



**Broward County Safe Parks and
Land Preservation Program**

Open Space Park Management Plan

Sunrise Lakes Site

Broward County Site No. OS-158

City of Sunrise, Florida

June 7, 2010



Engineers • Surveyors • Planners

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CT&A PROJECT NO. 08-0004**

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1. Introduction

The Open Space Park Management Plan for the project site (Sunrise Lakes Park Site, Site No. OS-158) was developed to ensure that it will be developed in furtherance of the purposes of the Broward County Safe Parks and Land Preservation Bond Program, and in accordance with the approved Interlocal Agreement executed for the project by Broward County and the City of Sunrise.

The project site is located on the east side of Sunrise Lake Drive West, adjacent to the intersection of Sunrise Lakes Boulevard just east of University Drive in the City of Sunrise, Broward County, Florida. The project site is located in Section 28, Township 49 South and Range 41 East. The site contains 1.25 Acres. A location map is attached as Appendix A which shows the location and legal boundaries of the project.

The site is generally rectangular in nature abutting Sunrise Lakes Drive West on the west and a lake on the east. Directly adjacent to the site to the north is the Sunrise Lakes Recreation Complex. The project site is located within a residential neighborhood with existing multi-family developments immediately adjacent to the south and across the lake to the north, south and east.

The project site has already been amended on the Broward County Land Use Plan to a Recreational and Open space designation (R&O). This amendment would prevent the site from being developed for multi-family residential and commercial development. As has been seen with adjacent properties, this site would have surely been slated for development in the near future. The site has always remained vacant.

Funding for acquisition of the project site was provided by the Broward County Safe Parks and Land Preservation Bond Program and title transfer occurred on October 4, 2005.

2. Purpose of Project

The purpose of acquiring and managing this project site as protected land is to not only enhance the unique area but to provide a passive park for the residents of the City of Sunrise to enjoy the tranquil, lakeside environment. To further these purposes, the project site will be managed only for conservation, protection and enhancement of natural resources, and for passive recreation.

2.1) *Key Management Objectives:*

- Restore native habitats: Sodded areas will be removed and native vegetation will be planted in their place in an effort to restore South Florida native habitats. Develop the existing natural communities by retaining and supplementing the existing desirable trees and removing the invasive trees.
- Land Preservation: Prevent development through land preservation and changes to the current land use and zoning classifications while retaining a tranquil, passive area to enjoy the adjacent lake area.
- Provide passive recreational opportunities to the public: Provide opportunities for passive recreation such as walking, fishing, picnicking and relaxing at the gazebo enjoying the lake front views.

The City of Sunrise is committed to incorporate all applicable principles of the *NatureScape Broward* program into the park development. Eight of the nine principles are applicable to this project and will be utilized. The applicable principles are: Right Plant, Right Place, Water Efficiently, Fertilize Appropriately, Mulch, Attract Wildlife, Control Yard Pests, Recycle and Reduce Stormwater Runoff. The City of Sunrise is committed to apply for a *Backyard Wildlife Habitat* certification through the National Wildlife Federation within three (3) months of opening the site to the public and shall incorporate this designation into their public education programs.

2.2) *Provision to Amend Land Use Designation:* The project site has already been amended on the Broward County Land Use Plan to a Recreation and Open space designation (R&O). The project site currently has a City land use designation of Medium Residential and a zoning designation of RM-10 (25). The City is committed to amend the Future Land Use to Recreation and Open Space (R/OC) and to rezone the property to Open Space (OS). The Land Use amendment is currently being finalized and is expected to be submitted to Broward County in the next few months. The City rezoning modification will occur once the City Land Use Plan amendment has been approved.

2.3) *Identification of Site and Funding Source:* The City of Sunrise is committed to identifying the project site in all literature and advertising as being publicly owned and operated as a natural conservation and outdoor recreation area and that the project site was acquired with Broward County Safe Parks and Land Preservation Bond Program funds. The City of Sunrise further commits to the development of site signage which identifies that the site was acquired with Broward County Safe Parks and Land Preservation Bond Program funds.

3. Natural Resources

- 3.1) *Natural Communities:* The site consists entirely of maintained upland habitat and open space adjacent to a man-made lake. The site is dominated by upland groundcovers consisting mainly of sedges and grasses. Species observed include St. Augustine grass (*Stenotaphrum secundatum*), Spanish needles (*Bidens alba*), Whitehead broom (*Spermacoce verticillata*), and frog fruit (*Phyla nodiflora*). Additional trees and shrubs present include nuisance/exotic and non-native vegetation such as Brazilian pepper (*Schinus terebinthifolius*), umbrella tree (*Schefflera actinophylla*), weeping fig (*Ficus benjamina*), bishopwood (*Bischofia javanica*), surinam cherry (*Eugenia uniflora*), Japanese privet (*Ligustrum japonicum*), black olive (*Bucida buceras*), croton (*Codiaeum variegatum*), and oyster plant (*Tradescantia spathacea*). Observed native vegetation includes live oak (*Quercus virginiana*), strangler fig (*Ficus aurea*), and seagrape (*Coccoloba uvifera*).

Observed wildlife onsite was limited to anhinga (*Anhinga anhinga*), mockingbird (*Mimus polyglottos*), boat-tailed grackle (*Quiscalus major*), and muscovy duck (*Cairina moschata*), along with small mammals such as squirrels and raccoons. Due to limited canopy and a lack of foraging habitat, no distinct wildlife communities exist onsite.

A Sketch of Survey has been prepared for the project site, which includes all above-ground elements, including the trees and palms. Refer to Appendix B for the Sketch of Survey.

- 3.2) *Unique Geological Features:* The site consists entirely of maintained open space, with little vertical relief and no unique geological features present on the subject parcel.
- 3.3) *Wetlands and Water Quality:* No evidence of hydrology or wetland vegetation was observed onsite. In addition, based on soil maps, the parcel does not contain hydric soils. As such, no jurisdictional wetlands are located onsite.

As required by State, County, and City Code, the City of Sunrise will design and permit a Stormwater Pollution Prevention Plan for the installation of "Best Management Practices" (BMP's) to ensure the protection of local waterways and their current water quality. In addition, the City's Engineering Inspection Staff are State Certified Stormwater, Erosion, and Sedimentation Control Inspectors.

