LEE COUNTY
SOUTHWEST FLORIDA

Lee County Board of County Commissioners
Department of Community Development
Division of Planning
Post Office Box 398
Fort Myers, FL 33902-0398
Telephone: (239) 533-8585
FAX: (239) 485-8319

APPLICATION FOR A COMPREHENSIVE PLAN AMENDMENT

(To be completed at time of intake)

DATE REC'D: _____ REC'D BY: _____

APPLICATION FEE: _____ TIDEMARK NO: _____

THE FOLLOWING VERIFIED:
Zoning ☐ Commissioner District ☐

Designation on FLUM ☐

(To be completed by Planning Staff)

Plan Amendment Cycle: ☐ Normal ☐ Small Scale ☐ DRI ☐ Emergency

Request No: _____

APPLICANT PLEASE NOTE:
Answer all questions completely and accurately. Please print or type responses. If additional space is needed, number and attach additional sheets. The total number of sheets in your application is: _____

Submit **6** copies of the complete application and amendment support documentation, including maps, to the Lee County Division of Planning. Up to 90 additional copies will be required for Local Planning Agency, Board of County Commissioners hearings and the Department of Community Affairs' packages. Staff will notify the applicant prior to each hearing or mail out.

I, the undersigned owner or authorized representative, hereby submit this application and the attached amendment support documentation. The information and documents provided are complete and accurate to the best of my knowledge.

5/27/10 Matthew J. Uhle
DATE SIGNATURE OF OWNER OR AUTHORIZED REPRESENTATIVE

I. APPLICANT/AGENT/OWNER INFORMATION

PINE TARR, LLC and LAKE JEFFERSON, LLC
APPLICANT

3050 Horseshoe Drive, Suite 105
ADDRESS

Naples, FL 34104
CITY, STATE, ZIP

(239) 775-2230 (239) 775-1398
TELEPHONE NUMBER FAX NUMBER

Matthew D. Uhle, Esq.
AGENT*

1617 Hendry Street, Suite 411
ADDRESS

Fort Myers, FL 33901
CITY, STATE, ZIP

(239) 226-4500 (239) 334-1446
TELEPHONE NUMBER FAX NUMBER

Same as Applicant
OWNER(s) OF RECORD

ADDRESS

CITY, STATE, ZIP

TELEPHONE NUMBER FAX NUMBER

Name, address and qualification of additional planners, architects, engineers, environmental consultants, and other professionals providing information contained in this application.

* This will be the person contacted for all business relative to the application.

Additional Agents:

Thomas R. Lehnert, Jr., P.S.M.
President
Banks Engineering
10511 Six Mile Cypress Parkway
Fort Myers, Florida 33966
Ph: 239-939-5490 Fax: 239-939-2523
E-Mail: tlehnert@bankseng.com

II. REQUESTED CHANGE (Please see Item 1 for Fee Schedule)

A. TYPE: (Check appropriate type)

[x] Text Amendment

[ ] Future Land Use Map Series Amendment (Maps 1 thru 24)
List Number(s) of Map(s) to be amended

_____

1. Future Land Use Map amendments require the submittal of a complete list, map, and two sets of mailing labels of all property owners and their mailing addresses, for all property within 500 feet of the perimeter of the subject parcel. The list and mailing labels may be obtained from the Property Appraisers office. The map must reference by number or other symbol the names of the surrounding property owners list. The applicant is responsible for the accuracy of the list and map.

   At least 15 days before the Local Planning Agency (LPA) hearing, the applicant will be responsible for posting signs on the subject property, supplied by the Division of Planning, indicating the action requested, the date of the LPA hearing, and the case number. An affidavit of compliance with the posting requirements must be submitted to the Division of Planning prior to the LPA hearing. The signs must be maintained until after the final Board adoption hearing when a final decision is rendered.

B. SUMMARY OF REQUEST (Brief explanation):

Amendment to Policy 14.1.5 to permit clearing of wetlands in accordance with an approved ERP for commercial planned developments on parcels meeting specified criteria in the Pine Island Center Urban area.

III. PROPERTY SIZE AND LOCATION OF AFFECTED PROPERTY (for amendments affecting development potential of property)

A. Property Location:

1. Site Address: 5100 Pine Island Road N.W., Bokeelia, FL 33922

2. STRAP(s): 28-44-22-00-00012.0000; 28-44-22-00-00012.002A (portion); 28-44-22-00-00012.002B

B. Property Information

Total Acreage of Property: 26.77 acres

Total Acreage included in Request: 26.77 acres

Total Uplands: 19 ± acres

Total Wetlands: 7.78 acres

Current Zoning: C-1A and AG-2

Current Future Land Use Designation: Urban Community and Wetlands

Area of each Existing Future Land Use Category: 19 AC Urban Community and 7.7 AC Wetlands

Existing Land Use: Vacant

C. State if the subject property is located in one of the following areas and if so how does the proposed change affect the area:

Lehigh Acres Commercial Overlay: N/A

Airport Noise Zone 2 or 3: N/A

Acquisition Area: N/A

Joint Planning Agreement Area (adjoining other jurisdictional lands): N/A

Community Redevelopment Area: N/A

D. Proposed change for the subject property:

Text amendment affecting location of uses on site

E. Potential development of the subject property:

1. Calculation of maximum allowable development under existing FLUM:

Residential Units/Density N/A

Commercial intensity N/A

Industrial intensity N/A

2. Calculation of maximum allowable development under proposed FLUM:

Residential Units/Density N/A

Commercial intensity N/A

Industrial intensity N/A

IV. AMENDMENT SUPPORT DOCUMENTATION

At a minimum, the application shall include the following support data and analysis. These items are based on comprehensive plan amendment submittal requirements of the State of Florida, Department of Community Affairs, and policies contained in the Lee County Comprehensive Plan. Support documentation provided by the applicant will be used by staff as a basis for evaluating this request. To assist in the preparation of amendment packets, the applicant is encouraged to provide all data and analysis electronically. (Please contact the Division of Planning for currently accepted formats.)

A. General Information and Maps
NOTE: For each map submitted, the applicant will be required to provide a reduced map (8.5" x 11") for inclusion in public hearing packets.

The following pertains to all proposed amendments that will affect the development potential of properties (unless otherwise specified).

1. Provide any proposed text changes.

2. Provide a current Future Land Use Map at an appropriate scale showing the boundaries of the subject property, surrounding street network, surrounding designated future land uses, and natural resources.

3. Provide a proposed Future Land Use Map at an appropriate scale showing the boundaries of the subject property, surrounding street network, surrounding designated future land uses, and natural resources.

4. Map and describe existing land *uses* (not designations) of the subject property and surrounding properties. Description should discuss consistency of current uses with the proposed changes.

5. Map and describe existing zoning of the subject property and surrounding properties.

6. The certified legal description(s) and certified sketch of the description for the property subject to the requested change. A metes and bounds legal description must be submitted specifically describing the entire perimeter boundary of the property with accurate bearings and distances for every line. The sketch must be tied to the state plane coordinate system for the Florida West Zone (North America Datum of 1983/1990 Adjustment) with two coordinates, one coordinate being the point of beginning and the other an opposing corner. If the subject property contains wetlands or the proposed amendment includes more than one land use category a metes and bounds legal description, as described above, must be submitted in addition to the perimeter boundary of the property for each wetland or future land use category.

7. A copy of the deed(s) for the property subject to the requested change.

8. An aerial map showing the subject property and surrounding properties.

9. If applicant is not the owner, a letter from the owner of the property authorizing the applicant to represent the owner.

B. Public Facilities Impacts

NOTE: The applicant must calculate public facilities impacts based on a maximum development scenario (see Part II.H.).

1. Traffic Circulation Analysis

The analysis is intended to determine the effect of the land use change on the Financially Feasible Transportation Plan/Map 3A (20-year horizon) and on the Capital Improvements Element (5-year horizon). Toward that end, an applicant must submit the following information:

Long Range – 20-year Horizon:

a. Working with Planning Division staff, identify the traffic analysis zone (TAZ) or zones that the subject property is in and the socio-economic data forecasts for that zone or zones;
b. Determine whether the requested change requires a modification to the socio-economic data forecasts for the host zone or zones. The land uses for the proposed change should be expressed in the same format as the socio-economic forecasts (number of units by type/number of employees by type/etc.);
c. If no modification of the forecasts is required, then no further analysis for the long range horizon is necessary. If modification is required, make the change and provide to Planning Division staff, for forwarding to DOT staff. DOT staff will rerun the FSUTMS model on the current adopted Financially Feasible Plan network and determine whether network modifications are necessary, based on a review of projected roadway conditions within a 3-mile radius of the site;
d. If no modifications to the network are required, then no further analysis for the long range horizon is necessary. If modifications are necessary, DOT staff will determine the scope and cost of those modifications and the effect on the financial feasibility of the plan;
e. An inability to accommodate the necessary modifications within the financially feasible limits of the plan will be a basis for denial of the requested land use change;
f. If the proposal is based on a specific development plan, then the site plan should indicate how facilities from the current adopted Financially Feasible Plan and/or the Official Trafficways Map will be accommodated.

Short Range – 5-year CIP horizon:

a. Besides the 20-year analysis, for those plan amendment proposals that include a specific and immediated development plan, identify the existing roadways serving the site and within a 3-mile radius (indicate laneage, functional classification, current LOS, and LOS standard);
b. Identify the major road improvements within the 3-mile study area funded through the construction phase in adopted CIP's (County or Cities) and the State's adopted Five-Year Work Program;
   Projected 2030 LOS under proposed designation (calculate anticipated number of trips and distribution on roadway network, and identify resulting changes to the projected LOS);
c. For the five-year horizon, identify the projected roadway conditions (volumes and levels of service) on the roads within the 3-mile study area with the programmed improvements in place, with and without the proposed development project. A methodology meeting with DOT staff prior to submittal is required to reach agreement on the projection methodology;
d. Identify the additional improvements needed on the network beyond those programmed in the five-year horizon due to the development proposal.

2. Provide an existing and future conditions analysis for (see Policy 95.1.3):
   a. Sanitary Sewer
   b. Potable Water
   c. Surface Water/Drainage Basins
   d. Parks, Recreation, and Open Space
   e. Public Schools.

   Analysis should include (but is not limited to) the following (see the Lee County Concurrency Management Report):

   - Franchise Area, Basin, or District in which the property is located;
   - Current LOS, and LOS standard of facilities serving the site;
   - Projected 2030 LOS under existing designation;
   - Projected 2030 LOS under proposed designation;
   - Existing infrastructure, if any, in the immediate area with the potential to serve the subject property.
   - Improvements/expansions currently programmed in 5 year CIP, 6-10 year CIP, and long range improvements; and
   - Anticipated revisions to the Community Facilities and Services Element and/or Capital Improvements Element (state if these revisions are included in this amendment).
   - Provide a letter of service availability from the appropriate utility for sanitary sewer and potable water.

   In addition to the above analysis for Potable Water:

   - Determine the availability of water supply within the franchise area using the current water use allocation (Consumptive Use Permit) based on the annual average daily withdrawal rate.

- Include the current demand and the projected demand under the existing designation, and the projected demand under the proposed designation.
- Include the availability of treatment facilities and transmission lines for reclaimed water for irrigation.
- Include any other water conservation measures that will be applied to the site (see Goal 54).

3. Provide a letter from the appropriate agency determining the adequacy/provision of existing/proposed support facilities, including:
   a. Fire protection with adequate response times;
   b. Emergency medical service (EMS) provisions;
   c. Law enforcement;
   d. Solid Waste;
   e. Mass Transit; and
   f. Schools.

In reference to above, the applicant should supply the responding agency with the information from Section's II and III for their evaluation. This application should include the applicant's correspondence to the responding agency.

C. Environmental Impacts

Provide an overall analysis of the character of the subject property and surrounding properties, and assess the site's suitability for the proposed use upon the following:

1. A map of the Plant Communities as defined by the Florida Land Use Cover and Classification system (FLUCCS).

2. A map and description of the soils found on the property (identify the source of the information).

3. A topographic map depicting the property boundaries and 100-year flood prone areas indicated (as identified by FEMA).

4. A map delineating the property boundaries on the Flood Insurance Rate Map effective August 2008.

5. A map delineating wetlands, aquifer recharge areas, and rare & unique uplands.

6. A table of plant communities by FLUCCS with the potential to contain species (plant and animal) listed by federal, state or local agencies as endangered, threatened or species of special concern. The table must include the listed species by FLUCCS and the species status (same as FLUCCS map).

D. Impacts on Historic Resources

List all historic resources (including structure, districts, and/or archeologically sensitive areas) and provide an analysis of the proposed change's impact on these resources. The following should be included with the analysis:

1. A map of any historic districts and/or sites, listed on the Florida Master Site File, which are located on the subject property or adjacent properties.

2. A map showing the subject property location on the archeological sensitivity map for Lee County.

E. Internal Consistency with the Lee Plan

1. Discuss how the proposal affects established Lee County population projections, Table 1(b) (Planning Community Year 2030 Allocations), and the total population capacity of the Lee Plan Future Land Use Map.

2. List all goals and objectives of the Lee Plan that are affected by the proposed amendment. This analysis should include an evaluation of all relevant policies under each goal and objective.

3. Describe how the proposal affects adjacent local governments and their comprehensive plans.

4. List State Policy Plan and Regional Policy Plan goals and policies which are relevant to this plan amendment.

F. Additional Requirements for Specific Future Land Use Amendments

1. Requests involving Industrial and/or categories targeted by the Lee Plan as employment centers (to or from)

   a. State whether the site is accessible to arterial roadways, rail lines, and cargo airport terminals,
   b. Provide data and analysis required by Policy 2.4.4,
   c. The affect of the proposed change on county's industrial employment goal specifically policy 7.1.4.

2. Requests moving lands from a Non-Urban Area to a Future Urban Area

   a. Demonstrate why the proposed change does not constitute Urban Sprawl. Indicators of sprawl may include, but are not limited to: low-intensity, low-density, or single-use development; 'leap-frog' type development; radial, strip, isolated or ribbon pattern type development; a failure to protect or conserve natural resources or agricultural land; limited accessibility; the loss of large amounts of functional open space; and the installation of costly and duplicative infrastructure when opportunities for infill and redevelopment exist.

3. Requests involving lands in critical areas for future water supply must be evaluated based on policy 2.4.2.

4. Requests moving lands from Density Reduction/Groundwater Resource must fully address Policy 2.4.3 of the Lee Plan Future Land Use Element.

G. Justify the proposed amendment based upon sound planning principles. Be sure to support all conclusions made in this justification with adequate data and analysis.

Item 1: Fee Schedule

Map Amendment Flat Fee	$2,000.00 each
Map Amendment > 20 Acres	$2,000.00 and $20.00 per 10 acres
Small Scale Amendment (10 acres or less)	$1,500.00 each
Text Amendment Flat Fee	$2,500.00 each

AFFIDAVIT

I, Matthew D. Uhle, certify that I am the owner or authorized representative of the property described herein, and that all answers to the questions in this application and any sketches, data, or other supplementary matter attached to and made a part of this application, are honest and true to the best of my knowledge and belief. I also authorize the staff of Lee County Community Development to enter upon the property during normal working hours for the purpose of investigating and evaluating the request made through this application.

Matthew D. Uhle — 9/27/10

Signature of owner or owner-authorized agent — Date

Matthew D. Uhle

Typed or printed name

STATE OF FLORIDA)
COUNTY OF LEE)

The foregoing instrument was certified and subscribed before me September 27, 2010 (date), by Matthew D. Uhle, who is personally known to me or who has produced _____ as identification.

(SEAL)

ZSUZSANNA WEIGEL
MY COMMISSION # DD 872742
EXPIRES: March 22, 2013
Bonded Thru Notary Public Underwriters

Signature of notary public

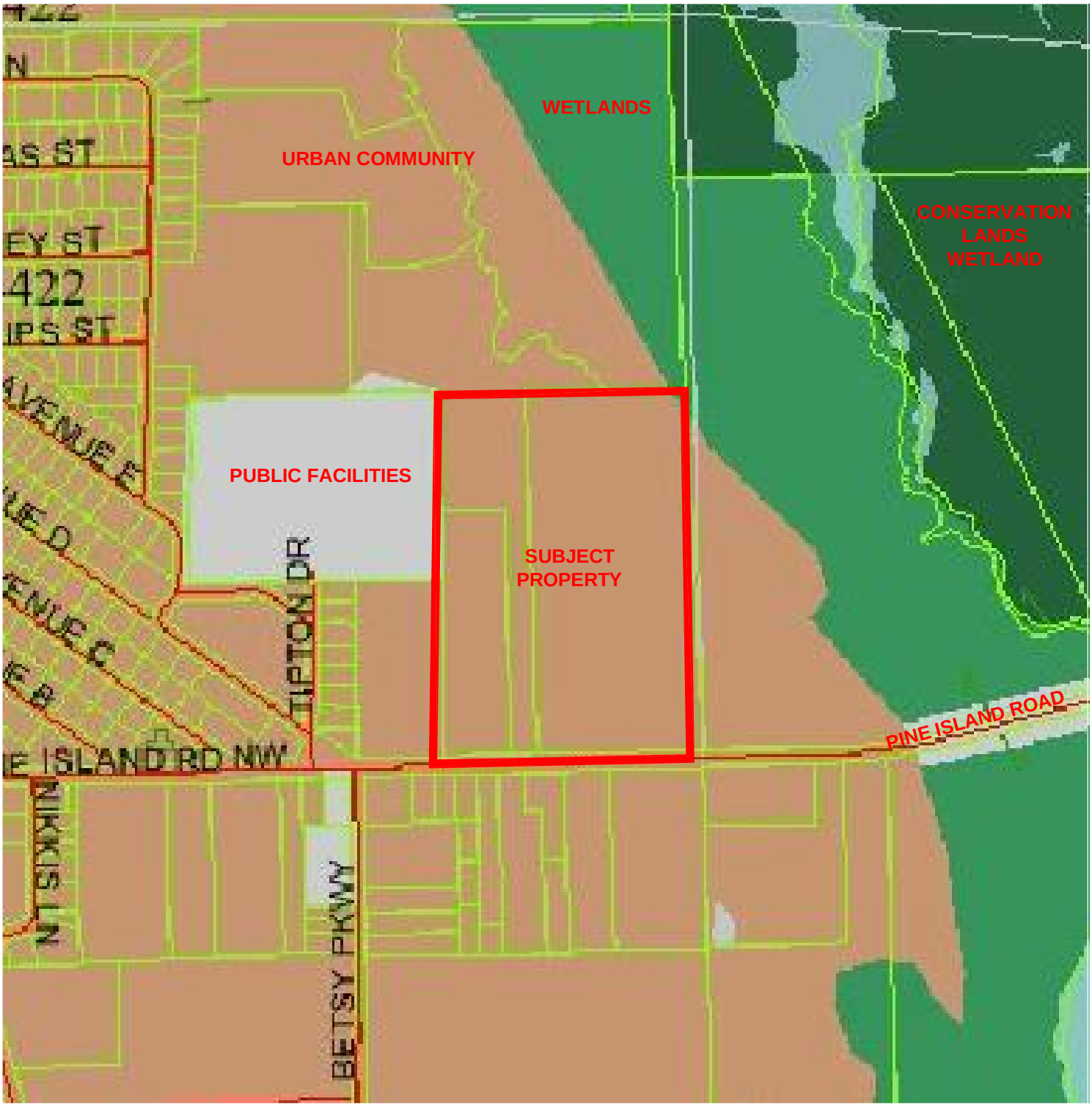
ZSUZSANNA WEIGEL

Printed name of notary public

PROPOSED TEXT AMENDMENT

Policy 14.1.5: New development, including "planned development" zoning approvals, new subdivisions, and agriculture, that adjoin state-designated aquatic preserves and associated wetlands and natural tributaries must preserve or create a 50-foot-wide native vegetated buffer area between the development and the waterbody or associated wetlands. This requirement will not apply to existing subdivided lots. For commercial planned developments in excess of 25 acres on property with Pine Island Road frontage in the Pine Island Center Urban Community area, the buffer (including any fill necessary to facilitate the survival of the required upland species within it), must be located between the development areas on the site and all wetlands required to be preserved by an approved state environmental resource permit. For agriculture, this requirement:

- will be implemented through the notice-of-clearing process in chapter 14 of the Land Development Code;
- will include a requirement to use this area as a riparian forest buffer with an adjoining filter strip wherever farmland abuts wetlands; and
- if native vegetation does not currently exist, native tree cover will be established within three years of issuance of the notice of clearing.



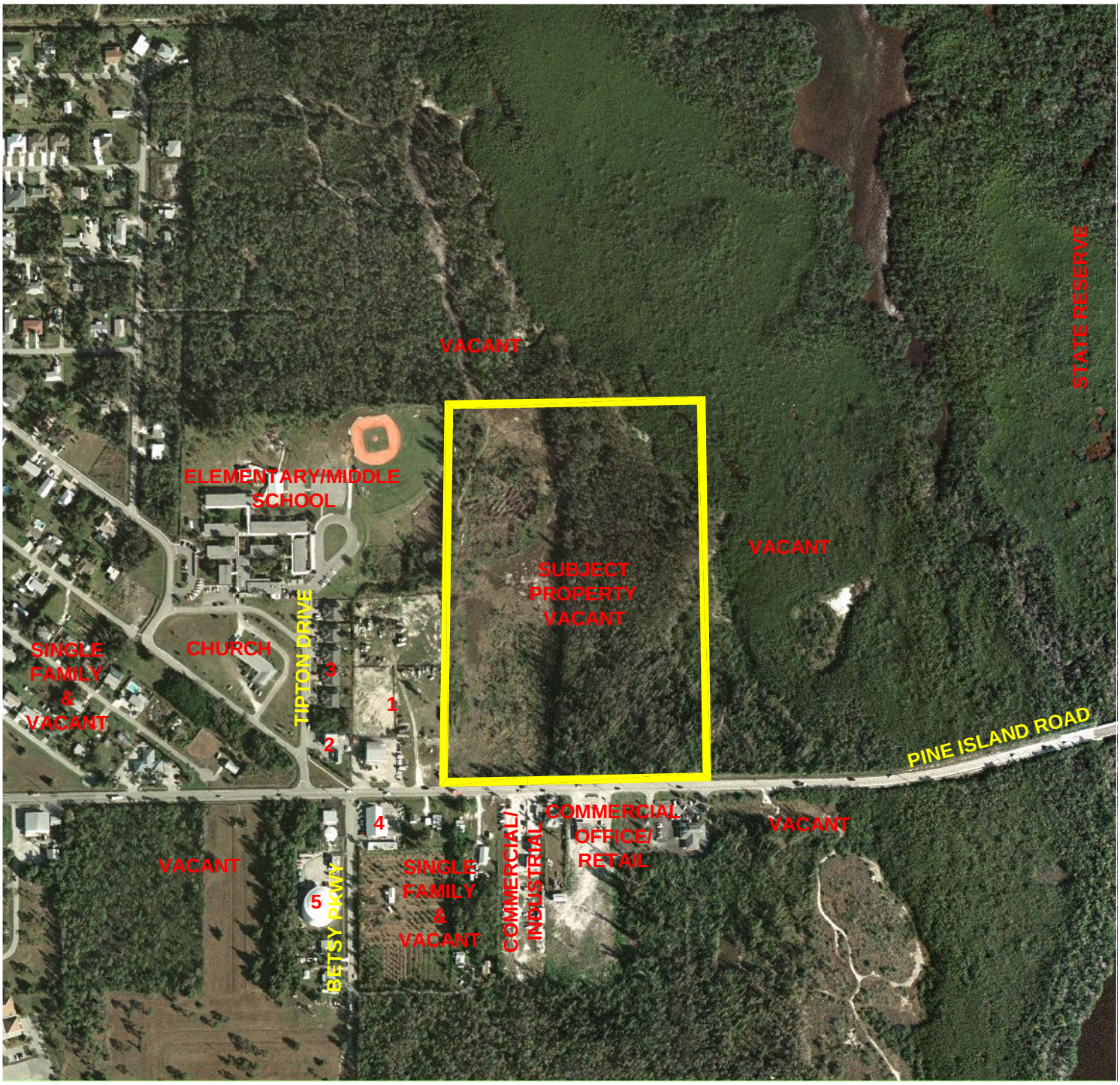
Banks Engineering
Professional Engineers, Planners & Land Surveyors
10511 SIX MILE CYPRESS PARKWAY – SUITE 101
FORT MYERS, FLORIDA 33966
PHONE: (239) 939-5490 FAX: (239) 939-2523
ENGINEERING LICENSE # EB 6469
SURVEY LICENSE # LB 6690

EXHIBIT IV.A.2

PINE TARR/LAKE JEFFERSON PROPERTY

LEE COUNTY, FLORIDA

DATE	PROJECT	DRAWING	DESIGN	DRAWN	CHECKED	SCALE	SHEET	OF	FILE NO. (S-T-R)
09/21/2010	1585HC	_AER	SDJ	SEH		1"=500'	1	1	(28-44-22)



1. COMMERCIAL - AUTO REPAIR/GLASS STORE
2. UTILITY - SPRINT
3. MULTI-FAMILY
4. RETAIL/OFFICE/STORAGE
5. UTILITY - PINE ISLAND WATER ASSOCIATION

N

0 500 1000

GRAPHIC SCALE 1"= 500'

Banks Engineering

Professional Engineers, Planners & Land Surveyors

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EXHIBIT IV.A.4 – EXISTING LAND USES

PINE TARR/LAKE JEFFERSON PROPERTY

LEE COUNTY, FLORIDA

DATE	PROJECT	DRAWING	DESIGN	DRAWN	CHECKED	SCALE	SHEET	OF	FILE NO. (S-T-R)
8/24/2007	1585HC	_AER	SDJ	SDJ		1"=500'	1	1	(28-44-22)

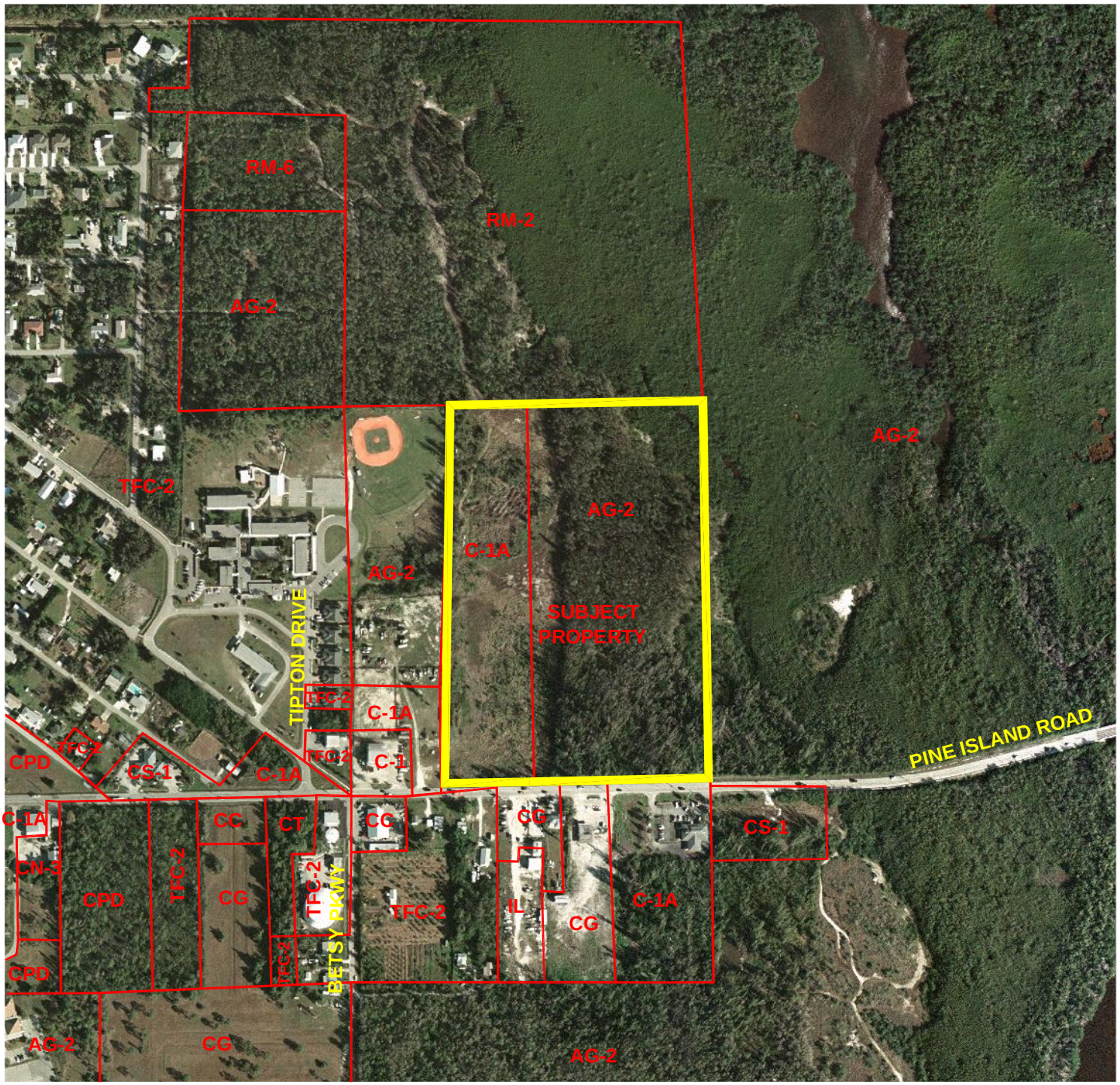

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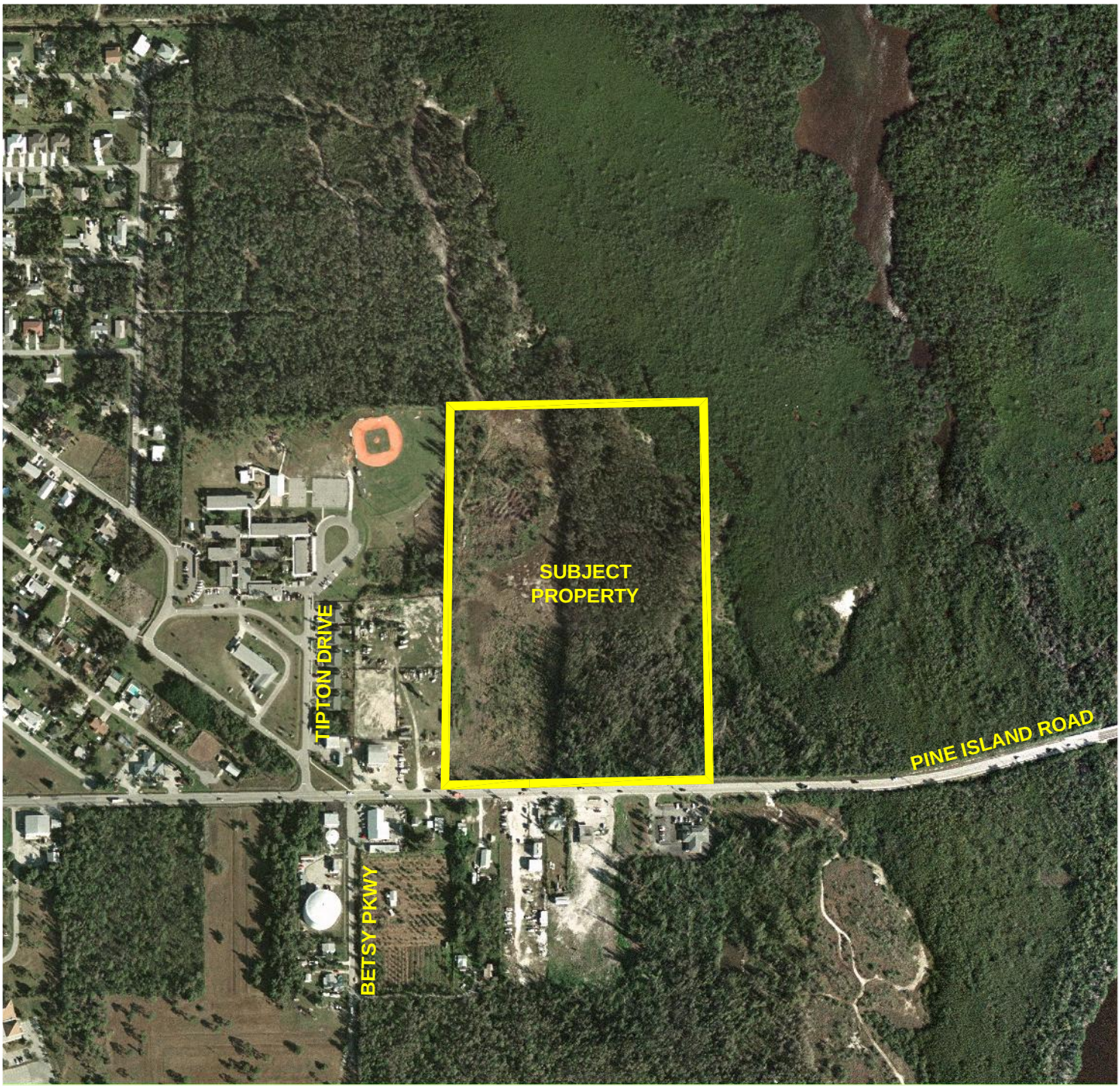
EXHIBIT IV.A.5 – EXISTING ZONING

PINE TARR/LAKE JEFFERSON PROPERTY

LEE COUNTY, FLORIDA

DATE	PROJECT	DRAWING	DESIGN	DRAWN	CHECKED	SCALE	SHEET	OF	FILE NO. (S-T-R)
8/24/2007	1585HC	_AER	SDJ	SDJ		1"=500'	1	1	(28-44-22)



0 500 1000

GRAPHIC SCALE 1"= 500'

N

Banks Engineering

Professional Engineers, Planners & Land Surveyors

10511 SIX MILE CYPRESS PARKWAY – SUITE 101
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PHONE: (239) 939-5490 FAX: (239) 939-2523
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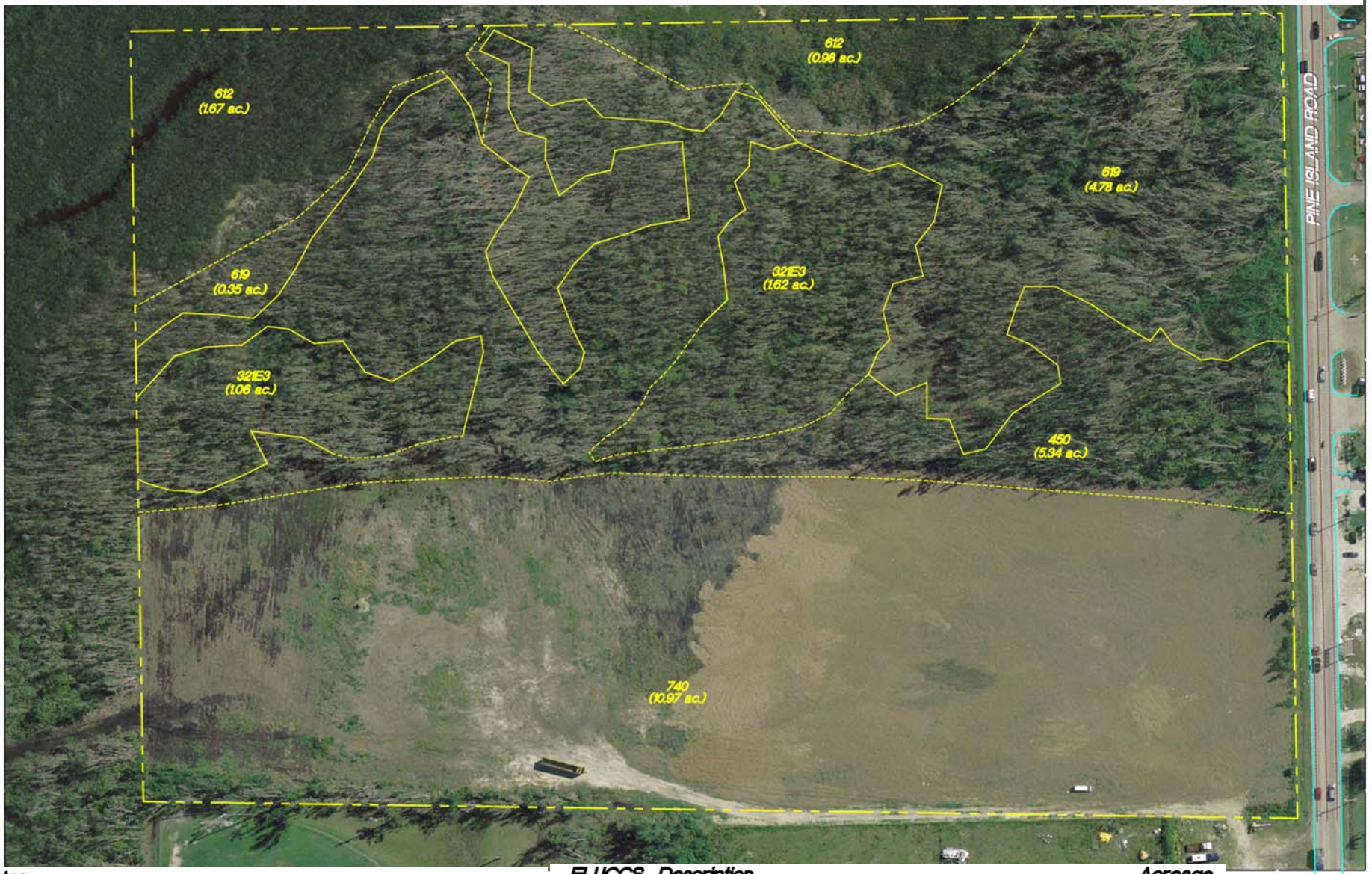
EXHIBIT IV.A.8 – AERIAL

PINE TARR/LAKE JEFFERSON PROPERTY

LEE COUNTY, FLORIDA

DATE	PROJECT	DRAWING	DESIGN	DRAWN	CHECKED	SCALE	SHEET	OF	FILE NO. (S-T-R)
09/24/2010	1585HC	_AER	SDJ	SEH		1"=500'	1	1	(28-44-22)

Pine Tarr/Lake Jefferson Property - FLUCCS Map - EXHIBIT IV.C.1



Notes:

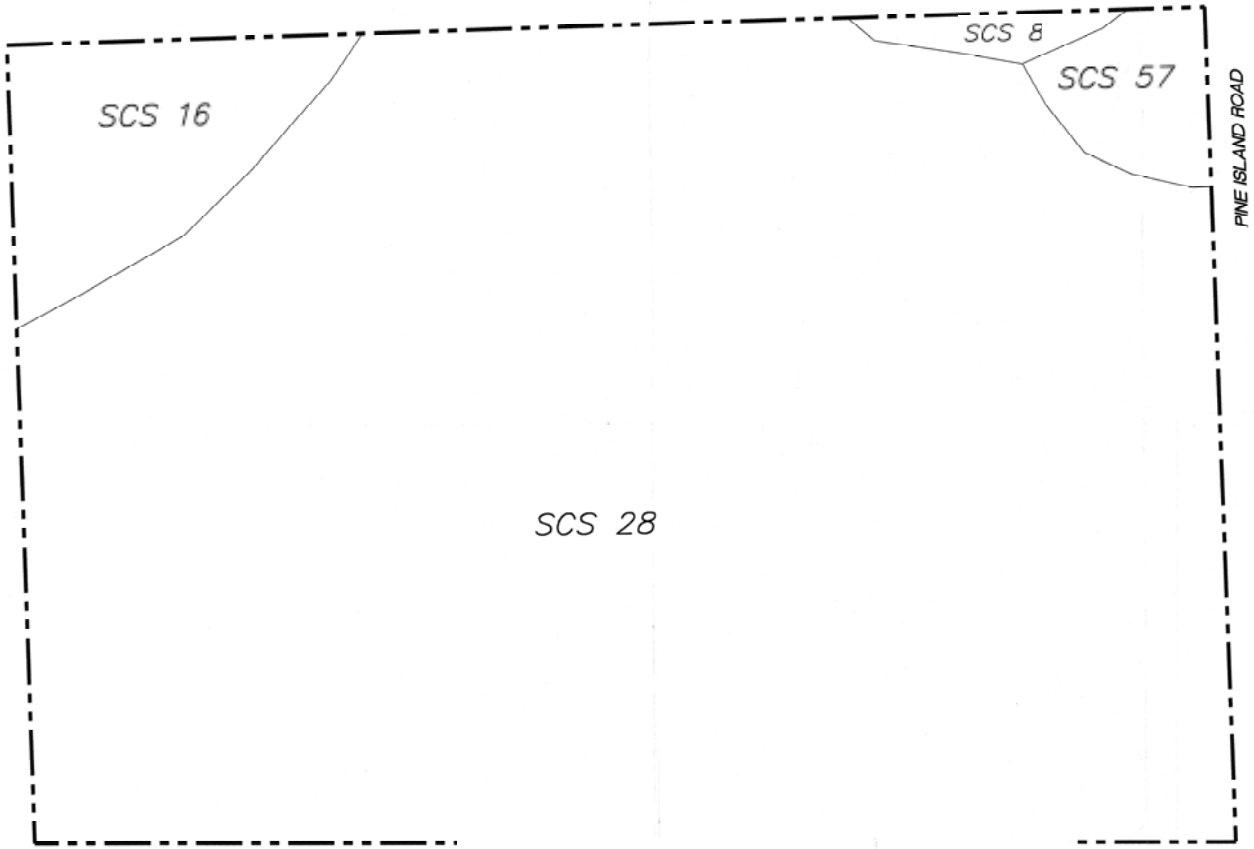
1. Property boundary and surveyed wetland line obtained from Banks Engineering, Inc.
2. Mapping based on photointerpretation of 2005 aerial photography and ground truthing in March 2008.
3. Delineation of jurisdictional wetlands field approved by the South Florida Water Management District on September 25, 2008.

