

Plain italic is language and changes accepted by the Task Force.

Staff proposed clarifications or suggestions are in bold underlined

**ARTICLE XIII. DIVISION 2.
LANDSCAPING, LAND CLEARING AND TREE PROTECTION**

Section 62-3631. Purpose and Intent.

The Brevard County Board of County Commissioners finds that the health, safety and welfare of its citizens can best be protected by land use regulations that support and enforce the following community goals:

- (1) *Promote the establishment, management and conservation of native vegetative communities.*
- (2) *Promote visual and aesthetic buffers between land uses.*
- (3) *Encourage the protection of champion, heritage or specimen trees.*
- (4) *Promote water conservation and aquifer recharge.*
- (5) *Encourage creative landscape designs.*
- (6) *Protect life and property by appropriately planting trees and vegetation*
- (7) *Preserve property values.*
- (8) *Control soil erosion and mitigate heat, air and water pollution.*
- (9) *Provide regulations that are user-friendly, flexible and minimize conflicts with other land development regulations while protecting property rights.*

Section 62-3632. Definitions

***Active development order** means an action by the county approving a site development plan, final development plan or subdivision plat, or the issuance of a ~~building~~ permit **pursuant to Chapter 22, Brevard County Code**, or the approval of a conditional use permit for a borrow pit, commercial borrow pit or private lake*

***Adverse site conditions** **mean existing site conditions that adversely affect plant viability and growth.** Examples include but are not limited to:*

Existing topographic elevation changes that would result in the likelihood that preserved and/or planted materials would not survive.

Existing areas of buried solid waste at a depth that would affect viability of preserved and/or planted materials.

Existing electrical lines or utility easements that prevent or restrict the preservation and/or planting of landscape materials.

Beachside planting conditions that cannot support certain hardwood species.

~~Redevelopment of an existing site that has extensive pavement that is not being reconfigured or removed.~~

Existing, expansive water bodies or preserved natural areas where their location might prohibit the installation of required landscaping or buffers or that conflict with preservation.

Redevelopment sites where existing landscaping does not meet current standards and where existing site conditions, such as but not limited to impervious surfaces,

access locations, or building locations, prevent the site from meeting the current landscaping requirements,

Sites where type or distribution of existing canopy or other protected trees are such that preservation requirements would prohibit site development or conflict with required development standards, such as stormwater or roadway designs, and where alternative site plan designs do not result in meeting the specific landscaping/tree protection requirements as outlined elsewhere in the code.

Adverse site conditions do not include; (1) Plan designs that do not avoid preservation areas or trees to the greatest extent feasible.

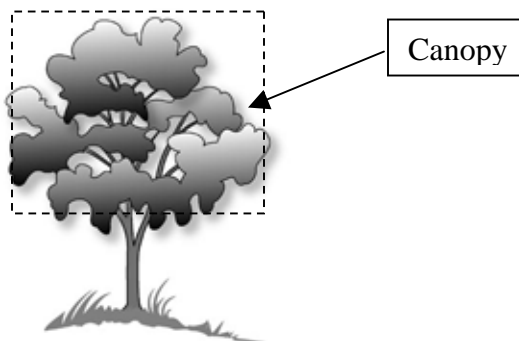
***After-the-fact permit** means a permit issued after a violation has occurred for the primary purpose of correcting the violation (if the activity would have been permissible) or for bringing the violator into compliance with existing regulations.*

***Agricultural purpose** means the bona fide commercial agricultural use of a site, parcel or lot which has been classified as "Green Belt" pursuant to F.S. ch. 193, or the use of a site, parcel or lot for forestry, groves, pasture, nurseries, field crops, commercial sod production or combinations of such activities or any other agricultural pursuits within the applicable land use classifications, or property located within the productive agriculture land use classification (PA).*

***Alternate Landscape Enhancement Plan** means a plan that provides property owners with adverse conditions the flexibility to design a landscape plan to manage the specific, adverse site conditions.*

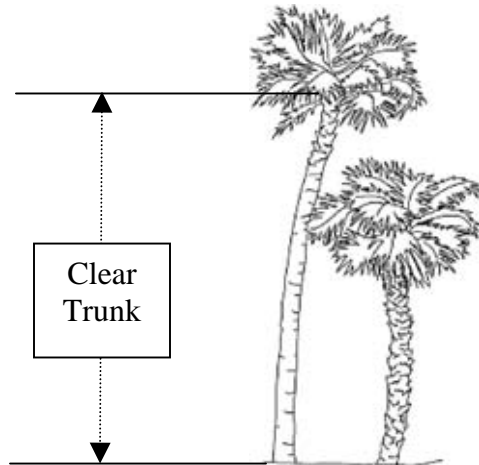
***Buildable area** means the gross area of a site, parcel or lot excluding the following areas unless the area is counted towards the required landscaping ~~points~~ or tree preservation: any area of a site, parcel or lot which is not eligible for the issuance of a building permit by the county, except setback areas required pursuant to the applicable provisions of articles II, VI, X, XII and XIII of this chapter.*

***Canopy** means the area consisting of a tree's branches in all directions from its trunk, the outer edge of which is the dripline.*

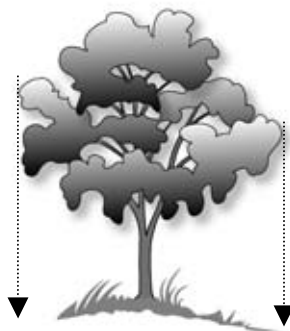


***Canopy Coverage** means the areal extent of ground within the drip line of the tree.*

Clear Trunk means a measurement from the soil line to the point in the canopy where the trunk caliper begins to taper abruptly. On many palms, this point will lie at the base of the petiole of the third or fourth youngest but fully expanded leaf.



Dripline means an imaginary vertical plumb line that extends downward from the tips of the outermost tree branches and intersects the ground.



Diameter at breast height (dbh) means the diameter of the trunk of a tree, or the sum of the stems of a multi-stemmed tree, measured 4.5 feet above natural or development grade.

Florida Friendly Landscaping means the utilization of nine principles in landscape design. These nine principles are; 1) Right Plant, Right Place; 2) Drought Tolerant Plantings; 3) Fertilize Appropriately; 4) Mulch; 5) Attract Wildlife; 6) Control Yard Pests Responsibly; 7) Recycle; 8) Reduce Stormwater Runoff; and 9) Protect the Waterfront.

General Landscape Materials means living shrubs, groundcovers, perennials, and vines.

Greatest extent feasible shall include but not be limited to relocation of roads, buildings, ponds, increasing building height to reduce building footprints and/or reducing parking areas.

Heat island effect means the increase in temperature in urban areas compared to the surrounding rural lands usually because of reduced vegetative cover or excessive use of impervious surfaces. **alphabetically moved here.**

Heritage Tree means any tree that is listed in the American Forest Association's Big Tree list or any tree that is listed in the Florida Big Trees List as determined by the Florida Dept. of Forestry or that would measure 80 percent of the points of a tree on the Florida Big Trees List.

Hydrozone means the grouping of plant species with similar watering needs in landscaped areas having appropriate microclimate, soil, and water conditions so that all plants in that area thrive.

Improper Tree Pruning means the following:

- (1) Improper pruning that reduces the height or spread of a tree that has not attained maturity, by altering the dominant stem(s) within the tree crown to such a degree as to remove the natural canopy of the tree; or
- (2) Improper pruning that leaves stubs or results in a flush cut (a cut too close to the main branch or trunk that does not allow for proper healing); or splitting of limb ends; or
- (3) Peeling or stripping of bark; or the removal of bark to the extent that, if a line is drawn at any height around the circumference of the tree, over one-third (1/3) of the length of the line falls on portions of the tree where bark no longer remains; or
- (4) Using climbing spikes and hooks, except for purposes of total tree removal or as specifically permitted by the Florida Urban Forestry Council or American National Standards Institute (ANSI A-300); or
- (5) Destroying the natural habit of growth which causes irreparable damage and permanent disfigurement to a tree such that, even with regrowth, the tree will never regain the original characteristics of its tree species, or is a danger to the public or property; or
- (6) Improper pruning that results in flat-cutting the top or sides of a tree, to sever the leader or leaders or to prune a tree by stubbing off mature wood, except where removal of a branch is necessary to protect public safety;
- (7) Exception: The removal of diseased or dead portions of a tree, the removal of an interfering, obstructing or weak branch shall not constitute improper tree pruning under this section. Interference with or obstruction of streetlights, stop signs or traffic signals is an example of pruning which, if accomplished by the International Society of Arboriculture's pruning standards, American National Standards Institute (ANSI A-300), the Florida Urban Forestry Council, or the University of Florida Cooperative Extension Service's circular publication #853 entitled Pruning Landscape Trees and Shrubs, is not a violation of this division.
- (8) All undesirable species as defined in this section are exempt from improper tree pruning standards.

Land clearing means the removal or cutting down of vegetation from any site, parcel or lot including root-raking **and improper pruning**; provided, however, that it does not include mowing, trimming or pruning so as to maintain vegetation in a healthy, viable condition.

Landscape earth berm means an earthen mound which is not greater than four feet in height and which is sodded and planted with additional vegetation to meet the specifications of the required vegetative buffer classification.

Landscape plan means a plan drawn to an appropriate engineering scale depicting existing and proposed vegetation and prepared by a recognized knowledgeable person.

Landscaping means the preservation or planting of vegetation to enhance the natural or built environment pursuant to the provisions of this article.

Mangrove means any specimen of the species *Avicennia germinans* (Black mangrove), *Laguncularia racemosa* (White mangrove) or *Rhizophora mangle* (Red mangrove).

Mature means the plant has reached 80% of the expected ultimate size.

Native species means those species indigenous to Brevard County as determined by the best available scientific and historical documentation. The Atlas of Florida Native Plants maintained by the Institute for Systemic Botany, University of South Florida shall be used as a reference. <http://www.plantatlas.usf.edu>.

NRMO means the Brevard County Natural Resources Management Office or its successor agency.

Non-native noxious invasive plant, for the purposes of this ordinance, means the following species:

Common Name	Scientific Name
Air-potato	<i>Dioscorea bulbifera</i> and <i>Dioscorea alata</i>
Climbing fern	<i>Lygodium japonicum</i> and <i>Lygodium microphyllum</i>
Melaleuca	<i>Melaleuca quinquenervia</i>
Kudzu Vine	<i>Pueraria montana</i>
Brazilian Pepper	<i>Schinus terebinthifolius</i>

~~**Plot plan** means a plan drawn to the same engineering scale and accompanied by a signed and sealed boundary survey showing the location of all proposed and existing structures, limits of clearing, limits of fill and excavation, existing and proposed easements, driveways, directional north arrow, on-site sewage disposal facilities, water bodies, existing trees and vegetative communities identified by genus and size, proposed landscaping, or other information as required by the county. The locations and boundaries of all existing structures, water bodies, wetlands, and ordinary high water elevation limits shall be surveyed by a professional land surveyor registered in the State of Florida. All structures, clearing limits, fill and excavation limits shown on the plot plan shall also indicate the square footages.~~

Pervious area means an area that permits water and air to permeate or penetrate to the roots of existing or planted vegetation. Pervious areas do not include materials such as compacted marl or clay, pavement, concrete, or pavers.

Protected Tree means, with the exception of undesirable species, a hardwood tree having dbh of ten (10) inches or greater located on the mainland or Merritt Island or having a dbh of one and a half (1.5) inches on the barrier island; or a softwood tree, such as a pine, having a dbh of 14 inches or greater or one and a half (1.5) inches on the barrier island; or scrub oaks on the mainland, Merritt Island or barrier island (*Quercus myrtifolia*, *Q. chapmanii*, *Q. inopina*, *Q. virginiana* var. *maritima*) having a dbh of one and a half (1.5) inches.

60/40 split among the Task Force in favor of removing palms from the definition of "Protected Tree".
No consensus reached.

Recognized knowledgeable person means an individual recognized by the county as being knowledgeable in the identification and evaluation of vegetative resources, such as a forester, biologist, ecologist, horticulturist, Florida registered landscape architect, licensed landscape

contractor, certified ISA arborist, certified nurseryman or person having similar recognized skills and experience.

Re-growth control means removal or trimming of individual plants before the plants reach (the onset of flowering).

Root Protection Zone means the area beneath a tree centered on the trunk with a radius equal to five times the projected mature trunk's dbh. **Task Force to research and revisit**

~~**Scenic vistas and roadways** means the following areas in unincorporated Brevard only:~~

- ~~(1) — U.S. 1, from its intersection with SR 46 to the Volusia County line.~~
- ~~(2) — SR 46, from a point 1.75 miles west of I-95 to the Volusia County line.~~
- ~~(3) — SR 50, from a point 1.25 miles west of its I-95 interchange to the Orange County line.~~
- ~~(4) — SR 405, from its intersection with SR 50 eastward to the boundary of the Kennedy Space Center.~~
- ~~(5) — U.S. 1, from the south corporate limits of the city of Titusville to Golden Knights Boulevard.~~
- ~~(6) — SR 407, entire length.~~
- ~~(7) — SR 528, entire length.~~
- ~~(8) — SR 524, entire length.~~
- ~~(9) — SR 520, from its intersection with I-95 to the Orange County line.~~
- ~~(10) — SR 3, from SR 528 to the boundary of the Kennedy Space Center.~~
- ~~(11) — Tropical Trail, entire length.~~
- ~~(12) — SR 515, from the northern terminus to the north corporate limits of the city of Coeoa, and from the south corporate limits of the city of Rockledge to the southern terminus of SR 515.~~
- ~~(13) — SR 404, entire length.~~
- ~~(14) — Wickham Road, from its intersection with SR 404 to I-95.~~
- ~~(15) — SR A1A, from the south corporate limits of the city of Melbourne Beach to the Indian River County line.~~
- ~~(16) — U.S. 1, from the south corporate limits of the town of Malabar to the Indian River County line.~~
- ~~(17) — Babcock Street, from the south corporate limits of the city of Palm Bay to the Indian River County line.~~
- ~~(18) — U.S. 192, from a point 1.75 miles west of I-95 to the Oseeola County line.~~
- ~~(19) — U.S. 1, east side, from the south corporate limits of the city of Rockledge to the north corporate limits of the city of Melbourne.~~
- ~~(20) — SR A1A, unincorporated areas, between the south boundary of Patrick Air Force Base and the north boundary of the town of Indialantic.~~

Soil amendment means a replacement and/or improvement to the soil providing for optimum root and plant growth of vegetative materials.

Specimen Tree means a tree or group of trees considered an important community asset due to its unique or noteworthy characteristics or values. A tree or a group of trees may be considered a specimen tree based on its size, age, rarity or special historical or ecological significance. Examples include large hardwoods (oaks, maples, etc.) or softwoods (pines, cypress, cedars, etc.) in good condition as determined by a recognized knowledgeable person, with a dbh of 24 inches or greater and smaller understory trees (stoppers, hollies, etc.) in good or better condition with a dbh of ten inches or greater.

Species classification means: ~~v~~Vegetation shall be classified as follows:

- (1) **Large/medium trees:** Average mature height of a minimum of 25 feet to over 60 feet.
- (2) **Small trees:** Average mature height of a minimum of ten feet and less than 25 feet.
- (3) **Shrubs, Ground cover and vines:** Average mature height of less than ten feet, which completely covers the ground at maturity.
- (4) **Palm trees:** All heights.

Spread means the crown diameter measured by taking the average of the widest branch spread and the branch spread perpendicular to it.

