

Indian River County Purchasing Division

1800 27th Street Vero Beach, FL 32960 Phone (772) 226-1416

Request for Proposals

Project Name: Jones' Pier Conservation Area Entry Fencing

RFP #: 2022069

RFP Opening Date: July 21, 2022

RFP Opening Time: 2:00 P.M.

All Proposals must be received by the Purchasing Division, 1800 27th Street, Vero Beach, Florida 32960 prior to the date and time shown above. Late responses will be not be accepted or considered.

PLEASE SUBMIT: (1) ONE MARKED ORIGINAL, (3) COPIES OF YOUR PROPOSAL

Refer All Questions to:

Email: purchasing@ircgov.com

REQUEST FOR PROPOSALS

RFP # 2022069

Jones' Pier Conservation Area Entry Fencing

The Indian River County Board of County Commissioners is requesting proposals from qualified firms for Jones' Pier Conservation Area Fencing.

Detailed specifications are available at: www.demandstar.com or by selecting "Current Solicitations" at http://www.ircgov.com/Departments/Budget/Purchasing.

Receipt of one original and three (3) copies of proposals by the Purchasing Division, 1800 27th Street, Building B, Vero Beach, Florida 32960 must occur by 2:00 p.m. July 21, 2022.

The Board of County Commissioners reserves the right to accept or reject any and all submittals and to waive any and all informalities.

PURCHASING MANAGER INDIAN RIVER COUNTY

Publish: Demandstar/Vendor Registry

Date: Monday, June 28, 2022

Scope of Services

1. INTRODUCTION

The scope of work includes the installation of fencing along the western boundary of the Jones' Pier Conservation Area (JPCA). The JPCA is located at 7770 Jungle Trail, in Vero Beach, Florida (Figure 1). Jungle Trail is listed on the National Register of Historic Places, and as a Scenic and Historical Road. This designation should not affect the installation of proposed fencing, assuming installation is in compliance with Indian River County Resolution 89-36, adopted April 11, 1989 (included as Attachment #3).

The proposed fencing will replace previous fencing that was removed as part of the construction of public access improvements initiated in 2020. Figure 2 depicts an overview of the proposed work: (1) installation of fencing along the east side of Jungle Trail (along the property boundary); (2) installation of staff entry gate(s) along the northwestern boundary; and, (3) installation of a slide gate along the southwestern portion of the site.

The County is seeking proposals for this fencing based on general specifications. The Contractor may provide up to three alternative fencing proposals for consideration. The variation in proposals may be based on style of fencing, style of gates, configuration of the gates, and various interfaces between gates and fencing. Each proposal must include schematic(s) or renderings of proposed fencing and gates, including all dimensions and materials. Each alternative may be presented on a separate bid form for consideration.

Please note measurements presented on Figure 2 are approximate and subject to field measurement and verification by the Contractor.

General Specifications:

- 1. Fencing will be 4' in height and constructed of aluminum. Specifications on the type of aluminum fencing material must be provided. The County is requiring materials that are durable, low maintenance, and cost effective given the location of the project location adjacent to the Indian River Lagoon.
- 2. Gates may be 6' in height. Plans must show the interface between fencing and gates.
- 3. The County desires a slide gate for the main entrance, however, alternative proposals will be considered based on feasibility, durability, maintenance and cost considerations.
- 4. Picket fencing is the preferred standard to allow for visibility (in compliance with IRC Resolution 89-36)
- 5. Rails must be situated to minimize the ability to climb fencing and access the site.
- 6. Width between pickets must conform with standard safety standards to prevent access through the fencing.
- 7. Finial tips of some design are recommended to reduce the ability to climb over fencing and gates.
- 8. Manufacturer's warranty of materials should be included, as applicable.

Submittal Instructions

Proposers shall submit the following:

Information to Be Submitted: Submit one marked original and 3 (3) copies. Submittals must include and are requested to be organized as follows:

- a. A history a description of the range of services offered by of the Consultant.
- b. A detailed description of the Consultant's approach to successful completion of services such as those described within this RFP, including schematics and renderings of proposed fencing and gate structures.
- c. Provide a projected timeline/schedule with the Consultant's methodology. The schedule may reflect the ability to obtain materials and the timing required to secure all required permits.
- d. At least three (3) references from municipalities or other entities Consultant has provided the similar services for in the last three years. Please provide contact name, phone number, email address and project name.
- e. Cost proposal for each alternative, including a breakout for all materials, as well as line items for labor and other costs.
- f. Litigation: List of all ligation cases during the past three (3) years in which the proposing firm has been a named party. Provide case number, case venue, and brief description of facts.
- g. Firm Information form
- h. Sworn statement on Disclosure of Relationships as per Section 105.08 of the Indian River County Code.
- i. Certification Regarding Prohibition Against Contracting with Scrutinized Companies
- j. Certification regarding lobbying
- k. Certification regarding debarment

Method of Selection: The County shall convene a Selection Committee of which the responsibility shall be as follows:

- a. Independently review and evaluate each Submittal
 - 1. Each Committee member shall evaluate each firm by assigning a number of points for each criterion, as established in the solicitation, and then totaling the number of points for all criteria.
 - 2. Each Committee member shall then rank the firms on the basis of the total number of points received for all criteria, with the firm receiving the most points being ranked # 1.
- b. As a "Committee of the whole", develop a combined ranking order of all Submittals meeting minimum qualifications. The ranking of firms shall be done in the following manner:
 - 1. The rankings received by each firm from all Committee members shall be totaled and divided by the number of Committee members, to produce an average ranking.
 - 2. The firm receiving the lowest average ranking (i.e. closest to # 1) shall be ranked the # 1 firm, and the process repeated until all firms have been ranked according to their average ranking.
 - 3. In the event of a tie, the ranking of tied firms shall be determined by a comparison of the total number of points received by each firm from all Committee members. The firm with the highest number of points will be awarded the higher ranking position.
 - 4. The Committee may discuss the rankings and their reasons behind them, and each member may modify their ranking of firms accordingly until the Committee is satisfied with the rankings.
 - After interviews, and based upon information learned during the interviews, each Committee member will rank the firms in order of preference and a consolidated final Committee ranking established.
- c. The County may, solely at its own option, seek additional Submittals with this or a similar Submittal in the event the County, solely at its own option, determines that the quantity and/or quality of Submittals

- received is insufficient to meet the County's needs and/or that award of a contract arising from this RFP would not be in the public interest.
- d. The Committee shall forward its recommendations in accordance with the ranking to the Indian River County Board of County Commissioners, which shall, at its sole option, authorize negotiations of a contract pursuant to the requirements of Florida law.
- e. The Indian River County Board of County Commissioners possesses sole authority to award a contract for the services sought herein.

Criteria for Award:

EVALUATION CRITERIA	EVALUATION POINTS MAXIMUM
1. Firm qualifications/capabilities and similar projects	20
2. Project Approach	30
3. Proposed Timeline (Phase I)	10
4. Cost Proposal	35
5. References	5
TOTAL	100

General Instructions

Cone of Silence. Potential respondents and their agents must not communicate in any way with the Board of Commissioners, County Administrator or any County staff other than Purchasing personnel in reference or relation to this solicitation. This restriction is effective from the time of solicitation advertisement until the Board of County Commissioners meets to authorize award. Such communication may result in disqualification.

Sealed Submittals and Envelope Markings: All responses shall be submitted in a sealed envelope or box. The outside of the envelope shall be clearly marked with the Consultant's Name and Return Address, Proposal #, Title, Date of opening, and Time of Opening.

Opening Location: Responses must be received by the Purchasing Division at 1800 27th Street, Vero Beach, FL 32960, on or before the closing hour and date listed in the Request for Proposals. Proposals submitted after the stated time and date will not be accepted or considered.

Submission: Submit one marked original and five (5) copies of your Proposal, PLUS

Public Record Exemption: Correspondence, materials, and documents received pursuant to this Invitation for Bid become public records subject to the provisions of Chapter 119, Florida Statutes. Should the Bidder assert any exemptions to the requirements of Chapter 119, Florida Statutes, and related statutes, the burden of establishing such exemption, by the way of injunctive or other relief as provided by law, shall be upon the Bidder.

Taxes: Indian River County is exempt from any taxes imposed by State and / or Federal Government. Exemption Certificates, if required, are to be furnished by the successful Consultant and will be filled out by the County.

Indemnification: The Consultant shall defend, indemnify and hold harmless the County and its commissioners, officers, employees and agents, from liabilities, damages, losses, and costs, including, but not limited to, reasonable attorney's fees, to the extent caused by the negligence, recklessness, or intentionally wrongful conduct of the design professional and other persons employed or utilized by the design professional in the performance of the contract.

Public Access: The Consultant shall comply with Florida's Public Records Law in accordance with the provisions of Chapter 119, Florida Statutes. Specifically, the Consultant shall keep and maintain public records that ordinarily and necessarily would be required by the County in order to perform the service. The Consultant shall provide the public with access to public records on the same terms and conditions that the County would provide the records at a cost that does not exceed the costs provided in Chapter 119 or as otherwise provided by law. The Consultant shall ensure that public records that are exempt or confidential and exempt from public records disclosure requirements are not disclosed except as authorized by law. The Consultant shall meet all requirements for retaining public records and transfer, at no cost, to the County, all public records in possession of the Consultant upon termination of the contract and destroy any duplicate public records that are exempt or confidential and exempt from public records disclosure requirements. All records stored electronically must be provided to the County in a format that is compatible with the information technology systems of the County.

Public Entity Crimes: Pursuant to Florida Statutes Section 287.133(2)(a), all Consultants are hereby notified that a person or affiliate who has been placed on the convicted vendor list following a conviction for a public entity crime may not submit a bid, proposal, or reply on a contract to provide any goods or services to a public entity (defined as the State of Florida, any of its departments or agencies, or any political subdivision); may not submit

a bid, proposal, or reply on a contract with a public entity for the construction or repair of a public building or public work; may not submit bids, proposals, or replies on leases of real property to a public entity; may not be awarded or perform work as a contractor, supplier, subcontractor, or consultant under a contract with any public entity; and may not transact business with any public entity in excess of the threshold amount provided in Florida Statutes Section 287.017 for CATEGORY TWO [currently \$35,000] for a period of 36 months from the date of being placed on the convicted vendor list. A "public entity crime" means a violation of any state or federal law by a person with respect to and directly related to the transaction of business with any public entity or with an agency or political subdivision of any other state or with the United States, including, but not limited to, any bid, proposal, reply, or contract for goods or services, any lease for real property, or any contract for the construction or repair of a public building or public work, involving antitrust, fraud, theft, bribery, collusion, racketeering, conspiracy, or material misrepresentation.

Suspension and Debarment: Indian River County will not make award to parties listed on the government-wide exclusions in the System for Award Management (SAM). The Consultant agrees to comply with the requirements of 2 C.F.R. pt. 180, subpart C and 2 C.F.R. pt. 3000, subpart C while this offer is valid and throughout the period of any contract that may arise from this offer. The Consultant further agrees to include a provision requiring such compliance in its lower tier covered transactions.

Scrutinized Companies Lists: The Consultant certifies that it and those related entities of respondent as defined by Florida law are not on the Scrutinized Companies that Boycott Israel List, created pursuant to s. 215.4725 of the Florida Statutes, and are not engaged in a boycott of Israel. In addition, if this agreement is for goods or services of one million dollars or more, Contractor certifies that it and those related entities of respondent as defined by Florida law are not on the Scrutinized Companies with Activities in Sudan List or the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List, created pursuant to Section 215.473 of the Florida Statutes and are not engaged in business operations in Cuba or Syria. The County may terminate this Contract if Company is found to have submitted a false certification as provided under section 287.135(5), Florida Statutes, been placed on the Scrutinized Companies with Activities in Sudan List or the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List, or been engaged in business operations in Cuba or Syria, as defined by section 287.135, Florida Statutes. County may terminate this Contract if Company, including all wholly owned subsidiaries, majority-owned subsidiaries, and parent companies, that exist for the purpose of making profit, is found to have been placed on the Scrutinized Companies that Boycott Israel List or is engaged in a boycott of Israel as set forth in section 215.4725, Florida Statutes.

Accordingly, firms responding to this solicitation shall return with their response an executed copy of the attached "Certification Regarding Prohibition Against Contracting With Scrutinized Companies." Failure to return this executed form with submitted bid/proposal/statement of qualifications will result in the response being deemed non-responsive and eliminated from consideration.

