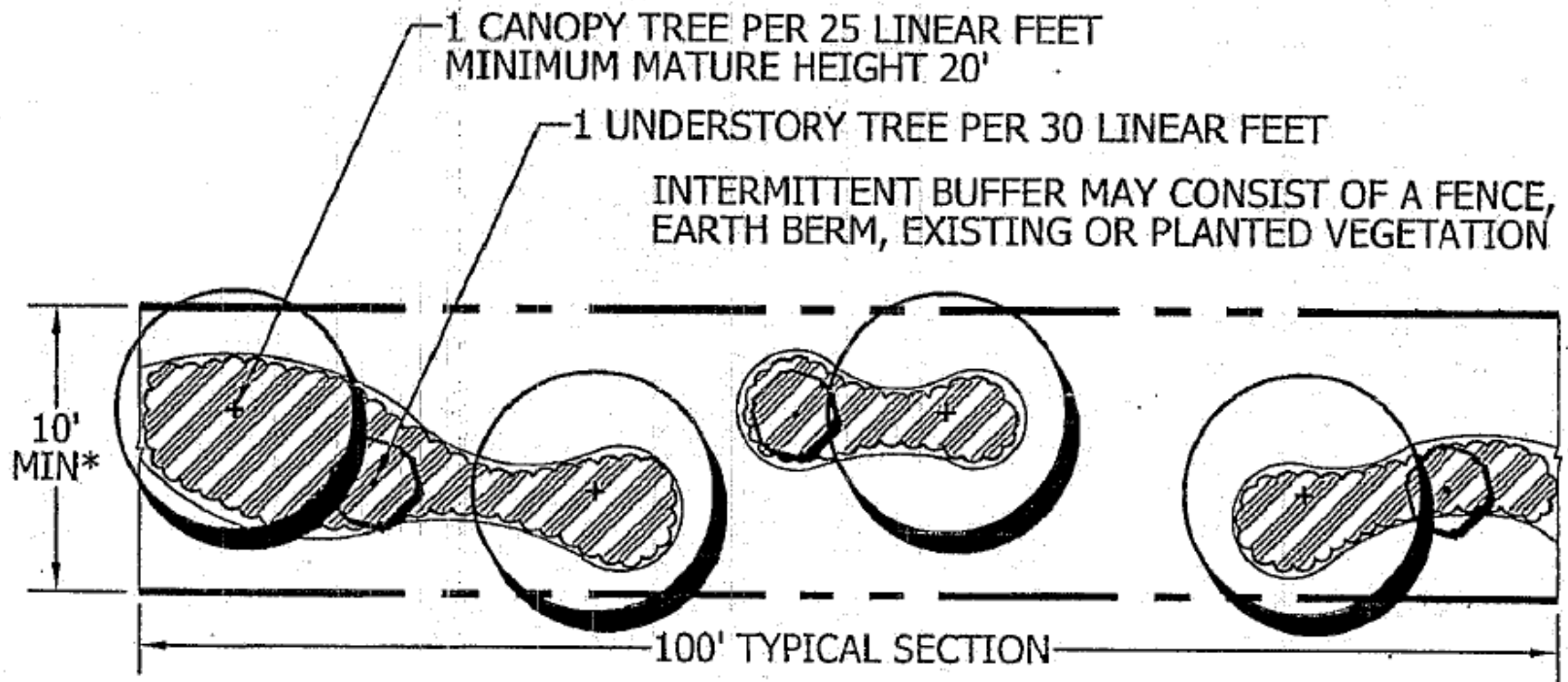
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TYPE 'B' SEMI-OPAQUE BUFFER