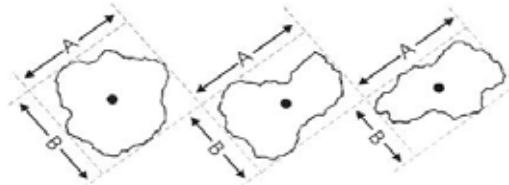


Fig. 1 Add A and B together and divide by 2 to get the spread.

Tree is a perennial, woody plant that is generally characterized by having a self-supporting trunk with secondary branches. Trees shall be classified as follows:

- (1) **Large/medium trees:** Average mature height of a minimum of 25 feet to over 60 feet.
- (2) **Small trees:** Average mature height of a minimum of ten feet and less than 25 feet.

Tree removal includes any act that physically removes the tree or its root system from the earth or causes a tree to die, changing the natural grade above or below the root system or around the trunk or improper pruning where the natural form of the tree is permanently changed and/or results in tree death or decline.

Understory means an underlying layer of low native vegetation usually associated with trees.

Undesirable species means any of the following species: *Casuarina equisetifolia* (Australian pine), *Casuarina glauca* (suckering Australian pine), *Dioscorea bulbifera* (air potato), *Lantana camara* (lantana), *Melaleuca quinquenervia* (melaleuca), *Sapium sebiferum* (Chinese tallow tree), *Schinus terebinthifolium* (Brazilian pepper), *Sansevieria hyacinthoides* (African bowstring hemp), *Ricinus communis* (castor bean plant), *Rhodomyrtus tomentosa* (downy rose myrtle), and including the species as found on the Florida Exotic Pest Plant Council's List of Florida's Most Invasive Species, as may be amended.

~~**Heat island effect** means the increase in temperature in urban areas compared to the surrounding rural lands usually because of reduced vegetative cover or excessive use of impervious surfaces~~ **alphabetically moved.**

Vegetative buffer area means an area of undisturbed native vegetation or vegetation established consistent with the surrounding vegetation and soil types. This area shall be located along the perimeter of properties where required by the county.

Vegetation means any plant material, including but not limited to trees, shrubs, vines, herbs and grasses.

Vegetative communities means a natural association of vegetative plants, including but not limited to both trees and understory.

Vehicular use area means any area used for the purpose of driving, maneuvering, parking, storage, loading or unloading or displaying of motor vehicles and boats, excluding rivers, lagoons, streams, public rights-of-way, and permitted driveways and parking areas for single-

family residences. Motor vehicles shall include but are not limited to automobiles, trucks, vans, campers and motorcycles.

Viable means plant material exhibiting a healthy and vigorous condition having live foliage out to the tips of all branches and stems. Palms shall have no dead spots or yellowing.

Xeriscaping[™] or Water-Wise Landscaping means the utilization of seven principles to conserve water in the landscape. These seven principles are 1) plan and design 2) soil analysis and amendment 3) appropriate plant selection 4) reduction of turf areas 5) efficient irrigation 6) mulching, and 7) proper maintenance.

Section 62-3633. Applicability

The provisions of this Article shall apply to the unincorporated areas of Brevard County. The requirements to remove non-native noxious invasive plants at the time of development and control re-growth of such plants in the required area within the site shall apply countywide and prospectively to property after the effective date of this ordinance.

Section 62-3634. Exemptions

The following land uses and/or activities shall be exempt from the requirements of this Article:

- (1) Per the Florida Agricultural Lands and Practices Act (Chapter 163.3162(4), Florida Statutes), any activity of a bona fide farm operation on land classified as agricultural land pursuant to s. 193.461, F.S. if such activity is regulated through implemented best management practices, interim measures, or regulations developed by the Department of Environmental Protection, the Department of Agriculture and Consumer Services, or a water management district and adopted under chapter 120 as part of a statewide or regional program; or if such activity is expressly regulated by the United States Department of Agriculture, the United States Army Corps of Engineers, or the United States Environmental Protection Agency.
- (2) Single-family properties less than 2.5 acres that have a single-family home or certificate of occupancy and the minimum landscaping and tree preservation as may be required by this Article is maintained.

55/45 split on the Task Force to not reduce the single family exemption from 2.5 acres to 1 acre.
No consensus reached.

- (3) The removal of any plant that is listed in the Florida Exotic Pest Plant Council List of Invasive Species, as **may be** amended except within shoreline protection buffers as defined by Article X, the Brevard County Coastal Construction Setback Line as defined by Article XII, **and wetlands as defined by Article X.** Within ~~wetlands~~ **these areas,** invasive plant removal is exempt if:
 - a. No mechanical equipment is used.
 - b. Roots shall not be removed below ground. Above ground foliage may be cut and stumps treated appropriately.
 - c. Herbicides are used to treat the invasive species as approved for aquatic use.

Other methods will be considered on a case by case basis.

- (4) Linear Projects that are public or privately owned constructed exclusively for public thoroughway transportation from the tree protection and canopy preservation requirements but not landscaping code requirements. Such linear projects include federal, state and County roadways, such as arterial and collector roads, that do not terminate on or at private lands or serve exclusively residential subdivisions or commercial/industrial parks, and would exclude internal roads for subdivisions, roads that are part of a subdivision or commercial site plan, or other roads proposed for private use and not constructed for the primary purpose of public thoroughfare or commerce transportation, sidewalks, trails and paths. Such projects are exempt from tree protection and canopy requirements but still shall comply with landscaping requirements.

Task Force is unanimously opposed to exempting linear projects and recommends that this subsection be deleted. All projects, whether private or public, should comply with these regulations.

- (5) *Emergency removal of a dead or seriously damaged tree that adversely affects the health, safety and welfare of the property owners or the general public.*
- (6) *When the proposed land clearing activity is regulated by another state Of Florida or federal agency, which regulations may supercede those of the county.*
- (7) *The removal of vegetation that has been ordered by the county, pursuant to the provisions of chapter 114, article II. Prior to issuing the order for removal of vegetation pursuant to the provisions of chapter 114, article II, if the removal conflicts with the requirements or intent of this article, the county manager or designee shall negotiate a resolution of the conflict.*
- (8) *All lands that have an existing land clearing permit, approved site plan or building permit shall be exempt from the requirements of this article that are inconsistent with the previous ordinance.*

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Section 62-3635. Violations

*Penalties and enforcement for violations of this Article shall be as specified in Chapter 62-5 and Chapter 2, Brevard County Code, as amended. Each quarter acre, or fraction thereof, of land clearing in violation of this Article shall constitute a separate violation. If protected trees are cut down on or removed from the site, each tree shall constitute a separate violation. In addition, both fines and restoration shall be required. If one or more specimen or heritage trees are cut down on or removed from the site, each tree shall constitute a separate violation and require triple fines, replacement, and restoration. The director of the ~~natural resources management office~~ **NRMO** or his/her designee shall be responsible for reviewing and approving all restoration plans. The provisions of this section are an additional and supplemental means of enforcing county codes and ordinances. Nothing in this section shall prohibit the county from enforcing this Article by injunctive relief, issuance of stop-work orders or by any other means provided by law. In addition, properties that are in violation of this Article shall not have permits approved **nor certificate of occupancy or completion issued** pursuant to this Article until the violation has been resolved to the satisfaction of the County. **At the request of the Special Magistrate, fine recommendations may be made using the calculations outlined in Section 62-3643 (3).** Fines that are collected will be deposited into a trust fund to be utilized for*

re-vegetation of public lands or for the purchase of environmentally sensitive lands. All acquisitions made through this program shall be voluntary acquisitions.

Section 62-3636. Permit Application Requirements and Review Process

*Unless specifically exempted by Section 62-3634 (Exemptions), a permit shall be required prior to any cutting, clearing, digging, filling or otherwise injurious activity to existing vegetation. The ~~natural resources management office~~ **NRMO** shall provide application forms for those properties not part of an application for a building permit, subdivision or site plan. If a property is the subject of a building permit, subdivision or site plan permit, the information required in this section shall be provided in the appropriate application. **Prior to submittal of the plans required in this section, the applicant is strongly encouraged to meet with the County to discuss the requirements of this Article.** All landscape and/or land clearing plans shall be prepared by a recognized knowledgeable person. All plans submitted for landscaping and/or land clearing permits that are part of a building permit, subdivision, or site plan application, shall be approved in writing by a professional engineer or landscape architect, registered in the State of Florida.*

(1) Application Requirements:

- a. Name, address and phone number. If the applicant is not the property owner of record, written authorization from the property owner to apply on his/her behalf is required.*
- b. Legal description of the property.*
- c. Location map showing the property's relationship to nearby roads and landmarks.*
- d. Boundary survey drawn to scale not to exceed one inch to 100 feet, depicting all existing and proposed structures, lot dimensions, and location and amount of clearing proposed.*
- e. Survey of all existing protected trees and canopy coverage, and identified to species and dbh. For properties greater than 5 acres, an alternative methodology of locating individual trees may be used if the methodology is approved by the ~~natural resources management office~~ **NRMO**. The tree survey shall be prepared by a professional land surveyor registered in the State of Florida.*
- f. Depiction of existing and proposed tree canopy boundaries.*
- g. The zoning district and land uses for the property and abutting properties.*
- h. Wetlands and their boundaries that have been delineated pursuant to Chapter 62-340, Florida Administrative Code, as amended.*
- i. Proposed use of the property. If the proposed use is agriculture and the property has not been classified as agricultural pursuant to Chapter 193.461, F.S., the following additional information shall be provided.*
 - i. Two (2) copies of a completed and signed Conservation Plan from USDA that shall contain the following information, at a minimum:*

Ernie to talk to Dave Millard about the necessity of this.
 - ii. Proposed agricultural activities.*
 - iii. Best Management Practices that are being utilized.*
 - iv. Completed agricultural application.*
- j. Aerial photograph depicting location of proposed activities on the property.*

- k. *If the application is for approval of a landscape plan as part of a building permit, subdivision or site plan application, the following additional information is required on the plans.*
- i. *All parking areas*
 - ii. *All other vehicular use areas, access aisles and drives;*
 - iii. *Natural and man-made water bodies;*
 - iv. *On-site sewage disposal systems or central sewer lines;*
 - v. *Location of proposed source of irrigation supply;*
 - vi. *Size, number and species of all required landscape materials;*
 - vii. *Description and location of all existing trees and native vegetation and vegetative communities to be preserved.*
 - viii. *All existing and proposed utility and drainage easements, poles or structures.*
 - ix. *All applicable setback and buffers as may be required by Article X and XII of this chapter.*
 - x. *Limits of fill, excavation, and clearing with applicable square footages.*
- l. *Any other information that is necessary to determine compliance with the County's land development regulations.*
- (2) *Review Process:*
- a. *Upon receipt of the application and fee, the ~~natural resources management office~~ **NRMO** shall review the application within fifteen calendar (15) days to determine that all required information has been submitted and is sufficient for review purposes. **This review period may be extended by the NRMO due to unusual circumstances, including but not limited to, natural disaster resulting in increased work load.** The applicant shall be notified of the deficient items. Upon submittal of the deficient or missing information by the applicant, the ~~natural resources management office~~ **NRMO** shall review the application to determine that the requested information has been provided. If the requested information has not been provided or is insufficient, the applicant shall be notified that no further review will be performed by the ~~natural resources management office~~ **NRMO** until the requested information is provided or sufficient.*
 - b. *Once the application has been deemed complete or the applicant has notified the ~~natural resources management office~~ **NRMO** in writing that no further information will be provided, the ~~natural resources management office~~ **NRMO** shall review the application within fifteen calendar (15) days to determine its compliance with the performance standards contained in this Article and shall either approve or deny the permit application. **This review period may be extended by the NRMO due to unusual circumstances, including but not limited to, natural disaster resulting in increased work load.***

Section 62-3637. Land Clearing Performance Standards

Unless specifically exempted by Section 62-3634, all land clearing activities shall meet the performance standards for the applicable activity listed in this section.

- (1) *Land clearing activities for lands with existing Certificates of Occupancy or Completion-*

- ~~Land clearing activities shall meet the **minimum standards in Sections 62-3638 and 62-3639 in perpetuity as approved by** following minimum standards prior to permit approval by the Natural Resources Management Office **NRMO. Any land clearing activities shall be in compliance with Articles II, X, XII, and XIII of the County Code.**~~
- ~~a. The minimum performance standards in Sections 62-3638 (Canopy and Tree Preservation Performance Standards) and 62-3639 (Landscaping Performance Standards) shall be maintained.~~
- ~~b. Proposed activities shall be in compliance with Articles II, X, XII and XIII of the County Code.~~
- (2) All land clearing activities shall comply with the following performance standards.
- ~~a.~~ A land clearing permit shall expire 90 days from the date of issuance for single-family lots and shall expire concurrently with the construction permit for subdivisions and multifamily, commercial, **institutional, public** and industrial projects. Two, ~~thirty~~ (30)-day extensions may be authorized by the county manager or designee for single-family residential provided appropriate justification warrants, such as unusual weather, seasonal situations or inability to obtain permits from other agencies.
- ~~b.~~ Where a written land clearing permit has been issued, the applicant shall post the land clearing permit on the affected property in such a manner as to be visible from an abutting road right-of-way. The land clearing permit shall remain posted on the affected property during all applicable land clearing activity. It is the responsibility of the applicant to maintain the land clearing permit in a clearly visible manner at all times.
- ~~c.~~ The trimming, pruning, maintenance or removal of mangroves shall be consistent with applicable federal or state regulations. Permits from appropriate agencies shall be provided for verification prior to the issuance of a land clearing permit by the county.
- d. Vegetative buffers or other ground covers that retard erosion must be established or installed within ~~thirty (30) days~~ **seven (7) days** after final grade of a subdivision, commercial, industrial or multi-family project has been obtained or within ~~thirty (30) days~~ **fourteen (14) days** after the last construction activity has occurred. A minimum of sixty (60) percent of the total altered area must contain either a vegetative buffer or other ground cover. Vegetative buffers or other ground covers may include seeding, sprigs, sod, mulch or other plant material or products that can be placed on the ground and maintained or managed to minimize erosion.
- STAFF requests discussion on this. Existing regulations require 100% of the altered area to be seeded and achieving 60% vegetative cover. Also, new BMP's for erosion control recommend 7 and 14 days as revised above.**
- ~~e.~~ The buildable area of a single-family residential lot or parcel, including lots or parcels in the AU zoning category, in excess of one-half acre which has been designated on a landscape plan as an area on which no alterations shall occur shall be considered for the purposes of this division to be one-half acre. Where clearing takes place on more than one-half acre, the buildable area shall be considered to be that amount of land that has been or is being cleared **or altered**.

- (3) *New non-agricultural land clearing activities not exempt under Section 62-3634 shall be subject to the performance standards in Section 62-3638 and 62-3639.*
- (4) *If the project is not completed prior to the expiration date of the active development order, the cleared areas shall be vegetated to the minimum canopy preservation, tree preservation and landscaping standards.*
- (5) No land clearing permit shall be issued prior to approval of a site plan, subdivision, building permit, land alteration permit or private lake permit. No land clearing shall take place prior to the issuance of the required land clearing permit.**

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Section 62-3638. Canopy and Tree Preservation Performance Standards

Unless specifically exempted by Section 62-3634, all development on two and a half (2.5) acres or larger shall meet the performance standards listed in this section.