- 3.4) *Site Disturbance and Restoration:* There are no known disturbances by feral animals on the site. If there are any discovered at a later date, a plan will be provided for their removal and for maintaining a site free of feral animals. The City of Sunrise is committed in removing any and all invasive

plant species onsite, as referenced in the most recent Florida Exotic Pest Plant Council (FLEPPC) list of invasive species, in order to allow for a natural community of native trees, shrubs and groundcovers. A copy of the most recent FLEPPC invasive species list is enclosed in the Appendix C. Once the exotic removal process is complete, a yearly monitoring plan will be instituted. Presently, no definitive time frame has been established by the City.

The following is the anticipated timeframe for initiating and completing the enhancement and restoration process.

Table 1 - Timeframe for initiating and completing the enhancement and/or restoration process

Task	Anticipated Completion Date
Management Plan	April 1, 2010
Initiate Design	June 1, 2010
Construction Documents Complete	October 10, 2010
Construction Contract Awarded (initiate enhancement and restoration process)	January 11, 2011
Enhancement & Restoration Complete	July 1, 2011

As noted in the chart above, the City of Sunrise is committed to replant the site within 1 year of invasive and exotic plant removal.

- 3.5) *Listed Species:* No listed species or listed species habitat was observed on-site. If any are discovered at a later date, City staff will notify the Florida Fish and Wildlife Conservation Commission and coordinate with the appropriate officials regarding the protection of these species. Florida Natural Areas Inventory will also be notified with the appropriate FNAI form.
- 3.6) *Archaeological, Cultural, and Historical Resource Protection:* There are no known archaeological, cultural and/or historical resources present onsite.

4. Site Development and Improvement

- 4.1) *Acknowledgement Sign:* The City has installed a temporary sign adjacent to the western boundary of the project site along Sunrise Lakes Drive West. The temporary sign states that the project site was purchased with Broward County Safe Parks and Land Preservation Bond funds and identifies the City and County partnership.

The City of Sunrise is committed to providing and maintaining a permanent recognition sign at the entrance to the park at Sunrise Lakes Drive West. This sign is to be installed prior to the completion of the park redevelopment. This sign will comply with the required sign specifications.

- 4.2) *Existing Physical Improvements:* The parcel is currently open space with a small parking lot adjacent Sunrise Lakes Drive West. Pedestrian access is via two walkways that pass through the site. A four foot concrete walkway passes through the site along the western edge, near the roadway. A second four foot walkway transects the along the east, near the lake, providing a pedestrian link that continues throughout the existing residential development. There is also a 10 foot by 20 foot wooden dock that is located along the eastern site edge in the lake. A bocce ball court, which is mostly constructed on the adjacent recreation center, encroaches into the site along the northern edge. An aerial photograph is included as Appendix E.
- 4.3) *Proposed Physical Improvements:* The design concept for the proposed passive park is to continue to build and enhance on the open space and lake views. The proposed physical improvements and park amenities include the following:

Table 2 - Proposed Physical Improvements and Amenities

Proposed Physical Improvement	Amount	Dimensions/Details
Concrete Walking Paths	1,000 LF	6' Wide
Benches	3	6' x 2.5'
Bike Rack	1	---
Clearing, grubbing and resodding	1.25 AC	
Drinking Fountain	1	---
Earthwork	1.00 AC	---
Irrigation	1.25 AC	From existing lake
Solar Pathway Lighting	T.B.D	2400 LF of pathway
Parking lot with lighting	5,000 SF	10 spaces (10' x 20') with a 24' driveway
Gazebo	1	10'x10'
Entry Sign	1	T.B.D
Sod	1.25 AC Max	---
Trash Receptacles	3	---
Trees and Shrubs	T.B.D.	---
Utilities and Drainage	T.B.D	---

A Master Site Plan has been developed and contains the program elements mentioned above and is included as Appendix F.

All access points to the project site will be compatible with all applicable state and federal construction standards, including the Americans with Disabilities Act (ADA).

In addition to the ADA compliant pedestrian access to the project site, a bike rack will be installed to encourage non-vehicular transportation to and from the site. There are two Broward County mass transit bus stops located immediately adjacent to the site on Sunrise Lakes Drive West.

The Master Site Plan, included in Appendix F, illustrates how the proposed improvements and amenities were designed to maximize the existing views to the water and to preserve the open space. The meandering walkways are located to maximize existing shade from the native canopy but minimize the impact on the trees while providing an important pedestrian link within the residential community. With an existing tree survey as the base plan, all of the proposed amenities were able to be located without disturbing the existing canopy.

Eight of the nine principles of *NatureScape Broward* are to be utilized in this project site's development and maintenance. In the selection of all plant material for the site, the "Right Plant, Right Place" principle will be used selecting plant material that have adapted to minimal amounts of water, fertilizer and pesticides. The irrigation system will be designed employing not only the Xeriscape principles for irrigation design, but also the "Water Efficiently" principle by irrigating only when the landscape needs water. In maintaining the project site by the City of Sunrise Leisure Services Department, the "Fertilize Appropriately" principle will be used by using a minimum amount of fertilizer knowing that less is often best. Beginning at the initial installation of the plant material and continuing throughout the maintenance of the project, a minimum layer of 3 inches of mulch will be provided complying with the "Mulch" principle. The selection of plant material has been made to "Attract Wildlife" within the project site providing food, water and shelter for the wildlife. In maintaining the project site, pesticides will be used wisely knowing that when improperly used, they can harm people, pets, beneficial organisms and the environment thus complying with the "Control Yard Pests Responsibly" principle. Collection containers will be provided for recycle items demonstrating compliance with the "Recycle" principle. Lastly, the stormwater systems will be designed to "Reduce Stormwater Runoff" which helps prevent pollution from reaching waterways by reducing debris, fertilizer, pesticides and other contaminants from leaving the property.

Any proposed modifications and/or undertaking of any site alterations or physical improvements not addressed in the approved management plan requires prior County review and approval according to the Bond Program covenants.

The proposed parking area redesign contains parking spaces for 10 cars, including two handicap parking stalls, and is located along the west property limits providing safe vehicular access via Sunrise Lakes Drive West. The proposed parking spaces are 10 feet by 20 feet with a 24 foot two-way driveway. The City of Sunrise is committed to use pervious material in the parking areas wherever feasible. The parking area will have wheel stops, raised sidewalk or continuous curbing to prevent vehicular encroachment into the adjacent landscape areas.

