



WEST PALM BAY A REDEVELOPMENT PROJECT

PALM BAY, BREVARD COUNTY, FLORIDA

West Palm Bay: A Redevelopment Project

Stephen Moore

2012

Bachelor of Landscape Architecture
Capstone Senior Project

Advisor: Lester Linscott

Acknowledgements

I would like to thank all faculty in the University of Florida College of Design, Construction, and Planning for their education and great advice.

I would also like to thank my family and friends who have supported me through my educational career, especially my parents.

I appreciate all of the help and advice that I received for my project, especially from my advisor, Lester Linscott, and those who met with me from the City of Palm Bay.

TABLE OF CONTENTS

INTRODUCTION	5
PROJECT DESCRIPTION	6
HISTORY	7
PHYSICAL FEATURES	8
BACKGROUND	10
GOALS AND OBJECTIVES	12

SITE INVENTORY	15
SITE AND CONTEXT CHARACTER	16
LAND USE, ZONING, & SOIL	23
ST. JOHNS RIVER	30

ANALYSIS AND SYNTHESIS	35
SOCIAL SITE AND CONTEXT ANALYSIS	36
NATURAL SITE AND CONTEXT ANALYSIS	38
SUITABILITY ANALYSIS	40

CONCEPT DEVELOPMENT	49
CASE STUDIES	50
CONCEPT & PROGRAM DEVELOPMENT	56
LAND USE CONCEPTS	58

MASTER PLAN	60
MASTER PLAN	60
FACTS & FIGURES	62
SITE PLANNING	63
DIAGRAMS	64
COMPONENT OVERVIEWS	66
CHARACTER	80

REFERENCES & APPENDIX	83
----------------------------------	-----------

A wide, paved road stretches into the distance under a cloudy sky, flanked by grassy fields. The road is made of asphalt and has a visible crack running down the center. The fields on either side are green and yellow, suggesting a rural or undeveloped area. The sky is filled with white and grey clouds, with some blue patches visible. The overall scene is bright and open.

INTRODUCTION

PROJECT DESCRIPTION

Project Name: West Palm Bay Redevelopment

Location: Palm Bay, Brevard County, Florida

I do not have an official client for this project, since it is more of a theoretical project. Possible clients would include the City of Palm Bay, State of Florida, St. Johns River Water Management District, a private developer, or a combination of these.

The site is currently held by many different landowners. For my project, I will take the position that a private developer has come in, with the cooperation of the city of Palm Bay, and purchased the entire site. The developer will sell a large portion of the site to the St. Johns River Water Management District for preservation and water management lands, due to its proximity to existing preserves.



Figure 1.1

Historical aerial photo of Palm Bay, before the Port Malabar development began.

HISTORY

The land was originally designed in the 1950's and was platted in the 1960's as "Port Malabar". This was done by General Development Corporation, a company which created many similar-style developments throughout Florida. The company went bankrupt in the 1990's and never completed the necessary infrastructure on the site. The site is approximately 3,000 acres with over 5,000 residential lots. There are designated parcels for schools, commercial, and other necessary community functions. The parcels have been sold off to many land owners, but they cannot build on the lots since the infrastructure is not in place and the roads are in disrepair from lack of maintenance. Legally, in order for a re-plat of the property, there would need to be a majority vote in favor of the issue.

Source: Robert Loring, Architect/City Planner at City of Palm Bay

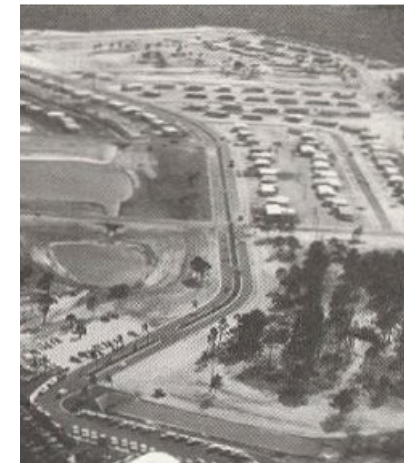


Figure 1.2

Port Malabar during construction.

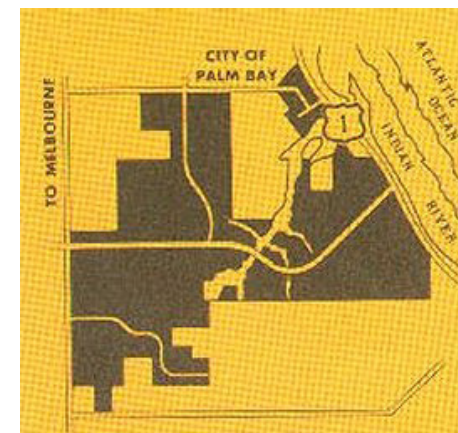


Figure 1.3

Port Malabar property map during development.

A vintage advertisement for Port Malabar, Florida, dated November 4, 1981. The ad features a central graphic of a person in a space helmet and a map of Florida. The headline reads "Invest YOUR DOLLARS WHERE AMERICA'S FUTURE IS INVESTED". Below this, it says "The Dynamic Cape Canaveral Area" and "First Time Offered Nationally! Choice Property - In An Established Community - in the Nation's Fastest Growing County - At PORT MALABAR FLORIDA". The ad includes several sections of text: "CONSIDER THESE FACTS ABOUT THE CAPE CANAVERAL AREA", "PORT MALABAR - IN THE RIGHT AREA", "PORT MALABAR - THE RIGHT LAND", "PORT MALABAR - THE RIGHT PRICE", and "PORT MALABAR - EXTRA ASSURANCE". It also lists "CHOICE 80' x 125' HOMESITES \$10 down * \$15 a month Sales Price \$1295". At the bottom, there is a form for a "Free" information packet and a "GENERAL DEVELOPMENT CORPORATION" contact form.

Figure 1.4

Port Malabar advertisement.

PHYSICAL FEATURES

Since the site has been vacant for so many years, it has fallen victim to unwanted activities. The roads have not been maintained, and are now in an undesirable state. The layout of the land does not take advantage of the site's possibilities.

To the west of the site is the Three Forks Conservation Area, which is a restorative conservation area. To the west and north of Three Forks is the St. Johns River. The southern portion of the site borders agricultural uses. East of the site is single family development, though most of the parcels are still vacant. To the north is industrial use. Figure 1.5 shows the site and immediate context on an aerial photo.

Since the site is located adjacent to Three Forks conservation area, and very close to the source of the St. Johns River, I feel it could be a wonderful opportunity to incorporate stormwater management and wildlife habitat into my design. I believe that it could be redesigned in a way which would be more ecologically sound, as well as economically viable.

Vegetation on the site consists mainly of mowed land, scattered brush and palms, and marshes. The site is very flat, the only major grade change is in the retention areas and the large canals running through it. Another noticeable feature is the north-south power line corridor running through the western portion of the site.



Figure 1.5

BACKGROUND

Project Value

This project is great for me to work on, due to my internship experience with GIS, as well as my heavy interest in community design and planning. I am hoping to learn how to apply these skills together. The project will rely heavily on analysis and research.

Major Issues

The current style of development, where extremely large pieces of land were cleared and roads were laid out, on site is prevalent throughout Florida, as well as the rest of the country. It is devastating to the ecosystems and not particularly economically feasible, or well connected. These developments impose a large problem that needs to be addressed: what can we do to retrofit these unsuccessful developments in order to make them work? This cap-stone project will attempt to answer that question, and could become an inspiration for other agencies to attempt to restore these sites.

Key Issues

- Fire-prone area
- St. Johns River
- Defunct development
- Livability and sense of place

	Brevard County	Florida	Palm Bay
Population, 2010	543,376	18,801,310	103,190
Population, percent change, 2000 to 2010	14.10%	17.60%	29.90%
Persons under 5 years, percent, 2010	4.90%	5.70%	6.20%
Persons under 18 years, percent, 2010	19.80%	21.30%	23.90%
Persons 65 years and over, percent, 2010	20.40%	17.30%	15.30%
Mean travel time to work (minutes), workers age 16+, 2006-2010	23.6	25.7	25.6
Housing units in multi-unit structures, percent, 2006-2010	22.60%	30.00%	12.30%
Median value of owner-occupied housing units, 2006-2010	\$186,900	\$205,600	\$159,200
Median household income 2006-2010	\$49,523	\$47,661	\$44,528
Persons below poverty level, percent, 2006-2010	10.50%	13.80%	12.80%
Retail sales per capita, 2007	\$12,339	\$14,353	\$7,228

Figure 1.6

Demographics

The city of Palm Bay has a population of 103,190 according to the 2010 Census. The population change between 2000 and 2010 was an increase of %29.90, a very large change that is much higher than the state and county averages. The mean travel time to work is very similar to the state's at 25.6 minutes. As the population grows in the suburban manner that it is, travel time will only increase and cause more gas consumption and emissions.

The percentage of multi-unit structures is %12.30, which is very low. This indicates a high number of single family units. The median value is also low when compared to the state, at \$159,200. The retail sales per capita is much lower than that of the county or state, indicating that residents do their shopping elsewhere. This is detrimental to Palm Bay, not only in travel time, but in revenue and employment as well.

GOALS & OBJECTIVES

Provide regenerative design objectives

- Incorporate Low Impact Development into the design
- Increase both density and open space
- Improve water quality through design methods

Create exciting experiences for diverse user groups

- Create a sense of place for Palm Bay through design
- Use the site's unique features to enhance the design

Ensure economic viability

- Respond to the community's needs for zoning and employment
- Use smart growth principles

Become a catalyst for redevelopment of similar sites

- Create a successful design that may inspire others to redevelop defunct sites in a much more socially and naturally sustainable manner



Figure 1.7

Increasing density will allow for more open and natural space.



Figure 1.8

The site in western Palm Bay offers some great natural features, such as marshes.



Figure 1.9

Increasing the amount of employment opportunities will create a much more economically sustainable environment.

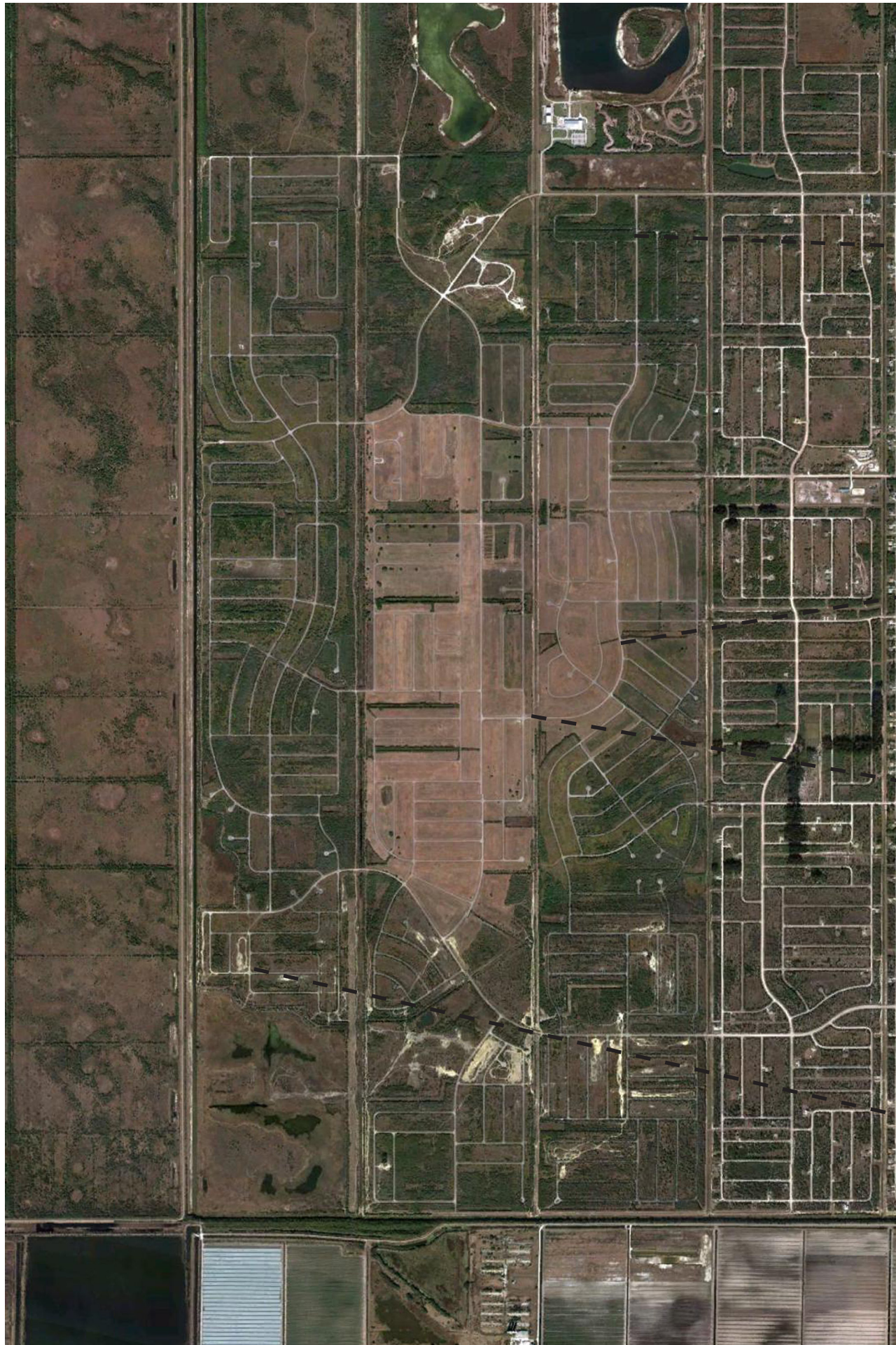


Figure 1.10

Florida isn't the only place with the problem of unsuccessful developments. Sites such as this one in Salton City, CA need help as well.

SITE INVENTORY





SITE CHARACTER



Roads are in bad condition and have become overgrown with vegetation in some places.



The roads are laid out in a very suburban manner and are aesthetically unpleasing. The site lacks a sense of place.



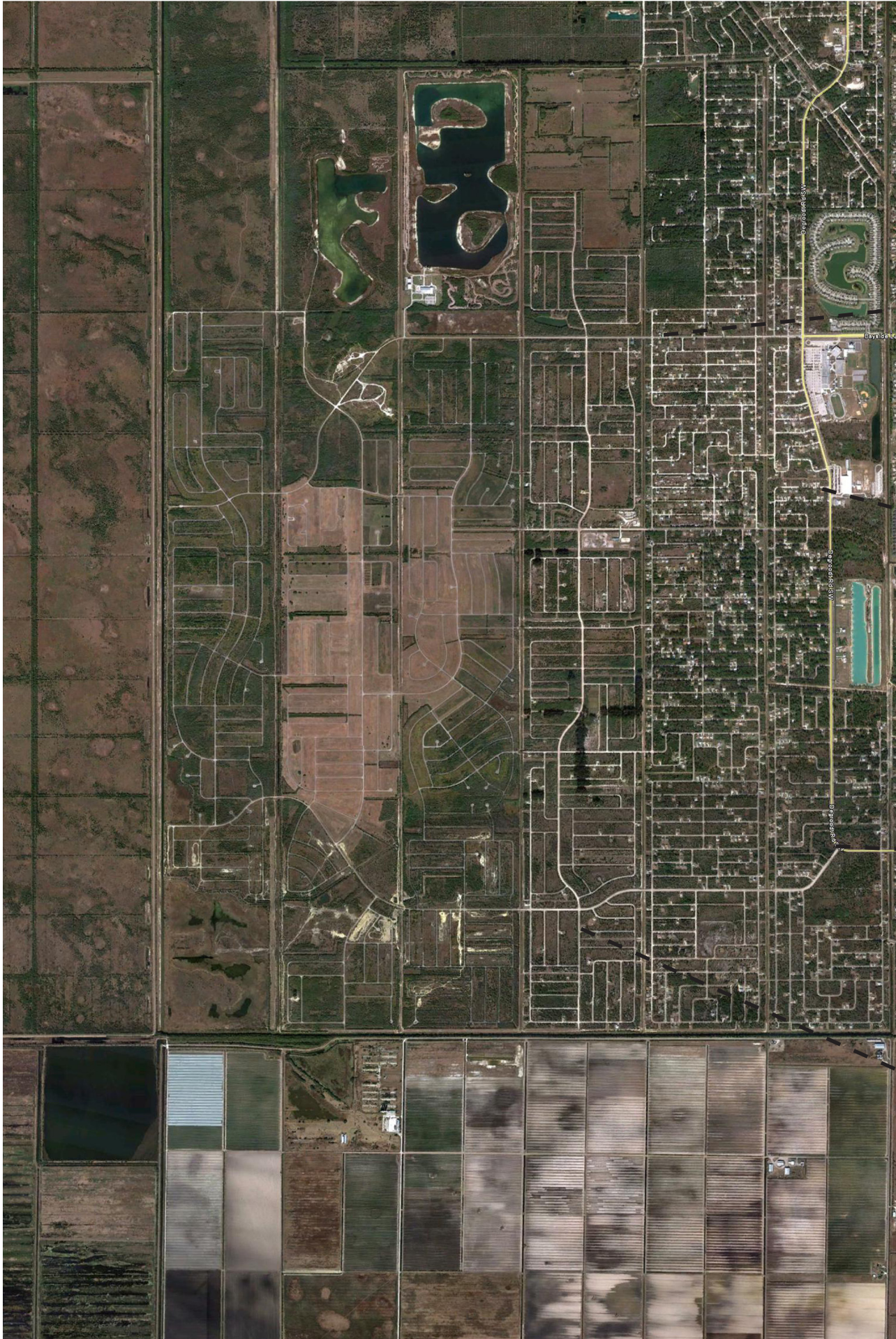
The large canals are damaging to the ecosystem and are generally unattractive.



The lack of use has led to vandalism and neglect.

Figure 2.1

CONTEXT CHARACTER



Parcels around the site are sparsely developed.



Due to recent fires, the fauna is mostly burnt remains or immature.

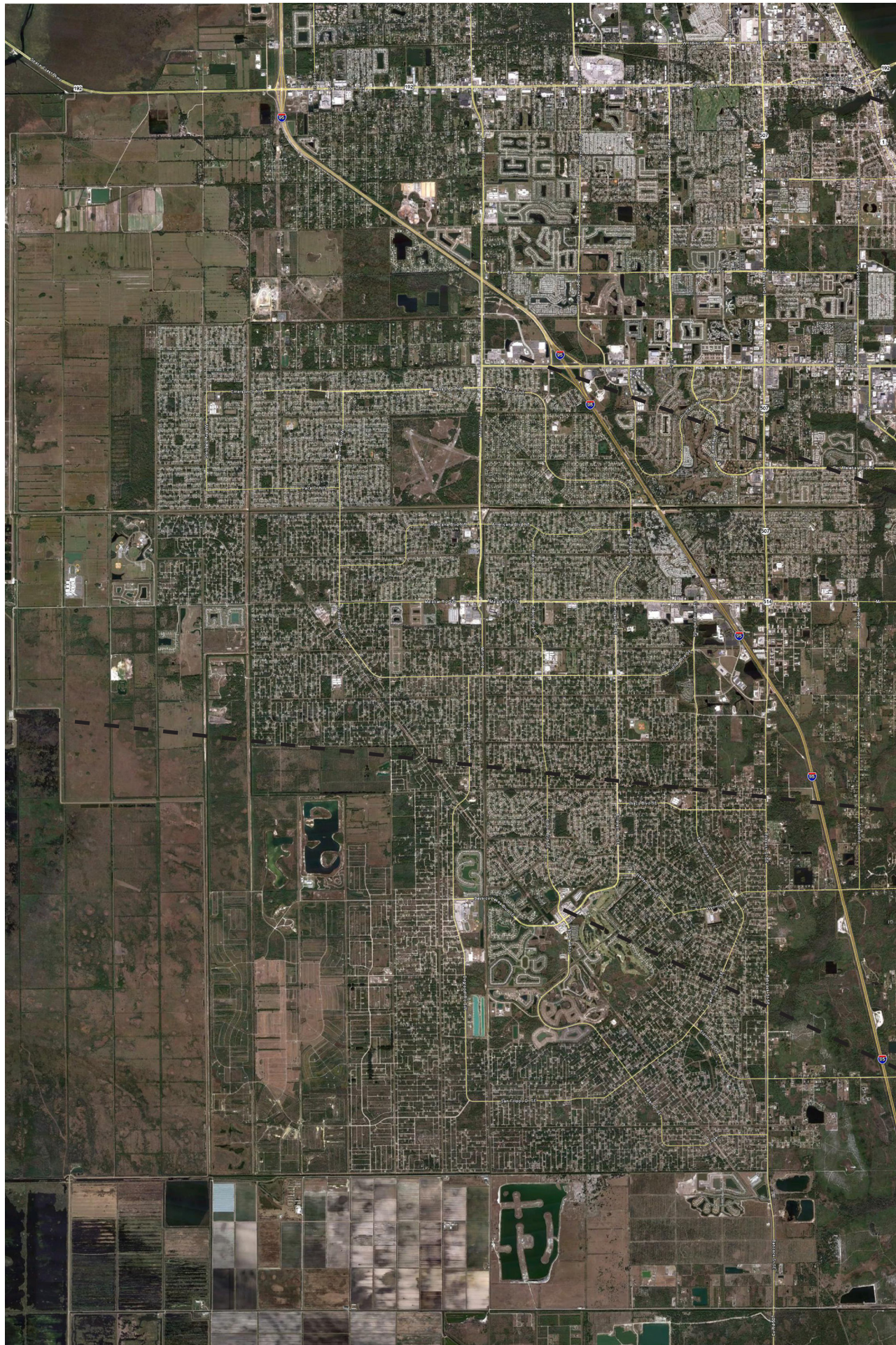


The road network is not planned well. Circulation can be confusing and impractical.



Homes are typically constructed with a stucco exterior and are not cohesive with one another.

Figure 2.2



REGIONAL CHARACTER



Nearby Melbourne is much more urban in character and contains most of Palm Bay's jobs and entertainment opportunities.



Palm Bay's retail options are made up mostly of chains and big box stores.



Three Forks Marsh provides the area with recreation and helps restore the ecosystem.



Strip malls provide the only shopping opportunities in Palm Bay.

Figure 2.3

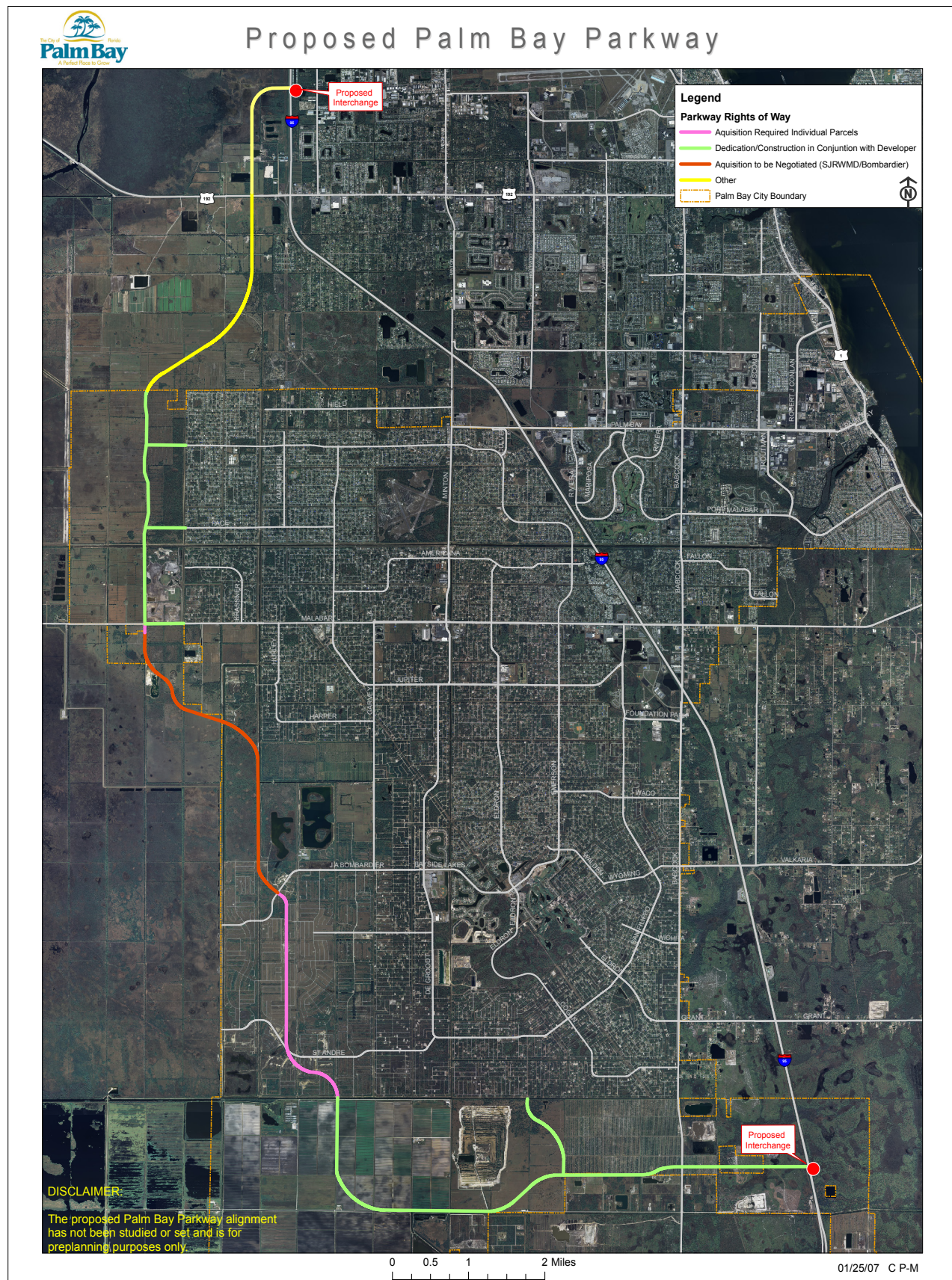


Figure 2.4
The proposed Palm Bay Parkway will run directly through the site.