* WIDTH VARIES BASED ON ADJACENT LAND USE

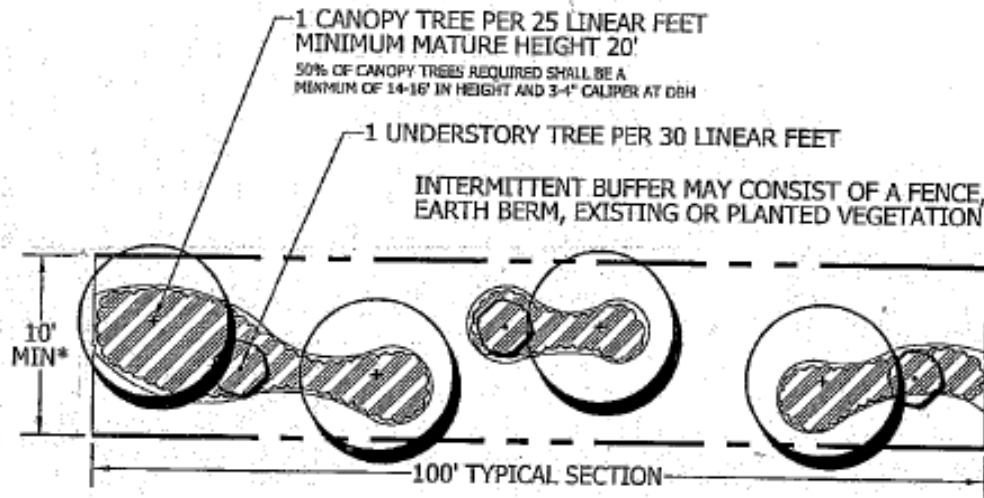
Revised: 3-20-07



TYPE 'C' INTERMITTENT BUFFER

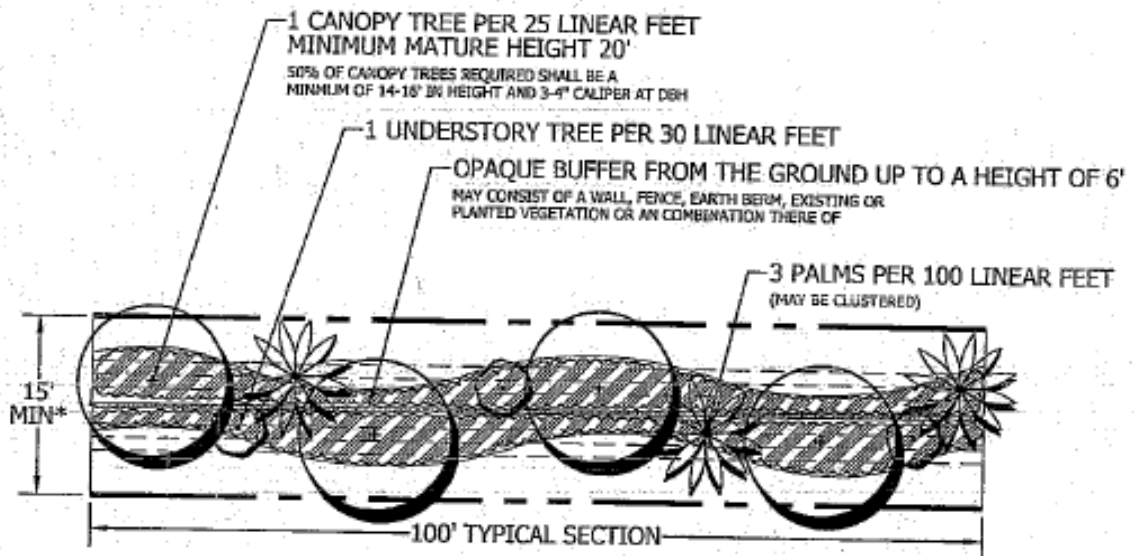
* WIDTH VARIES BASED ON ADJACENT LAND USE

Revised: 3-20-07



TYPE 'D' LOCAL ROAD RIGHT-OF-WAY BUFFER

* WIDTH VARIES BASED ON ADJACENT LAND USE



***TYPE 'E' COLLECTOR & ARTERIAL
RIGHT-OF-WAY OPAQUE BUFFER***

* WIDTH VARIES BASED ON ADJACENT LAND USE

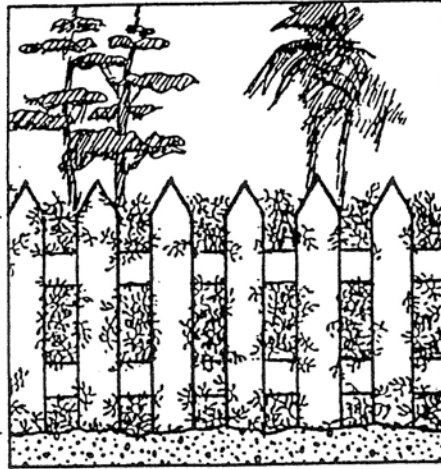
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BUFFER OPAQUE FEATURES

SIX FOOT OPAQUE FEATURE



Vegetation only

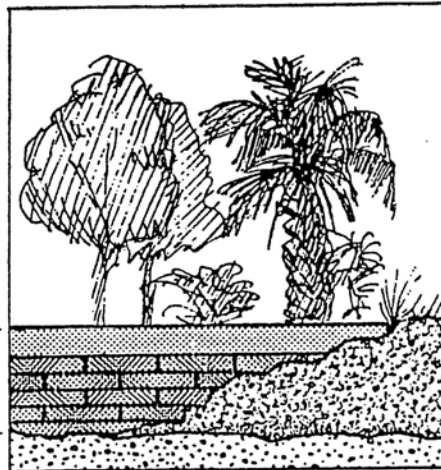


Combination: vegetation and
berm, fence or wall

THREE FOOT OPAQUE FEATURE



Vegetation only



Combination: vegetation and
berm, fence or wall

- G. Perimeter landscaping relating to abutting properties.
1. On the site of a building or structure or open lot use providing an off-street parking area; where such areas will not be entirely screened visually by any intervening building or structure from abutting property, that portion of such area not so screened shall be provided with a hedge or other durable landscape barrier maintained not less than three (3) feet in height to form a continuous screen between the off-street parking area and such abutting property. Non-living barriers shall not exceed 6 feet in height unless otherwise approved by the City Council.
 2. Such landscaped barrier shall be located between the common lot line and the off-street parking area, and shall be planted in a planting strip no less than ten (10) feet in width.
 3. In addition, one tree shall be provided for each thirty (30) lineal feet of such landscape barrier or fractional part thereof.
 4. Such trees shall be located between the common lot line and the off-street parking area.
