

CAPRON LAKES DEVELOPMENT OF REGIONAL IMPACT ASSESSMENT REPORT



TREASURE COAST REGIONAL PLANNING COUNCIL
INDIAN RIVER - MARTIN - ST. LUCIE - PALM BEACH

**A DEVELOPMENT OF REGIONAL IMPACT
ASSESSMENT REPORT**

FOR

CAPRON LAKES

ST. LUCIE COUNTY, FLORIDA

SEPTEMBER 2007

PREPARED BY:

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ABBREVIATIONS

The following abbreviations may be used in this report:

ADA	Application for Development Approval
BMP	Best Management Practice
CFA	Core Foraging Area
CIE	Capital Improvement Element
COE	United States Army Corps of Engineers
Council	Treasure Coast Regional Planning Council
CRA	Community Redevelopment Area
CSA	School District's Concurrency Service Area
DO	Development Order
DRI	Development of Regional Impact
EPA	United States Environmental Protection Agency
EPPC	Exotic Pest Plant Council
ERP	Environmental Resource Permit
FAC	Florida Administrative Code
FDEP	Florida Department of Environmental Protection
FFWCC	Florida Fish and Wildlife Conservation Commission
FDOT	Florida Department of Transportation
FIAM	Fiscal Impact Analysis Model
FIHS	Florida Interstate Highway System
FLEPPC	Florida Exotic Pest Plant Council
FLUCCS	Florida Land Use, Cover and Forms Classification System
FLUM	Future Land Use Map
FPL	Florida Power and Light Company
FS	Florida Statutes
FSUTMS	Florida Standard Urban Transportation Model Structure
FWC	Florida Fish and Wildlife Conservation Commission
GPD	Gallons per Day
HCM	Highway Capacity Manual
HMG	Habitat Management Guidelines
HUD	United States Department of Housing and Urban Development
IFAS	Institute of Food and Agricultural Sciences
IOAR	Interchange Operational Analysis Report
ITE	Institute of Transportation Engineers
LDR	Land Development Regulations
LI	Low Income
LOS	Level of Service
MGD	Million Gallons per Day
MI	Moderate Income
MXD	Mixed-Use Development
NCD	New Community Development District
NGVD	National Geodetic Vertical Datum
NOPC	Notice of Proposed Change

NPDES	National Pollutant Discharge Elimination System
NPV	Net Present Values
PRW	Planned Retail Workplace
PTV	Planned Town or Village
PUD	Planned Unit Development
SD	Special District
SF	Square Feet
SFWMD	South Florida Water Management District
SLC	St. Lucie County
SLCU	St. Lucie County Utilities
SREF	State Requirements for Educational Facilities
SRPP	Strategic Regional Policy Plan
SIS	Strategic Intermodal System
TAZ	Traffic Analysis Zone
TDM	Transportation Demand Management
TDR	Transfer of Development Rights
TPS	Traffic Performance Standards
TVC	Towns, Villages and Countryside
VLI	Very Low Income
VMT	Vehicle Miles of Travel
UMAM	Unified Mitigation Assessment
USB	Urban Service Boundary
USDA	United States Department of Agriculture
USFWS	United States Fish and Wildlife Service

**CAPRON LAKES DRI
REPORT AND RECOMMENDATIONS
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INTRODUCTION

This assessment of the Capron Lakes Development of Regional Impact (DRI) has been prepared by the Treasure Coast Regional Planning Council (Council) as required by Section 380.06(12), Florida Statutes and 9J-2.024(1), Florida Administrative Code (FAC). The primary purpose of the assessment report is to identify the regional impacts, both positive and negative, that can reasonably be expected to occur should the proposed project be approved. In carrying out this objective, the report suggests opportunities to eliminate or mitigate negative impacts expected to occur and where possible to enhance positive features of the proposed development.

The Capron Lakes Application for Development Approval (ADA) was originally submitted on November 18, 2005 and was supplemented with additional information dated April 4, 2006; August 4, 2006; January 8, 2007; May 25, 2007; August 17, 2007; September 11, 2007; and September 12, 2007. On June 22, 2007, the County and the applicant were notified that the ADA for the Capron Lakes DRI had been reviewed by Council and found to have completed the informational sufficiency process pursuant to Section 380.06(10), Florida Statutes. The County was notified that the public hearing may be set for the proposed DRI pursuant to Section 380.06(11), Florida Statutes, and that Council will prepare the regional assessment report.

The series of recommendations contained in the Capron Lakes assessment report are based on the goals, strategies, and policies of the Strategic Regional Policy Plan (SRPP), adopted pursuant to Section 186.508, Florida Statutes. The recommendations of Council are provided to assist the County in creating a Development Order (DO) for the DRI, consistent with 9J-2.025, FAC. This report and the recommendations are primarily directed at regional systems and facilities and do not necessarily address all local concerns. The recommendations do not foreclose or abridge the legal responsibility of the local government to act pursuant to applicable local laws or ordinances.

Once Council adopts the Capron Lakes DRI assessment report it is transmitted to the County. From there the County shall hold the public hearing that has been set for the proposed Capron Lakes DRI. At the hearing the County shall approve, deny or approve with conditions, restrictions, or limitations taking into consideration whether and the extent to which:

1. the development is consistent with the local comprehensive plan and local land development regulations;
2. the development is consistent with the report and recommendations of the regional planning council; and
3. the development is consistent with the State Comprehensive Plan.

The County is required to render a decision on the proposed Capron Lakes DRI within 30 days after the hearing unless an extension is requested by the developer.

PROJECT INFORMATION

Project Name: Capron Lakes

Applicant: Indrio Land Group, LLC

Jurisdiction: St. Lucie County

Size: 1,938 acres

Location: West of I-95 on the north side of Indrio Road

Population: 7,688 persons

Employment: 819 permanent jobs

Uses: 3,100 residential dwelling units
 200,000 SF retail
 200,000 SF office

Buildout Date: 2025

Phases: 3 phases as described in the following table:

Phase¹	Years	Residential (DU)	Office (SF)	Retail (SF)
1	2010-2015	1,000	50,000	100,000
2	2016-2020	1,600	75,000	50,000
3	2021-2025	500	75,000	50,000
Total	2010-2025	3,100	200,000	200,000

¹ This phasing table is based on information provided on Map H, Master Development Plan, dated September 4, 2007.

GENERAL PROJECT DESCRIPTION

The Capron Lakes DRI is a proposed mixed-use development on approximately 1,938 acres in St. Lucie County, Florida. The project site is located on the west side of I-95, just north of Indrio Road. The site is bounded by agricultural land to the west; the Indian River County line and agricultural land to the north; I-95, agricultural land, and Spanish Lakes Fairways DRI, land designated as Mixed-Use Development (MXD) 5 unites/acre, and a county urban service area to the east; and Indrio Road and agricultural land to the south. Location maps and Map H, Master Development Plan, are included in the following pages.

The Master Development Plan proposes several components, including Residential Development Area, Commercial/Mixed Use, Target Industry/Office, Neighborhood and Active Parks, Community/Recreation Services, joint use K-8 school/recreation area, lakes, wetland and upland preserve areas, and environmental enhanced lands. The plan proposes a total of 3,100 residential dwelling units, 200,000 SF of office, and 200,000 SF of retail. Development is proposed to occur in three five-year phases with buildout in 2025. Physical development is expected to occur on only 30 percent of the site. The remaining 70 percent is to be left as a series of "open spaces" much of which will be in large contiguous areas of open water and countryside. This project is expected to provide housing for 7,688 people and provide 819 permanent jobs. Potable water supply is to be provided by St. Lucie County Utilities. The project's proposed surface water management system will utilize the existing permitted system that discharges south into the C-25 Canal.

The site is primarily dominated by improved pasture, wetlands, and a large ongoing sand mining operation. Approximately one third of the project site is targeted for mining, which will leave several large, deep, open bodies of water on the property. The project site is entirely outside St. Lucie County's urban service area. The site is designated as "Special District" (SD) on the St. Lucie County Future Land Use Map, which allows for development of the property at one dwelling unit per acre. This land use identifies areas where specific uses or combination of uses are anticipated, including approved Community Development Districts. The project site is part of the Capron Trail Community Development District, which was established in 1988 pursuant to the provisions of Chapter 190, Florida Statutes. The Capron Trail Community Development District is recognized by the State of Florida as a unit of local government for the purposes of providing for the design, construction, and maintenance of certain limited infrastructure facilities within the boundary of the improvement district. The intent of the Community Development District is to have the DRI Master Development Plan serve as the site's development plan in relation to the SD land use criteria. The proposed site plan will require an amendment to the St. Lucie County Comprehensive Plan to accommodate the retail, office, and residential above the currently allowed one dwelling unit per acre.

Project Location Regional View



Project Location

Indian River County
St. Lucie County

Florida's Turnpike

Indian River Lagoon

Fort Pierce

Jero Beach

27th Ave

43rd Ave

58th Ave

Ostio Road

Koblegard Road

Johnson Road

Lincoln Ave

Indrijo Road

56th

Kings Hwy

Florida's Turnpike

C-25 Canal

Belcher Canal

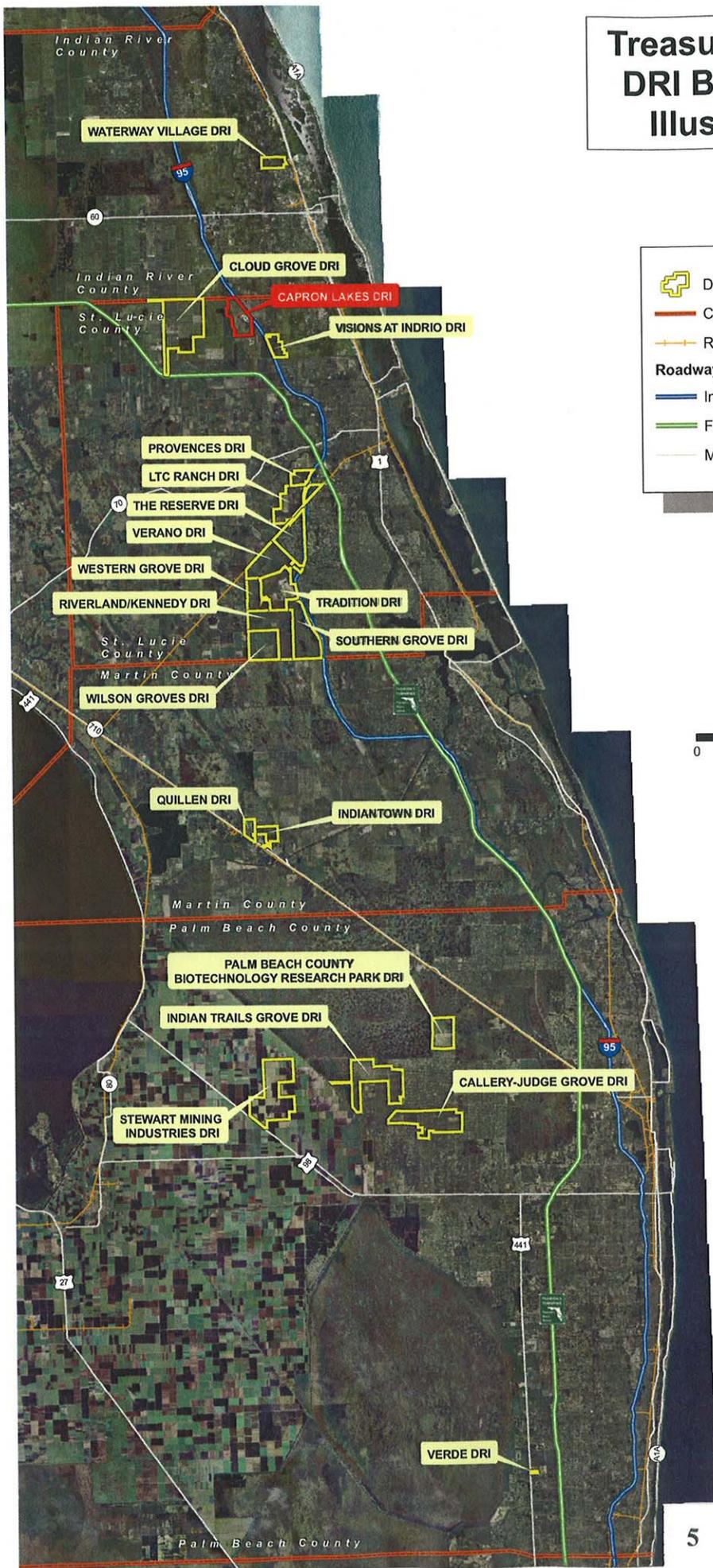
Orange Avenue

1675

I-95

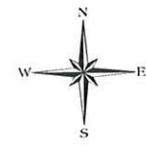
SR 60

Treasure Coast DRI Boundary Illustration



Legend

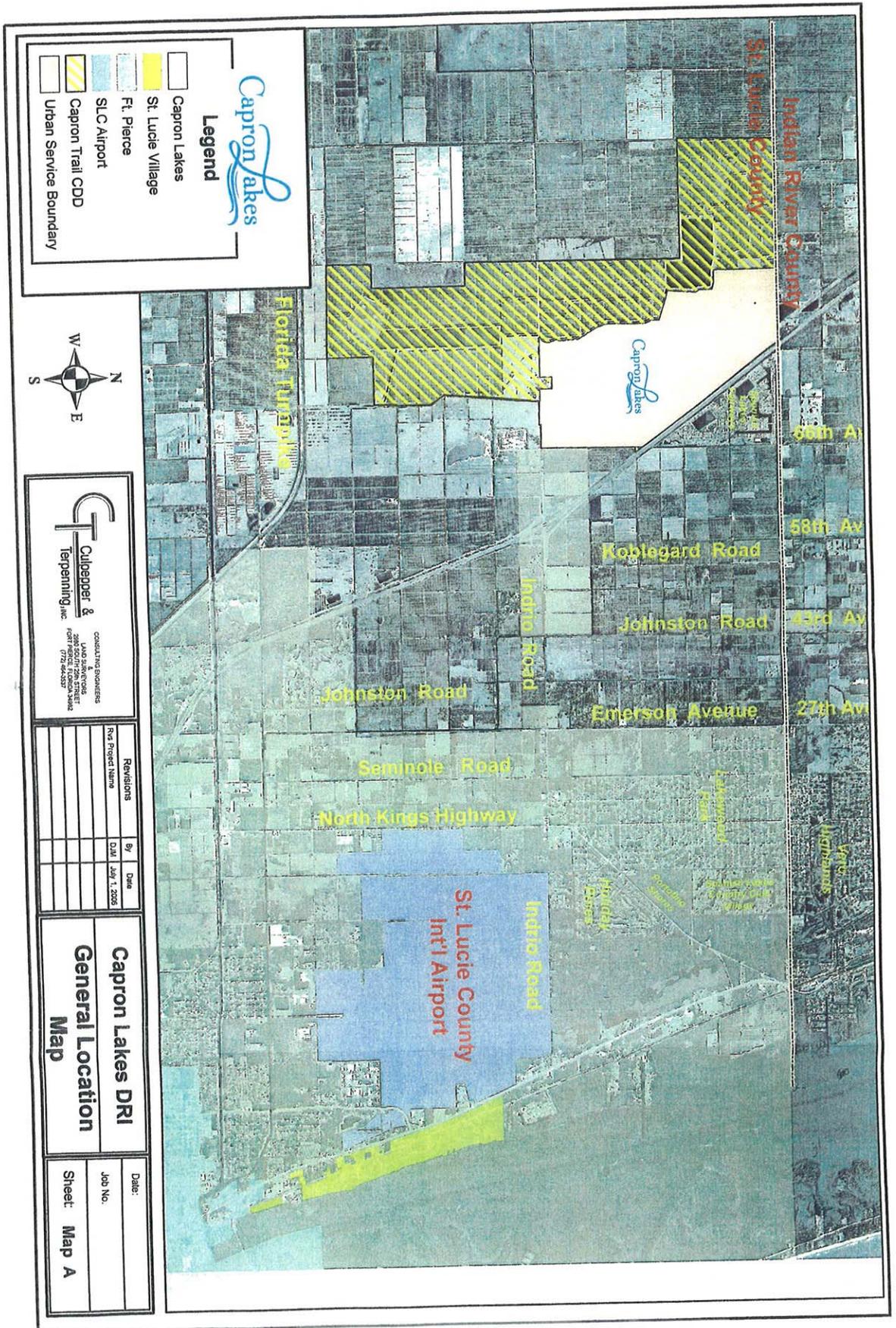
- DRI Boundary
- County Line
- Railroad
- Roadways**
- Interstate Highway
- Florida Turnpike
- Major Road



This map is created by Treasure Coast Regional Planning Council for planning purposes only.

Summary of New and Recently Approved DRIs in the Treasure Coast Region

County/Project	Status	Acres	Residential Units	Hotel Rooms	Retail SF	Industrial SF	Office SF
Indian River County							
Waterway Village	Approved	696	1,740	0	30,000	0	0
County Subtotal		696	1,740	0	30,000	0	0
St. Lucie County							
Cloud Grove (fka Adams Ranch Stewardship)	Submitted	5,944	12,000	0	100,000	0	500,000
Capron Lakes (fka Indrio)	Submitted	1,938	3,100	0	200,000	0	200,000
LTC Ranch	Approved	2,455	6,500	0	725,000	1,960,200	1,508,500
Verano (fka Montage)	Approved	3,000	6,000	350	250,000	0	0
Provinces	Submitted	735	4,443	350	1,435,706	0	1,000,000
Reserve	Approved	2,690	3,200	250	290,000	500,000	176,500
Riverland/Kennedy	Approved	3,845	11,700	0	892,668	1,361,250	1,361,250
Southern Grove	Approved	3,606	7,388	500	2,164,061	1,999,404	2,073,238
Tradition	Approved	2,522	7,245	300	675,512	0	1,295,567
Visions at Indrio	Submitted	780	2,605	240	750,000	0	250,000
Western Grove	Approved	1,593	4,062	0	365,904	0	250,906
Wilson Groves	Approved	2,499	7,700	0	765,000	1,361,250	1,583,250
County Subtotal		31,607	75,943	1990	8,613,851	7,182,104	10,199,211
Martin County							
Indiantown	Submitted	804	1,650	0	10,000	0	20,000
Quillen	Submitted	582	2,250	0	150,000	0	0
County Subtotal		1,386	3,900	0	160,000	0	20,000
Palm Beach County							
Callery-Judge Grove	Denied	3,872	10,000	150	1,400,000	3,000,000	600,000
Indian Trail Groves	Submitted	4,932	12,325	0	207,500	0	42,500
Palm Beach Co. Biotech. Research Park	Approved	1,919	2,000	0	430,000	8,500,000	0
Stewart Mining Industries	Pre-Application	5,420	0	0	0	0	0
Verde	Pre-Application	38	400	400	500,000	0	300,000
County Subtotal		16,181	24,725	550	2,537,500	11,500,000	942,500
Regional Total		49,870	106,308	2,540	11,341,351	18,682,104	11,161,711



Capron Lakes

Legend

- Capron Lakes
- St. Lucie Village
- Ft. Pierce
- SLC Airport
- Capron Trail CDD
- Urban Service Boundary



CT
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CONSULTING ENGINEERS
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Revisions	By	Date
Rev. Project Name	DWM	July 1, 2008

Capron Lakes DRI

General Location Map

Date: _____

Job No. _____

Sheet: **Map A**

Project Location Map – General Location

Project Location Map – Immediate Vicinity



	Revised:	By:	Date:
Capron Lakes DRI			Job No:
SITE AERIAL - 2003			Sheet: MAP B

OVERVIEW OF CAPRON LAKES DRI

Does anyone suppose that, in real life, answers to any of the great questions that worry us today are going to come out of homogeneous subdivisions and shopping malls?

- Jane Jacobs, *The Death and Life of Great American Cities* (1961)

The proposed development program for the 1,938-acre Capron Lakes DRI includes: 3,100 residential units, 200,000 SF of retail, and 200,000 SF of office. Physical development is expected to occur on only 30 percent of the site. The remaining 70 percent is to be left as a series of "open spaces," much of which will remain as large areas of open water and countryside.

It is not so much the quantity of development proposed which should concern the County as much as: 1) how these uses are arranged and organized in the countryside to define its urban form; 2) whether this development is a significant enough improvement, in terms of form and function, over what the County would normally expect given current land use and zoning designations for the property; 3) the location of this proposal in relationship to the Towns, Villages and Countryside (TVC) area identified in the County's Comprehensive Plan; 4) how to utilize this development opportunity to complement and implement the significant changes in development patterns and other goals and objectives called for in the County's TVC Element and Land Development Regulations; and 5) whether there will be adequate public facilities and infrastructure to support this development.

The Capron Lakes DRI is designed to be consistent with the SRPP. It is development designed to deliver all the positive fiscal, environmental, and social impacts the County and developer hope to achieve without all the negatives of sprawl. The project is also designed to be consistent with the TVC Element of the County's Comprehensive Plan. While the Capron Lakes property is not within the County's designated TVC area, consideration of its adjacency and the benefits of allowing it to be developed according to TVC area rules and regulations deserve further explanation.

Capron Lakes and St. Lucie County's Towns, Villages and the Countryside (TVC) Element

The County's TVC Element addresses about 60 square miles in northeastern St. Lucie County. About one-half the land area lay outside the Urban Service Boundary (USB). Most of this land is devoted to growing citrus. The average land use density outside the USB is one residential unit per acre. Realizing this combination of density and the current sprawling land use pattern was exactly what the citizens did not want, St. Lucie County asked Council to work with residents, landowners, and the agricultural industry to create a new plan for the area.

During the seven days of February 7-13, 2004, over 300 landowners, residents, and others participated in a public planning charrette to create a vision for this northern St. Lucie County area. Following are guiding principles of the vision developed during the charrette. These formed the basis of a new plan for the area.

- Preserve property rights
- Improve traffic circulation
- Establish a comprehensive greenway and water management system for the area
- Sustain and preserve agriculture
- Provide town centers and sustainable communities
- Not move the USB
- Preserve open space and rural character of the area
- Create predictability for residents and developers

The problem was how to balance landowners' current property rights with the desires of the residents. The solution was a concise and predictable plan for sustainable, compact, mixed-use development occurring as towns and villages discretely located in the countryside, within and outside the USB. A Transfer of Development Rights (TDR) system would be established to reorganize land use entitlements whereby development rights are stripped from the countryside and transferred to town and village locations. A workforce housing program for the area would also be established.

In May of 2006 the County adopted the required local comprehensive plan amendments and local land development regulation to implement the vision and new areawide plan. Appendix K includes additional graphics and information about the TVC area, the TVC plan and the proximity of Capron Lakes to the TVC area.

Capron Lakes DRI is uniquely positioned to further the goals and objectives of the TVC plan. Characteristics of the property that make it unique to the TVC area are: 1) it is adjacent to the TVC area; 2) it is adjacent to a County Urban Service Boundary; 3) it is adjacent to an I-95 interchange; 4) it includes key components of the TVC future street network; 5) its development impacts are considered in the data and analysis supporting the TVC plan amendments; and 6) it carries a future land use of SD or Special District which allows for development at one dwelling unit per acre.

Council's DRI assessment report and recommendation to the County suggest how the County could apply TVC rules and regulations to this specific property. At the same time, it remains the County's choice of how much and what form of development to approve. In addition, Council's report and recommendations are designed to: 1) minimize or eliminate unfavorable impacts on state and regional resources and facilities; 2) strengthen and detail the master plan to address some fundamental regional planning and urban design issues; 3) mitigate affordable housing and environmental impacts; 4) assure that adequate public facilities and infrastructure are provided when needed related to transportation, schools, emergency public shelters, water, sewer, police and fire

protection, solid waste disposal, water management, and parks and recreation; and 5) address regional roadway network impacts in Indian River County generated by this project.

Growth is coming to the St. Lucie County and the Treasure Coast Region. Where the next 25-year increment of this growth is located and the form it takes will have a profound affect on whether regional impacts and issues get addressed and on the quality of life for future generations.

CONCLUSION

St. Lucie County has made good progress in strengthening its comprehensive plan. Regardless of the SRPP, the State Comprehensive Plan, other local plans, or any private sector plan, the County still maintains control of their plan and the right to choose its future. The choice this time is between two models or forms of growth: the traditional neighborhood and suburban sprawl. They are polar opposites in appearance, function and character. They look different, perform differently, create measurably different regional impacts, and are different in their capacity and ability to address regional issues (see Appendix J Two Ways to Grow). In this instance, the developer, with its commitment to the proposed Master Plan; and the County, with the adoption of its Towns, Villages and the Countryside Future Land Use Element and Land Development Regulations, have chosen the traditional neighborhood.

The Capron Lakes DRI is designed to be consistent with of the SRPP. The project has been designed to deliver the positive fiscal, environmental and social impact the County and developer hope to achieve, without all the negatives of sprawl. There is a great opportunity for the County to ensure that a detailed plan is prepared which results in self-contained, walkable, transit-ready neighborhoods and mixed-use districts that connect all the important components of public and private life (sites for homes, shopping, parks, jobs, schools, churches, civic use, and the countryside). In other words, correcting the lack of good community design, balance and serviceability that plagues much of the County.

If the County chooses to approve this DRI in its current form, Council's DRI assessment report provides a strategy and basic instructions to help accomplish this task. In addition, the report and recommendations are offered as a way to address all regional issues identified in Council's Strategic Regional Policy Plan.

RECOMMENDATION

The Capron Lakes DRI assessment report contains a series of advisory recommendations for St. Lucie County based on the goals, strategies, and policies of the SRPP. These recommendations are made in response to the Capron Lakes master plan within the context of the SRPP. They are provided to address urban form issues, minimize project-related regional impacts, improve the project's capacity to address regional issues, and to further implement the SRPP.

In its current form and given the developer's commitment to follow the policies and regulations contained in the County's Towns, Villages and the Countryside Future Land Use Element and Land Development Regulations, the Capron Lakes DRI is determined to be consistent with the SRPP. At the same time, the Capron Lakes DRI will also place additional demands and have regional impacts on the regional transportation system and other urban services, public facilities and infrastructure. Incorporation of recommended conditions into the County's Development Order will provide assurance that regional impacts are mitigated.

If St. Lucie County chooses to approve the Capron Lakes DRI, it is recommended that, at a minimum, the conditions of approval contained in Council's Development of Regional Impact Assessment Report be included in the Development Order issued by St. Lucie County.

SUMMARY OF REGIONAL IMPACTS

During review of the proposed Capron Lakes DRI, Council identified several issues that will have significant impact on St. Lucie County and the Region. These issues are related to: 1) the master development plan, 2) transportation, 3) environmental and natural resources, 4) affordable housing, and 5) public facilities. This section summarizes the impacts. The proposed general conditions of approval recommended in this report are designed to capitalize on positive impacts associated with the project and reduce or mitigate negative impacts to the Region.

MASTER DEVELOPMENT PLAN

"The history of a nation is only a history of its villages written large."

- Woodrow Wilson (1900)

The most significant element of the SRPP is the Future of the Region or vision/urban form section. This element focuses on community structure and organization, urban form and patterns of development that do not sprawl (see Appendix L - *A Brief Summary of the Strategic Regional Policy Plan: Its History, Preferred Forms and Patterns of Development, and its Vision for the Future of the Region*). The reason for this is based on Council's conclusion that regional issues related to location, balance, mix and organization of residential types, work places and services (i.e. the built environment) will be critical to address if the Region is to accomplish the goals set forth in its SRPP and sustain a high quality of life for its citizens. For example, urban form and development patterns have a profound regional effect on: 1) how often and how far we drive; 2) how much energy we use; 3) how long and well the regional roadway network will function; 4) how much air and water pollution we generate; 5) how much the public must spend on public facilities and infrastructure; 6) how much land and water we consume; 7) the extent to which upland and wetland systems are impacted; 8) whether there is an adequate supply of affordable housing; 9) how successful we are at infill and redevelopment of our established towns and cities; 10) how competitive we are in attracting business and economic development; 11) the region's ability to minimize crime and emergency response times; 12) how much public money we have to spend on education and care of the elderly and children; 13) how well we respond and recover from natural disasters; 14) how successful we are in implementing the Comprehensive Everglades Restoration Plan and restoring the Loxahatchee River, St. Lucie River, and Indian River and Lake Worth Lagoon systems; and many other important regional issues and concerns.

The Capron Lakes Master Development Plan provides an excellent foundation for achieving consistency with the SRPP. During the review period, the developer has made various modifications to the master plan. This was done in response to Council and County staff recommendations and to better address traditional neighborhood and town planning principles contained in the SRPP and in the County's Towns, Villages and

Countryside Future Land Use Element. It is encouraging that the current conceptual master plan addresses the fundamental principles of traditional town planning and good urban design.

Because the quality and level of detail of the master plan is high, recommended conditions of approval contained in Council's impact assessment report are limited and focus on the process the county could use to implement the master plan as shown. These recommendations are made to assure that the plan's capacity to address regional issues, and further implement the SRPP, is not lost in translation from the conceptual DRI master plan stage to final site planning and platting.

TRANSPORTATION

"It is an absurdly impoverished technology that has only one answer to the problem of transportation; and it is a poor form of city planning that permits that answer to dominate its entire scheme of existence...Future generations will perhaps wonder at our willingness, indeed our eagerness, to sacrifice our cities and towns, the education of our children, the care of the ill and the aged, the development of the arts, to say nothing of ready access to nature, for the topsided system of mono-transportation...."

-Lewis Mumford, *The City in History* (1961)

The Capron Lakes DRI is a proposed mixed-use development to be located in the northwest quadrant of the intersection of Indrio Road and Interstate 95 in St. Lucie County, Florida. The proposed development includes 1,700 single-family and 1,400 multi-family residential units, 200,000 SF of retail development, 200,000 SF of office development, and a K-8 school with 1,600 students. The three-phase project is to commence in the year 2010 and buildout in the year 2025.

The project is within close proximity to the proposed Visions at Indrio DRI, which is located on the south side of Indrio Road just east of Interstate 95. Traffic from this proposed development has been included in the traffic study as part of background traffic for Capron Lakes. Traffic from Airport West Industrial Park, Emerson Estates PUD, Portofino Shores PUD, Coconut Cove PUD, and Indrio Groves PUD is also included in the Capron Lakes traffic study as background traffic. A summary of the transportation methodology/study is presented in Appendix F.

Transportation impacts related to Capron Lakes DRI and other growth expected in the area will require mitigation through construction of new roadways, widening of roadways, expansion of intersections, and the provisions of adequate lane geometry to ensure that an acceptable level of service can be maintained on the regional roadway network. As such, new roadway construction and expansions are being recommended.

Roadway improvements have been recommended to comply with TVC Element of the St. Lucie County Comprehensive Plan. To this effect, the following new roadways are recommended:

- Russos Road fly-over from the project across I-95 to Johnston Road;
- Johnston Road from Indrio Road to Angle Road;
- Koblegard Road/58th Avenue from Oslo Road to Indrio Road; and
- The realignment of 58th Avenue to Johnston Road.

A complete listing of recommended roadway and intersection modifications to existing and proposed facilities are provided in Table 1, included in the General Conditions of Approval section of this report.

Given the close proximity to Interstate 95, the development has significant impact along segments of the interstate which require widening to maintain adopted levels of service. Interstate 95 is part of the Florida Intrastate Highway System (FIHS) and the Strategic Intermodal System (SIS). The Florida Department of Transportation has established statewide minimum level of service standards. Interstate 95 between Orange Avenue and Okeechobee Road is projected to exceed the adopted service volume by the year 2011. In addition, the segment between Indrio Road and Orange Avenue is projected to exceed the adopted service volume by the year 2013. Therefore, widening to six lanes has been recommended in both sections.

Ramp improvements at the intersections with Indrio Road are also necessary in order to maintain adopted levels of service. Additional improvements have been recommended at the Indrio Road intersections with the Interstate 95 ramps.

Close coordination with the Florida Department of Transportation is essential as improvements to the interstate require justification studies. Additionally, funding for design and construction needs to be secured and the improvements need to be programmed into the Florida Department of Transportation Improvement Work Program.

Some factors may affect government's ability to maintain an acceptable level of service on the regional roadway network. Changes to the Florida Department of Transportation Adopted Transportation Improvement Work Program may expedite or delay construction of the required improvements to maintain adequate level of service on the regional roadway network. Rule 9J-2.045 (7) (1) (b) FAC requires an assessment and report of the guaranteed improvements on no less than a biennial basis. This report needs to identify the timing of improvements to assure they will be constructed according to schedule. This kind of report is being recommended as a condition of approval for this project.

ENVIRONMENTAL AND NATURAL RESOURCES

Uplands

Improved pasture is the main upland land cover on the 1,938-acre project site. The property also contains 48.5 acres of native upland communities, including 35.3 acres of pine flatwoods, 6.4 acres of cabbage palm, 4.6 acres of palmetto prairie, and 2.2 acres of pine/mesic oak communities (see Appendix A, Land Cover Maps). The applicant is proposing to preserve, enhance, restore or create 41.7 acres of upland natural communities, including pine flatwoods (34.5 acres), palmetto prairie (3.0 acres), pine/mesic oak (2.2 acres), and cabbage palm (2.0 acres) on the project site as described in the application and shown on Map H, Master Development Plan. This represents protection of approximately 86 percent of all native upland plant communities on site, which is consistent with Council policy. The recommended conditions include provisions for installing temporary fencing around the preserve areas prior to commencing site clearing, preparation of a Preserve Area Management Plan, and removal of nuisance and invasive exotic vegetation.

Wetlands

The Capron Lakes DRI site contains approximately 134.55 acres of wetlands, including 68.70 acres of wet prairie, 52.43 acres of mixed wetland forest, 9.35 acres of freshwater marsh, and 4.07 acres of cypress (see the Land Cover Maps Appendix A). Most of the wetlands have been impacted by agricultural operations on the project site. Consistent with Council policy, the applicant is proposing to protect and enhance about 71.8 acres of the highest quality wetlands, which are identified on Map H, Master Development Plan. On-site mitigation is proposed for the remaining 62.75 acres of wetlands. An Environmental Resource Permit application was filed with the South Florida Water Management District (SFWMD) on January 9, 2006 and is currently under technical review. The final plans for mitigation will be determined following verification of the quality and function of these wetlands by the SFWMD, United States Army Corps of Engineers (COE), and St. Lucie County and completion of the permitting process. The recommended Development Order conditions include provisions for: protection and enhancement of 71.8 acres of wetlands on the project site; coordination with the SFWMD, COE, and St. Lucie County to ensure adequate wetland mitigation to offset wetland impacts; upland buffers around wetlands; removal of exotic species from wetlands; and preparation of a Preserve Area Management Plan to provide maintenance and management procedures for the preserved wetlands on the project site.

Listed Species

Listed animal species identified on the project site include the Wood Stork (state and federally listed – Endangered), Bald Eagle (state and federally listed – Threatened), Crested Caracara (state and federally listed – Threatened), Florida Sandhill Crane (state listed – Threatened), Little Blue Heron (state listed – Species of Special Concern),

Tricolored Heron (state listed – Species of Special Concern), White Ibis (state listed – Species of Special Concern), and gopher tortoise (state listed – Species of Special Concern). The majority of the listed fauna observed were concentrated in wetlands, forested areas, or in small areas associated with cattle feeding. None of the bird species were found nesting on the project site. The gopher tortoises were found burrowing in canal banks. All of the species are expected to continue to utilize the natural areas and open space on the project site after development.

In addition to animals, the following plant species listed as Threatened by the Florida Department of Agriculture and Consumer Services were identified on the project site: aspidium fern, whisk fern, golden polypody, wild pine species, shoestring fern, and brake fern. The listed plant species were found primarily in and adjacent to forested wetlands. All of the listed plants species on the project site are already present, or will be represented in the onsite preservation and mitigation areas through natural recruitment or planting as part of the environmental enhancement activities.

The recommended Development Order conditions include several special provisions to protect listed species identified on the project site. In order to protect the gopher tortoise population on the project site, the developer is to develop a detailed management plan that provides for the protection and relocation of gopher tortoises into the preserve area identified on Map H, Master Development Plan. In order to protect Florida Sandhill Cranes, the developer is to maintain foraging habitat around wetlands preserved on the project site. In order to provide foraging habitat for the Wood Stork and other wading birds, the recommended Development Order conditions also include a special condition calling for surface waters created on site to include features specifically designed to concentrate prey during dry down periods. These features are to be consistent with the U.S. Fish and Wildlife Service Habitat Management Guidelines for the Wood Stork (see Appendix D). The details of all protection measures for listed species are to be provided in a Preserve Area Management Plan.

Stormwater Management

The project site is a sub-area within the permitted water management system of the Capron Trails Community Development District. The existing surface water features on the project site include a series of isolated wetlands, several man-made lakes, ditches, and canals. Currently, stormwater runoff is collected and conveyed through the system of canals along the west and south sides of the project, including the C-1, C-2, C-3, C-4, and C-5 Canals. The C-1 Canal discharges into the C-25 Canal, which is located about 3.5 miles south of the project site (see Appendix A, Drainage).

The proposed surface water management system will utilize the existing permitted surface water management system. The project will consist of a single basin. The proposed surface water management system will consist of a network of inlets, culverts, control structures, wetlands, ponds, and an extensive lake system. Water quality treatment will be provided within the surface waters on-site. Off-site flows will be directed into the

C-25 Canal, which ultimately discharges to the Indian River Lagoon. All operation and maintenance of the stormwater management system will be provided by a Community Development District or a sub-district created within the project.

The recommended DO conditions provide for the retention of maximum volumes of water on the project site; establishment of a water quality monitoring system to demonstrate that the C-1, C-2, C-3, C-4, C-5, and C-25 canal systems, and adjacent properties will not be impacted by water from the project site in violation of state water quality standards; and the use of Best Management Practices to minimize the impact of chemical runoff associated with lawn and landscape maintenance.

Water Supply

The applicant's intent is to obtain potable water supply for the project from St. Lucie County Utilities (SLCU). The developer also indicates, however, if St. Lucie County is unable to supply potable water to the Capron Lakes Development of Regional Impact, it will, in concert with the Capron Trail Community Development District, construct an on-site water production facility. The source of water for such a sub-regional utility system would likely be the Floridan Aquifer and the system would utilize a reverse osmosis treatment system to bring the water up to drinking quality standards. The applicant has projected that the total water demand of the project will be 2.1 million gallons per day (MGD) at buildout. The water demand is broken down between potable water demand of 0.85 MGD and non-potable water demand of 1.3 MGD.

The SFWMD indicates SLCU does not appear to have enough capacity to provide the estimated 2.1 MGD of water supply required by the proposed development. Amendments to the St. Lucie County and City of Fort Pierce Comprehensive Plans may be necessary, according to SFWMD, to demonstrate there is an adequate supply of potable water, treatment and delivery facilities to meet the needs generated by the project and that the necessary capital facilities are available or have been planned to meet the needs of the proposed development.

The applicant intends to meet the project's non-potable (landscape irrigation) demands by a combination of surface water withdrawals from the 600+ acres of lakes that will remain on the property and from treated irrigation water, either from the operation of an on-site wastewater treatment facility, if needed to be constructed, or a publicly owned facility. The applicant understands there are no reclaimed water production facilities at present, serving this part of the County in which the project is located. The project, however, will be designed to take advantage of reclaimed water resources when and if such resources become available.

Currently, there are five permitted wells on the Capron Lakes DRI site. The five wells are part of a broader permit issued to the Capron Trails Community Development District that provides for nine wells within the boundary of the Development District. The

applicant indicates the existing wells will not be used for any long-term irrigation or back-up water supply purposes.

The recommended Development Order conditions include provisions requiring the developer to secure written confirmation of adequate capacity of treated potable water availability from the provider, use of treated wastewater effluent when it becomes available to the site, xeriscape landscaping, and other water conservation devices and methods.

Wastewater Management

Wastewater generated by the project at buildout is estimated to be 1.886 MGD. St. Lucie County Utilities will provide off-site wastewater treatment. Septic tanks are not proposed for the project. The recommended DO conditions include provisions requiring that prior to approval of a development parcel, adequate capacity for wastewater treatment is in place, reuse water infrastructure is available to serve the project, and the necessary wastewater system extensions are in place.

Solid Waste and Hazardous Materials

The project as proposed, according to the St. Lucie County Solid Waste Division calculations, will generate approximately 0 tons/year during Phase 1; 1,728 tons/year during Phase 2; and 8,099 tons/year during Phase 3, totaling 9,827 tons/year at project build-out. St. Lucie County Glades Road Landfill has indicated that it has capacity to provide the necessary services for the proposed development. Calculations by St. Lucie County Solid Waste Division indicate that sufficient capacity exists or will exist to support this project; however, Class 1 landfill capacity is projected to end in 2044. Similarly, construction and demolition debris landfill capacity is projected to end in 2020. In addition, some storage and retail/service facilities and offices to be developed are anticipated to store, utilize or generate hazardous waste.

Air Quality

The FDEP reviewed the Capron Lakes DRI application and found that insufficient parking data was provided to determine if air quality modeling would be necessary to address parking concerns. To address this issue, FDEP recommended two DO conditions included in this report to ensure that National Ambient Air Quality Standards for Carbon Monoxide will not be violated as a result of this project.

The recommended DO conditions also include provisions requiring soil treatment techniques appropriate for controlling unconfined particulate emissions during land clearing and site preparation. The purpose of this is to minimize dust production and soil erosion during land clearing and to prevent soil particulates from becoming airborne between the time of clearing and construction. The development is to comply with all National Pollutant Discharge Elimination System requirements.

HUMAN RESOURCE ISSUES

Revenue Generation Summary

The Capron Lakes DRI is expected to generate ongoing revenue benefits to St. Lucie County. The projected revenues generated by the DRI include ad valorem taxes, sales taxes, utility taxes, gas taxes, permits, licenses, and impact fees.

Over the project buildout period (2010-2025), the project is estimated to generate over \$153.0 million in total ad valorem tax revenue and is expected to generate a total of \$18.8 million in recurring revenue at buildout (2025). Total estimated school board tax receipts over this period will exceed \$57.2 million.

Development of the project is expected to generate a need for approximately \$19.6 million in capital facility outlays for water and wastewater facilities. These capital outlays are the responsibility of the developer. Capital cost impacts for transportation facilities have not yet been determined.

Total annual sales tax, gasoline tax and miscellaneous revenues are estimated at \$5.0 million.

Fiscal Impacts

At buildout, the Capron Lakes DRI is estimated to have a taxable value of approximately \$863 million. Staff's fiscal impact analysis of the project estimates annual expenditures made by St. Lucie County on behalf of the residents and employees of the development to be \$2.0 million by 2015 and \$8.2 million annually at buildout. These expenditures include general government services, police and transportation. These expenditures are contrast with projected revenues of \$4.2 million by 2015 and \$17.1 million at buildout, generating a positive net fiscal operating impact of \$2.1 million in 2015 and a positive impact of \$8.9 million at buildout. The present value of the net total fiscal impact of the project for St. Lucie County over a 20 year time period is estimated at \$15.5 million. The fiscal impact analysis summary is presented in Appendix H.

Housing

The Capron Lakes DRI is designed as a 3,100 dwelling unit master-planned mixed-use development. The project encompasses a town center, community retail, medical and professional office, single and multifamily residential components. The applicant indicates the residential portion of the total project will include housing of various densities and price ranges including single family, townhomes and multi-family for sale units. Approximately 300 rental housing units are proposed for the development. Higher residential densities will be focused in the Town Center.

The Capron Lakes DRI is expected to create approximately 819 new full-time jobs on site by 2025 (end of Phase III). This level of permanent employment will, in turn, generate a demand for some 478 housing units spread across very low, low and moderate income households as illustrated. The applicant's analysis suggests worker households can afford to purchase a home or rent an apartment based upon the following affordability thresholds:

Applicant's Housing Demand and Affordability Thresholds

Income Group	Demand	Maximum Income Limits ¹	Affordability Thresholds ²	
			Purchase Price	Rent
Very-low	196	\$26,225	\$73,012	\$566
Low	123	\$41,960	\$116,685	\$959
Moderate	159	\$62,940	\$180,962	\$1,484
Total	478			

¹ HUD FY 2005 Median Family Income of \$52,450 for Fort Pierce-Port St. Lucie MSA.

² Affordability limits for home prices (for-sale housing) and maximum rental rates by income group.

The applicant has indicated in the Application for Development Approval the following price ranges per type of proposed dwelling unit:

Single Family Units:

Detached Units \$200,000 - \$800,000

Multi-Family Units:

Condominium or Townhome Units: \$120,000 - \$220,000

Rental Apartments \$875 - \$1,400/month

If provided, the for-sale multi-family dwelling units and the 300 or so rental units would offset some of the affordable housing demand generated for moderate income and low income worker households created by the Capron Lakes DRI. Very-low income housing demand cannot be met at the project site under the project's proposed pricing structure.

The applicant concluded in its affordable housing needs analysis the supply of off-site available for sale and for rent housing units more than offsets the affordable housing demand generated by the non residential portion of the Capron Lakes DRI. The following table shows the applicant's estimates for very low income (VLI), low income (LI), and moderate income (MI) adequate housing need for the project at project build out:

	Housing Demand	Housing Supply	Housing Surplus (+) Housing Need (-)
VLI	196	883	687 (+)
LI	123	650	527 (+)
MI	159	731	572 (+)

Although the applicant's affordable housing needs analysis suggests the Capron Lakes DRI will not generate an affordable housing need for the projected full-time equivalent workforce, the applicant has agreed to provide workforce housing units on the project site in accordance with the requirements of the St. Lucie County Towns, Villages and Countryside Comprehensive Land Use Element and Land Development Regulations. Council's *Attainable Housing Toolkit* may be referenced as a guide for the creation of workforce housing.

Schools

The Capron Lakes DRI proposes an entirely new residential and mixed-use development upon property currently utilized for agricultural purposes or maintained as native habitat. According to data provided in the ADA, the project proposes 3,100 new dwelling units. Based on the student generation rate provided by the St. Lucie County School District, the project is expected to generate a total of roughly 978 new students as follows:

685 K-8 students
293 high school students

Based on the anticipated student generation from the proposed DRI, the School District indicates the need for a one K-8 school site of not less than twenty-five acres, provided stormwater treatment would be handled off-site and integrated into a master stormwater drainage system for the project, pre-payment of project impact fees, and assignment of hurricane hardening costs to the developer. In addition, the project will generate the need for 43% of one new K-8 school (sized for 1,600 students) and 12% of one new high school (sized for 2,500 students) (see Appendix B, correspondence from the St. Lucie County School District, dated August 28, 2007; and Appendix I, Educational Facilities Policy Analysis).

Based on this recommendation, the developer would be required to enter into a development agreement with the St. Lucie School District with the responsibility to fund approximately \$26.3 Million in construction and equipment costs for the project's proportionate costs of new educational facilities, the dedication of not less than twenty-five acres for one new K-8 school site, pre-payment of project impact fees, and the hardening of hurricane shelter facilities. These recommendations are detailed in the conditions contained in this report.

Police and Fire Protection

The applicant has calculated the projected total population of the project at buildout to be approximately 7,688 persons. In their response letter to the applicant dated August 25, 2005, the St. Lucie County Sheriff's Office has confirmed it is currently experiencing difficulty responding appropriately to service calls based upon rapid population growth,

and insufficient funding for expansion of personnel. Given these considerations, the Sheriff's Office indicates law enforcement response may be delayed to the project site.

The recommended conditions propose no building take place until such time as the applicant receives written confirmation from the St. Lucie County Sheriff's Office that it has adequate facilities and personnel to serve the Capron Lakes DRI.

A 2.0+ acre fire station site will be dedicated fronting Indrio Road as illustrated on Map H, Master Development Plan. Staff has confirmed with St. Lucie County Fire District their intention to negotiate a development agreement with the applicant which provides for all necessary facilities and equipment to meet the demand of the project.

Hurricane Preparedness

The proposed development is not within the Coastal High Hazard and Storm Surge zone within St. Lucie County. The Capron Lakes DRI projects 3,100 residential units (estimated 7,688 persons) at build-out. These figures show an increased need for public and special needs shelter space capacity. In the event of a significant hurricane (Category 3 or above), the proposal describes a strategy to lessen impacts on County shelter resources by encouraging residents to "shelter in place." The DRI has indicated that additional shelter space will be available through construction of a hurricane hardened K-8 school building in the vicinity capable of housing 3,200 persons. The proposed DRI indicates an impact to regular shelter space of 6,160 SF (308 spaces) to the public shelter space deficit identified by St. Lucie County Division of Emergency Management. According to the 2003 Treasure Coast Regional Hurricane Evacuation Study, a worst case scenario estimates up to twenty percent (1,538 persons) of the development's non-vulnerable population is expected to evacuate. Approximately twenty percent (308 persons) of this group of evacuees will seek public shelter locally. St. Lucie County Division of Emergency Management records indicate that 4,678 persons stayed at regular shelters countywide during the 2004 season. In addition, 569 evacuees were sheltered at special needs shelters. Dividing the special needs number of evacuees by the total number of shelter evacuees produces .108 special needs evacuees that occurred for every regular shelter evacuee. The estimated special needs population is 33 persons at project build-out and will impact County special needs shelters significantly. Special needs shelter space has been increased from 40 square feet to a provision of 60 square feet to accommodate the client as well as space allowance for caregivers, medical staff and equipment.

Parks and Recreation

The Capron Lakes DRI application indicates that recreational amenities will consist of four broad categories, including: open water/lake recreation; passive open space/preserve; neighborhood parks; and joint recreation facilities to be located at the K-8 school site. Map H, Master Development Plan, shows neighborhood linear parks totaling 10 acres, an active park totaling 25 acres, and a number of other recreational amenities.

The St. Lucie County Comprehensive Plan indicates that the desired outdoor recreation standard for neighborhood parks is 0.5 acres per 1,000 population. The plan also indicates that the standard for community parks, which may contain athletic fields and accommodate a wider range of recreational activities, is 5.0 acres per 1,000 population. Based on these standards, the projected population of 7,688 persons will generate the need for approximately 4 acres of neighborhood parks, and 40 acres of community parks. The recommended DO includes a condition calling for the developer to provide a plan approved by St. Lucie County for the provision of neighborhood and community recreational sites and facilities to meet the demand created by residential development in the project.

Historic and Archaeological Sites

An archaeological survey of the Capron Lakes property was conducted in January, 2005. One previously unrecorded archeological site was identified within the project area during the investigation. A portion of the Fort Capron Trail (8SL1702), an historic military trail, was identified within the project area. Due to low research potential and lack of intact features or cultural strata related to modern disturbances, 8SL1702 does not appear to be eligible for listing in the National Register of Historic Places. No other historic or archaeological resources were discovered during the survey. The Florida Department of State, Division of Historical Resources, has concluded that the proposed development is unlikely to affect cultural resources. In the event that archaeological artifacts are discovered during construction, the recommended DO conditions include a provision requiring construction to stop. Proper protection is to be provided to the satisfaction of St. Lucie County and the Division of Historical Resources, Florida Department of State.

GENERAL CONDITIONS OF APPROVAL

The Florida Department of Community Affairs rules require the Development Order to incorporate the Application for Development Approval by reference, recite the quantities of uses approved, phasing and buildout dates, provide a termination date, and provide for biennial reports. The expiration date should be set to allow reasonable time for completion of all development and compliance with all conditions in the Development Order. Enough time should be allowed between the buildout date and the expiration date for the developer to request any needed extension to the buildout date. These requirements can be met by including the following conditions in the Development Order:

Application for Development Approval

1. The Capron Lakes (formerly known as "Indrio") Development of Regional Impact Application for Development Approval is incorporated herein by reference. It is relied upon, but not to the exclusion of other available information, by the parties in discharging their statutory duties under Chapter 380, Florida Statutes. Substantial compliance with the representations contained in the Application for Development Approval, as modified by Development Order conditions, is a condition for approval. Prior to final approval of any site plan application for the Capron Lakes Development of Regional Impact, the developer shall revise the Application for Development Approval to ensure that the phasing schedule and development plan are internally consistent within all sections of the Application for Development Approval and Development Order.

For purposes of this condition, the Application for Development Approval shall include the following items:

- a) Application for Development Approval dated November 18, 2005; and
- b) Supplemental information dated April 4, 2006; August 4, 2006; January 8, 2007; May 25, 2007; August 17, 2007; September 11, 2007; and September 12, 2007.

Commencement and Process of Development

2. In the event the developer fails to commence significant physical development within five years from the effective date of the Development Order, development approval shall terminate and the development shall be subject to further Development of Regional Impact review by the Treasure Coast Regional Planning Council, Florida Department of Community Affairs, and St. Lucie County pursuant to Section 380.06, Florida Statutes. However, this time period shall be tolled during the pendency of any appeal pursuant to Section 380.07, Florida Statutes. For the purpose of this paragraph, construction shall be deemed to have initiated after placement of permanent evidence of a structure (other than a mobile home) on a site, such as the pouring of slabs or

footings or any work beyond the stage of excavation or land clearing, such as the construction of roadways or other utility infrastructure.

Phasing

3. The phasing of the Capron Lakes Development of Regional Impact is approved as follows:

Phase¹	Years	Residential (DU)	Office (SF)	Retail (SF)
1	2010-2015	1,000	50,000	100,000
2	2016-2020	1,600	75,000	50,000
3	2021-2025	500	75,000	50,000
Total	2010-2025	3,100	200,000	200,000

¹ This phasing table is based on information provided on Map H, Master Development Plan, dated September 12, 2007. Development is not restricted by phase so long as development order conditions are met.

Buildout Date

4. The Capron Lakes Development of Regional Impact shall have a buildout date of December 31, 2025, unless otherwise amended pursuant to the conditions of this Development Order and Section 380.06, Florida Statutes.

Termination Date

5. This Development Order shall expire on December 31, 2032, unless extended as provided in Section 380.06(19)(c), Florida Statutes.