FLUCCS	Description	Acreage
321E3	Palmetto Prairies invaded by Exotics (51-75%)	2.68 ac.
450	Mixed Exotic Upland Forest	5.34 ac.
•612	Mangrove Swamps	2.65 ac.
••619	Exotic Wetland Hardwoods	5.13 ac.
740	Disturbed Land	10.97 ac.
	TOTAL	26.77 ac.

Surveyed Line

SOIL MAP

SECTION 28
TOWNSHIP 44
RANGE 22



Soil Legend
SCS 08 – Hallandale fine sand, tidal
SCS 16 – Peckish mucky fine sand
SCS 28 – Immokalee sand
SCS 57 – Boca fine sand, tidal

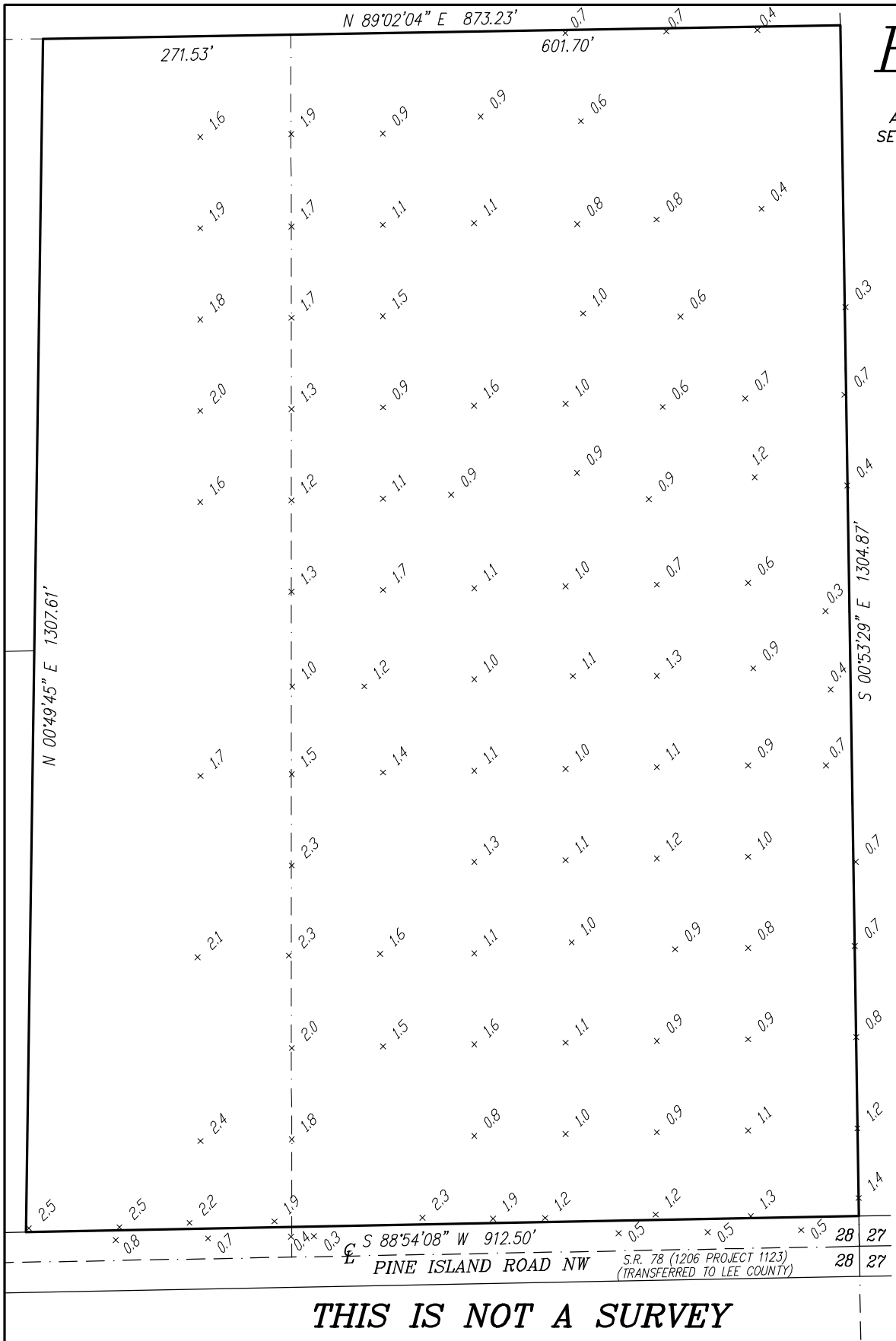
Notes:
1. Property boundary obtained from Banks Engineering, Inc.
2. Soil information has been obtained from the Lee County Property Appraiser's website.

W. DEXTER BENDER & ASSOCIATES, Inc.
ENVIRONMENTAL & MARINE CONSULTING
FORT MYERS 239-334-3660 PORT CHARLOTTE 941-255-1468

ORCHID COVE COMMERCIAL TRACT

EXHIBIT I.A

EXHIBIT IV.C.2



EXHIBIT

OF

A PARCEL OF LAND LYING IN SECTION 28, TOWNSHIP 44 SOUTH, RANGE 22 EAST, LEE COUNTY, FLORIDA

N

1" = 160'

NOTES:

ELEVATIONS ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88). THE MARK IS A SURVEY DISC SET IN THE TOP OF A CONCRETE MONUMENT. THE MARK DESIGNATION IS F 241 STAMPED F 241 1965. THE NATIONAL GEODETIC VERTICAL DATUM OF 1929 (N.G.V.D. 29) ELEVATION IS 6.73' CONVERTED TO (NAVD 88) WITH CORPSCON 6.0.1. SOFTWARE OBTAINED FROM THE U.S. ARMY CORPS OF ENGINEERS ELEVATION = 5.54' (NAVD 88).

SITE TOPO PROVIDED BY A.J. WATSON LAND SURVEYING, INC.

TTHE SUBJECT PARCEL IS LOCATED IN A SPECIAL FLOOD HAZARD AREA ON THE NATIONAL FLOOD INSURANCE PROGRAM'S FLOOD INSURANCE RATE MAPS.

PER FLOOD INSURANCE RATE MAP NUMBER 12071C0380F, EFFECTIVE DATE AUGUST 28, 2008 THE SUBJECT PARCEL LIES IN FLOOD ZONE "AE" HAVING A NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88) BASE FLOOD ELEVATION OF 7.

NO FLOODWAY AREAS ARE WITHIN THE SITE.

LEGEND:

℄	INDICATES CENTERLINE
S.R.	INDICATES STATE ROAD
x1.4	INDICATES EXISTING ELEVATION

THIS IS NOT A SURVEY

Banks Engineering

Professional Engineers, Planners & Land Surveyors

FORT MYERS ◆ NAPLES ◆ SARASOTA

FLORIDA BUSINESS CERTIFICATION NUMBER LB 6690

10511 SIX MILE CYPRESS PARKWAY – SUITE 101

FORT MYERS, FLORIDA 33966

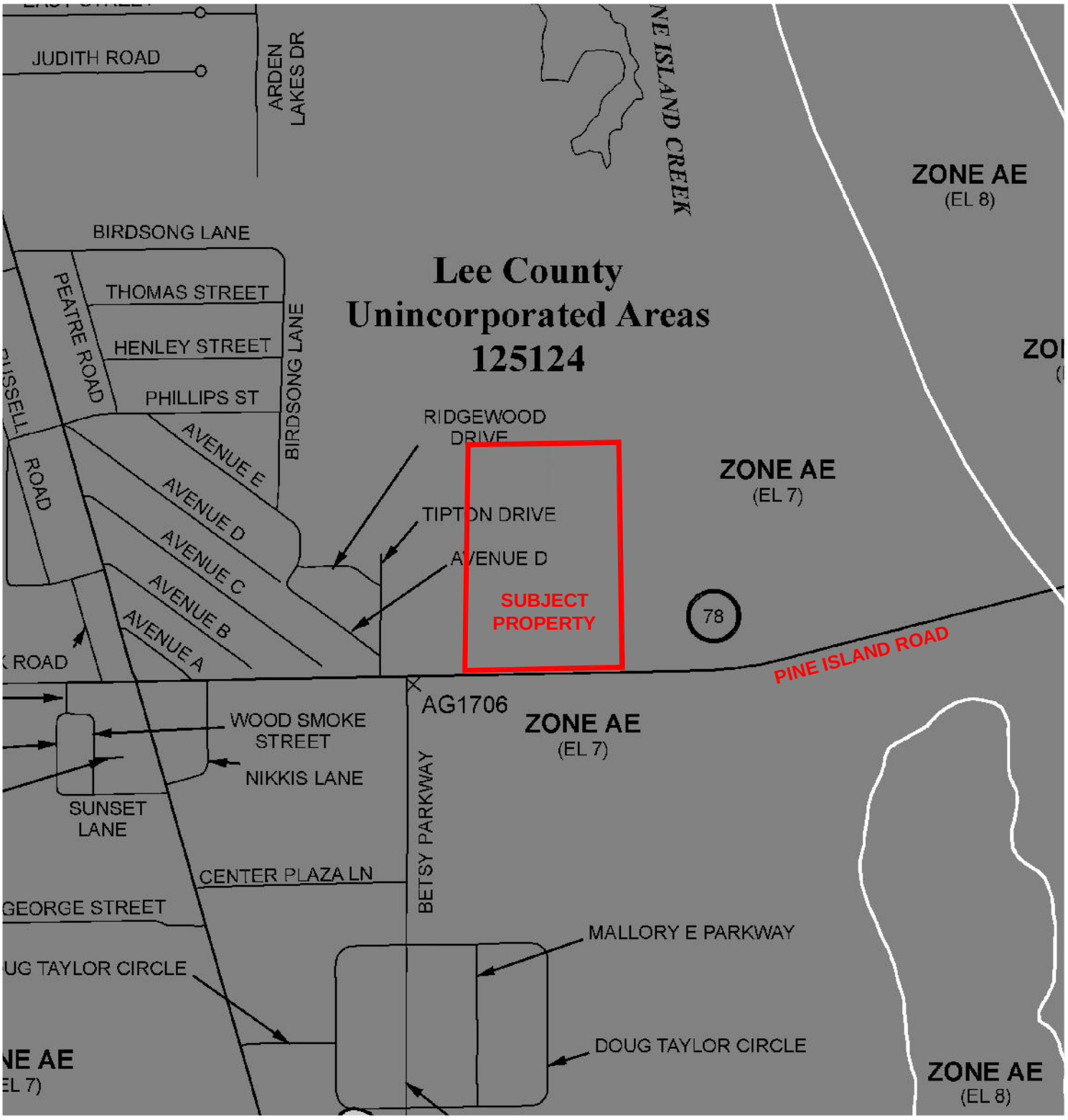
(239) 939-5490

EXHIBIT IV.C.3 –TOPOGRAPHIC MAP

PINE TARR/LAKE JEFFERSON PROPERTY

LEE COUNTY, FLORIDA

DATE	PROJECT	DRAWING	DESIGN	DRAWN	CHECKED	SCALE	SHEET	OF	FILE NO. (S-T-R)
9-24-2010	1585HC	1585HC-TP0		AMV	SEH	1"=160'	1	1	28-44-22



Banks Engineering

Professional Engineers, Planners & Land Surveyors

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PHONE: (239) 939-5490 FAX: (239) 939-2523
ENGINEERING LICENSE # EB 6469
SURVEY LICENSE # LB 6690

EXHIBIT IV.C.4 – FIRM MAP

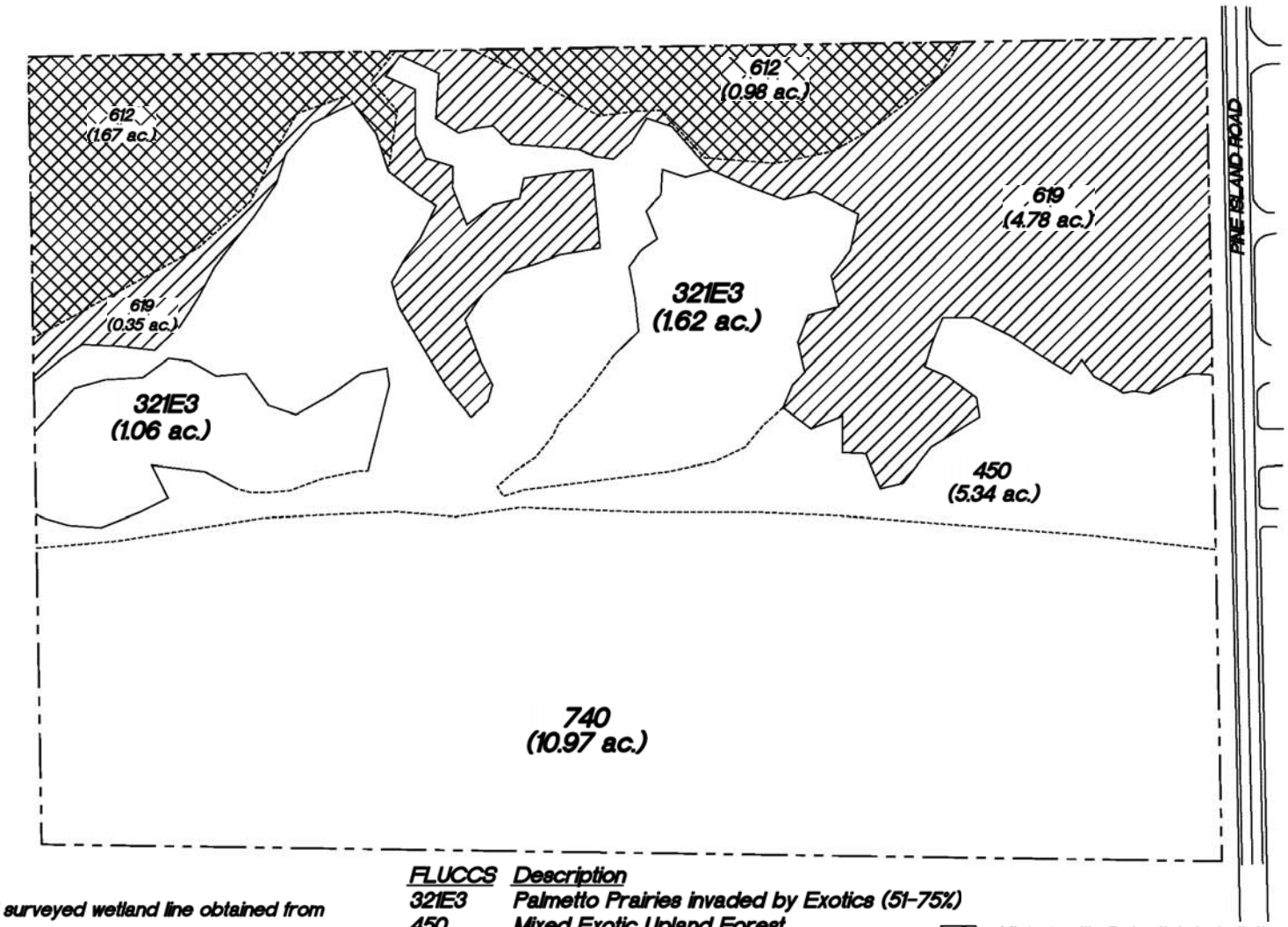
PINE TARR/LAKE JEFFERSON PROPERTY

LEE COUNTY, FLORIDA

DATE	PROJECT	DRAWING	DESIGN	DRAWN	CHECKED	SCALE	SHEET	OF	FILE NO. (S-T-R)
09/24/2010	1585HC	_AER	SDJ	SEH		NTS	1	1	(28-44-22)

SECTION: 28
TOWNSHIP: 44
RANGE: 22

WETLAND MAP



Notes:
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2. Mapping based on photointerpretation of 2005 aerial photography and ground truthing in March 2008.
3. Delineation of jurisdictional wetlands field approved by the South Florida Water Management District on September 25, 2008.

FLUCCS	Description
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**619	Exotic Wetland Hardwoods
740	Disturbed Land
	TOTAL

*High Quality Potential Jurisdictional Wetland (2.65 ac.)
**Low Quality Potential Jurisdictional Wetland (5.13 ac.)
Surveyed Line

W. DEXTER BENDER & ASSOCIATES, Inc.
ENVIRONMENTAL & MARINE CONSULTING

Pine Tarr/Lake Jefferson Property

EXHIBIT III.B
SHEET

EXHIBIT IV.C.5

Exhibit IV.C.6

Pine Tarr LLC/Lake Jefferson LLC Property
Protected Species Assessment

Section 28, Township 44 South, Range 22 East
Lee County, Florida

June 2008

Prepared for:

Banks Engineering
10511 Six Mile Cypress Parkway, Suite 101
Fort Myers, Florida 33912

Prepared by:

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INTRODUCTION

The 26.8± acre project is located within a portion of Section 28, Township 44 South, Range 22 East, on Pine Island in Lee County, Florida. The Orchid Cove residential project (permitted but not yet developed) is located to the north. Mangrove wetlands are present to the east. Pine Island Road forms the south property line. Existing commercial development and Pine Island Elementary School are present to the west.

SITE CONDITIONS

The majority of this site has been disturbed in the past and has become overgrown by exotics. Mangrove dominated wetlands are present in the eastern portion of the site.

VEGETATIVE CLASSIFICATIONS

The predominant vegetation associations were mapped in the field on 2005 digital 1" = 60' scale aerial photography. Five vegetation associations were identified using the Florida Land Use, Cover and Forms Classification System (FLUCCS). The attached map depicts the approximate location and configuration of these vegetation associations and the acreages are summarized by FLUCCS code in Table 1. A brief description of each FLUCCS code is also provided below.

Table 1. Acreage Summary by FLUCCS Code

FLUCCS CODE	DESCRIPTION	ACREAGE
321E3	Palmetto Prairies invaded by Exotics (51 – 75%)	2.6
450	Mixed Exotic Upland Forest	5.5
612	Mangrove Swamps	2.7
619	Exotic Wetland Hardwoods	5.1
740	Disturbed Land	10.9
	Total	**26.8**

FLUCCS Code 411E3, Palmetto Prairies invaded by Exotics (51 – 75%)
The canopy of these areas of the site consists of widely scattered slash pine (*Pinus elliottii*) with abundant Australian pine (*Casuarina* sp.) and melaleuca (*Melaleuca quinquenervia*). The midstory consists of Brazilian pepper (*Schinus terebinthifolius*), downy rose-myrtle (*Rhodomyrtus tomentosa*), myrsine (*Myrsine guianensis*), wax myrtle (*Myrica cerifera*), and white indigo berry (*Randia aculeata*). Saw palmetto (*Serenoa repens*) is the dominant ground cover.

FLUCCS Code 450, Mixed Exotic Upland Forest
A significant portion of the site is vegetated by a dense growth of Australian pine and melaleuca. Clumps of Brazilian pepper and widely scattered cabbage palm (*Sabal*

palmetto), myrsine, saw palmetto, white indigo berry, and buttonwood (*Conocarpus erecta*) are also present. Ground cover consists primarily of a thick layer of Australian pine needle duff.

FLUCCS Code 612, Mangrove Swamps
The eastern portion of the property consists of mangrove dominated wetlands. These areas are vegetated by black mangrove (*Avicennia germinans*), buttonwood, and white mangrove (*Laguncularia racemosa*). Ground cover is typically sparse and consists of species such as saltwort (*Batis maritima*), salt grass (*Distichlis spicata*), and glasswort (*Salicornia virginica*).

FLUCCS Code 619, Exotic Wetland Hardwoods
A majority of the wetlands on-site are dominated by melaleuca with scattered areas dominated by Australian pine and Brazilian pepper. Widely scattered buttonwood and cabbage palm are also present. The ground cover consists primarily of melaleuca/Australian pine duff with scattered leather fern (*Acrostichum* sp.), sand cordgrass (*Spartina bakeri*), swamp fern (*Blechnum serrulatum*), and fringe-rush (*Fimbristylis* sp.).

FLUCCS Code 740, Disturbed Land
The western portion of the property consists of a field that was cleared prior to 1977. The field has been recently maintained and currently consists primarily of bare ground. Scattered Australian pine, earleaf acacia (*Acacia auriculiformis*), and non-native landscape palms are present. Ground cover vegetation present includes Bermuda grass (*Cynodon dactylon*), dog fennel (*Eupatorium capillifolium*), hurricane grass (*Fimbristylis spathacea*), Caesar weed (*Urena lobata*), water-hyssops (*Bacopa monnieri*), ragweed (*Ambrosia artemisiifolia*), joint grass (*Paspalum vaginatum*), and wedelia (*Wedelia trilobata*).

SURVEY METHOD

Lee County Protected Species Ordinance No. 89-34 lists several protected species of animals that could potentially occur on-site based on the general vegetative associations found on the subject parcel. Each habitat type was surveyed for the occurrence of these and any other listed species likely to occur in the specific habitat types. The survey was conducted using meandering linear pedestrian belt transects. This survey methodology is based on the Lee County administratively approved Meandering Transect Methodology. In order to provide at least 80 percent visual coverage, transects were spaced approximately 50 feet apart (FLUCCS Codes 411E3 and 450). Within the open field (FLUCCS Code 740) transects were spaced approximately 100 feet apart. The mangrove dominated wetlands (FLUCCS Code 612) will not be impacted by any proposed development and therefore observations of this habitat types were made from the perimeter. The approximate location of all direct sighting or signs (such as tracks, nests, and droppings) of a listed species (if any), were denoted on the aerial photography. The attached 1" = 60' scale aerial Protected

Species Assessment Map depicts the approximate location of the survey transects and the results of the survey. The listed species survey was conducted during the mid-day hours of May 8, 2008. During the survey the weather was sunny and warm with a light breeze.

Species listed as endangered, threatened, or species of special concern by the Florida Fish and Wildlife Conservation Commission (FWC) or the United States Fish and Wildlife Service (FWS) that could potentially occur on the subject parcel according to the Lee County Protected Species Ordinance are shown in Table 2. This list from the Lee County Protected Species Ordinance is general in nature, does not necessarily reflect existing conditions within or adjacent to the 26.8± acre property, and is provided for general informational purposes only.

Prior to conducting the protected species survey, a search of the FWC listed species database (updated in June 2007) was conducted to determine the known occurrence of listed species in the project area. This search revealed no known protected species occurring on or immediately adjacent to the site.

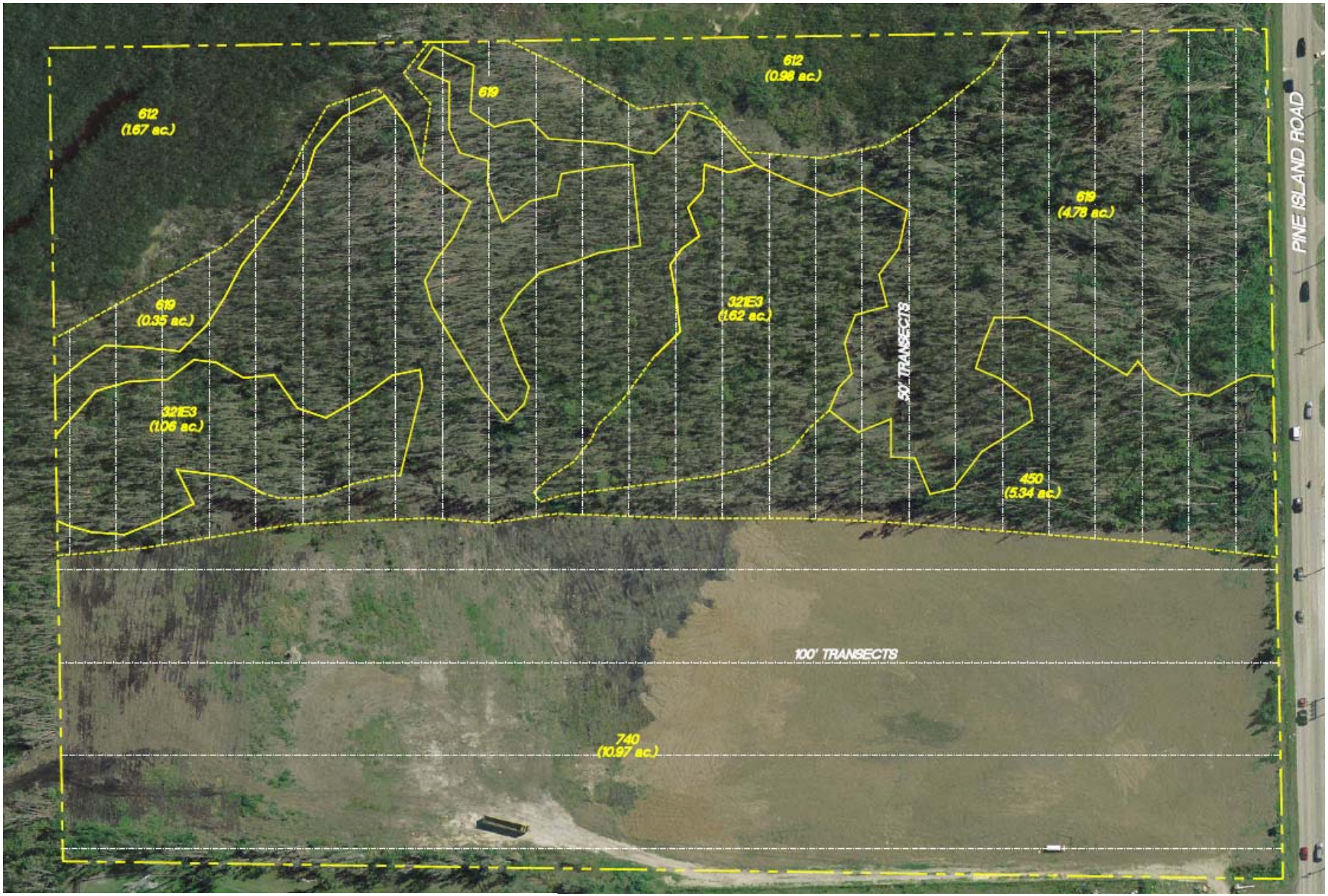
Table 2. Listed Species That Could Potentially Occur On-site

FLUCCS CODE	Percent Survey Coverage	Species Name	Present	Absent
321E3	80	Gopher Frog (*Rana areolata*)		√
		Eastern Indigo Snake (*Drymarchon corais couperi*)		√
		Gopher Tortoise (*Gopherus polyphemus*)		√
		Red-cockaded Woodpecker (*Picoides borealis*)		√
		Southeastern American Kestrel (*Falco sparverius paulus*)		√
		Big Cypress Fox Squirrel (*Sciurus niger avicennia*)		√
		Florida Black Bear (*Ursus americanus floridanus*)		√
		Florida Panther (*Felis concolor coryi*)		√
		Beautiful Pawpaw (*Deeringothamnus pulchellus*)		√
		Fakahatchee Burmannia (*Burmannia flava*)		√
		Florida Coontie (*Zamia floridana*)		√
		Satinleaf (*Chrysophyllum olivaeforme*)		√
450	80	None		

612	50	Brown Pelican (*Pelecanus occidentalis*) Little Blue Heron (*Egretta caerulea*) Roseate Spoonbill (*Ajaia ajaja*) Snowy Egret (*Egretta thula*) Tricolored Heron (*Egretta tricolor*) Florida Black Bear (*Ursus americanus floridanus*)		√ √ √ √ √ √
619	80	None		
740	95	None		

SURVEY RESULTS

No species listed by either the FWS or the FWC were observed on the site during the protected species survey. In addition to the site inspection, a search of the FWC species database (updated in 2007) revealed no known protected species within or immediately adjacent to the project limits.



Notes:

1. Property boundary and surveyed wetland line obtained from Banks Engineering, Inc.
2. Mapping based on photointerpretation of 2005 aerial photography and ground truthing in March 2008.
3. Delineation of jurisdictional wetlands field approved by the South Florida Water Management District on Se 08.

FLUCCS	Description	Acreage
321E3	Palmetto Prairies invaded by Exotics (51-75%)	2.68 ac
450	Mixed Exotic Upland Forest	
*612	Mangrove Swamps	ac.
**619	Exotic Wetland Hardwoods	5.13 ac.
740	Disturbed Land	10.97 ac.
	TOTAL	26.77 ac.

Surveyed Line

EXHIBIT IV.E.1

IMPACT TO POPULATION PROJECTIONS

The proposed amendment would permit commercial development to utilize marginal wetland areas on one site on Pine Island. As such, it has no impact on the County's population projections, Table 1(b), or the capacity of the FLUM.

EXHIBIT IV.E.2

CONSISTENCY WITH LEE PLAN

The proposed text amendment is consistent with the following goals, objectives, and policies of the Lee Plan:

1. **Objective 2.1**: The amendment will enhance the applicant's ability to construct a large commercial project in an area that has been specifically identified as the commercial center of Pine Island. As such, it will facilitate a contiguous and compact growth pattern.

2. **Objective 2.2**: The proposed commercial project will be served by adequate public facilities at the site.

3. **Objective 14.1**: The amendment is limited to commercial planned developments with approved ERPs. These two extensive review processes will provide assurance that no further degradation of estuarine and wetland resources will occur as a result of any development on the site.

4. **Policy 14.4.1**: As noted above, this policy targets Pine Island Center for most of the island's future commercial uses.

5. **Policies 107.2.4 and 107.2.9**: The wetland that the property owner wishes to remove is heavily infested with exotics and is not, therefore, a high quality natural plant community.

6. **Objective 107.4**: There are no endangered species on the site.

7. **Objective 104.1; Policy 104.1.1; Objective 113.1; Policy 113.1.1; Policy 113.1.; Policy 113.1.5; and Policy 115.1.2**: These objectives and policies all mandate the protection of coastal resources and water quality. This will be done through the limitation of the amendment to commercial planned developments with approved ERPs.

8. **Objective 114.1 and Policy 114.1.2**: The County's general policy, as articulated in Policy 114.1.2, is to use the ERP process to establish compliance with avoidance and minimization requirements and to determine the adequacy of proposed mitigation. The proposed amendment provides the County with assurances that any wetland removal will be reviewed through both the ERP and the planned development process in order to protect wetland and estuarine functions.

EXHIBIT IV.E.3

IMPACT ON ADJACENT LOCAL GOVERNMENTS

There are no local governments "adjacent" to the subject property. The intent of the amendment is to facilitate a commercial center on Pine Island. It is anticipated that virtually all of the customers for this project would be residents of Pine Island. To the extent that the amendment would have any impact on Cape Coral, therefore, it would be a slight improvement to the level of service on Pine Island Road.

EXHIBIT IV.E.4

CONSISTENCY WITH STATE AND REGIONAL PLANS

The proposed amendment is consistent with the following state and regional plan provisions:

STATE PLAN

1. **Policies 8(b)4 and 8(b)6**: The protection of coastal resources will be assured through the requirements for an approved ERP and a CPD.

2. **Policy 9(b)7**: The ecological functions of wetland systems will be protected through the ERP and CPD processes.

3. **Policies 15(b)2 and 15(b)3**: Using an infill parcel within the Urban Community area of Pine Island Center for a large commercial project is consistent with these policies.

REGIONAL PLAN

1. **Natural Resources Element, Goal 4**: The removal of a marginal wetland, with appropriate mitigation, as permitted through the ERP and CPD processes will facilitate the development of a badly needed shopping center in Pine Island Center and will therefore make Pine Island a more "livable community".

2. **Economic Element, Strategy to ensure adequacy of commercial lands (particularly Action 5)**: The amendment will facilitate commercial development on an infill parcel with adequate public services on Pine Island.

EXHIBIT IV.G

JUSTIFICATION FOR AMENDMENT

The applicants own three contiguous parcels north of Pine Island Road on the eastern end of Pine Island. The easternmost of the three parcels contains two areas of jurisdictional wetlands: a block of mangroves abutting the eastern property line; and an irregularly-shaped non-mangrove wetland that is heavily infested with exotics located to the west of the mangroves. The latter of these two areas intrudes into the center of the property and makes development of the site for a large scale commercial project implausible unless it can be altered through the permitting process.

The applicants filed an application for a rezoning of approximately 26 acres of its property (not all of their holdings were included) to CPD in 2008. During the review process, the applicants filed for and obtained an Environmental Resource Permit for the project which included the filling of 2.64 acres of the marginal wetlands (no mangrove filling was requested). Mitigation for the filling was provided by removing exotics and by purchasing credits from the nearby Little Pine Island Mitigation Bank. Lee County staff ultimately recommended denial of the zoning request, based, in part, on the purported inconsistency of the application with language in Policy 14.1.5 which requires a 50 foot natural buffer between development in specified areas of Pine Island and "associated wetlands" (i.e., "associated" with an aquatic preserve). Staff interpreted this language to require the buffer to be located immediately adjacent to the existing wetland line, not the line which would be created by the filling of the wetlands in accordance with the ERP. The zoning application was subsequently withdrawn.

One of the applicants then filed a request for a Notice of Clearing for agricultural purposes on the 18 acre parcel which included the marginal wetlands described above for the purpose of obtaining a definitive determination as to the proper interpretation of Policy 14.1.5. The staff approved the Notice of Clearing, but required the 50 foot buffer to be located immediately west of the existing wetland line, not the line shown after the filling of the marginal wetlands pursuant to the ERP. This decision was appealed to the Hearing Examiner, who found that the staff's interpretation of the agricultural clearing language in the LDC (and, therefore, Policy 14.1.5 by implication) was correct. This decision has the practical effect of prohibiting the clearing of any "associated wetlands," as that term is defined in the LDC, on Pine Island regardless of the quality of those wetlands, the value of the proposed project, or the amount and quality of the approved mitigation, even though the policy itself says nothing about clearing wetlands, and there was no evidence that the public understood that the policy was intended to completely prohibit wetland clearing during the public hearing process.

This proposed plan amendment would create an exception to Policy 14.1.5 under very limited circumstances. To the knowledge of the applicants, the parcel that was the subject of the zoning application is the only property on Pine Island which would meet the objective standards in the amendment. These include:

1. The property in question must be located in the Pine Island Center Urban Community area. This is consistent with Policy 14.4.1, which identifies the Center as being the appropriate location for most new commercial uses on the island.

2. The property must contain a minimum of 25 acres. Numerous studies have shown that Pine Island already has more than sufficient areas zoned for small scale commercial uses which would not require the use of the exception. There is only one commercial development of over 100,000 square feet on Pine Island. The amendment would permit (if approved through zoning) a second such development on an infill parcel for the shopping convenience of Pine Island residents.

3. The property must be zoned as a CPD. This is consistent with the acreage thresholds for planned developments in the LDC and provides assurances that any environmental impacts of the project can be fully addressed in the public hearing process.

4. The property must abut Pine Island Road. It would be inappropriate to permit a large commercial project which did not have arterial road frontage.

5. The project must obtain an ERP. The County's legitimate concerns regarding the impact of the project to coastal and estuarine resources can be fully addressed through the state review process. This is consistent with Policy 114.1.2.

Approval of the amendment will create a small degree of flexibility in the development process so as to permit the filling of marginal wetlands, with appropriate mitigation, to facilitate the development of a shopping center serving Pine Island residents in an area which has already been identified by the Pine Island Plan as being the most appropriate area on the island for future commercial growth. All environmental, planning, infrastructure, and aesthetic issues raised by the project will be fully addressed in the CPD process.

STAFF REPORT
FROM
DEPARTMENT OF COMMUNITY DEVELOPMENT
DIVISION OF ENVIRONMENTAL SCIENCES

Date: **March 11, 2011**

To: **Brandon Dunn, Senior Planner**

From: **Doug Griffith, Environmental Planner** DLG
Phone: 239-533-8323
E-mail: dgriffith@leegov.com

Project: **Pine Tarr**
Case: **CPA2010-00006**

The applicant is requesting to amend Lee Plan Policy 14.1.5 to permit clearing of wetlands in accordance with an approved ERP for a Commercial Planned Development (CPD) on parcels meeting specific criteria in the Pine Island Central Urban area. The Division of Environmental Sciences (ES) Staff has reviewed the proposed amendment and offers the following analysis and recommendation of **Not to Transmit** the Amendment request for **Policy 14.1.5.**

PROPOSED POLICY LANGUAGE CHANGE (Underlined)
This is a private initiated amendment where the applicant is proposing to add the following revision (underlined) to Policy 14.1.5: New development, including "planned development" zoning approvals, new subdivisions, and agriculture, that adjoin state-designated aquatic preserves and associated wetlands and natural tributaries must preserve or create a 50-foot-wide native vegetated buffer area between the development and the waterbody or associated wetlands. This requirement will not apply to existing subdivided lots. For commercial planned developments in excess of 25 acres on property with Pine Island Road frontage in the Pine Island Center Urban Community area, the buffer (including any fill necessary to facilitate the survival of the required upland species within it), must be located between the development areas on the site and all wetlands required to be preserved by an approved state environmental resource permit. For agriculture, this requirement:

- will be implemented through the notice-of-clearing process in chapter 14 of the Land Development Code;
- will include a requirement to use this area as a riparian forest buffer with an adjoining filter strip wherever farmland abuts wetlands; and
- if native vegetation does not currently exist, native tree cover will be established within three years of issuance of the notice of clearing.

PROJECT HISTORY for STRAP #28-44-22-00-00012.0000, .002A, .002B
On October 10, 2007 the applicant applied for a residential lot split with Lee County Division of Development Services (LDO2007-00391). The residential lot split was to create two parcels, one

7.9 acres and one 10.5 acres. Initially, staff requested information on the wetland line and the 50' vegetated buffer which was provided by the applicant. The residential lot split was not approved and was vacated on August 19, 2009.

On January 14, 2008 an appeal of an Administrative Interpretation was submitted to the hearing examiner to appeal the decision by the Lee County Division of Development Services for LDO2007-00391. (ADM2008-0002) The appeal was withdrawn by the applicant on March 10, 2008.

On August 1, 2008, the applicant applied for an Environmental Resource Permit (ERP) from South Florida Water Management District (SFWMD) for a proposed commercial development. (Application #080801-4) The ERP, Permit #36-07179-P, was approved for the commercial project (Calusa Cay) on September 21, 2009. The permit allowed 2.64 acres of impacts to wetlands. Through correspondence with SFWMD, ES Staff learned that SFWMD encouraged the preservation and construction of the 50-foot upland buffer outside of the jurisdictional wetland line.