 5. Each such tree shall be planted in at least one-hundred (100) square feet of planting area with a minimum dimension of at least ten (10) feet.
 6. Each such planting area shall be landscaped with grass, ground cover or other landscape material, excluding paving, in addition to the required tree.
 7. The provisions of this subsection shall not be applicable in the following situations:
 - a. When a property line abuts a dedicated alley, or those portions of the property that are opposite a building or other structure located on the abutting property.
 - b. Where the subject property and abutting property are zoned or used for nonresidential uses, the hedge provision with this planting area as prescribed in this subsection may be waived by the City Council.

Section 11.5 Open Space, Vehicular Use Area and Parking Landscape Requirements.

A Interior Landscaping for Off-Street Parking

For off-street parking (driving aisles, driveways, parking spaces, loading areas), areas equal to at least ten (10) percent of the total paved area (driving aisles, driveways, parking spaces, loading areas) shall be provided with interior landscaping. Please see graphic at end of this Article illustrating how this requirement is calculated.

B. Separate Landscape Area

Each separate, required landscaped area shall contain a minimum of two hundred (200) square feet with minimum dimensions of at least ten (10) feet x twenty (20) in areas where a tree is planted, and shall include at least one tree having a clear trunk of at least five (5) feet, with the remaining area adequately landscaped with shrubs, ground cover or other authorized landscaping material not to exceed three (3) feet in height.

1. To preserve adequate sight distance, end islands at intersection of internal

driveways shall be designed and maintained to preserve a visual "clear window" for the area between three (3) feet and seven (7) feet above the adjacent parking lot grade.