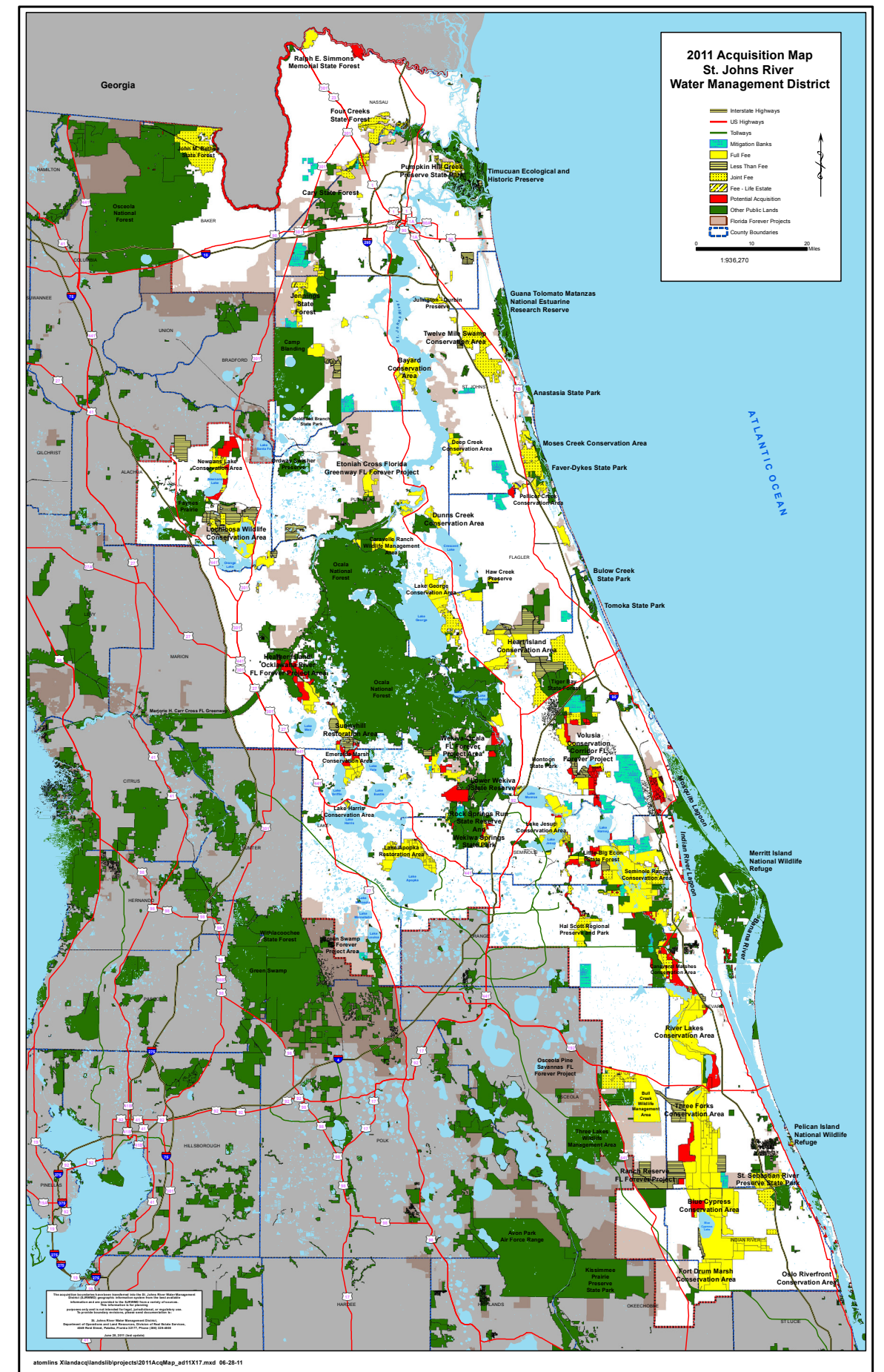


Figure 2.5

SITE LAND USE

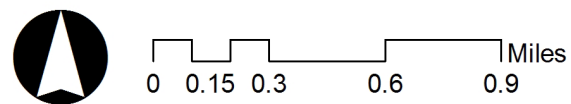
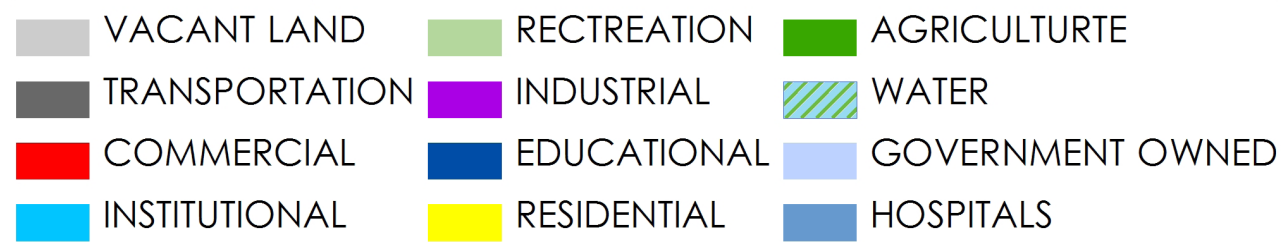
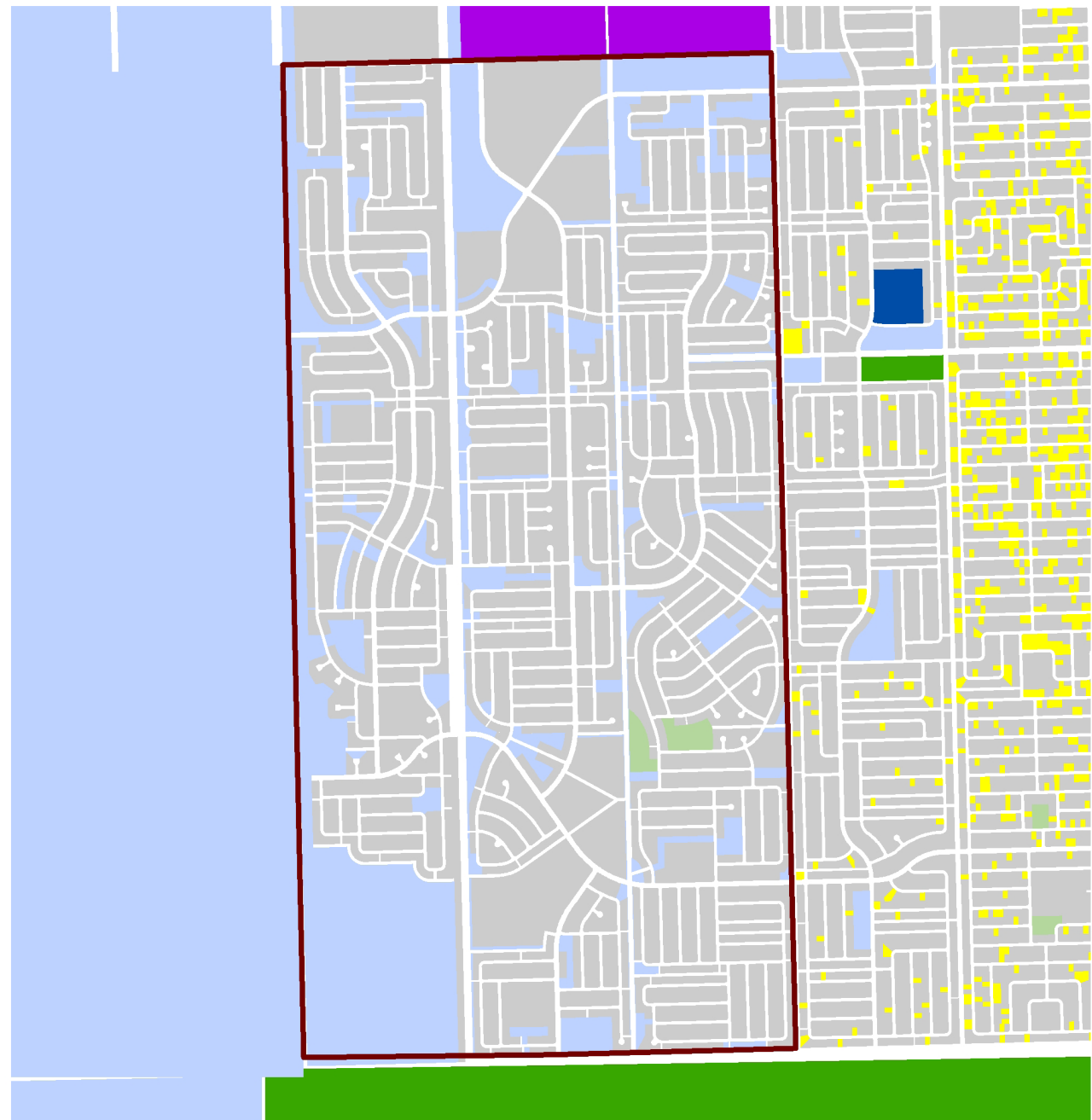


Figure 2.6

CONTEXT LAND USE

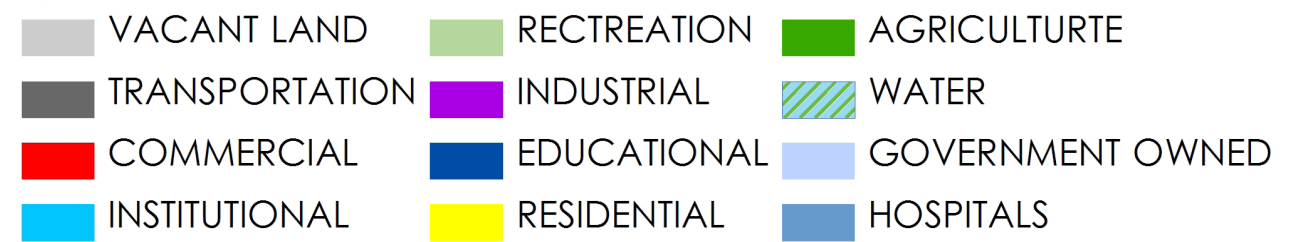
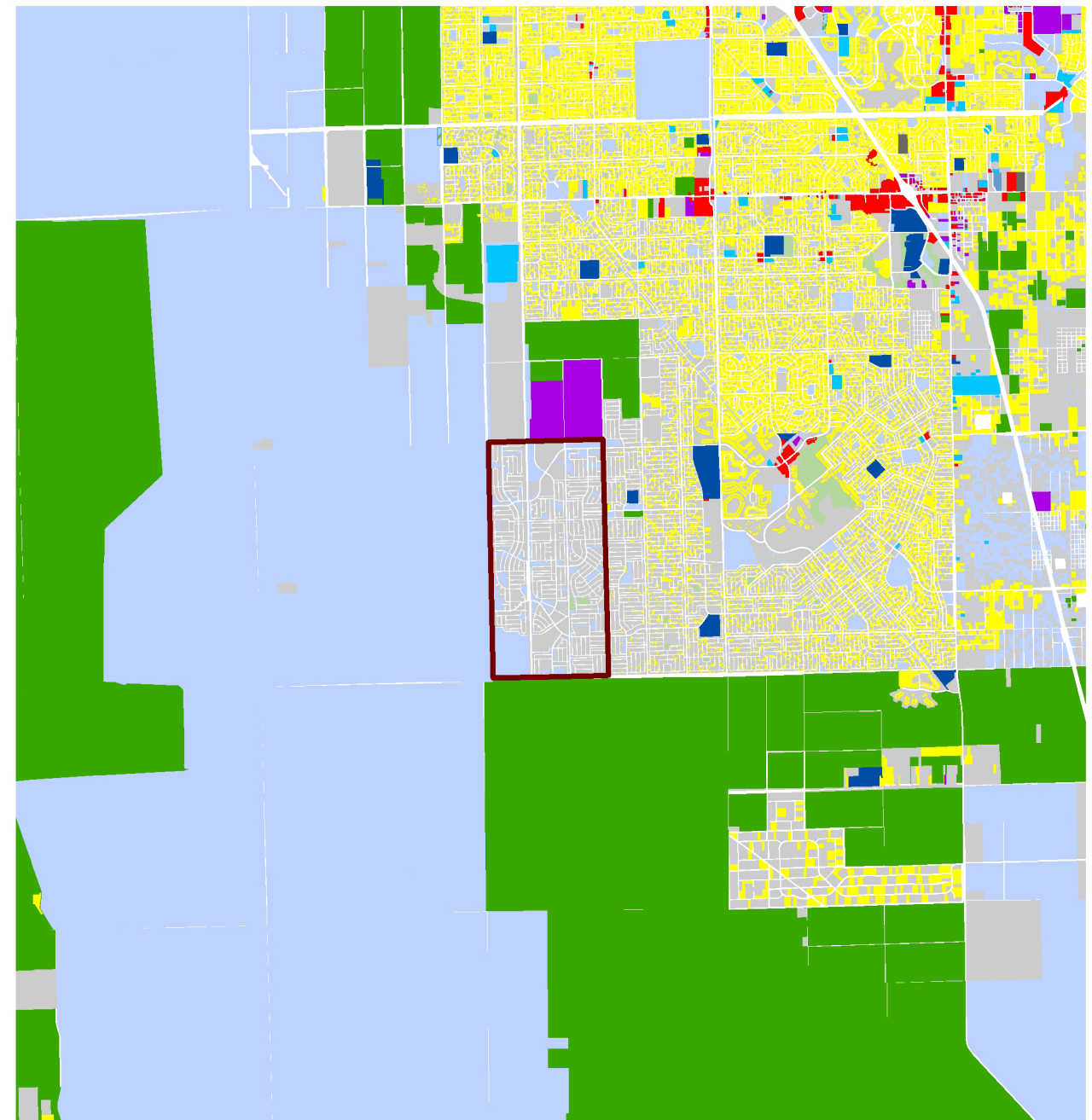


Figure 2.7

SITE ZONING

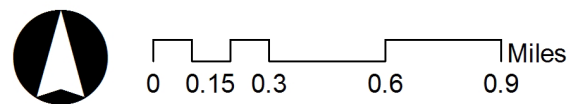
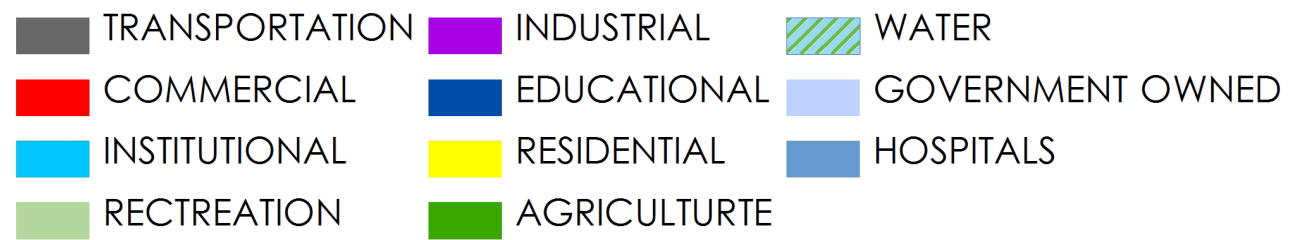
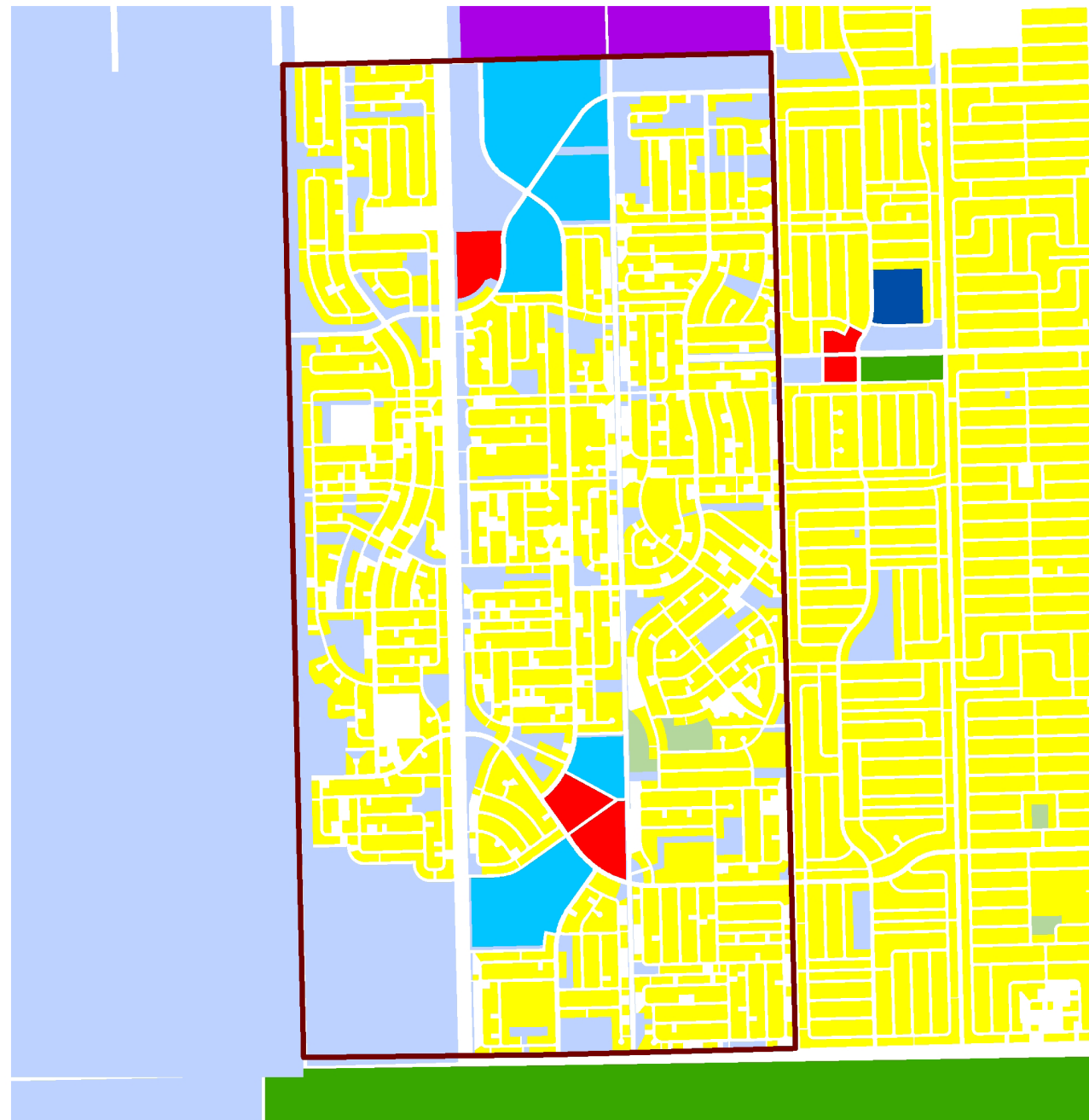


Figure 2.8

CONTEXT ZONING

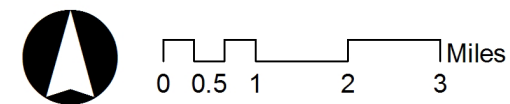
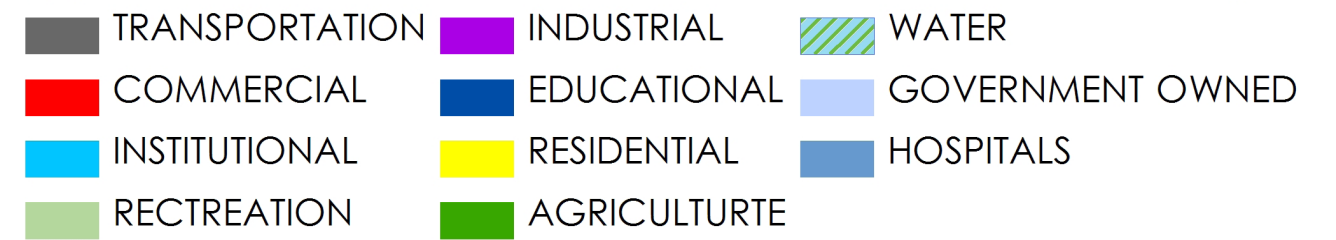
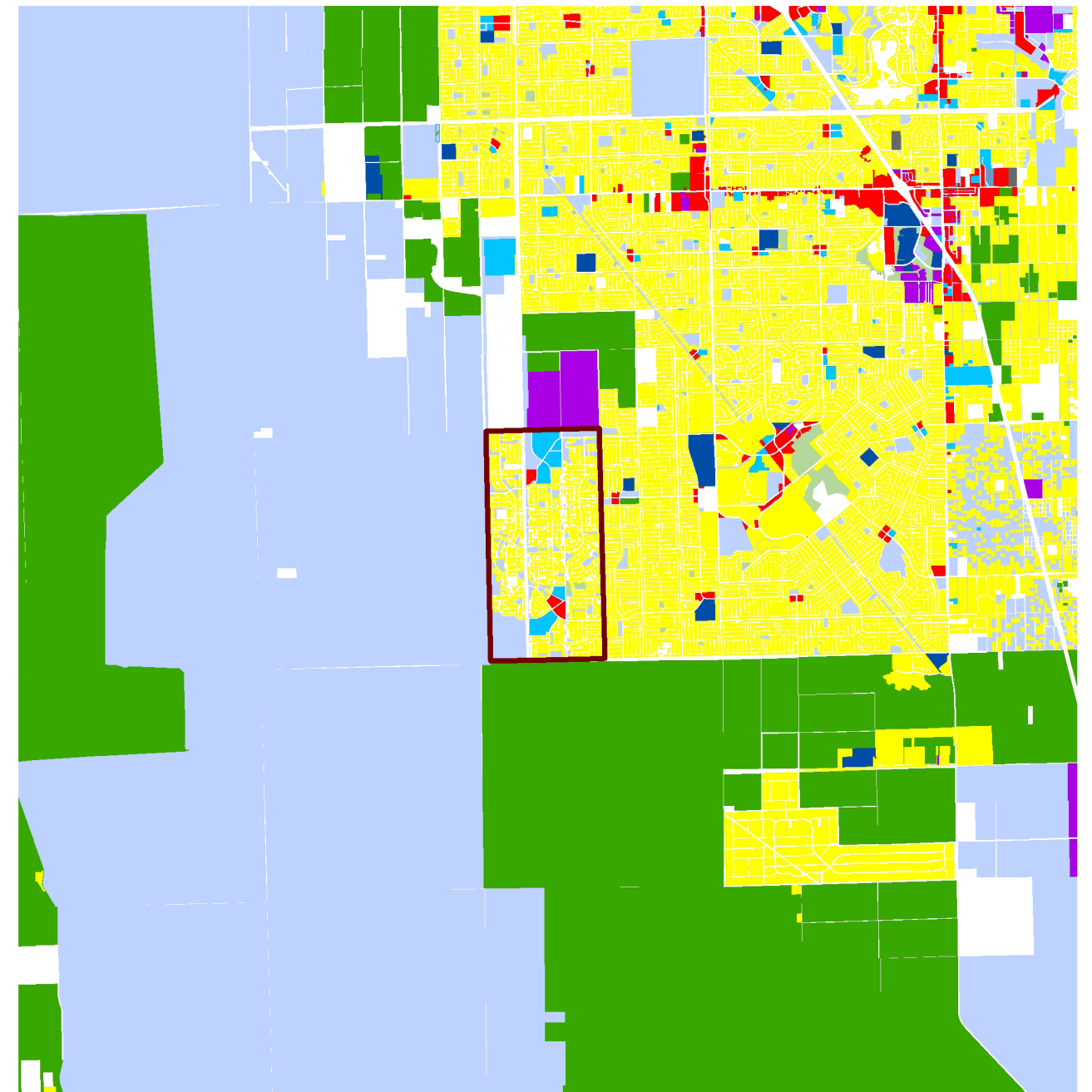


Figure 2.9

SITE SOILS

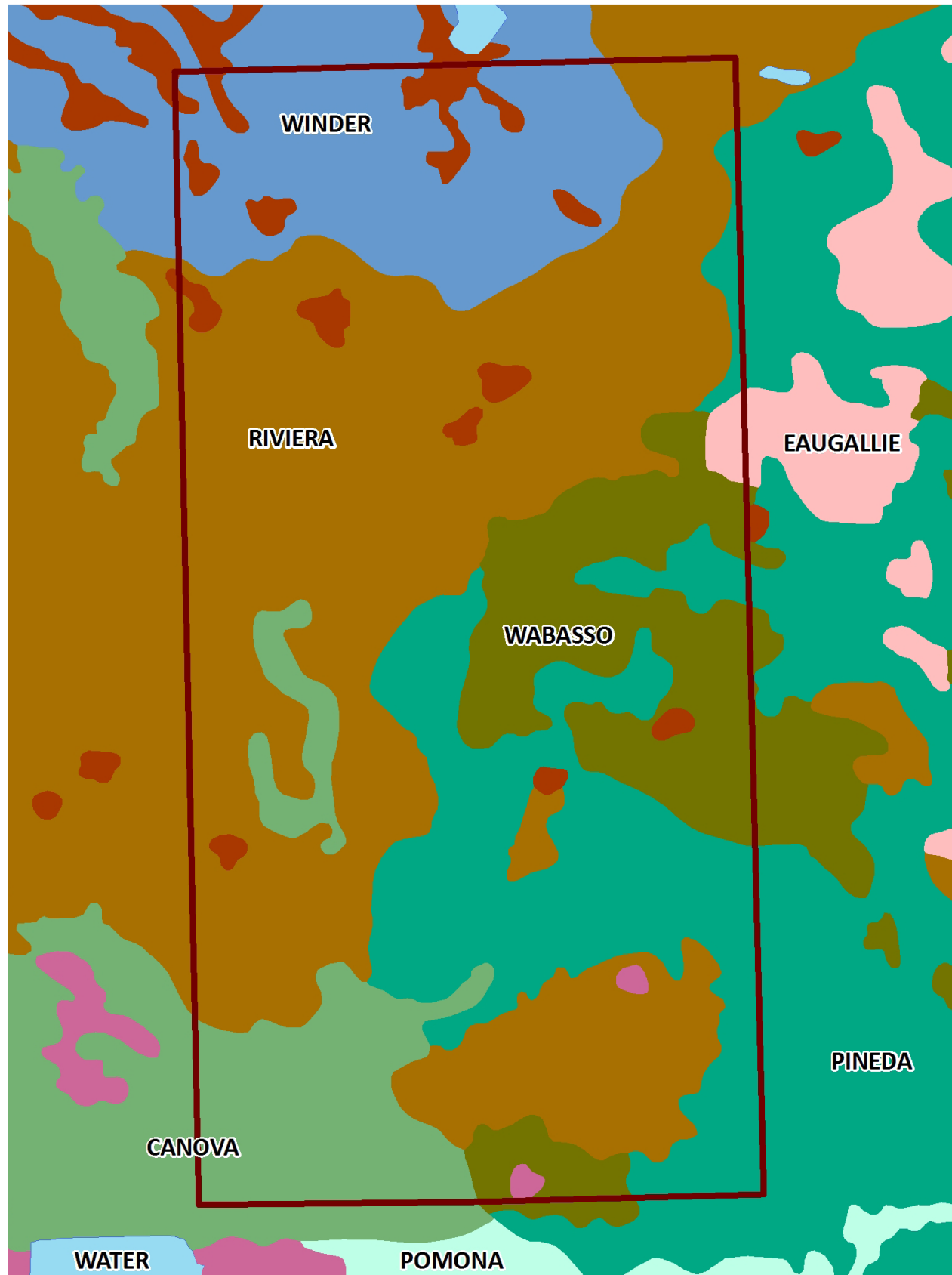


Figure 2.10

CONTEXT SOILS

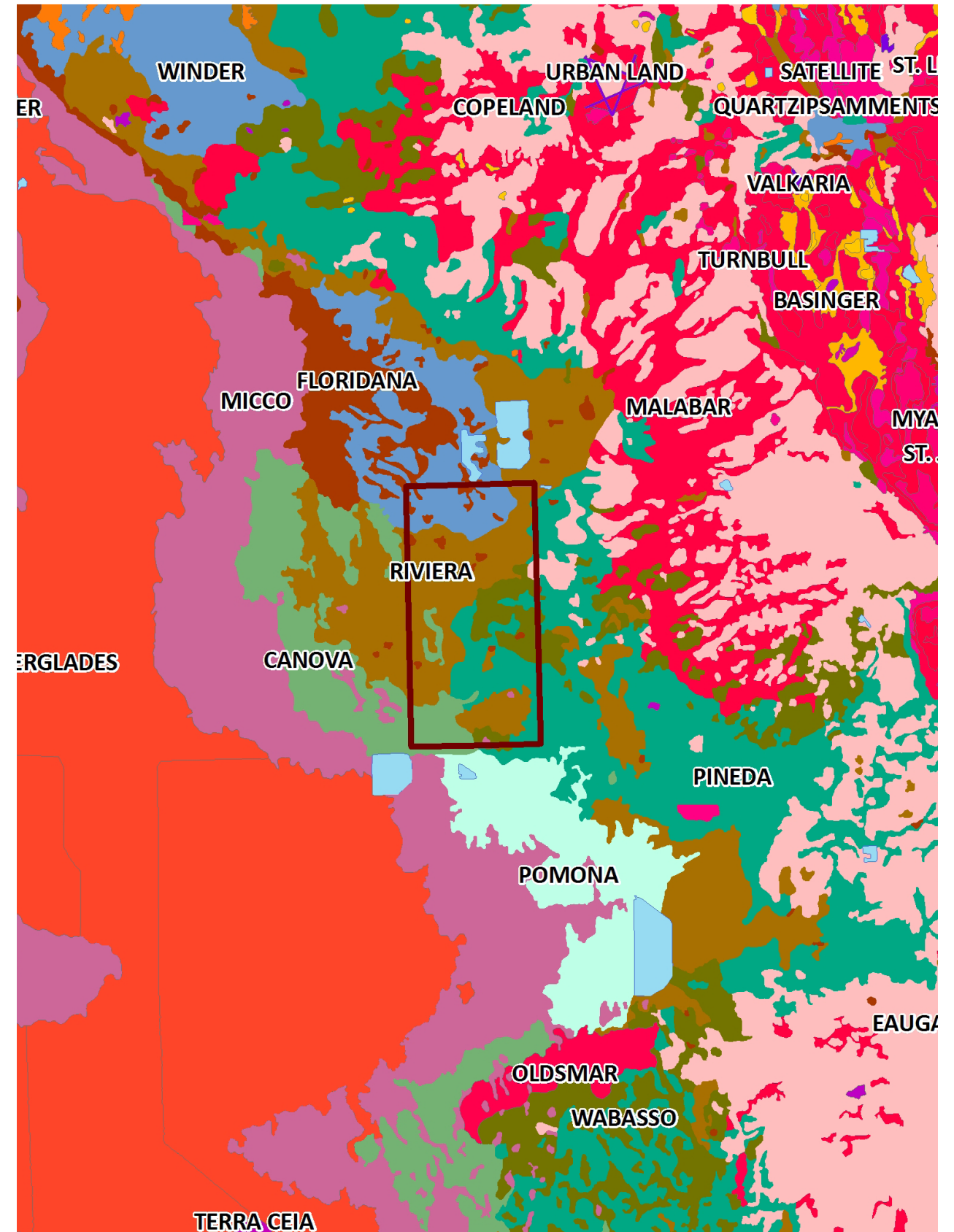


Figure 2.11

ST. JOHNS RIVER

In the 1950's, a flood control project began, diverting water from the St. Johns River into the Indian River Lagoon. This was accomplished by constructing a large and extensive canal system and levees. The environmental impacts were negative, harming much of the wildlife in the Indian River Lagoon.