Biennial Report

6. The biennial report required by subsection 380.06(18), Florida Statutes, shall be submitted every two years on the anniversary date of the adoption of the Development Order by St. Lucie County. It will be submitted to St. Lucie County, Treasure Coast Regional Planning Council, Florida Department of Community Affairs, and such additional parties as may be appropriate or required by law. The contents of the report shall include those items required by this Development Order and Rule 9J-2.025(7), Florida Administrative Code. The St. Lucie County Growth Management Director shall be the local official assigned the responsibility for monitoring the development and enforcing the terms of the Development Order.

General Provisions

7. Any modifications or deviation from the approved plans or requirements of this Development Order shall be made according to and processed in compliance with the requirements of Section 380.06(19), Florida Statutes and Rule 9J-2, Florida Administrative Code.

8. The definitions found in Chapter 380, Florida Statutes shall apply to this Development Order.
9. Reference herein to any governmental agency shall be construed to mean any future instrumentality that may be created or designated as a successor in interest to, or which otherwise possesses the powers and duties to any referenced governmental agency in existence on the effective date of this Development Order.
10. This Development Order shall be binding upon the developer and its assignees or successors in interest.
11. The conditions of this Development Order are applicable to the proposed residential, office and retail development approvals herein, and shall not be applicable to the existing mining, nursery, and agricultural uses on the project site, which uses may be continued and expanded subject to meeting all applicable St. Lucie County requirements for those activities and uses.

REGIONAL PLANNING

Town Planning

12. To assure a mixed-use, compact, and pedestrian/bicycle-friendly environment, ready to accommodate all modes of public transportation, the following should be incorporated into the Development Order:
 - a) The applicant shall design the project in accordance with the Towns, Villages and Countryside (TVC) Element of the Comprehensive Plan as adopted on May 16, 2006 and according to the TVC Land Development Regulations (LDRs) adopted May 30, 2006. The applicant shall rezone the project to one or more of the County's Planned Development zoning districts, such as Planned Unit Development, Planned Mixed-Use Development or Planned Non-Residential Development, using the Planned Town or Village (PTV) and/or Planned Retail Workplace (PRW) regulations as required design standards. Prior to any site plan or plat approvals for the Capron Lakes DRI, a regulating plan in accordance with the requirements of the TVC LDRs shall be prepared to: 1) demonstrate compliance with the design standards; and 2) design the Targeted Industry site as a mixed-use development which includes a residential component if compatible with the proposed Targeted Industry use. Agricultural related, research, and educational facilities are encouraged. The intent of this condition is to allow the use of the TVC LDR's within the County's Planned Development framework for the Capron Lakes DRI. Specific exceptions or variances to the PTV or PRW regulations may be proposed to the County for consideration and approval as part of the zoning and regulating plan approval process.

- b) The applicant, subject to local government approval, can make modifications to Map H that will not trigger a Notice of Proposed Change such as the location, size, arrangement and design of neighborhoods and districts, squares, parks, greens, civic sites and uses, trails, local streets and driveways, aesthetic features, edge treatments, water bodies, wetland preservation or mitigation areas, and other design components that: 1) do not substantially change the character or impacts of the project; and 2) are consistent with the town planning and urban design principles outlined in the TVC Element of the St. Lucie County Comprehensive Plan.

TRANSPORTATION

Rights of Way

- 13. No building permits for Capron Lakes Development of Regional Impact shall be issued until right-of-way within the project along Indrio Road, Road "A," the east-west internal road (Russos Road Extension), and all intersections thereof, has been dedicated free and clear of all liens and encumbrances to St. Lucie County, or other entity as acceptable to the County, as necessary and consistent with the roadway network contained in the St. Lucie County Comprehensive Plan. A phased conveyance of these rights-of-way may be permitted.

External Roadways

- 14. No building permits shall be issued for development that generates more than the net external two-way p.m. peak hour trip threshold identified in Table 1 or after December 31 of the year of failure identified in Table 1, whichever comes last, until either:
 - a) contracts have been let for the roadway widening or construction projects identified in Table 1 under "Improvements;" or
 - b) a local government development agreement consistent with Sections 163.3220 through 163.3243, Florida Statutes, has been executed; or
 - c) the developer has paid or has entered into a binding agreement to pay its proportionate fair share pursuant to Section 163.3180(12), Florida Statutes, or Chapter 9J-2.045(7)(a)3, Florida Administrative Code; or
 - d) the required improvement has been included in the first three years of the St. Lucie County Five-Year Road Program, the Indian River County Five Year Road Program, or the Florida Department of Transportation Five-Year Work Program; or
 - e) an analysis has been conducted that demonstrates the indicated improvement(s) are not needed. The analysis shall also identify the new improvement(s) and new trip and date thresholds when such improvement(s) will be needed. The methodology for such analysis and the study results shall be reviewed and approved by St. Lucie County, Treasure Coast Regional

Planning Council, and the Florida Department of Transportation. Prior to the redefined threshold being reached, the improvement shall be let for construction or shall be programmed for construction within the first three years of the Capital Improvements Program for St. Lucie County, Indian River County, or the Florida Department of Transportation's adopted Work Program; or

- f) A Level of Service modification has been approved which accommodates project traffic throughout the buildout date.

**Table 1
Capron Lakes DRI
Roadway Improvements**

Road Segment	Trip ¹ Threshold	Estimated Year of Failure	Improvement
Indrio Road - Project Entrance to existing 4-lane section ²		2011	New 2L
Indrio Road - existing 4-lane section to Johnston Rd. ^{2,5}	273	2011	4L
Interstate 95 - Orange Ave. to Okeechobee Rd.	1,128	2011	6L
Indrio Road - Johnston Rd. to Emerson Ave. ²	442	2013	4L
Interstate 95 - Indrio Rd. to Orange Ave.	552	2013	6L
Johnston Road - Indrio Rd. to Angle Rd. ²		2015	New 2L
Koblegard Road/58th Avenue - Oslo Rd. to Indrio Rd. ²		2015	New 2L
Road "A" - Indrio Rd. to Project Entrance		2015	New 2L
Indrio Road - Project Entrance to existing 4-lane section ²		2016	4L
SR 713/Kings Hwy. - Winter Garden Pkwy. to Indrio Rd.	1,508	2016	4L
Russos Road fly-over - Project to Johnston Rd. ^{2,4}		2019	New 2L
58th Avenue - SR 60 to 12th St.	2,537	2020	6L
58th Avenue - Oslo Road to County Line Rd.		2021	4L
Realignment of 58th Avenue to Johnston Rd. ²		2021	New 4L
Johnston Road - 58th Ave. to Indrio Rd. ²		2021	4L
58th Avenue - 12th St. to 8th St.	2,537	2022	6L
SR 60 - 82nd Ave. to 66th Ave. ³	2,627		6L

¹ Net external two-way p.m. peak hour trips.

² Roadway design according to the Towns, Villages, and Countryside street sections.

³ Satisfaction of this improvement is subject to a proportionate fair share agreement between Indian River County and the developer. The agreement should be included as an exhibit to the biennial report.

⁴ The exact right-of-way location may be changed as determined by final engineering designs.

⁵ Four-lane portion of this section only.

Intersections

15. Commencing in January 2012, signal warrant analyses shall be performed at the following intersections unless contracts have been let for traffic signal installation or signal installation has already taken place:

- a) Indrio Road and I-95 southbound ramp
- b) Indrio Road and I-95 northbound ramp
- c) Indrio Road and Koblegard Road
- d) Indrio Road and Johnston Road
- e) Indrio Road and Emerson Avenue

Signal warrant analyses shall be continued on an annual basis until the signals are warranted. The analyses shall be performed during the peak season and presented to and approved by St. Lucie County and/or the Florida Department of Transportation, as appropriate.

Additional certificates of occupancy shall not be issued after one year of the analysis showing traffic signals are warranted until contracts are let for installation of the warranted signal(s) including the appropriate lane geometry, pavement markings, signing, lighting, and the like as approved.

16. Commencing in January 2021, signal warrant analyses shall be performed at the intersection of Koblegard Road and Russos Road, unless contracts have been let for traffic signal installation or signal installation has already taken place. Signal warrant analyses shall be continued on an annual basis until the signal is warranted. The analyses shall be performed during the peak season and presented to and approved by St. Lucie County and/or the Florida Department of Transportation, as appropriate.

Additional certificates of occupancy shall not be issued after one year of the analysis showing the traffic signal is warranted until contracts are let for installation of the signal including the appropriate lane geometry, pavement markings, signing, lighting, and the like as approved.

17. No building permits shall be issued for development that generates more than 612 net external two-way p.m. peak hour trips or after December 31, 2011, whichever comes last, until contracts have been let for the following intersection improvements. Surety shall be provided to the satisfaction of either St. Lucie County or the Florida Department of Transportation that sufficient funds will be available to complete the following intersection improvements, including signalization modifications as warranted by County and/or State criteria:

- a) Indrio Road and Emerson Avenue
Add westbound left-turn lane
- b) Indrio Road and Kings Highway
Add second eastbound thru lane
Add second westbound thru lane
Add second northbound left-turn lane
Add second northbound thru lane
Add southbound right-turn lane

The intersection improvements above shall be done at the same time as improvements to Indrio Road included in Table 1.

18. No building permits shall be issued after December 31, 2015 until contracts have been let for the following intersection improvements. Surety shall be provided to the satisfaction of either St. Lucie County or the Florida Department of Transportation that sufficient funds will be available to complete the following intersection improvements, including signalization modifications as warranted by County and/or State criteria:

- a) Indrio Road and Johnston Road
Add eastbound left-turn lane
Add second eastbound thru lane
Add westbound left-turn lane
Add second westbound thru lane
Add northbound left-turn lane
Add southbound left-turn lane
Add southbound right-turn lane

The intersection improvements above shall be done at the same time as improvements to Johnston Road included in Table 1.

19. No building permits shall be issued after December 31, 2015 until contracts have been let for the following intersection improvements. Surety shall be provided to the satisfaction of either St. Lucie County or the Florida Department of Transportation that sufficient funds will be available to complete the following intersection improvements, including signalization modifications as warranted by County and/or State criteria:

- a) Indrio Road and Koblegard Road
Add second eastbound thru lane
Add second westbound thru lane
Add westbound right-turn lane
Add southbound left-turn lane
Add southbound right-turn lane
- b) Russos Road and Koblegard Road
Add eastbound left-turn lane
Add eastbound right-turn lane
Add northbound left-turn lane
Add northbound thru lane
Add southbound thru lane
Add southbound right-turn lane

The intersection improvements above shall be done at the same time as improvements to Koblegard Road/58th Avenue included in Table 1.

20. No building permits shall be issued after December 31, 2018 until contracts have been let for the following intersection improvements. Surety shall be provided to the satisfaction of either St. Lucie County or the Florida Department of Transportation that sufficient funds will be available to complete the following intersection improvements, including signalization modifications as warranted by County and/or State criteria:

a) Indrio Road and Kings Highway

Add second southbound thru lane

b) Indrio Road and US-1

Add eastbound right-turn lane

Add second northbound left-turn lane

21. No building permits shall be issued for development that generates more than 2,537 net external two-way p.m. peak hour trips or after December 31, 2020, whichever comes last, until contracts have been let for the following intersection improvements. Surety shall be provided to the satisfaction of either Indian River County or the Florida Department of Transportation that sufficient funds will be available to complete the following intersection improvements, including signalization modifications as warranted by County and/or State criteria:

a) College Lane & 58th Avenue

Add second northbound left-turn lane

Add southbound right-turn lane

b) SR 60 & 58th Avenue

Add second eastbound left-turn lane

Add second westbound left-turn lane

Add third northbound left-turn lane

Add third northbound thru lane

Add northbound right-turn lane

Add third southbound thru lane

Add southbound right-turn lane

22. No building permits shall be issued after December 31, 2023 until contracts have been let for the following intersection improvements. Surety shall be provided to the satisfaction of either St. Lucie County or the Florida Department of Transportation that sufficient funds will be available to complete the following intersection improvements, including signalization modifications as warranted by County and/or State criteria:

a) Indrio Road and Johnston Road

Add second eastbound left-turn lane

b) Indrio Road and US-1

Construct free flow right turn lane with appropriate taper along US-1 to allow free-flow, or add second eastbound right-turn lane

Interstate 95

23. No building permits shall be issued after December 31, 2011 until an Interchange Operational Analysis Report (IOAR) for I-95 and Indrio Road has been prepared, submitted to and approved by the Florida Department of Transportation. The results of the IOAR shall not require the applicant to contribute more than the equivalent value of the proportionate share of interchange improvements identified herein. Conditions of approval shall be amended to be consistent with the results of the IOAR. Such amendments to the Development Order should be processed locally according to Section 380.06(19)(e)2.1, Florida Statutes.

24. No building permits shall be issued after December 31, 2012 until contracts have been let for the following intersection improvements. Surety shall be provided to the satisfaction of either St. Lucie County or the Florida Department of Transportation that sufficient funds will be available to complete the following intersection improvements, including signalization modifications as warranted by County and/or State criteria:

a) Indrio Road and Interstate 95 West Ramp

Add second westbound left-turn lane

b) Indrio Road and Interstate 95 East Ramp

Add second northbound right-turn lane

25. No building permits shall be issued after December 31, 2016 until contracts have been let for the following intersection improvements. Surety shall be provided to the satisfaction of either St. Lucie County or the Florida Department of Transportation that sufficient funds will be available to complete the following intersection improvements, including signalization modifications as warranted by County and/or State criteria:

a) Indrio Road and Interstate 95 West Ramp

Add second eastbound thru lane

Add second westbound thru lane

26. No building permits shall be issued after December 31, 2021 until contracts have been let for the following intersection improvements. Surety shall be provided to the satisfaction of either St. Lucie County or the Florida Department of Transportation that sufficient funds will be available to complete the following intersection improvements, including signalization modifications as warranted by County and/or State criteria:

- a) Indrio Road and Interstate 95 East Ramp
Add second northbound left-turn lane

Access Driveways

27. At a minimum, Capron Lakes Development of Regional Impact shall have five connections to Indrio Road and two connections to Road "A" consistent with Map H included in the Application for Development Approval.

28. At a minimum, the following lane geometry shall be provided at the following intersections at the time of construction of the roadways within the project by the year 2015:

- a) Indrio Road and Project Entrance No. 2
Eastbound thru lane
Westbound thru lane
Westbound right-turn lane
Southbound thru lane

- b) Indrio Road and Project Entrance No. 3
Eastbound left-turn lane
Eastbound thru lane
Westbound thru lane
Westbound right-turn lane
Southbound thru lane

- c) Indrio Road and Project Entrance No. 4
Eastbound left-turn lane
Eastbound thru lane
Westbound thru lane
Westbound right-turn lane
Southbound thru lane

- d) Indrio Road and Project Entrance No. 5
Eastbound left-turn lane
Eastbound thru lane
Westbound thru lane
Westbound right-turn lane
Southbound left-turn lane
Southbound right-turn lane

29. At a minimum, the following lane improvements and signalization shall be provided at the following intersections prior to the year 2020:

- a) Indrio Road and Project Entrance No. 1
Eastbound left-turn lane

Eastbound thru lane
Westbound thru lane
Westbound right-turn lane
Southbound left-turn lane
Southbound right-turn lane
Signalize

- b) Indrio Road and Project Entrance No. 2
Convert southbound thru lane into right-turn lane

- c) Indrio Road and Project Entrance No. 3
Two eastbound thru lanes
Two westbound thru lanes
Convert southbound thru lane into left-turn lane
Southbound right-turn lane
Signalize

- d) Indrio Road and Project Entrance No. 4
Two eastbound thru lanes
Two westbound thru lanes
Convert southbound thru lane into right-turn lane

- e) Indrio Road and Project Entrance No. 5
Two eastbound thru lanes
Two westbound thru lanes
Signalize

- f) Indrio Road and Road "A"
Eastbound left-turn lane
Two eastbound thru lanes
Two westbound thru lanes
Westbound right-turn lane
Southbound left-turn lane
Southbound thru lane
Signalize

- g) Road "A" and Southern Entrance
Northbound right-turn lane
Southbound left-turn
Northbound thru lane
Southbound thru lane

- h) Road "A" and Northern Entrance
Eastbound right-turn lane
Northbound left-turn lane
Westbound left-turn lane

Other Issues

30. A trip generation analysis shall be prepared by the applicant and approved by St. Lucie County prior to each site plan approval. The trip generation analysis shall present calculations for the p.m. peak hour and shall be performed using trip generation rates included in the 7th edition of the Institute of Transportation Engineers Trip Generation Report as well as land uses included in the Application for Development Approval. The trip generation analysis shall include internal capture and passer-by, if appropriate, to determine net trips generated by the development. The trip generation shall be cumulative and include all previous site plan approvals. Development Order conditions shall be evaluated using the trip generation analysis to determine triggering of any transportation conditions.
31. During the site plan approval process, a traffic study shall be submitted to St. Lucie County to determine, as a minimum:
 - a) Lane geometry for internal roadways and their intersections
 - b) Timing of signalization improvements, if appropriate.
32. The Biennial Report required by subsection 380.06(18), Florida Statutes, shall be submitted every two years on the anniversary of the adoption of the Development Order and continued every other year thereafter. The Biennial Status Report shall indicate the status (schedule) of guaranteed transportation network improvements. This Biennial Status Report shall be submitted to St. Lucie County, Florida Department of Transportation, Treasure Coast Regional Planning Council and the Department of Community Affairs as part of the Development of Regional Impact Biennial Report.

The Biennial Status Report shall list all roadway improvements needed to be constructed, the guaranteed date of completion for the construction of each needed improvement, the party responsible for the guaranteed construction of each improvement, and the form of the binding commitment that guarantees construction of each improvement. Additionally, this report shall include a trip generation study determining new external traffic during the p.m. peak hour due to the existing development. The trip generation shall be used to evaluate triggering of any transportation conditions.

No further building permits for Capron Lakes Development of Regional Impact shall be issued at the time the Biennial Status Report reveals that any needed transportation improvements included in the Development Order is no longer scheduled or guaranteed, or has been delayed in schedule such that it is not guaranteed to be in place and operational, or under actual construction for the entire modification consistent with the timing criteria established in this Development Order.

33. Extensions to the buildout date for Capron Lakes Development of Regional Impact shall not extend time frames for complying with any of the transportation conditions unless:
- a) A traffic study has been prepared to identify mitigation measures and/or modifications to the roadway network to ensure both roadways and intersections significantly impacted by project traffic will perform at the adopted level of service at the proposed buildout extension; and
 - b) The Development Order has been amended to include these mitigation measures and/or modifications to the roadway network.

The methodology for this traffic study shall be agreed upon by St. Lucie County, Florida Department of Transportation and the Treasure Coast Regional Planning Council.

ENVIRONMENTAL AND NATURAL RESOURCES

Upland Preservation

34. The developer shall preserve, enhance, restore or create 41.7 acres of upland natural communities, including pine flatwoods (34.5 acres), palmetto prairie (3.0 acres), pine/mesic oak (2.2 acres), and cabbage palm (2.0 acres) on the project site as described in the "Revised Natural Systems Impact Summary Table" included in the Application for Development Approval for the Capron Lakes Development of Regional Impact supplemental information dated January 8, 2007. All upland natural community preserve areas shall be clearly identified and labeled on Map H, Master Development Plan. The intent of this condition is to provide protection of upland natural communities, to provide habitat for wildlife, and to assist in improving water quality by buffering wetlands and water bodies. The continued viability and maintenance of the preserve areas shall be assured through a Conservation Easement with St. Lucie County or the South Florida Water Management District, or other entity acceptable to St. Lucie County. The easement shall be properly executed and recorded prior to issuance of building permits for any portion of the project.
35. The developer shall install temporary fencing around the preserve areas prior to commencing site clearing adjacent to the preserve areas. The fencing shall clearly identify and designate the boundaries of the preserve areas and minimize the potential disturbance of the preserve areas during land clearing and construction. The temporary fencing shall be established at least 10 feet outside of the boundaries of the preserve areas and shall remain in place until the completion of the finish grading on the area adjacent to the fencing.
36. The developer shall prepare a Preserve Area Management Plan for the preserve areas, upland buffers, and wetlands identified on the Capron Lakes Development of Regional Impact Map H, Master Development Plan. The plan shall: 1) identify management procedures and provide a schedule for their implementation; 2) include

procedures for maintaining suitable habitat for state and federally listed species; 3) include methods to remove nuisance and exotic vegetation and any other species that are determined to threaten the natural communities; and 4) include plans to permanently mark the preserve areas and allow only limited access for passive recreation, education, or scientific study. The management plan shall be approved by St. Lucie County prior to the initiation of site clearing activities. The U.S. Fish and Wildlife Service, Florida Fish and Wildlife Conservation Commission, and South Florida Water Management District shall be provided copies for review and comment prior to the approval by St. Lucie County.

Wetlands

37. The developer shall preserve and enhance the 71.8 acres of high quality wetlands identified on the "Wetlands, Uplands, & Open Space Areas" map included in the Application for Development Approval for the Capron Lakes Development of Regional Impact supplemental information dated August 17, 2007. All wetland preserve areas shall be clearly identified and labeled on Map H, Master Development Plan. The preserved and enhanced wetlands shall be protected within a Conservation Easement established with St. Lucie County, South Florida Water Management District, or other entity acceptable to St. Lucie County. The easement shall be properly executed and recorded prior to issuance of building permits for any future portion of the project. Details of the wetland maintenance and enhancement procedures and management schedule shall be provided in the Preserve Area Management Plan.
38. The developer shall protect the remaining 62.75 acres of lower quality wetlands on the project site that have been identified in the Application for Development Approval for the Capron Lakes Development of Regional Impact, until the South Florida Water Management District, U.S. Army Corps of Engineers, and St. Lucie County agree to issue permits for their removal. If permits are not issued for the removal of these wetlands, then these wetlands shall be preserved and enhanced in accordance with the preceding condition.
39. The developer shall coordinate with the South Florida Water Management District, U.S. Army Corps of Engineers, and St. Lucie County to determine the exact acreage and type wetland mitigation required to off set wetland impacts on the project site. Wetland mitigation requirements shall be determined following the Unified Mitigation Assessment Method provided in Chapter 62-345, Florida Administrative Code. Methods for the creation and management of wetland mitigation areas on the project site shall be described in the Preserve Area Management Plan to be approved by St. Lucie County.
40. All wetlands mitigation shall be completed prior to or simultaneous with the elimination of existing wetlands on the site. The detailed plans for mitigation shall be approved by the South Florida Water Management District, U.S. Army Corps of Engineers, and St. Lucie County prior to the initiation of the mitigation plan and prior

to the release of any site plan for all or a portion of the project. Reasonable assurance of financial ability to carry out the commitments in the approved mitigation plan shall be provided in a method agreed to and approved by St. Lucie County. Assurances and commitments shall be approved by St. Lucie County staff prior to release of any site plan for all or a portion of the project.

41. The developer shall preserve or create a buffer zone of native upland edge vegetation around all preserved wetlands on site wherever physically possible. The upland buffers shall be restored to a natural condition if invaded by exotic vegetation or impacted by agricultural activities. The buffer zones shall include canopy, understory, and ground cover of native upland species. The upland buffers shall be designed to be consistent with the buffer requirements of St. Lucie County. During construction, the upland buffers adjacent to preserved wetlands shall be clearly marked prior to the commencement of construction activities to ensure those areas are protected. Details of the upland buffer maintenance and enhancement procedures and management schedule shall be provided in the Preserve Area Management Plan.

Listed Species

42. In order to protect the gopher tortoise population on the project site, the developer shall develop a detailed management plan that provides for the protection and relocation of gopher tortoises into the preserve areas identified on the Capron Lakes Development of Regional Impact Map H, Master Development Plan. The developer shall comply with the Florida Fish and Wildlife Conservation Commission gopher tortoise protection guidelines. Details of the gopher tortoise protection measures shall be provided in the Preserve Area Management Plan.
43. In order to protect Florida Sandhill Cranes on the project site, the developer shall maintain foraging habitat around wetlands preserved on the project site. The developer shall comply with all Florida Fish and Wildlife Conservation Commission recommendations regarding the maintenance and management of foraging habitat for this State listed threatened species. Details of the Florida Sandhill Crane protection measures and methods provide foraging habitat shall be provided in the Preserve Area Management Plan.
44. The developer shall maintain Wood Stork foraging habitat on site by ensuring no additional net loss of wetland function and value. All surface waters created on the site, where appropriate, shall include features specifically designed to provide preferred foraging habitat for this species. The features should include areas designed to concentrate prey during dry down periods. The developer shall comply with all recommendations regarding the design and creation of foraging habitat for this federally endangered species contained in the U.S. Fish and Wildlife Service Habitat Management Guidelines for the Wood Stork in the Southeastern Region, provided in Appendix D of the Treasure Coast Regional Planning Council Assessment Report for the Capron Lakes Development of Regional Impact. Details of the Wood Stork

protection measures and methods to create and maintain foraging habitat shall be provided in the Preserve Area Management Plan.

45. In the event that it is determined that any additional representative of a state or federally listed plant or animal species is resident on, or otherwise significantly dependent upon the project site, the developer shall cease all activities which might negatively affect that individual population and immediately notify St. Lucie County. The developer shall provide proper protection to the satisfaction of the St. Lucie County, U.S. Fish and Wildlife Service, and Florida Fish and Wildlife Conservation Commission.

Exotic Species

46. Prior to obtaining building permits for any future structure located on a particular development parcel, the developer of such parcel shall remove from that parcel all Melaleuca, Brazilian pepper, Old World climbing fern, Australian pine, downy rose-myrtle, and any other nuisance and invasive exotic vegetation listed under Category I of the Florida Exotic Pest Plant Council's "2005 List of Invasive Species," provided in Appendix E of the Treasure Coast Regional Planning Council Assessment Report for the Capron Lakes Development of Regional Impact. Removal shall be in a manner that minimizes seed dispersal by any of these species. There shall be no planting of these species on site. Methods and a schedule for the removal of exotic and nuisance species should be approved by St. Lucie County. The entire site, including wetlands and conservation areas, shall be maintained free of these species in perpetuity, in accordance with all applicable permits.

Stormwater Management

47. The developer of each development parcel shall design and construct a stormwater management system within such development parcel to retain the maximum volumes of water consistent with South Florida Water Management District for flood control. At a minimum, all discharged water from the surface water management system shall meet the water quality standards of Florida Administrative Code Rule 17-3.
48. All elements of the stormwater management system shall be designed to meet state water quality standards. The developer shall establish a permanent water quality monitoring system to demonstrate that the C-1, C-2, C-3, C-4, C-5, and C-25 canal systems, and adjacent properties will not be impacted by water from the project site in violation of state water quality standards. The proposed plans for the water quality monitoring system shall be approved by St. Lucie County in consultation with South Florida Water Management District prior to the construction of the surface water management system. Results of the water quality monitoring shall be included in the Development of Regional Impact biennial reports.
49. The developer shall work with St. Lucie County to minimize the amount of impervious surface constructed for automobile parking on the project site. The

developer and the County should consider the use of pervious parking lot materials where feasible.

50. The surface water management system shall utilize Best Management Practices to minimize the impact of chemical runoff associated with lawn and landscape maintenance. The developer shall coordinate with the South Florida Water Management District to formulate and implement Best Management Practices to reduce the use of pesticides and fertilizers throughout the project.
51. Maintenance and management efforts required to assure the continued viability of all components of the surface water management system shall be the financial and physical responsibility of the developer, a community development district, or other entity acceptable to St. Lucie County. Any entities subsequently replacing the developer shall be required to assume the responsibilities outlined above.

Water Supply

52. No residential subdivision plat shall be recorded nor final site plan approved for any development parcel until the developer has provided written confirmation from the South Florida Water Management District and/or the St. Lucie County Utilities Department or other approved service provider that: 1) adequate capacity of treated potable water is available to serve the development parcel; 2) adequate potable water treatment and delivery facilities are available to meet the project's needs; 3) adequate water capacity is available to serve the fire protection flow requirements of the project as determined by the St. Lucie County Fire District; 4) the necessary capital facilities are available or have been planned to meet the needs of the project; and 5) the developer has provided the necessary water system extensions to serve the project.
53. The preferred source of irrigation water shall be treated wastewater effluent at such time as this source is made available to the site. The project shall be equipped with an irrigation water distribution system to provide reclaimed water, or the use of water from the project lake, to all domestic residential lots when it becomes available. No individual home wells shall be constructed on the project site. Prior to availability of a sufficient supply of reclaimed water, other water supply sources may be used for landscape irrigation subject to meeting South Florida Water Management District permitting criteria in effect at the time of permit application.
54. In order to reduce irrigation water demand, xeriscape landscaping shall be implemented throughout the project. At a minimum, the xeriscape landscaping shall meet the requirements of St. Lucie County.
55. The project shall utilize ultra-low volume water use plumbing fixtures, self-closing and/or metered water faucets, xeriscape landscape techniques, and other water conserving devices and/or methods specified in the Water Conservation Act, Section 553.14, Florida Statutes. These devices and methods shall meet the criteria outlined

in the water conservation plan of the public water supply permit issued to St. Lucie County Utilities or other approved service provider by the South Florida Water Management District.

Wastewater Management

56. No residential subdivision plat shall be recorded nor final site plan approved for any development parcel until the developer has provided written confirmation from the South Florida Water Management District and the St. Lucie County Utilities Department or other approved service provider that: 1) adequate capacity for wastewater treatment is available to serve such development parcel; 2) the developer has provided the necessary reuse water infrastructure to serve the project; and 3) the developer or others have provided the necessary wastewater system extensions, or provided surety in a form acceptable to St. Lucie County, to serve the development parcel.

Solid Waste and Hazardous Materials

57. No residential subdivision plat shall be recorded nor final site plan approved for any development parcel until the developer has provided written confirmation from St. Lucie County that adequate solid waste disposal services and facilities will be available when needed for that development parcel. Development shall only occur concurrently with the provision of adequate solid waste disposal services and facilities.

Air Quality

58. No later than 180 days prior to the issuance of the first certificate of occupancy or as soon as parking facilities have been finalized, the developer shall contact the Florida Department of Environmental Protection if any surface parking areas produce 1500 vehicle trips per hour or any parking garages produce 750 vehicle trips per hour. At that time, parameters for a Carbon Monoxide Air Quality Analysis based on the latest Florida Department of Environmental Protection guidelines shall be developed.
59. If required, no later than 90 days prior to the issuance of the first certificate of occupancy the developer shall submit said Carbon Monoxide Air Quality Analysis to the Florida Department of Environmental Protection for their review and approval. The analysis shall demonstrate that the National Ambient Air Quality Standards for Carbon Monoxide will not be violated as a result of this project and, if necessary, shall include mitigation measures for which the developer shall be responsible.
60. During land clearing and site preparation, soil treatment techniques appropriate for controlling unconfined particulate emissions shall be undertaken. If construction on a parcel will not begin within thirty days of clearing, the soil shall be stabilized until construction of the parcel begins. Cleared areas may be sodded, seeded, landscaped, mulched, or stabilized by other means as may be permitted by St. Lucie County.

Minimal clearing for access roads, survey lines, fence installation, or construction trailers and equipment staging areas is allowed without the need for soil stabilization. The purpose of this condition is to minimize dust production and soil erosion during land clearing and to prevent soil particulates from becoming airborne between the time of clearing and construction. The development shall comply with all National Pollutant Discharge Elimination System requirements.

HUMAN RESOURCE ISSUES

Housing

61. The developer shall provide workforce housing units on the Capron Lakes Development of Regional Impact in accordance with the requirements of Policy 3.1.4.7 of the St. Lucie County Towns, Villages and Countryside Comprehensive Plan Element, as adopted by Ordinance 06-19, and using criteria set forth in Section 3.01.03.EE.2.q. of the St. Lucie County Towns, Villages and Countryside Land Development Regulations, adopted May 30, 2006.

Schools

62. No residential subdivision plat shall be approved nor final residential site plan approved for any development parcel until the developer has secured a development agreement with the St. Lucie County School District that assures the following activities:

- a) The developer shall provide a K-8 school site for proper siting of schools. The school site shall be at least a net of 25-acres, excluding upland and wetland preservation areas. Stormwater storage and treatment shall be provided in the master stormwater system. The acreage may be reduced according to School Board policy based upon the offsite treatment of stormwater.
- b) The school site shall be provided prior to the issuance of final site plan approval of the 1,000th residential dwelling unit.
- c) The developer shall continue to evaluate the collocation of the school with other public facilities where practical.
- d) The developer shall prepay educational impact fees to provide the necessary funding of the school site as follows:

Phase	Number of Dwelling units	Pre-payment of educational impact fees (# Single family units)
Phase 1	800	240
Phase 2	1600	240
Phase 3	2400	240

- e) The development agreement with the St. Lucie County School District should provide for a formula for educational impact fee credits, and donation of land, as per the above pre-payment schedule, that would normally be assessed on dwelling units at time of issuance of building permits within the proposed development.

Police and Fire Protection

- 63. No residential subdivision plat shall be recorded nor final site plan approved for any development parcel until the developer has received written confirmation from the St. Lucie County Sheriff's Office indicating that adequate facilities and police protection are in place to serve the development parcel. The methodology used to determine the demand created as a result of the project and the standards used to determine adequate police protection shall be approved by the St. Lucie County Sheriff's Office. To the extent permitted under the St. Lucie County Law Enforcement Impact Fee Regulations, credits against any required impact fees may be considered by the County for any land or other capital improvement dedications to the St. Lucie County Sheriff's Office or Board of County Commissioners related to law enforcement services and facilities.
- 64. No residential subdivision plat shall be recorded nor final site plan approved for any development parcel until the developer has entered into a Development Agreement with the St. Lucie County Fire District for improvements, equipment and funding necessary to provide Fire and Emergency Medical Services to the project. The methodology used to determine the demand created as a result of the project and the standards used to determine adequate fire rescue services shall be approved by the St. Lucie County Fire District. At a minimum, the Development Agreement will ensure the donation onsite of a 2.0+ acre fire station site to the St. Lucie County Fire District by the developer. To the extent permitted under the St. Lucie County Fire/EMS Impact Fee Regulations, credits against any required impact fees may be considered by the County for any land or other capital improvement dedications to the St. Lucie County Fire District.

Hurricane Preparedness

- 65. The developer shall mitigate emergency public shelter by constructing community hurricane shelter spaces providing for a dual use of a facility constructed or retrofitted to State of Florida hurricane code within the development, or providing for a proportionate share of the cost for hardening the on-site school as a shelter, or a combination thereof. The developer shall provide an equivalent space for 310 shelter spaces, or 6,160 square feet by the time of build-out. In order to ensure that shelter space is available at all times to meet demand, a minimum of 1,980 square feet of public hurricane evacuation shelter space shall be provided within one year of commencing Phase 1; a minimum of an additional 3,180 square feet of public hurricane evacuation shelter space shall be provided within one year of commencing Phase 2; and a minimum of an additional 1,000 square feet of public hurricane

evacuation shelter space shall be provided within one year of commencing Phase 3. The hurricane shelter mitigation techniques provided shall be approved by St. Lucie County and be consistent with Chapter 9J-2.0256(5) (a), Florida Administrative Code and with Red Cross Standards 4496. If the Development Order is changed to allow an alternate number of residential units, then the numbers in this condition would change proportionately.

66. The developer shall provide 1,980 square feet of special needs public hurricane evacuation shelter space for the residents of the Capron Lakes Development of Regional Impact. In order to ensure that shelter space is available at all times to meet demand, a minimum of 660 square feet of special needs public hurricane evacuation shelter space shall be provided within one year of commencing Phase 1; a minimum of an additional 1,020 square feet of special needs public hurricane evacuation shelter space shall be provided within one year of commencing Phase 2; and a minimum of an additional 300 square feet of special needs public hurricane evacuation shelter space shall be provided within one year of commencing Phase 3. The amount of special needs public hurricane evacuation shelter space shall be recalculated to the satisfaction of St. Lucie County Division of Emergency Management if age restrictions are established in any part of the Capron Lakes Development of Regional Impact. Special needs shelter space requirements may be accomplished through the developer paying a proportionate fair share payment to mitigate its projected demand on special needs shelters. The special needs hurricane shelter mitigation techniques provided shall be approved by St. Lucie County and be consistent with Chapter 9J-2.0256(5)(a), Florida Administrative Code. If the Development Order is changed to allow an alternate number of residential units, then the numbers in this condition would change proportionately.

Parks and Recreation

67. No residential subdivision plat shall be recorded nor final site plan approved for any development parcel until the developer has provided a plan approved by St. Lucie County for the provision of neighborhood and community recreational sites and facilities to meet the demand created by residential development in the project. Neighborhood parks should serve as prominent visual and social focal points of each neighborhood, and provide for informal, non-programmed recreational activities. At a minimum, 4 acres of neighborhood parks and an aggregate total of 40 acres of active or passive community parks, in some combination approved by St. Lucie County, should be established to serve area residents of the Capron Lakes Development of Regional Impact. The community park should include recreational facilities as described in the Recreation and Open Space Element of the St. Lucie County Comprehensive Plan. Neighborhood and community recreational facilities shall be available to serve projected demand in accordance with the plan approved by the St. Lucie County Parks and Recreation Department.

Historic and Archaeological Sites

68. In the event of discovery of any archaeological artifacts during construction of the project, construction shall stop in the area of discovery and immediate notification shall be provided to St. Lucie County and the Division of Historical Resources, Florida Department of State. Proper protection shall be provided to the satisfaction of the St. Lucie County and the Division of Historical Resources.

APPENDIX A

Maps

This appendix contains the following maps related to the Capron Lakes DRI:

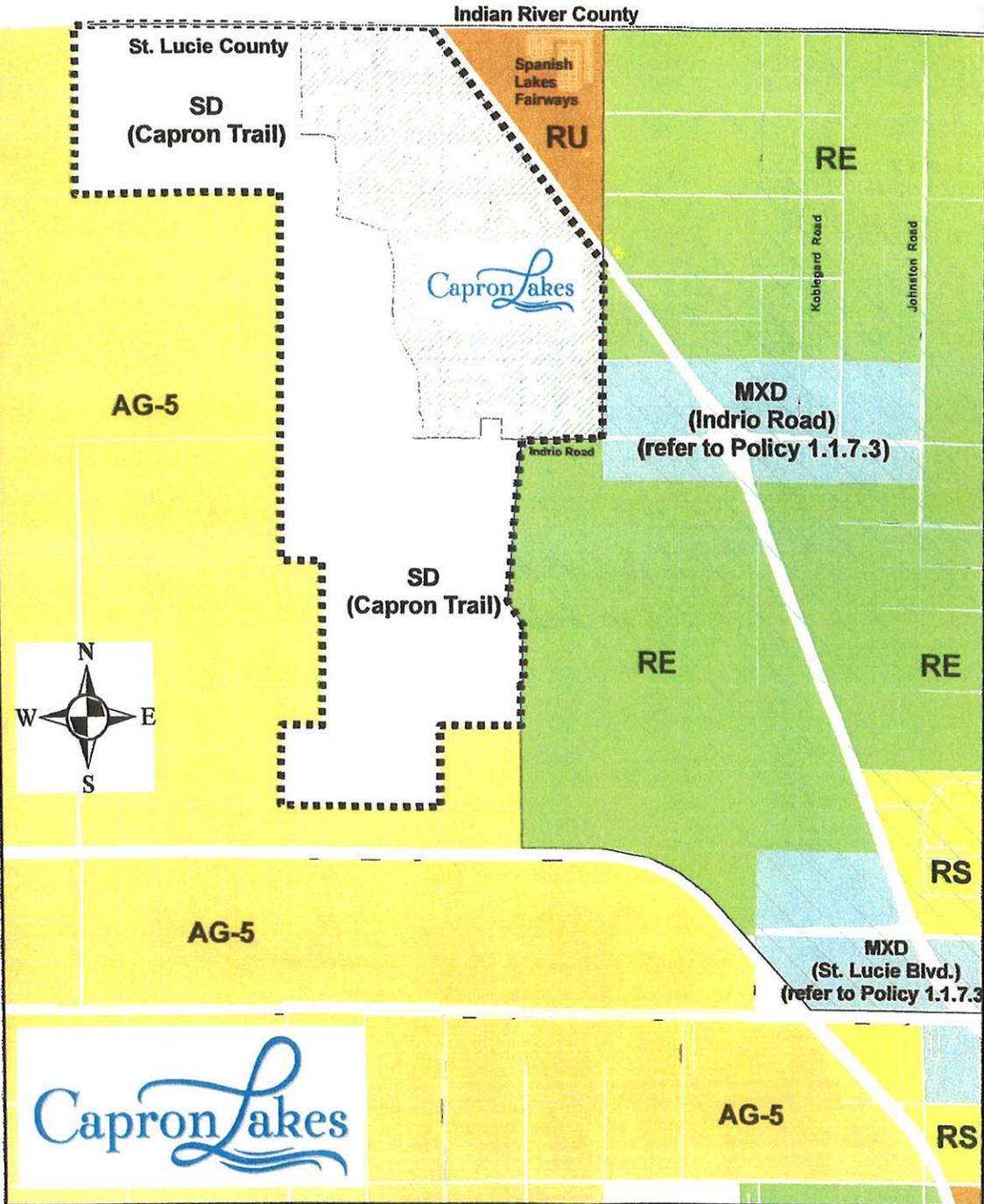
Land Use	A-2
Soils.....	A-3
Land Cover (Map Fa).....	A-4
Land Cover (Map Fb)	A-5
Land Cover (Map Fc).....	A-6
Land Cover (Map Fd)	A-7
Land Cover (Map Fe).....	A-8
Wildlife Sightings	A-9
Natural Systems Enhancement	A-10
Wetlands, Uplands, and Open Space	A-11
Drainage (Map I).....	A-12
Drainage (Map I-1)	A-13
Phasing Plan.....	A-14
Public Facilities.....	A-15
Transportation Network.....	A-16

-  Capron Lakes
-  TVC Land Use Area

Legend SLC Future Land Use

SLC Future Land Use

-  MXD - Mixed Use
-  RE - Residential Estate 1 du/ac
-  RS - Residential Suburban 2 du/ac
-  RU - Residential Urban 5 du/ac
-  SD - Special District/ Capron Trail 1 du/ac
-  AG-5 - Agriculture .2 du/ac



 Cutspepper & Terpenning, INC. <small>CONSULTING ENGINEERS PLANNERS AND ARCHITECTS 1000 W. UNIVERSITY BLVD. SUITE 200 GAITHERSBURG, MD 20878 TEL: 301-941-9900 WWW.CUTSPEPPERANDTERPENNING.COM</small>	Revisions	By	Date	Capron Lakes DRI AREA LAND USE	Date
					Job No
					Sheet: MAP D



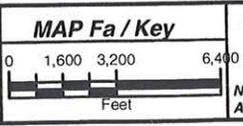
Capron Lakes - DRI / ADA Map Series F



Legend

- Surface Water Lake (522) (~195.4 acres)
- Pine Mesic Oak (414) (~2.2 acres)
- Ditches and Canals (510) (~14.3 acres)
- Shrub and Brushland (320) (~23.5 acres)
- Palmetto (321) (~4.6 acres)
- Cabbage Palm (428) (~6.4 acres)
- Mixed Wetland Forest (617) (~35.8 acres)
- Cypress (621) (~14.5 acres)
- Brazilian Pepper (422) (~28.8 acres)
- Wet Prairie (643) (~65.8 acres)
- Freshwater Marsh (641) (~3.1 acres)
- Slash Pine Flatwoods (411) (~35.3 acres)
- Improved Pasture (211) (~1,508.3 acres)
- Indrio Site Limits F (~1938 acres)

1 November 2003
 Revision # / Date
 #9 / 5 April 2006



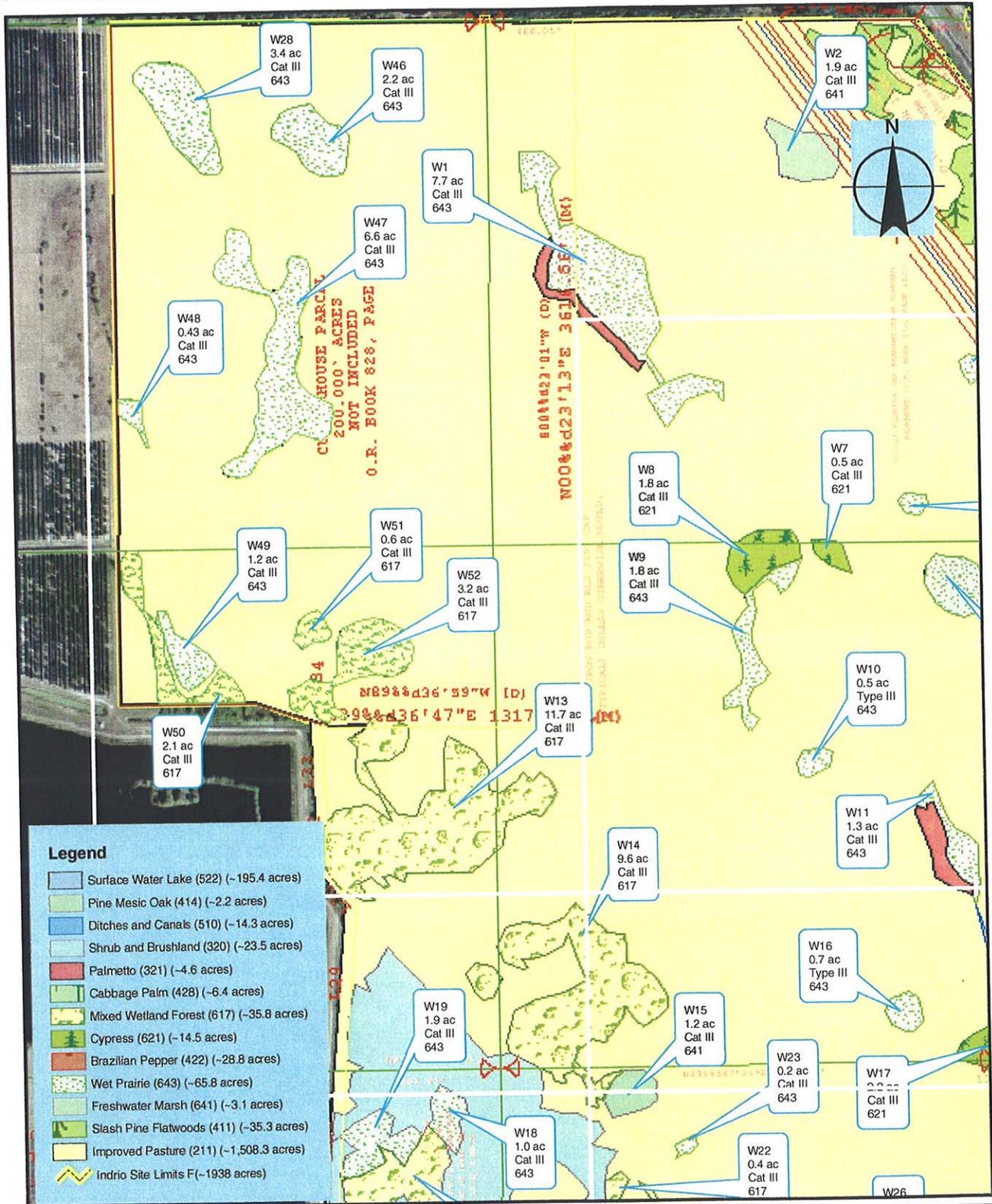
J.J. Goldasich and Associates, Incorporated

Natural System
 Analysis and Permitting

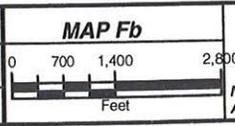
(561) 883-9555
 jjg@jgoldasich.com

Indrio Road Site FLUCCS Map F
 1938 Acre Rock Pit & Pasture
 St. Lucie County, Florida

Capron Lakes - DRI / ADA Map Series F



1 November 2003
 Revision # / Date
 #10 / 22 July 2006



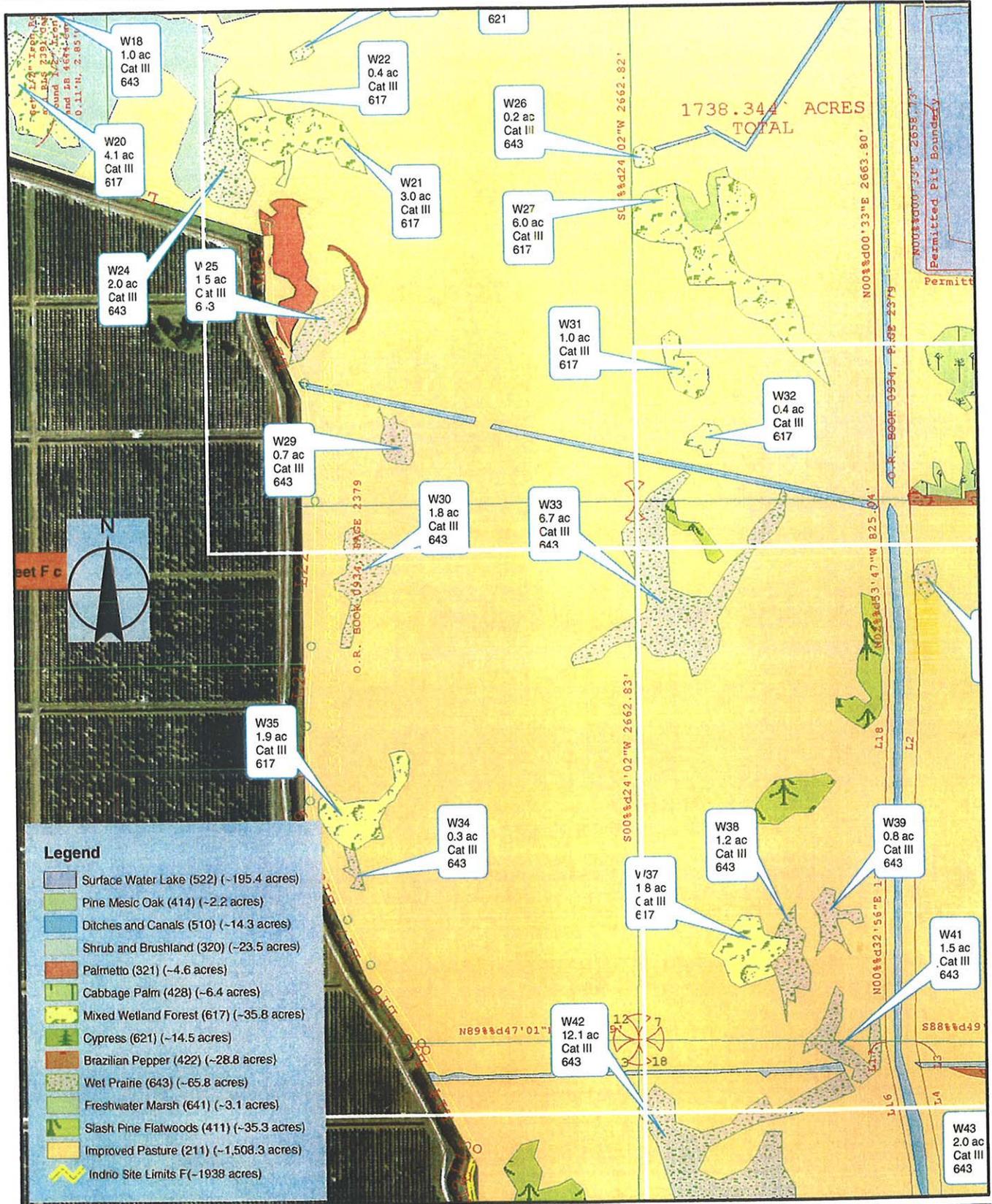
J.J. Goldasich and Associates, Incorporated

Natural System Analysis and Permitting

(561) 883-9555
 j.j.g@jgoldasich.com

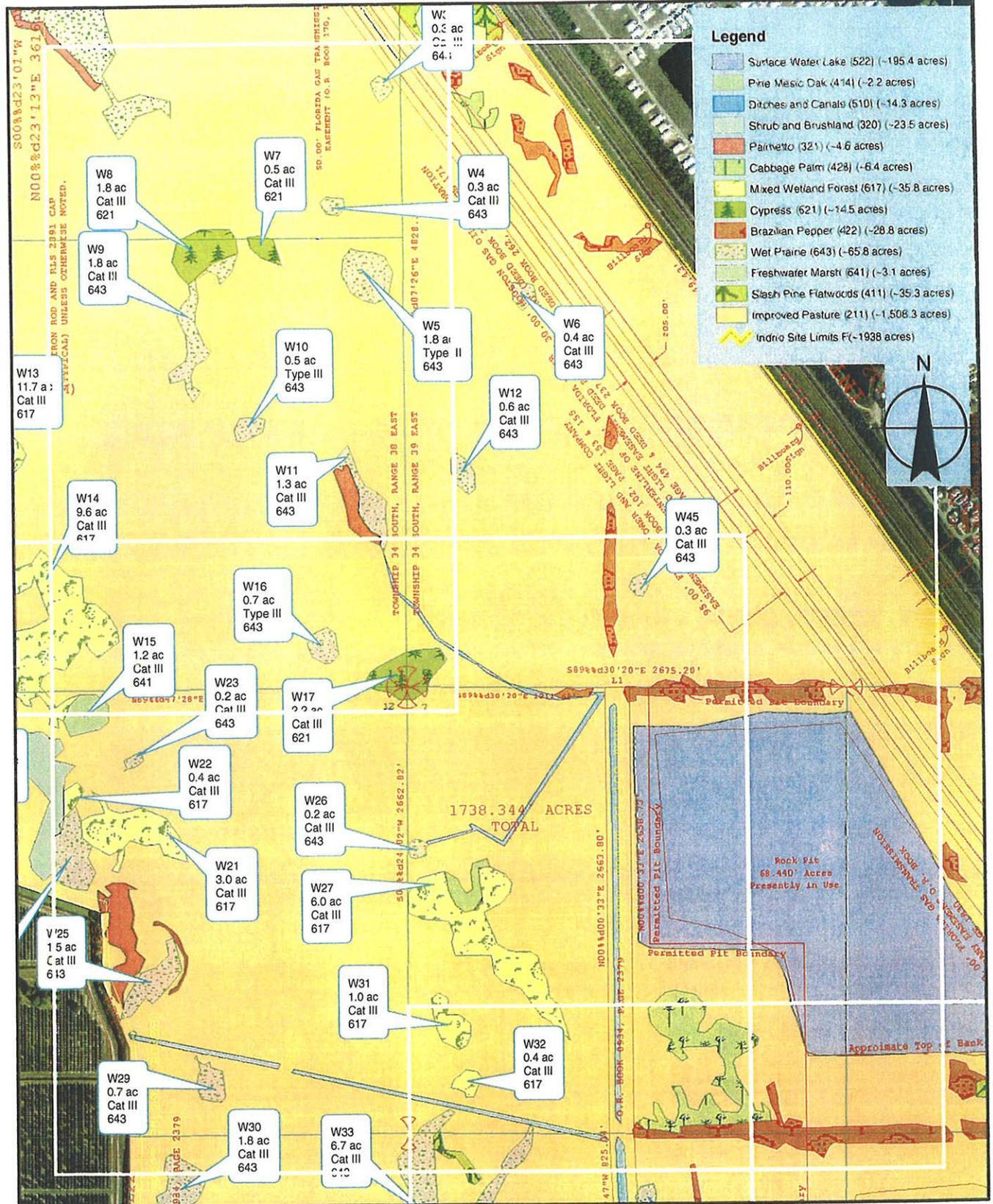
Indrio Road Site FLUCCS Map F
 1938 Acre Rock Pit & Pasture
 St. Lucie County, Florida