2. The total number of trees shall not be less than one for each three hundred (300) square feet of fraction thereof of required interior landscaped area. Such landscaped areas shall be located in such a manner as to divide and break up the expanse of paving.
3. When, upon the request of the developer and in the opinion of the City Manager or designee, the placing of all required interior trees would create an impractical landscape effect, a portion of the required interior trees may be placed along the perimeter of the parking area to satisfy this requirement.
4. The area to be counted for interior landscaping requirements shall be graphically depicted on landscape plans by cross-hatching or other graphic means.

C. Encroachment.

Landscape areas shall require protection from vehicular encroachment. When a landscape area adjoins a parking space and a raised curb is not used to protect the landscape area, tire stops shall be placed at least two (2) feet from the edge of such landscaped areas. Where a tire stop or curb is utilized, the paved area between the curb/tire stop and the end of the parking space may be omitted, provided it is landscaped in addition to the required landscaping provided. Tire stops shall be located so as to prevent damage to any planting areas by automobiles.

Section 11.6 Open Space Area Landscaping Requirements.

A. General Landscaping Treatment.

All non-vehicular open spaces including common green space required by Article XV on any site proposed for development in all zoning districts, except for individual single-family dwellings, shall conform to the minimum landscaping requirements herein provided. Perimeter buffers shall be excluded from this requirement.

1. Grass, ground cover, shrubs, native plant areas and other landscaping materials shall be used to treat all ground not covered by building, paving or other structures.

B. Trees required.

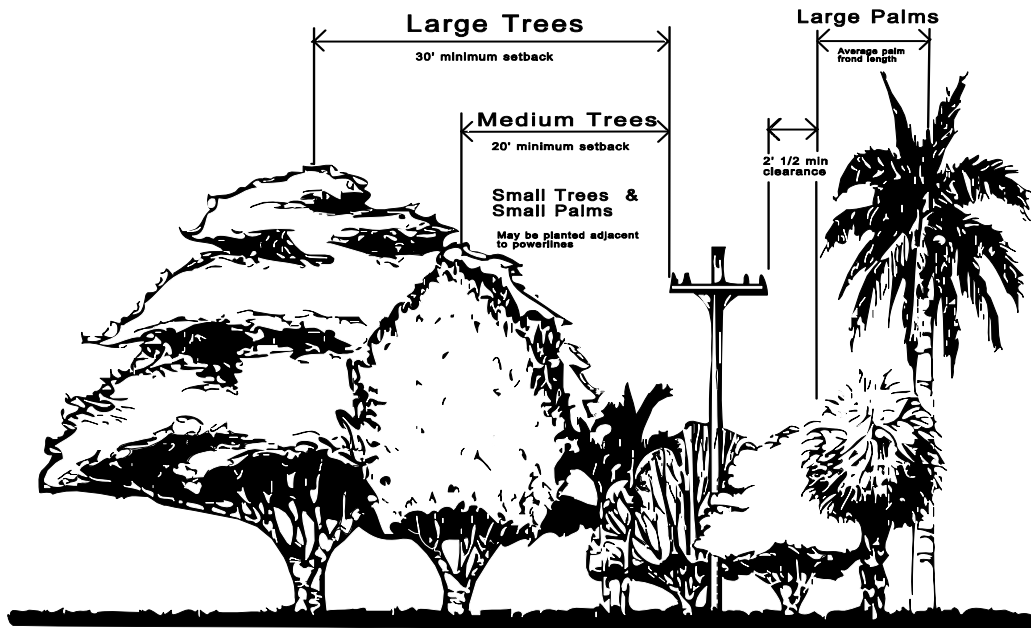
1. Trees shall be planted in the non-vehicular open space (excluding required buffers and perimeter strips) to meet the following requirements:
 - a. Residential zoning districts and mobile home residential zoning districts requiring site plan approval: a minimum of one tree per each two thousand (2,000) square feet of non-vehicular open space or fraction thereof;
 - b. Commercial zoning districts: A minimum of one tree per each three thousand (3,000) square feet of non-vehicular open space or fraction thereof;
 - c. Industrial zoning districts: A minimum of one tree per each four thousand (4,000) square feet of non-vehicular open space or fraction

thereof.