On September 16, 2008 a rezoning application was submitted to Lee County Division of Zoning to rezone the property to commercial planned development (CPD) (DCI2008-00035). The zoning application was for a maximum of 121,400 square feet of commercial floor area including a maximum of 100,000 square feet of commercial retail. The Lee County Zoning Staff report recommended denial of the application. The proposed design failed to take into account the natural features of the site, proposing impacts to jurisdictional wetlands that are part of the public wetland preserve. The proposed master concept plan did not comply with the Lee County Land Development Code (LDC) requirements for planned development and was inconsistent with the Lee Plan, including policies regarding wetlands under Goal 14 Greater Pine Island. Lee County Planning Staff issued a memo that stated that the commercial project was inconsistent with numerous goals, objectives and policies of the Lee County Comprehensive Plan and grouped the inconsistencies into four groups, compatibility, wetland preservation, traffic/concurrency, and site location. Planning Staff found the proposed commercial development to be inconsistent with Lee Plan Objective 14.1, Policy 14.1.5, and Policy 113.1.2. ES Staff recommended denial of the rezoning application, finding inconsistency with Lee Plan Goals, Objectives and Polices relevant to protection of environmental and natural resources. The rezoning application (DCI2008-00035) was withdrawn by the appellant on December 16, 2009.

On November 9, 2009 an Army Corps of Engineer (ACOE) permit (SAJ-2008-3117 (IP-CJW)) was issued for the construction of a grocery-anchored retail project (Calusa Cay). The ACOE permit depicted an additional 1.3 acre wetland onsite located in the northwest portion of the property. The ACOE permit allowed impacts to $\pm$3.94 acres of existing wetlands for the Calusa Cay project whereas the SFWMD only identified $\pm$2.64 acres of wetlands to be impacted. The ACOE permit was presented to ES staff during the review of the rezoning application (DCI2008-00035).

On December 12, 2009 an application for a Notice of Clearing was filed with the Lee County Division of Environmental Sciences for the AG-2 zoned portion of the property (VEG2009-

00252). The application proposed to fill some of the aquatic preserves' associated wetlands. This amounted to 2.82 acres of the wetlands identified by the Army Corps of Engineers or 2.64 acres of wetlands identified by South Florida Water Management District. ES Staff could not issue the Notice of Clearing as submitted by the appellant without conditions because the proposed impacts to the existing on site wetlands would be inconsistent with the Lee Plan Objective 14.1 and Policy 14.1.5. As previously discussed, the appellant has an ERP for a commercial project known as Calusa Cay. The appellant's proposed buffer area for the Notice of Clearing is per the SFWMD ERP permit, which is for a commercial development and not agriculture. On January 11, 2010 the Notice of Clearing was approved by ES Staff with conditions. ES staff has authority to impose conditions on the notice of clearing per LDC 14-412(h). The Administrator is authorized under this provision to impose any condition "relating to the method of identifying, designating and protecting" those items which are not to be impacted. The condition required the 50' vegetated buffer based on the jurisdictional wetlands, in compliance with Lee Plan Policy 14.1.5.

On January 28, 2010 an Administrative Appeal was submitted to the Hearing Examiner to appeal the decision Lee County Division of Environmental Sciences VEG2009-00252. On March 25, 2010 the Hearing Examiner upheld the decision of Environmental Sciences to "approve with conditions" specifically, the condition requiring the 50-foot upland buffer be placed outside of the jurisdictional or existing wetland line in compliance with Lee Plan Policy 14.1.5.

On September 29, 2010 the applicant submitted an application requesting an amendment to Lee Plan Policy 14.1.5 to revise the language requiring the preservation or creation of a 50-foot-wide native vegetated buffer area between the development and the waterbody or associated wetlands.

LEE PLAN VISION STATEMENT:
All units of local government in the State of Florida are required to adopt comprehensive plans pursuant to Chapter 163 of the Florida Statutes. These plans essentially serve three broad purposes. First of all, certain day-to-day public and private activities within each jurisdiction must be consistent with the goals, objectives, and policies in the adopted plan Second, the plan is a source of authority for the local government's land development regulations and for a wide range of official discretionary actions, including, but not limited to, the capital improvement program. Finally, the plan represents the community's vision of what it will or should look like by the end of the planning horizon.

The Lee Plan's land use accommodation is based on an aggregation of allocations for 22 Planning Communities. These communities have been designed to capture the unique character of each of these areas of the county.

16 Pine Island - This community includes Greater Pine Island as described under Goal 14 along with surrounding smaller islands and some unincorporated enclaves near Cape Coral. Its future, as seen by Pine Islanders, will be a matter of maintaining equilibrium between modest growth, a fragile ecology, and a viable and productive agricultural community. Pine Island will continue to be a haven between urban sprawl approaching from the mainland and the wealth of the outer islands; a quiet place of family businesses, school children, farmers, and retirees enjoying the

bounties of nature; a place devoid of high-rises, strip malls, and gated communities. Traffic constraints caused by the narrow road link to the mainland will limit future development, allowing the islands to evacuate from storms and protecting natural lands from unsustainable development. Wildlife and native vegetation will be protected; loss of wildlife habitat will be reversed; sidewalks and bike paths will connect neighborhoods for young and old alike. Architectural standards for commercial buildings will encourage "Old Florida" styles, and historic buildings will be treasured. Pine Island will continue to be a place where people, nature and agriculture exist in harmony, a place not very different from what it is today, an island as state-of-mind as much as a physical entity, its best features preserved and enhanced. Pine Islanders are historically vigilant about protecting their community and will work to ensure that their plans are carried out.

GREATER PINE ISLAND PLAN:
Goal 14 of the Lee Plan summarizes the Greater Pine Island Planning Community's efforts to balance growth with protecting the island's natural resources and community character. Efforts to address these issues through a "Pine Island Plan" have been ongoing. The Plan was adopted in 1989 and has been amended subsequently. In the 1989 plan both Objective 14.1 and Policy 14.1.5 were adopted but were referenced as Objective 16.1 and Policy 16.1.3. In 2000 the Lee Plan was amended to include Notice of Clearing in relation to the 50 foot native vegetated buffer for agriculture use in Policy 14.1.5. This policy for agriculture was not adopted until 2004. The Greater Pine Island Civic Association spearheaded these efforts - which continue today.

The Lee County Comprehensive Plan for the Greater Pine Island is clear that no more degradation of estuarine and wetland resources on Pine Island will be permitted. The "no more degradation" language applies from the date the Lee Plan policies and objectives were adopted in 1989. The Lee Plan Objective 14.1 and Policy 14.1.5 are reproduced below:

Lee Plan Goal 14 Greater Pine Island to manage future growth on and around Greater Pine Island so as to maintain the island's unique natural resources, character and its viable and productive agricultural community and to insure that island residents and visitors have a reasonable opportunity to evacuate when a hurricane strike is imminent. For the purposes of this plan, the boundaries of Greater Pine Island are indicated on the Future Land Use Map.

Lee Plan Objective 14.1: County regulations, policies and discretionary actions affecting Greater Pine Island will permit no further degradation of estuarine and wetland resources and no unnecessary loss of native upland vegetation and wildlife habitat.

Lee Plan Policy 14.1.5 New development, including "planned development" rezoning approvals, new subdivisions, and agriculture, that adjoin state-designated aquatic preserves and associated wetlands and natural tributaries must preserve or create a 50-foot-wide native vegetated buffer area between the development and the waterbody or associated wetlands. This requirement will not apply to existing subdivided lots. For agriculture, this requirement:

- will be implemented through the notice-of-clearing process in chapter 14 of the Land Development Code;

- will include a requirement to use this area as a riparian forest buffer with an adjoining filter strip wherever farmland abuts wetlands; and,
- if native vegetation does not currently exist, native tree cover will be established within three years of issuance of the notice of clearing.

LEE PLAN ANALYSIS

The intent of **Objective 14.1** and **Policy 14.1.5** is to preserve wetlands from encroachment of development with no impacts to wetlands that adjoin state-designated aquatic preserves. The proposed language change is not consistent with that intent; The following Goals, Objectives and Policies further support ES Staff's concerns regarding the lack of sufficient protection and possible impacts to state-designated aquatic preserves.

In addition to Goal 14, Goal 114 of the Lee Plan addresses wetland impacts Policy 114.1.3: of the Lee Plan states: The Future Land Use Map shows the approximate boundaries of wetlands in Lee County. The map will be updated as needed based on the definitions in this plan and new information. If the Future Land Use Map is incorrect due to a clear factual error, or if an exact boundary determination is required, an administrative process is set out in Chapter XIII of this plan to establish the precise boundary of the wetland. "Wetlands" include all of those lands, whether shown on the Future Land Use Map or not, that are identified as wetlands.

Impacting wetlands changes the land use category "Wetlands" into an Upland Urban Community necessitating an administrative land use change. The importance of wetlands in Lee County is emphasized by the existence of a land use category within the Lee Plan and Future Land Use Map for wetlands. "Wetlands" is a Future Land Use even if not designated on the future land use map. The Future Land Use Map depicts "Wetlands" land use just east of the subject property; in fact the wetlands land use overlaps the property in the northeast corner. To impact the wetlands to create an upland buffer could require a future land use map change through the comprehensive plan amendment process.

Lee Plan Objective 1.5: Wetlands. Designate on the Future Land Use Map those lands that are identified as Wetlands in accordance with F.S. 373.019(17) through the use of the unified state delineation methodology described in FAC Chapter 17-340.

The proposed revision to Policy 14.1.5 would impact existing wetlands within the Wetlands Land Use Category and would require a land use change through a Comprehensive Plan Amendment.

Lee Plan Objective 107.1: Resource Management Plan. The county will continue to implement a resource management program that ensures the long-term protection and enhancement of the natural upland and wetland habitats through the retention of interconnected, functioning, and maintainable hydroecological systems where the remaining wetlands and uplands function as a productive unit resembling the original landscape.

Lee Plan Policy 107.2.13: Promote optimal conditions rather than minimum conditions for the natural system as the basis for sound planning.

The language revisions as proposed are not utilizing optimal conditions with regard to wetland impacts. Impacting wetlands reduces the capacity of the wetlands to filter pollutants, increasing the potential for water degradation.

Lee Plan Policy 113.1.1: Coastal areas with significant public value for water retention and purification, wildlife habitat, and primary productivity will be protected through the development permitting process and enforcement of appropriate codes and regulations.

Lee Plan Policy 113.1.2: All development within the coastal planning area must be compatible with protection of natural systems.

Lee Plan Policy 113.1.5: Lee County will protect and conserve the following environmentally sensitive coastal areas: wetlands, estuaries, mangrove stands, undeveloped barrier islands, beach and dune systems, aquatic preserves and wildlife refuges, undeveloped tidal creeks and inlets, critical wildlife habitats, benthic communities, and marine grass beds.

Lee Plan Goal 114: To maintain and enforce a regulatory program for development in wetlands that is cost-effective, complements federal and state permitting processes, and protects the fragile ecological characteristics of wetland systems.

Lee Plan Objective 114.1: The natural functions of wetlands and wetland systems will be protected and conserved through the enforcement of the county's wetland protection regulations and the goals, objectives, and policies in this plan. "Wetlands" include all of those lands, whether shown on the Future Land Use Map or not, that are identified as wetlands in accordance with F.S. 373.019(17).

The revisions to Policy 14.1.5 could permit impacts to wetlands that abut the state designated Matlacha and Charlotte Harbor Aquatic Preserves home to 86 of Florida's threatened and endangered species. The mangrove fringe and sea grasses that surround Pine Island are home to wading birds, amphibians, manatees, and are used by a multitude of Florida's game fish as nurseries. The Aquatic Preserves are a fragile ecological system that can be affected by water quality and must be protected from nutrient loading, sedimentation and pollution associated with storm water runoff. Encroachment of development into the existing wetlands conveys fill, fertilizer and other pollutants close to the mangrove fringe.

Lee Plan Goal 115: Water Quality and Waste Water: To ensure that water quality is maintained or improved for the protection of the environment and people of Lee County.

Lee Plan Objective 115.1: Maintain high water quality, meeting or exceeding state and federal water quality standards.

ENVIRONMENTAL CONCERNS:
ES Staff has concerns with the amount of impacts that would occur to wetlands with the proposed language change. The intent of Objective 14.1 and Policy 14.1.5 is to preserve wetlands from encroachment of development with no wetland impacts.

ES Staff and the applicant have disagreed on the placement of a 50-foot natural vegetated buffer since the applicant first applied for LDO 2007-00391. Through subsequent applications and appeals ES Staff has consistently applied Policy 14.1.5 to permit no further degradation of wetlands to meet the intent of Objective 14.1.

The applicant argues that a project must provide a 50-foot natural vegetated buffer to separate development from any adjacent wetlands. The applicant denotes that the buffer is for water quality and to safe guard any preserved wetlands. And the intent of the buffer is to separate a project from preserved wetlands allowing wetland impacts onsite, if approved by state and federal permits, to create the buffer.

ES Staff does not agree with the applicant's Lee Plan analysis. Objective 14.1 states that Pine Island will permit no further degradation of wetlands on Pine Island and Policy 14.1.5 states that the development must provide a 50-foot natural vegetated buffer between the development and all jurisdictional wetlands with no impacts.

Several projects have been approved since the adoption of the latest revisions of Goal 14 in compliance with the 50-foot native vegetative buffer including Orchid Cove (this project abuts the subject property to the north) DOS2005-00354, a Residential Planned Development with 156 units on ± 63 acres; Demere Preserve DOS2005-00290 a Residential Planned Development with 74 single-family dwelling units on ± 92.5 acres; and Tranquility Bay DOS2006-00061 a Residential Planned Development with 60 single-family dwelling units on ± 74 acres. All three projects are residential developments that have provided the 50-foot native vegetative buffer.

Another issue of concern for ES Staff is the potential impact to the adjacent Matlacha and Charlotte Harbor Aquatic Preserves. The Aquatic Preserves are part of the greater Charlotte Harbor estuary, the second largest and one of the least contaminated estuaries in Florida. Established in 1978, The Charlotte Harbor and Matlacha Aquatic Preserves are home to more than 40% of the state's endangered and threatened species. The Florida Department of Environmental Protection's (FDEP) Staff has conducted annual monitoring at five sites within the Matlacha Aquatic Preserve for seven years. Water quality in the preserve has been steadily declining with native sea grasses showing a 29% decline. The FDEP monitoring indicates "that sea grass beds have been negatively impacted by reduced light availability due to runoff from rapidly urbanizing coastal areas." Sea grasses are important to several of Florida's listed species including the Florida manatee. The mangrove fringe and sea grasses that surround Pine Island are home to wading birds, amphibians, manatees, and are used by a multitude of Florida's game fish as nurseries. Encroachment of development into the existing wetlands conveys fill, fertilizer and other pollutants into the mangrove fringe.

Runoff from development can cause reduced water quality. The intent of creating a 50-foot buffer to separate the development from the wetlands is to increase filtration of storm water runoff before reaching wetlands to reduce impacts to the Aquatic Preserve, increasing water clarity and reducing nutrients. The applicant is proposing to revise the language in Policy 14.1.5 to allow impacts to wetlands to create the 50-foot buffer. This will detract from the purpose of

the buffer which is to protect the wetlands from development. This will potentially decrease detention time for water filtration causing additional sediments, nutrients and pollution to enter the Aquatic Preserve. The 50-foot buffer that could be created with the proposed language change would potentially alter the topography of natural grade by creating a change of elevation within the buffer area, disrupting surface water hydrology and increasing the opportunity for erosion.

Furthermore, vegetated buffer zones separating wetlands from development act as transition zones, to lessen the impacts of development to environmentally critical areas. Publications such as M.T. Brown and J. Orell, *Tomoka River and Spruce Creek Riparian Habitat Protection Zone,* p. 4 (St. Johns River Water Management District, 1995.) states:

> "Lands immediately adjacent to an upland or wetland are transition zones between wetlands and uplands. They are zones that are wetland at times and upland at times, exhibiting characteristics of each and vegetated by species that are found in each. They are important to both the wetland and upland as seed reservoirs, as habitat for aquatic and wetland-dependent wildlife species, as refuge to wildlife species during high water events, as buffers to the extreme environmental conditions that result from sharp vegetated edges. When development activities occur in transition zones, wetland dependent wildlife species that are frequent users of these areas are excluded, silt laden surface waters are generated and cannot be filtered, and groundwater may be diverted or drained."

The 50-foot natural vegetated buffer acts as a transition zone separating the development from the adjacent wetland and as such impacting these transition Zones result in loss of habitat that filters pollutants from stormwater and development.

CONCLUSION:

A single policy is difficult to interpret correctly, if taken in isolation. However, in the review of other County Goals, Objectives and Policies in the LeePlan, the general theme is to **not** support wetland destruction. ES Staff has been consistent on Pine Island in regards to where the 50 foot buffer should be placed and that no impacts may occur to existing wetlands. ES staff has always interpreted Policy 14.1.5 in context with Objective 14.1: Greater Pine Island will permit no further degradation of estuarine and wetland resources. The Lee County Comprehensive Plan for the Greater Pine Island is clear that no more degradation of wetland resources will be allowed. County Staff has been consistently applying the requirement to provide the 50' native upland buffer from the existing wetland line in compliance with this Objective. This requirement has been applied with rezoning applications, Development Orders and agricultural notice of clearings. In each circumstance, the county has required the 50' buffer from the wetland line existing at the time of the application. The proposed language change would be in direct conflict with the Pine Island Plan and Objective 14.1. Furthermore, when reading Policy 14.1.5, in conjunction with the remainder of the Lee Plan the proposed revisions to Policy 14.1.5 would be inconsistent. The Lee Plan Objective 14.1 and supporting policies does not allow for the

establishment of the 50' buffer from **a** wetland line but rather from **the** Wetland Line as it exists at the time of the application.

The intent of Policy 14.1.5 is to protect state aquatic preserves and associated wetlands with a 50 foot wide buffer. Allowing wetland impacts does not meet the intent of this Policy and is in direct conflict with the intent of Objective 14.1. The intent of Objective 14.1 and Policy 14.1.5 is to preserve wetlands from encroachment of development and create a 50-foot upland buffer between the development and associated wetlands with no impacts to wetlands. Amending Policy 14.1.5 would be providing an incentive to applicants through the Lee Plan to impact wetlands and use those impacts for development, in other words, the County would be encouraging impacts to jurisdictional wetlands for development. Amending Policy 14.1.5 does not meet the intent of the Lee County Comprehensive Plan and is not consistent with Goals 14, 107, 113, 114 and 115. Therefore, ES Staff recommends **not transmitting** the Amendment request for **Policy 14.1.5.**

GREATER PINE ISLAND CIVIC ASSOCIATION

P.O. BOX 325, MATLACHA, FL 33909

March 4, 1988

Mr. James LaRue
County Administrator
P.O. Box 398
Fort Myers, FL 33902-0398

Dear Jim:

We are pleased to enclose, for your inspection, a copy of the proposed new plan for Pine Island which was prepared under the sponsorship of the Greater Pine Island Civic Association. It is a consensual plan, based primarily on overwhelming majority opinions of respondents in two Island-wide surveys (Appendix D). We think that it is a practical and equitable plan. It has been approved by about 80% of Greater Pine Island Civic Association voters (200 votes for, 52 against, and 1 abstention).

If you have any questions about it, please contact me, or our counsel, Mr. James Humphrey.

Sincerely,

Eugene S. Boyd, President

PINE ISLAND LAND USE STUDY - ISSUES AND RECOMMENDATIONS

Prepared by Carron Day for and with the assistance of
the Greater Pine Island Civic Association (GPICA)
January, 1988

The current Land Use Map and the proposed Land Use Map approved by the GPICA Liaison Committee on January 9, 1988 are available for inspection at the Pine Island Public Library, as are the various basic maps (water mains, topography, etc.) upon which the plan is based.

It is the intent of the Greater Pine Island Civic Association that this plan will be distributed by all interested organizations on Greater Pine Island, and that each such organization will do its own voting to either approve or disapprove the proposed plan. We ask that each organization then report the results of the vote to the Greater Pine Island Civic Association. Anyone who wishes to vote who does not belong to an organization doing its own voting may vote at the meeting of the Greater Pine Island Civic Association on February 2nd. Such people do NOT need to join the Civic Association in order to vote. We are, of course, always interested in extending our membership to anyone interested in being active in civic affairs.

It is expected that additional copies of the proposed plan will be available at local banks, the Chamber of Commerce, the Pine Island Public Library, and the office of *The Pine Island Eagle*.

If you have questions about the plan; please contact one of the GPICA Planning Liaison Committee members listed below:

George or Dot Birmingham 283-2124
Gene or Ellie Boyd 283-2917
George Cheshier 283-5294
Betty Croshaw 283-2796
Bob Deadwyler 283-0374
Bill Dodd 283-4277
Julian Goode 283-4870
Dick or Irene Holmes 283-7176
John King 283-1692
Ray or Fran Lever 283-7178
Rick Moore 283-1206
Frank Reppa 283-4723
Sandy Reynolds 283-5812
Cliff or Mae Richardson 283-1636
Ben Traverse 283-1003
Leroy Wacker 283-3689

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ACKNOWLEDGMENTS: The Greater Pine Island Civic Association would like to express its thanks to the following people who helped to formulate this Plan, and/or helped to educate the Association's members who were involved in the Plan: Gladys Cook, Doug Correia, Carron Day, Lori Dutra, Jim Humphrey, Ray Judah, Rob Magee, Max Puckett, Paul O'Connor, Mike Roeder, Gloria Sajgo, Bill Spikowski.

INTRODUCTION

The Pine Island Land Use Study was undertaken by the Greater Pine Island Civic Association in response to the Board of County Commissioners' request for local communities to plan their own future. The study area encompasses Pine Island and Pine Island Road (SR 78) east to Burnt Store Road.

Detailed research has addressed the area's infrastructure, natural resources, current land use, current zoning, population and growth trends. The relationships between Pine Island, Matlacha and the mainland have also been addressed.

The recommendations adopted by the Greater Pine Island Civic Association will be forwarded to the Lee County Board of County Commissioners for their consideration during the preparation of a Comprehensive Plan for Lee County. Some of the study's recommendations are specific to Greater Pine Island; others have county-wide implications.

PUBLIC INPUT

Input from area residents and land owners has been important in the formulation of the study's recommendations.

Two questionnaires have been distributed on Pine Island. The first was distributed through the Greater Pine Island Civic Association in conjunction with several civic and private groups on the Island: the St. James City Civic Association, the Matlacha Civic Association, the Greater Pine Island Chamber of Commerce, the Kiwanis Club, and all five banks on the Island. In addition, it was distributed at the Pine Island Seafood Festival and was printed in *The Pine Island Eagle*. A total of 3,500 questionnaires were distributed, in addition to those printed in *The Eagle*. There were 631 responses. The second questionnaire was distributed through the Greater Pine Island Civic Association, the St. James City Civic Association, the Greater Pine Island Chamber of Commerce, and all five banks on the Island. In addition, it was distributed as an insert to *The Pine Island Eagle*, in the 3,500 copies destined for home distribution on Pine Island. Approximately 5,300 copies in total were distributed, with 501 responses. Two public meetings for input to the Plan have been held at the Greater Pine Island Civic Association, one in the evening of June 17, 1987, the other on November 18, 1987. Each of these meetings was advertised by twenty to thirty posters strategically placed throughout the Island, by a quarter page ad in *The Pine Island Eagle*, and by repeated notices in both *The Pine Island Eagle* and *The Pine Island News*, starting one month prior to the meetings. Approximately 150 people attended the first meeting, and about 200 attended the second.

CONCEPTS UNDERLYING THE PINE ISLAND LAND USE STUDY

1. The protection of the natural resources of Pine Island is essential for the well-being of Pine Island and Lee County.

2. The unique character of Pine Island should be retained.

3. The rights of property owners should be respected.

4. The effective operation of Pine Island Road (SR 78) is critical to area residents on a

daily basis, and is of particular concern to Island residents in the event of a hurricane.

5. The following policies of the Lee County Comprehensive Plan are especially relevant to Pine Island because Pine Island is a coastal community. The Greater Pine Island Civic Association requests specifically that these policies be implemented and enforced with respect to Pine Island:

Policy III.C.7 Prohibit residential development where physical constraints or hazards exist, or require density and design to be adjusted accordingly. Such constraints or hazards include but are not limited to flood, storm, or hurricane hazards; unstable soil or geologic conditions; environmental limitations; or other characteristics that may endanger the residential community.

Policy VII.AA.2 Transportation planning shall be consistent with the demands for timely evacuation of population at risk for the Class 3 storm where environmentally and fiscally feasible.

Policy IX.A.5 Development affecting coastal and estuarine water resources shall maintain or enhance the biological and economic productivity of these resources.

Policy IX.E.7 Future development in flood prone areas shall be compatible with evacuation and public safety capabilities, including policies of the Disaster Preparedness sub-element of this plan.

Policy IX.G.11 The County shall maintain and improve marine fisheries productivity, and promote the conservation of fishery resources through the protection and restoration of finfish and shellfish habitat.

Policy IX.G.12 Non-water dependent uses of shoreline lands shall be discouraged.

Policy IX.G.15 Unmarked channels or passages that have been used to traverse shallow in-shore waters should be marked to reduce injury to marine seagrass beds.

Policy IX.G.19 The County shall prepare and adopt regulations to control the clearing of natural vegetation except where and when needed for permitted development.

Policy IX.G.22 Absent overriding public concerns, access roads and land development in the coastal zone and designated Resource Protection Areas and Transition Zones shall be strongly discouraged.

STUDY RECOMMENDATIONS

Recommendations from the Pine Island Land Use Study fall into four categories: proposed land use map amendments for the Greater Pine Island area, amendments to existing Lee County ordinances and the drafting of additional ordinances, administrative actions by Lee County, and capital improvement recommendations. Major recommendations include:

CONSERVATION AND COASTAL ZONE

1. Amend Lee Plan Policy IX.C.8 to read as follows:
   Artificial channelization of natural waterbodies shall be prohibited. Maintenance dredging of old channels and canals may be permitted in those cases where the

original channel, or canal, depth and width can be accurately determined.

2. Amend the Lee County Zoning Regulations and/or Development Standard Regulations to include the following provision:

All new planned development and new subdivisions along aquatic preserves and associated natural tributaries shall provide a 50 foot vegetated buffer between the development and the waterbody.

3. Add the following policy to the Lee Plan Community Facilities and Services Element:

Lee County shall institute a program that provides for the regular inspection of the septic tanks of existing homes.

4. Add the following policy to the Lee Plan Conservation and Coastal Zone Management:

Lee County shall encourage fixed span bridging instead of causeway islands for any new or reconstructed bridges along coastal and estuarine waters.

5. Amend Lee Plan Goal IX.G to expand the mechanisms for preserving environmentally sensitive lands, including areas of wildlife habitat.

6. Add the following policy to the Lee Plan Conservation and Coastal Zone Management Element:

Lee County shall develop a natural habitat rating system to support efforts toward the preservation of environmentally sensitive lands.

7. Initiate a Lee County study examining the feasiblity of establishing for Pine Island a program to finance the purchase of open space and resource protection areas on Pine Island for conservation and wildlife habitat.

8. Amend the Tree Ordinance to include some protection of native trees on single family lots of less than 5 acres.

9. Amend the text of the current Lee Plan to clarify that current aerial photographs and those taken within the past five years, or on-site inspection, whichever is more restrictive, shall be used to verify the correctness of Land Use Maps where mangroves are one of the elements under consideration.

10. Assess the study area's water resources and withdrawal patterns. Calculate the impact of the Island's agricultural water use.

11. Reinstate former Lee Plan Policy IX.E.10:

"Vertical seawalls shall not be constructed along natural waterbodies except where no reasonable alternative exists, and seawalls shall not be constructed along artificial canals unless an adequate littoral zone is provided. Seawalls in artificial canals where 50% of the canal or greater is seawalled or seawalls of less than 300 feet where both adjoining properties are seawalled, will be exempt from this requirement."

for Pine Island, since any seawalling on Pine Island will raise environmental issues.

12. Amend current Lee Plan's environmental protection policies to make clear prohibitions and to give clear guidelines. Words such as "should not" and "should encourage" will be eliminated wherever possible.

RESIDENTIAL LAND USE

1. Amend Lee Plan Table 2, footnote 3, to provide:
"No land shall be rezoned on Pine Island, exluding the Matlacha Urban Service Area, to a Zoning District which permits a density higher than three (3) dwelling units per gross acre." (Remainder of current footnote is to be deleted)

2. Amend the Lee Plan Land Use Map for Pine Island to correspond with the Land Use Plan Map for Pine Island adopted by the Greater Pine Island Civic Association. The draft Pine Island Land Use Map generally provides that areas within Bokeelia, Pineland, St. James City, the northern section of Pine Island Center, Tropical Homesites, and Flamingo Bay, are designated as Outlying Suburban, a land use category that has a maximum density of three units per acre. Neighborhood commercial centers are allowed, subject to conformity with adopted site location standards.

The Pineland Marina area and the southern portion of Pine Island Center also have a maximum residential density of three units per acre. Community Commercial centers, public, quasi-public and limited light industrial uses are permitted in the southern portion of Pine Island Center subject to conformity with adopted site lcoation standards. The Pineland Marina area would allow limited non-residential uses. These two areas are classified as Urban Community with a notation indicating their density limitations.

The Platted areas are characterized by lots of less than one acre in size which are not yet a part of the urban service area. The study recognizes that although these platted areas are often developing without the customary urban infrastructure, particularly adequate roads and drainage, they should be fairly depicted on the proposed Land Use Map. Property owners in these areas are already covered by the Lee Plan's "Single Family Residence Provisions". In calculating the potential development of Pine Island, these areas have been assigned their recent growth rates.

The Rural areas are to remain predominantly rural in nature, allowing low-density residential use and the minimal non-residential uses needed to serve the rural community. Maximum density in the Rural area is one dwellling unit per acre.

The Resource Protection areas exhibit soil types, hydrology and vegetative characteristics of saltwater wetlands. These areas are unsuitable for any but extremely low density development. Maximum density is one dwelling unit per forty acres.

It should be noted that while the terminology of Lee County's land use categories may change during its 1988 amendment, it is the intention of the Greater Pine Island Civic Association that the maximum residential densities and listing of other permitted uses described above be maintained on any future mapping of Pine Island.

3. Amend the Lee Plan's Land Use Table 2 to provide that no development on Pine Island may utilize any bonus density points.

4. Require areas of individual small single family lots to provide adequate roads and drainage once each area is more than 50% built-out, in conjunction with an agreement to schedule areawide lot dimensional and setback variances for a limited number of areas on Pine Island that have lots which are substandard in size today.

5. Amend the Lee Plan to prohibit the application of the following on Pine Island, "Owners of land containing Resource Protection Areas and Transition Zones adjacent to

... Urban Community Service Areas may transfer density to developable contiguous uplands at the same underlying density as is permitted for those uplands."

6. Establish an interpretation of the County Zoning Regulations that, on Pine Island, the storage of fishing gear and traps at a fisherman's private residence is not to be construed as a commercial use and is not to be prohibited.

7. Retain the current height limitations for buildings on Pine Island (Ordinance 80-20).

8. Amend the Lee Plan to provide that the Planned Development District Option shall not be utilized on Pine Island.

9. Amend the Lee Plan to specifically provide that no Lee Plan Map change shall be adopted for Pine Island that provides for a net increase in development on Pine Island until a four-lane facility is constructed from the mainland to Pine Island.

COMMERCIAL LAND USE

1. The Pine Island Center Urban Community Area is targeted as the Urban Service Area suitable for commercial and light industrial uses subject to all of the other Lee Plan policies, particularly those on land use compatibility. Other Urban Service Areas on Pine Island are appropriate for in-fill commercial or marine uses only.

2. Encourage new commercial development on Pine Island to present an architectural style that reflects existing historic architecture, such as the Captain's House in Bokeelia..

3. Amend the Lee County Zoning Regulations (Section 301.01) to clarify that a rezoning request for marinas (CM category) and fish houses (IM category) could be considered in the Urban Community, Outlying Suburban, Platted or Rural Land Use Categories, if the specific location is appropriate, and no new dredging is required.

4. Establish a policy that upon destruction of a fish house by fire, storm, etc., the owner shall retain the right to rebuild on the original location.

INFRASTRUCTURE

1. Initiate a County sponsored study as to the need for a central wastewater treatment system for Bokeelia, St. James City or Pine Island Center. This analysis would include, at a minimum, for any area needing a central wastewater system, the availability of facility sites and a financial feasibility analysis.

2. Evaluate the benefit of improvements to Pine Island Road (SR 78) in the County's Capital Improvements Program to ensure the facility's continued operation at LOS "C" or better on an average annual basis. These potential improvements include the widening of SR 78 to twelve feet per lane, the widening of roadway shoulders to six feet, the construction of minor intersection improvements at Stringfellow Road, the raising of the flood-prone portions of SR 78, and the paving of two "passby" lanes in Matlacha (see Appendix C for locations).

3. Initiate a County study regarding the right-of-way width adopted in the Trafficways Map and prepare appropriate amendments. Priority should be given to the segment of 200 foot right-of-way of SR 78 through Matlacha and to the right-of-way of

Stringfellow Road in Pine Island Center, most of which is 100 feet.

3. Evaluate the benefit of the addition to SR 78 of a one-way emergency vehicle lane for use in hurricane or other emergency situation. This lane may be constructed as a bike path along SR 78 between Burnt Store Road and Stringfellow Road, excluding the congested area of Matlacha and the congested area of Pine Island Center.

4. Initiate a re-evaluation of the County's hurricane evacuation program to consider the impact of the addition of the one-way emergency vehicle lane along the shoulder of SR 78 and the other roadway improvements.

5. Establish a policy that the County will take whatever action is feasible to increase the capacity of SR 78 between Burnt Store Road and Stringfellow Road before LOS "C" on an annual average daily basis or LOS "D" during peak hour are exceeded on that segment of the road.

6. Establish a policy that controls growth on Pine Island in such a way that the Levels of Service (LOS) on SR 78 between Burnt Store Road and Stringfellow Road, except for the business district of Matlacha, shall not exceed LOS "C" on an annual average daily basis or LOS "D" during peak hour. Such policy should give preference to the *development of the** approximately 6,800 dwelling units to which Greater Pine Island is already committed.

Not later than September 1, 1989, which is one year after the due date of this plan, the County shall consider for adoption development regulations which address growth on Pine Island and implement measures to gradually limit future development. The purpose of the regulations will be to appropriately reduce the rate and amount of development on Pine Island at established thresholds of the adopted level of service standard for SR 78.

When traffic reaches a level of service on SR 78 which is 80% of the adopted level of service for that road as provided by this plan, the development regulations shall provide for immediate implementation of restrictions on further development to include such measures as prohibiting those rezonings which would reduce the level of service on SR 78.

When traffic reaches a level of service on SR 78 which is 90% of the adopted level of service for that road as provided by this plan, the development regulations shall provide for implementation of further measures to limit development such as prohibiting the issuance of residential development orders and other measures designed to maintain the adopted level of service on SR 78 until improvements can be made in accordance with this plan.

7. Install a permanent traffic counter on SR 78 in the vicinity of the Greater Pine Island Chamber of Commerce Building, that is, east of Matlacha and Matlacha Isles but west of Burnt Store Road, so that the LOS of SR 78, which will have far-reaching consequences as explained in *6 above, may be accurately and unambiguously determined. It can reasonably be expected that in the foreseeable future Pine Island Road will continue to serve both Matlacha and Pine Island as the sole arterial connection to the mainland. Such will be the case for both normal traffic conditions and emergency traffic conditions, as for example, during a hurricane or national emergency. Thus, it is essential that the level of service on Pine Island Road be maintained at LOS "C" on an annual average daily basis, and "D" during peak hour, or better, as population

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*Italicized words were inserted 2/5/88 to eliminate ambiguity

and the volume of traffic increase. Data from the present counter, which is on Little Pine Island and west of Matlacha, are inadequate alone for this determination.

8. The methodology for determining Levels of Service on the section of SR 78 between Burnt Store Road and Stringfellow Road will be as specified for level of service determinations county-wide in the 1988 Lee Plan Amendments.

9. Improve storm water management where roads and evacuation routes flood during rainstorms.

HISTORIC AND ARCHEOLOGICAL RESOURCES

1. Incorporate into the Lee County Comprehensive Plan goals, objectives and policies for the preservation of Pine Island's historic and archeological resources. Among them should be the following:

Goal: To identify, evaluate, preserve, protect and promote the public awareness of the historical, architectural and archeological resources that serve as living reminders of the heritage of Pine Island.

Objective: To provide programs for the identification, preservation, protection, and promotion of public awareness of the historic resources of Pine Island.

Policy: Encourage development practices that protect and preserve historic resources through the use of creative incentives.

Policy: Create a historic preservation awareness program with the goal of distributing information on: 1) the significance of Pine Island historic and archeological resources; 2) rehabilitation tax credits, grants and other funding techniques; and 3) proper historic preservation methods.

Policy: Adopt as the official historic rehabilitation standards for Lee County the U.S. Secretary of the Interior's Standards for Rehabilitation.

2. Initiate a program to designate significant Pine Island structures, buildings and sites for historic and archeological preservation. The *Historic and Architectural Survey, Lee County* and the *Archeological Study of Lee County* would provide the basis for initial recommendations. Requests by individuals would also be considered.

3. Designate historic districts in Bokeelia, Pineland and Matlacha.

4. Incorporate incentives into Lee County's zoning, building and development regulations that encourage the protection and preservation of historical and archeological resources.

5. Adopt a county-wide historic preservation ordinance that creates a historic preservation advisory board with the responsibility of reviewing and issuing certificates of appropriateness for all developments impacting historic or archeological resources.

6. Reduce the future right-of-way of SR 78 through Matlacha, as adopted on the Trafficways Map. Many historic buildings are within the current 200 foot right-of-way.

LAND USE STRATEGY

In evaluating the future of Pine Island, the importance of Pine Island Road (SR 78) cannot be overestimated. It serves as the Island's only link to the mainland. The Land Use Plan proposed for Pine Island links the development potential of the Island to the capacity of SR 78. A number of steps have been proposed to increase the capacity of SR 78 for daily traffic, including increased lane width, increased shoulder width, intersection improvement at SR 78 and Stringfellow Road, and "pass by" lanes in Matlacha. To make hurricane evacuation possible, it is imperative that the low regions of SR 78, between Burnt Store Road and Pine Island Center, be raised. To add capacity in the event of a hurricane, a one-way emergency lane is proposed to be constructed on a shoulder along SR 78, thereby allowing hurricane evacuees to utilize two lanes for much of their evacuation route. These proposed improvements would allow the roadway to operate at near its theoretical capacity as a two-lane road, except in Matlacha.

The extent of the future land uses on Pine Island have been linked to the number of vehicles that can utilize Pine Island Road and still retain its operation at an appropriate level of service. The results of the second questionnaire indicate that respondents find the LOS "C" to be the worst conditions they would find acceptable on an average daily basis. The maximum number of dwelling units which could be permitted on Pine Island and maintain LOS "C" have been calculated. These calculations have considered expected development timetables, vacancy rates and housing unit types. It is expected that SR 78, in its current condition, will operate at LOS "C" on an average daily basis until 1994.* If the proposed improvements are made, the facility, except through Matlacha, should operate at LOS "C" on an average daily basis, until 1998.*

The possibility of the construction of a four-lane facility along Pine Island Road, with a Matlacha by-pass, has also been examined. With such a facility in place, a Level of Service "B" could be maintained through the year 2010* at expected growth rates. Any proposal to four-lane Pine Island Road west of Burnt Store would need to be coordinated with the efforts of the State and the City of Cape Coral.

According to the local district office of FDOT, the five year Transportation Improvement Program (TIP) calls for a preliminary planning study for improving SR 78 from US 41 to Burnt Store Road in 1990. In an effort to accelerate improvements to SR 78, the City of Cape Coral has pledged to fund both the preliminary design work and the right-of-way acquisition of SR 78 through the City. The construction of the four-lane facility is not scheduled at this time.