Capron Lakes - DRI / ADA Map Series F

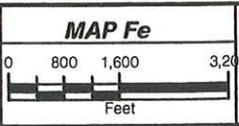


1 November 2003	MAP Fc	J.J Goldsich and Associates, Incorporated	 <p>(561) 883-9555 ijg@jigoldsich.com</p>	Indrio Road Site FLUCCS Map F 1938 Acre Rock Pit & Pasture St. Lucie County, Florida
Revision # / Date	0 650 1,300 2,600 Feet	Natural System Analysis and Permitting		
#10 / 22 July 2006				

Capron Lakes - DRI / ADA Map Series F



1 November 2003
 Revision # / Date
 #10 / 22 July 2006



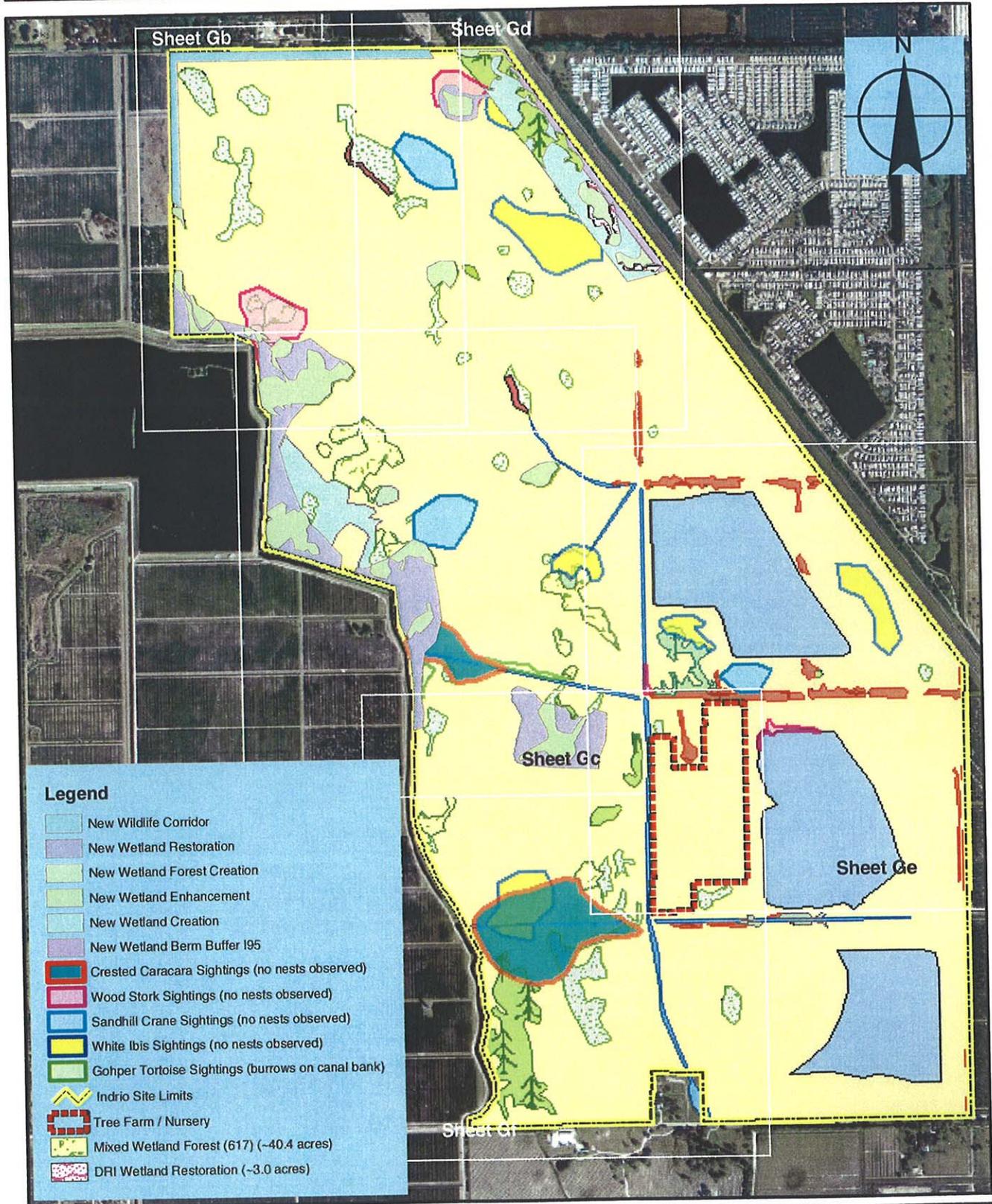
J.J. Goldasich and Associates, Incorporated

Natural System
 Analysis and Permitting

(561) 883-9555
 jg@jgoldasich.com

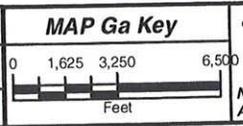
Indrio Road Site FLUCCS Map F
 1938 Acre Rock Pit & Pasture
 St. Lucie County, Florida

Capron Trails - DRI / ADA Wildlife Sightings Map Series G



- Legend**
- New Wildlife Corridor
 - New Wetland Restoration
 - New Wetland Forest Creation
 - New Wetland Enhancement
 - New Wetland Creation
 - New Wetland Berm Buffer 195
 - Crested Caracara Sightings (no nests observed)
 - Wood Stork Sightings (no nests observed)
 - Sandhill Crane Sightings (no nests observed)
 - White Ibis Sightings (no nests observed)
 - Gopher Tortoise Sightings (burrows on canal bank)
 - Indrio Site Limits
 - Tree Farm / Nursery
 - Mixed Wetland Forest (617) (~40.4 acres)
 - DRI Wetland Restoration (~3.0 acres)

1 November 2003
 Revision # / Date
 #13 / 22 July 2006

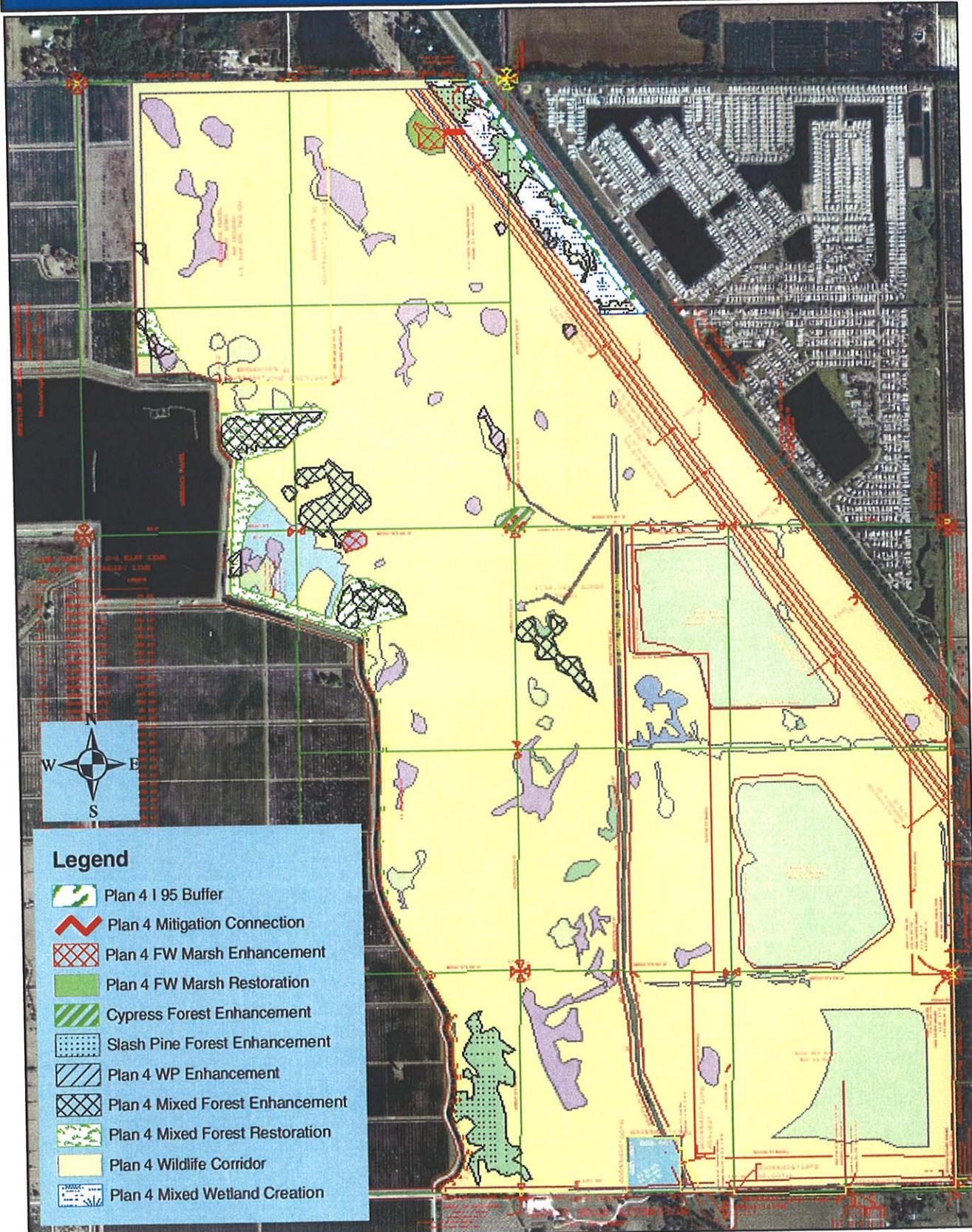


J.J. Goldasich and Associates, Incorporated

 Natural System
 Analysis and Permitting
 (561) 883-9555
 jjg@jgoldasich.com

Capron Trails Wildlife Sightings Map Series G
 Natural System Enhancement & Preservation
 1938 Acre Rock Pit & Pasture
 St. Lucie County, Florida

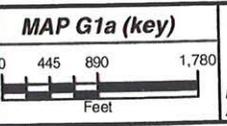
Capron Lakes - DRI / ADA Natural System Enhancement - Map Series G1



Legend

-  Plan 4 I 95 Buffer
-  Plan 4 Mitigation Connection
-  Plan 4 FW Marsh Enhancement
-  Plan 4 FW Marsh Restoration
-  Cypress Forest Enhancement
-  Slash Pine Forest Enhancement
-  Plan 4 WP Enhancement
-  Plan 4 Mixed Forest Enhancement
-  Plan 4 Mixed Forest Restoration
-  Plan 4 Wildlife Corridor
-  Plan 4 Mixed Wetland Creation

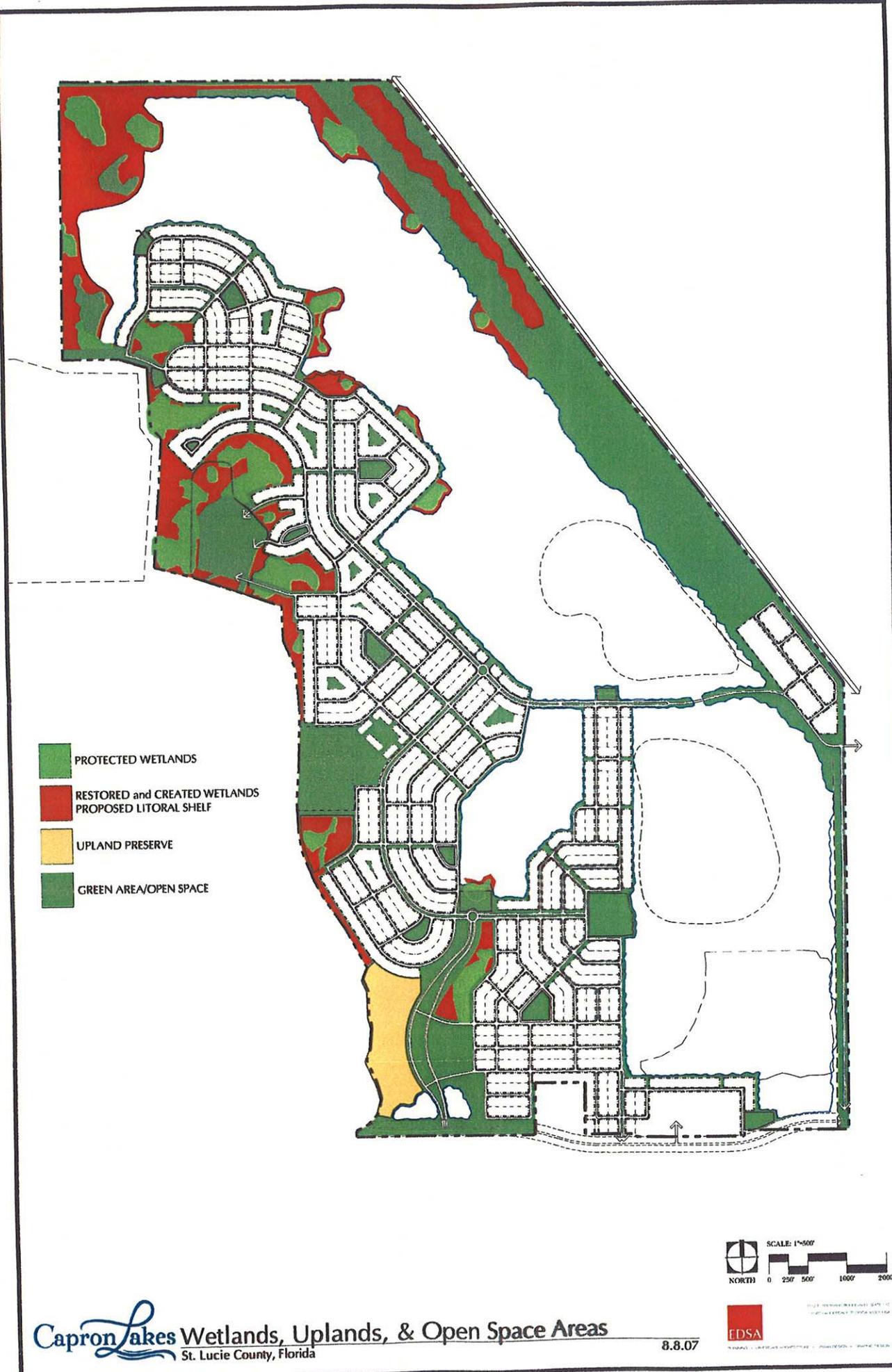
1 November 2003
 Revision # / Date
 #12 / 5 June 2006



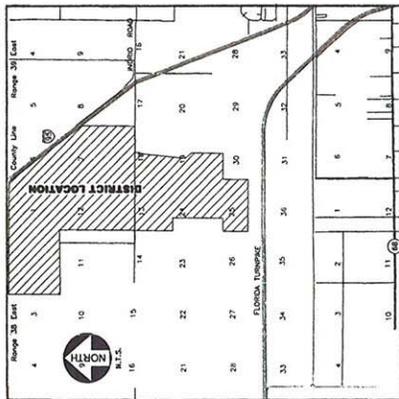
J.J. Goldasich and Associates, Incorporated

 Natural System
 Analysis and Permitting
 (561) 883-9555
 ijg@jjgoldasich.com

Capron Lakes FLUCCS Map Series G1
 Natural System Enhancement & Preservation
 1938 Acre Rock Pit & Pasture
 St. Lucie County, Florida

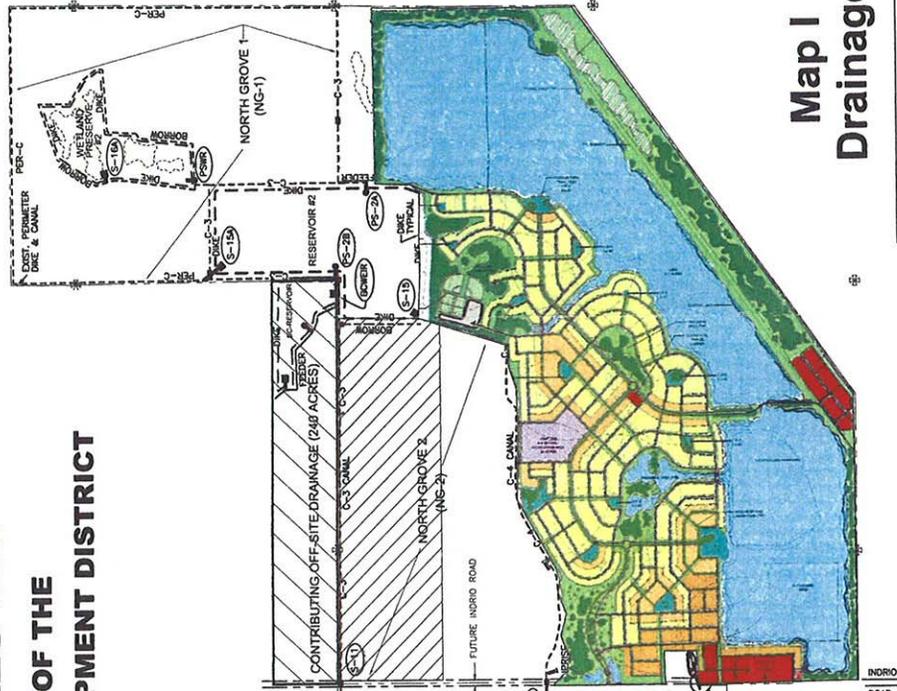


CONCEPTUAL DRAINAGE PLAN CAPRON LAKES DRI A SUBDISTRICT OF THE CAPRON TRAILS DEVELOPMENT DISTRICT



LOCATION MAP

- LEGEND:**
- EXISTING FACILITIES
 - (S-#) STRUCTURE ID. NUMBER
 - WETLAND
 - ⊕ SECTION CORNER



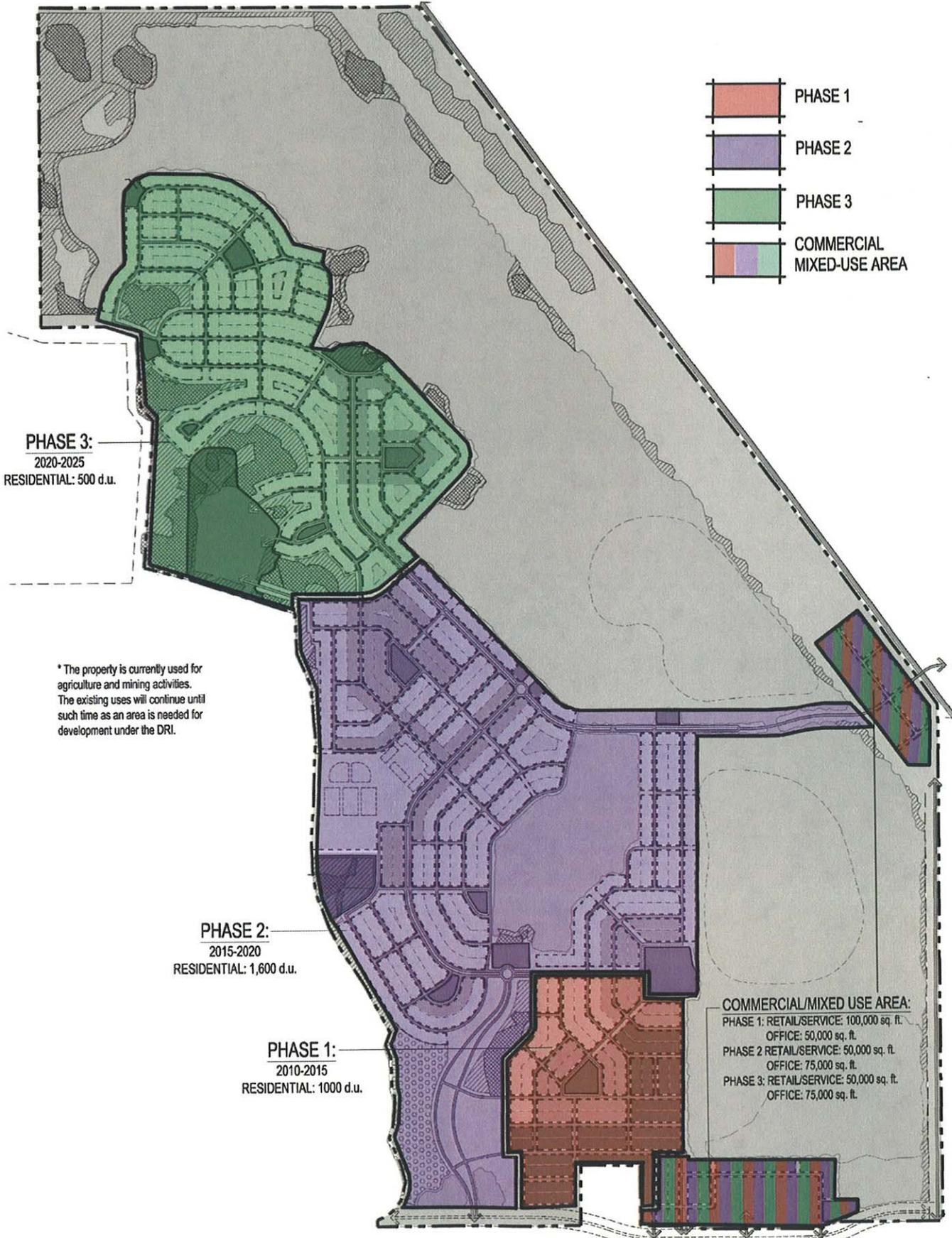
PROPOSED OUTFALL FROM CAPRON LANES DRI INTO C-1 CANAL VIA THE C-5 CANAL. CONTROL STRUCTURES AND C-5 CANAL TO BE RELOCATED AS REQUIRED BY FINAL PROJECT DESIGNS.

CAPRON TRAIL COMMUNITY DEVELOPMENT DISTRICT DRAINAGE INFORMATION AS PROVIDED BY LBFH, INC. / DISTRICT ENGINEERS AS OF JUNE 21, 1999.

03-251 6-29-05

Map I Drainage





- PHASE 1
- PHASE 2
- PHASE 3
- COMMERCIAL MIXED-USE AREA

PHASE 3:
2020-2025
RESIDENTIAL: 500 d.u.

* The property is currently used for agriculture and mining activities. The existing uses will continue until such time as an area is needed for development under the DRI.

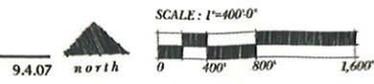
PHASE 2:
2015-2020
RESIDENTIAL: 1,600 d.u.

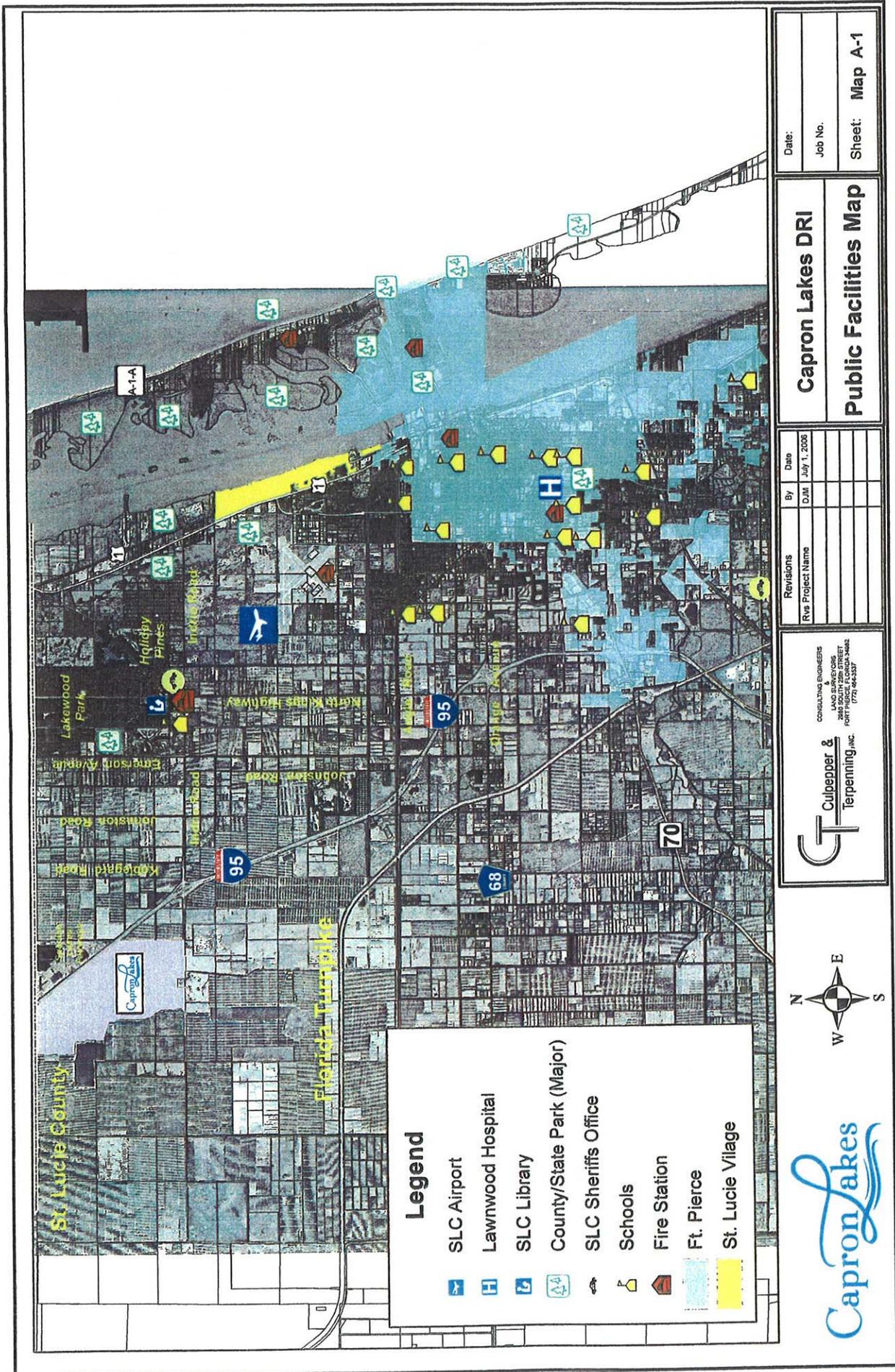
PHASE 1:
2010-2015
RESIDENTIAL: 1000 d.u.

COMMERCIAL/MIXED USE AREA:
PHASE 1: RETAIL/SERVICE: 100,000 sq. ft.
OFFICE: 50,000 sq. ft.
PHASE 2 RETAIL/SERVICE: 50,000 sq. ft.
OFFICE: 75,000 sq. ft.
PHASE 3: RETAIL/SERVICE: 50,000 sq. ft.
OFFICE: 75,000 sq. ft.



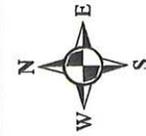
MAP H - Phasing Plan
St. Lucie County, Florida





Legend

- SLC Airport
- Lawnwood Hospital
- SLC Library
- County/State Park (Major)
- SLC Sheriff's Office
- Schools
- Fire Station
- Ft. Pierce
- St. Lucie Village



GT Culpepper & Terpenning, INC.

CONSULTING ENGINEERS
LAND SURVEYORS
2840 SOUTH 25th STREET
FORT PIERCE, FLORIDA 34948
(888) 664-3337

Revisions	By	Date
Rvs Project Name	DJM	July 1, 2008

Capron Lakes DRI

Public Facilities Map

Date: _____
Job No. _____
Sheet: **Map A-1**

Capron Lakes DRI

Transportation Network

Map J

Rural Collector
Rural Arterial
Rural Freeway



Transitional Arterial
Transitional Freeway



Urban Collector
Urban Arterial
Urban Freeway



County Line
Site Boundaries
Study Area Boundaries



Kimley-Horn
and Associates, Inc.



APPENDIX B

Correspondence

This appendix contains correspondence related to the Capron Lakes DRI:

South Florida Water Management District	B-2
St. Lucie County	B-15
Florida Department of Transportation	B-25
Indian River County.....	B-35
School Board of St. Lucie County	B-37



SOUTH FLORIDA WATER MANAGEMENT DISTRICT

3301 Gun Club Road, West Palm Beach, Florida 33406 • (561) 686-8800 • FL WATS 1-800-432-2045 • TDD (561) 697-2574
Mailing Address: P.O. Box 24680, West Palm Beach, FL 33416-4680 • www.sfwmd.gov

LAN 01

June 26, 2007

RECEIVED

JUN 26 2007

TREASURE COAST
REGIONAL PLANNING COUNCIL

Mr. Michael Busha, Executive Director
Treasure Coast Regional Planning Council
301 East Ocean Boulevard, Suite 300
Stuart, FL 34994

Michael
Dear Mr. Busha:

Subject: Capron Lakes (f/k/a Indrio), DRI No. 05-483

Enclosed is a copy of the District's Impact Assessment Report for the above subject project. The report is a general technical assessment of the project based on information provided by the applicant and does not constitute final finding agency action.

We appreciate this opportunity to participate in the review process. If you have any questions concerning our review of this project, please give me a call at (561) 682-6862.

Sincerely,

James J. Golden, AICP
Lead Planner
Environmental Resource Regulation Department

/jjg

Enclosure

c: Steven Ball, Land Planning Systems, Inc.

GOVERNING BOARD

Kevin McCarty, *Chair*
Irela M. Bagué, *Vice-Chair*
Miya Burt-Stewart

Alice J. Carlson
Michael Collins
Nicolás J. Gutiérrez, Jr., Esq.

B-2 Lennart E. Lindahl, P.E.
Harkley R. Thornton
Malcolm S. Wade, Jr.

EXECUTIVE OFFICE

Carol Ann Wehle, *Executive Director*

IMPACT ASSESSMENT REPORT

Prepared by

South Florida Water Management District

Issued June 26, 2007

I PROJECT SUMMARY

Project: Capron Lakes (f/k/a Indrio)
Developer: Indrio Land Group, LLC (c/o Huizenga Holdings)
SFWMD ID No: 05-483
Location: Sections 1,12&13/Township 34 South/Range 38 East,
St. Lucie County
Size: ±1,938 acres
Existing Land Use: Sand Mining/Agricultural/Undeveloped
Proposed Land Use: Mixed-use, including Residential (3,100 dwelling units),
Retail (200,000 square feet), Office (200,000 square feet),
K-8 School (1,600 students)
DRI Threshold: Exceeds mixed-use threshold, pursuant to Chapter
380.0651(3)(i), F.S.

II GENERAL PROJECT-RELATED INFORMATION

The Capron Lakes DRI is a proposed ±1,938 acre mixed-use development located in northern St. Lucie County at the southwest corner of I-95 and the St. Lucie/Indian River County line (see Exhibit 1).

The Master Development Plan (see Exhibit 2) proposes the following land uses: Residential (3,100 dwelling units), Retail (200,000 square feet), Office (200,000 square feet), K-8 School (1,600 students). Development is scheduled to occur in three phases with build-out in 2025.

III POTENTIAL FOR ADVERSE REGIONAL IMPACTS SUMMARY

Category	Minimal	Significant	Major
Water Use - Potable		X	
Water Use - Non Potable	X		
Surface Water Management - Quantity	X		
Surface Water Management - Quality	X		
Wetlands/Other Surface Waters - Functions		X	

IV CONCLUSIONS AND RECOMMENDATIONS

The available DRI information is not detailed enough for District staff to finalize its evaluation of the proposed project. On January 9, 2006, the applicant submitted an Environmental Resource Permit (ERP) application (No. 060109-7) that is currently under technical review. Unresolved issues that will need to be addressed during the permit application review process include the project's potable water supply source, evaluating the potential for adverse water resource-related impacts from the proposed landscape irrigation withdrawals, evaluating the feasibility of using reclaimed water for landscape irrigation, submittal of detailed calculations for the proposed surface water management system design, verification of the quality and function of the wetlands on the project site, completion of the Unified Mitigation Assessment (UMAM) analysis, determining the permissibility of the proposed wetlands impacts/preservation/mitigation, verification of the normal pool water elevations within the on-site wetlands, establishment of appropriate control elevations, conformance with the District's lake/wetland separation criteria, and potential secondary impacts related to off-site roadway construction (see the summaries below and the checklists and footnotes on pages 5 through 10 for additional details).

Prior to issuance of a Development Order for this DRI, it appears that amendments to the St. Lucie County and City of Ft. Pierce comprehensive plans may be necessary to demonstrate that there is an adequate supply of potable water available at the source, adequate potable water treatment and delivery facilities available to meet the needs created by the proposed development, and that the necessary capital facilities are available or have been planned in a financially feasible manner to meet the needs of the proposed development. Improvements needed to maintain the adopted level of service standards within the next five years should be scheduled in a financially feasible five-year schedule of capital improvements. If the developer is going to pay for the improvements, an executed agreement will need to be provided demonstrating financial feasibility and be reflected in the Capital Improvements Element of the County and City comprehensive plans.

In addition to the above, any development order issued by St. Lucie County for this DRI will need to make adequate provisions for the water supply-related public facilities needed to accommodate the impacts of the proposed development, pursuant to Section 380.06(15)(e)2, F.S.

Water Use

Potable water supply is proposed to be provided by the Ft. Pierce Utility Authority (FPUA) in the short-term and St. Lucie County Utilities (SLCU) in the long-term. The short-term supply will be provided by the FPUA through an interim bulk users agreement it has with SLCU. Neither utility currently has an adequate permitted allocation to meet the demands of this project. If the utilities are unable to provide water, it is the intention of the developers, in concert with the Capron Trails Community Development District, to construct a sub-regional utility network.

The applicant is proposing to meet the project's landscape irrigation demands by withdrawals from on-site lakes. Reclaimed water will be used if and when it becomes available.

For additional details concerning the above as well as permitting requirements, see "Permits" below and the Water Supply and Development Checklist and Footnotes on pages 5 and 6.

The District is recommending a Development Order Condition (see page 4) requiring that specific conservation measures be incorporated into the project design.

Surface Water Management

The project site lies within the Capron Trails Community Development District (Permit No. 56-00745-S). The project's proposed surface water management system will utilize the existing permitted surface water management system which discharges into the District's C-25 Canal.

An Environmental Resource Permit (ERP) application was filed on January 9, 2006 and is currently under technical review. Issues to be resolved prior to issuance of an ERP include submittal of detailed calculations for the proposed surface water management system design.

For additional details concerning the proposed surface water management system design as well as permitting requirements, see "Permits" below and the Surface Water Management Checklist and Footnotes on pages 7 and 8.

Wetlands/Other Surface Waters-Functions

The project site contains approximately 127.33 acres of wetlands, the majority of which are freshwater marsh wetlands. A lesser acreage of mixed forest, wet prairie, and cypress wetlands also occur on-site. The applicant is proposing to preserve approximately 64.45 acres (51%) of the existing on-site wetlands.

An Environmental Resource Permit (ERP) application was filed on January 9, 2006 and is currently under technical review. Issues to be resolved prior to issuance of an ERP include verification of the quality and function of the wetlands on the project site, completion of the Unified Mitigation Assessment (UMAM) analysis, determining the permissibility of the proposed wetland impacts/preservation/mitigation, verification of the normal pool water elevations within the on-site wetlands, establishment of appropriate control elevations, conformance with the District's lake/wetland separation criteria, and potential secondary impacts related to off-site roadway construction.

For additional details concerning the above as well as permitting requirements, see "Permits" below and the Environment Checklist and Footnotes on pages 9 and 10.

Permits

This project will require the following District permits prior to commencement of construction:

1. Environmental Resource Permit -- A modification to Permit No. 56-00745-S for construction and operation of the surface water management system for the proposed development and for the proposed impacts to wetlands and other surface waters

(Application No. 060109-7 was filed on January 9, 2006 and is currently under technical review).

2. Water Use Permit -- for the proposed surface water withdrawals for landscape irrigation.

This project may require the following District permit prior to commencement of construction:

3. Water Use Permit - for certain dewatering activities proposed for the construction of project lakes, utilities and/or road or building foundations.

The applicant must meet District criteria in effect at the time of permit application.

Recommended Development Order Condition

1. The project shall utilize ultra-low volume water use plumbing fixtures, self-closing and/or metered water faucets, xeriscape landscape techniques, and other water conserving devices and/or methods. These devices and methods shall meet the criteria outlined in the water conservation plan of the public water supply permit issued to St. Lucie County Utilities (or other approved service provider) by the South Florida Water Management District.

V DISCLAIMER

This review has been performed by the South Florida Water Management District to provide the Treasure Coast Regional Planning Council with a general technical assessment of the water-related impacts of this project from the District's perspective. It is a technical review of the project based on the information provided by the DRI applicant. It is not a permit under Chapter 373, F.S., nor is it a commitment for said permits. This review does not constitute final agency action and it is not binding on this agency. Permit evaluation, pursuant to Chapter 373, F.S., will be based upon the criteria in effect and the information available at the time of permit application. Consequently, the applicant is advised that this could result in a change in the District's technical assessment from that which is contained in this review.

Further, this review is not intended to restrict any formal District comments and/or objections that may be issued on the proposed comprehensive plan amendment(s) associated with this DRI. During the formal plan amendment review process, pursuant to Chapter 9J-5, F.A.C., the District will perform a detailed evaluation of all water resource-related issues associated with this proposal and will provide its formal comments and/or objections to the Florida Department of Community Affairs (DCA).

SUBJECT: **WATER SUPPLY AND DEVELOPMENT** - Capron Lakes, DRI No. 05-483

Proposed Potable Water Source: Lucie County Utilities (SLCU) & Ft. Pierce Utilities (FPU) [see footnote 1]

Permit No.: 56-00406-W (SLCU) & 56-00085-W (FPU)

Expiration Dates: October, 2009 (SLCU) & July, 2006 (FPU)

Permitted Allocations: 0.166 MGD/60.6 MGY (SLCU) & 11 MGD/4007 MGY (FPU)

Current Usages: 0.14 MGD/51 MGY (SLCU) & 9.4 MGD/3476 MGY (FPU) [2006 data]

Projected Demand of DRI: 1.886 MGD/688.4 MGY

Proposed Non-Potable Water Sources: On-site lakes & reclaimed water

Projected Demand of DRI: 1.257 MGD

	ACCEPTABLE RESPONSE IN APPLICATION	RESOLVABLE AT PERMIT TIME MINOR	MAJOR	REGIONAL ISSUES
--	---	---------------------------------------	-------	--------------------

I. PROJECTED DEMANDS OF PROJECT

A. POTABLE WATER

1. Use Generation Rates	X			
2. Conservation Practices	X			

B. NON-POTABLE WATER

1. Use Generation Rates		X(2)		
2. Conservation Practices		X(2)		
3. Wastewater Reuse		X(2)		

II. WATER USE IMPACTS

A. ON-SITE

1. Proposed Sources				
a. Groundwater	N/A			
b. Surface Water		X(2)		
c. Wastewater Reuse		X(2)		
d. Reverse Osmosis	N/A			
2. Resource Capability		X(2)		
3. Impacts				
a. Salt Water Intrusion		X(2)		
b. Pollution/Contamination		X(2)		
c. Environmental		X(2)		

B. OFF-SITE

1. Verification of Availability				
from Utility			X(1)	
2. Resource Capability			X(1)	
3. Impacts				
a. Salt Water Intrusion			X(1)	
b. Pollution/Contamination			X(1)	
c. Environmental			X(1)	
d. Other Legal Users			X(1)	

FOOTNOTES: See following page.

WATER SUPPLY AND DEVELOPMENT FOOTNOTES:

- (1) The project's initial potable water supply will be provided by the Ft. Pierce Utilities Authority (FPUA) through an interim bulk users agreement it has with St. Lucie County Utilities (SLCU), until such time that a new SLCU wellfield is developed.

The FPUA and SLCU have submitted applications to the District for renewal and modification of their public water supply Water Use Permits, including an increase in their permitted allocations. The FPUA application includes the interim bulk water service agreement with SLCU.

The applicant indicates that, if they are unable to obtain potable water from SLCU/FPU, they will construct a sub-regional utility network capable of providing treated water from the Floridan aquifer using reverse osmosis (RO) treatment technology. Pursuant to the District's Water Use Basis of Review, withdrawals from the Floridan aquifer cannot result in any "harm" to existing legal users of the Floridan aquifer. Due to the potential for "harm" from the project's proposed ground water withdrawals, any application for a water use permit will be reviewed concurrently with the project's Environmental Resource Permit (ERP) application.

- (2) At the time of application for a Water Use Permit for the proposed lake withdrawals for landscape irrigation, the applicant will need to demonstrate that the proposed withdrawals are reasonable-beneficial, are in the public interest, and will not result in any harm to existing water resources, including wetlands. In addition, a feasibility study will be required for the use of reclaimed water.

SUBJECT: **SURFACE WATER MANAGEMENT** - Capron Lakes, DRI No. 05-483

Drainage Basin: C-25

Receiving Body: Capron Trail Community Development District master system

	ACCEPTABLE RESPONSE IN APPLICATION	RESOLVABLE AT PERMIT TIME MINOR	MAJOR REGIONAL ISSUES
--	---	---------------------------------------	-----------------------------

I. SYSTEM DESIGN

A. QUANTITY CONSIDERATIONS

1. Discharge method, location and route to receiving water	X		
2. Floodplain encroachment	X		
3. Net basin storage	X		
4. Stage/storage	X		
5. Control elevations	X		
6. Water management areas	X		
7. Minimum drainage		X(1)	
8. Overdrainage	X		
9. Outparcels	X		
10. Exfiltration		X(2)	
11. Floor and road protection	X		
12. Passage of upstream flows	X		
13. Capacity of receiving water (pre vs. post)	X		

B. QUALITY CONSIDERATIONS

1. Standard BMP's		X(3)	
2. Special BMP's			
a. Sensitive receiving waters	N/A		
b. On-site use of wastewater	N/A		
c. Location of on-site percolation ponds	N/A		
d. Proximity of on-site perco- lation ponds to SWM system	N/A		
3. Use of natural system	N/A		
4. Hazardous materials			
a. Use/generation	N/A		
b. Management/disposal	N/A		
5. Exfiltration systems		X(2)	

FOOTNOTES: See following page

SURFACE WATER MANAGEMENT FOOTNOTES:

- (1) As part of the Environmental Resource Permit (ERP) application review process, minimum drainage and recovery calculations will be required.
- (2) As part of ERP application review process, exfiltration calculations will be required for any exfiltration facilities proposed for the commercial portions of the project site.
- (3) As part of the ERP application review process, calculations will be required documenting compliance with applicable District Best Management Practices (BMP) criteria.

SUBJECT: ENVIRONMENT - Capron Lakes, DRI No. 05-483

WETLANDS ACREAGE SUMMARY*

Total Existing	Presently Impacted	Proposed To Be Preserved	Proposed To Be Altered/Destroyed	Proposed To Be Mitigated	Resulting Net Gain/Loss
127.33	0	61.73	65.6	[see footnote 1]	

* Applicant estimates (subject to verification during permit review)

	ACCEPTABLE RESPONSE IN APPLICATION	RESOLVABLE AT PERMIT TIME	MINOR	MAJOR	REGIONAL ISSUES
I. EXISTING SENSITIVE LANDS					
A. WETLANDS					
1. Quantity		X(1)			
2. Quality		X(1)			
B. UNIQUE HABITAT		X			
C. ENDANGERED SPECIES		X			
D. OTHER (Save Our Rivers; OFWs; aquifer recharge areas; etc.)		X			
II. IMPACTS OF PRESERVATION/MITIGATION					
A. QUANTITY				X(2)	
B. QUALITY				X(2)	
C. MANAGEMENT SCHEME (managed elevations, buffers, littoral zones; etc.)				X(3)	
D. ENDANGERED SPECIES/HABITAT		X			
III. COMPATIBILITY OF PROPOSED LAND USE AND NATURAL CHARACTERISTICS		X			
IV. SECONDARY IMPACTS				X(4)	

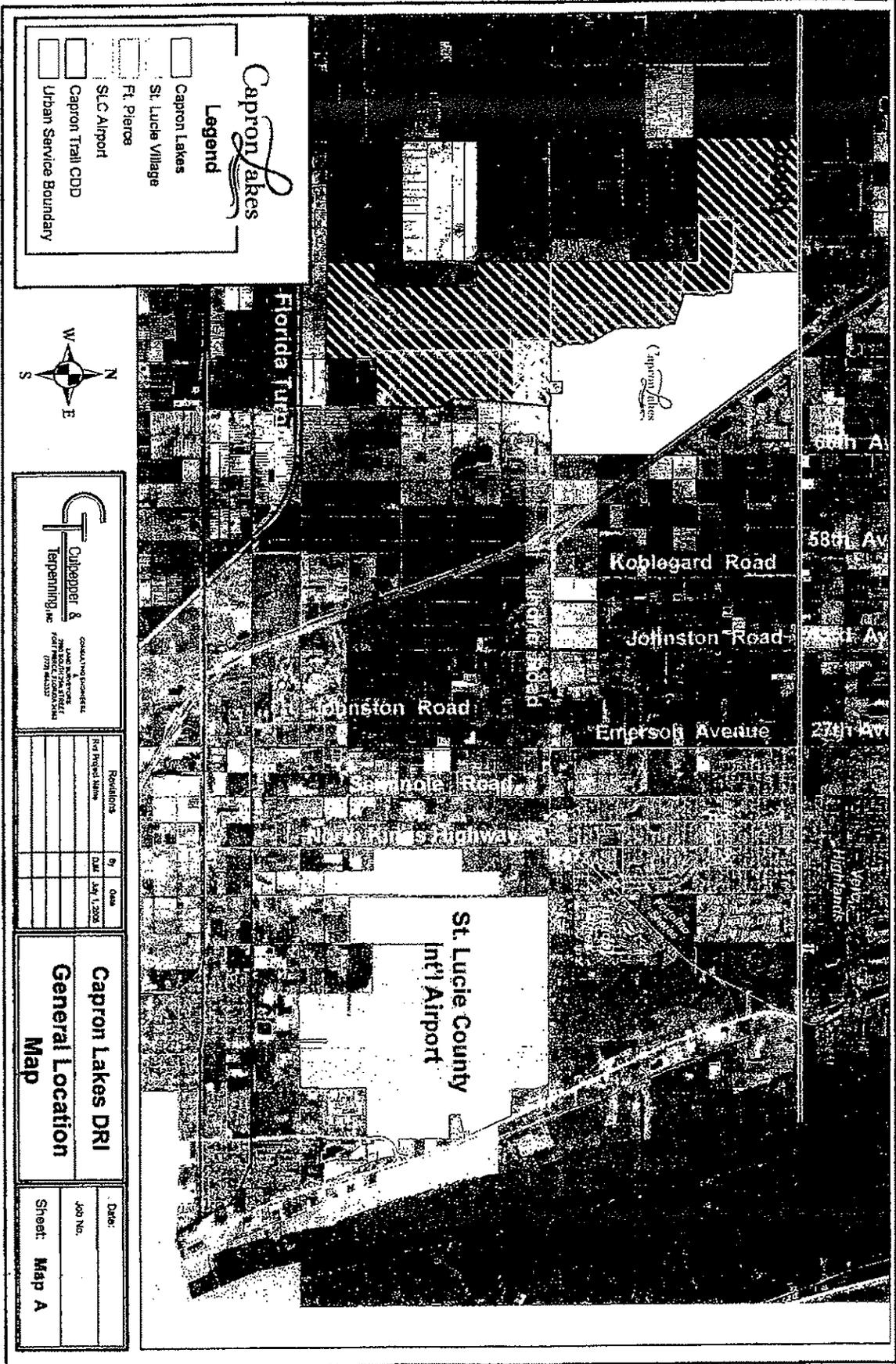
FOOTNOTES: See following page.

ENVIRONMENT FOOTNOTES:

- (1) As part of the Environmental Resource Permit (ERP) application review process, District staff may require additional information and field verifications concerning the size, characteristics, and functional values of the on-site wetlands.

A Unified Mitigation Assessment Method (UMAM) analysis was submitted. Please be advised that, pursuant to Rule 62-345.300(1), F.A.C., District staff will conduct the UMAM assessment during review of the ERP application. The results may not be similar to the analysis submitted by the applicant.

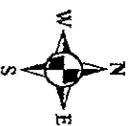
- (2) A determination regarding the permissibility of the proposed wetland impacts, preservation, and mitigation will need to be made during the ERP application review process.
- (3) The control elevations of the wetlands, the large on-site lakes, and the surface water management basins they are located in need to be based on the normal pool water elevations within the wetlands to be preserved. In addition, the applicant must demonstrate compliance with the District's lake/wetland separation criteria, pursuant to Section 6.12 of the ERP Basis of Review.
- (4) The Master Development Plan shows several proposed roadways that extend off-site of the property to the north and west. Pursuant to the ERP Basis of Review, the District must consider those future projects and/or activities that would not occur but for the proposed system. If future phases or project expansion have the potential to cause adverse secondary impacts, the applicant must provide sufficient conceptual design information to provide reasonable assurances that these impacts can be successfully eliminated or offset. These issues must be resolved prior to issuance of an ERP.



Capron Lakes

Legend

- Capron Lakes
- St. Lucie Village
- Ft. Pierce
- SLC Airport
- Capron Trail CDD
- Urban Service Boundary



C
Chappell &
Terpening, Inc.

CODING AND CONCEPTS
 AND ENGINEERING
 401 W. UNIVERSITY AVENUE
 SUITE 100
 FT. PIERCE, FLORIDA 34939
 (888) 444-4444

Revisions	By	Date

Capron Lakes DRI
General Location
Map

Date: _____
 Job No. _____
 Sheet: **Map A**

Land Use Tabulations

Land Use	Acres
RESIDENTIAL DEVELOPMENT AREA	354 ACRES
COMMERCIAL MIXED USE	20 ACRES
OPEN SPACE AREA:	
TARGET INDUSTRY OFFICE	20 ACRES
EXISTING LAKE AREA	148 ACRES
ACTIVE MIXING LAKE AREA	58 ACRES
PROPOSED LAKE AREA	619 ACRES
ENVIRONMENTAL ENHANCED LANDS	412 ACRES
NEIGHBORHOOD LINEAR PARK	10 ACRES
ACTIVE PARK	25 ACRES
COMMUNITY SVC. SERVICES (C.R.S.)	37 ACRES
JOINT USE K-8 SCHOOL REC. AREA	23 ACRES
TOTAL LAND AREA:	1,931 ACRES

Product Yield Assumptions

Land Use	Acres	Average Net Density	Units
RESIDENTIAL DEVELOPMENT AREA	354 ACRES	5.6 UNITS / ACRE	1,970 UNITS
COMMERCIAL MIXED USE DEV. AREA	20 ACRES		
TARGET INDUSTRY OFFICE**	20 ACRES		

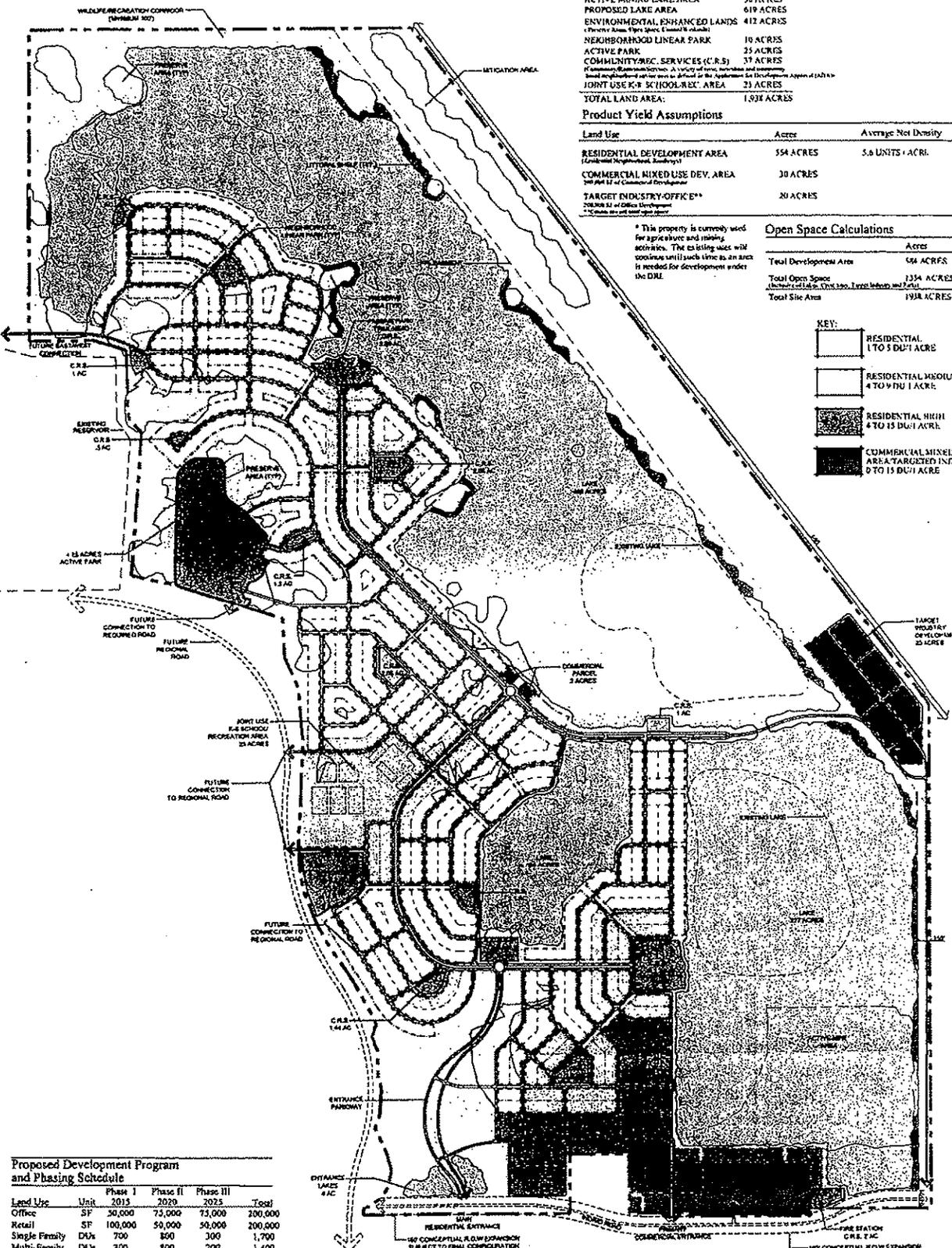
* This property is currently used for agriculture and mining activities. The existing uses will continue until such time as an area is needed for development under the DRI.