Non-Discrimination: Indian River County will not knowingly do business with vendors or contractors who discriminate on the basis of race, color or national origin, sex, sexual orientation, gender identity, age and/or disability. Through the course of providing services to the County, Contractors shall affirmatively comply with all applicable provisions of Title VI of the Civil Rights Act of 1964, the Civil Rights Restoration Act of 1987 and the Florida Civil Rights Act of 1992, as well as all other applicable regulations, guidelines and standards. Any person who believes their rights have been violated should report such discrimination to the County's Title VI/Nondiscrimination Coordinator through the office of the County Attorney.

E-Verify: Consultant must be registered with and use, at their sole expense, the Department of Homeland Security's E-Verify system (www.e-verify.gov) to confirm the employment eligibility of all newly hired

employees, as required by Section 448.095, F.S. Owner, contractor, and subcontractors may not enter into a contract unless each party to the contract registers with and uses the E-Verify system. Consultant is responsible for obtaining proof of E-Verify registration for all subcontractors/subconsultants. This requirement applies to any provider of services or goods.

Local Preference: Indian River County has no local ordinance or preferences, as set forth in section 255.0991(2), Florida Statutes, in place, therefore no preference prohibited by that section will be considered in the acceptance, review or award of this solicitation.

Regulations: It shall be the responsibility of the Consultant to assure compliance with any OSHA, EPA and / or other Federal or State of Florida rules, regulations, or other requirements, as each may apply.

Interpretations: No oral interpretations will be made to any Consultant as to the meaning of the RFP documents. Every request for such an interpretation shall be made in writing, addressed and forwarded to Indian River County (purchasing@ircgov.com) ten (10) or more days before the date fixed for opening of the RFP. The County shall not be responsible for oral interpretations given by any County employee. Every interpretation made to Consultants will be in the form of an Addendum, which if issued, will be sent promptly as is practical to all persons to whom RFP documents have been issued. All such Addenda shall become part of the RFP documents. Further, it shall be the responsibility of each Consultant, prior to submitting their Proposal, to contact Indian River County's Purchasing Division at (772) 226-1416 to determine if addenda were issued and to make such addenda a part of their Proposal.

Applicable Law and Venue: Contract(s) resulting from this RFP and all rights and duties of the parties hereto shall be governed by the laws of the State of Florida, including but not limited to the provisions of the Florida Uniform Commercial Code Chapters 671-679 F.S., for any terms and conditions not specifically stated in this solicitation and resulting agreement. Venue for any lawsuit brought by either party against the other party or otherwise arising out of this Contract shall be in Indian River County, Florida, or, in the event of a federal jurisdiction, in the United States District Court for the Southern District of Florida.

Conflict of Interest: Any entity submitting a bid, proposal, qualifications or entering into a contract with the County shall disclose any relationship that may exist between the contracting entity and a County Commissioner or a County Employee. The relationship with a County Commissioner or a County Employee that must be disclosed is as follows: father, mother, son, daughter, brother, sister, uncle, aunt, first cousin, nephew, niece, husband, wife, father-in-law, mother-in-law, daughter-in-law, son-in-law, brother-in-law, sister-in-law, stepfather, stepson, stepdaughter, stepbrother, stepsister, half brother, half sister, grandparent, or grandchild. The term "affiliate" includes those officers, directors, executives, partners, shareholders, employees, members, and agents who are active in the management of the entity. The disclosure of relationships shall be a sworn statement made on a County approved form. Failure to submit the form will be cause for rejection of the bid or proposal.

Prohibition Against Contingent Fees: If a contract is entered resulting from this request for qualifications, it shall include a prohibition against contingent fees statement, as required by FS 255.087.

Right to Protest: Any actual or prospective responding Consultant who is aggrieved in connection with a competitive selection process may protest to the Purchasing Manager. The protest shall be submitted to the Purchasing Manager in writing within seven (7) calendar days after the bidder or proposer knows or should have known of the facts giving rise to the protest. If the protest is not resolved by mutual agreement, the Purchasing

Manager shall promptly issue a decision in writing, after consulting the Department and the Office of the County Attorney.

Awards: The County reserves the right to cancel the solicitation, reject any and all Proposals or waive any irregularity or technicality in submittals received. The County reserves the right to not make any award(s) under this solicitation.

Termination by the County: The County reserves the right to terminate a contract by giving thirty (30) days notice, in writing, of the intention to terminate, if at any time the Consultant fails to abide by or fulfill any of the terms and conditions of the contract. The County also reserves the right to terminate this contract for convenience of the County and / or with or without cause.

Compliance with Laws and Regulations: Consultant agrees that they will comply with all Federal, State, and Local Laws and Regulations applicable to the production, sale, and delivery of the goods or the furnishing of any labor or services called for by this solicitation and resulting agreement, and any provisions required thereby to be included herein shall be deemed to be incorporated herein by reference. Noncompliance may be considered grounds for termination of contracts.

Insurance:

The Consultant shall provide, prior to execution of the contract, the insurance required under this section for approval by the County. Firm's insurance shall be primary. The County shall be named as an additional insured for both General Liability and Automobile Liability. The awarded firm shall maintain the following limits of insurance during the term duration of this agreement.

General Liability

Each Occurrence \$500,000

Fire Damage-any one fire \$50,000

Medical Expenses-any one person \$5,000

Personal and Advertising Injury \$500,000

General Aggregate \$500,000

Combined Single Limit \$500,000

Automobile Liability – Combined Single Limit \$500,000

Worker's Compensation as required by the State of Florida

Each accident \$100,000 Each Disease – Each employee \$100,000 Each disease – policy limit \$500,000

The policy shall cover the firm, all employees, and/or volunteers, and all independent contractors, subcontractors and professional contractual persons hired or retained by contractor.

All above insurance policies shall be placed with insurers with a Best's rating of no less than A-VII. The insurer chosen shall also be licensed to do business in Florida. The insurance policies procured shall be "Claims Made" policies or as generally available on the open insurance market.

The Insurance Carriers shall supply Certificates of Insurance evidencing such coverage to the Indian River County

Risk Management Department prior to the execution of this Agreement.

The insurance companies selected shall send written verification to the Indian River County Risk Management Department that they will provide 30 days written notice to the Indian River County Department of Risk Management of its intent to cancel or terminate.

Indian River County reserves the right to accept or reject any or all proposals in whole or in part and waive any and all any technicalities or irregularities.

FIRM INFORMATION

W-9 Phone Email	
Phone Email	
Email	
ate	
you have comple	eted similar work:

Agency/Firm Name:	
Address:	
Contact Name: Title:	
E-Mail: Phone:	
Services Provided:	
Dates of Service:	
Agency/Firm Name:	
Address:	
Contact Name: Title:	
E-Mail: Phone:	
Services Provided:	
Dates of Service:	
4. Date Registered with e-Verify.gov: Certificate #	
5. List all ligation cases during the past three (3) years in which the Contractor has been	a named party.
Use additional sheets, as necessary.	
Year filed	

PROPOSAL PRICING – RFP #2022069 Jones' Pier Conservation Area Entry Fencing

Proposer submits the following prices for the work described in this solicitation:

Item	Unit Price	Unit	Quantity	Total
1. 4' Aluminum Fencing Panels	\$	EA		\$
2. Transition Panels between fencing and gates	\$	EA		
3. Aluminum Fence Posts	\$	EA		\$
4. Aluminum Gate Posts	\$	EA		\$
5. Staff Gate(s) – Aluminum construction - 6' in height	\$	EA		\$
6. Aluminum Slide Gate	\$	EA		\$
7. Boundary Staking (as needed)	\$	LS		\$
9. Installation	\$	LS		\$
8. Miscellaneous Hardware	\$	LS		\$
9. Mobilization/Demobilization	\$	LS		\$
10. Permitting Fee \$79 If the price exceeds \$19,039 the cost would be multiplied by 0.394%	\$	LS		\$
11. Other Materials (please specify Item, Unit Price, Unit, Quantity and Total)	\$			\$
Total Price Proposal	•	•	\$	•

The undersigned hereby certifies that they have read and understand the contents of this solicitation and agree to furnish at the prices shown above all of the services specified in the RFP document, subject to all instructions, conditions, specifications and attachments hereto. Failure to have read all the provisions of this solicitation shall not be cause to alter any resulting contract or request additional compensation.

Name of Firm	Address	
Authorized Signature	City, State, Zip Code	
Title	() - Phone	
	 E-mail	

SWORN STATEMENT UNDER SECTION 105.08, INDIAN RIVER COUNTY CODE, ON DISCLOSURE OF RELATIONSHIPS

THIS FORM MUST BE SIGNED IN THE PRESENCE OF A NOTARY PUBLIC OR OTHER OFFICER AUTHORIZED TO ADMINISTER OATHS.

1.	This sworn statement MUST be submitted with Bid, Proposal or Contract No. 2022069
	for Jones' Pier Conservation Area Entry Fencing
2.	This sworn statement is submitted by:
	(Name of entity submitting Statement)
	whose business address is:
	and its Federal Employer Identification Number (FEIN) is
3.	My name is
	(Please print name of individual signing)
	and my relationship to the entity named above is
4.	I understand that an "affiliate" as defined in Section 105.08, Indian River County Code, means:
	The term "affiliate" includes those officers, directors, executives, partners, shareholders, employees, members, and agents who are active in the management of the entity.
5.	I understand that the relationship with a County Commissioner or County employee that must be disclosed as follows:
	Father, mother, son, daughter, brother, sister, uncle, aunt, first cousin, nephew, niece, husband, wife, father-in-law, mother-in-law, daughter-in-law, son-in-law, brother-in-law, sister-in-law, stepfather, stepmother, stepson, stepdaughter, stepbrother, stepsister, half brother, half sister, grandparent, or grandchild.
6.	Based on information and belief, the statement, which I have marked below, is true in relation to the entity submitting this sworn statement. [Please indicate which statement applies.]
	Neither the entity submitting this sworn statement, nor any officers, directors, executives, partners, shareholders, employees, members, or agents who are active in management of the

• • •	ationships as defined in section 105 er or County employee.	5.08, Indian River County Code, with any
executives, partner	rs, shareholders, employees, mer	ne or more of the officers, directors, mbers, or agents, who are active in nships with a County Commissioner or
Name of Affiliate or entity	Name of County Commiss or employee	ioner Relationship
		(Signature)
		(Date)
STATE OF		
· · · · · · · · · · · · · · · · · · ·	y of, by	s of □ physical presence or □ online (name of
	, -	ry Public - State of Florida) nmissioned Name of Notary Public)
\square who is personally known	to me or □ who has produced	

CERTIFICATION REGARDING PROHIBITION AGAINST CONTRACTING WITH SCRUTINIZED COMPANIES

(This form MUST be submitted with your response)

I hereby certify that neither the undersigned entity, nor any of its wholly owned subsidiaries, majority-owned subsidiaries, parent companies, or affiliates of such entities or business associations, that exists for the purpose of making profit have been placed on the Scrutinized Companies that Boycott Israel List created pursuant to s. 215.4725 of the Florida Statutes, or are engaged in a boycott of Israel.

In addition, if this solicitation is for a contract for goods or services of one million dollars or more, I hereby certify that neither the undersigned entity, nor any of its wholly owned subsidiaries, majority-owned subsidiaries, parent companies, or affiliates of such entities or business associations, that exists for the purpose of making profit are on the Scrutinized Companies with Activities in Sudan List or the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List, created pursuant to s. 215.473 of the Florida Statutes, or are engaged in business operations in Cuba or Syria as defined in said statute.

I understand and agree that the County may immediately terminate any contract resulting from this solicitation upon written notice if the undersigned entity (or any of those related entities of respondent as defined above by Florida law) are found to have submitted a false certification or any of the following occur with respect to the company or a related entity: (i) it has been placed on the Scrutinized Companies that Boycott Israel List, or is engaged in a boycott of Israel, or (ii) for any contract for goods or services of one million dollars or more, it has been placed on the Scrutinized Companies with Activities in Sudan List or the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List, or it is found to have been engaged in business operations in Cuba or Syria.