- 4.4) *Permits:* Permits applicable to this project are based upon the Master Site Plan and may include the following:

Table 3 - Required Permits

Permit Type	Agency	Usage
Building Permit	City of Sunrise	Includes all disciplines of construction
Engineering Permit	City of Sunrise	Includes all site development
Notice of Intent	FDEP	Generic Permit for storm-water discharge
Surface Water Management	Broward County DEPGM	Surface Water Management Facilities
Community Water System Extension	Broward County Health Department	Includes all potable water use for water fountain

- 4.5) *Easements, Rights-of-Way, Concessions or Leases:* There are several easements located on the site which were dedicated by the recorded plat, "Sunrise Lakes Section One" Plat (P.B. 75, Pg.12). Located within the parking area is a 24 foot ingress and egress easement. An 8 foot utility easement transects the property from the north side of the site to the two FPL transformers located in the south west section of the property. The 8 foot utility easement then continues to the east along the southern site boundary. A 6 foot utility easement also transects the property connecting the northwest corner to the southeast corner of the site. In the furthest northeast corner are several other easements for utility purposes. The total areas of all easements are 8,015 square feet (0.184 Ac.). All easements are shown on the Sketch of Survey attached as Appendix B.

In accordance with the Master Site Plan design, no new easements and/or rights-of-way are expected. In addition, there are no concessions or leases associated with this project.

5. Management Needs

- 5.1) *Coordinated Management:* The project site is not immediately adjacent to an existing park or other publicly-owned land other than city-owned rights-of-way. The project site is located very close to the newly-renovated Springtree Golf Club. The project site is located within a very dense residential community and connected to the community and the other City park facilities with existing sidewalks. There will be coordinated management of the facilities by the City of Sunrise, Leisure Services Department.

5.2) *Maintenance:* The park facility will be maintained by the City of Sunrise, Leisure Services Department.

Table 4 - Operational Plan

Time Frame	Activities	Responsible Agency
Daily/Weekly as needed	Maintain public use amenities including picnic pavilion, pathways & parking lot.	City of Sunrise Leisure Services Department
Daily/Weekly as needed	Maintain landscaping and irrigation systems	City of Sunrise Leisure Services Department
Monthly	Monitor site aesthetics	City of Sunrise Leisure Services Department
Quarterly first year/ annually thereafter (and treat flare ups as needed)	Monitor and treat for invasive and exotic plants	City of Sunrise Leisure Services Department
Annually	Monitor and remove feral animals	City of Sunrise Leisure Services Department
Annually	Submit stewardship report, and any needed management plan changes, to Broward County Environmental Protection Departments	City of Sunrise Leisure Services Department
Annually or as needed	Remove vines from trees	City of Sunrise Leisure Services Department
Every 5 years or as needed	Update Management Plan	City of Sunrise Leisure Services Department

5.3) *Security:* Security will be provided through the City of Sunrise Police Department as well as the City of Sunrise Leisure Services Department. The park is to be completely open with one vehicular and several pedestrian access points. There will be one Leisure Services employee who will periodically monitor the site. Public complaints such as maintenance, usage, and safety issues will be managed as quickly as possible according to City policy through the Leisure Services Department.

6. Cost Estimates and Funding Sources

Provided is a table of estimated costs associated with implementation of the management plan over a five year period.

Table 5 - Estimated costs associated with implementation of the management plan over a five year period.*

Activity	Fund	Cost over a 5-year period
Initial Site Clean-up and Re-vegetation		
Site Clearing, including the removal of exotic and invasive material	City of Sunrise Capital Improvement Fund 325 Account	\$ 6,700.00
Earthwork	City of Sunrise Capital Improvement Fund	\$ 2,500.00
Grubbing and Re-sodding	City of Sunrise Capital Improvement Fund	\$ 14,533.00
Irrigation Installation	City of Sunrise Capital Improvement Fund	\$ 76,000.00
Native Plant landscaping	City of Sunrise Capital Improvement Fund	\$ 32,618.00
TOTAL		\$ 99,733.00
Site Development (Design, Construction and installation)		
Concrete walkway - 6' wide with Solar Lighting	City of Sunrise Capital Improvement Fund	\$ 57,390.00
Parking Lot with Solar Lighting	City of Sunrise Capital Improvement Fund	\$ 43,075.00
Trash Receptacles	City of Sunrise Capital Improvement Fund	\$ 1,800.00
Benches	City of Sunrise Capital Improvement Fund	\$ 3,192.00
Bike Rack	City of Sunrise Capital Improvement Fund	\$ 435.00
Drinking Fountain	City of Sunrise Capital Improvement Fund	\$ 5,000.00
Gazebo	City of Sunrise Capital Improvement Fund	\$ 15,000.00
Entry signage	City of Sunrise Capital Improvement Fund	\$ 3,000.00
Site Utilities	City of Sunrise Capital Improvement Fund	\$ 20,000.00
TOTAL		\$ 148,892.00
Ongoing Activities		
Assessment and treatment of exotic plants	Leisure Services Operating Budget	\$ 1,000.00
Grounds maintenance	Leisure Services Operating Budget	\$ 7,500.00
Survey and removal of feral animals	Leisure Services operating Budget	\$ 500.00
TOTAL		\$ 9,000.00
General conditions, overhead and profit		\$ 69,615.00
GRAND TOTAL		\$ 327,240.00

* The cost estimate as provided by the City of Sunrise.

7. Priority Schedule

The following schedule is for the design and construction of the proposed improvements to the project site.

Table 6 - Priority Schedule

Task	Anticipated Start Dates
Management Plan	April 1, 2010
Initiate Design	June 1, 2010
Construction Documents Complete	October 10, 2010
Construction Contract Awarded	January 11, 2011
Enhancement and Restoration Complete	July 1, 2011
Ongoing Maintenance Program Start Date	
- Summer Park Maintenance Schedule	Weekly
- Winter Park Maintenance Schedule	Twice a month
- Invasive Species Removal Program	Quarterly
- Survey and Removal of Feral Animals	Annually

8. Monitoring and Reporting

The City of Sunrise is committed to regularly monitor the site for compliance with the management plan and to submit an annual report to the Broward County Land Preservation Section by December 31 of each year. The City of Sunrise is committed to submit annual reports to the County for a period of five years from the date of approval of the management plan by the Broward County Land Preservation and Acquisition Advisory Board (LPAB), or until the project is mutually deemed complete by the County and City. The annual report will include an update on the status of the project site as well as discussion on the progress made during the year toward meeting the goals in the Priority Schedule of the management plan.

9. Literature Cited

USDA Soil Conservation Service - Soil Survey of Broward County, Florida-Eastern Part (1976).