- (1) *The amount of canopy coverage preservation on each property shall be determined using the following standards based on the property’s Buildable Area:*

<i>Land Use</i>	<i>Minimum Preservation</i>	<i>Canopy Achieved by Planted Trees</i>	<i>Total</i>
<i>Single-Family Residential</i>	20%	10%	30%
<i>Multi-Family Residential</i>	15%	10%	25%
<i>Commercial, <u>Institutional, Public</u></i>	10%	10%	20%
<i>Industrial</i>	10%	5%	15%

LLTP stopped here on 10/26; Began here on 11/09

- a-a No more than fifty (50)% of planted trees shall be of any one genus (i.e. Quercus, **Pinus, Acer,** etc.) to encourage biodiversity and decrease impacts from disease.*
- b Preserved trees shall have a root protection zone and protective barriers.*
- c Credits for canopy preservation greater than the minimum required shall be given in accordance with the provisions in Section 62-3642.*
- d Canopy preservation areas in new subdivisions, industrial or commercial developments shall be within separate tracts or conservation easements with sufficient protective language to prohibit activities that are detrimental to the perpetual preservation of the area.*
- e Activities permitted within canopy preservation areas include landscaping, habitat management activities such as prescribed fire, passive recreation areas, fences, boardwalks, trails, common use decks and paths as long as these areas are pervious, ~~and~~ not within the root protection zone of any tree, **and do not necessitate the removal of vegetation. Boardwalks and trails may not exceed five feet in width. Common use decks may not exceed 100 square feet.***

- ff* Credit for canopy preservation shall not be given for areas excluded from the Buildable Area.
- g. Canopy coverage achieved through the use of planted trees shall be credited at 25% of the projected canopy at maturity of the species. If the actual canopy of the planted tree is larger than 25% of the mature canopy size, actual canopy coverage of the particular tree shall be credited.**
- h. Existing trees that are successfully relocated elsewhere on the property can be credited towards the canopy coverage requirements but shall not be credited towards preservation requirements.**

~~(2) All development subject to the criteria of this section shall meet the following preservation standards:~~

~~a Preservation of protected trees.~~

~~b.b Where a vegetative buffer is required by Chapter 62, Code of Ordinances of Brevard, any natural vegetation within the required buffer area, with the exception of the undesirable species listed in this chapter, shall be preserved.~~

(2) All development subject to this Article shall preserve protected trees.

(3) Where on-site canopy and tree preservation performance standards cannot be met due to adverse site conditions, the process and standards in Section 62-3643 shall be applied.

STAFF requests discussion on whether the tree removal criteria from the existing regulations should be included here.

(3) Removal criteria. A protected tree in excess of the minimum number of trees required for preservation, as specified in subsection (b) of this section, may only be approved for removal after evaluation by County staff, and if one or more of the following criteria are met:

a. Where site design modifications, as determined by a pre-clearing inspection, are not feasible to allow the use permitted, as determined by the specific zoning of the subject property. Streets, rights-of-way, easements, utilities, lake perimeters, septic tanks, and lot lines shall be shifted whenever possible to preserve trees.

b. Where the trunk of a protected tree is located closer than ten feet, or 25 feet for any protected pine, from the foundation of the proposed structure, and it is not feasible to relocate the structure.

c. Where the location of the tree prevents direct access to the property from a publicly dedicated and maintained roadway, or where the tree constitutes a hazard to pedestrian or vehicular traffic which cannot be mitigated without removing the tree. Removal of the tree pursuant to this criterion shall be exempt from the replacement criteria in Section 62-3643.

d. Where the location of the tree prevents the construction of utility lines, drainage facilities, on-site sewage disposal systems, roadways or required parking areas which cannot be practically relocated or rerouted or where the trees cannot be utilized as part of these systems. Removal of the tree pursuant to this criterion shall be exempt from the replacement criteria in Section 62-3643.

e. Where the tree is weakened by age, storm, fire or other injury so as to pose a danger to persons, property, site improvements or other trees. Removal of a

protected tree pursuant to this criterion shall be exempt from the replacement criteria in Section 62-3643.

f. Where the tree or trees reduce the visibility of a nonresidential development more than 50 percent of the linear footage of the lot along the roadway to which the project has primary frontage.

Section 62-3639. Landscaping Performance Standards

Unless specifically exempted by Section 62-3634, all development shall meet the performance standards listed in this section.

~~(1)(1) General landscaping requirements. Please note that the following sections have been re-numbered as a result of the deletion above.~~

- ~~(1) **Point system; landscaping plan.** No active development order, certificate of occupancy or certificate of completion shall be issued by the county without full satisfaction of the following landscaping requirements by the applicant for such active development order, certificate of occupancy or certificate of completion.~~
- ~~(2) Satisfaction of the landscaping requirements standards shall be based upon a point system achieved through the preservation of existing native vegetation to the greatest extent feasible. When the minimum landscaping standards cannot be achieved through preservation, plantings of new vegetation shall be required to meet the standards.~~
- ~~(3) All development, except for individual single-family homes platted as part of a previously approved subdivision, shall meet the following standards:~~

<p><u>Minimum Trees Per Acre of Buildable Area</u> Minimum standard is four (4) inch dbh, twelve foot height, Florida No. 1 Grade (FNGA Division of Plant Industry, Florida Dept of Agriculture and Consumer Services)</p>	<u>5</u>
<p><u>Minimum Inches of DBH per Acre of Buildable Area</u></p>	<u>60</u>
<p><u>Minimum Number of Shrubs and Groundcovers, not including sod, per Acre of Buildable Area</u> minimum standard is three3 gallon fully rooted 15-18 inches in height shrub or equivalent Florida No. 1 grade (FNGA Division of Plant Industry, Florida Dept. of Agriculture and Consumer Services) landscaping as approved by the Natural Resource Management Office.</p>	<u>250</u>

- ~~(3) For each acre, or fraction thereof, of the buildable area of the property the applicant must show evidence of an accumulation of 480 points per acre or prorated portion thereof. The accumulation of 480 points per acre shall include at least 240 points for trees with the landscaped associated area and 240 points for general landscaping.~~
- ~~(4) Of the required 480 points per acre, at least fifty (50) percent shall be accumulated through use of native vegetation.~~
- ~~(5) Points may be accumulated by preserving existing trees and certain native vegetation and/or planting new trees in the buildable are. Points shall not be awarded for the preservation or planting of any of the plant species listed in Appendix A.~~

(4) At least, fifty (50) percent of trees required for preservation and/or planting shall be of native species. At least fifty (50) percent of shrubs and groundcovers shall be of native species.

POINT SCHEDULE FOR PRESERVED TREES

Species Classification	Diameter at Breast Height	Credit Points
Large/medium	Up to and including 4 inches	60
	Greater than 4 inches up to and including 8 inches	120
	Greater than 8 inches up to and including 16 inches	240
	Greater than 16 inches	240
Small	Minimum height 6 feet	10
Palms	Minimum height 6 feet	10
Removal of undesirable species in preserved areas	500 square feet	10
Specimen or Heritage Trees		100
Specimen or Heritage Understory Trees		75

Staff requests discussion on incentives for unique vegetation and specimen/heritage trees. By deleting the point system, these incentives have been deleted.

~~(6) — Preservation of vegetation of special concern.~~

~~In addition to points credited for preservation of trees, points shall be accumulated toward satisfaction of the 480 points per acre requirement for the preservation on the site of any of the following vegetation of special concern:~~

- ~~a. — For rare, endangered or threatened plant species as listed in Volume 5, Plants, Rare and Endangered Biota of Florida, University Presses of Florida, Gainesville, Florida, available at the offices of the county development plans review division, and as listed in F.S. § 581.185, points credited for use of these types of vegetation shall be doubled. No species of mangroves shall be eligible for points under this subsection.~~
- ~~b. — For each one hundred (100) square feet of vegetation classified as hardwood hammock, barrier island scrub, wetlands as defined within article X, division 4, of this chapter, cypress domes or sand pine scrub associations preserved on the site, a credit of forty (40) points shall be given. These credit points shall apply only when the vegetative community is preserved intact; and the vegetative community preserved comprises an area of no less than one hundred (100) square feet with no dimension less than ten feet.~~
- ~~c. — For each one hundred (100) square feet of vegetation classified as barrier island association preserved on the site, landward of the county coastal setback line, a~~

~~credit of forty (40) points shall be given. These credit points shall apply only when the vegetative community is preserved intact and the vegetative community preserved comprises an area of no less than one hundred (100) square feet with no dimension less than ten feet.~~

- ~~d. For each one hundred (100) square feet of native vegetation preserved adjacent to and within fifty (50) feet of a designated scenic vista or roadway, forty (40) points shall be given if the vegetative community is preserved intact and the vegetative community preserved comprises an area of no less than one hundred (100) square feet with no dimension less than ten (10) feet.~~
- ~~e. If mangroves do not presently exist contiguous to estuarine waters and are planted, they shall receive seven points. The minimum size of newly planted mangroves shall be fully rooted 3-gallon container plants with a minimum height of 5-18 inches.~~

~~(7) Point schedule for planted trees. Where trees are planted rather than preserved, to fulfill the 480-point requirement, the following schedule of points shall apply. Fifty percent of the total tree points shall be in native trees.~~

POINT SCHEDULE FOR PLANTED TREES

<i>Species Classification</i>		<i>Points</i>	<i>Required Associated Landscaped Area</i>
Large/medium trees:			
	<i>Native</i>	<i>10</i>	<i>100 square feet</i>
	<i>Non-native</i>	<i>-5</i>	
Small trees:			
		<i>-5</i>	<i>-20 square feet</i>
Palms:			
		<i>-5</i>	<i>-50 square feet</i>
Landscaping materials:			
	<i>Hedges or shrubs</i>	<i>10 per 100 square feet</i>	
	<i>Native vegetation</i>	<i>10 per 100 square feet</i>	

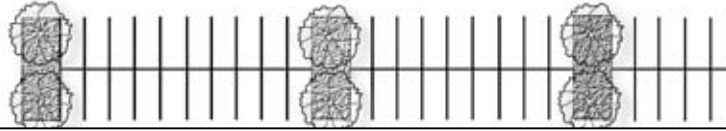
(4) Road frontage and vehicular use areas.

This section does not apply to single-family lots parcels or lots platted as part of a previously approved subdivision. For residential subdivisions and commercial, **public, institutional, industrial or projects**, the following specific locational landscape requirements shall be satisfied:

- 1-a. Type B, roadway buffer.** A vegetative buffer area adjacent to a public road or private road right-of-way ~~must~~ shall be preserved or established along the road frontage in accordance with the vegetative buffering requirements of this Article.
- b. Street Plantings.** A continuous landscaped buffer shall be constructed along sidewalks and public or private rights-of-way **internal to the project** except at points of ingress and egress into the property and intersections with other rights-of-way. Such landscape buffers shall be a minimum of eight (8) feet in width and

shall contain trees planted a maximum of forty (40) feet on center along the entire length. **There shall be no parking or structures other than permitted signage located within this vegetated area.** All landscaped areas, including trees located in public rights-of-way that are counted towards the fulfillment of this requirement, shall be properly maintained in accordance with the approved landscape plans. Appropriate tree selection shall be approved by the ~~Natural Resources Management Office~~ **NRMO**. If a tree or any plant material dies, it shall be replaced so as to meet all requirements of this Article.

- c. To mitigate the heat island effect, parking areas shall have appropriate shading.
- (i) For each ten parking spaces there shall be one planted or preserved tree (minimum **four (4) inches dbh** ~~thirty (30) points value~~) and a minimum of 300 square feet per large size tree species of associated pervious area within the interior of a vehicular use area to mitigate the heat island effect.
 - (ii) **For those projects with less than thirty (30) internal parking spaces, 240 square feet of associated pervious area with medium tree species shall be provided for each ten parking spaces.** ~~Those projects that have less than thirty (30) internal parking spaces, a minimum of 300 square feet for large size tree species and 240 square feet for medium size tree species of associated pervious area may be permitted. This landscaping, which shall be equivalent to twenty (20) points, must be placed within the vehicular use area.~~
 - (iii) Where the parking space immediately abuts the required or provided landscaping adjacent to a public road right-of-way that meets the standards in Appendix B, that parking space shall be exempted from this subsection.
 - (iv) Where bus, recreational vehicle, boat, motorcycle, golf cart, or any other non-standard spaces are provided, a landscape island twice the size of each non-standard space shall be provided for each ten non-standard spaces. There shall be one planted or preserved tree (minimum **four (4) inches dbh** ~~thirty (30) points value~~) for every 300 square feet contained within the landscape island. ~~If the island is less than 300 square feet, landscaping shall be equivalent to twenty (20) points.~~
 - (v) Vehicular use area landscaping shall be evenly distributed throughout the parking area.
 - (vi) For all sites, there shall be no more than fifteen (15) consecutive spaces permitted without a required landscape island. ~~The point schedule for parking areas is shown below.~~
 - (vii) For all parking areas, islands shall not be less than twelve (12) feet in width for medium size tree species or fifteen (15) feet in width for large size tree species. Length will be determined by the length of the adjacent parking space.



60 parking spaces provided; 5-15 ft by 20 ft landscape islands required for large tree species; 6 landscape islands provided.

Parking Lot Design Example

- d. For commercial and industrial uses, for each 400 square feet of vehicular use area other than parking, there shall be an additional ten (10) square feet of landscaping. The placement of this must be in association with the vehicular use area and shall be integrated within the vehicular use area in a manner compatible with vehicular movement.

**REQUIREMENTS FOR PARKING AREAS
POINT SCHEDULE FOR PLANTED TREES**

<i>Species Classification</i>		<i>Points</i>	<i>Required Tree Island Area</i>
<i>Large Trees</i>	<i>Native</i>	<i>30</i>	<i>300 square feet per tree</i>
<i>Medium Trees</i>	<i>Native</i>	<i>20</i>	<i>240 square feet per tree</i>

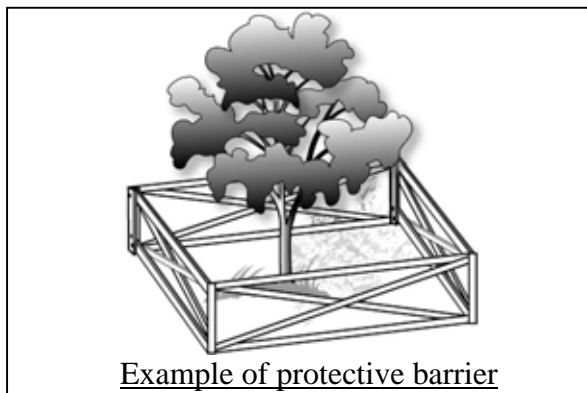
**REQUIREMENTS FOR PARKING AREAS
POINT SCHEDULE FOR PRESERVED NATIVE TREES**

<i>Species Classification</i>	<i>Diameter at Breast Height</i>	<i>Points</i>	<i>Minimum Associated Pervious Area</i>
<i>Large/Medium</i>	<i>2.5 inches up to and including 4 inches</i>	<i>60</i>	<i>400 square feet or the root protection zone whichever is larger.</i>
	<i>Greater than 4 inches up to and including 8 inches</i>	<i>120</i>	<i>400 square feet or root protection zone whichever is larger</i>
	<i>Greater than 8 inches up to and including 16 inches</i>	<i>240</i>	<i>400 square feet or root protection zone whichever is larger</i>
	<i>Greater than 16 inches</i>	<i>240</i>	<i>400 square feet or root protection zone whichever is larger</i>

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- (5)** *Additions or modifications to existing structures.*
 Any applicant for an active development order for an external expansion, modification or addition to structures existing on the property where the expansion or addition shall increase the applicable floor area of the project at least 25 percent, ~~where the expansion, modification or addition shall increase the applicable floor area of the project at least 25 percent,~~ shall comply with all landscaping requirements specified in this Article. ~~Only the~~ Where demolition of existing buildings or creation of separate buildings is being proposed or has occurred, these areas shall meet current performance standards. Where parking areas are being altered, such areas shall be required to meet the standards in ~~Section 62-3639(h)~~ **62-3639(4)** as applicable.
- (6)** *Standards for plant materials.* Whether preserved or newly planted, all plant materials utilized to satisfy the landscaping requirements in this division shall conform to the standards for Florida No. 1 plants, as specified in Grades and Standards for Nursery Plants, parts I and II, 1973, as may be amended, published by the ~~state department of agriculture and consumer services, division of plant industry~~ **Division of Plant Industry, Florida Dept. of Agriculture and Consumer Services** or their successor agency.
- (7)** *Minimum size of newly planted trees.* Trees used to fulfill the landscaping requirements in this division, ~~whether preserved or newly planted trees,~~ shall meet the following overall height, diameter (dbh) and spread requirements, at the time of planting, by species classification:
- a. *For single-family residential uses:*
 - (i) ~~Large and medium species~~ Trees: Eight (8) feet tall with one and a half inch diameter (dbh) minimum and two-foot spread.
 - ~~(b) Small species: Six (6) eight (8) feet tall with one and a half inch (1.5) diameter (dbh) minimum and two-foot spread.~~
 - (ii) Palms: Eight (8) feet of clear trunk.
 - b. *For multi-family, commercial, and industrial uses:*
 - (i) ~~Large and medium~~ species: Twelve (12) feet tall with ~~two and one half (2 1/2)~~ **four (4)**-inch diameter (dbh) minimum and ~~three~~ **five (35)** foot spread, and if required to be planted within vehicular use areas at least 300 square foot pervious area.
 - (ii) ~~Medium~~ species: Ten (10) feet tall with ~~two inch~~ three (3) inch diameter (dbh) minimum and ~~three~~ **two (23)** foot spread, and if required to be planted within vehicular use areas at least 240 square feet pervious area.
 - (iii) ~~Small~~ species: Eight (8) feet tall with two and a half (2.5) ~~one and a half (1.5)~~ inch diameter (dbh) minimum and two-foot spread.
 - (iv) Palms: Ten (10) feet of clear trunk.
- (8)** *Use of undesirable species.* The undesirable species as defined in section 62-3632 are discouraged from being retained on the site. In no case shall they be used to fulfill ~~point~~ requirements.
- (9)** *Use of palms.* Preservation of palms, or the planting of palms, may only be used to satisfy up to twenty-five (25) percent of the required landscaping ~~points~~ unless beachside conditions prohibit the use of less salt-tolerant plants. In no event shall more than 24 palms per acre be utilized to satisfy the landscaping requirements in this division.