Efforts have been made to restore the original watershed, enhancing marshes and floodplains. Much of the water has been redirected back into the St. Johns River watershed, instead of the saltwater Indian River Lagoon. (Source: sjrwmd.com)

My site is located along the edge of these restoration projects, so it would be great to incorporate a restorative component.



Figure 2.12
The C-54 Canal in Palm Bay.



Figure 2.13
Three Forks Marsh Conservation Area during a flood.

Upper St. Johns River Basin Project

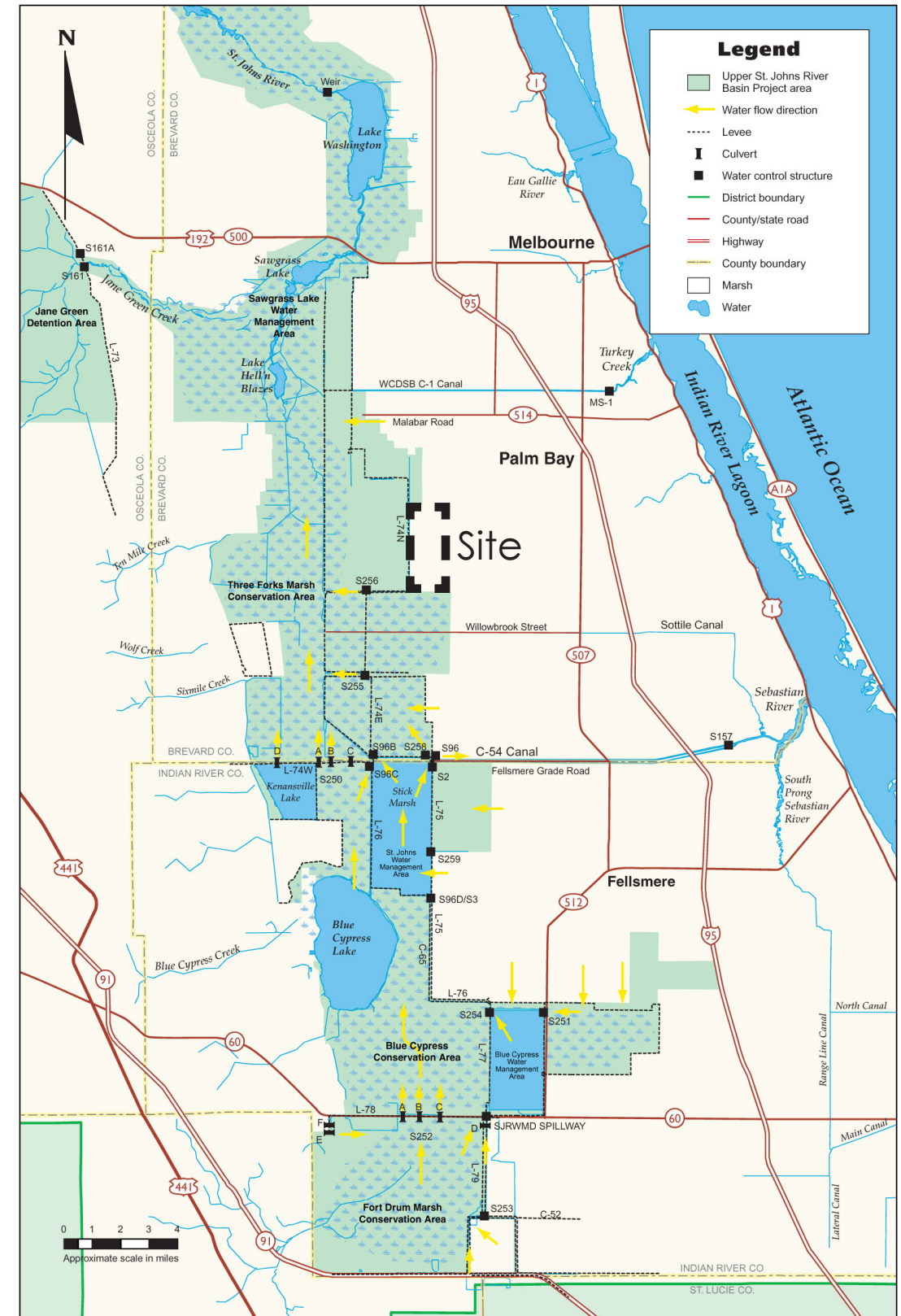


Figure 2.14

Restoration efforts included plugging the canals and restoring the drained marshlands. The last component to the restoration efforts was the Three Forks Marsh Conservation Area, which is over 13,000 acres and will include a 7,000 acre lake. Three Forks Marsh Conservation Area is located along the western edge of the site.
 (Source: sjrwmd.com)

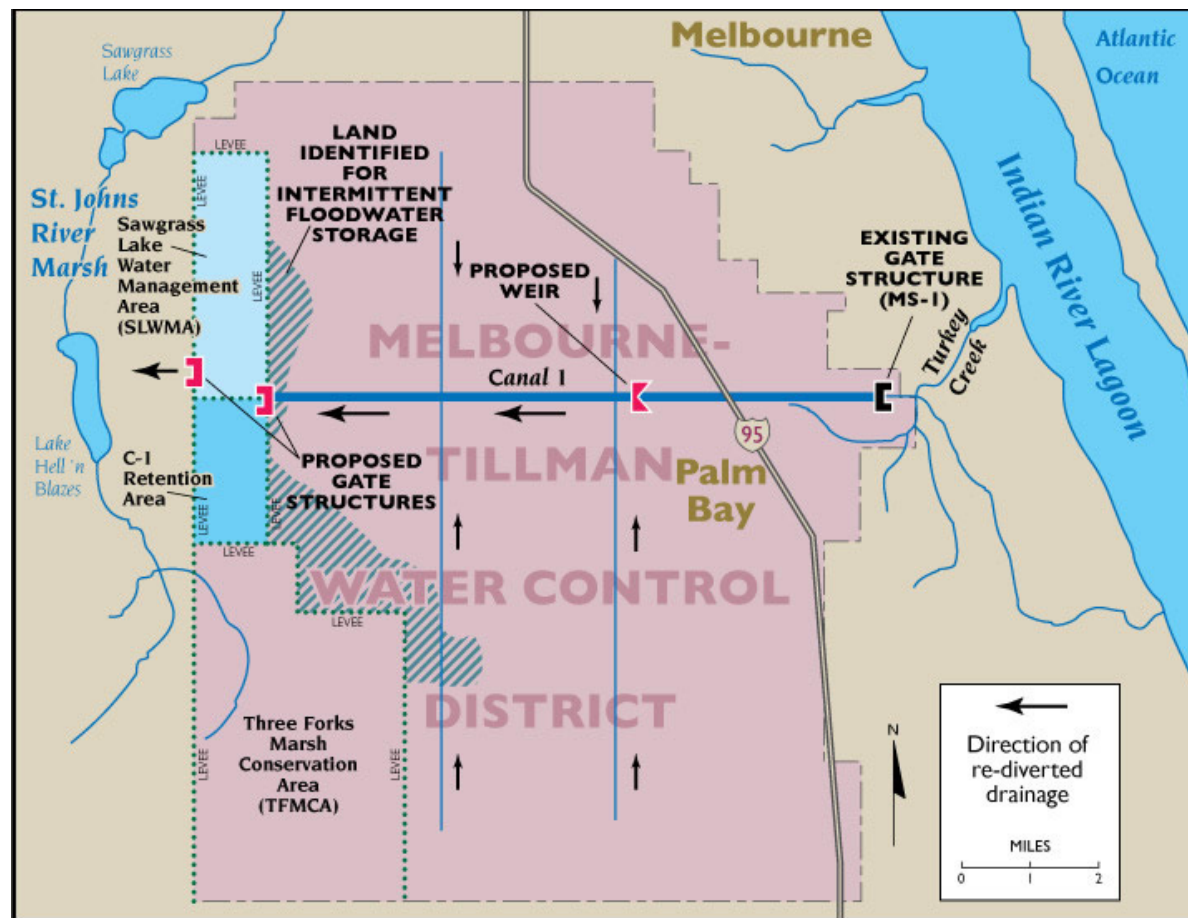


Figure 2.15
 Watershed restoration efforts in the Upper St. John's River basin.

Three Forks Marsh Conservation Area Improvements

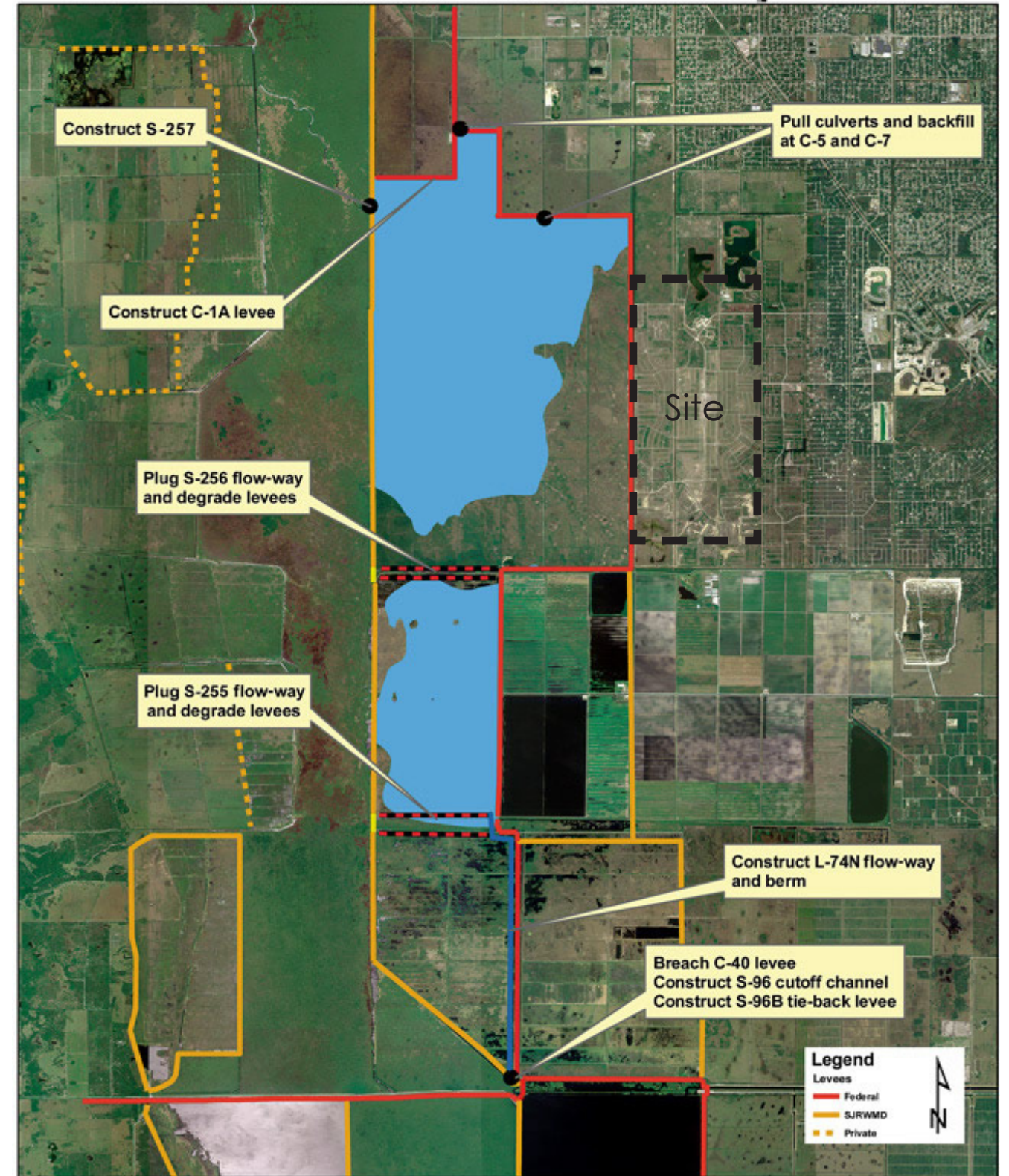
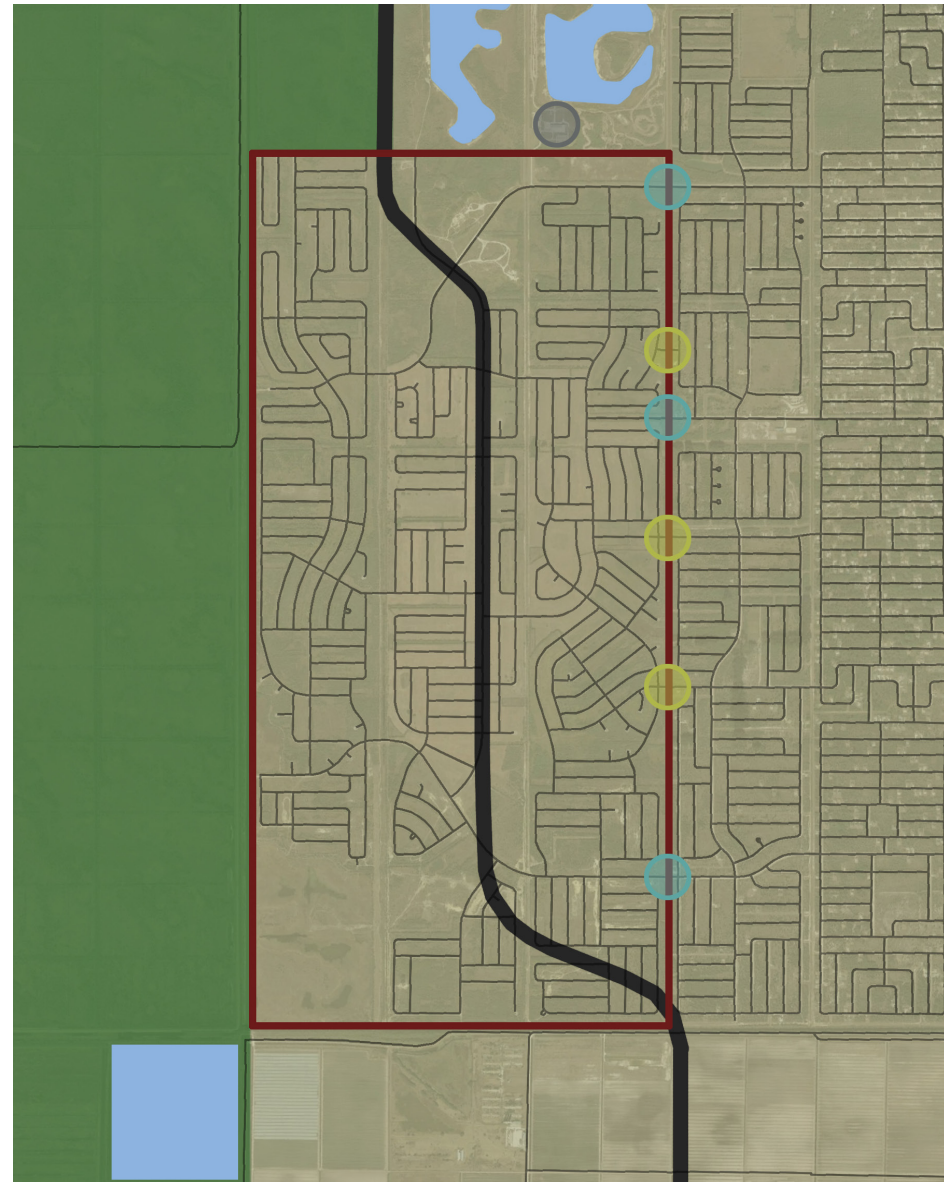


Figure 2.16



ANALYSIS & SYNTHESIS

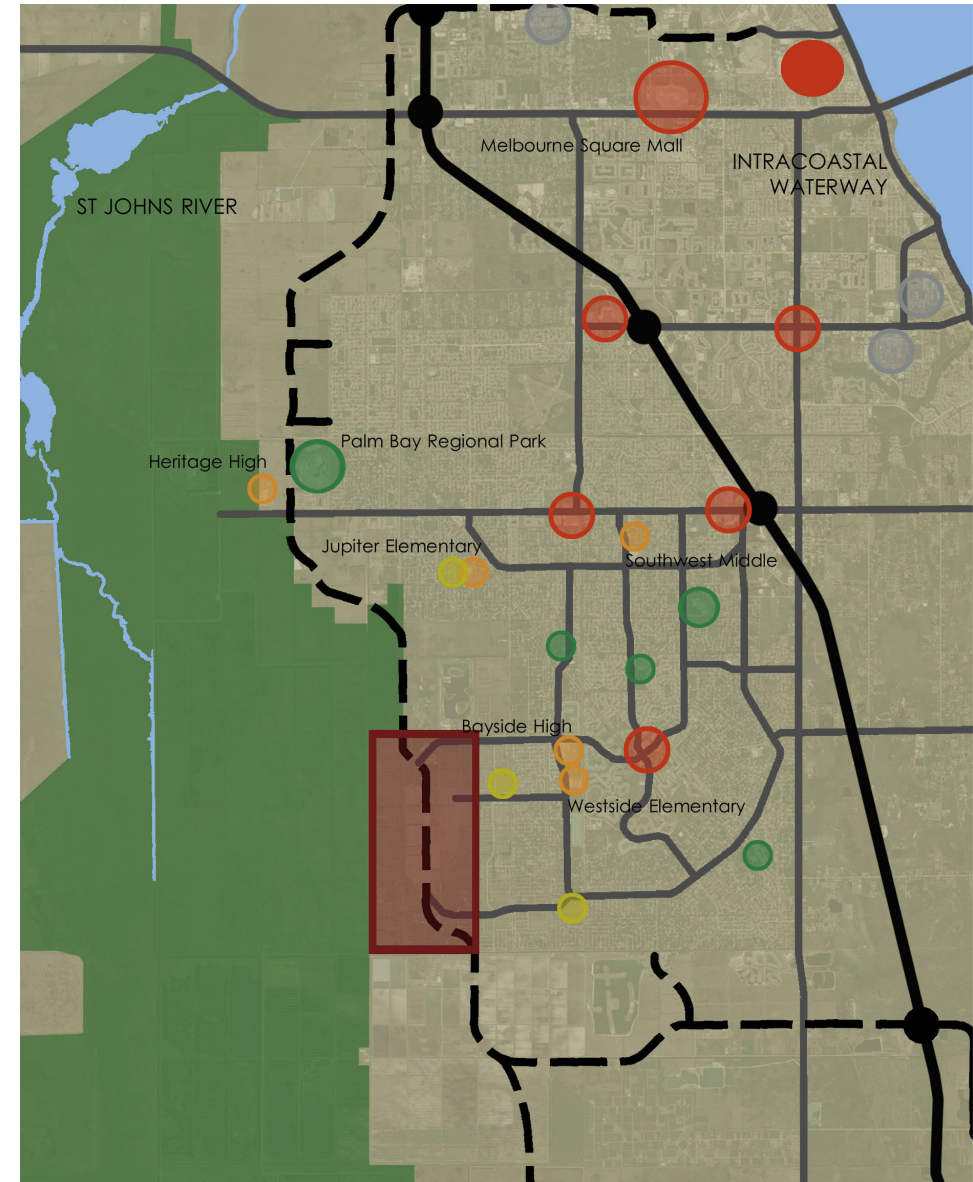
SOCIAL SITE ANALYSIS



LEGEND

- Site Boundary
- Water
- Roads
- Three Forks Conservation Area
- Proposed Palm Bay Parkway
- La Bombardier
- Entry Points
- Blocked Entry Points

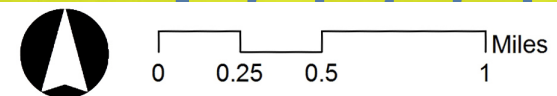
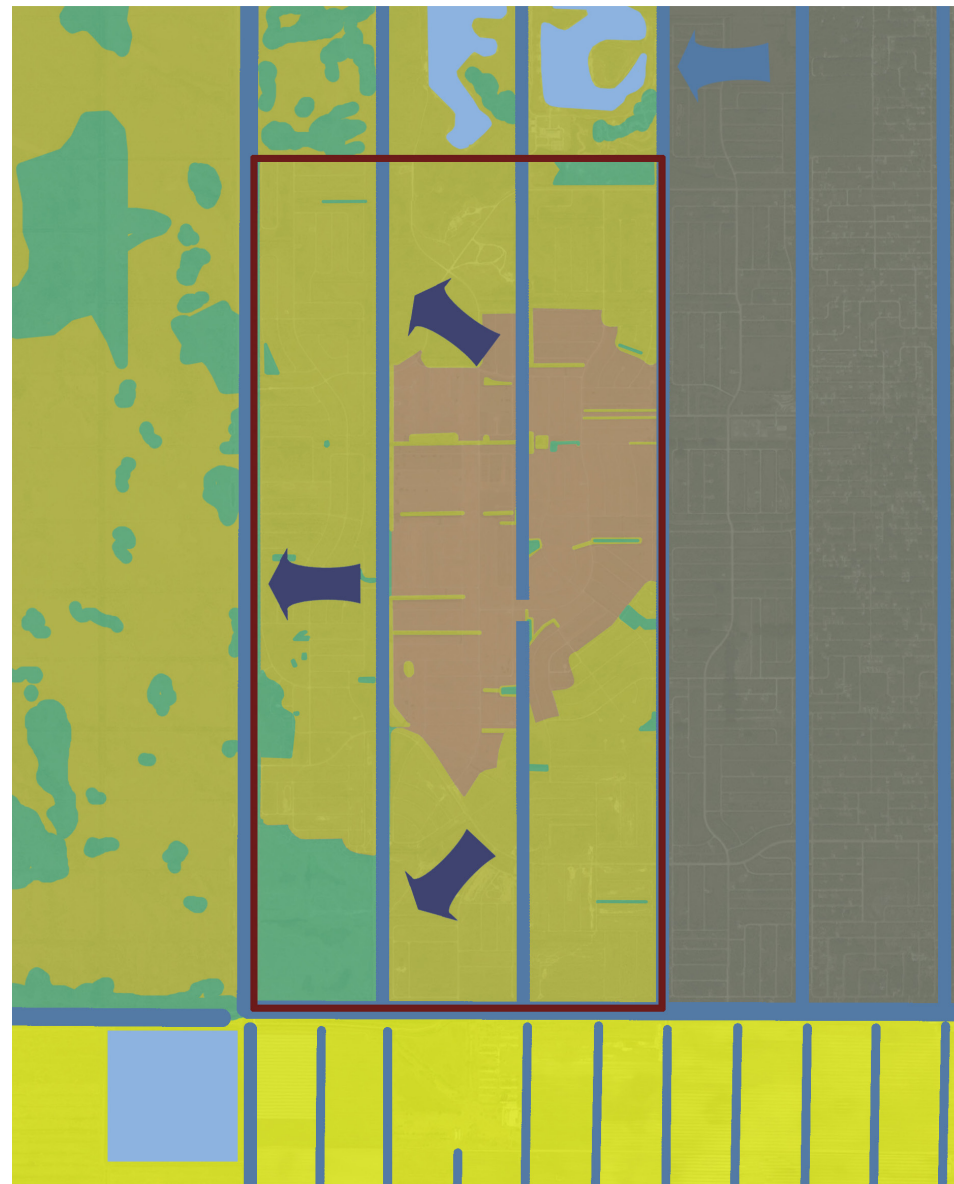
SOCIAL CONTEXT ANALYSIS



LEGEND

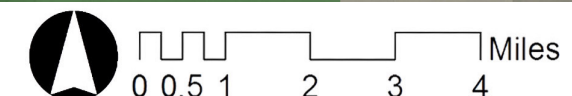
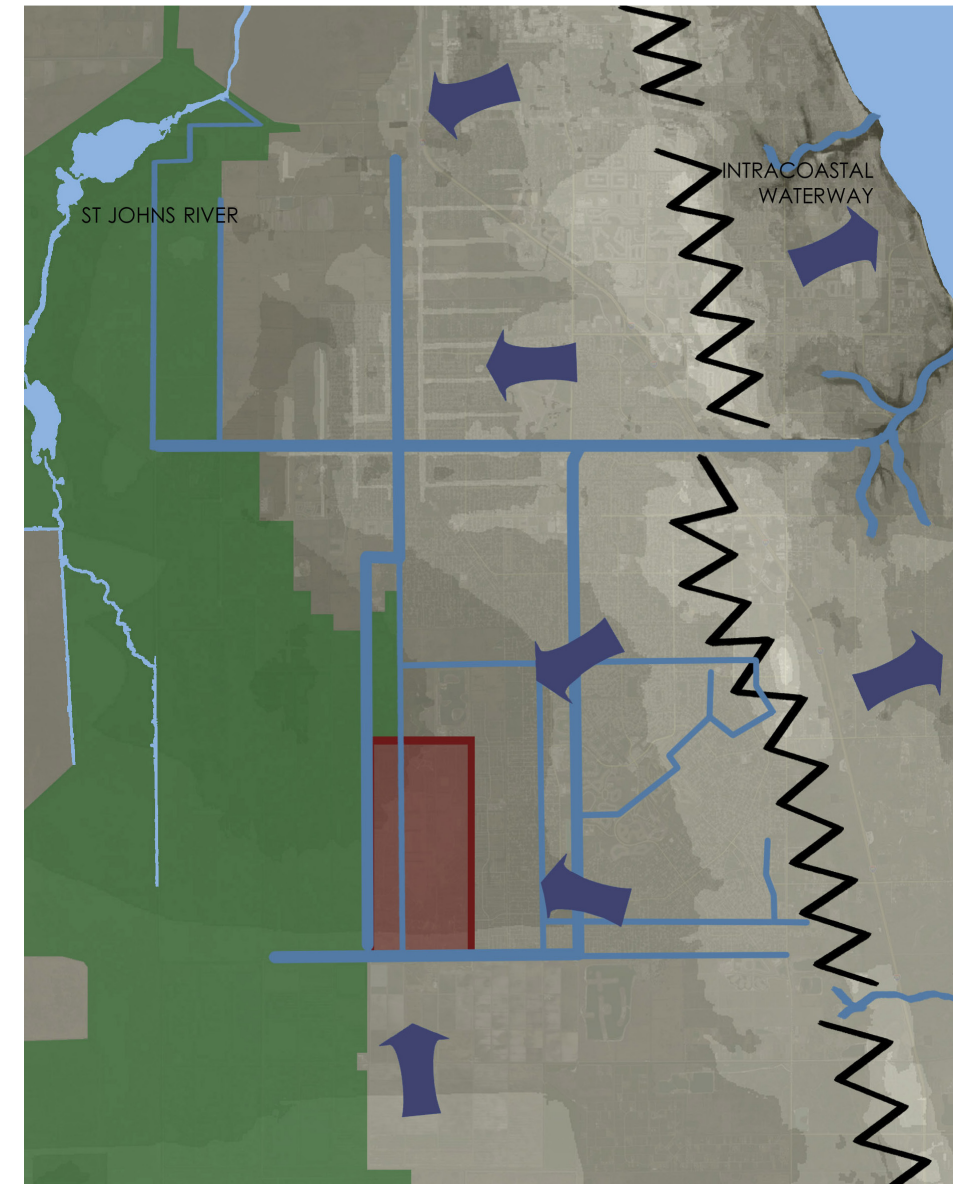
- Site Boundary
- Water
- Parks
- Existing Schools
- Proposed School Sites
- Commercial Centers
- Industrial Centers
- Proposed Palm Bay Parkway
- Interstate 95
- Major Roads
- Downtown Melbourne
- SJRWMD Preservation Lands

NATURAL SITE ANALYSIS



- LEGEND
- Site Boundary
 - Water
 - Canals
 - Scrub / Unmowed
 - Mowed Land
 - Marshes / Wetlands
 - Agricultural
 - Urban Land / Miscellaneous
 - Historic Flow Direction

NATURAL CONTEXT ANALYSIS

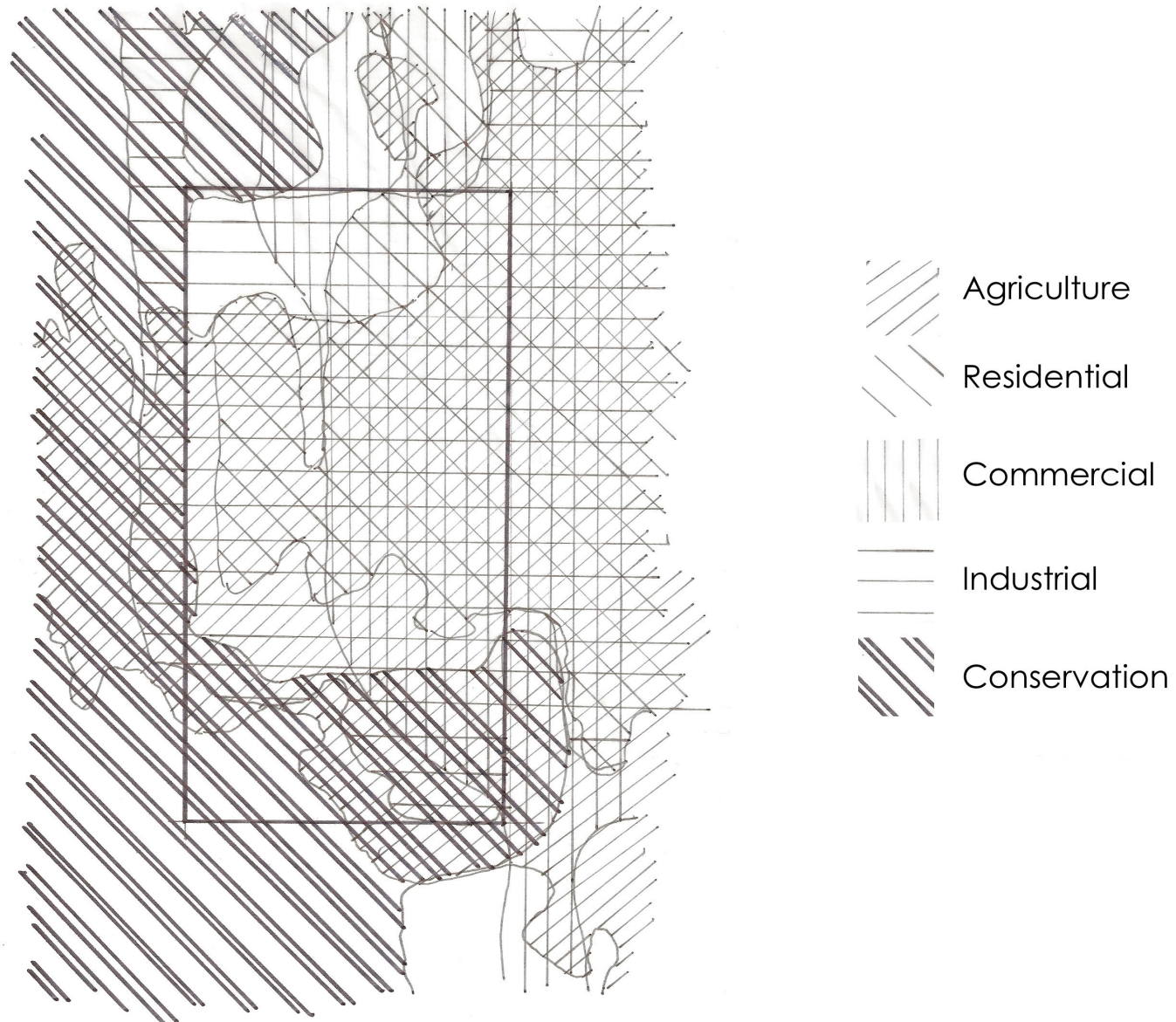


- LEGEND
- Site Boundary
 - Water
 - Major Canals
 - SJRWMD Preserved Lands
 - Mowed Land
 - Marshes / Wetlands
 - Agricultural
 - Urban Land / Miscellaneous
 - Historic Flow Direction
 - Ridge

SUITABILITY ANALYSIS PROCESS

Each suitability analysis involved taking data and combining it based on importance. For example, for the residential suitability analysis I used both aesthetic quality and development suitability. I weighed the development suitability higher than the aesthetic quality, because I feel that it is much more important for residential suitability.