Open Space Calculations

	Acres	%
Total Development Area	374 ACRES	30%
Total Open Space	1,557 ACRES	70%
Total Site Area	1,931 ACRES	

KEY:

- RESIDENTIAL 1 TO 5 DU/1 ACRE
- RESIDENTIAL MEDIUM 4 TO 9 DU/1 ACRE
- RESIDENTIAL HIGH 4 TO 15 DU/1 ACRE
- COMMERCIAL MIXED USE AREA-TARGETED INDUSTRY 0 TO 15 DU/1 ACRE



Proposed Development Program and Phasing Schedule

Land Use	Unit	Phase I	Phase II	Phase III	Total
		2013	2020	2025	
Office	SF	30,000	75,000	75,000	200,000
Retail	SF	100,000	50,000	50,000	200,000
Single Family	DUs	700	800	300	1,700
Multi-Family	DUs	300	800	200	1,400
K-8 School	Students	---	1,600	---	1,600

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COUNTY
COMMISSIONERS



GROWTH
MANAGEMENT

June 26, 2007

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JUN 28 2007

TREASURE COAST
REGIONAL PLANNING COUNCIL

Mr. Michael J. Busha
Executive Director
Treasure Coast Regional Planning Council
301 East Ocean Boulevard, Suite 300
Stuart, Florida 34994

Subject: Capron Lakes DRI – Sufficiency Re-submittal

Dear Mr. Busha:

St. Lucie County Planning staff has reviewed the May 2007, 3rd Sufficiency Response Submittal for the above referenced Development of Regional Impact (DRI) and Application for Development Approval (ADA), and would like to submit the following comments:

Planning Department:

- 1.) Previous comments remain from the January 2007 submittal.
- 2.) In accordance with Section 5.11.01, St. Lucie County Land Development Code, please contact the Growth Management Department regarding the transportation review of the proposed development and the associated fee. The fee is required to review the transportation impacts from the proposed development by an engineer retained by the County.

Property Acquisition Division:

- 1.) Please verify if 1213-111-0002-000/2 should be included in the property tax ID numbers.
- 2.) Exhibit G - the map shows Indrio Road running along side of I-95. Please correct.

- 3.) Indrio Road, Section 17 road-right-of-way is a State owned 98ft. According to Right-of-way Protection Map, Indrio Road is slated to be a 2 lane right-of-way.

Environmental Resources Department:

The latest proposed plan shows 73.52 acres of impact to the total of 119.2 acres of wetlands found onsite (62% impacted). The following comments deal with Comprehensive Plan Requirements that relate to wetland impacts in addition to protected species and their habitat. Staff recommends that the proposed plan be revised to preserve the majority of the wetlands found on site be preserved along with the associated upland buffers.

11/16/2006 – Please clarify the total acreage of wetlands to be preserved, impacted, and enhanced. Numbers found in different areas of the previous and recent submittals do not correspond.

6/11/2007 – The latest plan shows 65.6 acres of impact to the total of 126.6 acres of wetlands found on site (52% impacted). Staff maintains that additional avoidance and minimization of impacts could be achieved on site. The wetlands on site provide a multitude of ecological functions and play a role in the health of the watershed. In addition to providing water storage and groundwater recharge functions, the wetlands provide essential habitat for amphibians and fishes, and provide foraging areas for wading birds, including endangered species such as the wood stork. The applicant provided an avoidance and minimization analysis in the second sufficiency review materials. This analysis showed percent impacts ranging from a low of 38.9% to a high of 76.6%. The plan submitted in January 2007 (Plan #9) shows 56% of the onsite wetlands being saved; however, the plan submitted in May 2007 only shows 52% of the onsite wetlands being saved. Staff is unclear why the site plan changed to impact more wetlands when we have always made it clear that impacts should be avoided and minimized. In addition, the plan submitted on 12/18/2006 shows 812 acres of lake and 425 acres of environmental enhanced lands and the plan submitted on 5/8/2007 shows 825 acres of lake and 412 acres of environmental enhanced lands. Why were the plans changed to increase the lake size and decrease the preserve areas, open space and created wetlands?

The site plan shows a 825 acre lake to be created. Staff recommends that the site plan be modified to preserve the wetlands that are proposed to be impacted by mining activities along with their upland buffers. Staff further recommends changes to the site plan to avoid and minimize impacts to the onsite wetlands.

- 1) Staff disagrees with the categorization of all wetlands found on site as Category II or III wetlands. Please provide documentation from the appropriate state or federal agency that the wetlands found onsite are not hydrologically connected.

11/16/2006 – Staff continues to disagree with the classification of some of the wetlands on site. No documentation from appropriate state or federal agencies was received with this resubmittal. Direct connections are not needed to classify wetlands as connected. Wetlands located within 200 feet of an open water body are considered connected by St. Lucie County. Documentation regarding the classification of wetlands needs to be received and reviewed prior to the BOCC review of this project.

Staff looks forward to an onsite meeting to review and discuss the classification of wetlands.

6/11/2007 – The applicant still has not provided documentation from the ACOE regarding the wetlands found on site. The applicant did provide a copy of a letter dated March 6, 2007 from Robert M. Brown, Director of Environmental Resource Regulation Department with the SFWMD. The letter describes the appropriate methodology for determining wetland mitigation. County staff acknowledges the fact that UWMAM is the sole means for determining wetland mitigation requirements. The reference to WRAP currently found in the Comprehensive Plan will be corrected.

In a meeting attended by County staff and SFWMD Environmental Resource Regulation staff held on June 5, 2007, the SFWMD acknowledged that the County can have regulations that do not allow impacts to wetlands (ie- no impacts - no mitigation) and that this was not in conflict with state law.

- 2) According to the St. Lucie County Comprehensive Plan Policy 8.1.14.2, "The County shall not permit development in a Category I or Category II wetland or any wetland buffer associated with these wetlands, except as follows:
- a. Clearing and/or construction of walking trails;
 - b. Construction of boardwalks/catwalks for direct access to water bodies; construction of wildlife management shelters, footbridges, observation decks and similar structures not requiring a dredge or fill for their placement; and
 - c. Clearing and/or construction of electric/ cable utility, stormwater management, water or wastewater infrastructure as needed to provide public service that does not impair the long term viability of the wetland system.
 - d. Alteration is also permissible within Category I and II wetlands, and the required wetland buffer, as necessary for the above activities if:
 - i.No other reasonable alternative exists and avoidance cannot be achieved;
 - ii.Such activity is consistent with other policies of the Comprehensive Plan;
 - iii.Such activity complies with the requirements of all Federal, State and Local agencies claiming jurisdiction over wetland alteration and

- adequate mitigation of any adverse hydrological and physical alterations is provided;
- iv. No more than 1 percent of any Category I wetland is impacted, except as noted in Policy 8.1.14.3;
 - v. No more than 15 percent of any Category II wetland is impacted, except as noted in Policy 8.1.14.3;
 - vi. Appropriate mitigation is provided."

11/16/2006 – See comment in #3 below.

6/11/2007 – Please see the comments at the beginning of this memo. The plan submitted in January 2007 (Plan #9) shows 56% of the onsite wetlands being saved; however, the plan submitted in May 2007 only shows 52% of the onsite wetlands being saved. Staff is unclear why the site plan changed to impact more wetlands when we have always made it clear that impacts should be avoided and minimized.

- 3) Please be advised that according to the St. Lucie County Comprehensive Plan Policy 8.1.14.3, "Any provision of this Comprehensive Plan or the land development code related to the preservation of a Category I or II wetland that precludes all economically viable use of the property or would prohibit a reasonable public use of the property and which if applied would result in a compensable taking of the property may be waived to the extent necessary to provide the minimum reasonable use, public or private, of the property. Should the applicant propose impacts to any Category I or II wetland they must demonstrate that no other reasonable alternative exists and avoidance cannot be achieved. These provisions shall only be waived following the review and approval of the Board of County Commissioners, or their designee, in a manner set forth in the Land Development Code".

11/16/2006 – Staff still maintains that avoidance and minimization of impacts to the onsite wetlands has not been maximized and as such cannot support the required waiver.

6/11/2007 – Please see the comments at the beginning of this memo and in Comment # 3 above. Staff cannot support the requested waiver.

- 4) Please provide a minimum 50 foot buffer between the Category I or Category II wetlands and the new development activity in order to protect water quality, preserve natural functions, and preserve wildlife habitat as per SLC Comprehensive Policy 8.1.14.5. The buffer, measured landward from the approved jurisdictional line, shall be maintained in a natural vegetative state and be free of exotic and nuisance species as defined by the Florida Pest Council.

Any areas within the buffer that are currently bare or are left bare from exotic removal shall be planted with appropriate native vegetation.

11/16/2006 – Once we have agreed upon the classification of the on-site wetlands and the applicant has demonstrated avoidance and minimization of impacts, this requirement shall be a requirement of all Category I and II wetlands.

6/11/2007 – The applicant responded - “The proposed project has avoided impacts to wetlands where practicable and where impacts are proposed a minimum 50 foot buffer is proposed. The final plan of development and natural system enhancement and preservation will be developed pursuant to the ongoing ERP and ACOE Section 404 permitting process and will be provided once it is finalized.”

Please note that even if no impacts are proposed to a wetland found on site that the Comprehensive Plan Policy cited above applies. All wetlands whether preserved or created will require an upland buffer in accordance with this policy. As mentioned previously, staff does not feel that avoidance and minimization of impacts to the wetlands found on site has taken place to the greatest extent possible. Please see Comments # 2 and #3 above for additional information.

- 5) Comprehensive Plan Policy 8.1.4.4 requires a buffer zone of native upland edge (ie, transitional) vegetation to be planted or maintained around wetland and deepwater habitats which are constructed or preserved on new development site. The buffer zone may consist of preserved or planted vegetation but shall include canopy, understory, and ground cover of native species only. The edge habitat shall begin at the upland limit of any wetland or deepwater habitat. As a minimum, ten square feet of such buffer shall be provided for each linear foot of wetland or deepwater habitat perimeter that lies adjacent to uplands. This upland edge habitat shall be located such that no less than 50 percent of the total shoreline is buffered.

11/16/2006 - The applicant failed to acknowledge that this requirement also applies to the large lake proposed to be created on site. Please provide plans for our review regarding the required upland buffer around wetlands and the on-site lake. Plans presented only show littoral plantings.

6/11/2007 – Addressed

- 6) Prior to approval, please provide supporting documentation that South Florida Water Management District and the Army Corps of Engineers have been contacted and accept the jurisdictional wetland lines, approve of the wetland impacts, and approve of the proposed method of mitigation.

11/16/2006 – Staff received a copy of the ERP application but was unable to locate the approved SFWMD delineation. Has the applicant submitted an application to the ACOE at this time?

6/11/2007 – Please forward any correspondence to and from the ACOE regarding this project. The SFWMD delineation was located.

- 7) Please demonstrate how the proposed development complies with Comprehensive Plan Policies 8.1.4.12 and 8.1.4.13 regarding wetland preservation.

11/16/2006 – See comment #3 regarding avoidance and minimization.

6/11/2007 – See comments above regarding avoidance and minimization.

- 8) State protected species are resident on or are otherwise significantly dependent upon the subject parcel of land, therefore the person undertaking development shall consult with the Florida Fish and Wildlife Commission, U.S. Fish and Wildlife Service, and the County. Per Comprehensive Plan Policy 8.1.8.10 appropriate protection to the satisfaction of all parties shall be provided **prior to approval of the development**. Please provide copies of the habitat management plans for all of the listed species found on the subject parcel.

11/16/2006 – As stated above, adequate protection to the satisfaction of all parties shall be provided prior to approval of the development. Final details will need to be in place prior to approval of the DRI.

6/11/2007 – The applicant responded that a copy of the final “Natural System Mitigation, Enhancement and Preservation Plan” will be provided to St. Lucie County. Although a copy of this report is needed for review, the applicants response does not address the original comment. As stated on 11/16/2006, the applicant must demonstrate appropriate protection to the satisfaction of all parties prior to the approval of development. Please provide correspondence from the USFWS and the FFWCC regarding the proposed plan with regards to listed species.

- 9) Preserve areas shall be covered by a conservation easement, per Policies 8.1.4.13 and 8.1.12.8 of the Conservation Element of the St. Lucie County Comprehensive Plan.

11/16/2006 – Addressed.

- 10) Cabbage palms may be used by the caracara for nesting, while improved pastures are typically used for foraging, according to the US Fish and Wildlife Service’s (FWS) Multi-Species Recovery Plan (FWS 1999). As both of these features occur on-site and caracara have been documented in the vicinity of the project, the U.S. Fish and Wildlife Service (FWS) should be contacted regarding survey requirements and impact avoidance measures for this federally-listed

species. Completion of consultation with the FWS regarding the above-mentioned species and adherence to the FWS recommendations will be conditions of approval by St. Lucie County.

11/16/2006 – Addressed. Condition of approval will be incorporated as a condition in any development order for this DRI.

6/11/2007 – Addressed. Condition of approval will be placed in any development order for this DRI.

- 11) Please submit an Environmental Assessment in compliance with Comprehensive Plan Policy 8.1.12.4.

11/16/2006 – No environmental assessment was received. Please ensure that all of the requirements mentioned in policy 8.1.2.4 are present .

6/11/2007 – The applicant responded that the Environmental Assessment was provided on pages 93-103 of the second sufficiency review documents. This was reviewed by staff during the second sufficiency review period; however, the submitted report does not contain all of the requirements found in Comprehensive Plan Policy 8.1.2.4. Please present a complete environmental assessment in accordance with this policy.

- 12) Please note that Comprehensive Plan Policy 8.1.12.5 requires that prior to land clearing activities where threatened or endangered species occur or are expected to occur, the area shall be surveyed (at the appropriate time of year and day) by a qualified environmental consultant prior to commencement or approval of such activities to determine whether or not such species exist.

11/16/2006 – This will be made a condition in any development order for this DRI.

- 13) Please demonstrate how the applicant will comply with the State Comprehensive Plan Policies regarding Energy. Staff recommends requiring builders to use energy efficient design and operations of buildings such as those referenced in the Florida Green Building Code to the greatest extent possible. Staff further recommends the use of solar energy technologies and passive solar design techniques.

11/16/2006 – Please provide details on how compliance with this requirement will be met.

6/11/2007 – The applicant responded that Passive solar design techniques will be utilized in the ultimate development of this project. Staff continues to recommend that the builders of this project be required to use energy efficient design and operations of buildings such as those referenced in

the Florida Green Building Code. These recommendations will be made conditions of approval in any development order for this DRI.

- 14) Please provide St. Lucie County with copies of the Phase I and Phase II Environmental Assessments so that adherence to Comprehensive Policies can be verified. Staff is especially interested in the area proposed for the large on site lake.

11/16/2006 – The Environmental Assessment data showed phenols above the leachability SCTL and arsenic above the residential and commercial SCTL's in soils for several sampling locations. These locations appear to be in areas where the on-site lake is being proposed. Please discuss cleanup measures for these analytes since this lake is being proposed as part of the flow way for the TVC. Also, why wasn't any testing for potential copper contamination performed?

6/25/2007 – The applicant responded that the Arsenic and phenols present are naturally occurring. Please provide St. Lucie County ERD with any correspondence with the regulatory agencies regarding the results found in the Phase I and Phase II Environmental Assessments. St. Lucie County strongly encourages the applicant to do preliminary copper testing in the area where the proposed lake will be located.

- 15) Please provide documentation that the USFWS has released the landowner from the restrictive zone for the crested cara cara nest tree found in the southeastern portion of the property. Until such time as the restrictive zone is officially released, it must still be shown on any development plans. Please revise all maps to show this restricted area.

11/16/2006 – Addressed.

- 16) Responses from the applicant indicate that a number of cabbage palms trees currently exist on the site and careful evaluation of all trees showed no evidence of nesting activities. Please note that based on a field visit conducted in May 2006 all cabbage palm trees located outside of the protective zone of the documented cara cara nest on site were trimmed so that they were not suitable for cara cara nesting activities. ERD staff contends that this action is habitat destruction and has begun talks with the appropriate agencies to discuss whether or not this destruction of habitat may be an illegal taking. ERD strongly recommends that these actions cease immediately.

11/16/2006 – ERD still maintains that these actions are habitat destruction and strongly encourages the cessation of this practice as we feel it is in violation of several Comprehensive Plan Policies. A condition of the

development order shall be that no trimming of cabbage palms shall occur in any preserve area associated with this project.

- 17) Since suitable habitat does exist on site to support the burrowing owl, the applicant shall perform surveys during the each nesting season (February-July) for burrowing owl burrows within the proposed development area. If a nest is found and is active, all development activities shall cease and the appropriate agencies notified for further guidance.

11/16/2006 – Please provide copies of the ecological evaluation and methodologies that have been submitted to other agencies to the County for review.

6/11/2007 – As previously requested, please provide copies of the ecological evaluation and methodologies that have been submitted to other agencies to the County for review.

- 18) It is not possible to tell from the submitted maps whether or not the proposed north eastern mitigation area and the 20 acre targeted industry development area fall within or outside of the FPL easement. Please provide maps that clearly demonstrate where these areas lie with respect to this easement. Forest enhancement within a power line easement will not be acceptable.

11/16/2006 - Addressed

Additional comments may be forthcoming based on review of requested material.

Additional Comments 11/16/2006

- 1) Please be advised Section 6.06.01.B.1.c.2 states that mining operations requiring a permit shall be buffered from all adjacent commercial or residential uses within two hundred feet by a wall, hedge, or other durable landscape barrier of at least six feet in height that forms a continuous screen between the uses. Our understanding is that the residential development of the site would occur concurrently with on-going mining. If this development occurs within 200 feet of mining activities, appropriate buffering must be provided prior to the construction of residential lots.

6/11/2007 – The applicant acknowledged this requirement. This will be made a condition of any development order created for this project.

- 2) **Comprehensive Plan Policies 8.1.7.5 and 8.1.12.4 state that “mining shall not be permitted... within any environmentally sensitive area or within 200 feet of such an area” and that “all jurisdictional wetlands shall be**

considered Environmentally Sensitive Areas". These Comprehensive Plan Policies further support staff recommendation to reduce impacts to the onsite wetlands.

6/11/2007 – The applicant responded that they are currently processing the project for an ERP permit from the SFWMD and a Section 404 permit from the ACOE. The applicant does not address how the proposed development is not in conflict with this Comprehensive Plan Policy. Staff continues to maintain that this Comprehensive Plan Policy further supports staff recommendation to reduce the impacts to the on site wetlands.

Thank you for providing the opportunity to comment on the development application for the Capron Lakes DRI. If you have any questions or comments, please contact me at 772- 462-6444.

Sincerely,



Andrew Riddle
St. Lucie County Planner

cc: File
Steven Ball, Land Planning Systems, Inc.
Glenn Kerns, SLC Planning – Capital Projects
SLC – Development Review Committee



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Florida Department of Transportation

TREASURE COAST
REGIONAL PLANNING COUNCIL

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3400 West Commercial Boulevard, Fort Lauderdale, Florida 33309-3421
Telephone: (954) 777-4601 • Fax: (954) 777-4671
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STEPHANIE C. KOPELOUSOS
SECRETARY

July 6, 2007

Mr. Michael J. Busha, AICP
Executive Director
Treasure Coast Regional Planning Council
301 East Ocean Boulevard, Suite 300
Stuart, FL 34994

Dear Mr. Busha:

**SUBJECT: Capron Lakes (formerly Indrio) Development of Regional Impact (DRI)
St. Lucie County, Florida
Application for Development Approval (ADA) - Sufficiency Review #4**

As requested in your letter of May 30, 2007, the Florida Department of Transportation (FDOT) has reviewed the sufficiency submittal for the Capron Lakes DRI ADA. The submittal is an attempt to address our previous review comments of February 5, 2007 and concerns discussed at the February 28, 2007 meeting.

Capron Lakes DRI is generally located west of I-95, south of the Indian River/St. Lucie countyline, and north of Indrio Road, in St. Lucie County. The DRI is a multi-use development consisting of residential, commercial, office, and educational uses on approximately 1,738 acres of property. Based on the resubmittal information, the DRI is now proposed to be built in three phases with a buildout year of 2025. The following table depicts the newly proposed phases, land uses, and development intensities:

Land Use	Phase I (2015)	Phase II (2020) Cumulative	Phase III (2025) Cumulative
Office (sf)	50,000	125,000	200,000
Retail (sf)	100,000	150,000	200,000
Single-Family (du)	700	1,500	1,700
Multi-Family (du)	300	1,100	1,400
K-8 School (students)	0	1,600	1,600

Although three sufficiency reviews have already been completed for the Capron Lakes DRI, significant new errors were found in the latest analysis, including the use of incorrect capacity volumes for some state road segments. Previous comments are restated below along with the Applicant's responses. The responses were reviewed for sufficiency, new comments are provided, and resulting conclusions related to **Development Order conditions** are highlighted in **bold**.

1. *Previous Comments:* The following issues must first be sufficiently addressed in order for the 66th Avenue trip diversion to be accepted in the analysis:
 - a. 66th Avenue currently is an existing two-lane dirt road between SR-60 and 16th Street, and between Atlantic Boulevard and Oslo Road, and the only programmed improvement to 66th Avenue appears to be between 4th Street and SR-60. Since the model network fails to include such a minor facility in the network, the Applicant has included it for the diversion analysis. This forms the basis for the magnitude of the diversion proposed by the Applicant. Therefore, the Applicant will be responsible for improving 66th Avenue between SR-60 and Oslo Road by 2015 to typical County design standards corresponding to the facility type and number of lanes assumed in the model runs for the trip diversion analysis
 - b. The model output was again provided in black and white. The Applicant must resubmit the supporting model information in color so as to verify the lane geometry of the network and the resulting diversion, or provide separate model outputs that post the lane geometry for the network.
 - c. Road names must be identified on the model outputs.
 - d. The diversion analysis should be revised utilizing the percent diversion as demonstrated in the Applicant's supporting model runs (average decrease of 12% is currently shown along 58th Avenue, not 13% or 14%).
 - e. The Applicant should perform a cut-line analysis of the north-south roadways in the area, rather than just reviewing 58th Avenue and 66th Avenue, to verify that the total traffic to and from the north and south remains the same.
 - f. Other roadways in the area where trips are being diverted to or from should also be identified due to the 66th Avenue improvement, as applicable.
 - g. Existing volumes on 66th Avenue should be counted and included in the link analysis.

Applicant's Response:

- a. 66th Avenue is an existing County facility between Oslo Road and 4th Street. 66th Avenue is committed for improvement to a two-lane County facility between 4th Street and State Road 60 within the next three years per their Capital Improvement Plan. Therefore, no conditioning of approval to this improvement is necessary.
- b. Color outputs of lane geometry and with facility type labels are provided in the Attachment 1 Section.
- c. Road names are provided in the Attachment 1 Section.
- d. 12% is now used in the analysis.
- e. A north-south screenline was performed between I-95 and 20th Avenue to verify volume consistency. This results in an increase of 100 daily north-south trips, or increase of less than 0.01%. Therefore, no further action was taken.
- f. Only two other significant diversions (1000 or more vehicles per day) of traffic are projected to occur. Traffic volumes SR 60 between 66th Avenue and 58th Avenue are projected to decrease by 1,800 daily trips. Traffic volumes on Oslo Road between 66th Avenue and 58th Avenue are projected to increase by 1,100 daily trips. The project is not significant on either segment and the segment of Oslo Road is projected to at less than 60 percent of capacity in 2025. Therefore, further analysis of these diversions was not performed.
- g. A PM peak-hour turning movement count at the intersection of Oslo Road and 66th Avenue was performed on February 15, 2007. The raw data sheet is attached to this response to comments as well as the updated Existing Traffic Data table (now showing existing traffic volumes on 66th Avenue north of Oslo Road (see Attachment 1 section).

FDOT Comment:

- a. Acknowledged
 - b. Acknowledged
 - c. Acknowledged
 - d. Acknowledged
 - e. Acknowledged
 - f. Acknowledged
 - g. Acknowledged
2. *Previous Comments:* The following issues must first be sufficiently addressed in order for the Johnston Road trip diversion to be accepted in the analysis:
- a. **Johnston Road is an existing two-lane dirt road between Indrio Road and Angle Road, and the only programmed improvements to Johnston Road appear to be north of this segment between 26th Street and 8th Street. The Applicant states that the Visions DRI is committed to improving Johnston Road between Indrio Road and Angle Road. Since the Capron Lakes DRI is including this improvement in the analysis, the development of the Capron Lakes DRI will need to be phased to this improvement.**
 - b. The model output was provided in black and white. The Applicant must resubmit the supporting model information in color so as to verify the lane geometry of the network and the resulting diversion or provide separate model outputs that post the lane geometry for the network.
 - c. Road names must be identified on the model outputs.
 - d. The diversion analysis should be revised utilizing the percent diversion as demonstrated in the Applicant's supporting model runs (different percentages -2.7% to -6.9% are currently shown along Indrio Road and Kings Highway, not a uniform 1500 daily vehicles subtracted from every segment).
 - e. The Applicant should perform a cut-line analysis of the east-west and north-south roadways in the area, rather than just Johnston Road and Kings Highway, to verify that the total traffic to and from the north and south and east and west remains the same.
 - f. Other roadways in the area where trips are being diverted to or from should also be identified due to the Johnston Road improvement, as applicable.

Applicant's Response:

- a. The applicant acknowledges that the construction of Johnston Road between Indrio Road and the paved section of Johnston Road north of Panther Woods to provide a fully paved road between Indrio Road and Angle Road will be a development order condition. Johnston Road was not included as a continuous facility until the second phase of the DRI and the development recommendation will be conditioned as such.
- b. Color printouts with lane geometry and facility type are now included. (see Attachment 2 section).
- c. Color printouts with Road names are now included. (see Attachment 2 section).
- d. Attached (see Attachment 2 section) to this response is a table that encompasses a larger area of the diversions in the area due to the proposed addition of Johnston Road. The addition of Johnston Road (2020) appears to create an overall increase in traffic for the area. The resulting north-south daily traffic increases by 4,000 vehicles north of Indrio Road and 6,200 vehicles south of Indrio Road. An east-west screenline was examined from Indrio Road to Orange Avenue and showed an increase of 5,900 vehicles per day. The diversion is somewhat difficult to quantify because of the variability of the model and TAZ structure. Additionally, the Visions DRI relies upon this improvement and has a large impact upon traffic volumes in the study area. Thus, a reasonable diversion of 1,500 vehicles per day was used in the analysis for impacted segments. The segments

of Kings Highway most impacted by this diversion are not significantly impacted by Capron Lakes. The segments of Indrio Road that are impacted by the diversion are not impacted by a lane call difference between phases. I-95 is projected to have a reduction in trips of almost 4,000 vehicles per day, but this was not included in order to provide a conservative analysis. In order to provide a consistent and conservative analysis, this diversion volume was estimated.

- e. A cut-line analysis was performed is attached. The resulting north-south daily traffic increases by 4,000 vehicles north of Indrio Road and 6,200 vehicles south of Indrio Road. An east-west screenline was examined from Indrio Road to Orange Avenue and showed an increase of 5,900 vehicles per day.
- f. Further diversions were not included in the revised analysis due to screenline discussion in responses e. and d, impacts on the diversion due to the presence of the Visions DRI, roads that are not significantly impacted by the project, or roads that show a decrease in traffic volume that were not included in order to provide a conservative analysis.

FDOT Comment:

- a. Acknowledged
 - b. **Since the Applicant modeled the segments of Johnston Road between Indrio Road and Angle Road as a major local undivided roadway with and without turn bays, the improvement of Johnston Road between Indrio Road and Angle Road to typical County design standards for major local undivided roadways with and without turn bays by 2020 should be a development order condition.**
 - c. Acknowledged
 - d. Acknowledged
 - e. Information should be provided regarding the calculation of the peak hour peak direction Johnston Road diversion volumes from the daily diversion volume found from the model.
 - f. Acknowledged
3. *Previous Comment:* From the information provided in Table 21 A-4 and in Appendix A-4, it appears that 66th Avenue is only planned to be improved by Indian River County between 4th Street and SR-60, not between Oslo Road and SR-60. Therefore, the Applicant will be responsible for improving the additional segment of 66th Avenue between 4th Street and Oslo Road by 2015 to typical County design standards corresponding to the facility type and number of lanes assumed in the model runs for the trip distribution since this improvement is identified and impacts the trip distribution.

Applicant's Response: 66th Avenue is an existing County facility between 4th Street and Oslo Road consistent with the facility type used in the model. Therefore, no further improvement of this facility is required.

FDOT Comment: Acknowledged

4. *Previous Comment:* The 2020 and 2025 AM peak hour analysis of the intersection of Indrio Road and Koblegard/58th Avenue still has permitted left-turn phase. Please revise the analysis.

Applicant's Response: The analyses at this intersection have been revised to not include permitted left-turn movements in any direction. The updated 2020 & 2025 AM Peak Hour HCS analyses are attached to this response to comments (see Attachment 3 section).

FDOT Comment: Acknowledged.

5. *Previous Comment:* Please provide additional information about how this roadway segment improvement

(Indrio Road between Koblegard Road & Johnston Road) transitions through the intersection (of Indrio Road & Johnston Road).

Applicant's Response: Our analysis now indicates that this segment of Indrio Road requires a 4-Lane section (as opposed to a 6-Lane section) and the intersection analyses are consistent with this geometry.

FDOT Comment: Acknowledged.

6. *Previous Comment:* The 2020 and 2025 AM peak hour analysis of the intersection of Indrio Road and 27th Avenue only includes a single eastbound through lane, which is not consistent with the proposed link improvements.

Applicant's Response: The TVC comprehensive plan expresses interest in maintaining a 2-Lane section along the segment of Indrio Road between Emerson Avenue and Kings Highway (and proposes building parallel facilities to provide capacity). The intersection analysis at Indrio Road & Emerson Avenue shows that the intersection will operate acceptably giving only one Eastbound through lane. The westbound direction shows a need for two through lanes in 2025. If the 2-Lane section is maintained between Emerson Avenue and Kings Highway, then Indrio Road in the westbound direction will require intersection widening to allow for this laneage. A widening of the intersection in the eastbound direction may not only be unbuildable (due to the 2-Lane Indrio Road section), but it is not needed.

FDOT Comment: Analysis of the Indrio Road and 27th Avenue/Emerson Avenue intersection in 2020 and 2025 should be revised to include two through lanes in both directions (not just westbound) to be consistent with the proposed link improvement west of the intersection. **Two eastbound and two westbound through lanes at this intersection will be a condition of approval.**

7. *Previous Comment:* No additional information about the above mentioned striping plan (Kings Highway & Indrio Road) was provided. Please provide the requested information regarding how the roadway segment improvement transitions through the intersection.

Applicant's Response: In all of the Kings Highway & Indrio Road (with project) intersection analyses, it is proposed that there are two westbound through lanes and one eastbound through lane. In the attached Kings Highway & Indrio Road striping plan (being designed for St. Lucie County), it is shown that there are two eastbound through lanes (and two eastbound receiving lanes) and one westbound through lane (and two westbound receiving lanes). The two westbound receiving lanes merge into one lane immediately after departing the intersection. (see Attachment 4 section for the Kings Highway & Indrio Road striping plan)

FDOT Comment: The intersection analysis of Kings Highway and Indrio Road should be revised to include the committed lanes shown on the striping plan in the future conditions analysis from 2015 through 2025. The intersection was analyzed with only one eastbound through lane although the striping plan shows two eastbound through lanes and the second eastbound through lane is also a committed link improvement. **The intersection will have to be designed to accommodate the second eastbound through lane. Since the intersection was analyzed with two westbound through lanes and this is not a committed improvement, the second westbound through lane at the intersection should be a condition of approval.**

8. *Previous Comment:* One key issue with the Capron Lakes DRI is its proximity to the I-95 and Indrio Road interchange. Since mitigation measures to the interchange such as the signalization of the ramps are being proposed, it is important to note that an Interchange Operational Analysis Report (IOAR) at a minimum must be submitted, reviewed, and approved as a condition of approval for the DRI.

Applicant's Response: It will need to be a development order condition that an IOAR is completed prior to the need for interchange improvements. It is not acceptable that an IOAR be completed and approved prior to the approval of the DRI.

FDOT Comment: Acknowledged.

9. *Previous Comment:* It is recommended that the text referring to the ramp analysis in the Transportation Methodology memorandum provided in Appendix A be revised. As currently written, ramps will only be evaluated when they carry at least 200 trips during both peak hours. Ramp operations should be evaluated during the AM and PM peak hours when they are projected to carry 200 or more project trips during either the AM or PM peak hour.

Applicant's Response: This text in the methodology has been revised and the updated methodology is attached to this response to comments (see Attachment 5 section).

FDOT Comment: Acknowledged.

10. *Previous Comment:* The trip generation analysis presented in Tables 21 B-1, B-2, and B-3 for Phases I, II, and III of the DRI does not match the trip generation analysis presented in the trip generation tables in Part 1 of Appendix A. All submitted data must be consistent. The Applicant should reconcile the discrepancy between the tables, which appears to be in the pass-by calculations.

Applicant's Response: This inconsistency has been reconciled. Also, per FDOT comment D (below), the daily Internal Capture rates have been adjusted. Therefore, the updated Internal Capture Matrices and Trip Generation tables are attached (see Attachment 6 section).

FDOT Comment: Acknowledged.

11. *Previous Comment:* The number of daily internal trips should be calculated using the process outlined in ITE Trip Generation Handbook and use daily capture rates from ITE rather than PM peak hour capture rates. The Applicant should revise the daily trip generation analysis accordingly.

Applicant's Response: Daily Internal Capture Matrices have been produced by averaging the AM & PM agreed upon internal capture rates (and are attached to this response to comments). Also attached are the updated trip-gen tables utilizing the new daily internal capture percentage (see Attachment 6 section).

FDOT Comment: Although the number of daily internal trips was calculated using the process outlined in the ITE Trip Generation Handbook, an average of the AM and PM internal capture rates was used instead of the ITE daily capture rates. It is recommended that the number of daily internal trips be revised using daily internal capture rates from ITE.

12. *Previous Comment:* Total pass-by trips were calculated in the trip generation analysis and a portion were assigned to Indrio Road and the I-95 ramps, based upon the background volumes on each facility. The I-95 ramp "pass-by trips" are actually considered diverted trips, since they must be considered new trips on Indrio Road and the driveways. It is unclear what is currently depicted on the Pass-By Figures provided in Part 2 of Appendix C. These figures should be revised to clearly illustrate the addition and subtraction of the diverted trips through the interchange and the site driveways, in order to facilitate the review of the diverted trip analysis.

Applicant's Response: These figures show the respective year ambient traffic, Visions traffic, and Indrio Groves traffic, and the sum total of the three (which equals background traffic). 10% of the total ramp

traffic was then taken simply to provide a comparison to the proposed ramp diversion that was calculated within the analysis. The proposed I-95 ramp diverted trips were calculated by taking the lesser of 25% of the external trip generation potential or 10% of the I-95 northbound and southbound traffic not already passing by the site. Furthermore, figures were produced (and attached to this response to comments) to show the ambient/committed traffic, ramp-diverted trips, pass-by trips, project trips, and the sum total of trips along Indrio Road from the I-95 ramps west through Driveway 1 (see Attachment 7 section).

FDOT Comment: Acknowledged.

13. *Previous Comment:* According to the revised methodology memo included in Appendix A, the interaction between the other DRIs is not included in this study. In addition, a memo was submitted to the Treasure Coast Regional Planning Council and FDOT on November 22, 2006 which stated that the traffic assignment for Capron Lakes DRI was revised and had removed the I-95 fly-over bridge that connected the Capron Lakes DRI with the Indrio Groves DRI. Revised Distribution Figures were provided with the November 22, 2006 memo depicting the revised traffic assignment. The distribution and subsequent analysis should be revised to correspond to the methodology described in the revised methodology memo and supporting documentation which states that the I-95 flyover will not be included in this study.

Applicant's Response: This is now the case, no interaction between Capron Lakes and other DRIs is considered, and the I-95 fly-over bridge that connected the Capron Lakes DRI with the Indrio Groves project is removed from the analysis.

FDOT Comment: Acknowledged.

14. *Previous Comment:* The Applicant should provide an electronic copy of the model runs used to develop the distribution in order to verify the inputs and outputs. In addition, the Applicant should provide color printouts of the model runs, depicting the number of lanes on each roadway segment and volumes (or percentages) of the site trips.

Applicant's Response: The information requested has been provided previously, and is provided in this response to comments (see Attachment 1 and 2 section). Additionally, electronic copies of the runs provided.

FDOT Comment: All road improvements assumed in the distribution model runs for each phase will be required as conditions of approval for the corresponding phase of the DRI for which they are included. For example, the following road improvements are not included in Question 21 as assured construction or a proposed improvement, but are included in the Phase 1 model and beyond:

- Six lanes on I-95 from north of SR-60 to Okeechobee Road beginning in 2015 (Note: According to Table 21 F-7 the Applicant is already committing to six lanes on I-95 by 2015 from Indrio Road to Okeechobee Road, but has not acknowledged commitment to six lanes on I-95 from CR-512 to Indrio Road)
- Four lanes on Indrio Road between the site and Johnston Road beginning in 2015 (Note: According to Table 21 F-7 the Applicant is committing to four lanes on Indrio Road by 2015 from Johnston Road to I-95, but has not acknowledged commitment to four lanes on Indrio Road from Johnston Road to the site until 2020)

Additional road improvements not included in Question 21 as assured construction, but included in the Phase 1 model and beyond are listed in Tables 21 D-1 and D-2. Since the distribution and subsequent analysis is based on these improvements, they should all be included as conditions of approval.

15. *Previous Comment:* The specific TAZ data used for each phase of the proposed project in the model was not provided in the report. Please clarify what was assumed for each Phase of the proposed development, as well as the committed developments where new TAZs were created.

Applicant's Response: See table below (Applicant provided a TAZ data summary table).

FDOT Comment: 1,000 dwelling units are proposed for Phase 1 2015, however, from the table provided it appears that 2,090 residential dwelling units were input in the Capron Lakes TAZ (#393) in 2015. Also, 50,000 square feet of Office is proposed along with 100,000 square feet of retail space in 2015. However, no office or retail employment was input for the Capron Lakes TAZ #393. Similar issues exist for the Phase II and III TAZ inputs. The Applicant should revise the TAZ data and check that the distribution used in the analysis is still accurate.

16. *Previous Comment:* Currently Koblegard Road/58th Avenue is connected between Oslo Road and Indrio Road. However, the model outputs provided in Appendix D do not show Koblegard Road/58th Avenue between Oslo Road and Indrio Road. Koblegard Road should be connected between Oslo Road and Indrio Road in the model, and the distribution should be revised based on results from the new model network.

Applicant's Response: Koblegard Road is an existing unpaved roadway from Indrio Road (in St. Lucie County) to 25th Street SW (in Indian River County). The connection of Koblegard Road/58th Avenue north to Oslo Road is anticipated in the future. As seen in the traffic modeling outputs, this connection as not made until 2020. **The development will be conditioned to this roadway being in place by 2020.**

FDOT Comment: Acknowledged.

17. *Previous Comment:* Figure 21 E-7 (2025 Driveway Assignment) was missing from the submittal. Please provide this figure.

Applicant's Response: Figure 21 E-7 is the 2025 Driveway Assignment and is now included in the ADA Question 21 text and it is attached to this response to comments (see Attachment 8 section).

FDOT Comment: Acknowledged.

18. *Previous Comment:* Since this project significantly impacts segments of I-95 from Indrio Road to Orange Avenue, and from Orange Avenue to Okeechobee Road during the AM and PM peak hour in 2015 thereby requiring the widening of I-95 to six (6) lanes, the Applicant should include merge and diverge analysis of the ramps providing access to I-95 on both of those impacted segments. Similar to intersection analysis for the defining intersections of an impacted roadway segment, this analysis will evaluate whether or not sufficient capacity exists at the ramp merge and diverge areas to accommodate the project's impact on the mainline from Indrio Road to Orange Avenue and from Orange Avenue to Okeechobee Road.

Applicant's Response: Merge and Diverge Ramp analyses are now included for the I-95 junction with Orange Avenue. The updated AM & PM ramp analysis summary sheet (now including results for the I-95 ramps at Orange Avenue) is attached to this response to comments as well as the HCS reports for the Orange Avenue merge and diverge ramps (see Attachment 9 section). However, merge and diverge analyses were not included for the I-95 junction with Okeechobee Road due to the I-95 segment from Orange Avenue to Okeechobee Road projecting to be over capacity in the 2015 background condition. Furthermore, it would not be consistent with the agreed upon methodology to analyze the I-95 ramps at Okeechobee Road.

FDOT Comment: Additional information should be provided and the ramp analysis should be revised based upon the following comments. However, conclusions were also made regarding the analysis to facilitate the development of DRI development order conditions.

- a. The Applicant should provide the existing AM and PM peak hour traffic volume data and calculations for the future ramp volumes at I-95 and Indrio Road and I-95 and Orange Avenue.
- b. Since the Applicant is committing to 6 lanes on I-95 by 2015 from Indrio Road to Orange Avenue and from Orange Avenue to Okeechobee Road, the Applicant should include these improvements in the 2015 merge and diverge analysis of the ramps providing access to I-95 on both impacted segments.
- c. The lengths of the acceleration and deceleration lanes were incorrect for all analysis. In the analysis, the length was measured from the beginning of the tapered segment until the end of the striped markings. According to the HCM the length should be measured from the beginning of the tapered segment until the front of the striped markings. This creates a much shorter acceleration or deceleration lane than that used in the analysis. This should be revised. However, after recalculating the merge and diverge analysis with a more accurate estimation of the lane length, the outcome produces only minor discrepancies. Furthermore, the ramps density remained at a LOS of C or D.
- d. Analysis of the NB off ramp and SB on ramp from Orange Avenue was not included. These should be provided. However the project trips for these two junctions should be very minimal.
- e. The PM 2015 NB merge analysis at Orange Avenue was not included. This should be provided. However, after calculating the merge and diverge analysis ourselves, we determined it would likely operate at an acceptable level of service.

New Comments

19. The Applicant incorrectly evaluated some State roadways based on Level of Service E capacities, instead of Level of Service D capacities. The link analysis at a minimum should be revised using the correct Level of Service D capacities. **Using the correct Level of Service D capacities, Indrio Road from Kings Highway to US-1 will need to be 4-Lane Divided (4-LD) by 2025. This will be a condition of approval.**
20. Not all roadway mitigation identified in the total future link analysis provided for each phase, is listed in the road improvement summary table (Table 21 F-7). **The Applicant should revise the summary table to include the following previously identified roadway improvements, which must be included as conditions of approval:**
 - **Indrio Road from the site to Road "A" must be 4LD by 2020,**
 - **Indrio Road from Road "A" to I-95 must be 4LD by 2020, and**
 - **Indrio Road between Kings Hwy and US-1 must be 4LD by 2025.**
21. Information must be provided regarding when the new traffic signals, shown in Figure 21 E-11, will be constructed. **New traffic signals at the following intersections must be included as conditions of approval, since the intersection analysis assumes these signals are in place:**

Phase I - 2015:

- **Indrio Road at I-95 West**
- **Indrio Road at I-95 East**
- **Indrio Road at Koblegard**
- **Indrio Road at Johnston Road**
- **Indrio Road at Emerson Avenue**

- **Indrio Road at Road 'A'**

Phase II - 2020:

- **Indrio Road at Access 1**
- **Indrio Road at Access 3**
- **Indrio Road at Access 5**
- **Indrio Road at US-1**

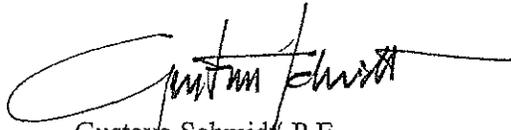
22. The intersection analysis should be revised using signal timings rounded to the nearest whole second. The following are examples of locations where signal timings were not rounded to the nearest whole second:

- Indrio Road and the southbound I -95 ramps during the 2020 PM peak hour with project trips,
- Indrio Road and Koblegard Road during the 2020 peak hours without project trips.

Although the signal timings used in the analysis are improper, the results of the intersection analysis are not expected to be significantly impacted due to this issue.

Please feel free to contact us at (954) 777-4601 should you have any questions

Sincerely,



Gustavo Schmid, P.E.
District Planning and Environmental Engineer

GS:cga/cw

cc: D. Ray Eubanks – Community Program Administrator, FDCA
Bob Romig – Director, Office of Policy Planning, FDOT
Gerry O'Reilly – Director of Transportation Development, FDOT
Steve Braun – Assistant Planning and Environmental Engineer, FDOT
Shi-Chiang Li – Systems Planning Manager, FDOT
Chon Wong – Senior Transportation Specialist, FDOT

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BOARD OF COUNTY COMMISSIONERS
1840 25th Street, Vero Beach, Florida 32960-3365



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TRAVEL COAST
REGIONAL PLANNING COUNCIL

Telephone: (772) 567-8000

July 12, 2007

Michael Busha, AICP
Executive Director
Treasure Coast Regional Planning Council
301 East Ocean Blvd
Suite 300
Stuart FL 34994

RE: Indian River County Staff Comments on Capron Lakes DRI 3rd Sufficiency Submittal (June 2007)

Dear Michael:

Thanks again for the opportunity to comment on the above referenced St. Lucie County DRI. Indian River County staff offer the following comments.

Planning & MPO

1. No additional comments beyond previous comments on background traffic.

Traffic Engineering

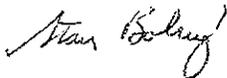
1. Per previous comment, all intersections within Indian River County need to be revised as follows:
 - a) The phasing and timing for all intersection analyses in the existing condition appear to be incorrect. Contact Kelly Sobczak at (772) 226-1547 to obtain the appropriate signal timing sheets.
 - b) Revise the default 2% Heavy Vehicles percentages with calculated values.
 - c) Revise the default Peak Hour Factors (PHF) values with the calculated values in the turning movement counts.
 - d) Revise the Start-up Lost Time to 3.0 seconds for all movements. In addition, review the Extension of Effective Green to 2.0 seconds.
2. Link analyses are required on all links within Indian River County operating at/or above 70% LOS "E" on which project traffic is assigned. In addition, review the Master Link Table shown within the Indian River County section of the report in clued project traffic. Project trips shall be distributed to a level of 8 trips on a two-lane roadway and 15 trips on a four or more lane roadway. Also, the date of the published table is more than a year old and is required to be no

more than 6 months old. Contact Geoffrey Bass with Indian River County at gbass@ircgov.com for an up to date table.

3. Projects significant to SR60 between 66th Avenue and I-95 must participate in Indian River County's "Interest Share Special Fee Fund" to facilitate the widening of SR60. The current fees are estimated to be \$7,677.00 per trip on SR60 between 66th Avenue and 82nd Avenue (Link 1920) and \$17,731.00 per trip on SR60 between 82nd Avenue and I-95 (Link 1915).
4. Based on the above comments, intersection improvements, roadway improvements, and/or contributions maybe required from this project to mitigate for the impacts on Indian River County roadways and intersections. Provide a table in the report listing all improvements/contributions required within Indian River County.

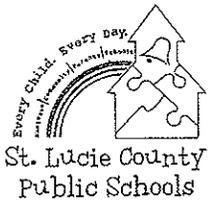
If you have any questions, please do not hesitate to contact me at (772) 226-1242.

Sincerely,



Stan Boling, AICP
Planning Director

cc: Board of County Commissioners
Joe Baird, County Administrator
Michael Zito, Assistant County Administrator
Bob M. Keating, AICP
John W. McCoy, AICP
Phil Matson, IRC MPO
Jim Davis, P.E.
Chris Mora, P.E.
Chris Kafer, P.E.
David Gunter, IRFWCD
Erik Olson
John King
Will Collins
Ruth Stanbridge
Larry Hymowitz, FDOT
Peter Jones, St. Lucie County
Steve Ball, Applicant



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Superintendent

Michael J. Lannon

August 28, 2007

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AUG 30 2007

TREASURER
 REGIONAL PLANNING COUNCIL

Kim DeLaney, Ph. D.
 Treasure Coast Regional Planning Council
 301 East Ocean Boulevard, Suite 300
 Stuart, FL 34994

Re: Capron Lakes - Development of Regional Impact -Educational Needs

Dear Ms. DeLaney:

As a part of the intergovernmental coordination we have reviewed the school needs for the ADA and provided input to the developer. We are currently working on a school impact fee agreement with the developer but that has not been finalized.

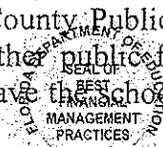
Attached are copies of previous correspondence regarding the project. Since the project has changed significantly during the course of review we will provide our current analysis below.

Background information and data: Based upon the current student generation rates (0.207 student/multi family and 0.405 students/ single family) from our impact fee study, we estimate the following student generation from the development.

Proposed Residential Units					Student Generation Estimates		
SF Dwelling Units	MF Dwelling Units	Age Restricted Housing	Total Dwelling Units	Total Non Age Restricted Housing	Total Number of Students	K-8 Number of Students	High School Number of Students
1,700	1,400	-	3,100	3,100	978	685	293

The developer has proposed a kindergarten thru grade 8 (K-8) school site to mitigate the school needs. The School Board's policy requires that K-8 School sites be 25-acres but allows some reduction based upon the developer providing stormwater in an offsite master system, the shape and configuration of the site.

The school site is located in phase 2 of the project and appears to be a good location for a school. The Florida Statutes and the St. Lucie County Public School Planning Interlocal agreement also require that school be collocated with other public facilities where practical, such as parks and libraries. The current site plan does not have the school site collocated because of planning around



environmental features. We ask that the developer continues to evaluate the collocation of the facilities as the project moves to final design.

The project is located outside the urban service area and does not have any schools located in proximity to the site. The initial phases of construction will not generate enough students to warrant school construction and will be served from other schools in the attendance zone. We anticipate that we will need the school site by the time the 1,000th approved residential unit is approved. The educational impact fee provides for the funding of school construction combined with capital revenue from ad valorem and other sources. In theory when the educational impact fee combined with other taxes paid by the residential unit are paid it funds new school construction. Timing and cash flow for school districts is another issue. In order to fund the school construction we will ask that the developer provide a prepayment schedule such as done in the southwest St. Lucie annexation area. The current draft of the education impact fee agreement for Capron Lakes has the developer prepaying the impact fees for 240 SF units at the 800th building permit, and again the same amount at the threshold of 1600 and 2400 dwelling units.

We also ask that if the developer is required to provide hurricane shelter space, that all costs associated with hardening an educational facility for use as a hurricane shelter space is the developer's responsibility. The School District will be amenable to allowing the schools in the DRI to be utilized for hurricane shelter space if the developer will contribute all costs associated with hardening the related educational facilities.

Based upon the above review, we ask that the assessment report address the following:

1. The developer shall provide a K-8 school site for proper siting of schools. The school site shall be at least a net of 25-acres, excluding upland preservation, wetland areas. Stormwater storage and treatment shall be provided in the master stormwater system. The acreage may be reduced according to School Board policy based upon the offsite treatment of stormwater.
2. The school site shall be provided prior to the issuance of final site plan approval of the 1,000th residential dwelling unit.
3. The developer shall continue to evaluate the collocation of the school with other public facilities where practical.
4. The developer shall prepay educational impact fees to provide the necessary funding of the school site as follows:

Number of Dwelling units	Pre-payment of educational impact fees (# Single family units)
800	240
1600	240
2400	240

5. The developer shall provide the required hurricane shelter space. That all costs associated with hardening an educational facility for use as a hurricane shelter space is the developer's responsibility. The School District may incorporate the shelter space into the school if the developer contributes all costs associated with hardening the related educational facilities.

We have not presented these issues before the School Board; therefore, this letter should not be construed to be School Board approval of your development plan or project.

We continue to appreciate the interaction with the TCRPC and are grateful for the opportunity to provide feedback on this project. Please feel free to contact me should you have any questions. I can be reached at (772) 429-3640.

Sincerely,



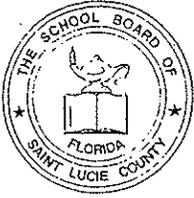
Marty E. Sanders, P.E.