In addition to concerns regarding the expense of four-laning Pine Island Road west of Burnt Store Road, the viability of the residences and businesses of Matlacha under that scenario remains an on-going concern. Environmental protection issues are also significant along this corridor.

If Pine Island grows at the expected pace, the issue of what to do about SR 78 needs to be addressed well before the year 1998* when it is expected that, even if the proposed improvements have been made, the facility will operate at LOS "D" on an average daily basis. At this time there appear to be three options:

1. Accept a less desirable Level of Service on the road. At the estimated current growth rate the facility could maintain LOS "D" through the year 1998.*

*See Appendix B

2. Program the four-laning of Pine Island Road.

3. Further limit the development potential of Pine Island, particularly residential development. To the extent that new commercial and/or industrial development would make Pine Island more self-sufficient, it could theoretically decrease the trips along SR 78.

Clearly, Pine Island Road is the key to the future of Pine Island. The proposed minor improvements to the facility would allow it to operate near its full design capacity, except through Matlacha, without the commitment of the significant funding required of a four-lane facility. A detailed analysis of all possible options is mandatory.

BACKGROUND

There are many references in this section of the study to a series of maps prepared by Wilson, Miller, Barton, Soll & Peek, Inc.. A copy of this map series is available for review at the Pine Island Public Library or from the GPICA Planning Liaison Committee. It should be noted that Matlacha is not included in much of this analysis.

EXISTING LAND USE

The generalized land use patterns existing in the study areas as of 1987 are depicted on Map 1. St. James City, Tropical Homesites, Flamingo Bay, Pine Island Center, Pineland and Bokeelia are established residential communities. Limited scattered residential development is also evident.

A study complete by Lee County indicated that a total of 5,404 residential units existed in Greater Pine Island (4,256 units excluding Matlacha) in 1986. This figure reflects a significant increase over the 3,004 residential units on Pine Island in 1980. They are located as follows:

Bokeelia	1,101	Flamingo Bay	482
Pineland	139	St. James City	1,424
Pine Island Center	608	Matlacha	730
Tropical Homesites	502		

Conventional single family homes account for approximately 40.4% of the total housing units, multi-family, 6.3%, and mobile homes, 53.3%.

The area's agricultural uses have expanded recently. Map 2 depicts agricultural uses which have received exemptions as of 1986.

Commercial land uses in the Greater Pine Island area primarily consist of small-scale establishments clustered along SR 78 or along Stringfellow Road at the centers of residential development. The Winn-Dixie shopping center is the only commercial center of any magnitude. The island's marinas could be considered as commercial uses.

EXISTING ZONING

Generalized zoning patterns are presented on Map 3. A large portion of the study area is zoned agricultural (1 dwelling unit per acre). With the exception of the commercial zoning along SR 78 and Stringfellow Road, the study area is primarily zoned for varying residential uses: RS (residential single family), RM (residential multi-family), MH

(mobile home), and RPD (residential planned development). The comparison between Map 1 and Map 3 demonstrates the area's excessive zoning.

DEVELOPMENT SUITABILITY

Utilizing the Lee Plan's adopted criteria for designated resource protection areas, the areas indicated on Map 4 as exhibiting wetland vegetation or wetland soils would merit a maximum residential density of 1 unit per forty acres. Other factors influencing the development suitability of the study area are topography (Map 5), flood insurance regulations (Map 6), and the area's property ownership pattern (Map 7).

The availability of public services including potable water and sewer facilities, public parks and transportation facilities serve to either limit or encourage development. The locations of the water lines of the Greater Pine Island Water Association, Inc. are depicted on Map 8. Sewage treatment facilities are more limited. Matlacha has a central wastewater treatment collection system; the treatment plant is located on Little Pine Island on land leased from the Florida Department of Natural Resources. A number of package plants serve various mobile home and other developments. A significant percentage of Pine Island's residents utilize septic tanks. The effectiveness of the older individual septic tanks, particularly those in low-lying areas, has been questioned. The study recommendations address the need to monitor septic tanks and to evaluate the feasibility of central wastewater systems for parts of the study area. The locations of public parks are indicated on Map 9.

The area's transportation network (Map 10) has been the subject of extensive discussion. Traffic counts on SR 78 and Stringfellow Road since 1980 and the current roadway conditions have been evaluated. Currently SR 78 does not meet the ideal characteristics for a two-lane facility in its lane width, shoulder width and intersection separation.

The hurricane evacuation potential for SR 78 has also been evaluated. With present technology, there are many unknown variables in predicting the amount of time it would take to safely evacuate Pine Island. Presently, Pine Island is often cut off by torrential rains and rising water before a hurricane evauation order would normally be given (as with the "No-Name" storm in 1982 and with the approach of Floyd in 1987). After the low regions of the road have been elevated, it is estimated that the residents from 4,680 to 7,230 dwelling units could be evacuated from Pine Island in the event of a hurricane. This range reflects the difference between twelve and eighteen hours warning time. The population accommodated by the draft land use plan (an estimated 6,843 dwelling units, assuming 75% occupancy) falls in the upper part of this range.

POPULATION

In 1976, the Lee County Planning Department estimated for Greater Pine Island a permanent population of 4,800, and approximately 5,600 in season. In 1980 Pine Island, excluding Matlacha, had a permanent resident population of 3,841. (Of this total population, 1,521 or 40% were 62 years of age and over.) Using the 1980 Census relationship between population and housing units, it is estimated that the permanent population of Pine Island in late 1986 was approximately 6,480, or 5,110 excluding Matlacha.

CONSERVATION AND COASTAL ZONE

Pine Island is almost surrounded by aquatic preserves - the Pine Island Sound Aquatic

Preserve, the Charlotte Harbor Aquatic Preserve, and the Matlacha Pass Aquatic Preserve. The island is heavily fringed with mangroves and much of the inshore water supports lush meadows of seagrasses. These features contribute importantly to the productivity of the marine fisheries of the Charlotte Harbor region. About one-fifth of Pine Island's permanent population depend directly on commercial fishing for their livelihood. Most of the catch is funnelled through the island's six fish houses for an annual net worth to the fishermen of seven to eight million dollars. The magnitude of the ripple effect of this is unknown, but it obviously contributes to the income of many other businesses on Pine Island and in the rest of Lee County. In addition, many other Pine Islanders, as well as residents from the rest of the County, engage in recreational fishing and boating around Pine Island. Access to the water, together with a relatively low cost of living, are undoubtedly the main features that attract new residents to Pine Island. The recreational fishing and boating activities support several marinas, marine supply stores, and bait shops. These activities on Pine Island account for a significant proportion of Lee County's annual 150 to 200 million dollar recreational boating and fishing industry.

It is therefore important, economically and recreationally, to both Pine Island and Lee County, that future development on Pine Island be in accord with the Goals and Objectives of the Charlotte Harbor Management Plan. Most specifically, care should be taken that neither new nor old development will further destroy or degrade marine fisheries habitat or the quality of the waters around Pine Island. In addition to prohibiting the destruction or stressing of healthy mangrove stands, steps should be taken: 1) to actively protect seagrass beds; 2) to discourage the seawalling of man-made canals as well as natural water bodies; 3) to decrease pollution of the ocean by human wastes, from both old and new development; and 4) to control and purify runoff from both old and new development.

HISTORIC AND ARCHEOLOGICAL RESOURCES

The historic resources of Pine Island are an integral part of the environment. The unique vegetation associated with archeological sites is essentially irreplaceable as are the historic buildings that reflect the early settlement of Lee County. Most of Lee County's most important archeological treasures are located on Pine Island, especially at Pineland, which is listed in the National Register of Historic Places. A recent archeological study found that most of the coastal fringe of Pine Island as well as the smaller mangrove islands are within zones of archeological sensitivity and possess a high probability of containing sites.

The *Lee County Historic and Architectural Survey* identified many buildings associated with the early settlement of the island. Historic buildings were located in most of the populated areas of the island including St. James City, the Pine Island Center, Matlacha, Pineland, Bokeelia, and Little Bokeelia. Several areas may be defined as historic districts, in that concentrations of buildings are found that are linked through historical association, geographical setting and the passage of time. These districts are scenic resources in that they create an atmosphere that has become identified as "island style" architecture. The districts of greatest significance are located at Bokeelia, Pineland and Matlacha. In these communities, it may be said that while all individual buildings do not necessarily stand out as significiant, each contributes to the overall fabric and character of the area.

The *Historic and Architectural Survey* described the resources found on Pine Island and made several recommendtions for the preservation of these resources. The text of that

study is provided below:

Community: BOKEELIA and LITTLE BOKEELIA

Description: Bokeelia is an island located at the northern extremity of Pine Island. The name is said to derive from the Spanish Boquilla, or Little Mouth. The area was settled at the turn of the century for agricultural and marine uses and was formally subdivided into lots in 1908 and 1914. The first house was built in 1904 by H.W. Martin and still stands today as part of a restaurant and boarding house. The first post office was located inside. In 1906 the Howard family arrived and built a house atop the Howard Mound, an archological site. Several other houses were built along Main Street, with Charlotte Harbor to the north and Jugg Creek to the south. The Captain's House was built around 1916 and the Harry Poe Johnson house in 1912. To the south of Jugg Creek, several other homesteads were built in the teens and early twenties. The Honc Nursery was started in 1917 on Tropical Lane and made Pine Island famous for its mangos and other tropical fruits.

The island of Little Bokeelia was developed as the estate of the Burgess family of Burgess Battery. This Mediterranean Revival complex can be seen from Burgess Bay or Charlotte Harbor and is a significant aspect of the landscape.

Significance: The resources found along Main Street in Bokeelia are fully intact and represent the early development of Pine Island. The area comprises a historic district and may be eligible for the National Register of Historic Places.

Burgess Island is also eligible as a landmark listing on the National Register.

Planning Considerations: The historic resources of Bokeelia are largely waterfront and as such are threatened by development. Several of the more significant buildings of the district stand vacant and are for sale. A local historic preservation program should provide incentives for the rehabilitation of these structures.

Community: MATLACHA

Description: The community of Matlacha lies in a long narrow strip along the right of way of SR 78, or Pine Island Road. The road is lined with tiny one and two-room vernacular houses and commercial buildings erected on the remains of the fill created by the construction of the Matlacha Pass Bridge in 1926. Over 25 buildings were recorded along this narrow stretch. Buildings are wood frame vernacular style and are considerably altered. Many have small docks to the rear on the water.

Significance: The historic resources of Matlacha are significant as a concentration rather than on an individual basis. The collection does not comprise a National Register district. The character and scale of this tiny fishing village is based on the many small vernacular buildings.

Planning Considerations: The right of way of SR 78 probably extends into the structures of many of the buildings in Matlacha. A road widening project would severely impact the resources. Careful planning is recommended so as not to totally disrupt the scale and placement of the buildings.

Community: ST. JAMES CITY

Description: St. James City, located at the southern extremity of Pine Island, was platted as early as 1895 but was not developed until after 1911 when the sisal factory was built. The factory, as well as a large hotel were lost to major fires soon after. Today St. James City is a quiet residential area with a scattering of historic houses. Historic resources are small wood frame houses in the vernacular style. An early school house and post office were recorded, both in other uses today.

Significance: The historic resources of St. James City are scattered and thus do not comprise a historic district. The individual structures represent the early history of Pine Island, however, they are either very altered or in a deteriorated condition.

Planning Considerations: The resources of St. James City are not eligible for the National Register of Historic Places and do not comprise a district. Few are threatened from development, with deterioration being a greater threat. Positive incentives for rehabilitation may be considered in encouraging their preservation.

Community: PINELAND

Description: The community of Pineland lies on the western shore of Pine Island just north of the geographical center of the island. Pineland is today a low density single family residential area with increasing development trends. The coastal area of Pineland is rich in archeological resources, including mounds and the remains of an Indian-dug canal. Early settlers to Pineland built their houses atop these mounds. These structures were recorded. They are frame vernacular buildings with elements adapted to the coastal environment. The 1911 Adams house, atop a mound, is a fine structure with Colonial Revival elements. The 1925+ post office was recorded and is still in use today.

Significance: The significance of the resources located in Pineland is largely archeological although the structures dating to the historical period merit preservation. The structures are in good condition and reflect the methods and materials of early construction on Pine Island. The large amount of open space contributes to the setting the resources enjoy, as does the waterfront environment.

Planning Considerations: Pineland is being developed at an increasing rate. Incentives for the protection of archeological and historical resources are recommended.

ESTIMATES OF RECENT GROWTH RATE FOR GREATER PINE ISLAND

Year	Water Meters	%Change	Electric Meters	%Change	Telephone Access Lines	%Change	Estimated Dwelling Units	%Change*	AADT#	%Change
1981	2999		4238		3576		4483			
1982	3138	4.6	4420	4.3	3831	7.1				
1983	3352	6.8	4687	6.0	4099	7.0				
1984	3532	5.4	4994	6.6	4283	4.5			5581	
1985	3702	4.8	5199	4.1	4589	7.1			6427	15.2
1986	3921	5.9	5391	3.7	4913	7.1	5404		7050	9.7
Mean		5.5		4.9		6.6		4.1		12.4

The grand average of these means is 6.7%.

Given the range and great variability among these five estimates of growth, the committee's best guess is that the growth of Pine Island since 1981 has probably been similar to that of Lee County as a whole, that is, an annual compound growth rate of 5.25%.

* annual
\# from the permanent traffic counter on Little Pine Island, placed there in April, 1984

UNIVERSITY OF FLORIDA'S BEBR PROJECTIONS FOR LEE COUNTY POPULATION

Year	Medium Range	High Range
1986	(277,375)	(277,375)
1990	327,700	344,000
1995	380,900	419,000
2000	430,100	494,700
2005	482,200	578,700
2010	512,400	640,500

ESTIMATES OF TRAFFIC GROWTH ON PINE ISLAND ROAD

In linking the future development of Pine Island to the carrying capacity of Pine Island Road, what is most needed is a good estimate of future traffic on Pine Island Road, between Pine Island Center and Burnt Store Road. Unfortunately, such an estimate is difficult to obtain. The estimate should be based on three measures: the current level of traffic; the rate of increase in the recent past; and some guideline for future rates of increase. We have no satisfactory data for any of the three.

We have traffic counts from a permanent counter on Little Pine Island, but the added traffic burden from Matlacha is unknown and estimating it involves making several guesses that the Planners would rather not make. For estimating the recent past, there are (hopefully reliable) traffic counts on Little Pine Island for only three years. There are several methods available for estimating growth in the recent past, including some traffic data. However, none of these estimates agree (See appendix A). The data from the three utilities indicate a growth rate of 5.7%. But the dwelling unit data presented by one Planner show an increase of only 4.1%. The second Planner claimed a growth rate 4.0%, but would not produce any data to support it. In addition, if one travels our section of Pine Island Road, particularly in the morning peak hours, one is impressed by the volume of traffic that is not related to current dwelling units: boats on trailers headed for our marinas, trucks carrying building materials, carpenters, roofers, etc., etc.

One way of looking to the future is to assume that Pine Island will grow at a rate that is either slower, the same as, or faster than the rest of Lee County. The committee prefers this approach to other possibilities because it allows us to use professional projections, that is, the University of Florida's BEBR medium projection for growth that is slower than the rest of the County, or the high projection for growth that is the same as the rest of the County. The Planners prefer the assumption that Pine Island will grow at a rate that is slower than the County as a whole. The committee considers this to be somewhat unrealistic. Given the availability of moderately priced land on Pine Island and the accessibility to the water, we feel that Pine Island is likely to grow as fast as the rest of the County, at least until the traffic situation on Pine Island Road becomes intolerable to many people. In addition, we feel that the four-laning of Pine Island Road through Cape Coral, right up to our doorstep, with the subsequent growth, and the new high school (Mariner) closer to Pine Island, makes it likely that over the next twenty years Pine Island may grow faster than the County as a whole.

To get a picture of what some of the various possibilities could produce, the committee has analyzed three scenarios. In column A below, the limited traffic data available are used, starting with the 1986 AADT and the 12.4% annual increase (which seems very high). This rate of increase has been scaled down, over time, in proportion to the BEBR medium projection for Lee County's population growth, so that it goes from 12.4% in 1986 down to 2.83% in 2005.

In column C, at the other extreme, the past growth in traffic at the counter is ignored, but the 1986 AADT is again the starting point. It is assumed that the growth in traffic will be less than that for Lee County as a whole, and

the calculated increments in the AADT are directly proportional to the BEBR medium projection.

The results in column B were obtained in the same way as those in column C except that it was assumed that the growth in traffic would correspond with the overall growth of Lee County, so the increments in the AADT are directly proportional to the BEBR high projection. These are the assumptions preferred by the committee. The results are between the two extremes. The estimated dates in the text of the Plan are from this column.

It should be remembered that in all of the estimates below the contribution of Matlacha to the total traffic on Pine Island Road has been ignored. The traffic, both in Matlacha, and between Matlacha and Burnt Store Road will probably be higher than the estimates below.

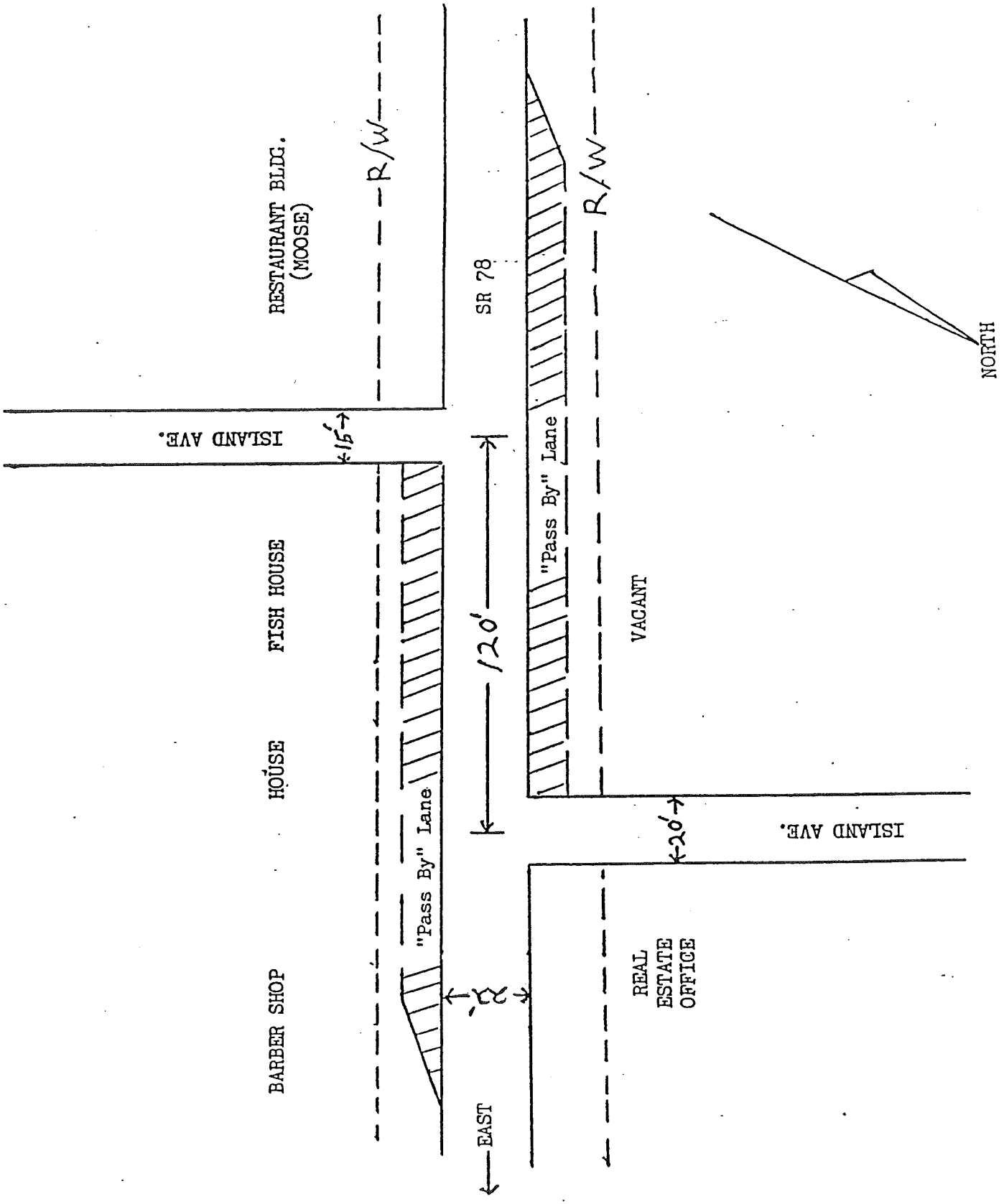
Average Annual Daily Traffic (AADT)

Year	A	B	C
1986	7,050	7,050	7,050
1987	7,759	7,473	7,370
1988	8,540	7,897-LOS C	7,690
1989	9,399	8,320	8,009-LOS C
1990	10,344-LOS d	8,744	8,329
1991	11,089	9,125	8,599
1992	11,888-LOS D	9,507	8,870
1993	12,744-LOS e	9,888	9,140
1994	13,661-LOS E	10,270-LOS d	9,411
1995	14,645	10,651	9,681
1996	15,509	11,036	9,931
1997	16,424	11,421	10,181-LOS d
1998	17,393	11,805-LOS D	10,432
1999	18,419	12,190	10,682
2000	19,506	12,575	10,932
2001	20,565	13,002-LOS e	11,197
2002	21,681	13,429	11,462
2003	22,859	13,856	11,724-LOS D
2004	24,100	14,283-LOS E	11,991
2005	25,409	14,710	12,256
2006	26,128	15,024	12,410
2007	26,867	15,338	12,563-LOS e
2008	27,627	15,652	12,717
2009	28,409	15,966	12,870
2010	29,213	16,281	13,024

Lower case LOS (Level of Service) is for the road in its current condition (Calculated as a capacity of 1600 less than the theoretical 2 lane road)
Upper case LOS (Level of Service) is for an improved 2 lane road.

Appendix C

Proposed "Pass By" Lanes
in Matlacha



ITEMS SHOWING CONSENSUS (2/3rds or more) - FROM THE TWO QUESTIONNAIRES

(There were 631 responses to the 1st questionnaire; 501 to the 2nd)

Density of Development:

- Limit rate of growth of population - YES (77%)
- Limit final population - YES (84%)
- Limit density of new development to 3 du/ac or less - YES (85%)
- Exclusion of Pine Island from areas where development rights can be transfered from mangroves to adjacent Urban Land Use Areas - YES (69%)

Traffic circulation:

- Elevate S.R. 78 - YES (77%)
- Preserve Matlacha - YES (73%)
- Want LOS 'C', or better, on Pine Island Road - (92%)
- Some limitation on new construction at 90% of 'C' in summer, 'D' in winter - YES (82%)
- Restriction of Development Orders if worse than 'C' in summer, 'D' in winter - YES (84%
- Any 4 laning of Stringfellow before S.R. 78 elevated - NO (90%)
- Any 4 laning of Stringfellow before 4 lanes to Pine Island - NO (82%)
- Restriction of Development Orders if S.R. 78 inadequate for evacuation - YES (83%)

The Aquatic Environment:

- Preserve mangroves - YES (87%)
- Preserve sea-grasses - YES (85%)
- Elimination of Sanibel causeway - YES (92%)
- Dredging of new channels around Pine Island - NO (81%)
  - Maintenance dredging of established channels - YES (84%)
- Limit impervious surfaces - YES (71%)
- Control runoff - YES (83%)
  - Buffer of native vegetation between new development and salt water - YES (86%)
- Better sewage disposal - YES (85%)
  - Inspection of septic systems when homes change hands - YES (81%)
  - (Central sewers for given areas - YES = 44%, but only 26% willing to pay for them)

The Land Environment:

- Limit new commercial activity to Pine Island Center - YES (77%)
- Keep current height limitations for new construction - YES (76%)
- Try to attract new industry - NO (82%)
- Preserve archeological and historical sites - YES (68%)
  - Modify building standards to preserve historical structures - YES (87%)
- Preserve wildlife habitat - YES (96%)
  - With funds from County - YES (75%)
  - With funds from donations - YES (56%)
  - With tax on real estate transactions - YES (72%)
  - With incentives to developers - YES (62%)
- Reasonable preservation of native trees on house lots - YES (75%)
- Storage at home of boats, trailers, nets, traps, etc. - YES (83%)
- Encourage a single style of architecture for new commercial buildings - YES (79%)

Boat Ramps:

- Want proposed four-lane County boat ramp now - NO (85%)
  - Two-lane County boat ramp after S.R. 78 considered adequate - NO (53%)
- Privately funded Pine Island boat ramp - NO (64%)

PRELIMINARY SURVEY OF PINE ISLANDERS (631 RESPONDENTS)

1) Please rank the items below in the order of their importance to you by using the numbers 1 to 11 (with 1 being most important) and remembering that most items have to be paid for. (The average ranking is given below)

2.91 B. Fresh water (quality and quantity)
3.95 A. Provision of services (fire, police, school, etc.)
4.18 C. Environmental protection (sewage disposal, mosquito control, etc.)
4.19 E. Limiting population and housing densities
4.75 D. Resource preservation (protection of mangroves, sea grasses, fish, eagles, etc.)
5.51 F. Traffic circulation (quality & capacity of roads, both on and onto Pine Island)
7.22 J. Making the zoning on Pine Island consistent with the Comprehensive Land Use Plan
7.72 K. Preserving historical and archeological(shell mounds) sites
7.92 H. Recreational opportunities (boat ramps, bike paths, fairground, parks, etc.)
8.58 I. Provision of cultural resources (museums, libraries, play-houses, etc.)
8.88 G. An expanded economic base (greater variety of employment opportunities)

2) The number of fish in our waters will decrease: a) as the number of people who fish increases; b) as the water gets more polluted; and c) as fish habitat is destroyed. One of our major sources of pollution is "run-off", that is, the carrying of fertilizers, pesticides, oil, etc. from our lawns, roads, driveways, groves, etc. into the ocean by heavy rains. This can be partially controlled by buffer zones, that is, areas of natural vegetation between development and mangroves or ocean. Which of the following measures for preserving our fish populations do you favor? Please check as many as you think are appropriate.

529 A. Limiting the future population of Pine Island
522 B. Controlling run-off by means of buffer zones
534 C. Better methods of sewage dosposal
545 D. Preserving mangroves
537 E. Preserving sea-grass beds
6 G. None of the above

3) Our fresh water supply is decreasing as more and more people come to Florida. The increasing population both increases the demand for water and decreases the supply by covering the ground with more and more impervious structures (buildings, roads, parking lots, etc.). Which of the following options for PIne Island do you favor in order to maintain an affordable supply of drinking water? Please check as many as you think are appropriate.

488 A. Limit the rate of growth of the population
446 B. Limit the final population
449 C. Limit the amount of impervious surface per person
59 E. None of the above

4) Do you favor the protection of mangroves, including prohibiting the building of roads through mangroves except where needed for the public good?

549 A. Yes
50 B. No
25 C. No opinion

5) As our population grows we will need better roads, both for general traffic circulation and for hurricane evacuation. Which of the following do you favor? Please check as many as you think are appropriate. (Please remember roads and bridges have to be paid for.)

486 A. Elevating the low spots in Pine Island Road
380 B. Widening Pine Island Road to 4 lanes
164 C. Widening Stringfellow to 4 lanes
73 D. A new bridge to Bokeelia
83 E. A new bridge to Master's Landing
99 F. A new bridge to St.James City
33 H. None of the above

6) If Pine Island Road needs to be increased to 4 lanes, which of the following do you favor?

52 A. Destroying as much of Matlacha as needed
305 B. Bypassing Matlacha with 2 new lanes
154 C. Bypassing Matlacha with 4 new lanes
89 D. No opinion

7) Are you in favor of preserving archeological (shell mounds) and historical sites on Pine Island, even though it will cost us money to do so?

426 A. Yes
106 B. No
86 C. No opinion

8) There are probably at least 3000 homesites on Pine Island that have been created by subdivision and that have not, as yet, been built on. In addition, there are many hundreds of acres of land not yet subdivided. What density of homes do you think should be permitted during future subdivision? Please check as many as you think are appropriate.

	Density	Sample lot size (in feet)
119 A.	1 home per 5 acres	450 x 450
181 B.	1 home per acre	200 x 200
165 C.	2 homes per acre	140 x 140
138 D.	3 homes per acre	115 x 115
70 E.	4 homes per acre	100 x 100
15 F.	5 homes per acre	90 x 90
12 G.	None of the above	

9) As our population grows, we will need more commercial development (stores, restaurants, professional buildings, etc.). Where do you think this should be located? Please check as many as you think are appropriate.

124 A. Bokeelia
67 B. Pineland
488 C. Pine Island Center
133 D. St. James City
132 E. All along Stringfellow (like U.S. 41)
48 G. None of the above

10) The height of buildings on Pine Island is currently limited to 38 feet above grade, or 45 feet above mean sea level (whichever is less). Do you think that this maximum height should be:

480 A. Kept the way it is
15 B. Increased
115 C. Decreased
17 D. No opinion

11) We could make an active effort to bring more industry to Pine Island. On the positive side, this would create more jobs and stimulate the building trades. On the negative side, it would bring more people to Pine Island to fill the jobs and cause an increased strain on roads, schools, sewers, fire protection, the environment, and the commercial fishing industry. Do you think that we should try to attract more industry?

71 A. Yes
519 B. No
27 C. No opinion

SUMMARY OF RESPONSES OF PINE ISLANDERS TO SECOND SURVEY FOR A NEW LAND USE PLAN

1. Are you willing to have building codes or standards modified in order to preserve currently identified historical structures that may be substandard?
   409 A. Yes
   62 B. No
   15 C. No opinion

2. Do you favor the identification and creation of protective areas to preserve the habitat of the endangered wildlife on the island?
   464 A. Yes
   19 B. No
   12 C. No opinion

3. If you answered yes to Question #2, would you favor
   377 A. the purchase of such areas by the County
   280 B. the purchase of such areas by private donation
   309 C. the provision of incentives to developers to preserve such areas
   7 D. No opinion

4. In 1983 the island of Nantucket, in Massachusetts, approved a local 2 percent tax on property sales to finance the purchase of open space for conservation and public use. Now roughly a third of the island is in this "land bank." Would you be in favor of doing a similar thing on Pine Island in order to preserve some of the more fragile or more beautiful areas of the Island?
   318 A. Yes
   124 B. No
   35 C. No opinion

5. Regarding the construction of new buildings - should the removal of native trees, 10 feet or more in height, be limited to the area where the home/structure (including parking and sewage treatment areas) will be placed?
   337 A. Yes
   115 B. No
   31 C. No opinion

6. Do you favor the development of a sand beach at the Matlacha Park?
   201 A. Yes
   222 B. No
   69 C. No opinion

7. On Pine Island, as elsewhere, owners of marinas may find it advantageous to put their property to other uses (e.g., to build condominiums) One possible means of preserving existing marinas (particularly those with boat ramps open to the public for a fee) is to offer the owners a significant reduction in property taxes if they would accept a new zoning of MARINA that would restrict the use of the property to a marina only (with maintenance of a public boat ramp). A reduction of property taxes on marina sites would necessitate a slight increase in taxes on other property.

I. Are you interested in maintaining boating access from Pine Island marinas?

__200__ A. Yes
__249__ B. No
__27__ C. No opinion

II. If you answered yes to Part I above, would you be willing to offer the owners of marinas a 50% reduction in their property taxes if they accepted the MARINA zoning described above? . . .

__92__ A. Yes
__85__ B. No
__7__ C. No opinion

8. Do you favor the creation of a central sewer system in any of the following neighborhoods?

__120__ A. Bokeelia Do you live there? __53__ yes ____no
__93__ B. Pine Island Center Do you live there? __19__ yes ____no
__137__ C. St. James City Do you live there? __58__ yes ____no
__73__ D. Pineland Do you live there? __4__ yes ____no
__70__ E. Tropical Homesites Do you live there? __6__ yes ____no
__104__ F. Flamingo Bay Do you live there? __10__ yes ____no
____ G. Other - where? _____ Do you live there? ____yes ____no

TOTALS - SEWER YES: 221 SEWER NO: 280

9. If you answered yes to any of the locations in Question *8 above, and if you live in that neighborhood, please answer this question:

Would you be willing to pay your share of the cost of a central sewer system for your neighborhood? (It has been estimated that a neighborhood central sewer may cost each home owner approximately $2,500-$3,000, payable as a lump sum or in monthly installments over 10-20 years with interest)

__132__ A. Yes
__128__ B. No
__37__ C No opinion

10. Are you in favor of encouraging a style of architecture that reflects the "island heritage" for new commercial buildings on Pine Island?

__354__ A. Yes
__92__ B. No
__45__ C. No opinion

11. Do you believe that further County restriction on the amount of new construction on property which is already zoned and/or platted should be placed on the Island?

__355__ A Yes
__187__ B No
__36__ C. No opinion

12. A recent amendment to Lee County's Comprehensive Plan allows the transfer of housing density development rights from mangroves to contiguous Urban Community property at the same density as allowed in the Urban Community Area. For example, if you owned a 20-acre parcel that was half mangroves and half in Urban Community, you could develop the 10 acres in Urban Community at 12 dwelling units per acre instead of the 6 per acre otherwise allowed.
Would you like to see Pine Island excluded from this new provision?
315 A. Yes
142 B. No
31 C. No opinion

13. In order to decrease pollution of the ocean from run-off, would you be in favor of requiring new subdivisions (not to include existing lots) to leave a 50 foot buffer of native vegetation (not to be sprayed or fertilized) between the development or subdivision and any body of water that feeds into the ocean?
403 A. Yes
66 B. No
24 C. No opinion

14. It appears to be common knowledge that some of our older construction does not have adequate sewage disposal facilities, and is thus contributing heavily to the pollution of the waters around Pine Island. Would you be in favor of requiring a Health Department inspection to determine if an adequate septic system exists whenever an existing home on Pine Island changes ownership?
380 A. Yes
89 B. No
15 C. No opinion

15. By diverting the flow of water from the Caloosahatchee, the Sanibel causeway has caused a decrease in the salinity, and probably an increase in the pollution, of most of the water around Pine Island. Are you in favor of eliminating as much of the causeway as possible when the new bridge is put in?
404 A. Yes
34 B. No
51 C. No opinion

16. Are you in favor of permitting the dredging of new channels in the waters around Pine Island?
89 A. Yes
392 B. No
13 C. No opinion

17. Are you in favor of permitting maintenance dredging of old channels in those cases where the original depth and width can be accurately determined?
[illegible] A. Yes
[illegible] B. No
[illegible] C. No opinion

18. Are you in favor of allowing people to store their boats, boat trailers, fishing gear, [illegible] at their private residences?
[illegible] A. Yes
[illegible] B. No
[illegible] C. No opinion

One of the most important issues that must be addressed by Pine Island residents during the current planning process is the adequacy of roads, and particularly of Pine Island Road. Most of the following questions seek your opinion regarding road-related issues.

The adequacy of a road is stated in terms of a "Level of Service" (LOS). The LOS is determined by the physical characteristics of the road and the measured amount of traffic on it. Each LOS can also be described in words, as follows:

*LOS "A": free flowing traffic with each vehicle generally unaffected by the presence of other vehicles

*LOS "B": free flowing traffic with operating speeds beginning to be somewhat restricted by traffic conditions

*LOS "C": high volume traffic flow with operating speeds and maneuverability of most drivers restricted by the higher traffic volume

*LOS "D": high density traffic flow with severely restricted speed and maneuverability, delays at intersections, and low levels of comfort and convenience for drivers

*LOS "E": delays to all motorists due to congestion, long lines of backed-up traffic with lengthy delays at intersections

*LOS "F": breakdown of traffic flow with bumper-to-bumper and stop-and-go conditions

19 In your opinion, what is the poorest level of service (LOS) that should be tolerated on Pine Island Road before the road is improved to increase its capacity and safety under normal (not emergency) conditions? Check one of the following:

23 A) LOS "A"
208 B) LOS "B"
191 C) LOS "C"
26 D) LOS "D"
10 E) LOS "E"
2 F) LOS "F"
13 G) No opinion

20 Traffic Circulation Policy IV.A.1 of the Lee Plan states: "Assure that transportation corridors combine cost effectiveness with minimum service standards. Design roadways and intersections to operate at Level of Service 'C' or better on an annual average basis (AADT - Annual Average Daily Traffic Level) and Level of Service 'D' or better during the peak season."

Do you favor restricting some types of new construction on Pine Island when 90% of either of these levels is reached for Pine Island Road?

[illegible] A. Yes
[illegible] B. No
14 C. No opinion

21 It could be possible for the Pine Island Plan to direct the County to restrict the issuance of Development Orders if a satisfactory level of service for Pine Island Road does not exist, or is presently exceeded. (A Development Order is generally required for real estate developments other than single family or duplex residences on single lots) Do you think such a restriction is a good idea?

384 A) Yes
73 B) No
15 C) No opinion

22. Are you in favor of spending available road improvement funds to widen Stringfellow Road to four (4) lanes through Pine Island Center
    I. before the low spots in Pine Island Road are elevated?
    46 A. Yes
    434 B. No
    6 C. No opinion
    II. before there are four (4) traffic lanes to Pine Island?
    77 A. Yes
    344 B. No
    15 C. No opinion

23. The above questions concern the adequacy of Pine Island Road under "normal" conditions. Because Pine Island Road provides the only way to leave the Island by automobile, it is important to consider Pine Island Road as a hurricane evacuation route. Presently Pine Island Road floods during thunderstorms and during certain high tides. An appreciable part of Pine Island is predicted to be under water with the mildest (Category 1 - winds 74-95 mph) hurricane (sea surge predicted to be up to 7.7 feet above mean sea level) and practically all of the Island may be under water in a Category 2 storm (sea surge 9.6 feet). A minimum of 6,000 people (many more in November) on Pine Island will be vulnerable to the effects of wind and sea surge, and will be joined in evacuation attempts on Pine Island Road by people from the islands to the west (Useppa, Upper Captiva, etc.)

    With the above factors in mind, should residential Development Orders be restricted at any time that Pine Island Road is declared an unsafe evacuation route by hurricane experts?
    370 A) Yes
    75 B) No
    24 C) No opinion

Construction of a County Boat Ramp on Pine Island would contribute to increased vehicular and trailer traffic on Pine Island roads. Without substantial improvements, it is expected that LOS of "C" will be exceeded on Pine Island Road within the next few years.

24. Lee County is receiving input regarding the construction of a four lane public boat ramp with an adjacent parking lot on Pine Island. Are you in favor of such a boat ramp?
    74 A. Yes
    412 B. No
    6 C. No opinion

25. If you answered no to question *24, please answer this question. Would you be in favor of a two lane County boat ramp on Pine Island
    13 A. now
    27 B. when Pine Island Road has been improved so that you consider it an adequate hurricane evacuation route
    12 C. when Pine Island Road has been improved so that it can be expected to operate at an LOS of "C" for at least five years
    102 D. when both conditions B and C, above, are met
    219 E. None of the above
    4 F. No opinion

26. Are you in favor of a privately-funded boat ramp for the use of Pine Island residents only?

151 A. Yes
275 B. No
55 C. No opinion

27. If you answered yes to Question #26, would you be willing to help pay for such a boat ramp?

70 A. Yes
68 B. No
4 C. No opinion

TOTAL NUMBER OF RESPONDENTS: 501

ZIP CODES OF RESPONDENTS: 33922 206; 33945 23; 33956 193; 33909 60

What is your relationship to Pine Island? Check as many as apply to you.

70 I am a part-time resident
399 I am a full-time resident
423 I own property on Pine Island
394 residential, 43 commercial, 5 industrial, 63 vacant land, 26 agricultural
120 I conduct business on Pine Island
0 I am a visitor for less than a month

GREATER PINE ISLAND
COMMUNITY PLAN UPDATE

This document presents a community plan update for Greater Pine Island. Background material on current conditions is followed by specific proposals to amend Lee County plans and regulations that affect Greater Pine Island.

A quick summary of this plan is available by reviewing the shaded boxes throughout this document. One of Greater Pine Island's major planning issues is summarized in each box, followed by one or more recommended responses.