Name of Respondent:	 	
Ву:		
(Authorized Signature)		
Title:	 	
Date:	 	

CERTIFICATION REGARDING LOBBYING

Certification for Contracts, Grants, Loans, and Cooperative Agreements

The undersigned Firm certifies, to the best of his or her knowledge, that:

- 1. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.
- 2. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.
- 3. The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31, U.S.C. § 1352 (as amended by the Lobbying Disclosure Act of 1995). Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

The Contractor,	, certifies or affirms the truthfulness and accuracy of
each statement of its certification an	d disclosure, if any. In addition, the Contractor understands and agrees that
the provisions of 31 U.S.C. § 3801 et	seq., apply to this certification and disclosure, if any.
Signature of Contractor's Authorized	Official
Name and Title of Contractor's Author	prized Official
Date	

CERTIFICATION REGARDING DEBARMENT, SUSPENSION INELIGIBILITY AND VOLUNTARY EXCLUSION

(1) The CONSULTANT certifies, by submission of this proposal, that neither it nor its principals is presently
debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in
this transaction by any Federal department or agency.

this transaction by any Federal department or agency.
(2) Where the prospective lower tier participant is unable to certify to any of the statements in this certification such prospective participant shall attach an explanation to this proposal.
Signature of Proposer's Authorized Official
Name and Title of Proposer's Authorized Official





Figure 2 Jones' Pier Conservation Area Fencing Overview



INDIAN RIVER COUNTY JUNGLE TRAIL MANAGEMENT PLAN

Indian River County Board of County Commissioners Resolution No. 89-36 April 11, 1989

RESOLUTION NO. 89-36

A RESOLUTION OF THE BOARD OF COUNTY COMMISSIONERS OF INDIAN RIVER COUNTY, FLORIDA, APPROVING A MANAGEMENT PLAN FOR JUNGLE TRAIL.

WHEREAS, the Indian River County Scenic and Historic Roads Ordinance, Indian River County Code Sections 18-21 through 18-27, requires that, pursuant to Section 18-26, the Board of County Commissioners will adopt by resolution guidelines for the maintenance of the scenic and historic roads; and

WHEREAS, Jungle Trail has been designated as a scenic and historic road; and

WHEREAS, publicly advertised workshops for the development of a Jungle Trail Management Plan were held on January 13, 1989, February 10, 1989, and February 17, 1989; and

WHEREAS, - the Jungle Trail Management Plan was presented and approved by the Indian River County Planning and Zoning Commission on March 9, 1989; and

WHEREAS, notice of a public hearing to consider the adoption by resolution of the Jungle Trail Management Plan was advertised in local newspapers on March 20, 1989; and

WHEREAS, the Board of County Commissioners of Indian River County has met and held a public hearing to consider input by members of the public, staff, and all interested parties on this 11th day of April, 1989; and

WHEREAS, the Board of County Commissioners of Indian River County has directed that such modifications as are appropriate, based on input at public hearing, be made to the Jungle Trail Management Plan,

NOW, THEREFORE, BE IT RESOLVED by the Board of County Commissioners of Indian River County, Florida that:

- 1. The above recitals are ratified in their entirety.
- 2. The Jungle Trail Management Plan, as modified at public hearing, is hereby adopted pursuant to Indian River County Ordinance Section 18-26 as the guidelines for maintenance of the scenic and historic road known as Jungle Trail.

The foregoing resolution was offered by Commissioner Scurlock and seconded by Commissioner Eggert , and, being put to a vote, the vote was as follows:

Chairman Gary C. Wheeler

Aye

Vice Chairman Carolyn K. Eggert

Aye_

Commissioner Richard N. Bird

<u>Aye</u>

Commissioner Margaret C. Bowman

Aye_

Aye_

Commissioner Don C. Scurlock, Jr.

The Chairman thereupon declared the resolution

duly passed and adopted this 11th day of April, 1989.

BOARD OF COUNTY COMMISSIONERS INDIAN RIVER COUNTY, FLORIDA

Bv:

Say C. Whele Gary C. Wheeler, Chairman

ATTEST

By: Jeffrayk Barton Seffrey K Barton, Clerk Lya Waterkouse

Indian River Co.	Approved	Date
Admin.	150	4-5-54
Legal	wac	4-4-89
Budget	NA	
Dept.	AAAK	4/4/89
Risk Mgr.	NA	

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INDIAN RIVER COUNTY JUNGLE TRAIL MANAGEMENT PLAN

INTRODUCTION

Jungle Trail, located on the northern portion of Orchid Island (the barrier island) in Indian River County, extends approximately seven (7) miles from Old Winter Beach Road north to its intersection with State Road AlA. The trail meanders along the eastern shore of the Indian River Lagoon; citrus groves, wooded areas (of both native and non-native plant species) and residential developments exist adjacent to Jungle Trail at various locations along the route.

According to native residents of the area, Jungle Trail was originally a foot path in the late 1800s. By the early 1900s the trail had been further cleared by property owners for the purpose of horse and buggy access.

In 1920, St Lucie County declared a county road (which includes what is now Jungle Trail) from the north county line to the one bridge existing at that time in Vero Beach. This county road opened up the whole of the barrier island for farming, production and marketing of the world-famous citrus, tourism, and a commercial and sports fishery. The road also provided a way to reach the Sebastian Inlet, a popular recreation area.

By 1928, three bridges connected the county road to the mainland, providing a link with the railroad for the fast growing tourist and citrus-based economy. In 1941, the county road was given the designation of Peninsula Road by the State of Florida. Because of the jungle-like growth along the road through tropical hammocks, windbreaks rows of tall Australian pines, a thick assortment of native understory, climbing vines, and introduced "ornamentals", the local name, Jungle Trail, came into being. In the mid-1960s, when A1A opened to the Sebastian Inlet, the only segment of Jungle Trail still in its original alignment was the 7-mile segment from the Winter Beach Bridge Road to the intersection with A1A. Today, that segment still follows its original alignment.

Land use along Jungle Trail has evolved over time from jungle-like coastal hammock areas to extensive citrus groves and scattered single-family residences; now, and in the near future, exclusive multi-family developments are being established adjacent to large extents of the trail. It is anticipated that residential development will eventually be adjacent to Jungle Trail for virtually its entire length.

The Indian River County Comprehensive Plan adopted in 1982 (and thereafter amended) established Jungle Trail as a scenic and historical road. In 1985, the Board of County Commissioners adopted Ordinance No. 85-64, entitled "Scenic and Historical Roads," which sets forth objectives and general guidelines pertaining to roads identified as having scenic and historical significance. The objectives of the 1985 ordinance are:

- (1) To promote the safety and convenience of those members of the public traveling on scenic or historic roads;
- (2) To protect the natural and cultural heritage of historic or scenic roads and to enhance their resource value for enjoyment of future generations;
- (3) To protect the public interest in historic and scenic roads from activities, land uses, signs and the unnecessary removal of native vegetation, which impair both the integrity of the road, its capacity for traffic, and its visual qualities; and

(4) To contribute to the environmental and historical appreciation of scenic and historic roads and the education of the residents and visitors. (Ord. No. 85-64)

As development comes to Jungle Trail, so comes a diversity of ideas and concepts as to what constitutes the scenic and historical aspects of the trail to be preserved (or enhanced), in meeting the intent of the referenced objectives.

The purpose of this management plan is to establish specific guidelines for the maintenance, enhancement and protection of Jungle Trail. The plan is based on the County Scenic and Historic Road Ordinance, which provides that specific guidelines shall be implemented (as adopted by resolution) for the maintenance of scenic and historic roads.

EXISTING CONDITIONS/ISSUES

Description of Jungle Trail

The approximately seven (7) miles of Jungle Trail generally can be divided into two (2) main segments: the portion south of C.R. 510 (Wabasso Beach Road), and the portion north of C.R. 510 extending to S.R. A1A. Jungle Trail runs through the towns of Indian River Shores and Orchid as well as the unincorporated county. Table 1 summarizes the length of the trail found within each of these three municipal areas.

TABLE 1

LENGTH OF JUNGLE TRAIL (miles)

MUNICIPALITY WITHIN MUNICIPAL BOUNDARIES ADJACENT TO MUNICIPALITY

Indian River County (unincorporated)	5.62	N/A	
Indian River Shores	0.90	N/A	
Town of Orchid	0.43	1.59	
TOTAL	6.95	(2.61 S. of 510, 4.34 N. o	E 510)

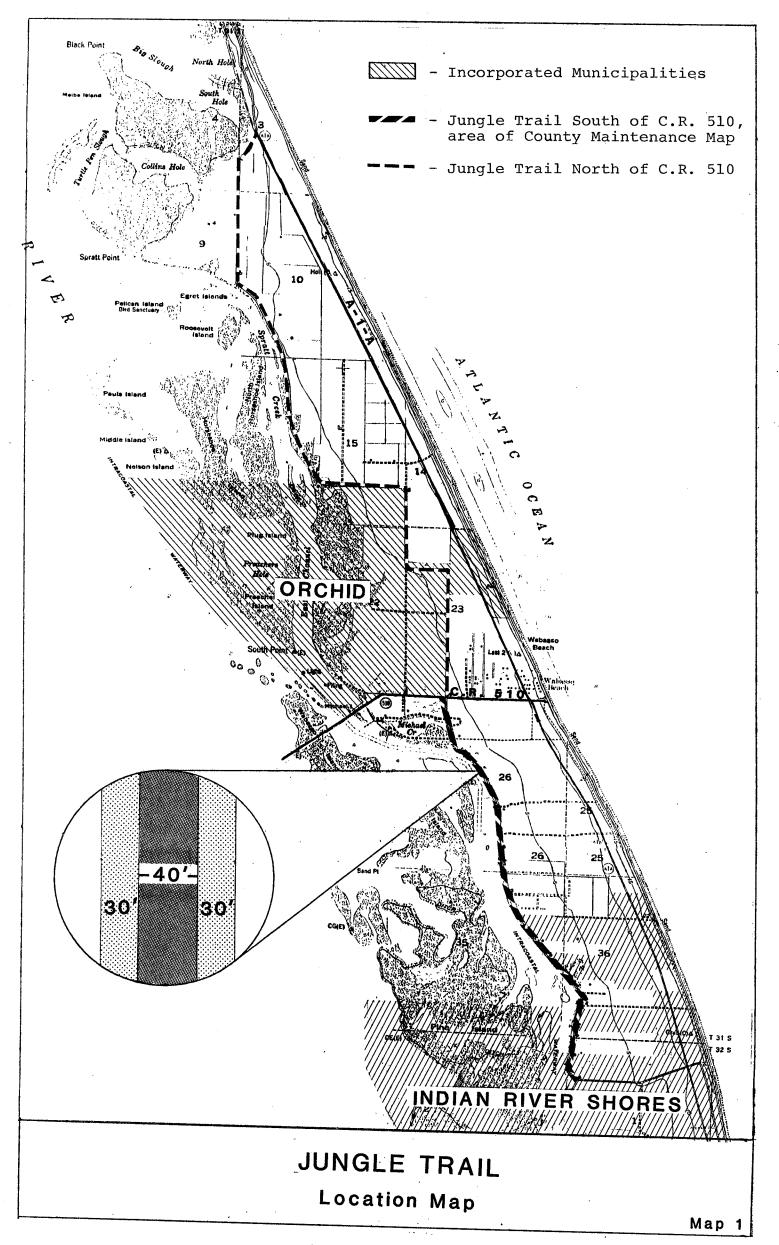
SOURCE: Indian River County Planning Division.