Section 11.7 Supplemental Landscape Submittal Requirements.

- A. All trees planted adjacent to a right-of-way, shall be planted in a planting area of at least one hundred (100) square feet, with minimum dimensions being at least ten (10) feet in any direction.
- B. If such durable barrier is of nonliving material, one shrub or vine shall be planted at each ten (10) feet thereof abutting such barrier, but need not be spaced ten (10) feet apart.
- C. Such shrubs or vines shall be planted along the street side of such barrier unless they are of sufficient height at the time of planting to be readily visible over the top of such barrier.
- D. Necessary access ways from the public right-of-way through all such landscaping areas shall be permitted to service the parking, and such access ways may be subtracted from the lineal dimension used to determine the number of trees required.
- E. Site distance for landscaping adjacent to roadways and points of access. All landscape plans submitted hereunder shall conform to the minimum sight distance standards established within the FDOT index 546. The requirement may be modified by the City Engineer for roadways and points of access internal to a project
- F. Landscaping Near Overhead Electrical Transmission Or Distribution Lines. Landscaping adjacent to Electrical Transmission Or Distribution Lines shall conform to Florida Power & Light's (FPL) "Right Tree Right Place Guidelines". The TRC may require cross section diagrams depicting how the proposed landscaping complies with this requirement.-See Figure (1) below.

Figure 1



Section 11.8 Irrigation Requirements.

A. Required irrigation.

Underground irrigation systems shall be required for all development subject to the provisions of this Article. New construction which does not require any supplemental landscaping or contain cultivated landscape areas shall be exempt from this provision.

B. Irrigation system design.

1. Landscape demand.

- a. Irrigation of existing and undisturbed vegetation shall not be required.
- b. Irrigation of reestablished native vegetative communities shall be required for a minimum of one year after initial installation. Once the landscape materials have been firmly established, the irrigation system may be abandoned.
- c. Cultivated landscape areas shall be watered with an underground irrigation system designed to provide one hundred (100) percent coverage on a day when winds are no more than five (5) miles an hour. Cultivated landscape areas shall include all areas not described in paragraphs A. and B. above.

2. Required system features.

- a. All landscape irrigation system shall be low-volume irrigation systems.
- b. All underground irrigation systems shall be regulated by an automatic timer or controller.
- c. The design of systems shall include sprinkler heads and devices appropriate for the landscape material to be irrigated.
- d. Low trajectory heads or low-volume water distributing devices shall be used to irrigate confined areas in order to prevent overspray onto impervious areas.
- e. Whenever practical, irrigation systems shall be designed to place high water demand areas, such as lawns, on separate zones from those areas with reduced water requirements.
- f. Automatically controlled irrigation systems shall be operated by an irrigation controller that is capable of irrigating high requirement areas on a different schedule from low water requirement areas, provided that separate zones exist as described in e. above.
- g. Irrigation systems shall be designed so that, to the greatest extent practical, water being applied to impervious areas is eliminated.

- h. When technically feasible, moisture sensing devices shall be installed to regulate the frequency of controller operation.
 - i. All automatic landscape irrigation systems shall be installed with a rain sensor device or rain sensor switch which will override the irrigation cycle of the sprinkler system when adequate rainfall has occurred.
3. Effluent Reuse.
- a. All new landscape irrigation systems shall be required and all existing irrigation systems shall be encouraged to connect to wastewater effluent lines when determined to be available. The reuse of wastewater effluent in such cases shall be required.
 - b. All new landscape irrigation systems shall be designed for ultimate connection to proposed wastewater effluent lines.

Section 11.9 Installation and Maintenance Requirements.