This entire plan update has been sponsored as a community service by the Greater Pine Island Civic Association, with professional assistance by Spikowski Planning Associates, aided by Mohsen Salehi Consulting Services, both of Fort Myers. Generous financial assistance was provided by the Lee County Board of Commissioners, the Florida Department of Community Affairs, and the Elizabeth Ordway Dunn Foundation with assistance from the Florida Wildlife Federation. Updates on the progress of this plan are published in the Pine Island Eagle and are also available at *http://www.spikowski.com/pineisland.htm* and *http://www.PineIslandNews.com*

Written comments can be forwarded to the Greater Pine Island Civic Association at P.O. Box 478, St. James City, FL 33956.

This plan update was formally submitted to Lee County on September 28, 2001. Formal public hearings will be held in Fort Myers. Notices are published in advance in the News-Press.

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INTRODUCTION TO THIS PLAN UPDATE

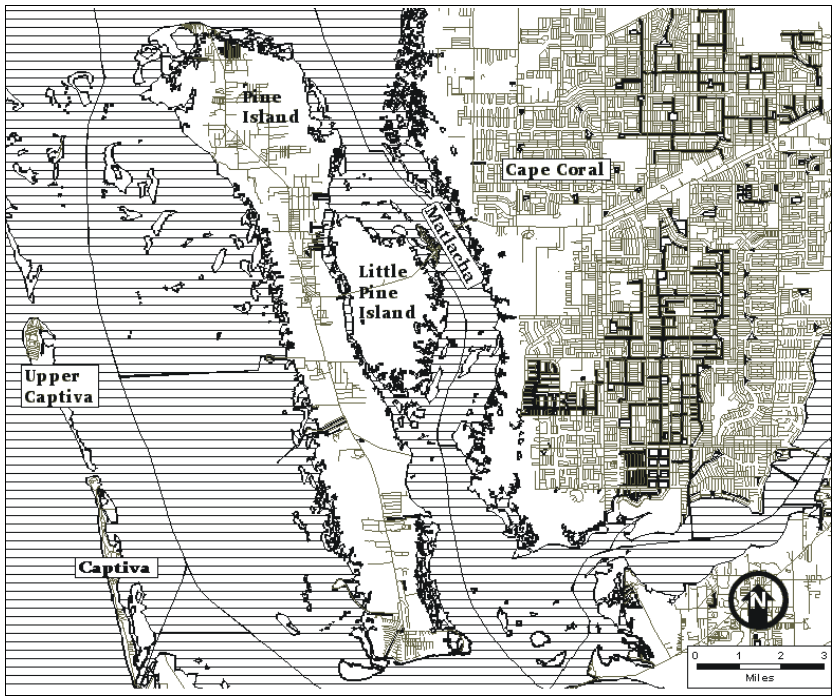
Pine Island, Little Pine Island, and Matlacha share many characteristics and are collectively called Greater Pine Island, or simply Pine Island. These islands are located west of Cape Coral and mainland Lee County but inside the string of barrier islands along Florida's west coast.

While geographically separate, Greater Pine Island is part of unincorporated Lee County and is governed by its board of county commissioners. Although without legal self-determination, local residents have always been vocal about public affairs, especially planning and zoning. An informal coalition of Pine Island residents formulated the original "future land use map" for Pine Island that was adopted by Lee County into its 1984 comprehensive plan (the original Lee Plan). Five years later, a community plan prepared by the Greater Pine Island Civic Association was the basis for a complete section of the Lee Plan (now under Goal 14) dedicated to the future of Pine Island.

The opening statement of the community plan explained its purpose:

> ***GOAL 14:*** *To manage future growth on and around Greater Pine Island so as to maintain the island's unique natural resources and character and to insure that island residents and visitors have a reasonable opportunity to evacuate when a hurricane strike is imminent.*

Over ten years have passed since Goal 14 and its supporting policies and maps were adopted. Many of those policies are still pertinent; a few have not been implemented fully. However, due to the passing of time, new factors have arisen that require an overall re-examination of the plan. The explosion of agricultural activity on the northern half of Pine Island was not anticipated.



Residential growth has slowed somewhat from the 1980s. And traffic on Pine Island's only link to the mainland has increased, reaching target levels that were set in the 1989 plan to indicate the imminent overloading of the road system.

This current plan update begins with a general description of Greater Pine Island and its past and present residents, referred to in this plan simply as Pine Islanders. Major planning issues are then discussed in detail: hurricane evacuation, traffic, town and country boundaries, community character issues, and the environment. Each planning issue ends with a policy conclusion and specific recommendations for changes to the Lee Plan and the land development code.

Pine Island – the Place and the People

Pine Island is physically separated from the rest of Lee County. Situated within the estuary formed by Charlotte Harbor, Pine Island Sound, and San Carlos Bay, Pine Island differs in geography from the mainland to the east and the barrier islands to the west, though sharing some of the characteristics of each. It is a 10,000- to 12,000-year-old accretion island of some 33,620 acres, over a third of it mangrove forest and the remainder upland (originally slash pine and palmetto, now mostly cleared for agriculture or developed).

Pine Island's ecosystem is unique. Its mangrove shoreline and seagrasses just offshore play a vital role in the cycle of all aquatic life, supporting fishing interests both commercial and recreational. These plants are important elements in the well-being of the entire estuary, serving as its filtration system, aquatic nursery, and feeding ground. Seagrasses in Charlotte Harbor have declined by 29% over the last 40 years; much of the decline was caused by dredging and maintenance of the intracoastal waterway.

Within recent years large areas of pine forest have been cleared for agriculture. Currently over 3,600 acres are in agricultural use, with 36% in rangeland, 35% in nurseries, 21% in groves, and 5% in vegetables. The moderating influence of surrounding waters on the climate creates ideal growing conditions for certain tropical fruits such as mangoes, carambola, and lychees (99% of Lee County's tropical fruit acreage is on Pine Island). Ornamental palms of several varieties are now being widely grown on Pine Island. The tradeoff is this: every acre of land cleared for agriculture is an acre lost to its natural inhabitants. Furthermore, the extent of damage from fertilizers, herbicides, and pesticides draining into the estuary is not known. Efforts to monitor these conditions are both modest and underfunded.

Pristine areas remaining on the island provide a haven for an abundance of wildlife, much of it endangered and threatened — bald eagle, wood stork, osprey, ibis, heron, egret, pelican, manatee, alligator, gopher tortoise, eastern indigo snake, and beautiful pawpaw, to name a few.

Pine Island's history sets it apart. Archaeological finds in Pineland confirm the existence of one of the most important sites of the Calusa Indians, dating back more than 1,500 years. Digs and educational tours at the Randell Research Center are ongoing, as well as efforts by the non-profit Calusa Land Trust to purchase the remaining portions of a cross-island canal constructed by the Calusa Indians. The Pineland site is on the National Register of Historic Places.

Later settlers, appearing on the scene late in the 19th century and early in the 20th, contributed their own colorful chapter to the history of the island, eking out a hardscrabble subsistence fishing and farming. By the early 20th century, citrus and mango groves were planted near Pineland and Bokeelia. Many descendants of these pioneering families still live on the island.

Pine Island differs from other communities in Lee County in the needs, interests, and aspirations of its people. Its population is diverse, made up of old commercial fishing families, a large population of retirees from the north, and younger working families with children attending school, with families finding employment both on and off the island.

Each group harbors its own priorities and ambitions, yet they share common traits. They are independent-minded and they all chose to come to this place looking for privacy, a laid-back lifestyle, a setting of slash pine and open skies and blue water — qualities there for all to enjoy, whether by fishing the waters, or biking through the neighborhood, or simply returning from a hard day at the office or jobsite and crossing the bridge at Matlacha to find a refuge from heavy traffic and urban sprawl.

Peace and tranquility brought them to Pine Island, and that is what they value most.

Life on Pine Island mixes country living with the wonders of being surrounded by water, a fragile combination in coastal Florida. Without attention, the treasures of this unique place may be obliterated.

Looking east from the bridges at Matlacha, Pine Islanders see a vast expanse of sameness, a development form that suits the needs of others but that seems alien and a threat to Pine Islanders' vision of their own future.

Pine Island has two traffic problems resulting from the near-impossibility of widening Pine Island Road through Matlacha without destroying its historic district. This road is nearing its capacity for meeting the daily travel needs of Pine Islanders and visitors, and it is barely adequate for evacuating low-lying areas in case of tropical storms and hurricanes.

Matlacha historic district, bisected by Pine Island Road

Photo courtesy of Mohsen Salehi and Bill Dubin

> *"Places like Matlacha are rare in this state, not just for its historical interest, but because the locals thrive by protecting the place. They like where they live and don't want to change it. Tourists respond by coming just to hang out on the bridges yakking with fisherfolk, then staying to buy local crafts and eat the fish they've seen caught. They come because they want to feel part of a real place, a place that doesn't put on mouse ears to pull them in."*
>
> *— Florida writer Herb Hiller*

The main mechanism currently protecting Pine Island from overdevelopment that would worsen the existing congestion and evacuation hazard has been Policy 14.2.2, found in the Lee Plan as follows:

> ***POLICY 14.2.2:*** *In order to recognize and give priority to the property rights previously granted by Lee County for about 6,800 additional dwelling units, the county shall consider for adoption development regulations which address growth on Pine Island and which implement measures to gradually limit future development approvals. The effect of these regulations would be to appropriately reduce certain types of approvals at established thresholds prior to the adopted level-of-service standard being reached, as follows:*
>
> - *When traffic on Pine Island Road between Burnt Store Road and Stringfellow Boulevard reaches 810 peak hour, annual average two-way trips, the regulations shall provide restrictions on further rezonings which would increase traffic on Pine Island Road.*
> - *When traffic on Pine Island Road between Burnt Store Road and Stringfellow Boulevard reaches 910 peak hour, annual average two-way trips, the regulations shall provide restrictions on the further issuance of residential development orders (pursuant to the Development Standards Ordinance), or other measures to maintain the adopted level of service, until improvements can be made in accordance with this plan.*

Ten years after this policy was adopted, here are the critical facts:

- Of the "6,800 additional dwelling units" cited in Policy 14.2.2, about 6,675 still can be built at any time (without requiring any further rezonings or subdivision approvals).
- Official Lee County traffic counts for the year 2000 show that the 810-trip threshold has now been exceeded for the third consecutive year.
- There are no practical or economically feasible plans to widen Pine Island Road through Matlacha or provide a second road to Pine Island.

Given these facts, it is clear that further increases in traffic are inevitable as property rights previously granted are exercised. The question is: how many *more* development rights will Lee County grant on top of those already in existence?

The conflict between these two realities—impending population growth on the island on the one hand and traffic exceeding limits established by the Lee Plan on the other—is the dilemma faced by island residents and by Lee County in the coming years. The proposals in this plan update represent the best efforts of Pine Islanders to deal with this conflict and to manage growth responsibly in the coming decades.

Growth is inevitable. Pine Islanders recognize that as a fact of life, but they seek a kind of responsible growth that preserves and enhances the best features of Greater Pine Island.

Existing Private Property Rights

In a 1989 study about Greater Pine Island, Lee County tabulated the number of existing dwelling units and the number of additional dwelling units that have already been approved but not yet built.[1] Most of the "approved" units are reflected in older subdivision plats where the lots have already been sold off to individual owners; a small number of the "approved" units were in development orders issued by Lee County that may or may not be developed. That inventory showed 4,256 existing dwelling units and 6,663 "additional units" not yet constructed. (Unlike the U.S. Census, that inventory counted mobile homes and fixed recreational vehicles such as those in Cherry Estates as dwelling units.)

As part of this plan update, additional data sources were examined that might verify, contradict, or update those figures. One data source is the Lee County Coastal Study, which counted the number of dwelling units that existed in 1985 based on the official tax rolls. Another is a complete new inventory of existing and approved dwelling units conducted for this plan update, the complete results of which are found in Appendix C. Table 1 below summarizes those new data sources and presents a revised estimate of 6,675 additional dwelling units yet to be built, based on existing approvals. These "build-out" totals do not include development rights for unplatted vacant land or agricultural land.

This estimate of the number of additional dwelling units yet to be built is very close to Lee County's 1989 estimate. It is true that some, possibly many, of these dwelling units will never be built, due to limited demand, or vacant lots being held as open space by adjoining owners, or unforeseen permitting problems. Yet the magnitude of the development rights already granted is

[1] *Commercial Study: Pine Island*, Lee County Department of Community Development, July 1989.

overwhelming to Greater Pine Island, given the factors that will be discussed in the following sections of this report.

TABLE 1

Dwelling Unit Totals for 1985, 2000, and Build-out

Pine Island, By Sector	Dwelling Units 1985	Dwelling Units 2000	(15-year increase)	Dwelling Units Build-out	Dwelling Units (additional)
Bokeelia	393	914	521	1,735	821
Pineland	128	322	194	2,022	1,700
Pine Island Center	485	873	388	2,269	1,396
Matlacha	632	695	63	1,029	334
Flamingo Bay	717	869	152	1,330	461
Tropical Homesites	117	259	142	713	454
St. James City	1,182	1,705	523	3,213	1,508
TOTALS:	**3,654**	**5,637**	**1,983**	**12,311**	**6,674**

SOURCES:
1985 dwelling units: *Lee County Coastal Study, pages 3 through 13 of Volume II, Godschalk & Associates, 1988.*
2000 and build-out dwelling units: *See full data in Appendix C.*
Sector boundaries: *See map in Appendix C.*

TRANSPORTATION ISSUES

Hurricane Evacuation

Pine Islanders will have a very difficult time evacuating if the island is struck by hurricanes of certain types.

Updated evacuation estimates were recently provided for Pine Island by the Southwest Florida Regional Planning Council (SWFRPC). In the event of a Category 2 hurricane coming from the most hazardous direction in the month of November, over 20 hours could be required for an evacuation.[2]

This evacuation time is unacceptably high even at today's population levels. Hurricane forecasters are not confident that they can provide this much warning that a hurricane is likely to strike a specific area. Also, this evacuation time already exceeds the regional[3] and county[4] standards for evacuation times.

These problems are not isolated to Pine Islanders alone. First, any evacuation of Pine Island would include residents of Upper Captiva and Useppa. Second, although Matlacha and its two-

[2] This time period includes 12 hours to get all evacuating vehicles through the most restrictive segment of the evacuation route (called the "clearance time") and to a shelter or to the county line, plus 8 hours ("pre-landfall hazard time") to account for the time before the hurricane strikes when the evacuation must cease due to gale force winds or tidal waters flooding the evacuation route. This time period could be reduced slightly if westbound traffic is temporarily banned from Pine Island Road, which may be ordered during the latter part of an evacuation if traffic is backing up on Pine Island.

[3] "Projected evacuation times will be regularly reduced from 1995 levels, and by 2010, evacuation times will not exceed 18 hours in any part of the region." *[Goal III-5, Strategic Regional Policy Plan, SWFRPC, 1995]*

[4] "By 1995, evacuation times will be restored to 1987 levels using the 1987 Southwest Florida Regional Hurricane Plan Update as guidance; and by 2010, the clearance time portion of evacuation time will not exceed 18 hours." *[Objective 79.1, Lee County Comprehensive Plan]*

lane drawbridge will create a bottleneck for vehicles exiting the island, a potentially more dangerous bottleneck exists on the mainland to the east of the bridge.

The SWFRPC study presumes that "a successful road network exists to take people to a safer place on higher ground." Unfortunately for Pine Islanders, this network includes Burnt Store Road (subject to flooding in heavy rains that often accompany hurricanes), the Del Prado Extension, and Pine Island Road.

At the present time Pine Island Road is only two lanes all the way to Santa Barbara in Cape Coral. A heavy influx of evacuees from low-lying areas of western Cape Coral can be expected to also end up on Pine Island Road, slowing traffic flow. Burnt Store Road is being extended to the south now and Pine Island Road will be widened to four lanes between Chiquita and Santa Barbara in about four years, but no other improvements are planned through at least the year 2020.

Lee County roads are not the only barrier to successful evacuation; there is a serious shortage of places for evacuees to stay. Consider the potential consequences of a Category 3 storm (as Donna was, in 1960), arriving in November from the southwest, making landfall not at Fort Myers Beach but at Boca Grande. Under this unlucky scenario, 14 designated shelters out of 34 would be unusable, and extensive stretches of the evacuation routes would be under water, according to Lee County Emergency Management maps. Under those conditions, Pine Island evacuees would be at the tail end of a queue made up of evacuees from much of Cape Coral and North Fort Myers, joined by many others from coastal areas as far south as Naples, all heading north on U.S. 41 and I-75, both of which are subject to flooding even in some tropical storms. There is serious potential for the resulting gridlock to trap tens of thousands of residents directly in harm's way.

Based on these factors and the inability to provide additional roads to Pine Island (as discussed later in this report), Lee County would be justified in immediately limiting any further development on Pine Island. However, in recognition of the private property rights already granted, as discussed in the previous section, this plan recommends a series of measures that, taken together, will avoid the creation of substantial additional property rights that would exacerbate today's serious hurricane evacuation problem.

SETTING THE COURSE

Even with *no* additional development, Pine Island exceeds regional standards for the time needed to evacuate when a hurricane approaches. Planned road improvements through Cape Coral may reduce evacuation times slightly. But as Cape Coral grows to its planned population of 350,000 people, evacuation problems will continue to increase. Lee County should pursue any measures that can improve evacuation times. Unnecessary rezonings and other development approvals that would exacerbate this situation must be avoided.

GETTING THERE

1. Modify comprehensive plan Policy 14.2.3 as follows:

POLICY 14.2.3: In addition to the enforcing the restrictions in the Policy 14.2.2, the county shall take whatever additional actions are feasible to increase the capacity of Pine Island Road. The following measures shall be evaluated:

- The construction of left-turn lanes at intersections with local roads in Matlacha, or a continuous third lane.
- Improvements to Burnt Store Road and Pine Island Road to the east of Burnt Store that will prevent premature closure of those roads during an evacuation, closures which now limit the number of Greater Pine Island and Cape Coral residents able to evacuate.

2. Modify comprehensive plan policy 14.2.2 as proposed later in this report.

Road Constraints

Access to Pine Island was strictly by boat until 1926 when the causeway carrying Pine Island Road was built through the mangrove islands that became Matlacha. With road access, modern development became practical.

For many decades, this two-lane road was sufficient to meet all demands placed upon it. Although there have been occasional discussions about a second bridge to Pine Island, the hurdles facing such a plan have always been insurmountable.

Appendix A of this plan contains a complete discussion of transportation constraints affecting Pine Island. The remainder of this section is excerpted from Appendix A.

Constraints on access to Pine Island

As the years progressed, traffic on Pine Island Road has continually increased. By general county standards, the current congestion would warrant plans to widen it to four lanes.

However, in 1989 Lee County formally designated Pine Island Road through Matlacha as "constrained," meaning that the road cannot (or should not) be widened for the preservation of the scenic, historic, environmental and aesthetic character of the community. Since that time, Lee County has also designated the heart of Matlacha as a historic district, further protecting it from road widening that would damage its character.

The decision not to widen a constrained road can obviously increase congestion. Because counties are required by state law to set maximum levels of congestion on every road, a very high level had to be set for all constrained roads. This normally causes only minor problems, because other parallel roads can handle much of the overflow traffic.

On Pine Island Road the traffic levels theoretically allowed on constrained roads could have had alarming consequences because it would legally indicate that there was road capacity to develop vast tracts of vacant Pine Island land. To avoid this problem, the county chose to modify a 1988 proposal from the Greater Pine Island Civic Association to gradually limit development on Pine Island as Pine Island Road began to approach its capacity. The proposal would have prohibited rezoning most additional land for development when 80% of road capacity was used up, and prohibited approvals of new subdivisions, even on land already zoned, when 90% was used up. This proposal ultimately was adopted as Policy 14.2.2, which restricts rezonings when traffic on Pine Island Road reaches 810 trips per hour and restricts other approvals at 910 trips (see full text of Policy 14.2.2 on page 3).

Since 1990, traffic on Pine Island Road in Matlacha has increased by about 22%. Figure 1 shows the averages for each year, with a visual comparison to the 810 and 910 thresholds. The 810 threshold was surpassed in 1998, 1999, and 2000.

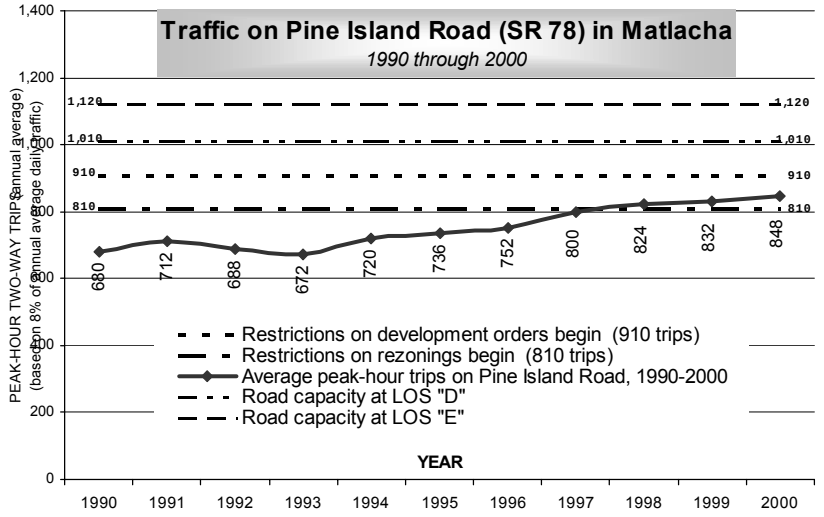


Figure 1, Traffic on Pine Island Road in Matlacha, 1990 through 2000

These significant traffic increases occurred during a decade where there was relatively little new subdivision or condominium development on Pine Island. Population increases resulted mostly from the construction of new homes on pre-existing vacant lots.

Physical alternatives that could improve access

Appendix A examines road improvements that might be able to improve road access to Pine Island. These improvements could have a variety of physical impacts, primarily in Matlacha if the existing right-of-way were reconfigured or widened. The impacts would be primarily environmental if an entirely new access road were built.

Widening Pine Island Road

The critical segments of Pine Island Road have only 66 feet of right-of-way (approximately the distance between utility poles). The existing pavement, including the paved shoulders, is about 32 feet wide. Without widening it could be rebuilt and reconfigured to three lanes of almost 11 feet each, and the unpaved shoulders could be paved to serve as breakdown lanes or sidewalks. The third travel lane could serve either as a two-way left turn lane or as a reversible lane for use in the busier direction.

Adding a third lane would cause a number of problems, however. Pedestrians trying to cross Pine Island Road would have to walk a greater distance, making the crossing less safe, and they would lose the use of the paved shoulder, which now functions as an informal sidewalk. The character of Matlacha would lose some of its village atmosphere and pedestrian orientation, replaced with a more highway-oriented character, plus businesses and homes would lose some of their parking.

The road could also be widened and converted into an urban street with curbs, for instance with four 11-foot lanes, 2-foot concrete curbs and gutters, and 9-foot raised sidewalks. This configuration would significantly increase the traffic-carrying capacity of Pine Island Road. However, it would require extensive earthwork and metal railings, similar to the recently rebuilt San Carlos Boulevard as it approaches Fort Myers Beach. Sidewalks would extend to the very edge of the right-of-way, putting them directly adjacent to many buildings whose fronts are on the right-of-way line. It would also eliminate all parking from the right-of-way, a major disadvantage that would seriously damage, if not eliminate, the viability of many small businesses. And unless the bridges were widened as well, either approach would still face the bottleneck of having a three-lane or four-lane road narrow into two-lane bridges. The normal engineering solution of widening the road through Matlacha to four travel lanes cannot be considered as a viable or practical option because it would seriously harm Matlacha's village atmosphere and pedestrian orientation.

Widening the right-of-way is also not a solution. Shallow lots often back up to the waters of Matlacha Pass and many of the existing buildings directly adjoin the existing right-of-way. Thus, widening the right-of-way would involve altering or demolishing many buildings in Matlacha. Lee County's 1990 designation of Matlacha as a historic district would not legally prevent the county from altering historic buildings, but it indicates the historic value of many of Matlacha's buildings in addition to its unique village character.

New bridge bypassing Matlacha

The capacity of Pine Island Road could also be increased by building a new bridge immediately to the south of Matlacha. It could provide uninterrupted two-way traffic, or one-way traffic with the existing Pine Island Road serving traffic in the other direction.

Two-way traffic is generally more convenient to the public. One-way traffic allows more cars to use the same amount of roadway, but is generally regarded as being harmful to businesses

along the route. Either scenario would create serious intersection impacts at each end, and could cause additional travel to connect motorists with their actual destinations.

Pine Island Road is a county road west of Burnt Store Road (as are both bridges). Any improvements would be constructed and paid for by Lee County. As major bridges are generally beyond the ability of the county to pay for with current revenue sources, they are built with the proceeds from selling bonds, which are then paid back over time (usually with tolls).

Based on recent costs for bridge building, a new bridge should be expected to cost at least $50 million and perhaps $100 million (see cost comparisons in Appendix A).

State and federal permits are required for all new bridges, and are difficult to obtain, especially for a new bridge through the Matlacha Pass Aquatic Preserve. At least at present, building a new bridge around Matlacha is not a feasible option.

Entirely new bridge and entrance road

Another alternative involving a new bridge would be to extend Cape Coral Parkway westerly across Matlacha Pass, ending about halfway between St. James City and Pine Island Center near the Masters Landing power line. A continuous bridge would be needed to avoid interference with tidal flows.

This alignment would extend into the Cape Coral city limits, adding an extra layer of regulatory issues. The new bridge would add traffic onto Cape Coral Parkway, which is planned to be widened to six lanes but cannot be widened further.

This option, like the Matlacha bypass option, is currently cost-prohibitive and could have major environmental impacts on Matlacha Pass. Neither new-bridge option can be considered to be feasible.

Transportation policy alternatives

Beginning in 1998, the 810-trip threshold in Policy 14.2.2 has been exceeded each year. Once they became aware of this fact, the Lee County Commission voted to reexamine this policy.

No technical factors or changes since 1989 have been discovered in the course of this planning process that would justify abandoning the 810 or 910 thresholds in this policy. However, there is an opportunity at this time to determine the best way to fully implement this policy in the fairest possible way.

In 1991 Lee County amended its land development code using language almost verbatim from Policy 14.2.2. This is a problem because it is not self-evident which kinds of rezonings will "increase traffic on Pine Island Road." A better approach would be to have clearer regulations to implement Policy 14.2.2.

For instance, some types of rezonings would have minor or even positive effects on traffic flow in Matlacha. A convenience store in St. James City would serve only local residents and those passing by and would attract *no* new trips through Matlacha. A larger grocery store in St. James City would attract shoppers from a larger area, perhaps including some who currently drive to Matlacha or Cape Coral to shop for groceries, possibly *decreasing* traffic on Pine Island Road. However, a large new hotel or marina on the same property could have a different effect.

Thus an important distinction could be made in implementing Policy 14.2.2 between those land uses that primarily serve residents or visitors who are already on Pine Island, and land uses that primarily attract additional people across Pine Island Road. For instance, the following commercial uses would primarily serve residents and visitors: grocery, hardware, and convenience stores; hair salons; and service stations.

This distinction would be clouded somewhat by other factors, particularly the size and location of commercial uses. Some

small commercial uses might be exempted from this policy. Other alternatives would be to:

- allow minor rezonings below a certain size if they are proposed on "infill" properties between existing development at similar intensities (rather than expanding or intensifying already-developed areas);
- allow rezonings whose characteristics are such that traffic during the busiest peak hours would not be increased;
- give preference to rezonings for small enterprises that promote the nature and heritage of Greater Pine Island.

In summary, none of the available options for adding significant road capacity to Pine Island are practical. Building four lanes through Matlacha would seriously damage Matlacha's village atmosphere and pedestrian orientation. Either new-bridge option would have serious environmental impacts and there are no funds for such expensive undertakings. The increased traffic capacity of either bridge would most likely lead to approval of more development on Pine Island, negating the initial positive impacts on traffic flow and hurricane evacuation.

SETTING THE COURSE

Lee County made a sound decision in 1989 to slow development on Pine Island as the capacity of Pine Island Road through Matlacha is reached. This system should be maintained because no practical method of increasing road capacity has been identified. The specific regulations that govern this slowing should be clarified so that small-scale infill development isn't prohibited. However, additional larger-scale development rights should not be granted where there is no ability to provide basic services such as minimal evacuation capabilities.

GETTING THERE

Modify comprehensive plan Policy 14.2.2 as follows:

POLICY 14.2.2: In order to recognize and give priority to the property rights previously granted by Lee County for about 6,675 ~~6,800~~ additional dwelling units, the county shall keep in force effective ~~consider for adoption~~ development regulations which address growth on Pine Island and which implement measures to gradually limit future development approvals. ~~The effect of~~ These regulations shall ~~would be to appropriately~~ reduce certain types of approvals at established thresholds prior to the capacity of Pine Island Road ~~adopted level-of-service standard~~ being reached, measured as follows at the permanent count station on Little Pine Island at the western edge of Matlacha:

- When traffic on Pine Island Road ~~between Burnt Store Road and Stringfellow Boulevard~~ reaches 810 peak hour, annual average two-way trips, the regulations shall ~~provide~~ restrict~~ions on~~ further rezonings which would increase traffic on Pine Island Road~~.~~ through Matlacha. These regulations shall provide reasonable exceptions for minor rezonings on infill properties surrounded by development at similar intensities and those with inconsequential or positive effects on peak traffic flows through Matlacha, and may give preference to rezonings for small enterprises that promote the nature and heritage of Greater Pine Island.
- When traffic on Pine Island Road ~~between Burnt Store Road and Stringfellow Boulevard~~ reaches 910 peak hour, annual average two-way trips, the regulations shall ~~provide~~ restrict~~ions on~~ the further issuance of residential development orders to one-third the maximum density otherwise allowed on that property. ~~(pursuant to the Development Standards Ordinance), or other measures to maintain the adopted level of service, until improvements can be made in accordance with this plan.~~

These development regulations may provide exceptions for legitimate ongoing developments to protect previously approved densities for final phases that have a Chapter 177 plat or site-plan approval under Ordinance 86-36.

POPULATION AND LAND USE

Town and Country on Pine Island

The essential character of Pine Island has always been the contrasts among its physical environments. Surrounded by harbors and bays of unparalled beauty, Pine Islanders live in a series of low-key settlements or "villages" that are separated by rural land. With dense mangrove forests creating barriers between most land and the water, the seven residential villages have formed in the locations with best access to the water (Bokeelia, Pineland, Matlacha, Flamingo Bay, Tropical Homesites/Manatee Bay, and St. James City). Only Pine Island Center is away from the water, in favor of the only crossroads location on Pine Island. Between these villages there has always been the sharp contrast of rural lands, dominated by slash pine/palmetto habitats and some farming operations.

Pine Island has almost no beaches, few city services, and limited employment and shopping — yet it remains a highly desirable and moderate-cost alternative to the formless "new communities" that have obliterated the natural landscape throughout coastal Florida.

Pine Island Center, looking north *Photo courtesy of Mohsen Salehi and Bill Dubin*

The current Pine Island community plan maintains the distinct villages by limiting their expansion through boundaries on a future land use map. Only a single ten-acre amendment has been approved to that map since 1989. Because the boundaries themselves have not been reexamined during that period, that effort was undertaken as part of this plan update, as described below.

Town (village) boundaries

The freestanding villages on Pine Island have been given one of three "future urban area" designations, with densities and total acreages summarized in Table 2.

TABLE 2

"Future Urban" designations on future land use map	Residential density range (DU = dwelling unit)	Actual acres in Greater Pine Island
Urban Community	1 to 6 DU/acre	1350 acres
Suburban	1 to 6 DU/acre	1427 acres
Outlying Suburban	1 to 3 DU/acre	1557 acres

"Urban Community" areas can have considerable concentrations of commercial uses, and thus were assigned to Pine Island Center and Matlacha, the commercial centers for all of Greater Pine Island.

"Suburban" areas are allowed similar densities for residential development, but with fewer commercial uses. This designation has been assigned to most of Bokeelia and St. James City, and smaller areas around the Pink Citrus, Flamingo Bay, and Pinewood Cover mobile home parks.

"Outlying Suburban" areas are allowed half the density of "Suburban" areas, but with comparably limited commercial uses. This designation was generally assigned to all other settlements on Pine Island.

All the future urban designations were drawn tightly around existing settlements. The exceptions are about 52 acres just north of Galt Island Avenue (northwest of St. James City); 95 acres centered around the Pine Island Village subdivision south of Flamingo Bay; and 157 acres south of Bokeelia and north of September Estates. The first two exceptions apparently had been made due to imminent development activity on those parcels, and both were reasonably logical extensions of existing settlements. However, little activity has taken place on either parcel, with extensive natural vegetation remaining.

The third exception, south of Bokeelia, is the most incongruous. This entire acreage is now in intense agricultural use, with much of it cleared during the past decade (see Figure 2). Apparently it had been considered as a potential expansion of the Bokeelia urban area. Since that time, the landowners have clearly indicated a preference for agriculture and have made no efforts to develop any of the land residentially. Thus these 157 acres should be reclassified to whatever designation is ultimately assigned to the rural lands to their east and west.

Other apparent anomalies are several large clusters of rural land that have been assigned the "Outlying Suburban" designation east and northeast of Pineland. Close examination shows that these areas have been subdivided into lots averaging one-half acre, and have been almost entirely sold off to individual purchasers. The largest area, just east of Stringfellow Road, is known as the Kreamer's Avocado subdivision. The relatively few homes that have been built there enjoy a pleasant rural setting. However, any substantial increase in homebuilding will overtax the incomplete network of unpaved roads and reduce the rural atmosphere. At such time, residents could band together and

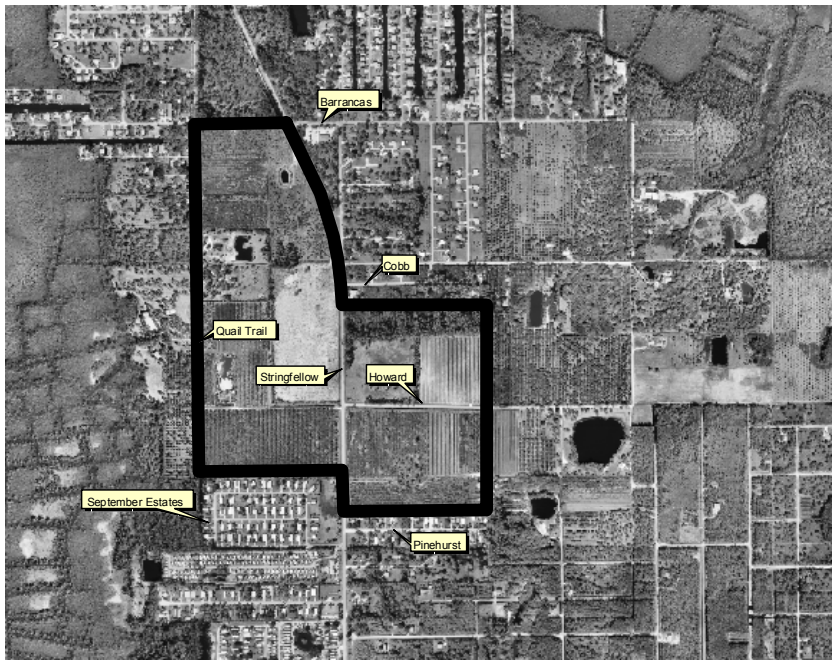
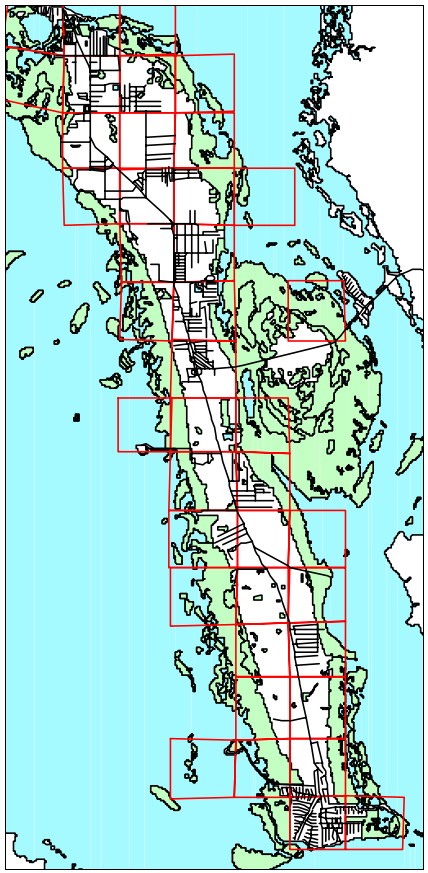


Figure 2

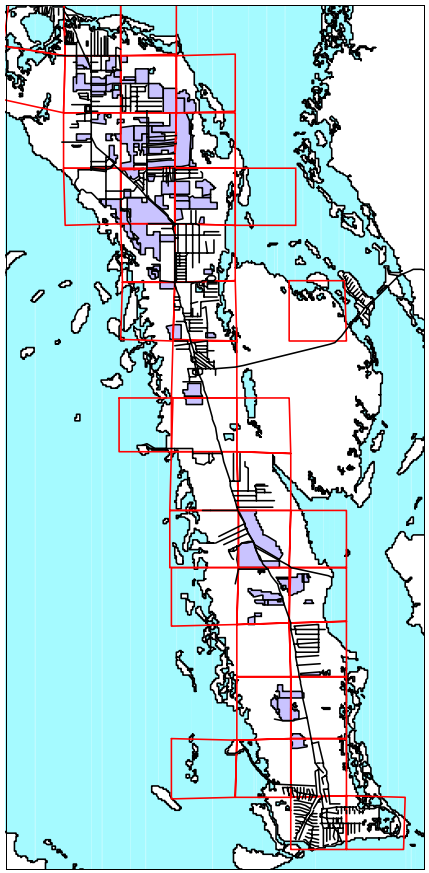
pave the roads and install a modest drainage system through a special taxing district. The seeming anomaly of the "Outlying Suburban" designation, however, is appropriate for the existing pattern of small subdivided lots.

The future of rural Pine Island

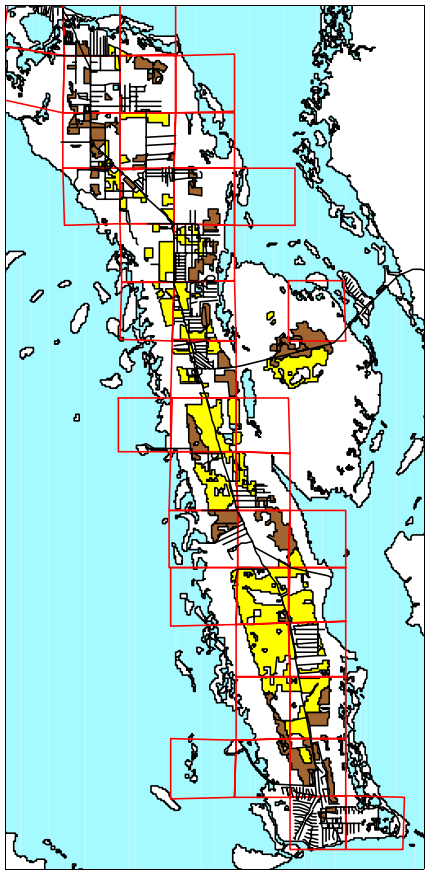
Outside the village boundaries, all high ground has been designated in the "Rural" category, where residential development is now limited to one dwelling unit per acre (1 DU/acre). Over the past 15 years, much "Rural" land between the villages has been converted to farmland, especially on the north half of the island, a trend that is continuing even today. This conversion has destroyed a quarter of the remaining pine-and-palmetto habitat over a 15-year period (see Table 3), a period in which farming has become the most popular and economic use of rural land on Pine Island.