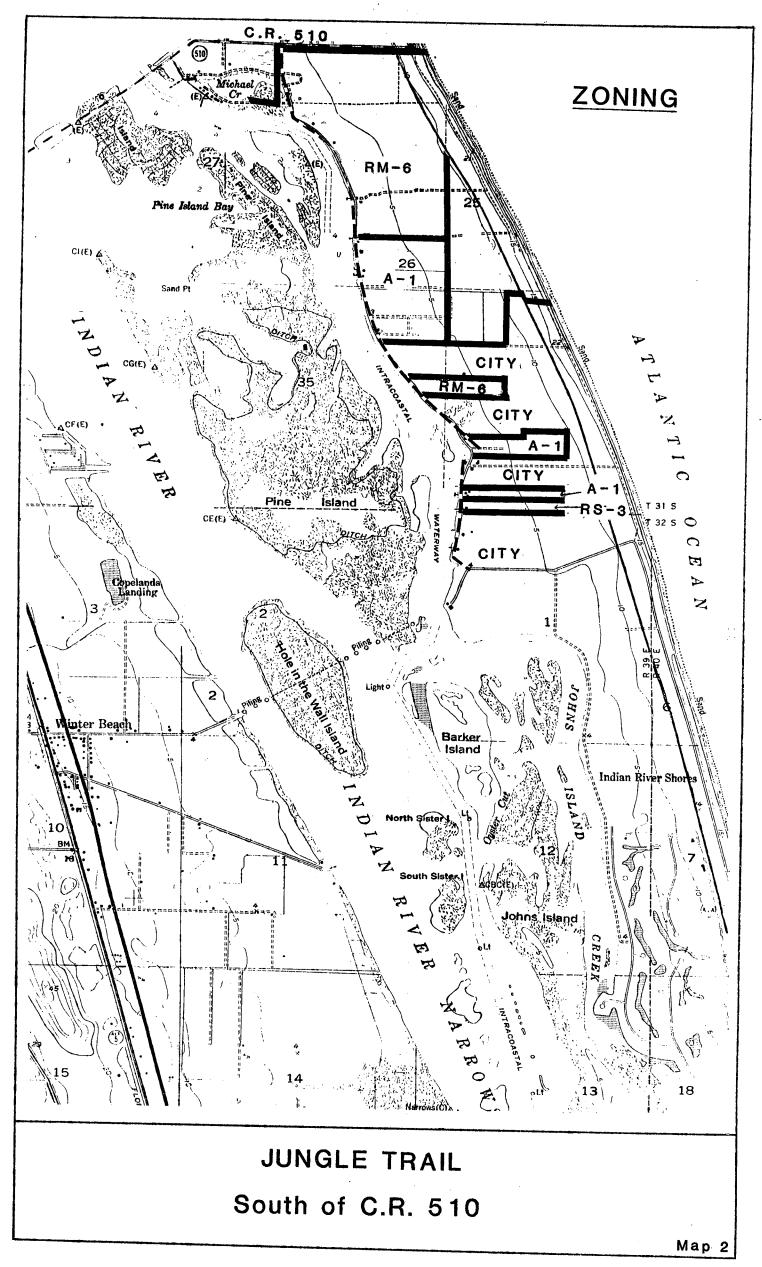
Also, it is important to note that the Pelican Island National Wildlife Refuge compasses that portion of the Indian River Lagoon adjacent to approximately four (4) miles of Jungle Trail north of C.R. 510. As such, the U.S. Department of Interior, Fish and Wildlife Service is a fourth agency with jurisdiction and authority to affect development along Jungle Trail.

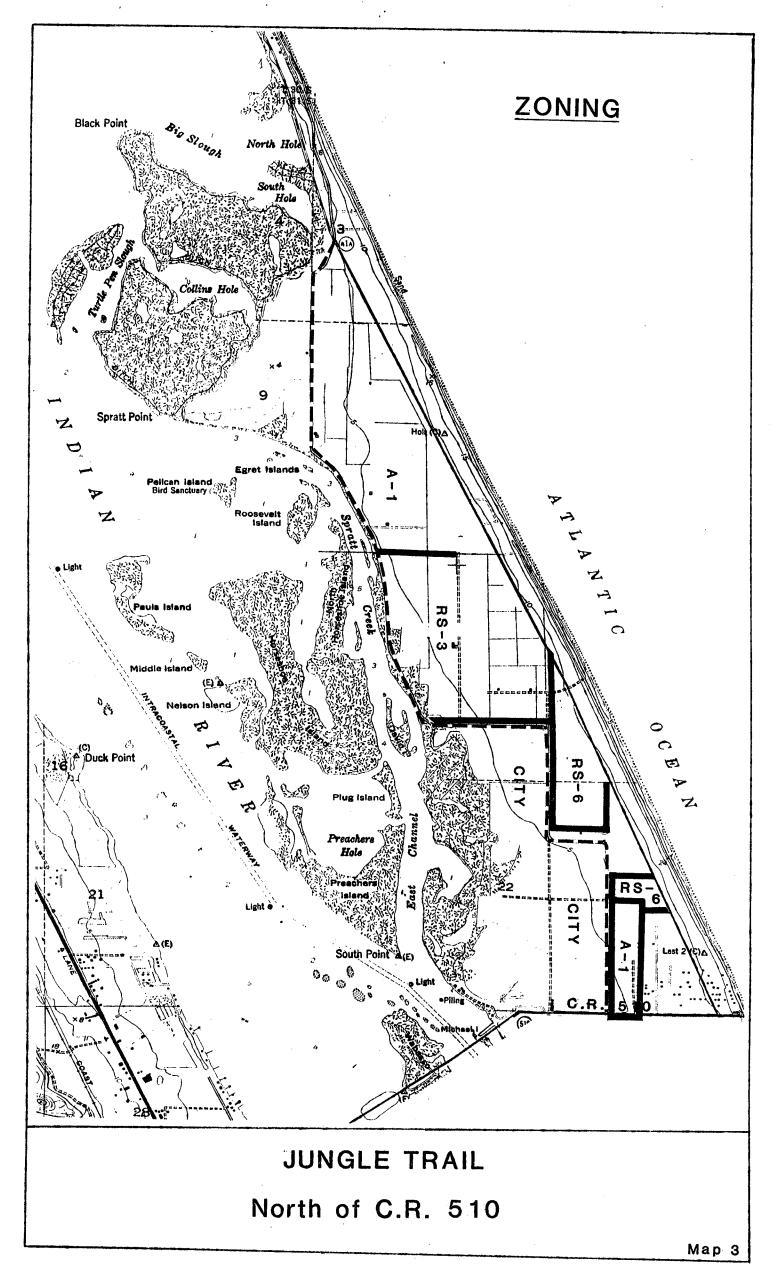
In order to determine the specific maintenance, enhancement, and/or protection needs of Jungle Trail, it is necessary to identify various existing conditions along the trail. Maps 1 through 8 illustrate the following areas and conditions along Jungle Trail: municipal boundaries; area of the County Maintenance Map; existing land use; existing zoning; areas commonly utilized for public recreation (fishing) and areas of shoreline erosion. Also depicted (generally) are areas of various existing vegetation (ie - citrus, hammock, Brazilian peppers, mangroves, etc.)

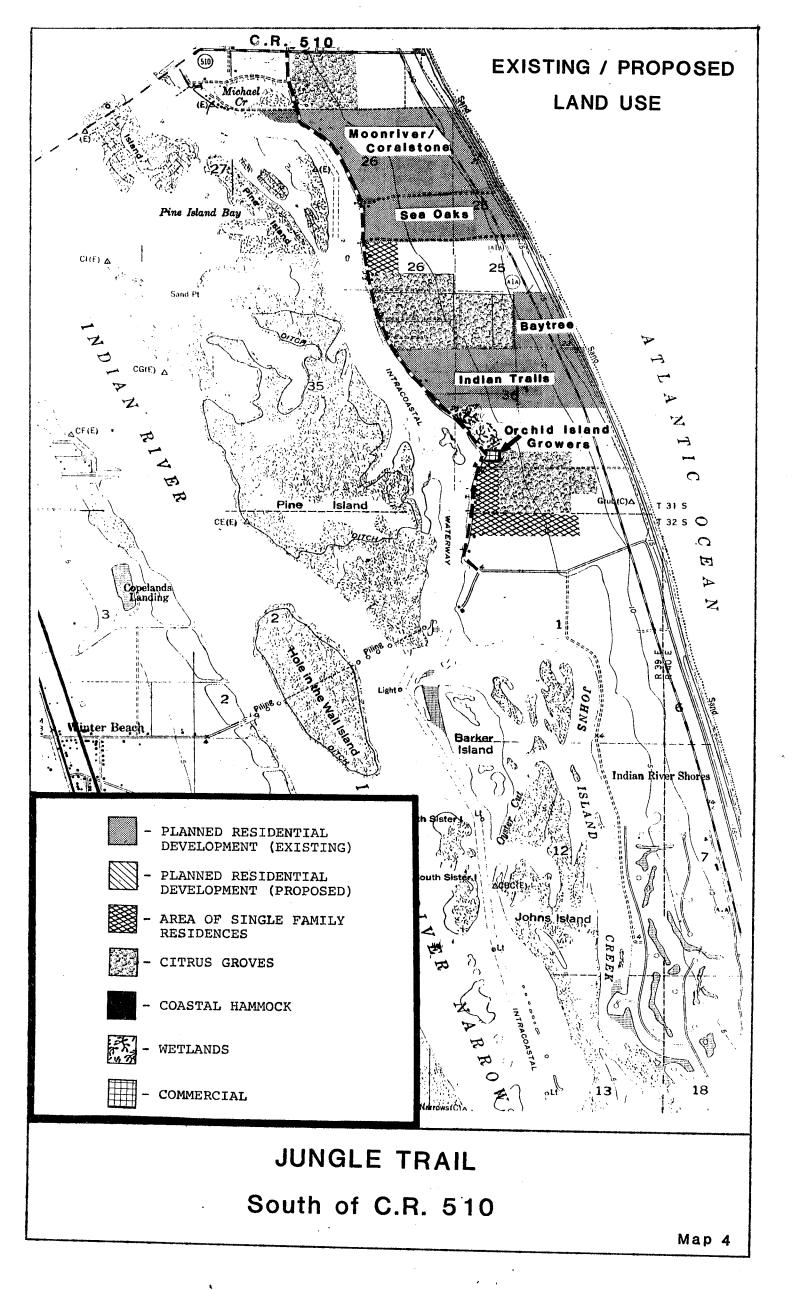
Identification of Issues/Topics of Concern

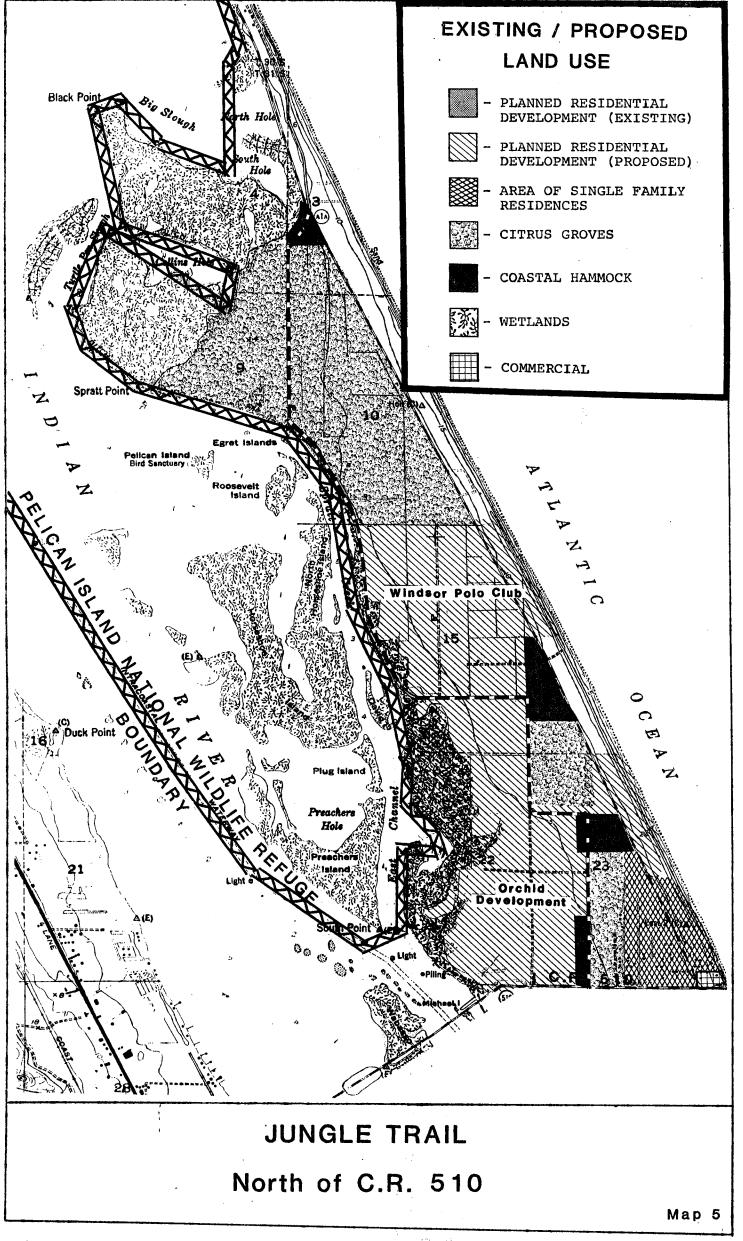
Through the review of existing conditions of Jungle Trail and consulting members of the private and public sector, several important issues relating to the management of the trail have been identified. Issues/topics of concern are: preservation and/or enhancement of the 30 foot protected area adjacent to Jungle Trail