Executive Director of Growth Management, Land Acquisitions & Governmental Relations

MES:mtf

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cc: Mike Lannon, Superintendent
School Board Members
Dan Harrell, SLCSB Attorney
Glenn Kerns, St. Lucie County



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Dr. Samuel S. Gaines
Carol A. Hilson

Superintendent

Michael J. Lannon

December 12, 2005

Michael J. Busha, AICP, Executive Director
Treasure Coast Regional Planning Council
301 East Ocean Boulevard, Suite 300
Stuart, FL 34994

SUBJECT: Indrio DRI-ADA --First Sufficiency Review

Dear Mr. Busha:

As a part of the intergovernmental coordination we have reviewed the ADA for sufficiency and have the following questions:

1. Map H: Recognizing that the drawing is a conceptual plan, will there be more than one access point to the school onto adjacent roadways such that the main roadway will not be overloaded at pickup and drop-off times? It appears that a secondary access could be incorporated into the residential areas.
2. Proposed Land Uses: Part II Page 5. The St. Lucie County Comprehensive Plan policy 1.1.5.9 states that all development outside the Urban Service Area shall pay the entire cost of its fiscal impact on public facilities and services. Given that the impact fees only pay about 2/3 the cost of the total infrastructure and the remainder is paid through credits, how is this being addressed?

It has been the School Board's direction to address the impact due to land use change. This is also addressed in the County's Land Development Code 11.06.03 (E) Standards of Review: "*whether or to the extent to which the proposed amendment would exceed the capacity of such public facilities, includingschools...*" The St. Lucie County Comprehensive plan also states in policy 11.1.2.4 (Page 11-58): "*Future development shall pay for 100% of the capital improvements needed to address the impact of such development... Future development payments may take the form of, but are not limited to, voluntary contributions for the benefit of any public facility, impact fees, capacity fees, dedications of land, provisions of public facilities and future payments of user fees, special assessments and taxes.*"

3. Question 23: Hurricane Preparedness item 1B: Page 172: The ADA did not address the hurricane shelter space requirements. Since the county is deficient in the necessary shelter space, how is shelter space and funding being addressed?
4. Question 23: Hurricane Preparedness Item B2: Page 172: The hurricane evacuation route LOS analysis should be analyzed. Will the major arterial to the school site be treated as an evacuation route and be subject to the 100-year, 72-hour criteria?
5. Question 23: Hurricane Preparedness: Page 172: The cost to add an EHPA to a school can be as much as 10-15% of the school construction cost. Is the developer proposing to fund any of the EHPA to serve the project or have they considered other shelter space such as the concept of a

disaster prepared community incorporating shelter capacity in the proposed community buildings (e.g. clubhouses, recreation centers, etc)?

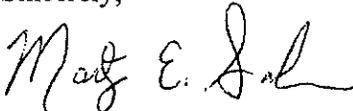
6. Question 27: Page 235: The Indrio Road area has several DRI's that have been filed, or contemplated. The other 2 DRI's currently submitted to the TCRPC at this time has proposed K-8 schools (providing capacity for 3200 K-8 students). The K-8 needs are being met with this arrangement but there is a shortfall of high school student stations. Given the DRI's proposed, as well as sub DRI infill, it appears that about 2 High Schools will be needed in the area. It would also appear that this location would work well to serve the area for a high school. Therefore we are requesting that the high school student needs be met with a high school site at this location.

School Board policy requires elementary school sites be 15-acres, middle school sites be 25-acres and high school sites be 45-acres (net acreage exclusive of any storm water, wetland or upland preservation requirements). K-8 schools have been designated as middle schools for this purpose, therefore requiring 25 acres.

7. Question 27: Page 236: The financial issues keeping up with growth is tremendous. How is the development proposing to fund the necessary school improvements without impacting currently funded projects? The proposed project is within Zone 1 of the School District's choice system. Our current 5-year work plan has a shortfall of over \$200 million dollars. Presently the elementary, middle and high schools in Zone 1 are over the program and core facility capacities. There are insufficient permanent student stations at the middle and high schools to meet the program needs, but they are being met through the placement of portable classrooms on the sites. The high school in Zone 1, Fort Pierce Westwood, is scheduled for modernization and will create additional capacity but is currently not funded. St. Lucie County has approved approximately 6,465 residential dwelling units since 2003. From these approved developments and based upon average student generation rates we can expect about 2,400 public school students (1130 elementary, 550 middle, 720 high).
8. General: As a part of the development review process the School Board will enter into a development agreement for school related issues. The applicant should contact me at the number below to arrange a meeting to start that process.

Please call me at (772) 429-3640 if you have any questions.

Sincerely,



Marty E. Sanders, P.E.

Executive Director Growth Management, Land Acquisitions and Inter-Governmental Relations

MES/mtf

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cc: School Board Members
Michael Lannon, Superintendent
David Kelly, St. Lucie County Planning Manager

APPENDIX C

Goals, Strategies and Policies

This appendix contains a summary of the goals, strategies and policies in the SRPP that are most relevant to the project. Please refer to the SRPP for a more complete discussion of regional issues and additional goals, strategies, and policies.

Future of the Region

MASTER PLAN

Goal 4.1: Future development should be part of existing or proposed cities, towns, or villages.

Goal 6.1: Create new neighborhoods and communities.

Goal 10.1: Neighborhoods and communities which are served by a variety of transportation modes.

Goal 15.1: Preferred forms of development which result in downtown redevelopment and infill, the containment of suburban sprawl and the creation of new cities, towns, and villages.

Goal 16.1: The formation of new towns, cities and villages.

Strategy 6.1.1: Encourage the formation of sustainable neighborhoods and communities.

Strategy 7.1.3: Promote improved community planning and urban design.

Strategy 7.2.1: Promote patterns of development which provide better opportunities for the transportation disadvantaged.

Strategy 7.3.1: Reduce vulnerability to natural and man-made disaster events through better transportation, land use and community planning.

Strategy 12.1.1: Encourage patterns of development and programs which improve the independence and self-sufficiency of children.

Strategy 13.1.1: Encourage patterns of development and programs which minimize dependency on the automobile, encourage and accommodate public transit, and reduce vehicle miles traveled and the amount of vehicle emission discharged into the atmosphere.

Strategy 16.1.1: Encourage and facilitate preferred forms of development.

Policy 6.1.1.1: New neighborhoods and districts should contain a balanced, well-planned, compatible mix of land uses appropriately located so that State, local and regional goals are achieved.

Policy 6.1.1.2: New neighborhoods and districts should have compact designs, with a mix of building types.

Policy 6.1.2.3: Require that an urban design study be prepared to evaluate development proposals in the countryside.

Policy 7.1.1.4: Urban design and architectural studies should be performed when evaluating residential and commercial projects. Such studies should analyze building typology and compatibility, land use mix and the overall impact of the project on the surrounding neighborhood or district.

Policy 7.1.3.1: Encourage patterns and forms of development and redevelopment that maximize public transportation alternatives, minimize the use of the Region's collector and arterial roadway network, and reduce the total amount of daily vehicle miles traveled.

Policy 7.2.1.1: Encourage patterns and forms of development and redevelopment and street design that will improve mobility opportunities for transit dependent groups especially the poor, handicapped and young.

Policy 7.3.1.2: Plan and design new development and redevelopment to increase the ability of the internal and external roadway network to accommodate emergency traffic, enhance post disaster recovery efforts, and provide central locations for public shelters and emergency relief centers.

Policy 8.1.1.3: Encourage patterns of development which minimize the public cost for providing services, maximize the use of existing service systems and facilities and take into full consideration environmental/physical limitations.

Policy 9.1.1.1: Encourage patterns of development and programs which reduce dependency on the automobile, encourage and accommodate public transit, and reduce the overall use of fossil fuels.

Policy 10.1.1.1: Plan and design development to effectively accommodate alternative modes of transportation.

Policy 12.1.1.1: Consider the special mobility needs of children in all development proposals.

Policy 12.1.1.2: Encourage the location and provision of schools, parks, recreational and other uses (e.g., retail, civic uses, etc.) within biking or walking distance.

Policy 12.1.1.4: Provide sites for civic uses such as schools, parks and libraries within neighborhoods.

Policy 15.1.3.13: Make non-preferred forms of development occurring in undeveloped areas responsible for the full and true infrastructure costs to support the development through buildout.

Policy 16.1.1.1: Local governments should identify appropriate locations for preferred forms of development.

Policy 16.1.1.2: Future land use plans should be prepared for locations considered appropriate for new towns, cities, villages, neighborhoods and districts.

Transportation

RIGHTS OF WAY

Policy 7.1.1.1: Reserve and protect sufficient road right-of-way on the regional roadway network to provide for an efficient multi-modal transportation system.

EXTERNAL ROADWAY IMPROVEMENTS

Goal 8.1: Public facilities which provide a high quality of life.

Strategy 8.1.1: Provide levels of public services necessary to achieve a high quality of life, cost effective.

Policy 8.1.1.1: All development should take place concurrent with or after the provision of necessary infrastructure and services.

INTERSECTION IMPROVEMENTS

Goal 8.1: Public facilities which provide a high quality of life.

Strategy 8.1.1: Provide levels of public services necessary to achieve a high quality of life, cost effective.

Policy 8.1.1.1: All development should take place concurrent with or after the provision of necessary infrastructure and services.

ACCESS DRIVEWAYS

Goal 7.1: A balanced and integrated transportation system.

Strategy 7.1.3: Promote improved community planning and urban design.

Policy 7.1.3.1: Encourage patterns and forms of development and redevelopment that maximize public transportation alternatives, minimize the use of the Region's collector and arterial roadway network, and reduce the total amount of daily vehicle miles traveled.

ANNUAL REPORTING AND MONITORING

Goal 8.1: Public facilities which provide a high quality of life.

Strategy 8.1.1: Provide levels of public services necessary to achieve a high quality of life, cost effective.

Policy 8.1.1.1: All development should take place concurrent with or after the provision of necessary infrastructure and services.

NEIGHBORHOOD IMPACTS

Policy 7.1.2.1: Assist public and private agencies and entities in implementing TDM strategies that reduce congestion, energy use and the number of single-occupant auto trips.

Policy 7.1.2.2: Give consideration during the planning of transportation system expansion to providing incentives for use of high-occupancy vehicles and alternative modes of transportation (e.g., car pools, van pools, buses, bicycles, etc.).

Policy 7.1.2.3: Increase land use densities and the mix of land uses around commuter rail stations and at strategic locations along designated public transportation corridors where consistent with other local and regional goals and strategies.

Policy 7.1.2.4: Develop and redevelop downtowns and strategic locations along designated public transportation corridors. In order to improve the feasibility of public transportation, residential densities should be no less than 8 units per acre.

Policy 7.1.2.5: Develop a regional roadway system of predictably spaced and interconnected east-west, north-south streets. Ideally, streets should be spaced every one-quarter to one-half mile to offer multiple route choices, disperse traffic, and discourage local travel on interstates and arterials.

Policy 7.1.3.2: Suggests planning development to provide interconnections for pedestrians and public transportation within and between residential areas, schools, employment and retail centers, recreational areas and other public facilities.

Policy 7.1.3.3: An urban design study should be prepared prior to the development and redevelopment of building sites or changes to the street network.

Policy 7.1.3.5: Orient buildings toward streets to create better pedestrian environments.

Policy 7.1.3.6: Locate buildings so they are as convenient and accessible to public transportation facilities and sidewalks as they are to auto parking.

Policy 7.1.3.7: Locate parking to the sides and backs of buildings so that pedestrian access and access from public transportation does not require walking through large parking lots to reach building entrances.

Policy 7.1.3.9: Design and locate parking lots and garages to enhance pedestrianism and the character and attractiveness of the area, and to encourage use of alternate modes of transportation.

Strategy 7.1.4: Encourage public transportation alternatives.

Policy 7.1.4.1: Review and where necessary amend public policy governing parking requirements to support “transit first” policies and to promote public transit as a viable alternative in high density areas, designated public transportation corridors, and central business districts.

Policy 7.1.4.2: Have new development or redevelopment provide transit ridership amenities (shelters, route information, and schedules) and appropriate and effective incentives whenever transit use is assumed or required to maintain acceptable roadway level of service.

Policy 7.1.4.4: Support requests for lower levels of service and establishment of transportation concurrency exception areas in higher density areas, downtowns, and along designated public transportation corridors where it can be demonstrated that levels of mobility and convenience will be maintained or increased through other modes of transportation or land use corrections.

Policy 7.1.4.5: Support development and implementation of corridor management plans which are consistent with the SRPP.

Human Resource Issues

HOUSING

Goal 2.1: An adequate supply of safe and affordable housing to meet the needs of the very low, low, and moderate-income residents of the Region.

Goal 2.2: A range of housing types and affordabilities in proximity to employment and services.

Strategy 2.1.1: Create a planning/regulatory climate which is conducive to the production of affordable housing.

Strategy 2.1.2: Create and expand public/private partnerships among all entities involved in the provision of affordable housing including financial institutions, developers, contractors, government agencies, social service and other non-profit organizations, churches and realtors.

Strategy 2.2.1: Ensure that all areas have a reasonable mix of housing, employment opportunities, and services.

Policy 2.1.1.1: Local governments should reduce unnecessary regulatory barriers which make it more difficult to build affordable housing. Examples of such barriers are large lot sizes, minimum unit size and floor space, and setbacks.

Policy 2.1.1.2: Local governments should allow zero lot line development, cluster development, accessory apartments, high-density zoning, mixed-use buildings, modified site improvement standards, alternate construction techniques, etc.

Policy 2.1.1.4: Local governments should consider the enactment of incentives such as density bonuses, linkage programs, and inclusionary housing policies.

Policy 2.1.1.5: Local governments should designate adequate sites where affordable housing can be developed.

Policy 2.1.2.1: Work closely with non-profit organizations who are interested in sponsoring housing projects which serve very low, low and moderate-income residents.

Environment and Natural Resources

UPLAND PRESERVATION

Strategy 1.1.1: Preserve and manage complete natural systems as a network of connected nature preserves.

Strategy 6.1.1: Preserve and manage natural systems as a network of connected nature preserves and promote the establishment of greenway systems in the region.

Policy 6.7.1.2: Development plans should be designed to maximize the amount of protected habitat. Protected natural communities and ecosystems should be preserved in viable condition with intact canopy, under-story, and ground cover. Where possible, preserve areas should be designed to interconnect with other natural areas that have been set aside for preservation. A restoration and management plan for the protected areas should be developed.

As a minimum baseline measure for consistency with the SRPP, Council strives to achieve protection of 25 percent of upland natural communities in the evaluation of development plans. Council supports the maximum protection of natural communities,

and recommends that more than 25 percent of the upland habitat be preserved where appropriate.

Policy 6.7.1.9: Preserve areas should be designed to protect integrated systems of uplands and wetlands.

Strategy 6.8.1: Preserve areas should be designed and established to protect endangered and potentially endangered species.

Policy 7.1.2.6: Redirect development patterns away from interstates and major arterials to town and neighborhood centers along collector and minor arterials.

Policy 8.1.1.3: Encourage patterns of development which minimize the public cost for providing services, maximize the use of existing service systems and facilities and take into full consideration environmental/physical limitations.

LISTED SPECIES

Strategy 1.1.1: Preserve and manage complete natural systems as a network of connected nature preserves.

Strategy 6.8.1: Preserve areas should be designed and established to protect endangered and potentially endangered species.

Policy 6.8.1.2: All endangered and potentially endangered plant and animal populations should be protected and all habitat of significant value to existing populations of endangered and threatened species should be preserved and protected.

WETLANDS

Policy 6.6.1.1: No activity should be allowed that results in the alteration, degradation, or destruction of wetlands and deepwater habitats, except when:

1. Such an activity is necessary to prevent or eliminate a public hazard;
2. Such an activity would provide direct public benefits which would exceed those lost to the public as a result of habitat alteration, degradation, or destruction;
3. Such an activity is proposed for habitats in which the functions and values currently provided are significantly less than those typically associated with such habitats and cannot be reasonably restored;
4. Such an activity is water dependent or, due to the unique geometry of the site, minimal impact is the unavoidable consequence of development for uses, which are appropriate given site characteristics.

Policy 6.6.1.2: Whenever any wetland or deepwater habitat is degraded or destroyed, mitigation should be provided through the creation of new wetland and deepwater habitat, through the restoration of degraded habitat, or through the enhancement of functions and values provided by existing habitats.

Policy 6.6.1.3: A buffer zone of native upland edge vegetation should be provided and maintained around wetland and deepwater habitats, which are constructed or preserved on new development sites. The buffer zone may consist of preserved or planted vegetation but should include canopy, under-story, and ground cover of native species only. The edge habitat should begin at the upland limit of any wetland or deepwater habitat.

EXOTIC SPECIES

Policy 6.7.1.4: All nuisance and invasive exotic vegetation listed by the Florida Exotic Pest Plant Council should be removed and where appropriate replaced with plant species adapted to existing soil and climatic conditions. Removal should be in such a manner that avoids seed dispersal by any such species. State and federal agencies and local governments should coordinate and assist in the removal and replacement of nuisance exotic pest species.

STORMWATER MANAGEMENT

The following strategy and policies in the SRPP apply to the project:

Strategy 1.1.2: Promote compatibility of urban areas, regional facilities, natural preserves and other open spaces.

Policy 6.3.1.1: All new, reconstructed or substantially expanded storm and surface water management systems should be designed and constructed to meet state water quality standards. Where feasible, retention is the preferred method for treatment of stormwater, recharging the aquifer, and protecting the region's estuaries.

Policy 6.3.1.2: A vegetated and functional littoral zone should be established as part of new surface water management systems where possible. Prior to construction of the surface water management system for any phase of a project, the developer should prepare a design and management plan for the wetland/littoral zone that will be established as part of these systems. The littoral zone established should consist entirely of native vegetation and should be maintained permanently as part of the water management system.

Policy 6.3.1.6: Design drainage systems that maintain the natural discharge pattern of stormwater from a site.

WATER SUPPLY

Goal 8.1: Public facilities which provide high quality of life.

Strategy 8.1.1: Provide levels of public services necessary to achieve a high quality of life, cost effectively.

Policy 8.1.1.1: All development should take place concurrent with or after the provision of the necessary infrastructure and services.

Goal 6.2: A regional water supply managed to provide for all recognized needs on a sustainable basis.

Strategy 6.2.1: Develop and implement water conservation programs.

Policy 6.2.1.1: Use reclaimed wastewater for irrigation and other suitable purposes when such use is determined to be feasible.

Policy 6.2.1.3: Protect natural communities on development sites as a method to reduce the need for irrigation.

Policy 6.2.1.4: In order to protect and conserve the water resources of the Region and southern Florida to ensure the availability for future generations:

1. All landscaping material used on the primary dune system should be composed of native plants adapted to soil and climatic conditions occurring on-site. In all other locations the majority of landscaped areas should be composed of native or drought tolerant plants adapted to soil and climatic conditions occurring on-site.
2. The lowest acceptable quality water should be used to meet nonpotable water demands.
3. Potable water rates should be structured to encourage conservation.
4. All new and expanding wastewater treatment facilities should make reclaimed wastewater available for use in irrigation. Where possible, all new development should rely on wastewater reuse for irrigation.
5. Use of water saving device, irrigation systems, and plumbing fixtures should be required to the maximum extent justified. Where appropriate, existing systems should be retrofitted to make use of the most cost efficient water saving devices.
6. Leak detection programs should be developed and implemented.

WASTEWATER MANAGEMENT

Goal 8.1: Public facilities which provide high quality of life.

Strategy 8.1.1: Provide levels of public services necessary to achieve a high quality of life, cost effectively.

Policy 8.1.1.1: All development should take place concurrent with or after the provision of the necessary infrastructure and services.

HURRICANE PREPAREDNESS

Goal 5.2: Reduced vulnerability to disasters.

Strategy 5.2.1: Utilize land use, transportation, and community planning processes to address vulnerability issues.

Policy 5.2.1.1: Plan and design new development and redevelopment to increase the ability of the internal and external roadway network to accommodate emergency traffic, enhance post disaster recovery efforts, and provide natural central locations for public shelters and emergency relief centers.

Regional Goal 5.3: Adequate and safe shelter within the Region for residents in coastal high hazard and floodplain areas.

Strategy 5.3.1: Provide shelter space for residents of areas susceptible to flooding from the effects of hurricanes and other storms.

Policy 5.3.1.10: In accordance with State, local, and regional hurricane evacuation studies and emergency evacuation plans, require new developments to fully mitigate impacts on existing public shelter capacities by providing additional shelter space which can safely accommodate the development's residents who are likely to seek public shelter locally during a hurricane event.

SOLID WASTE AND HAZARDOUS MATERIALS

Goal 6.3: Protection of water quality and quantity.

Goal 8.1: Public facilities which provide a high quality of life.

Policy 8.1.1.1: All development should take place concurrent with or after the provisions of necessary infrastructure and services.

AIR QUALITY

Goal 13.1: Maintenance of acceptable air quality levels

Strategy 13.1.1: Encourage patterns of development and programs which minimize dependency on the automobile, encourage and accommodate public transit, and reduce

vehicle miles traveled and the amount of vehicle emission discharged into the atmosphere.

Policy 13.1.1.1: Implement practices, which minimize airborne dust and particulate emission.

Strategy 7.1.3: Promote improved community planning and urban design.

Policy 7.1.3.1: Encourage patterns and forms of development and redevelopment that maximize public transportation alternatives, minimize the use of the Region's collector and arterial roadway network, and reduce the total amount of daily vehicle miles traveled.

Policy 7.1.3.4: Reduce VMT per capita by private automobile within the Region through a combination of the following:

- (1) provision of public transportation alternatives;
- (2) provision of housing opportunities in proximity to employment opportunities;
- (3) provision of essential services and recreational opportunities in proximity to demand;
- (4) concentration of commercial and other essential services;
- (5) provision of a street network designed for the pedestrian the disabled, the automobile and transit;
- (6) provision of parking in ways that will encourage pedestrianism and public transportation alternatives;
- (7) provision of incentives encouraging infill and downtown redevelopment;
- (8) support of public and private sector efforts to carry out TDM strategies that will reduce congestion; and
- (9) expansion of commuter rail and intermodal connections.

POLICE AND FIRE PROTECTION

Goal 8.1: Public facilities which provide a high quality of life.

Strategy 8.1.1: Provide levels of public services necessary to achieve a high quality of life, cost effectively.

Policy 8.1.1.1: All development should take place concurrent with or after the provision of necessary infrastructure and services.

HISTORIC AND ARCHAEOLOGICAL SITES

Strategy 15.1.1: Identify and protect archaeological and historical resources in the Region.

ENERGY

Goal 9.1: Decreased vulnerability of the Region to fuel price increases and supply interruptions.

Strategy 9.1.1: Reduce the Region's reliance on fossil fuels.

Policy 9.1.1.1: Encourage patterns of development and programs, which reduce the dependency on the automobile, encourage and accommodate public transit, and reduce the overall use of fossil fuels.

Policy 9.1.1.3: Encourage energy efficient buildings. Strategies should include: 1) proper siting according to solar orientation; b) design of passive architectural systems; c) site designs that provide shade to buildings; d) use of sustainable building materials; and e) use of solar mechanical systems.

ECONOMIC AND FISCAL IMPACTS

Policy 8.1.1.3: Encourage patterns of development, which minimize the public cost for providing services, maximize the use of existing service systems and facilities and take into full consideration environmental/physical limitations.

Policy 8.1.2.2: Give high priority to restoring or establishing new public facilities only in areas that have been designated as locations that will be built following preferred development form principles.

Strategy 3.4.1: Promote patterns of development, which allow public services and facilities to be provided more cost effectively.

Policy 3.4.1.3: Non-preferred forms of development, which occur in undeveloped areas should be responsible for and bear the full and true infrastructure costs to support the development through build out.

Policy 3.4.1.4: Develop a tiered system of impact fees which recognizes cost differences of providing public services to the development based on the size, type, form, location and service demands of the development proposed.

APPENDIX D

Wood Stork Habitat Guidelines

HABITAT MANAGEMENT GUIDELINES FOR THE WOOD STORK IN THE SOUTHEAST REGION



HABITAT MANAGEMENT GUIDELINES
FOR THE WOOD STORK IN THE
SOUTHEAST REGION

Prepared by

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For the

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U.S. Fish and Wildlife Service

Cover design by
Florida Power & Light Company
Miami, Florida

HABITAT MANAGEMENT GUIDELINES FOR THE WOOD STORK IN THE SOUTHEAST REGION

Introduction

A number of Federal and state laws and/or regulations prohibit, cumulatively, such acts as harrasing, disturbing, harming, molesting, pursuing, etc., wood storks, or destroying their nests (see Section VII). Although advisory in nature, these guidelines represent a biological interpretation of what would constitute violations of one or more of such prohibited acts. Their purpose is to maintain and/or improve the environmental conditions that are required for the survival and well-being of wood storks in the southeastern United States, and are designed essentially for application in wood stork/human activity conflicts (principally land development and human intrusion into stork use sites). The emphasis is to avoid or minimize detrimental human-related impacts on wood storks. These guidelines were prepared in consultations with state wildlife agencies and wood stork experts in the four southeastern states where the wood stork is listed as Endangered (Alabama, Florida, Georgia, South Carolina).

General

The wood stork is a gregarious species, which nests in colonies (rookeries), and roosts and feeds in flocks, often in association with other species of long-legged water birds. Storks that nest in the southeastern United States appear to represent a distinct population, separate from the nearest breeding population in Mexico. Storks in the southeastern U.S. population have recently (since 1980) nested in colonies scattered throughout Florida, and at several central-southern Georgia and coastal South Carolina sites. Banded and color-marked storks from central and southern Florida colonies have dispersed during non-breeding seasons as far north as southern Georgia, and the coastal counties in South Carolina and southeastern North Carolina, and as far west as central Alabama and northeastern Mississippi. Storks from a colony in south-central Georgia have wintered between southern Georgia and southern Florida. This U.S. nesting population of wood storks was listed as endangered by the U.S. Fish and Wildlife Service on February 28, 1984 (*Federal Register* 49(4):7332-7335).

Wood storks use freshwater and estuarine wetlands as feeding, nesting, and roosting sites. Although storks are not habitat specialists, their needs are exacting enough, and available habitat is limited enough, so that nesting success and the size of regional populations are closely regulated by year-to-year differences in the quality and quantity of suitable habitat. Storks are especially sensitive to environmental conditions at feeding sites; thus, birds may fly relatively long distances either daily or between regions annually, seeking adequate food resources.

All available evidence suggests that regional declines in wood stork numbers have been largely due to the loss or degradation of essential wetland habitat. An understanding of the qualities of good stork habitat should help to focus protection efforts on those sites

that are seasonally important to regional populations of wood storks. Characteristics of feeding, nesting, and roosting habitat, and management guidelines for each, are presented here by habitat type.

I. Feeding habitat.

A major reason for the wood stork decline has been the loss and degradation of feeding habitat. Storks are especially sensitive to any manipulation of a wetland site that results in either reduced amounts or changes in the timing of food availability.

Storks feed primarily (often almost exclusively) on small fish between .1 and 8 inches in length. Successful foraging sites are those where the water is between 2 and 15 inches deep. Good feeding conditions usually occur where water is relatively calm and uncluttered by dense thickets of aquatic vegetation. Often a dropping water level is necessary to concentrate fish at suitable densities. Conversely, a rise in water, especially when it occurs abruptly, disperses fish and reduces the value of a site as feeding habitat.

The types of wetland sites that provide good feeding conditions for storks include: drying marshes or stock ponds, shallow roadside or agricultural ditches, narrow tidal creeks or shallow tidal pools, and depressions in cypress heads or swamp sloughs. In fact, almost any shallow wetland depression where fish tend to become concentrated, either through local reproduction or the consequences of area drying, may be used by storks.

Nesting wood storks do most of their feeding in wetlands between 5 and 40 miles from the colony, and occasionally at distances as great as 75 miles. Within this colony foraging range and for the 110-150 day life of the colony, and depending on the size of the colony and the nature of the surrounding wetlands, anywhere from 50 to 200 different feeding sites may be used during the breeding season.

Non-breeding storks are free to travel much greater distances and remain in a region only for as long as sufficient food is available. Whether used by breeders or non-breeders, any single feeding site may at one time have small or large numbers of storks (1 to 100+), and be used for one to many days, depending on the quality and quantity of available food. Obviously, feeding sites used by relatively large numbers of storks, and/or frequently used areas, potentially are the more important sites necessary for the maintenance of a regional population of birds.

Differences between years in the seasonal distribution and amount of rainfall usually mean that storks will differ between years in where and when they feed. Successful nesting colonies are those that have a large number of feeding site options, including sites that may be suitable only in years of rainfall extremes. To maintain the wide range of feeding site options requires that many different wetlands, with both relatively short and long annual hydroperiods, be preserved. For example, protecting only the larger wetlands, or those with longer annual hydroperiods, will result in the eventual loss of smaller, seemingly less important wetlands. However, these small scale wetlands are crucial as the only available feeding sites during the wetter periods when the larger habitats are too deeply flooded to be used by storks.

II. Nesting habitat.

Wood storks nest in colonies, and will return to the same colony site for many years so long as that site and surrounding feeding habitat continue to supply the needs of the birds. Storks require between 110 and 150 days for the annual nesting cycle, from the period of courtship until the nestlings become independent. Nesting activity may begin as early as December or as late as March in southern Florida colonies, and between late February and April in colonies located between central Florida and South Carolina. Thus, full term colonies may be active until June-July in south Florida, and as late as July-August at more northern sites. Colony sites may also be used for roosting by storks during other times of the year.

Almost all recent nesting colonies in the southeastern U.S. have been located either in woody vegetation over standing water, or on islands surrounded by broad expanses of open water. The most dominant vegetation in swamp colonies has been cypress, although storks also nest in swamp hardwoods and willows. Nests in island colonies may be in more diverse vegetation, including mangroves (coastal), exotic species such as Australian pine (*Casuarina*) and Brazilian Pepper (*Schinus*), or in low thickets of cactus (*Opuntia*). Nests are usually located 15-75 feet above ground, but may be much lower, especially on island sites when vegetation is low.

Since at least the early 1970's, many colonies in the southeastern U.S. have been located in swamps where water has been impounded due to the construction of levees or roadways. Storks have also nested in dead and dying trees in flooded phosphate surface mines, or in low, woody vegetation on mounded, dredge islands. The use of these altered wetlands or completely "artificial" sites suggests that in some regions or years storks are unable to locate natural nesting habitat that is adequately flooded during the normal breeding season. The readiness with which storks will utilize water impoundments for nesting also suggests that colony sites could be intentionally created and maintained through long-term site management plans. Almost all impoundment sites used by storks become suitable for nesting only fortuitously, and therefore, these sites often do not remain available to storks for many years.

In addition to the irreversible impacts of drainage and destruction of nesting habitat, the greatest threats to colony sites are from human disturbance and predation. Nesting storks show some variation in the levels of human activity they will tolerate near a colony. In general, nesting storks are more tolerant of low levels of human activity near a colony when nests are high in trees than when they are low, and when nests contain partially or completely feathered young than during the period between nest construction and the early nestling period (adults still brooding). When adult storks are forced to leave their nests, eggs or downy young may die quickly (<20 minutes) when exposed to direct sun or rain.

Colonies located in flooded environments must remain flooded if they are to be successful. Often water is between 3 and 5 feet deep in successful colonies during the nesting season. Storks rarely form colonies, even in traditional nesting sites, when they are dry, and may abandon nests if sites become dry during the nesting period. Flooding in colonies may be most important as a defense against mammalian predators. Studies of stork colonies in Georgia and

Florida have shown high rates of raccoon predation when sites dried during the nesting period. A reasonably high water level in an active colony is also a deterrent against both human and domestic animal intrusions.

Although nesting wood storks usually do most feeding away from the colony site (>5 miles), considerable stork activity does occur close to the colony during two periods in the nesting cycle. Adult storks collect almost all nesting material in and near the colony, usually within 2500 feet. Newly fledged storks, near the end of the nesting cycle, spend from 1-4 weeks during the fledging process flying locally in the colony area, and perched in nearby trees or marshy spots on the ground. These birds return daily to their nests to be fed. It is essential that these fledging birds have little or no disturbance as far out as one-half mile within at least one or two quadrants from the colony. Both the adults, while collecting nesting material, and the inexperienced fledglings, do much low, flapping flight within this radius of the colony. At these times, storks potentially are much more likely to strike nearby towers or utility lines.

Colony sites are not necessarily used annually. Regional populations of storks shift nesting locations between years, in response to year-to-year differences in food resources. Thus, regional populations require a range of options for nesting sites, in order to successfully respond to food availability. Protection of colony sites should continue, therefore, for sites that are not used in a given year.

III. Roosting habitat.

Although wood storks tend to roost at sites that are similar to those used for nesting, they also use a wider range of site types for roosting than for nesting. Non-breeding storks, for example, may frequently change roosting sites in response to changing feeding locations, and in the process, are inclined to accept a broad range of relatively temporary roosting sites. Included in the list of frequently used roosting locations are cypress "heads" or swamps (not necessarily flooded if trees are tall), mangrove islands, expansive willow thickets or small, isolated willow "islands" in broad marshes, and on the ground either on levees or in open marshes.

Daily activity patterns at a roost vary depending on the status of the storks using the site. Non-breeding adults or immature birds may remain in roosts during major portions of some days. When storks are feeding close to a roost, they may remain on the feeding grounds until almost dark before making the short flight. Nesting storks travelling long distances (>40 miles) to feeding sites may roost at or near the latter, and return to the colony the next morning. Storks leaving roosts, especially when going long distances, tend to wait for mid-morning thermals to develop before departing.

IV. Management zones and guidelines for feeding sites.

To the maximum extent possible, feeding sites should be protected by adherence to the following protection zones and guidelines:

- A. There should be no human intrusion into feeding sites when storks are present. Depending upon the amount of screening vegetation, human activity should be no closer than between 300 feet (where solid vegetation screens exist) and 750 feet (no vegetation screen).

- B. Feeding sites should not be subjected to water management practices that alter traditional water levels or the seasonally normal drying patterns and rates. Sharp rises in water levels are especially disruptive to feeding storks.
- C. The introduction of contaminants, fertilizers, or herbicides into wetlands that contain stork feeding sites should be avoided, especially those compounds that could adversely alter the diversity and numbers of native fishes, or that could substantially change the characteristics of aquatic vegetation. Increase in the density and height of emergent vegetation can degrade or destroy sites as feeding habitat.
- D. Construction of tall towers (especially with guy wires) within three miles, or high power lines (especially across long stretches of open country) within one mile of major feeding sites should be avoided.

V. Management zones and guidelines for nesting colonies.

A. Primary zone: This is the most critical area, and must be managed according to recommended guidelines to insure that a colony site survives.

1. Size: The primary zone must extend between 1000 and 1500 feet in all directions from the actual colony boundaries when there are no visual or broad aquatic barriers, and never less than 500 feet even when there are strong visual or aquatic barriers. The exact width of the primary zone in each direction from the colony can vary within this range, depending on the amount of visual screen (tall trees) surrounding the colony, the amount of relatively deep, open water between the colony and the nearest human activity, and the nature of the nearest human activity. In general, storks forming new colonies are more tolerant of existing human activity, than they will be of new human activity that begins after the colony has formed.

2. Recommended Restrictions:

a. Any of the following activities within the primary zone, at any time of the year, are likely to be detrimental to the colony:

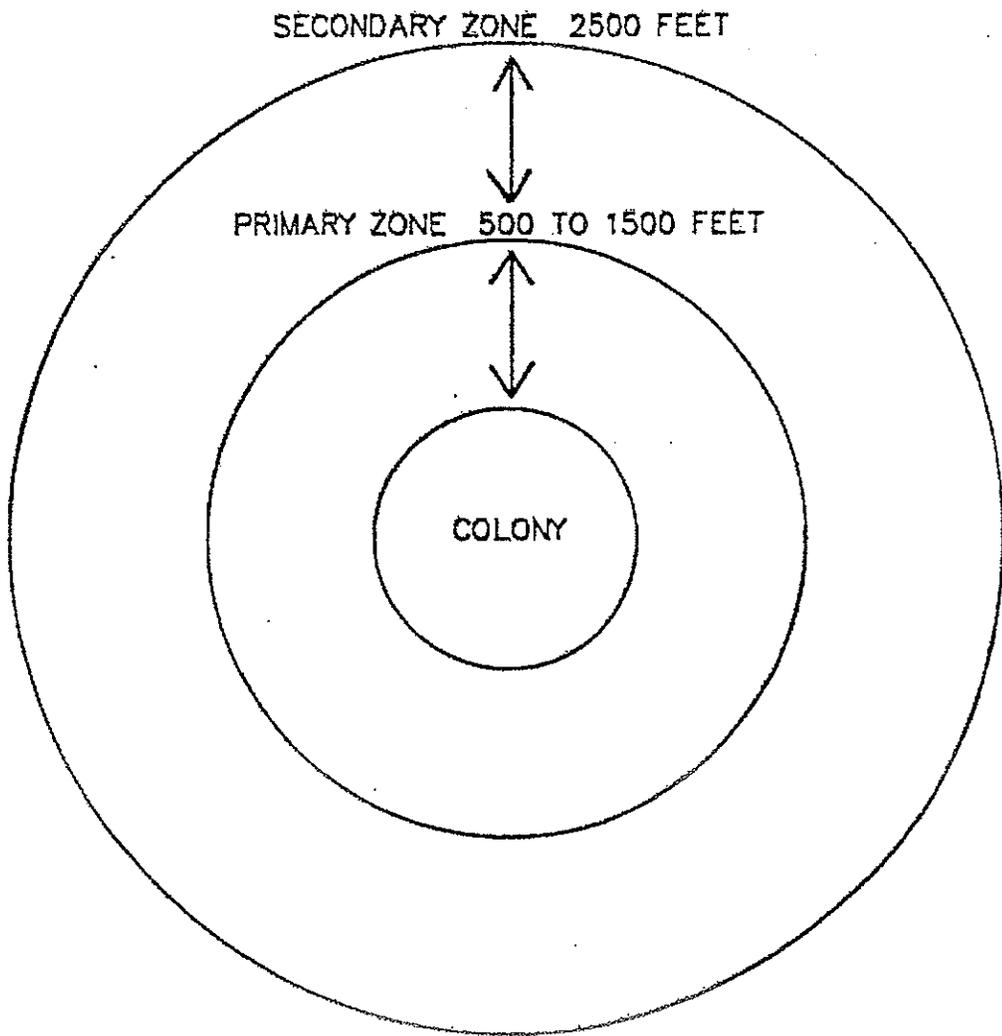
(1) Any lumbering or other removal of vegetation, and

(2) Any activity that reduces the area, depth, or length of flooding in wetlands under and surrounding the colony, except where periodic (less than annual) water control may be required to maintain the health of the aquatic, woody vegetation, and

(3) The construction of any building, roadway, tower, power line, canal, etc.

b. The following activities within the primary zone are likely to be detrimental to a colony if they occur when the colony is active:

(1) Any unauthorized human entry closer than 300 feet of the colony, and



- (2) Any increase or irregular pattern in human activity anywhere in the primary zone, and
- (3) Any increase or irregular pattern in activity by animals, including livestock or pets, in the colony, and
- (4) Any aircraft operation closer than 500 feet of the colony.

B. **Secondary Zone:** Restrictions in this zone are needed to minimize disturbances that might impact the primary zone, and to protect essential areas outside of the primary zone. The secondary zone may be used by storks for collecting nesting material, for roosting, loafing, and feeding (especially important to newly fledged young), and may be important as a screen between the colony and areas of relatively intense human activities.

1. **Size:** The secondary zone should range outward from the primary zone 1000-2000 feet, or to a radius of 2500 feet of the outer edge of the colony.

2. **Recommended Restrictions:**

a. Activities in the secondary zone which may be detrimental to nesting wood storks include:

- (1) Any increase in human activities above the level that existed in the year when the colony first formed, especially when visual screens are lacking, and
- (2) Any alteration in the area's hydrology that might cause changes in the primary zone, and
- (3) Any substantial (>20 percent) decrease in the area of wetlands and woods of potential value to storks for roosting and feeding.

b. In addition, the probability that low flying storks, or inexperienced, newly-fledged young will strike tall obstructions, requires that high-tension power lines be no closer than one mile (especially across open country or in wetlands) and tall transmission towers no closer than 3 miles from active colonies. Other activities, including busy highways and commercial and residential buildings may be present in limited portions of the secondary zone at the time that a new colony first forms. Although storks may tolerate existing levels of human activities, it is important that these human activities not expand substantially.

VI. Roosting site guidelines.

The general characteristics and temporary use-patterns of many stork roosting sites limit the number of specific management recommendations that are possible:

- A. Avoid human activities within 500-1000 feet of roost sites during seasons of the year and times of the day when storks may be present. Nocturnal activities in active roosts may be especially disruptive.

- B. Protect the vegetative and hydrological characteristics of the more important roosting sites--those used annually and/or used by flocks of 25 or more storks. Potentially, roosting sites may, some day, become nesting sites.

VII. Legal Considerations.

A. Federal Statutes

The U.S. breeding population of the wood stork is protected by the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 et seq.)(Act). The population was listed as endangered on February 28, 1984 (49 Federal Register 7332); wood storks breeding in Alabama, Florida, Georgia, and South Carolina are protected by the Act.

Section 9 of the Endangered Species Act of 1973, as amended, states that it is unlawful for any person subject to the jurisdiction of the United States to take (defined as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.") any listed species anywhere within the United States.

The wood stork is also federally protected by its listing (50 CFR 10.13) under the Migratory Bird Treaty Act (167 U.S.C. 703-711), which prohibits the taking, killing or possession of migratory birds except as permitted.

B. State Statutes

1. State of Alabama

Section 9-11-232 of Alabama's Fish, Game, and Wildlife regulations curtails the possession, sale, and purchase of wild birds. "Any person, firm, association, or corporation who takes, catches, kills or has in possession at any time, living or dead, any protected wild bird not a game bird or who sells or offers for sale, buys, purchases or offers to buy or purchase any such bird or exchange same for anything of value or who shall sell or expose for sale or buy any part of the plumage, skin, or body of any bird protected by the laws of this state or who shall take or willfully destroy the nests of any wild bird or who shall have such nests or eggs of such birds in his possession, except as otherwise provided by law, shall be guilty of a misdemeanor.."

Section 1 of the Alabama Nongame Species Regulation (Regulation 87-GF-7) includes the wood stork in the list of nongame species covered by paragraph (4). " It shall be unlawful to take, capture, kill, possess, sell, trade for anything of monetary value, or offer to sell or trade for anything of monetary value, the following nongame wildlife species (or any parts or reproductive products of such species) without a scientific collection permit and written permission from the Commissioner, Department of Conservation and Natural Resources,..."

2. State of Florida

Rule 39-4.001 of the Florida Wildlife Code prohibits "taking, attempting to take, pursuing, hunting, molesting, capturing, or killing (collectively defined as "taking"), transporting, storing, serving, buying, selling,

possessing, or wantonly or willingly wasting any wildlife or freshwater fish or their nests, eggs, young, homes, or dens except as specifically provided for in other rules of Chapter 39, Florida Administrative Code.

Rule 39-27.011 of the Florida Wildlife Code prohibits "killing, attempting to kill, or wounding any endangered species." The "Official Lists of Endangered and Potentially Endangered Fauna and Flora in Florida" dated 1 July 1988, includes the wood stork, listed as "endangered" by the Florida Game and Fresh Water Fish Commission.

3. State of Georgia

Section 27-1-28 of the Conservation and Natural Resources Code states that "Except as otherwise provided by law, rule, or regulation, it shall be unlawful to hunt, trap, fish, take, possess, or transport any nongame species of wildlife..."

Section 27-1-30 states that, "Except as otherwise provided by law or regulation, it shall be unlawful to disturb, mutilate, or destroy the dens, holes, or homes of any wildlife;

Section 27-3-22 states, in part, "It shall be unlawful for any person to hunt, trap, take, possess, sell, purchase, ship, or transport any hawk, eagle, owl, or any other bird or any part, nest, or egg thereof..."

The wood stork is listed as endangered pursuant to the Endangered Wildlife Act of 1973 (Section 27-3-130 of the Code). Section 391-4-13-.06 of the Rules and Regulations of the Georgia Department of Natural Resources prohibits harassment, capture, sale, killing, or other actions which directly cause the death of animal species protected under the Endangered Wildlife Act. The destruction of habitat of protected species on public lands is also prohibited.

4. State of South Carolina

Section 50-15-40 of the South Carolina Nongame and Endangered Species Conservation Act states, "Except as otherwise provided in this chapter, it shall be unlawful for any person to take, possess, transport, export, process, sell, or offer of sale or ship, and for any common or contract carrier knowingly to transport or receive for shipment any species or subspecies of wildlife appearing on any of the following lists: (1) the list of wildlife indigenous to the State, determined to be endangered within the State...(2) the United States' List of Endangered Native Fish and Wildlife... (3) the United States' List of Endangered Foreign Fish and Wildlife ..."

U.S. Fish and Wildlife Service
Supplemental
Habitat Management Guidelines
for the
Wood Storks
In The
South Florida Ecological Services
Consultation Area
June 28, 2002

Introduction

The purpose of these supplemental guidelines is to provide assistance to the user in addressing species-specific resource questions for the endangered wood stork (*Mycteria americana*) in south Florida. These supplemental guidelines provide guidance in addressing species effects associated with consultations with the South Florida Ecological Services Office under sections 7 and 10 of the Endangered Species Act of 1973, as amended (87 Stat. 884; 16 U.S.C. 1531 et seq.). These supplemental guidelines are in addition to the *Habitat Management Guidelines for the Wood Stork in the Southeast Region* (FWS Service 1990), which is the principle guidance that the Service relies on to provide management options for wood stork colony protection and species recovery.

The following discussion is intended to provide the user with some of the basic science and reasoning for the recommended supplemental wood stork habitat management guides. More detailed discussions of the ecology of the wood stork are available in the *South Florida Multi-species Recovery Plan* (Service 1999), *Wood Stork Recovery Plan* (1996), and *Species Profile: Wood Storks on Military Installations in the Southeastern United States* (Mitchell 1999).

Colony

Wood storks nest in colonies and will return to the same colony site for many years so long as the site and the surrounding feeding habitat continues to supply the needs of the birds. Nesting colony life averages 115 to 120 days. Nest sites are generally in woody vegetation over standing water, or on islands surrounded by broad expanses of open water. In south Florida, wood storks generally begin their breeding cycle in November through January with peak activity in December. Nestling dispersal is in late April through early May. In central and north Florida and other northern nesting sites, nesting activities begin in late February through April with nestling dispersal between July through August.

In response to deteriorating habitat conditions in south Florida, nest initiation has shifted to February or March with nestling dispersal in July through August. This shift results in the presence of young in the nest when the May-June rains flood marshes and disperse fish, resulting in loss of nestlings to weather events or starvation of the young from lack of concentrated prey.

Nest Productivity

Researchers (Kahl 1964 and Rodgers *et al.*, 1987) have shown that the more successful nesting efforts by storks result from a combination of average or above-average rainfall during the summer rainy season and an absence of unusually rainy or cold weather during the winter-spring nesting season. This pattern produces widespread and prolonged flooding of summer marshes that maximize production of freshwater fishes, followed by steady drying that concentrate fish during the dry season when storks nest (Kahl 1964). During the summer months, the rains saturate thousands of acres of Florida, and fish are able to reproduce and grow rapidly. By October, the rains taper off and the water recedes. The water areas fragment into hundreds of individual ponds that slowly shrink as the dry season progresses, concentrating the fish.

Successful nesting colonies are also those that have a large number of feeding site options. To maintain the wide range of feeding site options requires that many different wetlands, with both relatively short and long annual hydroperiods be present. During the wet season, wood storks generally feed in the shallow water of the short-hydroperiod wetlands and in coastal habitats during low tide. During the dry season, foraging shifts to longer hydroperiod interior wetlands as they progressively dry down (although usually retaining some surface water throughout the dry season) (Fleming, *et al.*, 1994).

Good feeding conditions usually occur where the water is relatively calm and uncluttered by dense thickets of aquatic vegetation and successful foraging sites are those where the water is between 2 and 15 inches deep. Generally a dropping water level is necessary to concentrate fish in suitable densities. Conversely, a rising water level disperses fish and reduces the value of a site as a feeding habitat. Typical wet season densities of fish range from 50 fish/m² in long-hydroperiod wetlands to 10 fish/m² in short-hydroperiod wetlands (Loftus and Eklund 1994). Average weight of the fish is 173 g (Ogden *et al.* 1980). Based on the above, 5 acres of short hydroperiod wetlands would be necessary to provide the same nutritional needs that one acre of long hydroperiod wetlands would provide. However, each wetland type provides foraging needs during different times of the year and as such, are not interchangeable.

Nesting wood storks do most of their feeding between 5 and 40 miles from the colony. Coulter (1987) found that in a wood stork colony, 62% of foraging areas were within 10 km. Ogden *et al.* (1978) and Coulter (1987) suggest that wood storks generally use foraging sites that are located within about 50 km (31 miles) flight range of the colony. Coulter and Bryan (1993) note that although foraging areas may be 60 to 80 km (37 to 50 miles) from the colony, 85 percent are within 20 km (12.5 miles). The Florida Fish and Wildlife Conservation Commission considers 30 km (18.6 miles) as the core foraging area (CFA) for nesting wood storks (Cox *et al.* 1994).

Successful colonies are also those that have limited human disturbance and those where land-based mammalian predation is limited. If adult storks are forced to leave their nests as a result of human disturbance, eggs or downy young may die quickly (< 20 minutes) when exposed to

direct sun or rain. Rodgers and Smith (1997) have recommended a buffer distance of 100 meters (325 feet) from the nesting colony as the minimum distance for human disturbances.

Land based mammalian predators may also affect nest productivity. Mammalian predators of wood stork nests include a variety of land based animals such as racoons and skunks. Generally, these dry-land predators do not have access to the nesting colony except when water levels below the nests recede or when significant vegetation bridges (dense growths of water hycanthes, water lettuce, etc.) allow direct access to the nesting colony. Successful nesting colonies from land based predators have been characterized as those that are surrounded by large expanses of open water, or those where the nest trees are inundated at the onset of nesting and remain inundated throughout most of the breeding cycle. Successful nesting colonies often have water depths between 3 and 5 feet deep during the nesting season and also go through periodic dry-downs during the tail-end of the dry season. The periodic dry-down facilitates recruitment of nest trees. Therefore, an important parameter in colony success from land-based predation is the hydroperiod (duration that an area is inundated) and hydropattern (depth, timing, flow, and location of surface water) beneath the colony.

Breeding Cycles

In South Florida, wood storks generally begin their breeding cycle in November, with peak activity in December. Nestling dispersal begins in late April and continues through early May. Based on a 120-day nesting cycle, courtship and nest building requires 7 to 10 days, egg laying and incubation requires 25 to 27 days, hatchling growth to thermoregulation (chicks have down and feathers) requires approximately 28 days, growth to fledging requires an additional 42 days, and post fledging to colony dispersal requires 10 to 15 days.

Rodgers and Schwikert (1997) report the greatest period of mortality occurs prior to hatching, with a second large mortality during the nesting period from hatching to 2 weeks. During these early periods of the breeding cycle, the nest is tended by at least one of the adults with egg protection and feeding of the young shared by both. During early nesting, when downy young are present, the adults may feed the young as often as 10 to 15 times a day. Growth is very rapid with the young at age 14 days, weighing 10 times more than they did at hatching and 25 times heavier at 28 days (Service 2001). Fifty percent of the nestling wood stork's food requirements occur during the middle third of the nestling period (Kahl 1962), which corresponds to age 28 to 56 days.

Conclusion

In review, the Service believes that in order to minimize take of a listed species (loss of nest productivity) and to support recovery efforts for the wood stork, the following supplemental guidance is applicable for protection of the nest colony, primary and secondary zones, CFA, and adult foraging areas. The Service considers actions that affect the nest colony, primary and secondary zones, and CFA as direct effects and actions that affect wetlands outside the CFA as indirect effects.

1. Nest colony

- a. No human intrusion within 100 meters (325 feet) during active nesting period (November through August). Range covers pre-drainage Everglades, post-drainage Everglades, and central and northern Florida nesting cycles. Colony entry for maintenance and management actions during other times of the year is acceptable. The nests and nest trees are protected year-round.
- b. No reduction in water levels at nest site during active nesting period. Maintain hydroperiod cycle to provide minimum of 2 to 5 feet of standing water below colony during nest activity. Provide for periodic dry-down of nest colony to promote recruitment of new nest trees during latter part of dry weather cycle.

Since nest colony protection from land base predators (raccoons) is based on seasonal wet-dry cycles, coordinate changes in hydrology to match seasonal rainfall events.

1. South Florida hydroperiod - Nest colony flooded late October - early November, gradual drying out of foraging area with colony site dry late April early May. May - June rains begin wet cycle.
2. Central and north Florida hydroperiod - Nest colony flooded late February early May - gradual drying out of foraging area with colony site dry late August early September.
3. For dry island nesting colonies, water levels in the surrounding openwater should be managed to prevent land base predators from access to the colony.

2. Primary Zone - 1,300 feet (400 meters)

The primary zone includes the nest colony and a 1,300 foot radius surrounding the colony. Since some nest colonies can cover several acres in distance, the primary zone can be larger than 1,300 feet. Restrictions in the primary zone follow those listed in the management recommendation in the wood stork HMG (1990). Restrictions in the primary zone include both year-round restrictions and nesting-season restrictions.

- a. Year round restrictions include vegetation removal, changes in hydroperiod, and the construction of buildings, roadways, towers, powerlines, or canals. Nuisance species removal and normal maintenance activities may occur outside the nesting season.
- b. Nesting season restrictions include unauthorized human entry within 300 feet of colony, an increase or change in pattern of human activity anywhere within the primary zone, an increase or change in pattern of livestock (livestock should be restricted from

entering colony any time of the year), or aircraft/airboat operation closer than 500 feet of the colony.