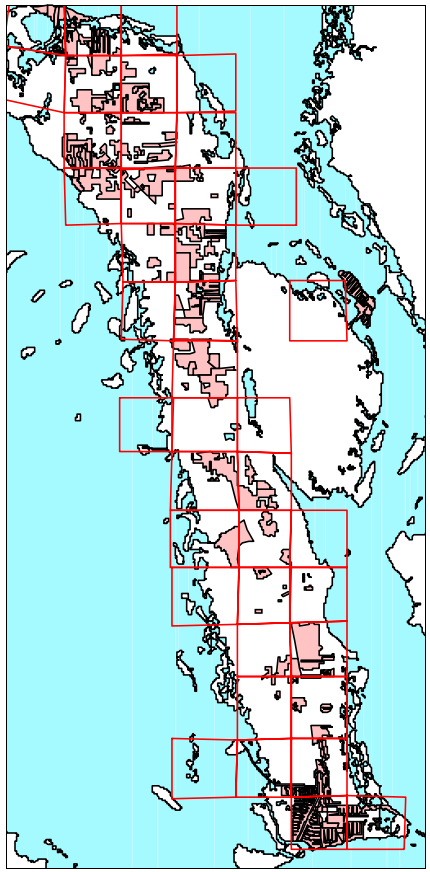
Wetlands, 13,088 acres, 52% of land



Agriculture, 2,763 acres, 22½% of uplands



Forests, 4,853 acres, 39½% of uplands (pine flatwoods, lighter color, 22½%; exotic infested, darker color, 17%)



Urban, 4,676 acres, 38% of uplands

SOURCE: *Based on GIS data for 1996 provided by the South Florida Water Management District.*

TABLE 3

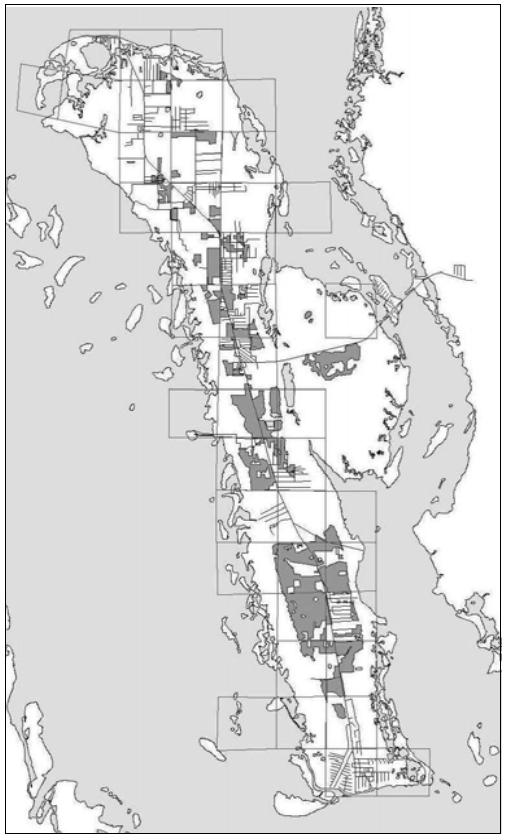
Removal of Pine Flatwoods on Pine Island 1981 – 1996

Pine Island Community, By Sector	Upland Acres	Acres of Pine Flatwoods		15-Year Decrease of Pine Flatwoods	Agricultural Acres, 1996
		1981	1996		
Bokeelia	1,612	144	40	(104)	464
Pineland	2,672	373	230	(143)	1,336
Pine Island Center	2,690	859	743	(116)	365
Matlacha	224	0	0	0	0
Flamingo Bay	2,451	1,360	1,044	(316)	444
Tropical Homesites	792	581	400	(181)	12
St. James City	1,630	420	300	(120)	142
TOTALS:	**12,071**	**3,737**	**2,757**	**(980)**	**2,763**

SOURCES: *Data based on interpretation of aerial photographs. For sector boundaries, see map in Appendix C.*
1981: *Lee County Coastal Study, Appendix IV-III, Godschalk & Assoc.,1988.*
1996 and upland totals: *Based on GIS data provided by the South Florida Water Management District.*

This increase in farmland is sometimes seen as preferable to more residential subdivisions, which cannot be supported by Pine Island's limited road connections to the mainland. However, farmland can be converted to residential land very easily; the current comprehensive plan actually seems to encourage this by allowing residential development on one-acre lots without rezoning, even on active farmland. Planning professionals generally agree that one-acre lots are too small to maintain the countryside and too large to create villages; yet that is the predominant residential density allowed on Pine Island today.

During this plan update process, Pine Islanders carefully considered alternative growth-management techniques to replace the 1 DU/acre "Rural" category on Pine Island. While considering these alternatives, the public was made aware of the current regulatory climate: regulations that are so strict as to essentially "take away" *all* rights to private property rights are illegal, and such "takings" must be fully compensated to the landowner, an enormously expensive undertaking.



Remaining pine flatwoods, 1996

In addition, in 1995 the Florida legislature passed the Bert J. Harris, Jr. Private Property Rights Protection Act. This act established a new standard for preventing overly strict regulations on land — any regulation that is determined to place an "inordinate burden" on a landowner may now require compensation, even though it isn't a "taking" of all property rights. This act does not mean that land-use regulations cannot be made stricter, even if they lower the market value of land; but as a practical matter it will mean closer scrutiny of strict regulations, especially their potential to "inordinately burden" landowners *even if* the court decides that a particular regulation is valid and in the overall public interest.

Whether a new regulation places an "inordinate burden" on a landowner will be determined by the courts on a case-by-case

basis. It is clear that the *amount* the market value of land may be lowered after a regulation is imposed will be a very important factor in this decision.

On Pine Island today, there is little market demand for residential development at densities of 1 DU/acre. A single new subdivision has been created at this density (Island Acres just south of the water treatment plant), and it has experienced relatively slow sales even though its lots surround an attractive lake. The actual real estate market for large tracts of Pine Island land has three major types of buyers:

- Intensive agriculture users, who are planting tropical fruits, ornamental palms, and some vegetables;
- Land speculators, who often anticipate selling at a profit to a developer who would build dwelling units around a golf course; and
- Public agencies, the new players in this market, at present primarily Lee County's "Conservation 2020" program which buys and preserves natural habitats.

These three types of buyers will establish the market value for large tracts on Pine Island in the absence of substantial demand for one-acre homesites.

Appendix B of this report evaluates five different growth-management techniques for rural land on Pine Island:

- Conservation land purchases
- Larger lots in rural areas
- Cluster development
- Transferable development rights
- Rate-of-growth control

Any of these techniques, or either of the two hybrid techniques also discussed in Appendix B, could become part of the Greater Pine Island community plan update and the Lee Plan's future land use map, and would be implemented through subsequent changes to other county regulations. (Existing lots would presumably be "grandfathered in" even if they are now vacant.)

The option recommended as the best for Greater Pine Island at this stage of its evolution is a hybrid described in Appendix B as "conservation clustering with incentives" (#7). It combines the best features of conservation land purchases (#1), larger lots in rural areas (#2), and cluster development (#3).

Land that is now designated "Rural" would be placed in a new "Coastal Rural" category. This conversion would respond well to the three main problems identified for Pine Island's rural areas:

- the absence of any meaningful effort to protect even the best remaining native habitats from agricultural clearing;
- the potential for residential development at 1 DU/acre that would result in neither "town" nor "country" conditions; and
- the potential for adding even more dwelling units that cannot be sustained by the limited road connections to the mainland.

This option combines regulations with incentives and uses a sliding scale of density to encourage (though not require) conservation of undisturbed habitats.

Property owners who save 70% of native habitats would be allowed to keep all of the dwelling units allowed to them today, but instead of placing each house on a 1-acre lot, these homes could be placed on the remaining 30% of the land. This would allocate 0.3 acres per lot (although actual lot sizes would be somewhat smaller to account for land needed for streets and stormwater detention lakes).

Property owners who choose *not* to save any native habitats would be limited to 1 DU per 10 acres. This would allow agricultural or country-estate homes on 10-acre lots.

A sliding scale would allow property owners to choose any point within the extremes just described, as shown in Table 4.

TABLE 4

Assume % of native land saved or restored	Would then be assigned this gross density:	RESULTS ON 100 ACRES WOULD BE: # of DUs	acres used per lot	total acres preserved	total acres used
0%	1 DU per10 acres	10	10.0 acres	0	100
5%	1 DU per 9 acres	11	8.6 acres	5	95
10%	1 DU per 8 acres	13	7.2 acres	10	90
15%	1 DU per 7 acres	14	6.0 acres	15	85
20%	1 DU per 6 acres	17	4.8 acres	20	80
30%	1 DU per 5 acres	20	3.5 acres	30	70
40%	1 DU per 4 acres	25	2.4 acres	40	60
50%	1 DU per 3 acres	33	1.5 acres	50	50
60%	1 DU per 2 acres	50	0.8 acres	60	40
70%	1 DU per 1 acre	100	0.3 acres	70	30

It may seem counterintuitive to allow higher densities on natural habitats than on disturbed lands, but this provides landowners with a strong incentive *not* to clear native habitats. (The same incentive would be granted to restored land as to preserved land, using the same sliding scale.)

This approach diminishes the potential for residential development on agricultural land while rewarding landowners who protect (or restore) their land's natural habitats. Actual development on native parcels would disturb far less land than would occur today by either allowing today's number of dwelling units to be placed on smaller lots, or by reducing the number of lots that are allowable. Public purchases of entire tracts for preservation would be encouraged, but if purchase offers aren't attractive enough to interest property owners, this new plan would encourage more preservation than current regulations.

SETTING THE COURSE

The culture of community-making demonstrated by Pine Island's pioneers should be continued by enhancing its seven freestanding communities and keeping them from sprawling into rural areas. Pine Island's rural areas should be placed into a new Coastal Rural category on the future land use map. This category would have a sliding density scale that would reward landowners who preserve native upland habitats. However, it would not prevent them from pursuing agriculture or creating standard ten-acre homesites if they choose. Without major habitat preservation, smaller homesites would not be allowed in Coastal Rural areas. (Existing legal lots in rural areas would not be affected.)

GETTING THERE

1. Adopt a new comprehensive plan policy as follows: **POLICY 14.1.8:** The county shall reclassify all uplands on Pine Island previously designated as Rural to a new Coastal Rural designation on the Future Land Use Map. The purposes of this redesignation are to provide a clearer separation between rural and urban uses on Pine Island, to discourage the unnecessary destruction of native upland habitats, and to avoid placing more dwelling units on Pine Island than can be served by the limited road capacity to the mainland. The Coastal Rural designation is designed to provide landowners with maximum flexibility while accomplishing these public purposes.

(continued)

GETTING THERE *(continued)*

2. Adopt a new comprehensive plan policy establishing a new non-urban designation on the county's Future Land Use Map, as follows:
   POLICY 1.4.7: The Coastal Rural areas are uplands on Pine Island that were redesignated in accordance with Policy 14.1.8. These lands are to remain rural except for portions of individual properties whose owners choose to permanently preserve or restore native upland habitats and in return are permitted to use a portion of their properties for smaller residential lots. The standard maximum density in the Coastal Rural area is one dwelling unit per ten acres (1 DU/10 acres). Maximum densities increase as various percentages of native uplands are permanently preserved or restored. Permitted land uses include agriculture, fill-dirt extraction, conservation uses, and residential uses up to the following densities:

Percentage of native habitats preserved or restored	***Maximum density***
0%	1 DU / 10 acres
5%	1 DU / 9 acres
10%	1 DU / 8 acres
15%	1 DU / 7 acres
20%	1 DU / 6 acres
30%	1 DU / 5 acres
40%	1 DU / 4 acres
50%	1 DU / 3 acres
60%	1 DU / 2 acres
70%	1 DU / 1 acre

(continued)

GETTING THERE *(continued)*

3. Amend the future land use map to reclassify all land on Pine Island now designated as "Rural" into the new "Coastal Rural" category.

4. Amend the future land use map to reclassify from "Outlying Suburban" to "Coastal Rural" 157 acres of agricultural land between Bokeelia and September Estates in 31-43-22, bounded by Quail Trail on the west, Barrancas Street on the north, Stringfellow on the east, Unit A of Rapid #1 subdivision (Cobb Road) on the north, the quarter section line of Section 31 on the east, and Pinehurst Acres and September Estates on the south.

5. Amend the land development code to provide detailed regulations to implement new Policies 1.4.7 and 14.1.8, including modifications to the AG-2 zoning district in accordance with these policies.

Population Summary

Initial data is beginning to be released by the U.S. Census Bureau from the 2000 census; a brief summary is provided here.

Greater Pine Island's population for many years has been much older than Lee County or the state of Florida as a whole, reflecting the continuing influx of retirees to the area. There are now 9,306 permanent residents of Greater Pine Island; the chart below illustrates the age breakdown of these permanent residents.

Of the 9,306 permanent residents, 98.3% percent are white and 3.7% are Hispanic.

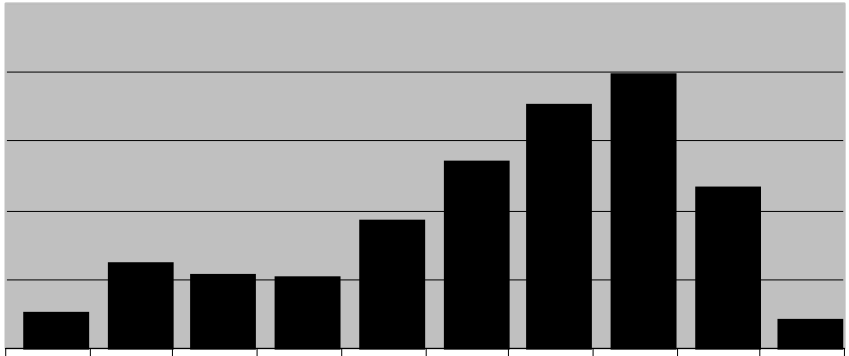
These 9,306 permanent residents live in 4,575 dwelling units. There are 1,766 additional dwelling units that were either used by seasonal residents or were vacant when the census was conducted on April 1, 2000. Compared to other islands in Lee County, Greater Pine Island has a much higher percentage of its dwelling units occupied by permanent residents. (The census does not include any meaningful data on seasonal residents.)

Of the 4,575 occupied dwelling units, 85.7% are occupied by their owners and the remaining 14.3% are rented out to others.

Additional data on the population and housing characteristics of Greater Pine Island is expected in the fall of 2001.

Age of Permanent Residents of Greater Pine Island

Year 2000, by Age Ranges

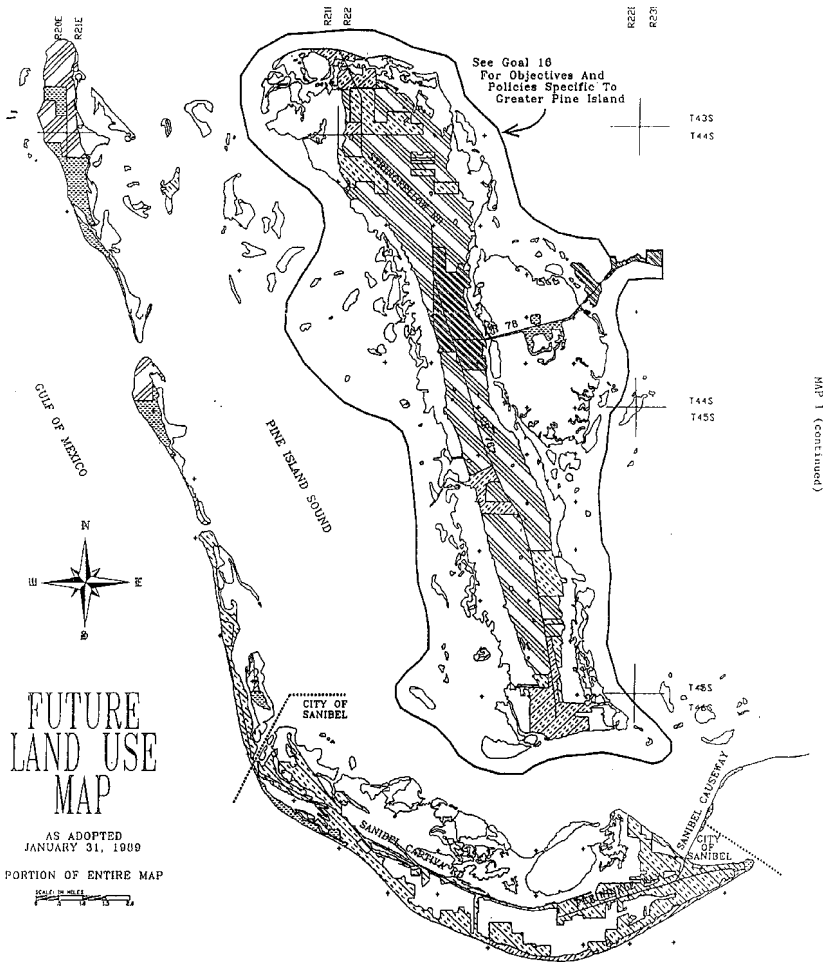


	0-5	5-14	15-24	25-34	35-44	45-54	55-64	65-74	75-84	85+
Percent of residents	2.8%	6.6%	5.7%	5.5%	10.0%	14.5%	18.9%	21.3%	12.4%	2.2%
Number of residents	260	611	535	511	931	1,352	1,759	1,984	1,157	206

Greater Pine Island's Boundary

This plan has described Greater Pine Island as Pine Island, Little Pine Island, and Matlacha. A more precise boundary is needed for legal purposes.

The map below shows the original boundary adopted by Lee County in 1989 for the Greater Pine Island community plan.



Other Pine Island boundaries have been adopted for different purposes. Map 16 of the Lee Plan divides the entire county into twenty "planning communities" for administrative and accounting purposes; that Pine Island boundary includes some enclaves of unincorporated land between Matlacha Isles and the city limits of Cape Coral, including the Royal Tee Country Club. This is similar, though not identical, to the boundaries of the Matlacha/Pine Island Fire District and the Greater Pine Island Water Association, both of which however exclude Cabbage Key and Useppa and treat other small islands differently.

The original community plan boundary from 1989 also excludes Cabbage Key and Useppa, plus all of the unincorporated land east of Matlacha Isles. During the course of this plan update, only the areas within the original boundary were analyzed carefully. Thus the plan update, when adopted, should apply only to the original area. The Lee Plan should prominently display this boundary on the future land use map and/or a separate map depicting Greater Pine Island and all other areas that are subject to community plans.

GETTING THERE

Modify the future land use map to clearly reflect the 1989 boundary for Greater Pine Island, which includes Pine Island, Little Pine Island, and Matlacha eastward through Matlacha Isles.

Tropical Island Wear & Moretti's, Matlacha


Waterfront Restaurant, St. James City


Crossed Palms Gallery, Bokeelia

COMMUNITY CHARACTER

Design of Commercial Buildings

Businesses are an essential part of any community's character. They provide useful services and their buildings are usually located on major roads where they are regularly viewed by residents and visitors.

Pine Island has many commercial buildings that are strictly utilitarian, and others that are simply unsightly. However, there are also many wonderful examples of commercial buildings that help maintain the rural and small-town ambience of Pine Island. Some are old, some completely renovated, and some entirely new, but they usually are designed in the "Old Florida" or vernacular style and can serve as desirable examples for future commercial buildings on Pine Island. Photographs of some of those buildings are included here.

In late 1998, Lee County for the first time adopted design standards for commercial buildings. These standards are fairly minimal and do not govern the style of buildings, nor the placement of buildings on the site. However, they can be adapted to incorporate either or both for commercial buildings on Pine Island.

The following list identifies general characteristics of the best commercial buildings on Pine Island, and compares them with some common trends elsewhere:

- Existing buildings are often converted to commercial use, rather than demolished and replaced.
- The buildings are relatively small; some could be mistaken for a large residence.
- There is little or no parking between the building and the street; parking lots tend to be on the side, or behind the building.
- Mature trees are considered assets on commercial sites, rather than obstacles to be removed.
- Glass is plentiful on the fronts of buildings; blank walls are rare even on the sides or the rear.
- Galvanized sheet metal is the most common roof material.
- Building styles are traditional, usually "Old Florida" style, but with many creative details — they are never identical formula buildings that might appear anywhere.

Pine Island Prof. Center, Pine Island Center

Pine Island Realty, Pine Island Center

Island Exchange, Pine Island Center

For the most part Greater Pine Island has avoided lookalike franchise architecture where repetitive building types function as giant billboards.

The city of Sanibel has tried a novel approach at controlling lookalike architecture by banning what they have defined as "formula restaurants." Their definition includes any restaurant that meets two of these three criteria: any fast-food restaurant; uses the same name as others in a chain or group; and uses exterior designs or employee uniforms that are standardized.

The Sanibel rule affects only restaurants, not any other commercial establishments. Also, many chains *are* willing to modify their standard designs or to build customized buildings, if clearly required by local law. By adopting specific commercial design standards for Pine Island, greater control can be obtained over out-of-character buildings without involving county government with issues of competition, corporate structure, or similarity to other businesses. These issues are outside the county's normal scope of review anyway.

SETTING THE COURSE

Lee County's new architectural standards are a major step forward but should be supplemented with specific standards for Pine Island. These standards should favor rehabilitation over demolition; small rather than large buildings; custom designs instead of standardized franchise buildings; preservation of mature trees; parking to the side and rear; large windows and no blank walls; and metal roofs and other features of traditional "Old Florida" styles.

GETTING THERE

1. Adopt a new comprehensive plan policy as follows: **POLICY 14.4.3:** The county shall expand the commercial design standards in its land development code to provide specific architectural and site design standards for Greater Pine Island. These standards will favor rehabilitation over demolition; require smaller rather than larger buildings; avoid standardized franchise buildings; preserve mature trees wherever possible; place most parking to the side and rear; require large windows and forbid most blank walls; and encourage metal roofs and other features of traditional "Old Florida" styles.
2. Modify the county's land development code to implement new Policy 14.4.3 by incorporating measurable commercial design standards for new buildings and major renovations on Greater Pine Island.

Century 21 – Sunbelt #1 Realty, Matlacha

SouthTrust Bank, Pine Island Center

Bike Paths

After many years of effort by determined Pine Islanders, an extensive bike path is now in place along Stringfellow Road. The first asphalt segment was built from Barrancas Avenue to Main Street in Bokeelia in the 1980s. A much longer concrete segment was completed recently from the Monroe Canal in St. James City all the way to Pine Island Road. This project was built by Lee County and Florida DOT with a combination of local and federal funds and with easements donated by landowners.

These paths serve both pedestrians and bicyclists along stretches of Stringfellow Road where high speeds and deep swales had made walking or bicycling nearly impossible. These paths serve recreational users and also provide critical links between Pine Island's communities. These connections are increasingly important due to the influx of migrant workers whose bicycles are often their sole means of transportation, yet they must travel on a road that was designed only for high-speed traffic.

There are no bike paths or sidewalks at the northern or southern tips of Pine Island. Paved shoulders are used by pedestrians and bicyclists from Monroe Canal south through the commercial district of St. James City. Further to the south, and again in Bokeelia, the narrow pavement is shared by cars, trucks, pedestrians, and bicyclists. This situation has been acceptable for many years due to low traffic speeds; however, traffic levels during recent winter seasons are making this practice unsafe.

From Pine Island Road north to Barrancas Avenue, it is still extremely difficult and dangerous for pedestrians or bicyclists to move along Stringfellow Road. This is the most important "missing link" in the system, and is next in Lee County's plans for improvements. Construction is underway on another 1.5-mile segment from the Grab Bag store to just north of Pink Citrus. In March 2001, the commission approved another 1.8-mile segment from Pine Island Road to Marina Drive, with

construction expected in 2002.

Both segments had been delayed because some property owners have not been willing to donate easements along their property. Because the right-of-way is so narrow, construction of this path requires these easements or expensive reconstruction of the drainage system to move the swales or to route stormwater through underground pipes. The same problem on the remaining segments has greatly hindered efforts to extend the bike path further.

Much of the southern portion of the path was built along a wider right-of-way, avoiding some of these difficulties. Still, there were many conflicts with drainage swales and power poles, some of which were resolved with expensive railings and concrete walls. Some parts of the bike path were routed around every power pole rather than moving the row of poles because of cost concerns expressed by the power company.

The final stages of the bike path will be even more difficult to construct, yet it should be considered an important public amenity whose looks and functionality are of equal concern.

To complete this path, it might even be necessary to purchase a few missing easements, or go to the expense of underground drainage or moving power poles. It may even require off-site drainage improvements where swales must be covered to accommodate the path. These costs might delay the project further, but its long-term completion and excellence should remain a critical goal for all Pine Islanders.

Landscaping in strategic locations could soften some of the utilitarian look of existing portions of the path, and curbs can be installed where the path unavoidably adjoins the roadway. In the future, additional paths might be designated along parallel streets to improve the usefulness and variety of the bike path.

Better design could avoid needless jogs

The result of moving the path rather than moving the poles

SETTING THE COURSE

Lee County is to be congratulated for its success in building a bike path along major portions of Stringfellow Road. Completing this path across the entire length of Pine Island should continue to be a very high priority of all Pine Islanders.

GETTING THERE

Adopt a new comprehensive plan policy as follows:

POLICY 14.2.4: The county shall make every effort to continue extending the bicycle path to run the entire length of Stringfellow Road. Wherever possible, this path should be designed as a major public amenity, not as an afterthought. Where needed to provide a high-quality bicycle path, power poles and swales should be relocated to avoid unnecessary jogs in the bike path.

Fences and Walls

Fences and walls serve many purposes; depending on their design and placement, they can be a character-enhancing part of a community or a divider of neighbors and neighborhoods.

Short fences or walls (less than 3 or 4 feet tall) are typically used in front yards to demarcate the fully public space in the right-of-way from semi-private front yards. These spaces together make up the public realm – the common visual space that forms much of a community's character.

Unlike fences in the public realm, back yards and rear portions of side yards can have taller fences or walls, typically 6 feet tall, to provide almost total privacy.

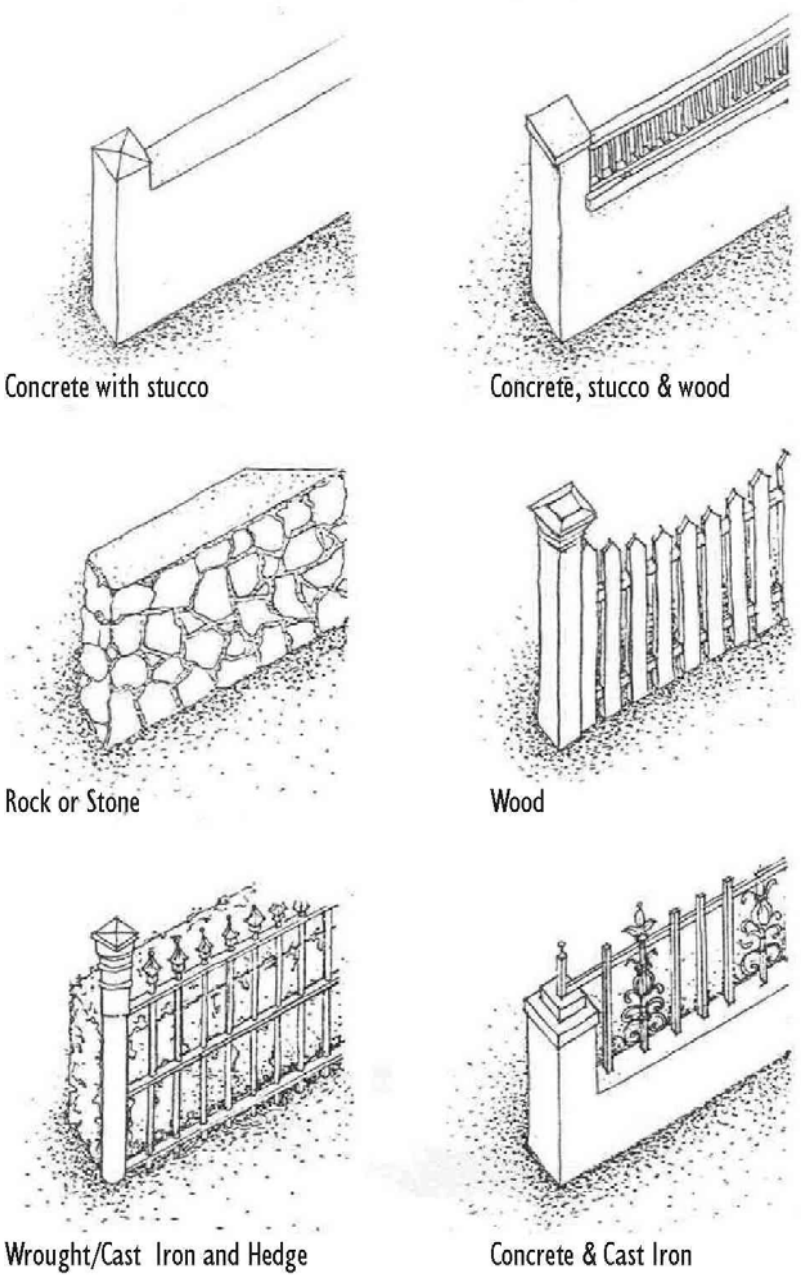
Pine Island has managed to avoid the modern trend of new neighborhoods with a single main entrance blocked by a security gate, and with a perimeter wall that blocks all other access, even for those traveling on foot. Most neighborhoods on Pine Island have more than one street connection (although water bodies and wetlands sometimes make a single entrance unavoidable). Even Alden Pines, Pine Island's only golf course community, has a street that runs all the way through, integrating it fully with the surrounding neighborhoods. The new Island Acres subdivision, however, follows the modern trend and has a single gated entrance and a perimeter wall.

Lee County's development regulations restrict fences or walls to 4 feet high in front yards and 6 feet high behind and along the sides of houses, in the traditional manner. Yet these same regulations allow a 8-foot-high "backyard-style" wall to surround an entire neighborhood, even along public streets. County regulations also permit subdivisions with private streets to be gated with very few restrictions, even where they will interfere with normal circulation patterns.

Although Pine Island is unlikely to see many entirely new subdivisions, it is reasonable for those that are approved to be built in the traditional manner, with a interconnected street network and without perimeter walls or gates.

High wall surrounding Island Acres subdivision, south of P.I. Center

Typical Pine Island roadside south of Pine Island Center



Low fence and wall styles that are desirable along streets

SETTING THE COURSE

Isolated gated communities and walled compounds are not consistent with the traditional neighborhood character of Pine Island. Any new neighborhoods should be connected to their surroundings at several points rather than being isolated. Perimeter fences, walls, and gates, if allowed at all, should be limited to individual blocks or small portions of neighborhoods.

GETTING THERE

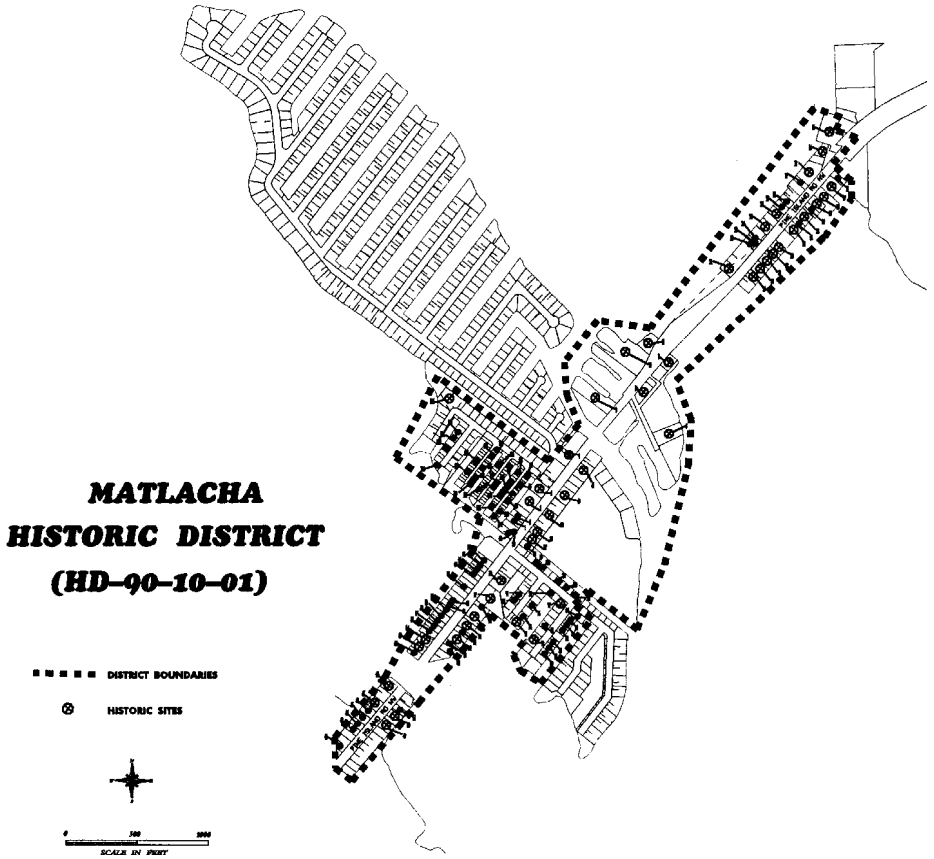
A. Adopt a new comprehensive plan policy as follows:
POLICY 14.3.5: The county shall amend its land development code to provide specific regulations for neighborhood connectivity and walls and gates on Greater Pine Island. These regulations would require interconnections between adjoining neighborhoods wherever feasible and would no longer allow perimeter walls around larger developments.

B. Modify the county's land development code to implement new Policy 14.3.5 by defining the new neighborhood connection requirements and revising the fence and wall regulations for Greater Pine Island.

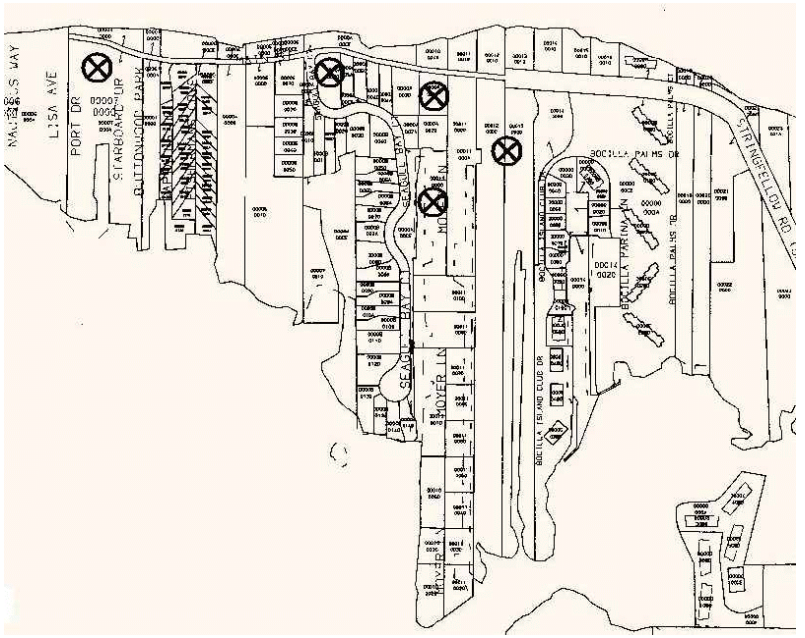
Historic Buildings

Lee County has formally designated two historic districts on Greater Pine Island. The largest district includes about 45 buildings in Matlacha, most of which are located directly on Pine Island Road. A small district has also been designated in Bokeelia that includes five properties with historic buildings. The maps below indicate these historic buildings and the Matlacha district boundary.

Potentially historic buildings on Greater Pine Island were originally identified in a historic survey conducted by Lee County in 1986. This survey identified 67 buildings of historic interest on Pine Island, generally those over 50 years old. Concentrations of these buildings were identified in Matlacha (30 buildings), Bokeelia (12 buildings), Pineland (7 buildings), and St. James City (18 buildings).



Designated historic district in Matlacha



Designated historic buildings in Bokeelia

All 67 buildings have been added to the Florida Master Site File, a statewide inventory that is maintained by the Florida Department of State. This file is just a database; listing does not imply any particular level of significance, or eligibility for the National Register of Historic Places or formal designation by Lee County.

Formal local historic designations are made in the unincorporated area by the Lee County Historic Preservation Board. Local designations qualify property owners for special incentives for upgrading their property, and require a review before improvements are made to assess their impacts on the historic value of the building.

While Lee County's 1986 historic survey was thorough, some buildings were undoubtedly missed or improperly identified, while others have been destroyed or extensively modified. As time passes, other buildings become eligible for listing as they become fifty years old. The state provides grants to have these surveys updated, although such requests require 50% matching funds and must compete with other worthy requests from across the state. An update of the Pine Island survey would provide the basis for formally designating historic buildings in St. James City and Pineland, and possibly more buildings in Bokeelia. It may also identify buildings or districts that have become eligible for the National Register of Historic Places.

The official designation of more of Pine Island's historic buildings would bring greater attention to their significance, building pride in maintaining them while enhancing the surrounding community. Owners of historic buildings often find the incentives that come with designation to be critical in being able to improve their properties, which modern codes often consider to be obsolete rather than in need of special consideration.

SETTING THE COURSE

The historic districts in Matlacha and Bokeelia have successfully protected the strong sense of place in both communities. Lee County should expand this program to include individual sites and concentrations of historic buildings in St. James City and Pineland.

GETTING THERE

Adopt a new comprehensive plan policy as follows:

POLICY 14.5.4: The county shall update its historic sites survey of Greater Pine Island if an update is determined to be needed. The county shall consider formal local designation of additional historic buildings, especially in St. James City, Pineland, and Bokeelia, and shall identify potential buildings or districts for the National Register of Historic Places.

Cap on Building Heights

At the urging of Pine Islanders, the Lee County Commission in 1977 declared Greater Pine Island as unique in scenic beauty and geography and adopted the first meaningful limitation on building heights. No buildings taller than 38 feet above ground could be built on Greater Pine Island, other than an unexplained exception for industrial buildings.[5]

This height limit has been fiercely protected since that time because the lack of mid-rise or high-rise buildings is a strong character-defining element for a Florida coastal island. (Figure 3 shows a 1973 proposal—never built—for an out-of-scale condominium just north of St. James City.)

As extra protection, this height limit was added into the Pine Island section of Lee County's comprehensive plan, initially in 1989 just by committing to retain the existing code provisions, then in 1994 with the following more specific language:

> ***POLICY 14.3.3:*** *The county's zoning regulations shall continue to state that no building or structure on Greater Pine Island shall be erected or altered so that the peak of the roof exceeds thirty-eight (38) feet above the average grade of the lot in question, or forty-five (45) feet above mean sea level, whichever is the lower.*

Despite this clear language, there is continuing concern among Pine Islanders that the building height cap might be misinterpreted, overlooked, or evaded through variances.

Pine Island Highrise

Pine Island's first highrise condominium project is St. Jude Estates, on a parcel lying between Stringfellow Boulevard and Long John Silver Canal just north of St. James City at St. Jude Harbor. The 244 apartments will be in an L-shaped 10-story structure. Also proposed is a two story building facing the highway for convenience-type stores and shops. Earlier this month permits for $4.1 million worth of construction were issued by the Lee County Building Department. Developer of the proposed project is Joseph A. Leone Jr. of Lawrence, Mass. The St. Jude Estates project is expected to cost about $10 million.

Figure 3

This cap might be misinterpreted because it measures building height from *ground level* and *sea level*, while in the rest of coastal Lee County, building heights are measured from the minimum flood level (the height above which all new homes must be elevated, which varies across the island from 8 feet to 11 feet above sea level).

This cap might also be overlooked by a new permit reviewer or by one not familiar with this one clause in an extremely long land development code. Another possibility is that one of the exceptions that Lee County allows to other height regulations might be incorrectly applied to Pine Island; or variances might be granted to this regulation without a showing of "exceptional

[5] Lee County Ordinance 77-15, amended by 78-19, and 80-20; later codified into Lee County's land development code at section 34-2175: "*Height limitations for special areas*. The following areas have special maximum height limitations as listed in this section: ... (5) *Greater Pine Island.* No building or structure shall be erected or altered so that the peak of the roof exceeds 38 feet above the average grade of the lot in question or 45 feet above mean sea level, whichever is lower. The term "building or structure," as used in this subsection, shall not include a building or structure used for an industrial purpose."

or extraordinary conditions," which are legally required for variances.