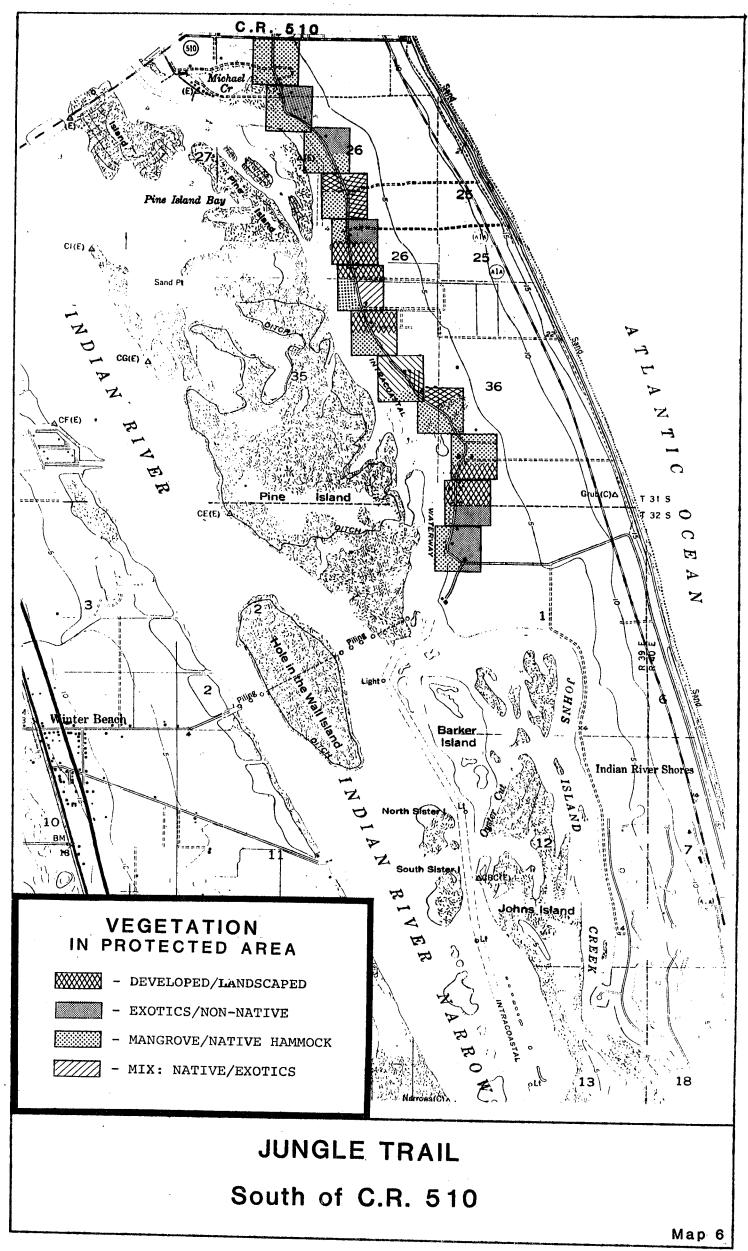


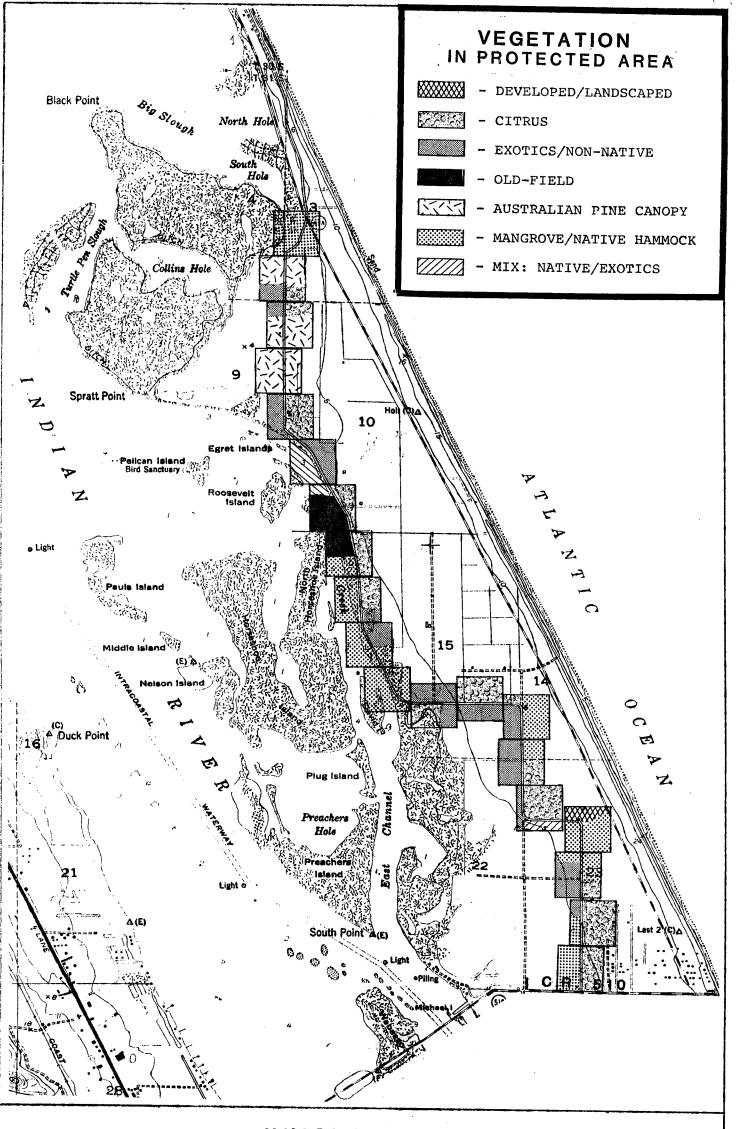






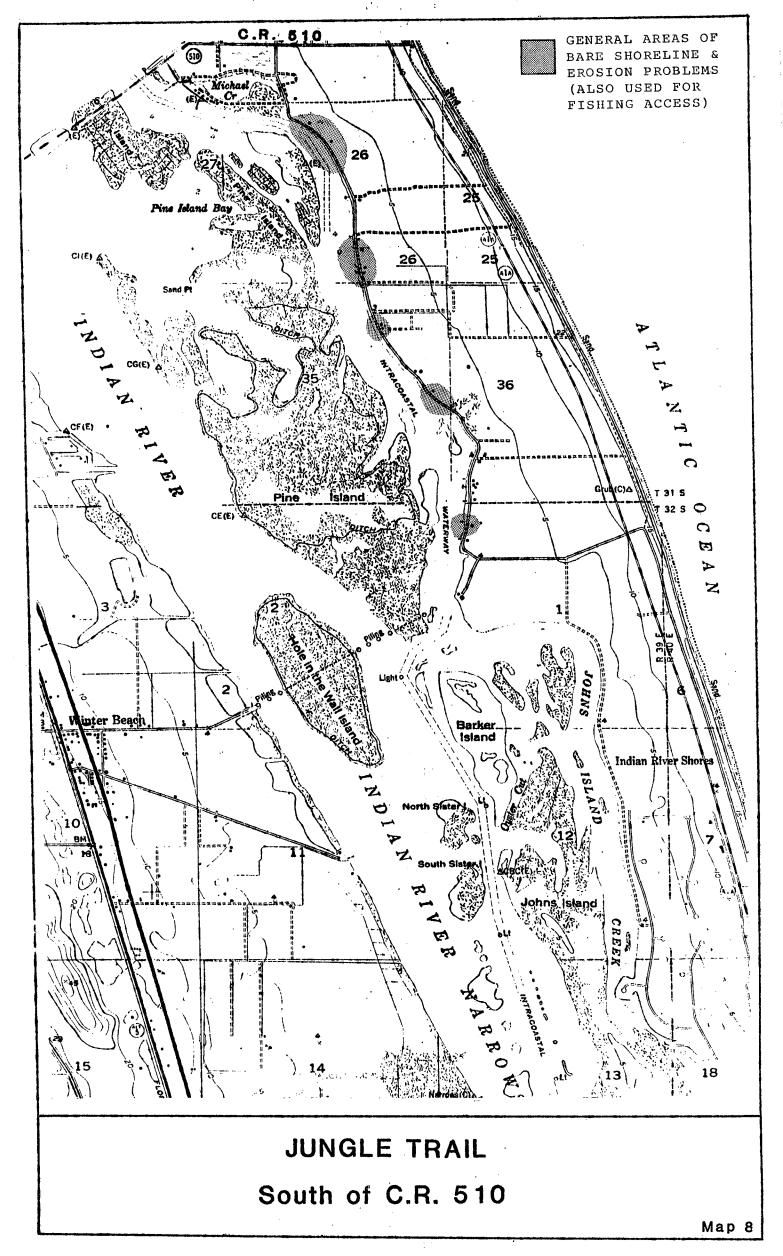






JUNGLE TRAIL
North of C.R. 510

Map 7



(as established by Ord. 85-64); travel-way maintenance; shoreline stabilization; litter control; parking and public access; trail alignment and nature of access (ie - pedestrian vs. vehicular); archeological sites; and education. These issues are defined and reviewed in more detail in the management guidelines portion of this plan.

The manner in which these topics are addressed will determine the continued status of Jungle Trail as a scenic and historic road, and how it will be experienced by residents, visitors, and generations to come. Visions of what constitutes "scenic" and "historic," however, vary among the utilizers of Jungle Trail. While the County Scenic and Historic Roads Ordinance provides objectives and general guidelines, it has become evident through public discussion that there are conflicting opinions as to what steps should be taken to preserve the scenic and historic nature of Jungle Trail.

The management guidelines of this plan are established with consideration to public input and review of existing and proposed conditions along Jungle Trail. By establishing these specific guidelines, the management plan provides a standard for preserving the positive qualities of Jungle Trail, in conjunction with continued development growth.

THE PLAN; JUNGLE TRAIL MANAGEMENT GUIDELINES

The Protected Area

The 1985 Scenic and Historical Road Ordinance sets forth a thirty (30) foot wide "protected area" on each side adjacent to the forty (40) foot travel-way of Jungle Trail. Characteristics of the protected area vary at any given location along the trail. Generally, there are four categories of existing conditions: (1) cleared and sodded land with landscaping associated with previously established development; (2) citrus groves; (3) vegetated land dominated by exotic (non-native) plant species; and (4) vegetated land dominated by native plant species. Maps 6 and 7 depict the general location of these various conditions.

Section 18-26 of the Scenic and Historical Roads Ordinance identifies five general guidelines to be incorporated in established management plans for scenic and historic roads (see Appendix A). Four of the five guidelines pertain to vegetation protection within the protected area. While these general guidelines relate to all four objectives identified in the ordinance, the most applicable objective served by these vegetation protection guidelines is "to protect the public interest in historic and scenic roads from activities, land uses, signs and the unnecessary removal of native vegetation, which impair both the integrity of the road, its capacity for traffic, and its visual qualities."

The terms "integrity of the road" and "visual qualities" are fairly subjective. That is, different individuals have different perceptions as to what is the "integrity" and "visual quality" to be preserved. The visual aspects of Jungle Trail have varied over the trail's history. It is evident from public discussions, however, that a desirable visual aspect of Jungle Trail is its "jungle - like" quality as viewed from the established travel-way. To refine the term, "jungle-like" is suggested to imply vegetated visual buffer from man-made structures. Additionally, there is a general concensus that a vegetated buffer of native plant species is preferred over exotic/non-native plant species. In fact, the objectives and guidelines of Ordinance No. 85-64 promote the protection of native plants and establishment of native plantings within the protected area.

Another desirable visual aspect of Jungle Trail is the view of the Indian River Lagoon. Particularly, the southern portion of the trail meanders close to the shoreline and affords scenic

vistas of the lagoon. Most of the existing Indian River views occur at sites already developed or where the shoreline has been eroded and is close to the trail. As such, preservation of existing native vegetation and encouragement to replace exotics with native plantings does not conflict with existing lagoon views, but helps to preserve some of the jungle-like quality of areas presently with buffer vegetation.