Marble, Anne D., *A guide to Wetland Functional Design*. 1992

Moshiri, Gerald A., *Constructed Wetlands for Water Quality Improvement*. 1993

Godfrey, Robert K. and Wooten, Jean W., *Aquatic and Wetland Plants of Southeastern United States*. 1979

FDEP - Florida Wetland Plants-An Identification Manual. 1998.

NatureScape Broward website <http://www.broward.org/naturescape/>

**APPENDIX A
LOCATION MAP**

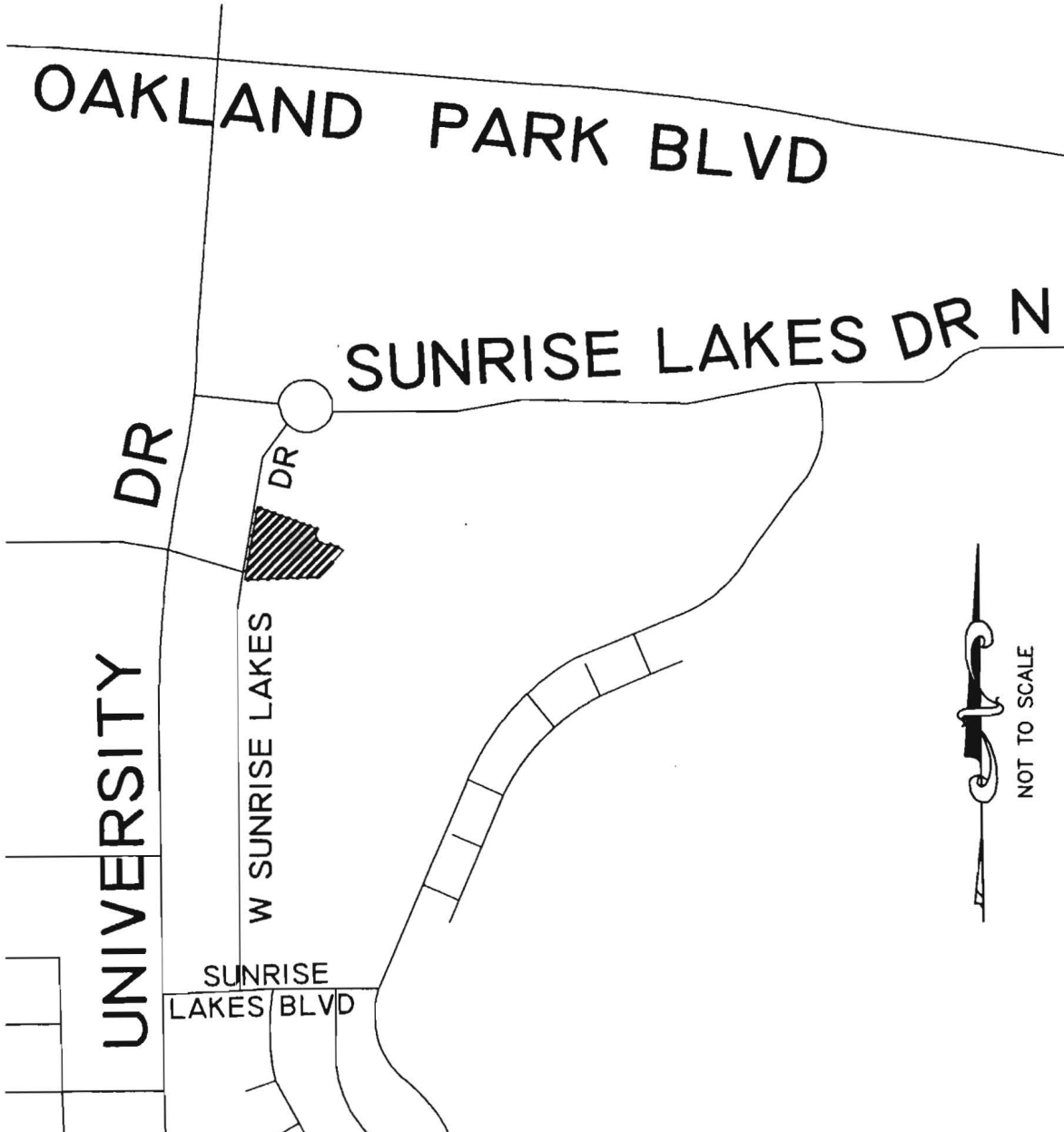


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SUNRISE LAKES PASSIVE PARK



SHEET 1 OF 1

UPDATES and/or REVISIONS	DATE	BY	CK'D

SUNRISE LAKES PASSIVE PARK – LOCATION MAP
CITY OF SUNRISE, FLORIDA

APPENDIX A/LOCATION MAP

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APPENDIX B
SKETCH OF SURVEY

APPENDIX C
FLEPPC 2005 INVASIVE SPECIES LIST

APPENDIX C

FEPPC List of Invasive Species

Category I - Invasive exotics that are altering native plant communities by displacing native species, changing community structures or ecological functions, or hybridizing with natives. *This definition does not rely on the economic severity or geographic range of the problem, but on the documented ecological damage caused.*

Scientific Name	Common Name	EPPC Cat.	Gov. list	Reg. Dist.
<i>Abrus precatorius</i>	rosary pea	I		C, S
<i>Acacia auriculiformis</i>	earleaf acacia	I		S
<i>Albizia julibrissin</i>	mimosa, silk tree	I		N, C
<i>Albizia lebbbeck</i>	woman's tongue	I		C, S
<i>Ardisia crenata</i> (= <i>A. crenulata</i>)	coral ardisia	I		N, C
<i>Ardisia elliptica</i> (= <i>A. humilis</i>)	shoebutton ardisia	I		S
<i>Asparagus aethiopicus</i> (= <i>A. sprengeri</i> ; <i>A. densiflorus</i> misapplied)	asparagus-fern	I		C, S
<i>Bauhinia variegata</i>	orchid tree	I		C, S
<i>Bischofia javanica</i>	bischofia	I		C, S
<i>Calophyllum antillanum</i> (= <i>C. calaba</i> ; <i>C. inophyllum</i> misapplied)	santa maria (names "mast wood," "Alexandrian laurel" used in cultivation)	I		S
<i>Casuarina equisetifolia</i>	Australian pine	I	P	N,C,S
<i>Casuarina glauca</i>	suckering Australian pine	I	P	C, S
<i>Cinnamomum camphora</i>	camphor-tree	I		N,C,S
<i>Colocasia esculenta</i>	wild taro	I		N,C,S
<i>Colubrina asiatica</i>	lather leaf	I		S