Policy 14.3.3 now simply describes the Pine Island height regulations and forbids its repeal from the county's land development code. Stronger approaches can be considered to guarantee the continued success of this cap.

One stronger approach is to place the height restriction directly into Policy 14.3.3 (instead of by reference to the zoning regulations). If this change were made, it would become impossible for variances ever to be granted, because no variance can legally be granted to any comprehensive plan requirement. This is appealing, given the prevailing fear of careless granting of variances; however, it is fraught with danger because there may be some unusual situation where a variance *should* be granted. In that case, the only alternative will be to permanently change the rule, rather than allowing an exception in that single instance.

A better approach is to modify the current wording of Policy 14.3.3 to specifically disallow certain incorrect interpretations on building heights. For instance, the policy could forbid any "deviations" from this height restriction (deviations can now be granted *without* the showing of exceptional or extraordinary conditions, as is required for a variance). The policy could also explicitly forbid the substitution of flood elevations as the starting point for measuring height [see LDC § 34-2171], and could forbid increases in building heights in exchange for increased setbacks, an acceptable practice elsewhere in Lee County [see LDC § 34-2174].

These new prohibitions, plus the elimination of the exception for industrial buildings, would cement Greater Pine Island's historic height regulations while still allowing the possibility of a variance in extreme circumstances.

SETTING THE COURSE

Building heights on Greater Pine Island have been carefully restricted since 1977. These restrictions have protected the community's character and must be maintained. Potential loopholes should immediately be closed.

GETTING THERE

1. Modify comprehensive plan Policy 14.3.3 as follows:
   POLICY 14.3.3: The land development code ~~county's zoning regulations~~ shall continue to state that no building or structure on Greater Pine Island shall be erected or altered so that the peak of the roof exceeds thirty-eight (38) feet above the average grade of the lot in question, or forty-five (45) feet above mean sea level, whichever is the lower. No deviations from these height restrictions may be granted through the planned development process. These height restrictions shall not be measured from minimum flood elevations nor shall increases in building height be allowed in exchange for increased setbacks. Industrial buildings must also comply with these height restrictions.
2. Amend the land development code to specifically include the new restrictions added to Policy 14.3.3.

Business Signs

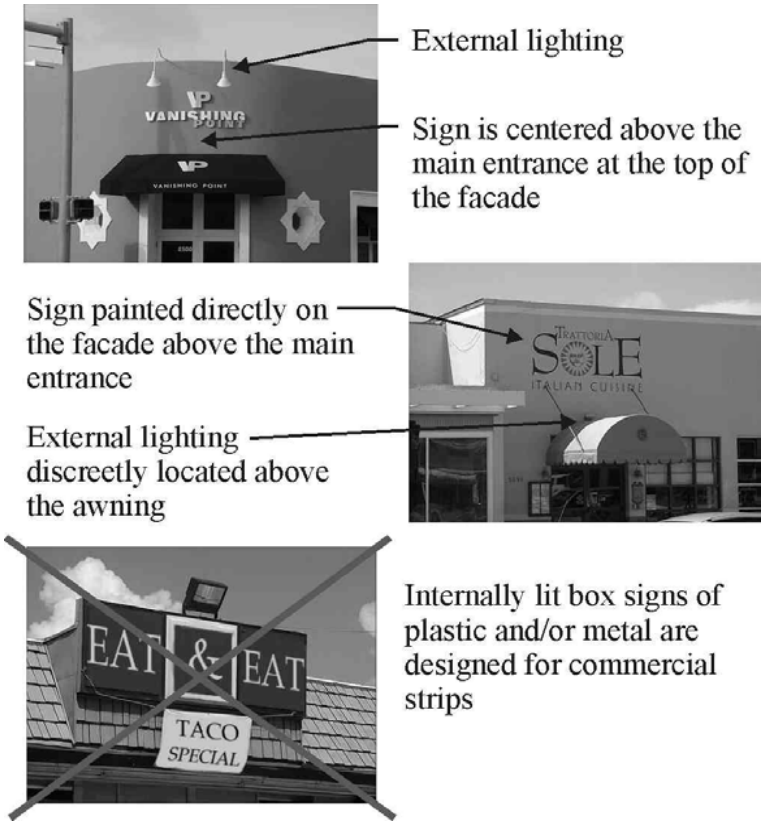
Signs on Pine Island are controlled by general Lee County regulations. At present, only Captiva has separate regulations. For many years the county's regulations were extremely lenient, resulting in some oversized signs that remain standing today.

For new signs, the current regulations encourage signs to be freestanding, either mounted on poles or placed directly on the ground. Large pole and ground signs, however, are more appropriate for suburban strips where commercial buildings are set far back from the road.

Where most motorists drive the roads regularly, as on Pine Island, business signs need not be as large as they would be on a major highway like US 41. When buildings are nearer the road, as promoted by this plan, a better location for signs is directly on the wall of the building. Thus, regulations for business signs on Pine Island could be improved as follows:

- The regulations could limit pole and ground signs to sizes smaller than are needed on major highways.
- The regulations could encourage signs to be wall-mounted or to project out from a building, for instance on awnings, and to be made up of individual letters, rather than using internally lit plastic box signs that are out of character on Pine Island.
- Wall signs are now forbidden when buildings are within 15 feet of a right-of-way (common in Matlacha), yet walls are the most appropriate location for signs there.

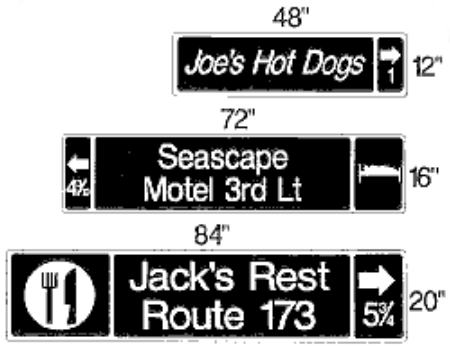
In contrast to business identification signs, current regulations classify billboards as "off-premises" signs. New billboards are not allowed on Greater Pine Island. This is important because billboards are needless advertising that blights the scenic beauty of Greater Pine Island. However, some older billboards have been used on Pine Island as "directional signs" that direct travelers to businesses that aren't visible.



Lee County regulations currently allow new directional signs only for residential subdivisions and for nonprofit groups, but never for businesses. Pine Island has only a single north-south road. Businesses such as marinas and groves that are located on other streets are not allowed to have a small sign on Stringfellow showing motorists where to turn.

The state of Maine has developed a program for this situation that could be a model for Pine Island and other locations where some businesses are otherwise "invisible." Businesses can purchase a small roadside sign using a common format that the

state then installs at safe locations in the right-of-way just before motorists must turn. The illustration to the right shows Maine's standard sign sizes. Municipalities can also contract with the state to use a distinctive theme for their community.



A similar program tailored to Pine Island's needs and perhaps having a common artistic character could help the public locate individual businesses while continuing the prohibition on billboards.

SETTING THE COURSE

Lee County's sign regulations should be supplemented with specific standards that match the rural character of Greater Pine Island. These rules would encourage smaller signs on businesses, discourage signs typically found on commercial strips such as U.S. 41, allow small directional signs for businesses not visible from Stringfellow Road, and continue to ban billboards.

GETTING THERE

- Adopt a new comprehensive plan policy as follows: **POLICY 14.4.4:** The county shall expand its current sign regulations to include specific standards for Greater Pine Island. These standards will reduce the size of ground-mounted signs, discourage or disallow internally lit box signs, allow wall signs on buildings near the right-of-way, and allow small directional signs on Stringfellow Road for businesses not visible from the road.
- Modify the county's land development code to implement new Policy 14.4.4 by incorporating new sign standards for Greater Pine Island.

County-initiated Rezonings

Property being developed must comply with its current zoning district *and* with the Lee Plan. In some cases, a property's zoning district has become obsolete due to changes in the Lee Plan. For instance, property that may have been zoned for a subdivision decades ago can no longer be developed at all because it is a protected mangrove forest.

More commonly, land with zoning that seemingly allows either commercial and residential uses cannot be developed commercially, or as intensely, due to specific policies in the Lee Plan. A 1989 Lee County study identified over 600 acres of land on Greater Pine Island whose zoning allows at least some commercial uses, whereas the Lee Plan will only allow the development of only a fraction of that amount.

Despite the legal requirements for compliance with both zoning and the Lee Plan, investors sometimes purchase land based only on its zoning. Lee County should methodically eliminate zoning that no longer reflects uses that are permissible on land. This is a difficult undertaking that has been largely put off since the adoption of the original Lee Plan in 1984.

SETTING THE COURSE

Lee County should methodically eliminate zoning classifications that will create false development expectations for potential investors.

GETTING THERE

- Adopt a new comprehensive plan policy as follows: **POLICY 14.4.5:** The county shall establish a prioritized schedule for a five-year effort to rezone land to zoning districts that properly reflect its development potential under the Lee Plan.
- Begin the process of rezoning improperly zoned land on Greater Pine Island.

Pine Island – a Vision for 2020

Beginning in 1999, Lee County's comprehensive plan has included a brief "vision statement" for each of twenty segments of unincorporated Lee County. The Pine Island segment is worded as follows:

> ***Pine Island –*** *This community includes the major islands of Pine Island, Little Pine Island, and Matlacha, the surrounding smaller islands, and the previously mentioned enclaves in the City of Cape Coral. This community has an overall identity of Pine Island; however, there are four sub community centers within the overall community. The four areas within the Pine Island Community are: Bokeelia at the northern tip, St. James City at the southern tip of the island, and Matlacha which is a small island between the mainland and Pine Island. The Pine Island community is similar to the other island communities in that the residents leave the islands to satisfy many of their commercial needs. However, unlike the other island communities, Pine Island does not have a substantial amount of tourist oriented commercial. Since the Pine Island community does not contain the gulf front beaches the other island communities have, this is not expected to change during the life of the plan. This community will add a small amount of new commercial by 2020 to meet the daily needs of residents; however, Pine Island community residents will still satisfy most of their commercial needs outside of their community. The population of this community will also grow from 8,400 permanent residents in 1996 to approximately 9,700 residents in 2020 and a total seasonal population of nearly 15,000. Pine Island is also different from the other island communities in that it has a much higher percentage of non-seasonal residents.*

This language focuses on commercial development and expected growth almost to the exclusion of any meaningful vision of Pine Island's future.

The Lee County plan would be better served by replacing the current language with a succinct summary of the vision that Pine Islanders have articulated through this plan update.

SETTING THE COURSE

Pine Islanders have articulated their own vision for the future of Greater Pine Island through this comprehensive plan update; a summary of this vision should be placed in the opening chapter of Lee County's comprehensive plan.

GETTING THERE

In the "Vision for 2020"section of the Lee Plan, replace the current language for the Pine Island planning community with the following description (summarized from this plan update):

Pine Island – This community includes Greater Pine Island as described under Goal 14 along with surrounding smaller islands and some unincorporated enclaves near Cape Coral. Its future, as seen by Pine Islanders, will be a matter of maintaining an equilibrium between modest growth on the one hand and a fragile ecology on the other. Pine Island will continue to be a haven between urban sprawl approaching from the mainland and the wealth of the outer islands; a quiet place of family businesses, school children, and retirees enjoying the bounties of nature; a place devoid of high-rises, strip malls, and gated communities. Traffic constraints caused by the narrow road link to the mainland will limit future development, allowing the islands to evacuate from storms and protecting natural lands from unsustainable development. Wildlife and native vegetation will be protected; loss of wildlife habitat will be reversed; sidewalks and bike paths will connect neighborhoods for young and old alike. Architectural standards for commercial buildings will encourage "Old Florida" styles, and historic buildings will be treasured. Pine Island will continue to be a place where people and nature exist in harmony, a place not very different from what it is today, an island as state-of-mind as much as a physical entity, its best features preserved and enhanced. Pine Islanders are historically vigilant about protecting their community and will work to ensure that their plans are carried out.

Municipal Incorporation

Florida law allows individual communities to "incorporate" to form their own city. New cities remain under the control of county governments for many functions but can independently provide certain services, including planning and zoning. (Cities can also choose to call themselves towns or villages.)

Since 1995, both Fort Myers Beach and Bonita Springs have incorporated. The large tax bases in those communities have been able to support city governments without additional taxes. However, in communities without such high property values, a city government would require higher property taxes.

The legislature has erected various hurdles to discourage a proliferation of new cities:[6]

- A population density of 1.5 persons per acre is normally required, as well as a total permanent population of 5,000.
- There must be 2 miles or "an extraordinary natural boundary" between the new city and an existing city.
- A formal feasibility study must demonstrate the fiscal capacity of the proposed city. In order to qualify for important state revenue-sharing, the new city must impose at least 3.0 mills of property taxation,[7] whereas Lee County now charges only 1.2 mills for municipal services. (Fort Myers Beach and Bonita Springs have gotten around this requirement by convincing the legislature to count the property taxes now being imposed by their independent fire districts as part of this 3.0 mills.)
- A special act of the legislature is required even when all of these requirements have been met, followed by a referendum of voters in the affected area.

City governments tend to become expensive, not just because some duplication of services is inevitable, but because an effective city government will tackle problems that citizens wouldn't entrust to more distant levels of government. However, "minimum cities" are becoming a trend; instead of employing large staffs, they contract with outside service providers and allow county government to provide many traditional services.

If Greater Pine Island were to incorporate as a city, it would likely leave the water association and fire department as independent entities. Law enforcement, operation of the sewer plant, emergency management, building permits, and zoning enforcement could be contracted back to Lee County. However, planning and zoning decisions would almost certainly be made by the new government, and additional services could be provided as needs arise.

Municipal incorporation isn't inherently good or bad. Pine Islanders should assume that taxes would have to be raised to support a city government (a revenue analysis could assess the likely costs), and this fact would make it somewhat difficult for a referendum to succeed. Other costs to be considered are the divisiveness of most incorporation efforts (Captiva's experience in the past year is cautionary), and the potential costs of hurricane recovery plus litigation to defend land-use decisions.

On the positive side, Pine Islanders face many distinctive issues that the current Lee County government finds to be outside its "core mission" — issues which Pine Islanders would gladly involve themselves, given the proper forum. Greater Pine Island has a strong history of civic activism and a core of retired citizens who could devote a great deal of attention to municipal matters.

Thus discussion of incorporation can be expected on a regular basis. If Lee County is responsive to Pine Island issues, incorporation may never appeal to enough citizens to justify the costs. However, incorporation always remains an alternative to governance by the county commission.

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[6] Chapter 165, *Florida Statutes*

[7] Section 218.23, *Florida Statutes*

Protecting the Aquatic Preserves from Runoff

The current Pine Island plan requires a buffer area between new developments and aquatic preserves:

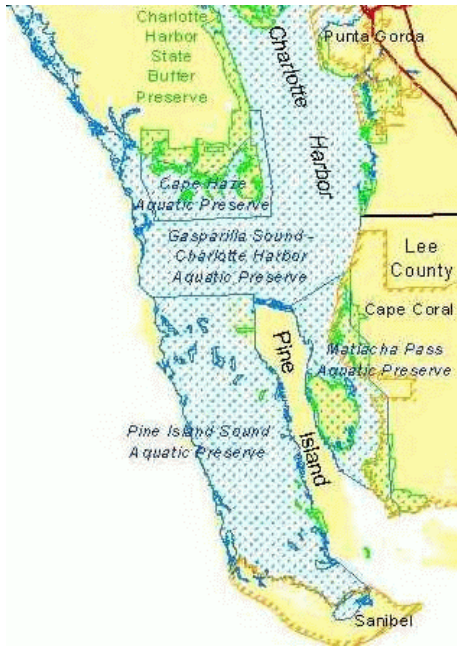
> ***POLICY 14.1.5:*** *New "planned development" rezoning approvals and new subdivisions adjoining state-designated aquatic preserves and associated natural tributaries shall provide a 50-foot-wide vegetated buffer area between the development and the waterbody.*

Buffer areas of this type save a strip of native vegetation along the transitional zone between water (or wetlands) and uplands. With proper design, this strip can prevent erosion and trap sediments and other pollutants running off the land, in addition to its original functions.[8]

Such buffers are especially valuable on Pine Island because the island is surrounded by aquatic preserves. These preserves were designated by the state in the 1970s for their "exceptional biological, aesthetic, and scientific value" and are "set aside forever...for the benefit of future generations."[9]

A major management goal for aquatic preserves is to encourage uses of adjacent uplands that protect and enhance the resources in the aquatic preserves.

Policy 14.1.5 has been incorporated by Lee County into its land development code.[10] However, as currently worded, it has proven ineffective because it does not apply to agriculture, the predominant new land use on Pine Island over the past decade.



[8] "Lands immediately adjacent to an upland or wetland are transition zones between wetlands and uplands. They are zones that are wetland at times and upland at times, exhibiting characteristics of each and vegetated by species that are found in each. They are important to both the wetland and the upland as seed reservoirs, as habitat for aquatic and wetland-dependent wildlife species, as refuges to wildlife species during high-water events, and as buffers to the extreme environmental conditions that result from sharp vegetated edges. When development activities occur in transition zones, wetland-dependent wildlife species that are frequent users of theses areas are excluded, silt laden surface waters are generated and cannot be filtered, and groundwater may be diverted or drained." M.T. Brown and J. Orell, *Tomoka River and Spruce Creek Riparian Habitat Protection Zone*, p. 4 (St. Johns River Water Management District, 1995).

[9] Section 258.36, *Florida Statutes*

[10] This policy has been implemented through Lee County's land development code as shown in these excerpts:

Sec. 34-935(d) Where the proposed planned development is within the Greater Pine Island area and adjoins state-designated aquatic preserves or associated natural tributaries, a 50-foot-wide vegetated buffer area between any structure or building and the mean high-water line of the water body shall be provided. No deviation from this requirement shall be permitted except under extreme circumstances in which the requirement would have the effect of prohibiting all reasonable use of the property.

Sec. 10-414(f) Except where a stricter standard applies for the Greater Pine Island Area (defined in chapter 34 of the land development code), there must be a 25-foot wide buffer landward from the mean high water line of all nonseawalled natural waterways. Where a proposed planned development or subdivision is located in the Greater Pine Island Area adjoining state-designated aquatic preserves and associated natural tributaries, the width of the required buffer will be 50 feet. . . . Existing vegetation within the buffer area must be retained except for the removal or control of exotic plants.

Normally a new setback or buffer requirement is easy to adopt and administer. In this case it would be more difficult because Lee County has chosen to exempt agriculture from nearly all of the requirements that apply to developers.

One exception is that Lee County requires new agriculture operations to obtain a "notice of clearing" from the county before clearing any land. A change could be made to the requirements for a "notice of clearing" to require the retention of at least the 50-foot-wide native buffer that is required for all other land uses and to encourage it to be used with a filter strip to cleanse stormwater runoff before it reaches the mangrove wetlands and tidal waters.

The U.S. Department of Agriculture is strongly promoting riparian forest buffers[11] of at least 50 feet and filter strips[12] of at least 20 additional feet around farm fields through their National Conservation Buffer Initiative. The USDA calls them "common-sense conservation" and promotes these buffers as an important supplement to conventional stormwater retention strategies, to serve as a second line of defense in protecting natural resources from avoidable side-effects of agriculture.[13] The USDA even helps pay for riparian buffers on private property through its Conservation Reserve Program.

SETTING THE COURSE

Wholesale land clearing up to the edge of the mangrove forest is now allowed for agriculture. All other new development must maintain a 50-foot native buffer strip between cleared land and natural water bodies. New rules should require agriculture to maintain at least the same 50-foot separation and use it to filter stormwater runoff.

GETTING THERE

Modify comprehensive plan Policy 14.1.5 as follows:

POLICY 14.1.5: All new development, including ~~New~~ "planned development" rezoning approvals, ~~and~~ new subdivisions, and agriculture, that adjoin~~ing~~ state-designated aquatic preserves and associated wetlands and natural tributaries shall preserve or create ~~provide~~ a 50-foot-wide native vegetated buffer area between the development and the waterbody~~.~~ or associated wetlands. This requirement shall not apply to existing subdivided lots. For agriculture, this requirement:

- shall be implemented through the notice-of-clearing process in chapter 14 of the land development code;
- shall include a requirement to use this area as a riparian forest buffer with an adjoining filter strip wherever farmland abuts wetlands; and
- if native vegetation does not currently exist, native tree cover shall be established within three years of issuance of the notice of clearing.

[11] Riparian Forest Buffer (Natural Conservation Service Conservation Practice Standard 391), available from ftp://ftp.ftw.nrcs.usda.gov/pub/nhcp/pdf/391.pdf

[12] Filter Strip (Natural Conservation Service Conservation Practice Standard 393), available from ftp://ftp.ftw.nrcs.usda.gov/pub/nhcp/pdf/393.pdf

[13] For details on the National Conservation Buffer Initiative, consult USDA's Natural resources Conservation Service at http://www.nhq.nrcs.usda.gov/CCS/Buffers.html

Septic Tanks Along Canals

Water quality in Pine Island's canals and bays can be degraded by many factors, some of which cannot be controlled easily (such as polluted water coming down the Caloosahatchee).

Other factors can be corrected if the public is aware of the problem and is willing to pay to solve it. An example of the latter is bacterial or viral pollution caused by improperly installed or malfunctioning septic tank drainfields. Contaminated canal water can pose health risks from exposure while swimming or boating or from eating contaminated seafood.

Used under proper conditions, septic tanks are a cost-effective method of sewage disposal for individual households. Ideal conditions include porous soils, large lots, the absence of nearby shallow wells or water bodies, and proper maintenance.

However, under some conditions septic tanks function poorly. During normal operation, excess wastewater is routed from each septic tank to an underground drainfield, which is a series of pipes that spread the water over a porous layer of gravel and then into the ground. Because septic tanks alone provide very limited treatment, proper soil conditions are essential so that movement through the soil can provide another level of treatment to capture viruses and other pathogens before wastewater comes in contact with humans or natural systems.[14]

Riskier conditions for septic tanks include a high water table, small lot, nearby well or waterway, installation too low in the ground, and lack of maintenance. When not installed or functioning properly, septic tank drainfields can provide a direct path for the pollutants in domestic wastewater to reach the canals and then the bays.

Pine Island's 66 miles of canal banks are potential routes for pollution to enter sensitive waters. Because most of these canals are deep and dead-ended, they are not easily cleansed by tidal flow. Also, daily tidal fluctuations can raise and lower groundwater levels near canals, creating a pumping effect that can speed the flow of pollutants from the soil into canals.

In the 1980s Lee County installed central sewer service throughout Fort Myers Beach and Matlacha after too many poorly functioning septic tanks along canals caused pollution levels to reach dangerous levels. No agencies currently have a regular program to monitor canals for signs of degradation due to older or malfunctioning septic systems.

In 1988, state rules allowed Lee County to insist that drainfields for new homes be elevated at least 24 inches above saturated soils, sometimes requiring above-ground mounds. These newer systems are much more likely to function properly without polluting nearby waterbodies. However, it is often impractical or even impossible for older homes to upgrade to the new standard.

Decisions to upgrade wastewater disposal systems are often caused by outside factors. This is what happened to the temporary sewage plant that Lee County had installed in the early 1980s on state-owned land on Little Pine Island to replace the septic tanks in Matlacha. This plant itself had become a source of pollution and the state insisted that it be removed. Instead of connecting Matlacha's sewers to the advanced treatment plan in Cape Coral for conversion into irrigation water, Lee County decided to build a new sewage treatment plant on Pine Island.

The decision to build a new regional sewer plant on Pine Island was probably ill-advised, given local soil conditions and flooding risks and the excess capacity available at the Cape Coral plant.

[14] "Human viruses in the coastal waters of Florida," Coastlines, issue 10.6, December 2000, available at http://www.epa.gov/owow/estuaries/coastlines/dec00/humanviruses.html

However, there are some benefits to Pine Islanders. Many of Pine Island's small freestanding sewer plants can now be easily connected to the new plant, and if septic tanks in sensitive areas are causing pollution, they can be connected also.

The most likely areas for septic tank damage would be populated areas with older septic systems on small lots abutting saltwater canals. These conditions may exist in parts of St. James City, Bokeelia, and Flamingo Bay. A coordinated effort should be mounted to determine whether existing drainfields in those areas are polluting Pine Island's canals.

Simple tests of canal water for fecal coliform bacteria is not sufficient because bacteria levels can be high for other reasons as well. More sophisticated methods are now available for determining whether septic tanks are actually polluting the water. These include dyes and viral tracers that can be flushed into septic tanks to detect whether wastewater is moving slowly enough through the ground to provide a reasonable level of treatment. Two recent studies of this nature in Citrus County and the Florida Keys have found contamination of waterways caused by septic tanks.[15, 16] Similar studies have also been conducted in New Port Richey and Sarasota.

If such tests demonstrate that serious problems exist, the county could establish an inspection program to identify and require replacement of failing or older septic systems, or could require upgrading when a home is sold. Other actions could include providing full sewer service for those neighborhoods, or a hybrid which might keep the septic tanks but route the effluent into sewers instead of on-site drainfields.

Central sewer service is fairly expensive to install and involves regular monthly charges for operation. However, septic-tank replacement is also expensive and disruptive to yards, especially when mounded drainfields are required. If there is clear evidence that septic tanks are causing pollution, Pine Islanders would support reasonable alternatives because clean and bountiful waters are an expected part of Pine Island life.

SETTING THE COURSE

Water quality in the canals and bays is very important to Pine Islanders. Lee County should initiate a program to determine whether older or failing septic tanks along canals are polluting the water, and if so, the county should analyze steps to solve the problem, including extending central sewer service if warranted.

GETTING THERE

Modify comprehensive plan Policy 14.1.7 as follows:

POLICY 14.1.7: ~~The county shall continue to investigate the need for central sewer service for Bokeelia, St. James City, and Pine Island Center. This shall include, for any area having a strong need for such service, an analysis of available facility sites, alternative types of service, and financial feasibility.~~ Lee County shall design a program within one year to assess the condition of septic tank drainfields along saltwater canals in St. James City, Bokeelia, and Flamingo Bay. This program would analyze whether current soil conditions or the density, age, or condition of drainfields are likely to be degrading tidal water in the canals. If serious degradation is taking place, Lee County shall assess the feasibility of various corrective measures.

[15] "Bacteriological and pathogenic water quality assessment of the upper reaches of the Chassahowitzka Watershed" by Michael R. Callahan, Joan B. Rose, Ph.D., and John H. Paul, Ph.D. 2001, prepared for the Utility Division of the Citrus County Department of Public Works.

[16] "Viral tracer studies indicate contamination of marine waters by sewage disposal practices in Key Largo, Florida" by Paul, J.H., Rose, J.B., Brown, J., Shinn, E.A., Miller, S., and Farrah, S.R., in *Applied and Environmental Microbiology*, 1995, vol. 61, No. 6, p. 2230-2234; available at http://aem.asm.org/cgi/reprint/61/6/2230.pdf

Jet-skis and Air Boats

It is no surprise that conflicts often arise over the use of local waterways in a boating community like Pine Island. County government has a limited role in resolving these conflicts, with most authority being retained by the state and federal government.

Counties do exercise some authority over boating. For instance, power boats can be restricted from interfering with popular bathing beaches, and certain boating activities can be regulated under land-use authority (such as the rental of boats). These activities can affect or be affected by shoreline land uses, thus giving counties a clear role in balancing competing uses.

In public meetings on Pine Island, there are two frequent complaints about the effects of boating on land use that might be addressed at the county level. One is the increased popularity of jet-skis (a trade name for what has become known generically as personal watercraft) and the other is the noise from air boats.

Personal watercraft use an inboard engine to drive a water jet pump that propels the boat by exhausting a large stream of water. Personal watercraft are noisy because they are built and marketed as high-speed "thrill craft" that are very powerful and maneuverable. The operators of personal watercraft ride them while standing, kneeling, or sitting *on* them, rather than sitting inside them like conventional boats. For all of these reasons, accident rates for personal watercraft are very high.

Lee County now regulates mainly the *rental* of personal watercraft; state law controls their *operation*. New county regulations over the operation of personal watercraft would now be very difficult due to a new state law that effectively bans local regulation of personal watercraft. While this state law remains in effect, local governments must ignore even legitimate distinctions between personal watercraft and other boats.[17]

Lee County's current regulations keep personal watercraft rentals away from the bays and sounds by limiting rental locations to the barrier islands.[18] However, those renting personal watercraft, or owning them, can operate them in the aquatic preserves around Pine Island. Unless state law is changed, counties have no authority to adopt restrictions.

Air boats can traverse very shallow water because of their unconventional system of propulsion: their engines spin an *above-water* propeller. Thus there are two sources of noise. First in the engine itself, which is often run without a muffler. But most of the noise comes from the propeller, which at high speeds greatly amplifies the engine noise. Air boats are very noisy and affect waterfront landowners and some wildlife, especially birds. State limitations on air boat noise are rarely enforced.

Local efforts to control air boat noise could involve local enforcement of state noise limits, or a ban on nighttime use, or a ban against operations outside marked channels (or within a fixed distance of the shoreline, except near boat ramps). In 1999 Fort Myers Beach banned all air boats in the portions of Estero Bay within the town because of noise and wildlife impacts.

Problems caused by air boats occur throughout Lee County's waters. Rather than addressing air boat problems just around Pine Island, Lee County should consider countywide regulatory measures that would preclude the greatest problems caused by careless use of air boats without adding to the patchwork of boating regulations that are already difficult to enforce.

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[17] "Any ordinance or local law which has been adopted pursuant to this section or to any other state law may not discriminate against personal watercraft as defined in s. 327.02." (Chapter 2000-362, section 20)

[18] Lee County Ordinance No. 95-13, section 9

APPENDIX A: TRANSPORTATION DATA AND ANALYSIS

TABLE OF CONTENTS FOR APPENDIX A

Access to Pine Island was strictly by boat until 1926 when the causeway carrying Pine Island Road was built through the mangrove islands that became Matlacha. With road access, modern development became practical.

For many decades, this two-lane road was sufficient to meet all demands placed upon it. Although there have been occasional discussions about a second bridge to Pine Island, the hurdles facing such a plan have always been insurmountable.

Constraints on access to Pine Island

As the years progressed, traffic on Pine Island Road has continually increased. By general county standards, the current congestion would warrant plans to widen this road to four lanes, and funds to do so would be found by juggling Lee County's capital improvements budget. In fact, this widening would be necessitated by Lee County's concurrency standards, which require that all development and building permits be stopped once traffic on a road exceeds the road's full capacity, a congestion level known as "Level of Service E" (LOS "E").

However, Lee County has formally designated certain roads that cannot (or should not) be widened as "constrained." According to Lee Plan Objective 22.2: "Reduced peak hour levels of service will be accepted on those constrained roads as a trade-off for the preservation of the scenic, historic, environmental and aesthetic character of the community." The Matlacha section of Pine Island Road has been designated as "constrained" since 1989.[19] Since that time, Lee County has also designated the heart of Matlacha as a historic district, further protecting the community from road widening that would damage its character (see map of historic district on page 26).

The 810/910 rule in Lee Plan Policy 14.2.2

Origin of Policy 14.2.2

In 1989, Lee County was negotiating with the state over details of its new comprehensive plan, including the concept of constrained roads. Much of the controversy centered around another constrained (but much more heavily congested) road, Estero Boulevard at Fort Myers Beach. Community sentiment there strongly favored enduring the road congestion rather than widening Estero to four lanes, in part because the congestion was limited to the winter season when there was no hurricane evacuation threat. To reflect that sentiment, Lee County decided to sanction very extreme levels of congestion on constrained roads.[20]

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[19] Pine Island Road from Shoreview Drive west to Little Pine Island, according to Lee Plan Table 2(a)

[20] Specifically, 85% more traffic than the roads were designed to handle would (at least theoretically) be allowed.

For most of Lee County's islands, a "constrained" designation on their access road caused few or no problems. At Fort Myers Beach, nearly all land was already developed, and the existing traffic congestion was accepted as the price of a prosperous tourist economy. Bonita Beach, Captiva, and Boca Grande were nearly at build-out and under strict growth controls, so loosening the road standards would not increase traffic congestion. Sanibel, as its own city, would not be affected at all.

Only on Pine Island could the "constrained" designation have had alarming consequences. On Pine Island, vast tracts of land were still undeveloped; and the seasonal population extremes, while significant, weren't as great as the other island communities, leaving a larger percentage of Pine Island's population subject to summertime evacuations.

To avoid these effects on Pine Island, Lee County needed to supplement the constrained designation to keep it from allowing more development than the road system could handle. The county chose to modify a 1988 proposal from the Greater Pine Island Civic Association which was designed to gradually limit development on Pine Island as Pine Island Road began to approach its capacity. The proposal would have prohibited rezoning most additional land for development when 80% of road capacity was used up, and prohibited approvals of new subdivisions, even on land already zoned, when 90% was used up.[21]

Those percentages were based on the road's capacity at LOS "D," which at the time was defined as representing:

> *"...high-density, but stable, flow. Speed and freedom to maneuver are severely restricted, and the driver or pedestrian experiences a generally poor level of comfort and convenience. Small increases in traffic flow will generally cause operational problems at this level."*[22]

Under the conditions existing on Pine Island Road, LOS "D" was defined by Lee County as occurring when 1,010 vehicles per hour used the road during the busiest hours in the winter.

To make sure that these limits wouldn't be ignored when they were reached, the state land planning agency insisted that the Lee Plan convert those percentages to specific vehicle counts at the nearest permanent traffic count station, which is located on Little Pine Island at the western edge of Matlacha. Thus, 80% was converted to 810 vehicles per peak hour, and 90% was converted to 910 vehicles.[23] These levels were then adopted into law as Lee Plan Policy 16.2.2 (later renumbered to 14.2.2).

Physical changes to Pine Island Road since 1989

During 1991 and 1992, Lee County reconstructed Pine Island Road from Burnt Store Road to Stringfellow Road. The county elevated flood-prone segments and widened the travel lanes to twelve feet. Within Matlacha, French drains were installed and the pavement was extended beyond the travel lanes in some places for parking. Outside Matlacha, the shoulders were widened to eight feet (four feet of which was paved) and the drainage ditches were improved.

These improvements had already been designed by late 1989 and a consultant to Lee County had analyzed whether they would increase the traffic-handling capacity (known as the

[21] *Pine Island Land Use Study – Issues and Recommendations*, prepared by Carron Day for and with the assistance of the Greater Pine Island Civic Association, January 1988.

[22] *Support Documentation for the Traffic Circulation Element*, for revisions adopted January 31, 1989, prepared the Lee County Division of Planning and Department of Transportation and Engineering, pages III-5, III-6, and III-10.

[23] *Proposed 1990 Revisions to the Lee Plan, Volume 1, Traffic Circulation Element*, prepared by David Plummer and Associates, September 1990, pages III-4 and B-6.

"service volume") of Pine Island Road. If they would have actually increased the road's capacity, the 810 and 910 figures might have been increased accordingly. The consultant concluded that they would not increase capacity:

> *"The reconstruction currently underway on Pine Island Road west of Burnt Store Road will raise the elevation of the roadway and widen the lanes to standard widths. Neither of these improvement will, according to the 1985 Highway Capacity Manual, affect the service volumes."*[24]

Current traffic conditions on Pine Island Road

Since 1990, traffic on Pine Island Road in Matlacha has increased by about 22%. Figure A-1 shows the average counts for each year, with a visual comparison to the 810 and 910 thresholds in Policy 14.2.2. The 810 threshold was surpassed in 1998, 1999, and 2000.

These significant traffic increases occurred during a decade where there was relatively little new subdivision or condominium development on Pine Island. Population increases resulted mostly from the construction of new homes on pre-existing vacant lots. Other traffic increases may have resulted from difficult-to-quantify changes in tourism or commuting patterns.

The largest traffic flows through Matlacha are eastbound during the morning rush hours and westbound during the afternoon rush hours, as shown in Figure A-2. Afternoon peaks are slightly higher than morning peaks. This pattern is similar year around, with the peaks more pronounced during the less busy months.

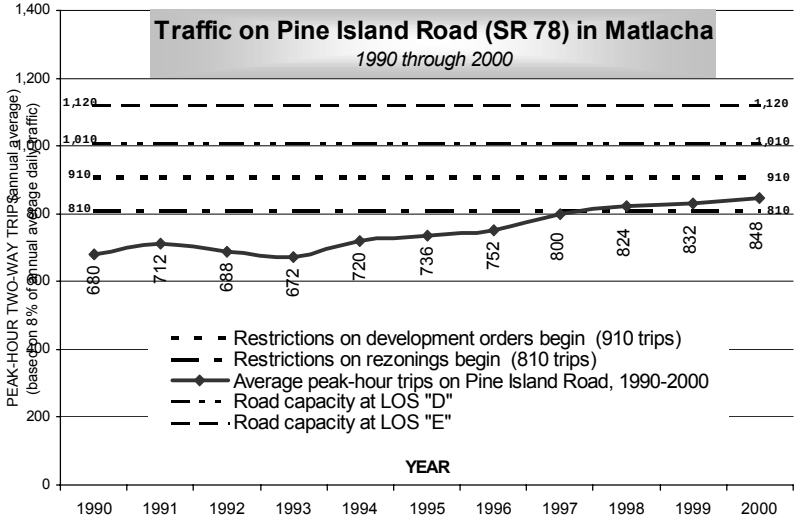


Figure A-1, Traffic on Pine Island Road in Matlacha, 1990 through 2000

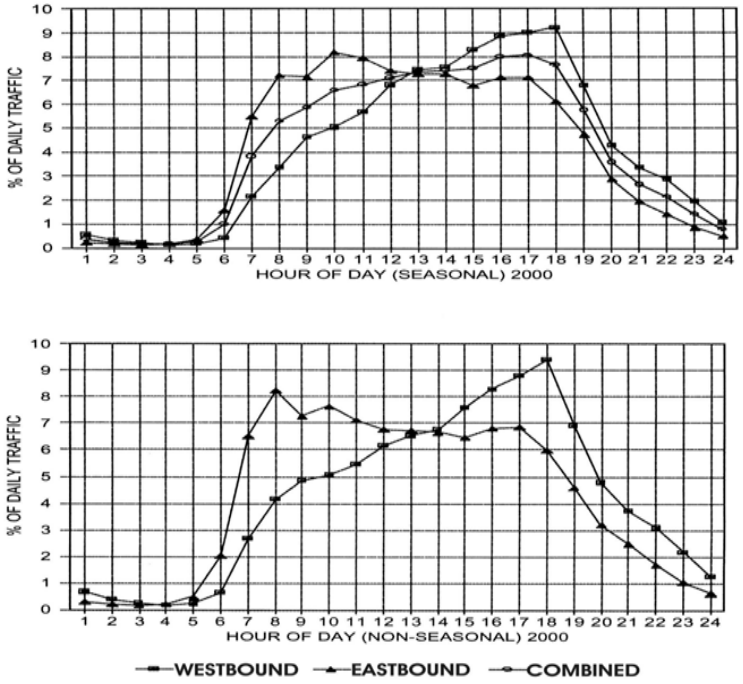


Figure A-2, Directional flow and hourly variations in Matlacha, 2000T

[24] *Proposed 1990 Revisions to the Lee Plan, Volume 1, Traffic Circulation Element*, prepared by David Plummer and Associates, September 1990, page B-4.

Traffic flow through Matlacha is affected by several other factors. The drawbridge is opened an average of two or three times each day to accommodate boaters, blocking traffic in both directions. School buses make about 30 trips each day, with about half occurring during peak traffic periods each day. Because there are no medians on Pine Island Road, traffic must stop both directions when school buses are loading. Public transit is very sparse at present and has inconsequential effects on traffic flow.

Changes since 1989 in methods of analyzing capacity

In 1990 Lee County began using a different method for determining the capacity of roads, using the 1985 *Highway Capacity Manual* instead of the earlier 1965 *Highway Capacity Manual*.[25] Lee County decided to base the 810/910/1010 figures for Pine Island Road on the earlier method for determining capacity, to keep future technical changes in analytical methods from changing their policy decision on how to manage growth on Pine Island.