Exotic/non-native vegetation along Jungle Trail consists primarily of Brazilian pepper (Schinus terebinthifolius) and Australian pine (Casuarina Spp). Both are considered "invader" species in that they out-compete native plants. Particularly, Brazilian pepper has taken over substantial stretches of the protected area. While these shrubby trees do provide a dense visual buffer along the trail, they prevent the colonization of new native plant growth and threaten existing native vegetation.

Australian pines are not as detrimental to the establishment of native vegetation as are Brazilian peppers. A study by the Florida Game and Fresh Water Fish Commission (FGC) regarding native plantings on spoil island reveals that mature Australian pines provide a valuable nurse crop for the establishment of native seedlings. They apparently contribute to organic content of the soil/substrate, and also protect seedlings from winter freezes and excessive summer heat.

Another note on Australian pines, however, is their susceptibility to toppling in strong winds. As such, tall, mature Australian pines adjacent to roadways and/or structures may be considered a potential safety hazard.

Negative points acknowledged, Brazilian peppers and Australian pines do contribute to the jungle-like character of Jungle Trail, by providing a densely vegetated visual buffer. When these exotics are removed in large swaths, the jungle-like quality of the trail is lost. To promote the establishment of native vegetation and allow for the continuance of the jungle-like buffer, it is necessary that the native plantings of the cleared exotic areas be of a density to provide a visual buffer. Proximity of the planted vegetation to the trail's travel-way is a factor as viewed from Jungle-Trail; plantings close to the trail provide more buffer from the standpoint of pedestrian and vehicular sight-line vision.

Berming in conjunction with native plantings has potential to add to the visual buffer from structures as viewed from Jungle Trail. Properly designed, berms can increase the visual perception of vegetation density, and therefore, jungle-likeness. Care must be taken, however, in evaluating the location, design, and extent of berming if it is to be allowed within the Jungle Trail protected area. Berming does take away from the natural/historic contour of the area, and if designed poorly, could create drainage and/or erosion problems. Moreover, berming that threatens existing native plants within the protected area should not be allowed, in that it conflicts with the objective of native vegetation preservation.

The 1985 Scenic and Historic Roads Ordinance sets forth restrictions (Sec. 18-23) that prohibit the erection of structures or overhead utilities within the protected area, with specified exceptions (See Appendix A). Any structures or utilities proposed in the protected area that fall under the allowable exception category shall require community development department and planning and zoning commission approval. Also, such utilities and structures shall be reviewed for compatability with the objectives of the 1985 ordinance, with fences of no more than fifty (50) percent opacity allowed only in the outer 10 feet of the protected area, provided no native vegetation is disturbed.

Jungle Trail's proximity to the Indian River Lagoon makes it a location with good potential for archeological sites. Indian and/or prehistoric civilizations may have used various locations

along the trail as living areas. Indian mounds or prehistoric middens are terms given to locations where discarded shells and other artifacts can be found, representing frequently used living areas of the past.

The Florida Department of State, Division of Historical Resources has records of archeological sites within Indian River County. The information is general, however, and is not meant to be an all inclusive survey of existing archeological sites. Subsequently, as portion of Jungle Trail develop, new sites not presently recognized could be discovered.

In conjunction with applications to alter Jungle Trail or the adjacent protected area, the project location shall be reviewed for the potential existence of archeological sites. In areas suspected by County staff (in coordination with the Indian River County Historical Society) of having these sites, the applicant shall be required to contact the State Division of Historical Resources and provide verification that the proposed project or alteration will not be detrimental to the archeological value of the site

The following restrictions and guidelines shall apply to the Jungle Trail protected area; any violation of these restrictions and guidelines shall be illegal and subject to penalties as provided for by law.

- 1) No vegetation (native or non-native) alteration or disturbance, erection of structures, or filling shall occur within the protected area, except as permitted upon the recommendation of the community development department and approval of the county planning and zoning commission, in accordance with the restrictions and guidelines established herein.
- 2) All existing native vegetation shall be preserved, with the following exceptions: native vegetation that is dead or damaged beyond repair (as verified by the county urban forester); native vegetation which is a traffic sight-line safety hazard; native vegetation which impedes county approved vehicular or pedestrian access; or invasive native vegetation (ie Turk's Cap) in areas where it is detrimental to more desirable native plant growth.
- Australian pines (<u>Casuarina spp.</u>) with a diameter at breast height (dbh) of 8 inches or more shall be preserved within the protected area, provided that such <u>Casuarina</u> may be topped for safety purposes, as approved by the county urban forester. Thinning of Australian pine stands shall be permitted, requiring county urban forester approval, when such tree stands are determined as interfering with the maintenance or establishment of native vegetation.
- 4) Brazilian pepper (Schinus terebinthifolius) of any size, Australian pines (Casuarina spp.) under 8 inches dbh, and Turk's Cap in areas of Turk's Cap inundation are encouraged to be removed from the protected area with the following conditions:
 - a. Areas of Schinus, Casuarina, or Turk's Cap removal shall be planted with native vegetation from the suggested native plant list (See Appendix B). Alternate native plant species may be selected upon approval by the county environmental planner and the planning and zoning commission.
 - b. An application to remove exotic vegetation from the protected area shall have detail to depict: 1) existing vegetation including number or areal extent, size and type of all vegetation proposed for removal; and 2) proposed native plantings, including number or areal extent, size, type, density, and location. Applications shall be

reviewed to ensure that existing rare, threatened or endangered native plant species will be protected, as applicable.

- c. The native plantings shall be intermixed throughout the cleared protected area to promote a natural appearance, as viewed from Jungle Trail. Plantings shall be installed to establish a dense visual buffer based on plant species growth characteristics. The planting area shall be designed to provide a visual buffer of a minimum of 7 feet in height above Jungle Trail's travel-way grade and 60% opacity, continuous throughout the length of the planted area, within two years of the time of planting. The intent of the planting area design shall be to provide a continuous visual buffer, at a density to present a jungle-like appearance. The entire 30 foot width of the cleared protected area shall be utilized in meeting the density requirement.
- d. Plant diversity within the planted area is encouraged. To ensure plant diversity, no single native plant species shall comprise greater than 20% areal coverage of the total area of introduced plantings.
- e. A minimum of 50% of the introduced planting area shall be covered under tree canopy at trees' maturity.
- f. All introduced plantings shall be installed and maintained using accepted horticultural practices, soil amendments, and irrigation practices to ensure establishment. Once the introduced plantings are established, irrigation may be discontinued or operated only as necessary to acclimate the plantings to natural conditions.
- g. No introduced native vegetation within the protected area shall be altered, pruned, hedged, topped, or damaged, except as may be permitted to maintain the 60% opacity vegetation density. The removal of naturally occurring dead or damaged vegetation is allowed.
- h. Approved planting shall be completed within six months following native planting approval.
- Berming shall not be allowed in the protected area. However, in areas invaded with Schinus or Turk's Cap where removal of the exotic will result in the removal of all vegetation in the area, berming may be allowed only within the outer 10 feet of the protected area, if approved by the planning and zoning commission, provided that: the berm is in conjunction with native plantings described herein; the berm is designed to provide a transition to the adjacent property; and a cross-section plan view is submitted along with the vegetation removal/replanting application. The berm shall be designed to minimize adverse erosion and drainage impacts, subject to review and approval by county engineering staff.
- 6) No person shall engage in the following activities:
 - a. The erection of structures or construction improvements within the protected area, with the exception of:
 - (1) Roads approved by the county commission and permitted by the county engineer which traverse the protected area.

- (2) Fences which have an opacity of not more than fifty (50) per cent when viewed along a line of sight perpendicular to the fence. Such fences may only be allowed in the outer 10 feet of the protected area, provided no native vegetation is disturbed in conjunction with fence installation.
- (3) Traffic-control devices.
- (4) Docks and non-impervious walkways.
- (5) Piers.
- (6) Real estate for sale, lease or rental signs, in accordance with the criteria setforth in Sec. 25(0)(4)(b)(viii) of the County Sign Ordinance.
- b. The placement of overhead utilities within the protected area, except that:
 - (1) Utility drops may be installed to previously existing buildings within the protected area.
 - (2) Primary electrical transmission lines carrying twenty-five thousand (25,000) volts or more may be exempted from this restriction by the county commission after site plan approval when such transmission lines propose to cross the protected area perpendicular to the scenic road.
 - (3) Utility lines carrying less than twenty-five thousand (25,000) volts shall be installed underground. The installation of transformers shall be allowed when land-scaped to prevent view from the road when servicing new development from underground electrical transmission lines.
- 7) In areas of proposed alteration in the protected area, where archeological sites are suspected by county planning staff (in coordination with the Indian River County Historical Society), the applicant shall be required to contact the State Division of Historical Resources and provide verification that the proposed project or alteration will not be detrimental to the archeological value of the site.
- 8) Lighting in the protected area and travel-way shall be limited to lighting for safety and traffic purposes only, as approved by the County Public Works and Planning Departments. Illumination of the protected area or travel-way from affixed lighting directed toward Jungle Trail from adjacent property shall be prohibited.

Travel-Way Maintenance

Although the county has filed a forty foot maintenance map for Jungle Trail south of C.R. 510, the actual width of the traveled way for the entire trail ranges from eight to sixteen feet. In some areas, the traveled way extends out of the maintenance easement and encroaches on private property. This has occurred on some portions of the trail where shoreline erosion has forced the grader operator to avoid the eroding west side of the trail and push the roadway eastward. The erosion problem is exacerbated by the lack of controlled drainage along the trail and the lower elevation of the roadway, itself - only 3 to 4 feet MSL in most places.

Unpaved but improved, Jungle Trail is maintained by the county. That maintenance primarily involves grading the roadway and occasionally adding fill to the traveled way. While there is no set maintenance schedule for the trail, it is graded more often in the rainy season than during the dry season. As the number of

unpaved roads maintained by the county on the barrier island has decreased, the cost to grade the trail has escalated.

Currently, the portion of the trail south of 510 is much more heavily traveled than the northern portion. The southern segment serves as access for some residents, accommodates fishermen and other recreational users of the trail, provides a travel-way for sightseers, and is used to some extent as a grove service road. The northern part of Jungle Trail also provides some access for residents, public driving access for active and passive recreation purposes, and is used extensively as a grove service road.

It is anticipated, however, that utilization of the road will change substantially in the future. While the county has authorized closing the trail to vehicular traffic through the Polo Club site, other factors will also influence trail traffic. On the northern part of the trail, most of the grove traffic will be eliminated as a result of development. Just the Polo Club and the Town of Orchid will, themselves, will remove hundreds of acres of active citrus groves; other developments being planned in that area will remove even more. On the southern trail, traffic may actually increase due to the attraction of the area as a scenic road. None of the developments bordering the trail, however, will use the roadway for access when alternate roadway access is available.

Although paving of the travel-way has been proposed as a way to reduce roadway maintenance cost, that option does not appear feasible. Not only would the present elevation of the roadway require substantial fill, but paving would also necessitate drainage improvements to accommodate road runoff. Both of those factors would affect the appearance of the trail and its buffer area. Besides the construction, itself, stormwater requirements by the water management district might even require the construction of even more drainage improvements if paving were to occur.

Even though paving of the trail is not a viable option, various activities can be undertaken to enhance the travel-way. While some activities affecting the travel-way relate to shoreline stabilization and erosion control, others relate to specific roadway maintenance. For the roadway, an established grading program and a specific grading plan is needed.

The County will undertake the following actions:

- Install visible markers denoting the limits of the trail maintenance easement. These markers should be visible but nonintrusive. They also may be used as constraints for the grader operator.
- Grade the trail on a regular basis at least once every six (6) weeks. Grading should be done more often if necessary.
- o Inspect the traveled way at least once a month. The public works department will conduct an engineering inspection of the trail at least once a month. Based upon that inspection, the public works department will undertake any additional maintenance activities which are necessary.

Litter

One of the more obvious problems which has occurred along Jungle Trail is littering. As a result of the public use of the trail, trash and debris have been deposited in the buffer area adjacent to the travel-way. In fact, trash can be observed at many points along the trail. This problem is particularly evident along the more frequented portion of the trail - that section south of C.R. 510.