<i>Cupaniopsis anacardioides</i>	carrotwood	I	N	C, S
<i>Dioscorea alata</i>	winged yam	I	N	N,C,S
<i>Dioscorea bulbifera</i>	air-potato	I	N	N,C,S
<i>Eichhornia crassipes</i>	water-hyacinth	I	P	N,C,S
<i>Eugenia uniflora</i>	Surinam cherry	I		C, S
<i>Ficus microcarpa</i> (F. nitida and F. retusa var. nitida misapplied)	laurel fig	I		C, S
<i>Hydrilla verticillata</i>	hydrilla	I	P, U	N,C,S
<i>Hygrophila polysperma</i>	green hygro	I	P, U	N,C,S
<i>Hymenachne amplexicaulis</i>	West Indian marsh grass	I		C, S
<i>Imperata cylindrica</i> (I. brasiliensis misapplied)	cogon grass	I	N, U	N, C, S
<i>Ipomoea aquatica</i>	waterspinach	I	P, U	C
<i>Jasminum dichotomum</i>	Gold Coast jasmine	I		C, S
<i>Jasminum fluminense</i>	Brazilian jasmine	I		C, S
<i>Lantana camara</i>	lantana, shrub verbena	I		N,C,S
<i>Ligustrum lucidum</i>	glossy privet	I		N, C
<i>Ligustrum sinense</i>	Chinese privet, hedge privet	I		N,C,S
<i>Lonicera japonica</i>	Japanese honeysuckle	I		N,C,S
<i>Lygodium japonicum</i>	Japanese climbing fern	I	N	N,C, S
<i>Lygodium microphyllum</i>	Old World climbing fern	I	N	C, S
<i>Macfadyena unguis-cati</i>	cat's claw vine	I		N,C, S
<i>Manilkara zapota</i>	sapodilla	I		S
<i>Melaleuca</i>	melaleuca, paper bark	I	P, N, U	C, S

<i>quinquenervia</i>				
<i>Mimosa pigra</i>	catclaw mimosa	I	P, N, U	C, S
<i>Nandina domestica</i>	nandina, heavenly bamboo	I		N, C
<i>Nephrolepis cordifolia</i>	sword fern	I		N,C,S
<i>Nephrolepis multiflora</i>	Asian sword fern	I		C, S
<i>Neyraudia reynaudiana</i>	Burma reed, cane grass	I	N	S
<i>Paederia cruddasiana</i>	sewer vine, onion vine	I	N	S
<i>Paederia foetida</i>	skunk vine	I	N	N,C
<i>Panicum repens</i>	torpedo grass	I		N,C,S
<i>Pennisetum purpureum</i>	Napier grass	I		C, S
<i>Pistia stratiotes</i>	waterlettuce	I	P	N,C,S
<i>Psidium cattleianum</i> (= <i>P. littorale</i>)	strawberry guava	I		C, S
<i>Psidium quajava</i>	guava	I		C, S
<i>Pueraria montana</i> var. <i>lobata</i> (= <i>P. lobata</i>)	kudzu	I	N, U	N,C, S
<i>Rhodomyrtus tomentosa</i>	downy rose-myrtle	I	N	C, S
<i>Rhoeo spathacea</i> (see <i>Tradescantia spathacea</i>)				
<i>Rhynchelytrum repens</i>	Natal grass	I		N, C, S
<i>Ruellia tweediana</i> (= <i>R. brittoniana</i>)	Mexican petunia	I		N, C, S
<i>Sapium sebiferum</i> (= <i>Triadeca sebifera</i>)	popcorn tree, Chinese tallow tree	I	N	N, C, S
<i>Scaevola taccada</i> (= <i>Scaevola sericea</i> , <i>S. frutescens</i>)	scaevola, half-flower, beach naupaka	I		C, S
<i>Schefflera actinophylla</i> (= <i>Brassaia actinophylla</i>)	schefflera, Queensland umbrella tree	I		C, S

<i>Schinus terebinthifolius</i>	Brazilian pepper	I	P, N	N, C, S
<i>Senna pendula</i> var. <i>glabrata</i> (= <i>Cassia coluteoides</i>)	climbing cassia, Christmas cassia, Christmas senna	I		C, S
<i>Solanum tampicense</i> (= <i>S. houstonii</i>)	wetland night shade, aquatic soda apple	I	N, U	C, S
<i>Solanum viarum</i>	tropical soda apple	I	N, U	N, C, S
<i>Syngonium podophyllum</i>	arrowhead vine	I		C, S
<i>Syzygium cumini</i>	jambolan, Java plum	I		C, S
<i>Tectaria incisa</i>	incised halberd fern	I		S
<i>Thespesia populnea</i>	seaside mahoe	I		C, S
<i>Tradescantia fluminensis</i>	white-flowered wandering jew	I		N, C
<i>Tradescantia spathacea</i> (= <i>Rhoeo spathacea</i> , <i>Rhoeo discolor</i>)	oyster plant	I		S
<i>Urochloa mutica</i> (= <i>Brachiaria mutica</i>)	Pará grass	I		C, S

Category II - Invasive exotics that have increased in abundance or frequency but have not yet altered Florida plant communities to the extent shown by Category I species. *These species may become ranked Category I, if ecological damage is demonstrated.*

Scientific Name	Common Name	EPPC Cat.	Gov. list	Reg. Dist.
<i>Adenanthera pavonina</i>	red sandalwood	II		S
<i>Agave sisalana</i>	sisal hemp	II		C, S
<i>Aleurites fordii</i> (= <i>Vernicia fordii</i>)	tung oil tree	II		N, C