The earlier method was based primarily on physical characteristics of the road, such as the number of lanes, the width of the lanes, and lateral clearance from obstructions such as parked cars or pedestrians. Pine Island Road west of Burnt Store was designated as a major collector road in a "type 5" rural area.

The remainder of the Lee Plan used the newer method, which determined capacity on arterial roads about equally by the number of lanes and by the length of delays caused by intersections. For most urban roads, delays caused by the red cycle of traffic signals are a major limitation on the number of vehicles that can traverse those roads; thus the number and timing of traffic signals becomes a major factor in determining road capacity. The newer method also assumes that left turn bays are provided at intersections and are adequate to prevent a following vehicle from having to slow down or stop.

Under the newer method, there is no straightforward reduction in capacity for a road with typical collector-road characteristics; the reductions must be computed through a sophisticated traffic analysis. The new method, without adjustments, may even understate the capacity of Pine Island Road as it crosses Little Pine Island. However, it is primarily within Matlacha itself that the bottlenecks occur. Within Matlacha there are no traffic signals, no major crossing streets, and no left-turn bays, yet there are multiple intersecting streets and driveways. With all of these factors, the new method, unless adjusted for those factors, would not provide a reasonable measurement of traffic capacity.

In order for the new method to accurately forecast the capacity of Pine Island Road, it must be carefully adjusted to factor back in the various obstructions to free-flowing traffic through Matlacha (no left-turn bays or passing lanes; reduced speed limit; cars backing into the road from parking spaces; frequent driveways; presence of pedestrians; etc.). These adjustments require more data than is currently available, for example the free flow speed, peak-hour characteristics of traffic flow, and the adjusted saturated flow rate.

In the absence of this data, it is instructive to compare the capacity of Pine Island Road using the older methodology with the capacity of Estero Boulevard at Fort Myers Beach[26], as

[25] Since that time, further modifications have been made in a 1994 *Highway Capacity Manual* and a 1997 *Highway Capacity Manual Update*, all published by the Transportation Research Board.

[26] Estero Boulevard is the same width and has many of the same constraints as Pine Island Road through Matlacha; due to very heavy demand, its traffic flow completely breaks down most days from late January into April, with traffic flowing in a stop-and-go pattern between about 10:00 AM and 6:00 PM. A summary of this data is provided in the Fort Myers Beach Comprehensive Plan, pages 7-B-15 through 7-B-20.

computed by the Lee County department of transportation, as shown in Table A-1. The latest and most thorough study, completed in 1997, suggests that Estero Boulevard's capacity using the new method is only about 10% larger than the comparable capacity for Pine Island Road using the old method.

TABLE A-1

OLD CAPACITY METHODOLOGY
(used for Pine Island Road in the 1989 Lee Plan)

LEVEL OF SERVICE	Peak-hour trips (both directions)	COMMENTS:
LOS "E"	1,120	*LOS "E": full capacity; traffic flow breaks down with small increases in traffic*
LOS "D"	1,010	*LOS "D": high-density but stable flow*
90% of "D"	910	(development order restrictions begin)
80% of "D"	810	(rezoning restrictions begin)

NEWER LEE DOT CAPACITY METHODOLOGIES
(for Estero Boulevard)

LOS "E"	1,780	full capacity of uninterrupted and undivided two-lane road near the coast *(1995 Lee DOT study)*
LOS "E"	1,424	full capacity of Estero Boulevard south of Donora, based on 20% reduction *(1995 Lee DOT study)*
LOS "E"	1,316	full capacity of Estero Boulevard between Donora and Crescent, based on 30% reduction *(1995 Lee DOT study)*
LOS "E"	1,240	full capacity of Estero Boulevard *(1997 Lee DOT study based on new data)*

Physical alternatives to improve access to Pine Island

Four different types of access improvements to Pine Island are described in the following sections, followed by preliminary comments on the impacts of each.

Access improvements could have a variety of physical impacts. These impacts would primarily occur in Matlacha if the existing 66-foot right-of-way were to be reconfigured or widened; they would be primarily environmental if an entirely new access road were created.

Within the existing right-of-way

Two possible reconfigurations have been identified that could fit within the existing 66-foot right-of-way (approximately the distance between the existing utility poles):

1. CONVERT TO THREE LANES: The existing pavement, including the paved shoulders, is about 32 feet wide. It could be rebuilt and reconfigured to three lanes of almost 11 feet each, and the unpaved shoulders could be paved to serve as breakdown lanes or walkways. The third travel lane could serve either as a two-way left turn lane or as a reversible lane for traffic in the busier direction.

2. CONVERT TO FOUR LANES: The road could also be reconfigured into an urban street with curbs and gutters. The existing right-of-way could accommodate up to four 11-foot lanes, two 2-foot concrete curbs and gutters, and two 9-foot raised sidewalks. This configuration would require extensive earthwork and metal railings, similar to the recently rebuilt San Carlos Boulevard as it approaches Fort Myers Beach.

Unless the bridges were widened as well, either approach would still face the bottleneck of having a three-lane or four-lane road narrow into two-lane bridges (similar to the Sanibel Causeway

which has two-lane bridges connecting to four-lane roads).

The three-lane approach would change the look and feel of Pine Island Road less than the four-lane approach. If the third lane were used for left turns, those turns would cause less interference with traffic flow (which will become increasingly important as congestion increases).

A third lane could also be reversible, used for travel in the direction of highest traffic flow. The center lane would be designated for one-way travel during certain hours of the day, and in the opposite direction during other hours. The outer lanes provide normal flow at all times.

There are various problems with reversible lanes, such as operational problems at each end of the reversible lane; enforcement difficulties; increased safety hazards; and unsightliness of the traffic signals and/or barriers that would be required.

It seems unlikely that a reversible lane would have enough benefits in Matlacha to offset the operational difficulties. The greatest benefit to a third lane would be for left turns during daily use, and for an additional lane off Pine Island during an evacuation.

Adding a third lane would cause a number of problems, however, including:

- Pedestrians trying to cross Pine Island Road would have to walk a greater distance, making the crossing less safe;
- The character of Matlacha would lose some of its village atmosphere and pedestrian orientation, replaced with a more highway-oriented character;
- Pedestrians would lose the use of the current paved shoulder, which functions as an informal sidewalk; and
- Businesses and homes would lose some of their parking area because the travel lanes would now be using the previous paved shoulders outside the French drains.

The second reconfiguration, into four travel lanes, would significantly increase the traffic-carrying capacity of Pine Island Road, without any of the complexities of changing the directional pattern of the center lane every day.

Pedestrian safety would be improved by replacing today's informal drainage and sidewalk pattern with raised sidewalks. However, these sidewalks would now extend to the very edge of the right-of-way, putting them directly adjacent to many buildings whose fronts are on the right-of-way line. In business areas, this is appropriate for both the stores and the pedestrians, but in residential areas it would be very awkward for the residents (as well as the pedestrians).

The four-lane configuration would preclude any left-turn bays and would eliminate all parking from the right-of-way. The loss of parking would be a major disadvantage and would seriously damage, if not eliminate, the viability of many small businesses. Undoubtedly, the physical construction of a four-lane configuration would seriously damage Matlacha's village atmosphere and pedestrian orientation.

The increases in traffic capacity that four lanes would provide would be detrimental to the character of Matlacha but would have mixed impacts on the remainder of Greater Pine Island. If the increased capacity just led to approval of more development on Pine Island, the damage to Matlacha would have been for naught. If the increased capacity were provided *without* allowing an additional increment of development on Pine Island, traffic congestion on Pine Island Road would be reduced, although it would reappear as existing subdivision lots are built upon and the new road capacity begins to be used up.

With a wider right-of-way

Some of the negative factors of a four-lane configuration could be offset by purchasing additional right-of-way, for instance to be used for a planting strips with trees that could separate the sidewalk from the travel lanes or from building fronts. However, the existing land-use pattern has very shallow lots that often back up to the waters of Matlacha Pass. Also, many of the existing buildings directly adjoin the existing right-of-way, so widening the right-of-way would involve altering or demolishing many buildings in Matlacha. A 1982 estimate suggested that if the right-of-way were expanded from 66 to 90 feet, as many as 75 businesses and homes in Matlacha would have to be altered or removed.[27]

In 1990, Lee County designated the central portion of Matlacha as a historic district. This designation would not legally prevent Lee County from altering or demolishing historic buildings, but it indicates the historic value of many of Matlacha's buildings in addition to its unique village character.

Given these constraints, it is apparent that Lee County's 1989 decision to classify Pine Island Road as "constrained" (and therefore not subject to widening) was correct. It is possible that the benefits of a third lane through Matlacha might outweigh the disadvantages, and if so this improvement could be constructed. But building *four* travel lanes through Matlacha, either within the existing or a widened right-of-way, should not be considered to be a viable or practical option.

New bridge bypassing Matlacha

The capacity of Pine Island Road could also be increased by building a new bridge *around* Matlacha. A possible route would begin at about Shoreview Drive, run just south of Matlacha, and reenter Pine Island Road on Little Pine Island just west of the Sandy Hook restaurant, a distance of just over 1½ miles.

A Matlacha bypass bridge could provide uninterrupted two-way traffic to and from Pine Island, or could provide one-way traffic, with the existing Pine Island Road serving traffic in the other direction. Two-way traffic is generally more convenient to the public. One-way traffic allows more cars to use the same amount of roadway, but is generally regarded as being harmful to businesses along the route. Either scenario would create serious intersection impacts at each end, and could cause additional travel to connect motorists with their actual destinations.

Either scenario would also require widening Pine Island Road beyond the ends of the bridge in order to take full advantage of the bridge's new capacity. This would be especially important between the eastern terminus and Burnt Store Road.

Pine Island Road is a county road west of Burnt Store Road (as are both bridges). Any improvements would be constructed and paid for by Lee County. Because major bridges are beyond the ability of the county to afford with current revenue sources, they are built with the proceeds from selling bonds, which are then paid back over time (usually with tolls, although they can also be repaid through special taxes or assessments).

One recent and one planned bridge can illustrate the magnitude of how expensive new bridges are to construct.

A new bridge was completed in 1999 over eastern Pensacola Bay. This bridge is about 3.5 miles long and cost $54 million to build; it was funded through a $95 million bond issue. (At present, only half of the expected users are paying the $2 toll,

[27] *Pine Island at the Crossroads*, by William M. Spikowski, 1982, p. 3.

and the bridge's owner, the Santa Rosa Bridge Authority, is unable to repay its bonds, which run for another 30 years.)

For the last two years Lee County has been considering rebuilding the Sanibel Causeway and its three bridges. Replacing the main bridge alone is estimated by the county to cost $45 million for a higher and wider drawbridge or $77 million for an even higher fixed bridge.

State and federal permits are required for all new bridges, and are difficult to obtain, especially for a new bridge through the Matlacha Pass Aquatic Preserve.

A Matlacha bypass bridge would have serious environmental impacts and there is no realistic source of funds to build it. Its increased traffic capacity might lead to approval of more development on Pine Island, negating its positive impacts on traffic flow and hurricane evacuation. If the increased capacity were provided *without* allowing an additional increment of development on Pine Island, traffic congestion on Pine Island Road would be reduced substantially.

At least at present, building a new bridge around Matlacha is not a feasible option.

Entirely new bridge and entrance road

Another alternative involving a new bridge would be to extend Cape Coral Parkway westerly across Matlacha Pass, ending about halfway between St. James City and Pine Island Center near the Masters Landing power line. This alignment would cross about two miles of wetlands and one mile of open water. A continuous bridge would be needed to avoid interference with tidal water flows in the wetlands and Matlacha Pass.

At present there is a narrow earthen dam through the mangroves that support an access road for maintaining the power line. If this fill were allowed to remain in place, it may be able to support a two-lane access road for the new bridge, thus reducing the cost of this alternative.

This alignment would extend into the Cape Coral city limits, adding an extra layer of regulatory issues. The new bridge would add traffic onto Cape Coral Parkway, which is planned to be widened to six lanes but cannot be widened further. This alignment would function well for traffic between St. James City, Cape Coral, and south Lee County.

This option, like the Matlacha bypass option, is currently cost-prohibitive and could have major environmental impacts on Matlacha Pass. Neither new-bridge option can be considered viable at this time.

Transportation policy alternatives

Since the 1989 update of the Greater Pine Island portion of the Lee Plan, a number of changes have been made to Pine Island transportation policies. Policy 16.2.3 committed Lee County to improving Pine Island Road by 1993 in four specific ways (all of which were completed before this policy was eliminated):

- Elevate the flood-prone segments.
- Widen the traffic lanes to twelve feet.
- Widen and improve the shoulders.
- Improve the intersection at Stringfellow Blvd.

Policy 16.2.4 committed Lee County to taking whatever additional actions were feasible to increase the capacity of Pine Island Road, specifically calling for the following measures to be evaluated:

- The construction of a bicycle lane which could serve as an emergency vehicle lane during an evacuation, thus freeing both traffic lanes for the evacuating population.
- The construction of two more lanes around Matlacha.
- The construction of left-turn lanes at intersections with local roads in Matlacha, or a continuous third lane.

Parts of Policy 16.2.4 were repealed in 1994 because the county concluded that: "The first two items would be prohibitively expensive. The existing pavement already accommodates emergency vehicles and two lanes of traffic." The final item was retained in the policy because it had not been fully evaluated at that time (and apparently not since). Policy 16.2.2, later renumbered 14.2.2 and discussed at length earlier in this report, was retained unchanged because: "The extraordinary treatment of Pine Island Road in these policies is justified by the absence of other hurricane evacuation routes for Pine Island, Matlacha, and a large portion of Cape Coral."[28]

Beginning in 1998, the 810-trip threshold in Policy 14.2.2 has been exceeded each year. Once county officials became aware of this fact, they initiated an amendment to the Lee Plan to reevaluate Policy 14.2.2 "to reflect current road conditions." The processing of that amendment has been delayed pending completion of this community plan update.

There are two fundamental questions that must be answered at this time regarding Policy 14.2.2:

#1: Have any factors changed sufficiently since 1989 to warrant adjustments to the 810/910 thresholds in Policy 14.2.2?

One relevant factor would be existing or planned improvements to the capacity of Pine Island Road. As discussed earlier, important improvements were made in 1991-92 including elevating flood-prone segments of the road, but those improvements did not increase the capacity of the road during everyday conditions.

Another relevant factor would be if better traffic data were now available, especially if such data would allow a more sophisticated analysis of existing or future congestion. A permanent traffic counter has been in place on Little Pine Island at the western edge of Matlacha for over ten years, collecting traffic data 24 hours a day all year; no changes have been made to this counter. As to methods of interpreting this data, a more sophisticated method for analyzing the capacity of a road has become commonplace since 1989, but its basic assumptions are less relevant for Pine Island Road through Matlacha than the previous method, and no entity has attempted to collect enough specialized traffic data to properly apply it in Matlacha. It has been suggested that the new methodology might indicate that Pine Island Road has a significantly greater capacity than indicated by the previous methodology, but the most recent Lee DOT work suggests only 10% higher capacity even on Estero Boulevard when using the new methodology.

Regardless of the ultimate determination of the full capacity of Pine Island Road, Policy 14.2.2 was clearly contemplated to begin slowing development approvals on Pine Island at pre-determined points in time, that is, when traffic reached 80% and 90% of what was determined to constitute *dense but stable flow* (known as LOS "D"). Those points were not set to occur at 80% and 90% of *full capacity* of the road (LOS "E"), but at a slightly earlier time, in a clearly stated effort to "recognize and give priority to the property rights previously granted by Lee County for about 6,800 additional dwelling units...." No technical factors or changes since 1989 have been discovered in the course of this planning process that would justify abandoning the 810/910 thresholds in Policy 14.2.2.

[28] *EAR [evaluation and appraisal report] for Future Land Use*, May 1994, section III, pages III-16 and III-17.

#2: Are any other changes to Policy 14.2.2 warranted?

Once the 810 threshold has been reached, Policy 14.2.2 calls for adoption of development regulations that provide "restrictions on further rezonings which would increase traffic on Pine Island Road." When 910 has been exceeded, regulations are to "provide restrictions on the further issuance of residential development orders...."

To implement this policy, in 1991 Lee County amended its land development code using the following language:

> *§2-48(2) When traffic on Pine Island Road between Burnt Store Road and Stringfellow Boulevard reaches 810 peak-hour annual average two-way trips, rezonings that increase traffic on Pine Island Road may not be granted. When traffic on Pine Island Road between Burnt Store Road and Stringfellow Boulevard reaches 910 peak-hour annual average two-way trips, residential development orders (pursuant to chapter 10) will not be granted unless measures to maintain the adopted level of service can be included as a condition of the development order.*

The wording in this section was taken almost verbatim from Policy 14.2.2. This has become problematic because it is not self-evident which kinds of rezonings will "increase traffic on Pine Island Road." The county's usual method for enforcing traffic regulations is to require a traffic study from a development applicant and then to make a decision based on that study, rather than on an independent evaluation of the facts. This approach delegates this important analysis to the private party having the biggest stake in its outcome and is not likely to result in sufficient objectivity.

A better approach would be for the regulations that implement Policy 14.2.2 to be more self-explanatory (while still allowing an applicant to provide data if they think they qualify for an exception). For instance, it should be clear that some types of rezonings would have inconsequential or even positive effects on traffic on Pine Island Road. A convenience store in St. James City would serve only local residents and those passing by, and would attract no new trips onto Pine Island Road. A larger grocery store in St. James City would attract shoppers from a larger area, perhaps including some who currently drive to Matlacha or Cape Coral to shop for groceries, possibly *decreasing* traffic on Pine Island Road. However, a new hotel or marina on the same St. James City property could have a different effect. A large new hotel or marina would undoubtedly serve some residents of St. James City and Pine Island Center, like a grocery store, but it would also attract users from throughout Lee County and beyond who would drive across Pine Island Road to spend a few nights or to launch a boat.

Thus an important distinction could be made in implementing Policy 14.2.2 between those land uses that primarily serve residents or visitors who are already on Pine Island, and land uses that primarily attract additional people across Pine Island Road. For instance, the following commercial uses would primarily serve residents and visitors: grocery, hardware, and convenience stores; hair salons; and service stations.

This distinction would be clouded somewhat by other factors, particularly the size and location of commercial uses. For instance, a 20-seat restaurant on a St. James City canal or a small inn are desirable Pine Island businesses that would be unlikely to draw substantial traffic across Pine Island Road. However, a 150-seat restaurant with a panoramic view (or a chain hotel) with a large advertising budget may well draw customers primarily from off Pine Island. To reduce this problem, some small commercial uses might be exempted from this policy even if they are of a type that primarily attracts additional vehicular trips. Other

alternatives would be to allow minor rezonings below a certain size if they are proposed on “infill” properties between existing development at similar intensities (rather than expanding or intensifying already-developed areas), or if their characteristics are such that traffic during the busiest peak hours would not be increased.

In summary, none of the available options for adding significant road capacity to Pine Island are practical. Building four travel lanes through Matlacha, either within the existing or a widened right-of-way, would seriously damage Matlacha’s village atmosphere and pedestrian orientation. Either new-bridge option would have serious environmental impacts and in any case there are no funds for such expensive undertakings. The increased traffic capacity of either bridge would most likely lead to approval of more development on Pine Island, negating the initial positive impacts on traffic flow and hurricane evacuation.

APPENDIX B: RURAL LAND-USE ALTERNATIVES

TABLE OF CONTENTS FOR APPENDIX B

This appendix contains an evaluation of five growth management techniques for Pine Island plus two hybrid techniques. Any of these techniques could become part of the new comprehensive plan and its future land use map and would be implemented through subsequent changes to other county regulations. (Existing lots would presumably be "grandfathered in" even if they are now vacant.)

1. Conservation land purchases

Local citizens have a strong interest in preserving portions of the native landscape. In 1996, Lee County voters initiated the Conservation 2020 program and funded it with a half-mill property tax for seven years. In the past year Lee County has begun negotiating the purchase of several large Pine Island tracts for preservation under this program. The state of Florida also has a major land acquisition program; in fact they were equal partners with Lee County in purchasing a 103-acre preserve near St. James City in 1993 that provides a nesting habitat for bald eagles. The federal government is also increasing its role in environmental land acquisitions in southwest Florida.

Through their combined efforts, these programs could purchase major portions of Pine Island's upland habitats over the next ten years. At present, about 2,800 acres of undeveloped native upland habitat remains, excluding that found on fragmented subdivision parcels. Almost all of this habitat is located in Pine Island's "Rural" areas. Removing any or all of these tracts from the private land market would make their treatment under the comprehensive plan moot. This update to the comprehensive plan could help these agencies identify the most valuable native lands remaining on Pine Island and demonstrate a consensus of Pine Islanders that such purchases would be welcomed.

The positive features of this approach would be taking advantage of existing governmental priorities on habitat preservation and, as a fortunate byproduct, helping maintain the character of the rural portions of Pine Island and precluding residential development. Extensive research on the physical characteristics of large tracts has been carried out recently by the non-profit Calusa Land Trust; their data could be used to help guide this effort. The effects on large landowners would be minimal because these acquisitions have historically been voluntary transactions with willing sellers.

Some negative features of this approach are the reliance on outside agencies that might decide to spend their acquisition funds outside Pine Island, or that might not complete their Pine Island purchases until such time as many natural habitats have been cleared for farming or have become overrun by invasive exotic vegetation.

2. Larger lots in rural areas

An obvious alternative to the current "Rural" category on Pine Island is to simply lower the allowable density for residential development, to either 1 DU/20 acres (or /10 or /5 acres). There is ample local precedent for density reductions; in 1990, Lee County created a new "Density Reduction – Groundwater Resource" category, where density is limited to 1 DU/10 acres,

and has applied it to about 74 square miles of land, mostly east of I-75 and south of SR 82 but also some land along the Charlotte County line near SR 31. Most of the remaining land within two miles of the Charlotte County line have been reduced to a density of 1 DU/5 acres.

In those cases the density reductions were made by the county to resolve a legal challenge by the state land planning agency against Lee County's comprehensive plan. Although much of the motive for the reduction was to prevent further urban sprawl, in those cases the lands were selected based on proximity to shallow underground water sources that can be contaminated by urban development. Land values did not plummet after the reduction, as many landowners had claimed they would. Values were maintained because there were other viable purchasers for this land, including fill-dirt and limerock mines; the citrus and tomato industries; government purchases of wildlife habitat and environmentally sensitive lands; and land speculators who anticipate fewer restrictions at some point in the future.

Although there are no comparable groundwater resource issues on Pine Island, there is an obvious public purpose to reducing densities that cannot be supported by adequate infrastructure (in Pine Island's case, limited road access to the mainland). This distinction could be reflected by naming this new land-use category "Coastal Rural."

Positive features of this density-reduction approach are its simplicity and the local experience with this obvious method of controlling urban development where it does not belong. This approach furthers the important planning objective of clearly separating urban and rural uses, as called for in the state comprehensive plan and the state's rules governing local comprehensive plans. This approach could result in subdividing rural land into, say, five-acre homesites, which would avoid agricultural clear-cutting (although it would still result in considerable clearing of native pines and palmettos for yard space).

A significant negative feature is that it would not interfere with further habitat destruction that occurs when undisturbed lands are converted completely to agriculture. Also, it might be seen as overly harsh by large landowners, who also might characterize it as an unfair attempt to lower their land values to benefit future conservation purchasers of large tracts.

3. Cluster development

Under current regulations, "Rural" lands are limited to 1 DU/acre, but there is no prohibition on requesting a rezoning that would allow the same number of dwelling units arranged differently, for instance with houses "clustered" on smaller lots surrounding a golf course. Such arrangements are voluntary on the part of the landowner and subject to approval through the formal rezoning process.

Clustering as currently practiced rarely preserves significant native habitats. In fact it is an inducement to develop the predominant Florida real estate form of the last two decades, country club communities surrounding golf courses, a development form that hardly matches the stated purpose of the "Rural" category.

The concept of clustering could, however, be modified to suit Pine Island conditions. For instance, clustering could be mandatory rather than voluntary, with fixed percentages of native habitats being retained within new developments. On very large tracts, houses might still be allowed around golf courses or fill-dirt lakes if the percentage of native habitat that must be retained was fairly low, such as 30%. Higher percentages, such as 70%, would preclude recreational facilities such as golf courses that consume large amounts of land, and thus could preserve more of the natural landscape.

The best feature of a modified clustering approach could be preservation of native habitats without outright purchase. Lee County's considerable experience with clustered development

and its flexible zoning categories can be used to accomplish this goal. Clustering is unlikely to trigger any claims under the Bert Harris Act, and would be prized by Pine Islanders (present and future) who place a high value on proximity to natural preserves.

Some negative features are that many tracts, especially those that have been farmed, have no native habitat remaining. Although habitat can be restored, restoration is more costly than preserving existing habitats. Also, protected habitats may end up being fragmented, which reduces their value to wildlife (compared to preservation purchases of entire large tracts).

4. Transferable development rights

The rights to develop a parcel of land can be permanently severed from that parcel and transferred to another parcel. This concept is called transferable development rights (TDR).

Lee County has had a TDR program for fifteen years. Wetlands are allowed only 1 DU/20 acres, but wetland owners who agree *never* to develop not only can transfer those development rights, but they actually get to multiply their density by a factor of four; they are allowed to sell the wetland development rights at a ratio of 1 DU/5 acres of wetlands. The development rights can be used at certain other locations in Lee County. The market value of these development rights is set by the private market; Lee County is not involved in the actual sale, only in approving the "receiving" locations, which are planned urban areas on the mainland.

Lee County's first TDRs were created on Pine Island in the late 1980s. The undeveloped wetlands in the St. Jude Harbor subdivision were converted by the landowners into 436 TDR units. (In that single instance, the number of TDRs wasn't based on acreage, but rather on the number of lots that the landowner had been trying to sell from that property.) However, to date the landowners have only been able to sell about a fourth of these TDRs, at an average price of around $3,000 each.

TDR programs tend to be popular with the public and with elected officials because of their inherent sense of fairness, and the seeming ability to avoid creating winners and losers in the land-use planning process. They are less popular with landowners, who often fear they will be unable to sell them. The reason is that TDRs are valuable to buyers only when development rights are a scarce commodity, typically when local governments have strict regulations on development. Lee County's regulations have never been very strict; consequently, TDRs have had only very limited success locally. (Some governments offer to buy and stockpile TDRs at some fixed price to create a minimum value for TDRs.)

A new TDR program for Pine Island would need to identify receiving locations other than those currently in use; otherwise the new TDRs would further flood the same market as the current TDR program and therefore be unsaleable or saleable only at relatively low prices. TDRs would be quite valuable if they could be used to allow greater development on the barrier islands, but all of Lee County's islands suffer the same transportation constraints as Pine Island. TDRs would also be valuable in the areas where Lee County has restricted density levels to 1 DU/10 acres, but again those restrictions were placed for a purpose and it would be difficult to justify swapping unwanted development rights to another unsuitable location.

5. Rate-of-growth control

Some communities establish a cap on the number of residential building permits that can be issued in each quarter or each year. A similar cap on commercial permits could be established so that commercial development does not outpace residential growth.

A side benefit of this approach in some communities is to allow a comparison of the quality of development applications and

approve only those that best comply with community standards. On Pine Island, objective criteria could be established to measure the cumulative impact on Pine Island's environment, on hurricane evacuation plans, on availability of utilities and supporting infrastructure, and on overall conformance with the goals of the comprehensive plan. Permits could be issued at the end of each quarter to the highest scoring applicants until the quota for that quarter, perhaps 25 dwelling units, has been met.

Rate-of-growth ordinances are usually established during periods of runaway growth to allow the government time to provide the needed roads and utilities.

The city of Sanibel adopted a rate-of-growth ordinance in the late 1970s. It was imposed through a citizen referendum during a period of very high growth shortly after the city's incorporation, with a limitation on building permits of 180 dwelling units per year. Every four months, all permit applications were compared, and up to 60 were issued. Preference was given to below-market-rate housing, single-family homes, and smaller condominium buildings. A "grading" scheme was used to reward quality development proposals, although this had only mixed results. The Sanibel ordinance was repealed when permit requests fell below the cap for several years in a row.

On a practical level, a positive feature of this approach for Pine Island is that it isn't really essential right now. Growth rates have been relatively slow during the past decade, so an annual cap that is suitable for the long term would probably be painless in the beginning, allowing refinement of the criteria before they result in rejection of applications.

Negative features are that this approach might be more difficult to defend in the absence of a runaway growth crisis and in the absence of specific infrastructure shortfalls that Lee County is in the process of correcting. Rate-of-growth ordinances are usually controversial and difficult to administer, and cause delays in the processing of even routine building permits. They tend to spur speculative building and can discourage individual lot owners who wish to build a home for themselves. Perhaps the biggest negative is that, in the absence of the other approaches suggested above, an annual growth cap would lead Pine Island to the same place as the current system, with the arrival time merely delayed.

6. Dual-classification with clustering

These five techniques need not be applied in isolation. In fact, two hybrid solutions offer more promise than any single technique. The first hybrid, dual-classification with clustering, would create two new categories for the existing "Rural" lands:

- *Disturbed lands*, which have been farmed or otherwise cleared of native vegetation, or which have advanced infestation of exotic trees. On these lands, agriculture would be allowed and encouraged. Residential densities would be lowered to 1 DU/10 acres. Given the strong local evidence that lands suitable for agriculture are worth more than their development value, Bert Harris Act claims would be unlikely to succeed. A later increase in residential density could be provided for, if cleared lands were restored to native habitats through planting of native pines and palmettos; on tracts with hundreds of acres, such habitat restoration might be combined with a golf course, all built on previously disturbed lands.

- *Undisturbed upland habitats*, such as native slash pine and palmetto habitats. Agriculture and golf courses would be prohibited here. Residential density might stay at present levels, but new regulations would require development areas to be clustered to protect a high percentage, perhaps 70%, of natural upland habitats. Future conservation purchases would also be focused on these lands.

The positive features of this first hybrid approach are that it would encourage continued agricultural use on disturbed lands while diminishing the potential for residential development on those lands in the future. It would prohibit the destruction of undisturbed habitats where they still exist, while offsetting any resulting diminution of land value by maintaining current density levels there. Any actual development on undisturbed habitats would disturb far less land than would occur today by allowing today's number of dwelling units to be placed on smaller lots. Public purchases of entire tracts for preservation would still be highly desirable and encouraged, but if those purchases do not take place, this alternate plan would ensure far more preservation than current regulations.

Some negative features are the complexity of the classification process and the need to establish two new land-use categories in the comprehensive plan instead of one (or none). It will seem counterintuitive to many to allow higher densities on natural habitats than on disturbed lands (although this serves as an incentive *not* to clear native habitats). This approach might be seen as overly harsh by owners of large disturbed tracts whose expectations are for urban development rather than agriculture.

7. Conservation clustering with incentives

The second hybrid technique, conservation clustering with incentives, is similar to the first but would require only one new category for existing "Rural" lands. The new category would attempt to maintain most of the benefits of the first hybrid, but in this case using a sliding scale of density rewards to encourage (rather than *require*) conservation of undisturbed habitats.

For instance, a tract with undisturbed native habitats might maintain today's density of 1 DU/acre density if 70% of the undisturbed uplands were preserved. Those dwelling units would be placed on the remaining 30% of the land, which would be possible by using lots that are smaller than today's one-acre standard. (Table B-1 shows that the resulting developed area, including its streets and stormwater detention areas, would use about 0.3 acres per lot, similar to many existing single-family neighborhoods on Pine Island.) If *less than* 70% of the uplands were preserved, the allowable density would decrease, as shown in the table. If no undisturbed uplands were preserved, the residential density would drop to 1 DU/10 acres.

TABLE B-1

Assume % of native land saved or restored	Would then be assigned this gross density:	RESULTS ON 100 ACRES WOULD BE: # of DUs	acres used per lot	total acres preserved	total acres used
0%	1 DU per 10 acres	10	10.0 acres	0	100
5%	1 DU per 9 acres	11	8.6 acres	5	95
10%	1 DU per 8 acres	13	7.2 acres	10	90
15%	1 DU per 7 acres	14	6.0 acres	15	85
20%	1 DU per 6 acres	17	4.8 acres	20	80
30%	1 DU per 5 acres	20	3.5 acres	30	70
40%	1 DU per 4 acres	25	2.4 acres	40	60
50%	1 DU per 3 acres	33	1.5 acres	50	50
60%	1 DU per 2 acres	50	0.8 acres	60	40
70%	1 DU per 1 acre	100	0.3 acres	70	30

Table B-2 shows another variation which would require preservation of 85% of native lands in order to maintain today's density of 1 DU/acre. Under this scenario, the resulting developed areas would be limited to the remaining 15% of the land, whose developed area, including its streets and stormwater detention areas, would use about 0.15 acres per dwelling unit. At this density, the dwelling units might be in the form of townhouses or garden apartments.

TABLE B-2

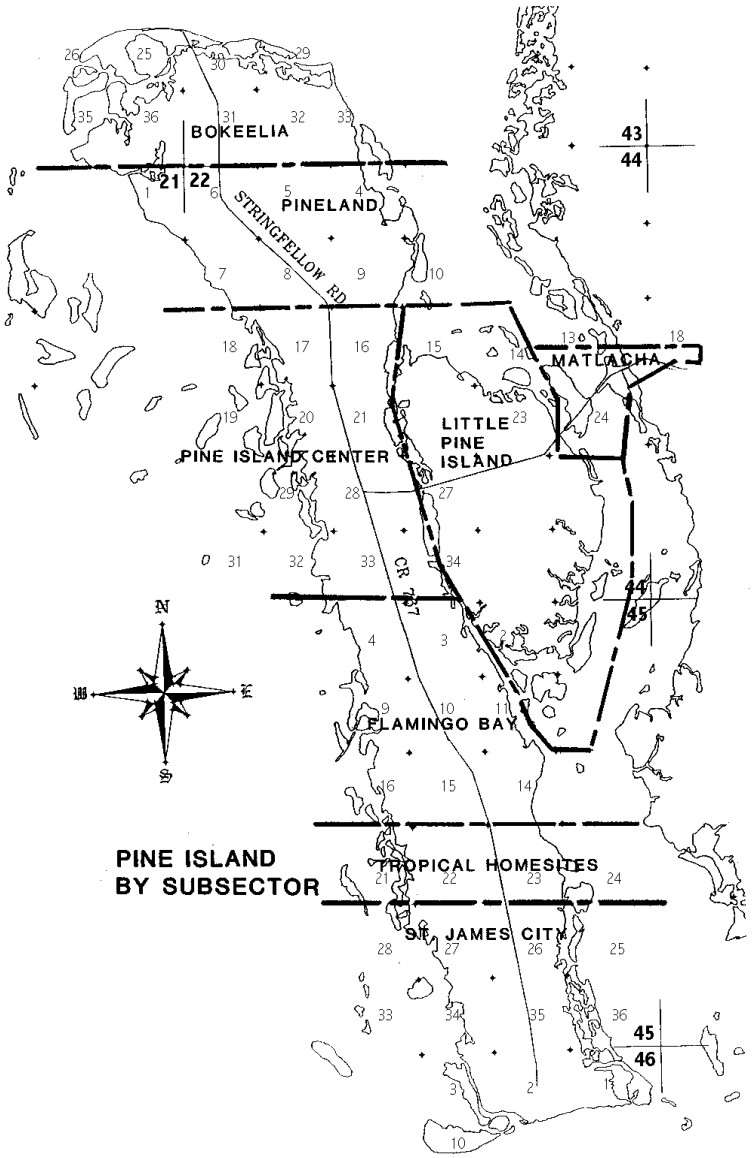
Assume % of native land saved or restored	Would then be assigned this gross density:	RESULTS ON 100 ACRES WOULD BE: # of DUs	acres used per lot	total acres preserved	total acres used
0%	1 DU per 10 acres	10	10.00 acres	0	100
5%	1 DU per 9 acres	11	8.55 acres	5	95
15%	1 DU per 8 acres	13	6.80 acres	15	85
25%	1 DU per 7 acres	14	5.25 acres	25	75
35%	1 DU per 6 acres	17	3.90 acres	35	65
45%	1 DU per 5 acres	20	2.75 acres	45	55
55%	1 DU per 4 acres	25	1.80 acres	55	45
65%	1 DU per 3 acres	33	1.05 acres	65	35
75%	1 DU per 2 acres	50	0.50 acres	75	25
85%	1 DU per 1 acre	100	0.15 acres	85	15

This technique would also allow credits for restoration of native habitats on previously disturbed lands. The same benefits would be granted to restored land as to preserved land, using the same sliding scale.

The positive features of conservation clustering with incentives are that it diminishes the potential for residential development on agricultural land, while rewarding landowners who protect (or restore) their land's natural habitats. As with the first hybrid, actual development on undisturbed habitats would disturb far less land than would occur today by either allowing today's number of dwelling units to be placed on smaller lots, or by reducing the number of lots that are allowable. Public purchases of entire tracts for preservation would still be desirable, but regardless, this plan would encourage more preservation than current regulations.

As with the dual-classification hybrid, it will seem counter-intuitive to many to allow higher densities on natural habitats than on disturbed lands (although this serves as an incentive *not* to clear native habitats). This approach might be seen as overly harsh by owners of large disturbed tracts whose expectations are for urban development rather than agriculture. Also, since clearing of native habitats would not be prohibited, if landowners don't find the density rewards to be sufficiently valuable, the result might be the loss of remaining undisturbed lands on Pine Island.

APPENDIX C: EXISTING AND APPROVED LOTS



Section	Township	Range	Existing Dwelling Units	Total Platted Lots	Additional Units
Bokeelia sector:					
26	43	21	0	2	2
25	43	21	158	163	5
30	43	22	459	607	148
29	43	22	0	2	2
35	43	21	2	4	2
36	43	21	6	20	14
31	43	22	252	526	274
32	43	22	37	407	370
33	43	22	0	4	4
Bokeelia subtotals:			914	1,735	821
Pineland sector:					
1	44	21	0	4	4
6	44	22	167	665	498
5	44	22	23	313	290
4	44	22	0	8	8
7	44	22	62	312	250
8	44	22	42	475	433
9	44	22	27	244	217
10	44	22	1	1	0
Pineland subtotals:			322	2,022	1,700
Pine Island Center sector:					
18	44	22	0	0	0
17	44	22	35	138	103
16	44	22	180	502	322
15	44	22	0	0	0
19	44	22	0	0	0
20	44	22	2	23	21
21	44	22	363	838	475
29	44	22	0	10	10
28	44	22	288	686	398
27	44	22	0	6	6
31	44	22	0	0	0
32	44	22	2	2	0
33	44	22	3	42	39
34	44	22	0	22	22
P.I. Center subtotals:			873	2,269	1,396

Section	Township	Range	Existing Dwelling Units	Total Platted Lots	Additional Units
Matlacha sector:					
14	44	22	66	67	1
13	44	22	41	77	36
18	44	23	109	151	42
23	44	22	24	40	16
24	44	22	455	694	239
Matlacha subtotals:			695	1,029	334
Flamingo Bay sector:					
4	45	22	31	245	214
3	45	22	82	219	137
2	45	22	0	2	2
9	45	22	240	240	0
10	45	22	490	492	2
11	45	22	0	11	11
16	45	22	0	5	5
15	45	22	26	92	66
14	45	22	0	24	24
Flamingo Bay subtotals:			869	1,330	461
Tropical Homesites sector:					
21	45	22	0	0	0
22	45	22	26	68	42
23	45	22	233	645	412
24	45	22	0	0	0
Tropical Homesites subtotals:			259	713	454
St. James City sector:					
28	45	22	0	0	0
27	45	22	1	5	4
26	45	22	12	58	46
25	45	22	0	0	0
33	45	22	1	1	0
34	45	22	11	111	100
35	45	22	323	859	536
36	45	22	0	0	0
3	46	22	0	3	3
2	46	22	1,163	1,877	714
1	46	22	194	299	105
10	46	22	0	0	0
St. James City subtotals:			1,705	3,213	1,508
Greater Pine Island totals:			**5,637**	**12,311**	**6,674**

GREATER PINE ISLAND
COMMUNITY PLAN UPDATE