- (10)** *Use of synthetic plants. In no event shall synthetic plants such as manmade, plastic, rubber or silk plants be used in the landscape. Removal of landscape materials for installation of synthetic plants is prohibited.*
- (11)** *Selection of plant materials. The selection of new plant materials to satisfy the landscaping requirements in this division shall ~~address, and~~ be compatible with, the proposed use of the site, type of soils, hydroperiods, climate, water quality and other general environmental concerns.*
- (12)** *Location of plant materials. The vegetation utilized to satisfy the landscaping requirements in this ~~division~~ **Article** shall be located on the site in such a manner that the vegetation shall:*
- a. *Not interfere with drainage systems or utility services or create an unsafe visual clearance or other safety hazard. This does not prohibit the appropriate plantings in stormwater retention or detention areas or within utility easements, if approved by the county manager or designee.*
 - b. *Be placed in a manner that will not interfere with vehicular or pedestrian traffic and circulation or visibility, both within a project and at the entrance or exit of a project.*
 - c. *Be protected from vehicular encroachment.*
- (13)** *Protection of preserved vegetation during construction. All vegetation to be preserved on the site must be protected to ensure survivability ~~from mechanical damage and soil compaction~~ during and after construction on the site. An applicant ~~must indicate in writing, briefly, at the time of submitting a landscape plan, the method of vegetation protection~~ shall provide the proposed methods of vegetation protection for during and after construction to the ~~natural resources management office~~ **NRMO**. The methods shall be approved by the ~~natural resources management office~~ **NRMO** prior to issuance of the land clearing permit. Protective methods and barriers for preserved vegetation shall be deployed prior to the beginning of construction or any alteration of the site. No soil disturbance or compaction, construction materials, traffic, trenching, fill or other land disturbing activities are allowed within the root protection zone of preserved vegetation.*



- (14)** *Site preparation. Before landscape installation, soil samples from the areas to be planted should be evaluated for pH and drainage capacity. These results are to be noted and recommended soil amendments (~~preferably sustainable harvested amendments~~), such as yellow sand, charcoal, dolomite lime, perlite, or compost will be added as needed to*

ensure proper growth and drainage for the planting environment. In areas where soils have been compacted or hard pan exists, these soils will be removed and replaced with a soil mixture to ensure proper growth and drainage for the planting environment. When necessary, the soils shall be amended to a depth 1.5 times and twice the diameter of the root ball of the plant. Soil amendments shall be approved by staff prior to installation. For multi-family, **institutional, public, residential subdivisions**, commercial and industrial development, certification by a registered or certified landscape professional will be required as proof that such soil improvements have been made prior to the issuance of the Certificate of Occupancy **or Completion**. ~~A one-year maintenance bond shall also be required.~~

- (15) Prior to the issuance of the certificate of occupancy or certificate of completion for single-family, subdivision, multifamily, commercial, and industrial projects, and at the time of development of government-owned lands, all non-native noxious invasive plants, as defined in this **Article** ~~division~~, shall be removed. For lots greater than five (5.0) acres, the requirement to remove and control re-growth of non-native noxious invasive plants applies to five (5.0) contiguous acres to and including the buildable area as defined in section 62-3632. After the issuance of the certificate of occupancy or certificate of completion, re-growth of non-native noxious invasive plants shall be controlled in perpetuity. The requirements to remove non-native noxious invasive plants at the time of development and control re-growth of such plants in the required area within the site shall apply countywide and prospectively to property after the effective date of this ordinance.
- (16) For projects using Xeriscape[™] or Water-Wise landscaping, the following criteria shall be met:
- a. Native landscape materials are used for at least eighty-five (85)% of materials provided. Remainder of landscape materials must be Florida-friendly per Appendix B, as amended.
 - b. Property must be one hundred (100)% free of non-native noxious invasive plant species or undesirable species as defined in Sec. 62-3632.
 - c. A layer of at least three (3) inches of inorganic or organic mulches must be present. **Dyed mulches are not permissible.** ~~Dyed mulches are not permissible.~~
 - d. Less than fifty (50)% of all landscape areas may be irrigated.
 - e. Vegetation must clearly be grouped in hydrozones on landscape plan and implemented per approved plan.
 - f. Less than fifteen (15) % of landscape materials may be sod excluding playing fields or grass playing courts. When Seashore Paspalum (*Paspalum vaginatum*) is used, up to 25% of landscape materials may be provided by this grass species.
 - g. Soil analysis and letter confirming appropriate amendments must be submitted to the ~~Natural Resources Management Office~~ **NRMO**.
 - h. Property must be free of weeds and pests ~~including vermin~~ and not declared as an overgrowth public nuisance as defined in Chapter 114, Article II.
 - i. Landscape must be appropriately maintained. Improper pruning shall not constitute appropriate maintenance. In no event shall overgrowth **as defined in Chapter 114, Article II** be allowable as Xeriscape[™] or Water-Wise Landscaping.
 - j. Automatic irrigation system, if any, must be equipped with automatic rain sensor shut-off device.

- k. *If criteria a-j are met in their entirety, a fifty (50) percent reduction of the required shrubbery square footage ~~100 landscape points~~ per acre of buildable area shall be credited.*
- (17) *Performance bond. When the county manager or designee determines that circumstances indicate that the planting of trees or vegetation prior to the issuance of a certificate of occupancy or certificate of completion would not be prudent, for reasons such as an improper time of year for the planting of trees, the applicant may post a performance bond with the board of county commissioners, in a form acceptable to the county. The performance bond, if posted, shall be in an amount of no less than 125 percent of the estimated cost of all trees and vegetation to be planted, plus labor, pursuant to the requirements of this division. The performance bond shall be received and accepted by the county prior to the issuance of the certificate of occupancy or certificate of completion.*

Section 62-3640. Landscape Buffers.

The purpose of the vegetative buffering requirements set out in this section is to provide visual and physical screening and buffering between potentially incompatible uses and to reduce the effects of glare, noise and incompatible activities, to include commercial and industrial uses when they abut existing residential uses.

- (1) *Vegetative buffer classifications. Where a fence or wall is required by article VI of this chapter, the type A buffer, as defined in this subsection, ~~may~~ shall be utilized in lieu of the required fence or wall:*
- a. *Type A, compatibility buffer. This buffer classification shall be used to separate commercial or industrial uses from residential uses. The ~~T~~type A buffer shall be completely opaque from the ground up to a height of at least six feet, except where located within 25 feet of a road right-of-way, where it shall be four feet in height. In conjunction with this buffer, a **minimum** 20-foot vegetated area shall be provided. There shall be no ~~structures or parking~~ **or structures other than permitted signage** located within this vegetated area. The opaque buffer may utilize a masonry wall, wood fence, landscaped earth berm, planted or existing vegetation or any combination thereof that maintains a completely opaque buffer.*
- b. *Type B, roadway buffer. This buffer classification shall be required for all development excluding individual single-family homes not within platted subdivisions. Subdivisions shall provide external Type B buffer and street plantings per section 62-3639. This buffer shall be landscaped, be located adjacent to any public right-of-way and have a minimum width of 15 feet. There shall be no parking or structures other than permitted signage located within this vegetated area.*
- (i) *Planting requirements. The planting requirements for the vegetative buffer areas shall be consistent with appendix B as amended, and shall be credited toward the overall landscaping ~~point~~ requirements. Minimum buffering and landscaping of parking areas shall be met regardless of other requirements.*
- (ii) *Location of fences and walls. Where a fence or wall is used to fulfill the screening requirements within a vegetative buffer, it shall be located one foot inside of the property line that abuts the residential zoning. When an*

impediment such as a drainage easement, ditch or water body runs along a property line, an administrative waiver may be granted by the ~~county manager~~ NRMO Director or his/her designee to allow the masonry wall or fence to be placed along the edge of the ditch or water body instead of on the property line. Where there are existing trees within the buffer area, the fence or wall shall be located so as to preserve the trees.

~~(iii) Setback and screening type. When commercially or industrially zoned property abuts any land located in a residential zoning classification, there shall be minimum setback requirements between the abutting property line and any structure located on the commercially or industrially zoned property, as specified in each applicable zoning classification. The vegetative buffer classification for each zoning classification is specified below.~~

Section 62-3641. Maintenance and Inspections.

- (1) The health and viability of all required landscape materials on the site, whether preserved or newly planted, must be maintained through proper care or replacement in perpetuity after issuance of the certificate of occupancy, ~~or~~ certificate of completion, or restoration as may be required to resolve a code violation. For multi-family, residential subdivisions, commercial and industrial projects, the county may perform a courtesy inspection of the landscaping within 90 days after issuance of the certificate of occupancy or certificate of completion. If the vegetation appears to be under stress, the staff shall notify the property owner. A second inspection may be performed ten to twelve months after the issuance of the certificate of occupancy or certificate of completion. If the vegetation is not viable at that inspection, notice shall be given to the property owner and the property owner shall be responsible for replacing that dead vegetation with equivalent landscape material. Failure to have viable landscape materials and/or preserved areas consistent with the approved landscape plan after of the issuance of the certificate of occupancy or certificate of completion shall constitute a violation as described under section 62-3635. Failure to remove non-native noxious invasive plants and control re-growth prior to the final landscaping inspection is a violation of this article and shall be enforced pursuant to section 62-3635. A maintenance bond, cash bond or letter of credit shall be collected in conjunction with the application fee for multi-family, commercial and industrial projects equal to 25 percent of the cost of vegetation other than sod. This maintenance bond, cash bond or letter of credit shall be forfeited if vegetation consistent with the approved landscape plan is not maintained in a viable state or if re-growth of non-native noxious invasive plants is not controlled for the twelve-month duration of the bond. The county reserves the right to cross property to make the necessary inspections.
- ~~(2) Pruning shall be done in conformance with the International Society of Arboriculture's pruning guidelines, American National Standards Institute (ANSI A-300), the Florida Urban Forestry Council, or the University of Florida Cooperative Extension Service's circular publication #853 entitled Pruning Landscape Trees and Shrubs. Improper Tree Pruning is prohibited. Violations of this subsection shall be enforced in accordance with section 62-3635. The pruning of trees listed as undesirable species are exempt from improper pruning standards.~~

(3) ~~The tree pruning standards may be waived by the County Manager or his designee for utilities or traffic operation needs where the tree interferes with the safety and operation of those services.~~

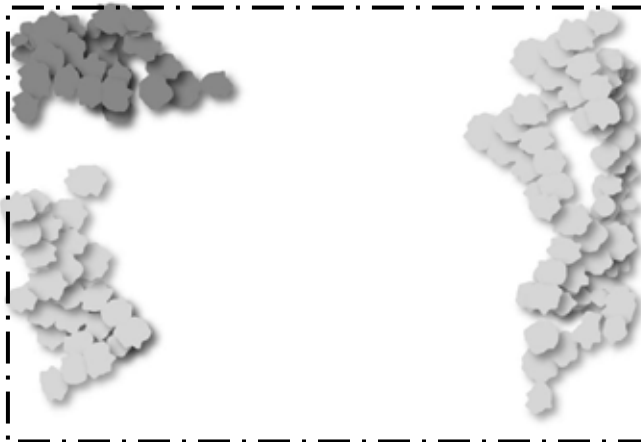
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(2) An onsite inspection shall be conducted prior to the approval of the land clearing permit.

Section 62-3642. Incentives for Increased Canopy and Tree Preservation and Increased Landscaping.

To encourage the preservation of canopy, protected trees, specimen trees and heritage trees, the following incentives are provided. ~~The different types of incentives within this section can be combined but shall not be cumulative.~~

(1) For preservation of canopy greater than the minimum **total canopy** required for the land use and its associated native understory, a density bonus equal to 100% of the excess canopy preservation area shall be granted not to exceed 150% of the density assigned to the property. If other density transfers or bonuses are used in combination with this incentive, the overall density of the property shall not exceed 150% of that permitted by the zoning district.



Zoning Density = 4 units per acre
Parcel Size = 10 acres
40 units permitted

Additional Preserved Canopy= 2 acres
100% Density Bonus = 8 units
48 units permitted

150% density maximum = 60 units

Example of Density Bonus

Section 62-3643. Waivers and Alternative Landscape Enhancement Plans.

In cases of adverse site conditions or hardship, alternative landscape enhancement plans may be considered. Such plans shall be signed and sealed by a landscape architect registered in the state of Florida except for **individual** single-family homes not part of a platted subdivision. Alternative landscape enhancement plans may consist solely of or a combination of on-site preservation, landscaping enhancement, on-site mitigation, off-site mitigation, and compensation. In all cases, the standards for alternative landscape enhancement plans shall be, in order of priority, on-site preservation of existing native vegetation, on-site landscape enhancement, on-site mitigation, off-site mitigation, and compensation. ~~or variances or waivers granted~~

- (1) Alternative Landscape **Enhancement** Plans are intended to provide more **increased** flexibility for sites demonstrating existing **adverse** site conditions, that adversely affect plant viability or preservation, including, but not limited to:
- a. ~~topographic elevation changes, electrical lines, utility easements, buried solid waste areas~~
 - b. ~~redevelopment sites where existing landscaping does not meet current standards and where existing site conditions, such as but not limited to impervious surfaces, access locations, or building locations, prevent the site from meeting the current landscaping requirements,~~
 - c. ~~sites where type or distribution of existing canopy or other protected trees are such that preservation requirements would prohibit site development or conflict with required development standards, such as stormwater or roadway designs, and where alternative site plan designs do not result in meeting the specific landscaping/tree protection requirements as outlined elsewhere in the code.~~
 - da.** Alternative **landscape enhancement** plans shall meet the following performance standards on-site:
 - i. Results in landscaping that exceed specific goals and intent of landscape regulations.
 - ii. Provides sufficient tree plantings to achieve a tree canopy equal to 30% of the site at the time of development.
 - iii. Provides heat island mitigation and landscape buffers, as required by the landscaping code.
 - iv. Replaces protected trees with new plantings of the same species at a rate of 150% of the cumulative diameter at breast height (dbh) of the trees removed, using minimum 4" dbh plantings. (Citrus trees can be replaced with native species.)
 - v. Reduction of parking requirements up to 30% in order to preserve existing protected trees and their canopy.
 - vi. When the applicant provides clear and convincing evidence that demonstrates the canopy preservation and tree preservation performance standards listed within this article cannot be met on the subject property, the applicant may submit an alternative plan that includes mitigation for consideration.