After creating the analyses, I overlaid them together using different patterns. The areas with one pattern is best suited for that use and areas that have multiple patterns are suited for several uses.



DEVELOPMENT SUITABILITY ANALYSIS



Figure 3.1

AGRICULTURAL SUITABILITY ANALYSIS

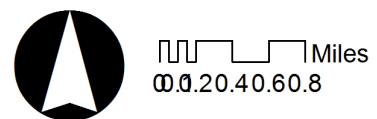
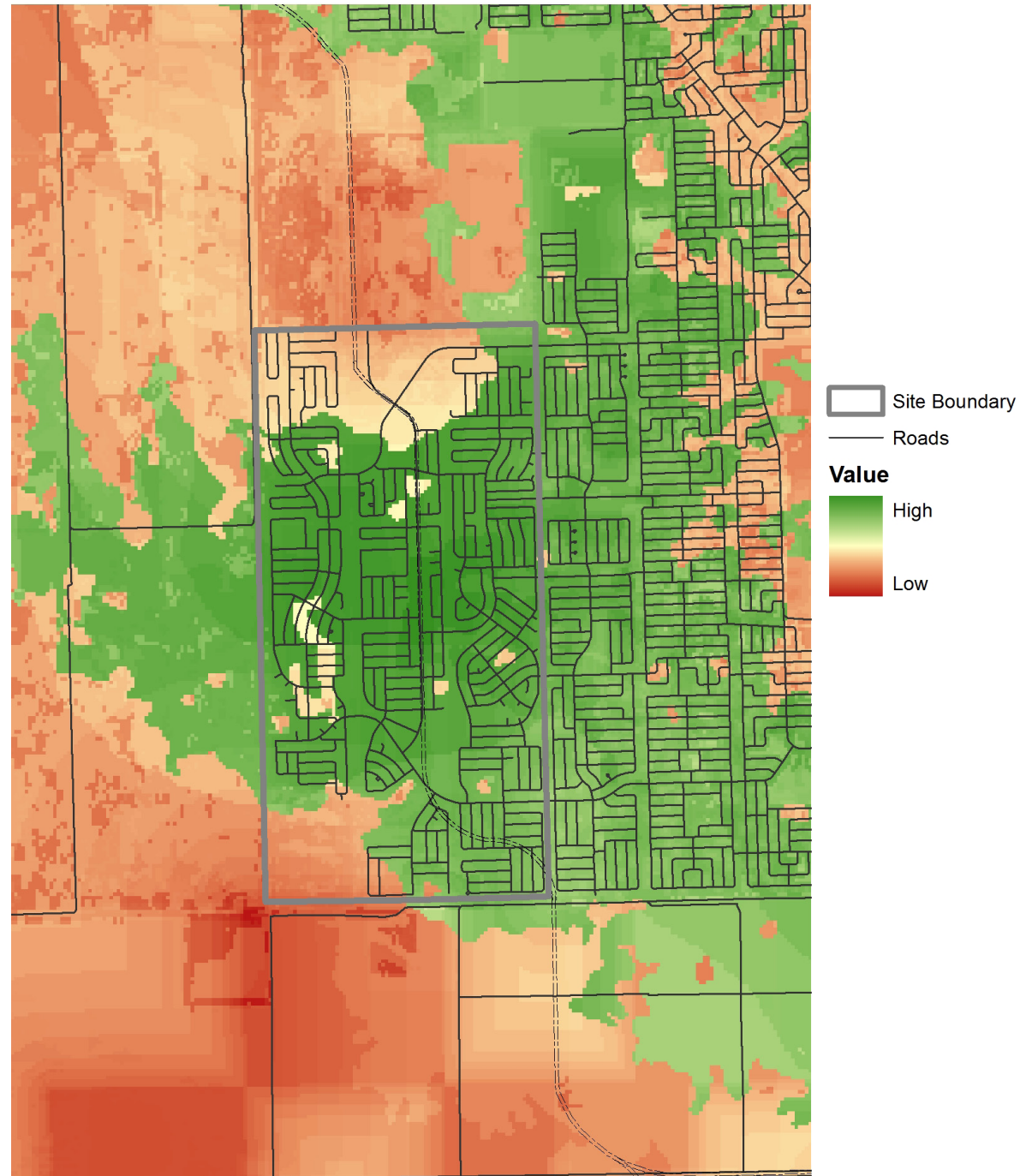


Figure 3.2

COMMERCIAL SUITABILITY ANALYSIS

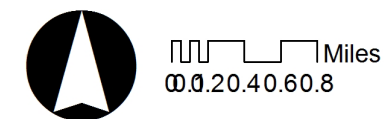
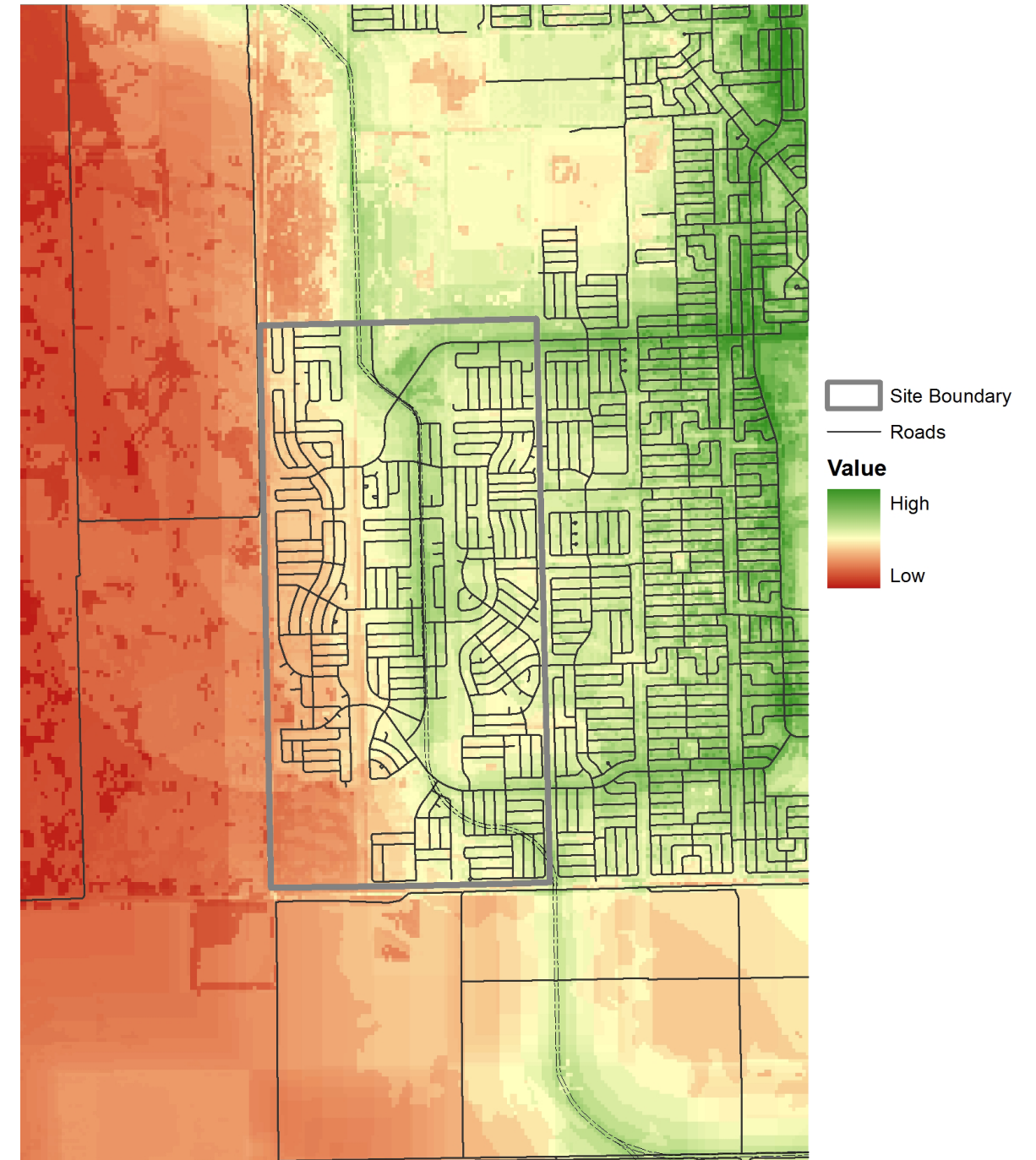


Figure 3.3

INDUSTRIAL SUITABILITY ANALYSIS

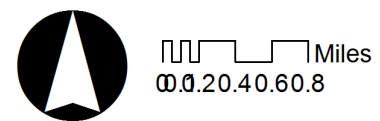
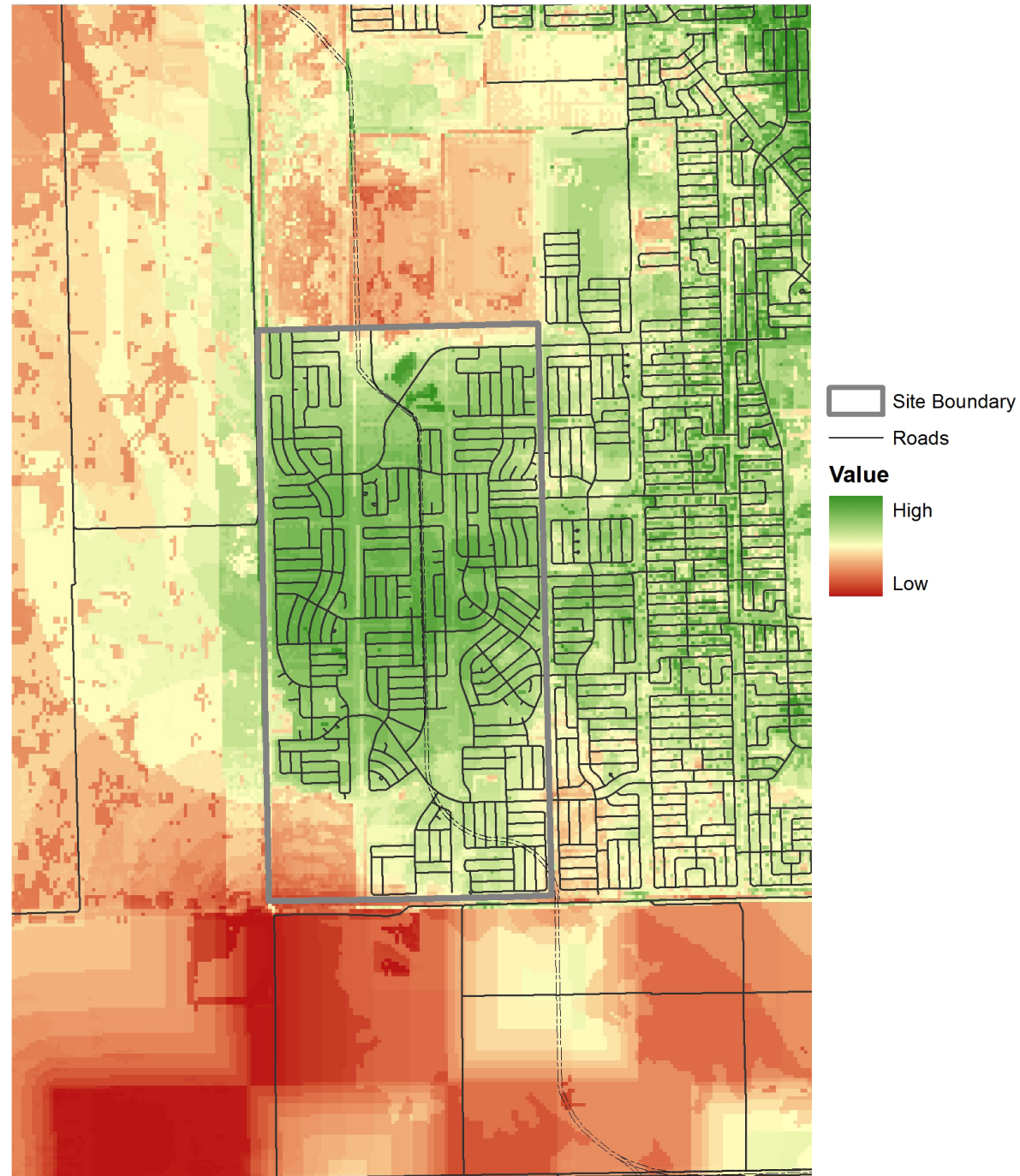


Figure 3.4

RESIDENTIAL SUITABILITY ANALYSIS

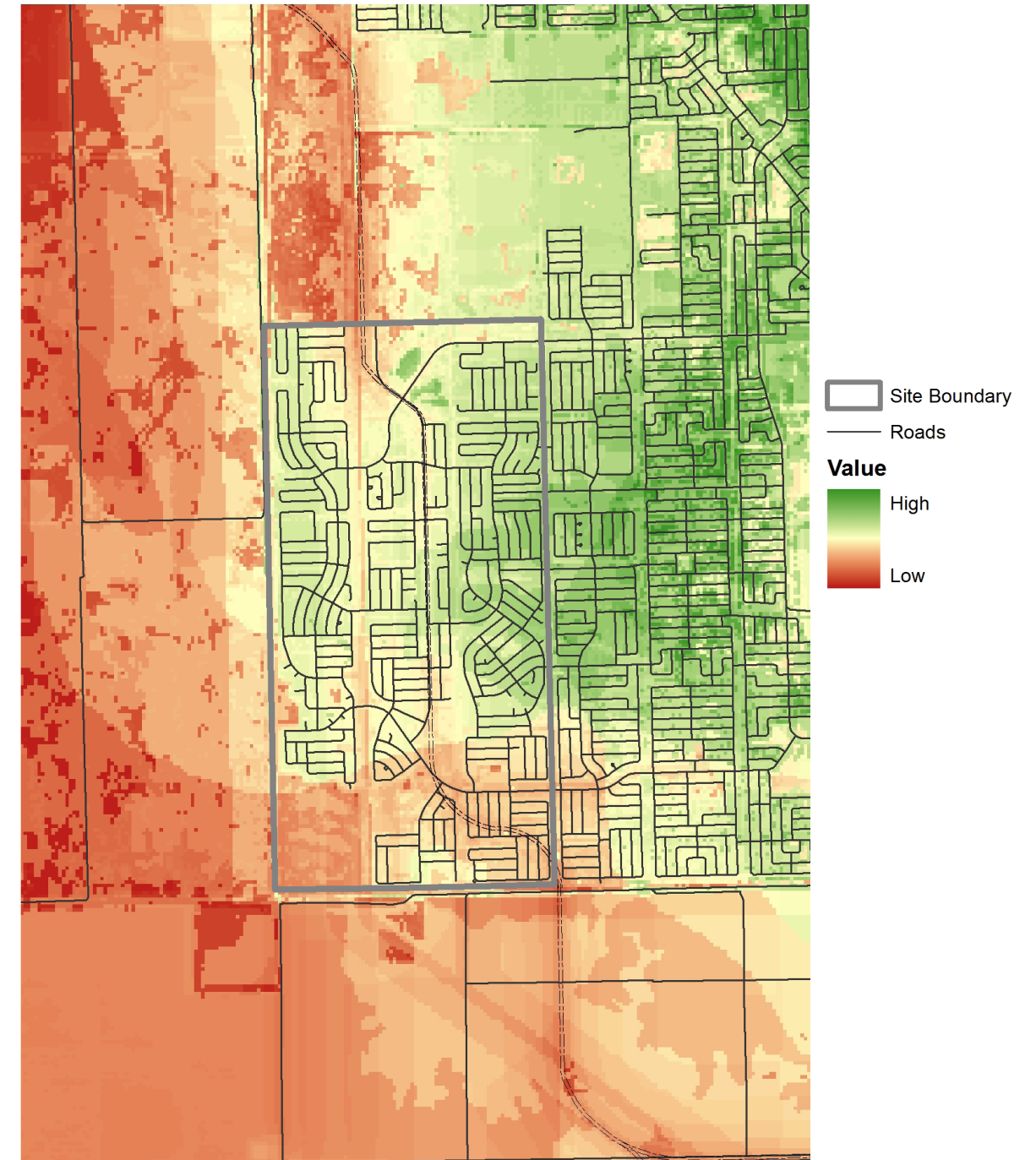
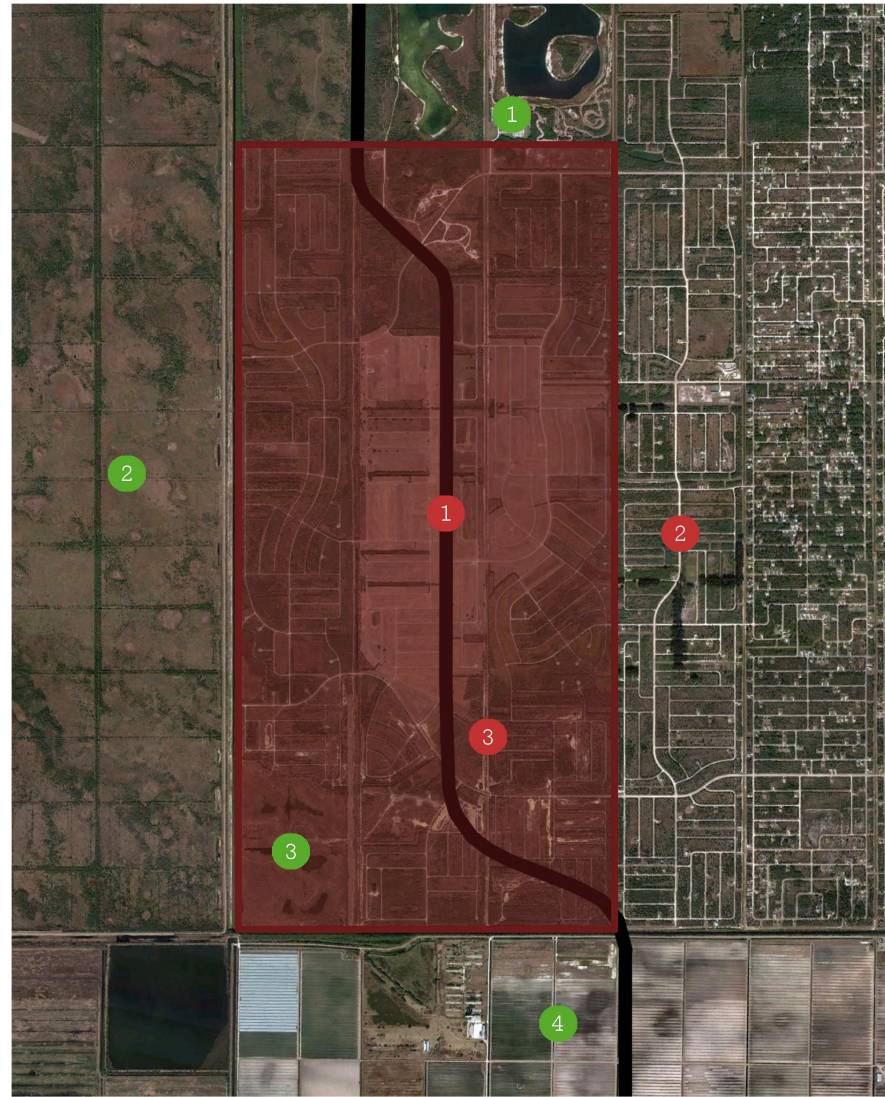


Figure 3.5

SITE SYNTHESIS



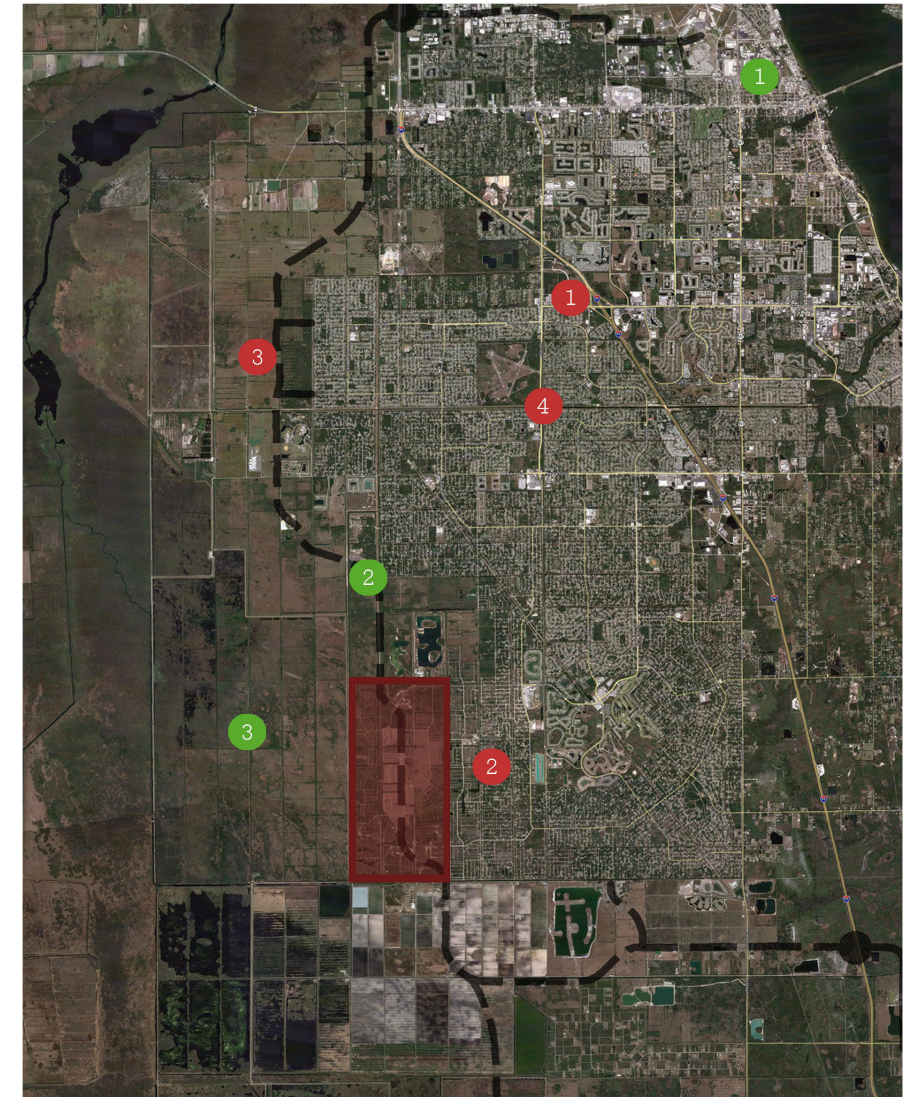
OPPORTUNITIES

- 1 The existing La Bombardier site provides some employment for the area.
- 2 Opportunity to tie into the St. Johns River watershed restoration.
Existing residential surrounding the site provides many users.
Asphalt from the existing roads can be reused.
Existing vegetation is not significant, so there is not too much of a constraint on where to develop.
There are no existing utilities to remove.
- 3 Existing marshes and wetlands are scenic and provide ecological benefits.
- 4 Opportunity to tie into the existing agriculture.

CONSTRAINTS

- 1 The proposed Palm Bay Parkway will bring people into the site, but will also bring the negative effects of a major roadway.
- 2 When developed, the area to the east will be almost entirely made up of single family residential.
- 3 Drainage canals are ugly and environmentally detrimental.
Existing roads are in poor condition.
There are not any schools proposed or existing near the site.
The surrounding area is not fully developed or populated.

CONTEXT SYNTHESIS



OPPORTUNITIES

- 1 Downtown Melbourne is the main entertainment and employment center, so there is opportunity to create another.
- 2 The proposed Palm Bay Parkway will bring users through the site and improve access.
Opportunity to create a destination for Palm Bay and the surrounding communities.
Opportunity to create a sense of place for Palm Bay.
- 3 There is an opportunity to address hydrology and filter it before it enters the aquifer and the river.
Opportunity to offer a variety of housing types.

CONSTRAINTS

- The development should be sensitive to the St. Johns River.
Lack of commercial and industrial in Palm Bay creates a lack of jobs.
- 1 Existing commercial properties in Palm Bay are mostly made up of strip malls.
- 2 Existing residential is mostly made up of single family and sparsely developed.
- 3 Proposed developments follow the pattern of sprawl and provide a surplus of residential.
Removal of existing roads may be costly.
- 4 The natural flow of storm water has been interrupted by the canal system.

A long, straight, paved road stretches into the distance, flanked by tall, dry grasses under a cloudy sky. The road is made of asphalt and has several visible expansion joints. The grasses are a mix of green and brown, suggesting a late summer or autumn setting. The sky is filled with soft, grey clouds, and the overall atmosphere is quiet and somewhat desolate.