A. Installation.

1. All landscaping shall be installed in a sound workmanlike manner and according to accepted good planting procedures, with the quality of plant materials as herein described. Prior to or at the time a certificate of occupancy inspection is requested the project landscape architect or landscape contractor shall certify in writing the date he or she last inspected the landscape installation and that all installed landscape material that is required by this Code is Florida No. 1 or better.

All elements of landscaping, exclusive of plant material, shall be installed so as to meet all other applicable ordinances and code requirements. Landscaped areas shall require protection from vehicular encroachment. No final certificates of occupancy or similar authorization will be issued unless the landscaping meets the requirements provided in this Code.

2. Security to Guarantee Installation.

Required landscape materials can be guaranteed for future installation in the event of a City Council recognized disaster (e.g. freeze or hurricane) that adversely affects availability of landscape materials. At the time that it recognizes such a disaster, the City Council shall set a time frame by which required landscaping must be installed.

In addition to providing security after such disasters, the City Council is authorized to approve the use of security to guarantee the installation of required landscape materials where such installation needs to be delayed in coordination with adjacent road construction that would disrupt adjacent landscape areas.

The security for future (post C.O.), installation shall be by cash bond which must be posted with the City in the amount of one hundred fifteen (115) percent of the contract installation price.

B. Maintenance.

1. The owner, or his agent, shall maintain all landscaping depicted on the approved plan in good condition, so as to present a healthy, neat and orderly appearance, free from refuse and debris, and in a manner quantity and variety required by this article, for the duration of use of the site. All landscaped areas shall be provided with an adequate irrigation system, as provided for in Section 11.8. Completed project sites shall be reviewed periodically by the City staff for compliance with these provisions, and any violations shall be presented to the code enforcement special master.
2. Native plant areas used for landscaping purposes may be left in their natural condition, providing they are maintained so as not to create a health or safety hazard. These areas may also be excluded from the water supply requirements, providing they are in a healthy condition upon issuance of a final certificate of occupancy. All approved "native plant areas" shall be required to maintain the site free of any nuisance exotic plant species.
3. Mature trees shall not be "hat raked" or otherwise pruned to reduce the canopy to less than the minimum fifteen-foot spread, except for the removal of dead or diseased wood.

C. Replacement of Required Landscaping.

1. Required landscaping that has died or has been removed shall be replaced by material which is equivalent to the size that the material should have attained from the time of project C.O. (certificate of occupancy), as follows:
 - a. From zero (0) to eighteen (18) months after project C.O., landscape materials may be replaced at the sizes indicated on the approved site plan.
 - b. More than eighteen (18) months after project C.O., replacement shrubs shall be a minimum of thirty (30) inches in height, replacement canopy trees shall be a minimum of sixteen (16) feet in height and three (3) inches in diameter at 4 ½ feet above grade, and replacement understory trees shall be a minimum of seven (7) feet tall with a one and one-half (1½) inch diameter at 0.5 feet above grade.

Section 11.10 Landscaping Requirements For Residential Structures of Three or Fewer Units.

- A. Any new residential structure containing one (1), two (2), or three (3) units must preserve or plant one (1) tree for every 2,500 square feet of the subject lot or parcel of land, up to a maximum planting of 17 trees per lot or parcel.
- B. Planted canopy trees shall be of a size, quality and type as specified in Section 11.3 of this Article. The owner of the lot shall be required to maintain the canopy trees in viable condition.

C. The following trees are approved for use to meet the residential lot canopy tree requirement of this section. Other canopy tree species may be used subject to City staff approval.

- Live oak (*Quercus virginiana*)
- Laurel oak (*Quercus hemisphaerica*)
- Diamond-leaf oak (*Quercus laurifolia*)
- Red maple (*Acer rubrum*)
- American holly (*Ilex opaca*)
- Southern magnolia (*Magnolia grandiflora*)
- Sweet gum (*Liquidambar styraciflua*)
- Sycamore (*Platanus occidentalis*)
- Seagrape (*Coccoloba uvifera*)
- Red mulberry (*Morus rubra*)
- Slash pine (*Pinus elliotii*)

LANDSCAPE AND UTILITY REGULATIONS