(1) — Variances

Variances shall be requested in writing by the applicant. Variances may only be granted by the Director or his/her designee in part or whole in cases of adverse site conditions or hardship cases where the applicant has clearly demonstrated all of the following factors exist:

- a. that the special conditions or circumstances do not result from actions of the applicant or previous land owner.
- b. that the granting of the requested variance will not confer on the applicant any special privilege that is denied by the provisions of this Article to other lands, buildings or structures.

- ~~e. that the literal interpretation of the provisions of this Article would deprive the applicant of rights commonly enjoyed by other properties under the provisions of this Article and will constitute unnecessary and undue hardship on the applicant.~~
- ~~d. that the variance granted is the minimum variance that will make possible the reasonable use of the land.~~
- ~~e. that the granting of the variance will be in compliance with the general intent and purpose of this Article and not be injurious to the area involved or other detrimental to the public health, safety and welfare.~~
- ~~f. that the site will not support the required trees and vegetative communities to be preserved as well as the required landscaping.~~
- ~~g. that a minor administrative adjustment to the applicable parking standards in nonresidential zoning classifications would allow for the preservation of existing trees on the site, the county manager or designee may administratively waive up to ten thirty (30) percent of the applicable parking standards for the property. If the parking requirements of any other section of this Code conflict with the landscaping requirements of this division, the conflict may be resolved administratively by the county manager or designee.~~

~~(1) Waivers~~

- ~~a. When the Director county manager or designee has determined that the site will not support the required trees and vegetative communities to be preserved as well as the required landscaping, an administrative waiver to tree planting requirements may be granted. It is the intent of this division that preservation of native and Florida friendly trees and vegetation shall take precedence over additional planting of trees and vegetation.~~
- ~~b. When the Director county manager or designee determines that a minor administrative adjustment to the applicable parking standards in nonresidential zoning classifications would allow for the preservation or additional planting of native or Florida friendly existing trees on the site, upon a written request by the applicant, together with a vegetation survey, submitted with the required landscaping plan, the county manager or designee may administratively waive up to ten thirty (30) percent of the applicable parking standards for the property. Where the county manager or designee determines that additional preservation would occur if required parking reduction were granted, applicant must submit for parking reduction by up to thirty percent to allow preservation. The total parking spaces shall not be less than seventy (70)% of the parking as required by the land development regulations. If the parking requirements of any other section of this Code conflict with the landscaping requirements of this division, the conflict may be resolved administratively by the county manager or designee.~~

- ~~(2) *Betterment plan.* The landscaping requirements set forth in this division may be deemed satisfied when an applicant submits a betterment plan to the county development plans review division director natural resources management office **NRMO** at the time of submittal of the landscaping plan, which illustrates an improvement that may be accomplished through alternative action that would result in a landscape plan which is more viable than would result from strict application of the requirements of this section through the implementation of the alternative plan, and the county manager or designee~~

determines that the betterment plan fulfills the specific intent and goals of this division. This betterment plan must include a vegetation survey.

(2) Mitigation

When the applicant has provided clear and convincing evidence that demonstrates the canopy preservation and tree preservation performance standards listed within this article cannot be met on the subject property, the applicant may submit an alternative landscape enhancement plan that includes mitigation for consideration.

~~Private projects that have adverse site conditions may be allowed to mitigate for the loss of canopy and protected trees. Specimen or heritage trees are not eligible for consideration of mitigation and must be preserved or relocated on-site. Mitigation can consist of a combination of restoration and replacement of trees and canopy through tree plantings, relocation of trees to another site (with the receiving property owner's or owners' permission), or monetary compensation. For all types of mitigation, except for compensation, the applicant is responsible for maintenance in perpetuity and bonding as outlined in Section 62-3641. The types of mitigation and their standards are as follows:~~

~~a. Restoration and Replacement~~

~~i. For every protected tree that cannot be preserved or re-located on-site, the size of the planted tree shall be at least six (6) inches dbh and the number of planted trees required shall be determined by a ratio of 150% of the protected tree's dbh.~~

~~ii. All restoration or replacement areas shall be permanently protected in a conservation easement.~~

~~b. Replacement~~

~~i. For every protected tree that cannot be preserved or relocated on-site, replacement trees shall be at least 4 inches dbh and the number of replacement trees shall be determined by a ratio of 150% of the protected tree's dbh.~~

~~ii. All replacement areas shall be permanently protected in a conservation easement.~~

~~b. Relocation~~

~~i. For every protected tree that cannot be preserved or reasonably relocated on-site, the protected tree may be relocated to another site acceptable to the County. Reasonable relocation includes techniques such as root pruning, tree spades and other similar techniques. Relocation techniques shall be reviewed and approved by the County prior to being used for any relocation of trees both on and off the property.~~

~~ii. All relocation areas shall be permanently protected in a conservation easement.~~

c. When the applicant has provided clear and convincing evidence that demonstrates the canopy and tree preservation performance standards and alternative landscape enhancement plan objectives listed within this article cannot be met on the subject property or through mitigation, the applicant may submit a compensation proposal for consideration.

(3) Compensation

STAFF requests discussion. Since the LLTP increased the compensation cost per acre, should the costs in subsections a and b also be increased?

Compensation for the loss of canopy and protected trees shall be determined as follows:

- a. Compensation (C) for trees of known Number REMoved (NREM) and known Total DBH (TDBH) shall be calculated by the formula
 $C = \$200.00(NREM) + \$60.00(TDBH)$
- b. Compensation for trees of known Number REMoved (NREM) but unknown total diameter shall be calculated by the formula
 $C = \$1,500(NREM)$
- c. Compensation for trees for which neither the total diameter nor the number can be determined shall be made under the assumption that the site was 100% forested. Compensation shall be calculated by the formula.
 $C = \$60,000/\text{acre}$ or the valuation provided by a tree appraisal conducted by an arborist certified by the International Society of Arboriculture or landscape architect registered in the state of Florida and where the appraisal was conducted in accordance with the methodology contained in the Guide for Plant Appraisal, 9th edition, as amended and published by the International Society of Arboriculture.
- d. Compensation for specimen or heritage trees illegally removed or destroyed shall be three (3) times the calculated cost of C.
- e. All compensation funds shall be deposited in the trust fund established by Section 62-3635 of this Article.

(4) Waivers

- a. **When the Director or his/her designee ~~county manager or designee~~ has determined that the site will not support the required trees and vegetative communities to be preserved as well as the required landscaping, an administrative waiver to tree planting requirements may be granted. It is the intent of this article ~~division~~ that preservation of native and Florida-friendly trees and vegetation shall take precedence over additional planting of trees and vegetation.**
- b. **When the Director or his/her designee ~~county manager or designee~~ determines that a minor administrative adjustment to the applicable parking standards in nonresidential zoning classifications would allow for the preservation or additional planting of native or Florida-friendly existing trees on the site, upon a written request by the applicant, together with a vegetation survey, submitted with the required landscaping plan, the county manager or designee may administratively waive up to ~~ten~~ thirty (30) percent of the applicable parking standards for the property. Where the Director or his/her designee determines that additional preservation would occur if required parking reduction were granted, applicant must submit for parking reduction by up to thirty percent to allow preservation. The total parking spaces shall not be less than seventy (70)% of the parking as required by the land development regulations. If the parking requirements of any other section of this Code conflict with the landscaping requirements of this**

division, the conflict may be resolved administratively by the county manager or designee.

Section 62-3644. Appeals and Variances and Waivers

(1) Any appeals relating to any administrative decision or determination concerning implementation or application of the provisions of this Article shall be filed in accordance with the provisions set forth in Section 62-507, Brevard County Code.

~~(1) Waivers~~

- a. ~~When the Director or his/her designee county manager or designee has determined that the site will not support the required trees and vegetative communities to be preserved as well as the required landscaping, an administrative waiver to tree planting requirements may be granted. It is the intent of this article division that preservation of native and Florida friendly trees and vegetation shall take precedence over additional planting of trees and vegetation.~~
- b. ~~When the Director or his/her designee county manager or designee determines that a minor administrative adjustment to the applicable parking standards in nonresidential zoning classifications would allow for the preservation or additional planting of native or Florida friendly existing trees on the site, upon a written request by the applicant, together with a vegetation survey, submitted with the required landscaping plan, the county manager or designee may administratively waive up to ten thirty (30) percent of the applicable parking standards for the property. Where the county manager Director or his/her designee determines that additional preservation would occur if required parking reduction were granted, applicant must submit for parking reduction by up to thirty percent to allow preservation. The total parking spaces shall not be less than seventy (70)% of the parking as required by the land development regulations. If the parking requirements of any other section of this Code conflict with the landscaping requirements of this division, the conflict may be resolved administratively by the county manager or designee.~~

Waivers moved to previous section.

(22) Variances to the requirements of this Article may be granted by the Board of Adjustment only if all of the following criteria have been met by the applicant.

- a. An application and fee has been filed by the applicant with the **NRMO** and;
- b. The application provides clear and convincing evidence that the applicant cannot comply with the requirements and process in Section 62-3643 due to unique site characteristics not commonly found on similar properties and;
- c. The unique site characteristics are not the result of the applicant's activities.

Appendix A Undesirable Plant Species

Scientific Name Common Name

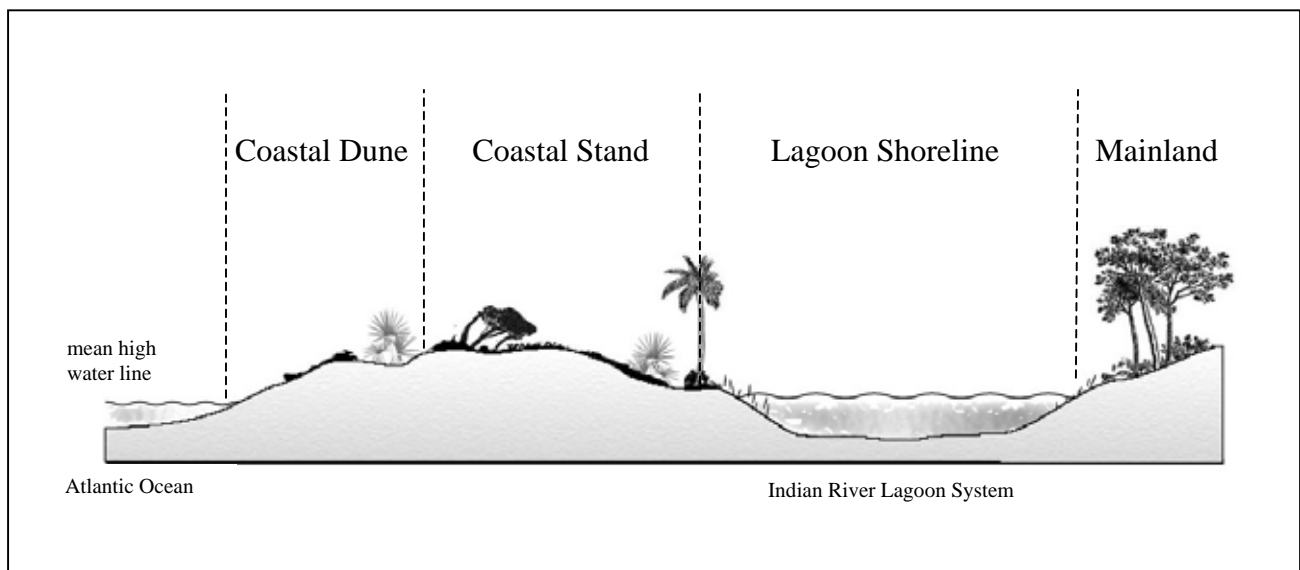
<i>Abrus precatorius</i>	rosary pea	<i>Pennisetum purpureum</i>	Napier grass
<i>Acacia auriculiformis</i>	earleaf acacia	<i>Pistia stratiotes</i>	waterlettuce
<i>Albizia julibrissin</i>	mimosa, silk tree	<i>Psidium cattleianum</i> (= <i>P. littorale</i>)	strawberry guava
<i>Albizia lebbek</i>	woman's tongue	<i>Psidium guajava</i>	guava
<i>Ardisia crenata</i>	coral ardisia	<i>Pueraria montana</i> var. <i>lobata</i> (= <i>P. lobata</i>)	kudzu
<i>Ardisia elliptica</i>	shoebutton ardisia	<i>Rhodomyrtus tomentosa</i>	downy rose-myrtle
<i>Asparagus aethiopicus</i>	asparagus-fern	<i>Rhoeo spathacea</i> (see <i>Tradescantia spathacea</i>)	
<i>Bauhinia variegata</i>	orchid tree	<i>Rhynchelytrum repens</i>	Natal grass
<i>Bischofia javanica</i>	bischofia	<i>Ruellia tweediana</i> (= <i>R. brittoniana</i>)	Mexican petunia
<i>Calophyllum antillanum</i>	santa maria (names "mast wood," "Alexandrian laurel" used in cultivation)	<i>Sapium sebiferum</i> (= <i>Triadeca sebifera</i>)	popcorn tree, Chinese tallow tree
<i>Casuarina equisetifolia</i>	Australian pine	<i>Scaevola taccada</i> (= <i>Scaevola sericea</i> , <i>S. frutescens</i>)	scaevola, half-flower, beach naupaka
<i>Casuarina glauca</i>	suckering Australian pine	<i>Schefflera actinophylla</i> (= <i>Brassaia actinophylla</i>)	schefflera, Queensland umbrella tree
<i>Cinnamomum camphora</i>	camphor-tree	<i>Schinus terebinthifolius</i>	Brazilian pepper
<i>Colocasia esculenta</i>	wild taro	<i>Senna pendula</i> var. <i>glabrata</i> (= <i>Cassia coluteoides</i>)	climbing cassia, Christmas cassia, Christmas senna
<i>Colubrina asiatica</i>	lather leaf	<i>Solanum tampicense</i> (= <i>S. houstonii</i>)	wetland night shade, aquatic soda apple
<i>Cupaniopsis anacardioides</i>	carrotwood	<i>Solanum viarum</i>	tropical soda apple
<i>Dioscorea alata</i>	winged yam	<i>Syngonium podophyllum</i>	arrowhead vine
<i>Dioscorea bulbifera</i>	air-potato	<i>Syzygium cumini</i>	jambolan, Java plum
<i>Eichhornia crassipes</i>	water-hyacinth	<i>Tectaria incisa</i>	incised halberd fern
<i>Eugenia uniflora</i>	Surinam cherry	<i>Thespesia populnea</i>	seaside mahoe
<i>Ficus microcarpa</i> (<i>F. nitida</i> and <i>F. retusa</i> var. <i>nitida</i> misapplied)	laurel fig	<i>Tradescantia fluminensis</i>	white-flowered wandering jew
<i>Hydrilla verticillata</i>	hydrilla	<i>Tradescantia spathacea</i> (= <i>Rhoeo spathacea</i> , <i>Rhoeo discolor</i>)	oyster plant I S
<i>Hygrophila polysperma</i>	green hygro	<i>Urochloa mutica</i> (= <i>Brachiaria mutica</i>)	Pará grass
<i>Hymenachne amplexicaulis</i>	West Indian marsh grass	<i>Adenanthera pavonina</i>	red sandalwood
<i>Imperata cylindrica</i> (<i>I. brasiliensis</i> misapplied)	cogon grass	<i>Agave sisalana</i>	sisal hemp
<i>Ipomoea aquatica</i>	waterspinach	<i>Aleurites fordii</i> (= <i>Vernicia fordii</i>)	tung oil tree
<i>Jasminum dichotomum</i>	Gold Coast jasmine	<i>Alstonia macrophylla</i>	devil-tree
<i>Jasminum fluminense</i>	Brazilian jasmine	<i>Alternanthera philoxeroides</i>	alligator weed
<i>Lantana camara</i>	lantana, shrub verbena	<i>Antigonon leptopus</i>	coral vine
<i>Ligustrum lucidum</i>	glossy privet	<i>Aristolochia littoralis</i>	calico flower
<i>Ligustrum sinense</i>	Chinese privet, hedge privet	<i>Asystasia gangetica</i>	Ganges primrose
<i>Lonicera japonica</i>	Japanese honeysuckle	<i>Begonia cucullata</i>	wax begonia
<i>Lygodium japonicum</i>	Japanese climbing fern	<i>Blechnum pyramidatum</i>	green shrimp plant, Browne's blechnum
<i>Lygodium microphyllum</i>	Old World climbing fern	<i>Broussonetia papyrifera</i>	paper mulberry
<i>Macfadyena unguis-cati</i>	cat's claw vine	<i>Callisia fragrans</i>	inch plant, spironema
<i>Manilkara zapota</i>	sapodilla	<i>Casuarina cunninghamiana</i>	Australian pine
<i>Melaleuca quinquenervia</i>	melaleuca, paper bark	<i>Cecropia palmata</i>	trumpet tree
<i>Mimosa pigra</i>	catclaw mimosa	<i>Cestrum diurnum</i>	day jessamine
<i>Nandina domestica</i>	nandina, heavenly bamboo	<i>Chamaedorea seifrizii</i>	bamboo palm
<i>Nephrolepis cordifolia</i>	sword fern	<i>Clematis terniflora</i>	Japanese clematis
<i>Nephrolepis multiflora</i>	Asian sword fern	<i>Cryptostegia madagascariensis</i>	rubber vine
<i>Neyraudia reynaudiana</i>	Burma reed, cane grass		
<i>Paederia cruddasiana</i>	sewer vine, onion vine		
<i>Paederia foetida</i>	skunk vine		
<i>Panicum repens</i>	torpedo grass		