CONCEPT DEVELOPMENT

CASE STUDY: PICAYUNE STRAND

Picayune Strand was platted in the 1960's as part of Golden Gate Estates. Much of the land is flooded during the wet months, so it was basically unable to be developed. The State of Florida acquired the land from 17,000 land owners. Sheet flow was restored by blocking canals and removing roads.

Picayune Strand is historically very similar to my site. It was sold off to many landowners and none of the land was built upon. The parcels were purchased from the many landowners by the state through funds for the Everglades restoration. I want to take this idea and build upon it for my site, using some of the land and restoring it, since it is so close to the source of the St. Johns River.

(Source: floridaforestservice.com)



Figure 4.2

CASE STUDY: BALDWIN PARK



Figure 4.1

Baldwin Park is a great example of infill development in Orlando, FL. The site was originally a military base. When it was closed, the site was prime for development. The planning style used was Traditional Neighborhood Development, creating a very walkable and connected community. The principles used in this development can relate to the Palm Bay site. It is developed around a central lake, which is a great place-making feature. The community blends into and connects with its context. I am striving for a walkable and connected development, so using the principles of Traditional Neighborhood Development would be helpful.

(Source: baldwinparkfl.com)

CASE STUDY: LEHIGH ACRES

This redevelopment plan was developed by Wallace, Roberts and Todd. Lehigh Acres was originally developed in a very similar manner as Palm Bay. They developed a plan to increase density and livability by connecting roads and using the undeveloped parcels for infill. Their strategic plan involves the acquiring of land and transfer of development rights.

I am planning on using a similar approach, but on a much larger scale. One benefit to my site is that there is no current development, so I will not have to work around existing homes.
(Source: wrtdesign.com)

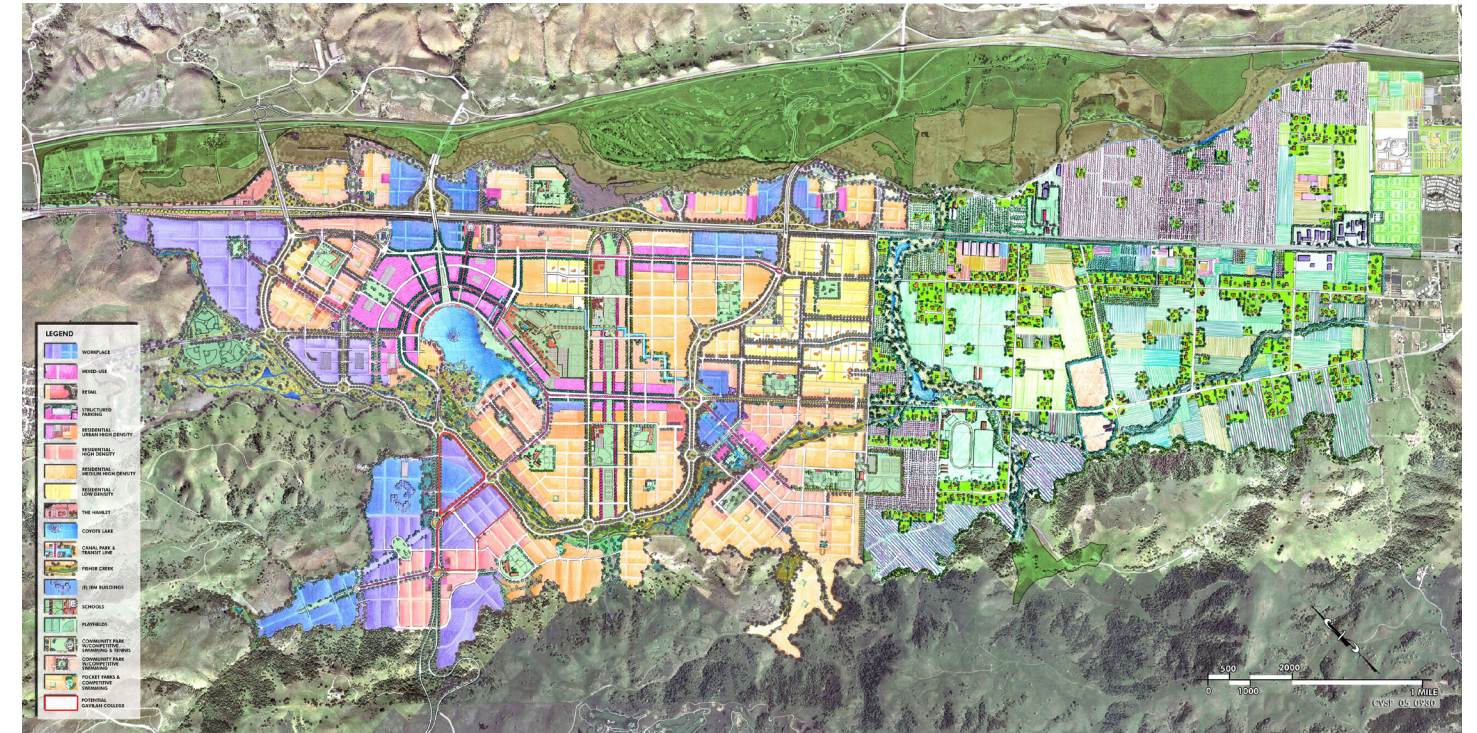


Figure 4.4

CASE STUDY: COYOTE VALLEY

Coyote Valley is located in the Silicon Valley area of California. The general idea is to create a very dense community and allow residential and economic growth for the area. The site is currently mostly made up of agricultural lands, but will preserve these lands along the perimeter. A great aspect of the plan is to incorporate affordable housing in a very expensive region of the country.

I would like to develop my site in a similar manner to Coyote Valley, very dynamic and dense. I also want to create designated agricultural and greenway lands.
(Source: sanjoseca.gov/coyotevalley)



Figure 4.3



Figure 4.5

CASE STUDY: AGRITOPIA™

This development in Arizona incorporates both residential and agriculture. This could provide knowledge on how to work with both land use types in a synergistic manner. The development has similar homes as the surrounding area, a very suburban location, but includes great community-building features. This includes a community center, no block walls, front porches, narrow streets, and a farmer's market.
(Source: agritopia.com)

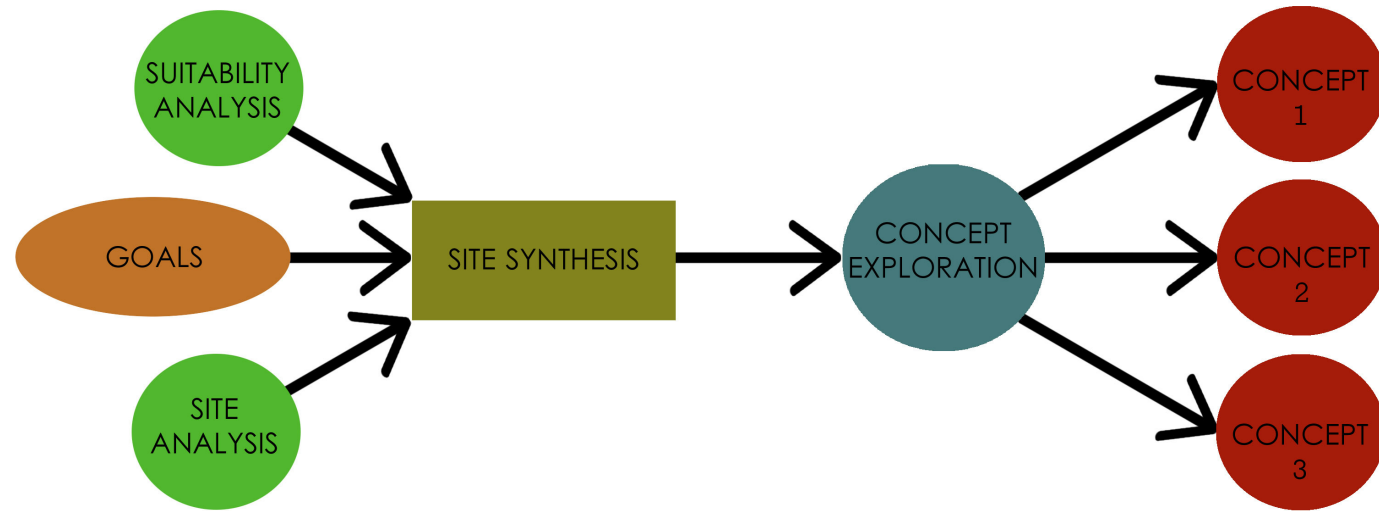
CASE STUDY: CIRCLE B BAR RESERVE

This former cattle ranch was purchased jointly by Polk county and the St. John's River Water Management District. It attempts to restore the original watershed and floodplain. It also includes trails for passive recreation. This relates to the portion of the Palm Bay site that will be used for ecological restoration. My goal is to create a similar situation, using a joint venture with the SJRWMD and creating an enjoyable recreation opportunity that also restores the ecosystem.
(Source: swfwmd.state.fl.us)



Figure 4.6

CONCEPT & PROGRAM DEVELOPMENT



Process Diagram

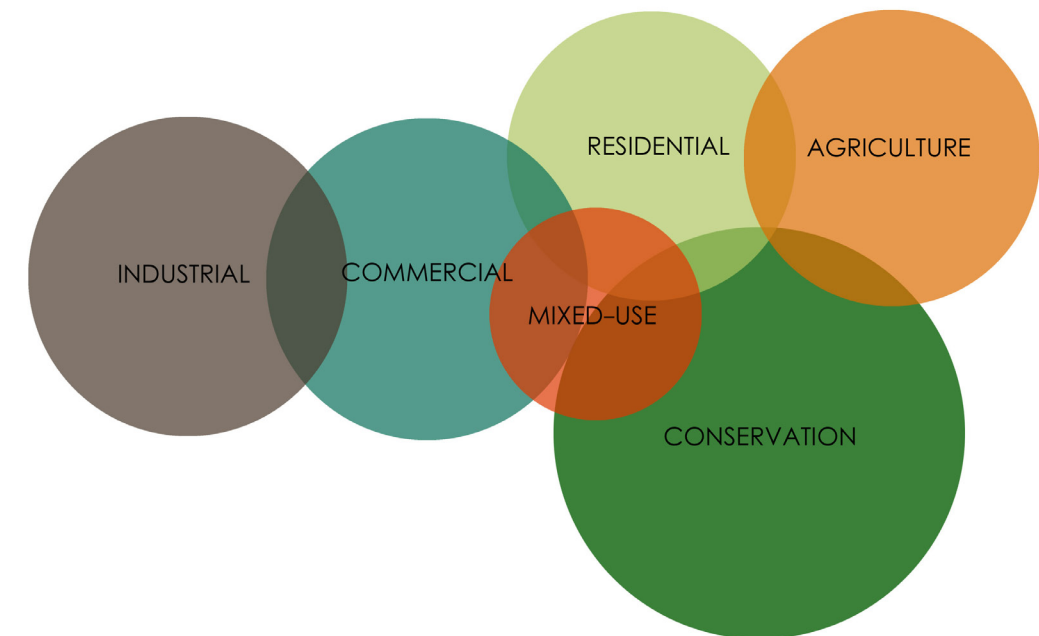
I began the concept development process by combining what I had taken inventory of and creating multiple site analyses. Using the data that I had collected, I conducted several suitability analyses using GIS. This included development, agricultural, commercial, industrial, and residential suitability.

Taking the suitability analyses, site analyses, and my project goals, I conducted site syntheses. This explained the opportunities and constraints that I had for the site. That led into concept exploration, which produced the land use concepts.

There is no existing program for the site; as of now it all remains vacant and will do so until infrastructure is put into place. The program that I am proposing is to come up with a redesign which combines a dynamic mixed-use development and ecological restoration. The number of proposed units and site specifics will be determined by suitability analysis.

Program Elements

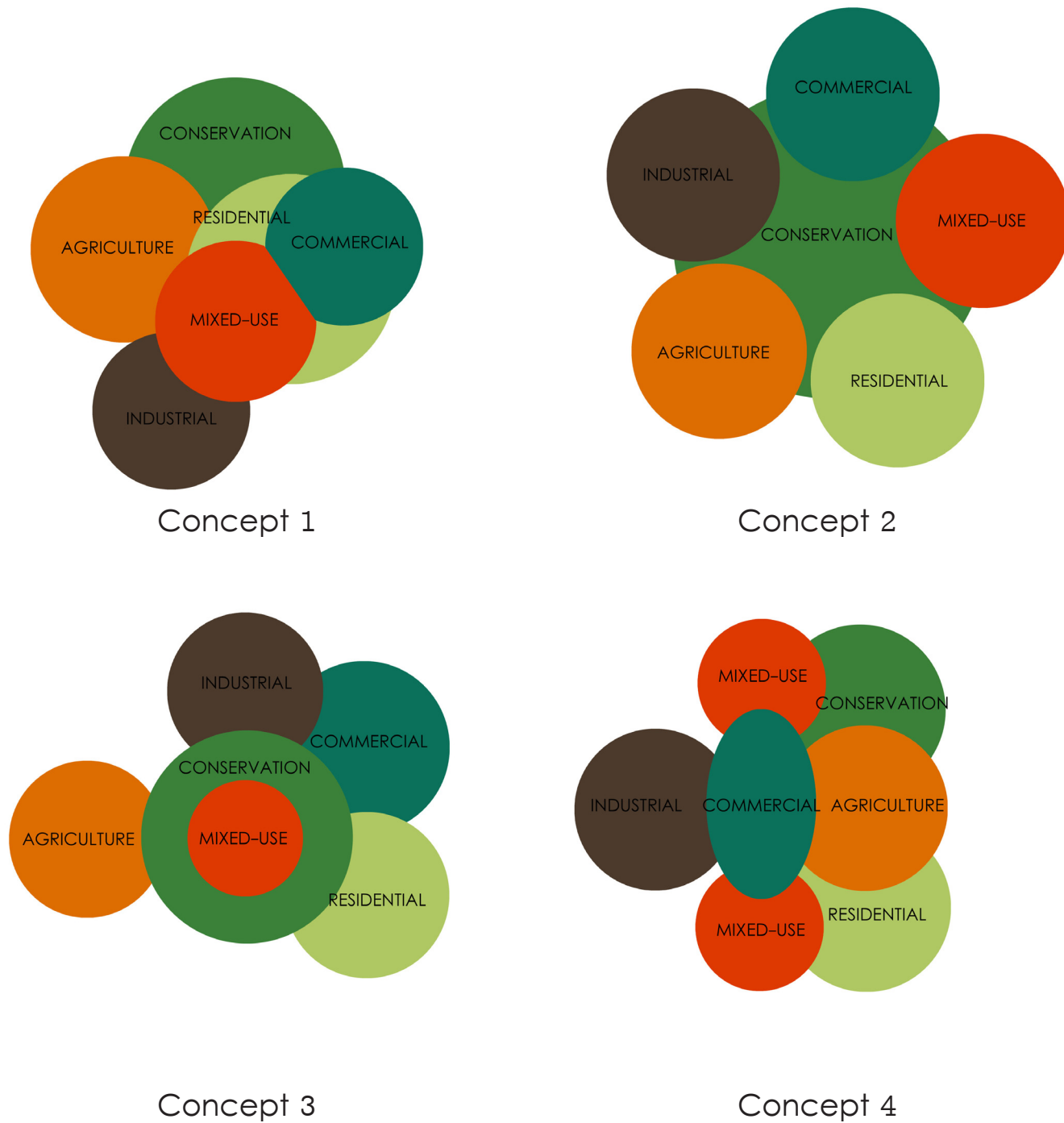
- Natural: Greenway, Lakes, Wetlands
- Parks: Passive Recreation, Active Recreation
- Mixed-Use: Residential, Commercial
- Residential: Single Family, Townhome, Multi Family
- Commercial: Retail, Office
- Industrial: Technology Park
- Civic: Places of Worship, Medical, Educational, Governmental



Land use relationship diagram: This tool shows how different uses relate to one another, such as how industrial should not be integrated with residential.

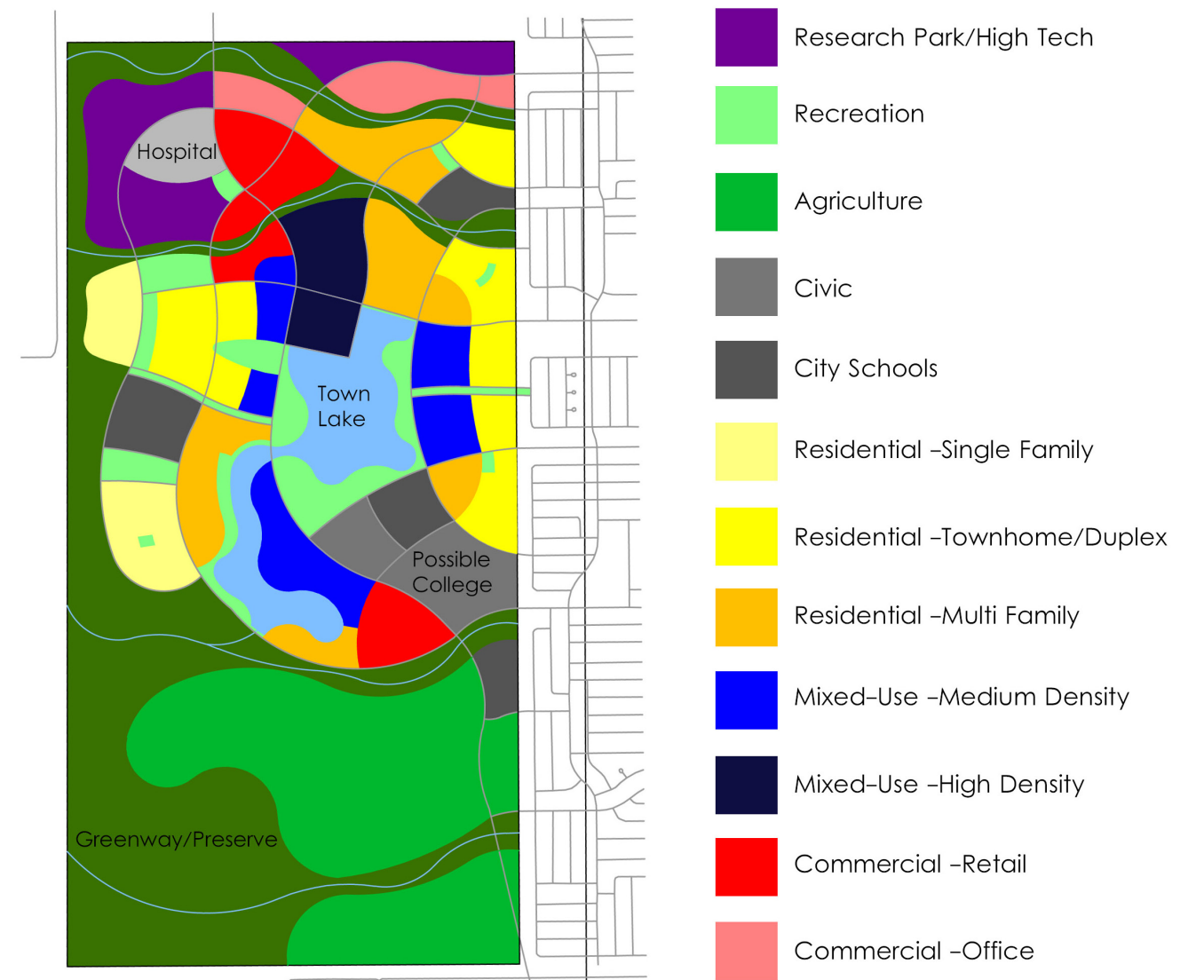
LAND USE CONCEPTS

Land Use Relationship Concepts



After choosing land use relationship concept 2, which intertwines conservation with the other land uses, I combined the idea with the suitability analysis overlay. I then refined my land use concept to the final, which still heavily reflects the ideas in concept 2 and the suitability analysis.

Final Land Use Concept



MASTER PLAN



Legend

- Mixed-Use
- Multifamily Residential
- Townhome
- Single Family
- Commercial Office
- Commercial Retail
- Technology Park
- Institutional/Civic
- Agriculture
- Park/Open Space
- Greenway
- Water
- Roads



0' 1/4 Mile 1/2 Mile

FACTS & FIGURES

	Developed as Current	West Palm Bay
Acres	2828	2828
Mixed-Use Acres/Sqft	0/0	213/12,934,982
Multifamily Acres/Units	0/0	149/6944
Townhome Acres/Units	0/0	88/1065
Single Family Acres/Units	1467/5471	106/661
Office Acres/Sqft	0/0	117/4,458,131
Retail Acres/Sqft	42/?	139/2,812,696
Technology Park Acres/Sqft	0/0	195/5,819,000
Civic Acres	184	225
Agriculture Acres	0	493
Recreation Acres	14	128
Greenway Acres	573	738
Water Acres	0	139

SITE PLANNING

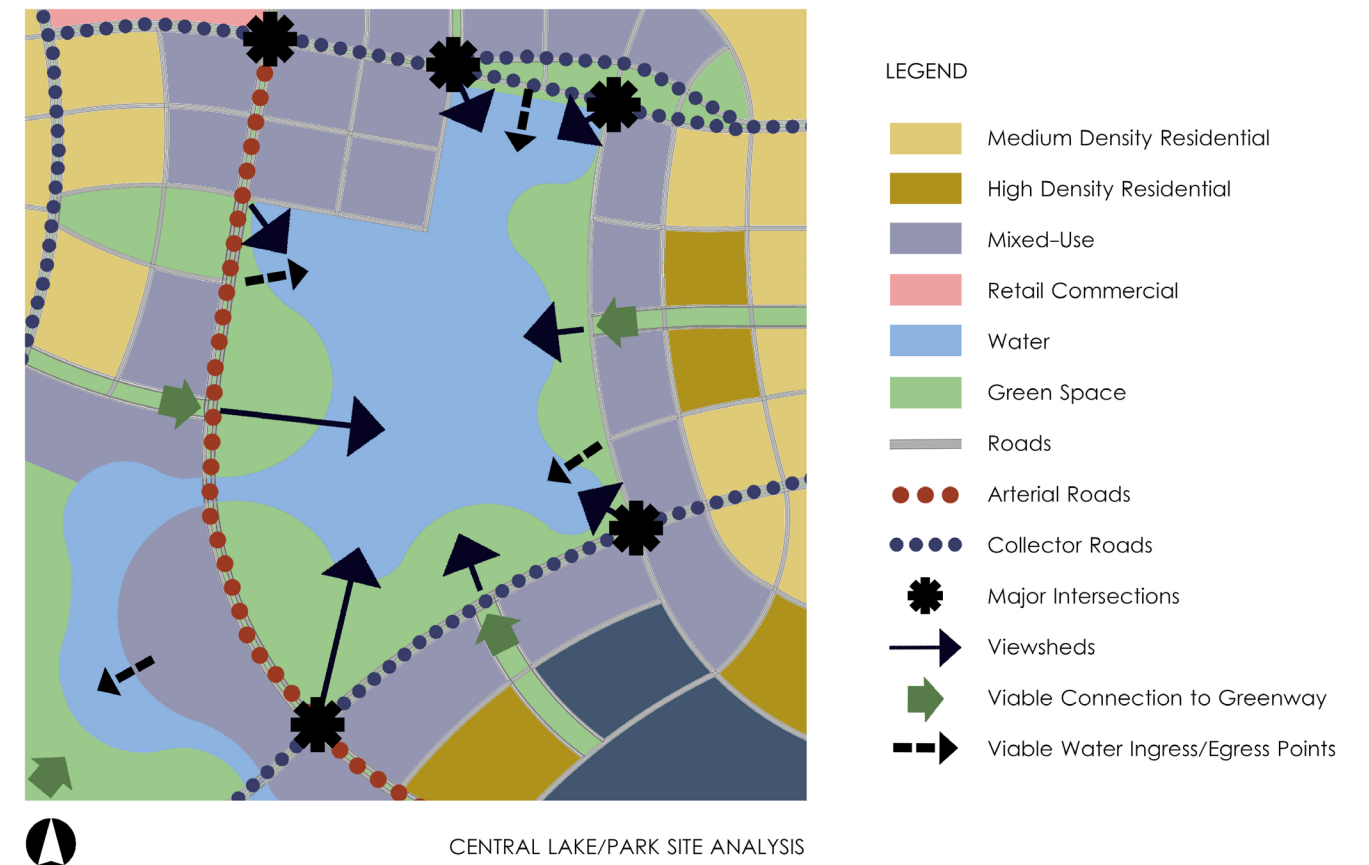
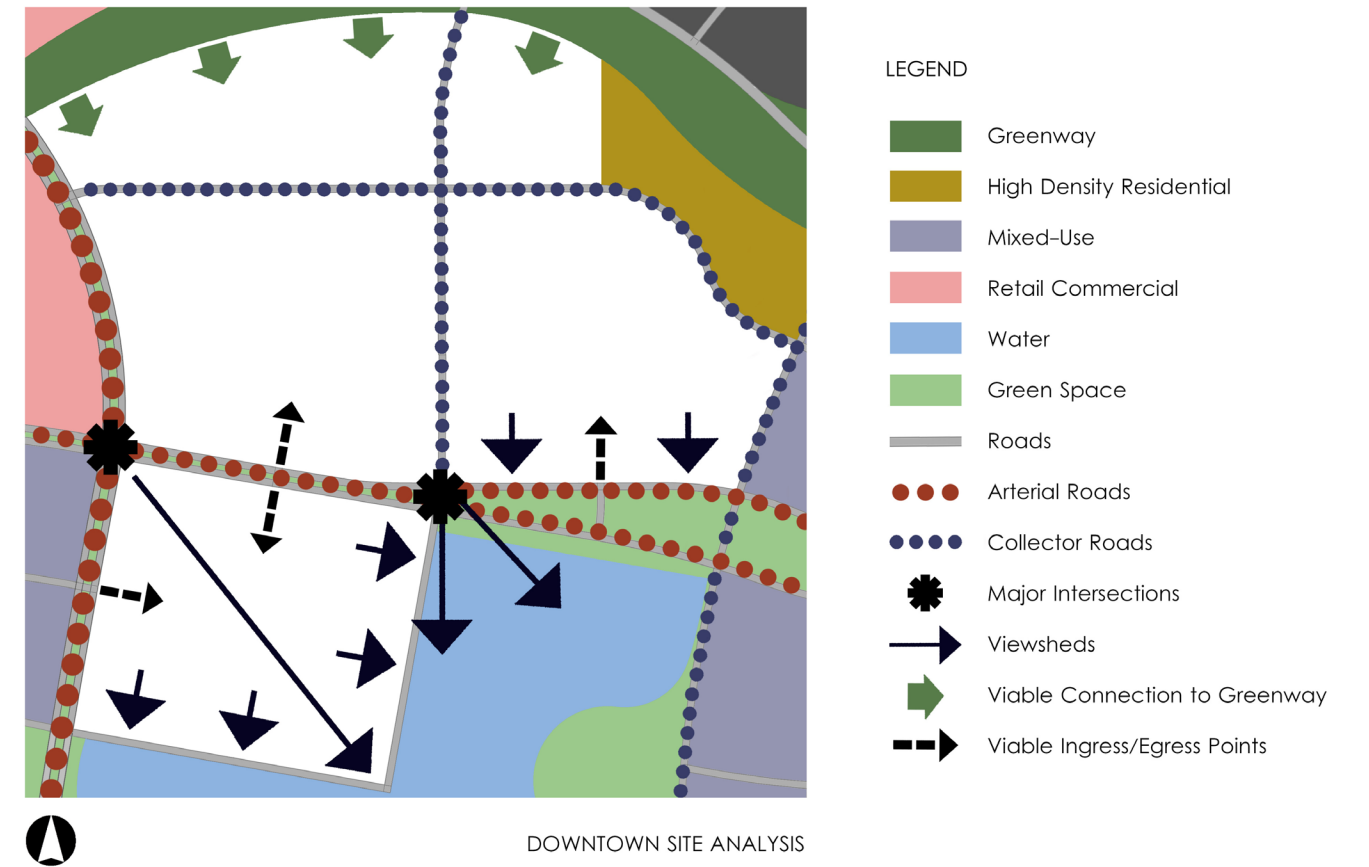


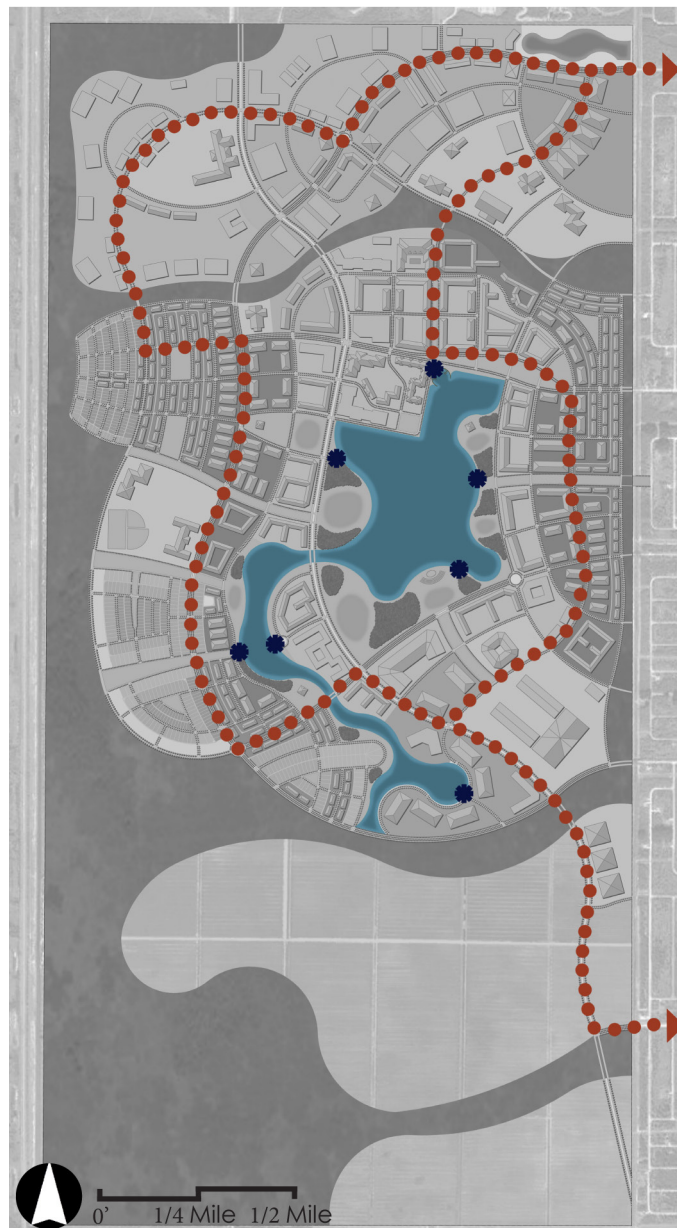


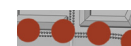

Figure 5.1

TRANSPORTATION DIAGRAM

Exciting alternatives to automobiles, such as pedestrian ferries, will encourage a change of lifestyle for Palm Bay residents.