While litter problems in some areas of the county result primarily from illegal dumping, the Jungle Trail problem is different. Trash and litter along Jungle Trail is mostly the debris from users of the trail. Much of this trash consists of beer cans, discarded bottles, paper products, and the like. Consequently, action is needed to improve the appearance of the area. This action must be a combination of regulation, enforcement, minor improvements, and regular litter patrols. Specifically, the County must install "no littering" signs and trash receptacles, patrol the trail on a regular basis, and assign personnel to remove discarded trash.

The following actions will be taken by Indian River County:

- o Install "no littering" signs along Jungle Trial by October, 1989. Signs will be posted at the following points: Jungle Trail at Old Winter Beach Road, Jungle Trail at C.R. 510, and Jungle Trail at S.R. AIA, and areas of public parking/river access.
- Install trash receptacles along Jungle Trail by October, 1989. Trash receptacles will be installed along the trail at areas of public parking/river access.
- Encourage more sheriff's patrol of the trail to reduce littering. The sheriff is encouraged to patrol Jungle Trail on a regular basis with emphasis on litter enforcement.
- Provide staff to remove trash and debris. The public works department will send a trash removal crew to Jungle Trail at least once every two weeks.

Shoreline Stabilization

One of the most pressing problems with the southern portion of Jungle Trail is shoreline erosion. On several spots along the trail, erosion has occured and is increasing. This erosion has progressed to the point in several spots that it threatens the integrity of the trail, itself. Shoreline erosion and its impact on the traveled-way appears to be the main reason why the grading of the trail has removed the roadway eastward, encroaching on private property and reducing the effective buffer area.

At one spot along the trail, the erosion has been addressed by construction of a vertical seawall. Although this seawall at the Sea Oaks site was initially constructed a number of years ago, it was rebuilt in 1985 under a state permit. Since then, rip-rap has been added seaward of the wall. State regulations, however, recognize the ineffectiveness of seawalls and therefore prohibit their construction as an erosion control technique.

Erosion along the trail is caused by two principal factors. First, the loss of natural shoreline vegetation has eliminated a stabilizing influence on the shoreline. For that reason, erosion is more predominant at those points where the mangrove fringe does not exist. The second cause of erosion is the wave action produced by boats traveling in the Intracoastal Waterway. Because the channel comes close to Jungle Trail, the wave action has a significant influence on the shoreline abutting Jungle Trail.

To protect the integrity of the trail, erosion of the shoreline must be stopped. At the least, this involves stabilizing the shoreline. Such stabilization should consist of installing rip-rap and shoreline plantings to dissipate the waves striking the shore and eroding the bank. Although the county already has a state permit to undertake shoreline stabilization of one spot along the trail, an issue is whether the county should undertake the work or delay action until the developer of the property for which the permit was issued does the work in conjunction with second phase of an approved project for the subject site.

To protect the trail, the county needs to use its state permit and do the shoreline stabilization work. This will reduce the erosion that is threatening the trail. In conjunction with the stabilization work, the county should pursue legal alternatives for either obtaining the stabilized property or obtaining a contribution from the property owner to partially compensate for the cost of the work.

Since erosion is also a problem on other parts of the trail, a detailed strategy must be developed to identify all erosion areas and to stabilize the shoreline in these areas. This should be done by the county public works department, in conjunction with county planning staff.

The county will take the following actions:

- Complete stabilization of the "Coralstone" site by December, 1989. This work should be consistent with the existing state permit for erosion control work on the subject property.
- Research legal means of obtaining county control of the stabilized property or obtaining a financial commitment of the property owner to compensate for the work expense. This research should be undertaken by the County Attorney's department and completed prior to initiation of the stabilization work.
- Prepare an erosion assessment and stabilization plan by December, 1990. This should be undertaken by the county public works department in conjunction with planning staff and focus on the entire length of Jungle Trail. The erosion and stabilization plan shall include evaluation of stabilization project designs for appropriateness to the specific conditions of Jungle Trail.
- Establish regulations requiring that projects having dock facilities adjacent to the trail be responsible for shoreline stabilization of their site. The planning department should draft such regulations and submit them for approval by October, 1989.
- Prohibit the removal of vegetation on the west side of Jungle Trail that contributes to shoreline stabilization, as determined by the county environmental planner. However, removal of non-native stabilizing vegetation may be allowed when alternate stabilization methods are implemented concurrently with non-native plant removal.

Parking/Public Access

Historically, Jungle Trail has provided significant recreational benefits for county residents. With its proximity to the Indian River Lagoon, the southern portion of the trail has served as a fishing and lagoon access area. Since the trail abuts the lagoon in many places, people can fish the lagoon from the edge of the traveled way. Recently, some people have even created a ramp off the trail where they can launch boats or put in jet skis. The northern portion of the trail also provides passive recreation to the driving public, especially along the borders of the National Wildlife Refuge.

Although the trail provides substantial recreational benefits and river access, there are detrimental aspects of this recreational use. With no defined parking areas along the trail, cars park either on the traveled way or in the buffer area. Parking on the traveled way can cause safety problems, while parking in the buffer area can damage vegetation. While damaging vegetation in the buffer is not currently a major problem, this could be a problem if the buffer were replanted with native vegetation.

Probably the most detrimental aspect of public access from and parking on the trail is the vandalism. Some of the users of the trail have vandalized property along the trail, damaged shoreline vegetation, and discarded trash and debris. Since almost all the property between the trail and the river is privately owned, the fishermen and others using the trail for public access regularly trespass on private property. This will become even more of a problem in the future as exclusive residential developments are constructed along the trail. Public access that has occurred overtime between the trail and river may eventually be considered a prescriptive right, but this has not yet been determined.

With the retention of Jungle Trail as a historic and scenic road available to the public for travel, it is also desirable to retain at least some of the lagoon access and other recreational benefits currently provided by the trail. Maintaining or enhancing these recreational opportunities, however, will require eliminating the adverse impacts of this recreational use on property surrounding the trail. Probably the most effective way to accomplish these objectives is to prohibit parking along the trail or in the buffer, enforce this prohibition, and acquire areas suitable for parking off of the trail. This will involve county acquisition of parking areas off the trail, and enforcement of parking prohibitions on the trail.

The county will take the following actions:

- Acquire/expand by June, 1990 areas suitable for parking to provide Jungle Trail access. Areas to be considered include (but are not limited to) the old bridgehead site, already owned by the county; the old North Beach water plant; and property on C.R. 510, close to Jungle Trail.
- o Improve (by December, 1990) for parking the areas referenced above. Improvements should include parking for at least ten vehicles and should be designed to minimize adverse environmental impact.
- Acquire by June, 1990 at least two public access sites along the southern portion of Jungle Trail.
- o Improve by December, 1990 the sites referenced above. Improvements should include unobtrusive signage designating the sites as public access locations, and fishing or observation platforms should be constructed on these sites.
- Actively support the Pelican Island National Wildlife Refuge's efforts to obtain funding for the development of a public viewing access on the northern segment of Jungle Trail.
- Coordinate with Moon River and Windsor Polo Club regarding public parking/access in conjunction with development design.
- o Install "no parking" signs at the entrances to the trail by June, 1990. Signs should also be located in areas currently used for parking by the public.
- Coordinate with law enforcement departments to enforce the trail parking prohibition and speed limits. Allowances shall be made for the temporary parking of citrus grove service vehicles along the trail, only as necessary for grove operation, provided such vehicles do not prevent through traffic or damage protected area native vegetation.

Alignment

Although Jungle Trail has been in its present alignment for over sixty years, its legal status is still uncertain. While the county filed a maintenance map for the southern portion of the

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Trail in 1976, no such legal document has been recorded for the northern portion of the trail. Despite the lack of a filed maintenance map for the north trail, however, the county appears to have control over the roadway because of the county's maintenance of the traveled way.

The northern portion of the trail is characterized by sharp turns and sight distance problems in several areas. With more development programmed for the area and use of the trail for recreational purposes expected to increase, traffic on the road may rise in the future.

For those reasons, it may be necessary to make minor alignment modifications to enhance the safety of the trail. In addition, there may be proposals to slightly realign the trail in some spots to accommodate a proposed development project for which realignment has been proposed.

There appears to be no need to address realignment of the southern portion of the trail. Because of existing adjacent development and existence of a legally constituted maintenance right-of-way, the roadway's alignment is set. For the northern portion of the trail, however, it may be possible to allow realignment of the roadway in certain areas while enhancing safety, securing more protection from development, and maintaining the general scenic and historic characteristics of the trail. One activity currently being undertaken which complements those objectives is the Indian River County Historical Society's attempt to obtain national register designation for the entire length of Jungle Trail.

The county will undertake the following activities:

- Actively support the historical society's efforts to obtain national register designation for the trail.
- Complete, by July 1989, the filing of a maintenance map for the northern portion of Jungle Trail. The public works department should continue its surveying efforts and file the necessary documents to establish a maintenance map of the north part of Jungle Trail.
- Make necessary alignment modifications to correct safety problems on Jungle Trail. Where the public works director identifies safety problems with the trail's alignment, the public works department will obtain a permit from the planning department to remove vegetation and realign the traveled way within the 40 foot maintenance area to promote safety. This will be accomplished with the minimum alteration of natural conditions as possible.
- Provide a mechanism by which a landowner may request realignment of Jungle Trail. Any such realignment must be approved by the Board of County Commissioners, after the Board holds a public hearing on the realignment and receives a recommendation from the Planning and Zoning Commission.

The following criteria are required for approval of a realignment request:

- The applicant must own or control property on both sides of that portion of the trail proposed for realignment;
- The basis for the realignment must be traffic safety related and/or enhancement of scenic quality, without jeopardizing historic integrity;
- o The realignment must maintain the continuity of the trail;
- o The new alignment shall be dedicated to the county fee simple or as a right-of-way and conservation easement,

and the roadway will be reestablished within this alignment;

- The protected area adjacent to the new alignment must meet all conditions of the protected area section of this management plan; and
- The realignment shall not adversely affect the historic character of Jungle Trail as a whole. County planning staff shall coordinate with the Indian River County Historical Society, the Department of State, Bureau of Historic Preservation, and the Florida Native Plant Society, and report to the applicable reviewing commission to provide information for the finding determination.

Variances

Section 18-27 of the 1985 Scenic and Historical Ordinance sets forth provisions for variances from the terms of scenic and historic road guidelines. Variances may be granted that " will not be contrary to the public interest when, owing to special conditions, a literal enforcement of the provisions [of this article] would result in unnecessary and undue hardship."

The variance procedures setforth in Section 18-27 of the County Scenic and Historical Road Ordinance (No. 85-64) shall apply to guidelines established herein for Jungle Trail (see Appendix A).

		JUNGLE TRAIL MANAGEMENT PLAN SUMMARY					
ISSUE	ACTION/REQUIREMENT	RESPONSIBLE AGENCY	ASTION/DATE	ESTIMATED COST	FUNDING SOURCE		
TECTED AREA							
	No vegetation altered or disturbed, no filling, buildings or structures unless approved by P & Z Commission	Planning & Zoning Commission (responsible for approval)	Upon plan submittal	N/A	Community Development operation budget		
	All native vegetation preserved except: dead/damaged, traffic hazard, approval	Landowners/Developers (responsible for work)	Plantings within 6 months of exotics removal	Variable	Landowner/Developer		
	access impedment,invasive native growth (Turk's Cap)	Code Enforcement (responsible for compliance)	On-going				
	Casuarina 8° or more to be preserved; may be topped, stands thinned	,			•		
•	Schinus or Turk's Cap may be removed with native replanting to provide visual buffer						
	Native plantings to be in accordance with specific criteria				* * .		
	Beroing allowed only in areas of Schinus or Turk's Cap inundation, with design criteria						
	Certain structures/utilities allowed with specific criteria:				- Chang		
•	 Roads approved by BCC. Fences no more than 50% opacity allowed in outer 10° of protected area; no native 						
	plant disturb.						

Areas suspected by planning staff/Hist. Soc. to have archeological site:

- 25,000 volt or less utility lines install-

Real estate for sale, lease, or rental signs, in accord. with 25(o)(4)(b)(viii), sign ord.
 Utility drops to pre-existing buildings.
 BCC approved primary electrical

- Traffic-control devices.
- Docks and non-impervious walkways.

transmission lines.

ed underground landscaped.

- Piers.

- Verification from state that proposed work will not be detrimental

Landowners/Developers

Lighting in protected area and travel-way for safety and traffic only; illumination of trail from adjacent property prohibited.