Cyperus involucratus (*C. alternifolius* umbrella plant misapplied)
Cyperus prolifer dwarf papyrus
Dalbergia sissoo Indian rosewood, sissoo
Elaeagnus pungens thorny eleagnus
Epipremnum pinnatum cv.
 Aureum pothos
Ficus altissima false banyan, council tree
Flacourtia indica governor's plum
Hemarthria altissima limpo grass
Hibiscus tiliaceus mahoe, sea hibiscus
Ipomoea fistulosa (= *I. carnea* ssp. *fistulosa*) shrub morning-glory
Jasminum sambac Arabian jasmine
Kalanchoe pinnata life plant
Koelreuteria elegans ssp. *formosana* (= *K. formosana*; *K. paniculata* misapplied) flamegold tree
Leucaena leucocephala lead tree
Limnophila sessiliflora Asian marshweed
Livistona chinensis Chinese fan palm
Melia azedarach Chinaberry
Merremia tuberosa wood-rose
Murraya paniculata orange-jessamine
Myriophyllum spicatum Eurasian water-milfoil
Nymphoides cristata snowflake
Panicum maximum Guinea grass
Passiflora biflora two-flowered passion vine
Pennisetum setaceum green fountain grass
Phoenix reclinata Senegal date palm
Pittosporum pentandrum Philippine pittosporum, Taiwanese cheesewood
Phyllostachys aurea golden bamboo
Pteris vittata Chinese brake fern
Ptychosperma elegans solitary palm
Ricinus communis castor bean
Sansevieria hyacinthoides bowstring hemp
Scleria lacustris Wright's nutrush
Sesbania punicea purple sesban, rattlebox
Solanum diphyllum Two-leaf nightshade
Solanum jamaicense Jamiaca nightshade
Solanum torvum susumber, turkey berry
Sphagneticola trilobata wedelia (= *Wedelia trilobata*)
Stachytarpheta urticifolia (= *S. cayennensis*) nettle-leaf porterweed
Syagrus romanzoffiana (= *Arecastrum romanzoffianum*) queen palm
Syzygium jambos rose-apple
Terminalia catappa tropical almond
Terminalia muelleri Australian almond
Tribulus cistoides puncture vine, burr-nut
Urena lobata Caesar's weed
Vitex trifolia simple-leaf chaste tree
Washingtonia robusta Washington fan palm
Wedelia (see *Sphagneticola* above)
Wisteria sinensis Chinese wisteria

Appendix B Vegetative Buffers Planting Requirements

The illustrations contained within this Appendix are intended to provide a suggested guideline for the establishment of vegetative buffers pursuant to the requirements of the Landscaping Ordinance Article. The following planting guidelines shall be met when establishing or re-establishing a ~~required greenbelt~~ vegetative buffer. Each planting zone shall contain plantings from all groups within the zone.

Brevard County can be divided into four planting zones traversing the County from East to West.



(1) PLANTING ZONES

(A) MAINLAND AND COASTAL STAND ZONES

1. GROUP 1 PLANTS- shall plant a minimum of three (3) feet in height four (4) feet on center.
2. GROUP 2 PLANTS- shall plant a minimum of four (4) trees for every one hundred (100) linear feet having a minimum height of eight (8) feet. Two (2) palms equal one (1) hardwood tree.
3. GROUP 3 PLANTS- shall be a minimum of twelve (12) inches in height planted three (3) feet on center.

(B) COASTAL DUNE ZONE

1. GROUP 1 PLANTS- Saw Palmetto and Coontie shall be a minimum of twelve (12) inches in height planted three (3) feet on center. All other Group 1 Plants shall be a minimum of three (3) feet in height planted four (4) feet on center.

2. GROUP 2 PLANTS- shall plant a minimum of four (4) trees for every one hundred (100) lineal feet having a minimum height of eight (8) feet. Two (2) palms equal one (1) hardwood tree.
3. GROUP 3 PLANTS- shall have four (4) inch minimum liners planted twelve (12) inches on center.

(C) LAGOON SHORELINE

1. GROUP 4 PLANTS- shall plant ten (10) inch seedlings a minimum of four (4) feet on center.
2. GROUP 5 PLANTS- shall plug twelve (12) inches on center.
3. GROUP 6 PLANTS- shall plant or plug native sod to ensure total coverage of the buffer area.

(2) PLANT GROUPS

The following is a partial list of recommended plants and trees which should be considered when re-establishing a required vegetative buffer as referenced in the planting requirements above. This list is intended as a recommendation, ~~and is not to be construed to be mandatory.~~ Other appropriate plantings may be suggested to the Natural Resources Management Office **NRMO** for review and approval.

(A) GROUP 1 PLAN

<u>Mainland Zone</u>	<u>Coastal Stand Zone</u>	<u>Coastal Dune Zone</u>
Wax Myrtle	Wax Myrtle	Silverthorn
Privett	Cocoplum	Natal Plum
Silverthorn	Sea Grape	Sea Grape
<u>Native</u> Viburnum	Inkberry	<u>Native</u> Scaevola
Crepe Myrtle	Eleagnus	Saw Palmetto
Podocarpus	Ligustrum	Cocoplum
Pampas Grass	Pampas Grass	Pittosporum
Sea Grape	Pittosporum	

(B) GROUP 2 PLANTS

<u>Mainland Zone</u>	<u>Coastal Zone</u>	<u>Coastal Dune Zone</u>
Oak	Sand Live Oak	Sand Pine
Maple	Cabbage Palm	Cabbage Palm
<u>Longleaf or</u>		
<u>Slash Pine</u>	So. Red Cedar	Sand Live Oak
So. Red Cedar	Washington Palm	So. Red Cedar
Cabbage Palm	Red Bay	Red Bay
Bottlebrush	European Olive	European Olive
Canary Island		
-Date Palm	So. Magnolia	Myrtle Oak
Pindo Palm	Myrtle Oak	<u>Chapman's Oak</u>
Chinese Elm	<u>Chapman's Oak</u>	
Cherry Laurel		
So. Magnolia		
Queen Palm		

(C) GROUP 3 PLANTS

<u>Mainland Zone</u>	<u>Coastal Zone</u>	<u>Coastal Dune Zone</u>
Yaupon Holly	Yaupon Holly	Beach Elder
Juniper	Carissa	Inkberry

Thryallis	Crinum Lily	Sea Oats
Pittosporum	Saw Palmetto	Railroad Vine
Saw Palmetto	Coontie	Beach Sunflower
	Seaside Oxeye Daisy	
	Coontie	
	Coastal Panicum	
	Grass	
	Cordgrass	

(D) GROUP 4 PLANTS

Lagoon Shoreline

White Mangrove

Black Mangrove

Red Mangrove

(E) GROUP 5 PLANTS

Lagoon Shoreline

Salt Jointgrass

Cordgrass

Seashore Saltgrass

Christmas Berry

Buttonwood

(F) GROUP 6 PLANTS

Lagoon Shoreline~~Bermuda Grass~~~~St. Augustine Grass~~Seashore Paspalum

Appendix C Recommended Plants for Brevard County

LEGEND

L=LOW, M=MEDIUM[0], H=HIGH, P=POOR, F=FAIR, G=GOOD, FS=FULL SUN, PS=PARTIAL SUN, SH=SHADE, B=BARRIER AND MI, S=SOUTH, C=CENTRAL, N=NORTH

Species Scientific Name	Common Name	Location	Watering Needs	Salt Tolerance	Wind Resistance	Light Range (listed in order of preference)	Mature size (ft.) HXW ³	Expected Mature Diameter (feet)	Expected Mature Height (feet)	Comments
LARGE/MEDIUM TREES > 25 feet										
<i>Acer rubrum</i>	red maple	B,S,C,N	M	L	P	PS,FS	50X30	25-35	60-75	deciduous
<i>Avicennia germinans</i>	black mangrove	B,S,C	H	H		FS	30X25	10-30	10-40	evergreen
<i>Bursera simaruba</i>	gumbo-limbo	B,S,C	L	H	G ²	PS,FS	40X35	35-50	25-50	semi-deciduous
<i>Catalpa bignonioides</i>	southern catalpa	C,N	L	L		PS,FS	50X40			deciduous
<i>Carpinus carolinia</i>	American hornbeam	C,N	M	L		SH,PS	25X25	20-30	20-30	deciduous
<i>Carya floridana</i>	scrub hickory	S,C,N	L	L	P	FS	30X15	15-20	30-40	deciduous
<i>Carya glabra</i>	pignut hickory	S,C,N	L	L	P	FS	60X40	30-100	50-100	deciduous
<i>Carya tomentosa</i>	mockernut hickory	C,N	L	L	P	PS,FS	60X35			deciduous
<i>Celtis laevigata</i>	hackberry, sugarberry	S,C,N	L	L	P	PS,FS	50X35	50-60	50-70	deciduous
<i>Cercis canadensis</i>	eastern redbud	N	L	L		PS,FS	25X20	15-25	20-30	deciduous
<i>Chrysophyllum oliviforme</i>	satinleaf	B,S	L	M		FS	30X20	10-30	15-30	evergreen
<i>Coccoloba diversifolia</i>	pigeon plum	B,S	L	H	G	SH,FS	25X20	25-40	25-50	evergreen
<i>Coccoloba uvifera</i>	seagrape	B,S,C	L	H	G	PS,FS	30X25	20-30	25-30	evergreen
<i>Cordia sebestena</i>	geiger tree	B,S	L	H		PS,FS	25X20	20-25	25-30	evergreen
<i>Conocarpus erectus</i>	buttonwood	B,S,C	L	H		FS	35X25	20-30	30-45	evergreen
<i>Cupressocyparis x leylandii</i>	Leyland cypress	S,C,N	M	M		FS	45X20			evergreen
<i>Diospyros virginiana</i>	American persimmon	B,S,C,N	M	L		FS,PS	50X30	20-35	40-60	deciduous
<i>Ficus aurea</i>	strangler fig	B,S,C	L	M		FS,PS,SH	50X50	50-60	40-50	evergreen, aggr
<i>Fraxinus caroliniana</i>	water ash	S,C,N	H	L	P	FS	40X25	25-30	30-40	deciduous
<i>Gordonia lasianthus</i>	loblolly-bay	S,C,N	H	L		PS,FS	40X15	10-15	35-60	evergreen
<i>Ilex opaca</i>	American holly	C,N	L	M	G	PS,FS	40X20	15-25	35-50	evergreen
<i>Ilex cassine</i>	dahoon holly	S,C,N	L	M	G	PS,FS	25X15	8-30	25-40	evergreen
<i>Ilex x attenuata</i>	East Palatka holly	B,S,C,N	M	M	G	PS,FS	30X15	10-15	25-50	evergreen
<i>Juniperus virginiana</i>	Eastern red cedar	S,C,N	L	H	P	FS	35X25	20-30	30-45	evergreen
<i>Jacaranda mimosifolia</i>	Jacaranda	S,C,N	L	L	P	FS	40X50	45-60	25-40	deciduous
<i>Laguncularia racemosa</i>	white mangrove	B,S,C	H	H		FS	35X30	25-30	25-40	evergreen
<i>Liquidambar styraciflua</i>	sweetgum	C,N	L	L		PS,FS	70X40	35-50	60-75	deciduous
<i>Liriodendron tulipifera</i>	yellow poplar	C,N	H	L	P	FS	90X40	30	100	deciduous
<i>Magnolia grandiflora</i>	southern magnolia	B,S,C,N	M	M	G	PS,FS	80X40	30-40	60-80	evergreen
<i>Magnolia virginiana</i>	sweet bay	S,C,N	W	s		FS,PS	90X60	15-25	40-50	evergreen
<i>Morus rubra</i>	red mulberry	S,C,N	M	M		FS	30X25	20-40	50-70	deciduous