3. Secondary Zone - 2,500 feet (750 meters)

The secondary zone is important to storks for collecting nest material, roosting, loafing, and feeding (especially important to newly fledged young). Restrictions in the secondary zone include changes in human activity above existing levels, alterations in area hydrology that might affect hydrology of primary zone, and any decrease in the area of wetlands and woods of potential value to wood storks for roosting and feeding (see core foraging area restrictions, discussed below).

4. Powerline and cell tower restrictions (≤ 200 -foot height) - no closer than 1 mile from rookery.

5. Towers greater than 200 feet - no closer than 3 miles from rookery.

6. Core foraging area (CFA) for Nesting Wood Storks (30 km - 18.6 miles)

The Service's goal in this portion of the protocol is to protect and enhance the foraging habitat for wood storks during the nesting season. For this purpose, the Service believes that the foraging range noted by the FWC is the appropriate distance. Therefore, in order to reduce loss of nest productivity (take of a listed species), the Service recommends the following for wetland alterations within the CFA, which also includes the primary and secondary zones.

a. Wetland enhancement *i.e.*, exotic species removal and/or hydrological restorations may occur within the primary and secondary zones outside the nesting season and any time of the year for the remainder of the CFA. For wetland enhancements and hydrological restorations, the current and historic ratio of short hydroperiod and long hydroperiod wetlands needs to be identified. The importance of each type of wetland has been discussed and should be the basis for the type of wetlands targeted for restoration purposes.

b. Wetland alterations within the CFA of a wood stork colony need to compensate for the loss of this foraging resource. The Service believes that compensation needs to not only include the replacement of this resource but also needs to include compensation for the growth time (temporal lag) necessary for the new resource to achieve foraging value equal to that provided by the original wetland. The current resource value to the colony may be determined by the use of a wetland functional assessment protocol (use the currently accepted Federal/State assessment protocol). Of particular importance in the evaluation is the type of wetland, *i.e.*, short hydroperiod or long hydroperiod. The Service (1999) describes a short hydroperiod as a two to five month wet/dry cycle, and a long hydroperiod as greater than 5

months. For wetland compensation, providing a short hydroperiod replacement for a long hydroperiod impact does not provide the same functional value to the colony. Also providing functional replacement outside the CFA of the colony does not provide the same resource value to the colony.

7. Adult Foraging Areas, Year Round

In addition to south Florida wetlands providing nutritional needs to wood storks nesting in south Florida, they also provide non-breeding season foraging for north Florida, Georgia, and South Carolina's breeding populations (Service 1996). Typical foraging sites for the wood stork include freshwater marshes, stock ponds, shallow, and seasonally flooded roadside or agricultural ditches, narrow tidal creeks, shallow tidal pools, managed impoundments, and depressions in cypress heads, swamps, and sloughs. Because of their specialized feeding behavior, wood storks forage most effectively in shallow water areas with highly concentrated prey.

Therefore, for actions that affect year-round foraging areas, i.e., those outside the CFA, the Service recommends avoidance where possible, and functional replacement (including a temporal lag factor) for those systems that cannot be avoided. A wetland suitable for wood stork foraging needs to include a mosaic of emergent and shallow open water depressional areas. The emergent component provides nursery habitat for small fish, frogs, and aquatic insects and the shallow openwater depressional areas provide sites for concentration of the prey during seasonal drying of the wetland. The compensation wetland needs to mimic when possible the historical hydroperiod of the impacted wetland.

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APPENDIX E

Florida Exotic Pest Plant Council's 2005

List of Invasive Species

Purpose of the List: *To focus attention on --*

- the adverse effects exotic pest plants have on Florida's biodiversity and plant communities,
- the habitat losses from exotic pest plant infestations,
- the impacts on endangered species via habitat loss and alteration,
- the need to prevent habitat losses through pest-plant management,
- the socio-economic impacts of these plants (e.g., increased wildfires in certain areas),
- changes in the seriousness of different pest plants over time,
- the need to provide information that helps managers set priorities for control programs.

DEFINITIONS: *Exotic*—a species introduced to Florida, purposefully or accidentally, from a natural range outside of Florida. *Native*—a species whose natural range included Florida at the time of European contact (1500 AD). *Naturalized exotic*—an exotic that sustains itself outside cultivation (it is still exotic; it has not "become" native). *Invasive exotic*—an exotic that not only has naturalized but is expanding on its own in Florida plant communities.

Abbreviations used:

for "Gov. list": P = Prohibited by Fla. Dept. of Environmental Protection, N = Noxious weed listed by Fla. Dept. of Agriculture & Consumer Services, U = Noxious weed listed by U.S. Department of Agriculture.

for "Reg. Dis.": N = north, C = central, S = south, referring to each species' current distribution in general



regions of Florida (not its potential range in the state). See following map.

For additional information on distributions of particular species by county, visit the University of South Florida's Atlas of Florida Vascular Plants web site, www.plantatlas.usf.edu. Many of those species entries also have habit and close-up pictures of the species.

Additional images for some species may be found at the "Introduced Species" page on the [Univ. of Florida Herbarium](#) website, at Fairchild Tropical Garden's [Virtual Herbarium](#), and the [Godfrey Herbarium database](#), Florida State University.

For other additional information on plants included in this list, see related links and pages at this web site on the [home page](#) menu.

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

Scientific Name	Common Name	EPPC Cat.	Gov. list	Reg. Dist.
<i>Abrus precatorius</i>	rosary pea	I		C, S
<i>Acacia curculiformis</i>	earleaf acacia	I		S
<i>Albizia julibrissin</i>	mimosa, silk tree	I		N, C
<i>Albizia lebbek</i>	woman's tongue	I		C, S
<i>Ardisia crenata</i> (= <i>A. crenulata</i>)	coral ardisia	I		N, C
<i>Ardisia elliptica</i> (= <i>A. humilis</i>)	shoebutton ardisia	I		S
<i>Asparagus aethiopicus</i> (= <i>A. sprengeri</i> ; <i>A. densiflorus</i> misapplied)	asparagus-fern	I		C, S
<i>Bauhinia variegata</i>	orchid tree	I		C, S
<i>Bischofia javanica</i>	bischofa	I		C, S
<i>Calophyllum antillanum</i> (= <i>C. calaba</i> ; <i>C. inophyllum</i> misapplied)	santa maria (names "mast wood," "Alexandrian laurel" used in cultivation)	I		S
<i>Casuarina equisetifolia</i>	Australian pine	I	P	N, C, S
<i>Casuarina glauca</i>	suckering Australian pine	I	P	C, S
<i>Cinnamomum camphora</i>	camphor-tree	I		N, C, S
<i>Colocasia esculenta</i>	wild taro	I		N, C, S
<i>Colubrina asiatica</i>	lather leaf	I		S
<i>Cupaniopsis anacardioides</i>	carrotwood	I	N	C, S
<i>Dioscorea alata</i>	winged yam	I	N	N, C, S
<i>Dioscorea bulbifera</i>	air-potato	I	N	N, C, S
<i>Eichhornia crassipes</i>	water-hyacinth	I	P	N, C, S
<i>Eugenia uniflora</i>	Surinam cherry	I		C, S
<i>Ficus microcarpa</i> (<i>F. nitida</i> and <i>F. retusa</i> var. <i>nitida</i> misapplied)	laurel fig	I		C, S
<i>Hydrilla verticillata</i>	hydrilla	I	P, U	N, C, S
<i>Hygrophila polysperma</i>	green hygro	I	P, U	N, C, S
<i>Hymenachne amplexicaulis</i>	West Indian marsh grass	I		C, S
<i>Imperata cylindrica</i> (<i>I. brasiliensis</i> misapplied)	cogon grass	I	N, U	N, C, S
<i>Ipomoea aquatica</i>	waterspinach	I	P, U	C
<i>Jasminum dichotomum</i>	Gold Coast jasmine	I		C, S
<i>Jasminum fluminense</i>	Brazilian jasmine	I		C, S

<i>Lantana camara</i>	lantana, shrub verbena	I		N,C,S
<i>Ligustrum lucidum</i>	glossy privet	I		N, C
<i>Ligustrum sinense</i>	Chinese privet, hedge privet	I		N,C,S
<i>Lonicera japonica</i>	Japanese honeysuckle	I		N,C,S
<i>Lygodium japonicum</i>	Japanese climbing fern	I	N	N,C, S
<i>Lygodium microphyllum</i>	Old World climbing fern	I	N	C, S
<i>Macfadyena unguis-cati</i>	cat's claw vine	I		N,C, S
<i>Manilkara zapota</i>	sapodilla	I		S
<i>Melaleuca quinquenervia</i>	melaleuca, paper bark	I	P, N, U	C, S
<i>Mimosa pigra</i>	catclaw mimosa	I	P, N, U	C, S
<i>Nandina domestica</i>	nandina, heavenly bamboo	I		N, C
<i>Nephrolepis cordifolia</i>	sword fern	I		N,C,S
<i>Nephrolepis multiflora</i>	Asian sword fern	I		C, S
<i>Neyraudia reynaudiana</i>	Burma reed, cane grass	I	N	S
<i>Paederia cruddasiana</i>	sewer vine, onion vine	I	N	S
<i>Paederia foetida</i>	skunk vine	I	N	N,C
<i>Panicum repens</i>	torpedo grass	I		N,C,S
<i>Pennisetum purpureum</i>	Napier grass	I		C, S
<i>Pistia stratiotes</i>	waterlettuce	I	P	N,C,S
<i>Psidium cattleianum</i> (= <i>P. littorale</i>)	strawberry guava	I		C, S
<i>Psidium guajava</i>	guava	I		C, S
<i>Pueraria montana</i> var. <i>lobata</i> (= <i>P.</i> <i>lobata</i>)	kudzu	I	N, U	N,C, S
<i>Rhodomirtus tomentosa</i>	downy rose-myrtle	I	N	C, S
<i>Rhoeo spathacea</i> (see <i>Tradescantia spathacea</i>)				
<i>Rhynchelytrum repens</i>	Natal grass	I		N, C, S
<i>Ruellia tweediana</i> (= <i>R. brittoniana</i>)	Mexican petunia	I		N, C, S
<i>Sapium sebiferum</i> (= <i>Triadeca sebifera</i>)	popcorn tree, Chinese tallow tree	I	N	N, C, S
<i>Scaevola taccada</i> (= <i>Scaevola sericea</i> , <i>S. frutescens</i>)	scaevola, halfflower, beach naupaka	I		C, S
<i>Schefflera actinophylla</i> (= <i>Brassaia actinophylla</i>)	schefflera, Queensland umbrella tree	I		C, S
<i>Schinus terebinthifolius</i>	Brazilian pepper	I	P, N	N, C, S
<i>Senna pendula</i> var. <i>glabrata</i> (= <i>Cassia coluteoides</i>)	climbing cassia, Christmas cassia, Christmas senna	I		C, S
<i>Solanum tampicense</i> (= <i>S. houstonii</i>)	wetland night shade, aquatic soda apple	I	N, U	C, S
<i>Solanum viarum</i>	tropical soda apple	I	N, U	N, C, S

<i>Syngonium podophyllum</i>	arrowhead vine	I		C, S
<i>Syzygium cumini</i>	jambolan, Java plum	I		C, S
<i>Tectaria incisa</i>	incised halberd fern	I		S
<i>Thespesia populnea</i>	seaside mahoe	I		C, S
<i>Tradescantia fluminensis</i>	white-flowered wandering jew	I		N, C
<i>Tradescantia spathacea</i> (= <i>Rhoeo spathacea</i> , <i>Rhoeo discolor</i>)	oyster plant	I		S
<i>Urochloa mutica</i> (= <i>Brachiaria mutica</i>)	Pará grass	I		C, S

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

Scientific Name	Common Name	EPPC Cat.	Gov. list	Reg. Dist.
<i>Adenanthera pavonina</i>	red sandalwood	II		S
<i>Agave sisalana</i>	sisal hemp	II		C, S
<i>Aleurites fordii</i> (= <i>Vernicia fordii</i>)	tung oil tree	II		N, C
<i>Alstonia macrophylla</i>	devil-tree	II		S
<i>Alternanthera philoxeroides</i>	alligator weed	II	P	N, C, S
<i>Antigonon leptopus</i>	coral vine	II		N, C, S
<i>Aristolochia littoralis</i>	calico flower	II		N, C
<i>Asystasia gangetica</i>	Ganges primrose	II		C, S
<i>Begonia cucullata</i>	wax begonia	II		N, C
<i>Blechnum pyramidatum</i>	green shrimp plant, Browne's blechnum	II		N, C, S
<i>Broussonetia papyrifera</i>	paper mulberry	II		N, C
<i>Callisia fragrans</i>	inch plant, spironema	II		C, S
<i>Casuarina cunninghamiana</i>	Australian pine	II	P	C, S
<i>Cecropia palmata</i>	trumpet tree	II		S
<i>Cestrum diurnum</i>	day jessamine	II		C, S
<i>Chamaedorea seifrizii</i>	bamboo palm	II		S
<i>Clematis terniflora</i>	Japanese clematis	II		N, C
<i>Cryptostegia madagascariensis</i>	rubber vine	II		C, S
<i>Cyperus involucratus</i> (<i>C. alternifolius</i>)	umbrella plant	II		C, S

misapplied)				
<i>Cyperus prolifer</i>	dwarf papyrus	II		C
<i>Dalbergia sissoo</i>	Indian rosewood, sissoo	II		C, S
<i>Elaeagnus pungens</i>	thorny eleagnus	II		N, C
<i>Epipremnum pinnatum</i> cv. Aureum	pothos	II		C, S
<i>Ficus altissima</i>	false banyan, council tree	II		S
<i>Flacourtia indica</i>	governor's plum	II		S
<i>Hemarthria altissima</i>	limpo grass	II		C, S
<i>Hibiscus tiliaceus</i>	mahoe, sea hibiscus	II		C, S
<i>Ipomoea fistulosa</i> (= <i>I.</i> <i>carnea</i> ssp. <i>fistulosa</i>)	shrub morning-glory	II	P	C, S
<i>Jasminum sambac</i>	Arabian jasmine	II		S
<i>Kalanchoe pinnata</i>	life plant	II		C, S
<i>Koelreuteria elegans</i> ssp. <i>formosana</i> (= <i>K.</i> <i>formosana</i> ; <i>K.</i> <i>paniculata</i> misapplied)	flamegold tree	II		C, S
<i>Leucaena leucocephala</i>	lead tree	II		N, C, S
<i>Limnophila sessiliflora</i>	Asian marshweed	II	P	N, C, S
<i>Livistona chinensis</i>	Chinese fan palm	II		C, S
<i>Melia azedarach</i>	Chinaberry	II		N, C, S
<i>Merremia tuberosa</i>	wood-rose	II		S
<i>Murraya paniculata</i>	orange-jessamine	II		S
<i>Myriophyllum spicatum</i>	Eurasian water-milfoil	II	P	N, C, S
<i>Nymphoides cristata</i>	snowflake	II		C, S
<i>Panicum maximum</i>	Guinea grass	II		C, S
<i>Passiflora biflora</i>	two-flowered passion vine	II		S
<i>Pennisetum setaceum</i>	green fountain grass	II		S
<i>Phoenix reclinata</i>	Senegal date palm	II		C, S
<i>Pittosporum pentandrum</i>	Philippine pittosporum, Taiwanese cheesewood	II		S
<i>Phyllostachys aurea</i>	golden bamboo	II		N, C
<i>Pteris vittata</i>	Chinese brake fern	II		N, C, S
<i>Ptychosperma elegans</i>	solitary palm	II		S
<i>Ricinus communis</i>	castor bean	II		N, C, S
<i>Sansevieria</i> <i>hyacinthoides</i>	bowstring hemp	II		C, S
<i>Scleria lacustris</i>	Wright's nutrush	II		C, S
<i>Sesbania punicea</i>	purple sesban, rattlebox	II		N, C, S
<i>Solanum diphyllum</i>	Two-leaf nightshade	II		N, C, S
<i>Solanum jamaicense</i>	Jamaica nightshade	II		C
<i>Solanum torvum</i>	susumber, turkey berry	II	N, U	N, C, S
<i>Sphagneticola trilobata</i>	wedelia	II		N, C, S

(= <i>Wedelia trilobata</i>)				
<i>Stachytarpheta urticifolia</i> (= <i>S. cayennensis</i>)	nettle-leaf porterweed	II		S
<i>Syagrus romanzoffiana</i> (= <i>Arecastrum romanzoffianum</i>)	queen palm	II		C, S
<i>Syzygium jambos</i>	rose-apple	II		C, S
<i>Terminalia catappa</i>	tropical almond	II		C, S
<i>Terminalia muelleri</i>	Australian almond	II		C, S
<i>Tribulus cistoides</i>	puncture vine, burr-nut	II		N, C, S
<i>Urena lobata</i>	Caesar's weed	II		N, C, S
<i>Vitex trifolia</i>	simple-leaf chaste tree	II		C, S
<i>Washingtonia robusta</i>	Washington fan palm	II		C, S
<i>Wedelia</i> (see <i>Sphagneticola</i> above)				
<i>Wisteria sinensis</i>	Chinese wisteria	II		N, C
<i>Xanthosoma sagittifolium</i>	malanga, elephant ear	II		N, C, S

Citation example:

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

The 2005 list was prepared by the FLEPPC Plant List Committee:

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APPENDIX F

Transportation Methodology Capron Lakes DRI

Capron Lakes Development of Regional Impact is a proposed mixed-use development located at the northwest quadrant of the I-95/Indrio Road interchange in unincorporated St. Lucie County, Florida. Capron Lakes include three phases with buildout year 2025. Density and intensity for the proposed land uses assumed for each development phase are summarized in the following table. All phases are cumulative and include the land use density and intensity of previous phases.

Proposed Development Program

Land Use	Phase 1 Year 2015	Phase 2 Year 2020	Phase 3 Year 2025
Single-Family Homes	700 d.u.	1,500 d.u.	1,700 d.u.
Multi-Family Homes	300 d.u.	1,100 d.u.	1,400 d.u.
Office	50,000 s.f.	125,000 s.f.	200,000 s.f.
Retail (*)	100,000 s.f.	150,000 s.f.	200,000 s.f.
K-8 School	-	1,600 students	1,600 students

(*) Gross Leasable Area

Trip Generation, Distribution and Assignment

Trip generation for Capron Lakes Development of Regional Impact was estimated using the trip generation data published in the *Institute of Transportation Engineers' Trip Generation Report (7th Edition)*. Tables TR-1 through TR-3 present the estimated trip generation for each development phase.

Given the mixed-use nature of the project, a portion of the project trips is anticipated to remain internal within the boundaries of the project. The internal capture analysis was prepared using the internal trip-making procedures outlined in Chapter 7 of the *Multi-Use Development of The Institute of Transportation Engineers' Trip Generation Handbook, 2nd Edition*. The following table summarizes internal capture percentages for each phase of development.

Internal Capture

Time Period	Phase 1 Year 2015	Phase 2 Year 2020	Phase 3 Year 2025
Daily	10.7%	15.4%	14.9%
AM Peak Hour	5.2%	20.9%	19.9%
PM Peak Hour	16.1%	19.5%	18.7%

It is recognized that a portion of the commercial related trips will consist of trips that are already "passing by" the site and consequently decide to stop at the commercial land uses as part of their primary trip. These trips are known as "pass-by" trips and are deducted

from the total trips as they are already traveling along the adjacent facilities, Indrio Road and the I-95 off-ramps. Reductions for pass-by were applied based upon the most conservative of these two methods: a) 25% of the external retail trips or, b) 10% of the non-project adjacent street traffic. Since 25% of the external retail trips is greater than 10% of the non-project traffic traveling along Indrio Road and the I-95/Indrio Road northbound and southbound off-ramps for each development phase, 10% of the non-project traffic traveling on the adjacent facilities was estimated as pass-by.

The following table presents a summary of trip generation by phase including gross trips, internal capture, pass-by traffic, and net external trips.

Trip Generation

Trips	Phase 1 Year 2015	Phase 2 Year 2020	Phase 3 Year 2025
Daily			
Gross	15,755	31,989	37,832
Internal	(1,684)	(4,920)	(5,638)
Pass-by	(1,291)	(1,699)	(2,060)
Net	12,780	25,370	30,134
AM Peak Hour			
Gross	915	2,633	3,060
Internal	(48)	(550)	(608)
Pass-by	(36)	(46)	(54)
Net	831	2,037	2,398
PM Peak Hour			
Gross	1,562	3,126	3,693
Internal	(252)	(610)	(690)
Pass-by	(128)	(166)	(201)
Net	1,182	2,350	2,802

Traffic distribution and assignment was estimated using the *2025 Treasure Coast Regional Planning Model*. The assignment obtained from the model was then revised based on local knowledge of the area. Figures TR-1 through TR-3 depict traffic assignment for each development phase.

Significant Impact

Roadway improvements were determined based on the Department of Community Affairs's Transportation Standard Rule for Developments of Regional Impact (Rule 9J-2.045, F.A.C.). Based on this rule, roadway improvements were recommended for roadway sections significantly impacted by project traffic which meet the following criteria:

- Project traffic consumes five percent (5%) or more of the adopted peak-direction/peak-hour adopted service volume; and
- Total traffic exceeds the adopted level of service (LOS).

Committed Roadways

Roadway improvements which are included in the first three years of the current Florida Department of Transportation or a local government Work Program are “committed”. These committed roadway improvements are assumed to be in place when preparing the traffic study. Table TR-4 lists committed roadway improvements assumed to be “existing” in the traffic study. These improvements are also depicted in Figure TR-4.

Committed Developments

There are many developments either approved or in the approval process within near proximity to Capron Lakes. The following developments were included in the traffic study as “committed” per the methodology agreement:

- Airport West Industrial Park
- Emerson Estates PUD
- Portofino Shores PUD
- Coconut Cove PUD
- Visions at Indrio DRI
- Indrio Groves PUD

Traffic Diversions

The construction of 66th Avenue as a two-lane roadway is a programmed improvement between 4th Street and State Road 60 in Indian River County. The construction of this roadway is expected to divert some traffic from 58th Avenue to 66th Avenue. Model runs were performed with and without 66th Avenue to estimate the amount of diversion. These diversions were included in the traffic study beginning with the 2015 analysis year.

Visions DRI has also included the construction of Johnston Road from Indrio Road to Angle Road. This connection, which is expected to be a commitment of Visions development, will allow for a second route of travel between the Indrio/Johnston area to the Kings/Angle area. This connection is anticipated to divert approximately 1,500 daily trips off of Kings Highway between Angle Road and Indrio Road and Indrio Road between Kings Highway and Johnston Road to Johnston and Angle Roads. This connection was included in the study beginning with the 2020 analysis year.

Traffic Projections

Background traffic conditions on the surrounding roadway network were developed for the years 2015, 2020 and 2025. They were developed as the sum of existing traffic, ambient growth in the area, traffic diversion, and traffic from the committed developments discussed above.

An area-wide compound growth rate of 2.0 percent per year for all surface streets was applied in St. Lucie County. An area-wide compound growth rate of 4.4 percent per year

on Indian River County surface streets was used until 2010. After 2010, a linear growth rate of 4.4 percent was used to estimate background traffic.

Background traffic on the interstate was estimated using a 3.4 percent compounded growth rate for sections north of Indrio Road, a 2.6 percent compounded growth rate between Indrio Road and Okeechobee Road, and a 2.5 percent south of Okeechobee Road.

Total Traffic

Project traffic was added to background traffic to estimate total traffic for each phase of development. Tables TR-5 through TR-7 present the determination of total traffic during the p.m. peak hour.

Recommended Roadway Improvements

St. Lucie County

Based on the analysis results, roadway and intersection improvements were recommended to maintain adopted levels of service. Figure TR-5 depicts roadway links which were recommended for improvements in the traffic study. Since some of these improvements are inconsistent with the roadway network included in the “Town Villages and Countryside” report, they were revised. What follows is a summary of the revisions.

- Indrio Road between I-95 and Koblegard Road – The traffic study identifies the need for a six-lane cross-section. This improvement was replaced with construction of the Russos Road fly-over from the project to Johnston Road.
- 58th Avenue between Russos Road and Indrio Road – The traffic study identifies the need for a four-lane cross-section. This improvement was replaced with the following improvements:
 - 58th Avenue between SW 12th Street and Co. Line Road – Four lane section
 - Realignment of 58th Avenue to Johnston Road
 - Johnston Road between 58th Avenue and Indrio Road – Four lane section
- Widening of Indrio Road between Emerson Avenue and Kings Highway to a four-lane cross-section was also eliminated due to its inconsistency with the roadway network included in “Town Villages and Countryside” report and the intersection improvements scheduled for Indrio Road and Kings Highway, and Emerson Avenue and Indrio Road.

Indian River County

Florida Statutes 9J-2.045 Transportation Uniform Standard Rule (6) Determination of Significant Impacts on State and Regionally Significant Roadways states: “If a transportation facility significant impact threshold of less than five percent is specifically adopted in an in-compliance local government comprehensive plan, then this lower significant impact threshold shall be utilized by the Department as its significant impact threshold for those state and regional roadways within that local government’s jurisdiction.”

Based on the statement above, Indian River County requested analysis of roadway links which met the definition of “significant impact” in the County. This is:

Roadway links are to be analyzed if project traffic impact is:

- *A minimum of 8 directional trips on a two-lane road, and*
- *A minimum of 15 directional trips on a four or six lane road.*

While the analyses were requested, they were not performed. Indian River County agreed only to evaluate traffic conditions on SR 60 between 82nd and 66th Avenues. Since this roadway is projected to exceed the adopted level of service during the project buildout, improvements have been included in the development order for this roadway.

Interstate 95

Given the close proximity to Interstate 95, the development has significant impact along segments of the interstate which require widening to maintain adopted levels of service. Interstate 95 is part of the Florida Intrastate Highway System (FIHS) and the Strategic Intermodal System (SIS). Therefore, the Florida Department of Transportation has established statewide minimum level of service standards. Interstate 95 between Orange Avenue and Okeechobee Road is projected to exceed the adopted service volume by the year 2011. In addition, the segment between Indrio Road and Orange Avenue is projected to exceed the adopted service volume by the year 2013. Therefore, widening to six lanes has been recommended in both sections.

Ramp improvements at the intersections with Indrio Road are also necessary in order to maintain adopted levels of service. Additional improvements have been recommended at the Indrio Road intersections with the Interstate 95 ramps.

Figure TR-6 presents roadway improvements included in the recommended development order.

**TABLE TR-1
TRIP GENERATION (2015 - PHASE 1 LAND USE)**

Land Use	Intensity			Daily Trips	AM Peak Hour			PM Peak Hour		
					Total	In	Out	Total	In	Out
Proposed										
Office	50,000	s.f.		782	108	95	13	135	23	112
Shopping Center	100,000	s.f.		6,791	157	96	61	626	300	326
Single-Family Residential	700	d.u.		6,229	499	125	374	618	389	229
Multi Family Residential - Apartment	300	d.u.		1,953	151	30	121	183	119	64
	Subtotal			15,755	915	346	569	1,562	831	731
Internal Capture										
	AM	PM	Daily							
Office	14.8%	23.7%	20.7%	162	16	14	2	32	3	29
Shopping Center	8.3%	18.1%	11.3%	764	13	6	7	113	63	50
Residential	2.9%	13.4%	9.3%	758	19	4	15	107	60	47
	5.2%	16.1%	10.7%							
	Subtotal			1,684	48	24	24	252	126	126
Pass-by										
Indrio Road	5.8%			303	36	18	18	30	15	15
I-95 Ramps	19.1%			988	-	-	-	98	49	49
	Subtotal			1,291	36	18	18	128	64	64
	Driveway Volume			14,071	867	322	545	1,310	705	605
	Net New External Trips			12,780	831	304	527	1,182	641	541

Note: Trip generation was calculated using the following data:

Daily Traffic

Office	[ITE 710]	=	$\ln(T) = 0.77 \ln(X/1000) + 3.65$
Shopping Center	[ITE 820]	=	$\ln(T) = 0.65 \ln(X/1000) + 5.83$
Single-Family Residential	[ITE 210]	=	$\ln(T) = 0.92 \ln(X) + 2.71$
Multi Family Residential	[ITE 220]	=	$T = 6.01(X) + 150.35$

AM Peak Hour Traffic

Office	[ITE 710]	=	$\ln(T) = 0.80 \ln(X/1000) + 1.55$ (88% in, 12% out)
Shopping Center	[ITE 820]	=	$\ln(T) = 0.60 \ln(X/1000) + 2.29$ (61% in, 39% out)
Single-Family Residential	[ITE 210]	=	$T = 0.70(X) + 9.43$ (25% in, 75% out)
Multi Family Residential	[ITE 220]	=	$T = 0.49(X) + 3.73$; (20% in, 80% out)

PM Peak Hour Traffic

Office	[ITE 710]	=	$T = 1.12(X/1000) + 78.81$ (17% in, 83% out)
Shopping Center	[ITE 820]	=	$\ln(T) = 0.66 \ln(X/1000) + 3.4$ (48% in, 52% out)
Single-Family Residential	[ITE 210]	=	$\ln(T) = 0.90 \ln(X) + 0.53$ (63% in, 37% out)
Multi Family Residential	[ITE 220]	=	$T = 0.55(X) + 17.65$; (65% in, 35% out)

Pass By Rate

Indrio Road	[ITE 820]	=	Lesser of 25% of external trip generation potential or 10% of adjacent street traffic + 10% of the I-95 ramp diversion
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1. Internal Capture percentage is different for AM, PM periods. See internal capture sheets for the estimated internal trips for each development.

Daily internal capture and pass-by capture based on PM peak hour.

**TABLE TR-2
TRIP GENERATION (2020 - PHASE 2 LAND USE)**

Land Use	Intensity			Daily Trips	AM Peak Hour			PM Peak Hour		
					Total	In	Out	Total	In	Out
Proposed										
Office	125,000	s.f.		1,584	224	197	27	219	37	182
Retail	150,000	s.f.		8,839	200	122	78	818	393	425
Single-Family Residential	1,500	d.u.		12,559	1,059	265	794	1,226	772	454
Multi Family Residential - Apartment	1,100	d.u.		6,761	543	109	434	623	405	218
K-8 School ^{2,3}	1,600	Stu		2,246	607	334	273	240	125	115
Subtotal				31,989	2,633	1,027	1,606	3,126	1,732	1,394
Internal Capture¹										
	AM	PM	Daily							
Office	17.9%	25.6%	25.8%	408	40	35	5	56	8	48
Retail	9.0%	18.8%	12.4%	1,098	18	8	10	154	85	89
Residential	16.0%	14.4%	11.2%	2,166	256	63	193	266	140	126
K-8 School ^{2,3}	38.9%	55.8%	55.6%	1,248	236	169	67	134	72	62
	20.9%	19.5%	15.4%							
Subtotal				4,920	550	275	275	610	305	305
Pass-by										
Indrio Road	5.0%			338	41	21	20	33	17	16
I-95 Ramps	20.0%			1,361	5	3	2	133	67	66
Subtotal				1,699	46	24	22	166	84	82
Driveway Volume				27,069	2,083	752	1,331	2,516	1,427	1,089
Net New External Trips				25,370	2,037	728	1,309	2,350	1,343	1,007

Note: Trip generation was calculated using the following data:

Daily Traffic

Office	[ITE 710]	=	$\ln(T) = 0.77 \ln(X/1000) + 3.65$
Retail	[ITE 820]	=	$\ln(T) = 0.65 \ln(X/1000) + 5.83$
Single-Family Residential	[ITE 210]	=	$\ln(T) = 0.92 \ln(X) + 2.71$
Multi Family Residential - Apartment	[ITE 220]	=	$T = 6.01(X) + 150.35$
K-8 School ² (elementary ~2/3)	[ITE 520]	=	$T = 1.29 (X)$
K-8 School ² (middle ~1/3)	[ITE 522]	=	$T = 1.62 (X)$

AM Peak Hour Traffic

Office	[ITE 710]	=	$\ln(T) = 0.80 \ln(X/1000) + 1.55$ (88% in, 12% out)
Retail	[ITE 820]	=	$\ln(T) = 0.60 \ln(X/1000) + 2.29$ (61% in, 39% out)
Single-Family Residential	[ITE 210]	=	$T = 0.70 (X) + 9.43$ (25% in, 75% out)
Multi Family Residential - Apartment	[ITE 220]	=	$T = 0.49(X) + 3.73$ (20% in, 80% out)
K-8 School ² (elementary ~2/3)	[ITE 520]	=	$\ln(T) = 1.11 \ln(X) - 1.73$ (55% in, 45% out)
K-8 School ² (middle ~1/3)	[ITE 522]	=	$T = 0.79 (X) - 228.0$ (55% in, 45% out)

PM Peak Hour Traffic

Office	[ITE 710]	=	$T = 1.12(X/1000) + 78.81$ (17% in, 83% out)
Retail	[ITE 820]	=	$\ln(T) = 0.66 \ln(X/1000) + 3.4$ (48% in, 52% out)
Single-Family Residential	[ITE 210]	=	$\ln(T) = 0.90 \ln(X) + 0.53$ (63% in, 37% out)
Multi Family Residential - Apartment	[ITE 220]	=	$T = 0.55(X) + 17.65$ (65% in, 35% out)
K-8 School ² (elementary ~2/3)	[ITE 520]	=	$T = 0.15 (X)$ (52% in, 48% out)
K-8 School ² (middle ~1/3)	[ITE 522]	=	$T = 0.15 (X)$ (52% in, 48% out)

Pass By Rate

Indrio Road	[ITE 820]	=	Lesser of 25% of external trip generation potential or 10% of adjacent street traffic + 10% of the I-95 ramp diversion
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1 Internal Capture percentage is different for AM, PM periods. See internal capture sheets for the estimated internal trips for each development.

Daily internal capture and pass-by capture based on PM peak hour.

2 K-8 School Daily and AM Peak Trip Generation based on 2/3 elementary school (1,050 students) and 1/3 middle school (550 students) trip rates.

3 K-8 School PM Peak Trip Generation based on middle school trip rate because this information is not available for elementary schools.

**TABLE TR-3
TRIP GENERATION (2025 - PHASE 3 LAND USE)**

Land Use	Intensity			Daily Trips	AM Peak Hour			PM Peak Hour		
					Total	In	Out	Total	In	Out
Proposed										
Office	200,000	s.f.		2,275	327	288	39	303	52	251
Retail	200,000	s.f.		10,656	237	145	92	989	475	514
Single-Family Residential	1,700	d.u.		14,091	1,199	300	899	1,373	865	508
Multi Family Residential - Apartment	1,400	d.u.		8,564	690	138	552	788	512	276
K-8 School ^{2,3}	1,600	Stu		2,246	607	334	273	240	125	115
Subtotal				37,832	3,060	1,205	1,855	3,693	2,029	1,664
Internal Capture¹										
	AM	PM	Daily							
Office	17.4%	23.4%	25.7%	585	57	49	8	71	11	60
Retail	9.3%	18.7%	12.7%	1,354	22	10	12	185	102	83
Residential	14.7%	13.8%	10.7%	2,418	278	75	203	299	160	139
K-8 School ^{2,3}	41.4%	56.3%	57.0%	1,281	251	170	81	135	72	63
	19.9%	18.7%	14.9%							
Subtotal				5,638	608	304	304	690	345	345
Pass-by										
Indrio Road	4.4%			359	44	18	17	35	18	18
I-95 Ramps	20.6%			1,701	10	5	5	166	83	83
Subtotal				2,060	54	23	22	201	101	101
Driveway Volume				32,194	2,452	901	1,551	3,003	1,684	1,319
Net New External Trips				39,134	2,398	878	1,529	2,802	1,584	1,219

Note: Trip generation was calculated using the following data:

Daily Traffic

Office	[ITE 710]	=	$\ln(T) = 0.77 \ln(X/1000) + 3.65$
Retail	[ITE 820]	=	$\ln(T) = 0.65 \ln(X/1000) + 5.83$
Single-Family Residential	[ITE 210]	=	$\ln(T) = 0.92 \ln(X) + 2.71$
Multi Family Residential - Apartment	[ITE 220]	=	$T = 6.01(X) + 150.35$
K-8 School ² (elementary ~2/3)	[ITE 520]	=	$T = 1.29 (X)$
K-8 School ² (middle ~1/3)	[ITE 522]	=	$T = 1.62 (X)$

AM Peak Hour Traffic

Office	[ITE 710]	=	$\ln(T) = 0.80 \ln(X/1000) + 1.55$ (88% in, 12% out)
Retail	[ITE 820]	=	$\ln(T) = 0.60 \ln(X/1000) + 2.29$ (61% in, 39% out)
Single-Family Residential	[ITE 210]	=	$T = 0.70 (X) + 9.43$ (25% in, 75% out)
Multi Family Residential - Apartment	[ITE 220]	=	$T = 0.49(X) + 3.73$; (20% in, 80% out)
K-8 School ² (elementary ~2/3)	[ITE 520]	=	$\ln(T) = 1.11 \ln(X) - 1.73$ (55% in, 45% out)
K-8 School ² (middle ~1/3)	[ITE 522]	=	$T = 0.79 (X) - 228.0$ (55% in, 45% out)

PM Peak Hour Traffic

Office	[ITE 710]	=	$T = 1.12(X/1000) + 78.81$ (17% in, 83% out)
Retail	[ITE 820]	=	$\ln(T) = 0.66 \ln(X/1000) + 3.4$ (48% in, 52% out)
Single-Family Residential	[ITE 210]	=	$\ln(T) = 0.90 \ln(X) + 0.53$ (63% in, 37% out)
Multi Family Residential - Apartment	[ITE 220]	=	$T = 0.55(X) + 17.65$; (65% in, 35% out)
K-8 School ² (elementary ~2/3)	[ITE 520]	=	$T = 0.15 (X)$ (52% in, 48% out)
K-8 School ² (middle ~1/3)	[ITE 522]	=	$T = 0.15 (X)$ (52% in, 48% out)

Pass By Rate

Indrio Road	[ITE 820]	=	Lesser of 25% of external trip generation potential or 10% of adjacent street traffic + 10% of the I-95 ramp diversion
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¹ Internal Capture percentage is different for AM, PM periods. See internal capture sheets for the estimated internal trips for each development.

Daily internal capture and pass-by capture based on PM peak hour.

² K-8 School Day and AM Peak Trip Generation based on 2/3 elementary school (1,050 students) and 1/3 middle school (550 students) trip rates.

³ K-8 School PM Peak Trip Generation based on middle school trip rate because this information is not available for elementary schools.

FIGURE TR-1
2015 TRAFFIC ASSIGNMENT

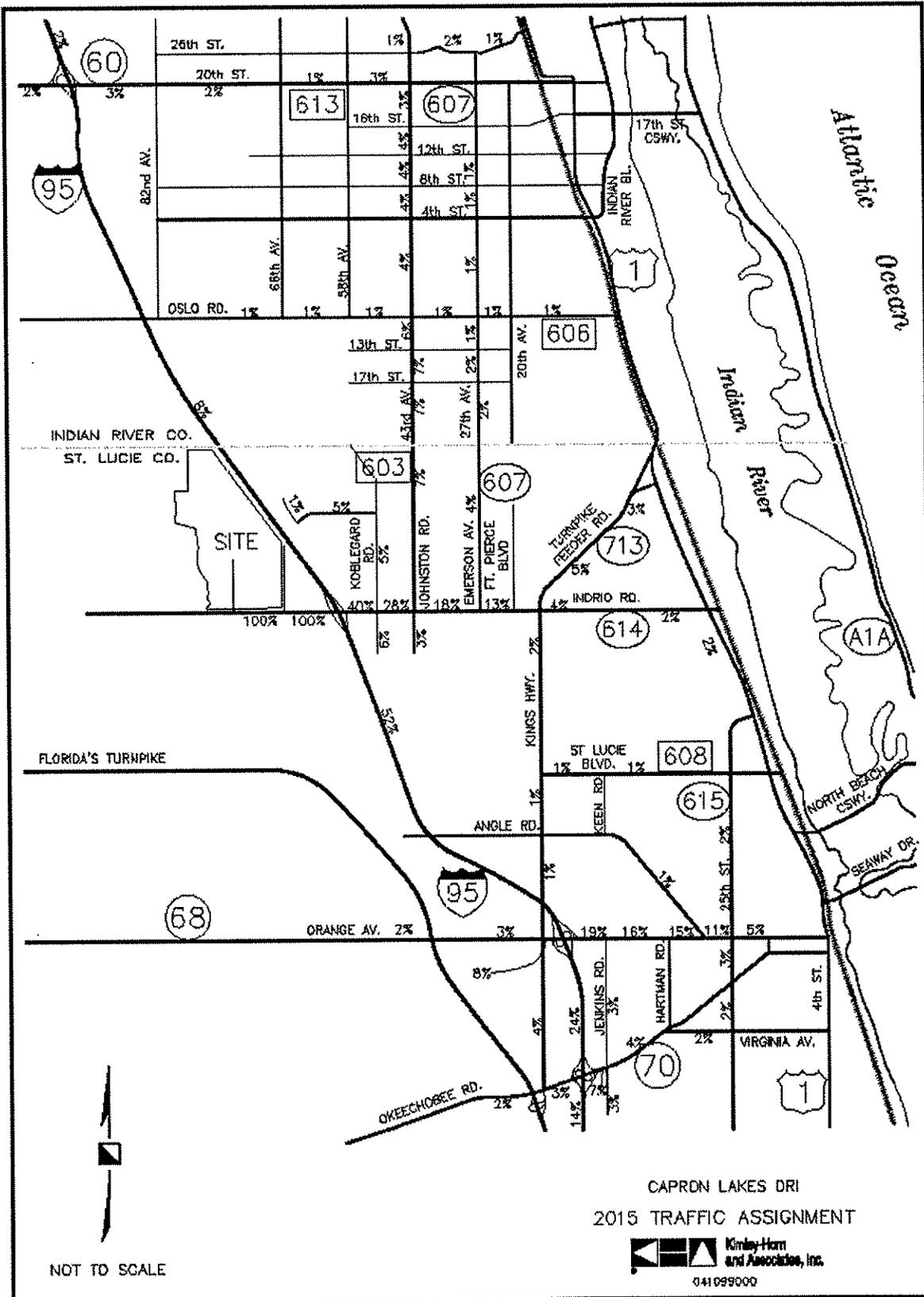
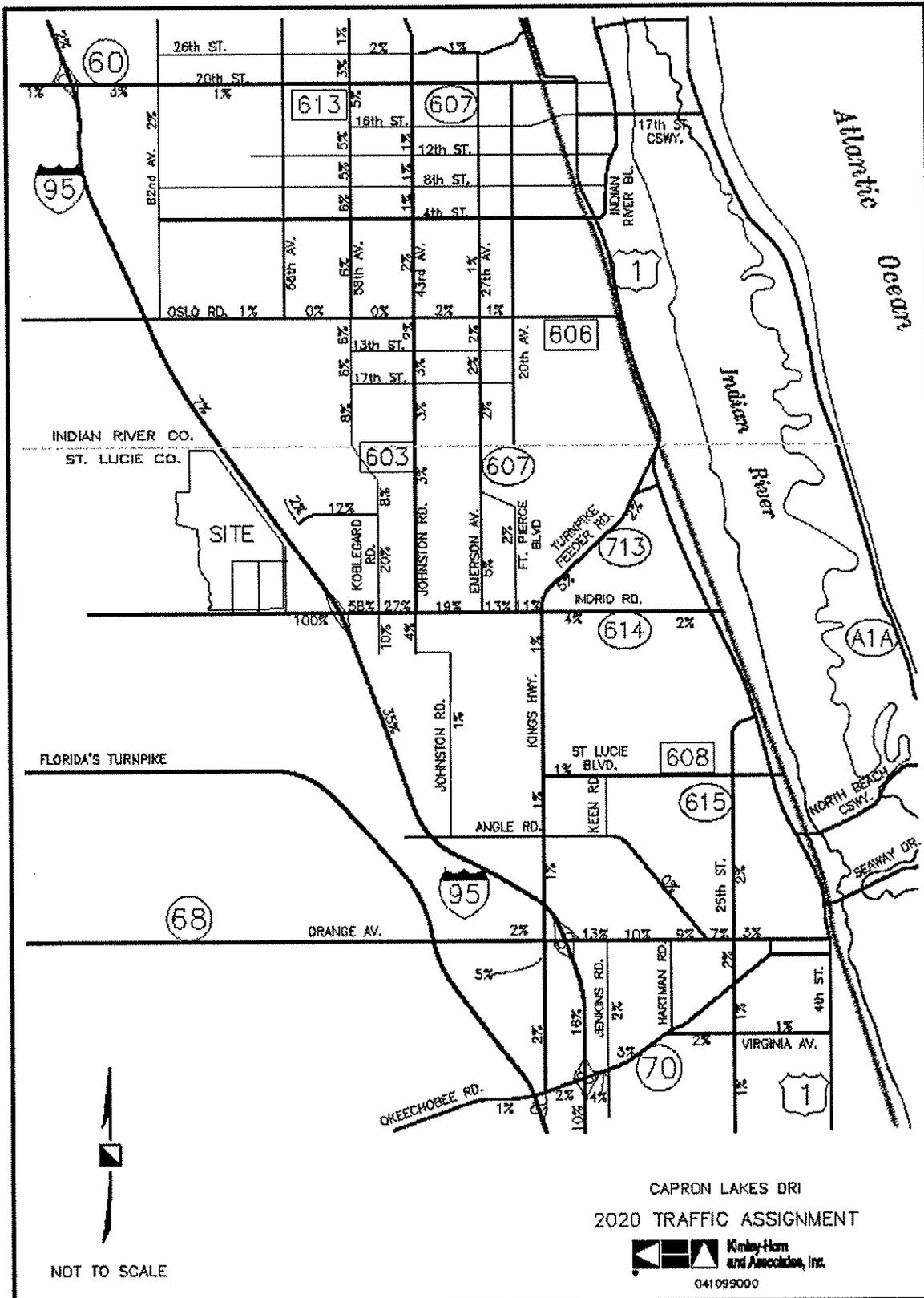


FIGURE TR-2
2020 TRAFFIC ASSIGNMENT



**TABLE TR-4
PROGRAMMED IMPROVEMENTS**

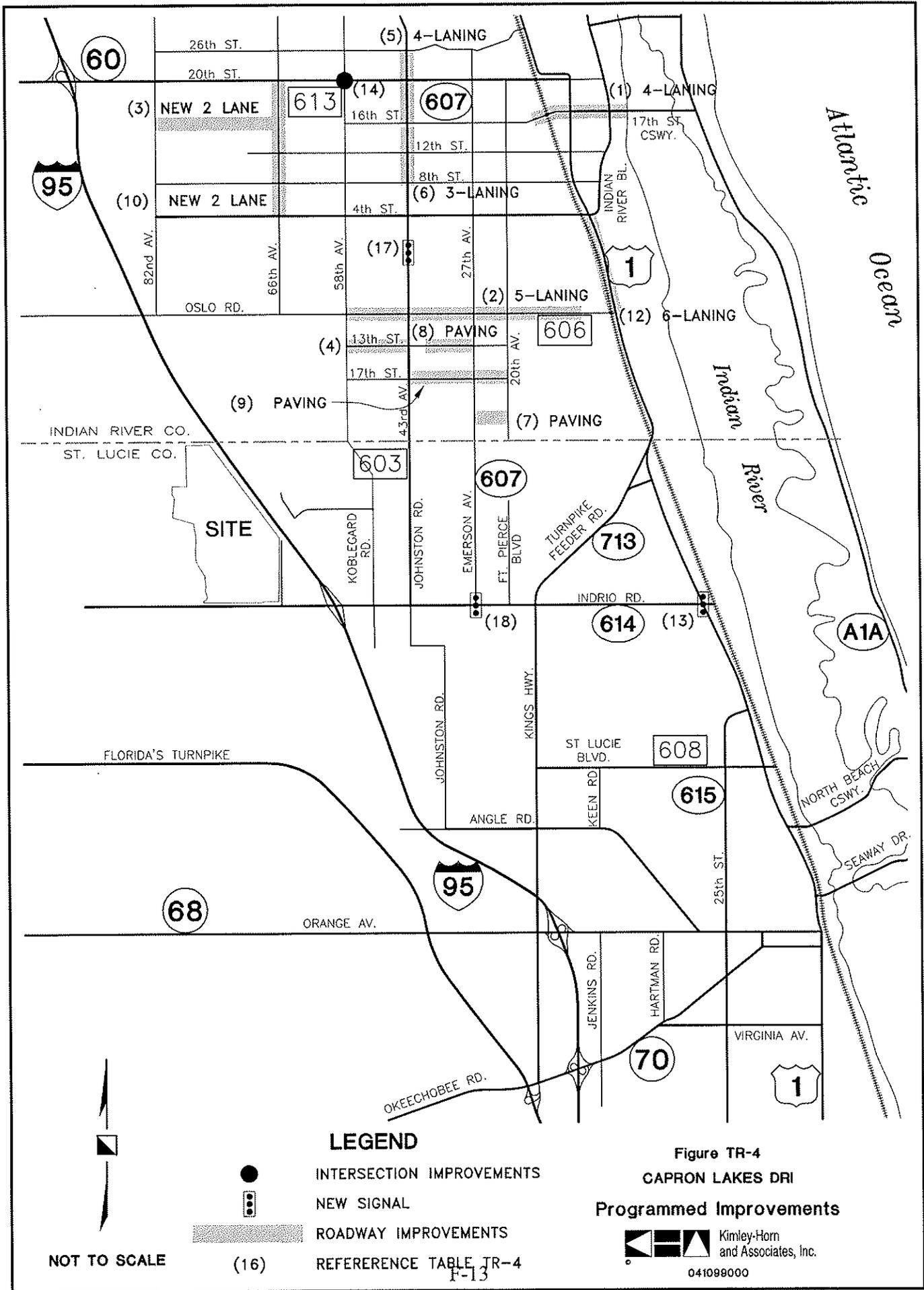
	Road	Improvement	Limits		Begin Construction	Funding Agency	Appendix Page(s)
1	16/17th Street	4-Laning	14th Avenue	US-1	2007	FDOT	11
2	Oslo Road / 9th Street	5-Laning	58th Avenue	10th Avenue	2005	IRC	11
3	16th Street	New 2-Lane	Pointe West	66th Avenue	2005	IRC	11
4	13th Street SW	Developer's Bridge Replacement/Paving Portion	58th Avenue	43rd Avenue	2005	IRC	12
5	43rd Avenue	4-Laning	26th Street	16th Street	2005	IRC	11
6	43rd Avenue	3-Laning	16th Street	8th Street	2005	IRC	11
7	21st Street SW	Paving	27th Avenue	20th Avenue	2006	IRC	12
8	13th Street SW	Paving	W of 34th Avenue	27th Avenue	2005	IRC	12
9	17th Street SW Paving	Paving	27th Avenue	43rd Avenue	2006	IRC	12
10	66th Avenue	New 2-Lane	4th Street	SR 60	2005	IRC	11
12	US1	6-Laning	Indian River Boulevard	Oslo Road	2008	FDOT	14

	Intersections	Improvement	Begin Construction	Funding Agency	Appendix Page(s)
13	US 1/Indrio Road	Signalize & Add turn lanes	2005	SLC	8
14	SR 60 & 58th Avenue	Add Turn lanes & through lanes	2005	IRC	12
17	SW 1st Street/43rd Avenue	Misc. Intersection Improvements	2005	IRC	13
18	Indrio/Emerson	Signalization	Unknown	SLC	*

* This improvement is not contained in the St. Lucie County T.I.P., but is a development order condition of Emerson Estates. The development order for Emerson Estates is not contained in the Appendix.