<i>Alstonia macrophylla</i>	devil-tree	II		S
<i>Alternanthera philoxeroides</i>	alligator weed	II	P	N, C, S
<i>Antigonon leptopus</i>	coral vine	II		N, C, S
<i>Aristolochia littoralis</i>	calico flower	II		N, C
<i>Asystasia gangetica</i>	Ganges primrose	II		C, S
<i>Begonia cucullata</i>	wax begonia	II		N, C
<i>Blechnum pyramidatum</i>	green shrimp plant, Browne's blechnum	II		N, C, S
<i>Broussonetia papyrifera</i>	paper mulberry	II		N, C
<i>Callisia fragrans</i>	inch plant, spironema	II		C, S
<i>Casuarina cunninghamiana</i>	Australian pine	II	P	C, S
<i>Cecropia palmata</i>	trumpet tree	II		S
<i>Cestrum diurnum</i>	day jessamine	II		C, S
<i>Chamaedorea seifrizii</i>	bamboo palm	II		S
<i>Clematis terniflora</i>	Japanese clematis	II		N, C
<i>Cryptostegia madagascariensis</i>	rubber vine	II		C, S
<i>Cyperus involucratus</i> (C. <i>alternifolius</i> misapplied)	umbrella plant	II		C, S
<i>Cyperus proliifer</i>	dwarf papyrus	II		C
<i>Dalbergia sissoo</i>	Indian rosewood, sissoo	II		C, S
<i>Elaeagnus pungens</i>	thorny eleagnus	II		N, C
<i>Epipremnum pinnatum</i> cv. Aureum	pothos	II		C, S
<i>Ficus altissima</i>	false banyan, council tree	II		S

<i>Flacourtia indica</i>	governor's plum	II		S
<i>Hemarthria altissima</i>	limpo grass	II		C, S
<i>Hibiscus tiliaceus</i>	mahoe, sea hibiscus	II		C, S
<i>Ipomoea fistulosa</i> (= <i>I. carnea</i> ssp. <i>fistulosa</i>)	shrub morning-glory	II	P	C, S
<i>Jasminum sambac</i>	Arabian jasmine	II		S
<i>Kalanchoe pinnata</i>	life plant	II		C, S
<i>Koelreuteria elegans</i> ssp. <i>formosana</i> (= <i>K. formosana</i> ; <i>K. paniculata</i> misapplied)	flamegold tree	II		C, S
<i>Leucaena leucocephala</i>	lead tree	II		N, C, S
<i>Limnophila sessiliflora</i>	Asian marshweed	II	P	N, C, S
<i>Livistona chinensis</i>	Chinese fan palm	II		C, S
<i>Melia azedarach</i>	Chinaberry	II		N,C,S
<i>Merremia tuberosa</i>	wood-rose	II		S
<i>Murraya paniculata</i>	orange-jessamine	II		S
<i>Myriophyllum spicatum</i>	Eurasian water-milfoil	II	P	N, C, S
<i>Nymphoides cristata</i>	snowflake	II		C, S
<i>Panicum maximum</i>	Guinea grass	II		C, S
<i>Passiflora biflora</i>	two-flowered passion vine	II		S
<i>Pennisetum setaceum</i>	green fountain grass	II		S
<i>Phoenix reclinata</i>	Senegal date palm	II		C, S
<i>Pittosporum pentandrum</i>	Philippine pittosporum, Taiwanese cheesewood	II		S
<i>Phyllostachys aurea</i>	golden bamboo	II		N, C
<i>Pteris vittata</i>	Chinese brake fern	II		N, C, S
<i>Ptychosperma elegans</i>	solitary palm	II		S

<i>Ricinus communis</i>	castor bean	II		N, C, S
<i>Sansevieria hyacinthoides</i>	bowstring hemp	II		C, S
<i>Scleria lacustris</i>	Wright's nutrush	II		C, S
<i>Sesbania punicea</i>	purple sesban, rattlebox	II		N, C, S
<i>Solanum diphyllum</i>	Two-leaf nightshade	II		N, C, S
<i>Solanum jamaicense</i>	Jamiaca nightshade	II		C
<i>Solanum torvum</i>	susumber, turkey berry	II	N, U	N, C, S
<i>Sphagneticola trilobata</i> (= <i>Wedelia trilobata</i>)	wedelia	II		N, C, S
<i>Stachytarpheta urticifolia</i> (= <i>S. cayennensis</i>)	nettle-leaf porterweed	II		S
<i>Syagrus romanzoffiana</i> (= <i>Arecastrum romanzoffianum</i>)	queen palm	II		C, S
<i>Syzygium jambos</i>	rose-apple	II		C, S
<i>Terminalia catappa</i>	tropical almond	II		C, S
<i>Terminalia muelleri</i>	Australian almond	II		C, S
<i>Tribulus cistoides</i>	puncture vine, burr-nut	II		N, C, S
<i>Urena lobata</i>	Caesar's weed	II		N, C, S
<i>Vitex trifolia</i>	simple-leaf chaste tree	II		C, S
<i>Washingtonia robusta</i>	Washington fan palm	II		C, S
<i>Wedelia</i> (see <i>Sphagneticola</i> above)				
<i>Wisteria sinensis</i>	Chinese wisteria	II		N, C
<i>Xanthosoma sagittifolium</i>	malanga, elephant ear	II		N, C, S

Citation: FLEPPC. 2005. List of Florida's Invasive Species. Florida Exotic Pest Plant Council. Internet:
<http://www.fleppc.org/list/05list.htm>

**APPENDIX D
FNAI FORMS**

FLORIDA NATURAL AREAS INVENTORY
FIELD REPORT FORM FOR RARE PLANTS

Thank you for taking the time to complete and mail this form. Information from knowledgeable individuals such as yourself makes an important contribution to the FNAI Biological Conservation Database. If you need help with this form, or would like additional information, please call the FNAI Botanist at 850-224-8207.

Scientific name: _____ Common name: _____

Basis for identification or manual used: _____ Date(s) seen: _____

Photograph taken? _____ Specimen deposited at a herbarium? _____ Name of herbarium: _____

Quad name: _____ County: _____ Site or managed area name: _____

Directions (mark site on copy of USGS 7.5 minute quad map or aerial photo and attach to this form, or draw a detailed map on back of this page that shows boundary of population, and/or give GPS location (latitude/longitude): _____

Describe the site: habitat/plant community; topography; hydrology; dominant species in tree, shrub, and ground layers: _____

Estimated Size of Population (no. of individuals, size of area occupied, and % of that area occupied by this species): _____

Are you confident this is the full extent of the population? Yes__ No__ Is further survey needed? Yes__ No__

Flowering? Yes__ No__ Fruiting? Yes__ No__ In bud? Yes__ No__ In leaf? Yes__ No__ Dormant? Yes__ No__

Have you seen this species at the same location in the past? Yes__ No__ If yes, give dates: _____ If yes, describe changes, if any, to site and population since last visit _____

Are there disturbances or threats (e.g. vehicle use, trash dumping, fire suppression, exotic species invasion) to the population? If yes, describe: _____

Is there evidence (e.g., fire breaks, scorching) of the use of fire at the site? Yes__No__ If yes, describe and give dates of recent fires, if known _____

Other useful information concerning the population, its ecological conditions, management history, management needs, names of individuals who might be helpful, etc.: _____

Your name: _____ Tel no.: _____ E-mail: _____

Address: _____ Date Submitted: _____

Please include any additional information on the back of this sheet and send this form to: Botanist, Florida Natural Areas Inventory, 1018 Thomasville Rd., Suite 200-C, Tallahassee, FL 32303. THANK YOU!