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<i>Nyssa sylvatica</i>	black tupelo	N	M	L	G	PS,FS	60X30	25-35	65-75	deciduous
<i>Ocotea coriacea</i>	lancewood	B,S,C	L	L		PS,SH		25	15-25	evergreen
<i>Persea borbonia</i>	red bay	B,S,C,N	L	H	P	PS,FS	40X30	30-50	30-50	evergreen
<i>Persea palustris</i>	swamp bay	S,C,N	M	H		PS,FS	35X20	35-40	25-50	evergreen
<i>Piscidia piscipula</i>	Jamaican dogwood	B,S	L	H		PS,FS	45X25			deciduous
<i>Pinus elliotii</i>	slash pine	B,S,C,N	L	M	F	FS	100X30	35-50	50-70	evergreen
<i>Pinus glabra</i>	spruce pine	C,N	M	L	G	FS	75X25	25-40	30-60	evergreen
<i>Pinus palustris</i>	long-leaf pine	S,C,N	L	L	F	FS	70X35	30-40	60-80	evergreen
<i>Pinus serotina</i>	pond pine	S,C,N	H	L	F	FS		20-25	40-50	evergreen
<i>Pinus taeda</i>	loblolly pine	S,C,N	L	L		FS	100X25			evergreen
<i>Platanus occidentalis</i>	sycamore	S,C,N	L	M	G	FS	90X60	50-70	75-90	deciduous
<i>Prunus caroliniana</i>	cherry laurel	S,C,N	M	M	P	PS,FS	25X15	15-25	25-30	evergreen, poison
<i>Quercus geminata</i>	sand live oak	B,S,C,N	L	H		PS,FS	40X40	50-60	25-40	evergreen
<i>Quercus hemisphaerica</i>	laurel oak	S,C,N	L	L		FS,PS	80X40	30-40	40-60	semi-evergreen
<i>Quercus incana</i>	bluejack oak	C,N	L	L		FS	40X20	20-35	25-40	deciduous
<i>Quercus laevis</i>	turkey oak	S,C,N	L	M	P	FS	50X20	25-30	30-40	deciduous
<i>Quercus laurifolia</i>	laurel oak	S,C,N	L	L	P	FS	80X45	35-45	60-70	evergreen
<i>Quercus myrtifolia</i>	myrtle oak	S,C,N	L			FS	35X15	20-30	20-30	evergreen
<i>Quercus nigra</i>	water oak	S,C,N	M	L	P	FS	80X50	60-70	50-60	evergreen
<i>Quercus virginiana</i>	live oak	B,S,C,N	L	H	G ¹	FS	60X40	60-120	60-80	evergreen
<i>Rhizophora mangle</i>	red mangrove	B,S,C	H	H		FS	30X30	15-25	15-25	deciduous
<i>Salix babylonica</i>	weeping willow	S,C,N	H	L	P	FS	35X30	45-70	45-70	deciduous
<i>Sapindus saponaria</i>	soapberry	B,S,C,N	L	H		PS,FS	25X15			semi-deciduous
<i>Sideroxylon foetidissimum</i>	mastic, false mastic	B	L	M		PS,FS	45X30	30-50	50-80	evergreen
<i>Simarouba glauca</i>	paradise tree, bitterwood	B	L	M		PS,FS	50X30	30	50	evergreen
<i>Taxodium ascendens</i>	pond cypress	S,C,N	L	M	G	PS,FS	80X25	10-40	50-75	deciduous
<i>Taxodium distichum</i>	bald cypress	S,C,N	L	M	G	PS,FS	75X15	20-35	75-100	deciduous
<i>Ulmus americana var. floridana</i>	Florida elm	S,C,N	M	L	P	PS,FS	60X40	50-60	60-80	semi-evergreen
<i>Ulmus alata</i>	Winged elm	B,S,C,N	L	L		FS,PS	40X5	30-40	45-70	deciduous
<i>Ulmus parviflora</i>	Chinese elm	C,N	L	L		PS,FS	45X30	35-50	40-50	semi-deciduous
<i>Zanthoxylum clavaherculis</i>	Hercules-club	B,S,C,N	L	H		PS,FS	30X15	15-20	25-30	deciduous

**SMALL TREES < 25
feet height**

<i>Acacia farnesiana</i>	sweet acacia	B,S,C,N	L	H	P	FS	20X20	15-25	15-25	evergreen
<i>Aesculus pavia</i>	red buckeye	S,C,N	M	L		PS	25X15	15-25	15-20	deciduous, seed
<i>Amyris elemifera</i>	torchwood	B,S	L	H		PS,FS			15-20	evergreen
<i>Annona glabra</i>	pond-apple, custard- apple	S	H	M		FS	20X15	10-20	12-20	semi-deciduous
<i>Ardisia escallonioides</i>	marlberry, marlberry	B,S	M	L		PS,SH		6-10	12-20	evergreen, poison
<i>Bumelia tenax</i>	tough bumelia	B,S,C,N	H	H		FS		10-20	15-30	evergreen
<i>Callistemon citrinus</i>	lemon bottlebrush	B,S,C,N	M	M		FS	20X10	10-15	10-15	evergreen
<i>Carya floridana</i>	scrub hickory	B,S,C,N	L	L	P	FS		15	25	deciduous
<i>Chionanthus virginicus</i>	fringe tree	C,N	H	L		FS,PS,SH	20X12	10-15	12-20	deciduous
<i>Citharexylum spinosum</i>	fiddlewood	B,S	L	M		PS,FS	20X15	15-20	20-30	evergreen
<i>Cordia boissieri</i>	wild olive	S,C,N	L	L		FS	20X15	10-15	15-20	evergreen
<i>Cornus florida</i>	dogwood	N	H	L	F	PS,FS	20X15	10-15	20-30	deciduous
<i>Cornus foemina</i>	swamp dogwood	S,C,N	H	L		FS,PS,SH		10-15	10-25	deciduous
<i>Crataegus flava</i>	summer haw	S,C,N	L	L		PS,FS	20X10	35-40	20-30	deciduous
<i>Cyrilla racemiflora</i>	titi	C,N	H	L		FS,PS		10-25	10-35	semi-evergreen
<i>Dodonaea viscosa</i>	varnish leaf	B,S,C,N	L	H		PS,FS		6-15	10-15	evergreen

<i>Eriobotrya japonica</i>	loquat	S,C,N	L	M		FS	20X15	30-35	20-30	evergreen
<i>Guapira discolor</i>	blolly	B,S	L	H		FS	30X40	30	40	evergreen
<i>Ilex vomitoria</i>	yaupon holly	B,S,C,N	L	H		PS,FS	20X15	15-20	15-25	evergreen
<i>Jatropha integerrima</i>	peregrina	S	L	M		FS		10-15	10-15	evergreen, pois
<i>Krugiodendron ferreum</i>	black ironwood, leadwood	B,S	L	M		PS,FS	20X10	10-20	15-25	evergreen
<i>Lagerstroemia spp.</i>	crepe myrtle	S,C,N	L	M	F	FS	25X15	15-25	10-30	deciduous
<i>Lyonia ferruginea</i>	rusty lyonia	S,C,N	H	L		FS		4-6	12-15	evergreen
<i>Magnolia grandiflora</i>	Little Gem variety southern magnolia	B,S,C,N	M	M		FS,PS		10-15	20-25	evergreen
<i>Myrcianthes fragrans</i>	Simpson's stopper	B,S,C	L	H		FS,PS		15-20	20-30	evergreen
<i>Myrica cerifera</i>	wax myrtle	B,S,C,N	H	H	F	PS,FS		20-25	15-25	evergreen
<i>Osmanthus americanus</i>	wild olive	S,C,N	L	L		PS,FS		10-15	15-25	evergreen
<i>Parkinsonia aculeata</i>	Jerusalem thorn	B,S,C,N	L	H		FS	20X35	20-25	15-20	deciduous
<i>Platyclusus orientalis</i>	arborvitae	S,C,N	L	L		PS		10-15	15-20	evergreen
<i>Plumeria rubra</i>	frangipani	S	L	M		PS,FS	20X20	20-25	20-25	deciduous
<i>Prunus augustifolia</i>	Chickasaw plum	S,C,N	L	H		PS,FS	25X15	15-20	12-20	deciduous
<i>Prunus umbellata</i>	flatwoods plum	S,C,N	M	L		PS,FS	20X15	15	20	deciduous
<i>Quercus chapmanii</i>	Chapman's oak	B,S,C,N	M	M		FS	20X10	10	20	briefly deciduo
<i>Vaccinium arboreum</i>	sparkleberry	S,C,N	M	L		PS, SH		10-15	12-18	deciduous
<i>Viburnum odoratissimum</i>	sweet viburnum	S,C,N	M	L		FS,PS,SH		15-25	25-30	evergreen
<i>Zanthoxylum fagara</i>	wild-lime	B,S,C,N	L	H		PS,FS	15X12	15-25	15-25	evergreen

PALMS

<i>Acoelorrhaphe wrightii</i>	Everglades paurotis palm	S,C	H	M	G	FS,PS		10-15	15-25	evergreen
<i>Butia capitata</i>	Pindo palm	B,S,C,N	M	M		PS,FS			10-20	evergreen
<i>Livistona australis</i>	Australian fan palm	S,C,N	M			FS			40-80	evergreen
<i>Phoenix canariensis</i>	Canary Island date palm	B,S,C,N	L	M		FS			30-60	evergreen
<i>Rhapidophyllum hystrix</i>	needle palm	B,S,C,N	H	L	G	SH		4-8	3-8	evergreen
<i>Rhapis excelsa</i>	broad leaf lady palm	S,C,N	M	M		SH, PS			8-10	evergreen
<i>Sabal etonia</i>	Florida scrub palmetto	S,C,N	L	H	G	FS,PS		4-6	4-6	evergreen
<i>Sabal minor</i>	dwarf palmetto	S,C,N	L	M	G	FS,PS		3-6	4-6	evergreen
<i>Sabal palmetto</i>	cabbage palm	B,S,C,N	L	H	G	FS,PS		10-15	25-50	evergreen
<i>Serenoa repens</i>	saw palmetto	B,S,C,N	D	S	G	FS,PS		3-8	3-20	evergreen

SHRUBS

<i>Agave americana</i>	century plant	B,S,C,N	L	H		FS			6-8	evergreen
<i>Alpinia zerumber</i>	shell ginger	S,C	M	M		PS,FS			8	herbaceous pere
<i>Argusia gnaphalodes</i>	sea lavender	B,S,C,N	L	H		FS			3-5	evergreen
<i>Baccharis halimifolia</i>	saltbush	B,S,C,N	L	H		FS, PS			10-12	semi-evergreen
<i>Berberis julianae</i>	wintergreen barberry	S,C,N	M	M		PS,FS			5	evergreen
<i>Berberis thunbergii hybrid</i>	crimson pygmy barberry	S,C,N	M	M		FS,PS			3-5	deciduous
<i>Bougainvillea glabra</i>	bougainvillea, paper flower	B,S,C,N	L	H		FS			8	evergreen
<i>Buddleja davidii</i>	butterfly bush	S,C,N	M	M		FS			8-10	evergreen
<i>Buxus microphylla v. japonica</i>	littleleaf boxwood	S,C,N	M	L		PS,FS			4	evergreen
<i>Caesalpinia pulcherrima</i>	dwarf poinciana	S,C,N	L	M		FS			P	evergreen, pois
<i>Callicarpa americana</i>	American beautyberry	B,S,C,N	L	L		PS,FS			4-6	deciduous
<i>Calliandra haematocephala</i>	red powderpuff	S,C,N	L	L		FS			15	evergreen
<i>Camellia sasanqua</i>	Sasanqua camellia	S,C,N	H	L		FS			15	evergreen

<i>Capparis cynophallophora</i>	Jamaica caper-tree	S,C	L	H	FS	9	evergreen
<i>Cephalanthus occidentalis</i>	buttonbush	S,C,N	H	L	PS,FS	8-12	deciduous
<i>Cestrum nocturnum</i>	night-blooming jasmine	S,C	M	M	FS	10	evergreen
<i>Chiococca alba</i>	snowberry	B,S,C	M	L	FS,PS	3	evergreen
<i>Chrysobalanus icaco "red tip"</i>	red-tip coco-plum	B	M	L	FS,PS	12-15	evergreen
<i>Cocculus laurifolius</i>	snail seed	S,C,N	M	L	PS,FS	13	evergreen, poisonous
<i>Codiaeum variegatum</i>	croton	S,C	L	M	PS,FS	8	evergreen
<i>Conradina canescens</i>	wild rosemary	S,C,N	L	M	FS	4	evergreen
<i>Crinum asiaticum</i>	crinum lily	S,C,N	M	M	FS,PS	5	herbaceous perennial
<i>Dodonaea viscosa</i>	varnish leaf	B,S,C,N	L	H	PS,FS	6	evergreen
<i>Duranta repens</i>	golden dewdrop	S,C,N	L	M	PS,FS	12-14	evergreen, fruit
<i>Erythrina herbacea</i>	coralbean, Cherokee bean	B,S,C,N	L	M	PS,FS	15	evergreen, seeds
<i>Eugenia foetida</i>	Spanish stopper	B	L	H	PS,FS	10x15	evergreen
<i>Forestiera segregata</i>	Florida privet	B,S,C,N	L	H	FS	10	evergreen
<i>Gamolepis chrysanthemoides</i>	African bush daisy	S,C,N	M	L	FS	3	evergreen
<i>Garberia heterophylla</i>	garberia	C,N	L	M	FS	6	evergreen
<i>Gardenia augusta</i>	gardenia	S,C,N	H	L	FS	6	evergreen
<i>Gossypium hirsutum</i>	wild cotton	B,S,C,N	L	H	PS,FS	6-12	evergreen, endangered
<i>Hamelia patens</i>	firebush	B,S,C	L	M	PS,FS	3-10	evergreen
<i>Hibiscus rosa-sinensis</i>	Hibiscus	S,C	H	M	FS	8-10	evergreen
<i>Hibiscus coccineus</i>	swamp hibiscus	S,C	H	L	PS,FS	5-6	herbaceous perennial
<i>Hibiscus syriacus</i>	Rose-of-Sharon	S,C,N	H	L	FS	10	deciduous
<i>Hydrangea macrophylla</i>	hydrangea	S,C,N	H	L	FS	5	deciduous
<i>Ilex cornuta</i>	Buford holly	S,C,N	M	L	PS,FS	8-15	evergreen
<i>Ilex crenata</i>	Japanese holly	S,C,N	H	L	PS,FS	8-10	evergreen
<i>Ilex glabra</i>	inkberry, gallberry	S,C,N	L	M	PS,FS	6-7	evergreen
<i>Ilex vomitoria "Nana"</i>	dwarf yaupon holly	B,S,C,N	L	H	PS,FS	3	evergreen, poisonous
<i>Illicium anisatum</i>	anise tree	S,C,N	M	L	PS,FS	15	evergreen
<i>Illicium parviflorum</i>	Florida anise	S,C,N	M	L	PS,FS	8-10	evergreen
<i>Itea virginica</i>	Virginia sweetspire	S,C,N	H	L	PS,FS	4-7	semi-evergreen
<i>Iva imbricata</i>	beach elder	B,S,C,N	L	H	FS	3	evergreen
<i>Ixora coccinea</i>	red ixora	S,C	M	M	FS	5	evergreen
<i>Lantana involucrata</i>	wild lantana	B,S,C,N	L	S	FS,PS	5	evergreen
<i>Leucophyllum frutescens</i>	Texas sage	S,C,N	L	M	FS	5	evergreen
<i>Lycium carolinianum</i>	Christmasberry	B,S,C,N	L	H	PS,FS	7	evergreen
<i>Lyonia ferruginea</i>	rusty lyonia	S,C,N	L	L	FS	10-15	evergreen
<i>Lyonia lucida</i>	fetterbush, shiny lyonia	B,S,C,N	H	L	FS,PS	3-5	evergreen
<i>Myrica cerifera</i>	wax myrtle	B,S,C,N	L	H	PS,FS	20	evergreen
<i>Nerium oleander</i>	oleander	B,S,C,N	L	H	FS	15	evergreen, entire
<i>Osmanthus fragrans</i>	wild olive	S,C,N	M	L	PS,FS	20	evergreen
<i>Plumbago auriculata</i>	blue plumbago	S,C,N	L	M	FS	5	evergreen
<i>Pittosporum tobira</i>	green pittosporum	B,S,C,N	M	H	FS	6-8	evergreen
<i>Podocarpus macrophyllus</i>	yew podocarpus	S,C,N	M	M	PS,FS	35	conifer
<i>Psychotria nervosa</i>	shiny-leaf wild-coffee	B,S,C,N	M	M	PS,SH	5	evergreen
<i>Psychotria sulzneri</i>	dull-leaf wild-coffee	B,S,C	M	M	PS,SH	6-9	evergreen
<i>Randia aculeata</i>	white indigo berry	B,S	L	H	FS	8	evergreen
<i>Rapanea punctata</i>	myrsine	B,S,C,N	L	H	PS,FS	9	evergreen
<i>Rhapiotepis indica</i>	indian hawthorne	S,C,N	M	M	PS	4	evergreen
<i>Rhododendron austrinum</i>	Florida flame azalea	S,C,N	H	L	PS	6	deciduous