Programmed Improvements Not Shown in Figure

19	SR 70	4-Laning	MP 13.361	McCarty Road	2005	FDOT	3,4,5,6
20	US 1	6-Laning	Rio Mar	Midway	2006	FDOT	1
21	25th Street (SR 615)	4-Laning	Edwards	Midway	2004	FDOT/SLC	2



NOT TO SCALE

LEGEND

- INTERSECTION IMPROVEMENTS
- ⋮ NEW SIGNAL
- ▨ ROADWAY IMPROVEMENTS
- (16) REFERENCE TABLE JR-4 F-13

Figure TR-4

CAPRON LAKES DRI

Programmed Improvements

Kimley-Horn and Associates, Inc.
041099000

TABLE TR-5
2015 TOTAL TRAFFIC
PM PEAK HOUR

Roadway	From	To	Peak Hr Adopted	Committed # of Lanes	Generalized Peak Hr	Existing + Ambient Traffic		SLC Projects' Traffic		SLC DRP' Traffic		Project Traffic		66th Avenue Diversions		Total Traffic		
						NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB	NB/EB
Interstate 95																		
CR 512	SR 60	SR 60	C	4	2,890	2,365	1,827	0	0	0	0	11	13			2,376	1,840	
SR 60	Indrio Rd	Indrio Rd	C	4	2,890	2,272	2,093	0	0	95	126	43	51			2,410	2,270	
Indrio Rd	Orange Av	Orange Av	C	4	2,940	2,453	2,341	0	0	429	316	333	281			3,215	2,938	
Orange Av	Okeechobee Rd	Okeechobee Rd	C	4	2,940	2,911	3,005	0	0	259	191	154	130			3,324	3,326	
South of Okeechobee Rd			C	6	4,550	3,056	3,053	0	0	0	0	90	76			3,146	3,129	
43rd Avenue / Johnston Road																		
SR 60	16th St	16th St	D	4	1,796	856	1,074	0	0	13	17	16	19			885	1,110	
16th St	12th St	12th St	E+20	2	1,071	708	1,006	0	0	20	26	22	26			750	1,058	
12th St	8th St	8th St	E+20	2	1,071	651	955	0	0	28	36	22	26			701	1,017	
8th St	4th St	4th St	E+20	2	1,020	617	971	0	0	28	36	22	26			667	1,033	
4th St	Oslo Rd	Oslo Rd	E+20	2	1,068	672	905	0	0	41	54	22	26			735	985	
Oslo Rd	SW 13th St	SW 13th St	D	2	950	543	507	0	0	69	89	32	38			644	634	
SW 13th St	SW 17th St	SW 17th St	D	2	950	543	507	0	0	76	99	38	45			657	651	
SW 17th St	25th Street SW	25th Street SW	D	2	950	543	507	0	0	76	99	38	45			657	651	
25th Street SW	Indrio Rd	Indrio Rd	D	2	760	347	368	0	0	114	147	38	45			499	560	
Indrio Rd	Angle Rd	Angle Rd	D	0	760	32	35	0	0	263	320	19	16			314	371	
Emerson Avenue (27th Avenue; SR 607)																		
4th St	Oslo Rd	Oslo Rd	E+20	2	1,068	737	1,047	0	0	11	15	5	6			753	1,068	
Oslo Rd	SW 13th St	SW 13th St	E+20	2	1,068	855	1,170	0	0	19	25	5	6			879	1,201	
SW 13th St	25th Street SW	25th Street SW	E+20	2	1,068	855	1,170	0	0	26	34	11	13			892	1,217	
25th Street SW	Indrio Rd	Indrio Rd	D	2	860	325	245	266	142	34	44	22	26			647	457	
SR 713 (Kings Highway/Turnpike Feeder Road)																		
US 1	Winter Garden Pkwy	Winter Garden Pkwy	D	2	860	510	668	296	159	20	26	16	19			842	872	
Winter Garden Pkwy	Indrio Rd	Indrio Rd	D	2	860	976	711	158	79	20	26	27	32			1,181	848	
Indrio Rd	St. Lucie Blvd	St. Lucie Blvd	D	2	860	1,090	751	203	335	34	26	13	11			1,340	1,123	
St. Lucie Blvd	Angle Rd	Angle Rd	D	2	860	810	662	66	235	17	13	6	5			899	915	
South of Angle Rd			D	2	860	842	857	66	223	29	23	6	5			943	1,108	

TABLE TR-5 (cont.)
2015 TOTAL TRAFFIC
PM PEAK HOUR

Roadway	From	To	Peak Hr Adopted LOS	Committed # of Lanes	Generalized Peak Hr erv Vol	Existing + Ambient Traffic		SLC Projects' Traffic		SLC DRI' Traffic		Project Traffic		66th Avenue Diversions		Total Traffic	
						NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB
Oslo Road (SW 9th Street)	82nd Avenue	66th Avenue	D	2	870	350	209	0	0	15	11	6	5			371	225
	66th Avenue	58th Avenue	D	2	870	350	209	0	0	15	11	6	5			371	225
	58th Avenue	43rd Avenue	D	4	1,953	778	673	0	0	37	52	6	5			821	730
	43rd Avenue	27th Avenue	D	4	1,953	840	805	0	0	49	66	5	6			894	877
	East of 27th Avenue		D	4	1,953	711	865	0	0	44	59	5	6			760	930
Indrio Road (SR 614)	West of Project Entrance	Road "A"	E	2	890	117	49	0	0	7	5	0	0			124	54
	Project Entrance		E	2	890	117	49	0	0	74	58	574	674			765	781
	Road "A"	I-95	E	2	890	117	49	0	0	74	58	590	690			781	797
	I-95	Koblegard Rd	D	4	1,860	641	545	41	23	644	481	216	256			1,542	1,305
	Koblegard Rd	Johnston Rd	D	2	860	708	698	41	23	366	484	157	186			1,272	1,391
	Johnston Rd	Emerson Ave (27th Ave)	D	2	860	536	510	67	81	179	239	97	115			879	945
	Emerson Ave (27th Ave)	Kings Hwy (SR 713)	D	2	860	550	807	136	265	123	166	70	83			879	1,321
	Kings Hwy (SR 713)	US 1	E	2	890	303	543	39	62	55	74	22	26			419	705
	East of US 1		E	2	890	45	56	0	0	8	10	0	0			53	66
	Orange Avenue	Kings Hwy (SR 713)	I-95	D	4	1,860	908	918	223	66	36	28	51	43			1,218
I-95		Jenkins Rd	D	4	1,860	670	730	0	0	97	133	103	122			870	985
Jenkins Rd		Hartman Rd	D	4	1,860	660	870	0	0	63	86	87	103			810	1,059
Hartman Rd		Angle Rd	D	4	1,860	737	864	0	0	50	69	81	96			868	1,029
Angle Rd		25th St	D	4	1,710	661	700	0	0	47	64	60	71			768	835
25th Street	East of 25th St		D	4	1,710	697	853	0	0	24	32	27	32			748	917
	North of Orange Avenue		D	4	1,860	1,068	1,151	0	0	10	8	11	13			1,089	1,172
Road "A"	South of Orange Avenue		D	4	1,860	1,102	1,081	0	0	10	8	19	16			1,131	1,105
	Project Entrance	Indrio Road	E	0	890	0	0	0	0	0	0	0	0			0	0

TABLE TR-5 (cont.)
2015 TOTAL TRAFFIC
PM PEAK HOUR

Roadway	From	To	Peak Hr Adopted LOS	Committed # of LanesS	Generalized Peak Hr erv Vol	Existing + Ambient Traffic		SLC Projects' Traffic		SLC DRI' Traffic		Project Traffic		66th Avenue Diversions		Total Traffic		
						NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB	NB/EB
Russos Road	Spanish Lakes	Koblegard Rd	E	0	890	0	0	0	0	0	0	27	32			27	32	
58th Avenue	North of 26th Street	SR 60	D	2	860	857	743	0	0	0	0	0	0	0		857	743	
			D	6	1,860	1,158	1,450	0	0	0	0	0	0	0		1,158	1,450	
			D	6	1,710	1,689	1,711	0	0	58	82	0	0	0	-210	-215	1,537	1,578
			D	4	1,710	1,549	1,527	0	0	58	82	0	0	0	-193	-193	1,414	1,416
			D	4	1,710	1,161	1,310	0	0	63	89	0	0	0	-147	-168	1,077	1,231
			D	4	1,710	937	1,050	0	0	74	104	0	0	0	-121	-138	890	1,016
66th Avenue	Oslo Rd	Oslo Rd	D	4	1,860	651	685	0	0	124	169	0	0	0	-93	-102	682	752
			D	2	860	0	0	0	0	0	0	0	0	0	210	215	210	215
			D	2	860	0	0	0	0	0	0	0	0	0	193	193	193	193
			D	2	860	0	0	0	0	0	0	0	0	0	147	168	147	168
			D	2	860	0	0	0	0	0	0	0	0	0	121	138	121	138
			D	2	860	44	42	0	0	0	0	0	0	0	93	102	137	144

AM PEAK HOUR

Roadway	From	To	Peak Hr Adopted LOS	Committed # of LanesS	Generalized Peak Hr erv Vol	Existing + Ambient Traffic		SLC Projects' Traffic		SLC DRI' Traffic		Project Traffic		66th Avenue Diversions		Total Traffic	
						NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB
Interstate 95	Indrio Rd	Orange Av	C	4	2,940	2,070	1,913	0	0	340	392	158	274			2,568	2,579
Indrio Road (SR 614)	Project Entrance	Road "A"	E	2	890	129	123	0	0	50	73	527	304			706	500
			E	2	890	129	123	0	0	50	73	527	304			706	500
			D	4	1,860	566	750	13	38	422	637	211	122			1,212	1,547
			D	2	860	502	540	13	38	475	318	153	88			1,143	984

TABLE TR-6
2020 TOTAL TRAFFIC
PM PEAK HOUR

Roadway	From	To	Peak Hr Adopted LOS	Committed # of Lanes	Capron Lakes needed lanes (from 2015)	Improved Service Volume (From 2015)	Existing + Ambient Traffic		Johnston Rd Diversion		SLC Projects' Traffic		SLC DRF Traffic		Project Traffic		Total Traffic	
							NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB
Interstate 95																		
CR 512		SR 60	C	4	-	2,890	2,796	2,160			0	0	0	20	27	2,816	2,187	
SR 60		Indrio Road	C	4	-	2,890	2,685	2,474			0	0	104	70	94	2,859	2,703	
Indrio Rd		Orange Ave	C	4	6	4,550	2,789	2,661			0	0	447	470	352	3,706	3,348	
Orange Av		Okeechobee Rd	C	4	6	4,550	3,310	3,417			0	0	272	215	161	3,797	3,783	
South of Okeechobee Rd			C	6	-	4,550	3,457	3,454			0	0	0	134	101	3,591	3,555	
43rd Avenue / Johnston Road																		
SR 60		16th St	D	4	-	1,796	1,011	1,268			0	0	13	0	0	1,024	1,286	
16th St		12th St	E+20	2	-	1,071	836	1,188			0	0	22	10	13	868	1,229	
12th St		8th St	E+20	2	-	1,071	768	1,127			0	0	30	10	13	808	1,179	
8th St		4th St	E+20	2	-	1,020	729	1,147			0	0	30	10	13	769	1,199	
4th St		Oslo Rd	E+20	2	-	1,068	793	1,068			0	0	45	20	27	858	1,152	
Oslo Rd		SW 13th St	D	2	-	950	641	598			0	0	75	20	27	736	721	
SW 13th St		SW 17th St	D	2	-	950	641	598			0	0	83	30	40	754	744	
SW 17th St		25th Street SW	D	2	-	950	641	598			0	0	83	30	40	754	744	
25th Street SW		Indrio Rd	D	2	-	760	384	406			0	0	126	30	40	540	605	
Indrio Rd		Angle Rd	D	0	-	760	35	39	99	64	0	0	291	54	40	479	490	
Emerson Avenue (27th Avenue; SR 607)																		
4th St		Oslo Rd	E+20	2	-	1,068	870	1,236			0	0	11	10	13	891	1,264	
Oslo Rd		SW 13th St	E+20	2	-	1,068	1,009	1,381			0	0	19	20	27	1,048	1,434	
SW 13th St		25th Street SW	E+20	2	-	1,068	1,009	1,381			0	0	28	20	27	1,057	1,444	
25th Street SW		Indrio Rd	D	2	-	860	359	271			266	142	36	50	67	711	527	
SR 713 (Kings Highway/Turnpike Feeder Road)																		
US 1		Winter Garden Pkwy	D	2	-	860	563	738			296	159	22	20	27	901	952	
Winter Garden Pkwy		Indrio Rd	D	2	-	860	1,078	785			158	79	22	50	67	1,308	959	
Indrio Rd		St. Lucie Blvd	D	2	-	860	1,203	829	-99	-64	203	335	36	13	10	1,356	1,138	
St. Lucie Blvd		Angle Rd	D	2	-	860	895	731	-99	-64	66	235	18	13	10	893	925	
South of Angle Rd			D	2	-	860	930	946			66	223	32	13	10	1,041	1,204	

TABLE TR-6 (cont.)
2020 TOTAL TRAFFIC
PM PEAK HOUR

Roadway	From	To	Peak Hr Adopted LOS	Committed # of Lanes	Capron Lakes needed lanes (from 2015)	Improved Service Volume (From 2015)	Existing + Ambient Traffic		Johnston Rd Diversion		SLC Projects' Traffic		SLC DRI' Traffic		Project Traffic		Total Traffic	
							NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB
Oslo Road (SW 9th Street)	82nd Avenue	66th Avenue	D	2	-	870	413	246			0	0	15	11	13	10	441	267
	66th Avenue	58th Avenue	D	2	-	870	413	246			0	0	15	11	0	0	428	257
	58th Avenue	43rd Avenue	D	4	-	1,953	918	795			0	0	37	52	0	0	955	847
	43rd Avenue	27th Avenue	D	4	-	1,953	991	950			0	0	51	69	20	27	1,062	1,046
	East of 27th Avenue		D	4	-	1,953	839	1,022			0	0	46	62	10	13	895	1,097
Indio Road (SR 614)	West of Project Entrance	Road "A"	E	2	-	890	129	54			0	0	7	5	0	0	136	59
	Project Entrance	Road "A"	E	2	2	890	129	54			0	0	81	64	830	1,092	1,040	1,210
	Road "A"	I-95	E	2	2	890	129	54			0	0	81	64	1,074	1,409	1,284	1,527
	I-95	Koblegard Rd	D	4	-	1,860	707	602			41	23	676	514	584	779	2,008	1,918
	Koblegard Rd	Johnston Rd	D	2	4	1,860	782	771			41	23	398	514	272	363	1,493	1,671
	Johnston Rd	Emerson Ave (27th Ave)	D	2	4	1,860	592	563			67	81	192	251	191	255	978	1,051
	Emerson Ave (27th Ave)	Kings Hwy (SR 713)	D	2	4	1,860	607	891			136	265	130	173	131	175	940	1,405
	Kings Hwy (SR 713)	US 1	E	2	-	890	335	599			39	62	57	77	40	54	471	792
	East of US 1		E	2	-	890	50	62			0	0	8	11	0	0	58	73
Orange Avenue	Kings Hwy (SR 713)	I-95	D	4	-	1,860	1,003	1,013			223	66	39	30	67	50	1,332	1,159
	I-95	Jenkins Rd	D	4	-	1,860	740	806			0	0	99	136	131	175	970	1,117
	Jenkins Rd	Hartman Rd	D	4	-	1,860	728	961			0	0	65	88	101	134	894	1,183
	Hartman Rd	Angle Rd	D	4	-	1,860	728	961			0	0	50	70	91	121	869	1,152
	Angle Rd	25th St	D	4	-	1,710	729	773			0	0	49	66	70	94	848	933
	East of 25th St		D	4	-	1,710	770	942			0	0	24	33	30	40	824	1,015
25th Street	North of Orange Avenue		D	4	-	1,860	1,179	1,270			0	0	11	8	27	20	1,217	1,298
	South of Orange Avenue		D	4	-	1,860	1,217	1,194			0	0	11	8	27	20	1,255	1,222
Road "A"	Project Entrance	Indio Road	E	0	-	890	0	0			0	0	0	0	295	222	295	222

TABLE TR-6 (cont.)
2020 TOTAL TRAFFIC
PM PEAK HOUR

Roadway	From	To	Peak Hr Adopted LOS	Committed # of Lanes	Capron Lakes needed lanes (from 2015)	Improved Service Volume (From 2015)	Existing + Ambient Traffic		Johnston Rd Diversion		SLC Projects' Traffic		SLC DRT Traffic		Project Traffic		Total Traffic	
							NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB
Russos Road		Koblegard Rd	E	0	-	890	0	0			0	0	0	0	121	161	121	161
Spanish Lakes																		
58th Avenue																		
26th St		SR 60	D	6	-	1,860	1,366	1,711			0	0	0	0	30	40	1,396	1,751
SR 60		College Lane	D	6	-	1,710	1,804	1,825			0	0	58	82	50	67	1,912	1,974
College Lane		12th St	D	4	-	1,710	1,654	1,627			0	0	58	82	50	67	1,762	1,776
12th St		8th St	D	4	-	1,710	1,237	1,393			0	0	63	89	50	67	1,350	1,549
8th St		4th St	D	4	-	1,710	996	1,113			0	0	74	104	60	81	1,130	1,298
4th St		Oslo Rd	D	4	-	1,860	681	711			0	0	130	174	60	81	871	966
Oslo Rd		SW 13th St	D	0	-	860	0	0			0	0	186	252	60	81	246	333
SW 13th St		SW 17th St	D	0	-	860	0	0			0	0	191	260	60	81	251	341
SW 17th St		21st Street SW	D	0	-	860	0	0			0	0	191	260	81	107	272	367
21st Street SW		Russos Road	E	0	-	890	0	0			0	0	216	291	81	107	297	398
Russos Road		Indrio Road	E	0	-	890	0	0			0	0	675	543	201	269	876	812
166th Avenue																		
SR 60		16th St	D	2	-	860	256	262			0	0	0	0	0	0	256	262
16th St		12th St	D	2	-	860	235	235			0	0	0	0	0	0	235	235
12th St		8th St	D	2	-	860	179	205			0	0	0	0	0	0	179	205
8th St		4th St	D	2	-	860	148	168			0	0	0	0	0	0	148	168
4th St		Oslo Rd	D	2	-	860	167	176			0	0	0	0	0	0	167	176

AM PEAK HOUR

Roadway	From	To	Peak Hr Adopted LOS	Committed # of Lanes	Capron Lakes needed lanes (from 2015)	Improved Service Volume (From 2015)	Existing + Ambient Traffic		Johnston Rd Diversion		SLC Projects' Traffic		SLC DRT Traffic		Project Traffic		Total Traffic	
							NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB
Interstate 95																		
Indrio Rd		Orange Av	C	4	-	4550	2,530	2,338			0	0	358	411	255	458	3,143	3,207
Indrio Road (SR 614)																		
Project Entrance		Road "A"	E	2	2	890	143	136			0	0	53	78	1023	569	1,219	763
Road "A"		I-95	E	2	2	890	143	136			0	0	53	78	1312	730	1,508	944
I-95		Koblegard Rd	D	4	-	1860	624	828			13	38	437	664	759	422	1,833	1,952
Koblegard Rd		Johnston Rd	D	2	4	1860	554	596			13	38	500	333	363	197	1,420	1,164

TABLE TR-7
2025 TOTAL TRAFFIC
PM PEAK HOUR

Roadway	From	To	Peak Hr Adopted LOS	Committed # of Lanes(f)	Capron Lakes needed lanes (from 2020)	Improved Service Volume (From 2020)	Existing + Ambient Traffic		SLC Projects' Traffic		SLC DRI' Traffic		Project Traffic		Total Traffic	
							NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB
Interstate 95																
CR 512	SR 60		C	4	-	2,890	3,304	2,553	0	0	0	0	24	32	3,328	2,585
SR 60	Indrio Road		C	4	-	2,890	3,173	2,924	0	0	104	135	97	127	3,374	3,186
Indrio Rd	Orange Ave		C	4	6	4,550	3,171	3,026	0	0	447	335	523	402	4,141	3,763
Orange Av	Okeechobee Rd		C	4	6	4,550	3,763	3,885	0	0	272	205	238	183	4,273	4,273
South of Okeechobee Rd			C	6	-	4,550	3,911	3,908	0	0	0	0	127	97	4,038	4,005
43rd Avenue / Johnston Road																
SR 60	16th St		D	4	-	1,796	1,165	1,462	0	0	13	18	12	16	1,190	1,496
16th St	12th St		E+20	2	-	1,071	964	1,369	0	0	22	28	12	16	998	1,413
12th St	8th St		E+20	2	-	1,071	885	1,299	0	0	30	39	12	16	927	1,354
8th St	4th St		E+20	2	-	1,020	840	1,322	0	0	30	39	24	32	894	1,393
4th St	Oslo Rd		E+20	2	-	1,068	914	1,231	0	0	45	57	24	32	983	1,320
Oslo Rd	SW 13th St		D	2	-	950	739	690	0	0	75	96	37	48	851	834
SW 13th St	SW 17th St		D	2	-	950	739	690	0	0	83	106	49	63	871	859
SW 17th St	25th Street SW		D	2	-	950	739	690	0	0	83	106	49	63	871	859
25th Street SW	Indrio Rd		D	2	-	760	423	449	0	0	126	159	49	63	598	671
Indrio Rd	Angle Rd		D	0	2	760	148	114	0	0	291	347	63	49	502	510
Emerson Avenue (27th Avenue; SR 607)																
4th St	Oslo Rd		E+20	2	-	1,068	1,003	1,425	0	0	11	15	12	16	1,026	1,456
Oslo Rd	SW 13th St		E+20	2	-	1,068	1,163	1,591	0	0	19	26	24	32	1,206	1,649
SW 13th St	25th Street SW		E+20	2	-	1,068	1,163	1,591	0	0	28	36	24	32	1,215	1,659
25th Street SW	Indrio Rd		D	2	-	860	397	299	266	142	36	47	49	63	748	551
SR 713 (Kings Highway/Turnpike Feeder Road)																
US 1	Winter Garden Pkwy		D	2	-	860	621	814	296	159	22	28	24	32	963	1,033
Winter Garden Pkwy	Indrio Rd		D	2	4	1,860	1,190	866	158	79	22	28	61	79	1,431	1,052
Indrio Rd	St. Lucie Blvd		D	2	-	860	1,219	845	203	335	36	28	16	12	1,474	1,220
St. Lucie Blvd	Angle Rd		D	2	-	860	879	736	66	235	18	13	16	12	979	996
South of Angle Rd			D	2	-	860	1,027	1,045	66	223	32	25	16	12	1,141	1,305

TABLE TR-7 (cont.)
2025 TOTAL TRAFFIC
PM PEAK HOUR

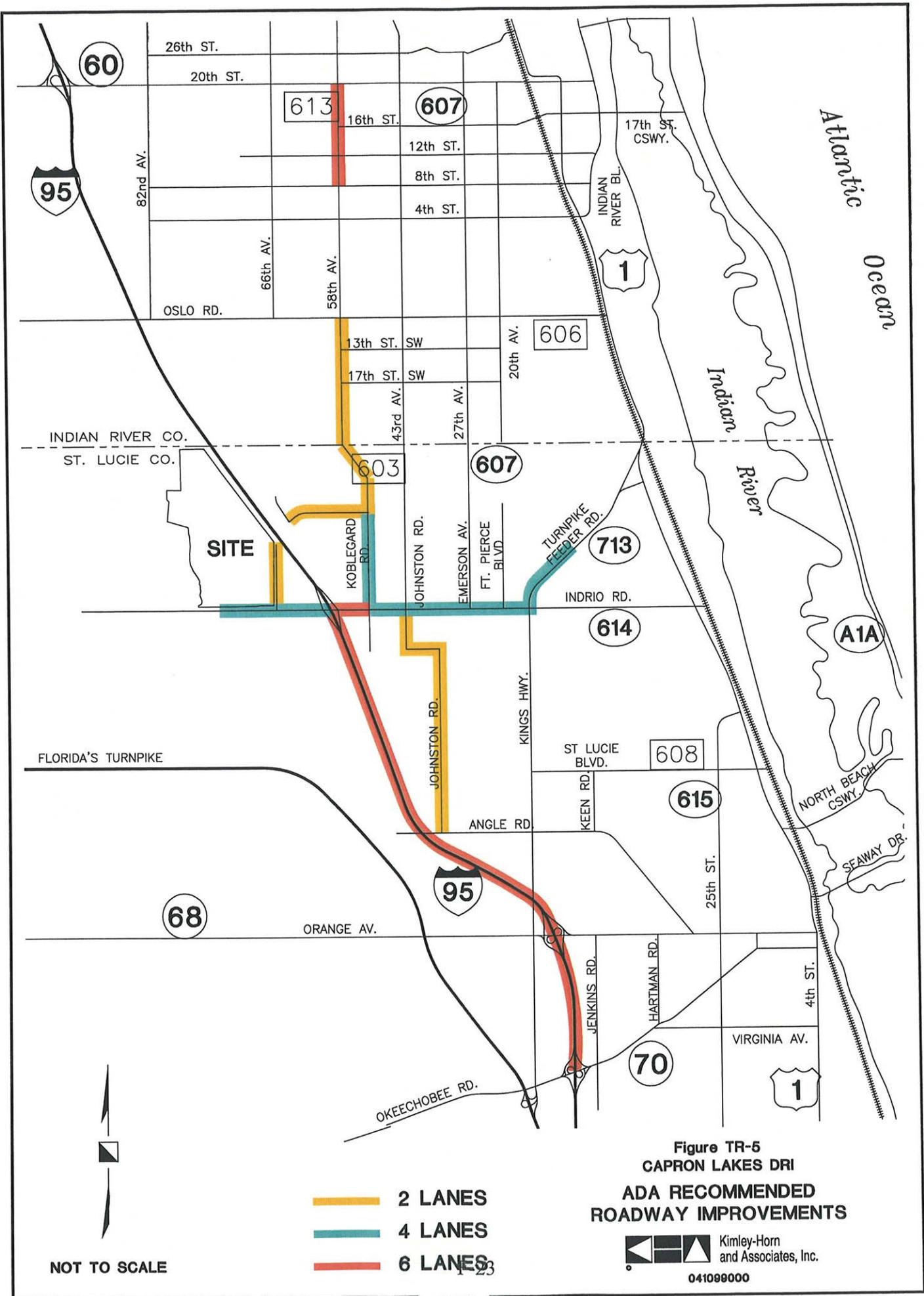
Roadway	From	To	Peak Hr Adopted LOS	Committed # of Lanes(f)	Capron Lakes needed lanes from 2020)	Improved Service Volume (From 2020)	Existing + Ambient Traffic		SLC Projects' Traffic		SLC DRI' Traffic		Project Traffic		Total Traffic	
							NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB
Oslo Road (SW 9th Street)	82nd Avenue	66th Avenue	D	2	-	870	476	284	0	0	15	11	16	12	507	307
	66th Avenue	58th Avenue	D	2	-	870	476	284	0	0	15	11	16	12	507	307
	58th Avenue	43rd Avenue	D	4	-	1,953	1,058	916	0	0	37	52	0	0	1,095	968
	43rd Avenue	27th Avenue	D	4	-	1,953	1,143	1,095	0	0	51	69	12	16	1,206	1,180
	East of 27th Avenue		D	4	-	1,953	968	1,178	0	0	46	62	12	16	1,026	1,256
Indrio Road (SR 614)	West of Project Entrance	Road "A"	E	2	-	890	143	60	0	0	7	5	0	0	150	65
	Project Entrance	Road "A"	E	2	4	1,860	143	60	0	0	81	64	1,005	1,290	1,229	1,414
	Road "A"	I-95	E	2	4	1,860	143	60	0	0	81	64	1,302	1,667	1,526	1,791
	I-95	Koblegard Rd	D	4	6	2,790	781	664	41	23	676	514	719	934	2,217	2,135
	Koblegard Rd	Johnston Rd	D	4	4	1,860	863	851	41	23	398	514	317	412	1,619	1,800
	Johnston Rd	Emerson Ave (27th Ave)	D	2	4	1,860	583	512	67	81	192	251	219	285	1,061	1,130
	Emerson Ave (27th Ave)	Kings Hwy (SR 713)	D	2	4	1,860	600	874	136	265	130	173	158	206	1,024	1,518
	Kings Hwy (SR 713)	US 1	E	2	-	890	369	662	39	62	57	77	49	63	514	864
	East of US 1		E	2	-	890	55	68	0	0	8	11	0	0	63	79
	Orange Avenue	Kings Hwy (SR 713)	I-95	D	4	-	1,860	1,107	1,119	223	66	39	30	79	61	1,448
I-95		Jenkins Rd	D	4	-	1,860	817	890	0	0	99	136	146	190	1,062	1,216
Jenkins Rd		Hartman Rd	D	4	-	1,860	804	1,061	0	0	65	88	110	143	979	1,292
Hartman Rd		Angie Rd	D	4	-	1,860	899	1,053	0	0	50	70	97	127	1,046	1,250
Angie Rd		25th St	D	4	-	1,710	805	853	0	0	49	66	73	95	927	1,014
East of 25th St			D	4	-	1,710	850	1,040	0	0	24	33	24	32	898	1,105
25th Street	North of Orange Avenue		D	4	-	1,860	1,302	1,403	0	0	11	8	32	24	1,345	1,435
	South of Orange Avenue		D	4	-	1,860	1,343	1,318	0	0	11	8	32	24	1,386	1,350
Road "A"	Project Entrance	Indrio Road	E	0	-	890	0	0	0	0	0	0	348	268	348	268
	Russos Road	Spanish Lakes	E	0	-	890	0	0	0	0	0	0	158	206	158	206

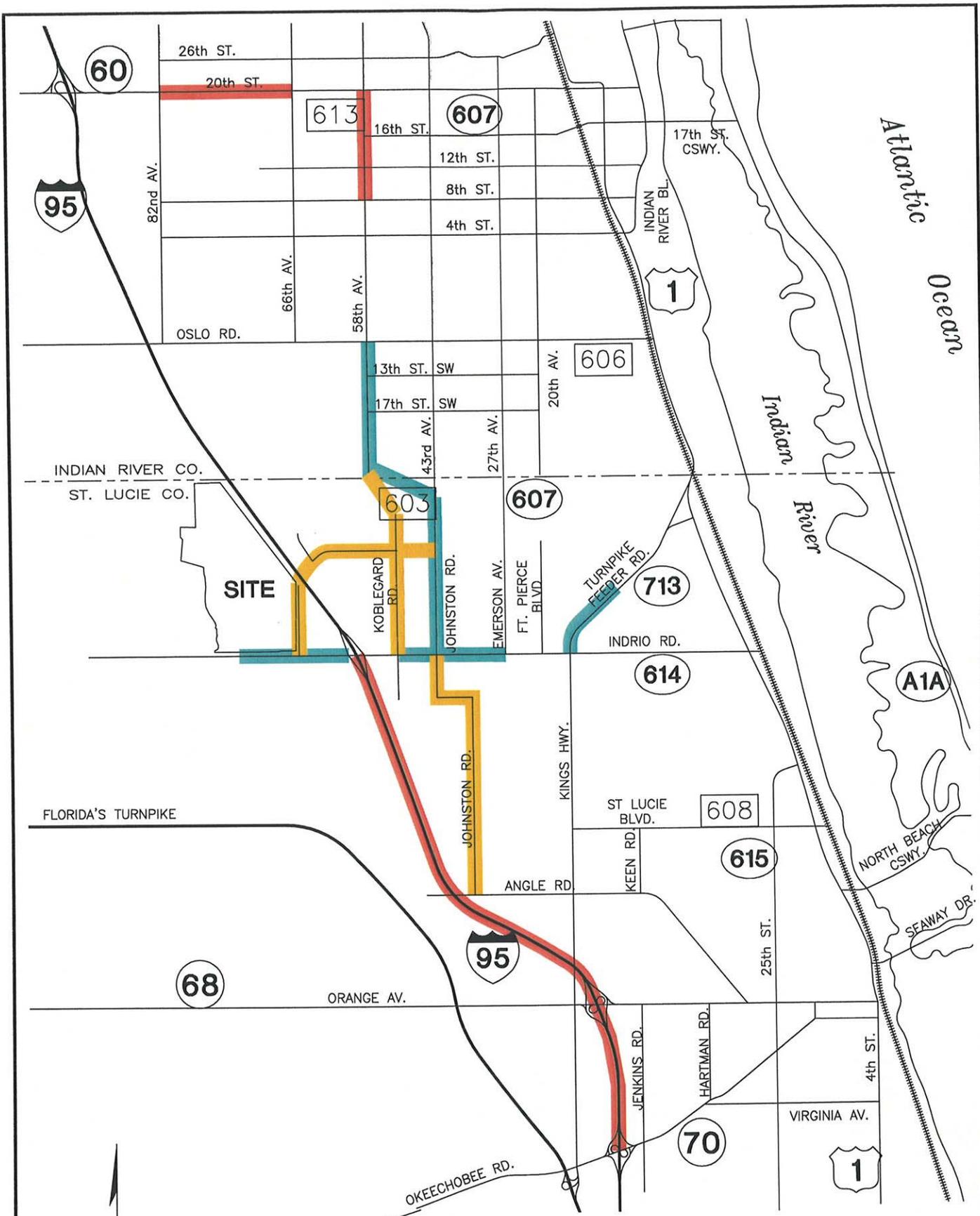
TABLE TR-7 (cont.)
2025 TOTAL TRAFFIC
PM PEAK HOUR

Roadway	From	To	Peak Hr Adopted LOS	Committed # of Lanes	Capron Lakes needed lanes (from 2020)	Improved Service Volume (From 2020)	Existing + Ambient Traffic		SLC Projects' Traffic		SLC DRI' Traffic		Project Traffic		Total Traffic	
							NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB
58th Avenue																
26th St		SR 60	D	6	-	1,860	1,575	1,972	0	0	0	37	48	1,612	2,020	
SR 60		College Lane	D	6	-	1,710	2,201	2,227	0	0	58	73	95	2,332	2,404	
College Lane		12th St	D	4	-	1,710	2,018	1,986	0	0	58	73	95	2,149	2,163	
12th St		8th St	D	4	-	1,710	1,509	1,700	0	0	63	73	95	1,645	1,884	
8th St		4th St	D	4	-	1,710	1,215	1,357	0	0	74	104	73	1,362	1,556	
4th St		Oslo Rd	D	4	-	1,860	831	868	0	0	130	174	85	1,046	1,153	
Oslo Rd		SW 13th St	D	0	2	860	0	0	0	0	186	252	97	283	379	
SW 13th St		SW 17th St	D	0	2	860	0	0	0	0	191	260	97	288	387	
SW 17th St		21st Street SW	D	0	2	860	0	0	0	0	191	260	110	301	403	
21st Street SW		Russos Road	E	0	2	890	0	0	0	0	216	291	143	326	434	
Russos Road		Indrio Road	E	2	-	890	0	0	0	0	675	543	268	943	891	
16th Avenue																
SR 60		16th St	D	2	-	860	313	320	0	0	0	0	0	313	320	
16th St		12th St	D	2	-	860	287	287	0	0	0	0	0	287	287	
12th St		8th St	D	2	-	860	219	250	0	0	0	0	0	219	250	
8th St		4th St	D	2	-	860	180	205	0	0	0	0	0	180	205	
4th St		Oslo Rd	D	2	-	860	204	215	0	0	0	0	0	204	215	

AM PEAK HOUR

Roadway	From	To	Peak Hr Adopted LOS	Committed # of Lanes	Capron Lakes needed lanes (from 2020)	Improved Service Volume (From 2020)	Background Traffic		SLC Projects' Traffic		SLC DRI' Reduced Traffic		Project Traffic		Total Traffic	
							NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB
Interstate 95																
Indrio Rd		Orange Av	C	4	6	4,550	2,990	2,764	0	0	358	411	290	505	3,638	3,680
Indrio Road (SR 614)		Road "A"	E	2	4	1,860	158	150	0	0	53	78	1196	688	1,407	916
Project Entrance		Road "A"	E	2	4	1,860	158	150	0	0	53	78	1534	883	1,745	1,111
Road "A"		i-95	D	4	6	2,790	689	914	13	38	437	664	902	518	2,041	2,134
i-95		Koblegard Rd	D	4	4	1,860	612	658	13	38	500	333	398	228	1,523	1,257
Koblegard Rd		Johnston Rd	D	4	4											

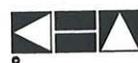




NOT TO SCALE

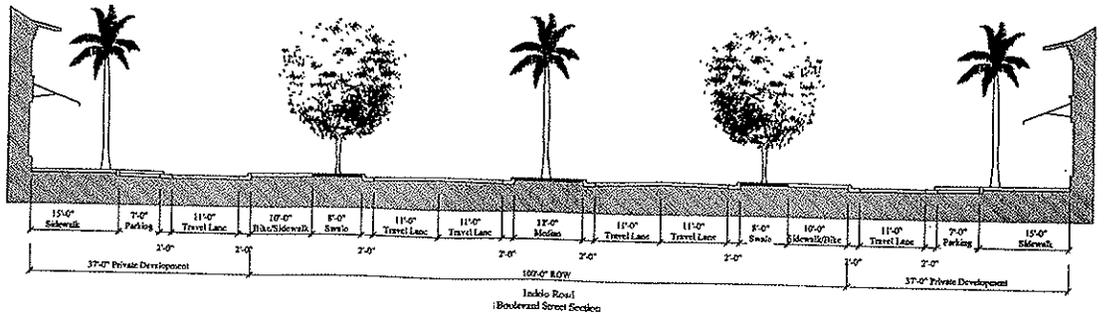
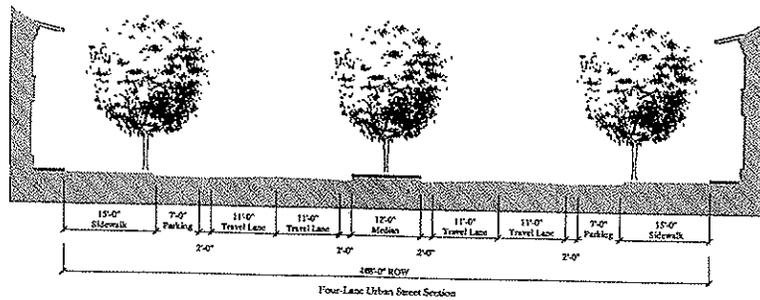
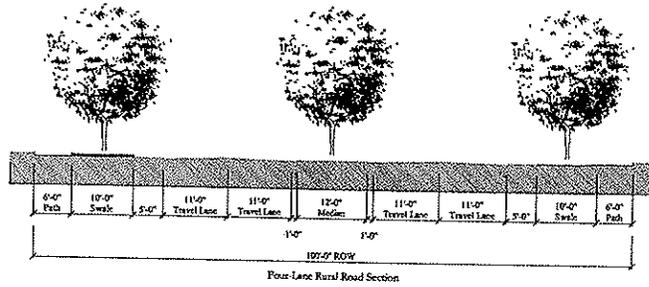
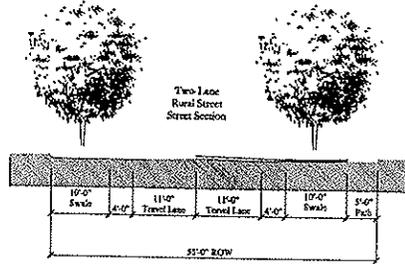
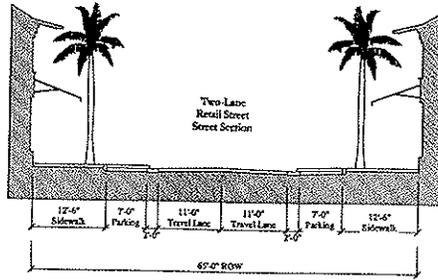
- 2 LANES
- 4 LANES
- 6 LANES

Figure TR-6
 CAPRON LAKES DRI
 DEVELOPMENT ORDER RECOMMENDED
 ROADWAY IMPROVEMENTS

 Kimley-Horn
 and Associates, Inc.
 041098000

APPENDIX G

Towns, Villages and Countryside North St. Lucie County Street Sections



G-1

Scale: 1"=20'-0"

APPENDIX H

Fiscal Impact Analysis – Capron Lakes DRI

Background

The purpose of fiscal impact analysis is to estimate the impact of a development or a land use change on the costs and revenues to local governments serving the development. Fiscal impact analysis is a tool that enables local governments to estimate the difference between the costs of providing services to a new development and the revenues—taxes and user fees, for example—that will be generated by the development. It is important to realize fiscal impact analysis only deals with the public costs and revenues associated with a project and does not take into account the fiscal impact on the private sector. This type of analysis only seeks to quantify the cumulative effect on a local government's revenues and expenses that are affected by a development.

The Florida Department of Community Affairs has developed a Fiscal Impact Analysis Model (FIAM) by contractual arrangement with Fishkind & Associates, Inc. The model has been made available to local governments in the Treasure Coast Region and throughout the State of Florida. FIAM is designed to serve as the prototype fiscal impact assessment tool for local governments in Florida. FIAM provides estimates for the effects of land use decisions on both the operating budget and capital budget of the local government. The FIAM model is designed to be calibrated with local budget and demographic data for the county that is the subject of the analysis. For this project, the FIAM model is calibrated with current St. Lucie County data.

This analysis uses FIAM to indicate whether the Capron Lakes DRI project would have a positive or negative fiscal impact for the County. Presented here is a summary of total revenues and costs for operating and capital budget items. Results are given in terms of net present values (NPV). The net present value calculation displays how much a future investment is worth in today's dollars. A project's overall NPV is calculated by summing the net capital impact and the net operating impact. A positive NPV generally indicates a good investment.

Summary

The fiscal impact analysis was based upon development of the Capron Lakes DRI property with 1,700 single family residences, 1,400 multi-family units, 200,000 square feet of office space and 200,000 square feet of commercial retail space. The project is estimated to realize higher operating revenues than expenditures over its entire buildout period (Figure 1).

On the capital side, the project's capital revenues are expected to be less than capital outlays over the buildout period (Figure 2). The project's net total fiscal impact is estimated to be \$15.5 million (present value), over the next 20 years.

Figure 1
Project Operating Revenues vs. Operating Expenditures
2010-2025

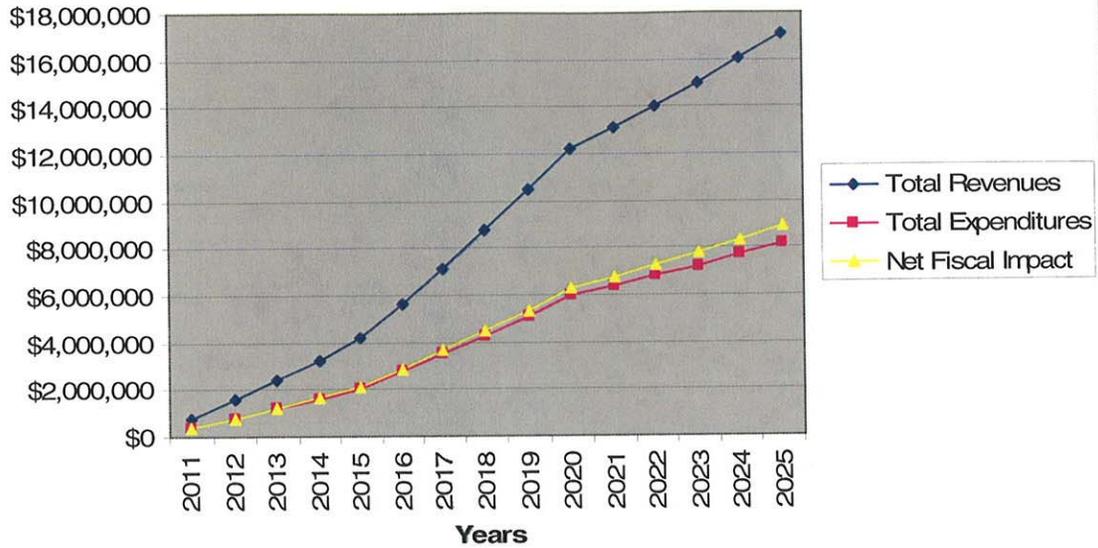
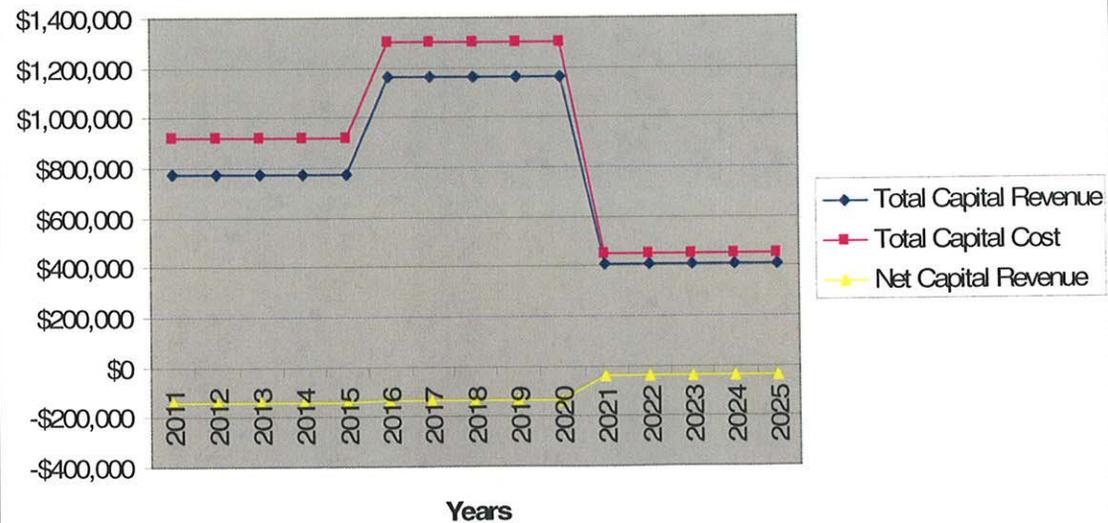


Figure 2
Project Capital Revenues vs. Project Capital Costs



The key fiscal impact analysis assumptions and summary results are presented on the following pages.

**St. Lucie County
FIAM Summary**

Summary of Proposed Development

<u>Land Uses</u>	<u>Units</u>	<u>Volume</u>	<u>Average Value</u>
Single-family	Units	1,700	\$344,375
Multifamily	Units	1,400	\$182,045
Mobile Home	Units	0	\$0
Hotel	Rooms	0	\$0
Retail	Sq. Ft.	200,000	\$75
Office	Sq. Ft.	200,000	\$100
Warehouse	Sq. Ft.	0	\$0
Industrial	Sq. Ft.	0	\$0
Instutional/Gov't	Sq. Ft.	0	\$0
Golf Course	Holes	0	\$0

Summary of Fiscal Impacts

	<u>10 Year Total</u>	<u>20 Year Total</u>	<u>30 Year Total</u>
Operating - Revenue	\$12,122,836	\$131,725,233	\$338,426,852
Operating - Cost	\$5,996,973	\$63,975,552	\$160,906,376
	=====	=====	=====
Operating - Net Impact	\$6,125,863	\$67,749,681	\$177,520,476
Operating Present Value	\$2,688,866	\$16,045,702	\$25,792,441
Capital - Revenue	\$3,865,600	\$11,745,400	\$11,779,750
Capital - Cost	\$4,582,294	\$13,334,639	\$13,371,806
	=====	=====	=====
Capital - Net Impact	-\$716,694	-\$1,589,239	-\$1,592,056
Combined Net Impact	\$5,409,169	\$66,160,442	\$175,928,419
Combined Present Value	\$2,351,478	\$15,475,352	\$25,221,710

Table 6
St. Lucie County
Fiscal Impact Assumptions

Taxable Assessment Ratio	96%	(from input data)
Homestead Exemption	\$25,000	(from input data)
% Single-Family with Homestead	90%	(from input data)
% Multifamily with Homestead	50%	(from input data)

Millage

St. Lucie County	4.2619	Mills
Fine & Forfeiture	3.3300	Mills
Erosion Control	0.1000	Mills
Mosquito	0.2757	Mills
Unincorp (Comm. Develop, Law, Storm, Transport)	1.1650	Mills
Parks Capital	0.2500	Mills
FIRE DISTRICT (not part of COUNTY)	2.7562	Mills

		Equivalent Factor	Full-Time Equivalent
Population-Working Residents	20,833	0.7619	15,873
Population-Non-Working Residents	205,383	1.0000	205,383
Population- Seasonal	<u>23,383</u>	<u>0.34615</u>	8,094
Population (peak season)	249,599		229,350
Population (total)	226,216		
(FI Population Studies, 2004)			
Employment (total)	63,131	0.2381	15,031
(State of Florida ES-202, 2004)			
County Population (unincorporated)	71,389		
(FI Population Studies, 2004)			

Persons per Household - Single Family *	2.47
Persons per Household - Multifamily	2.47

* (FI Population Studies, 2004)

Total Households	90,289	(FI Population Studies, 2004)
------------------	--------	-------------------------------

Property Sales Value Assumptions

Single-Family – High Range	\$344,375	(Developer)	350,000 (Defaults)
Multifamily-For Townhouse/Condo	\$182,045	(Developer)	225,000
Retail-Community	\$75	(Developer)	135
Office	\$100	(Developer)	145

APPENDIX I

Educational Facilities Policy Analysis

Capron Lakes DRI

The purpose of this memorandum is to provide a policy analysis of educational issues for the proposed Capron Lakes DRI. This roughly 1,938-acre project proposes 3,100 new dwelling units in the western St. Lucie County. Based on the St. Lucie County School District student generation rate (0.405 for single-family and 0.207 for multi-family units), the project is expected to generate roughly 978 new students as follows: 685 K-8 students and 293 high school students. This is a significant departure from the School District's student populations historically associated with this area. According to current local and state policies, this will generate the demand for approximately 43% of a new K-8 school (for 1,600 students) and 12% of a new high school (for 2,500 students). These new school facility demands represent unanticipated construction costs of approximately \$26.3 Million in addition to land and infrastructure costs, according to current School District estimates. The project impacts are summarized below.

Capron Lakes DRI (St Lucie County) - Projected Educational Impacts (at Build-Out)				
# Units		St Gen Rate (K-12)	Total # New Students	Total Size (ac)
1,700	SF units	0.405	689	1,938
1,400	MF units	0.207	290	
3,100	total units		978	
Student Breakdown		New Students	School Size	% New School
K-8	70%	685	1,600	42.80%
High	30%	293	2,500	11.74%
	<i>total</i>	978		
New School Costs		% New Schools from Project		Project School Costs
K-8	\$41,000,000	42.80%		\$17,548,256
High	\$75,000,000	11.74%		\$8,804,700
		<i>total new school costs</i>		\$26,352,956
# Units		Impact Fees	Total Impact Fees	
1,700	SF units	\$5,125	\$8,712,500	
1,400	MF units	\$2,622	\$3,670,800	
3,100	total units		\$12,383,300	
Capron Lakes DRI - Net Educational Facilities Assessment				
	# DU's	School Costs	Impact Fees	Net Unfunded Costs
Build-Out	3,100	\$26,352,956	\$12,383,300	\$13,969,656

ST. LUCIE COUNTY SCHOOL DISTRICT – REVIEW SUMMARY

The proposed DRI will require significant and extensive modifications for the School District's current plans and projections for this area. The School District's adopted Capital Construction Plan does not anticipate the impacts of the proposed development, and the project is located outside the urban service area. Accordingly, the School District has no schools located in proximity to the site. The School District indicates the following conditions would be satisfactory to off-set the project's educational impacts at the time of DRI review: (1) dedication of one approximately K-8 school site (not less than twenty-five net buildable acres with off-site stormwater treatment); pre-payment of project impact fees; and provision of a hurricane shelter space (see correspondence from School Board of St. Lucie County dated August 28, 2007).

ST. LUCIE COUNTY COMPREHENSIVE PLAN – REVIEW SUMMARY

In its Comprehensive Plan, St. Lucie County anticipates the need for well-planned, sustainable development patterns, and relevant policies are included in the Future Land Use and Capital Improvements Elements. Within the Future Land Use Element, St. Lucie County emphasizes the importance of its urban service boundary. The plan notes all future land use amendments require developers to provide necessary services at no cost to local government, and further, new development activities shall only be authorized in conjunction with the availability of public services to support that development. Several policies in the Future Land Use Element relate to the timing and provision of public school facilities commensurate with the impacts of growth. Policy 1.1.4.2 requires that new development be designed and planned in a manner that does not place an unanticipated economic burden upon the services and facilities of St. Lucie County. Policy 1.1.5.9 requires all development outside the Urban Service Area pay the entire cost of its fiscal impacts on public facilities and services. Policy 1.1.12.2 requires that the timing of residential development be concurrent with the provision of supporting community facilities, including public schools as well as other standard facilities.

The Capital Improvements Element also includes relevant policies on the topic of schools. Policy 11.1.2.3 directs the County to allocate the costs of new public facilities on the basis of the benefits received by existing and future residents so that current residents will not subsidize new development. Policy 11.1.2.4 requires future development to pay for 100% of the capital improvements needed to address the impact of such development, including proportionate share costs of new facilities, to be offset by other payments by future development. Policy 11.1.2.6.C requires all development orders issued by the County which require public facilities to be financed by debt to be either (1) conditioned on the issuance of the debt, or (2) substituted with a comparable amount of non-debt revenues.

STRATEGIC REGIONAL POLICY PLAN – REVIEW SUMMARY

The Strategic Regional Policy Plan (SRPP) includes several pertinent strategies on this issue that should be noted. Strategies 4.3.2 and 4.3.9 address the coordination school facilities with the impacts of development. The School District has suggested the combination of impact fees and future ad valorem revenues will allow compliance with these strategies at the DRI approval stage.

CHARTER SCHOOLS

Florida Statutes provides individuals the opportunity to create and operate charter schools in lieu of the traditional public school system. While some charter schools are able to maintain operational capacities, others have been successful initially, but failed to maintain adequate enrollment, thereby leading to their abandonment and conveyance (by default) to local school districts. In these instances, local school districts have "received" both the charter school population (students) as well as the charter school itself (buildings and facilities) if funded with impact fees. While state statutes provide strict regulation for public schools, no such regulation applies to charter school facilities. To prevent disproportionate expenditures of future school district capital funds, all charter school facilities funded with impact fees should be designed to meet the statutory State Requirements for Educational Facilities (SREF) standards. Further, to maintain operating efficiencies for local school districts, such facilities should be designed at their core (common areas, cafeteria, administrative facilities, media center, infrastructure) for the standard operating capacities for various types of schools operated by the local school district (e.g., St. Lucie County School District sizes K-8 schools for 1,600 students, and high schools for 2,500 students).

CONCLUSION

As requested by the St. Lucie County School District, a development agreement between the St. Lucie County School District and the developer that assigns acreage, hurricane shelter responsibilities, and pre-payment of impact fees as described above, combined with the future and timely collection of ad valorem revenues anticipated by the School District and proportionate fair-share payments, would adequately address educational impacts of the proposed DRI.

APPENDIX J

Two Ways to Grow

"If what you are selling is privacy and exclusivity, then every new house is a degradation of the amenity. However, if what you are selling is community, then every new house is an enhancement of the asset."