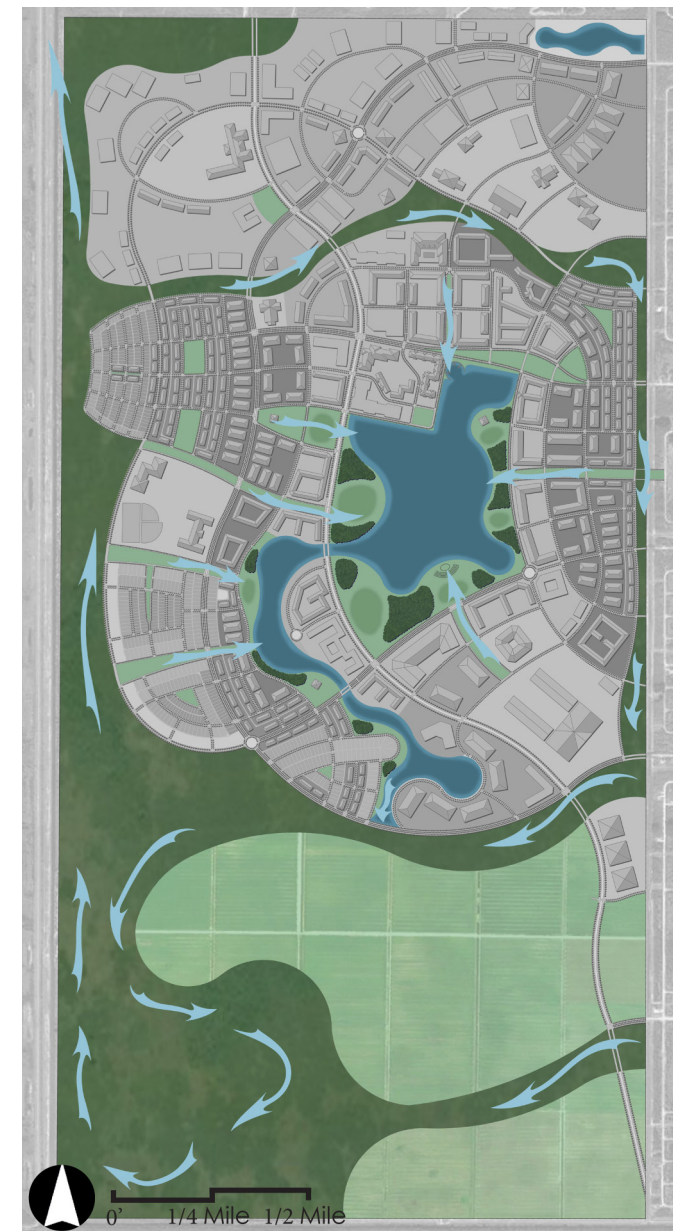
The transportation system will feature a trolley and a pedestrian ferry. These elements will encourage residents to use these non-auto ways of getting to their destinations.



-  Trolley Route
-  Ferry Stops
-  Water

WATER FLOW DIAGRAM

The park system will be centered around water treatment. It will flow from the parks to the lake to the greenway and eventually to the St. Johns River. The agricultural component will also be ecologically sensitive in manner.







-  Park/Open Space
-  Greenway
-  Water
-  Water Flow Direction



Figure 5.2

Water-filtering elements, such as bio-swales, will be used throughout the park system, treating stormwater before it reaches the lake.

GREENWAY SYSTEM

The greenway system contains two main user groups. Nature and human. The main focus will be on nature; from water filtration to restorative habitat. The human user group will be satisfied by trails and boardwalks. The boardwalk system will give the residents a healthier lifestyle. They can experience the outdoors and get exercise. Walkers, runners, and bird watchers will have a great place to enjoy within their community.



Figure 5.3

The historical ecosystem will be restored in the greenway. This mainly consists of wetlands.



Figure 5.4

Boardwalks will allow users to move throughout the greenway without disturbing the ecosystem.



Figure 5.5

Community centers will engage users with the restored ecosystem. This will provide recreation and education.

RECREATION SYSTEM

The recreation system will provide connections between urban areas, the central lake, and the greenway system. Both passive and active recreation will be provided.

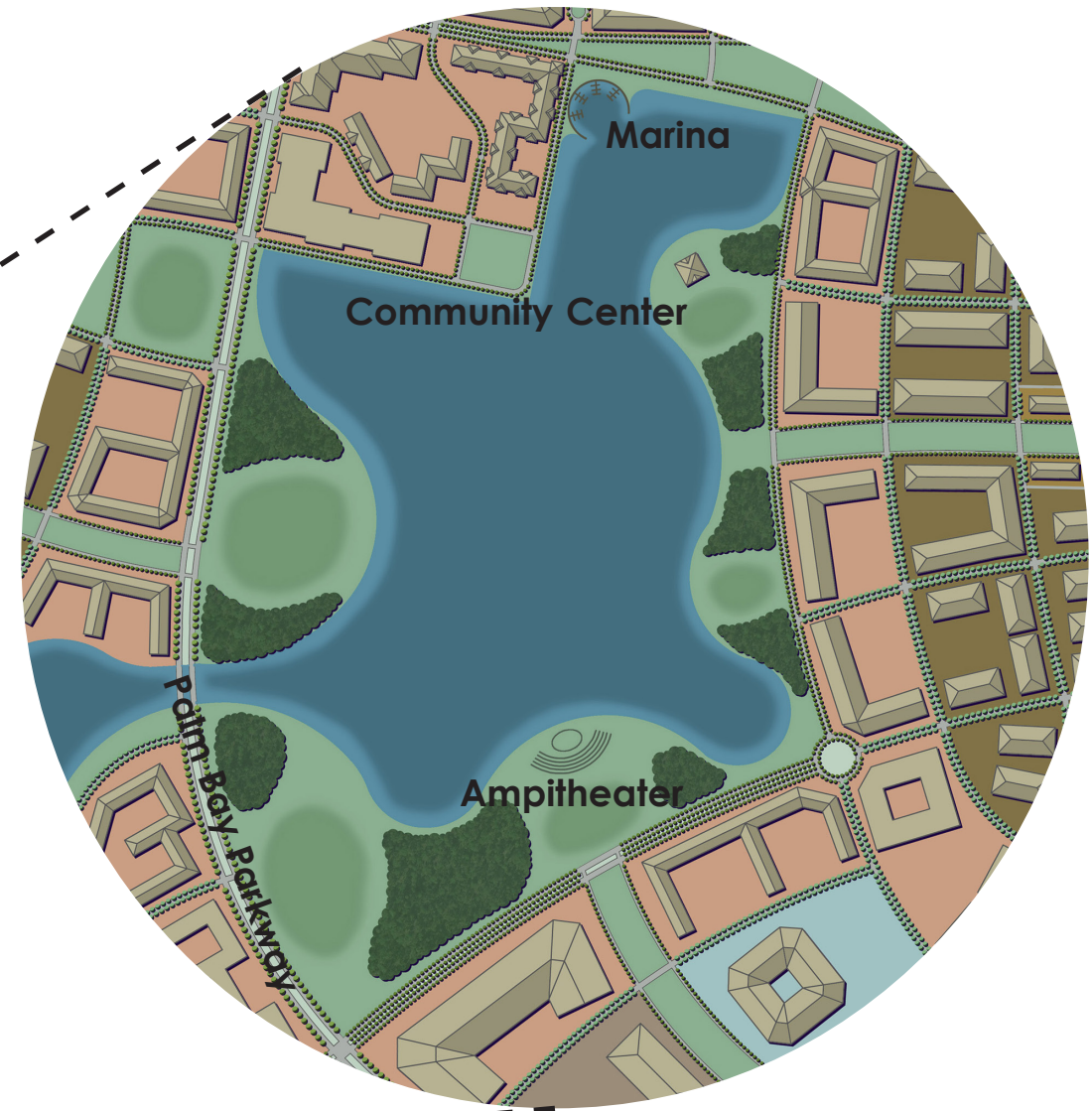


Figure 5.6

Open fields will make a great place for informal active recreation.



Figure 5.7

An amphitheater will be a great unifying element, allowing events and concerts to take place for community-building.



Figure 5.8

Winding paths for passive recreation are good for strolling and running.

URBAN CORE

The urban core will give the area a vibrant “downtown”. This will attract both residents of the development and those of the surrounding communities. As a mixed-use site, there will be retail, office, and residential components.

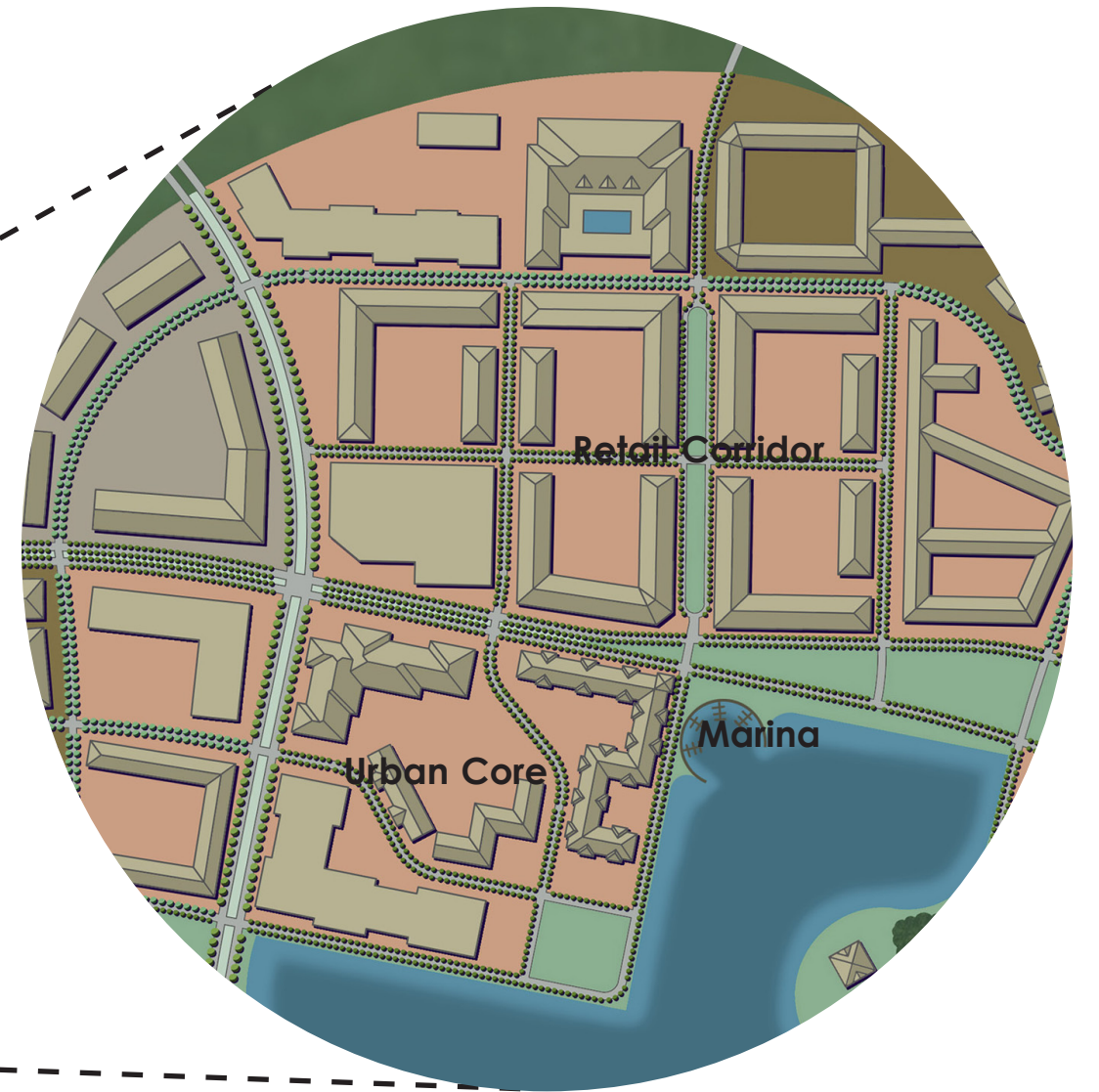
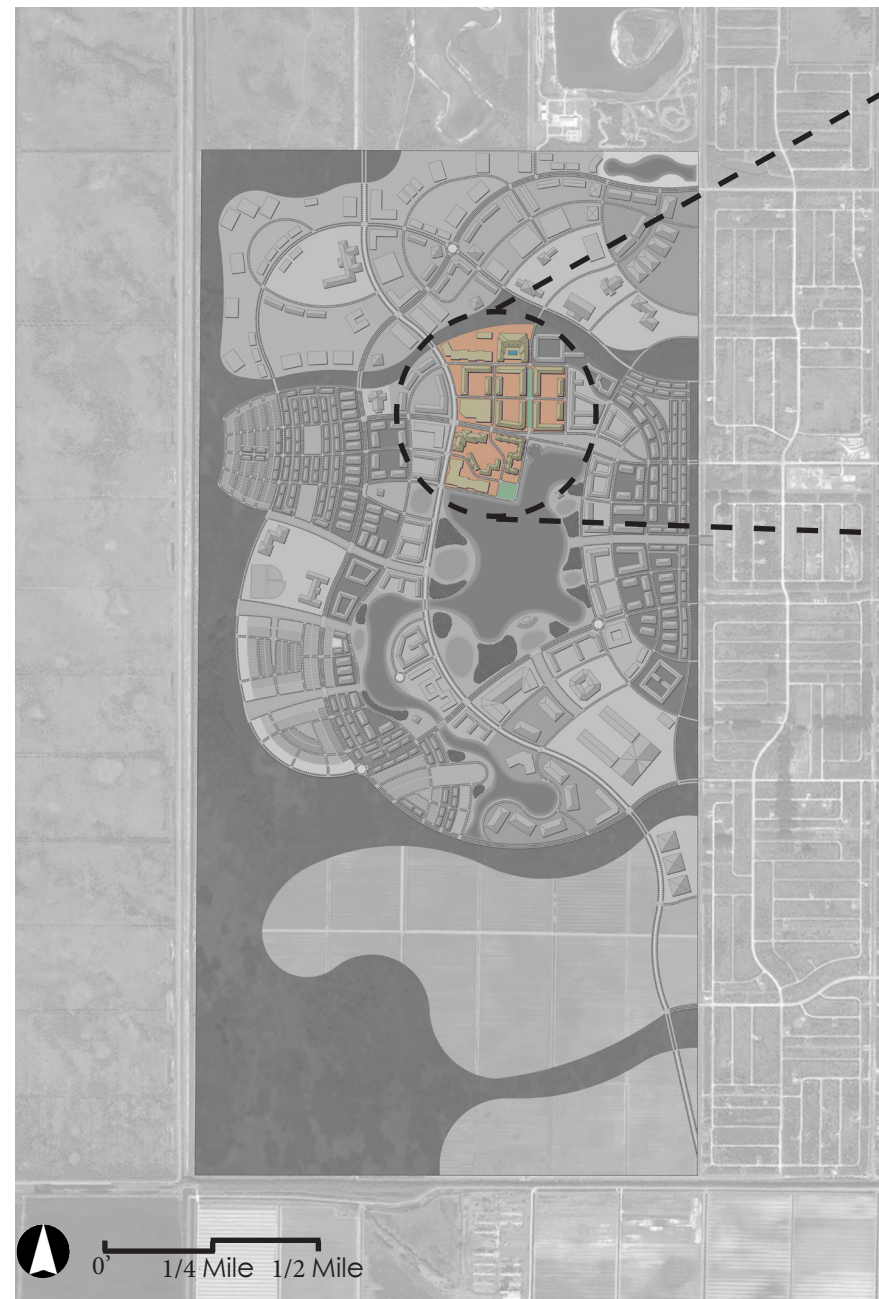


Figure 5.9

Streetside cafes will be located along the main shopping corridor.



Figure 5.10

Designing on the pedestrian scale will make a more livable and sustainable development.



Figure 5.11

Placing the buildings close to the street makes a much more urban feel.

AGRICULTURAL COMPONENT

The agricultural component to West Palm Bay will feature ecologically-sensitive methods of farming. This may possibly contain both community gardens and commercial farming to cope with the loss of agricultural lands in Florida. Community gardens and trails will bring people to the agricultural area and promote a respect toward the need for farming.



Figure 5.12



Figure 5.13



Figure 5.14

Three types of agriculture may be used; citrus, vegetables, and pasture. All three uses will be implemented in an environmentally sensitive manner, using low impact farming techniques.

COLLEGE DISTRICT

The college district will be anchored by a college campus; either for a community college or a university. This will bring a variety of users, including students and professors. The college will support the nearby residential and office uses.

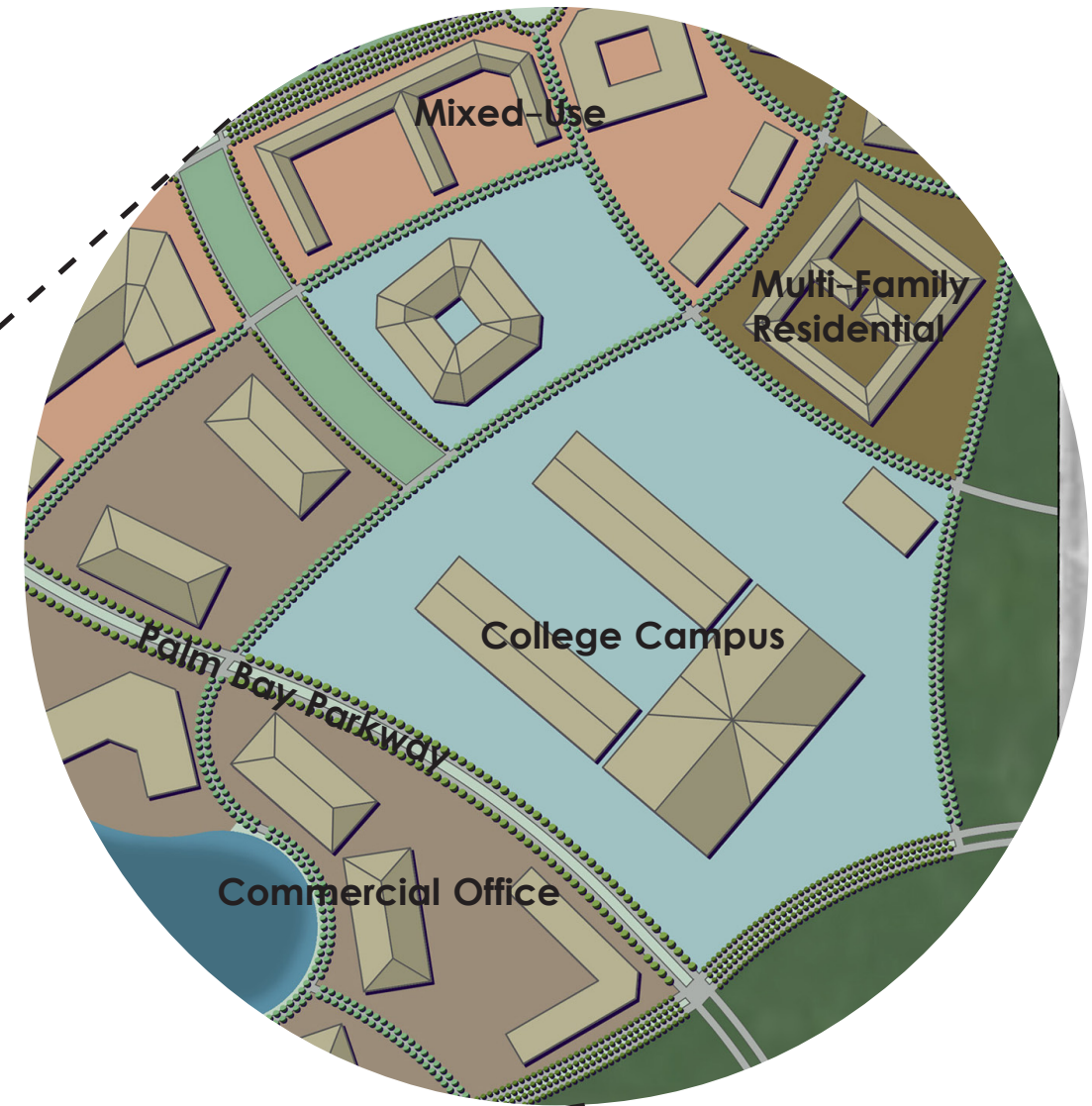
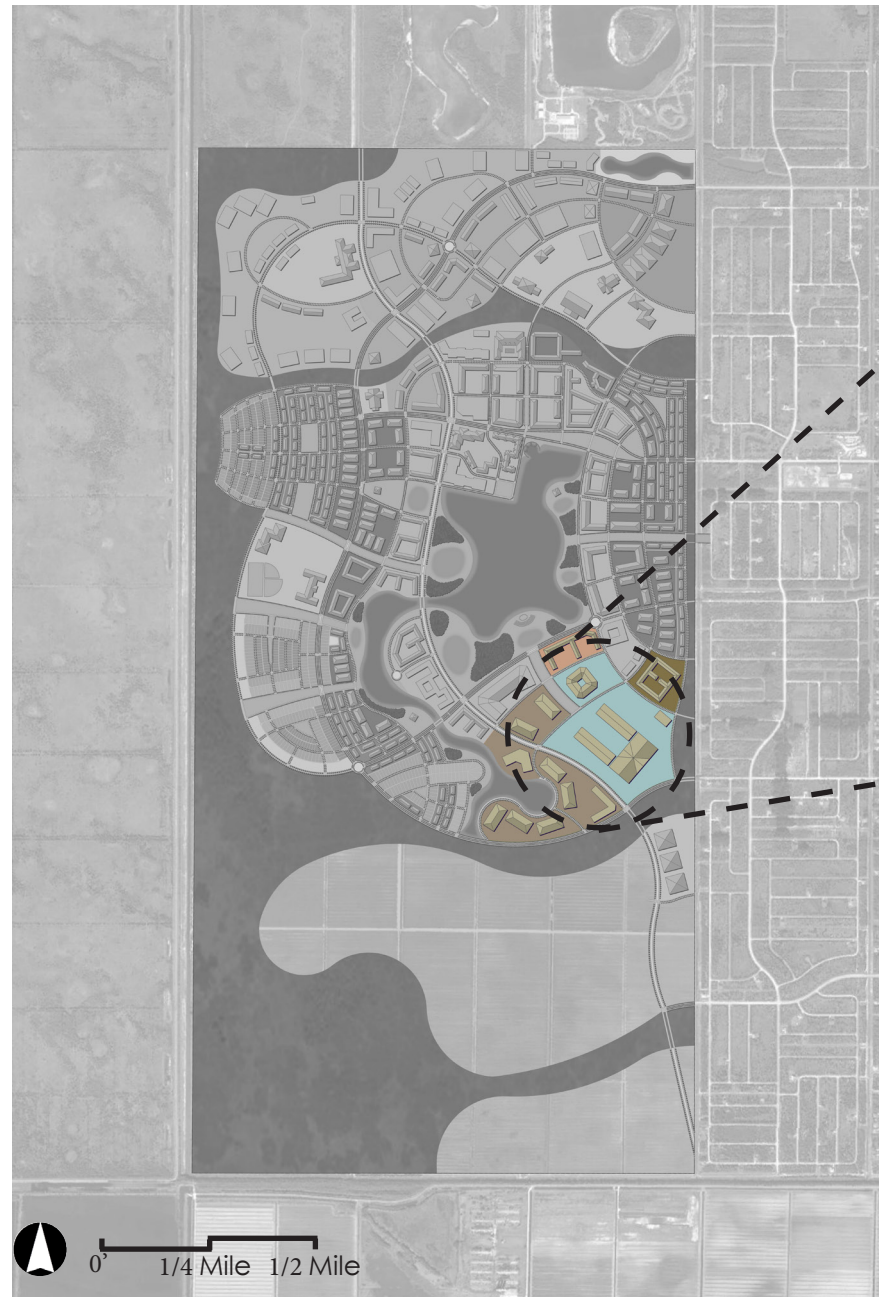


Figure 5.15

Jobs and users will be created from locating a college campus in West Palm Bay.



Figure 5.16

The campus will feature a central open space, which will connect with the park system.



Figure 5.17

The feel of the campus should relate well with its urban context in West Palm Bay.

MEDICAL DISTRICT

The medical district will be developed around a central hospital. A variety of uses could be sustained around the hospital, such as assisted living, medical offices, and medical research facilities.