<i>Rhododendron hybrids</i>	azaleas	S,C,N	H	L	PS,SH	4-6	evergreen
<i>Rosa spp.</i>	rose	S,C,N	M	L	FS	10	evergreen
<i>Sambucus canadensis</i>	elderberry	B,S,C,N	M	L	FS	10-15	deciduous
<i>Scaevola plumieri</i>	beachberry	B	L	H	FS	3-5	evergreen
<i>Sideroxylon tenax</i>	buckthorn	B,S,C,N	L	H	FS	20	evergreen
<i>Sophora tomentosa var. truncata</i>	yellow necklacepod	B,S,C,N	L	H	PS,FS	6-8	evergreen, seeds
<i>Stachytarpheta urticifolia</i>	blue porterweed	B,S,C,N	L	H	FS	4-5	evergreen
<i>Tibouchina urvilleana</i>	glorybush	S,C,N	H	L	PS,FS	10	evergreen
<i>Tournefolia=Argusia gnophalodes</i>	sea lavender	S,C	L	H	FS	6	evergreen
<i>Turnera ulmifolia</i>	yellow alder	B,S,C,N	L	H	PS,FS	2-4	evergreen
<i>Vaccinium myrsinites</i>	shiny blueberry	B,S,C,N	L	L	PS,FS	2	evergreen
<i>Viburnum obovatum</i>	Walter's viburnum	S,C,N	L	L	PS,FS	12-15	evergreen
<i>Viburnum suspensum</i>	Sandankwa viburnum	S,C,N	H	L	PS, FS	6	evergreen
<i>Viburnum odoratissimum</i>	sweet viburnum	S,C,N	M	L	PS,FS	8-10	evergreen
<i>Yucca aloifolia</i>	spanish bayonet	B,S,C,N	L	H	FS	12-14	evergreen
<i>Yucca smalliana</i>	Adam's needle	B,S,C,N	L	H	FS	5	evergreen
<i>Zamia floridana</i>	coontie	B,S,C,N	L	H	FS,PS	2	evergreen

GROUNDCOVERS

<i>Aloe spp.</i>	aloe	B,S,C,N	L	H	FS,PS	1	perennial
<i>Bacopa monnieri</i>	waterhyssop	B,S,C,N	H	H	FS	0.5	perennial
<i>Borrchia frutescens</i>	bushy sea oxeye daisy	B,S,C,N	M	H	FS	3	perennial
<i>Canavalia rosea</i>	beach bean	B,S,C	L	H	FS	0.5	perennial
<i>Ernodea littoralis</i>	beach-creeper	B,S	L	H	FS	2	perennial
<i>Hemerocallis spp.</i>	daylily	B,S,C,N	L	H	FS	2	perennial
<i>Juniperus spp.</i>	juniper, many varieties	B,S,C,N	L	M-H	FS	varies	evergreen
<i>Licania michauxii</i>	gopher-apple	B,S,C,N	L	H	FS	1	evergreen
<i>Sesuvium portulacastrum</i>	sea-purslane	B,S,C,N	L	H	FS	1-3	perennial

GRASSES

<i>Andropogon brachystachyus</i>	short-spike bluestem	S,C,N	w		FS		
<i>Andropogon glomeratus</i>	bushy bluestem	B,S,C,N	W		FS		
<i>Andropogon virginicus</i>	broomsedge bluestem	B,S,C,N	w		FS		
<i>Aristida spiciformis</i>	bottlebrush grass	S,C,N	D,w		FS		
<i>Aristida stricta var. beyrichiana</i>	wiregrass	S,C,N	D,w		FS,PS		
<i>Cladium jamaicense</i>	saw-grass	B,S,C,N	W	S	FS		
<i>Distichlis spicata</i>	saltgrass	B,S,C,N	W	S	FS		
	scouring rush,						
<i>Equisetum hyemale</i>	horsetail	S,C,N	A		FS		
<i>Eragrostis elliotii</i>	Elliott's lovegrass	B,S,C,N	d,w	S	FS,PS		
<i>Eragrostis spectabilis</i>	purple lovegrass	B,S,C,N	d,w		FS,PS		
<i>Hypericum reductum</i>	scrub hypericum	S,C,N	d		FS		
<i>Juncus effusus</i>	soft rush	B,S,C,N	W		FS,PS		
<i>Liriope muscari</i>	lilyturf	S,C,N	d	s	PS,SH		
<i>Muhlenbergia capillaris</i>	muhly grass	B,S,C,N	d,w	s	FS		
<i>Ophiopogon japonicus</i>	mondo grass	S,C,N	d	S	SH		
<i>Panicum hemitomon</i>	maidencane	S,C,N	W		FS,PS		
<i>Panicum virgatum</i>	switchgrass	B,S,C,N		S	FS		
<i>Paspalum distichum</i>	salt jointgrass	B	W	S	FS		
<i>Paspalum vaginatum</i>	seashore paspalum	B,S,CN	d,w	S	FS		

<i>Scirpus californicus</i>	giant bulrush	S,C,N	A		FS	
<i>Sorghastrum secundum</i>	lopsided Indiangrass	S,C,N	D,w	S	FS	
<i>Spartina alterniflora</i>	saltmarsh cordgrass	B,S,C,N	d,w	S	FS,PS	
<i>Spartina bakeri</i>	sand cordgrass	B,S,C,N	d,w	S	FS,PS	
<i>Spartina patens</i>	marshhay cordgrass	B,S,C,N	D,W	S	FS	
<i>Sporobolus junceus</i>	pineywoods dropseed	S,C,N	D	S	FS,PS	
<i>Sporobolus virginicus</i>	seashore dropseed	B,S,C,N	D	S	FS	
	eastern gamagrass,					
<i>Tripsacum dactyloides</i>	Fakahatchee grass	B,S,C,N	L	M	FS	4-6 herbaceous perenn
<i>Uniola paniculata</i>	sea oats	B	D	S	FS	
<i>Zizaniopsis miliacea</i>	southern wild rice	S,C,N	A	S	FS	

VINES

<i>Campsis radicans</i>	trumpet creeper	S,C,N	d		FS,PS	
<i>Canavalia rosea</i>	beach bean	B,S,C,N	D	S	FS	
<i>Gelsemium sempervirens</i>	yellow jessamine	S,C,N	D,w		FS,PS	
<i>Ipomopsis rubra</i>	standing-cypress	S,C,N	D		FS	
<i>Lonicera sempervirens</i>	coral honeysuckle	B,S,C,N	d		FS,PS	
<i>Parthenocissus quinquefolia</i>	Virginia creeper	B,S,C,N	D,w		FS,PS,SH	
<i>Passiflora incarnata</i>	passion vine	B,S,C,N	D	s	FS	
<i>Passiflora suberosa</i>	corky passion-flower	B,S,C,N	D	s	FS,PS	
<i>Symphyotrichum carolinianum</i>	climbing aster	S,C,N	W		FS,PS	
<i>Trachelospermum jasminoides</i>	confederate jasmine	B,S,C,N	D	S	FS,PS	
<i>Vitis rotundifolia</i>	muscadine grape	B,S,C,N	d		FS,PS	
<i>Ipomoea alba</i>	moonflower	B,S,C,N	w		FS	
<i>Ipomoea imperati</i>	beach morningglory	B	D	S	FS	
<i>Ipomoea pes-caprae</i> subsp. <i>Brasiliensis</i>	railroad vine	B	D	S	FS	
<i>Ipomoea purpurea</i>	purple morningglory	B,S,C,N			FS	
<i>Tecomaria capensis</i>	cape honeysuckle	S,C	M	L	FS	6-8 evergreen, can b

WILDFLOWERS

<i>Arisaema triphyllum</i>	jack-in-the-pulpit	S,C,N	W		PS,SH	
<i>Asclepias incarnata</i>	swamp milkweed	S,C,N	W		FS,PS	
<i>Berlandiera subacaulis</i>	Florida greeneyes	S,C,N	D		FS,PS	
	small-spike false-nettle					
<i>Boehmeria cylindrica</i>	nettle	S,C,N	W		FS,PS,SH	
<i>Canna flaccida</i>	golden canna	S,C,N	W		FS	
<i>Conoclinium coelestinum</i>	mistflower	S,C,N	w		FS	
	large-flowered					
<i>Conradina grandiflora</i>	conradina	S,C,N	D	S	FS	
<i>Coreopsis floridana</i>	Florida tickseed	S,C,N	W		FS	
	Leavenworth's					
<i>Coreopsis leavenworthii</i>	tickseed	S,C,N	w		FS,PS	
	blanket-flower,					
<i>Gaillardia pulchella</i>	gaillardia	B,S,C,N	D	S	FS	
<i>Helianthus angustifolius</i>	narrow leaf sunflower	S,C,N			FS,PS	
<i>Helianthus debilis</i>	dune sunflower	B,S,C,N	D	S	FS	
<i>Heliotropium angiospermum</i>	scorpion-tail	B	d		FS,PS	
<i>Heliotropium polyphyllum</i>	pineland heliotrope	B,S,C,N	D,w	s	FS,PS	
<i>Hibiscus coccineus</i>	scarlet hibiscus	S,C,N	W		FS,PS	
<i>Hibiscus grandiflorus</i>	swamp rosemallow	S,C,N	W		FS	

<i>Hymenocallis latifolia</i>	mangrove spiderlily, perfumed spiderlily	B,S,C,N	d,w	S		FS,PS
<i>Hymenocallis palmeri</i>	alligator-lily	S,C,N	w			FS,PS
<i>Hypericum hypericoides</i>	St. Andrew's-cross	B,S,C,N	d,w			FS,PS
<i>Hypericum tetrapetalum</i>	four-petal St. Peter's- wort	S,C,N	d,w			FS,PS
<i>Iris hexagona</i>	prairie iris	S,C,N	W			FS,PS
<i>Iva frutescens</i>	marsh elder	B	D,W	S		FS
<i>Lachnanthes caroliniana</i>	redroot	S,C,N	d,W			FS,PS
<i>Liatrix chapmanii</i>	Chapman's blazing- star					FS
<i>Liatrix gracilis</i>	slender blazing-star	B,S,C,N	d,w			FS
<i>Liatrix spicata</i>	spiked blazing-star	S,C,N	d,w			FS
<i>Liatrix tenuifolia</i>	blazing-star	S,C,N	D			FS
<i>Lythrum alatum</i> var. <i>lanceolatum</i>	winged loosestrife	S,C,N	W			FS,PS
<i>Melanthera nivea</i>	snow squarestem	S,C,N	w			FS,PS
<i>Monarda punctata</i>	dotted horsemint	B,S,C,N	d	s		FS
<i>Opuntia humifusa</i>	prickly-pear cactus manyflower	B,S,C,N	D			FS
<i>Penstemon multiflorus</i>	beardtongue	S,C,N	D			FS
<i>Phoebanthus grandiflorus</i>	phoebanthus	S,C,N	D			FS,PS,SH
<i>Piloblephis rigida</i>	pennyroyal	S,C,N	D			FS
<i>Pityopsis graminifolia</i>	silk-grass	B,S,C,N	D			FS
<i>Rhexia cubensis</i>	meadow-beauty	S,C,N	W			FS
<i>Rhexia mariana</i>	pale meadow-beauty	S,C,N	W			FS
<i>Rhynchospora colorata</i>	fineleaf whitetop sedge	S,C,N	w			FS
<i>Rudbeckia hirta</i>	blackeyed-susan	B,S,C,N		s		FS
<i>Ruellia caroliniensis</i>	Carolina wildpetunia scarlet sage, tropical sage	S,C,N	D,w	s		FS,PS,SH
<i>Salvia coccinea</i>	lyre-leaved sage	B,S,C,N	d,w	s		FS,PS
<i>Salvia lyrata</i>	rough skullcap	S,C,N	d,w			FS,PS
<i>Scutellaria integrifolia</i>	hollow goldenrod	B,S,C,N	w			FS,PS
<i>Solidago fistulosa</i>		S,C,N	W	S		FS,PS
<i>Solidago odora</i> var. <i>chapmanii</i>	sweet goldenrod	B,S,C,N	D,w			FS,PS
<i>Solidago sempervirens</i>	seaside goldenrod	B,S,C,N	d,w	S		FS
<i>Symphotrichum dumosum</i>	bush aster	S,C,N	w			FS,PS
<i>Teucrium canadense</i>	wood-sage	S,C,N	W	S		FS,PS
<i>Viola lanceolata</i>	long-leaf violet	S,C,N	W			PS,SH
<i>Viola sororia</i>	violet	S,C,N	w			PS,SH
<i>Yucca filamentosa</i>	Adam's needle	B,S,C,N	D	S		FS,PS
<i>Zephyranthes simpsonii</i>	Simpson's zephyr lily	S,C,N	d,w			FS,PS
<i>Asclepias tuberosa</i>	butterflyweed	B,S,C,N	D	S		FS

FERNS

<i>Acrostichum danaeifolium</i>	giant leather fern	B,S,C,N	W	s		FS,PS,SH
<i>Blechnum serrulatum</i>	swamp fern	B,S,C,N	W			PS,SH
<i>Nephrolepis exaltata</i>	wild Boston fern	B,S,C,N	w			PS,SH
<i>Osmunda cinnamomea</i>	cinnamon fern	B,S,C,N	W			FS,PS
<i>Osmunda regalis</i> var. <i>spectabilis</i>	royal fern	B,S,C,N	W			FS,PS,SH
<i>Pteridium aquilinum</i>	bracken fern	B,S,C,N	d	s		FS,PS,SH
<i>Thelypteris kunthii</i>	widespread maiden	S,C,N	w			PS,SH

	fern				
<i>Woodwardia areolata</i>	netted chain fern	S,C,N	W		PS,SH
<i>Woodwardia virginica</i>	chain fern	S,C,N	W		FS,PS,SH

AQUATIC

<i>Nuphar advena= N. lutea</i>	cowlily, spatterdock	S,C,N	A		FS
<i>Nymphaea mexicana</i>	yellow water-lily	S,C,N	A		FS
<i>Nymphaea odorata</i>	white water-lily	B,S,C,N	A		FS
<i>Pontederia cordata</i>	pickerelweed	S,C,N	A		FS,PS
	lance-leaved				
<i>Sagittaria lancifolia</i>	arrowhead	S,C,N	A		FS,PS
<i>Saururus cernuus</i>	lizard's-tail	S,C,N	W		PS,SH
<i>Scirpus californicus</i>	giant bulrush	S,C,N	A		FS
<i>Thalia geniculata</i>	alligator flag	S,C,N	A		FS,PS

PLANTS FOR INLAND WET AREAS

<i>Hydrangea quercifolia</i>	oakleaf hydrangea	S,C,N	H	L	PS,FS	5-6	deciduous, pois
<i>Rhododendron canescens</i>	pinxter azalea	S,C,N	H	L	PS	10	deciduous
<i>Viburnum nudum</i>	possum haw	S,C,N	H	L	PS,SH	6-12	deciduous

1- Live Oaks can blow over if not given adequate room to spread and if planted in moist soils

2- If grown from small plantings to develop stronger root systems

3- SFWMD Waterwise Publications