- Vince Graham, *Addressing the National Association of Home Builders*, (1997)

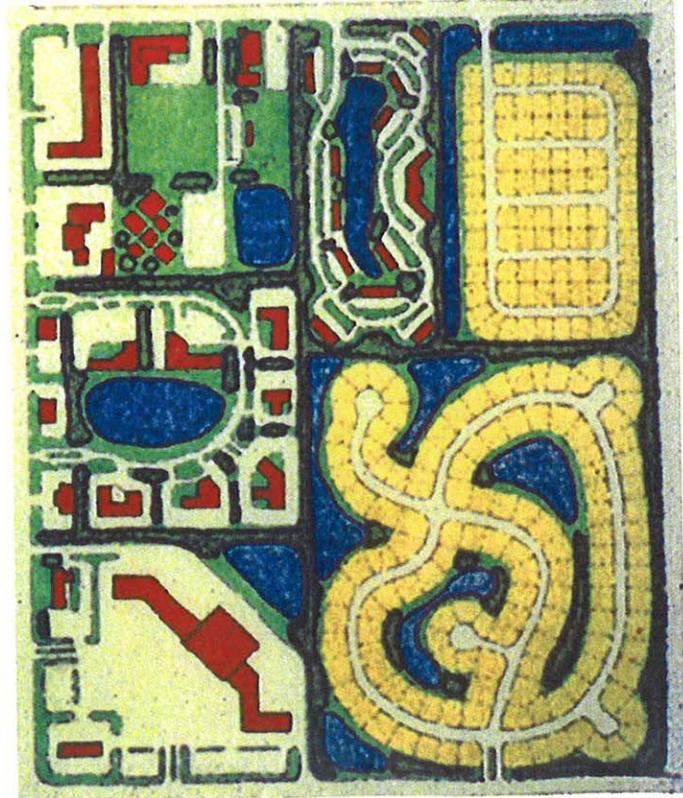
There are basically two different models of urban growth: the traditional neighborhood and suburban sprawl. They are polar opposites in appearance, function, and character: they look different, they act differently, and they affect us in different ways.

The traditional neighborhood was the fundamental form of European settlement on this continent through the Second World War, from St. Augustine to Seattle. It continues to be the dominant pattern of habitation outside the United States, as it has been throughout recorded history. The traditional neighborhood – represented by mixed-use, pedestrian-friendly communities of varied population, either standing free as villages or grouped into towns and cities – has proved to be a sustainable form of growth. It allowed us to settle the continent without bankrupting the country or destroying the countryside in the process.

Suburban sprawl, now the standard North American pattern of growth, ignores historical precedent and human experience. It is an invention, conceived by architects, engineers, and planners, and promoted by developers in the treat *sweeping aside of the old* that occurred after the Second World War. Unlike the traditional neighborhood model, which evolved organically as a response to human needs, suburban sprawl is an idealized artificial system. It is not without a certain beauty: it is rational, consistent, and comprehensive. Its performance is largely predictable. It is an outgrowth of modern problem solving: a system for living. Unlike the traditional neighborhood, sprawl is not healthy growth; it is essentially self-destructive. Even at relatively low population densities, sprawl tends not to pay for itself financially and consumes land at an alarming rate, while producing insurmountable traffic problems and exacerbating social inequity and isolation. These particular outcomes were not predicted. Neither was the toll that sprawl exacts from America's cities and towns, which continue to decant slowly into the countryside. As the ring of suburbia grows around most of our cities, so grows the void at the center. Even while the struggle to revitalize deteriorated downtown neighborhoods and business districts continues, the inner ring of suburbs is already at risk. Losing residents and businesses to fresher locations on the new suburban edge.

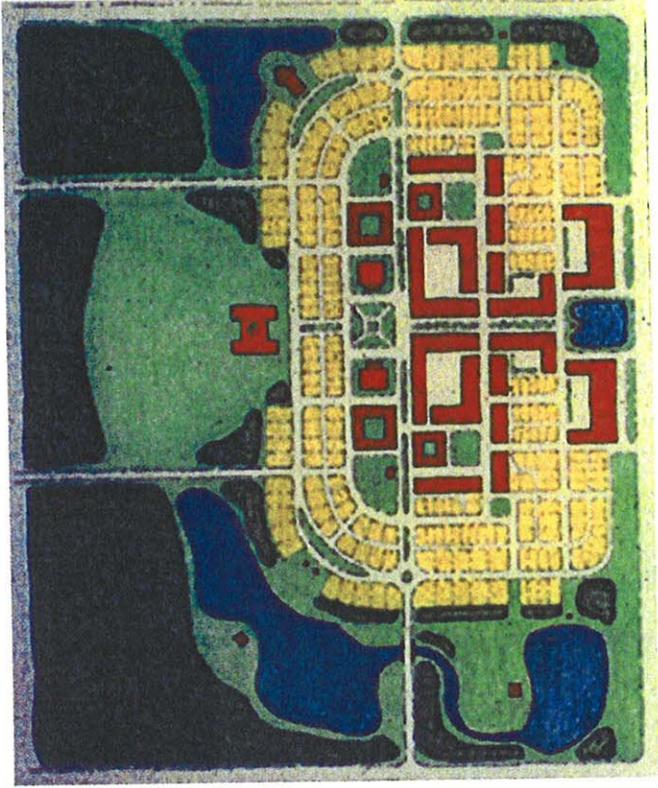
Regional Impacts of Sprawl

Non-Preferred Form



- 30% more energy used
- 2 to 4 times poorer water quality
- 25% to 50% more time in our cars
- 30% to 40% more land used
- Public transportation is not an option
- 20% to 25% of your income spent on cars
- Kids won't be able to walk to school

Preferred Form



- Sprawl housing products underperform comparable New Urbanist products on sales, price and absorption
- Road building takes priority over the arts, culture, care of the elderly and education
- Fiscal savings of \$606 million through 2025
- Capital cost savings of \$4.19 billion through 2025

APPENDIX K

Summary of St. Lucie County's TVC Future Land Use Element

Towns, Villages and the Countryside

A New Pattern of Settlement for North St. Lucie County



Comprehensive Plan Amendments

May 15, 2006

prepared by

*Treasure Coast Regional Planning Council
with and for the citizens of St. Lucie County*



**CAPRON LAKES DRI AND TVC AREA
GENERAL LOCATION MAP**

Chapter 3

Towns, Villages and Countryside Element *Special Area Plans*

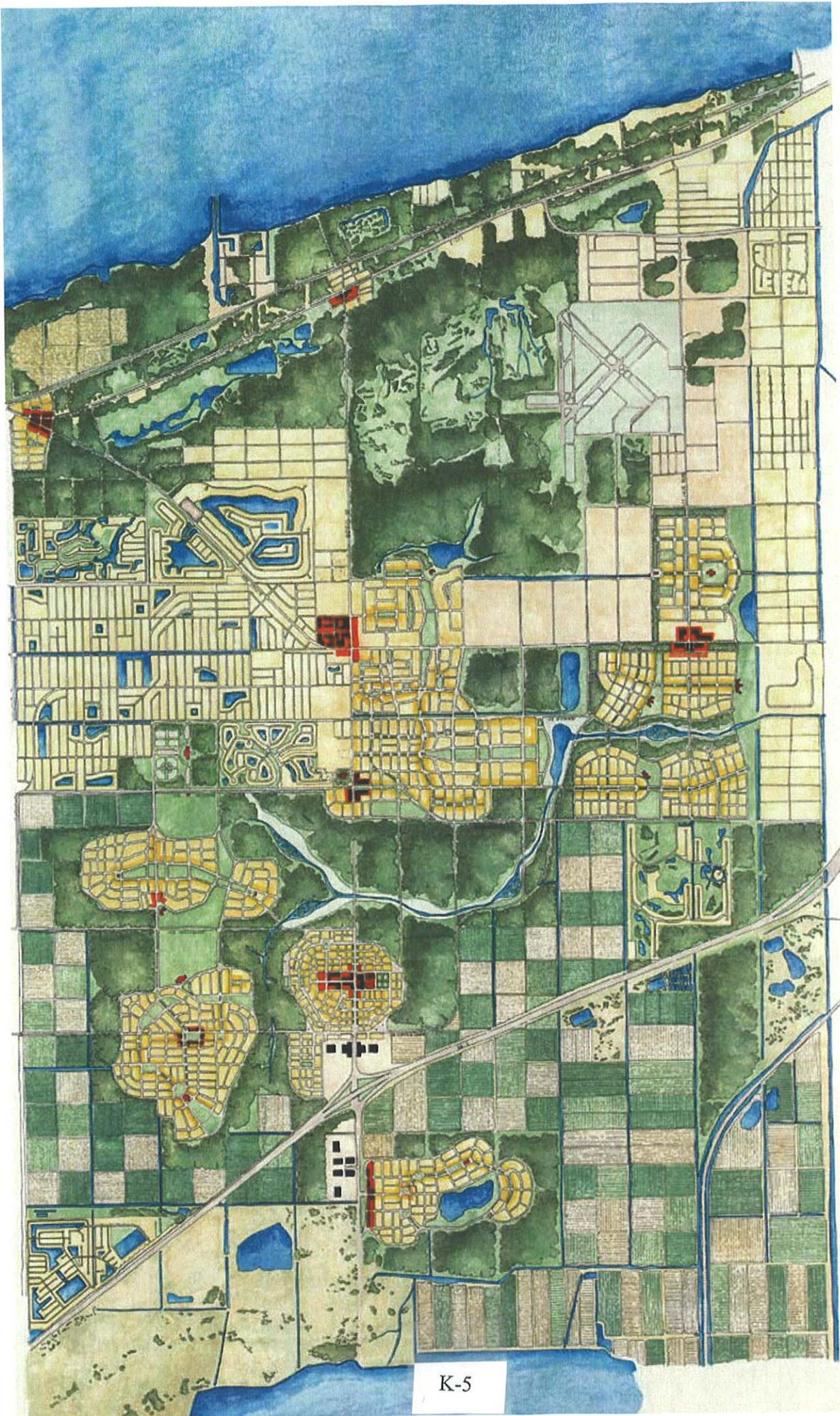
Introduction

The landscape in St. Lucie County is changing rapidly. As land values escalate and the availability of undeveloped land decreases in counties to the south, St. Lucie County has become increasingly attractive both for people relocating from congested areas in South Florida and for retirees from the northern states and throughout Florida. At the same time, the viability of utilizing lands in unincorporated St. Lucie County for citrus production has declined due to international competition, uncertain harvests, the threat of citrus canker and severe price fluctuations. In addition, the relatively high residential densities already designated for agricultural lands in portions of the County have encouraged some landowners to undergo a transition from agricultural to residential uses.

The wave of development that has impacted many areas of Florida over the past several decades has obscured or destroyed the defining characteristics of many communities. Agriculture, natural habitat, and rural communities have been replaced by homogenous, sprawling development characterized by limited access, congested roadways, inadequate or non-functional open spaces, and housing that is segregated from the civic, office, and retail uses that residents depend on in their everyday lives. Without a focused redirection, St. Lucie County will likely succumb to a similar growth pattern.

The principles set forth in the Towns, Villages and Countryside Element (TVC) constitute a pro-active plan for future growth in St. Lucie County. The planning approach outlined in this element contains a strategy for development in the existing rural agricultural areas that will ensure that future growth is sustainable, predictable, protects and enhances the natural environment, and improves the citizens' quality of life. The TVC preserves and enhances existing private property rights while providing incentive-based options to landowners intended to achieve these goals.

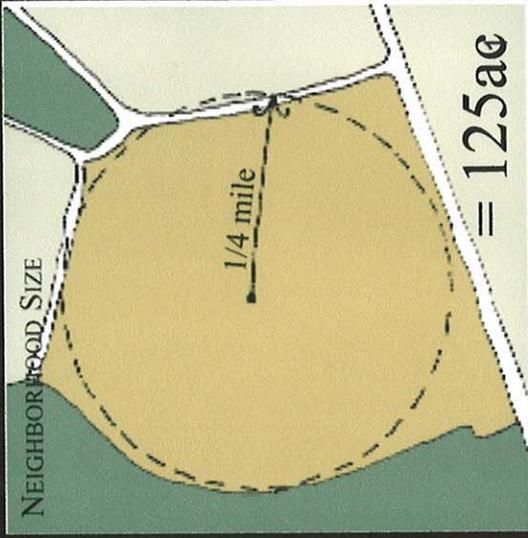
The TVC encourages a pattern of development that will preserve the rural character while still providing for future growth. Using the principles of Traditional Neighborhood Design (TND), the strategy for new settlement in the undeveloped areas requires a sustainable growth pattern characterized by a mix of uses, building types and income levels as well as a pedestrian-friendly block and street network. The TVC preserves a significant amount of public open space, promotes strategies for viable agriculture, and helps mitigate the environmental impact of new development in the area. The TVC Element applies only to the Special Area Plan for North St. Lucie County.



**NORTH ST. LUCIE COUNTY
Charrette Master Plan**

K-5

Open Space for Towns and Villages

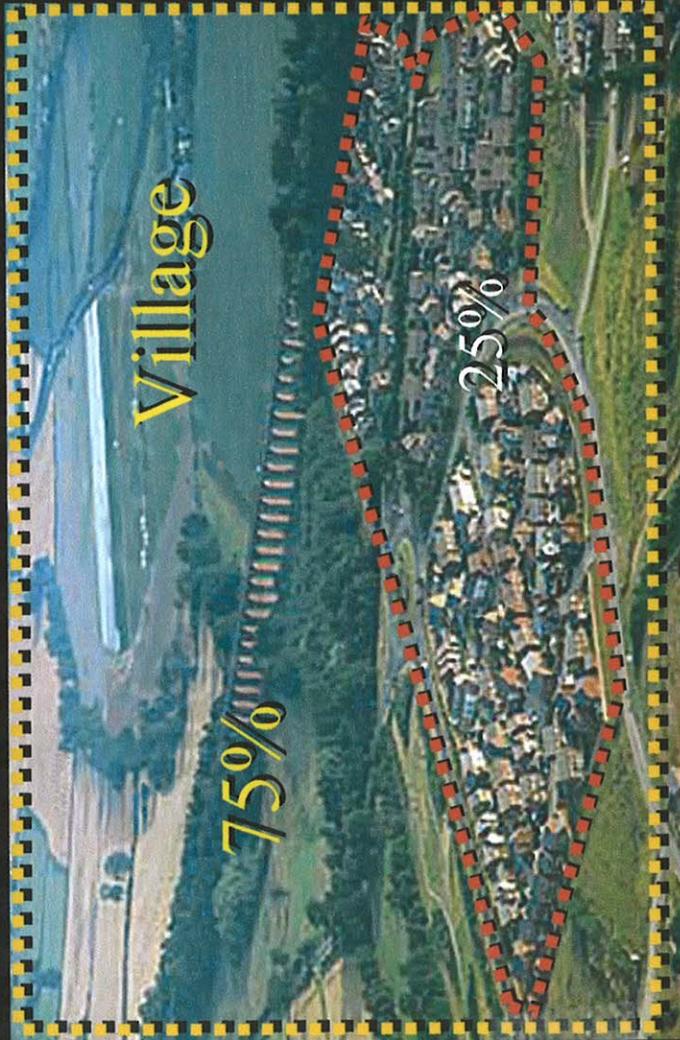


Add:

Flow Way, Greenway, Re-Use Areas, Research, Education, Recreation, Smaller-Scale Ag, Biodiversity, Natural Edges =

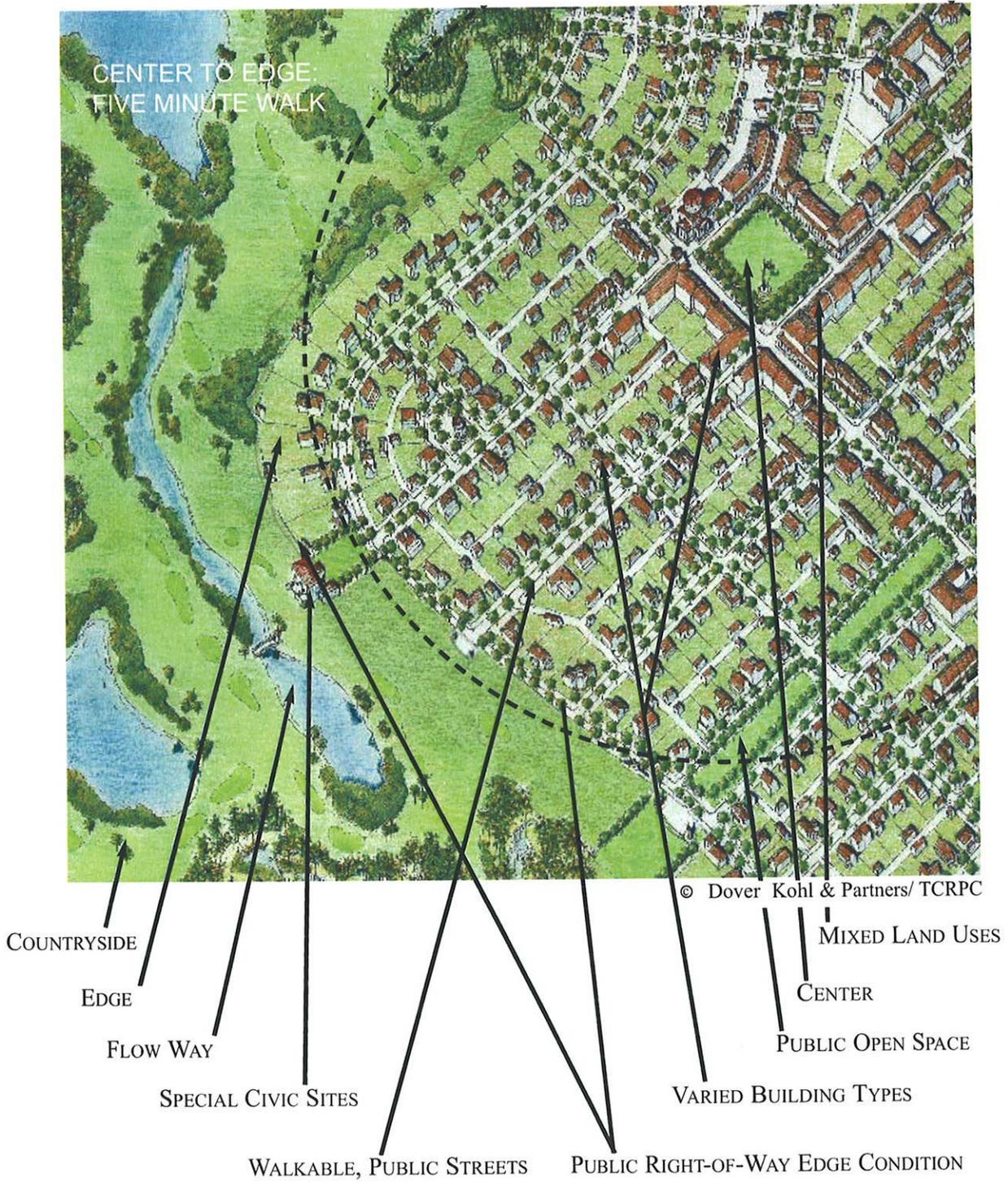
Additional 375ac

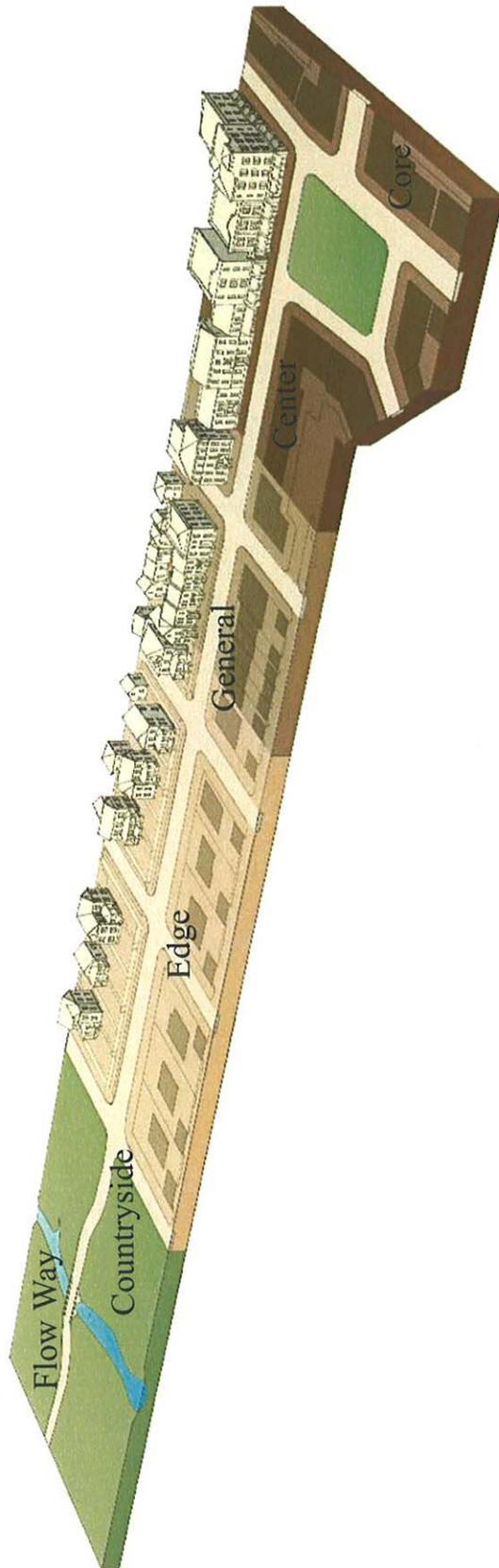
500ac Minimum area to develop a sustainable village



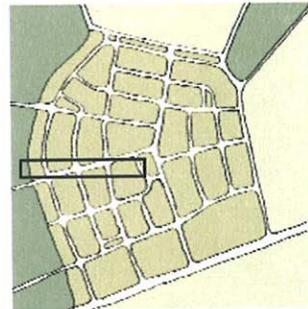
The 60% Open Space Requirement Constitutes an Incentive to encourage TOWNS

**Figure 3-4
NEIGHBORHOOD DIAGRAM**





A SECTION THROUGH THE NEIGHBORHOOD



© Dover Kohl & Partners

Figure 3-6
THE TRANSECT

APPENDIX L

A BRIEF SUMMARY OF THE STRATEGIC REGIONAL POLICY PLAN: ITS HISTORY, PREFERRED FORMS AND PATTERNS OF DEVELOPMENT, AND ITS VISION FOR THE FUTURE OF THE REGION

APPENDIX L

A BRIEF SUMMARY OF THE STRATEGIC REGIONAL POLICY PLAN: ITS HISTORY, PREFERRED FORMS AND PATTERNS OF DEVELOPMENT, AND ITS VISION FOR THE FUTURE OF THE REGION

STRATEGIC REGIONAL POLICY PLAN FOR THE TREASURE COAST REGION

Most comprehensive plans do not differentiate between acceptable and preferable development forms. Most take a regulatory approach to growth management, setting minimum standards and focusing on preventing the worst things from happening. This philosophy has often failed to result in sustainable or complete communities, has unnecessarily compromised the function and value of state and regional resources and facilities, and limited the Region's ability to accomplish regional goals and resolve regional issues.

Although most comprehensive plans include outstanding policies to address development processes and impacts, no picture or vision was established for the community. No desired or preferred form of development was prescribed. This is a weakness which has partially undermined the intended effect of the policies to resolve problems and achieve goals identified by the community.

The SRPP is different. Council made a conscious decision that its plan for the Treasure Coast Region would overcome this inherent weakness and commit to a different approach. The Council was clear in that the Region should state a vision for the future, advocating ways to address its particular challenges and opportunities through the application of time-tested regional and town planning and urban design principles at all scales of development. Because of the magnitude and pace of growth expected in the Region, the Council established a principle focus for its regional planning and visioning efforts on the form, organization and location of future development as the primary way to reduce or eliminate unfavorable impacts on state and regional resources and facilities.

The most significant element of the SRPP is the Future of the Region or vision/urban form section. The plan contains six other elements which are directly wired to the Future of the Region element and include goals, strategies and policies designed to support and help accomplish the "vision." These elements are:

- ☐ Affordable Housing
- ☐ Economic Development
- ☐ Education
- ☐ Emergency Preparedness
- ☐ Natural Resources of Regional Significance
- ☐ Regional Transportation

Briefly stated the SRPP describes the "vision" for the future of the Region as follows:

Future growth should follow a preferred development form. Preferred development should address the following regional issues:

1. Preservation of the natural environment and countryside.
2. Revitalization of existing urban areas.
3. The creation of new towns (see Exhibits A, B, C and D).

Future development should not sprawl because it is expensive and it degrades the Region's quality of life (see Exhibit E, F and G).

Preferred development concepts will be implemented by regional strategies which:

1. state the preferred form of development.
2. suggest incentives to encourage and foster preferred forms of development

In addition, implementation will depend on county and municipal strategies which:

1. delineate where new development should or should not occur.
2. apply and expand the preferred form of development concepts.
3. encourage redevelopment and revitalization.
4. devise public investment programs favoring development of preferred forms and patterns of development.
5. send constructive economic signals to investors.

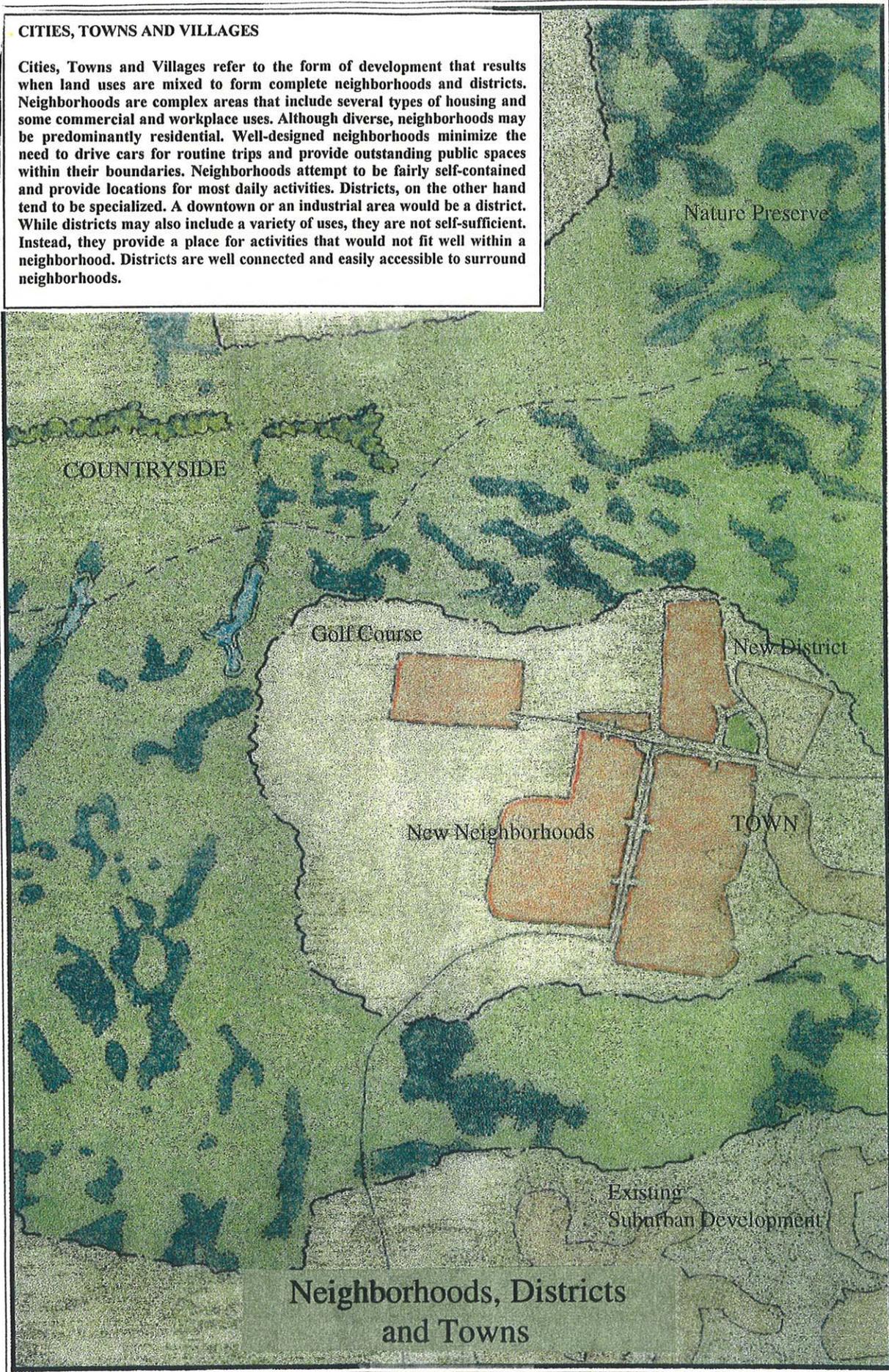
The "vision" as stated suggests the Treasure Coast Region is ready to set standards that reach beyond the provision of basic services and propose the creation of complete, authentic communities. The "vision" as stated also reflects the particular challenges and opportunities the Region must respond to and exploit in order to accommodate high levels of growth while maintaining a high quality of life and attractiveness for continued future investment

The Plan recognizes that the "vision" can never be implemented or built overnight. It will take patient piecemeal growth, designed in such a way that every planning decision sanctioned by local government is always helping to create or generate preferred patterns and forms of development on a small and large scale. This should, slowly and surely over the years, result in a Region that contains preferred patterns of development. The end result is intended to achieve a more sustainable future for the future for the Treasure Coast Region.

The goal of the Plan is to keep the Region on course towards a more healthy and sustainable future. The SRPP is not merely a plan for the regional planning council, it is a plan for the Region and all those who are active participants in shaping its future. At the same time the Plan is not intended to be a mandate or dictum to local governments, special districts and citizens of the Region. It is an instruction manual to be used for guidance in building a more healthy, sustainable Region.

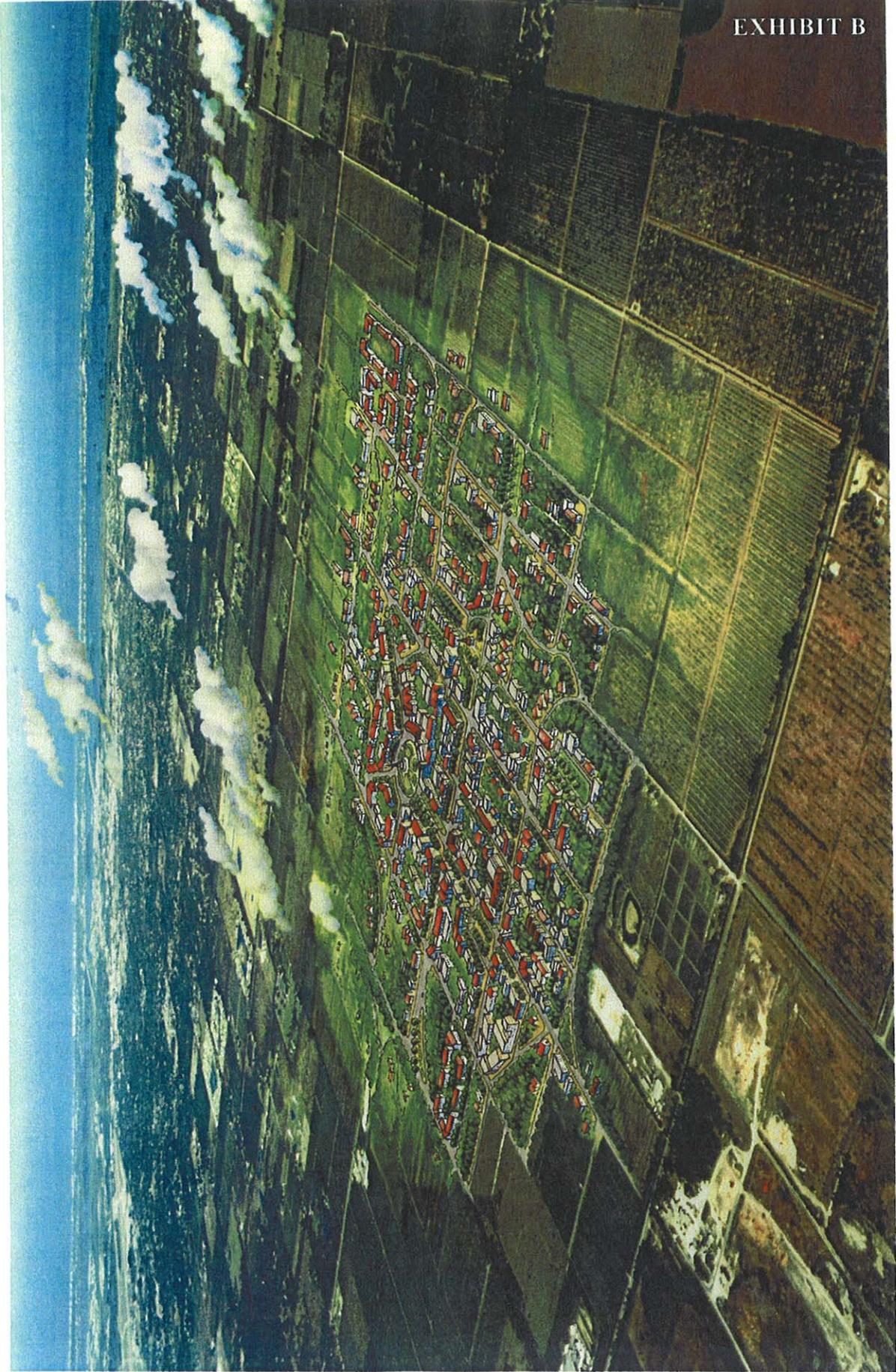
CITIES, TOWNS AND VILLAGES

Cities, Towns and Villages refer to the form of development that results when land uses are mixed to form complete neighborhoods and districts. Neighborhoods are complex areas that include several types of housing and some commercial and workplace uses. Although diverse, neighborhoods may be predominantly residential. Well-designed neighborhoods minimize the need to drive cars for routine trips and provide outstanding public spaces within their boundaries. Neighborhoods attempt to be fairly self-contained and provide locations for most daily activities. Districts, on the other hand tend to be specialized. A downtown or an industrial area would be a district. While districts may also include a variety of uses, they are not self-sufficient. Instead, they provide a place for activities that would not fit well within a neighborhood. Districts are well connected and easily accessible to surround neighborhoods.



Neighborhoods, Districts and Towns

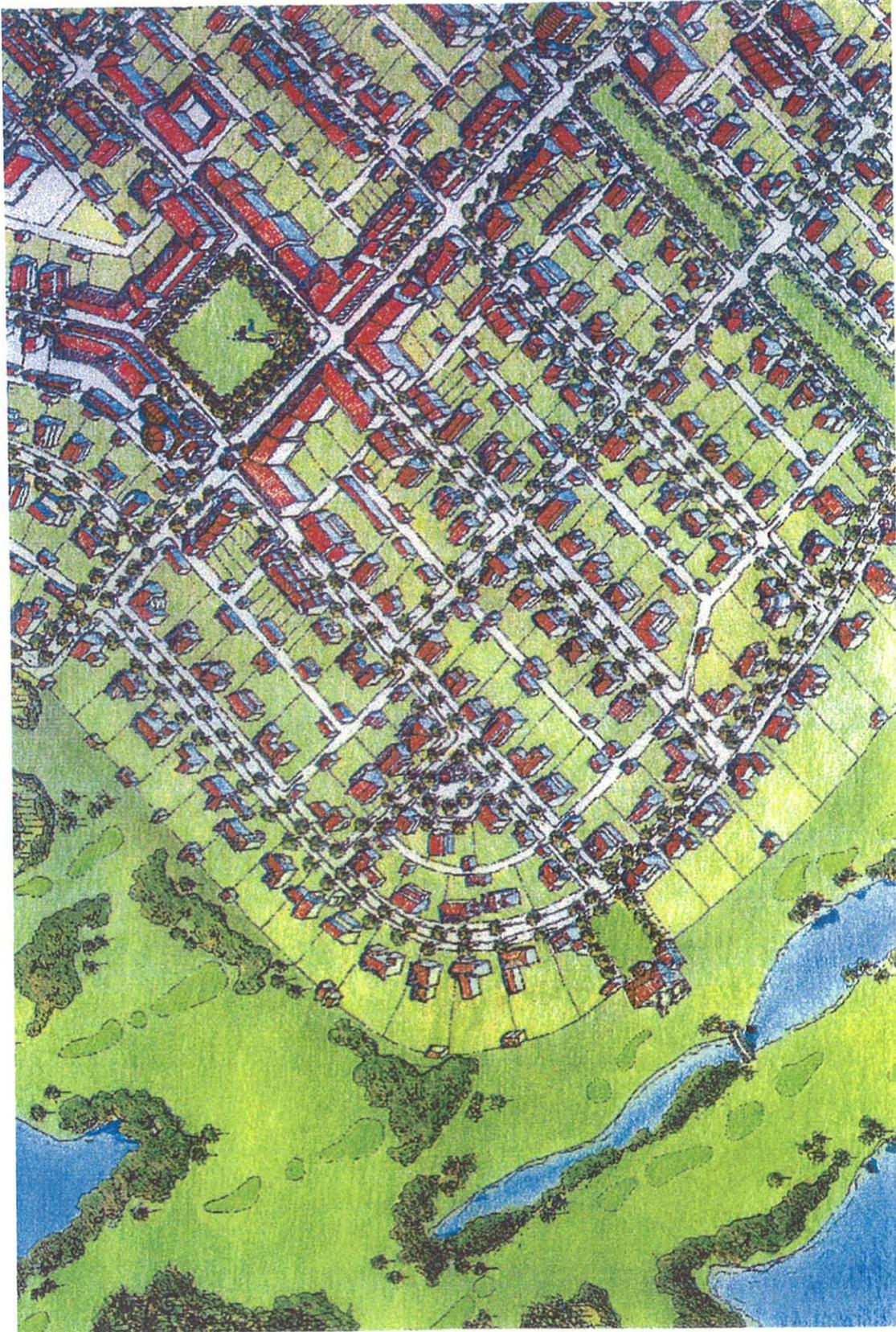
EXHIBIT B



AN AUTHENTIC VILLAGE IN THE COUNTRYSIDE



Neighborhoods and Connections



NEIGHBORHOOD STRUCTURE

TREASURE COAST REGIONAL PLANNING COUNCIL
Indian River - Martin - Palm Beach - St. Lucie

EXHIBIT E

Excerpt from the SRPP

Contemporary planning has centered on the fight against sprawl. Sprawl has been universally denounced as destructive and expensive. Yet little has been done to prevent it, because it has also been perceived as the inevitable consequence of market forces. Surprisingly, this debate has gone on without a practical definition of sprawl and, more importantly, without any preferable development alternatives.

DEFINITION OF SPRAWL

Sprawl is any type of development that does not create cities, towns and villages composed of neighborhoods and districts. Examples of sprawl are: isolated housing subdivisions; strip commercial development; schools disconnected from the urban areas they serve; isolated office and industrial parks; and isolated gated and walled development.

Sprawl occurs when historic development forms are not respected, existing plats are not continued and excessive amounts of land are opened to development before complete communities can form in older areas. Sprawl tends to be expensive for the long-time residents, as their taxes increase to finance ever-expanding roads, sewer and water lines, sheriff and fire services, schools and other costs created by inefficient subdivisions and PUD's. The best way to prevent sprawl is to focus growth in ways that create better urban areas.

Future growth should not sprawl. Sprawl is undesirable because it is too costly and it decreases quality of life in the Region.

EXHIBIT F

Excerpt from the SRPP

EFFECTS AND COSTS OF SPRAWL

The problems with sprawl can be summarized under two categories:

- A. Sprawl is expensive.
- B. Sprawl decreases the region's quality of life.

A. SPRAWL IS EXPENSIVE

Sprawl is more expensive than alternative patterns of development. The following costs are the direct result of sprawl and would be avoided by using an alternative development form.

COSTS TO THE TAXPAYERS

Building and maintaining highways.

Highways built to support inefficient development patterns place an avoidable burden on public finances. Every dollar wasted on poorly planned roads that service sprawling subdivisions could have been spent on schools, parks, libraries, shade trees along sidewalks, public art, public transit or it could have simply been returned to the taxpayers in the form of lower taxes.

Building poorly located schools and transporting children to class.

The poor layout of sprawl subdivisions increases transportation costs, as longer and less direct routes are necessary. In addition, children who could walk to school in a well-planned neighborhoods are unable to reach schools located within sprawl projects. Many times, there are no sidewalks or bike lanes. Often, traffic conditions (also a result of the poor design of sprawl projects) are unsafe. Therefore, more children must be bused longer distances, an expense that if prevented could be allocated to other educational activities.

Costs of social problems resulting from neglected or abandoned neighborhoods.

Sprawl may not cause social problems, but it does aggravate them.

Environmental costs.

Sprawl causes the unnecessary destruction of the natural environment. The destruction of wetlands and uplands that serve as habitat to endangered species has an effect on the quality of life of the region. The destruction of land that recharges the aquifers affects the region's ability to sustain a high quality, affordable water supply.

COSTS TO BUSINESSES

Sprawl makes the Region less desirable.

The business climate is affected by the physical development of an area. When an area is poorly planned, it is less attractive to investors. In addition to taking into account direct costs, businesses relocate to areas that provide a good quality of life to employees. Sprawl may compete by providing less expensive land, but that is insufficient to attract quality businesses to an area.

Increase of direct business costs.

The mismatch of land uses and long distances increase transportation costs.

High labor costs

Jobs and workers are not close to each other. This is a particularly difficult problem for low skill service jobs in suburbia. The people who want those jobs live somewhere else and often cannot afford the transportation costs to get to the jobs.

Waste of investment in older areas

Public investments in utilities and water and sewer are underused. Private investments in older areas are abandoned.

COST TO SUBURBAN RESIDENTS

Cost of car use and ownership.

Multiple car ownership is an avoidable expense. The absolute need of an automobile for every trip (job, school, grocery store, movies, visit of friends, etc.) is a direct result of sprawl. Two and three car families are the norm. Such an extraordinary expense affects the affordability of housing.

Costs of new infrastructure

Sprawl requires new roads, water, sewer, power lines, etc. As concluded in several analyses, (RECC 1974, Roberts 1979, Frank 1989, Duncan et. al, 1989 and Burchell, 1992), and confirmed by more recent experience in a number of communities, there are substantial differences in infrastructure costs between "compact" and "sprawl" development patterns, with more compact higher-density development resulting in an overall cost reduction of as much as 44 to 50 percent. Most of those costs are passed on to the house buyer, decreasing the affordability of housing by keeping taxes high. Still, most residential projects do not pay their own costs. Impact fees are kept artificially low, and taxes from non-residential projects are used to help offset some of the infrastructure costs.

COSTS TO RESIDENTS OF OLDER NEIGHBORHOODS

Loss of jobs

Downtown employers move out, as it becomes increasingly difficult to compete with sprawl locations. Jobs relocate far away from housing, increasing costs for every one.

Loss of economic stability

When sprawl competes unfairly with older neighborhoods, long time businesses close and unemployed workers relocate. These effects accelerate the decline of established cities.

Waste of existing infrastructure

When existing infrastructure is underused, it becomes more expensive to maintain. Some times, maintenance is deferred, which compounds the decay over time. As downtowns sit empty, new infrastructure continues to be built to service sprawl projects.

COSTS TO AGRICULTURE

Loss of land

Sprawl consumes enormous quantities of land. This is inevitable because the primary amenities a sprawl project delivers are land and low densities. Neighborhoods, on the other hand, deliver complete communities and do not need as much land. If sprawl is unchecked, excessive amounts of land are developed for suburban uses and less land remains for agriculture.

Loss in productivity

As sprawl appears next to agricultural fields, normal farming practices are affected. For example, sprawl residents often object to the spraying of groves adjacent to their property.

Loss of water

Sprawl projects consume water in locations where it could be used for agriculture or for natural systems.

Long-term uncertainty

The random conversion of agricultural land to sprawl projects affects agriculture.

COSTS TO THE ENVIRONMENT

Loss of land

As development impacts compound, new sprawl projects require increasing amounts of land to preserve a suburban life style. For example, in development that follows a sprawling pattern, lower housing densities translate into lesser traffic impacts. Therefore, in order to meet concurrency requirements, more and more land is needed to accommodate people at increasingly lower densities.

Pollution of air

Sprawl maximizes automobile dependence. Currently, more than half of the air pollution of the Region comes from cars. The inefficient layout of sprawl projects make residents drive longer distances more often.

Waste of water

Unless special open space and landscaping procedures are utilized, sprawling development consumes a great deal of water. If large lawn areas are utilized in yards, rights-of-way, median areas, etc., a great deal of water is necessary for irrigation.

Waste of energy

Sprawl maximizes auto dependency, increases trip length, severely limits public transit options, and increases vehicle miles traveled in the Region. Compact urban forms of development are 30 percent more energy efficient over the long term than sprawling patterns of development. The United States consumes more petroleum for transportation alone than it produces in total. This increases the Region's vulnerability to fuel price increases and supply interruptions. It also assures that the security of United States oil imports will continue to require political and military expenditures.

B. SPRAWL DEGRADES THE REGION'S QUALITY OF LIFE

EFFECTS ON CHILDREN

Children must be driven everywhere.

A child's life is severely limited in a sprawl area. Most of the time, he cannot go to school, library, park, visit friends, etc. by himself. This creates an uncomfortable dependency that is disliked by the child and by the driver, who is often a working parent.

Busing

Because sprawl does not create complete communities, children must be bused to distant schools. Busing severs friendships (children who live in close proximity to each other are often bussed to different schools) impedes after school activities (children cannot miss the bus) and disconnects parents from the educational process (schools are large bureaucratic establishments located far away from a neighborhood).

In addition, busing wastes the children's time. During the average school year (180 days) a child who spends one hour in a bus to go to school and one hour to return (not unusual times, taking into account that the bus must make several stops along the way) will spend 360 hours or 45 eight hour days on the bus. Assuming the child is bussed for 12 years, the total amount of time wasted in a bus will be 4,320 hours or about 1.5 years of eight-hour days. Those wasted 4,000 hours occur at prime times: early in the morning, when parents are home and could interact with the child, and early in the afternoon, when the child could expand his school day with extracurricular activities.

The social problems busing attempts to correct are directly traceable to sprawl. Generally, children who live in stable urban areas are not bused as much because their neighborhoods tend to be more balanced racially.

EFFECTS ON THE ELDERLY

Older people must drive.

Life in sprawl is unthinkable without a car. When people retire, many are sufficiently young and healthy to function in sprawl. As their strength and eye sight weaken, they must hold to their driving license as long as they can. Once they are unable to drive, their quality of life plummets. As there is no public transportation, moving around becomes a major ordeal. This is a serious problem in the Region: about 30 percent of the population in the region is at least 60 years old and 28, 800 people were over 85 in 1993.

Older people must move to other types of communities.

When older people cannot drive, they must move. This can have a devastating effect on their quality of life.

EFFECTS ON GENERAL POPULATION

Waste of valuable time during commute and errands.

The time before and after business hours is very valuable for a family. That is when children are at home (only the very young, school-age children are on the bus) . That is when parents are in their cars, commuting to work or running errands. The loss of several hours a week of interaction with children is a direct consequence of poor planning.

EFFECTS ON EXISTING CITIES, TOWNS AND VILLAGES

Sprawl kills older urban cores.

Sprawl has contributed to the decline of urban America. Towns have always been complex entities which included a variety of land uses: houses, stores, offices, schools, civic buildings, churches, apartments above the store, small inns, restaurants, parks and squares, etc. Sprawl breaks apart the town's components and optimizes those that are most profitable. Public and civic uses become superfluous, and design options only follow business criteria. Sprawl competes on unequal terms, destroys the town and delivers a vastly inferior product.

EFFECTS ON SUBURBIA

Sprawl destroys the suburban ideal.

Suburbia enjoyed a long history before it was overtaken by sprawl. Originally, suburbs were designed as complete neighborhoods (Forest Hills, NY, Camden Hill, NJ, Coral Gables, FL, etc.). Those early suburban projects are desirable places to live that function efficiently. Sprawl is very different.

Sprawl creates slums.

Although urban decay is generally associated with the older cities, suburbia is beginning to show similar effects. Abandoned shopping centers and unkempt vacant single family houses are typical conditions within older sprawl projects.

Sprawl makes siting "locally unpopular land use" (e.g., landfills, wastewater treatment plants, major electrical utility transmission lines, recycling facilities, etc.) unpopular and more difficult .

Sprawl consumes excessively large amounts of land, spread out over vast areas, and creates no clear division or break between "town" and "country". Locally unpopular land uses (LULUS) are often best relegated to sites that are away from people. Because sprawling patterns of development scatter people across the countryside and often unnecessarily leap into unpopulated rural areas, LULU sites are becoming increasingly difficult and expensive to find. As a result, LULUS often have to be sited at less than ideal locations which either impact the quality of life of existing residents or increase the cost to provide services.

Two Ways to Grow

"If what you are selling is privacy and exclusivity, then every new house is a degradation of the amenity. However, if what you are selling is community, then every new house is an enhancement of the asset."

- Vince Graham, *Addressing the National Association of Home Builders*, (1997)

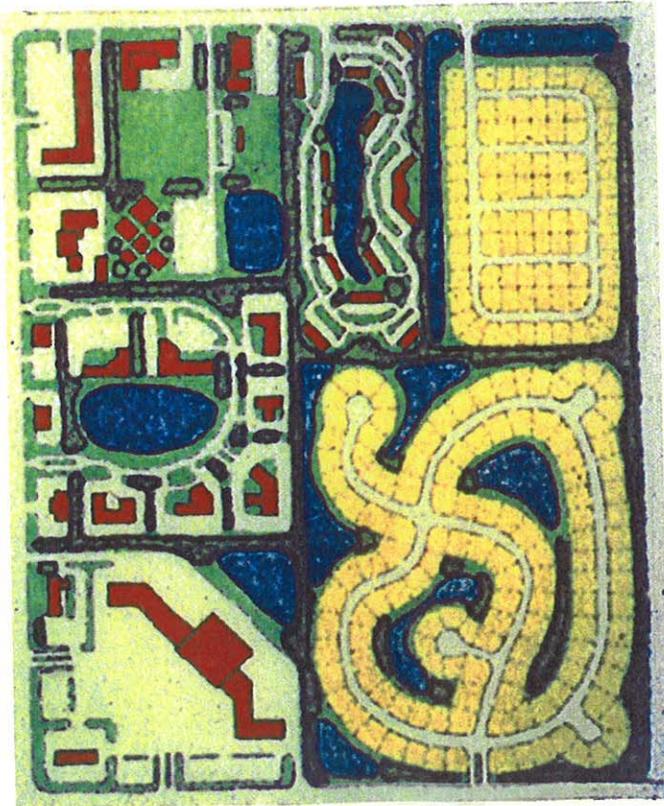
There are basically two different models of urban growth: the traditional neighborhood and suburban sprawl. They are polar opposites in appearance, function, and character: they look different, they act differently, and they affect us in different ways.

The traditional neighborhood was the fundamental form of European settlement on this continent through the Second World War, from St. Augustine to Seattle. It continues to be the dominant pattern of habitation outside the United States, as it has been throughout recorded history. The traditional neighborhood – represented by mixed-use, pedestrian-friendly communities of varied population, either standing free as villages or grouped into towns and cities – has proved to be a sustainable form of growth. It allowed us to settle the continent without bankrupting the country or destroying the countryside in the process.

Suburban sprawl, now the standard North American pattern of growth, ignores historical precedent and human experience. It is an invention, conceived by architects, engineers, and planners, and promoted by developers in the treat *sweeping aside of the old* that occurred after the Second World War. Unlike the traditional neighborhood model, which evolved organically as a response to human needs, suburban sprawl is an idealized artificial system. It is not without a certain beauty: it is rational, consistent, and comprehensive. Its performance is largely predictable. It is an outgrowth of modern problem solving: a system for living. Unlike the traditional neighborhood, sprawl is not healthy growth; it is essentially self-destructive. Even at relatively low population densities, sprawl tends not to pay for itself financially and consumes land at an alarming rate, while producing insurmountable traffic problems and exacerbating social inequity and isolation. These particular outcomes were not predicted. Neither was the toll that sprawl exacts from America's cities and towns, which continue to decant slowly into the countryside. As the ring of suburbia grows around most of our cities, so grows the void at the center. Even while the struggle to revitalize deteriorated downtown neighborhoods and business districts continues, the inner ring of suburbs is already at risk. Losing residents and businesses to fresher locations on the new suburban edge.

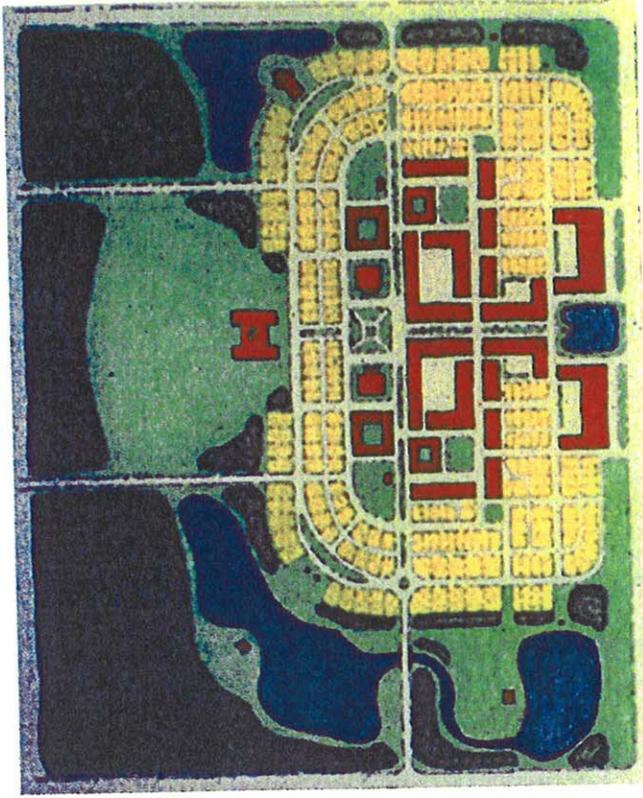
Regional Impacts of Sprawl

Non-Preferred Form



- 30% more energy used
- 2 to 4 times poorer water quality
- 25% to 50% more time in our cars
- 30% to 40% more land used
- Public transportation is not an option
- 20% to 25% of your income spent on cars
- Kids won't be able to walk to school

Preferred Form



- Sprawl housing products underperform comparable New Urbanist products on sales, price and absorption
- Road building takes priority over the arts, culture, care of the elderly and education
- Fiscal savings of \$606 million through 2025
- Capital cost savings of \$4.19 billion through 2025

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