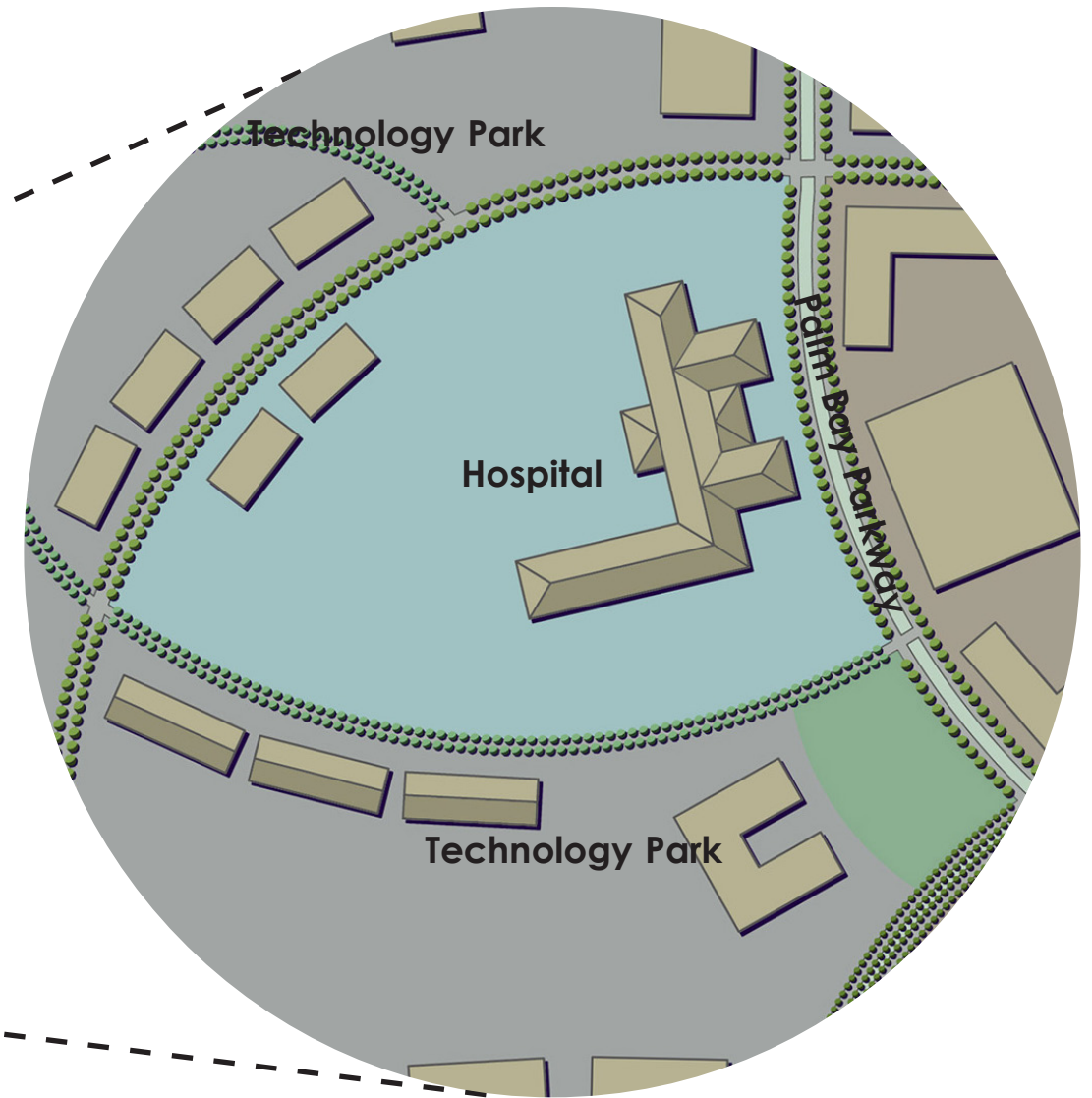


Figure 5.18

Using tools, such as healing gardens, will make the medical district enjoyable and more desirable.



Figure 5.19

A hospital will be the centerpiece of the medical district, bringing jobs and serving the community.



Figure 5.20

The medical district would be a great area for an assisted living facility.

TOWN WATERWAY

The central lake will be the centerpiece for West Palm Bay. It anchors the community together by providing a means for recreation, transportation, and aesthetic quality. An added use of the lake system is to aid in filtering water as it makes its way into the St. Johns River and aquifer.



Figure 5.21

Marinas coupled with a mixed-use component create a unique and exciting place to be.



Figure 5.22

The waterfront provides recreation and a sense of place.



Figure 5.23

Promenades are a great way to activate the urban waterfront.

CHARACTER

Florida Vernacular Style



Figure 5.24



Figure 5.25



Figure 5.26

The Florida Vernacular style of architecture is recommended for West Palm Bay. This decision has been made for several reasons. The first is that historically, this style of architecture was used in the Palm Bay area. Some great examples of Florida Vernacular can be found nearby. Another reason is that it is already the preferred style for new structures in Palm Bay, this would make West Palm Bay seamlessly tie into the surrounding area.

The use of Florida Vernacular gives off a more urban feel, and really creates a special sense of place. It also works well with natural surroundings, which are intertwined into the site. The success of new urbanist projects using Florida Vernacular architecture in Florida creates another attraction to use this style. Some examples of places that this can be found in are Seaside and Celebration.



Figure 5.27



Figure 5.28



Figure 5.29

Florida-Friendly Landscape



Figure 5.30



Figure 5.31



Figure 5.32

Nine Principles of Florida-friendly Landscaping (From floridayards.org)

- 1) Right Plant, Right Place: Plants selected to suit a specific site will require minimal amounts of water, fertilizers and pesticides.
- 2) Water Efficiently: Irrigate only when your lawn needs water. Efficient watering is the key to a healthy yard and conservation of limited resources.
- 3) Fertilize Appropriately: Less is often best. Over-use of fertilizers can be hazardous to your yard and the environment.
- 4) Mulch: Maintain two to three inches of mulch to help retain soil moisture, prevent erosion and suppress weeds.
- 5) Attract Wildlife: Plants in your yard that provide food, water and shelter can conserve Florida's diverse wildlife.
- 6) Manage Yard Pests Responsibly: Unwise use of pesticides can harm people, pets, beneficial organisms and the environment.
- 7) Recycle: Grass clippings, leaves and yard trimmings composted and recycled on site provide nutrients to the soil and reduce waste disposal.
- 8) Reduce Stormwater Runoff: Water running off your yard can carry pollutants, such as fertilizer, pesticides, soil and debris that can harm water quality. Reduction of this runoff will help prevent pollution.
- 9) Protect the Waterfront: Waterfront property, whether on a river, stream, pond, bay or beach, is very fragile and should be carefully protected to maintain freshwater and marine ecosystems.

A landscape photograph of a wetland area. In the foreground, there are tall, thin grasses, some green and some brown, blowing in the wind. In the middle ground, there is a line of trees and shrubs, with a small body of water visible in the distance. The sky is overcast with grey clouds. The text "REFERENCES & APPENDIX" is overlaid on the right side of the image.

REFERENCES & APPENDIX

PHOTO & DATA SOURCES

Figure 1.1 <http://www.palmbayflorida.org/bayfront/about/photogallery.html>

Figure 1.2 <http://www.themacklecompany.com/femjrstorypublic/11-generaldevelopment1958-1961.htm>

Figure 1.3 <http://www.themacklecompany.com/femjrstorypublic/11-generaldevelopment1958-1961.htm>

Figure 1.4 <http://www.flickr.com/photos/kidneutrino/6744754127/>

Figure 1.5 Google Earth

Figure 1.6 US Census

Figure 1.7 <http://lisaabrams.remax.com/pages-request/RockvilleMaryland.aspx>

Figure 1.8 Photo by Stephen Moore Palm Bay, FL

Figure 1.9 http://www.tmgpartners.com/portfolio_midpoint.html

Figure 1.10 Google Earth

Figure 2.1 Google Earth

Figure 2.2 Google Earth

Figure 2.3 Google Earth

Figure 2.4 <http://www.palmbayflorida.org/>

Figure 2.5 <http://www.sjrwmd.com/>

Figure 2.6 GIS data source: fgdl.org

Figure 2.7 GIS data source: fgdl.org

Figure 2.8 GIS data source: fgdl.org

Figure 2.9 GIS data source: fgdl.org

Figure 2.10 GIS data source: fgdl.org

Figure 2.11 GIS data source: fgdl.org

Figure 2.12 <http://www.sjrwmd.com/>

Figure 2.13 <http://www.sjrwmd.com/>

Figure 2.14 <http://www.sjrwmd.com/>

Figure 2.15 <http://www.sjrwmd.com/>

Figure 2.16 <http://www.sjrwmd.com/>

Figure 3.1 GIS data source: fgdl.org

Figure 3.2 GIS data source: fgdl.org

Figure 3.3 GIS data source: fgdl.org

Figure 3.4 GIS data source: fgdl.org

Figure 3.5 GIS data source: fgdl.org

Figure 4.1 <http://greensource.construction.com/news/2009/090901Everglades-Restoration.asp>

Figure 4.2 <http://www.apwa.net/Resources/Reporter/Articles/2007/4/A-greater-rate-of-return-with-CDDs>

Figure 4.3 <http://www.wrtdesign.com/projects/detail/Lehigh-Acres-Community-Plan/138>

Figure 4.4 http://www.sanjoseca.gov/coyotevalley/images/CVSP-Landuse-500-aerial-05_1025.jpg

Figure 4.5 <http://www.real-estatearizona.com/agritopia/>

Figure 4.6 <http://michaellibbephotography.com/p801932709/h29D8D45#h29d8d45>

Figure 5.1 <http://ironman.com/assets/images/articles/2010/Events/texas/WaterTaxi.jpg>

Figure 5.2 Photo by Stephen Moore South Waterfront, Portland, OR

Figure 5.3 Photo by Stephen Moore Three Forks Marsh, Palm Bay, FL

Figure 5.4 Photo by Stephen Moore Green Cay Wetlands, Boynton Beach, FL

Figure 5.5 Photo by Stephen Moore Green Cay Wetlands, Boynton Beach, FL

Figure 5.6 Photo by Stephen Moore l'ON Village, Charleston, SC

Figure 5.7 Photo by Stephen Moore High Point, Seattle, WA

Figure 5.8 Photo by Stephen Moore Pablo Creek Reserve, Jacksonville, FL

Figure 5.9 <http://tracemyfootsteps.blogspot.com/2010/04/morning-at-santana-row.html>

Figure 5.10 Photo by Stephen Moore Tapestry Park, Jacksonville, FL

Figure 5.11 <http://www.consortiumcommercial.com/102/Baldwin-Park-Village-Center-Leasing>

Figure 5.12 Image source: http://upload.wikimedia.org/wikipedia/en/b/be/IFAS_citrus02.jpg

Figure 5.13 Image source: <http://nutritionhealthnet.com/2011/07/10/why-we-need-vegetables/>

Figure 5.14 Image source: <http://www.pasturegrass-seed.com/bermuda-grass-pasture-grass-seed.html>

Figure 5.15 <http://www.dexigner.com/news/20591>

Figure 5.16 <http://www.archithings.com/the-honors-college-at-arizona-state-university-in-tempe/2009/10/16/barrett-honors-college-arizona-state-university-student-housing>

Figure 5.17 <http://activerain.com/states/FL/cities/Celebration/communities/Main%20Village%20At%20Celebration>

Figure 5.18 http://en.wikipedia.org/wiki/File:Healing_Garden_at_Celebration_Health.jpg

Figure 5.19 <http://www.orlando-premium-properties.com/celebration-photo-gallery-by-orlando-premium-properties/celebration-florida-hospital/>

Figure 5.20 <http://www.clarewoodhouse.com/assistedliving.htm>

Figure 5.21 Photo by Stephen Moore Harbor Town, Hilton Head, SC

Figure 5.22 http://baldwinparkorlandofl.com/sub_images/6691/BaldwinPark_Lake.html

Figure 5.23 Photo by Stephen Moore Tapestry Park, Jacksonville, FL

Figure 5.24 <http://www.mirandaarchitects.com/portfolio/st-augustine-beach-residence-1>

Figure 5.25 http://www.palmbayflorida.org/development/documents/florida_vernacular_style_guide.pdf

Figure 5.26 [hall-of-fame--andr-s-duany--faia--and-elizabeth-plater-zyberk--faia--lead-ap](#)

Figure 5.27 <http://bettercities.net/images/9707/porch-frontages-watercolor>

Figure 5.28 <http://www.orlando-premium-properties.com/celebration-photo-gallery-by-orlando-premium-properties/downtown-celebration/>

Figure 5.29 <http://hotels.about.com/b/2011/04/07/this-weeks-great-hotel-deals-spring-holidays.htm>

Figure 5.30 <http://floridayards.org/landscape/gallery.php>

Figure 5.31 <http://www2.highlandstoday.com/business/agri-leader/2012/feb/01/landscaping-program-has-dual-function-ar-353314/>

Figure 5.32 <http://sarasota.ifas.ufl.edu/fyn/fynpubs.shtml>

REFERENCE SOURCES

Brown, Lance Jay, David Dixon, Oliver Gillham. *Urban Design for an Urban Century: Placemaking for People*. John Wiley & Sons Inc., 2009. Text.

Castillo, Jason. Landscape Architect, ELM. Personal Interview.

City of Palm Bay. (<http://www.palmbayflorida.org/>)

Dunham-Jones, Ellen, June Williamson. *Retrofitting Suburbia: Urban Design Solutions for Redesigning Suburbs*. John Wiley & Sons Inc., 2009. Text.

Florida Chapter Soil and Water Conservation Society. *26 Ecological Communities of Florida*. Gainesville, Fl: Florida Chapter Soil and Water Conservation Society, 1989. Text.

Levy, John M. *Contemporary Urban Planning*. Pearson Education, Inc., 2011. Text.

Linscott, Lester. Associate Professor, University of Florida. Capstone Advisor.

Loring, Robert. Planning, City of Palm Bay. Personal Interview.

McHarg, Ian. *Design With Nature*. John Wiley & Sons Inc., 1992. Text.

St Johns River Water Management District. (<http://www.sjrwmd.com/>)

Urban Design Associates. *The Urban Design Handbook: Techniques and Working Methods*. W.W. Norton & Company, 2003. Text.



WEST PALM BAY

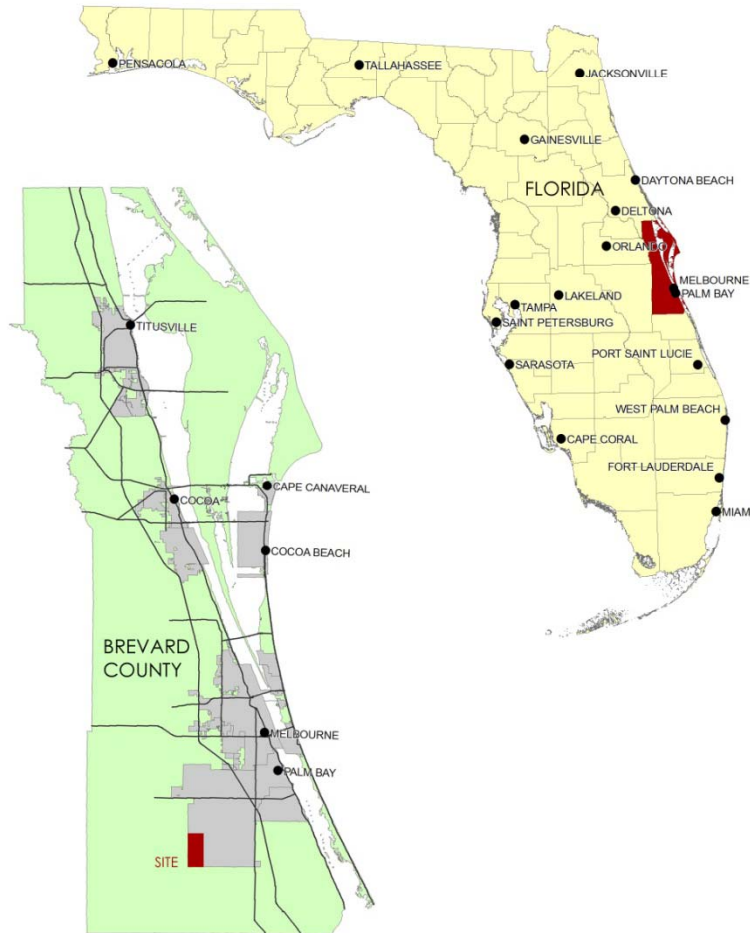
A REDEVELOPMENT

Palm Bay, Brevard County, Florida

WEST PALM BAY

A REDEVELOPMENT

Location



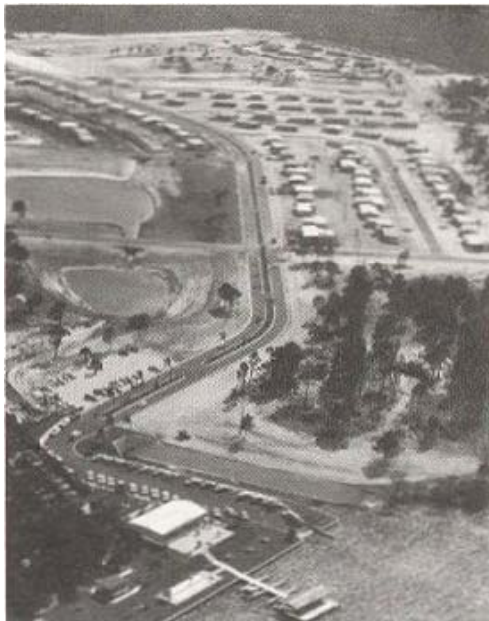
- Southwestern Palm Bay
- 16 miles from Melbourne
- 41 miles from Cape Canaveral
- 80 miles from Orlando

WEST PALM BAY

A REDEVELOPMENT

Palm Bay Introduction

- Most of Palm Bay was developed by the General Land Development Corporation as “Port Malabar”.
- There is a population of 103,190.
- A substantial portion of the residents work in nearby Melbourne, FL.



November 4, 1960

Invest YOUR DOLLARS WHERE AMERICA'S FUTURE IS INVESTED

The Dynamic Cape Canaveral Area

First Time Offered Nationally! Choice Property — In An Established Community — in the Nation's Fastest Growing County — At

PORT MALABAR FLORIDA

CONSIDER THESE FACTS ABOUT THE LAND AVAILABLE:
 Location — In 1960,
 Population — 10,000,
 Traffic — 100,000 cars daily,
 Real Estate — 100,000 sq. ft. of land available.
 (All figures are estimates)

PORT MALABAR — THE RIGHT LAND
 Port Malabar is an area, an "open" plan of something that has not yet been built. It is a unique opportunity for those people who wish to live in the right place, in the right place, in the right place, in the right place, in the right place.

PORT MALABAR — THE RIGHT PRICE
 As an investment for your future home — or a hedge against inflation — or for the simple joy of owning a home in a beautiful area, Port Malabar is the right place for you. You can buy a home here for only \$10,000 — only \$10,000 — only \$10,000 — which includes 1% interest.

PORT MALABAR — EXTRA ASSURANCE
 The most important factor behind any land sale is the price you pay when you buy. When better protection could be shown than that of General Land Development Corporation — one of Florida's largest land owners — and the Marine Company, the world's largest oceanographic company and builder. When there is something to be done, it is done.

CHOICE 80' x 125' HOMESITES
 '10 down • '15 a month
 Sales Price '1295

Another MASTER-PLANNED COMMUNITY through GENERAL DEVELOPMENT CORPORATION

Live HERE IN THE
 • FULL CLUB
 • BEACHES
 • GOLF COURSE
 • COMMERCIAL CENTER

EXPERT PRICES GUARANTEED BY GENERAL DEVELOPMENT CORPORATION

Do Not Buy! Do Not Buy! Do Not Buy!

GENERAL DEVELOPMENT CORPORATION K 1-1
 1000 W. PALM BLVD.
 PALM BEACH, FLORIDA 33480

Please send me, without cost or obligation, all information regarding this property for sale by General Development Corporation. I am interested in the Cape Canaveral area.

Name: _____
 Address: _____
 City: _____ State: _____
 County: _____

MAIL COUPON TODAY



Demographics

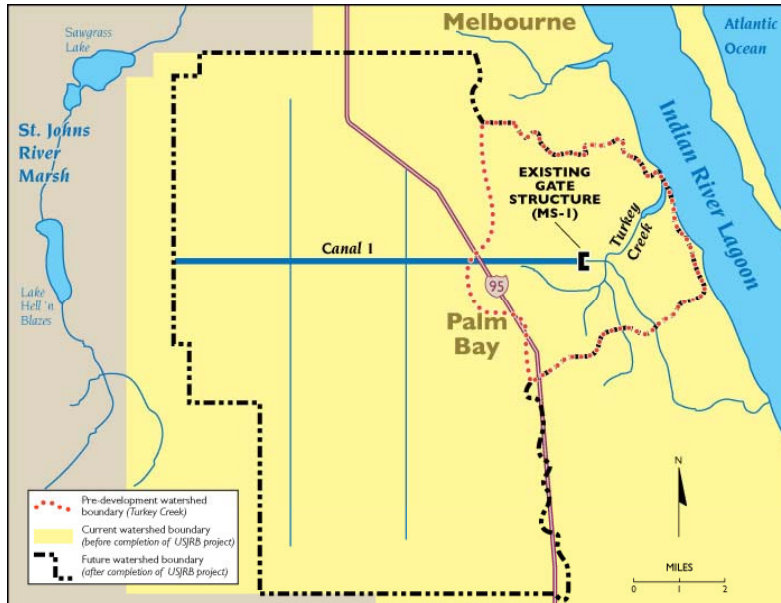
	Brevard County	Florida	Palm Bay
Population, 2010	543,376	18,801,310	103,190
Population, percent change, 2000 to 2010	14.10%	17.60%	29.90%
Persons under 5 years, percent, 2010	4.90%	5.70%	6.20%
Persons under 18 years, percent, 2010	19.80%	21.30%	23.90%
Persons 65 years and over, percent, 2010	20.40%	17.30%	15.30%
Mean travel time to work (minutes), workers age 16+, 2006-2010	23.6	25.7	25.6
Housing units in multi-unit structures, percent, 2006-2010	22.60%	30.00%	12.30%
Median value of owner-occupied housing units, 2006-2010	\$186,900	\$205,600	\$159,200
Median household income 2006-2010	\$49,523	\$47,661	\$44,528
Persons below poverty level, percent, 2006-2010	10.50%	13.80%	12.80%
Retail sales per capita, 2007	\$12,339	\$14,353	\$7,228

West Palm Bay Site



- This section began in the early 1980's and was never completed with utilities.
- Defunct 3,000 acre primarily residential development.
- Roads are in place, but are not in good condition.
- None of the parcels are developed.

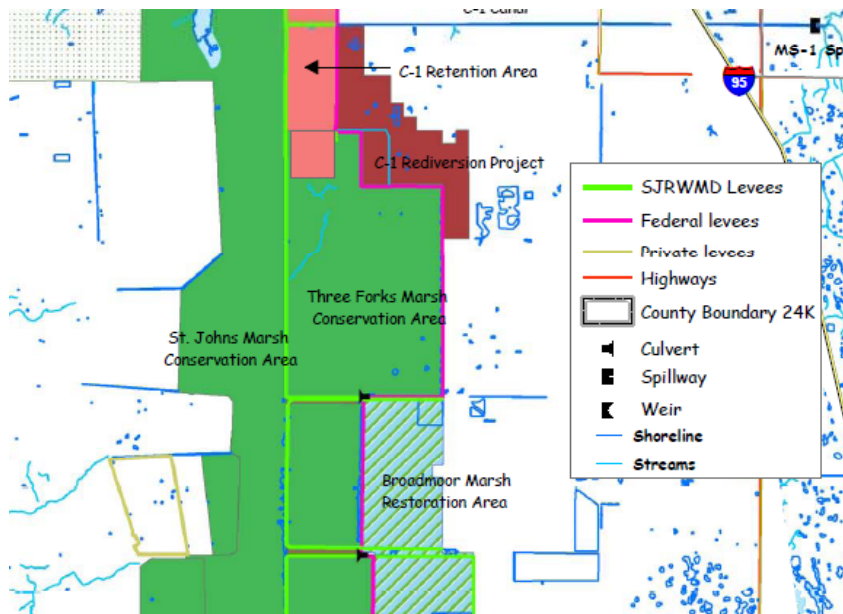
Upper St. Johns River Basin



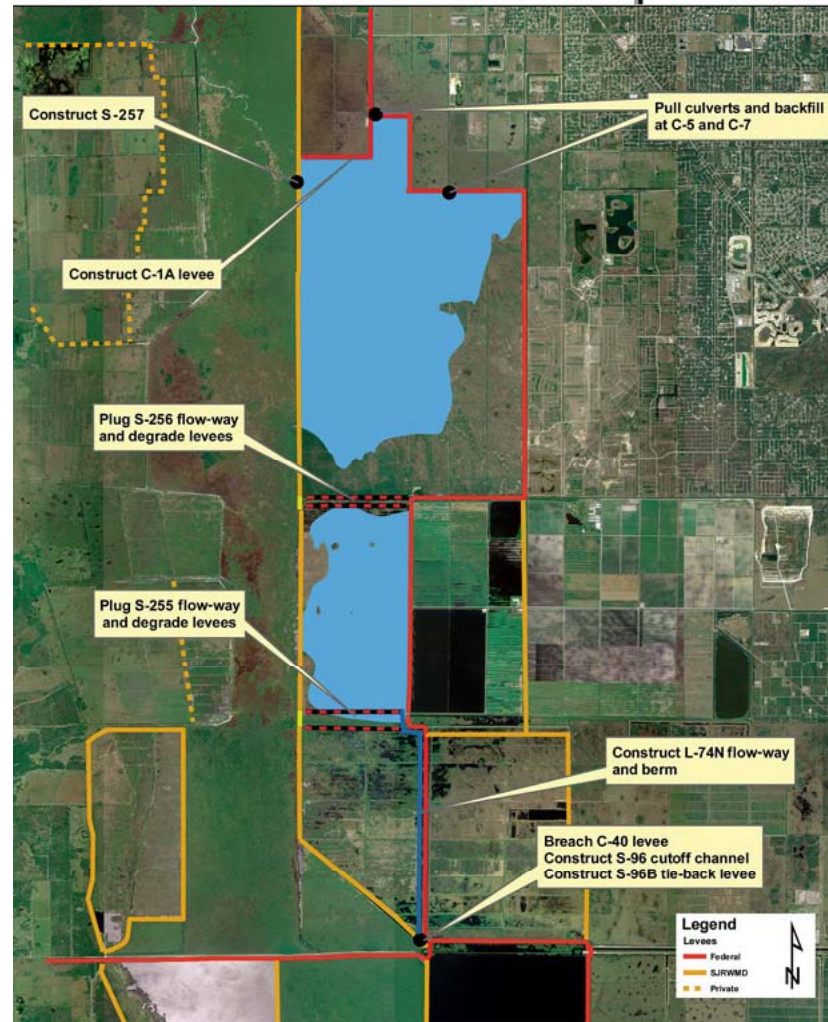
- After flooding in the 1940's, canals were dug to divert fresh water from the St. Johns river watershed into the Indian River Lagoon.
- Projects by the SJRWMD have been attempting to address the environmental problems created by this project.

Three Forks Marsh Conservation

- The Three Forks Marsh Conservation Area and C1-Canal Rediversion Project divert some of the water back into the St. Johns River, while also providing filtration.



Three Forks Marsh Conservation Area Improvements



Key Preliminary Issues

- Surplus of land zoned for single family
- Existing roads and limited site preparation
- Proposed land uses need to be challenged
- Need for employment and amenities
- Need for diverse residential types
- Need to incorporate opportunities from the context
- Need to turn the canal system from a liability to an opportunity
- Disconnected wildlife patches/corridors

Project Goals & Objectives

- **Provide regenerative design objectives**
 - Incorporate Low Impact Development into the design
 - Increase both density and open space
 - Improve water quality through design methods
- **Create exciting experiences for diverse user groups**
 - Create a sense of place for Palm Bay through design
 - Use the site's unique features to enhance the design
- **Ensure economic viability**
 - Respond to the community's needs for zoning and employment
 - Use smart growth principles
- **Become a catalyst for redevelopment of similar sites**
 - Create a successful design that may inspire others to redevelop defunct sites in a much more socially and naturally sustainable manner

Case Study: Picayune Strand

- Similar site, platted in the 1960's.
- The parcels have been acquired by the State of Florida from 17,000 land owners.
- Canals were blocked and roads were removed in order to restore sheet flow.