ISSUE	ACTION/REQUIREMENT	RESPONSIBLE AGENCY	ACTION/DATE	ESTIMATED COST	FUNDING SOURCE
TRAVEL-WAY MAINTENANCE			**************************************		
	Trail maintenance, easement markers, workers	I.R.C. Public Works/Engineering	By Oct., 1989	\$250.00	Public Works budget
	Regular grading of trail	I.R.C. Public Works/Road & Bridge	Once every 6 Heeks or as needed	\$2,000.00 per mile & year	Public Works operating ** budget
LITTER CONTROL					•
	Installation or "no littering" signs	I.R.C. Public Works/Parks Dept.	By Oct., 1989	\$300.00	Public Works/Parks operating budget
	Installation of trash receptacles	I.R.C. Public Works/Road & Bridge	By Oct., 1989	\$300.00	Public Works operating budget
	Increased litter enforcement	I.R.C. Sheriff's Dept.	On-going		
	Trash removal crew	I.R.C. Public Works/Road & Bridge	Once every 2 weeks	\$4,000.00 year	Public Works budget
GHORELINE STABILIZATION					
	County shoreline stabilization	I.R.C. Public Works	December 1989	\$80,000.00 year	Public Works budget
	Legal research for County control of stabilized area	I.R.C. Attorney's Office	Prior to shoreline work	\$2,000.00	Attorney's Office budget
	Erosion assessment & stabilization plan	I.R.C. Public Works/Planning Div.	Dec., 1990	\$10,000.00	Public Works budget
	Docking project, shoreline stabilization requirements	I.R.C. Planning Division	Oct., 1989	\$1,500.00	Community Development's Operating budget
UBLIC FARKING/ACCESS	Protection of shoreline stabilizing veg.	I.R.C. Planning Division	On-going		
	Acquisition of areas for public parking	1.R.C. 900	By June 1990	980,000.00	Park Development Fund
	Development of acquired land for parking	I.R.C. Public Works	By December 1970	\$ 10,000.00	Fark Development Fund

ISSUE	ACTION/REQUIREMENT	RESPONSIBLE AGENCY	ACTION/DATE	ESTIMATED COST	FUNDING SOURCE
	areas				
	Acquisition of 2 public access sites	I.R.C. BCC	By June 1990	\$40,000.00	Park Development Fund
	Installation of 'no parking" sign along trail	I.R.C. Public Works	Ву Јипе 1990	\$300.00	Public Works budget
	Increase enforcement of parking prohib., speeding	Law Enforcement Departs.	Conjunction with "no parking" signs		
	Support Nat'l.Wildlife Refuge public access	I.R.C. BCC	F		
AL I GNHENT	Coord. Moon River/Winsor Polo: public access	I.R.C. Planning/P&Z/BCC			•
BETORNER!	Support National Register designation efforts	Historical Society & SCC	·	÷	
	File a maintenance map for north portion of trail	I.R.C. Public Works	8y July 1989	\$5,00 0.00	Public Works budget
	Align northern trail to promote safety with minimum alteration of natural conditions	I.R.C. Public Works & Planning Department			
	Provide mechanism for landowner to request realignment through BCC	I.R.C. Planning Department			
REALISNMENT CRITERIA	-Applicant must own/control on both sides of the Trail -Maintain continuity of Trail -New alignment dedicated fee simple to County or as r.o.w. and conservation easement and roadway reestablished in this alignment -Buffer area adjacent to new alignment must meet specific criteria -Realignment must not adversely affect historic character of Jungle Trail				

APPENDIX A:

SCENIC AND HISTORICAL ROADS ORDINANCE NO. 85-64

ARTICLE II. SCENIC AND HISTORICAL ROADS

Sec. 18-21. Definitions.

For the purposes of this article, the following words shall have the meanings indicated unless their context clearly requires otherwise:

County commission shall mean the board of county commissioners of Indian River County, Florida.

Planning and zoning commission shall mean the planning and zoning commission of Indian River County, Florida.

Protected area shall mean and refer to the area thirty (30) feet parallel to and abutting the right-of-way lines on any historic or scenic road as set forth in the comprehensive plan of Indian River County.

Structures shall mean all buildings or other products of construction; provided, however, that the following shall not be deemed structures for purposes of this article:

- (1) Roads approved by the county commission and permitted by the county engineer which traverse the protected area.
- (2) Fences which have an opacity of not more than fifty (50) per cent when viewed along a line of sight perpendicular to the fence.
- (3) Street lights.
- (4) Traffic-control devices.
- (5) Docks and walkways.
- (6) Piers.
- (7) Outdoor advertising signs no larger than seven and onehalf square feet limited to advertising residential developments or homes on lots or parcels immediately adjacent to the roadway. (Ord. No. 85-64, § 1, 7-24-85)

Sec. 18-22. Objectives.

The objectives of this article are:

- (1) To promote the safety and convenience of those members of the public traveling on scenic or historic roads.
- (2) To protect the natural and cultural heritage of historic or scenic roads and to enhance their resource value for enjoyment of future generations.
- (3) To protect the public interest in historic and scenic roads from activities, land uses, signs and the unnecessary removal of native vegetation, which impair both the integrity of the road, its capacity for traffic, and its visual qualities.
- (4) To contribute to the environmental and historical appreciation of scenic and historic roads and the education of the residents and visitors. (Ord. No. 85-64, § 2, 7-24-85)

Sec. 18-23. Restrictions.

It shall be illegal and subject to the penalties provided herein for any person to engage in any of the following activities without prior authorization from the planning and zoning commission:

 The erection of structures within the protected area as defined in this article.

- (2) 'the placement of overhead utilities within the protected area, except that:
 - (a) Utility drops may be installed to previously existing buildings within the protected area.
 - (b) Primary electrical transmission lines carrying twentyfive thousand (25,000) volts or more may be exempted from this restriction by the county commission after site plan approval when such transmission lines propose to cross the protected area perpendicular to the scenic road.
 - (c) Utility lines carrying less than twenty-five thousand (25,000) volts shall be installed underground. The installation of transformers shall be allowed when land-scaped to prevent view from the road when servicing new development from underground electrical transmission lines. (Ord. No. 85-64, § 3, 7-24-85)

Sec. 18-24. Rules and regulations.

The county commission may from time to time adopt rules and regulations by resolution setting forth specific restrictions for the purpose of preserving scenic and historic roads. Such restrictions may relate to but shall not be limited to the following topics:

- (1) Providing for the placement of informational signs designating scenic and historic roads and providing historical information to members of the public.
- (2) Providing special rules and regulations for the preservation and maintenance of the roads with the intent to protect and enhance their scenic quality. (Ord. No. 85-64, § 4, 7-24-85)

Sec. 18-25. Use of protected area as required yard areas.

The protected area defined by this article may be used to fulfill the requirements of the zoning code and land use plan of Indian River County pertaining to front, side or back yard setbacks. (Ord. No. 85-64, § 5, 7-24-85)

Sec. 18-26. Management and protection of scenic or historic

The public works division of Indian River County, the parks department and the community development division shall implement guidelines for maintenance of the scenic and historic roads. These guidelines will be adopted by resolution of the board of county commissioners and shall include:

- (1) The prohibition on clear cutting of vegetation in the protected area except under circumstances where sight lines are obstructed and contribute to traffic hazards.
- (2) Provide for the cutting of selective vegetation within the protected area upon the recommendation of the community development division and approval of the county planning and zoning commission.
- (3) Rules will be adopted to promote the establishment of planting strips within the protected area to be comprised of native vegetation.
- (4) Provisions shall be established to provide adequate drainage for the roadbed and surrounding properties and a program of maintenance shall be established to assure the continued effectiveness of the system.
- (5) Provisions shall be established for the selective removal of trees and other vegetation from the protected area when such are damaged beyond restoration. In all cases, all such activity will comply with the Indian River County tree protection ordinance. (Ord. No. 85-64, § 6, 7-24-85)

Sec. 18-27. Variances.

The Indian River county planning and zoning commission, after due public notice, may grant such variances from the terms of this article as will not be contrary to the public interest when, owing to special conditions, a literal enforcement of the provisions of this article would result in unnecessary and undue hardship. Prior to the approval of any variance from the provisions of this article or the rules and regulations adopted hereunder, the planning and zoning commission must find:

- (1) That special conditions and circumstances exist which are peculiar to the land, structure, or building involved and which are not applicable to other lands, structures, or buildings in the same zoning district.
- (2) That the special conditions and circumstances do not result from the actions of the applicant.
- (3) That granting the variance requested will not confer on the applicant any special privilege that is denied by this article to other lands, buildings, or structures in the same zoning district.
- (4) That literal interpretation of the provisions of this article would deprive the applicant of rights commonly enjoyed by other properties abutting the same historic or scenic road under the terms of this article and would work unnecessary and undue hardship on the applicant.
- (5) That the variance granted is the minimum variance that will make possible the reasonable use of the land, building, or structure.
- (6) That the granting of the variance will be in harmony with the general intent and purpose of this article and that such variance will not be injurious to the area involved or otherwise detrimental to the public welfare.

In granting any variance, the planning and zoning commission may prescribe appropriate conditions and safeguards in conformity with the laws of Indian River County, this article and any rules and regulations adopted under this authority. Violation of such conditions and safeguards when made a part of the terms under which the variance is granted shall be deemed a violation of this article. (Ord. No. 85-64, § 7, 7-24-85)

APPENDIX B:

SUGGESTED NATIVE PLANT LIST

JUNGLE TRAIL MANAGEMENT PLAN NATIVE PLANT LIST 1

COMMON NAME

SCIENTIFIC NAME

TREES

Acacias Black Ironwood Blolly

Capers Fiddlewood

Figs

Gumbo Limbo Hollies

Inkwood Jamaica Dogwood

Lancewood Mahogany Mastic Oaks

Palms

Cabbage Palm Senegal Date Palm

Royal Palm Queen Palm Coconut Palm Everglades Palm

Saw Palm

Paradise Tree Pigeon Plum Redbay Seagrape

Simpsons stopper (Twinberry)

Soapberry Stoppers Sugarberry Torchwood Wax Myrtle Willow Bustic Acacia spp.

Krugiodendion ferreum

Guapira discolor

Capparis spp.
Citharexylum fruticosum

<u>Ficus spp.</u> Bursera simaruba

Ilex spp.

Exothea paniculata Piscidia piscipula Nectandra coriacea Swietenia mahogoni

Mastichodendron foetidissimum

Quercus spp.

Sabal palmetto Phoenix reclinata Raystonea elata Cocos plumosa Cocos nucifera

Acoelorrhaphe wrightii

Serenoa repens

<u>Simarouba glavea</u> <u>Coccoloba diversifolia</u>

Persea borbonia Coccoloba uvifera Myrcianthes fragans

Sapinsus spp. Eugenia spp. Coltis laevigata Amyris elemifera Myrica cerifera Dipholis salicifolia

SHRUBS

Beautyberry Capers Catclaw

Christmas Berry

Coffee Coral Bean Hackberry Inkberry Marlberry Myrsine Necklace Pod Saffron Plum Callicarpa americana

Capparis spp.

Pithecellobium unguis-cati

Lycium carolinianum Pyschotria spp. Erythrina herbacea Celtis laevigata Scaevola plumieri

Ardisia escallonioides
Myrsine guiamensis
Sophora tomentosa Bumelia celastrina

COMMON NAME

SCIENTIFIC NAME

Seagrape Tough Bumelia Wax Myrtle White Indigo Berry Wild Lime

Coccoloba uvifera Bumelia tenax Myrica cerifera Randia aculeata Zanthoxylun fogara Yucca aloifolia

Spanish Bayonet

VINES

Coral Honeysuckle Cross Vine Greenbrier Trumpet Vine Virginia Creeper Wild Grape

Lonicera sempervirens Bignonia capreolata

Smilax spp.

Campsis radicans

Parthenocissus quinquefolia

Vitus spp.

WETLAND PLANTS/ TRANSITION PLANTS

Buttonwood Leather fern Mangroves,

Black Red White Salt Bushes Saltgrass

Cordgrasses Sea Oxeye Daisies Conocarpus erectus

Acrostichun danaeifoluim

Avicennia germinans Rhizophora mangle Laguncularia racemosa

Baccharis spp. Distichlis Spartina spp.
Borichia spp.

This list represents native plant species suggested for use in the Jungle Trail protected area. Other Florida native plant species may be used upon approval by the county environmental planner and the planning and zoning commission.