Florida Natural Areas Inventory - Natural Community EOR Form (pg 1 of 2)

D

Survey site: _____ Surveyors: _____ Polygon # or ID: _____ date: _____
 GPS file #: _____ lat: _____ long: _____ Photo #: _____ Comments: _____
 Directions/location comments: _____

Community type: _____ Soil series: _____ Source: _____

DOMINANT VEGETATION WITHIN 20M RADIUS OF OBSERVATION POINT:

STRATA	cov cl	ht cl	DOMINANT SPECIES COVER: Scientific name - Braun/Blanquet scale
emergent tree			
canopy			
sub-canopy			
tall shrub/ sapling			
short shrub/ sapl, seedl.			
herbaceous tot.			
graminoid			
forb			
fern			
non-vascular			
epiphyte			
vine / liana			

Cover Class - Use Braun/Blanquet scale: 1=0-1% 2=1-5% 3=5-25% 4=25-50% 5=50-75% 6=75-100%
 Height Class - 1<0.5m 2=0.5-2m 3=2-5m 4=5-10m 5=10-15m 6=15-20m 7=20-35m 8>35m

SUCCESSION COMMENTS

CANOPY AGE

- 1 old growth
- 2 older mature
- 3 mature
- 4 younger mature
- 5 prereproductive trees
- 6 early successional

SUCCESSION COMMENTS (tree size, structure, age, etc.): _____

NATURE OF DISTURBANCE

- 1 firebreaks
- 2 ORV trails or roads
- 3 agriculture
- 4 wildlife food plots
- 5 forestry site prep.
- 6 logging activities
- 7 animal digging
- 8 ditching or hydrologic
- 9 shrub encroachment
- 10 exotics encroachment
- 11 natural disturbances

SEVERITY OF DISTURBANCE

- 1 light
- 2 moderate
- 3 heavy
- 4 severe

Describe: _____

WEEDY SPECIES

- 1 absent
- 2 occasional - <5%
- 3 common - >5%

List: _____

EXOTIC SPECIES

- 1 absent
- 2 occasional - <5%
- 3 common - >5%

List: _____

Disturbance Comments: _____

HYDROLOGIC ALTERATION

- 1 shrub encroachment
- 2 fire breaks
- 3 ditching
- 4 roads
- 5 impoundment
- 6 dams in watershed
- 7 canals
- 8 salt water intrusion
- 9 groundwater drawdown
- 10 cause unknown

COMMENTS (Discuss severity for each type and give overall description): _____

PAST FIRE

- 1 not suppressed
- 2 suppressed
- 3 not applicable
- 4 unknown

Comments/evidence: _____

MANAGEMENT COMMENTS

FLORIDA NATURAL AREAS INVENTORY **FIELD REPORT FORM - OCCURRENCES OF SPECIAL ANIMALS**

Scientific Name: _____ County: _____
Common Name: _____ Date observed: _____
Basis for Identification: _____ Investigator: _____

Location of Animal (please attach map and give specific directions; if possible, mark site on copy of USGS 7.5 minute topo map or draw detailed map on back of this page):

Describe habitat/plant community, list dominant species:

Extent of this habitat at site that may support animal (e.g., acres, miles) _____

Number of individuals (or nests, burrows, etc.) seen:

Estimated no. of individuals in population:

Age/population structure (adults, young, etc.) _____

Ecological/behavioral notes (e.g., reproductive stage, activity type, feeding, flying, nesting):

Have you seen this species at the same location in the past? Yes _____ No _____

If yes, please give date(s): _____ Previous condition: _____

Is there evidence of disturbance at the site? Yes _____ No _____

If yes, please describe:

Owner(s) of site: _____

Is owner protecting this animal? Yes ___ No _____

Conservation/Management

Needs _____

Comments (other useful information concerning this animal and site - e.g., names and addresses of individuals who might be helpful, publications, museum specimen numbers, etc.) _____

(please include any additional information on the back of this sheet.)

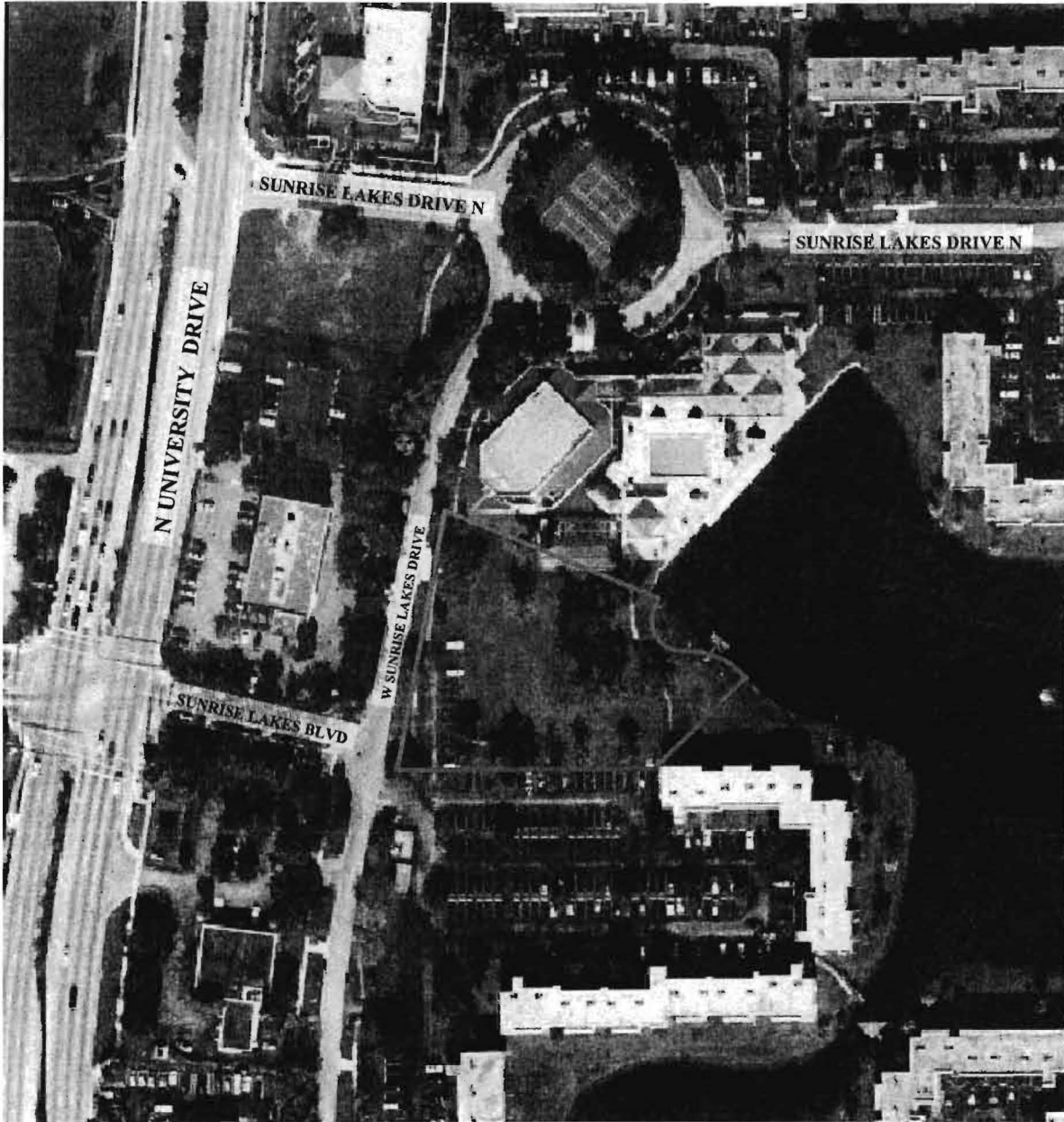
Additional forms may be obtained upon request. Please send completed field report forms to:

Submitted by: _____	Zoologist
Affiliation: _____	Florida Natural Areas Inventory
Address: _____	1018 Thomasville Rd., Suite 200-C
Phone _____ Date: _____	Tallahassee, FL 32303; ph. (850) 224-8207
	Fax (850) 681-9364; dhipes@fnai.org

** note: each form should include only one species, one locality, and one date

APPENDIX E
AERIAL PHOTOGRAPH

APPENDIX E
AERIAL PHOTOGRAPH



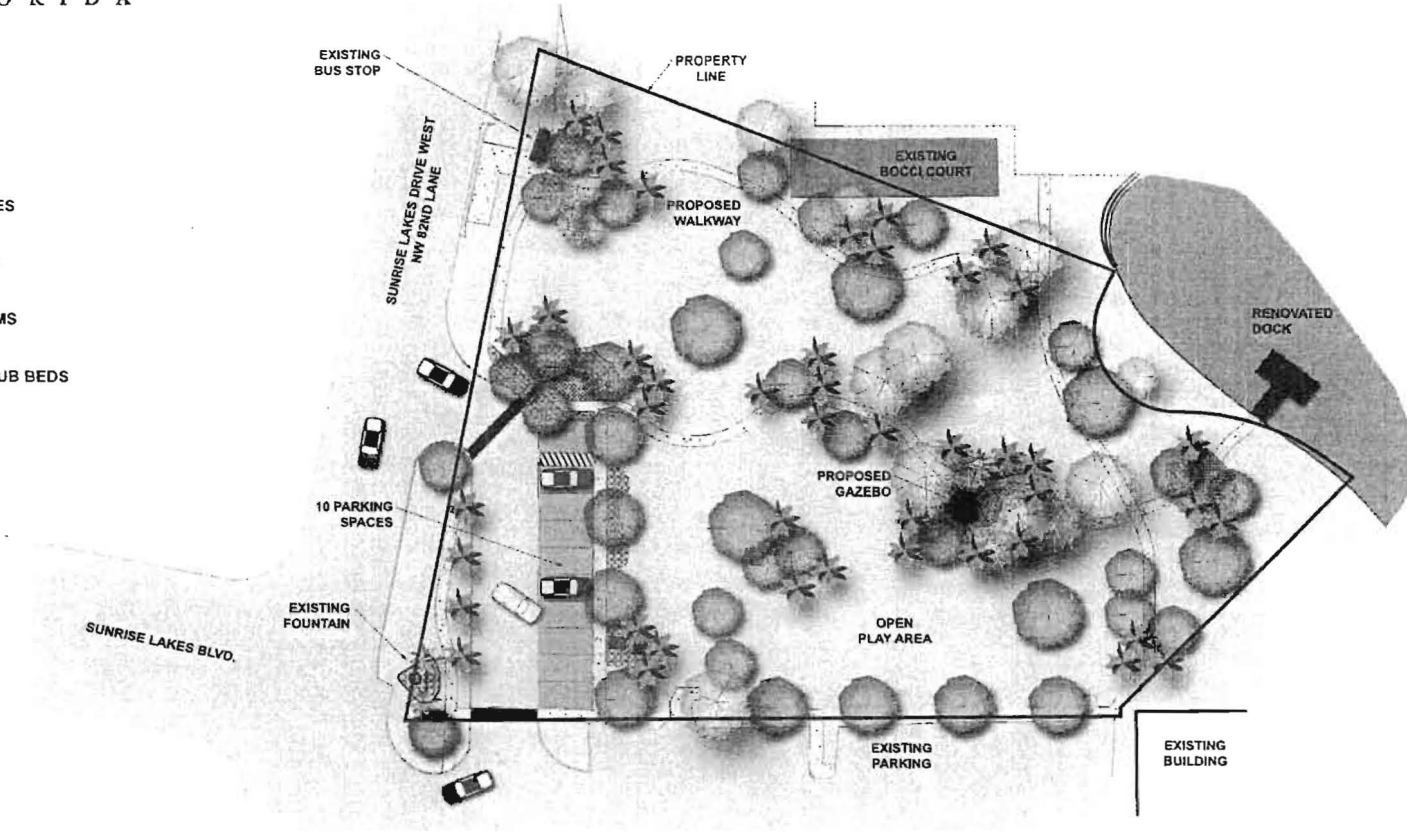
**APPENDIX F
MASTER SITE PLAN**



SUNRISE LAKES PASSIVE PARK SITE
BROWARD COUNTY



- LEGEND**
- EXISTING TREE
 - PROPOSED TREES
 - EXISTING PALMS
 - PROPOSED PALMS
 - PROPOSED SHRUB BEDS



MASTER SITE PLAN
04.27.10