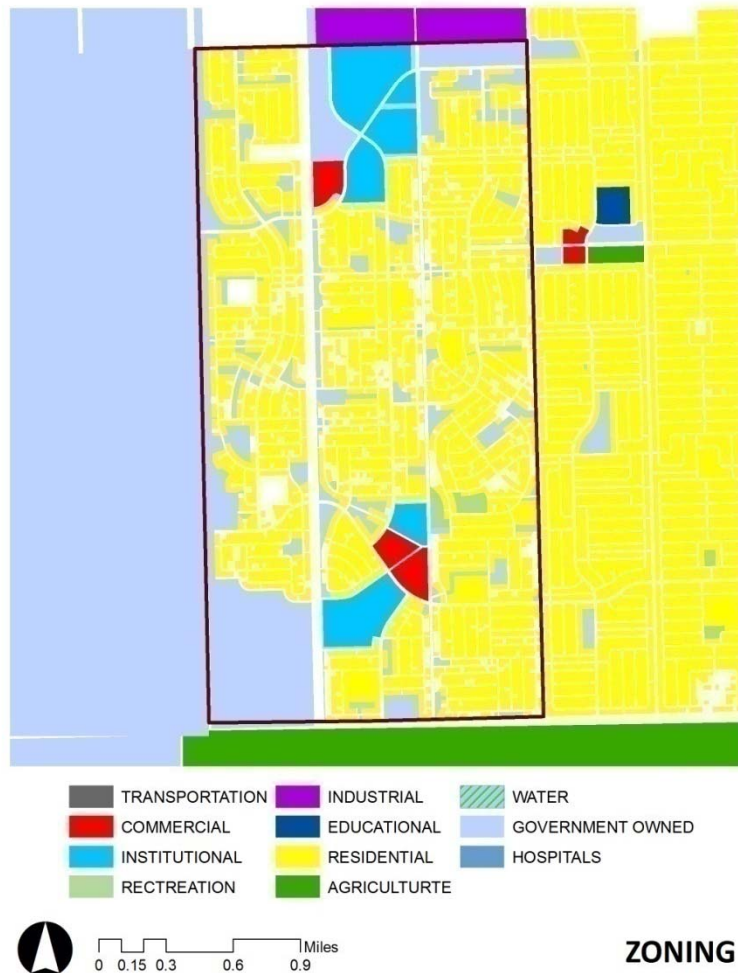
Source: <http://greensource.construction.com>



Program Assumptions

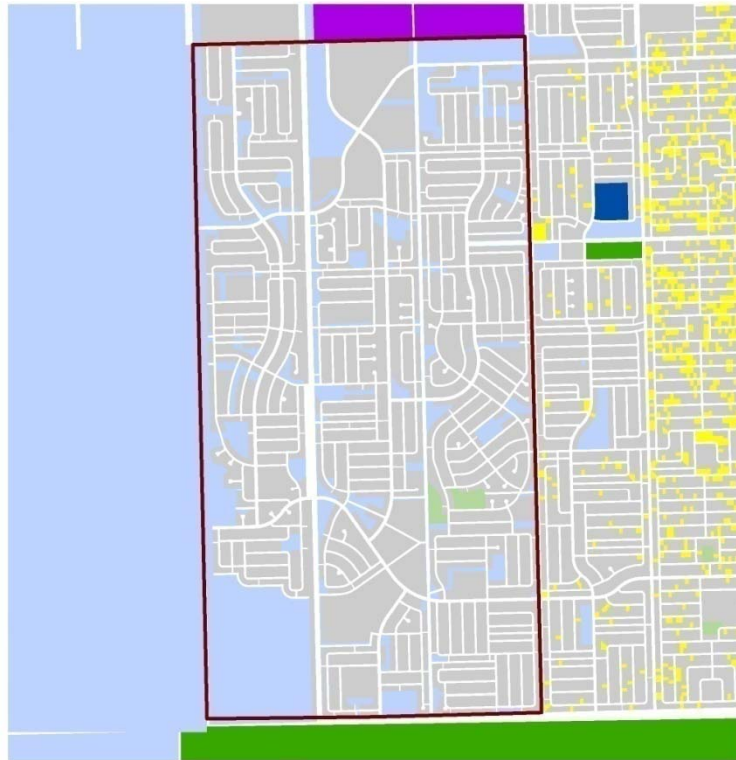
- Developer to buy the site from individual landowners.
- A portion of the site will be sold from the developer to SJRWMD for ecological restoration.
- Specific program elements will depend on the suitability analysis and concept development.

Existing Zoning



- The majority of the site is zoned for residential.
- The comprehensive plan does not address any changes to land use on the site.

Existing Land Use



- Residential parcels near the site are sparsely developed



LAND USE

WEST PALM BAY
A REDEVELOPMENT

Site Character



WEST PALM BAY
A REDEVELOPMENT

Context Character



WEST PALM BAY
A REDEVELOPMENT

Regional Character



WEST PALM BAY

A REDEVELOPMENT

Analysis



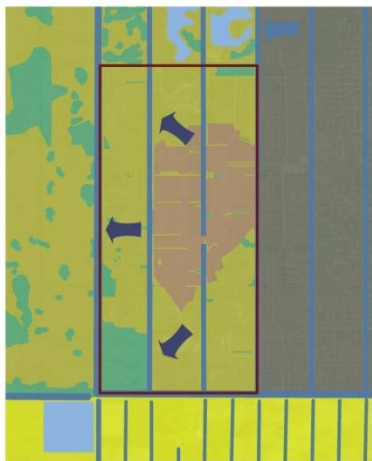
SOCIAL CONTEXT ANALYSIS

- LEGEND
- Site Boundary
 - Water
 - Parks
 - Existing Schools
 - Proposed School Sites
 - Commercial Centers
 - Industrial Centers
 - Proposed Palm Bay Parkway
 - Interstate 95
 - Major Roads
 - Downtown Melbourne
 - SJRWMD Preservation Lands



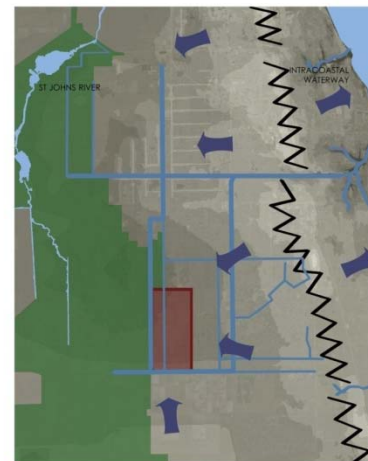
SOCIAL SITE ANALYSIS

- LEGEND
- Site Boundary
 - Water
 - Roads
 - Three Forks Conservation Area
 - Proposed Palm Bay Parkway
 - La Bombardier
 - Entry Points
 - Blocked Entry Points



NATURAL SITE ANALYSIS

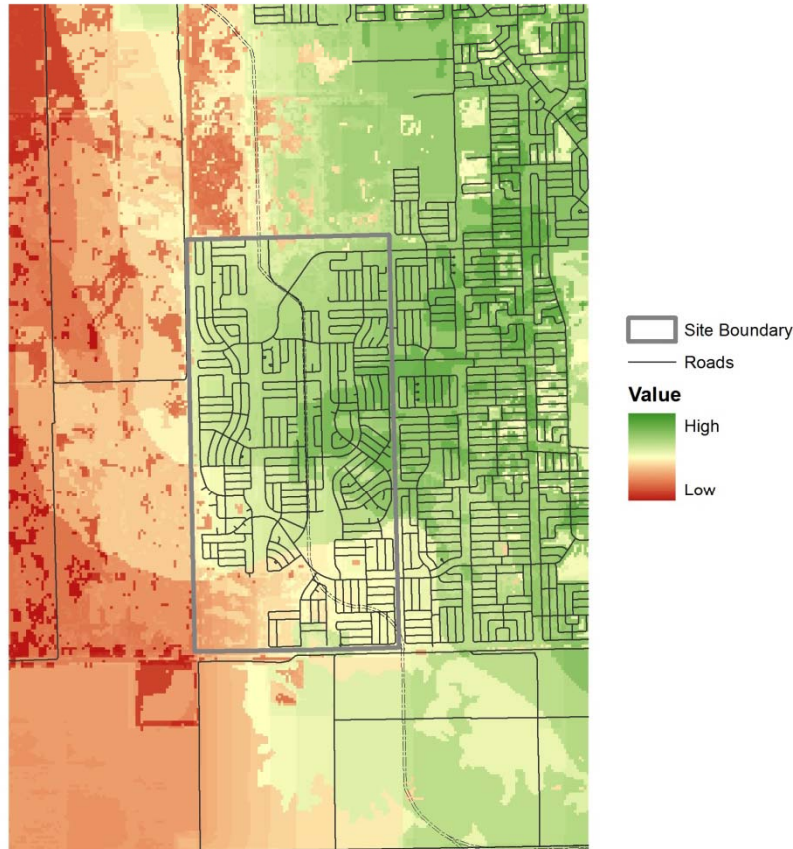
- LEGEND
- Site Boundary
 - Water
 - Canals
 - Scrub / Unmowed
 - Mowed Land
 - Marshes / Wetlands
 - Agricultural
 - Urban Land / Miscellaneous
 - Historic Flow Direction



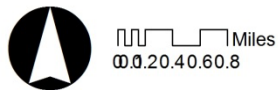
NATURAL CONTEXT ANALYSIS

- LEGEND
- Site Boundary
 - Water
 - Ridge
 - Major Canals
 - Historic Flow Direction
 - SJRWMD Preserved Lands

Suitability Analysis

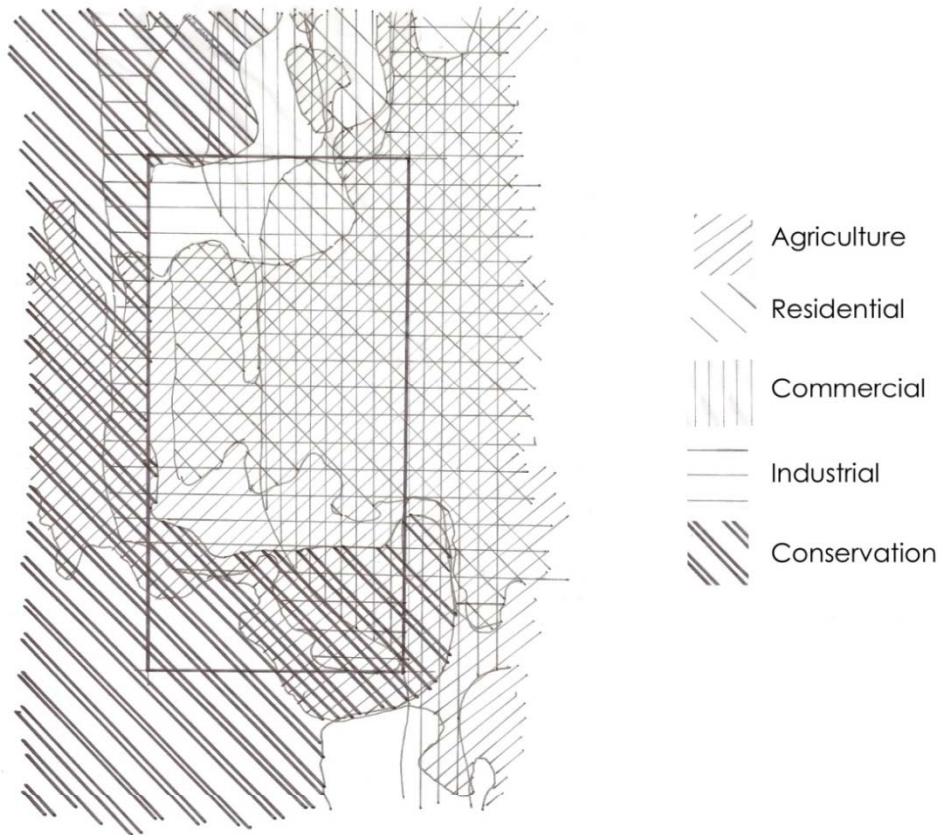


- GIS suitability analyses were conducted including: development, residential, industrial, and commercial.

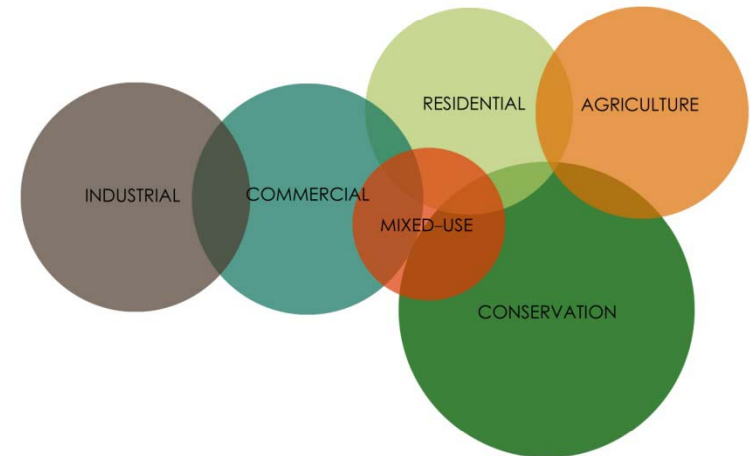
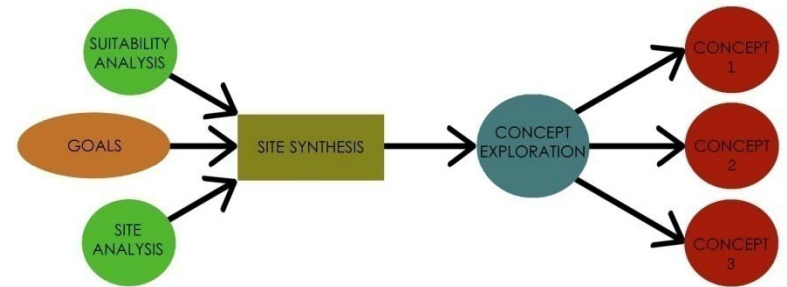


Land Use Exploration

Suitability Overlay



Process



Compatibility Diagram

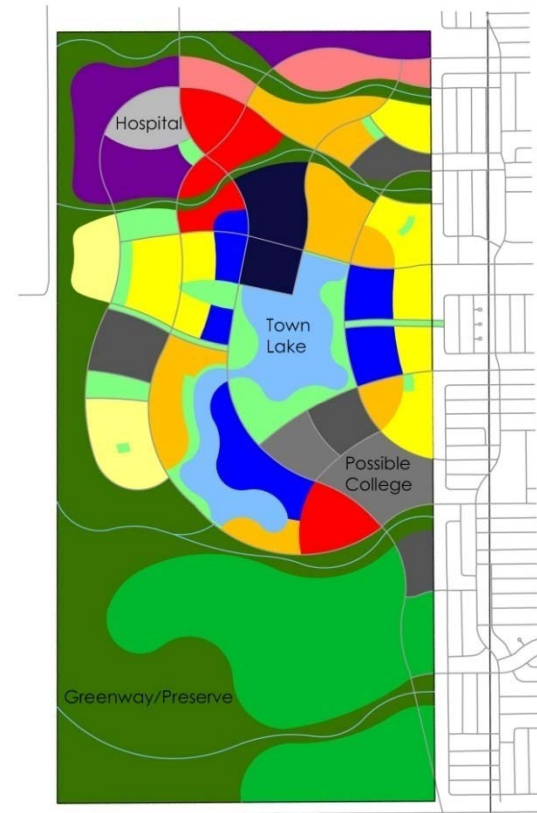
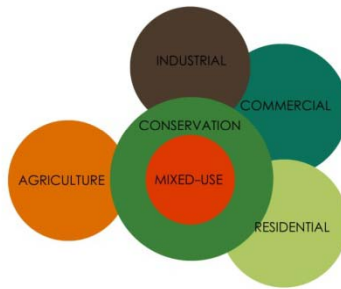
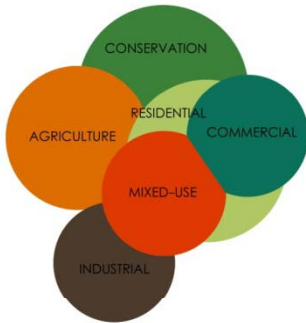
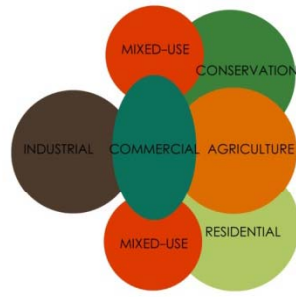
Program Analysis & Development

- Mixed-use development will increase livability
- There is little need for single-family residential.
- Creating a commercial/industrial center will provide jobs and entertainment. This could become a hub for southwest Palm Bay.
- The development could possibly Incorporate agriculture to relate to context.

Program

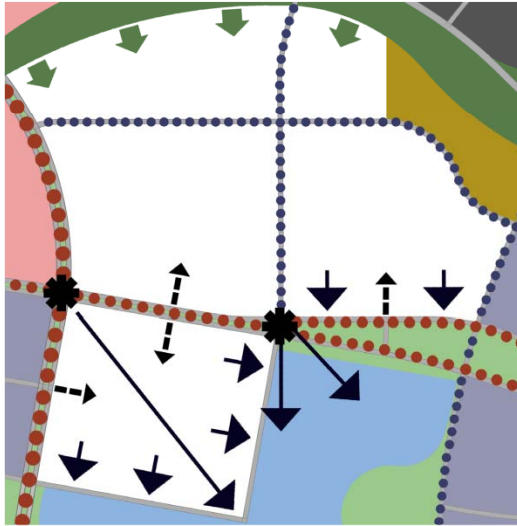
- Residential: medium-density, townhome, mixed-use, zero lot line, single family, rural
- Commercial: Medium-density, low-density, office, retail, mixed-use
- Industrial: light industrial, technology park
- Agricultural: commercial, community gardens
- Conservation: watershed restoration, uplands, limited access, recreational

Land Use Concepts



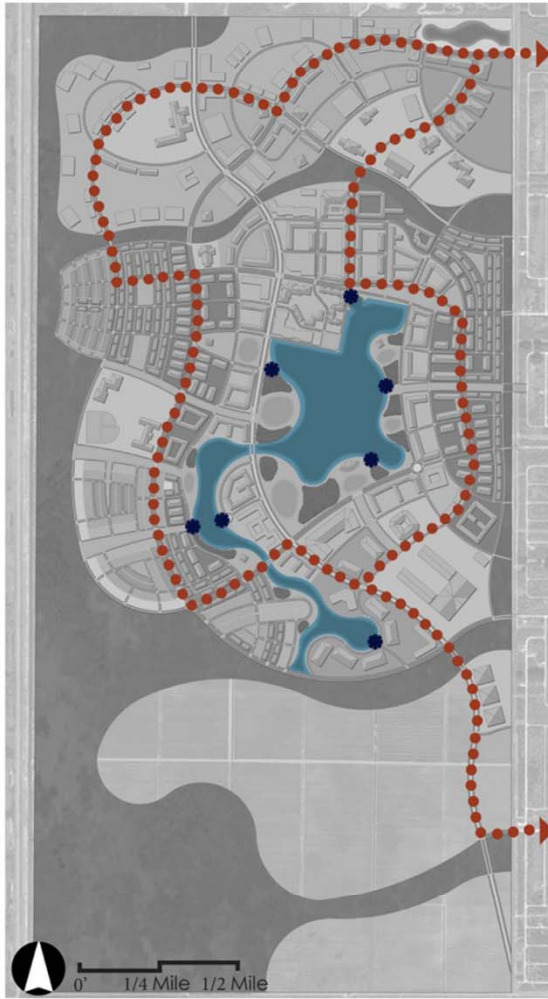
WEST PALM BAY
A REDEVELOPMENT

Master Plan



WEST PALM BAY

A REDEVELOPMENT



Transportation Diagram

- Water taxi
- Trolley
- Stormwater filtration
- Multi-purpose park and greenway system

Water Flow Diagram



WEST PALM BAY

A REDEVELOPMENT

Central Lake



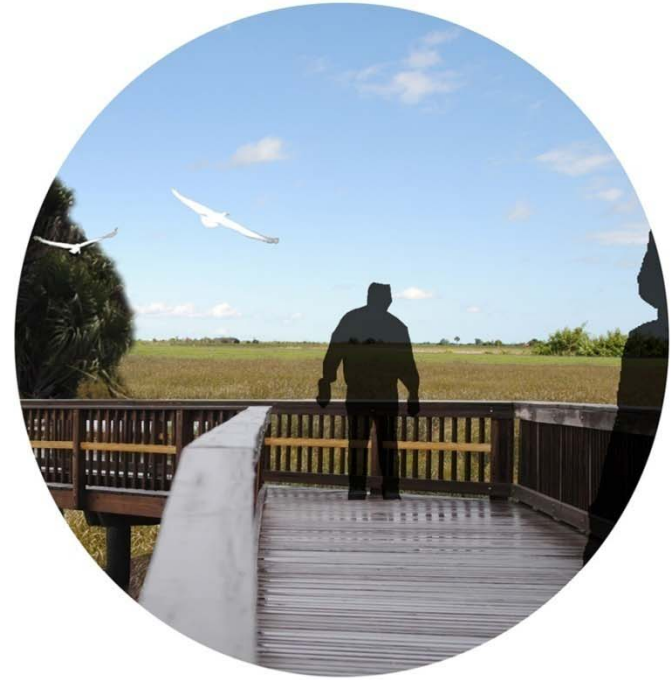
- Sense of place
- Recreation
- Stormwater management
- Community building



WEST PALM BAY

A REDEVELOPMENT

Greenway System



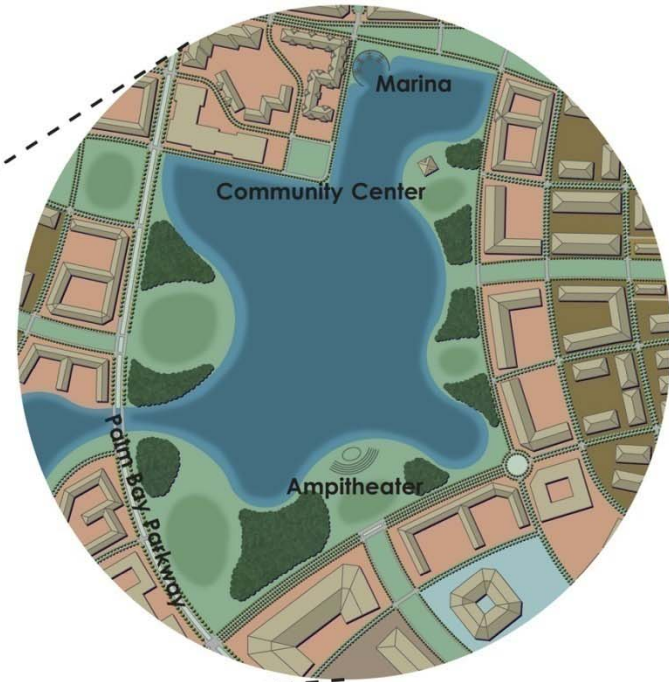
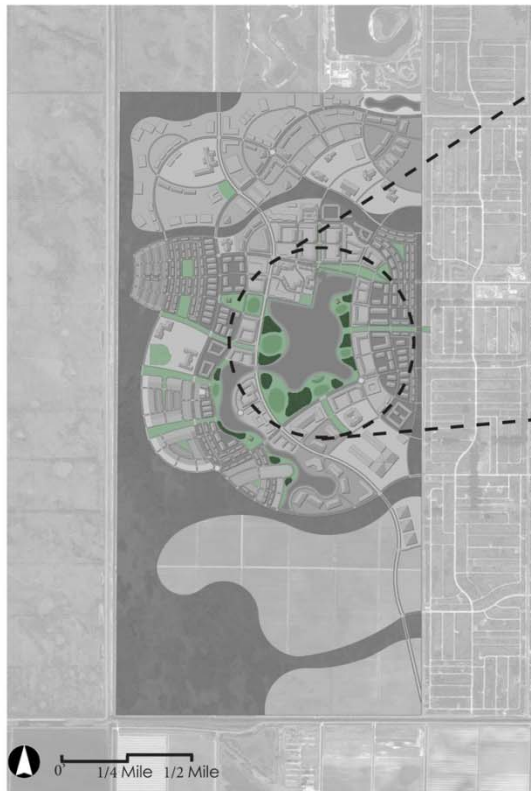
- Ecological restoration
- Stormwater management
- Recreation
- Education



WEST PALM BAY

A REDEVELOPMENT

Recreation System



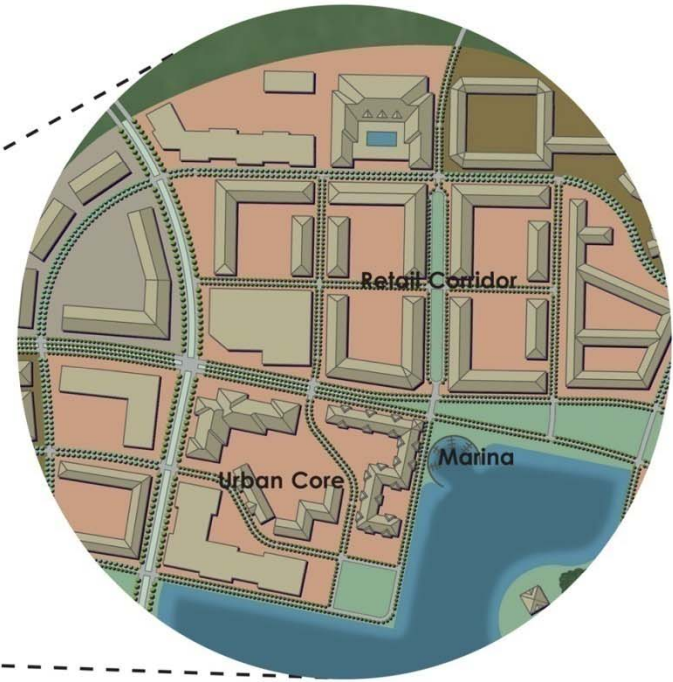
- Connectivity
- Passive/active recreation
- Community building



WEST PALM BAY

A REDEVELOPMENT

Urban Core



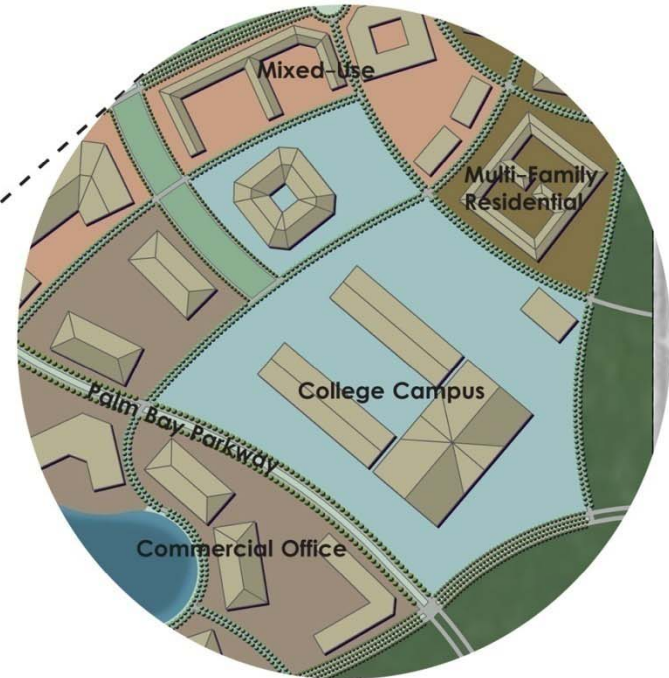
- Sense of place
- Promote walkability
- Create a destination
- Employment



WEST PALM BAY

A REDEVELOPMENT

College District



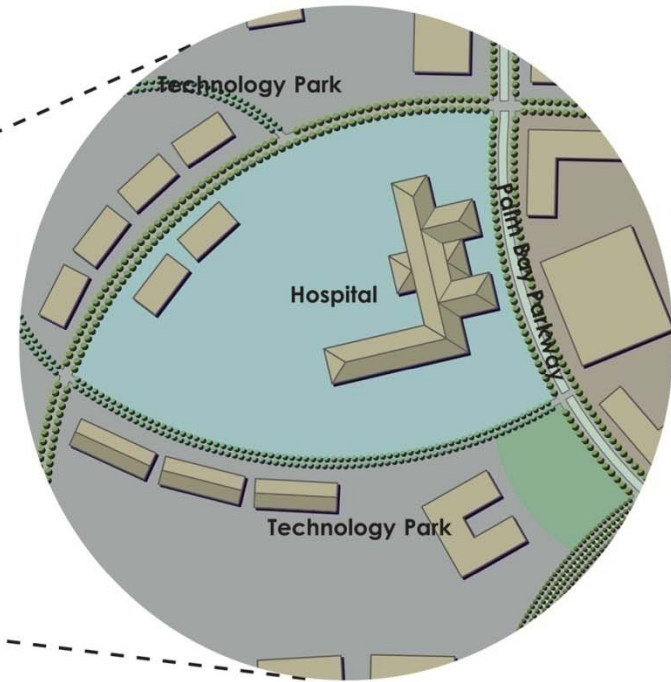
- Employment
- Economic stimulus
- Bring growth



WEST PALM BAY

A REDEVELOPMENT

Medical District



- Serve needs of community
- Employment
- Bring growth



Agricultural Component



- Combat loss of agriculture
- Community building
- Relate to context



WEST PALM BAY

A REDEVELOPMENT



Florida Vernacular Architecture

- Create sense of place
- Respectful of the environment
- Traditional historical context



Facts & Figures

	Developed as Current	West Palm Bay
Acres	2828	2828
Mixed-Use Acres/Sqft	0/0	213/12,934,982
Multifamily Acres/Units	0/0	149/6944
Townhome Acres/Units	0/0	88/1065
Single Family Acres/Units	1467/5471	106/661
Office Acres/Sqft	0/0	117/4,458,131
Retail Acres/Sqft	42/?	139/2,812,696
Technology Park Acres/Sqft	0/0	195/5,819,000
Civic Acres	184	225
Agriculture Acres	0	493
Recreation Acres	14	128
Greenway Acres	573	738
Water Acres	0	139

WEST PALM BAY

A REDEVELOPMENT



Legend

- Mixed-Use
- Multifamily Residential
- Townhome
- Single Family
- Commercial Office
- Commercial Retail
- Technology Park
- Institutional/Civic
- Agriculture
- Park/Open Space
- Greenway
- Water
- Roads

